ROCHESTER SCHOOLS MODERNIZATION PROGRAM
PHASE 2 – PHASED RECONSTRUCTION PROJECT

BID PACKAGE 2E

EDISON CAREER AND TECHNOLOGY HIGH SCHOOL

SED PROJECT NO.: 26-16-00-01-0-111-032
DWT NO.: 26-16-00-01-7-999-020

PROJECT MANUAL

ISSUED FOR:
CONSTRUCTION DOCUMENTS

DATE:
MAY, 2021

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All drawings are dated May 2021.

END SECTION 00 01 15

SECTION 00 11 13 - ADVERTISEMENT FOR BIDS

Door, Frame, and Hardware Installation Bid for: Rochester School Modernization Program (RSMP) of the Rochester Joint Schools Construction Board (RJSCB)

NOTICE IS HEREBY GIVEN that sealed Bids will be received for a contract to supply and install Doors and Hardware to Rochester City School District **Edison Career & Technology High School** (the "Contract"), as further described in the Bid Documents. Sealed Bids will be received at the RSMP Office located at 70 Carlson Road, Suite 200, Rochester, New York 14610 by the Rochester Joint Schools Construction Board ("RJSCB" a/k/a "Owner") until 2:00 p.m. on **June 08, 2021**. Submit Bids to the attention of: Pepin Accilien P.E.**,** Program Director. Owner reserves the right to reject any or all Bids received.

Questions during the bidding period must be communicated as described in Section 00 21 13 – INSTRUCTIONS TO BIDDERS.

SEALED BIDS will be received and publicly opened and read aloud at:

Place:	RSMP Program Office 70 Carlson Road Suite 200 Rochester, New York, 14610
Date:	**Tuesday, June 08, 2021**
Time:	**2:00 p.m.**

RCSD Edison Career and Technology High School, Rochester, NY, Phase 2 ("Project") includes:

- Bid Package– Renovation, Alterations and Addition to Edison Career and Technology High School. This includes a Project Manual and drawing set.

PLEASE NOTE THAT THE PROJECT DOES NOT INCLUDE A PROJECT LABOR AGREEMENT (PLA) AS A PART OF THE PROJECT DOCUMENTS/REQUIREMENTS.

Prime Contract is as follows:

- **General Trades Work Contract #302**

The Contract Documents, including the Instruction to Bidders, Form of Contract and Bid Form, may be obtained at the following websites:

Dataflow/RSMP Project portal: www.goDataflow.com/RSMP
Dataflow Rochester Office, 320 North Goodman, Suite 200 (Village Gate), Rochester, NY 14607
(585) 271-5730 phone

Advertisement, Bid Documents, and Addendums will also be posted at *RSMP News*: http://www.rsmpnews.net/ and the *RSMP* website: https://www.rcsdk12.org/rsmp.

Advertisements and Addendums will be posted at the following:

- Rochester Builders Exchange, 180 Linden Ave., Suite 100, Rochester, NY 14625. (585) 586-5460
- McGraw Hill Construction / Dodge Reports: http://dodge.construction.com
- Bidnet site: www.bidnet.com

Complete sets of the Bid Documents may be obtained at the office of Dataflow Rochester Office, 320 North Goodman, Suite 200 (Village Gate), Rochester, NY 14607, upon payment of a deposit of $100 for each set made payable to the RJSCB (or if not picking up in person, add $35 for shipping made payable to Dataflow which is non-refundable). Along with their deposit check, bidders are to provide an active email address, street address (no PO Box Numbers), phone number, fax number, and contact name. Any bidder upon returning such set in GOOD CONDITION to Dataflow Rochester Office within thirty (30) calendar days after the bid date set for the Bid opening will be refunded their deposit. No partial sets or sections of the Contract Documents will be distributed.

A **pre-bid walk-through** will be held by on **Friday, May 28 at 3:00 pm – 4.00 pm** at 655 Colfax Street, Rochester, NY (Bid Package– Renovation, Alterations and Addition to Edison Career and Technology High School). Meet at the buildings main entrance. Please register via e-mail with Richard Stoffel, at rstoffel@savinengineers.com. Bidders must sign in prior to entering the facility and comply with COVID-19 rules of the Rochester City School District.

The Owner is required to comply with New York State's public bidding and other laws pertaining to public works, to advertise for any and all public work contracts, and to incorporate New York prevailing wage schedules or federal Davis-Bacon wage rate schedules, as applicable, into any contracts which may involve the employment of laborers, workmen or mechanics, whether or not publicly bid.

Sincerely,

Allen K. Williams, Chair – RJSCB
Pépin Accilien, P.E. – RSMP Program Director – Savin Engineers, P.C.

By order of the Rochester Joint Schools Construction Board.

SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

1.01 RECEIPT AND OPENING OF BIDS: The Rochester Joint Schools Construction Board ("RJSCB"), herein referred to as "Owner," invites bids on the Bid Form attached hereto, all blanks of which must be appropriately filled in. Bids will be received at the time and place described in Section 00 11 13 ADVERTISEMENT FOR BIDS, and then at said time and place publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Attention: **Mr. Pépin Accilien PE, Program Director, 70 Carlson Road – Suite 200, Rochester NY 14610**, and designated as:

- **General Trades Work Contract # 302**

Bid for Edison Career and Technology High School – Phase 2b of the Rochester Schools Modernization Program ("RSMP")

SED Project Control No.:
S.E.D. No. 26-16-00-01-0-111-032
DWT SED No. 26-16-00-01-7-999-020

The contract entered into between the Owner and the successful bidder(s) shall be for work associated with implementing RCSD **Edison Career and Technology High School** – Phase 2b of the RSMP (herein, "Project"), which work shall be set forth in detail in the Contract Documents issued by the Owner.

PLEASE NOTE THAT THE PROJECT DOES NOT INCLUDE A PROJECT LABOR AGREEMENT ("PLA") AS A PART OF THE PROJECT DOCUMENTS/REQUIREMENTS.

1.02 BIDDING CONDITIONS:

1. Owner reserves the right to reject any or all bids received for the Project.

2. INFORMALITIES: The Owner may consider any bid not prepared and submitted in accordance with the provisions hereof to be informal and may waive any informalities in or reject any and all such bids. Conditional bids will not be accepted. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. No bidder may withdraw a bid within 45 calendar days after the actual date of the opening thereof.

3. BID INTERPRETATIONS: Bid amounts are required to be submitted both in writing and in figures. In the event of conflict, the written amount shall take precedence over the amount expressed in figures.

4. PRICE REGULATIONS; By placing a bid under these instructions, the bidder certifies that the prices therein are in accordance with all New York State and United States laws and regulations.

1.03 LATE BIDS: Formal bids, amendments thereto, or requests for withdrawal of bids received by the Owner after the time specified for bid opening will be date stamped as

evidence of late arrival and returned to the bidder unopened. The bidder assumes the risk of any delay in the mail or in the handling of the mail by employees and Consultants of the Owner. Whether sent by mail or by personal delivery, the bidder assumes the responsibility for having the bid submitted on time. *The time clock located in the Rochester Joint Schools Construction Board Room is designated the official timepiece for submission of bids. BIDS MUST BE SUBMITTED at the location defined herein under Section 1.01 as the location where sealed bids are to be received. Bids will not be taken or accepted at any other location.*

2.01 PREPARATION OF BIDS: Bids must be submitted on the prescribed form. All applicable blank spaces on the Bid Form shall be legibly filled in using a non-erasable medium. Unless otherwise noted, all bid prices must be expressed in both writing and in figures. In the event of conflict, the written amount shall take precedent over the amount expressed in figures.

1. BID SUBMISSION: All bids must be submitted in sealed envelopes bearing, on the outside, the time bids are to be opened, the type of work, the name and SED Project Control Number of the project and building, and the name and address of the bidder. Facsimile bids will not be accepted.

2. EXAMINATION OF PREMISES: The submission of a bid will be considered as evidence that the bidder has examined the premises and acquainted himself/herself with present conditions under which he/she will be obliged to operate and that will affect in any manner the work to be done. A pre-bid conference will be held as described in Section 00 11 13 – ADVERTISEMENT FOR BIDS. It is the bidder's responsibility to request examination of Rochester City School District ("RCSD") or Owner documents necessary to allow the bidder to evaluate the premises, including as-built drawings and records showing known asbestos containing building material ("ACBM"). In accordance with Title 2 of the Toxic Substances Control Act ("TSCA") published at 15 U.S.C. § 2601 *et. seq.,* known as the Asbestos Hazard Emergency Response ("AHERA"), a Management Plan is available for public review at the administrative office of every RCSD building. The expense for emergency cleaning and air testing shall be borne by the Contractor responsible for disturbing ACBM. All proposals shall take into consideration all conditions that may affect the work of the Contract. No allowance will be made subsequently on behalf of the Contractor for any error, omission or negligence on his/her part. **Note: There is no known evidence of ACBM, lead, or PCBs in the areas designated for construction.**

3. DE-SCOPE MEETINGS: There will be Prime Contractor de-scope meetings held at the RSMP Office, 70 Carlson Road, Rochester, NY 14610, for all the apparent lowest and second low bidders. All such bidders need to be available on the following dates:
   A. **Wednesday and/or Thursday, June 09 and 10, 2021**
      1) General Trades Contract # 302 – low bidder
      2) General Trades Contract # 302 – second low bidder

   All apparent low bidders shall bring to the de-scope meeting the labor hours they have estimated in their bid.

4. SCHEDULING: Please refer to the the milestones and dates as denoted in Section 00 43 83 "Schedules and Milestones." **Bidder shall submit a detailed construction schedule to include critical dates, activities, milestones, and other pertinent information consistent with the Milestone Schedule provided.** It is expected that these costs are included in the base bid.

5. **DP-1 FORM: In the event that a bid price is beyond the threshold of $100K, the ensuing contract is subject to Diversity Goals participation. Under $100K, Diversity Goals are not enforced but are strongly encouraged.**

3.01 DISCREPANCIES: If any bidder should find any discrepancies, conflicts or omissions in the drawings and/or specifications, these shall be called to the attention of the Program Manager, in writing, not later than seven days before the bids are due. Such items will be reviewed, and if clarification is deemed to be necessary, appropriate Addenda will be issued to all bidders. Neither the Owner nor the Owner's Representative(s) will be responsible for any oral instructions given during the bidding period. If inconsistencies and/or discrepancies are not brought to the attention of the Program Manager prior to bid, then the amount of work of greater value, or the product of greater quality, shall be considered applicable to determine the Project requirements at the time of the award of the contract, and thereafter.

4.01 ADDENDA AND INTERPRETATIONS: No interpretations of the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Every request for such interpretation should be submitted in writing by e-mail to Edisondoors@rjscb.org. To be given consideration, such requests must be received on/or before **NOON. on June 02, 2021.** Any and all such interpretations and all supplemental instructions will be in the form of written addenda to the Contract Documents and Addenda will be posted and hosted by www.dataflow.com and www.bidnet.com. Any bidder who is preparing a bid based upon the Contract Documents available at various service agencies, is responsible for obtaining the addenda from the hosting service. Each bidder shall acknowledge on the Bid Form, receipt of each addendum by number. Failure of any bidder to receive any such addendum or interpretation shall not relieve any bidder from any obligation under this bid as submitted. All addenda so issued shall become part of the Contract Documents.

5.01 CERTIFICATE OF NON-COLLUSION IN BIDDING: To comply with Section 103-d of the General Municipal Law of the State of New York, all bidders are required to sign a statement regarding non-collusive bidding. This statement has been made a part of the Bid Form (00 41 16).

1. DISCLOSURE: A bid shall not be considered for award nor shall any award be made where (.1), (.2) and (.3) in the Certification of Non-Collusion in Bidding have not been complied with; provided however, that in any case the Bidder cannot make this certification, the Bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (.1), (.2) and (.3) have not been complied with, the bid shall not be considered for award nor shall any award be made unless the Owner determines that such disclosure was not made for the purpose of restricting competition.

2. PRICING INFORMATION: The fact that a bidder, (A) has published price lists, rates or tariffs covering items being procured, (B) has informed prospective customers of proposed pending publication of new or revised price lists of such items being bid, does not constitute without more, a disclosure within the meaning of the required certification.

6.01 RESPONSIBLE BIDDER: The Owner has developed the following guidelines for the determination of public works contract responsibility consistent with the duties of contracting agencies and the court interpretations of State law and regulations governing competitive bidding in the belief that the public interest would be served by the uniform application of these guidelines on Owner public works contracts:

1. In determining the responsibility of a bidder for a public works contract, the Owner shall consider the following items;
   A. Lack of proper certification, adequate expertise, prior experience with comparable projects, or financial resources to perform the work of the contract in a timely, competent and acceptable manner. Evidence of such lack of ability to perform may include, but shall not be limited to, evidence of suspension or revocation for cause of a professional license of any director or officer, or any holder of five percent (5%) or more of the bidders stock or equity; failure to submit satisfactory evidence of insurance, surety bond or financial responsibility; the status of bankruptcy petitions; suspension or debarment by state or federal government; or a history of termination of prior contracts for cause.
   B. Criminal conduct in connection with government contracts or business activities. Evidence of such conduct may include a judgment of conviction or information obtained as a result of formal grant of immunity in connection with criminal prosecution of the bidder, and any director or officer, or holder of five percent (5%) or more of the shares or equity of the bidder, or any affiliate of the bidder.
   C. Violations of safety and/or training standards as evidence by a pattern of OSHA violations or the existence of willful OSHA violations.
   D. Willful non-compliance with the prevailing wage and supplements payment requirements of the Labor Law by the bidder or any affiliate of the bidder.
   E. Any other significant Labor Law violation, including, but not limited to, child labor law violations, failure to pay wages, or unemployment insurance tax delinquencies.
   F. Any significant violation of the Worker's Compensation Law, including, but not limited to the failure of a bidder to provide proof of worker's compensation or disability benefits coverage.
   G. Any criminal conduct involving violations of the Environmental Conservation Law or other federal or state environmental statutes or regulations.
   H. Any criminal conviction concerning formation of, or any business association with, an allegedly false or fraudulent Women's or Minority Business Enterprise (W/MBE), or any denial, de-certification, revocation or forfeiture or W/MBE status by New York State.

I. Any adverse determinations or administrative rulings by the Equal Employment Opportunity Commission and/or the New York State Division of Human Rights that the bidder engaged in unlawful or discriminatory conduct.

J. Any other cause of so serious or compelling a nature that it raises questions about the responsibility of a bidder, including, but not limited to submission to the Owner of a false or misleading statement on a sworn Statement of Bidder Qualifications, or in some other form, in connection with a bid for or award of a contract.

K. In addition to the factors specified above, the Owner may also give due consideration to any other factors considered to bear upon bidder responsibility, including but not limited to, any mitigating factors brought to the Owner's attention by the bidder.

2. A sworn "Statement of Bidder Qualifications" form as attached in Section 00 45 13 shall be completed by all bidders and submitted with his/her bid. The Owner shall use the information contained in the response to the sworn statement in making a determination of bidder responsibility before awarding the Contract. Any untrue representations made on the aforementioned form shall be grounds for rejection of the bidder's bid or immediate termination of the Contract.

6.02 QUALIFICATION OF BIDDERS: A bidder can be judged qualified only for the type of work in which he has demonstrated competence. The Owner will make such investigation it believes necessary to determine the competency of the bidder to perform the work for which he has submitted a bid. The bidder shall furnish promptly all information the Owner requests. The successful bidder will, at minimum, have successfully completed three (3) prior projects of similar size and scope to this Project, and shall respond and include all information set forth in the "Statement of Bidder Qualifications" form attached as Section 00 45 13, which must be signed and submitted with its bid.

6.03 REQUESTED BIDDER INFORMATION: Such information shall consist of the following and shall be included in each bidder's sworn "Statement of Bidder Qualifications" form (see Section 00 45 13), to be submitted with its bid.

1. PROJECTS: A list of a minimum of three completed projects involving work of a similar nature as that for which the bid has been submitted. List the most recent project first, continue with the next most recent and so on. For each project, include the name and address of the owner, the architect or engineer and the date of completion. Information concerning additional projects may be required by the Owner.

2. LOCATION: The address and description of the bidder's place of business; a list of major equipment owned by the bidder.

3. FINANCIAL STATEMENT: A certified or authenticated financial statement dated not more than thirty days prior to its submission. Include liquid assets, bonding capabilities and the banks or financial institutions associated with the business.

4. NON-BANKRUPTCY: Certification that the bidder is not in bankruptcy and that its assets are not subject to receivership.

7.01 BID SECURITY: Each bid must be accompanied by the certified check or bank draft of the bidder made payable to the "Rochester Joint Schools Construction Board," or by a bid bond prepared in the form of Bid Bond attached in Section 00 43 00, duly executed by the bidder as principal, and having as surety thereon a surety company authorized to do business in the State of New York approved by the Owner in an amount not less than five percent (5%) of the amount of the bid. Such checks will be returned by certified mail to all except the three lowest formal bidders within seven (7) business days after the formal opening of bids. All remaining checks will be returned by certified mail to the three lowest bidders within seven (7) business days after the Owner and the accepted bidder have executed the Contract or if no Contract has been so executed, within 45 calendar days after the date of the opening of the bids, upon demand of the bidder at any time thereafter so long as he has not been notified of the acceptance of his bid. Bid bonds are retained in the Owner. Upon request, such bonds will be returned.

8.01 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT: The successful bidder, upon his/her failure or refusal to execute and deliver the Contract, bond and/or insurance certificates required within 10 calendar days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9.01 OBLIGATION OF BIDDER: At the time of the opening of bids, each bidder will be presumed to have inspected the Project site(s) and to have read and to be thoroughly familiar with the Contract Documents, including all addenda. The failure or omission of any bidder to receive or examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect to his bid.

10.01 AWARD OF CONTRACT: This contract will be awarded to that qualified bidder whose base bid and whose prices for the Alternates accepted by the Owner, if any, total the lowest number of dollars.

1. Notice of Award; Within twenty-four (24) hours after award is made by the Owner to the successful bidder, the Owner or the Program Manager will mail to such bidder at the address given by him/her on his/her bid, a notice in writing to the effect that the award has been made to him/her, but the mailing or receipt of such notice shall not be a condition precedent to the right of the Owner to take such lawful action as it deems advisable.

11.01 CONDITIONS OF THE CONTRACT: The General Conditions of the Contract hereinafter fully set forth in Section 00 72 16 of the Project Manual and General Requirements set forth in Division 1 of the Project Manual, as well as all other terms and conditions set forth in the Contract Documents, will be strictly enforced. The Owner's failure to insist on Contractor's performance with regard to any particular term, condition, or requirement of the Contract shall not function as a waiver or preclude the Owner from enforcing such terms, conditions or requirements going forward.

11.02 LOCAL LABOR: The Project will be funded in part through the issuance of tax- exempt bonds by the County of Monroe Industrial Development Agency ("COMIDA"). Pursuant to the terms of the agreement between COMIDA and the Owner, COMIDA requires that

the Project use only "Local Labor," subject to certain permitted exceptions and waivers. The term "Local Labor" is defined as laborers residing in Monroe, Genesee, Livingston, Orleans, Ontario, Seneca, Wayne, Wyoming and Yates counties. Further information on the COMIDA program requirement applicable to the RSMP is available online at http://www.growmonroe.org. For Information only - Non-union bidders are encouraged to contact Dan Kuntz of Laborer's Local 435, at 585-454-5800, to discuss participation in the Local's certified apprenticeship program, PRIOR to submitting a bid. Contractor's participation in a NYS certified apprenticeship program is a requirement of this Project.

11.03 CONTRACTOR SELF-PERFORMANCE REQUIREMENTS: Notwithstanding any other provision of the Contract Documents, at least five percent (5%) of the direct labor, materials, systems or equipment shall be provided by the Contractor. The Contractor shall subcontract **no more than 95%** of the total contract value. Contractors are required to certify, prior to award, that they can and will comply with this subcontracting limitation requirements. The unit measure (dollar value, unit price, schedule of value) utilized to determine the quantities of work, labor and material furnished by the Contractor shall be determined by the Construction Manager and the Architect and shall be appropriate for the scope of work involved. For the purpose of this Section, work performed by supervisory personnel, persons above the level of foreman, or office personnel, all overhead costs, including bonds and certificates, shop drawings and similar items shall not count towards the percentage of Work provided by the Contractor.

12.01 TAX EXEMPTION: Bidders shall not include in their bid the sales and compensating use taxes of the State of New York or of any City or County in the State of New York for any materials which are to be incorporated into the structures or landscape. The New York State Department of Taxation and Finance does not issue tax exemption numbers to government entities. Completion of any type of exempt organization certification form is, therefore, not required. An official Purchase Order issued to the vendor by a government entity is the only evidence required by the state to substantiate an exempt sale to a government purchaser.

12.02 WAGE RATES: The attention of bidders is called to the wage rates applicable to work performed under this Contract, as set forth in the Wage Rate Schedules referenced in Section 00 73 46. The Contractor and every subcontractor shall post in prominent and accessible places on the site of the work legible statements of all wage rates as specified in the Contract to be paid for the various classes of laborers, workmen and mechanics employed on the work.

12.03 STATE LAWS AND REGULATIONS: The bidder's attention is directed to the following instructions and information regarding construction operations, contracts and references to the provisions of law applicable in New York State.

1. COMPLIANCE: The Contractor and each and every subcontractor performing work at the site of the Project to which this Contract relates shall comply with the applicable provisions of the Labor Law, as amended, of the State of New York. Section 222-A of the Labor Law regarding elimination of dust hazard must be observed.

2. **HOURS OF WORK: Allowed work hours are from 7:00 am until 5:30 pm. Contractor will consult with Construction Manager for working around student occupancy Monday through Friday, from 10:00 am until 2:00 pm, between July 6, 2021 and August 13, 2021.**

3. NON-DISCRIMINATION: Contractor must abide by all state, federal and local laws having jurisdiction over the work of this Contract. The Contract may be canceled or terminated by the Owner for cause upon a violation of the non-discrimination policy or for violation of any applicable laws.

4. EFFECT OF FAILURE TO TESTIFY BEFORE GRAND JURY: Pursuant to the requirements of Section 103-A of the General Municipal Law of the State of New York, the following clause is inserted herein and is made a part of the Contract:

   A. Upon the refusal of a person, when called before a grand jury to testify concerning any transaction or contract had with the state, any political subdivision thereof, or a public authority to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract. Such person, and any firm, partnership, or corporation of which he is a member, partner, director of officer shall be disqualified from thereafter selling to, or submitting bids to, or receiving awards from, or entering into any contracts with any municipal corporation or any public department, agency, or official thereof, for goods, work, or services for a period of five years after such refusal; and any and all contracts made with any municipal corporation or any public department, agency or official thereof, since July 1, 1959, by such person, and by any form, partnership, or corporation of which he is a member, partner, director, or officer, may be cancelled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation or termination; but any monies owing by the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid.

12.04 WORKFORCE DIVERSITY AND EQUAL EMPLOYMENT OPPORTUNITIES: The Owner recognizes the need to take action to ensure that minority and women-owned business enterprises (W/MBE's), disadvantaged business enterprises (DBE's), small business enterprises (SBE's) and minority and women employees and principals are given the opportunity to participate in the performance of contracts entered into with the Owner. This opportunity for full participation in our free enterprise system by persons traditionally, socially and economically disadvantaged is essential to obtain social and economic equality. Accordingly, the Owner fosters and promotes the participation of such individuals and business firms in contracts with the Owner. Therefore, Contractor and all subcontractors and suppliers must fully comply with the requirements set forth in Section 00 43 31 ("MWBE/DBE/SBE Utilization and Workforce Diversity"), and use good faith efforts to attain the diversity and workforce utilization goals stated therein. Owner reserves the right to revise, adjust and/or modify the stated goals for contracts awarded at a later date as part of the RSMP. Contractor compliance with the requirements of Section 00 43 31 and related obligations will be monitored by Owner's Independent Compliance Officer

(ICO). Failure to adequately complete the forms required to be submitted with the bid are grounds for the Owner to reject the bid or disqualify the bidder.

12.05 APPRENTICESHIP REQUIREMENTS – The Phase 2 legislation also requires that Contractors and Subcontractors with construction contracts $1M or more "shall participate in NYS approved apprentice training programs in the trades it employs: that have been approved by not less than three years; have graduated at least one apprentice in last three years; have at least one apprentice currently enrolled in such apprentice training program; and have demonstrated that the program has made significant efforts to attract and retain minority apprentices."

13.01 PERFORMANCE AND LABOR & MATERIAL PAYMENT BONDS:

1. SECURITY FOR FAITHFUL PERFORMANCE: Simultaneously with its delivery of the executed Contract, the successful bidder must deliver to the Owner an executed bond in the amount of one hundred percent (100%) of the accepted bid as security for the faithful *performance* of the Contract, prepared in the form of Performance Bond attached hereto in Section 00 61 13 and having as surety thereof such surety company or companies as are acceptable on bonds approved by the Owner, and as are authorized to transact business in New York State.

2. SECURITY FOR LABOR & MATERIAL PAYMENT: Simultaneously with its delivery of the executed Contract**,** the successful bidder must deliver to the Owner an executed bond in the amount of one hundred percent (100%) of the accepted bid as security for the *payment* of all persons performing labor or furnishing materials in connection therewith, prepared in the form of Payment Bond attached hereto in Section 00 61 13 and having as surety thereof such surety company or companies as are acceptable on bonds approved by the Owner, and as are authorized to transact business in this State.

3. POWER OF ATTORNEY: Attorneys in fact who sign Bid Bonds or Performance Bonds must file with each bond a certified copy of their Power of Attorney to sign said bonds.

13.02 COMMENCEMENT OF WORK: No Contractor or Subcontractor shall commence work under this Contract until the Owner has approved the Contractor's payment bond and performance bond offered as security for faithful performance and payment for labor and material on the Project in accordance with paragraph 13.01 hereinabove.

14.01 CONDITIONS OF WORK: Each bidder must become fully informed of the conditions relating to the construction and labor under which the Work is now being or will be performed. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to complete the contemplated Work for the consideration set forth in their bid. In so far as possible, the Contractor in the carrying out of its Work must employ such methods or means as will not cause any interruption of, or interference with, the work of any other contractor. Contractor should undertake to perform the Contract in the shortest possible time consistent with good and workmanlike construction.

15.01 EQUIVALENTS: Where, in these specifications, certain kinds, types, brands, or manufacturers of materials are named, they shall be regarded as the required standard of quality. If two or more are named, these are presumed to be qualitatively equal, and the Contractor may select any one of the named items. If the bidder desires to use any kinds, types, brands, or manufacturers of materials other than those named in the specifications, it shall indicate in writing, with its bid or prior to Contract Award, the kind, type, brand or manufacturer presumed as an equivalent in its bid.

1. If proposing an equivalent product or material, the bidder must submit a Request for Equivalent Review Form (Section 00 63 19) with its bid or prior to Contract Award. The Architect will review the product or materials proposed as “equivalent” by the bidder and make a determination as to whether such product or materials are equivalent to those set forth in the Contract Documents. If not found to be equivalent by the Architect and if the requirement for equivalency is not waived by the Owner, the bidder must indicate in writing prior to the award of contract that it will provide the specified product or materials without any increase in compensation, or the Owner may reject its bid as non-responsive.

2. The burden of proof of the equivalency of the proposed equivalent products or material is upon the bidder. The Architect's decision to approve or disprove a proposed equivalent shall be final.

END OF SECTION 00 21 13

SECTION 00 25 00 – HAZARDOUS MATERIALS INFORMATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 ASBESTOS SURVEY

A. Existing Asbestos, Lead, and PCB Information is included for Contractor reference and use.

B. Results of survey made upon project site are issued with Contract Documents for examination by Contractor, and are provided for reference only.

C. Contractor, however, is responsible for any conclusions drawn from survey data; if s/he prefers not to assume such risk, s/he is under obligation of employing his own experts to analyze available information; be responsible for any consequences of acting on conclusions obtained.

D. Owner does not guarantee continuity of conditions indicated at Project location.

E. The attached Pre-Renovation Survey prepared by LaBella Associates in April 2021 and includes test results on the following:
   1. Asbestos-Containing Materials.
   2. Lead-Based Paint.
   3. Polychlorinated Biphenyls in Caulk/Sealants.

ATTACHMENTS TO FOLLOW AS SECTIONS 00 25 00A

END OF SECTION 00 25 00

SECTION 00 25 00A – HAZARDOUS MATERIALS INFORMATION REPORT

Attachment
00 25 00A

LaBella
Powered by partnership.

Limited Pre-Renovation Regulated Building Materials Inspection

Location:

Edison Technical School
655 Colfax Street
Rochester, New York 14606

Prepared for:

Rochester School Modernization Program
70 Carlson Road
Rochester, New York 14610

LaBella Project No. 2170218

May 2021

300 State Street, Suite 201 | Rochester, NY 14614 | p 585-454-6110 | f 585-454-3066
www.labellapc.com

Table of Contents

I. Project Description

In accordance with current regulations, LaBella Associates, D.P.C. (LaBella) conducted a Limited Pre-Renovation Regulated Building Materials (RBM) Inspection of the areas scheduled to be impacted by upcoming Phase 2b renovations.

The objective was to identify suspect RBMs, such as Asbestos-Containing Materials (ACM), Lead-Based Paint (LBP), and PCB-containing caulking and glazing compounds which may require abatement or removal prior to or during renovation due to applicable regulations.

The areas inspected were limited to the interior doors expected to be removed during Phase 2b of the Capital Improvement Projects. Materials and locations understood to be impacted by this project were determined from information provided by LaBella's Architectural Division.

II. Inspection Procedures

The following procedures were used to obtain the data for this Report:

A. Existing documentation was requested for review. No record drawings or documentation of previously completed inspections were made available.

B. A visual inspection of the limited areas referenced above was conducted to identify visible and accessible sources of the above referenced suspect RBMs.

C. Bulk samples of accessible RBMs were collected and submitted for laboratory analysis.

D. Asbestos samples were submitted for laboratory analysis. Preliminary Polarized Light Microscopy analyses of non-friable, organically bound (NOB) materials were performed by LaBella Laboratories, a NYSDOH accredited laboratory, to determine the presence and percentage of asbestos in each sample. Transmission electron microscopy analyses of NOB materials, if necessary, were performed by AMA Laboratories.

E. Suspect painted or glazed materials were spot checked in the field using XRF testing procedures for the presence of lead.

F. Results of the laboratory analyses, field testing and the visual on-site inspection were compiled and summarized.

III. INSPECTION LIMITATIONS

This inspection was conducted in accordance with generally accepted environmental engineering practices for this region. Collection of bulk samples of suspect RBMs was limited to those materials readily accessible using hand tools or hand-held power tools. Homogeneous materials were identified and located based on visual observation from readily accessible points. The data derived from representative samples of any given homogeneous material represent conditions that apply only at that particular location. Inspection protocol and methodology requires that sample data be used to draw conclusions about the entire homogeneous area, but such conclusions may not necessarily apply to the general Site as a whole. No sub-surface investigations were performed to determine the possible presence of regulated materials on or in the immediate vicinity of the Site. No record drawings of the building were available for review as part of this investigation.

LaBella makes no other warranty or representation, either expressed or implied, nor is one intended to be included as part of its services, proposals, contracts or reports. No inspection can wholly eliminate the uncertainty regarding the potential for undiscovered RBMs. The Work performed by LaBella is intended to reduce, but not eliminate, uncertainty regarding the potential for RBMs at the Site. This inspection report is not intended to be a bid document for an abatement scope of work. This report is intended to satisfy the requirements of NYS Code Rule 56-5 for inspections. Abatement project design can only be performed by a certified Project Designer.

IV. INSPECTION RESULTS

Asbestos-Containing Materials (ACMs)

Based on laboratory analyses of bulk samples collected, none of the materials tested were determined to contain asbestos. For a full list of materials sampled, please refer to the *Asbestos Bulk Sample Summary Table*.

PCB-Containing Materials

Caulking and Glazing Compounds

It has recently been discovered that certain caulking and glazing compounds have the potential to contain PCBs. Caulking and glazing compounds containing equal to or greater than 50 ppm PCB must be disposed of as PCB-Contaminated hazardous waste. Therefore, several caulking and glazing compounds were observed, sampled and analyzed for the presence of PCBs. Based on laboratory analysis, this caulking compound is *not* considered to be PCB-Contaminated (i.e. NOT $\geq$ 50 ppm PCBs).

Lead – Based Paint

Several representative painted and glazed surfaces were observed and tested for the presence of lead-based paint using XRF testing procedures. In accordance with Environmental Protection Agency (EPA) protocols, no materials were observed or tested which contain lead above the action level thresholds of 1.0 mg/cm^2. However, additional lead-based materials may exist within the building. Therefore, the Contractor shall be responsible for determining the quantity, location and condition of materials not tested during this inspection.

The buildings and spaces inspected for this project do not include or comprise residential spaces applicable to the requirements of EPA lead-based paint management regulations. Therefore, EPA 40 Code of Federal Regulations (CFR) 745: Lead-Based Paint Renovation, Repair and Painting (RRP) Program Rule and HUD requirements do not apply. However, lead was detected at low concentrations in a variety of building materials (i.e., doors, CMU walls, and glazed block walls). Renovation and demolition contractors should be informed of the presence of lead for OSHA compliance considerations.

V. Observations and Cautionary Statements

Vermiculite

Vermiculite has been used as loose insulation in attics, walls, CMU block, and as a component of plaster, fireproofing and other building materials. The NYS Department of Health considers Vermiculite to be an asbestos-containing material, and that building materials containing more than 10% Vermiculite should be treated as asbestos-containing.

Vermiculite was not observed in spaces and materials inspected for this project. However, destructive investigation of wall cavities was not conducted, and therefore the presence or extent of this material's application throughout the building was not determined.

Cautionary measures should be taken during construction, renovation, and demolition to ensure that proper steps are taken if Vermiculite is discovered in previously inaccessible locations. If Vermiculite is discovered, work should be stopped immediately to address the issue and prevent the uncontrolled release and distribution of an asbestos-containing material.

Potentially Hidden/Inaccessible RBMs

As stated earlier, collection of bulk samples of suspect RBMs was limited to those materials readily accessible. Since the building is occupied and in operation as a school open to the public, destructive sampling techniques were not employed in order to minimize disruption to school operations and damage to building components.

Although this inspection was conducted in a manner consistent with recognized professional practices, the potential does exist for additional RBMs to be inaccessible, hidden, and undiscovered in the area inspected.

Asbestos Bulk Sample Summary Table

Asbestos Bulk Sample Summary Table

Limited Pre-Renovation Regulated Building Materials Inspection
Edison Technical School

No Asbestos Detected in Any of the Materials Tested

Sample #	*Type of Material*	*Sample Location*	*Results % Asbestos*
1A	Black Glazing Compound	Door 206 Window	None Detected
1B	Black Glazing Compound	Door 203 Window	None Detected
1C	Black Glazing Compound	Door 127 Window	None Detected
2A	White Caulking Compound	Door 206 Around Frame	None Detected
2B	White Caulking Compound	Door 203 Around Frame	None Detected
3A	Brown Glazing Compound	Door 208 Window	None Detected
3B	Brown Glazing Compound	Door 208 Window	None Detected
4A	Black Glazing Compound	Door 207 Window	None Detected
4B	Black Glazing Compound	Door 207 Window	None Detected

Appendix A
Inspection Fact Sheet

Inspection Fact Sheet

Name and Address of Building/Structure

Edison Technical School

655 Colfax Street

Rochester, New York 14606

Name and Address of Building/Structure Owner

Rochester Schools Modernization Program

70 Carlson Road

Rochester, New York 14610

Name and Address of Owner's Agent

LaBella Associates, D.P.C.

300 State Street, Suite 201

Rochester, New York 14614

Name of the Firm & Person Conducting the Inspection

LaBella Associates, D.P.C.

Gregory Lindsay *(NYSDOL Cert. #06-08692)*

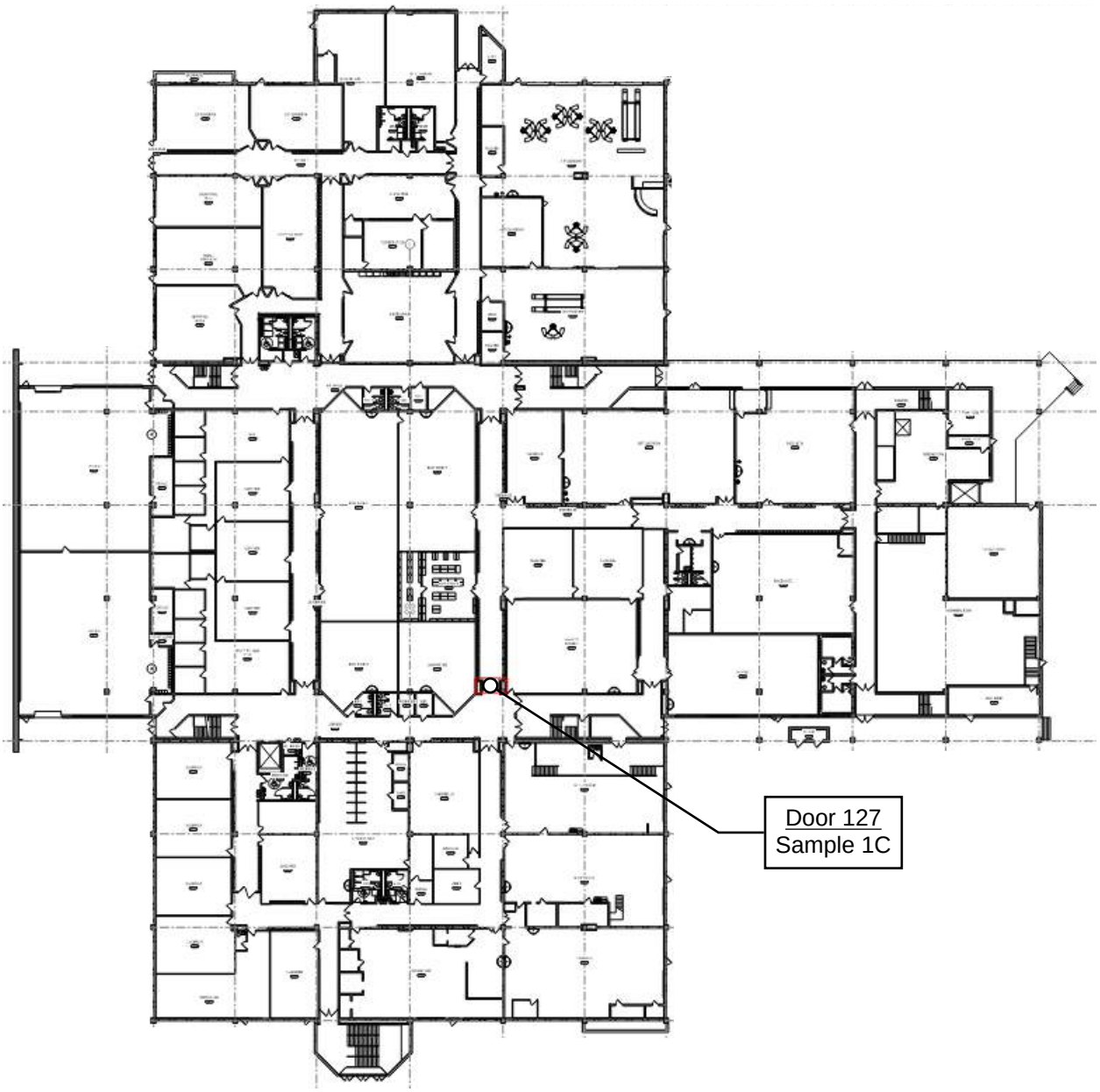
Date(s) the Inspection Was Conducted

April 28th, 2021

Appendix B
Sample Location Drawings

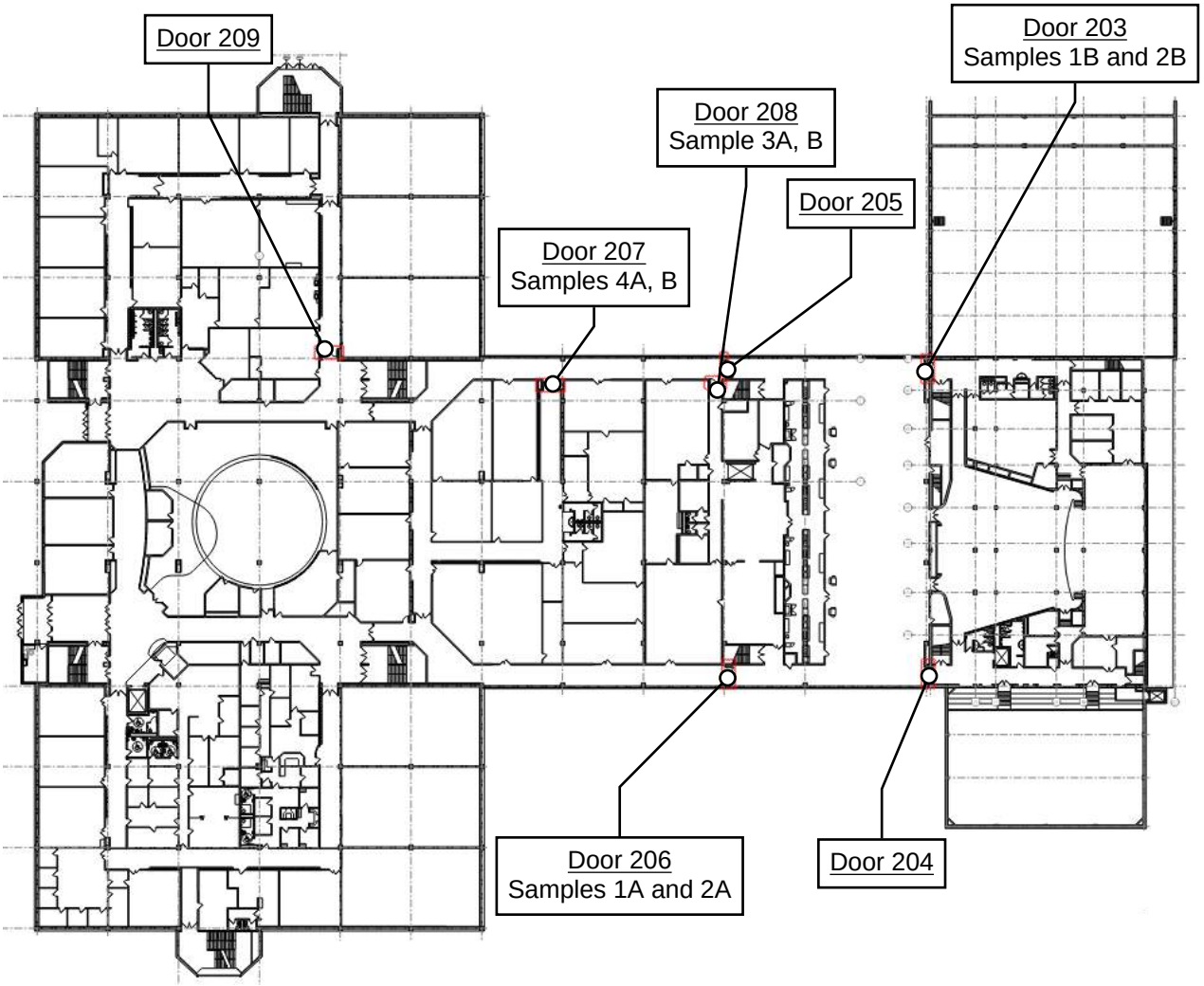
Approximate Sample Locations

Edison Technical School - 1st Floor



Approximate Sample Locations

Edison Technical School - 2nd Floor



Appendix C
Laboratory Analytical Reports

BULK SAMPLE ASBESTOS ANALYTICAL REPORT

LABELLA ASSOCIATES, P. C.
ANALYTICAL LABORATORY
300 STATE STREET
ROCHESTER, NY 14614
(585) 454-6110 FAX(585) 454-3066

ELAP # 11184
AMA Lab TEM ELAP# 10920

LBL JOB # 29221

PLM Methods: 198.1, 198.4, & 198.6
RSD: 18.3%

LABELLA PROJECT # 2170218

292

CLIENT: Labella Associates
ADDRESS: 300 State Street
Rochester, NY 14614

SAMPLE TYPE: PLM Bulk
SAMPLE DATE: 04/28/2021

PROJECT LOCATION: Edison Tech

FIELD ID	LBL ID	method	ASBESTOS TYPE	%	OTHER FIBERS	%	MATRIX	%	COLOR / DESCRIPTION
1A	29221-1	T	ND		CELLULOSE	10	MIN/BINDER	90	BLACK GLAZING COMPOUND
1B	29221-2	T	ND		CELLULOSE	10	MIN/BINDER	90	BLACK GLAZING COMPOUND
1C	29221-3	T	ND		CELLULOSE	10	MIN/BINDER	90	BLACK GLAZING COMPOUND
2A	29221-4	T	ND		ND		MIN/BINDER	100	WHITE CAULKING COMPOUND
2B	29221-5	T	ND		ND		MIN/BINDER	100	WHITE CAULKING COMPOUND
3A	29221-6	T	ND		ND		MIN/BINDER	100	BROWN CAULKING COMPOUND
3B	29221-7	T	ND		ND		MIN/BINDER	100	BROWN CAULKING COMPOUND
4A	29221-8	T	ND		CELLULOSE	10	MIN/BINDER	90	BLACK GLAZING COMPOUND
4B	29221-9	T	ND		CELLULOSE	10	MIN/BINDER	90	BLACK GLAZING COMPOUND

Lab Director: Matt Smith Date: 4/30/21

ND - None Detected CELL-Cellulose JC - Joint Compound MIN - Mineral GLASS - Fiberglass <1 = Trace PLAS - Plaster
P - Friable PLM analytical result N - NOB PLM analytical result T - TEM analytical result IN - Inconclusive[1]
G - Gravimetric Matrix Reduction; Sample residue weight <1% of original sample weight, TEM not required. Vermiculite: Vermiculite is reported as an asbestos-containing mineral in accordance with NYSDOH determinations. See NYSDOH guidance, available upon request.

* **Please note**: Due to interference from sample matrix components, results reported via PLM method ELAP 198.1 as negative or Trace (<1%) may be inaccurate and reported as a False Negative. It is recommended that additional analytical techniques such as gravimetric reduction, TEM and others be used to reduce obscuring effects of matrix components yielding more accurate results.

1 "Polarized-light microscopy (PLM) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can be used to determine if this material can be considered to be non-asbestos containing."

XRF Lead Sampling Summary Table
Edison Technical School
LaBella Project No. 2170218

Reading No.	Location (Room)	Wall (A, B, C D) & Structure	Substrate	Color	XRF Result
1	Calibration Check	-----	-----	-----	PASS
2	Door 127	Door	Metal	Red	0.1
3	Door 127	Door Frame	Metal	Brown	0.4
4	Door 127	Wall	Glazed Block	Gray	0.1
5	Door 127	Wall	CMU	White	0.0
6	Door 209	Door	Metal	Red	0.1
7	Door 209	Door Frame	Metal	Brown	0.3
8	Door 209	Wall	Glazed Block	Gray	0.0
9	Door 209	Wall	CMU	White	0.2
10	Door 207	Door	Metal	Red	0.0
11	Door 207	Door Frame	Metal	Brown	0.1
12	Door 207	Wall	Glazed Block	Gray	0.0
13	Door 208	Door	Metal	Red	0.0

XRF Lead Sampling Summary Table
Edison Technical School
LaBella Project No. 2170218

Reading No.	Location (Room)	Wall (A, B, C D) & Structure	Substrate	Color	XRF Result
14	Door 208	Door Frame	Metal	Brown	0.4
15	Door 208	Wall	Glazed Block	Gray	0.1
16	Door 205	Door	Metal	Red	0.1
17	Door 205	Door Frame	Metal	Brown	0.5
18	Door 205	Wall	Glazed Block	Gray	0.2
19	Door 204	Door	Metal	Red	0.0
20	Door 204	Door Frame	Metal	Brown	0.4
21	Door 204	Wall	Glazed Block	Tan	0.1
22	Calibration Check	-----	-----	-----	PASS

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Labella Associates (1126)
Address: 300 State Street
Rochester, NY 14614-1098

Attn:

Project: Edison Tech Phase 24 Interior
Location: Edison Tech School
Number: 2170218

Order #: 416819

Matrix Bulk
Received 05/03/21
Reported 05/05/21

PO Number:

Sample ID / Parameter	Cust. Sample ID	Location / Method	Result	RL*	Units	Analysis Date	Analyst
416819-001	PCB-1	Edison Tech School					
Semi-volatile Organic Compounds							
Aroclor - 1016		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1221		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1232		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1242		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1248		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1254		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1260		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1262		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
Aroclor - 1268		SW846 8082A	**<481**	481	µg/kg	05/04/21	AE
PCB - Surrogate Recoveries							
DCB		MI					
TCMX		MI					
416819-002	PCB-2	Edison Tech School					
Semi-volatile Organic Compounds							
Aroclor - 1016		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1221		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1232		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1242		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1248		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1254		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1260		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1262		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
Aroclor - 1268		SW846 8082A	**<472**	471	µg/kg	05/04/21	AE
PCB - Surrogate Recoveries							
DCB		MI					
TCMX		97%					

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results reported relate only to the samples submitted.

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Labella Associates (1126)
Address: 300 State Street
Rochester, NY 14614-1098

Attn:

Project: Edison Tech Phase 24 Interior
Location: Edison Tech School
Number: 2170218

Order #: 416819

Matrix Bulk
Received 05/03/21
Reported 05/05/21

PO Number:

Sample ID / Parameter	Cust. Sample ID / Method	Result	RL*	Units	Analysis Date	Analyst
416819-003	PCB-3 / Edison Tech School					
Semi-volatile Organic Compounds						
Aroclor - 1016	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1221	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1232	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1242	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1248	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1254	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1260	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1262	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
Aroclor - 1268	SW846 8082A	**<451**	451	µg/kg	05/04/21	AE
PCB - Surrogate Recoveries						
DCB	128%					
TCMX	102%					
416819-004	PCB-4 / Edison Tech School					
Semi-volatile Organic Compounds						
Aroclor - 1016	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1221	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1232	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1242	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1248	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1254	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1260	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1262	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
Aroclor - 1268	SW846 8082A	**<4840**	4840	µg/kg	05/04/21	AE
PCB - Surrogate Recoveries						
DCB	D					
TCMX	D					

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results reported relate only to the samples submitted.

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Labella Associates (1126)
Address: 300 State Street
Rochester, NY 14614-1098

Attn:

Project: Edison Tech Phase 24 Interior
Location: Edison Tech School
Number: 2170218

Order #: 416819

Matrix Bulk
Received 05/03/21
Reported 05/05/21

PO Number:

Sample ID / Parameter	Cust. Sample ID / Method	Result	RL*	Units	Analysis Date	Analyst

416819-05/05/21 12:35 PM

Reviewed By: **Jennifer Lee**
Manager

State Certifications

Method	Parameter	New York	Virginia
SW846 8082A	Aroclor - 1016	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1221	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1232	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1242	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1248	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1254	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1260	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1262	ELAP Certified	VELAP Certified
SW846 8082A	Aroclor - 1268	ELAP Certified	VELAP Certified

State	Certificate Number
New York	ELAP 61372
Virginia	VELAP 11259

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results reported relate only to the samples submitted.

Appendix D
Licenses and Certifications

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

LaBella Associates, D.P.C.
Suite 201
300 State Street

Rochester, NY 14614

FILE NUMBER: 99-1172
LICENSE NUMBER: 29278
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 02/06/2020
EXPIRATION DATE: 02/28/2021

Duly Authorized Representative – Greg Senecal:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2020
Issued April 01, 2019

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. MATTHEW SMITH
LABELLA ASSOCIATES
300 STATE STREET SUITE 200
ROCHESTER, NY 14614

NY Lab Id No: 11184

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)

NEW YORK STATE | Department of Health

Serial No.: 59557

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Environmental Protection Agency

This is to certify that

Labella Associates, P.C.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

New York

This certification is valid from the date of issuance and expires September 26, 2018

NY-2226-6

Certification #

September 24, 2015

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Schneider Laboratories Global, Inc.

2512 West Cary Street, Richmond, VA 23220-5117

Laboratory ID: 100527

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: June 01, 2019
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: June 01, 2019
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: June 01, 2019
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

William Walsh, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

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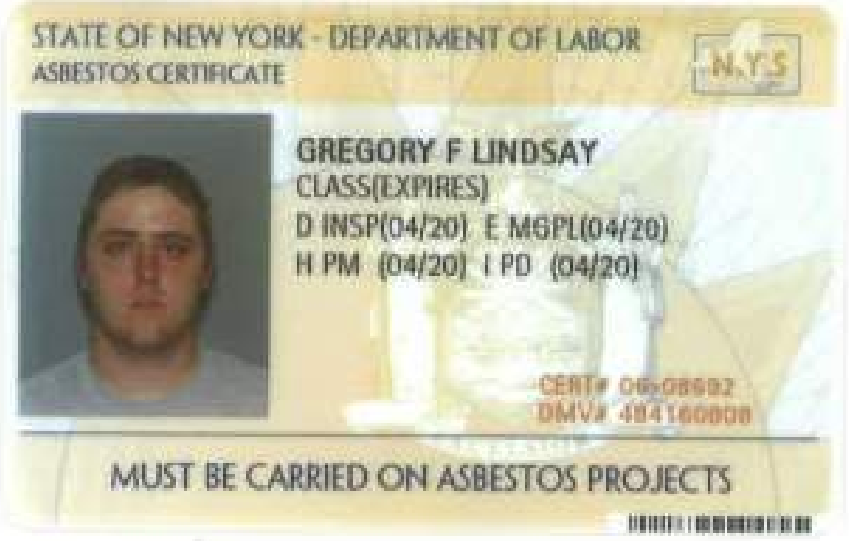

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE
N.Y.S.
GREGORY F LINDSAY
CLASS(EXPIRES)
D INSP(04/20) E MGPL(04/20)
H PM (04/20) I PD (04/20)
MUST BE CARRIED ON ASBESTOS PROJECTS

SECTION 00 41 16.01 - BID FORM - GENERAL TRADES WORK CONTRACT #1

1.1 To the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"):

The undersigned proposes to do all the work and furnish all material necessary for RCSD-Edison Career and Technology High School Door Installation (herein, "Project"). (Use only one bid form per contract being bid):

_____

Company Name

1.1.1 In accordance with drawings and specifications therefore and addenda comprising the Contract Documents, for the lump sum of:

TOTAL BASE BID (includes Allowances – see 1.2 below):

$_____

Amount in Figures

_____Dollars

Amount in Writing

herein referred to as the "Base Bid."

1.2 ALLOWANCES

Refer to section 00 43 21 "Allowances" for description of Allowances, where used. **Allowances are to be included in base bid amount and are to be used for items not identified in the contract documents. Unit Price Costs will be used to add or delete scope from allowances when directed by the Owner or Construction Manager.**

1.3 ALTERNATES

There are no Alternates considered in this Bid.

1.4 UNIT PRICES

Unit pricing is not considered in this Bid.

1.5 PROJECT PHASING AND MILESTONES

If awarded the Contract, the undersigned bidder agrees to complete the entire work on or before the milestones and dates as denoted in Section 00 43 83 “MILESTONE SCHEDULE & CRITICAL SUBMITTALS.” This includes working multiple shifts, or overtime, as directed by the Construction Manager to meet milestones.

1.6 ADDENDA

Receipt of the following addenda to the Contract Documents are acknowledged:

Addendum No. _____ Date_____

Addendum No. _____ Date_____

Addendum No. _____ Date_____

Addendum No. _____ Date_____

1.7 Give the name of each person, firm or corporation interested in the above bid. If the undersigned bidder is:

1. An individual, give full name _____.

2. A partnership under an assumed name, give name of each principal:
_____.

3. A corporation, give full legal name_____

_____.

4. Give the name of each person, firm or corporation other than the bidder having an interest in bids of the Contract proposed to be taken
_____.

2.1 CERTIFICATION OF NON-COLLUSION IN BIDDING

1. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury that to the best knowledge and belief:

    1. The prices of this bid have been arrived at independently without

collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

_____	BY_____
FULL LEGAL NAME OF FIRM OR CORPORATION	AUTHORIZED SIGNATURE
_____	_____
ADDRESS	TYPED NAME OF AUTHORIZED SIGNATURE/TITLE
_____	_____
CITY, STATE, ZIP CODE	TELEPHONE NUMBER
_____	_____
DATE	E-MAIL ADDRESS

NOTICE TO BIDDERS

3.1 All bid forms shall be signed by the name of the person, firm or corporation submitting the bid, indicating by long-hand signature the person duly authorized to sign in behalf of such person, firm, or corporation and shall contain the business address of the bidder.

3.2 Bidders are required to submit unit prices only if required by the specifications.

3.3 This section is purposely left blank.

3.4 No bids on different kinds of work may be combined, grouped or added together except to make the lump sum total of work called for under any one contract.

3.5 All items on the bid form shall be filled in as called for, and the completed bid form shall be without interlineation, alteration or erasure; and shall not contain a bid or bids, or form of bid or bids, other than called for.

END OF SECTION 00 41 16.01

SECTION 00 43 00 - SUPPLEMENTS TO BID FORM

The following attachments to these Supplements to Bid Form must be completed and submitted together with the Bid Form:

1. Form of Bid Bonds

2. Acknowledgement(s) of Principal and Surety

3. Additional Bid Forms:

   - Appendix A: Offerer's Affirmation of Understanding of and Agreement Pursuant to State Finance Law §139-j(6)(b

   - Appendix B: Offerer Certification of Compliance with State Finance law §139-k(5)

   - Appendix C: Offerer Disclosure of Prior Non-Responsibility Determination

   - Appendix D: Certification of Compliance with Iran Divestment Act

The requirements of this Section shall not limit or abrogate the Contractor's responsibility to provide all other required forms and information as specified in the Contract Documents at the time of bidding.

FORM OF BID BONDS

KNOWN ALL MEN BY THESE PRESENTS, that we, the undersigned, _____(*) as Principal; and _____(**) As Surety, are hereby held and firmly bound unto _____ in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed, this ___ day of _____, 20___

The condition of the above obligation is such that whereas the Principal has submitted to the Rochester Joint Schools Construction Board “RJSCB” of the Rochester City School District and the City of Rochester, New York, a certain Bid, attached hereto and hereby made a party hereof, to enter into a contract in writing, for the

_____

_____

NOW THEREFORE,

(a) If said Bid shall be rejected, or, in the alternate

(b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid,

Then, this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

* Insert Bidder's Name

** Insert Name of Surety

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Principal may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____
Typed Name of Principal

By: _____
Authorized Signature/Principal

_____
Typed Name of Authorized Signatory

_____
Typed Name of Surety

By: _____
Signature of Attorney-In-Fact

_____
Typed Name of Surety

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____)

County of _____) ss.:

City of _____)

On this day ____ day of _____, 20___ before me personally came and appeared _____ to me known, who being by me duly sworn, did depose and say that he resides at _____; that he is the _____ of _____, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

(SEAL)

_____
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF A FIRM

State of _____)

County of _____) ss.:

City of _____)

On this day ____ day of _____, 20___ before me personally came and appeared _____ to me known and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument and he acknowledged to me that he executed the same as and for the act and deed of said firm.

(SEAL)

_____
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____)

County of _____) ss.:

City of _____)

On this day ____ day of _____, 20___ before me personally came and appeared _____ to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same.

(SEAL)

_____
Notary Public

SURETY ACKNOWLEDGMENT

State of _____)

County of _____) ss.:

On this day _____ day of _____, 20___, before me personally came _____ to me known, who, being by me duly sworn, did depose and say that he is an attorney-in-fact of _____ the corporation described in and which executed the within instrument; that he knows the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he signed the said instrument and affixed the said seal as Attorney-in-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

(SEAL)

_____
Notary Public

ADDITIONAL BID FORMS

APPENDIX A (FORM A)

Offerer's Affirmation of Understanding of and Agreement Pursuant to State Finance Law §139-j(6)(b)

Background:

State Finance Law §139-j(6)(b) provides that:

Every Governmental Entity (including, voluntarily, the Rochester Joint Schools Construction Board, the "Board") shall seek written affirmations from all Offerers as to the Offerer's understanding of and agreement to comply with the Board's procedures relating to permissible contracts during a Governmental Procurement pursuant to State Finance Law §139-j(3).

Instructions:

In connection with all proposals, bids, RFP's, etc., the Board must obtain the following affirmation of understanding and agreement to comply with procedures on procurement lobbying restrictions regarding permissible contacts in the Restricted Period for a Procurement Contract in accordance with State Finance Law §139-j and §139-k:

Offerer affirms that it understands and agrees to comply with the Rochester Joint Schools Construction Board's Procurement Disclosure Policy, which Policy conforms to the requirements of State Finance Law §139-j (3) and §139-j(6)(b).

BY

*LEGAL NAME OF FIRM OR CORPORATION	AUTHORIZED SIGNATURE
ADDRESS	TYPED NAME OF AUTHORIZED SIGNATURE/TITLE
CITY, STATE, ZIP CODE	TELEPHONE/DATE

*Indicate the complete legal name of your firm or corporation. Do not abbreviate. If a corporation, use name as it appears on corporate seal.

APPENDIX B (Form B)

Offerer Certification of Compliance with State Finance law §139-k(5)

By signing below, I certify that all information provided to the Rochester Joint Schools Construction Board with respect to State Finance Law §139-k is complete, true and accurate.

BY

*LEGAL NAME OF FIRM OR CORPORATION	AUTHORIZED SIGNATURE
ADDRESS	TYPED NAME OF AUTHORIZED SIGNATURE/TITLE
CITY, STATE, ZIP CODE	TELEPHONE/DATE

*Indicate the complete legal name of your firm or corporation. Do not abbreviate. If a corporation, use name as it appears on corporate seal.

APPENDIX C (Form C)

Offerer Disclosure of Prior Non-Responsibility Determination

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

_____

Address: _____

Name and Title of Person Submitting this Form: _____

Contract Procurement Number: _____

Date: _____

1. Has any Government Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):

   No Yes

   If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j? (Please circle):

   No Yes

3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Government Entity? (Please circle):

   No Yes

4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.

Governmental Entity: _____

Date of Finding of Non-Responsibility: _____

Basis of Finding of Non-Responsibility: _____

_____
_____
_____
_____
_____

(Add additional pages as necessary)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle):

   No Yes

6. If yes, please provide details below:

Governmental Entity: _____

Date of Termination or Withholding of Contract: _

Basis of Termination or Withholding: ___

_____
_____
_____
_____
_____
_____
_____

(Add additional pages as necessary)

Offerer certifies that all information provided to the Rochester Joint Schools Construction Board with respect to State Finance Law §139-k is complete, true and accurate.

By: _____ Date: _____

Signature _____

APPENDIX D (Form D)

PROPOSER'S CERTIFICATION OF COMPLIANCE WITH IRAN DIVESTMENT ACT

Pursuant to General Municipal Law §103-g, which generally prohibits the City and the School District from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the proposer submits the following certification to Rochester Joint Schools Construction Board:

[Please Check One]
PROPOSER'S CERTIFICATION

☐ By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.

☐ I am unable to certify that my name and the name of the proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.

Dated: _____, 20___

_____
SIGNATURE

_____
PRINTED NAME

_____
TITLE

_____
FULL BUSINESS NAME

Sworn to before me this
_____ day of _____, 20____
Notary Public

SECTION 00 43 21 - ALLOWANCES

PART 1 - GENERAL

o RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 01 Specification Sections, apply to this Section.

o SUMMARY

This Section includes administrative requirements, procedural requirements, and information governing allowances.

a. Certain items are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Allowance Authorizations and/or Change Order.

b. **ALLOWANCES ARE TO BE INCLUDED IN THE APPROPRIATE CONTRACTOR'S BASE BID AND ONLY USED AS DIRECTED BY THE CONSTRUCTION MANAGER OR OWNER. UNIT PRICE COSTS WILL BE USED TO ADD OR DELETE SCOPE FROM ALLOWANCES.**

Types of allowances include the following:

a. Lump Sum allowances
b. Unit-cost allowances
c. Quantity allowances

o SELECTION AND PURCHASE

Coordinate first paragraph below with Division 01 Section "Submittal Procedures." Indicate critical dates on both Contractor's Construction Schedule and Submittals Schedule.

At the earliest practical date after award of the Contract, advise the Construction Manager of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

At Construction Manager's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

Purchase products and systems selected by the Owner's Representatives from the designated supplier.

Allowances do not include mark ups, overhead or profit, which shall be included in the non-allowance portion of the Base Bid sum.

- SUBMITTALS

Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

- COORDINATION

2. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

- LUMP SUM OR QUANTITY ALLOWANCES

Allowance shall include cost to Contractor of specific products and materials under allowance and shall include taxes, freight, and delivery to Project site.

a. All allowance material, equipment, and trucking costs will be verified with receipts and Invoices. Labor will be tracked with daily signed time sheets. Time sheets to be verified with Contractor foreman and Construction Manager Superintendent.
b. If a unit cost was submitted for an item listed below, the allowance will first be used. The cost of the work will be based on the unit price and the term of measurement associated with the unit price. Once the allowance is exhausted, the Construction Manager will direct the Contractor to continue, if necessary, using the unit cost and the Contract Sum shall be adjusted accordingly by Change Order.
c. Request for payment draws on allowance line items must include: copies of purchase orders, sub contracts, invoices, etc. None of which will have added overhead and profit.
d. Unused allowance monies will be credited back to the Owner, without deduction, via a deduct Change Order issued by the Owner.

- UNUSED MATERIALS

Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

e. If requested by Construction Manager, prepare unused material for storage by the Owner when it is not economically practical to return the material for credit. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- EXAMINATION

Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

- PREPARATION

Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

- SCHEDULE OF ALLOWANCES:

a. **Allowance C-01-01: (GTC Contract # 302) $ 25,000.00**
This Allowance is for unforeseen conditions found during demolition / installation.

END OF SECTION 00 43 21

SECTION 00 43 31 – M/WBE/DBE/SBE UTILIZATION AND WORKFORCE DIVERSITY

I. POLICY STATEMENT

.1 The Rochester Joint Schools Construction Board ("RJSCB") recognizes that the opportunity for the participation in a free enterprise system by persons or groups traditionally, socially, and economically disadvantaged is essential to obtain social and economic equality. As such, the RJSCB acknowledges the need to promote participation by minority-owned and women-owned business enterprises ("M/WBE"), small business enterprises ("SBE") and disadvantaged business enterprises ("DBE") (collectively, "Eligible Business Enterprises" or "EBE") in contracts awarded as part of the Rochester Schools Modernization Program ("RSMP"). The RJSCB further acknowledges the diverse community of the City of Rochester, as reflected in its businesses and workforce labor. The RJSCB strives to support business development and workforce diversification opportunities that the RSMP may create, including the opportunity to encourage participation of these diverse individuals and groups in local projects. Accordingly, through the RSMP Diversity Program, the RJSCB fosters and promotes the participation of EBE's and women and minority laborers in all RSMP contracts.

.2 With respect to RSMP Construction Projects less than One Hundred Thousand dollars ($100,000.00), all contractors are strongly encouraged to meet the designated EBE and women and minority workforce utilization Goals set forth herein. Bidders on all RSMP Contracts to exceed $100,000.00 must adhere to the Goals and other requirements of this Section and submit Forms DP-1, DP-2, DP-3, and DP-3A, the Promise of Non-Discrimination, EBE Assurance Statement, "Good Faith Efforts Checklist," and such other forms as are attached hereto in Section 00 43 31-A, within the time period(s) set forth herein

.3 Contractors are also referred to the Phase II Diversity Plan for reference, a copy of which may be obtained at http://www.rcsdk12.org/rsmp. The Phase II Diversity Plan (the "Diversity Plan") is hereby incorporated by reference and Contractors must comply with all terms and requirements of the Diversity Plan, except as otherwise set forth in this Section 00 43 31.

II. DEFINITIONS

DEFINITIONS: The below terms and phrases employed with respect to the RSMP, as used herein, shall have the meanings set forth in the Diversity Plan at Article 1.03 "Definitions."

III. WORKFORCE DIVERSITY AND BUSINESS DEVELOPMENT GOALS

.1 The RJSCB is committed to provide women and minorities with equal opportunities to perform work on RSMP projects. All firms or other businesses providing goods or services under a Contract meeting the dollar amount threshold set forth in this Project Manual shall comply with the workforce diversity Goals set forth herein.

Percentage Goals for Workforce Participation: In order to achieve the workforce diversification goals of the Program, each firm or other business providing goods or services shall use its best efforts to ensure that the workforce it engages to perform work for the Program shall demonstrate, in terms of the percentage of actual hours worked under the Contract, and/or contract as amended, participation rates as follows:

- Minority Workforce: 22% of project personnel hours including skilled trades people, trainees, journeymen, apprentices, and supervisory staff.

- Female Workforce: 8% of project personnel hours including skilled trades people, trainees, journeymen, apprentices, and supervisory staff.

Each Contractor, supplier, professional service provider, or other business providing goods and services shall strive to maximize the use of Rochester-based labor, contractors, suppliers, and service providers in performing the Contract.

.2 **Contractors performing labor and services for RSMP projects may not count female or minority home office staff toward the Goals stated above**, and may only count participation of field staff. However, those performing professional services on RSMP projects may count minority and female office staff who perform the relevant professional services (as opposed to administrative or support services), whether performed in the field or in their home office, toward the workforce diversity Goals stated above.

.3 The RJSCB is also committed to the meaningful participation of certified EBE's on RSMP contracts. In order to meet this commitment, all Contractors or other businesses providing goods or services under a Contract meeting the dollar amount threshold set forth in the Diversity Plan shall comply with the business diversity Goals set forth herein.

Percentage Goals for EBE Participation (applicable to the total value of the project):

In order to achieve Diversity Program Goals for EBE business development, each Contractor, supplier, professional service firm or other business providing goods or services shall strive to and use Good Faith Efforts to engage minority-owned, woman-owned, disadvantaged business enterprises, and small business enterprises as follows:

a. MBE: 17% of each Contract or purchase order
b. WBE: 10% of each Contract or purchase order
c. DBE: 3% of each Contract or purchase order
d. SBE: 3% of each Contract or purchase order

.4 Only EBE firms that demonstrate proper Certification may be used to fulfill the above workforce diversity and business development Goals.

.5 COUNTING EBE PARTICIPATION TOWARD GOALS: All bidders, including EBE bidders, shall use Good Faith Efforts to achieve business development Goals through second tier participation (subcontractor work). Methods for counting EBE participation toward Goals of this Contract are set forth in the Diversity Plan at Article 2.02(e)

IV. FORMS AND PROCEDURES

.1 To count toward the RJSCB's Goals, an EBE must be Certified at the time a bid is submitted. The judgment as to whether or not an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor, even as to any EBE's as may have been listed by Owner or its ICO as pre-approved or Certified. In addition to general Certification, all SBE's must complete and submit the Small Business Certification Form included in the Attachment to this Section.

.2 As an aid to bidders, the ICO may, as a courtesy, direct bidders to various websites, certifying entities and/or listings identifying Certified EBE firms working in relevant business categories. For any EBE firm proposed by the Bidder or Contractor, whether or not such firm is included in any courtesy information provided by the ICO, Bidder or Contractor must submit acceptable proof of the certification of each EBE firm for the ICO's review to determine whether to accept a proposed EBE Utilization Plan (Form DP-1). Certification does not imply the EBE firm's ability to perform the work required of the Contract, which shall be Contractor's obligation to determine.

.3 **Failure to adequately complete the forms required to be submitted with the bid may be grounds for the RJSCB upon recommendation of the ICO to reject a bid or disqualify a bidder.** The information required by this Section is to be provided on the forms attached as Section 00 43 31-A.

.4 The name, mailing address and title of the bidder's EBE liaison officer should be included along with the forms referenced above.

.5 Any agreement between a bidder/contractor and an EBE in which the EBE promises not to provide subcontracting quotations to another bidder/contractor is prohibited.

.6 The names, scope of work and dollar amounts submitted on the above-referenced forms constitute the bidder's proposed plan for fulfillment of the Goals.

.7 Neither Conduit nor Broker participation, as those terms are defined in the Diversity Plan, shall be counted toward EBE firm participation on this Contract.

8. The RJSCB, ICO or other RJSCB designee shall notify the bidder if one or more of the proposed EBE's do not qualify for the Project. The bidder will be requested, within five (5) days of notification, to provide new Certified EBE's or an alternate plan for fulfilling the Goals. This does not imply that the bidder cannot utilize the proposed EBE, only that doing so will not count toward fulfilling the Goals.

9. It is understood that a Contractor/Bidder may make changes to its DP-1 Form for legitimate and necessary business reasons prior to award of contract. Any such changes must be submitted to the ICO for review and approval, if appropriate. The DP-1 change process does not relieve Contractor/Bidder from compliance with all other requirements of this Section, including contacting EBE firms to seek work proposals prior to submission of bid.

10. The ICO may request that the Bidder or Contractor supply additional information within a reasonable timeframe to perform a review and assess whether Goals have been adequately stated, met and/or maintained throughout Contract performance.

11. Once a Bidder submits a satisfactory DP-1 form (EBE Utilization Plan), DP-2 form (Letter of Intent to Perform), a signed Promise of Non-Discrimination, and signed EBE Assurance Statement, upon approval of the ICO, these documents will be incorporated into, and made a part of, the Contract. Goals will be considered provisionally met at the award stage, pending Contract completion, including satisfactory submission of Employment Utilization and EBE Utilization reports (Forms DP-3 and DP-3a) to verify that Goals have been adequately met and maintained throughout Contract performance.

    a. If the bid includes Allowances or Alternates, bidder may craft its EBE Utilization Plan (DP-1) to meet the Goals using only the "Base Bid" amount, based on the assumption that work Allowance or Alternate work included in the bid may not be performed as part of the Contract, depending on Project needs. However, should Owner select Alternates or direct contractor to perform work in an Allowance category during the Project, contractor must revise and re-submit its Utilization Plan (DP-1), as well as DP-3 and DP-3a forms, and make Good Faith Efforts to meet and maintain all Goals, in accordance with Parts VIII and IX of this Section.

V. GOOD FAITH EFFORT: RJSCB expects extreme diligence on the part of each Bidder and Contractor to meet and maintain Goals. Bidders must submit with their bids evidence of Good Faith Efforts on the "Good Faith Efforts Checklist" Form, attached in Section 00 43 34A. Good Faith Efforts are defined in the Diversity Plan and outlined therein at Article 2.02(c).

VI. CONTRACTUAL OBLIGATIONS:

.1 The ICO shall review the plan submitted by an apparent low bidder to determine if the bidder is compliant with the Goals set forth in this Section, and will strive to make such determination within 48 hours of notice to the apparent low bidder. In the event the ICO determines a bidder has not met or used Good Faith Efforts to meet the Goals, the ICO may reject the proposed EBE Utilization Plan, and the contract may be awarded to the next lowest responsible bidder who complies with the requirements of this Section.

.2 Appeals of plan acceptance determinations must be made in writing and state the entire basis of the appeal. Appeals are to be delivered to the ICO within three (3) days of notification of decision, and should include sufficient supporting documentation to allow the ICO to perform a meaningful review.

.3 **The successful bidder's final EBE Utilization Plan (Form DP-1) as approved by the ICO shall be incorporated into the Contract upon the award thereof.** This will be referred to as the approved EBE Utilization Plan (DP-1), and will be operative unless and until revised, as set forth herein. If the DP-1 is revised at any time after bid submission, including during Contract performance, Contractor must provide a written rationale to the ICO for the revision, and obtain ICO approval thereof. The subcontractors listed on approved EBE Utilization Plan (DP-1), the dollar amounts shown, and any other relevant documentation will become part of the Contract. Failure to comply with an approved EBE Utilization Plan shall be a material breach of Contractor's obligations under this Section.

.4 **BUSINESS OPPORTUNITY PROGRAM (BOP)**: The RJSCB expects each Prime Contractor to participate in the RSMP's Business Opportunity Program (BOP).

The (BOP) is a partnership designed to assist Greater Rochester EBEs through outreach, training, education and growth potential in the City of Rochester. The BOP is also intended to increase the number of certified M/W/S/DBEs capable of bidding successfully on capacity-appropriate construction contracts, and improve the small contractors' management, organization and skills by teaching them new strategic tools to speed the growth of their businesses.

The BOP will sponsor and facilitate The Instructional Series, a curriculum-based program of training sessions designed to expand business opportunities and assist M/W.D.SBE subcontractors beyond what was formerly available to them. A Mentor-Protégé Program (MPP) will enroll eligible certified M/W/D/SBE's who are designated as subcontractors on Phase 2 projects to be paired with the prime contractor who has listed them on its EBE Utilization Plan (DP-1) or another participating mentor designated by BOP Staff. A Memorandum of Understanding template outlining the basic terms of the MPP is included in this section.

Additionally, a Revolving Loan Program (RLP) was developed through the BOP specifically for assisting EBE subcontractors with Phase 2 contract awards. Bidders interested in the program can fill out a pre-qualification application for submission to the Program Manager, who will forward to the RLP Administrator. If approved, the loan funds available to EBEs can be used to cover payroll, rent equipment or purchase supplies when accompanied by an invoice. The RJSCB will not administer the loan program or approve loans. Additional information will be provided upon request of interested bidders.

VII. PRIOR TO THE COMMENCEMENT OF WORK

.1 Prior to the commencement of any work by an EBE, and no later than ten (10) days after notice of Contract award, the contractor must submit the DP-2 Form "Letter of

Intent to Perform." Contractor shall exercise best efforts to execute and submit copies of all EBE subcontracts to the ICO no later than 90 days after the notice of contract award. This will provide evidence that a written contract is in place, but in no way implies the RJSCB's approval or disapproval of the subcontracts. The RJSCB reserves the right to request a copy of an executed EBE subcontract prior to 90 days if it so chooses or at any time during the Project. If the Contractor fails to provide the executed EBE subcontracts within the 90 day period or upon request as indicated above, the ICO can proceed to request an explanation from the Contractor and request a meeting with the Contractor to review the status and reasons for not submitting the subcontracts. Non-compliance by the Contractor with this section may give the RJSCB cause to withhold payments to the Contractor.

.2 If requested by the RJSCB or ICO, the contractor must attach a construction schedule to the EBE subcontract describing the anticipated time periods that the EBE subcontractor will be utilized on the Project. A copy of the construction schedule, with modifications, should accompany each Form DP-3A.

.3 Failure to submit a written subcontract agreement with a construction schedule upon request may give the RJSCB cause to withhold payments. Any work performed by an EBE without a written subcontract made available to the RJSCB may not be counted toward fulfillment of the Goals.

.4 All subcontractors should be made aware of all modifications to the construction schedule and must be given reasonable opportunity to mobilize their workforces to perform. Notification of less than five (5) days will not be considered reasonable and will not be a basis for determining that the subcontractor was not available to perform on the Project.

VIII. DURING PROGRESS OF WORK: contractor must maintain the Goals at the percentage levels stated above throughout performance of the Contract.

.1 If a contract modification (e.g., a Change Order, Field Order or Construction Change Directive) issues after the ICO's approval of the EBE Utilization Plan, the Contractor must adjust the Utilization Plan accordingly to maintain the appropriate percentage Goals. For example, if a Change Order increases the Contract Sum, the Goals will increase in proportion to the Contract Sum. Similarly, performance of approved Allowance work will increase the Contract Sum for purposes of compliance with EBE Goals. Forms DP-3 and DP 3-A must be submitted monthly and should reflect changes to the Contract Sum due to authorized contract modifications or Allowance work, as well as the resulting increases in EBE, women and minority participation.

.2 Contractors must demonstrate, to the ICO's satisfaction, Good Faith Efforts to meet the modified Goals in the event of a change to the Contract Sum during the progress of Work, including but not limited to retaining additional EBE subcontractors for the work affected by an Allowance or contract modification that increases the Contract Sum.

.3 The ICO may, in its discretion and upon contractor's written request, consider the following factors in determining whether contractor has used Good Faith Efforts to meet the required Goals:

a. If the contract Change or Allowance requires contractor to provide additional materials and/or supplies, as opposed to performing additional labor;

b. If the change Allowance work is the same type of work currently being performed by the contractor under contract with a non-EBE Supplier or subcontractor on the Project;

c. If EBE subcontractors are not capable or available to do the work required by contract change or Allowance;

d. Any other factor impacting contractor's ability to adjust the Goals in accordance with the increased Contract Sum.

.4 The ICO in its discretion may waive the requirement to meet modified Goals if approved contract modifications or authorization to perform Allowance work results in a minor net increase in the Contract Sum (less than $50,000) such that restructuring contracts would be impractical or unduly burdensome to contractor. However, the contractor must otherwise demonstrate compliance with modified percentage Goals to the satisfaction of the ICO.

.5 Should ICO determine that the performance of approved Allowance or change order work, or any other factor during performance of the Contract, has caused contractor to fall out of compliance with applicable percentage Goals, the ICO may call a meeting with contractor to address the issue and discuss steps for the contractor to achieve and maintain compliance with the applicable Goals.

IX. REPORTING AND RECORD-KEEPING: The contractor must keep records and documents to substantiate compliance with the EBE business development and workforce diversity Goals and requirements for three (3) years following completion of this Contract. These records and documents must be made available to the ICO or other authorized RJSCB officials upon request during that time.

.1 All apparent successful bidders who plan to utilize an EBE subcontractor or engage in a Joint Venture with an EBE shall submit to the ICO by the end of the tenth business day following notice of award of contract a "Letter of Intent to Perform" (Form DP-2) in the format attached hereto, signed by both the EBE and bidder.

.2 The contractor must furnish the ICO with Monthly Employment and EBE Utilization Reports (Forms DP-3 and DP-3A) with each monthly request for payment, including but not limited to worforce census and other employment and certified payroll records necessary to verify achievement of the workforce diversity goals. Employee zip code information must be listed on monthly EEO report. Failure to submit the DP-3 and DP-3A Forms with each request for payment will give the

RJSCB cause to withhold that payment and the EBE's or workforce utilized shall not be counted toward fulfillment of the Goals.

.3 Records of payment (e.g., copies of checks) for subcontract work, if requested by RJSCB, as well as payrolls and other documents required by any other terms of this contract, must be submitted to the ICO with each monthly request for payment unless otherwise indicated. Attainment of the Goals will be based on actual payment records and not solely on the stated subcontract amount. Amounts claimed to be attributable to EBE's, but that are not substantiated by actual payment records, will not be counted toward the final Goal. All contractors must provide a certified accounting statement setting forth the total amounts paid to all subcontractors to enable the RJSCB and ICO to verify that percentage Goals were ultimately met.

.4 The contractor must notify the ICO immediately in writing if the contractor changes or cancels an EBE subcontractor or Joint Venture including an EBE whose participation has already been approved as counting toward the applicable Goal.

.5 The ICO or other RJSCB designee shall follow up during the term of Project to evaluate the successful employment of the EBE firms and of women and minorities through review of Forms DP-3 and DP-3A (Monthly Employment and EBE Utilization Reports). This review may be done monthly or when the ICO deems it appropriate.

a. Successful utilization and meeting of Goals will be noted and approved by the ICO.

b. In cases where the contractor fails to meet workforce diversity and business development Goals, the ICO or other RJSCB designee shall obtain from the contractor in writing the reason for the delay and his/her plan to achieve the Goals by project completion.

c. It is the contractor's responsibility to monitor the progress of the EBE and women and minority participation on the Project.

d. In cases where the contractor does not anticipate meeting the Goal or where the contractor wishes to add an EBE firm to those originally designated as contributing toward a business development Goal, the contractor should request a new EBE Utilization Plan (DP-1 form) and inform the ICO thereof. The updated EBE Utilization Plan (DP-1) shall be submitted to the ICO within (3) days of giving notice to the ICO.

e. This revised EBE Utilization Plan (DP-1) shall be approved or rejected by the ICO or other RJSCB designee in accordance with the Goals.

f. Appeals of revised EBE Utilization Plan acceptance determinations shall be made in writing, stating the full basis of the appeal, to the ICO within three (3) days of notification of the initial decision.

X. RETAINAGE: The RJSCB reserves the right to retain, at any time, an amount up to but not exceeding the amount cited in an approved EBE Utilization Plan (DP-1) that has not been paid to any EBE in accordance with the approved EBE Utilization Plan. The RJSCB may retain such amounts as in its reasonable discretion may be necessary to ensure payment to the applicable EBE firm listed in the EBE Utilization Plan.

XI. COMPLIANCE MONITORING: In order to achieve development and diversification in its workforce, and to meet the required EBE utilization Goals set forth herein, each contractor, supplier, professional service firm or other business providing goods or services must:

1. Provide the ICO with a monthly workforce census and other employment and certified payroll records necessary to verify achievement of the workforce diversity Goals and demonstrate compliance with the minimum standards.

2. Provide on-demand access and cooperation to the ICO to review records on-site and/or at work-site premises to validate workforce participation. This may include unannounced visits and on-the-spot interviews that the ICO and its inspectors may hold with workers at the job site or at off-site work premises to verify their work status and claimed job classifications.

3. Submit all other information required on the forms specified herein and attached as Section 00 43 31-A, or such further information as is required at the reasonable request of ICO, at the time of bidding or throughout the Project to ensure compliance with the requirements of this Section.

4. In addition, contractor is strongly encouraged to do the following:

   PART 1 - With bid submission, present a proposed written recruiting program directed at attracting candidates to fill positions of employment in order to meet such requirements.

   PART 2 - With bid submission, provide a statement committing to training or participation in training programs provided by third parties to train new employees in meaningful ways to succeed in their employment opportunities and to promote long-term employment within the industry or profession.

5. In the event the contractor, supplier, professional service firm or other business providing goods or services fails to maintain minority/women workforce or EBE utilization Goals through the duration of the Project on their Contract or purchase order, the ICO can and shall exercise in a timely manner one or more of the remedies set forth in the Diversity Plan at Article VI at section 6.01.

XII. ENFORCEMENT: In evaluating bids and during performance of the Contract, the Owner and ICO will consider responsive and responsible bidders who can provide the quality goods and services reasonably required for the contract. All bidders must make Good Faith Efforts in seeking to maximize the use of available EBE's for RSMP Projects. The failure of a bidder to demonstrate the mandatory Good Faith Efforts outlined in the Diversity Plan to include EBE's in the procurement process or to maintain percentage Goals throughout the Project will be considered in awarding RSMP Contracts. The RJSCB, through the action of the ICO, shall have the authority and power to enforce the provisions of this Section 00 43 31.

Violations of this Section shall constitute a material breach of contract, and the ICO and/or RJSCB may undtake the measures outlined in the Diversity Plan at Article VI, section 6.03 thereof, to enforce the requirements of this Section 00 43 31.

XIII. COMMERCIALLY USEFUL FUNCTION: Refer to the *Rochester Joint Schools Construction Board Workforce & Business Participation Diversity Plan* for Phase 2 Schools, dated April 2016: EBE suppliers must perform a Commercially Useful Function in order to satisfy business diversity goals in whole or in part. A prime supplier to the Phase 2 Program will not receive credit toward the goals by using an EBE acting merely as a broker or conduit to purchase equipment from a commodity supplier. An EBE whose normal function is selling/distributing equipment as a dealer can be sub-contracted by a prime and use up to 50-percent of their contracted amount toward meeting a diversity goal. If a sub-contracted EBE supplies both labor and material to the prime, the prime may be able to use up to 100-percent of the total contracted fee toward meeting a diversity goal. In all cases, participation of an EBE for purposes of achieving the goals will require approval by the Independent Compliance Officer (ICO).

Contact information for any questions:
Anchin
Jeff Wild
212-840-3456
Jeffrey.Wild@anchin.com

XIV. ATTACHMENTS: Information required by this Section must be submitted on the forms or in the formats specified in the "Diversity Program Forms" found in the Appendix, included as Section 00 43 31-A of the Contract Documents.

ATTACHMENTS TO FOLLOW AS SECTION 00 43 31A

END OF SECTION 00 43 31

SECTION 00 43 31A: DIVERSITY PROGRAM ("DP") FORMS

The attached Diversity Program (DP) Forms will be used by the ICO and Board to monitor Contractor compliance with the Goals of the Diversity Plan. The Board or ICO may modify these forms as appropriate or require additional forms as needed to implement Diversity Plan requirements, in which case, new or updated forms will be provided to Bidder/Contractor.

INSTRUCTIONS FOR USE OF THE ATTACHED DP FORMS:

1. **DP -1: SCHEDULE OF EBE PARTICIPATION** (*Submit with bid*):
   This form is to be completed and submitted with the response to the RFP or Bid. The selected bidder or respondent shall be required to resubmit its final version, signed by the bidder/respondent, showing all those contractors and or vendors it has entered into agreement with to meet the goals for participation by Eligible Business Enterprises ("EBE's"), defined within the RSMP Diversity Plan (e.g., MBE's, WBE's, DBE's and SBE's).

2. **DP -2: EBE LETTER OF INTENT TO PERFORM** (*Submit within 10 days' notice of award of Contract*):
   This form is required of the selected contractor. The contractor must fill these out and secure signatures from all EBE firms proposed as subcontractors on contractor's approved DP-1 form.

3. **DP – 3: MONTHLY EMPLOYMENT UTILIZATION REPORT** (*Submit monthly*):
   This form provides a monthly summary of employment workforce utilization. It is used to track the diversity of a particular contractor's workforce and its responsiveness to the objectives required by the Diversity Plan. The contractor is required to submit this form on a monthly basis.

4. **DP – 3: MONTHLY EBE UTILIZATION REPORT** (*Submit monthly*):
   This form provides a monthly summary of work provided by EBE's listed in the Utilization Plan (DP-1). The contractor is required to submit this form on a monthly basis.

5. **PROMISE OF NON-DISCRIMINATION** (*Submit with bid*)
   Must include signed certification from bidder.

6. **EBE ASSURANCE STATEMENT** (*Submit with bid*).
   This form is to be completed and submitted with the response to the RFP or Bid.

7. **GOOD FAITH EFFORTS CHECKLIST** (*Submit with bid*):

This checklist must be completed to indicate the efforts that Bidder/ Proposer undertook in attempting to meet Diversity Program Goals.

RCSD
SED#:
SED DWT:

EBE UTILIZATION PLAN (DP-1)			**Rochester Schools Modernization Program**		
1. Project :			**2. Proposing on Contract No./Contract Description**		
3. Proposer Name / Address / Phone No. / Fax No. / FEIN			**4. Proposal Submittal Date (MM/DD/YY)** ☐ **Original DP-1** ☐ **Revised DP-1 Rev. Date:**		
Project Goals: MBE – 17% WBE – 10 % DBE – 3 % SBE – 3 %					
6. Name/Address/Phone and FEIN of Proposed M/WBE, DBE or SBE	**7. Certified as EBE**	**8. Performance Category**	**9. Scope of Services to be provided**	**10. Proposed Dollar Amount**	**Percent**

The undersigned, being an authorized representative of the proposing company, hereby certifies that the above information is accurate, and that proposer has received a proposal from, or discussed with, each of the M/WBE, SBE or DBE firms listed herein prior to the submission of the accompanying bid. The authorized representative of the firm also hereby certifies the proposal complies with the RSMP diversity section or has engaged the ICO and complied with the appropriate procurement process.

Bidding Company's Official Printed Name and Title: _____

Authorized Signature: _____ Print Name: _____ Title: _____

The ICO may follow up with the EBE firms listed herein to verify that each either submitted a proposal to, or discussed with, the bidder the amounts indicated above.

EBE ASSURANCE STATEMENT

To be submitted with the bid on bidding company's letterhead and signed and dated by bidder's authorized representative. Bidder must submit a separate EBE Assurance Statements for each EBE.

Subject Proposal for_____

The undersigned bidder, having submitted a proposal for the referenced project, if awarded the Contract, agrees that the EBE Utilization Plan (DP-1) submitted with the bid or as thereafter modified and approved by the ICO will be incorporated into the Contract upon submission of the EBE Letter of Intent to Perform. We are committed to ensure EBE participation in the manner indicated below as subcontractors, supplier or in joint venture partnership as follows:

Representation of EBE Status
Name: _____
Address: _____
_____
_____
Phone #: _____
Fax#: _____
Email: _____
FEIN: _____

Work to be performed:
_____
_____
_____
_____.

Dollar amount: _____
Percentage of the Total Bid amount: _____

This subcontractor represents that it *is / is not* a certified MBE/DBE/WBE/SBE (circle the appropriate status).

This subcontractor is a (circle one): Sole proprietorship / individual / corporation / partnership / a joint venture

Contractor/Bidder acknowledgement:
The undersigned contractor/bidder represents that the above information is true and correct to the best of its knowledge:

Name of Contractor/Bidder firm: _____
Authorized representative: _____
Authorized signature: _____ Date: _____, 20__

EBE Assurance Statements must be submitted on bidder's letterhead and signed and dated by bidder.

PROMISE OF NON-DISCRIMINATION

KNOW ALL MEN BY THESE PRESENTS, that I/we, _____, Title(s) _____, Name of Company _____ _____ (hereinafter "Company"), in consideration of the privilege to submit Proposals on contracts funded, in whole or in part, by the Rochester Joint Schools Construction Board (herein, "RJSCB" or "Owner"), hereby consents, covenants and agrees as follows:

(1) No person shall be excluded from participation in, denied the benefit of, or otherwise be discriminated against on the basis of race, color, national origin or gender in connection with any bid submitted to Owner or the performance of any contract resulting from;

(2) That it is and shall be the policy of this Company to provide equal opportunity to all business persons seeking to contract or otherwise interested in contracting with this Company, including various local small business enterprises;

(3) In connection herewith, I/We acknowledge and warrant that this Company has been made aware of, understands and agrees to make Good Faith Efforts to solicit EBE's to do business with this Company;

(4) That the promise of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption;

(5) That the promises of non-discrimination as made and set forth herein shall be and are hereby deemed to be made a part of, and incorporated by reference into, any contract or portion thereof which this Company may hereafter obtain;

(6) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination or Good Faith Efforts to attain the EBE utilization Goals and reporting requirements, as made and set forth in this Section 00 43 31, shall constitute a material breach of contract entitling the Owner to declare the Contract in default and to exercise any and all applicable rights and remedies, including but not limited to, cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and/or forfeiture of compensation due and owing on a contract.

Dated: _____, 20___ By: _____
(Authorized Company Representative Signature)

GOOD FAITH EFFORTS CHECKLIST

The Rochester Joint School's Board (RJSCB) welcomes your participation in the Rochester School's Modernization Program (RSMP). Your participation and support in complying with the goals for diversity set forth in the Diversity Plan is critical to the success of the Program. Pursuant to the requirements set forth in this Section and in consideration of the privilege to submit Proposals on contracts funded, in whole or in part, by RJSCB, WE,_____ by Owner/Principal _____

Attest that we have exercised the following Good Faith Efforts in addition to my /our regular and customary solicitation process:

I/We have delivered written notice to three available certified EBE's for each potential subcontracting or supply category in the Contract AND all potential subcontractors or vendors which requested information on the Contract.

I/We have provided all potential subcontractors or vendors with adequate information as to plans, specifications, relevant terms and conditions of the Contract, bonding requirements, and the last date and time for receipt of price quotations.

I/We have attended a special meeting called to inform business and individuals of subcontracting or supply opportunities.

I/We have, in accordance with normal industry practices, divided the contract into economically feasible segments that can be performed by an EBE.

I/We have provided a written explanation for rejection of any potential subcontractor or vendor to the EBE/, including the name of the firm proposed to be awarded the subcontract or supply agreement, where price competitiveness is not the reason for rejection.

I/We have actively solicited, through sending letters or initiating personal contact, EBE's in all feasible and appropriate categories providing subcontracting opportunities for the contract under consideration.

I/We have utilized the services of available community organizations and associations, contractors' groups, and trade associations known to publicize contracting and procurement opportunities, for the purpose of obtaining assistance in the contacting and recruitment of EBE's for the RJSCB's contract under consideration.

I/We have advertised in publications of general circulation in the Rochester MSA trade publications and other media owned by, or otherwise focused or marketed to EBE's, and the advertisement identifies and describes the specific subcontracting or other opportunity in reasonable detail.

I/We have conducted discussions with interested EBE's in good faith, and provided the same willingness to assist EBE's as has been extended to any other similarly situated subcontractor.

(GOOD FAITH EFFORTS CHECKLIST continued on following page):

(*GOOD FAITH EFFORTS CHECKLIST, page 2*):

I/We have taken steps to ensure that all labor supervisors, superintendents, and other on-site supervisory personnel are aware of and carry out the obligation to maintain a non-discriminatory work environment, free of harassment, intimidation and coercion at all construction sites, offices and other facilities to which employees are assigned to work.

Please identify below all subcontractors, suppliers, or a joint venture partner you invited to participate that declined.

1. Name of subcontractor/Vendor: _____
Phone #: _____
Address:_____
Date of Offer to Participate:_____
Date Offer was declined: _____
Reasons Given for Declining:
_____

Please note all categories of ownership that apply:
____ African American Business Enterprise
____Asian American Business Enterprise
____Hispanic American Business Enterprise
____Majority Enterprise
____ Native American Business Enterprise
____Small Business Enterprise
____ Women-Owned Business Enterprise

2. Name of subcontractor/Vendor: _____
Phone #: _____
Address:_____
Date of Offer to Participate:_____
Date Offer was Declined:_____
Reasons Given for Declining:
_____

Please note all categories of ownership that apply:
____ African American Business Enterprise
____Asian American Business Enterprise
____ Hispanic American Business Enterprise
____Majority Enterprise
____ Native American Business Enterprise
____Small Business Enterprise
____ Women-Owned Business Enterprise

(GOOD FAITH EFFORTS CHECKLIST continued on following page):

(*GOOD FAITH EFFORTS CHECKLIST, page 3*):

3. Name of subcontractor/Vendor: _____
Phone #: _____
Address_____
Date of Offer to Participate:_____
Date Offer was Declined :_____

Reasons Given for Declining:
_____

Please note all categories of ownership that apply:
____ African American Business Enterprise
____Asian American Business Enterprise
____Hispanic American Business Enterprise
____Majority Enterprise
____ Native American Business Enterprise
____Small Business Enterprise
____ Women-Owned Business Enterprise Name of subcontractor/Vendor

4. Name of subcontractor/Vendor: _____
Phone #: _____
Address_____
Date of Offer to Participate: _____
Date Offer was Declined:_____
Reasons Given for Declining:
_____

Please note all categories of ownership that apply:
____ African American Business Enterprise
____Asian American Business Enterprise
____ Hispanic American Business Enterprise
____Majority Enterprise
____ Native American Business Enterprise
____Small Business Enterprise
____ Women-Owned Business Enterprise Name of subcontractor/Vendor

END OF GOOD FAITH EFFORTS CHECKLIST

EBE LETTER OF INTENT TO PERFORM (DP-2)

This form is to be completed and submitted to the ICO by the apparent successful bidder by the end of the tenth day following notice of award of contract.

RSMP PROJECT: _____
PARTICIPANT: _____

The undersigned has agreed to perform work in connection with the above project as:
_____sole proprietorship (individual)
_____a partnership
_____a corporation
_____a joint venture

Detailed description of work items to be performed by EBE:
_____ (indicate labor, supplier, broker, etc.) at the following price: $ _____.

Please note all categories of the subcontractor/joint venture that apply:

____ Disadvantaged Business Enterprise
____ Minority-Owned Business Enterprise
____ Small Business Enterprise
____ Women-Owned Business Enterprise

The total value of EBE participation under this Joint Venture Agreement is $_____.; which is ____% of the total Proposal.

(Type or Print Name of subcontractor/Joint Venture) _____
By: _____ _____
Printed Name: _____
Title: _____
Date: _____

This EBE is currently certified as a MBE, WBE, DBE or SBE in the above-indicated performance category. **As evidence of this fact, attached is a certification letter from the appropriate certifying authority confirming the current MBE, WBE, DBE or SBE status and the applicable performance category. Failure to include said certification letter(s) to the satisfaction of the ICO is grounds for rejection of the proposed EBE.**

Should any revisions to this pending agreement be necessary after the submission of this form, the bidding contractor shall immediately resubmit the necessary revised forms to the attention of the ICO for consideration.

DP-2 Form continued on the following page…

DP-2 Form, page 2:

The undersigned will enter into a written agreement for the work described upon the approval of the ICO and award and execution of a contract with RJSCB to the bidder.

_____	_____
Bidding contractor Company Name	Proposed EBE Company Name
_____	_____
Address	Address
_____	_____
Phone Number	Phone Number
_____	_____
Company Officer Name & Title (Print)	Company Officer Name & Title (Print)
_____ ___ /___ / ___	_____ ___ /___ / ___
Company Officer Signature Date	Company Officer Signature Date

For RJSCB Use Only

_____ _____

Owner Signature Date

_____ _____

ICO Signature Date

Instructions on Completion of the
Monthly Employment Utilization Form (DP-3)

1. *Project:* - name of Project that this form submission is applicable to.

2. *Reporting Period (MMM/YYYY) ____/_____:* indicate the monthly period reporting on, i.e. SEP 2016. Hours reported on this report shall include all hours on the first day of the month through and including the last day of the applicable month.

3. *Reporting contractor Name/Address/Phone No./Fax No.* – name/address/phone/fax of reporting entity.

4a. *Reporting contractor is a ( )1st Tier -or- ( ) Lower Tier contractor:* the reporting entity is to either.

4b. *Only if a lower tier contractor, indicate to whom you are a subcontractor:* only if the reporting entity is other then a first tier contractor, indicate what company/firm you have a direct contractual agreement with relative to this 1st tier Project contract. If you are a first tier contractor leave blank or indicate N/A.

5. *Construction Trade Class.* – indicate in the space(s) provided below this title, the applicable trade classification group, i.e. Electrician, Carpenter, Mason, Laborer, etc, which the reporting entity utilized during this reporting period.

6. *(a) Total All Hours by Trade M (Male) F (Female)* – under the 6a. M - column, infill the total number of
male hours for each trade/grade classification listed, subtotaling at after each trade, for this reporting period. Under the 6a. F - column, infill the total number of female hours for each trade/grade classification listed, subtotaling at after each trade, for this reporting period.

(b – e) Minority Hours by Trade M (Male) F (Female) – under each M – column, infill the total number of male hours for each trade/grade classification and each minority category listed, subtotaling at after each trade, for this reporting period. Under each F – column, infill the total number of female hours for each trade/grade classification and each minority category listed, subtotaling at after each trade, for this reporting period.

7. *Minority % of Total Hours – the percentage of total minority hours of all hours worked, the sum of columns 6b.- 6e. divided by the sum of column 6a. Only one figure for each trade classification. ie ((6b.M + 6b.F + 6c.M +6c.F + 6d.M + 6d.F + 6e.M + 6e.F) / (6a.M + 6a.F)).*

8. *Female % of Total Hours – the percentage of total female hours of all hours worked, the total number reported in 6a.F divided by the sum of total numbers reported in 6a. M and 6a.F. Only one figure for each trade classification. ie (6a.F/(6a.M + 6a.F))*

DP-3 Instructions continued on the following page…

DP-3 Instructions, page 2:

Individuals that qualify in both a minority category and the female category should not be counted in both the minority and female percentage figures, as the above percentage calculation will generate (items 9. & 10.)

9. *Total Number of Employees* – total number of male and total number of female employees utilized in each trade and grade classification, subtotaling at after each trade, for this reporting period.

10. *Total Number of Minority Employees* – total number of male minority and total number of female minority employees utilized in each trade and grade classification, subtotaling at after each trade, for this reporting period.

11. *Reporting Company Official's Printed Name and Title* - reporting company official's printed name/ title.

12. *Reporting Company Official's Signature* – reporting company official's original signature. By signing this form, this individual is certifying that the information provided on the MWP-3 has been reviewed prior to its submission and is accurate to the best of his/her knowledge.

13. *Date Signed:* - indicate date signed by reporting company official.

14. *Page:* - indicate page number and total number of pages submitted. Attached as many pages as necessary.

End of Instructions on Completion of the
Monthly Employment Utilization Form (DP-3)

NOTE: INFORMATION CAPTURED ON THIS DP-3 FORM AND THE DP-3a FORM CAN BE ENTERED ELECTRONICALLY INTO A PORTAL CONTROLLED BY THE INDEPENDENT COMPLIANCE OFFICER. CONTACT JEFF WILD AT jeffrey.wild@anchin.com FOR DETAILS.

MONTHLY EMPLOYMENT UTILIZATION REPORT - DP-3/RSMP

ROCHESTER SCHOOLS MODERNIZATION PROGRAM PHASE II

1. Project :

2. Reporting Period: __/__/__ - __/__/__

3. Reporting Contractor Name / Address / Phone No. / Fax No.

No Work Performed ( )

4a. Reporting Contractor is a ( ) 1st Tier - or - ( ) Lower Tier Contractor

4b. Only if a lower tier contractor, indicate to whom you are a subcontractor:

Project Goals : Minority - 22% Women - 8%

5. POSITION	EMPLOYEE	City of Rochester Resident (Y/N)	6a. Total All Hours by Service		6b. Caucasian (Hours)		6c. Black not of Hispanic Origin (Hours)		6d. Hispanic (Hours)		6e. Asian or Pacific Islander (Hours)		6f. American Indian or Alaskan Native (Hours)		7. Minority (Male & Female) % of Total Hours	8. Female (Caucasian Only) % of Total Hours	9. Total Number of Employees		10. Total Number of Caucasian Employees		11. Total Number of Minority Employees	
			M	F	M	F	M	F	M	F	M	F	M	F			M	F	M	F	M	F
		Grand Total	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0

Certification Statement - the below signed, being an authorized representative of the reporting company, hereby certifies that the above information represents all the hours worked by the reporting company's employees on the above noted project site during the above noted month.

11. Reporting Company Official's Printed Name and Title	12. Reporting Company Official's Signature	13. Date Signed	14. Page
	________________________		__1__ of _1___

FORM DP-3 REVISED 3/1/2018

INSTRUCTIONS FOR COMPLETING
MONTHLY EBE UTILIZATION REPORT (DP-3a/RSMP) FORM

This form must be submitted on a monthly basis. For the month under consideration, this form must be completed by every contractor/entity providing on-site labor engaged in work associated with the 1st tier contract scope.

For the purposes of completing this form, "on-site labor" is considered to include only labor hours consumed on the Project site in the production of physical work and direct supervision of such on-site work. This would specifically exclude any hours involved in hauling material/equipment deliveries to/from the Project site. The hours involved in the off/on loading of said deliveries would be included only if the personnel involved were not employees of the trucking company.

Example – ABC Contracting is receiving an on-site material delivery from Acme Trucking. Acme's truck driver's hours would not be included on this form, but ABC's personnel who are responsible to unload this delivery would be included. If Acme personnel were responsible to unload this delivery, these hours would be excluded.

For the month under consideration, each 1st tier contractor must submit a completed DP-3/RSMP form for each entity that has provided on-site labor engaged in work associated with the scope of the 1st tier contract. This submission shall be made as part of the monthly payment requisition package and to the ICO. If after the start and prior to the completion of the 1st tier contractor's scope, the 1st tier contractor does not submit a monthly payment requisition package, the 1st tier contractor shall either 1) forward a ("No-Labor") notice advising that there was no on-site labor utilized under its contract scope for the month under consideration or 2) shall forward completed DP-3/RSMP forms for the month under consideration. Whether submitting a monthly payment requisition package or not, DP-3/RSMP forms or "No-Labor" notice must be forwarded to the ICO.

In addition to required submissions noted above, the same submissions must be made by the 1st tier contractor directly to the ICO no later than the 5th day of the following month. (i.e. October 2016DP-3's/RSMP or No-Labor Notice(s) must be received by November 5, 2016.)

END OF INSTRUCTIONS FOR COMPLETION DP-3A

DP-3A
MBE/WBE/DBE/SBE MONTHLY UTILIZATION REPORT
Rochester Schools Modernization Program

_____/_____
Month Year

Project Name: _____
Contract No.: _____
Contractor Name: _____
Address: _____
Phone No.: _____
Fax No.: _____
Change Orders to Date: _____

Original Contract:_____
Current Contract: _____
MBE % of Current Contract:_____
WBE % of Current Contract:_____
DBE % of Current Contract:_____
SBE % of Current Contract:_____

Subcontractor Name	1. MWBE DBE/SBE	Original Subcontract	Change Orders to Date	Total Current Subcontract to MWBE/DBE/SBE	Amount Paid to Date to MWBE/DBE/SBE	Total Amnt of Invoices Submitted to Date	Cancelled Checks Submitted to Date

1. DP-3A is to be submitted monthly.
2. List all M/WBE/DBE/SBE subcontractors, even after their work is substantially complete.
3. When adding a subcontractor, attach a revised DP-1 and DP-2 to this form.
4. Attach invoices and cancelled checks to this form, if requested.

By: _____
Contractor Representative Signature

Print: _____

Rochester Schools Modernization Program
Certification of Eligible Business Enterprise (EBE) Financial Status

This Certification must be completed in full by any business intending to qualify as a certified Eligible Business Enterprise ("EBE ") to provide labor, services and/or materials for any contract awarded under the Rochester Schools Modernization Program ("RSMP"), and submitted with the bid, proposal, or at such other time as permitted by the contract documents. Failure to timely provide a complete Certification, or to provide any back-up documentation as the Rochester Joint Schools Construction Board ("RJSCB ") may reasonably require, may be grounds for disqualification from award of RSMP contracts.

I, _____ certify that _____ (herein, "Company")
Owner/ Authorized Agent (print) **Company Name (print)**
meets the requirements of the Rochester Schools Modernization Program (RSMP) definition of an Eligible Business Enterprise ("EBE") in the following category (see page 2 for additional categories):

(Please check box if applicable)

☐ "Small Business Enterprise (SBE)" shall mean a business concern which, together with its affiliates has no more than 15 employees and average annual receipts that do not exceed $2 million. Annual receipts shall be calculated in accord with the standard established under 13 CFR 121.104. Number of employees shall be calculated in accord with the standards established under 13 CFR 121.106. Affiliates shall be determined in accord with the standards set forth under 13 CFR 121.103.

NOTE: *RSMP can only accept this application for consideration of Certification status in the Small Business Enterprise (SBE) category. Firms whose annual receipts over the last 3 years exceed $2,000,000.00 are not eligible to be a certified Small Business Enterprise (SBE).*

I certify that I am familiar with the annual receipts for Company, including affiliates, as calculated in accordance with the standards established under 13 CFR 121.104;

I further certify as follows (please check the appropriate boxes below).

☐ Company has been in business three (3) complete fiscal years or more.

☐ Company has been in business less than three (3) complete fiscal years:

I can confirm that total receipts for the period the Company has been in business divided by the number of weeks Company has been in business, multiplied by 52, yields the following amount of total receipts:

☐ Less than $2,000,000.00;

Please check the box for any existing certifications held by Company.

NOTE: *Certification for the following three (3) categories is acquired by application and approval for M/W/DBE status by the State of New York (ESD), City of New York (NYCSBS), Dormitory Authority of*

*the State of New York (DASNY), Port Authority of New York & New Jersey (PANYNJ) or U.S Department of Transportation (USDOT). RSMP does not award certification for the following categories. ***

☐ "Minority-Owned Business Enterprise (MBE)" shall mean an independent concern that is at least 51% owned, operated and controlled by a minority who is a citizen of the United States, or a permanent resident of the United States.

☐ "Woman-Owned Business Enterprise (WBE)" shall mean an independent concern that is at least 51% owned, operated and controlled by female member(s) who are citizens of the United States or permanent residents of the United States.

☐ "Disadvantaged Business Enterprise (DBE)" shall mean a business enterprise where the majority ownership is by a disadvantaged individual citizen of permanent resident of the United States meeting the certification requirements for a disadvantaged business enterprise in New York.

** ***Firms certified in multiple EBE categories must select one category for purposes of each contract.***

Please indicate which trades, services or commodities your business performs or offers:

_____ _____

_____ _____

By signing below, I certify that I am the owner, principal, or other authorized agent of Company. I will notify Rochester Schools Modernization Program's Independent Compliance Officer (ICO), if there are any changes that would alter the content of this Certification, within 30 days of such change occurring.

By: _____
(Sign)

Name: _____
(Print)

\Title: _____
(Print)

Sworn to before me this _____ day of _____ , 20__

Notary Public: _____

State: _____

Registration Number: _____

My commission expires: _____

END OF "SBE CERTIFICATION FORM"

MEMORANDUM OF UNDERSTANDING

CONCERNING BOP MENTOR/PROTÉGÉ PROGRAM

THIS MEMORANDUM OF UNDERSTANDING CONCERNING BOP MENTOR/PROTÉGÉ PROGRAM (the "**Memorandum**") is entered into by and between _____ ("**Mentor**") and _____ ("**Protégé**"). Mentor and Protégé are sometimes collectively referred to herein as the "**Parties**" and each individually as a "**Party**."

WHEREAS, Chapter 416, Laws of the State of New York 2007, as amended by Chapter 553, Laws of New York 2014 (the "**Act**"), created the Rochester Joint Schools Construction Board ("**RJSCB**") to implement a facilities modernization program for the Rochester City Schools, known as the Rochester Schools Modernization Program ("**RSMP**"); and

WHEREAS, pursuant to a Program Management Agreement dated December 15, 2015, by and between the RJSCB and Savin Engineers, P.C. ("**Savin**") , Savin is acting as program manager for Phase 2 of the RSMP; and

WHEREAS, as part of its Business Opportunities Program, Savin has developed a Mentor/Protégé Program (the "Program") that is designed to provide Eligible Business Enterprises ("EBEs") with access to resources and training in business, management and technical expertise, and to provide opportunities for growth, expansion and increased participation in economic development; and

WHEREAS, under the Program, mentor are companies compensated via the capped allowance provided in their respective contracts with the RJSCB to assist protégé firms by providing guidance, technical support, as well as the benefit of the mentor companies' expertise and experience, which is designed to enhance the protégé companies' business, management and technical abilities, and improve its ability to successfully compete for contracts consistent with the goals of the Program; and

WHEREAS, Mentor desires to provide Protégé a variety of assistance, services, recommendations and advice relating to various facets of Protégé's business, without any cost to Protégé; and

WHEREAS, Protégé desires to obtain the assistance, services, recommendations and advice from Mentor and understands that Mentor would not be willing to provide such assistance, services, recommendations and advice without the execution of this Memorandum by Protégé; and

WHEREAS, Protégé acknowledges that the Program and the assistance, services, recommendation and advice from Mentor is intended only to provide an informational resource to Protégé, and Protégé is solely responsible for its business decisions; and

WHEREAS, the applicable terms and conditions governing the Parties' participation in the Program are provided in the Business Opportunities Program Mentor/Protégé Program Guidelines ("**Program Guidelines**"), a copy of which is attached hereto as **Exhibit A** and

incorporated herein by reference.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

RELATIONSHIPS. The relationship between Mentor and Protégé is voluntary. The Parties will foster open, collegial and timely communications for mutual business benefit. This Memorandum, in and of itself, does not constitute, create or give effect to or otherwise establish a joint venture, partnership or any other business or organization between or among the Parties.

DEVELOPMENTAL ASSISTANCE PLAN. Mentor and Protégé shall work together to develop, and thereafter implement, a written Mentor-Protégé Development Plan specific to Protégé's needs and circumstances with identified forms of developmental assistance and appropriate milestones, all in accordance with the Program Guidelines.

COMMITMENTS. Mentor is committed to providing an adequate amount of time to help Protégé achieve the agreed upon goals. The Protégé is committed to keeping Mentor fully informed on its progress towards the agreed upon goals. Mentor and Protégé will use their good faith efforts to comply with the current requirements of the Program as set forth in the Program Guidelines or otherwise established by Savin. Savin is committed to coordinating, facilitating and evaluating the Program.

INDEPENDENCE. The Parties agree that Mentor shall not assume managerial or administrative control of the Protégé during or following the period of engagement in the Program. The Parties further agree that Protégé is solely responsible for its business decisions. Protégé shall participate in the Program without fee or charge, and Mentor shall hold no claim against Protégé for compensation for services that it provides in connection with its participation in the Program.

CONFIDENTIALITY. In carrying out the terms of this Memorandum and the Program, it may be necessary for the Parties to provide proprietary data or information to one another. To the extent that such data or information is so identified in writing by the disclosing party at the time of the exchange, the receiving party agrees to hold such proprietary information in the strictest confidence for a period of three (3) years from the date of this Memorandum, and further agrees that, within that period of time, it will not use any such proprietary data or information, except in connection with the Program, and will not disclose any such proprietary data or information to any third party, unless authorized in writing by the disclosing party or required by law.

DURATION AND TERMINATION. Mentor and Protégé agree that the period of their Mentor-Protégé relationship shall be as established in the Developmental Assistance Plan but in no circumstances shall it be less than six (6) months. Mentor and Protégé shall strictly abide by the termination requirements and procedures set forth in the Program Guidelines. The termination of this Memorandum and the Mentor-Protégé relationship, however, shall not impair the obligations of the Mentor to perform its contractual obligations pursuant to RSMP prime contracts being performed with the Protégé. Likewise, termination of this Memorandum and the

Mentor-Protégé relationship shall not impair the obligations of the Protégé to perform its contractual obligations under any current contract or subcontracts between Mentor and Protégé.

RELEASE. Protégé, for and behalf of itself, as well as all corporations, partnerships, persons, firms or entities affiliated with or related to Protégé, releases Mentor, Savin, the RJSCB, the City of Rochester (the "City"), and the Rochester City School District (the "RCSD") from any and all liabilities, claims, suits, losses, damages, costs and expenses arising from, by reason of or connected with the Program or the assistance, services, recommendation and advice from Mentor or by reason of any action, or alleged action taken or omitted, by Mentor in connection with its provision of assistance, services, recommendations and advice.

INDEMNIFICATION.

(a) To the fullest extent permitted by law, Protégé, for and on behalf of itself, as well as all corporations, partnerships, persons, firms or entities affiliated with or related to Protégé, shall indemnify, defend and hold harmless Mentor, Savin, the RJSCB, the City and the RCSD from and against any and all liabilities, claims, suits, losses, damages, costs and expenses arising from, by reason of or in connection with Protégé's participation in the Program or by reason of any action, or alleged action taken or omitted, by Protégé in connection with the Program.

(b) To the fullest extent permitted by law, Mentor, for and on behalf of itself, as well as all corporations, partnerships, persons, firms or entities affiliated with or related to Mentor, shall indemnify, defend and hold harmless Savin, the RJSCB, the City and the RCSD from and against any and all liabilities, claims, suits, losses, damages, costs and expenses arising from, by reason of or in connection with Mentor's participation in the Program or by reason of any action, or alleged action taken or omitted, by Mentor in connection with its provision of assistance, services, recommendations and advice to Protégé.

NOTICES AND POINTS OF CONTACT. The following individuals shall serve as the points of contact for the Program and are authorized to receive all notices under this Memorandum:

Mentor	Protégé
Name/Title	Name/Title
Address	Address
Tel	Tel.
Fax	Fax
Email	Email

COMPLIANCE WITH LAWS. The Parties shall comply at all times with all applicable laws, rules, regulations, orders, directives and requirements of any kind imposed by any federal, state or local government or any agency or instrumentality of any such government.

ASSIGNMENT. The rights granted hereunder are personal to the Parties and shall not be assigned, and any purported assignment in violation of this Paragraph shall be void.

GOVERNING LAW. This Memorandum shall be governed by the laws of the State of New York.

ENTIRE AGREEMENT. This Memorandum reflects the entire agreement between the Parties concerning the specific rights granted herein and may not be modified except in a writing signed by the Parties.

COUNTERPARTS. This Memorandum may be executed in any number of counterparts, each of which shall be deemed an original, but all shall together constitute one and the same.

IN WITNESS WHEREOF, the Parties hereto have executed this Memorandum as of the Effective Date.

_____ ("PROTÉGÉ")	**_____ ("MENTOR")**
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Sworn to before me this _____ day of _____ , 20__

Notary Public: _____

State: _____

Registration Number: _____

My commission expires: _____

END OF BOP MENTOR/PROTÉGÉ MOU

THIRD-PARTY CONSULTING SERVICES AGREEMENT
CONCERNING BOP MENTOR/PROTÉGÉ PROGRAM

THIS THIRD-PARTY CONSULTING AGREEMENT (the "**Agreement**") is entered into by and among _____ ("**Mentor**"), _____ ("**Protégé**"), and _____ ("**Consultant**"). Mentor, Protégé, and Consultant are sometimes collectively referred to herein as the "**Parties**" and each individually as a "**Party**."

WHEREAS, Chapter 416, Laws of the State of New York 2007, as amended by Chapter 553, Laws of New York 2014 (the "**Act**"), created the Rochester Joint Schools Construction Board ("**RJSCB**") to implement a facilities modernization program for the Rochester City Schools, known as the Rochester Schools Modernization Program ("**RSMP**"); and

WHEREAS, pursuant to a Program Management Agreement dated December 15, 2015, by and between the RJSCB and Savin Engineers, P.C. ("**Savin**"), Savin is acting as program manager for Phase 2 of the RSMP; and

WHEREAS, as part of the RSMP Business Opportunities Program, the Mentor/Protégé Program (the "**Program**") was developed to provide Eligible Business Enterprises ("**EBEs**") with access to resources and training in business, management and technical expertise, and to provide opportunities for growth, expansion and increased participation in economic development; and

WHEREAS, pursuant to the Mentor-Protégé Development Plan developed by Mentor and Protégé as part of the Program and pursuant to a Memorandum of Understanding entered into by Mentor and Protégé, Mentor and Protégé have determined that Protégé would benefit from knowledge, experience, and/or specific expertise in the area of [DESCRIBE THIRD-PARTY CONSULTANT'S AREA OF EXPERTISE]; and

WHEREAS, Mentor and Protégé desire to retain Consultant to provide assistance, services, recommendations and/or advice in the area of [INSERT AREA OF EXPERTISE] ("**Consulting Services**") and Consultant desires to provide such Consulting Services to Protégé pursuant to the terms and conditions of this Agreement; and

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. CONSULTING SERVICES. The Consulting Services are expected to include, but shall not be limited to, providing Protégé with educational information, expertise, experience-based insight, and advice in the area of [INSERT AREA OF EXPERTISE]. Consultant shall perform the Consulting Services in a diligent manner and agrees to be reasonably available and responsive to Protégé. The Consultant may provide the Consulting Services via telephone, written or electronic means, or in person as determined by the Parties.

2. COMPENSATION. Using the BOP Allowance funds allocated to Mentor pursuant to Mentor's RSMP contract with the RJSCB, Mentor shall pay the Consultant on an hourly

basis at the rate of [INSERT AGREED-UPON HOURLY RATE] per hour for the Consulting Services provided. Mentor shall pay the Consultant monthly upon receipt of an invoice from the Consultant detailing the hours of Consulting Services provided to Protégé at the rate outlined above. Along with each such invoice, Consultant shall also provide Protégé, Mentor and Savin with a copy of a time log of all Consulting Services provided that month, substantially in the form attached hereto as **Exhibit A**. Protégé will be expected to confirm the accuracy of Consultant's time log. Mentor shall pay Consultant within thirty (30) days of receipt of an accurate invoice and time log. Unless otherwise agreed to by the Parties, the Consultant may not bill, in the aggregate, more than [INSERT MAXIMUM NUMBER OF HOURS] hours for Consulting Services during the term of this Agreement. Protégé participates in the Program without fee or charge, and Consultant shall hold no claim against Protégé for compensation for services that it provides in connection with the Consulting Services rendered as set forth herein.

3. DURATION AND TERMINATION. A Party may terminate this Agreement upon not less than thirty (30) days' written notice to the other Parties for its convenience and without cause. In the event of a termination not the fault of the Consultant, the Consultant shall be compensated for services performed prior to termination.

4. INDEPENDENCE. The Parties agree that Consultant shall not assume managerial or administrative control of the Protégé during or following the term of this Agreement. The Parties further agree that Protégé is solely responsible for its business decisions.

5. RELATIONSHIP OF PARTIES. In performing the Consulting Services under this Agreement, the Consultant shall be in all respects an independent contractor. Nothing herein shall be construed to create an employer/employee relationship between the Consultant and/or the Protégé and/or the Mentor and/or Savin and/or the RJSCB. The relationship between Mentor and Protégé is voluntary. The Parties will foster open, collegial and timely communications for mutual business benefit. This Agreement, in and of itself, does not constitute, create or give effect to or otherwise establish a joint venture, partnership or any other business or organization between or among the Parties.

6. CONFIDENTIALITY. In carrying out the terms of this Agreement and the Program, it may be necessary for the Parties to provide proprietary data or information to one another. To the extent that such data or information is so identified in writing by the disclosing party at the time of the exchange, the receiving party agrees to hold such proprietary information in the strictest confidence for a period of three (3) years from the date of this Agreement, and further agrees that, within that period of time, it will not use any such proprietary data or information, except in connection with the Program, and will not disclose any such proprietary data or information to any third party, unless authorized in writing by the disclosing party or required by law.

7. RELEASE. Protégé, for and behalf of itself, as well as all corporations, partnerships, persons, firms or entities affiliated with or related to Protégé, releases Consultant, Mentor, Savin, the RJSCB, the City of Rochester (the "City"), and the Rochester City School District (the "RCSD") from any and all liabilities, claims, suits, losses, damages, costs and expenses arising from, by reason of or connected with the provision of Consulting Services or by

reason of any action, or alleged action taken or omitted, by Consultant in connection with its provision of assistance, services, recommendations and advice.

8. INDEMNIFICATION. To the fullest extent permitted by law, Consultant, for and on behalf of itself, as well as all corporations, partnerships, persons, firms or entities affiliated with or related to Consultant, shall indemnify, defend and hold harmless the RJSCB, the City, the RCSD, and Savin from and against any and all liabilities, claims, suits, losses, damages, costs and expenses arising from, by reason of or in connection with the Consulting Services or by reason of any action, or alleged action taken or omitted, by Consultant in connection with the Consulting Services.

9. COMPLIANCE WITH LAWS. The Parties shall comply at all times with all applicable laws, rules, regulations, orders, directives and requirements of any kind imposed by any federal, state or local government or any agency or instrumentality of any such government.

10. ASSIGNMENT. The rights granted hereunder are personal to the Parties and shall not be assigned, and any purported assignment in violation of this Paragraph shall be void.

11. GOVERNING LAW. This Agreement shall be governed by the laws of the State of New York.

12. ENTIRE AGREEMENT. This Agreement reflects the entire agreement between the Parties concerning the specific rights granted herein and may not be modified except in a writing signed by the Parties.

13. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all shall together constitute one and the same.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the Effective Date.

CONSULTANT

Signed: _____

Name (Print): _____

Date: _____

Title: _____

MENTOR

Signed: _____

Name (Print): _____

Date: _____

Title: _____

PROTÉGÉ

Signed: _____

Name (Print): _____

Date: _____

Title: _____

EXHIBIT A

TIME LOG

Date	**Description of Consulting Services**	**Total Time (to nearest ¼ hour)**
	TOTAL HOURS:	

Signature: _____ Date Submitted: _____

Name (Printed): _____

END OF BOP MENTOR/PROTÉGÉ THIRD PARTY CONSULTANT MOU

END OF SECTION 00 43 31A

SECTION 00 43 83 - MILESTONE SCHEDULE AND CRITICAL SUBMITTALS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Related Work Described Elsewhere:

1. Agreement, General Conditions Section 00 72 16

1.2 SUMMARY

A. The work specified in this section includes the requirement to prepare, maintain, and update all detailed schedules as described in this section using the Critical Path Method (CPM). The CPM Schedules shall be prepared in such a manner as to permit the orderly planning, organization, and execution of the Work and be sufficiently detailed to accurately depict all the Work required by the Contract, including all Milestones as described in other sections of the Specifications, or elsewhere in the Contract Documents.

1.3 DEFINITIONS

A. Contract Float: The number of working days between Contractor's anticipated completion date for early completion of the Work and the corresponding Contract Time.

B. Expanded Project Schedule Update: expanded detail of a Project Schedule Update in order to further explain the construction sequence or other details.

C. Look-Ahead Schedule: A schedule that shows planned Work over the next six weeks.

D. Original Baseline Schedule: The first approved revision 0, Project Schedule.

E. Guideline Schedule: The schedule included with the contract documents is intended as a guide for bidding purposes. Schedule durations may change from this schedule to depict the actual work flow, but the start, finish and milestone dates will remain the same.

F. Preliminary Schedule: The Contractor's construction schedule showing the planned Work over the first 120 days following Notice to Proceed.

G. Project Schedule: The Project Schedule shall represent the Contractor's best judgment and intended plan for the completion of the Work in compliance with the Contract Documents. It represents the Contractor's first schedule

covering the complete duration of Contract Time submitted for review and approval of the Construction Manager (Owner). Upon approval by the CM, the Project Schedule shall become the Original Baseline Schedule. Subsequent revisions of the Project Schedule shall be Revised Baseline Schedules.

H. Total Float: The number of working days by which a part of the Work in the Baseline Schedule may be delayed from its early finish dates without extending the Contract Time.

I. Project Schedule Update: The latest Baseline Schedule updated monthly to reflect actual Work performed, but not logic changes in the Baseline Schedule.

J. Revised Baseline Schedule: The latest approved Baseline Schedule that reflects logic changes and all approved change orders.

1.4 SUBMITTALS

A. Project Schedule: Discuss with and obtain the Construction Managers acceptance of the proposed coding, activity-numbering system, screen layout, graphics used to generate the networks and bar charts, and exceptions to the size of the network printed sheets, all prior to submitting the Project Schedule.

1. Submit to the Construction Manager a detailed Project Schedule within 14 calendar days after receipt of the Notice to Proceed using the Critical Path Method (CPM) format, and in both hard copy and electronic format.

2. The Project Schedule shall supersede the Preliminary Schedule upon the Construction Manager acceptance of the Project Schedule.

3. The Project Schedule shall include a written narrative that explains all Work activity durations and describes the plan and approach for meeting interim and final completion milestones. Include as a minimum all: bases and assumptions used in preparing submittals, crew sizes, equipment requirements, anticipated delivery dates, restraints, critical path activities, production rates, production and maintenance shifts, time contingencies to account for weather conditions, permits, long-lead time items, and coordination issues with Construction Manager, Owner, utilities, other contractors or other third-parties. The narrative shall discuss the Contractor’s plan for management of the site (e.g., laydown, staging, traffic, etc.), and buildup of trade labor.

4. A meeting will be held with all prime contractors upon receipt of the individual Project schedules to coordinate each schedule into one combined Project Schedule.

5. Contractors are required to include on their Schedule of Values costs allocated for second shift, and this will align in detail with the milestone schedule which must be approved by the Construction Manager and Program Manager prior to first billing.

6. A separate superintendent must be assigned for all 2nd shift work, and each prime contractor is required to provide a resume to be reviewed and approved by the Construction Manager and Program Manager prior to that person starting work.

7. All prospective winning prime contractors will be required to bring to the de-scope meeting the labor hours they have estimated in their bid.

8. Work force plan must be provided as a submittal and as a part of each prime contractor's first application for payment.

B. Project Schedule Update and Progress Report: Submit the following on the first working day of each month, updated as of the 25th calendar day of the previous month:

1. Project Schedule Update

2. Monthly-to-date Progress Report Comprising:

    a. A narrative of all Work performed that includes the following.
    b. Work completed since the last update.
    c. Description of the current critical path, including any changes to the critical path since the last update and an identification of the reasons for the changes.
    d. Description of problem areas.
    e. Current and anticipated delays. Include causes thereof and impacts to other activities, milestones, and completion dates. Identify all activities where progress has slipped more than 5 working days since the last schedule update and discuss the cause of the delay or interruption.
    f. Pending items, such as permits, change orders, and time adjustments, and status.

3. Contract completion date status. Include the number of days ahead of, or behind all milestone dates and the contract completion date, and the reason(s) for any change(s).

C. Submit a Project Schedule Update and month-to-date Progress Report in accordance with the foregoing requirements upon submitting any proposed Revised Baseline Schedule. Use a cut-off date for the Project Schedule

Update that corresponds to the effective date for the proposed Revised Baseline Schedule.

D. Look-Ahead Schedule: Submit the two-week look-ahead schedule at least 24 hours prior to the progress meetings, with number of copies submitted, layout, and format acceptable to the Construction Manager.

E. Time Impact Analysis: Submit in accordance with, and when required by the General Conditions of the Agreement.

F. All submittals, within the time provided herein and in an acceptable form to the Construction Manager, of schedules, monthly progress reports, schedule updates, and revisions of the Project Schedule are conditions precedent for the Contractor to receive the full amount of each progress payment, less retention and other adjustments. Should the Contractor fail to submit timely, acceptable reports, schedules, updates, or revisions, the Construction Manager may withhold the amount designated in the Schedule of Values from each monthly partial payment estimate. Should the Contractor continue to fail to submit the above-mentioned submittals the Construction Manager may, in addition to other retentions or remedies provided by the Contract or by applicable law, withhold 25 percent of each monthly partial payment estimate until acceptable submittals have been received.

1.5 QUALIFICATIONS

A. The Contractor shall perform the work covered in this section with personnel having experience in using computer based scheduling on construction projects of the magnitude and complexity of this project. Use of Primavera P6 is preferred; alternate is Microsoft Project.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 SUMMARY

A. The Schedule shall be constructed and the work performed in accordance with the milestone dates set forth and the coordinated project schedule. Any additional costs for overtime, shift work and/or additional manpower, required to maintain these milestones, will be at each Contractor’s expense.

3.2 PROJECT SCHEDULE

A. Furnish a Project Schedule and participate with the Construction Manager in its review, evaluation and coordination. Such joint review and coordination shall not relieve the Contractor of the sole responsibility for scheduling the Work. Furnish a Project Schedule demonstrating adequate planning and execution of all phases of the Work and which enables the Construction

Manager to evaluate progress of the Work. Maintain such Project Schedule so that it shall, at all times, represent the Contractor's planned means, methods, and sequences for performing the Work required under this Contract within the Contract Time specified. Show the following schedule elements in detail:

1. The start and completion of all items of the Work, their major components and milestone completion dates, including Contract milestones.

2. Mobilization

3. Submittals and approval of submittals including shop drawings, permits and steps required to obtain permits, safety plans, temporary facilities and utilities, record documents, and operators and maintenance manuals.

   All construction activities, including the fabrication and delivery of materials or equipment incorporated into the Work, adjacent Work done by others and Work area changes.

4. The number of working days required for completion of each activity and all the Work.

5. Commissioning, punch list and close out.

B. The Contractor’s key personnel involved in preparing the Project Schedule shall initiate and attend one or more meetings upon direction of the Construction Manager to present to, and coordinate with the other prime contractors. Personnel shall be competent and prepared to discuss:

   1. The planned logic, content, form, and layout of the activity table (spreadsheet).

   2. The bar chart format.

   3. Activity identification and coding. Number the initial activity identifications (IDs) by 10s or 100s to allow for the insertion of any future required activities that enhance detail.

   4. Presentation and printouts of the Project Schedule.

C. The Construction Manager will review the proposed Project Schedule and meet with the Contractor’s key personnel performing the scheduling to discuss the proposed construction schedule within 21 calendar days of its submission.

D. The Construction Manager acceptance of the Project Schedule shall not:

1. Imply that the Construction Manager has conducted an exhaustive review or evaluation of the sequencing, logic, or duration of all activities contained therein.

2. Constitute a warranty of its feasibility, suitability, reasonableness, or completeness.

3. Provide a basis for claims occasioned by any future revisions required in the schedule to conform to the Contract requirements.

4. Relieve the Contractor of the sole responsibility for scheduling and performing the work.

5. Relieve the Contractor of sole responsibility for means, methods, and techniques of construction employed.

E. The Project Schedule initially accepted by the Construction Manager shall be designated as the Original Baseline Schedule. The accepted Original Baseline Schedule shall not be updated, revised, or changed over the Project duration, but shall be used for comparison with the current updated schedule, until a Revised Baseline Schedule is accepted by the Construction Manager.

F. An activity shall be defined as an element of Work that is measurable and definable and that is necessary to accomplish in order to incrementally achieve progress of the Work as a whole. At any time, the Construction Manager may require additional detail to that previously provided. Float shall not be an activity.

1. Carefully analyze activities comprising the Project Schedule to determine activity durations in units of project working days. Base durations on the labor crews, crafts, equipment, and materials required to perform each activity. Unless supplemented with a detailed linear schedule to indicate production progress, split activities with durations greater than 30 working days into activities no longer than 20 working days, except for summary activities and non-construction activities such as submittal preparation and review, material procurement, and equipment delivery, or as allowed by the Construction Manager.

2. Clearly identify the critical path on the Project Schedule.

3. Identify the following as lag activities and include full lag time associated therewith in the duration of the activity. Do not schedule negative lag time.

   a. Start-to-start and finish-to-finish lag times greater than 1 working day.
   b. Finish-to-start lag times greater than 1 day.
   c. Start-to- finish lag times of any kind.
   d.

3.3 LIQUIDATED DAMAGES

A. Critical submittals shall carry liquidated damages of the value listed in 00 72 16 General Conditions.

3.4 DEFINITIONS OF CONTRACT MILESTONES

A. SUBSTANTIAL COMPLETION:

As determined by the Construction Manager, all work and systems are complete, operational, tested and ready for facility operations and occupancy.

B. FINAL COMPLETION:

As determined by the Construction Manager, all punch list work is complete; and closeout documentation, warranties, certifications, record documents, and operation and maintenance manuals are approved.

3.5 MILESTONE SCHEDULE

A. In order to meet the Substantial Completion dates, all overtime costs for extended work hours, Saturdays (and Sundays when required) must be included in the contractor's bid; no special consideration will be given to any contractor that fails to include said costs in his/her bid. Extended work days and/or hours will be required to make up lost time due to weather and other unforeseen occurrences.

B. A guideline schedule is included in herein as an illustration setting forth goals for milestone activities for the Project and anticipated completion dates. The annexed guideline is for bidding purposes only and may be modified during the course of the Contract. Contractors must complete all Work in a coordinated manner to achieve timely completion. Failure to act in accordance with coordination requirements of the Contract shall subject the responsible Contractor to liquidated damages as specified in the General Conditions and sustained failure to perform as required may be grounds for termination of its Contract.

The following schedule reflects anticipated milestones for the Bid Period:

Bid Award:	Week of 06/14/2021

The following schedule reflects anticipated milestones before Mobilization:

List of Subcontractors (inc. Sub Tier) Submitted by:	06/18/2021
Bid Breakdown Leveling Sheets:	06/18/2021

Acquire Approved Prime Contractor Bonds, Insurances & Signed Contracts by: 06/25/2021

The following schedule reflects anticipated milestones for Critical Submittals:

Critical Submittals as identified 07/01/2021

- Doors and Frames (note there is one 3-inch frame)
- Door hardware

The following schedule reflects anticipated milestone dates (date task to be completed by) for the construction period. All primes should anticipate that double shift, premium, and second shift work may be required to meet the project milestone dates. All Primes need to understand that this is a fast-track project and *Time is of the Essence* for any and all aspects of this project.

Mobilize to Site: 06/25/2021

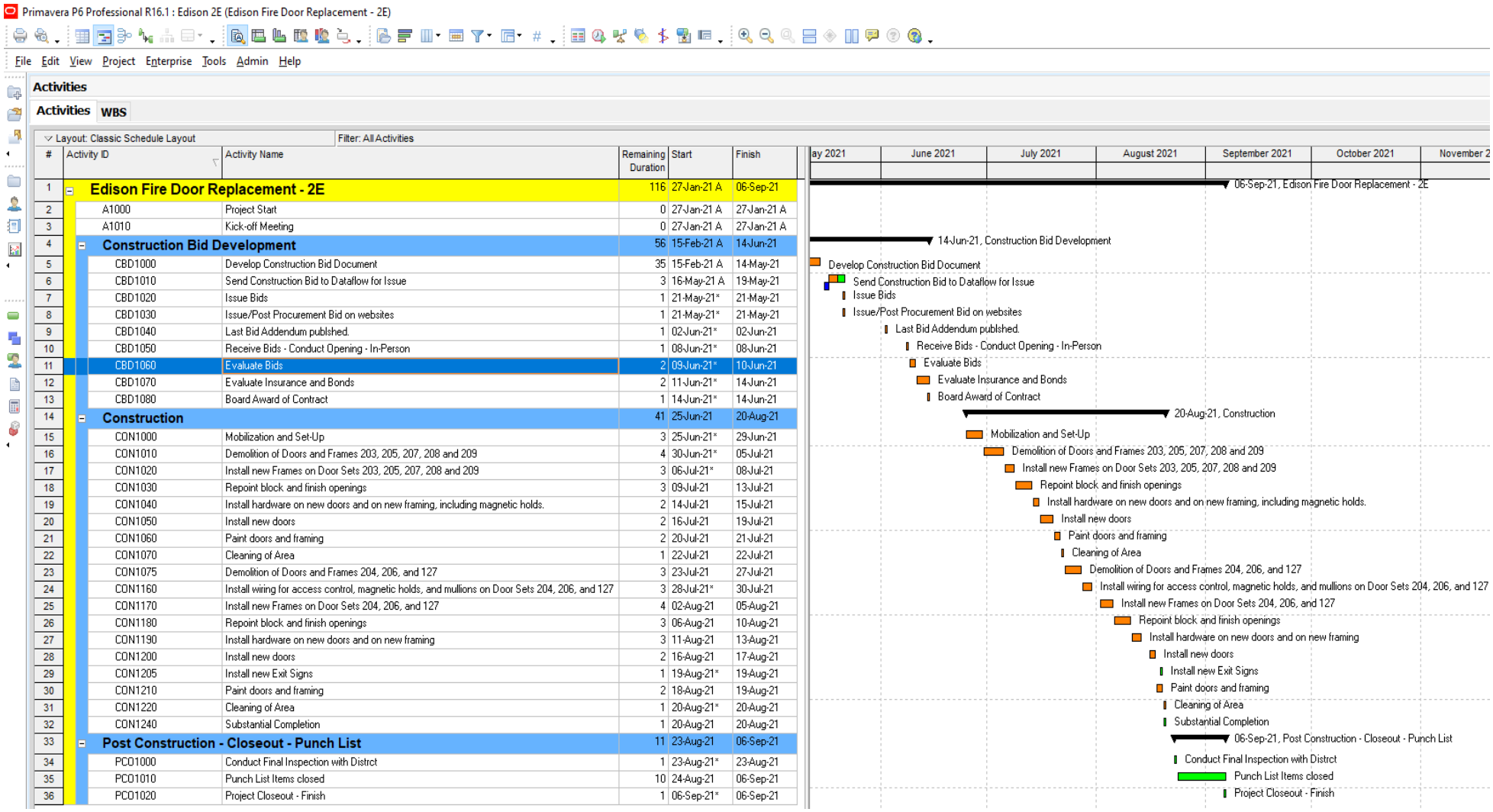
Substantial Completion Date: 08/20/2021

Final Completion Date: 09/06/2021

Warranty Period **2 years**

Also, see Section 00 72 16 - General Conditions for Hardware Warranty

END OF SECTION 00 43 83


Primavera P6 Professional R16.1 : Edison 2E (Edison Fire Door Replacement - 2E)
File Edit View Project Enterprise Tools Admin Help
Activities
Activities WBS
Layout: Classic Schedule Layout
Filter: All Activities
Activity ID Activity Name Remaining Duration Start Finish
1 Edison Fire Door Replacement - 2E 116 27-Jan-21 A 06-Sep-21
2 A1000 Project Start 0 27-Jan-21 A 27-Jan-21 A
3 A1010 Kick-off Meeting 0 27-Jan-21 A 27-Jan-21 A
4 Construction Bid Development 56 15-Feb-21 A 14-Jun-21
5 CBD1000 Develop Construction Bid Document 35 15-Feb-21 A 14-May-21
6 CBD1010 Send Construction Bid to Dataflow for Issue 3 16-May-21 A 19-May-21
7 CBD1020 Issue Bids 1 21-May-21* 21-May-21
8 CBD1030 Issue/Post Procurement Bid on websites 1 21-May-21* 21-May-21
9 CBD1040 Last Bid Addendum published. 1 02-Jun-21* 02-Jun-21
10 CBD1050 Receive Bids - Conduct Opening - In-Person 1 08-Jun-21* 08-Jun-21
11 CBD1060 Evaluate Bids 2 09-Jun-21* 10-Jun-21
12 CBD1070 Evaluate Insurance and Bonds 2 11-Jun-21* 14-Jun-21
13 CBD1080 Board Award of Contract 1 14-Jun-21* 14-Jun-21
14 Construction 41 25-Jun-21 20-Aug-21
15 CON1000 Mobilization and Set-Up 3 25-Jun-21* 29-Jun-21
16 CON1010 Demolition of Doors and Frames 203, 205, 207, 208 and 209 4 30-Jun-21* 05-Jul-21
17 CON1020 Install new Frames on Door Sets 203, 205, 207, 208 and 209 3 06-Jul-21* 08-Jul-21
18 CON1030 Repoint block and finish openings 3 09-Jul-21 13-Jul-21
19 CON1040 Install hardware on new doors and on new framing, including magnetic holds. 2 14-Jul-21 15-Jul-21
20 CON1050 Install new doors 2 16-Jul-21 19-Jul-21
21 CON1060 Paint doors and framing 2 20-Jul-21 21-Jul-21
22 CON1070 Cleaning of Area 1 22-Jul-21 22-Jul-21
23 CON1075 Demolition of Doors and Frames 204, 206, and 127 3 23-Jul-21 27-Jul-21
24 CON1160 Install wiring for access control, magnetic holds, and mullions on Door Sets 204, 206, and 127 3 28-Jul-21* 30-Jul-21
25 CON1170 Install new Frames on Door Sets 204, 206, and 127 4 02-Aug-21 05-Aug-21
26 CON1180 Repoint block and finish openings 3 06-Aug-21 10-Aug-21
27 CON1190 Install hardware on new doors and on new framing 3 11-Aug-21 13-Aug-21
28 CON1200 Install new doors 2 16-Aug-21 17-Aug-21
29 CON1205 Install new Exit Signs 1 19-Aug-21* 19-Aug-21
30 CON1210 Paint doors and framing 2 18-Aug-21 19-Aug-21
31 CON1220 Cleaning of Area 1 20-Aug-21* 20-Aug-21
32 CON1240 Substantial Completion 1 20-Aug-21 20-Aug-21
33 Post Construction - Closeout - Punch List 11 23-Aug-21 06-Sep-21
34 PCO1000 Conduct Final Inspection with Distrct 1 23-Aug-21* 23-Aug-21
35 PCO1010 Punch List Items closed 10 24-Aug-21 06-Sep-21
36 PCO1020 Project Closeout - Finish 1 06-Sep-21* 06-Sep-21
ay 2021
June 2021
July 2021
August 2021
September 2021
October 2021
November 2
06-Sep-21, Edison Fire Door Replacement - 2E
14-Jun-21, Construction Bid Development
Develop Construction Bid Document
Send Construction Bid to Dataflow for Issue
Issue Bids
Issue/Post Procurement Bid on websites
Last Bid Addendum published.
Receive Bids - Conduct Opening - In-Person
Evaluate Bids
Evaluate Insurance and Bonds
Board Award of Contract
20-Aug-21, Construction
Mobilization and Set-Up
Demolition of Doors and Frames 203, 205, 207, 208 and 209
Install new Frames on Door Sets 203, 205, 207, 208 and 209
Repoint block and finish openings
Install hardware on new doors and on new framing, including magnetic holds.
Install new doors
Paint doors and framing
Cleaning of Area
Demolition of Doors and Frames 204, 206, and 127
Install wiring for access control, magnetic holds, and mullions on Door Sets 204, 206, and 127
Install new Frames on Door Sets 204, 206, and 127
Repoint block and finish openings
Install hardware on new doors and on new framing
Install new doors
Install new Exit Signs
Paint doors and framing
Cleaning of Area
Substantial Completion
06-Sep-21, Post Construction - Closeout - Punch List
Conduct Final Inspection with Distrct
Punch List Items closed
Project Closeout - Finish

PART 1 - SECTION 00 43 93 - BID SUBMITTAL CHECKLIST

PART 2 - This "Bid Submittal Checklist" is provided only as a general overview, and shall not relieve bidders of their obligation to provide all information, forms and certifications required to be submitted with their bids as set forth more fully in the Contract Documents.

A. Bid Form completed (Section 00 41 16) with Base Bid amount (*and allowances, if applicable*)
   1) Addenda acknowledged on Bid Form
   2) Certification of Non-Collusion in Bidding – on Bid Form
   3) Completed alternates –on Bid Form

B. Supplementary Bid Information (00 43 00):
   1) Form of Bid Bond, with completed acknowledgements
   2) Appendices A, B, C and, D signed and acknowledged:
      a) Offeror's Affirmation of Understanding and Agreement Pursuant to State Finance Law § 139-j(6)(b)
      b) Offeror Certification of Compliance with State Finance Law § 139-k(5)
      c) Offeror Disclosure of Prior Non-Responsibility Determination
      d) Iran Divestment Act Compliance Certification

C. Statement of Bidder's Qualifications (Section 00 45 13) including:
   A. Certified financial statement
   B. Completed certification (including non-bankruptcy certification)
   C. List of prior projects and references, attached to Statement

D. MWBE Forms: (Section 00 43 31A).

E. Small Business Enterprise (SBE) Certification Form, *if applicable.*

F. Equivalent Review Form (Section 00 63 19), *if applicable.*

G. Unit Prices (Section 00 43 22), *only if requested on Bid Form.* (NOT APPLICABLE)

END OF SECTION 00 43 93

SECTION 00 45 13 - STATEMENT OF BIDDER QUALIFICATIONS

Bidders may be judged qualified only for the type of work in which they demonstrate competence. Owner will make such investigation it feels necessary to determine the competency of the Bidder to perform the Work. The Bidder shall furnish promptly all information the Owner requests for Owner to investigate as it deems appropriate. Bidders must have, at minimum, successfully completed three (3) prior projects of similar size and scope to the Work of the Contract.

The Bidder bears the sole responsibility for any subcontractors it may employ for any part of the Work. Bidder is advised to utilize similar qualification standards against which it will be judged when using the services of any subcontractors or suppliers. Bidders must verify that any subcontractor or suppliers are in good standing and have not been previously debarred or found not to be qualified for performance of any RSMP Contract.

1. *Name of Bidder:* _____

2. *Type of Business:* (e.g., corporation, partnership, etc.)

   : Date of formation: _____
   Place of formation: _____

3. *How many years has the Bidder done business under its present name?* _____years

4. *List the names of the persons who are directors, officers, owners, managerial employees or partners in the Bidder's business:*

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5. *Have any of the persons in No. 4 owned, operated, or been shareholders in any other companies?*

   Yes No

If Yes, list the names of said persons and the names of their previous affiliations:

Names	Names
_____	_____
_____	_____
_____	_____

6. *Does the Bidder have a Sexual Harassment Policy with planned Annual Training?*

   Yes No Last Date of Training: _____

7. *Has any director, officer, owner or managerial employee had any professional license suspended or revoked?*

Yes No

If Yes, please indicate their names, license previously held, whether it was revoked or suspended and the date:

Name	License Held	Revoked	Suspended	Date

8. *Please list in reverse chronological order all projects completed in the past five years involving work of a similar nature to this Contract, including a minimum of three projects. For each, provide the project name, date, location, dollar amount, brief description, and references with names and telephone numbers, and the name(s) of the architect/engineer.* ***Attach additional sheets as needed.***

Project: Location/Owner: Date: Price: Description:

_____
_____
_____

9. *During the five-year period preceding the submission of this Bid, has the Bidder been found guilty of any OSHA violations?*

Yes No

If Yes, please describe the nature of the OSHA violation(s) and indicate the remediation or other steps taken regarding such violations(s):

Violation	Remediation

10. *During the five-year period preceding the submission of this Bid, has the Bidder been charged with any claims pertaining to unlawful intimidation or discrimination against any employee by reason of race, creed, color, disability, sex or national origins and/or violations of an employee's civil rights or equal employment opportunities?*

Yes No

If Yes, please list the names of persons making such claim, a description of the claim, the status of the claim and what disposition, if any, has been made regarding such claim:

Name	Claim	Status	Disposition

11. *During the five-year period preceding the submission of this Bid, has the Bidder been named as a party in any lawsuit in an action involving a claim for personal injury or wrongful death arising from performance of work related to any project in which it has been engaged?*

Yes No

Lawsuit	Index Number	Disposition

12. *During the five-year period preceding the submission of this Bid, has the Bidder been the subject of proceedings before the Department of Labor for alleged violations of the Labor Law as it relates to the payment of prevailing wages and/or supplemental payment requirements?*

Yes No

If Yes, please list each instance of the commencement of a Department of Labor proceeding, the project to which it related, and the status or resolution thereof through Bid submission:

Proceeding	Project	Disposition

13. *During the five-year period preceding the submission of this Bid, has the Bidder been the subject of proceedings involving allegation that it violated the Workers' Compensation Law including but not limited to the failure to provide proof of worker's compensation or disability coverage and/or any lapses thereof?*

Yes No

If Yes, please list each instance of the claimed violation and the status of the claim at the time of submission of this Bid:

Violation	Remediation

14. *During the five-year period preceding the submission of this Bid, has the Bidder been the subject of proceedings before the Department of Labor for alleged violations of the Labor Law as it relates to the payment of prevailing wages and/or supplemental payment requirements?*

Yes No

If Yes, please list each instance of the commencement of a Department of Labor proceeding, the project for which it was commenced, and the status of the proceeding at the time of submission of this Bid:

Proceeding	Project	Disposition

15. *During the five-year period preceding the submission of this Bid, have the Bidder, its officers, directors, owner, and/or managerial employees been the subject of a criminal indictment?*

Yes No

If Yes, please list the name of the person(s) indicted or convicted, the charge against the individual and the disposition of the charge:

Name	Charge	Disposition

16. *During the five-year period preceding the submission of this Bid, has the Bidder been charged with and/or found guilty of any violations of federal, state, municipal, environmental, and/or health laws, codes, rules and/or regulations?*

Yes *No*

If Yes, please list the charge against the Bidder, the date of the charge, and the status of the charge at the time of submission of this Bid:

17. *Has the Bidder submitted bids on any other projects or contracts aside from the instant Bid?*

Yes No

If Yes, please list the projects bid upon, the expected or actual date of commencement of work and, if no award has been made, whether the Bidder was the lowest monetary Bidder:

Project Bid	Start Date	Low Bidder

18. *Does the Bidder have any projects ongoing at the time of submission of this Bid?*

Yes No

If Yes, please list the projects (or attach) on which the Bidder is currently working, the percentag complete, and the expected date of completion of the work:

Project	Construction Cost	Percent Complete	Completion Date

19. *Has the Bidder, or any company sharing a director, officer, shareholder or principal or Bidder, ever been terminated from a contract or project by any owner?*

Yes No

If Yes, please list the projects on which the Bidder was terminated, the reason for termination (convenience, suspension, for cause), and the date of termination:

Project Bid Reason Date

20. *Has the Bidder completed and attached the list of at* ***least three (3) references****?* Bidders must indicate at minimum: job name, location, brief description, dollar amount, and reference names with telephone numbers of the Owner and the Engineer or Architect. This Statement must be signed and submitted with the Bid to be considered responsive

Yes No

SWORN STATEMENT OF BIDDER:

By signing below, the Bidder named above acknowledges that all information supplied in response to this Statement of Bidder's Qualifications, including all attachments, is complete and accurate to the best of Bidder's knowledge. Bidder further represents that it has not filed and does not presently anticipate filing for bankruptcy, and that Bidder's assets are not in receivership. Bidder further certifies that it is not, nor are any of its Subcontractors included in its Bid, a party that has been previously debarred, suspended or found non-responsive or ineligible to participate in RSMP projects, nor does Bidder or any Subcontractor share one or more officers, directors, shareholders or principals with a debarred, suspended, or otherwise ineligible party.

By:

Authorized Name (print):

_____

Title (print):

_____

Authorized Signature:

_____

Sworn to before me this Day of 2021

_____

Notary Public

END OF SECTION 00 45 13

SECTION 00 52 12 – FORM OF CONTRACT

This Contract made and executed in duplicate the **XX** day of **XXXX** in the year **2021**, by and between the Rochester Joint Schools Construction Board ("RJSCB"), hereinafter called the "Owner", party of the first part, and **XXX,** hereinafter designated as the "Contractor," party of the second part.

WITNESSETH that in consideration of the mutual covenants and Contracts, herein contained the parties hereto covenant, promise and agree, each with the other, as follows:

1.1 WORK TO BE DONE: The Contractor shall and will make and construct and sufficiently perform and finish in a good substantial, and workmanlike manner, under the direction and to the satisfaction of the Owner, acting as agent to the Rochester City School District and the City of Rochester, and the Owner's Representatives, all the work included in the plans, specifications, addenda, and other items forming the Contract Documents for:

Contract No. 302 – General Trades Work Contract

Edison Career and Technology High School
Phase 2b of the Rochester Schools Modernization Program ("RSMP")

SED Project Control No. 26-16-00-01-0-111-032

Addendum No. X – Dated XX XXXX 2021

in all respects according thereto and in conformity with the Contract, and to furnish and provide for such work and materials of suitable and workmanlike quality as is set forth in the Contract Documents.

2.1 CONTRACT AND CONTRACT DOCUMENTS: The Contract Documents consist of this Contract, the Plans, Specifications, Drawings, and other documents included in the Project Manual setting forth the Work and requirements for performing same, as well as the Addenda hereinbefore enumerated and any written document executed or amended after execution of this Contract, all of which form the Contract and are as fully part of the Contract as if attached to this Contract or repeated herein. The Contract represents the entire and integrated Contract between the parties hereto and supersedes prior negotiations, representations or Contracts, either written or oral. The table of contents, titles, headings, headlines, and marginal notes contained herein and in the Contract Documents are solely to facilitate reference to various provisions thereof and in no way affect, limit, or dictate the interpretation of the provisions to which they may refer. In case of any conflict or inconsistency between the provisions of this Contract and those of the other Contract Documents, the provisions of this Contract shall govern.

2.2 All obligations of the Owner and the Contractor are fully set forth and described in the Contract Documents. All parts of the Contract Documents are correlative and complementary, and any work required, or reasonably inferable, by one part and not mentioned in another shall be performed to the same extent and purposes as required by all parts. The Contractor is to provide for the Work enumerated in the Contract Documents, and all Work that is reasonably inferable from the Contract Documents, to be fully completed in

every detail for the purpose designed, and the Contractor agrees to furnish anything and everything necessary for such purpose and the misplacement, addition or omission of any word or character shall not change the intent or any part of the Contract Documents from that set forth by the Contract Documents as interpreted by the Owner.

2.3 Local Labor; The Project will be funded in part through the issuance of tax-exempt bonds by the County of Monroe Industrial Development Agency ("COMIDA"). Pursuant to the terms of the Contract between COMIDA and the Owner, COMIDA will require that the Project use only "Local Labor", subject to certain permitted exceptions and waivers. The term "Local Labor" is defined as laborers residing in Monroe, Genesee, Livingston, Orleans, Ontario, Seneca, Wayne, Wyoming, and Yates counties. Those providing labor to the Project must use best efforts to achieve compliance with the COMIDA Local Labor requirement. Further information on the COMIDA program requirements applicable to the RSMP is available online at http://www.growmonroe.org.

2.4 CONTRACTOR SELF-PERFORMANCE REQUIREMENTS: Notwithstanding any other provision of the Contract Documents, at least five percent (5%) of the direct labor, materials, systems or equipment shall be provided by the Contractor. The Contractor shall subcontract no more than 95% of the total contract value. Contractors are required to certify, prior to award, that they can and will comply with this subcontracting limitation requirements. The unit measure (dollar value, unit price, schedule of value) utilized to determine the quantities of work, labor and material furnished by the Contractor shall be determined by the Construction Manager and the Architect and shall be appropriate for the scope of work involved. For the purpose of this Section, work performed by supervisory personnel, persons above the level of foreman, or office personnel, all overhead costs, including bonds and certificates, shop drawings and similar items shall not count towards the percentage of Work provided by the Contractor."

2.5 APPRENTICESHIP PROGRAM REQUIREMENTS. This Contract, and all Subcontracts to this Contract in excess of one million dollars, require participation in apprentice training programs in the trades of work that the Contractor and, if applicable, its Subcontractors employ that: have been approved for not less than three years by the New York State Department of Labor; have graduated at least one apprentice in the last 3 years; have at least one apprentice currently enrolled in such apprentice training program; and have demonstrated that the program has made significant efforts to attract and retain minority apprentices. The Contractor shall include this obligation in all Subcontracts in excess of one million dollars, and the Contractor shall be responsible to the Owner for its Subcontractors' compliance with the apprenticeship program requirements set forth herein.

3.1 TERMS

3.1.1 WORK; as used herein, refers to work at the site of the Project as described in the Contract Documents, and includes all plant, labor, materials, supplies, equipment and other facilities and things necessary or proper for or incidental to the carrying out and completion of the terms of this Contract, including Contractor's provision of material delivered to and suitably stored at the site of the Project with approval of the Owner's Representative.

3.1.2 EXTRA WORK; as used herein, refers to and includes work required by the Owner that in the judgment of the Owner's Representative(s) involves changes in or additions to that required by the Contract Documents.

3.1.3 CONTRACTOR, SUBCONTRACTOR; The terms “Contractor,” "Subcontractor," as used herein, means a person, firm or corporation supplying labor and materials or labor for work at the site of the Project.

3.1.4 OWNER’S REPRESENTATIVE; The Owner’s Program Manager (Savin Engineers P.C. and Gilbane Building Company “Savin/Gilbane”), in conjunction with Owner’s Architect (SWBR Architects), and Owner’s Construction Manager (Buffalo Construction Consultants) shall be designated the "Owner’s Representative" for the purpose of this Contract.

3.1.5 NOTICE; as used herein, shall mean and include written notice. Written notice shall be deemed to have been duly served when delivered to or at the last known address of the person, or entity for whom intended, or to his, their, or its duly authorized agent, representative or officer; or when enclosed in a postage prepaid wrapper or envelope addressed to such person or entity at his, their, or its known business address and deposited in a United States mail box.

3.1.6 DIRECTED/REQUIRED/APPROVED/ACCEPTABLE; Whenever they refer to the Work or its performance, "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import shall imply the direction, requirement, permission, order, designation, or prescription of the Owner's Representative(s); and "approved", "acceptable", "satisfactory", "in the judgment of" and words of like import shall mean approved by or acceptable to or satisfactory to or in the judgment of the Owner's Representative(s).

3.1.7 PROJECT, refers to **Edison Career and Technology High School** of the Rochester Schools Modernization Program, and all required Work and other obligations under the Contract relating thereto.

3.1.8 PROJECT MANUAL, refers to the document of that name issued for the Project at the time of bidding by the Owner or Owner’s Representative(s) and includes all specifications, drawings, bidding requirements, forms, closeout documents, general and special conditions, and all other documents included therein, together with any Addenda thereto. The Project Manual is incorporated by reference into this Contract, constitutes a Contract Document and is binding upon the parties hereto.

4.1 SCOPE OF THE WORK: The Contractor will furnish all plant, labor, materials, supplies, equipment and other facilities and things necessary or proper for or incidental to the Work contemplated by the Contract as required by and in strict accordance with the Contract Documents, and/or as required by and in strict accordance with such changes as are ordered and approved pursuant to the Contract, and will perform all other obligations imposed by the Contract.

4.2 WORK PROGRESS AND REPAIRS. Under the Contract, the Contractor shall fully execute the Work as is enumerated under the Contract Documents or reasonably inferable by the Contractor as necessary to produce the results intended by the Contract Documents. In addition, thereto, the Contractor shall protect all the adjoining property and to repair and replace any such properties damaged or destroyed by it or its employees through construction operations at or near the Project site. The Contractor shall have the sole continuing responsibility to install materials, protect them, maintain them in proper condition

and forthwith repair, replace or make good any damages thereto without cost to the Owner until such time as the work covered by the Contract is fully accepted by the Owner.

5.1 COMPENSATION TO BE PAID TO THE CONTRACTOR

5.1.1 The Owner will pay the sum of Work Payment to the Contractor for the Contractor's performance of the Contract Work. The Contractor's base bid for the Contract Work is **$ XXX including Allowance C-01-01 for $25,000.**

5.1.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

Not Applicable

5.1.3 Payment to the Contractor for the Contractor's performance of the Contract the sum $ **XXX** (herein, "Contract Sum,") reflecting the amounts set forth in Paragraph 5.1.1 and 5.1.2 hereinabove, is subject to additions and deductions as provided in the Contract Documents.

5.1.4 The Contractor shall pay all laborers and mechanics providing services to the Project in accordance with the appropriate New York State Prevailing Wage Rate or federal Davis-Bacon Wage Rate Schedule, as applicable, pursuant to Section 00 73 46 of the Project Manual.

5.1.5 Unit prices are as set forth in Section 00 43 22 of the Project Manual and shown below:

Not Applicable

5.1.6 The Owner is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials pursuant to this Contract. This exemption does
not, however, apply to tools, machinery, equipment or other property purchased by, leased by or to the Contractor or a subcontractor or to supplies or materials not incorporated into the completed Project. The Contractor and its subcontractors shall be responsible for and to pay any and all applicable taxes, including sales and compensating use taxes, on such tools, machinery, equipment or other property or such unincorporated supplies and materials.

6.1 TIME OF ESSENCE: The provisions of the Contract relating to the time for performance and completion of the Work are of the essence of the Contract. Accordingly, time is of the essence respecting the Contract Documents and all obligations thereunder. The Owner will be entitled to seek liquidated damages for failure to timely achieve Substantial Completion as set forth in the General Conditions.

7.1 COMMENCEMENT OF WORK: The dates of commencement of and Substantial Completion of the Work of the Contract shall be in accordance with the "Schedules and Milestones" Section of the Project Manual (00 43 83). As such, the Contractor will commence Work on the date therein specified for commencement of the Work, and shall fully complete the Work by the dates specified in, or calculated by reference to, Section 00 43 83 (herein, the "Contract

Time") as the time for completion of the Contract, unless such period shall be extended as provided in the Contract Documents.

8.1 WARRANTIES. The Contractor represents and warrants the following to the Owner (in addition to any other representations and warranties contained in the Contract Documents) as an inducement to the Owner to execute the Contract, which representations and warranties shall survive the execution and delivery of the Contract, any termination of the Contract and the final completion of the Work that:

1. it and its Subcontractors are financially solvent, able to pay all debts as they mature and possessed of sufficient working capital to complete the Work and perform all obligations hereunder;

2. it is capable of furnishing the tools, materials, supplies, equipment and labor required to complete the Work and perform its obligations hereunder;

3. it is authorized to do business in the State of New York and the United States and properly qualified and licensed by all necessary governmental and public authorities having jurisdiction over it, the Work and the Project;

4. its execution of the Contract and its performance thereof is within its duly authorized powers;

5. its duly authorized representative has visited the site of the Project, is familiar with the local and special conditions under which the Work is to be performed and has correlated on-site observations with the requirements of the Contact Documents; and

6. it possesses a suitable level of experience and expertise in the business administration, construction, construction management and superintendence of projects of the size, complexity and nature of this particular Project to complete the Project successfully and on schedule, and that it will perform all Work with the care, skill and diligence of a contractor of reasonable skill and experience in performing the obligations of the Contract.

The foregoing warranties are in addition to, and not in lieu of, any and all other liability imposed upon the Contractor by law with respect to the Contractor's duties, obligations and performance hereunder.

The Contractor's liability hereunder shall survive the Owner's final acceptance of and payment for the Work. All representations and warranties set forth in the Contract, including without limitation, this Paragraph 8.1, shall survive the final completion of the Work or the earlier termination of the Contract. The Contractor acknowledges that the Owner is relying upon the Contractor's skill and experience in connection with the Work called for hereunder.

Upon the execution of this Contract, the Contractor shall, upon request, provide the Owner with copies of all contracts entered into between the Contractor and subcontractors or material suppliers. The Contractor's obligation to provide the Owner with said contracts shall continue for the duration of the Project.

9.1 LIST OF EXHIBITS: Refer to the Table of Contents of the Project Manual for enumeration of all Sections of the Contract Documents, which are incorporated herein.

10.1 INSURANCE AND BONDS: The Contractor shall purchase and maintain insurance and provide

bonds in accordance with the requirements of the Contract Documents, including Sections 00 61 13 and 00 73 16 of the Project Manual and the General Conditions. In addition, the Contractor is provided with insurance requirements found acceptable to the RSMP for Basic Services, such as cleaning, for their discretionary use, in Exhibit 1, attached. These requirements can be used for approving subcontractor insurance, along with the requirements provided in the Contract Documents Section 00 73 16.

11.1 SEXUAL HARASSMENT POLICY: All New York employers were required to have a sexual harassment prevention policy in place by October 9, 2018. The policy must meet certain minimum requirements identified by the state. This includes contractors doing business with the Rochester Joint Schools Construction Board.

All New York employers are also required to have annual sexual harassment prevention training for all employees on an annual basis. The first training was to have occurred by October 9, 2019. New employees must be trained as soon as practicable after hire. The training must meet certain minimum requirements identified by the state.

The state has provided a model policy and training program, as well as more information about the minimum requirements, on the following website:

www.ny.gov/combating-sexual-harassment-workplace/employers

Contractor is required to submit a copy of their firm's Sexual Harassment Policy, along with their training activity schedule to the RJSCB for approval.

RSMP Insurance Requirements Roadmap

RSMP Requirements for CM's	RSMP Requirements for GC's/Primes	RSMP Requirements for Lower Tiers / Subcontractors	RSMP Requirements for Basic Services Subcontractors (e.g. Cleaning)	RSMP Requirements for Professional Services	RSMP Requirements for Professional Services Lower Tier and/or Subconsultants
General Liability	General Liability (including Contractual & XCU)	General Liability	General Liability	General Liability	General Liability
Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000
Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000
Fire Damage Limit: $300,000	Fire Damage Limit:$50,000	Fire Damage Limit $50,000 only if subcontractor owns/rents a business location	Fire Damage Limit $50,000 only if subcontractor owns/rents a business location	Fire Damage Limit: $300,000	Fire Damage Limit: $300,000
Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000
General Aggregate Limit: $2,000,000	General Aggregate Limit: $2,000,000 – Per project aggregate endorsement required	General Aggregate Limit: $2,000,000 per project aggregate endorsement required	General Aggregate Limit: $2,000,000 per project aggregate endorsement required	General Aggregate Limit: $2,000,000	General Aggregate Limit: $2,000,000
Medical Expense: $10,000	Medical Expense: $10,000	Medical Expense $5000	Medical Expense $5000	Medical Expense: $10,000	Medical Expense: $10,000
Professional Liability	Professional Liability – N/A	Professional Liability – N/A	Professional Liability – N/A	Professional Liability	Professional Liability
Per Claim/Aggregate limit: $1m/$3m				Per Claim/Aggregate limit: $2m/$3m	Per Claim/Aggregate limit: $1m/$2m
Automobile	Automobile	Automobile	Automobile	Automobile	Automobile
Combined Single Limit: $1,000,000	Combined Single Limit: $2,000,000	Combined Single Limit: $1,000,000 if employing W-2 employees	Combined Single Limit: $1,000,000, if employing W-2 employees. Consider non-owned liability policy if employee's personal cars are driven for company business.	Combined Single Limit: $1,000,000 if employing W-2 employees	Combined Single Limit: $1,000,000 if employing W-2 employees
Workers Compensation/Employers Liability	Workers Compensation/Employers Liability	Workers Compensation/Employers Liability if employing W-2 employees	Workers Compensation/Employers Liability if employing W-2 employees	Workers Compensation/Employers Liability if employing W-2 employees	Workers Compensation/Employers Liability if employing W-2 employees
Employers Liability Limit: $500,000	Employers Liability Limit: Statutory	Employers Liability Limit: Statutory	Employers Liability Limit: Statutory	Employers Liability Limit: $500,000	Employers Liability Limit: $500,000
NYS Disability - Statutory	NYS Disability – Statutory	NYS Disability – Statutory	NYS Disability – Statutory	NYS Disability - Statutory	NYS Disability - Statutory
Umbrella/Excess	Umbrella/Excess	Umbrella/Excess	Umbrella/Excess	Umbrella/Excess	Umbrella/Excess
Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $2,000,000	Occurrence/Aggregate Limit: $1,000,000	Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $2,000,000
Pollution Liability - N/A	Pollution Liability - $5,000,000 (when contract involves abatement)	Pollution Liability - $5,000,000 (only when lower tier's contract involves them doing abatement)	Pollution Liability - N/A	Pollution Liability - N/A	Pollution Liability - N/A
Additional Items:	Additional Items:	Additional Items:	Additional Items:	Additional Items:	Additional Items:
GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)
Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL Only	Primary/Non Contributory-GL Only
Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation
30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies
Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State	*Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State*	*Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State*	*Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State*	*Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State*	*Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State*

Notes - Refer to Specification Section 00 73 16 or applicable Request for Proposal:

(1) Copies of all applicable additional insured; waiver of subrogation; primary/non contributory; per project aggregate and 30 day notice of cancellation must be attached to certificate of insurance when submitted.
Any certificate submitted without endorsements will automatically be rejected without a review.

(2) The minimum list of Indemnitees is defined as: the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"); the City of Rochester, the Rochester City School District, County of Monroe Industrial Development Agency ("COMIDA"); U.S. Bank National Association, the Trustee under the Indenture of Trust relating to the financing of the Project ("Trustee"); Gilbane Building Company, Savin Engineers P.C. ("Program Manager"), and their respective affiliates, subsidiaries, trustees, officers, board members, directors, employees and agents (collectively, the "Indemnified Parties").

(3) The minimum to be listed as Additional Insureds on a Primary and Non-Contributory basis for such insurance (other than Workers' Compensation and Employer's Liability Insurance): the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"); Rochester City School District ("RCSD"); the City of Rochester ("City"); County of Monroe Industrial Development Agency ("COMIDA"); U.S. Bank National Association, the Trustee under the Indenture of Trust relating to the financing of the Project ("Trustee"); Gilbane Building Company and Savin Engineers P.C. ("Program Manager").

(4) A waiver of subrogation must be provided to all Indemnitees.
(5) Certificate Holder for a Subcontractor to a Prime is the Prime.

Revision B - 29 May 2020

11.2 AUTHORIZED SIGNATURES

This Contract is entered into as of the day and year first written.

FOR CONTRACTOR:

(COMPANY SEAL) XXXX ("Contractor")

_____ _____
Witness Print legal name of firm or corporation

By_____

Title_____

FOR OWNER:

_____ Rochester Joint Schools Construction Board ("Owner")
Witness

By_____
Norman H. Jones, Chair of the RJSCB

Accepted as to form only By_____
RJSCB General Counsel

SECTION 00 61 13: BONDS AND CERTIFICATES

Prior to execution of the Contract, the successful bidder shall furnish bonds covering the faithful performance of the Contract ("Performance Bond") and the prompt payment of moneys that are due to all persons furnishing labor and materials under the Contract ("Labor and Material Payment Bond"). The Performance Bond and Labor and Material Payment Bond (herein, "Bonds") shall conform to the provisions of section 103-f of the New York General Municipal Law and must be delivered prior to the commencement of the work. A copy of such performance and payment bonds shall be kept by the Owner at is offices, and shall be open to public inspection. See Section 00 61 31 "Bonds and Certificates" for acceptable forms for the Bonds.

Bond premiums will be paid by the Contractor and are included as part of the Contract Sum. Each Bond shall be in a sum equal to one-hundred (100%) percent of the Lump Sum Value of the work to be performed in a form satisfactory to the Owner and the Architect and shall be underwritten by a surety company authorized to do business in the State of New York with a minimum AM Best rating of "A-" or "Secure". For this Project, the bonded amount shall be the full Contract Sum.

The Performance Bond shall extend and remain in effect two (2) years after Substantial Completion of the Project. However, the period of time required for the Contractor to perform warranty Work may be longer, as set forth in the General Conditions or elsewhere in the Contract Documents (Manufacturers warranties may exceed a one-year warranty period for various Project components, e.g.. roofs, boilers, major equipment and systems).

The Bonds shall include a rider with the following provisions/modifications:

Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, extension of time or other modification of the Contract Documents. Any addition, alteration, omission, change, extension of or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety from its obligations hereunder and notice to the Surety of such matters is hereby waived.

The Surety and Contractor shall be liable for the additional costs and expenses incurred by the Owner in relation to the default of the Contractor, i.e., architectural, engineering and/or consultants' fees and disbursements.

Surety also agrees that it is obligated under the Bonds to any successor, grantee or assignee of the Owner. The Surety shall promptly provide the Owner with a copy of any notice it receives from a claimant, pursuant to section four of the Payment Bond.

All provisions of the laws of the State of New York applicable to public improvement projects by the Owner and claims relating thereto shall apply to the Project, the Contract and the Bonds.

Acceptable forms of PERFORMANCE BOND and PAYMENT BOND for the Project are included on the following pages.

PERFORMANCE BOND

Bond #_____

KNOW ALL MEN BY THESE PRESENTS, That we _____ of _____, as Principal (hereinafter called the "Contractor"), and _____ a corporation created and existing under the laws of the State of _____ and authorized to do business in the State of New York and having its principal office at _____, as "Surety," are held and firmly bound unto the Rochester Joint Schools Construction Board "RJSCB," as Obligee (hereinafter, the "Owner"), in the penal sum of _____ dollars, _____ cents ($_____) lawful money of the United States of America, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, all jointly and severally, firmly by these presents.

WHEREAS, said Contractor has entered into a certain written contract with said Owner dated as of the _____ day of _____ 20_____, (hereinafter called the "Contract") for Work to be performed on the Project of the Obligee, described as follows: _____. A copy of the Contract is hereto annexed and hereby made a part of this performance bond (hereinafter, the "Bond") as if herein set forth in full.

NOW, THEREFORE, the Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, including any subsequent written modification thereof entered into by the Contractor and Owner that does not materially change the fundamental nature of the initial Contract work, which shall be become part of the Contract, which Contract is incorporated herein by reference. The nature and scope of this obligation under the Bond is further described as follows:

1. If the Contractor performs the Contract, including any modifications made in writing thereto, the Surety and Contractor shall have no obligation under this Bond, except when applicable to participate in a conference provided in Section 2.

2. If there is no Owner Default under the Contract, the Surety's obligation under this Bond shall arise after:

2.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default, which notice shall indicate whether the Owner is requesting a conference among the Principal, Owner and Surety to discuss the Contractor's performance. If the Owner does not request a conference the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 2.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

2.2. the Owner declares a Contractor Default, terminates the Contract and notifies the Surety; and

2.3. the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Contract to the Surety or to a contractor selected to perform the Contract.

3. Failure on the part of the Owner to comply with the notice requirement in Section 2.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

4. When the Owner has satisfied the conditions of Section 2, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Contract;

4.2. Undertake to perform and complete the Contract itself, through its agents or independent contractors;

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to the Owner the amount of damages as described in Section 6 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

4.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

4.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

5. If the Surety does not proceed as provided in Section 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 4.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6. If the Surety elects to act under Section 4.1, 4.2 or 4.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

6.1. the responsibilities of the Contractor for correction of defective work and completion of the Contract;

6.2. additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 4; and

6.3. liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7. If the Surety elects to act under Section 4.1, 4.3 or 4.4, the Surety's liability is limited to the amount of this Bond.

8. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

9. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

10. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

11. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

12. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

13. Definitions

13.1. Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.

13.2. Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

13.3. Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Contract.

13.4. Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Contract or to perform and complete or comply with the other material terms of the Contract.

13.5. Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

14. If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

15. Modifications to this bond are as follows:

15.1. Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, extension of time or other modification of the Contract Documents. Any addition, alteration, omission, change, extension of or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety from its obligations hereunder and notice to the Surety of such matters is hereby waived.

15.2. Surety further agrees that, in the event of any claimed default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner and the Owner shall have thirty (30) days from the date of the receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days.

15.3. Notice of Default shall be sent by the Owner by certified or registered U.S. mail, return receipt requested, postage prepaid. Any provision or condition in the Bonds to the contrary notwithstanding, the time period for the Owner to commence any action or proceeding, legal or equitable, under the Bonds, in a Court of competent jurisdiction in the jurisdiction in which the Project is located, shall be two (2) years from the date on which the Owner receives specific written notice that the Surety declines to perform any of its obligations or denies any claim made by the Owner, pursuant to the Bonds.

15.4. The Surety and Contractor shall be liable for the additional costs and expenses incurred by the Owner in relation to the Contractor Default, i.e., architectural, engineering and/or Consultants fees and disbursements.

15.5. Surety also agrees that it is obligated under the Bonds to any successor, grantee or assignee of the Owner. The Surety shall promptly provide the Owner with a copy of any notice it receives from a claimant, pursuant to section six of the Payment Bond.

15.6. All provisions of the laws of the State of New York applicable to public improvement projects, claims against subdivisions of the state of New York and Bonds shall apply to the Project, the Contract and the Bonds

Signed and sealed this _____ day of _____, 20____

(SEAL) _____
Principal

By _____

_____
Title

(SEAL) _____

Surety

By _____

_____
Title

If the Contractor (Principal) is a partnership, the bond should be signed by one of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

Each executed bond should be accompanied by (a) appropriate acknowledgements of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) duly certified copy of latest published financial statement of assets and liabilities of Surety.

ACKNOWLEDGMENT OF CONTRACTOR, IF AN INDIVIDUAL

State of _____

County of _____ ss.:

City of _____

On this _____ day of _____, 20___,
before me personally came and appeared _____, to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same.

[SEAL]

_____
Notary Public

ACKNOWLEDGMENT OF CONTRACTOR, IF A FIRM

State of _____
County of _____ ss.:
City of _____

On this _____day of _____, 20___,
before me personally came and appeared_____, to me known and known to me to be one of the members of the firm of

_____, described in and who executed the foregoing instrument and he acknowledged to me that he executed the same as and for the act and deed of said firm.

[SEAL]

_____
Notary Public

ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION

State of _____
County of _____ ss.:
City of _____

On this _____day of _____, 20___,
before me personally came and appeared_____, to me known, who, being by me duly sworn, did depose and say that he resides at
_____; that
he is the _____ of _____
_____, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his/her name thereto by like order.

[SEAL]

_____
Notary Public

SURETY ACKNOWLEDGMENT

State of _____

ss.:

County of _____

On this _____ day of _____, 20_____,
before me personally came and appeared_____, to me known, who, being by me duly sworn, did depose and say that he is an attorney-in-fact of _____, the corporation described in and which executed the within instrument; that he knows the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he signed the said instrument and affixed the said seal as Attorney-in-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

[SEAL]

_____
Notary Public

LABOR AND MATERIAL PAYMENT BOND

Bond #_____

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called "Contractor," and _____, a corporation organized and existing under the laws of the state of _____ and authorized to do business in the State of New York, as Surety, hereinafter called "Surety," are held and firmly bound unto Rochester Joint Schools Construction Board as Obligee, hereinafter called "Owner," for the use and benefit of claimants as herein defined, in the amount of _____ dollars, _____ cents ($_____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated the _____ day of _____ 20_____, entered into a contract with Owner for (hereinafter called the "Contract") for Work to be performed in favor of the Owner, and particularly described as follows:_____ in accordance with drawings and specifications prepared by the Owner of its consultants, as may be supplemented, modified or otherwise amended in writing by Contractor and Owner, which Contract is by reference made a part hereof, and is hereinafter referred to as the "Contract."

NOW, THEREFORE, the Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference, subject, however, to the following terms and conditions:

1. If the Contractor promptly makes payment of all sums due to Claimants (as herein defined), and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Contract, then the Surety and Contractor shall have no obligation under this Bond.

2. If there is no Owner Default under the Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 12) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

3. When the Owner has satisfied the conditions in Section 2, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

4. The Surety's obligations to a Claimant under this Bond shall arise after the following:

4.1. Claimants, who do not have a direct contract with the Contractor,

4.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within one hundred twenty (120) days after having last

performed labor or last furnished materials or equipment included in the Claim; and

4.1.2. have sent a Claim to the Surety (at the address described in Section 12).

4.2. Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 12).

5. If a notice of non-payment required by Section 4.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 4.1.1.

6. When a Claimant has satisfied the conditions of Sections 4.1 or 4.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

6.2. Pay or arrange for payment of any undisputed amounts.

6.3. The Surety's failure to discharge its obligations under Section 6.1 or Section 6.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 6.1 or Section 6.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

7. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 6.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the Owner to the Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9. The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

10. The Surety hereby consents to and waives notice of any addition, alteration, omission, change, extension of time or other modification of the Contract or Contract Documents, including any related subcontracts or purchase orders. Any addition, alteration, omission, change, extension of or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety from its obligations hereunder and notice to the Surety of such matters is hereby waived.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the State of New York, County of Monroe or after the expiration of one year from the date final payment on Claimant's subcontract became due, provided Claimants not in direct contract with the Contractor furnishing the Bond have furnished the notice required in paragraph 4. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. **Definitions**

15.1. Claim. A written statement by the Claimant including at a minimum:

15.1.1. the name of the Claimant;

15.1.2. the name of the person for whom the labor was done, or materials or equipment furnished;

15.1.3. a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Contract;

15.1.4. a brief description of the labor, materials or equipment furnished;

15.1.5. the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Contract;

15.1.6. the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;

15.1.7. the total amount of previous payments received by the Claimant; and

15.1.8. the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

15.2. Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract and who has not been paid in full therefor before the expiration of ninety (90) days after the day the last of the labor was performed or material was furnished by him for which a Claim is made. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.3. Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

15.4. Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Contract or to perform and complete or comply with the other material terms of the Contract.

15.5. Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

16. If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

17. The Surety and Contractor shall be liable for the additional costs and expenses incurred by the Owner in relation to the Contractor Default, i.e., architectural, engineering and/or Consultants fees and disbursements.

18. Surety also agrees that it is obligated under the Bonds to any successor, grantee or assignee of the Owner. The Surety shall promptly provide the Owner with a copy of any notice it receives from a claimant, pursuant to section six of the Payment Bond.

19. All provisions of the laws of the State of New York applicable to public improvement projects, claims against subdivisions of the state of New York and Bonds shall apply to the Project, the Contract and the Bonds.

Signed and sealed this _____ day of_____, 20_____.

(SEAL) _____
Principal

By_____

_____
Title

(SEAL) _____
Surety

By_____

_____
Title

INDIVIDUAL ACKNOWLEDGMENT

State of_____
County of_____ ss.:
City of_____

On this _____ day of _____, 20__,
before me personally appeared the within named _____,
to me known to be the individual described in, and who executed the same.

[SEAL] _____
Notary Public

(c)

(d) PARTNERSHIP ACKNOWLEDGMENT

State of_____
County of_____ ss.:
City of_____

On this _____ day of _____, 20__,
personally came _____ to me known and known to me to be a
member of the firm of_____, the firm described in, and which
executed the foregoing instrument and said
_____acknowledged that
he executed the foregoing instrument for and in behalf of said firm.

[SEAL] _____
Notary Public

CORPORATE ACKNOWLEDGMENT

State of_____
County of_____ ss.:
City of_____

On this _____ day of _____, 20__,
before me personally came and appeared_____, to me known, who, being by me duly sworn, did depose and say that he resides in _____, that he is the _____ of _____ _____, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that
he signed his/her name thereto by like order.

[SEAL] _____
Notary Public

SURETY ACKNOWLEDGMENT

State of_____
ss:
County of_____

On this _____ day of _____, 20__,
before me personally came and appeared_____, to me known, who, being by me duly sworn, did depose and say that he is an attorney-in-fact of _____, the corporation described in and which executed the within instrument; that he knows the corporate seal of said corporation; that the seal affixed to the within instrument is said corporate seal, and that he signed the said instrument and affixed the said seal as Attorney-In-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

[SEAL] _____
Notary Public

SECTION 00 62 11 – SUBMITTAL COVER SHEET

Submittal Cover Sheet (00 62 11a)

PROJECT: EDISON CAREER AND TECHNOLOGY HIGH SCHOOL ADDITIONS AND ALTERATIONS BID PACKAGE (PHASE 2B) ARCHITECT:	ARCHITECT'S PROJECT NO.
SUBMITTAL NAME:	SUBMITTAL NO.: DATE:

SUBMITTAL TYPE

ACTION SUBMITTAL: ☐ PRODUCT DATA ☐ SHOP DRAWING ☐ SAMPLE

INFORMATIONAL SUBMITTAL: ☐ COORDINATION DRAWING ☐ QUALIFICATION DATA ☐ CERTIFICATES

☐ TEST REPORTS ☐ MAINTENANCE DATA ☐ OTHER _____

SPECIFICATION SECTION NUMBER AND TITLE:

DRAWING NUMBER AND DETAIL REFERENCES:

☐ NAMED PRODUCT	DEVIATIONS: ☐ EQUIVALENT (PRIOR TO AWARD)	☐ SUBSTITUTION (AFTER AWARD)

CONTRACTOR:

SUB-CONTRACTOR:

SUPPLIER:

MANUFACTURER:

CONTRACTORS REVIEW & APPROVAL	ARCHITECT'S REVIEW STAMP
This submittal has been reviewed, checked and approved for compliance with the Contract Documents. CONTRACTOR: BY: DATE:	

SECTION 00 63 19 - REQUEST FOR EQUIVALENT REVIEW FORM

Note: Use separate form for each material, product or equipment item submitted for review.

Date: _____ Request No.: _____

Project:

_____

Location:_____

Name of material, product or equipment item submitted as an equivalent:

_____

Name of material, product or equipment item specified:

_____

Specification Section_____, Article_____, Paragraph_____

Qualities that differ from specified product or system, if any:

_____

_____

_____

_____

_____
Name of Manufacturer / Fabricator

_____
Address

_____
City State Zip Code

Phone: _____ E-mail: _____

_____
Name of Vendor / Supplier

_____
Address

_____
City State Zip Code

Phone: _____ E-mail: _____

Reason for requesting consideration of proposed equivalent:

_____

_____

_____

_____

Proposed equivalent will affect other materials or systems, such as dimensional revisions, redesign of structure, or modifications to other work:

_____No

_____Yes, describe requirements:

_____

_____

_____

_____

Savings or credit to Contract Sum for accepting proposed equivalent, if any:

_____

_____ ($_____)
Dollars Amount in words Amount in Figures

The attached data is furnished herewith for evaluation of the proposed equivalent:

Product Data _____, Drawings _____, Samples _____, Tests _____, Reports _____

Other Information:

_____

_____

_____

_____

_____

_____

The undersigned hereby certifies:

1. The proposed equivalent has been fully investigated and is considered equal or superior to specified brand, material, product or equipment item.

2. The same or better warranty will be furnished for proposed equivalent as for specified brand, material, product or equipment.

3. All changes in the work resulting from the use of this equivalent, if approved, will be coordinated and completed in all respects and all costs, including, but not limited to, those for additional services rendered by the Architect are the responsibility of this Contractor at no additional compensation under the Contract.

_____ _____

Contractor Signed by

_____

Address

_____

City State Zip Code

Phone: _____ E-mail: _____

END OF SECTION 00 63 19

SECTION 00 72 16 – GENERAL CONDITIONS

1. INDEX TO GENERAL CONDITIONS:

24. Additional or Substitute Bond
25. Plans and Specifications
26. Additional Instructions and Detail Drawings
27. Submittals
28. Subsurface Conditions
29. Contractor's Title to Materials
30. Superintendence by Contractor
31. Representations of Contractor
32. Separate Contracts
33. Patent Rights
34. Surveys, Permits and Regulations
35. Correction of Work
36. Delivery of Statements Required by Owner
37. Owner's Right to Withhold Payment
38. Contractor's Obligation to Complete Contract
39. Owner's Right Terminate Contract for Cause or Stop Work
40. Owner's Right to Terminate or Suspend Contract for Convenience
41. Contractor's Right to Stop Work or Terminate Contract
42. Uses of Premises and Removal of Debris
43. Weather Conditions
44. Architect Discretion
45. Owner's Representatives' Discretion
46. Provisions Required by Law Deemed Inserted
47. Subletting, Successor and Assigns
48. Guarantee
49. Liquidated Damages

50. Record Documents and Audits

51. Governing Law

52. Claims and Disputes

53. Apprenticeship Requirements

54. Sexual Harassment Policy and Certification Statement

ATTACHMENT A: Part 5 of Title 29 of the U.S. Code of Federal Regulations. The terms of "Attachment A" are incorporated by reference into these General Conditions, where applicable.

2. DEFINITIONS: The following terms as used in this Contract are respectively defined as follows:

1. "ADDENDA": Written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including the drawings and Specifications, by additions, deletions, clarification, corrections, or supplementary information.

2. "ALTERNATE": Variation in Contract requirements on which a separate price is to be received by the Owner as part of the bid. If the Alternate is accepted in writing by the Owner, the variation is then a part of the Contract and the amount of money quoted be added to or deleted from the base bid is taken into account in determining the Contract Sum."

3. "ARCHITECT/ENGINEER": The design professional appointed by the Owner who prepared or contributed to the Contract Documents for the particular Project site at issue. The term "Architect" as used in the Contract Documents is interchangeable with the term "Engineer," unless otherwise specified. They will bear similar responsibilities, and their authorized representatives will have equal authority relative to any duties or activities when referred to in the Contract Documents or in executing any field responsibilities.

4. "CHANGE ORDER": A written order or directive to the Contractor from Owner's Representative requiring or approving a change to the Work, including any resulting adjustment to the Contract Sum or Contract Time, as further described in Section 4, "Changes."

5. "COMIDA": County of Monroe Industrial Development Agency, created under Article 18A of the General Municipal Law of New York State for the purpose of promoting local workforce development in Monroe County and the surrounding areas.

6. "CONSTRUCTION MANAGER": The Construction Manager designated by the Owner for the Project shall serve as the Contractor's primary contact for, and Owner's authorized agent on, the Project.

7. "CONTRACT DOCUMENTS": The plans, Specifications, drawings, Form of Contract, and other documents included in the "Project Manual" issued for bid on this Project, setting forth the Work of the Project and requirements for performing same, as well as any Addenda issued in accordance with the procedures provided for in the Contract.

8. "CONTRACT SUM": The price for which Contractor agrees to perform the Work and denominated by the Contract as such. The Contract Sum shall include Owner-approved Alternates.

9. "CONTRACT TIME": The time in which Contractor must perform all obligations under the Contract as set forth in the Contract Documents "Schedule and Milestones" and as may be modified from time to time as provided for in these General Conditions.

10. "CONTRACTOR": The contractor named as such having entered into this Contract with the Owner. The term "Contractor" shall also include the Contractor, its officers, employees, agents, contractees, and Subcontractors of any tier.

11. "DISTRICT" or "RCSD": The Rochester City School District.

12. "EXTRA WORK": Work not included in the Contract Documents that is nonetheless required to be completed to achieve the purpose of the Project. Contractor must notify Construction manager of such "Extra Work " and follow procedures in Section 4 prior to performing same.

13. "FURNISH": shall mean purchasing and/or fabricate and deliver to the Project site or other location when so designated.

14. "INSTALL": shall mean build-in, mount in position, connect or apply the specified object(s) and, where applicable, adjust and start-in operation.

15. "KNOWLEDGE," and similar terms used in reference to the Contractor, shall mean that which the Contractor knows, recognizes or discovers (or should reasonably know, recognize, or discover) in exercising the care, skill, and diligence required by the Contract Documents or by applicable law, including anything reasonably inferable by Contractor.

16. "OWNER": Owner means Rochester Joint Schools Construction Board" and "RJSCB," as the legally authorized agent of the Rochester City School District ("RCSD") and the City of Rochester.

17. "OWNER'S REPRESENTATIVE": Owner's Representative may refer herein to the Architect/Engineer, Construction Manager or Program Manager, the relative roles of which are defined more specifically in the Contract Documents.

18. "PROGRAM MANAGER": Owner's Representative and authorized agent of Owner for the Project, Savin Engineers P.C. and Gilbane Building Company ("Savin/Gilbane").

19. "PROJECT": the John Walton Spencer School No. 16 (Phase 2A) of the Rochester Schools Modernization Program (RSMP), and all required Work and other obligations under this Contract relating thereto.

20. "PROVIDE": When the word "provide" (including derivatives thereof) is used, it shall mean to properly fabricate, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all items and expenses necessary to properly complete in place ready for operation or use under the terms of the Contract Documents."

21. "RCSD DESIGN GROUP": the Rochester City School District Facilities Department.

22. "ROCHESTER JOINT SCHOOLS CONSTRUCTION BOARD" or "RJSCB": See definition of "Owner," supra.

23. "SPECIFICATIONS": This term refers to the written Specifications of the Project as identified by number in the Project Manual issued at the time of bidding for this Contract, as may be amended from time to time in accordance herewith. When used in the singular or with reference to a particular number, this term shall refer to the particular Specification so referenced.

24. "SUBCONTRACTOR": A person, firm or corporation supplying labor and materials or labor for work at the site of the Project by agreement with the Contractor. This term may be used to refer to "Subcontractors" of any tier, unless specified otherwise herein.

25. "TECHNOLOGY CONSULTANT": Authorized agent of Owner for technology and networking components of the Owner's District-Wide Technology ("DWT") Project.

26. "TRUSTEE": The bank or financial agency serving as trustee under the Indenture of Trust entered into with the Owner relating to financing of the Project.

27. "WORK": Work to be performed, including work normally done, at the location of the Project, pursuant to the Contract Documents.

3. EXTENSION OF CONTRACT TIME: If the Contractor is delayed in the completion of its Work by reason of unforeseeable causes beyond its control and without its fault or negligence, including, but not restricted to, acts of God or of the public enemy, active

Owner interference, acts of neglect of any other Contractor, fires, floods, epidemics, quarantines, strikes, riots, civil commotion, or freight embargoes, the period herein specified for completion of the Work (herein, the "Contract Time") shall be extended by such time as shall be fixed by the Owner. Other extensions of time requested by Contractor shall be addressed in accordance with Section 4 of these General Conditions and Section 01 26 39 of the Contract Documents ("Change Order Procedures").

1. NO WAIVER: No such extension of the Contract Time shall be deemed a waiver by the Owner of its right to terminate the Contract for abandonment or delay by the Contractor as herein provided or relieve the Contractor from full responsibility for performance of its obligations of the Contract.

4. CHANGES:

1. EXTRA WORK: If Contractor identifies any work or material not required under the Contract Documents, but for which it will seek to perform and request payment, it must immediately notify the Construction Manager and follow the procedures for Change Orders as set forth in Section 01 26 39 of the Contract Documents ("Change Order Procedures"). No payment shall issue for performance of "Extra Work" before it is approved by authorized Change Order.

2. CHANGE ORDERS: The Owner shall have the right to require by written order of the Architect, Construction Manager or Program Manager ("Change Order"), and without written notice to the Contractor's sureties, changes in, additions to, or deductions from Work; provided that if changes, additions, or deductions are made, the general character of the Work as a whole is not substantially changed thereby. Adjustment in the Contract Sum, if any, because of any Change Order shall be determined as provided in this Section, and any claim for extension of Contract Time shall be adjusted at the time of issuing the Change Order. No claim for change, addition, or deduction, or adjustment of the Contract Sum, or extension of Contract Time, shall be made or allowed unless done pursuant to an authorized Change Order. Plans without an authorized Change Order shall not be construed as authorizing a particular change to the Work or extension of Contract Time. The Contractor shall give written notice of any claims arising from a proposed Change Order to the Construction Manager before the commencement of the work required by such Change Order. The Construction Manager shall inform the Program Manager of such written notice received from the Contractor. No course of conduct or dealings between the parties, nor express or implied acceptance of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment owing to the Work, shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents. Where an authorized Change Order diminishes the quantity of Work to be done, it shall not constitute a basis for a claim for damages or anticipated profits on Work that may be dispensed with.

1. EFFECT OF CHANGE: It shall be understood and agreed that authorized Change Orders shall in no way invalidate the Contract and shall not affect or discharge the bond furnished by the Contractor.

2. NECESSARY ADJUSTMENTS: The Contractor, without charge, shall make such slight alterations to the site or equipment, fixtures or machinery thereupon located as may be necessary to make adjustable parts fit to fixed parts, leaving all complete and in proper order when done.

3. DETERMINING CHANGES IN COST OF THE WORK: Adjustments, if any, in the Contract Sum by reason of an authorized Change Order shall be limited to the amount specified therein. Adjustments to the Contract Sum, if any, shall be determined by one of the following methods, the Owner reserving the right to select the method or methods at the time the written Change Order is issued.

    1. UNIT PRICES: The unit prices are those fixed by the Contract as set forth in the Schedule of Unit Prices at Section 00 43 22 of the Project Manual, or as may be submitted and approved by the Construction Manager upon issuance of a written Change Order. If the deletion, addition or alteration implicates Work that is measured by a Unit Price, as determined by the Construction Manager, the Contract Sum shall be increased or decreased in accordance with the appropriate Unit Price.

    2. COST PLUS or “TIME AND MATERIALS”: As herein used, cost refers to the actual and necessary costs incurred by the Contractor by reasons of the change in the Work for:
        1. LABOR: Labor costs shall be the amount shown on the Contractor's payrolls in compliance with the Wage Rate Schedule (Section 00 73 46), or time sheets attributable to the particular work required by the Change Order. Contractor is obligated to keep time sheets sufficient for Owner’s Representative to accurately determine labor costs arising from a Change Order.
        2. MATERIALS: Material cost shall be the net price paid for material delivered to the Project. The Contractor must keep tickets for all materials and equipment used in a form acceptable to the Owner’s Representative when performing Change Order work. If any material previously required is deleted by the written order of the Owner after it has been delivered or tendered by the Contractor and consequently will not retain its full value for other uses, the Contractor shall be allowed the actual cost of the omitted material less a fair market value of material, as determined by the Architect and Owner’s Representatives.
        3. EQUIPMENT RENTAL: Equipment rental shall be the actual additional cost incurred for necessary equipment to perform the Work. Contractor must document its equipment costs in a form acceptable to Owner’s Representative to receive payment for Change Order work, and shall not duplicate costs for equipment already on site or required to be on site for

performance of ongoing Project Work. Costs shall not be allowed in excess of usual rentals charged in the Rochester area for similar equipment of like size and condition as determined by the Construction Manager, including the costs of necessary supplies and repairs for operating the equipment.

3. "PLUS": As herein used is defined as a percentage to be added to the above "cost" items to cover project management, superintendence, use of ordinary tools, bond, warranty, insurance premiums (other than Worker's Compensation Insurance), overhead expenses, and profit. This percentage shall be mutually agreed upon but not more than fifteen percentum (15%) of the cost items set forth above.

4. RECORDS: The Contractor shall keep complete and accurate daily records of all costs for performance of Change Order work, and shall present such information in such form and at such time as the Owner's Representatives may direct. Refer to Section 01 26 39, "Change Order Procedures," for further information regarding procedures for Changes in the Work.
5. PERFORMANCE AND LABOR AND MATERIAL PAYMENT BONDS: The Contractor shall furnish surety bonds in the forms set forth in the Contract Documents (Section 00 61 13) in an amount at least equal to one hundred percent (100%) of the Contract Sum as security for faithful performance of this Contract ("Performance Bond") and for the payment of all persons performing labor and furnishing materials in connection with this Contract ("Labor and Material Payment Bond"). No Contractor may commence Work under this Contract unless and until the tendered Performance Bond and Labor and Material Payment Bond have been approved by Owner.
6. CONTRACTOR'S INSURANCE: Before commencing Work under the Contract, the Contractor shall obtain at its own expense and cost all the insurance required by and specified in Section 00 73 16, and shall provide to the Owner, for the Owner's approval, certificates of insurance evidencing that the coverage, coverage extensions, policy endorsements and waivers of subrogation required by and specified in Section 00 73 16 are maintained in force.
7. INDEMNIFICATION: The Rochester Joint Schools Construction Board ("RJSCB" or "Owner") is an entity created by special authorizing legislation of the State of New York to serve as an agent for the Rochester City School District ("RCSD") and the City of Rochester ("City'") for purposes of administering the Rochester School Modernization Program ("RSMP"). RSMP Projects are funded in part through bonds available through COMIDA, and governed by the Indenture of Trust from the Trustee bank, U.S. Bank National Association (the "Trustee").

    1. To the fullest extent permitted by law, regardless of whether or not a lawsuit has actually commenced, upon initial notice of any claim or potential claim received by Contractor, RJSCB, RCSD or the City, Contractor agrees to indemnify, defend and hold harmless the Owner (RJSCB), the RCSD, the City, COMIDA, the Trustee, Program Manager, Architect/Engineer(s), Technology Consultant (if any), Construction Manager(s), and each of such parties' respective affiliates, subsidiaries, directors, trustees, officers, board members, employees and agents (collectively, the "Indemnitees"), from and against any

and all liabilities, obligations, claims, damages, demands, causes of action, losses and expenses (including, without limitation, reasonable attorneys' fees and costs of suit) directly or indirectly relating to, arising from or in connection with: (a) any actual or alleged negligent act or omission or willful misconduct of Contractor or any of its agents, employees or subcontractors, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable; (b) any breach by Contractor of any of its representations, warranties, covenants or obligations set forth in this Contract; (c) injury to person or property (including death) to the extent arising out of or resulting from violation of any state, federal, or local law, rule or regulation by Contractor or any of its agents, employees or subcontractors, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable; or (d) any actual or alleged injuries to person or property (including death) suffered by any of Contractor's agents, employees or subcontractors, or any employees or agents of Contractor's agents or subcontractors in the course of their performance or completion of any Work or other obligations arising under or pursuant to the Contract, or upon any premises owned, leased or controlled by the Indemnitees, or any Project site. Nothing herein shall be construed as requiring the Contractor to indemnify the Indemnitees or any of them for any claim for damage or loss of any kind to the extent such loss or damage is caused by the negligence or willful misconduct of the Indemnitees or any of them. Contractor shall include in each Subcontractor agreement for the Project a provision substantially similar to this indemnification provision.

2. In claims against any person or entity to be indemnified under the above Section 7.1 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligations set forth in Section 7.1 shall not be limited by any limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under any applicable worker's compensation laws, disability benefit laws, or other employee benefit laws or regulations.

8. CONTRACT BENEFICIARIES: No obligation of the Architect/Engineer and/or Owner's Representatives to the Owner, whether expressed by agreement or implied by law, shall be construed as intended for the benefit of the Contractor. Nothing in the Contract Documents nor in any aspect of the Architect/Engineer/Owner's representatives' relationship with the Owner shall create or give rise to any duty whatsoever on the part of the Architect/Engineer/Owner's Representatives to the Contractor.

9. QUALIFICATIONS FOR EMPLOYMENT: Qualifications for employment of persons performing Work under this Contract shall comply with applicable federal and New York State laws and regulations.

10. HOURS OF WORK: First Shift is to be from 7:00 a.m. to 3:30 p.m., and Second Shift is to be from 2:00 p.m. to 10:30 p.m.

11. WAGE RATES: Each employee engaged in work on the Project shall be compensated as set forth in accordance with the wage rates required by New York State and federal laws and regulations as set forth in the Wage Rate Schedule (Section 00 73 46).

    1. To the extent that Contractor may be required by state or federal law or regulation to pay at a higher rate than that payable at the time of Contract award due to post-award changes to the published U.S. Davis-Bacon or New York State prevailing wage rates, such rate increase(s) shall not constitute a basis for an increase in the Contract Sum.

    2. The Contractor shall post at conspicuous points on the site of the Project a schedule showing all current wage rates and all authorized deductions, if any, from unpaid wages actually earned.

12. LOCAL LABOR: The Project will be funded in part through the issuance of tax-exempt bonds by the County of Monroe Industrial Development Agency ("COMIDA"). Pursuant to the terms of the agreement between COMIDA and the Owner, COMIDA requires that the Project use only "Local Labor," subject to certain permitted exceptions and waivers. The term "Local Labor" is defined as laborers residing in Monroe, Genesee, Livingston, Orleans, Ontario, Seneca, Wayne, Wyoming and Yates counties. Those providing labor to the Project must use best efforts to achieve compliance with the Local Labor requirement. Further information on the COMIDA program requirements applicable to the RSMP is available online at http://www.growmonroe.org.
13. CONTRACTOR SELF-PERFORMANCE REQUIREMENTS: Notwithstanding any other provision of the Contract Documents, at least five percent (5%) of the direct labor, materials, systems or equipment shall be provided by the Contractor. The Contractor shall subcontract **no more than 95%** of the total contract value. Contractors are required to certify, prior to award, that they can and will comply with this subcontracting limitation requirements. The unit measure (dollar value, unit price, schedule of value) utilized to determine the quantities of work, labor and material furnished by the Contractor shall be determined by the Construction Manager and the Architect and shall be appropriate for the scope of work involved. For the purpose of this Section, work performed by supervisory personnel, persons above the level of foreman, or office personnel, all overhead costs, including bonds and certificates, shop drawings and similar items shall not count towards the percentage of Work provided by the Contractor.

14. PAYMENT OF EMPLOYEES: The Contractor and each Subcontractor shall pay each of their employees engaged in work on the Project under this Contract according to the terms of the NYS Department of Labor.

15. SAFETY AND CONTRACTOR CONTROL:
    1. The Contractor shall be responsible for compliance with all state and federal laws, rules and regulations as may be applicable to the Work or Project, as

well as for initiating and adhering to all safety precautions and programs in connection with the performance of the Work as more fully set forth in Section 01 35 23, "Project Safety Standards."

2. Contractor shall supervise and direct the Work using its best skill and attention, and shall be solely responsible for, and have control over, all construction means, methods, techniques, sequences and procedures and for coordinating the Work. Should the Contract Documents give specific instructions as to any of the foregoing categories, Contractor shall be solely responsible for the safety thereof unless it shall give timely written notice to Owner's Representative that such instructions are not sufficiently safe, in which event Contractor shall await specific instructions from Owner's Representative before proceeding with the Work. If Contractor is instructed to proceed with the instructions of the Contract Documents or other method prescribed by Owner over Contractor's objection, Contractor shall not be liable for any resulting loss or damage arising solely from said instructions.
3. Contractor shall immediately notify the Construction Manager in writing, with a copy of such notice being sent simultaneously to the Owner, of any accident or other occurrence impacting the health or safety of any laborer working on the Project, or resulting in personal injury, death, or property damage arising from the Work. Such notice shall be provided within twenty-four (24) hours of the accident or occurrence to which it relates and shall reasonably identify and describe the laborer(s) affected, by whom such person(s) were employed or hired, the date, time, location and circumstances of the accident or occurrence, the action taken to address the accident or occurrence, and names and contact information for any witnesses or observers thereof. Contractor's failure to timely report accidents and incidents as set forth herein may be grounds for termination or suspension of the Contract, or grounds for deeming Contractor ineligible for the award of any future RSMP contracts.

16. REQUISITION FOR PAYMENT:
    1. Prior to submission of first application for payment, the Contractor shall submit to the Construction Manager a schedule of values of the various portions of its Work. The schedule of values approved by the Construction Manager shall be the basis for all requests for payment as determined from the progress of Work to be verified and approved by the Architect.
    2. All applications for monthly and/or final payment shall be submitted in triplicate on forms furnished by the Owner's Representative.
    3. All applications for monthly and/or final payment must include certified payroll records for each week included in that payment period. Contractors, and subcontractors of every tier, must maintain the full social security number and current addresses of each person performing any part of the Project Work. Contractor, and every subcontractor, shall submit this information to Owner prior to commencement of any Work, and shall update this information in writing to the Owner as changes are made (e.g., upon the hiring of an additional laborer or change to existing addresses). Contractors and subcontractors must include the full address for each laborer with each weekly certified payroll application, and at least the last four digits of that laborers'

social security number. Providing complete certified payroll information is a condition of processing monthly payment requisitions, and failure to do so could delay payment. Contractor shall provide, and require its subcontractors to provide, such additional information as Owner may reasonably request to ensure that the requirements of certified payroll records are met.

4. In addition to the above, forms required in accordance with Section 00 43 31 ("MWBE/DBE/SBE Utilization and Workforce Diversity") shall also be included with each payment application. In addition, Owner shall require submission of an Interim Lien Waiver, included in the Project Manual at Section 01 29 76 ("Progress Payment Procedures") with each payment application, together with such additional forms or information as Owner may reasonably require. Failure to submit required forms or information may result in non-payment or delayed payment to the Contractor. Contractors and Subcontractors are required to keep original payroll records or transcripts for a period of three years from date of final payment.

17. PAYMENT AND RETAINAGE BY OWNER:

1. The Owner will make payment to the Contractor based upon a duly certified and approved estimate of the work performed by the Contractor, but the Owner will retain five percent (5%) of the amount of each such estimate until final completion and acceptance of all Work covered by this Contract.

2. The Contractor shall pay:

i) for all transportation and utility services not later than the 15th day of the calendar month following that in which such services were rendered;

ii) for all materials, tools and other expendable equipment to the extent of 95 percent of the cost thereof, not later than the 15th day of the calendar month following that in which such materials, tools and equipment are delivered at the site the Project, and the balance of the cost thereof not later than the 30th day following the completion of that part of the work in or on which such materials, tools and equipment are incorporated or used;

iii) to each Subcontractor, not later than the 15th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by its Subcontractors, to the extent of each such Subcontractor's interest therein; and

iv) in accordance with all state and federal laws, rules and regulations as may apply to the Work and payment for same.

18. SUBSTITUTIONS:

1. SUBSTITUTIONS: After award of the Contract, the Owner at its option may permit substitutions of material or products named in the Contract Documents.

If Contractor proposes to use products or material differing from the brand, type, kind or manufacturer listed in the Contract Documents, a list of proposed substitutions must be submitted to the Construction Manager on the Equivalent Review Form (Section 00 63 19) under a Submittal Cover Form (Section 00 62 11) within three days of the award of Contract, or in such time as will permit review by the Architect without impacting the Project schedule.

2. The Contractor must submit all required back-up data for each proposed substitution through the Construction Manager, including such additional back-up as may be requested by Architect. All requests for substution shall be posted to the Submittal Exchange web site.

3. No additional substitutions will be considered after this initial process unless substitution is required due to a specified material, product or equipment being unavailable in the market place, or if the Owner may realize a credit or reduction in the Contract Sum. Upon such circumstances, additional substitutions will be considered by the Architect if submitted in accordance with the above requirements.

4. Substitutions shall comply with the following requirements:

   i) The materials, products and equipment described in the Contract Documents establish the standard of required quality, function, dimension and appearance expected. Substitution requests will be considered only if these standards are met, or exceeded, and the Architect and Owner subsequently approve the substitutions.

   ii) Each request for substitution shall include:
   - The name of the material, product or equipment item for which substitution is requested and a complete description of the proposed substitute, including drawings, cuts, performance and test data, and any other information necessary for a complete evaluation.
   - A statement setting, forth any changes in other materials, products, equipment or other Work that incorporation of the substitution would require.

5. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final and will be set forth in writing.

6. If any of the following conditions occur due to substitutions, the Contractor making the substitution shall bear the cost of such conditions, including payment for services rendered by the Architect:

   i) Redesign required for any of the Work.
   ii) Material or quantity changes for any of the Work.
   iii) Delays in any of the Work.

iv) Requests for Information (RFI's) required due to substitutions or substitution requests.

7. All material and workmanship shall, in every respect, be in accordance with what, in the opinion of the Owner's Representative, is in conformity with approved modern practice.

8. In all cases, new materials shall be used unless this provision is waived by written notice from the Owner's Representative.

19. INSPECTION AND TESTS: All material and workmanship (if not otherwise designated by the Contract Documents) shall be subject to inspection, examination and test by the Construction Manager or other Owner's Representatives, at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on.

1. Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests so required safe and convenient.

2. Special, full size and performance tests shall be as described in the Specifications.

3. If at any time before final acceptance of the entire Work, the Construction Manager considers necessary or advisable an examination of any portion of the Work already completed by removing or tearing out the same, the Contractor shall upon request furnish promptly all necessary facilities, labor and materials.

4. If such work is found to be defective in any material respect, due to fault of the Contractor or any Subcontractor, or if any work shall be covered over without the approval or consent of the Architect or Construction Manager (whether or not the same shall be defective), the Contractor shall be liable for the expenses of such examination and of satisfactory reconstruction.

5. If, however, such approval and consent shall have been given and such work is found to meet the requirements of the Contract, the Contractor shall be recompensed for the expenses of such examination and reconstruction in a manner herein provided for the payment of Change Orders.

6. The selection of bureaus, laboratories and/or agencies for the inspection and tests of supplies, materials or equipment, where required by the Contract Documents, shall be subject to the approval of the Owner. Satisfactory documentary evidence that the material has passed the required inspection and tests must be furnished to the Owner by the Contractor prior to the incorporation of the material into the Project.

7. Rejected work shall be removed from the site of the Project.

20. PROTECTION OF WORK AND PROPERTY. The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect its own Work; and any adjacent property or work provided by others thereupon, from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the Contract Documents or by the Owner or Owner's Representatives. All passageways, guard fences, lights or other facilities required for protection by local authorities, local conditions, or by local, state or federal law or regulation must be provided and properly maintained. In carrying out the foregoing obligations, Contractor shall comply with the Project Safety Standards set forth in Section 01 35 23.

21. PROTECTION OF PERSONS AND PROPERTY: In the event of a situation that threatens loss or injury of property, and/or safety of life, the Contractor shall notify the Construction Manager immediately and shall comply with the Project Safety Standards set forth in Section 01 35 23. Accidents or occurrences on the Project that have or may have resulted in personal injury, property damage or death must be reported immediately, as set forth in paragraph 14 hereinabove.

22. FINAL PAYMENT: Within thirty (30) days after the filing of a certificate of completion and delivery of all close-out materials required by the Contract Documents, and upon approval of the Owner's Representatives, Owner shall pay to the Contractor the balance of the Contract Sum as set forth in Contractor's final payment application. All prior estimates and payments including those relating to Change Orders shall be subject to correction by this payment, referred to herein as the "Final Payment."

23. ACCEPTANCE OF FINAL PAYMENTS CONSTITUTES RELEASE: The acceptance by the Contractor of the Final Payment shall operate as a release to the Owner of all claims and of all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the Owner and others relating to or arising out of this Work, excepting the Contractor's claim for interest upon the Final Payment, if this payment be improperly delayed. No payment, final or otherwise, shall operate to release the Contractor or its sureties from any obligations under this Contract or any bonds issued in compliance herewith.

24. ADDITIONAL OR SUBSTITUTE BOND: If at any time the Owner shall be or become dissatisfied with any surety or sureties then upon the Contractor's Performance Bond or Labor and Material Payment Bond provided in accordance with Contract Documents, Section 00 61 13 "Bond and Certificates," or if for any other reason such Bonds shall cease to be adequate security to the Owner, the Contractor shall within five (5) days after notice from the Owner so to do, substitute an acceptable bond in such form and sum signed by such other sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the

Contractor. No further payments shall be deemed due nor shall be made until the new sureties shall have qualified.

25. PLANS AND SPECIFICATIONS: The Contractor shall keep at the site of the Work one copy of the Contract Documents and shall, at all times, give the Architect and Owner's Representatives access thereto. Anything shown on the plans or drawings and not mentioned in the specifications, or mentioned in the specifications and not shown on the plans or drawings, shall have the same effect as if shown or mentioned, respectively, in both. In case of any conflict or inconsistency between the plans/drawings and specifications, Contractor shall notify Construction Manager using the procedures set forth with in other Sections of these specification. Any decision or response to Request for Information ("RFI") by the Architect as to such conflict or inconsistency shall be conclusive.

26. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS: The Contractor may be furnished additional instructions and detail drawings to carry out the Work. The additional drawings and instructions thus supplied will become part of the Contract Documents. Unless the Contractor promptly objects in writing to the additional drawings due to an inconsistency or alleged change in the Work, the determination of which shall be made by the Architect, the Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

    1. Contractor and the Construction Manager will jointly prepare, with other contractors providing labor or material to the Project: (i) a schedule, fixing the dates at which special detail drawings will be required and by whom they will be made, such drawings, if any, to be furnished by the Construction Manager in accordance with said schedule, and (ii) a schedule fixing the respective dates for the submission of shop or required submittals, the beginning of manufacture, testing and installation of materials, supplies and equipment and the completion of the various parts of the Work, each such schedule to be subject to change from time to time in accordance with the progress of the Work.

27. SUBMITTALS: Submittals consist of shop drawings, samples and manuals. Submittals of shop drawings and samples are required to establish conformance of selected portions of the Work with the Contract Documents and are either approved by the Architect/Engineer or not approved. Regardless of such approval, the responsibility for correct dimensions, installation and performance remains with the Contractor:

    1. Shop drawings include drawings, diagrams, illustrations, schedules, charts and other product data prepared to show how specific portions of the work shall be fabricated and/or installed.

    2. Samples are physical examples of materials, products or units of work.

3. Manuals are operating or maintenance instructions relating to certain portions of the work.

4. Submittal procedures are described in Section 01 32 19. Items for which submittals are required are listed in the various technical sections of the Project Manual in which they occur.

28. SUBSURFACE CONDITIONS: Should the Contractor encounter subsurface and/or latent conditions at the site materially differing from those shown on or referenced in the Contract Documents, Contractor shall immediately give written notice to the Construction Manager of such conditions, before they are disturbed. Should Contractor disturb such conditions prior to notifying the Construction Manager, Contractor (or Subcontractors) shall not be entitled to an adjustment to the Contract Sum or Contract Time.

29. CONTRACTOR'S TITLE TO MATERIALS: No materials or supplies for the Work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that it has good title to all materials and supplies it plans to use in the Work on the Project.

30. SUPERINTENDENCE BY CONTRACTOR: At the site of the Work, the Contractor shall employ a full time Construction Superintendent, who shall be present any time work is being performed, and have full authority to act for the Contractor. Such Superintendent shall be reasonably acceptable to the Construction Manager. The Superintendent shall be present at all progress meetings and shall continue in its capacity as Superintendent for the duration of the Project.

31. REPRESENTATIONS OF CONTRACTOR: The Contractor represents and warrants that:

    1. it is financially solvent and is experienced in and competent to perform the type of labor or to furnish the plant, materials, supplies or equipment, to be so performed or furnished under the Contract;

    2. it is familiar with all federal, state, and local laws, ordinances, rules and regulations, which may in any way affect the Work or those employed therein, including but not limited to, any special acts relating to the Work or to the Project of which it is a part;

    3. such temporary and permanent Work required by the Contract Documents can be satisfactorily constructed and used for the purpose for which it is intended, and that such construction will not injure any person or damage any property; and

    4. it has carefully examined the Contract Documents and the site of the Work, has confirmed all relevant dimensions, and that from its own investigations, it

is satisfied as to the nature and location of the Work, the character, quality and quantity of surface and sub surface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions, and all other factors which may in any way affect its Work or its performance under this Contract.

32. SEPARATE CONTRACTS: The Owner plans to award other contracts for portions of the RSMP, which will proceed simultaneously with this Contract. The Contractor shall coordinate its operations and cooperate with those of other contractors performing work on the Project or site thereof. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the Work. The Contractor shall remain informed of the progress and the detail work of other contractors and shall notify the Construction Manager immediately of lack of progress or defective workmanship on the part of other contractors, where such delay or such defective workmanship will interfere with Contractor's own operations. Failure of the Contractor to keep informed of the work progressing on the site or to give notice of lack of progress or defective workmanship by others shall be construed as acceptance of the progress of work and coordination with Contractor's own Work. Contractor shall cooperate with the Owner, Program Manager, Architect, Engineer, Construction Manager, and other Contractors on the Project, making every reasonable effort to reduce the Contract Time.

33. PATENT RIGHTS: Contractor, without any additional compensation or adjustment in the Contract Sum, will pay for all patent fees or royalties required in respect of the Work or any part thereof and will fully indemnify the Owner for any loss on account of infringement of any patent rights unless, prior to using a particular process or a product of a particular manufacturer for the Work, Contractor notifies the Owner in writing that such process or product is an infringement of a patent.

34. SURVEYS, PERMITS AND REGULATIONS: Unless otherwise expressly provided for in the Contract Documents, the Owner will furnish to the Contractor all surveys necessary for the execution of the Work.

    1. The Contractor shall procure and pay for all permits and licenses necessary for the execution of its Work and the use of such Work when completed.

    2. Owner or Owner's Representative will obtain the building permits or approvals required by the New York State Department of Education. Contractor shall procure and maintain such permits, licenses, or approvals as are required to conduct its operations.

    3. The Contractor shall comply with all federal, state and local laws, ordinances, rules and regulations relating to the performance of the Work, the protection of adjacent property, and the maintenance of passageways, guard fences or

other protective facilities in place or required to be in place at the site of the Project.

35. CORRECTION OF WORK: All labor and materials, and processes of manufacture to be incorporated in the Project shall be at all times subject to the inspection by the Architect and Construction Manager. The Architect shall be the final judge of the quality and suitability of the labor, materials, processes of manufacture, for the purposes for which they are to be used and, should they fail to meet Architect's approval, they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor at its own expense, in accordance with the Architect's direction. Contractor shall also be responsible for any resulting costs for additional services required by the Architect/Engineer, additional third-party inspection costs required to ensure conformity to the Contract Documents, or other direct costs incurred by the Owner resulting from rejected Work, which shall be charged to the Contractor by a Change Order or Construction Change Directive. Rejected Work shall immediately be removed from the site. Acceptance of material and workmanship by the Architect and the Construction Manager shall not relieve the Contractor from its obligation to adhere to the requirements for material and workmanship set forth in the Contract Documents.

    1. If in the opinion of the Architect and the Construction Manager it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the Work injured or not performed in accordance with the Contract Documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgment of the Architect and the Construction Manager will appropriately compensate Owner.

    2. Neither the acceptance of the completed work nor payment therefor shall operate to release the Contractor or its sureties from any obligations under or upon this Contract or the performance or payment bonds, or other security provided in accordance with this Contract.

36. DELIVERY OF STATEMENTS REQUIRED BY OWNER: Prior to commencement of work, or anytime during Contractor's performance thereof, Owner may require submission of information as in the Owner's reasonable judgment is necessary to ensure compliance with the terms of this Contract. Such information may include, but is not limited to, copies of all subcontract agreements held by any Contractor for any part of the Project work; certified payroll forms; forms required to satisfy the workforce diversity goals set forth in Section 00 43 31 of the Project Manual; Interim Lien Waivers (Section 01 29 76), and other forms or information. Neither Final Payment nor any retained percentages shall become due until Contractor submits to Owner's Representative: (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which Owner or Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied; (2) a certificate that insurance required by the Contract Documents to remain in force after final payment is

currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to Owner; (3) a written statement that Contractor knows or no substantial reasons that the insurance will not be renewable to cover the period required by the Contract Documents; (4) consent of surety, if any, to final payment; and (5) if required by Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by Owner. If a Subcontractor refuses to furnish a release or waiver required by Owner, the Contractor may furnish a bond satisfactory to Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, Contractor shall refund to Owner all money that Owner may be compelled to pay discharging such lien, including all costs and reasonable attorneys' fees.

37. OWNER'S RIGHT TO WITHHOLD PAYMENTS: The Owner may withhold from the Contractor so much of any approved payments due as may in the judgment of the Owner be necessary so as to:

    i) assure the payment of just claims then due and unpaid of any persons supplying labor or materials for the Work;
    ii) protect the Owner from loss due to defective work not remedied;
    iii) protect the Owner from loss due to delay or delays in performance of Work; or
    iv) protect the Owner from loss due to injury to persons or damage to the work or property of other contractors, subcontractors, or others caused by the act or neglect of the Contractor of any of its Subcontractors. The Owner shall have the right to apply any such amounts so withheld in such manner as the Owner may deem proper to satisfy such claims or to secure such protection. Such application of money shall be deemed payments for the account of the Contractor.
    v) ensure timely and complete submission of all forms and information required by this Contract.

38. CONTRACTOR'S OBLIGATION TO COMPLETE CONTRACT: The Contractor shall start and complete this Contract on the dates specified in the Construction Schedule of Section 00 43 83, with any permitted adjustments thereto as are made in accordance with these General Conditions. Failure to complete Work in such time period shall entitle the Owner to damages as provided herein.

39. OWNER'S RIGHT TO TERMINATE CONTRACT FOR CAUSE OR STOP WORK: Subject to the terms of any Performance Bond and Labor or Material Payment Bond provided by Contractor under Section 00 61 13 *("Bonds and Certificates"), once accepted by the Owner, the Owner may exercise any of the following rights upon providing such notice as is set forth herein:
    1. If the Contractor shall refuse or fail, after being notified by the Construction Manager, to supply enough properly skilled workmen or proper materials; or
    2. the Contractor shall refuse or fail to prosecute the Work or any part thereof with such diligence as will insure its completion within the period herein

specified (or any duly authorized extension thereof) or shall fail to complete the Work within said period; or

3. the Contractor shall fail to make prompt payment to persons supplying labor or materials for the Work; or
4. the Contractor shall fail or refuse to regard laws, ordinances, rules, or regulations of any local, state or federal governmental authority or administrative body having jurisdiction over the Project or Work, or the instructions of the Owner's Representatives, or otherwise be guilty of a substantial violation of any provision of this Contract;
5. when any of the above reasons exist, the Owner, without prejudice to any other rights or remedy it may have, may by three days' written notice mailed or delivered to the Contractor, exclude Contractor from the Project site and take possession of all materials, equipment, tools, and machinery thereupon owned by Contractor and provide any such Work or part thereof, and deduct the cost thereof from any money then due or thereafter to become due to the Contractor under this Contract, or the Owner may by seven days' written notice mailed or delivered to the Contractor, and any notice required to Contractor's Surety by the terms of Contractor's Performance Bond, if any, terminate the employment of the Contractor and his right to proceed, either as to the entire Work or (at the option of the Owner) as to any portion thereof as to which delay shall have occurred and may take possession of the Work and complete the Work as the Owner may deem expedient.
6. In case of termination for any reasons set forth in this Section, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the compensation to be paid the Contractor hereunder shall exceed the expense of so completing the work (including compensation for additional managerial administrative, inspection services and any damages resulting from a Contractor-caused delay), such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor and/or its sureties shall be liable to the Owner for such excess. If the right of the Contractor to proceed with the Work is so terminated, the Owner may take possession of and utilize in completing the Work such materials, appliances, supplies, plant and equipment as may be on the site of the Work and necessary therefor.

40. OWNER'S RIGHT TO TERMINATE OR SUSPEND CONTRACT FOR CONVENIENCE:

1. The Owner may, with or without cause, order Contractor in writing to suspend, delay or interrupt its Work in whole or part for such period of time as the Owner may determine, provided that should such period of delay, suspension or interruption exceed ninety days, Contractor may terminate Contract in accordance with Section 41 herein. No adjustment to the Contract Sum shall be given for any delay, suspension of interruption which would have arisen by another cause for which Contractor was responsible. Any adjustment to the Contract Sum or time for completion of Work arising from Owner's suspension of the Work shall be made in accordance with Section 4 herein, "Changes."

Contractor shall not be entitled to damages for lost profits or earning opportunity, or for consequential damages arising from such suspension or delay.

2. The Owner may at any time terminate the Contract for Owner's convenience and without cause. Upon receipt of written notice from Owner of such termination, Contractor shall (i) cease operations as directed by Owner in the notice; (ii) take actions necessary, or that Owner may direct, for protection and preservation of the Work; and (iii) except for Work to be performed prior to the effective date of termination of the Contract, terminate all existing subcontracts, purchase orders, and like commitments, and enter into no further commitments with respect to ordering or supplying labor, material, machinery, equipment, supplies or fixtures for performance of the Work. In the event of such termination for convenience, Contractor shall be entitled to receive payment for Work executed and costs incurred by reason of such termination, with reasonable overhead and profit on such Work executed. However, Contractor shall not be entitled to receive overhead or profit on any Work not executed, nor shall termination or suspension under this paragraph entitle Contractor to any other compensation or claim for damages including, without limitation, consequential damages, lost opportunity costs, impact costs, or similar claims.

41. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT: If the Work shall be stopped by a suspension by the Owner as set forth in Section 40, or by order of a court of law or any other legal authority having jurisdiction over the Project or parties to the Contract for a period of three months, without act or fault of the Contractor or any of his agents, servants, employees, or Subcontractors, the Contractor may, upon ten days' written notice to the Owner, discontinue its performance of the Work and/or terminate the Contract, in which event the liability of the Owner to the Contractor shall be determined as provided in the paragraphs immediately preceding, except that the Contractor shall not be obligated to pay to the Owner any excess of the expense of completing the Work over the unpaid balance of the compensation to be paid the Contractor hereunder.

42. USES OF PREMISES AND REMOVAL OF DEBRIS: The Contractor expressly undertakes at its own expense to:

1. take every precaution against injuries to persons or damages to property;

2. store its apparatus, materials, supplies, and equipment in such orderly fashion at the Project site as will not unduly interfere with the progress of its Work or the work of any other contractor;

3. to place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work;

4. clean up all refuse, rubbish, scrap materials, and debris caused by its operations, to the end that at all times the site of the Work shall present a neat, orderly, and workman like appearance;

5. remove all surplus material, temporary structures, including foundations thereof, plant of any description, and debris of every nature resulting from its operation and to put the site in a neat orderly condition prior to issuance of final payment; and

6. effect all cutting, fitting, or patching of its Work required to make the same conform to the Contract Documents, and, except with the consent of the Construction Manager, not to cut or otherwise alter the work of any other contractor.

43. WEATHER CONDITIONS: In the event of inclement weather or whenever the Construction Manager shall direct a temporary delay in the Work, the Contractor will and will cause its Subcontractors to protect carefully all Work, or materials or implements used to perform same, against damage or injury from the weather. If, in the opinion of the Construction Manager any Work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or of any Subcontractor to provide adequate protections, such Work and materials shall be removed and replaced at the expense of the Contractor. This paragraph shall not affect Contractor's obligations with regard to acquiring insurance as specified in Section 00 73 16.

44. ARCHITECT DISCRETION: The Contractor shall employ no plant, equipment, materials, methods or laborers to which the Architect reasonably objects, and shall remove no plant, materials, equipment or other facilities from the site of the Work without Architect's permission. Upon request, the Architect through the Construction Manager shall confirm in writing any oral order, direction, requirement, or determination.

45. OWNER'S REPRESENTATIVES' DISCRETION: The discretion of the Owner's Representatives shall not be limited by the enumeration herein or elsewhere in the Contract Documents of particular instances in which the opinion, judgment, discretion or determination of such parties is permitted or required.

46. PROVISIONS REQUIRED BY LAW DEEMED INSERTED: Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion. Those terms and provisions set forth in Part 5 of Title 29 of the U.S. Code of Federal Regulations, attached to these General Conditions as "Attachment A," are expressly incorporated into the Contract.

47. SUBLETTING, SUCCESSOR AND ASSIGNS: The Contractor shall not sublet or assign any part of the Work under this Contract, nor assign any monies due hereunder, without first obtaining the written consent of the Owner. This Contract shall inure to the benefit of and shall be binding upon the parties hereto and upon their respective successors and assigns; but neither party hereto shall assign or transfer its interest herein in whole or in part without the consent of the other.

48. GUARANTEE:
    1. All Work to be done under this Contract, including all work required by authorized Change Orders, shall be guaranteed for a period of **TWO YEARS**, unless stated otherwise in any specialty warranty required by the Contract Documents, from the date of Final Payment, exclusive of reserves or retained percentages, to serve the purpose for which it is made or constructed, and forthwith on written notice the Contractor must make any repairs, replacement or service required by the Owner without extra charge when such repairs, replacement or service are made necessary, in the judgment of the Architect and the Construction Manager, by reason of any faulty or defective workmanship or materials.

    2. **Doors / Glass / Door Hardware: Warranty period is 10-years from date of delivery.**

    3. Neither Final Payment nor any provisions in the Contract Documents nor partial or entire occupancy of Project site by the Owner shall constitute acceptance of Work not performed in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. Work not conforming to these requirements, including substitutions not properly approved and authorized may be considered defective. Upon written notice from the Construction Manager, the Contractor shall remedy any faults or defects in the Work, and pay for any damage to other Work resulting therefrom, which shall appear within a period of one year, unless a longer period is specified in the Contract Documents, from date of Final Payment.

    4. Except as otherwise noted below, the Contractor agrees to provide for all necessary repairs, replacement or service within three (3) days after receipt of notification of such faults or defects from the Construction Manager. The Contractor further agrees, at its own expense, to provide all necessary repairs, replacement or service within twenty four (24) hours after receipt of notification from the Construction Manager that Contractor caused disruption to any of critical systems or services, including but not limited to the following: Telephone Systems, Direct Digital Control Systems, Elevators, Fire Suppression; Fire Alarm; Security Alarm, Public Address System, Heating/Ventilating/Air Conditioning Systems, Boilers, Roofing (leaks), and any other defects that would in the opinion of the Owner's Representatives or Architect, or by operation of law or regulation, interfere with the standard operation of the building, result in a threat to the health and safety of the

occupants, cause further non-repairable damage to property, or specifically requiring immediate repair, replacement or service elsewhere in the Contract Documents. If the Contractor does not respond within the allocated timeframe, the Owner may, without waiving any rights, remedies or implied warranties, provide the repairs, replacement or services or to hire third parties to do so, and to charge the Contractor for the cost thereof.

49. LIQUIDATED DAMAGES: It is critical to Owner's operations that Contractor achieve Substantial Completion in the time set forth in Section 00 43 83 "Schedules and Milestones," adjusting for approved extensions of Contract Time (if any). Owner's losses resulting from Contractor failure to achieve on time Substantial Completion are difficult to ascertain. Owner may charge liquidated damages in the amounts shown below depending on the Contract Sum, after adjusting for any increases by authorized Change Orders. The below schedule of liquidated damages are reasonable approximations of Owner's losses and are not intended as penalties.

Contract Sum			**Liquidated Damages Per Calendar Day**
$0	-	$499,999	$2,000/Day
$500,000	-	$15,000,000	$5,000/Day
Over $15,000,000			$10,000/Day

Contracts over $15,000,000 shall be assessed liquidated damages at the rate of $10,000 per day.

50. RECORD DOCUMENTS & AUDITS: Refer to Close-Out Procedures at Section 01 77 00.

51. GOVERNING LAW: The Contract shall be governed by the laws of the State of New York and the laws and regulations of the United States, where applicable.

52. CLAIMS AND DISPUTES:

    1. CLAIMS: A "Claim" is a demand or assertion that payment, money, or other relief is due with respect to the terms of the Contract, as well as any other disputes arising between Owner and Contractor out of or relating to the Contract.

    2. NOTICE OF CLAIMS: Claims by the Contractor must be initiated by written notice to the Owner's Representative. The Architect shall serve as the initial decision maker with respect to such Claim. Notice of Claims must be given in this manner within 21 days after the occurrence giving rise to a Claim, or within 21 days after the claimant first recognizes or should have recognized the condition giving rise to the Claim, whichever is later. The Architect shall render an initial decision within thirty days of submission of the Claim, or after

submission by the parties of any supporting documentation requested in connection therewith.

3. CONTINUING PERFORMANCE: Pending final resolution of a Claim, except as otherwise agreed in writing or upon termination or suspension of the Contract as provided for herein, Contractor shall proceed diligently with its Work and Owner shall make payments in accordance with the Contract Documents. The Architect/Engineer will prepare change orders in accordance with the Architect's decision.

4. MEDIATION: If either party disagrees with the decision reached by the Architect with respect to any given Claim, the parties may by mutual assent agree to attend a non-binding mediated settlement conference before a neutral of their mutual selection, with each party contributing 50% of the neutral's fee. Absent agreement to conduct mediation or in the event that mediation fails to settle the Claim or dispute, either party may upon ten (10) days' written notice to the other party commence an action in a court of appropriate jurisdiction.

5. VENUE: Venue for mediation or for litigation any Claims or other disputes arising under this Contract shall be in the City of Rochester, County of Monroe, State of New York and must be brought within the statutory limitations period, or such shorter period as is prescribed herein, and before a court of competent jurisdiction to hear such Claim or dispute.

6. LABOR HARMONY: The Contractor shall be responsible for labor peace on the Project and shall at all times exert its best efforts and judgement as an experienced contractor to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes or strikes where reasonably possible and practical under the circumstances and shall, at all times, maintain Project wide labor harmony. The Contractor shall be liable to the Owner for all damages suffered by the Owner occurring as a result of work stoppages, slowdowns, disputes or strikes except as specifically provided for elsewhere in these General Conditions.

53. APPRENTICESHIP REQUIREMENTS: The Phase 2 legislation also requires that Contractors and Subcontractors with construction contracts in excess of one million dollars ($1,000,000) "shall participate in apprentice training programs in the trades it employs that: have been approved for not less than three years by the state department of labor; have graduated at least one apprentice in the last 3 years; have at least one apprentice currently enrolled in such apprentice training program; and have demonstrated that the program has made significant efforts to attract and retain minority apprentices."

54. SEXUAL HARRASSMENT POLICY: All New York employers were required to have a sexual harassment prevention policy in place by October 9, 2018. The policy must meet certain minimum requirements identified by the state. This

includes contractors doing business with the Rochester Joint Schools Construction Board.

All New York employers are also required to have annual sexual harassment prevention training for all employees on an annual basis. The first training must occur by October 9, 2019. New employees must be trained as soon as practicable after hire. The training must meet certain minimum requirements identified by the state.

The state has provided a model policy and training program, as well as more information about the minimum requirements, on the following website:

www.ny.gov/combating-sexual-harassment-workplace/employers

Bidders are required to submit with their bids a copy of their firm's Sexual Harassment Policy, along with their training activity schedule. The following form should be filled-out and submitted by each contractor:

Statement of Sexual Harassment Certification

In accordance with New York State Finance Law §139-l

In accordance with State Finance Law §139-l, which generally prohibits the Rochester Joint Schools Construction Board from entering into contracts pursuant to the bid process with persons who fail to submit a certification affirming compliance with New York Labor Law §201-g, the bidder submits the following certification under the penalty of perjury:

> By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of Section 201-g of the Labor Law.

Dated _____, 20____

_____, New York

_____
Name of Bidder

_____
Signature of Authorized Official

_____
Printed or Typed Name of Official and Title

Sworn to before me this

____day of_____, 20____

_____

(Notary Public)

ATTACHMENT A

Part 5 of Title 29 of the U.S. Code of Federal Regulations

§ 5.5 Contract provisions and related matters.

(a) The Agency head shall cause or require the contracting officer to insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in §5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, *Provided,* That such modifications are first approved by the Department of Labor):

(1) *Minimum wages.* (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the

contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(*1*) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(*2*) The classification is utilized in the area by the construction industry; and

(*3*) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account, assets for the meeting of obligations under the plan or program.

(2) *Withholding.* The (write in name of Federal Agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal

contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) *Payrolls and basic records.* (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at *http://www.dol.gov/esa/whd/forms/wh347instr.htm* or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a

subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(*1*) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(*2*) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(*3*) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) *Apprentices and trainees* —(i) *Apprentices.* Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an

apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) *Trainees.* Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) *Equal employment opportunity.* The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) *Compliance with Copeland Act requirements.* The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) *Contract termination: debarment.* A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) *Compliance with Davis-Bacon and Related Act requirements.* All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) *Disputes concerning labor standards.* Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) *Certification of eligibility.* (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) *Contract Work Hours and Safety Standards Act.* The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by §5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms *laborers* and *mechanics* include watchmen and guards.

(1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) *Withholding for unpaid wages and liquidated damages.* The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in §5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

END OF SECTION 00 72 16

SECTION 00 73 16 - INSURANCE REQUIREMENTS

Contractor shall obtain at its own cost and expense all the insurance described below (the "Required Insurance") that will protect Contractor from claims that may arise out of or result from Contractor's operations and completed operations under the Contract and for which Contractor may be legally liable, whether such operations be by Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Before commencing the Work under the Contract, Contractor shall provide to Owner, for Owner's approval, Contractor's certificate of insurance provided in accordance with this Section and thereafter upon renewal or replacement of each policy of Required Insurance. The Required Insurance must be purchased from an insurer that is licensed, admitted, and authorized to write insurance in New York State, and is A.M. Best Rated "A-" or "Better". The provision by Contractor of the insurance coverage and limits required in this Section shall not limit Contractor's liability in any way.

The Rochester Joint Schools Construction Board ("RJSCB" or "Owner") is an entity created by special authorizing legislation of the State of New York to serve as an agent for the Rochester City School District ("RCSD") and City of Rochester ("City") for purposes of administering the Rochester School Modernization Program ("RSMP"). RSMP projects are funded in part through bonds made available by the County of Monroe Industrial Development Agency ("COMIDA" or "Agency"). Each of the RJSCB, RCSD, City, COMIDA, U.S. Bank National Association, the Trustee under the Indenture of Trust relating to the financing of the Project ("Trustee"), Savin Engineers, P.C., Gilbane Building Company, and LaBella Associates ("Architect"), Buffalo Construction Consultants ("Construction Manager); (collectively, the "Additional Insureds") shall be named as **Additional Insureds on a Primary and Non-Contributory basis** for all Required Insurance (other than Workers' Compensation and Employer's Liability Insurance). Contractor shall require each of its Subcontractors, in any written agreements with its Subcontractors, to add the foregoing Additional Insureds on a Primary and Non-Contributory basis for all Required Insurance (other than Workers' Compensation, Employer's Liability and Umbrella (Excess) Liability Insurance policies). Contractor shall provide proof of additional insured status through ISO endorsement CG 2010 11 85 or an equivalent endorsement acceptable to Owner; provided, however, that if endorsement CG 2010 11 85 is not available, then GC 20-37 07 04 shall also be required.

Required Insurance shall be written on an occurrence basis and maintained without interruption from the date of commencement of the Work until the date of final payment or such longer period for which any Required Insurance is required to be maintained under the Contract.

General Liability coverage is to remain in place for one (1) year after the Certificate of Occupancy is issued by the New York State Education Department.

Each of the policies or binders evidencing the Required Insurance shall:

(i) provide that there shall be no recourse against the Additional Insureds for the payment of premiums or commissions or (if such policies or binders provide for the payment thereof) additional premiums or assessments;

(ii) provide that in respect of the interests of the Additional Insureds in such policies, the insurance shall not be invalidated by any action or inaction of the Additional

Insureds and shall insure the Additional Insureds regardless of, and any losses shall be payable notwithstanding, any such action or inaction;

(iii) provide that such insurance shall be primary insurance without any right of contribution from any other insurance carried by or provided to the Additional Insureds to the extent that such other insurance provides any Additional Insured with contingent and/or excess liability insurance with respect to its interest as such in the facility;

(iv) provide that if the insurers cancel such insurance for any reason whatsoever, including the insured's failure to pay any accrued premium, or the same is allowed to lapse or expire, or there be any reduction in amount, or any material change is made in the coverage, such cancellation, lapse, expiration, reduction or change shall not be effective as to the Additional Insureds until at least thirty (30) days after receipt by the Additional Insureds of written notice by such insurers of such cancellation, lapse, expiration, reduction or change; and

(v) waive any right of subrogation of the insurers thereunder against any person insured under such policy, and waive any right of the insurers to any setoff or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any person insured under such policy.

Prior to the commencement of any Work (and at such other times as Owner may request), Contractor shall deliver or cause to be delivered to Owner duplicate copies of insurance policies, with all endorsements or exclusions, that are obtained by Contractor hereunder, and/or binders evidencing compliance with the insurance requirements set forth herein. In addition, Contractor shall provide Owner with copies of CG2010 and CG2037 and of any endorsements subsequently issued amending coverage or limits. If any change shall be made in any such insurance, a description and written notice of such change shall be furnished to Owner thirty (30) days in advance of such change. At least thirty (30) days prior to the expiration of any insurance policy required hereunder, Contractor shall furnish Owner with evidence that such policy has been renewed or replaced or is no longer required hereunder. In the event Contractor fails to timely renew or pay any of the renewal premiums for any expiring Required Insurance policies, Owner shall have the right (but not the obligation) to (i) make such payments; and/or (ii) acquire replacement coverage, and thereafter set off the amount(s) or costs thereof against the next payment(s) coming due to Contractor under the Contract. Owner may withhold any payments due to Contractor from this Project unless certificates for current insurance are on file.

The Required Insurance is as follows:

1. Workers' Compensation, New York State Disability and Employer's Liability Insurance:

Contractor shall maintain workers' compensation insurance and employer's liability insurance and such other forms of insurance which Contractor is required by law to provide covering loss resulting from injury, sickness, disability or death of the employees of Contractor. Contractor shall require each of its Subcontractors of any tier to maintain workers' compensation insurance, employer's liability insurance and such other forms of insurance which Subcontractor is required by law to provide covering loss resulting from injury, sickness, disability or death of the employees of Subcontractor. Contractor must maintain proof that each Subcontractor performing work under this Contract secured and maintains such coverage.

2. Commercial General Liability (including Products & Completed Operations, Personal Liability, and damages to rented premises on a per project basis): Contractor shall maintain commercial public general liability insurance with coverage amounts of no less than the following:

Contractor required minimum policy limits:
$1,000,000 per occurrence / $2,000,000 general aggregate (per project)
$1,000,000 per occurrence / $2,000,000 Products & Completed Operations Aggregate
$1,000,000 per occurrence for personal liability
$50,000 Fire Damage Legal Liability
$5,000 Medical Expense Limit

a. Coverage must include but shall not be limited to: premises/operations; explosion, collapse and underground coverage; products and completed operations; contractual liability; independent contractors; broad form property damage; personal injury; and elevators.

b. Products and Complete Operations Aggregate shall be maintained for a period of two years after final acceptance of Owner.

c. The General Aggregate must apply on a per project basis.

d. Coverage must be written on CG0001 form or its equivalent and must not contain any endorsements reducing or excluding coverage for contractual liability or injuries to employees or independent contractors.

e. No coverage exclusion or limitation for work performed on your behalf by a Subcontractor.

f. Coverage must include ISO CG 00 01 12 07 Contractual Liability coverage or its equivalent, with no exclusion or limitation to the Separation of Insureds clause contained in Section V – Commercial General Liability policy conditions.

g. Coverage must contain a waiver of subrogation in favor of the Additional Insureds.

3. Automobile Insurance:

Contractor shall maintain Comprehensive Automobile Liability Insurance on owned, hired, or non-owned vehicle in amounts not less than $1,000,000 Combined Single Limit each occurrence. If hauling of hazardous waste is part of the Work, Contractor shall maintain Automobile Liability Insurance with a $1,000,000 combined single limit each occurrence for bodily injury and property damage applicable to all hazardous waste hauling vehicles, and including MCS 90 endorsement and the ISO Form CA 99 48.

4. Pollution Liability Insurance (*required when asbestos or other hazardous material abatement is included in the Contract*): Contractor shall maintain Pollution Liability Insurance for services rendered to Owner, including but not limited to, removal, replacement enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs. The Pollution Liability Insurance shall have a minimum limit per occurrence of $5,000,000 and a minimum aggregate specific to the project of $5,000,000. In the event Contractor elects to engage a Subcontractor to perform any abatement, said Subcontractor must timely obtain and maintain the same Pollution Liability insurance coverage as set forth above.

5. Umbrella (Excess) Liability: Contractor shall maintain Umbrella or Excess Liability Insurance, providing coverage in excess of the amounts covered by the Comprehensive General Liability, Automobile Liability, Employer's Liability policies, with limits of not less than $5,000,000 per occurrence and $5,000,000 aggregate (per project). Self-Insured retention limit is $10,000 per occurrence. Contractor acknowledges that it shall provide Umbrella Liability coverage on behalf of the Additional Insureds, that such insurance shall be as broad as that provided for the named insured Contractor, and that such insurance shall be primary and noncontributory and will be subject to vertical exhaustion before any other primary, umbrella or any other insurance obtained by the Additional Insureds will be triggered.

6. Contractor's Contingent Liability: Contractor shall procure and maintain such insurance as will protect Contractor from its contingent liability for damages and for injury to the person or property of another which may arise from the operations of all Subcontractors under this Contract.

7. Contractor's and Employee's Equipment: Contractor assumes responsibility for all injury or destruction of Contractor's materials, tools, machinery, equipment, appliances, shoring, scaffolding, false and form work, and personal property of Contractor's employees, from whatever causes. Any policy of insurance secured by Contractor or any Subcontractor and insuring Contractor or any Subcontractor against physical loss or damage to such property shall include an endorsement waiving the right of subrogation against Owner for any loss or damage to such property.

8. Subcontractors: Contractor shall include all Subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates of insurance provided by each Subcontractor. Subcontractors shall be subject to all of the requirements stated herein, except as those requirements are modified below:

Workers' Compensation and Employer's Liability:	Statutory
Commercial General Liability:	General Aggregate: $2,000,000 (per project); Products/Completed Operations Aggregate $2,000,000; and each occurrence $1,000,000 per claim.
Business Automobile Liability	$1,000,000 Combined Single Limit each occurrence
Umbrella Liability:	In excess of Employer's Liability, Commercial General Liability and Automobile Liability with limits of $2,000,000 per occurrence and in the aggregate.

Contractor shall require each of its Subcontractors to name the Additional Insureds as additional insureds on a primary noncontributory basis on all insurance policies required of such Subcontractor. Owner reserves the right to request copies of Subcontractors' certificates of insurance at any time. If Contractor does not verify Subcontractors' insurance as described above, Owner has the right to withhold payments to Contractor until the requirements have been met. Contractor shall require that its Subcontractors of any tier waive any right of subrogation of the insurers thereunder against the Additional Insureds, and waive any right of the insurers to any setoff or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of the Additional Insureds.

9. Builder's Risk Insurance: Owner has purchased and shall maintain during the performance of the Work property insurance written on a builder's risk "all risk" or equivalent policy form. This insurance includes the interests of Owner, Contractor and Subcontractors of any tier on the Project. If the Builder's Risk Insurance policy requires a deductible, the Contractor shall pay any costs not covered because of the deductible. Owner shall not be obligated to pay the costs not covered because of the insurance deductibles.

10. Indemnity for Failure to Comply with Insurance Requirements: To the fullest extent permitted by law, Contractor agrees to fully defend, indemnify and hold harmless Owner and the other Additional Insureds from and against any and all claims, losses, expenses, costs, liabilities and damages of any nature whatsoever, including reasonable attorney's fees actually incurred, arising out of and/or relating to any failure of Contractor to obtain, furnish and maintain as required herein insurance complying with the provisions of this Section or any other failure of Contractor to comply with the provisions of this Section.

END OF SECTION 00 73 16

RSMP Insurance Requirements Roadmap

RSMP Requirements for CM's	RSMP Requirements for GC's/Primes	RSMP Requirements for Lower Tiers / Subcontractors	RSMP Requirements for Professional Services	RSMP Requirements for Professional Services Lower Tier and/or Subconsultants
General Liability	General Liability (including Contractual & XCU)	General Liability	General Liability	General Liability
Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000	Per Occurrence Limit: $1,000,000
Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000	Personal Injury Limit: $1,000,000
Fire Damage Limit: $300,000	Fire Damage Limit:$50,000	Fire Damage Limit $50,000 only if subcontractor owns/rents a business location	Fire Damage Limit: $300,000	Fire Damage Limit: $300,000
Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000	Products/Completed Operations Aggregate Limit: $2,000,000
General Aggregate Limit: $2,000,000	General Aggregate Limit: $2,000,000 – Per project aggregate endorsement required	General Aggregate Limit: $2,000,000 per project aggregate endorsement required	General Aggregate Limit: $2,000,000	General Aggregate Limit: $2,000,000
Medical Expense: $10,000	Medical Expense: $10,000	Medical Expense $5000	Medical Expense: $10,000	Medical Expense: $10,000
Professional Liability	Professional Liability – N/A	Professional Liability – N/A	Professional Liability	Professional Liability
Per Claim/Aggregate limit: $1m/$3m			Per Claim/Aggregate limit: $2m/$3m	Per Claim/Aggregate limit: $1m/$2m
Automobile	Automobile	Automobile	Automobile	Automobile
Combined Single Limit: $1,000,000	Combined Single Limit: $2,000,000	Combined Single Limit: $1,000,000 if employing W-2 employees	Combined Single Limit: $1,000,000 if employing W-2 employees	Combined Single Limit: $1,000,000 if employing W-2 employees
Workers Compensation/Employers Liability	Workers Compensation/Employers Liability	Workers Compensation/Employers Liability if employing W-2 employees	Workers Compensation/Employers Liability if employing W-2 employees	Workers Compensation/Employers Liability if employing W-2 employees
Employers Liability Limit: $500,000	Employers Liability Limit: Statutory	Employers Liability Limit: Statutory	Employers Liability Limit: $500,000	Employers Liability Limit: $500,000
NYS Disability - Statutory	NYS Disability – Statutory	NYS Disability – Statutory	NYS Disability - Statutory	NYS Disability - Statutory
Umbrella/Excess	Umbrella/Excess	Umbrella/Excess	Umbrella/Excess	Umbrella/Excess
Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $2,000,000	Occurrence/Aggregate Limit: $5,000,000	Occurrence/Aggregate Limit: $2,000,000
N/A	Pollution Liability - $5,000,000 (when contract involves abatement)	Pollution Liability - $5,000,000 (only when lower tier's contract involves them doing abatement)	N/A	N/A
Additional Items:	Additional Items:	Additional Items:	Additional Items:	Additional Items:
GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)	GL Additional insured endorsement to be used: CG2010 1185 or equivalent (CG2033 no longer acceptable)
Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL & Umb	Primary/Non Contributory-GL Only	Primary/Non Contributory-GL Only
Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation	Waiver of subrogation on all liability policies and workers compensation
30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies	30 day notice of cancellation to RJSCB on all policies
Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State	***Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State***	***Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State***	***Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State***	***Coverage for ALL POLICIES shall NOT contain any provision, definition, or endorsement that would serve to eliminate 240/241 labor law or third- party action over claims specifically for work performed in New York State***

Notes - Refer to Specification Section 00 73 16 or applicable Request for Proposal:

(1) Copies of all applicable additional insured; waiver of subrogation; primary/non contributory; per project aggregate and 30 day notice of cancellation must be attached to certificate of insurance when submitted.

Any certificate submitted without endorsements will automatically be rejected without a review.

(2) The minimum list of Indemnitees is defined as: the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"); the City of Rochester, the Rochester City School District, County of Monroe Industrial Development Agency ("COMIDA"); U.S. Bank National Association, the Trustee under the Indenture of Trust relating to the financing of the Project ("Trustee"); Gilbane Building Company, Savin Engineers P.C. ("Program Manager"), and their respective affiliates, subsidiaries, trustees, officers, board members, directors, employees and agents (collectively, the "Indemnified Parties").

(3) The minimum to be listed as Additional Insureds on a Primary and Non-Contributory basis for such insurance (other than Workers' Compensation and Employer's Liability Insurance): the Rochester Joint Schools Construction Board ("RJSCB" or "Owner"); Rochester City School District ("RCSD"); the City of Rochester ("City"); County of Monroe Industrial Development Agency ("COMIDA"); U.S. Bank National Association, the Trustee under the Indenture of Trust relating to the financing of the Project ("Trustee"); Gilbane Building Company and Savin Engineers P.C. ("Program Manager").

(4) A waiver of subrogation must be provided to all Indemnitees.
(5) Certificate Holder for a Subcontractor to a Prime is the Prime.

Revision A - 03 Dec 2018

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/14/18

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME PHONE (A/C No, Ext) FAX A/C No: EMAIL ADDRESS PRODUCER CUSTOMER ID #:
INSURED GC/Prime Contractors Name and Address	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A: XYZ Insurance Carrier Licensed, INSURER B: Admitted & Authorized to write INSURER C: Insurance in NYS and Rated A- or INSURER D: Better by AM Best INSURER E: INSURER F:

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO T E INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY T E POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY ☑ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☑ OCCUR ☑ xcu, contractual ☑ Primary/Non Contributing GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☑ PRO-JECT ☐ LOC	X	X	Policy Number and Effective & Expiration Dates			EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS COMP/OP AGG	$ 1,000,000 $ 50,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY ☑ ANY AUTO ☐ ALL OWNED AUTOS ☑ SCHEDULED AUTOS ☑ HIRED AUTOS ☐ NON-OWNED AUTOS	X	X	Policy Number and Effective & Expiration Dates			COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000
A	☑ UMBRELLA LIAB ☑ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DEDUCTIBLE ☐ RETENTION $	X	X	Policy Number and Effective & Expiration Dates			EACH OCCURRENCE AGGREGATE Primary/Non Contr	$ 5,000,000 $ 5,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? (Mandatory in NH) Y/N ☐ n If yes describe under DESCRIPTION OF OPERATIONS below	N/A	X	Policy Number and Effective & Expiration Dates Proof of NYS Disability required			☑ WC STATU TORY LIMITS ☐ OTH ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L.DISEASE - POLICY LIMIT	$ $ 100,000 $ 100,000 $ 500,000
A	Pollution (if necessary)		X	Policy Number and Effective & Expiration Dates				$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: Rochester Schools Modernization Program (RSMP)

see attached

CERTIFICATE HOLDER	CANCELLATION
Rochester Joint Schools Construction Board 70 Carlson Road, Suite 200 Rochester, NY 14610	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

ACORD 25 (2010/05)

AGENCY CUSTOMER ID: _____
LOC #: _____

ACORD

ADDITIONAL REMARKS SCHEDULE

Page 2 of 2

AGENCY	NAMED INSURED
	GC/Prime Sample Certificate
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: _____ FORM TITLE: _____

All liability policies (excluding workers compensation and professional) shall include the following as additional insured on a primary & non contributory basis: Rochester Joint School Construction Board (RJSCB); the City of Rochester; the Rochester City School District (RCSD); Savin Engineers PC; Gilbane Building Company; County of Monroe Industrial Development Agency (COMIDA); US Bank National Association, the Trustee under Indenture of Trust relating to the financing of the project; and LPCiminelli Inc and SWBR Architects.

A waiver of subrogation in favor of Rochester Joint School Construction Board (RJSCB); the City of Rochester; the Rochester City School District (RCSD); Savin Engineers PC; Gilbane Building Company; County of Monroe Industrial Development Agency (COMIDA); US Bank National Association, the Trustee under Indenture of Trust relating to the financing of the project; LPCiminelli Inc and SWBR Architects. applies to general liability, automobile liability; umbrella; workers compensation and builders risk.

(GL additional insured, ongoing & completed operations, form CG2010 1185 or equivalent - to be attached to certificate. GC2033 no longer acceptable)

Copies of all applicable additional insured; waiver of subrogation; primary/non contributory; per project aggregate and 30 day notice of cancellation must be attached to certificate of insurance when submitted

Workers Comp written through the State Insurance Fund will require separately issued certificates with a waiver of subrogation for each of the following parties: Rochester Joint School Construction Board (RJSCB); the City of Rochester; the Rochester City School District (RCSD); Savin Engineers PC; Gilbane Building Company; County of Monroe Industrial Development Agency (COMIDA); US Bank National Association, the Trustee under Indenture of Trust relating to the financing of the project; XXXX, Construction Manager; and XXXX, Architect.

Policies shall include a 30 day notice of cancellation to Rochester Joint School Construction Board (RJSCB)copies of endorsements to be attached to the certificate

SECTION 00 73 20 – HEALTH AND SAFETY REQUIREMENTS

PART 1 - GENERAL

- RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

- SUMMARY

B. This Section includes provisions as required by the Regulations of the Commissioner of Education, Part 155.5 “Uniform Safety Standards for School Construction and Maintenance Projects” (8 NYCRR 155).

- Uniform Safety Standards for School Construction and Maintenance Projects

C. Each contractor shall fully comply with all project specific safety and loss prevention procedures, and appoint a full time Safety Representative for the project to implement and coordinate safety efforts, provide appropriate employee safety training and protective equipment, and fully cooperate with the Architect, the Owner, and other project contractors.

1. This Safety Representative shall participate, upon request, in the Owner's Health and Safety Committee to monitor the safety of the school at all times during the construction project.

D. Certificate of Occupancy:

1. 8 NYCCR 155.5(a): The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy.
   a. Do not obstruct required exitways unless alternative exitways satisfactory to the authority having jurisdiction are available. Contractor shall propose any necessary plans detailing affected exiting and ventilation

E. General safety and security standards for construction projects:
1. 8 NYCCR 155.5(e)(1): All construction materials shall be stored in a safe and secure manner.
2. 8 NYCCR 155.5(e)(2): Fences around construction supplies or debris shall be maintained.
3. 8 NYCCR 155.5(e)(3): Gates shall always be locked unless a worker is in attendance to prevent unauthorized entry.
4. 8 NYCCR 155.5(e)(4): During exterior renovation work, overhead protection shall be provided for any sidewalks or areas immediately beneath the work site

or such areas shall be fenced off and provided with warning signs to prevent entry.

5. 8 NYCCR 155.5(e)(5): Workers shall be required to wear photo identification badges at all times for identification and security purposes while working at occupied sites.

F. Separation of construction areas from occupied spaces. Construction areas which are under the control of a contractor and therefore not occupied by district staff or students shall be separated from occupied areas. Provisions shall be made to prevent the passage of dust and contaminants into occupied parts of the building. Periodic inspection and repairs of the containment barriers must be made to prevent exposure to dust or contaminants. Gypsum board must be used in exit ways or other areas that require fire rated separation. Heavy duty plastic sheeting may be used only for a vapor, fine dust or air infiltration barrier, and shall not be used to separate occupied spaces from construction areas.

1. 8 NYCCR 155.5(f)(1): A specific stairwell and/or elevator should be assigned for construction worker use during work hours. In general, workers may not use corridors, stairs or elevators designated for students or school staff.
2. 8 NYCCR 155.5(f)(2): Large amounts of debris must be removed by using enclosed chutes or a similar sealed system. There shall be no movement of debris through halls of occupied spaces of the building. No material shall be dropped or thrown outside the walls of the building.
3. 8 NYCCR 155.5(f)(3): All occupied parts of the building affected by renovation activity shall be cleaned at the close of each workday. School buildings occupied during a construction project shall maintain required health, safety and educational capabilities at all times that classes are in session.

G. Maintaining exiting and ventilation during school construction projects.

1. 8 NYCCR 155.5(g)(1): Contractor shall provide a plan detailing how exiting required by the applicable building code will be maintained during construction. The plan shall indicate temporary construction required isolating construction equipment, materials, people, dust, fumes, odors, and noise during the construction period. Temporary construction details shall meet code-required fire ratings for separation and corridor enclosure. At a minimum, required exits, temporary stairs, ramps, exit signs, and door hardware shall be provided at all times.
2. 8 NYCCR 155.5(g)(2): Contractor shall provide a plan detailing how adequate ventilation will be maintained during construction. The plan shall indicate ductwork which must be rerouted, disconnected, or capped in order to prevent contaminants from the construction area from entering the occupied areas of the building. The plan shall also indicate how required ventilation to occupied spaces affected by construction will be maintained during the project.

H. Fire and hazard prevention. Areas of buildings under construction that are to remain occupied shall maintain a certificate of occupancy. In addition, the following shall be strictly enforced:

1. 8 NYCCR 155.5(h)(1): No smoking is allowed on public school property, including construction areas.

2. 8 NYCCR 155.5(h)(2): During construction daily inspections of district occupied areas shall be conducted by school district personnel to assure that construction materials, equipment or debris not block fire exits or emergency egress windows.
3. 8 NYCCR 155.5(h)(3): Proper operation of fire extinguishers, fire alarm, and smoke/fire detection systems shall be maintained throughout the project.

I. Noise abatement during construction and maintenance activities.

1. 8 NYCCR 155.5(i): Construction and maintenance operations shall not produce noise in excess of 60 dba in occupied spaces or shall be scheduled for times when the building or affected building spaces are not occupied or acoustical abatement measures shall be taken. Noise level measurements (dba) shall be taken with a type 2 sound level meter in the occupied space in a location closest to the source of the noise. Complaints regarding excessive noise shall be addressed through the health and safety committee. The school district should anticipate those times when construction noise is unacceptable and incorporate "no work" periods into the bid specifications. **Anticipation of unacceptable noise, between July 6, 2021 and August 13, 2021, should be reviewed with the Owner. Contractor may be required to perform associated work before 10:00 am and/or after 2:00 pm on those days.**

J. Control of chemical fumes, gases, and other contaminants during construction and maintenance projects.

1. 8 NYCCR 155.5(j)(1): Building materials or furnishings which off-gas chemical fumes, gases, or other contaminants shall be aired out in a well ventilated heated warehouse before it is brought to the project for installation or the manufacturer's recommended off-gassing periods must be scheduled between installation and use of the space. If the work will generate toxic gases that cannot be contained in an isolated area, the work must be done when school classes and programs are not in session. The building must be properly ventilated and the material must be given proper time to cure or off- gas before re-occupancy.
2. 8 NYCCR 155.5(j)(2): Manufacturer's material safety data sheets (MSD) shall be maintained at the site for all products used in the project. MSDS must be provided to anyone who requests them. MSDS indicate chemicals used in the product, product toxicity, typical side effects of exposure to the product and safe procedures for use of the product.
3. The contractor shall be responsible to ensure that activities and materials which result in "offgassing" of volatile organic compounds such as glues, paints, furniture, carpeting, wall covering, drapery, etc. are scheduled, cured, or ventilated in accordance with manufacturer's recommendations before a space can be occupied.
    a. For all product to be incorporated into the finished work containing volatile organic compounds(VOC's), the contractor shall submit written statements from the manufacturers of such materials defining the precautions to be taken, including, if required, a period of time for off-gassing of these materials prior to safe occupancy of all spaces incorporating these materials. The manufacturer shall define the specific criteria used in making their recommendations, including actual testing for residual volatility that may negatively affect the health of the public. This shall be presented for review with the initial product/system submittal.

b. This shall include all products with field or factory applied materials containing VOCs, including: Paint, wall covering and adhesive; carpeting and vinyl composition floor tile and all associated adhesives; cabinets, countertops (all particle boards and adhesives); glues; furniture and draperies; and any duct lining material and associated adhesives.

K. Asbestos abatement protocols.

1. 8 NYCCR 155.5(k): All asbestos abatement projects shall comply with all applicable Federal and State laws including but not limited to the New York State Department of Labor industrial code rule 56 (12 NYCRR 56), and the Federal Asbestos Hazard Emergency Response Act (AHERA), 40 CFR part 763 (Code of Federal Regulations, 1998 Edition, Superintendent of Public Documents, U.S. Government Printing Office, Washington, DC 20402; 1998; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234).
   a. Large and small asbestos projects as defined by 12 NYCRR 56 shall not be performed while the building is occupied.
      1) The term "building", as referenced in this section, means a wing or major section of a building that can be completely isolated from the rest of the building and sealed non combustible construction. The isolated portion of the building must contain exits that do not pass through the occupied portion and ventilation systems must be physically separated and sealed at the isolation barrier.
   b. Minor asbestos projects defined by 12 NYCRR 56 as an asbestos project involving the removal, disturbance, repair, encapsulation, enclosure or handling of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material may be performed in unoccupied areas of an occupied building in accordance with the above referenced regulations.
   c. Exterior work such as roofing, flashing, siding, or soffit work may be performed on occupied buildings provided proper variances are in place as required, and complete isolation of ventilation systems and at windows is provided. Care must be taken to schedule work so that classes are not disrupted by noise or visual distraction.

L. Lead paint.

1. 8 NYCCR 155.5(l): Any construction or maintenance operations which will disturb lead-based paint will require abatement of those areas pursuant to protocols detailed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" (June 1995; U.S. Department of Housing and Urban Development, Washington, D.C. 20410; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234). All areas scheduled for construction as well as areas of flaking and peeling paint shall be tested for the presence of lead and abated or encapsulated in accordance with the above noted guidelines.

   a. Prime Contractor is advised of any lead and lead-containing materials that are required to be disturbed or removed as part of this project in the Contract Documents.

b. If materials suspected to contain lead above 1.0 mg/sq.cm. or above 0.5% that are not included in Project or identified in Contract Documents are encountered during construction, Prime Contractor shall immediately notify Owner and take applicable precautions to avoid disturbing materials until directed by Owner.

M. There is no smoking on any School property.
1. 8 NYCCR 155.5(m):

N. Pre-construction testing and planning for construction projects.
1. 8 NYCCR 155.5(c)(1): All school areas to be disturbed during renovation or demolition shall be tested for lead and asbestos.
a. Asbestos and Asbestos-Containing Materials (ACBM)
1) Prime Contractor is advised that asbestos and asbestos-containing materials are required to be abated as part of this project.
a) The extent of asbestos to be abated as part of the Project is clearly indicated on drawings included in the Contract Documents.
b) Prior to beginning Work of their Prime Contract, Prime Contractor shall review Owner's "Asbestos Management Plan" to ensure asbestos or asbestos-containing materials identified in that document are not disturbed. Contact Owner's Representative identified in Instructions to Bidders for access to Owner's "Asbestos Management Plan".
2) Prime Contractor is advised that if materials suspected to be asbestos, or to contain asbestos, that are not included in the Project and not identified in the Contract Documents are encountered during construction, he shall immediately notify Owner and take precautions as required to avoid disturbing materials until directed by Owner.
3) Transmission Electron Microscopy (TEM): All asbestos abatement work that requires clearance air sampling in accordance with NYS Industrial Code Rule 56 shall have clearance air samples collected and analyzed using Transmission Electron Microscopy as per the Asbestos Hazard Emergency Response Act (40 CFR 763).

O. Lead and Lead-Containing Materials

1. Contractors are advised that a lead inspection has been performed as required by New York State Education Department and a copy of the lead inspection report is available at the Owner's offices.

2. Disposal of Lead Abatement Waste

a. Test all debris from lead abatement activities to determine whether it is hazardous or nonhazardous waste.

b. Transport and dispose of debris determined to be hazardous waste in accordance with applicable regulations.

c. Package, label, and mark all hazardous waste materials in accordance with applicable requirements of 49 CFR 173, 178 and 179.

d. Maintain hazardous waste manifest from date of transport until date of disposal, destruction or recycling.

e. Return fully executed hazardous waste manifests to Owner within 60 days after date waste accepted by initial transporter.

f. Dispose of material determined to be construction and demolition debris in accordance with 6 NYCRR 360 and 364. Provide trip tickets or other documentation clearly identifying generating site, Owner, transporter, disposal site and amount of material removed from site, transported to and disposed of at disposal site.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 00 73 20

SECTION 00 73 46 - PREVAILING WAGE RATES

PART 1 – GENERAL

1.1 Both the New York State Prevailing Wage and the Davis-Bacon Wage schedules apply to this Project.

1.2 The wage schedule can be obtained from the New York State Department of Labor prior to bid.

1.3 The NYS prevailing wage rate schedule for this project can be obtained at the following WEB link:

NYS Department of Labor - Prevailing Wages (Find Project)

Enter the Prevailing Rate Case number, PRC# **2017005606**, where requested.

1.4 The most updated Davis-Bacon wage rate schedule can be obtained online at the “Wage Schedule” link shown above the PRC summary information found in paragraph 1.3.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 Contractor is required to pay wages that are equal to or greater than the higher of either NY State Prevailing Wages or Davis-Bacon Rate.

3.2 Contractor is responsible to track modifications or changes to the NY State Prevailing Wage and/or Davis-Bacon Rate, and modify wages accordingly.

3.3 Any changes to either wage rate between bid submission and project closeout is the responsibility of the contractor and will not result in a change to the Contract Sum, nor will Owner be required to pay difference.

END OF SECTION 00 73 46

SECTION 00 95 00 – TAX EXEMPT LETTER FROM NYS COVERSHEET – 00 95 00A

New York State Department of
TAXATION and FINANCE
OTPA Sales Tax Exempt Organizations Unit
Building 9 Room 154
W.A. Harriman Campus
Albany, NY 12227

January 26, 2012

Rochester Joint Schools Construction Board
175 Martin Street, Suite 421
Rochester, New York 14605

Dear Sir or Madam:

The Tax Law exempts New York State governmental entities such as your organization, Rochester Joint Schools Construction Board, from the payment of New York State sales and use taxes on their purchases. In order to make tax exempt purchases, a New York State governmental entity must present vendors with the entity's official purchase order or other documentation (e.g., payment voucher, contract of sale, Form AC 946, *Tax Exemption Certificate*, Form ST-129, *Exemption Certificate - Tax on occupancy of hotel rooms*, etc.) which indicates that the purchaser is a New York State governmental entity.

Tax exemption numbers and Form ST-119.1, *Exempt Organization Exempt Purchase Certificate*, are not issued to New York State governmental entities. If a vendor requests a tax exemption number or Form ST-119.1, *Exempt Organization Exempt Purchase Certificate* from you, the Rochester Joint Schools Construction Board may give the vendor a copy of this letter. This will assure the vendor that a governmental purchase order, or other evidence that the Rochester Joint Schools Construction Board is the purchaser, is the only documentation the vendor needs in order to not collect sales tax.

For additional information, please refer to Publication 843, *A Guide to Sales Tax in New York State for Exempt Organizations*, which is available on the New York State Tax Department website at nystax.gov

New York State Department of Taxation and Finance
OTPA-Taxpayer Guidance Division
Sales Tax Exempt Organizations Unit
Building 9 Room 154
W A Harriman Campus
Albany NY 12227

SECTION 010010 - REFERENCE STANDARDS

PART 1 – GENERAL

1.1 "Reference Standards" are documents or publications, which include requirements, set by authority, custom or general consent and establishes accepted criterion.

1.2 "Reference Standards" are incorporated into the Contract Documents by reference and each reference shall mean the latest edition at date of the Project Manual, including amendments and supplements. Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 When requested, deliver to the Owner's Representative, an affidavit or certificate properly signed by manufacturer or supplier indicating that the material furnished conforms to the specified standards.

1.4 Reference to manufacturer's printed Specifications for specified products shall mean most current Specification on date of this Project Manual. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

Part 2 - PRODUCTS (Not Used)

Part 3 - EXECUTION (Not Used)

END OF SECTION 010010

SECTION 01 00 20 - ABBREVIATIONS AND ACRONYMS

SCHEDULE 0 - ABBREVIATIONS AND ACRONYMS

PRODUCT DATA SHEET 0 - Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabc.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118

AHA	American Hardboard Association www.domensino.com/AHA	(847) 934-8800
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(607) 256-3313
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)	
API	American Petroleum Institute www.api.org	(202) 682-8000
ARHI	Air-Conditioning, Heating & Refrigeration Institute www.arhinet.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917

ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
AWCI	AWCI International (Association of the Wall and Ceiling Industry International) www.awci.org	(703) 538-1600
AWCMA	American Window Covering Manufacturers Association (Now WCSC)	
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	Building Industry Consulting Service International www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.org	(616) 285-3963

BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(866) 426-6767 (703) 724-1128
CPPA	Corrugated Polyethylene Pipe Association (See PPI – Plastics Pipe Institute)	
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association www.csa.ca	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-2661
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300

CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462
EJCDC	Engineers Joint Contract Documents Committee www.ejcdc.org	
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
E-rate	Education Rate (Universal Service Fund) www.universalservice.org/sl	
ESD	Electrostatic Discharge Association www.esda.org	(315) 339-6937
FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FM Approvals	FM Approvals www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FMRC	Factory Mutual Research (Now FM Global)	
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridaroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(301) 277-8686

GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Now GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute (Now Part of AHRI)	
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	
IBF	International Badminton Federation www.internationalbadminton.org	(603) 9283-7155
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrical Congress www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 981-0100
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance	(613) 233-1510

	www.igmaonline.org	
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
ISFA	International Surface Fabricators Association www.isfanow.org	(877) 464-7732 (801) 341-7360
ITS	Intertek Testing Service NA www.intertek.com	(800) 967-5352
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International	(800) 797-6623

	(National Association of Corrosion Engineers International) www.nace.org	(281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(703) 476-3452
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 222-2300
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	National Fire Protection Association www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association	(800) 933-0318

	www.natlhardwood.org	(901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association (Now NWFA)	
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	National Sanitation Foundation International www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWFA	National Wood Flooring Association www.nwfa.org	(800) 422-4556 (636) 519-9663
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. (Now ITS)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.cee.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America) www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(248) 848-3180

RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(706) 882-3833
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 293-1995
SMA	Screen Manufacturers Association www.smainfo.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026

SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI/SPFA	Steel Tank Institute/Steel Plate Fabricators Association www.steeltank.com	(847) 438-8265
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc.	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tileroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747 (202) 742-3792
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (Now WCSC)	
WCSC	Window Covering Safety Council	(800) 506-4636

	(Formerly: WCMA) www.windowcoverings.org	(212) 297-2100
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA) www.wdma.com	(800) 223-2301 (312) 321-6802
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

PRODUCT DATA SHEET 1 - Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
NEC	National Electric Code www.nec.com	

PRODUCT DATA SHEET 2 - Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	US Department of Commerce www.commerce.gov	(202) 482-2000
DOD	US Department of Defense www.defense.gov	(703) 571-5131
DOE	US Department of Energy www.energy.gov	(202) 586-5000
EPA	US Environmental Protection Agency www.epa.gov	(202) 272-0167

FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	US Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	US General Services Administration www.gsa.gov	(800) 488-3111
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	US Department of Labor; Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Building Service (See GSA)	
PHS	US Department of Health & Human Services; Office of Public Health and Science www.hhs.gov/ophs/	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	US Department of State www.state.gov	(202) 647-4000
TRB	Transportation Research Board http://gulliver.trb.org	(202) 334-2934
USDA	US Department of Agriculture www.usda.gov	(202) 720-2791
USPS	US Postal Service www.usps.com	(800) 275-8777 (202) 268-2000

PRODUCT DATA SHEET 3 - Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the

standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from United States Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(866) 512-1800 (202) 512-1800
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-2664
	Available from Defense Standardization Program www.dsp.dla.mil	
	Available from General Services Administration www.gsa.gov	(202) 619-8925
	Available from National Institute of Building Sciences www.wbdg.org/ccb	(202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080

PRODUCT DATA SHEET 4 - State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

NYBFU	New York Board of Fire Underwriters www.nybfuinstitute.org	(212) 227-3700 1-800-227-2761
NYSDEC	New York State Department of Environmental Conservation www.dec..ny.gov	(518) 402-8651
SPDES	NYSDEC – State Pollution Discharge Elimination System http://www.dec.ny.gov/permits/6054.html	(518) 402-8109
NYSDOL	New York State Department of Labor www.labor.state.ny.us	(518) 457-9000
NYSDOS	New York Department of State Division of Code Enforcement and Administration www.dos.state.ny.us	(518) 474-4073

NYSDOT	New York State Department of Transportation www.nysdot.gov	(518) 457-6195
NYSDOH	New York State Department of Health www.health.state.ny.us	
NYSED	New York State Education Department Office of Facilities Planning http://www.emsc.nysed.gov/facplan/	(518) 474-3906
NYSUFPBC	New York State Uniform Fire Protection and Building Code 1. BCNYS – Building Code of New York State 2. ECNYS – Energy Conservation Construction Code of New York State 3. FCNYS – Fire Code of New York State 4. FGNYS – Fuel Gas Code of New York State 5. MCNYS – Mechanical Code of New York State 6. PCNYS – Plumbing Code of NEW York State 7. PMCNYS – Property Maintenance Code of New York State 8. RCNYS – Residential Code of New York State	

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 00 20

SECTION 01 00 30 - DEFINITIONS

Project-specific definitions are included in the General Conditions of the Contract for Construction (Section 00 72 16). Additional terms that may be applicable to the Project are included herein. In the event of a conflict, definitions set forth in the General Conditions shall govern.

1.1 PROVIDE:

A. Where the term "provide" is used it shall be understood to mean "furnish" and "install."

1.2 PROJECT MANUAL:

A. The term "Project Manual" describes the written document, of one or more volumes, which includes the Instructions to Bidders, Form of Contract, General Conditions, List of Drawings, Amendments, Supplements, Sample Forms, and the Technical Specifications as set forth more specifically in the Table of Contents.

1.3 PRODUCT:

A. The term "product" shall be deemed to mean all natural and manufactured materials, fixtures, equipment, devices and furnishings to be incorporated into the Work.

1.4 LANGUAGE OF PROJECT MANUAL:

A. The language of the Project Manual is of the abbreviated or streamlines type and includes incomplete sentences.

B. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the Drawings, the words "shall be" or "shall", will be supplied by inference.

C. Wherever the words "approved," "satisfactory", "directed", "submitted", "inspected" or similar words, or phases, are used; it shall be assured that the word "Architect" or "Owner's Representative" follows the verb as the object of the clause, such as "approved by the Architect," or the appropriate party as may be inferred from the context thereof.

1.5 CONSTRUCTION SCHEDULE

A. Wherever the words "work schedule," "work plan," or similar words or phrases are used, it shall be deemed to mean "construction schedule" as specified in Section 00 43 83 "Schedules and Milestones."

1.6 DEMOLITION

A. The systematic destruction of the existing building(s) including every element within such structure to include trees, pavers, glass, mechanical components, plumbing fixtures, electrical fixtures, cables, concrete, foundation, roofing, lockers, asbestos removal, etc., and disposed of in a lawful manner.

1.7 TERMS

PRODUCT DATA SHEET 0 - General: Basic Contract definitions are included in the Conditions of the Contract.

PRODUCT DATA SHEET 1 - "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

PRODUCT DATA SHEET 2 - "Directed": Terms such as "directed," 'accepted,' 'deleted,' 'permitted,' 'requested,' 'required,' and 'selected' mean, unless otherwise explained, 'accepted by the Architect,' 'directed by the Architect,' 'permitted by the Architect, 'requested by the Architect,' 'required by the Architect,' and 'selected by the Architect.' However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.

PRODUCT DATA SHEET 3 - "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.

PRODUCT DATA SHEET 4 - "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work form of incorporation into the Project, and maintained ready for use. Supply and deliver products requiring additional or supplemental fitting, assembly, fabrication, or incorporation into other elements of the Project directly to the fabricator, installer or manufacturer as required.

PRODUCT DATA SHEET 5 - "Furnish": The term "furnish" means to supply and deliver to Project site, or other designated location ready for unloading, unpacking, storing assembly, installation, application, erection, or other form of incorporation into the Project, and maintained ready for use. Supply and deliver products requiring additional or supplemental fitting, assembly, fabrication or incorporation into other elements of the Project directly to the fabricator, installer or manufacturer as required.

PRODUCT DATA SHEET 6 - "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations required to properly incorporate work into the project.

PRODUCT DATA SHEET 7 - "Provide": Furnish and install, complete and ready for the intended use. Note: the lack of a modifier in any technical note is to have the inferred meaning of “provide”

PRODUCT DATA SHEET 8 - "Project Site": is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

PRODUCT DATA SHEET 9 - "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.

PRODUCT DATA SHEET 10 - The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.

PRODUCT DATA SHEET 11 - The term ‘replace’ means remove designated, damaged, rejected, defective, unacceptable, or nonconforming work from the Project and provide new work meeting the requirements of the Contract Documents in place thereof.

PRODUCT DATA SHEET 12 - “Include”: The words ‘include,’ in any form other than inclusive,’ is non-limiting and is not intended to mean all-inclusive.”

PRODUCT DATA SHEET 13 - “Custom Color” is a special color that is not available from the manufactures standard colors and will require a once in a lifetime color match as selected by the Architect.

PRODUCT DATA SHEET 14 - “Standard color” is a minimum of 8 standard colors that the manufacture commonly offers for their product.

PRODUCT DATA SHEET 15 - “Match existing” is to match the existing material system including but not limited to: color, texture, size, and edge treatment (including the systems grout/mortar color, texture, size, shape and reveal)

PRODUCT DATA SHEET 16 - “Concealed” where used in connection with insulation, painting of piping, piping, conduit, ducts, and accessories shall mean that they are hidden from sight as in trenches, chases, shafts, furred spaces, walls, slabs, or hung ceilings; also where they are not hidden from sight in the following locations: in partly excavated spaces or crawl spaces, or in service tunnels and used solely for repairs or maintenance.

PRODUCT DATA SHEET 17 - “Exposed” where used in connection with insulation, painting of piping, piping, conduit, ducts, accessories shall mean that they are not “concealed” as defined herein above.

PRODUCT DATA SHEET 18 - “Piping” includes in addition to pipe, also fittings, valves, hangers, and other accessories that comprise system.

PRODUCT DATA SHEET 19 - “Below Grade” includes all areas below the finished grade line and below the finished floor, where the finished floor system is supported on earth and gravel systems.

PRODUCT DATA SHEET 20 - Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

PRODUCT DATA SHEET 21 - Salvage: Detach items from existing construction and deliver them to Owner ready for reuse or safely store in a controlled environment and reinstall where indicated.

PRODUCT DATA SHEET 22 - Reinstall: Prepare for reuse, clean, replace missing or damaged accessories, and reinstall them where indicated.

PRODUCT DATA SHEET 23 - Existing: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, salvaged, or removed and reinstalled.

END OF SECTION 01 00 30

SECTION 01 10 00 - SUMMARY OF WORK

PART 1 - GENERAL

SCHEDULE 1 - RELATED DOCUMENTS

PRODUCT DATA SHEET 0 - Drawings and general provisions of Contract, including General Conditions of the Contract for Construction, Division 00 and Division 01 Specifications sections, apply to Work of this section.

PRODUCT DATA SHEET 1 - Section 00 73 46 Wage Rates. Davis Bacon Wage Determination updated at the time of award. Post-award changes to published New York State Prevailing Wage Rate or Davis Bacon Wage Rate shall not constitute basis for Contract Sum increase.

PRODUCT DATA SHEET 2 - Milestone Schedule and Critical Submittals Section 00 43 83.

SCHEDULE 2 - DESCRIPTION OF WORK

PRODUCT DATA SHEET 0 - The Contractor shall submit lump sum information prices attached to Bid Form Section 00 41 16. The Work of this Project is described more completely elsewhere in the Contract Documents and compliments the following list. Contractors shall attend all meetings and comply fully with the detailed specifications and drawings that are part of this Contract.

PRODUCT DATA SHEET 1 - The Work includes all labor, materials, equipment and transportation necessary to complete the project as specified and as indicated in the Contract Documents.

SCHEDULE 3 - WORK COVERED BY CONTRACT DOCUMENTS

PRODUCT DATA SHEET 0 - Project Information

1. **Project Location**: Edison Career and Technology High School (Edison); 655 Colfax Street; Rochester, NY 14606
2. **Project Description**: The project consists of Additions and Alterations work at the Edison. Additions and Alterations work is also referred to as Bid Package 3 in this manual.
3. **Owner Identification:** Rochester Joint Schools Construction Board (RJSCB) (herein, “Owner”) as represented by its Executive Director. Owner is agent for; Rochester City School District (RCSD); and City of Rochester for purposes of the Rochester School Modernization Program (RSMP).
4. **Program Manager Identification:** The Owner has engaged Savin Engineers P.C. as Program Manager for this Project to serve as an advisor to Owner and to provide assistance in administering the Contracts for Design and

Construction between Owner and each Consultant/Contractor, according to a separate contract between Owner and Program Manager.

5. **Construction Manager Identification**: The Program Manager (Savin Engineers) will act as Construction Manager.

6. **Architect/Engineer Identification:** Owner has engaged LaBella Accociates D.P.C. as the Architect of record. LaBella has engaged various professional engineers and/or consultants as part of their design team. LaBella is retained under separate agreement with Owner, and shall be identified as the Architect/Engineer for the Project.

PRODUCT DATA SHEET 1 - Contract Documents prepared by LaBella Associates D.P.C., 300 State Street, Suite #201, Rochester, NY 14614.

PRODUCT DATA SHEET 2 - Protection of any existing utilities found during the construction is considered part of this Work scope.

PRODUCT DATA SHEET 3 - Work will be constructed under a Single Prime Contracts.

PRODUCT DATA SHEET 4 - Prime Contracts are separate contracts between the Owner and separate contractors, representing significant construction activities. This Prime contract is performed concurrently with and closely related to construction activities performed on the project and closely coordinated with construction activities performed on the project under prime contracts Prime Contracts for this project include:

1. Prime Contract: General Trades Contract # 302

SCHEDULE 4 - CONTRACT METHOD

PRODUCT DATA SHEET 0 - Construct the Work under a Lump Sum fixed-price Contract.

PRODUCT DATA SHEET 1 - Construction Work is being accomplished by utilizing a Single Prime Contract procedure.

SCHEDULE 5 - PRIME CONTRACT SUMMARY OF WORK

PRODUCT DATA SHEET 0 - The following documents are hereby defined as Contract Documents and are specifically included and defined as integral to Each Prime Contract.

1. The Contract Documents consist of: Drawings and Specifications
   a. List of Specifications: See Project Manual Specification Index in Table of Contents
   b. List of Drawings: See Project Manual Drawing Index in Table of Contents – All Drawings included in the Project Drawing Index is integral to the Prime Contract.

SCHEDULE 6 - SECURITY REQUIREMENTS

PRODUCT DATA SHEET 0 - Work zones and material / equipment staging zones shall remain locked at all times, except when a Worker is present to prevent unauthorized entry.

PRODUCT DATA SHEET 1 - All construction Workers shall be required to wear photo identification badges at all times. The Construction Manager will issue security badges to each Worker prior to the Worker entering the project site.

PRODUCT DATA SHEET 2 - Contractors are reminded that all Workers will be required to act in a manner consistent with a school environment. Each Contractor will be responsible to ensure that all Workers act appropriately. Any individual acting in a manner not acceptable to any school representative, the Owner or Construction Manager, will be directed to surrender his/her badge and to leave the premises immediately. The offending individual will be prohibited from future Work on this Project.

PRODUCT DATA SHEET 3 - The City of Rochester Police Department reserves the right to inspect any packages or deliveries throughout the course of the Project.

PRODUCT DATA SHEET 4 - The City of Rochester Police Department, at their discretion, reserves the right to inspect the Work areas.

SCHEDULE 7 - PROTECTION OF NEW AND EXISTING WORK

PRODUCT DATA SHEET 0 - Each Contractor shall be wholly responsible for the protection of their finish Work as well as that of others.

PRODUCT DATA SHEET 1 - All finished surfaces shall be protected if there is any possibility of damage resulting from the Work of other trades. This includes protection of the jambs and soffits of all openings used as passageways, or through which materials will be handled.

PRODUCT DATA SHEET 2 - All finished surfaces, including factory finished surfaces, shall be cleaned and not marked upon delivery to the project. The Contractor shall, without extra compensation, refinish and/or replace all damaged surfaces to the satisfaction of the Architect/Engineer.

PRODUCT DATA SHEET 3 - The finishes sequence of all areas is recommended as shown below:

1. Prime coat and first finish coat on walls.
2. Install ceiling grid, ceiling tile border (i.e., cuts and specials), and ceiling tiles required for the installation of items listed in Item “c” below.
3. Install ceiling mounted electrical devices, light fixtures, diffusers, grilles, registers, and specialties.
4. Paint second finish coat on walls.
5. Install wall base, ceiling tile, and wall-mounted electrical devices and cover plates.
6. Apply final finish coat of paint to door frames.
7. Contractors will use this sequence to reduce minor damages to finishes at the end of each completed phase.

PRODUCT DATA SHEET 4 - Each Contractor shall be responsible for the protection of all existing finished surfaces, i.e., walls, doors, window and door frames, casework, jambs, soffits, etc., called out to remain. Contractors shall, without extra compensation, refinish and /or replace all existing surfaces damaged, during construction, to the satisfaction of the Architect/Engineer.

PRODUCT DATA SHEET 5 - Prior to any materials being stored on finished floor surfaces, the Contractor shall obtain approval from the Construction Manager. If required, the Contractor shall install a protective barrier over these finished surfaces. Wheelbarrow, carts, dollies, etc., if used in such areas, shall be non-marking rubber tires.

PRODUCT DATA SHEET 6 - Neither corridors nor student thoroughfares shall be used for the storage of materials. Where activity must take place in order to carry out the Work of the Contract, the Contractor shall provide the Construction Manager with a protection plan, including but not limited to the following:

1. The type of Work to be performed.
2. The area where the Work will be performed.
3. Traffic patterns to be used for access/egress to/from the Work area.
4. Material and methods to be used as protection.

PRODUCT DATA SHEET 7 - The plan shall be submitted to the Construction Manager no less than two (2) weeks prior to performing the Work to allow time for review of the plan.

PRODUCT DATA SHEET 8 - Under no condition shall any Work take place in these areas without the Construction Manager's prior authorization. Damage to the aforementioned surfaces shall be repaired at the expense of the Contractor who is deemed responsible for such damage, in the sole judgment of the Construction Manager.

SCHEDULE 8 - SCOPE OF WORK – ALL CONTRACTS

Each Contractor shall provide all labor, material, plant, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as defined in this section, as indicated on any drawing in the Enumeration of Contract Documents, and as described in the following sections from the Project Manual:

PRODUCT DATA SHEET 0 - DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

Each Contractor shall include all Work and comply with all provisions of each of the following Specification Sections, complete:

1. 00 01 10 Table of Contents – Project Manual
2. 00 01 15 List of Drawings
3. 00 11 13 Advertisement for Bids
4. 00 21 13 Instructions to Bidders
5. 00 25 00 Hazardous Material Information Coversheet

6. 00 25 00A Hazardous Material Information Attachments

   a. The Asbestos Inspection Report, Lead Based Paint Inspection and PCB Caulking Testing Reports are included in the Contract Documents for reference only. **There is no known hazardous materials contained in those to be removed during demolition.**

   b. Each Contractor shall assess the data provided in this Section, and shall be responsible for performing the Work of their Contract according to the data provided in Section 00 25 00A and the requirements of Section 02 83 00 Working with Lead Containing Materials. Each Contractor that disturbs existing building materials that contain lead paint shall take the necessary measures specified in Section 02 83 00 Working with Lead Containing Materials.

   c. EPA has issued a rule requiring the use of lead safe practices and other actions aimed at preventing lead poisoning. Under the rule, beginning in April 2010, contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities and schools built before 1978 must be certified and must follow specific Work practices to prevent lead contamination. Information from EPA 40 CFR Part 745.8 Subpart E has been incorporated into Section 02 83 00. All Contractors are responsible for understanding and following all the requirements set forth in this regulation as it relates to their Work.

   d. Any suspected material uncovered during construction shall be immediately reported to the Construction Manager. Removal of any material found to contain asbestos shall be only be performed by a NYSDOL licensed firm with certified Workers.

   e. Any suspect mold uncovered during construction shall be immediately reported to the Construction Manager. Removal of any mold shall only be performed by a Contractor licensed to remediate mold.

7. 00 41 16.01 Bid Form- General Trades Work Contract #302
8. 00 43 00 Supplements to Bid Form
9. 00 43 21 Allowances
10. 00 43 31 M/WBE/DBE/SBE Utilization and Workforce Diversity
11. 00 43 31A M/WBE/DBE/SBE Utilization and Workforce Diversity Attachments
12. 00 43 83 Milestone Schedule and Critical Submittals
13. 00 43 93 Bid Submittal Checklist
14. 00 45 13 Statement of Bidder Qualifications
15. 00 52 12 Form of Contract
16. 00 61 13 Bonds and Certificates
17. 00 62 11 Submittal Cover Sheet
18. 00 62 11A Submittal Cover Attachment
19. 00 63 19 Request for Equivalent Review Form

20. 00 72 16 General Conditions
21. 00 73 16 Insurance Requirements
22. 00 73 16A Prime Contractor Insurance Example
23. 00 73 16B RSMP Insurance Roadmap
24. 00 73 20 Health and Safety Requirements
25. 00 73 46 Prevailing Wage Rates
26. 00 95 00A Tax Exempt Letter from New York State

SCHEDULE 9 - DIVISION 01 – GENERAL REQUIREMENTS

Each Contractor shall include all Work and comply with all provisions of each of the following Specification Sections, complete:

1. 01 00 20 Abbreviations and Acronyms
2. 01 00 30 Definitions
3. 01 10 00 Summary of Work
4. 01 14 19 Use of Site
5. 01 25 00 Substitution Procedures
6. 01 25 10 RFI Form
7. 01 26 39 Field Orders
8. 01 26 43 Change Order Requests
   a. Each Prime Contractor and their Sub-contractors are required to submit labor rate breakdown sheets for each trade within 10 days of contract award. Labor rates are to be broken out as outlined in specification section 01 26 53A. Refer to specification section 01 26 43A for cost proposal breakdown sheets to be used as backup breakdown on all cost proposals for this project. No cost proposals will be reviewed unless submitted on these forms.
9. 01 26 43A RCSD Change Order Form
10. 01 26 53 Labor Rate Worksheet Coversheet
11. 01 26 53A Labor Rate Worksheet
12. 01 29 75 Revolving Loan Program and Procedures
13. 01 29 75A Application for RSMP Revolving Loan Fund
14. 01 29 75B Revolving Loan Program Procedure
15. 01 29 76 Progress Payment Procedures
16. 01 29 76B Payment Application Checklist
17. 01 29 76C Interim Waiver of Lien and Claim

18. 01 29 76D Final Waiver of Lien and Claim

19. 01 30 00 Construction Procedures and Controls and as further clarified:

    a. Owner will retain the services of an independent testing laboratory for asbestos, concrete testing, compaction and gradation for the use of backfill/site fill, asphalt, fireproofing, steel and masonry testing. All other required testing associated with their scope of Work shall be the responsibility of each Prime Contractor.

    b. The Construction Manager will receive copies of all Prime Contractors daily reports no later than noon the following Work day, listing daily activities and listing daily manpower by trade, failure to do so will result in payment applications being withheld until compliance is fulfilled.

    c. The Contractor shall provide full time working supervision from commencement of their Work and their Subcontractors Work activities until such time all Work activities have been completed or as determined by the Construction Manager. Furnishing items for job site does not constitute the commencement of Work activities. If supervision is reduced or terminated without consent of the Construction Manager, the Construction Manager will appoint an individual to manage Work under this a Prime Contract with all associated cost borne by the Prime Contractor. The Prime Contractor shall assume all responsibilities for the individuals and Work of this Contract.

20. 01 31 13 Contract Coordination

21. 01 32 16 Contractor's Construction Schedule and as further clarified:

    a. All Contractors shall have a project manager participate in weekly work planning sessions starting the week before their Work commences and continuing through to substantial completion of their Contract. These meetings are intended to give each participating Contractor a voice in the project sequencing. Following these weekly sessions, the Construction Manager will issue a Weekly Work Plan (WWP) that documents the meeting.

    b. All Contractors shall submit a constraint identification sheet prior to or during the Pull Planning session. The constraint identification sheet shall list any item that will prevent work from advancing as originally planned, who is responsible for resolving these items, and when the responsible party has committed to resolution of each item. Contractors shall come prepared to all planning meetings with a full understanding of their work plan and details of their manpower, equipment and material requirements.

    c. All Contractors shall have a foreman participate in "daily huddles", which will be held each work day (at an agreed-to time). These meetings are intended to quickly recap the Weekly Work Plan (WWP) schedules, adjust to circumstances, review the day ahead, and discuss opportunities to help each other as needed.

22. 01 32 19 Submittal Procedures and as further clarified:

    a. A submittal schedule will be created by the Construction Manager. The required submittal dates established by the Construction Manager shall be reviewed by the Contractor and confirmed within 1 week after award of bid. It will be required by each Prime Contractor to incorporate the submittal

dates into the project schedule relating to delivery of materials in relationship to the scheduling of Work. All submittals shall be provided for review based on the approved submittal schedule. All submittals will be uploaded to Newforma Website by the Prime Contractor to the Construction Manager, and returned through Newforma. Refer to specification section 00 43 83, for critical submittals schedule.

23. 01 32 26 Construction Progress Reports
24. 01 35 00 Electronic Document Transfer
25. 01 35 00A Electronic File Transfer Agreement
26. 01 35 23 Project Safety Standards, and as further clarified:

a. Each contractor should note that it is a requirement that ALL employees of a contractor who are Working on a public project MUST have taken at least the OSHA ten (10) hour course, prior to being accepted onto the Work site. A copy of each contractor's employee's OSHA ten (10) hour course card will be requested, and will be kept on file with the construction manager.

b. Proof of OSHA 10/30-hour training **within five (5) years** of signing Contract. Ensure employees have completed OSHA required training, including but not limited to OSHA 10/30 Construction Industry Training. Proof of additional training may be required by OSHA relative to the Contractors scope of Work.

c. Contractor/Subcontractor tools, PPE, etc. involved in an accident/incident / near miss shall become the property of the Owner. Written notice of replacement is required from the respective Contractor/Subcontractor. Heavy equipment, motor vehicles, ATV's etc. involved in an accident /incident /near miss may be required, at the sole discretion of the Owner, to be inspected by a qualified 3rd party provided by the affected Contractor/Subcontractor. 3rd party inspector must be approved by the Owner and the Contractor/Subcontractor shall bear all costs associated with any/all third-party inspections and repairs.

d. One hundred (100) percent Ground Fault Circuit Interrupter (GFCI) use is mandatory throughout the Project. Assured grounding program cannot be used in the lieu of GFCI protection. Contractors/Subcontractors are to provide portable GFCI "pigtails" for use with extension cords plugged into permanent/existing outlets.

e. Contractors/Subcontractors that are working off a ladder at a height of ten feet or greater shall be required to utilize a self-retracting lanyard.

f. No wooden, metal or "job built" ladders are permitted on this project. Fiberglass ladders will be the only type of ladder allowed to be used on site.

g. (Not applicable) A 3rd party (non-hydraulic crane) inspection is required to be performed by the Contractors/Subcontractors and/or Owner/Operator after crane assembly at the cost of the Contractors/Subcontractors and/or Owner/Operator. 3rd party inspectors are required on any/all cranes involved in an accident, incident or near miss caused by human error or mechanical failure at the cost of the Contractor/Subcontractor owning, operating, renting or leasing the crane at the time of the aforementioned incident.

h. All contractors must obey by NYSED Uniform Safety Standards.

27. 01 35 23A Project Safety Forms

28. 01 35 46 Indoor Air Quality Requirements

29. 01 45 00 Quality Control

30. 01 50 00 Temporary Facilities & Controls, and as further clarified:

a. Temporary Utilities:

1) **Electrical Service is provided on-site** for power tools and lighting—standard 115VAC. If tools or equipment require different power than available, **General Trades Work Contract #302** shall provide such with a portable generator.

2) **General Trades Work Contract #302** shall provide all permits and inspections as required by the local authority having jurisdiction prior to energizing any system. Submit a copy of the inspection certificate to the Construction Manager.

3) **General Trades Work Contract #302** shall provide all grounding as required.

4) **General Trades Work Contract #302** shall provide, maintain and remove the temporary power and lighting as required for the duration of the project. **General Trades Work Contract #302** shall rework and/or relocate any temporary lighting as required for the progress of the Work.

5) **General Trades Work Contract #302** shall maintain fire alarm system as required for the duration of the project. This may require notifying fire department at beginning and end of work day, putting system in bypass, temporarily covering or disconnecting and reconnecting devices as necessary to perform their scope of Work.

6) Contractors will not be permitted to use the phone, fax and data lines of the Owner, or Construction Manager. Each Contractor shall be responsible for providing and maintaining their own phone and data services.

7) **General Trades Work Contract #302** shall remove all temporary power, lighting, fire alarm and security system in their entirety only after the wiring system has been tested and energized. Repair damage caused by the installation or from the removal of any temporary systems, and restore to specified or original condition, including but not limited to the patching of all walls and ceilings to match adjacent surface/finish.

b. All Contractors shall include provisions in their bids for temporary electric power system as follows:

1) Each Contractor shall provide their own extension cords required for the performance of their Work. Extension cords shall be OSHA compliant.

2) Any Contractor, who requires power or lighting more than what is specified under Section "a" above, shall bear all costs associated with same.

3) Any Contractor requiring temporary power (generator) and lights to be energized outside of the normal Work hours shall bear all costs associated with same.

c. Temporary Water as further clarified:

1) Water will be provided for general use in mixing material (concrete / grout, etc. and for clean-up. **General Trades Work Contract #302** shall provide hoses, nozzles, and extensions, if allowed, from the water source, and shall maintain sufficient back flow devices, hoses, with shut-off nozzles as required by local code and as required for conveying water to the Work sites. All hoses shall be maintained on a daily basis to prevent leakage and wasteful usage. **General Trades Work Contract #302** shall be responsible to ensure that the water service to their hoses is turned off at the end of each Work day, and shall be responsible for all damage and/or additional water usage costs resulting from not maintaining hoses and/or leaving the water service on after hours. **General Trades Work Contract #302** shall provide drinking water for their Workforce. A water cooling device is provided in the site office. Contractor to provide five (5) gallon water jugs. Water will be transported by **General Trades Work Contract #302** or their subcontractor to the work sites from the dock area of the school, or else material using water will be mixed at the dock location (To Be Reviewed).

d. Temporary Sanitary Facilities and as further clarified:

1) **General Trades Work Contract #302** shall provide portable chemical toilets for the duration of all Work of their Contract. Contractors shall not use toilet rooms in the existing School facilities at any time. At a minimum, **General Trades Work Contract #302** shall provide a minimum of one (1) portable chemical toilet for every ten (10) Workers or more as directed by the Construction Manager or as required for women Workers. The portable toilets shall be cleaned a minimum of three (3) times a week.

e. Temporary Security Protection as further clarified:

1) **General Trades Work Contract #302** shall provide, maintain and remove temporary ¾" CDX plywood and dimensional lumber enclosures openings as required for security. Contact Construction Manager for guidance.

f. Temporary Fire Protection and as further clarified:

1) **General Trades Work Contract #302** shall provide and maintain fire extinguishers as required by OSHA for the Work of their Contract. Contractors shall be aware that all "spark-producing" activities require a Hot Work permit (reference Project Safety Plan for permit requirements) as well as fully charged fire extinguishers within ten

(10) feet of the "spark-producing" activity. A fire watch must continue for a minimum of thirty (30) minutes after the Hot Work operation is complete.

2) In addition to the aforementioned, **General Trades Work Contract #302** shall provide, maintain, and remove at each work site in visible locations, fire extinguishers throughout the building, to maintain compliance with OSHA for general distribution of fire extinguishers on a construction site. Each fire extinguisher shall be visible, clearly identified and mounted on a wall or custom stand, at 39" to 45" off of the walking/working surface. All fire extinguishers shall be rated not less than 2A, shall be provided for each 3.000 sq. ft. of area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet and at least one (1) fire extinguisher shall be located adjacent to stairways.

3) All Contractors shall maintain and provide clear unobstructed access routes for emergency vehicles to access the site and Work areas.

g. Temporary Construction:

1) **General Trades Work Contract #302** shall provide, maintain and remove barricades and excavation protection, including OSHA compliant access and egress, warning signs and lights, etc. as required for the Work of their Contract and as directed by the Construction Manager.

Each Contractor who creates a fall hazard by the installation of the Work of their Contract shall install OSHA-compliant fall protection for the safety of all construction employees. Each Contractor who removes fall protection for the installation of Work of their Contract shall immediately re-install OSHA-compliant fall protection for the safety of all construction employees. Note: Prior to removing fall protection each Contractor shall ensure alternate fall measures are available and used by their employees.

2) **General Trades Work Contract #302** shall provide, maintain and remove temporary toe boards at all floor openings in accordance with OSHA regulations.

3) **General Trades Work Contract #302** shall submit their temporary enclosure plan for review by the Construction Manager prior to the start of Work. The plan shall include: what temporary material will be utilized for the temporary enclosure and how the material will be maintained.

4) Any Contractor who requires removal of the temporary enclosure for access to their work shall be responsible to remove and reinstall the enclosure at their own expense.

5) In addition to the temporary perimeter protection and / or barricades indicated to be provided above, **General Trades Work Contract #302**

shall provide additional temporary perimeter protection, tie off points, rails, toe boards etc., as required for the Work of their Contract.

6) If the Work of a Contractor requires the removal of temporary barricades as defined above the Contractor shall provide all Work as required to maintain an OSHA compliant Work area and provide all Work as required to restore the temporary barricades to its original condition.

7) Contractors shall reference Section 01 35 23 – Project Safety Standards for additional project safety guidelines.

8) **General Trades Work Contract #302** shall be responsible throughout the duration of the project to insure at the end of each work shift that all exterior doors are closed, locked, secured and weathertight. **General Trades Work Contract #302** shall designate an individual responsible for this for each work shift.

9) **General Trades Work Contract #3** shall be responsible throughout the duration of the project to insure at the end of each work shift that storage and staging areas **General Trades Work Contract #3** shall designate an individual responsible for this for each work shift.

h. Temporary Support Facilities:

1) Each Contractor shall provide his or her own temporary storage facility for tools. Each facility must be properly secured to the ground or on a secure trailer bed depending on the size of the facility. Storage facility quantity and parking location shall be subject to approval of the Construction Manager.

2) Each Contractor shall be responsible for providing adequate protection of their material and/or equipment furnished for this project. All deliveries of material and/or equipment will be scheduled with the Construction Manager, and specific locations with time restrictions are allocated for staging, storage trailers, materials, equipment, etc. Each Contractor shall obtain the necessary approval, permits and fees for temporary facilities, if required by the authority having jurisdiction. Contractors are advised that there is minimum on-site storage space and all cost of off-site material storage, if required, shall be included in the Contractor's price. Contractors are advised that at various times during the project, storage trailers or stored materials within the building or on site may require relocation or removal as directed by the Construction Manager. If any material and/or equipment stored at the project, with or without consent of the Construction Manager at any time obstruct the performance of any portion of this project, these materials shall be removed and relocated by the Contractor at no additional cost. In the event a Contractor fails or refuses to comply with this Article within a reasonable time, but not more than twenty-four (24) hours, the Construction Manager will reserve the right to have those materials and/or equipment removed, and all costs will be charged against the Contractor involved.

3) **General Trades Work Contract #302** shall include relocating office furniture from RSMP Carlson Road storage (if needed), desktop copier from RSMP Carlson Road office.

4) Internet service will be provided through the District. Phone service will NOT be provided by the District.

5) **General Trades Work Contract #302** shall include cleaning of site office on a weekly basis from Notice to Proceed through Substantial Completion. Cleaning shall include but not limited to general broom, clean prior to washing of floors; wet mopping of all floors; cleaning and vacuuming of all walk-off mats; emptying of trash cans and removal of same to dumpster, and replacing trash can bags.

6) **General Trades Work Contract #302** shall provide bottled water for their staff.

i. Site Logistics and as further clarified:

1) Refer to Section 01 50 00A, Site Logistics Plan for site logistics plan.

2) Contractors shall provide, maintain and remove fencing and barricades as required to maintain a safe Work site when any danger is created by the Work of their Contract in accordance with OSHA regulations and as required for protecting the public from the Work.

j. First-Aid Equipment:

1) **General Trades Work Contract #302** shall provide OSHA-compliant first-aid kits for use by their employees and their lower tier Contractor's employees.

k. Temporary Material and Hoisting and as further clarified:

1) Ladders: Each Contractor shall provide sufficient ladders as required to enable their employees to access the Work. The Contractor providing the ladders shall be fully responsible for OSHA compliance of the ladders.

2) Hoisting – Contractors shall be responsible for all hoisting as required for the Work of their Contract.

l. Project Identification and Temporary Sign and as further clarified:

1) **General Trades Work Contract #302** shall provide any signage necessary for providing a safe work site. **General Trades Work Contract #302** is allowed to place business identification signage as directed by Owner.

m. Collection of Disposal of Waste and as further clarified:

1) A Dumpster shall be provided by the **General Trades Work Contract #302** for use by all contractors.

2) Each Contractor is responsible for the removal and disposal of any hazardous or toxic wastes, removal must comply with any regulation governing the disposal of that waste.

3) **General Trades Work Contract #302** shall be responsible for the disposal of excess concrete and mortar resulting from their Work. No excess mortar or concrete shall be placed in the dumpsters provided by **General Trades Work Contract #302.**

4) Each Contractor may be responsible for the removal of any item of debris exceeding one cubic yard in overall dimensions, at the discretion of **General Trades Work Contractor**.

5) **General Trades Work Contract #302** shall provide and maintain their own concrete washout area(s) as required for the Work of their Contract including collection, retention, removal and treatment of all wash out water and solids in leak proof containers to prevent any wash out water or solids from reaching solid surfaces and/or surface / ground water. This system shall include the treatment of washout water prior to discharge and the recycling of concrete solids. The General Trades Contractor shall provide the Construction Manager a detailed plan for managing the concrete washout including but not limited to design, treatment, solid recycling, discharge, permits and proposed location(s). **General Trades Work Contract #302** shall be responsible to remove their washout areas in its entirety and restore any site deterioration at the completion of their Work.

n. Rodents and Pest Control and as further clarified:

1) Rodent and pest control for the duration of the project will be maintained by the Edison Custodial group.

o. Staging Areas and as further clarified:

1) Staging areas shall be maintained free of debris and litter.

p. Protection of Installed Construction and as further clarified:

1) Each Contractor shall be responsible to protect the Work of their Contract through substantial completion/turnover to the Owner.

31. 01 56 10 Noise Control

32. 01 56 90 Construction Cleaning and as further clarified:

1) Each day, each Contractor shall remove debris resulting from the work of their Contract from the work area and deposit it in the dumpster provided by **General Trades Work Contract #302**. **General Trades Work Contract #302 SHALL MAINTAIN <u>ALL</u> WORK AREAS IN A BROOM-CLEAN CONDITION ON A DAILY BASIS FOR THE DURATION OF THE PROJECT.**

2) Every Friday for the duration of the project, **General Trades Work Contract #302** shall provide one worker to clean the project site, which includes removal of debris and/or cleaning as directed by Construction Manager.

3) All Contractors shall utilize sweeping compound when sweeping.

4) **General Trades Work Contract #302** shall maintain the dumpster area in a clean and orderly fashion on a daily basis and shall provide dust control as directed by the Construction Manager.

5) **General Trades Work Contract #302** shall consolidate all masonry debris on a daily basis and remove same from the project site on a weekly basis. All masonry debris shall be removed from the project site.

6) Concealed Spaces: **General Trades Work Contract #302** shall remove and dispose of all debris from concealed spaces before spaces are enclosed.

7) Waste Disposal: Burying or burning of waste materials on site is prohibited. Washing waste materials into sewers or into waterways is prohibited.

8) Any Contractor performing work in an occupied section of a facility shall provide all clean up as necessary to leave the work areas as clean as it was before work started. This clean up shall include vacuuming, dusting, sweeping, mopping and any other clean-up procedures as required.

9) **General Trades Work Contract #302** shall provide a final site cleaning prior to Substantial Completion and/or as directed by the Program Provider. All trash and debris shall be deposited in the dumpster.

10) **General Trades Work Contract #302** shall from the Notice to Proceed to substantial completion provide a general cleanup, once a month or a directed by the Construction Manager. Cleanup shall include the removal of all trash and debris.

11) **General Trades Work Contract #3** shall provide 30-40 gallon trash receptacles with wheels, within the work areas and shall empty same into dumpster on a frequent basis. Each Contractor shall deposit minor trash items into trash receptacles (no material scrap or demo debris).

12) Each Contractor is responsible for removing their own material scraps, debris, packaging materials, trash, etc., from the building and placing them in the proper dumpster.

13) Each Contractor shall crush all boxes and consolidate all trash prior to placing it in the dumpster.

33. 01 60 00 Product Requirements

34. 01 71 16 Acceptance of Existing Conditions

35. 01 72 00 Execution

36. 01 73 29 Cutting and Patching and as further clarified:

1. Each Contractor shall include all Work complete, and comply with all provisions specified in this Specification Section, as further clarified and assigned below:

a. **General Trades Work Contract #302 shall provide cutting and patching of existing materials and finishes as required by the work of their Contracts unless**

otherwise indicated in the Scope of Work.

37. 01 74 19 Construction Waste Management and Disposal

38. 01 74 23 Final Cleaning and as further clarified:

    1) **General Trades Work Contract #302** shall be responsible for final cleaning specified in the respective Specification Sections assigned to each Contractor. **General Trades Work Contract #302** shall provide "punchlist cleaning" at the completion of work and prior to punchlist. Punchlist cleaning shall include removal of dust and debris from hard surfaces. VCT and hard surface floors are to be brush swept, carpet and similar soft surfaces are to be vacuumed to remove dust and debris. Punchlist cleaning shall be assumed to be in multiple phases as areas are completed.

    2) **General Trades Work Contract #302** will provide (1) final cleaning of the interior of the Building after punchlist work is complete and the building is ready for occupancy. **General Trades Work Contract #302** shall provide all final cleaning as indicated in Specification Section 01 74 23, and as further clarified:

        a) All Contractors shall remove labels that are not permanent, touch up and otherwise repair marred exposed finishes and replace parts subject to unusual operating conditions.

        b) **General Trades Work Contract #302** shall clean all new and existing transparent materials, including glass in doors and windows that are in the vicinity of work, as directed by the Construction Manager. Remove glazing compounds and other noticeable vision obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch.

        c) **General Trades Work Contract #302** shall clean light fixtures, lamps, globes and reflectors as directed by the Construction Manager; in the event these were soiled during construction.

        d) At the time of substantial completion or when directed by the Construction Manager, **General Trades Work Contract #302** shall provide all work required to clean the glass, on the inside and out, at existing exterior windows, per direction of the Construction Manager.

39. 01 77 00 Closeout Procedures and as further clarified:

    1) Contractors are required to turn in O&M, warranties, guarantees, as - built drawings, training sign-in sheets and test reports (as per Contract) within fifteen (15) Working days of substantial completion or the Construction Manager reserves the right to refuse to review pencil copies and withhold payment. In addition to the 3 Ring Binders, these

closeout documents are to be submitted electronically. The Construction Manager will provide a check list of items to be provided.

2) Any original deficiency list or punch list distributed by the Construction Manager or the Architect must be returned showing completion of each item within 15 Working days of receipt of such list. Any deficiency or punch list re-distributed due to incompletion or not done to Owner's satisfaction must be corrected and returned with 10 Working days or the Construction Manager reserves the right to refuse to review pencil copies and withhold payment.

40. 01 78 23 Operations and Maintenance Manuals and Data

41. 01 78 39 Project Record Documentation

1) Record Drawings

a) **General Trades Work Contract #302** shall submit Project Record Documents to the Construction Manager for review at 75% and 90% completion for interim approval. Contractors whose Project Record Documents are not maintained in accordance with Specification Section 01 78 39 may have their monthly progress payments withheld until such time as the record documents are brought into conformance.

END OF SCOPE OF WORK – ALL CONTRACTS

PRODUCT DATA SHEET 1 - Scope of Work – **General Trades Work Contract #302**

General Trades Work Contract #302 shall provide labor, material, plant, tools, equipment and supervision related to and/or necessarily involved with the performance of the Work, as indicated on all the Drawings, Specifications and/or Project Manual, and as set forth below. Work for **Contract #302** is generally described as **General Trades** and more specifically described in this Scope of Work.

1. DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

This Contractor shall include all Work in Division 00 as assigned in the SCOPE OF WORK – ALL CONTRACTS in this Summary of Work.

2. DIVISION 01 – GENERAL REQUIREMENTS

This Contractor shall include all Work in Division 01 as assigned in the SCOPE OF WORK – ALL CONTRACTS in this Summary of Work.

3. 02 41 19.03 Selective Demolition

a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section, as required for the Work of this Contract.

4. 04 01 02 Masonry Restoration and Cleaning

a. **General Trades Work Contract #3** shall provide all Work, complete, as specified in this Specification Section.

5. 04 20 00 Unit Masonry

   a. **General Trades Work Contract #3** shall provide all Work, complete, as specified in this Specification Section and as further clarified:

      1) **General Trades Work Contract #3** shall **provide** all other all other loose lintels, bearing plates and leveling plates that are embedded in or bearing in new and existing masonry walls.

      2) Reference S-502 detail 1, **General Trades Work Contract #3** work shall provide all closure angles and plate steel (typical) at ALL masonry walls.

      3) **General Trades Work Contract #3** shall only exclude masonry walls shown on drawing S-106 detail 1 and 3, as this Work shall be provided by **Structural Steel and Foundation Contract #2 (Bid Package 2).**

6. 06 10 00.03 Rough Carpentry

   a. **General Trades Work Contract #3** shall provide all Work, complete, as specified in this Specification Section and as further clarified:

      1) **General Trades Work Contract #3** shall provide all rough carpentry work, complete as specified in this Specification Section that is indicated and/or required for the complete installation of the Work of this Contract.

7. 07 84 13 Penetration Firestopping

   a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section and as further clarified:

      1) **General Trades Work Contract #302** shall provide all penetration firestopping.

8. 07 84 43 Joint Firestopping

   a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section.

9. 07 92 00 Joint Sealants

10. **General Trades Work Contract #302** shall provide all joint sealants required for the Work of their Contract, including sealing of any plumbing and fire protection penetrations at non-rated partitions that are uncovered during the course of the work.

11. 08 11 13 Hollow Metal Doors and Frames

    a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section.

12. 08 71 00 Door Hardware

    a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section and as further clarified:

       1) **General Trades Work Contract #302** shall perform an inspection of all door hardware provided by this Contract two (2) months after the

date of substantial completion. **General Trades Work Contract #302** shall adjust and check each operating unit of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly for the intended application.

2) **General Trades Work Contract #302** shall provide all patching and prep work at the existing doors and/or frames scheduled to receive new hardware and/or reinstalled existing hardware.

3) **General Trades Work Contract #302** shall provide all permanent cores, coordinate with RCSD and based on keying conference.

4) **General Trades Work Contract #302** shall review all existing door openings, verifying size, jamb thickness, and swings, etc., prior to submitting door and hardware schedule. Door hardware schedule shall be submitted within 15 days of Notice to Proceed.

5) **General Trades Work Contract #302** shall refer to Specification Section 28 13 00 Access Control, Responsibility Matrix for scope of work related to ADA door operators, card readers, door contacts etc.

6) **General Trades Work Contract #302** shall furnish and install all magnetic door holds.

7) **General Trades Work Contract #302** shall refer to Specification Section 28 13 00 Access Control, and be responsible for scope of work related to door operators, card readers, door contacts, etc.

13. 08 80 00 Glazing

a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section.

14. 09 91 23 Interior Painting

a. **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section.

15. 10 14 73 Painted Signage

a. **General Trades Work Contract #302** shall adhere to specifications, as applicable, in this Specification Section to install Work as required.

16. 26 05 01 Basic Materials and Methods

a. **General Trades Work Contract #302** shall adhere to specifications, as applicable, in this Specification Section to install Work as required.

17. 26 08 00 Commissioning of Electrical Systems – Provided as Reference.

a. **General Trades Work Contract #302** shall adhere to specifications, as applicable, in this Specification Section to install Work as required. <u>The Construction Manager / Owner will act as Commissioning Agent for commissioning of the access control system.</u>

18. 26 20 00 Electric Distribution

a. **General Trades Work Contract #302** shall adhere to specifications, as applicable, in this Specification Section to install Work as required.

19. 28 13 00 Access Control System

a. **General Trades Work Contract #302** shall adhere to specifications, as applicable, in this Specification Section to install Work as required.

20. OTHER WORK OF **GENERAL TRADES WORK CONTRACT #302**

a. Reference all Contract Drawings:

1) **General Trades Work Contract #302** shall provide all Work complete as indicated and as further clarified:

a) **General Trades Work Contract #302** shall visit the site to verify and review existing conditions before estimating the cost of the project.

b) **There is no known asbestos, lead, or PCB containing materials to be encountered in demolition.** In the event the contractor encounters an unknown material, and testing, per the Owner, supports removal, **General Trades Work Contract #302** is responsible for safe removal.

c) **General Trades Work Contract #302** shall provide all Work required to re-support any temporary lighting, fire alarm or power that is left unsupported as a result of the removals provided by this Contract.

d) **General Trades Work Contract #302** is to provide all supplementary lighting required to perform the required finish Work.

e) **General Trades Work Contract #302** shall provide all Work, complete, as specified in this Specification Section and as further clarified:

1. **General Trades Work Contract #302** shall install any embedded items and sleeves as furnished by others at all cast-in-place concrete work and shall coordinate the accurate locations of the embedded items.

2. **General Trades Work Contract #302** shall provide any box-outs at all cast-in-place concrete Work as required for the Work of other Prime Contractors.

3. **General Trades Work Contract #302** shall provide all Work including grinding and filling.

f) **General Trades Work Contract #302** shall not shut down any existing utilities, services, systems, etc., without the written approval of the Construction Manager. **General Trades Work Contract #302** shall provide a minimum of seventy-two (72) hours' notice of any shut down and shall indicate in writing what services is intended to be shut down, the duration of the shut down, and the area of the building that will be affected by the shutdown. All shut downs shall be continuously manned until such service is fully restored.

g) **General Trades Work Contract #302** shall provide any service required to access or re-program the fire alarm system should this be necessary following interface with the access control equipment.

h) **General Trades Work Contract #302** shall commit to providing sequenced submittals and shop drawings for all products and materials related to the scope of Work within **two (2) weeks** from receipt of Notice to Proceed.

i) **General Trades Work Contract #302** shall remove all excess excavated material, spoils, etc. from the site as necessary for the Scope of their Work

j) **General Trades Work Contract #302** shall provide all temporary support framing for door openings.

k) **General Trades Work Contract #302** shall provide all supports for new electrical work above and below ceilings.

l) **General Trades Work Contract #3** shall review all existing walls not called to receive new furring and provide all cutting, patching and sanding at all plaster, as indicated and/or required to correct all irregularities, including but not limited to holes, dents, cracks, blisters, buckles, crazing, check cracking, dry outs, water damage, peeling paint, paint drips, loose plaster where the bond to the substrate has failed, etc., at existing walls and ceilings to provide a smooth like new surface for application of the new finishes and floor base, if required. This work shall include all walls and ceilings that are located behind or above items indicated to be removed.

m) **General Trades Work Contract #302** shall review the entire school and verify the extent of patching required to remain and be refinished. **General Trades Work Contract #302** shall remove nails, staples and tacks prior to refinishing and provide caulk as necessary.

n) **General Trades Work Contract #302** shall provide painting of all exposed electrical equipment and conduit.

o) **General Trades Work Contract #302** shall provide, maintain and remove Masonite board with taped seams (or equal) as flooring protection in all well-trafficked areas.

p) **General Trades Work Contract #302** shall provide openings in horizontal assemblies and fire and smoke rated walls that will leave a gap of no more than ½ inch between the sleeve and or adjacent construction at the penetrant. Coordinate sizing of sleeves, openings and core drilled or cut openings to ensure that penetration firestopping is installed according to specific requirement.

q) **General Trades Work Contract #302** shall provide and Metal Fabrication necessary to install the doors and access control hardware.

r) Any original Architects/Engineers field reports, deficiency list or punch listed distributed by the Construction Manager or the Architect must be returned by **General Trades Work Contract #302** showing completions within 15 working days of receipt of such list or Construction Manager reserves the right to refuse review of pencil copies and withhold payment.

SCHEDULE 10 - WORK SEQUENCE

PRODUCT DATA SHEET 0 - The Work will be conducted in accordance with the approved and coordinated project schedule prepared by the Construction Manager from the Schedules submitted to the Construction Manager by the General Trades Contractor involved in the process. The initial schedules are required from the General Trades Contractor 2 weeks after award of the contract. The following phasing will be considered the milestones for this project and must be maintained. Any additional costs for overtime, shift Work and/or additional manpower, required to maintain these milestones, will be at each Contractor's expense.

SCHEDULE 11 - Milestone Schedule Dates – Bid Package 2E.2

PRODUCT DATA SHEET 0 -

Project Overview:

Start:	**On or before 01 July 2021**
Completion:	**On or before 31 August 2021**

Notices to Proceed:	**15 June 2021**
Prime Insurance Approved	**22 June 2021**
Mobilize on Site:	**28 June 2021**
Construction Start	**01 July 2021**
Substantial Completion:	**17 August 2021**
Final Completion:	**31 August 2021**

NOTE: A Rochester City School District Leadership Week will be held from 7/26 – 7/30/2021, from 7:00 am – 4:00 pm. This week-long event will utilize the cafeteria, auditorium, and 12 classrooms on the 3rd floor. Contractor will need to work with the Construction Manager on work plans during this time to minimize any potential disruption with the District.

Refer to the construction schedule specifically outlining second shift and required Saturday work. Each Prime Contractor is required to work second shift and Saturdays must have at a minimum of half the size crew of the 1st shift or more as directed by the CM. Any variations must be directed by the Construction Manager. Proper allocation of manpower will be a prerequisite to proper payment. Productivity loss, extra cost associated with having a General Foreman, Foreman, etc. on site for the 2nd shift must be incorporated within bid price. The General Trades Contract #302 is responsible for providing all shift work as required at no additional cost to Owner / CM.

PRODUCT DATA SHEET 1 - Construct Work in strict accordance with the project schedule as indicated in specification section 00 43 83 and the coordinated overall project schedule.

SCHEDULE 12 - CONTRACTOR'S USE OF PREMISES

PRODUCT DATA SHEET 0 - Coordinate use of the premises under the direction of the Construction Manager.

1. Use of the site: Limit the use of the premises to Work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which Work is indicated. Each Contractor's use of premises is limited only by Owner's right to perform Work or to retain other contractors on portions of Project.
2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the other contractors and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment in-site.

SCHEDULE 13 - OWNER OCCUPANCY

PRODUCT DATA SHEET 0 - The Owner **will** occupy the building during construction.

SCHEDULE 14 - WORK UNDER OTHER CONTRACTS

PRODUCT DATA SHEET 0 - Not Applicable

SCHEDULE 15 - PRODUCTS ORDERED IN ADVANCE

PRODUCT DATA SHEET 0 - Not Applicable

SCHEDULE 16 - OWNER FURNISHED PRODUCTS

PRODUCT DATA SHEET 0 - Not Applicable

SCHEDULE 17 - SPECIFICATION FORMATS AND CONVENTIONS

PRODUCT DATA SHEET 0 - Specification Format: The Specifications are organized into Divisions and Sections using the CSI/CSC's "Master Format" numbering system.

1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.

PRODUCT DATA SHEET 1 - Specification Content: The Specifications use certain conventions for the style of language and the intended meanings of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

   a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

END OF SECTION 01 10 00

SECTION 01 14 19 - USE OF SITE

PART 1 - GENERAL

1.01. START OF THE WORK

1. The work of this Project shall be started when notified to proceed by the Owner. The Contractor shall inform the Construction Manager as to the actual date he/she will start to work at the site.

1.02. CONSTRUCTION SCHEDULE AND COMPLETION

1. All work on this project shall be completed in accordance with the Section 00 43 83 "Schedules and Milestones." The Contractor shall be required to take all measures to minimize the duration of the Project. It is of the utmost importance to adhere to the construction schedule for this project and meet the date set for Substantial and Final Completion. If additional staff or shifts are required to meet any schedule item, the Contractor shall include this work at no additional cost to the Owner. It is the responsibility of the Contractor to enforce the schedule with their subcontractors.
2. The Contractor shall confirm in writing that they will be able to complete their work as indicated on the schedule. Work operations and scheduling other than those indicated, must be approved by the Project Construction Manager prior to commencement of such work.
3. Coordination with other trades and contracts shall be a consideration to determine anticipated construction schedules. Construction schedule bar charts shall be submitted for approval one week after the pre-construction meeting.
4. In the event that any of the work to be completed falls behind schedule, based on the Owner's discretion, the responsible Contractor shall within two (2) working days start a full second shift of work until such time that the Project is back on schedule. All additional security/custodial costs and approved extra work claims by other Contractors arising from a delay shall be chargeable to the responsible Contractor. Contractors shall hold the Owner and Owner's Representatives harmless against all losses or damages due to delays of a third party.
5. If lack of workers, equipment, materials, etc., at necessary stages, delays or slows the schedule or usability of a space, the applicable Contractor will be responsible for additional temporary or final work (or other costs) necessary to continue the work so that the schedule is maintained. The Owner reserves the right to postpone work not capable of being completed on time. All costs of delays incurred shall be borne by the Contractor causing the delay.

6. Final Completion; All work scheduled shall be substantially completed in its entirety or in a usable, safe manner on or before the completion dates listed in Section 00 43 83 "Schedules and Milestones."

7. On-Site Work Hours: Limit work in the building to between hours of 7:00 a.m. and 5:30 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: Only with Owners prior approval coordinated through the Construction Manager.

2. Early Morning Hours: Please reference code regulations for the City of Rochester having jurisdiction for restrictions on noisy work “No person shall engage in or permit any person to be engaged in construction activities which creates excessive noise at the property limits of the construction site between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day on any day of the week”.

3. Hours for Utility Shutdowns: 7:00a.m. To 3:30p.m., Monday through Friday coordinated with the Construction Manager with Owners approval.

8. Work of any contract that includes burn-off, system start-up system cut-over or staff training shall not be done one week prior to and one week after the commencement of school except upon approval by the Construction Manager.

9. PROJECT LOGISTICS

A. GENERAL

1) “Project Logistics” is provided for reference by all Contractors, lower tier Contractors and suppliers. All Contractors and lower tier Contractors are responsible for following the requirements for deliveries, staging, storage trailers, office trailers, temporary utilities and parking at the project site.

2) The intent of the Site Use Information is for the Construction Manager to control the logistical operations of all Contractors and their personnel in an organized manner, for the benefit of facility operations, and for the efficiency of the overall project. The Construction Manager and the Architect will, at various stages of the Project, modify the site use requirements to accommodate current job-site conditions.

3) Locations for equipment, including but not necessarily limited to cranes, back hoes, excavators, compressors, generators, masonry saws and mixers must be approved by the Construction Manager prior to their utilization on this Project. No gas powered tools will be allowed to be utilized within enclosed buildings unless approved by the Construction Manager.

4) There shall be no obstructions placed in the roads at any time, which may prevent access to the site or occupied properties adjacent to the site. Any type of road closure must be scheduled with the Construction Manager three weeks prior to the scheduled closing.

5) Contractor's commercial signage is strictly prohibited on the Project site, except as specifically approved in writing by the Construction Manager.

B. PROJECT SPECIFIC

1) Trailers:

a. Refer to Section 01 55 00.A Site Logistics Plan. Specific locations will be designed for construction staging, storage trailers, office trailers, etc. Before trailers or materials are placed on site, the Construction Manager must approve the exact locations. Contractors are advised that at various times during the project, storage trailers or office trailers may require relocation as directed by the Construction Manager. Costs for same shall be borne by Contractor.

2) Deliveries:

a. Contractors and lower tier Contractors shall coordinate material and equipment deliveries with the Construction Manager and other Contractors to ensure that materials can be off-loaded efficiently and that site use operations are maintained in an orderly fashion. All major deliveries shall be scheduled with the Construction Manager one (1) week in advance of the delivery. The Construction Manager shall be provided with the scheduled date and time of the delivery; the product and the anticipated duration required for unloading. Deliveries and or hoisting of equipment or materials that directly affect construction or Owner operations shall be scheduled during off hours.

b. Any delivery not going directly to an isolated area of the building or site under construction must be dropped off within a fenced-in, contained staging area. Under no circumstances will deliveries be dropped off anywhere else on the site, unless specifically approved by the Construction Manager.

3) Parking

a. All Contractors are required to park in designated areas as indicated in Section 01 55 00A Site Logistics Plan.

4) Sanitary Facilities

a. Defacing sanitary facilities in any manner will result in the cleanup and/or removal costs to be borne by all Contractors prorated based upon employee count.

5) Material Storage

a. The Contractors shall provide adequate off-site storage for materials and schedule their deliveries to allow for the immediate hoisting and/or installation of these materials when they arrive at the site. Cost of said off-site materials storage, if

required, shall be included in the Contractor's price. The Construction Manager may, at their sole discretion, allow a limited amount of on-site storage. If any material and/or equipment stored at the project, at any time obstructs the performance of the project, the materials shall be removed and relocated by the Contractor at no additional cost. In the event a Contractor fails or refuses to comply with this Article within a reasonable time, but not more than twenty-four (24) hours, the Construction Manager will reserve the right to have those materials removed, and all costs will be charged against the Contractor involved.

b. Contractor staging of materials and equipment shall occur in the designated staging area as indicated in Section 01 55 00.A Site Logistics Plan unless otherwise authorized by the Construction Manager in writing.

c. If petroleum products are brought on site in stationary containers of 55-gallons or larger, the Contractor shall provide a certification to the Construction Manager, stamped by a Professional Engineer currently licensed in New York State, that product storage, spill prevention, training, testing, inspections, handling and dispensing methods are in compliance with all applicable Federal and State rules and regulations, including EPA rule 40 C.F.R. Part 112. The Owner may add the Contractor's certification(s) to their oil spill prevention control and counter measure (SPCC) plan as an amendment. This certification shall be provided to the Construction Manager two (2) weeks ahead of any product or container(s) delivery and the Construction Manager shall be notified promptly of the removal of any container(s). Contractors shall provide all protection, fire extinguishers and signage in accordance with OSHA regulations.

6) Utility Shutdowns and Cutovers

a. Each Contractor is responsible for submitting to the Construction Manager, for their approval, a proposed schedule of all utility shutdowns and cutovers of all types which will be required to complete the Project; said schedule should contain a minimum of two (2) week's advance notice prior to the time of the proposed shutdown and cutover so as not to impact construction and/or owner activities. The contract consideration is deemed to include all necessary overtime and all premium time, if any, that is required by the Contractor to complete the shutdowns or cutovers.

b. In the event the Contractor disrupts any existing services, the Contractor shall immediately make a temporary connection to place such service back into operation and maintain the

temporary connection until the Contractor makes the permanent connection. All Work must be acceptable to the Construction Manager, the Owner and the Authority having jurisdiction.

7) Site Use Plans

a. Refer to Section 01 10 00 Summary of Work and Section 01 50 00 Temporary Facilities and Controls for specific requirements regarding Temporary Facilities and Controls. All Contractors and Contractors are responsible for following the requirements for deliveries, staging, storage trailers, office trailers, and parking identified on Section 01 55 00A Site Logistics Plan.

b. The intent of the Site Use Information is for the Construction Manager to control the logistical operations of all Contractors and their personnel in an organized manner, for the benefit of school operations, and for the efficiency of the overall project.

c. Specific locations will be designated for construction staging, storage trailers, office trailers, etc. Before trailers or materials are placed on site, the Construction Manager must approve the exact locations. Contractors are advised that at various times during the project, storage trailers or office trailers may require relocation as directed by the Construction Manager.

d. Contractors and subcontractors shall coordinate material and equipment deliveries with the Construction Manager and other Contractors to ensure that materials can be off-loaded efficiently and that site use operations are maintained in an orderly fashion.

1.03. WORK IN OCCUPIED SCHOOL BUILDINGS

1. Work will be done in an Occupied School Building. Students will be in the building between 10:00 am and 2:00 pm, from 06 July 2021 to 13 August 2021.

1.04 PROGRESS MEETINGS

1. Refer to Section 01 31 13 “Contract Coordination” In addition, each entity involved in planning, coordination or performance of work shall be properly represented at each meeting.

1.05 CONFIRMED DELIVERY DATES

1. Within thirty calendar days after the execution of the Contract, the Contractors shall submit to the Construction Manager a copy of the confirmed delivery date for each required material or product.

END OF SECTION 01 14 19

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 01 Sections, apply to this Section.

1.2 SUMMARY:

A. This Section includes:
   1. Procedures for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS:

A. Definitions used below are not intended to change or modify the meaning of other terms used in the Contract Documents.

B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitutions". The following are not considered substitutions:
   1. Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
   2. Revisions to Contract Documents requested by the Owner or Architect.
   3. Specified options of products and construction methods included in Contract Documents.
   4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS:

A. Substitution Request Submittal:
   1. Requests for substitution will be considered if received within **20 days after Notice to Proceed**. Requests received more than **20 days after Notice to Proceed** of the Work may be considered or rejected at the discretion of the Architect.
   2. Submit 3 copies of each request for substitution for consideration. Submit requests on the “Request for Equivalent Review Form” located in Division 00, Section 00 63 19.
   3. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawings numbers.
   4. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
      a. Statement indication why specified material or product cannot be provided.

b. Product data, including Drawings and descriptions of products, fabrication and installation procedures.
c. Samples, where applicable or requested.
d. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as performance, size, weight, durability, visual effect, specific features and requirements indicated.
e. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution.
f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
j. Cost information, including a proposal of the net change, if any in the Contract Sum.
k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
l. Include the Contractor's waiver of rights to additional payment or extension of time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

B. Architect's Action:

1. Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request.
2. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution.
3. Comply with requirements in Division 01 Section 01 32 19 "Submittal Procedures." Show compliance with requirements.
4. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name.
5. Acceptance will be in the form of a Change Order.

1.5 REIMBURSEMENT OF ARCHITECT'S COSTS:

A. In the event substitutions are proposed to the Architect after the Contract has been awarded, the Architect will record time used by the Architect and the Architect's consultants in evaluating each such proposed substitution.

B. Whether or not the Architect approves a proposed substitution, the Architect will invoice the Owner for time spent in evaluating the proposed substitution. The Owner will, in turn, pass this cost on to the Contractor and require a "deduct" Change Order due to the Owner.

PART 2 – PRODUCTS

2.1 SUBSTITUTIONS:

A. Timing: Architect will consider requests for substitution if received within **20 days after the Notice to Proceed**. Requests received after that time may be considered or rejected at discretion of Architect.

B. The Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect, otherwise requests will be returned without action except to record noncompliance with these requirements.
    1. Extensive revisions to Contract Documents are not required.
    2. Proposed changes are in keeping with the general intent of Contract Documents.
    3. The request is timely, fully documented and properly submitted.
    4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
    5. The specified product or method of construction cannot be provided within the Contract Time.
        a. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
    6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
    7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear.
        a. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate contractors, and similar considerations.
    8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
    9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.

10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

C. The Substitution request shall comply with the following requirements are met:
   1. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   2. Evidence that proposed product provides specified warranty.
   3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
   4. Samples, if requested.

D. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

REQUEST FOR INFORMATION FORM

DATE: _____

PROJECT: _____

TO: _____

RE: _____

REQUESTED BY: _____

REQUIRES RESPONSE BY: _____

SECTION: _____ **REFERENCE NO.:** _____

REMARKS: _____

INQUIRY:

SIGNED: _____

ANSWER:

SIGNED: _____

SECTION 01 26 39 – FIELD ORDERS

PART 1 - GENERAL

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.3 SUMMARY

A. Field Orders/Change Issues are an interpretation of the Contract Documents or an order to do minor changes in the Work. Architect will issue through the Construction Manager supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time. Since time is of the essence, Contractor shall promptly complete the Work directed in the Field Order/Change Issue.

1.4 CHANGE ORDER PROCEDURES

A. No changes in work will be allowed without prior approval from the Owner and Architect. No additional costs will be accepted or authorized without prior written approval from the Owner and Architect. Failure to acquire approval will not entitle the Prime Contractor to reimbursement or payment for unauthorized changes. Likewise changes in work, without written approval, are subject to rejection and removal.

B. Upon the Owner's approval of a Contractor’s Cost Proposal, as initiated by the Proposal Request, the Construction Manager will issue a Change Order for signatures of the Owner, Construction Manager, Architect and the Contractor on AIA Form G701/CM.

1.5 MINOR CHANGES IN THE WORK

A. Architect will issue through the Construction Manager, supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions." If a Contractor determines that an “Architect’s Supplemental Instructions” will impact the Contract Sum or the Contract Time, that Contractor shall notify the Construction Manager immediately with a written explanation to substantiate the claim and a complete and detailed cost breakdown as required under paragraph 1.5 Proposal Requests.

1.6 PROPOSAL REQUESTS

A. Architect-Initiated Proposal Requests: The Architect through the Construction Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by the Architect through the Construction Manager are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change, unless specifically indicated to do so by the Architect and the Construction Manager.
2. Within the time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a complete detailed material, equipment, and labor break down to substantiate the proposed costs.
    b. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    c. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Construction Manager.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a complete detailed material, equipment, and labor breakdown to substantiate the claim.
3. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified

C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

1.7 CHANGE ORDER PROCEDURES

A. Upon approval of a Proposal, the Construction Manager will issue a Change Order for signatures of the Contractor and Construction Manager.

1.8 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: A Construction Change Directive (CCD) is a written order to be used in the field to expedite work in advance of an agreement between the owner and contractor in regards to an approved change order. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, pending subsequent final determination of a Change Order by the Architect, Construction Manager, and Program Manager. The Construction Change Directive may be issued by the Construction Manager or Architect, without invalidating the Contract, to order changes in the Work consisting of additions, deletions or other revisions. The RSMP Project Manager is authorized to approve work done under a Construction Change Directive (CCD) up-to-and-including $5000. The RSMP Board Chair or designee of the RJSCB is authorized to approve work done under a CCD above $5000. Such approval by the Board Chair or designee is subject to prior CCD approval by the CM, Architect, and PM.

1. The Construction Change Directive (CCD) contains a complete description of change in the Work. It also designates the method to be followed to determine the change in the Contract Sum. Once a CCD is approved, Owner is obligated to pay for work done under a CCD. However, billing and payment for the CCD work must be done following Owner approval of the Change Order that includes the work authorized by the CCD.

B. Documentation: Maintain detailed records on a time and material basis or Contractor's Cost Proposal of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost adjustments to the Contract.

2. Construction Change Directives are not change orders. No acceptance in whole, or in part, is implied by construction change directives.

Markups:

Prime Contractor Overhead = 15%

On Sub-Contractor work:
Prime Contractor Overhead = 5%
Sub-Contractor = 10%

A maximum of 15% Overhead and Profit is allowed regardless of the amount of tiers of sub-contractors under the Prime Contract

Prime Contractor Bond = 2%

- The bond rate of 2% will be applied to both added work and credited work.

END OF SECTION 01 26 39

SECTION 01 26 43 - CHANGE ORDER REQUESTS

Refer to the General Conditions (00 72 16) and Field Orders (01 26 39) for any and all provisions governing additional work and/or changes to the work.

In order to facilitate checking of quotations for extras or credits, all proposals, shall be accompanied by a complete itemization of costs including labor, materials, equipment and sub-contracts. All proposals without such itemization will be returned to the Contractor for resubmission, and Owner may issue a Construction Change Directive in lieu thereof.

All Prime Contractor and subcontractors labor rates are to be broken down on the attached labor rate breakdown sheet 01 26 43A. A version in EXCEL, containing formulas, can be provided by the Construction Manager.

Submission of Change Orders will go through the Construction Manager.

Markups:

Prime Contractor Overhead = 15%

On Sub-Contractor work:
Prime Contractor Overhead = 5%
Sub-Contractor = 10%

A maximum of 15% Overhead and Profit is allowed regardless of the number of sub-contractors under the Prime Contract

Prime Contractor Bond = 2%

- The bond rate of 2% will be applied to both added work and credited work.

END OF SECTION 01 26 43

RCSD XXXXXXXXXXXX School No. XX
S.E.D. No. 26-16-00-01-0-XXX-XXX
DWT SED # 26-16-00-01-7-999-XXX

Architect
Project #
DATE

CHANGE ORDER REQUESTS **Contractor Name:**

Refer to the General Conditions for any and all provisions governing additional work and/or changes to the work.

In order to facilitate checking of quotations for extras or credits, all proposals, shall be accompanied by a complete itemization of costs including labor, materials and sub-contracts. Labor and materials shall be itemized in the manner prescribed below. Where major cost items are sub-contracts, they shall be itemized also. All proposals without such itemization will be returned to the Contractor for resubmission, and Owner may issue a Construction Change Directive in lieu thereof.

1	**Materials (Itemized Breakdown)**	
2	**Rental of Equipment (Itemized Breakdown)**	
3	**Subtotal (Add Lines 1-2)**	
4	**Overhead & Profit (15% x line 3)**	
5	**Subtotal (Add lines 3-4)**	
6	**Labor (Itemized Breakdown)**	
7	**Insurance on Labor (Worker's Comp., etc.)**	
8	**Subtotal (Add lines 6 and 7)**	
9	**Overhead and Profit (15% x line 8)**	
10	**Subtotal (Add lines 8 and 9)**	
11	**Sub-Contract Work (Include Itemized Breakdown. Sub-contractor's overhead and profit allowed is 10%).**	
12	**Prime Contractor Overhead and Profit (5% x line 11)**	
13	**Subtotal (Add lines 11 and 12)**	
14	**Subtotal (Add line 5, 10 and 13)**	
15	**Bond charges (2% x line 14)**	
16	**TOTAL CHANGE ORDER PROPOSED (Add lines 14 and 15)**	

SECTION 01 26 53 – LABOR RATE WORKSHEET COVERSHEET

01 26 53A

LABOR RATE WORKSHEET

Contractor _____ Project : _____

Address _____

_____

Telephone _____

Trade Classification _____

Local Union # _____

Effective Date: From _____ To _____

	(%)	($) Straight Time	($) Over Time	($) Premium Time
Base Rate				
F.I.C.A.				
Federal Unemployment Tax				
State Unemployment Tax				
Welfare Fund				
Pension Fund				
Vaction Fund				
Association Dues				
Paid Holidays				
Workman's Compensation				
Liability (Bodily Injury Ins.)				
Property Damage Insurance				
Other				
Total Charge per hour				

_____

Signature

SECTION 01 29 75 – REVOLVING LOAN PROGRAM AND PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

1. Drawings, General Conditions, Divisions 00 and 01 Specification sections, apply to this section.

2. Section 01 29 76 – Progress Payment Procedures

3. Section 01 29 75a – Application for RSMP Revolving Loan Fund (Contact RSMP at Rstoffel@Savinengineers.com to receive a live PDF form.

1.02 SUBCONTRACTOR REVOLVING LOAN FUND

1. The Rochester Joint Schools Construction Board (“RJSCB”) has established a Revolving Loan Program (“RLP”) to provide financial assistance to eligible Subcontractors that cannot wait for a full pay cycle to meet certain obligations. The intent of the RLP is to elevate the quality of life for Rochester residents, students, businesses, and Eligible Business Enterprise (EBE) participants in the Rochester Schools Modernization Program (“RSMP”). The program supports the RJSCB’s effort to remove barriers and promote business growth in the City of Rochester.

2. Loans up to $10,000 will be made available to applicants who perform work, or provide materials in connection with Phase 2 of the Rochester Schools Modernization Program (“RSMP”). Loans are subject to discretionary approval of a loan committee, qualifications of the borrower, and availability of funds.

3. A fully completed Revolving Loan Program (RLP) short-form application (Section 01 29 75a) is required in order to provide a loan assistance to RSMP Subcontractors with working capital for job related payroll, supplies, and job related machinery and equipment costs.

4. The Executive Director or RJSCB Designee, after receiving an approved application from the Loan Committee, will issue a Loan Voucher authorizing the release of a loan check to the applicant. This Loan Voucher will be signed by a Loan Committee member and the Executive Director or RJSCB Designee. The Loan Voucher will include the following: the name of the Prime, the name of the loan recipient, the exact amount and the payee for the loan check, the date the loan check is required, the project(s) the applicant is working on, the total amount of the Prime contract, the nature of the subcontract (scope of work), and the expected repayment time frame by the Subcontractor/applicant (not to exceed ninety (90) days).

1.03 LOAN REPAYMENT

1. Two separate checks will be issued at the time the next monthly payment to the Prime contractor is processed encompassing the work performed by the subcontractor related to the work covered by an outstanding loan. A Payment Voucher will be initiated and signed by the individual designated by the Executive Director or the Board's designate to authorize the split payment. The Payment Voucher will include: the name of the Prime contractor, the name of the subcontractor, the exact amount of the loan being repaid by the split payment.

2. Program Manager will notify the Prime contractor and the Construction Manager of the split payment. One check from the RJSCB Trustee will be issued directly to the Prime contractor for all items not related to the loan provided to the subcontractor (this may include some portion of payment to the subcontractor not associated with the loan amount which will be paid to the subcontractor by the Prime). A second, two-party check will be issued by the RJSCB Trustee for the amount of the Loan taken by the subcontractor. This dual-party check will be sent directly to the Program office and must be signed by the Prime and the Subcontractor prior to deposit into the Account holding the Revolving Loan Fund.

END OF SECTION 01 29 75

01 29 75A

RSMP

T: (585) 512-3820 http://www.rjscb.org
"Every child is a work of art. Create a masterpiece."

APPLICATION FOR RSMP LOAN FUND
(SHORT-FORM)

BUSINESS CONTACT INFORMATION

Name of Company: EIN #:
Name of Owner: Title:
Phone: Fax: E-mail:
Current Business Address:
City: State: ZIP Code:
Date Business Commenced: EBE Certification Status: *(MBE, WBE, DBE, or SBE)*
Sole Proprietorship: ☐ Partnership: ☐ Corporation: ☐ Other: ☐

LOAN REQUEST

Purpose of Loan: *(e.g. payroll for week(s) ending xx/xx/xx; rental of crane for XX school for work performed xx/xx/xx, etc.)*

Date of Request: Amount of Request:

BUSINESS AND CREDIT INFORMATION

Bank Name:
Bank Address: Phone:
City: State: ZIP Code:
Business Account Number(s):
Checking ☐ Savings ☐ Other ☐
Checking ☐ Savings ☐ Other ☐

FINANCIAL AND INCOME STATEMENT SUMMARY

Total Assets	$	Total Income	$
Total Liabilities	$	Total Annual Expenses	$
Net Worth	$	Net Annual Cash Flow	$

BUSINESS/TRADE REFERENCES

Company Name:
Address:
City: State: ZIP Code:
Phone: Fax: E-mail:

Company Name:
Address:
City: State: ZIP Code:
Phone: Fax: E-mail:

Company Name:
Address:
City: State: ZIP Code:
Phone: Fax: E-mail:

01 29 75A

RSMP

T: (585) 512-3820 http://www.rjscb.org

"Every child is a work of art. Create a masterpiece."

REQUIRED LOAN APPLICATION DOCUMENTS

1. Copy of the executed subcontract between the Applicant and Prime contractor and Prime Contractor Statement of Eligibility.
2. Purpose and use of funds documentation (e.g. lease agreements, purchase invoice, payroll log)
3. List of suppliers
4. Liability insurance
5. Workers compensation insurance
6. Financial statements and/or declaration by Applicant that other personal resources are not available

REPRESENTATIONS, AGREEMENTS AND CERTIFICATION OF APPLICANT

Applicant represents and agrees as follows:

- Proceeds from the RSMP Revolving Loan Program (RLP) fund will only be used for the labor and materials to complete RSMP work.
- If either Applicant or the RSMP determines that the loan proceeds will not be used for the purposes described herein, Applicant will immediately repay the loan in full. Applicant acknowledges that Applicant shall have no further interest, right, or claim to such repaid loan proceeds or against the RSMP.
- The RSMP shall be entitled to confirm or verify any of the information contained in this Application from any source named herein or other person or entity having knowledge of the same. RSMP reserves the right to request additional information, if necessary, to process this request.
- The Application shall be subject to the Program Criteria and Procedures.
- This Application, and any loan from the RSMP to Applicant, shall be subject to any loan criteria and policies in effect regarding the RLP.
- The RSMP has made no representation or warranty with respect to the Applicant's compliance with applicable laws and regulations, or the ability of Applicant to obtain any necessary governmental approvals and permits

Applicant certifies that all information in this Application, and all information furnished in support of this Application, is true and correct and is given for the sole purpose of obtaining a bridge (gap) loan from the RLP. Applicant gives permission for any authorized RJSCB Representatives, the ICO, or RSMP Staff to verify any statement made by Applicant.

Signature of Applicant: _____ Date: _____

FOR RSMP USE ONLY

Approved Amount $

APPROVED BY	APPROVED BY
Name:	Name:
Title: RJSCB Committee Member	Title: Executive Director or Designee
Date:	Date:
APPROVED BY	**APPROVED BY**
Name:	Name:
Title: RJSCB Independent Compliance Officer	Title: REDCO Board Member
Date:	Date:

Application #:		Application Date:		☐ Approved	☐ Denied

01 29 75A

RSMP

T: (585) 512-3820 http://www.rjscb.org

"Every child is a work of art. Create a masterpiece."

PRIME CONTRACTOR STATEMENT OF ELIGIBILITY

NOTE TO PRIME: THESE LOAN PROCEEEDS WILL BE DEDUCTED FROM THE PAY APP INDICATED BELOW

PRIME CONTRACTOR NAME:		PRIME CONTRACTOR PHONE NUMBER:	
PRIME CONTRACTOR ADDRESS:		PRIME CONTRACTOR EMAIL ADDRESS:	

PROJECT NAME:	
SUBCONTRACTOR NAME:	
CONSTRUCTION MANAGER NAME:	
SCOPE OF WORK:	

ORIGINAL CONTRACT AMOUNT:		AMOUNT OF CONTRACT PAID TO DATE:
BALANCE OF CONTRACT TO BE PAID:		

Signature of Prime: Date:

Title: Date of Pay App for Loan Repayment

01 29 75B

January 2017

Dear RSMP Loan Applicant,

The RJSCB, through its many endeavors, continues to work arduously with the City and the School District to elevate the quality of life for Rochester residents, students, businesses, and Eligible Business Enterprise (EBE) participants in its multi-year/multi-phase School Facilities Modernization Program. The program supports the RJSCB's effort to remove barriers and promote business growth in the City of Rochester.

Attached is a Revolving Loan Program (RLP) application that is structured to provide assistance to RSMP Subcontractors with working capital for job related payroll, supplies, and job related machinery and equipment costs. This short form application is intended to make the loan process easy to implement and navigate. This application includes a procedure with all requirements necessary to apply for a loan.

We encourage applicants to work closely with the RJSCB's Executive Director, RSMP staff and the ICO during the loan process to make the program a success for eligible loan applicants as well as the RSMP.

Thank you for your interest in the Revolving Loan Program ("the RLP") offered by the Rochester Schools Modernization Program ("the RSMP").

Sincerely,

_____
RJSCB Chair

_____
RJSCB Executive Director

01 29 75B

REVOLVING LOAN FUND PROCEDURE FOR THE ROCHESTER SCHOOLS MODERNIZATION PROGRAM

PURPOSE:

The Rochester Joint Schools Construction Board ("RJSCB") wishes to establish a Revolving Loan Program ("RLP") to provide financial assistance to eligible Contractors/Subcontractors who perform work, or provide materials in connection with Phase 2 of the Rochester Schools Modernization Program ("RSMP"). The Program Manager will contribute $100,000 as "seed" money into this Revolving Loan Fund ("Fund") for the RLP. In order to assist as many small businesses as possible, the RLP will need additional funds from "strategic partners" to support the program. "Strategic Partners," such as financial institutions, private businesses, and philanthropic foundations, include those with a vested or general interest in seeing small businesses succeed. All applicants for loan from the RLP shall be subject to the loan process set forth in this document. Loans are subject to discretionary approval of a loan committee, qualifications of the borrower, and availability of funds.

ELIGIBILITY, ROLES, PROCESS

Revolving Loan Program Committee

The RLP Committee ("Loan Committee") will be established to review the loan applications and will consist of four members:

- One RJSCB Finance Committee Member
- RSMP Executive Director ("Executive Director") or Designee of the RJSCB
- Independent Compliance Officer (ICO)
- One Rochester Economic Development Corporation (REDCO) Board Member

The Loan Committee will approve or decline completed loan applications within three (3) business days following review.

Loan Administration

The Program Manager or its designee will assist the Loan Committee in administering the RLP by:

- Processing loan application and payments;
- Answering inquiries from applicants or borrowers; and
- Providing a monthly report to RLP Committee and an annual report to the RJSCB.

Eligibility

Applications will be provided only to:

a) Phase II Subcontractors

and

b) Business Opportunities Program Participants who:

- Are enrolled and active members of the Instructional series (Regular or sufficient attendance) or hold a Certificate of Completion

  or

- Are enrolled as a member in the Mentor-Protégé Program based on a prime/subcontractor relationship or hold a Certificate of Completion

Application Process

1. Applicant submits a completed application requesting a loan of up to $10,000.

2. Application is reviewed by the Loan Committee to confirm that all eligibility requirements of the RLP have been met.

3. Notification:

- Approved Application – The Committee sends official commitment letter outlining method of disbursement and repayment terms.

- Declined Application – The Committee sends official declination letter stating rationale for decision.

Loan Authorization and Issuance

The Executive Director, after receiving an approved application from the Committee, will issue a Loan Voucher authorizing the release of a loan check to the applicant. This Loan Voucher will be signed by a Committee member and the Executive Director. The Loan Voucher will include the following: the name of the Prime, the name of the loan recipient, the exact amount and the payee for the loan check, the date the loan check is required, the project(s) the applicant is working on, the total amount of the Prime contract, the nature of the subcontract (scope of work), and the expected repayment time frame (not to exceed ninety (90) days).

Security and Repayment of the Loan

The RJSCB Trustee (US Bank National Association) will be directed to create and issue two separate checks at the time the next monthly payment to the Prime contractor is processed encompassing the work performed by the subcontractor related to the work covered by this loan. A Payment Voucher will be initiated and signed by the individual designated by the Executive Director or the Board's designate to authorize the split payment. The Payment Voucher will include: the name of the Prime

contractor, the name of the subcontractor, the exact amount of the loan being repaid by the split payment.

Program Manager will also notify the Prime contractor and the Construction Manager of the split payment. One check from the Trustee will be issued directly to the Prime contractor for all items not related to the loan provided to the subcontractor (this may include some portion of payment to the subcontractor not associated with the loan amount which will be paid to the subcontractor by the Prime). A second, two-party check will be issued by the Trustee for the amount of the Loan taken by the subcontractor. This dual-party check will be sent directly to the Program office and must be signed by the Prime and the subcontractor prior to deposit at the financial institution/strategic partner.

The financial institution/strategic partner will provide the Executive Director and the Program Manager with a monthly report that will indicate the amount of money remaining in the fund, all disbursements to applicants made from the fund, all receipts of payments credited to each subcontractor, any fees that the financial institution/strategic partner have levied against the fund, and any outstanding loans.

External Assistance:

The RLP Committee will work with the strategic partner in preparing the loan application and necessary documentation to streamline the loan process. Costs associated with application and/or administration fees by the Strategic Partner will be drawn from the Fund.

The RLP Loan Committee may waive requirements, or make exceptions to the foregoing criteria and procedures, with a finding that the goals of this program will be furthered by such waiver or exception. The Executive Director will prepare a written statement regarding any waiver or exception and shall maintain such waiver or exception in the RJSCB minutes and in the loan file.

Applicants may be asked to acknowledge the Strategic Partner's contributions or assistance in printed materials describing the program, including but not limited to: 1) brochures, flyers, printed materials and signage; 2) interviews with press organizations; 3) descriptions of RSMP projects in newspapers, mass emails, advertisements, and case studies; 4) on websites in which the RSMP and the RLP are discussed or described.

SECTION 01 29 76 - PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

1. Drawings and general provisions of Contract, including General Conditions and Division 01 Specification sections, apply to work of this section.

2. Section 01 29 75 – Revolving Loan Program

1.02 REQUIRED SCHEDULE OF VALUES

1. The Contract shall submit a schedule of values prior to his/her first application. Refer to Section 00 72 16 - General Conditions. Itemize schedule of values per separate SED Control Numbers, and by Additions and Reconstruction when applicable.

2. The schedule of values (updated and revised) shall be submitted on AIA G-732 / 703 CMa forms. The Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible, such breakdown shall be divided in detail sufficient to exhibit areas, floors and/or sections of the Work, and/or by convenient units and shall be updated as required by either the Owner or the Architect as necessary to reflect (1) description of Work (listing labor and material separately in some instances), (2) total value, (3) percent of the Work completed to date, (4) value of Work completed to date, (5) percent of previous amount billed, (6) previous amount billed, (7) current percent completed and (8) value of work completed to date. Any trade breakdown which fails to include sufficient detail, is unbalanced or exhibits “front loading” of the value of the Work shall be rejected. If trade breakdown had been initially approved and subsequently used, but later found improper for any reason, sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work. Breakdown shall include multiple construction site, multiple locations within each site, additions versus renovation work, etc. as required to satisfy NY State Education Department requirements.

1.03 PAYMENTS

1. All applications for partial or final payment shall be submitted, through the Construction Manager to RJSCB in triplicate, on AIA G-732 / 703 CMa and other forms furnished by the RJSCB and the Independent Compliance Officer, and submission schedule provided by the Program Manager, and in compliance with forms acceptable to the Owner, Owner’s lender, and Architect. Contractor shall supply such additional documentation and information as Owner’s lender or the Construction Manager shall request in connection with each disbursement to Contractor.

2. All applications for monthly and/or final payment must include certified payroll records for each week included in that payment period for all contractors and subcontractors. MWBE/DBE/SBE forms required by Section 00 43 31 of the project Manual shall also be included with each payment application and must be approved by the ICO as set forth in that Section. Contractors and subcontractors are required to keep original payroll records or transcripts for a period of three years from date of final payment, or as required by New York State and U.S. Departments of Labor.

3. All applications for partial payment submitted for approval that include stored materials shall include a Certificate of Stored Materials indicating an itemized value of the materials stored, the location the materials are stored at and referring to the project name and date of inventory. Materials stored off site must be either in a bonded warehouse or a storage facility owned by the Contractor. A rider from the Contractor's insurance company to cover off-site material is also required. Submit along with the payment request evidence of adequate insurance. Refer also to Section 007216 “General Conditions,” the terms of which shall prevail in the event they conflict with the provisions set forth in this Section 01 29 76.

3. Payments by Owner and Contractor shall be in accordance with Section 00 72 16 - General Conditions. Contractors must include an Interim Lien Waiver in the form included in this Section, or such updated form as may from time to time be provided by the Owner or Construction Manager. In addition, Contractor must provide subcontractor back-up invoices upon request of Owner.

5. Initial Application for Payment: Approved administrative actions and approved submittals that must precede or coincide with submittal of first Application of Payment as a condition of payment include but are not necessarily limited to the following:

    1. List of Subcontractors.
    2. Schedule of Values.
    3. Contractor's Construction Schedule.
    4. Submittal Schedule.
    5. List of long lead time material.
    6. Certificates of insurance (Contractor and Subcontractors)
    7. Performance and payment bonds.
    8. Log of Tradesmen’s OSHA 10 certificates.
    9. MWBE/DBE/SBE Section 00 43 31 DP-1, Letter of Intent to Perform, and forms cited therein.

6. Progress Application for Payment: Administrative actions and submittals that must be included with submittal of initial or subsequent Progress Applications for Payment include, but are not limited to the following:

    1. MWBE/DBE/SBE Section 00 43 31 monthly progress reporting forms.
    2. Certified Payroll Reports.
    3. Monthly Safety Report.
    4. Construction Progress Reports.
    5. Progress Construction Schedule (original schedule versus actual).

6. Submittal Schedule.
7. Interim Lien Waivers (from Prime, sub, sub-subs, suppliers).
8. Subcontractor back-up invoices.
9. Stored material documentation (Bill of lading, photos, insurance)
10. Updated Log of Tradesmen’s OSHA 10 certificates
11. Updated Log of Hot Work permits

7. Submit along with the final payment request all required documentation as set forth above, including Final Lien Waivers and Releases, Warranty Agreements, No-Asbestos Statement, Operating and Maintenance Manuals, Consent of Surety, Contractor's Certification and Subcontractor's Certifications, and all other close-out documentation reasonably requested by Owner.

END OF SECTION 01 29 76

CONTRACTOR PAYMENT APPLICATION CHECKLIST

MONTH: _____

PROJECT: _____

PRIME CONTRACTOR: _____

PAY APP: _____

CONSTRUCTION MANAGER: _____

☐ **G702 & G703**

☐ **Interim Waiver of Lien and Claim (Use Standard RSMP Form)**

☐ **Payment Request for Stored Materials**

Certificate of Insurance

☐ - CM Submits to District's Insurance Consultant
☐ - Insurance Consultant Approved/Unapproved form
☐ - Certificate of Stored Materials (per section 01 29 76) showing clearly Identified Materials are for RSMP With School Name, with Insurance Consultant Approved Insurance Rider for Materials Stored off-site (Per section 01 29 76)

Photographs

☐ - Photographs of Stored Material

Material Bill of Lading

☐ - Material Bill of Lading

☐ **CM has reviewed / approved redlines from contractor developed during pay period**

☐ **Two (2) Complete Sets of Payment Application Submitted**

CM Signature - _____

Savin/Gilbane Signature - _____

RSMP - Savin/Gilbane

* All Compliance paperwork should be sent directly to the District's Insurance Consultant going forward. If you have any questions or issues, please use one of the following contact methods.

INTERIM WAIVER OF LIEN AND CLAIM

To: _____
(Owner)

From: _____
(Name of Contractor or Supplier Company)

_____
(Address of Contractor or Supplier Company)

_____

Project: _____
(the "Project")

The undersigned Subcontractor or Supplier company (hereinafter "Contractor"), for and in consideration of the sum of $_____, such amount being payment for all work performed, services rendered and/or materials furnished by Contractor to Owner on the Project during the time period covered from Contractor's prior submitted payment requisition (or if the first, from the date of commencement of its work on the Project), through the following date: _____, 20___ ("Current Period") under all contracts, orders and instructions, including extras, change orders, construction change directives, and other directives whether written or verbal, and for other goods and valuable consideration paid by Owner, the sufficiency of which is hereby acknowledged, hereby covenants and warrants:

1. Contractor hereby waives, releases, and relinquishes all claims, demands and rights of lien ("Liens and Claims") to the extent of the amount shown hereon immediately upon receipt of the payment amount set forth above for all work, labor, materials, machinery or other goods, equipment or services done, performed or furnished for the Project (the "Work") and represents that all subcontractors, suppliers, or other parties performing any part of the Work will be paid out of the above amount once received as payment for the Current Period.

2. Contractor warrants that it has not been delayed in the performance of its Work to date and that it has incurred no extra costs in connection therewith. Contractor specifically waives, relinquishes, and releases any and all Liens and Claims incurred or alleged in connection with its Work to date except only those claims, if any, previously denominated as claims. Contractor further warrants and represents that any and all valid labor and/or materials and equipment bills, now due and payable, on the Project have been paid in full to the date of this waiver, including amounts covered in any prior payment applications. Contractor unconditionally waives all Liens and Claims for Work performed and payment applications submitted prior to the Current Period, receipt of payment for which is hereby acknowledged.

3. Contractor hereby agrees to indemnify and defend the Owner, Program Manager and Construction Manager, and to hold them free and harmless from any and all losses, claims, damages, costs and expenses, including but not limited to attorney's fees whether arising directly or indirectly from any inaccuracy recited in the facts herein, and from any failure of the Contractor to pay in full all sums due its laborers, subcontractors, materialmen, and suppliers on the Project, or from any liens against the Project property or Project monies filed by any such laborers, subcontractors, materialmen, or suppliers of Contractor.

Total Contract: $_____

Due on Total Contract after above payment: $_____

Contractor:_____ Sworn to before me this ____Day of _____, 20__.

By: _____ Notary Public: _____

Signature:_____ My Commission Expires: _____

Title: _____

FINAL WAIVER OF LIEN AND CLAIM

To: _____
(Owner)

From: _____
(Name of Contractor or Supplier Company)

_____
(Address of Contractor or Supplier Company)

_____

Project: _____
(the "Project")

The undersigned Subcontractor or Supplier company (hereinafter "Contractor"), for and in consideration of the sum of $_____, such amount being payment for all work performed, services rendered and/or materials furnished by Contractor to Owner on the Project during the time period covered from Contractor's prior submitted payment requisition (or if the first, from the date of commencement of its work on the Project), through the following date: _____, 20___ ("Current Period") under all contracts, orders and instructions, including extras, change orders, construction change directives, and other directives whether written or verbal, and for other goods and valuable consideration paid by Owner, the sufficiency of which is hereby acknowledged, hereby covenants and warrants:

1. Contractor hereby waives, releases, and relinquishes all claims, demands and rights of lien ("Liens and Claims") to the extent of the amount shown hereon immediately upon receipt of the payment amount set forth above for all work, labor, materials, machinery or other goods, equipment or services done, performed or furnished for the Project (the "Work") and represents that all subcontractors, suppliers, or other parties performing any part of the Work will be paid out of the above amount once received as payment for the Current Period.

2. Contractor warrants that it has not been delayed in the performance of its Work to date and that it has incurred no extra costs in connection therewith. Contractor specifically waives, relinquishes, and releases any and all Liens and Claims incurred or alleged in connection with its Work to date except only those claims, if any, previously denominated as claims. Contractor further warrants and represents that any and all valid labor and/or materials and equipment bills, now due and payable, on the Project have been paid in full to the date of this waiver, including amounts covered in any prior payment applications. Contractor unconditionally waives all Liens and Claims for Work performed and payment applications submitted prior to the Current Period, receipt of payment for which is hereby acknowledged.

3. Contractor hereby agrees to indemnify and defend the Owner, Program Manager and Construction Manager, and to hold them free and harmless from any and all losses, claims, damages, costs and expenses, including but not limited to attorney's fees whether arising directly or indirectly from any inaccuracy recited in the facts herein, and from any failure of the Contractor to pay in full all sums due its laborers, subcontractors, materialmen, and suppliers on the Project, or from any liens against the Project property or Project monies filed by any such laborers, subcontractors, materialmen, or suppliers of Contractor.

Total Contract: $_____

Due on Total Contract after above payment: $_____

Contractor:_____ Sworn to before me this ____Day of _____, 20__.

By: _____ Notary Public: _____

Signature:_____ My Commission Expires: _____

Title: _____

SECTION 01 30 00 - CONSTRUCTION PROCEDURES AND CONTROLS

PART 1 – GENERAL

Where the requirements of this Section 01 30 00 differ from the requirements set forth in Section 01 35 23, Contractor is to comply with the more stringent requirement in performance of the Work. **Some items below may not apply to the work being executed at Edison.**

1.01 RELATED DOCUMENTS

1. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specifications sections, apply to work of this section.

1.02 QUALITY OF MATERIALS AND WORKMANSHIP

1. Applicable industry standards are made part of the Contract Documents by reference and have the same force and effect as if the actual standards were physically bound into the Contract Documents.

1.03 REFERENCED STANDARDS

1. Referenced standards, those standards either referenced directly in the Contract Documents or referenced in governing regulations, have precedence over non-referenced standards which are recognized in the construction industry as being applicable to the work.

1.04 NON-REFERENCED STANDARDS

1. Non-referenced standards are those standards not directly referenced in the Contract Documents nor referenced in governing regulations, but are recognized in the construction industry, except as otherwise limited in the Contract Documents, as having direct application to the work and will be so enforced.

1.05 DATES OF STANDARDS

1. Where compliance with a standard is required, comply with that standard in effect on the date the Contract Documents are issued, unless otherwise indicated.

PART 2 - PRODUCTS

2.01 SOURCE OF INDUSTRY STANDARDS

1. The following is a partial list of organizations that have established standards of quality and workmanship.

ANSI - American National Standards Institute

ASTM - American Society of Testing Materials
FMS - Factory Mutual System
NEC - National Electric Code
NFPA - National Fire Protection Association
UL - Underwriters Laboratories Inc.

2.02 SYSTEMS AND RATED CONSTRUCTION IDENTIFICATION

1. Generally mechanical/electrical equipment systems shall be minimally labeled by each trade for identification and future maintenance use to minimally identify: Type of system (i.e. fire alarm, power, steam, H.W., etc.); and specific sub branch (i.e. circuits 12, 14, 16 – LP-2/7; dishwasher steam; etc.); direction of energy/signal flow with arrows, and operating directions (i.e. start up of dishwasher, HVAC operation, elevator emergency alarms, etc).

2. Terminal units/major equipment (electric panels, control panels, fan units, pumps, etc.) shall be minimally labeled with permanent, engraved, dual colored rigid plastic plates, mechanically attached.

3. Distribution systems shall be minimally labeled (so each sub system can be identified within 50') as follows:
    1. Insulated/un-insulated pipe/ducts/etc. (plumbing, HVAC, fire systems) shall have taped marker systems per applicable specification division (or at least painted (stenciled) labels, if not otherwise specified.
    2. Conduit/wiring distribution systems shall be minimally marked at each junction/distribution box with neat, ½" high hand lettered, permanent wide tip magic markers. Indication shall be on inside of box where box is in finished space or concealed/ buried, and on the outside where box semi-concealed such as above lay-in ceilings, or mechanical spaces such as crawl spaces.
    3. Distribution systems with receptacle type terminations at each end or flexible connection possibilities such as telephone or computer distribution systems shall have each receptacle and/or tie-in point labeled with specific distribution I.D. such as "Room No." plus additional I.D. breakdown as required (i.e. room number "101" plus #3 computer line = "101-3c").
    4. Existing systems disturbed by this contract shall be labeled/ relabeled similar to new work, by the Contractor responsible for that type of system.
4. Each new (or renovated existing) "Rated" wall construction shall be labeled. Labels to be "2 Hour Rated Wall" (or 1 hour, or ¾ hour), and shall be on each side. In mechanical spaces locate about 8' A.F.F. and mid point of length of wall unless a more visible location is possible. In "finished" rooms with suspended ceilings, locate just above ceiling level, in location most likely to be seen by maintenance personnel. Labels to be painted stencils 3" to 6" high applied after all finish painting is done, in a contrasting color. For existing walls in renovated areas, the applicable contractor shall also label these applicable walls.

2.03 MISCELLANEOUS DEFINITIONS

1. The term "product" as used herein in term contractions and unless specifically noted otherwise is to mean materials, systems and equipment.

2. The term "Project Manual" is used herein in term contractions and unless specifically noted otherwise is to mean the bidding requirements, Contract, Drawings and the Specifications.

3. The term "install" or "furnish all labor" are used herein as term contractions and unless specifically noted otherwise are to mean perform all operations connected with installation of work including unloading materials to be installed, supplying all necessary equipment and rigs to do the work, test, place in operation and service.

4. The terms "furnish" or "furnish all material" are used herein as term contractions and unless specifically noted otherwise are to mean "supply and deliver to the job site all materials and/or equipment so specified".

5. The word "provide" is used herein as a term contraction and unless otherwise specifically noted is to mean "furnish, install, connect up complete, test, place in operation and service".

6. The terms "approved", "equal", "proper" and words of similar meaning are understood to mean "in the opinion of the RCSD Design Group".

7. The word "replace" is used herein as a term contraction and unless otherwise specifically noted is to mean "remove any existing and provide new".

8. The word “relocate” is used herein to mean “disassemble, disconnect, transport to new location, store during process, clean, test and install, ready for use similar to new work including providing any misc. adjustments, accessories, etc. required. It includes removing all materials, equipment, etc. made obsolete by this relocation and patching original remaining area. It does not include repairing any not functioning equipment.

9. The terms “finished area” or “finished room” is a normally finished (painted) and occupied/used space such as classrooms, offices and related storage space, corridors, stairways, etc. Generally it does not include mechanical spaces/rooms, plenum spaces, drawl spaces, etc. unless those spaces are specifically indicated to be painted.

10. The term “repair” (in reference to construction assemblies, not to repair of equipment) is essentially the same as “patching” a system.

11. The terms “general scope”, “diagrammatic”, and “schematic” are used to establish overall sizes, quantities, scope, etc. of a particular system, or sub-system as set out by the drawings. The intent is to establish the required work to which a “nominal” quantity of additions/deletions or work may be necessary to fit to existing as built conditions and/or field conditions.

12. The term “nominal” is used to define an additional or lesser amount of work that is expected to be part of the scope of work with no change in cost.

13. The term “applicable contractor” (or similar wording) is to mean the contractor which has responsibility under his contract for the items/ trades involved in that particular use of the term. (i.e. it is the “Plumbing Contractor” if the discussion involved work related to “gas” piping. It is the Electrical Contractor if the discussion involves electric device boxes).

PART 3 - EXECUTION

3.01 PRESENT BUILDING OPERATION

1. The particular attention of the Contractor is directed to the requirement that the school must continue to function during the normal school year. Occupants and related personnel must have safe access, at all times, to those portions of the present school building being used by the school. Close cooperation with the occupants of the school is essential. The use of roofs, corridors, stair towers or exits as work areas or as storage areas for material, equipment or tools is prohibited.

3.02 LAYING OUT WORK

1. The Contractor employed on this project shall lay out all work included in his Contract as shown on the drawings and/or called for in these specifications. Take all required measurements and order all materials promptly. The Contractor will be held responsible for all damage or expense caused by inaccuracy on his part in laying out work.

2. Installer of each major unit of work is required to inspect substrate to receive work and to report in writing to the Contractor, Construction Manager and Architect/ Engineer unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

3.03 COORDINATION AND COOPERATION

1. Contractor Contact; The Contractor and all of the Contractor's workers will be prohibited from any contact with the school's student or staff population. Contact with the Owner will primarily be made through the Construction Manager. In case of emergency, notification shall be made to the school principal and head custodian in addition to the Construction Manager.

2. Coordination and Cooperation; The Contractor shall be responsible for the work of this project among his employees and subcontractors and for the coordination and cooperation between his employees, all other Contractors that are engaged on this project, their employees, subcontractors and the Owner.

3. Supervision: A full time superintendent is required when contract amount exceeds $50,000. Supervision includes coordination of work with the Owner and other contractors as well as providing direction to the contractor's workers, sub-

contractors and suppliers. The superintendent shall be present at all project progress meetings. A change in supervisory personnel after the commencement of work shall be permitted only upon approval of the Inspector.

3.04 EXISTING ALARM SYSTEMS

1. All systems are slated for demolition. Setup and maintenance of a temporary fire alarm system is required utilizing the existing fire alarm panel.

3.05 EMERGENCY PROCEDURES

1. Emergencies requiring the evacuation of the school building are indicated by the ringing of the fire alarm bells. The Contractor and all his workmen, subcontractors and vendors must leave the building promptly and in an orderly manner. Do not re-enter the building until permission is given by the Principal. The Contractor shall enforce the strict compliance of these required emergency procedures by all his workmen, subcontractors and vendors.

3.06 SMOKING

1. Smoking shall be prohibited in school buildings, school grounds, public areas and work sites of all Owner's and RCSD's property, as well as any area immediately outside building entrances in accordance with Article 13-E of the New York State Public Health Law, as amended and Article VII of the Monroe County Sanitary Code. The Contractor will be held responsible for all damage resulting from failure on his part to enforce this ruling among all his respective employees and vendors.

3.07 PROTECTION OF BUILDINGS AND GROUNDS

1. The Contractor shall take all necessary steps to protect the grounds, the building and its equipment. Where materials are brought into the building and wherever the work is done in the building, protect all finished surfaces. Any damage resulting from the work of the Contract shall be repaired at no cost to the Owner.

2. The Contractor shall provide secure barriers at all the work areas and staging areas. The Owner, RCSD, or Owner's Representatives shall not be responsible for theft or vandalism of materials, equipment, or work in progress until completion of project. The Contractor shall be responsible to provide security of site and all work. Barriers shall be located in such a manner that all egress and exits are maintained.

3. The Contractor shall provide temporary enclosures of the building at all locations where either new or existing openings are required. Enclosures shall be secure, weather tight and provide the least disturbance of the existing construction that is to remain. Upon removal of enclosures, restore all work to existing or new conditions. Submit data for approval by the Construction Manager and the Architect/ Engineer prior to commencement of work. Work that involves temporary removal of building openings for purposes of work area exhaust or to facilitate work in progress shall necessitate temporary security to prevent damage to building from theft or vandalism.

4. Parking on playing fields and in staff parking areas while school is in session is not permitted.

5. Prior to commencement of work and in the presence of the Construction Manager, complete the attached Building Systems Status form. This form shall be submitted prior to the first application for payment. At the completion of the project, a walk-through with the Inspector will be done, verifying building system status after construction. If the contractor fails to perform pre and post inspections, and building systems are found to be damaged or defective at completion of construction, the Owner will assume that the Contractor is responsible for all cost required to restore system(s).

3.08 STAGING AREAS FOR DEMOLITION AND CONSTRUCTION

1. Staging areas for demolition and construction shall be approved by the Construction Manager and the Architect/Engineer prior to start of work. The use of roofs, corridors, stair towers or exits as work areas or as storage areas is prohibited.

2. Store all flammable and combustible materials in a locked fire rated enclosure. Paint shall be stored in a paint locker.

3.09 WORKING WITH AN OPEN FLAME

1. The Contractor shall comply with the City of Rochester Fire Department – Fire Safety Division's requirements for open flame use such as welding, asphalt kettle burners, etc., and shall acquire a permit for such use from the Permits Clerk of the Fire Safety Office, 150 Plymouth Avenue, "Public Safety Building" Room 300 (phone 585-428-7037). A copy of this permit is to be provided to the Owner. The following is a brief listing of the minimum requirements during use of an open flame. Additionally, all policies established by the City Fire Department shall be complied with.

1. Any combustible materials near the work area that may be accessible to spark, flame, heat or hot metal, that may cause ignition, are to be protected by non-combustible shields or covers.
2. A minimum of two (2) 20 pound dry chemical or carbon dioxide fire extinguishers shall be provided by the contractor, immediately available at the work area.
3. A fire watch shall be provided to watch for fires, make use of portable fire extinguishers and perform similar fire prevention and protection duties. The fire watch shall remain for at least 30 minutes after the use of any flame to insure no fire exists.
4. Fuel gas tanks (oxygen, acetylene, liquid petroleum, hydrogen, natural gas, etc.) shall be securely held upright, away from all exits, windows and combustible materials, provide full air circulation to prevent exposure to high heat, and removed from premise at end of each day.
5. The building is not to be occupied by students or staff during any open flame tasks.

3.10 Lockout/Tagout Procedure

1. The contractor must adhere and strictly follow either the Project Lockout and Tagout requirements, the owner's requirements or the contractors own requirements, whichever is the most stringent.
2. Electrical work (e.g. tie-ins, panel maintenance) shall be conducted only on de-energized (locked out and tagged out) systems.
3. All circuit disconnects must be locked in the open position or otherwise appropriately identified with affixed tags stating "DANGER - DO NOT ENERGIZE" or other equivalent wording prior to working on the system or equipment.
4. Employees are not permitted to work on any energized circuits unless conditions mandate and written approval is obtained from the Regional Safety Manager.
5. The pre-task planning for all work on energized systems must be submitted for review.
6. Work practices must conform to all applicable owner, state and federal requirements including the NEC and the most recent version of NFPA 70E.

Lockout Devices

1. Only individually keyed padlocks shall be used. Padlocks are to be painted per the craft color code for easier detection and craft identification.
2. A lockout device of the standard scissor type that will allow the placing of more than one padlock is required, when more than one individual is working on a circuit or mechanical process.
3. A piece of chain or cable may be necessary to complete a lockout on some valves or controls and shall be used wherever needed.

Danger Tags

1. 'Danger Tags' are not 'Danger Signs', and shall not be used where a sign is needed.
2. Two standardized Danger Tags shall be used on this project. They are described as follows:
    a. "DANGER - DO NOT USE": This tag must be attached to each padlock on a lockout.
    b. "UNSAFE - DO NOT USE": This tag does not require an attachment to a padlock, but may be used if needed. This tag shall be used to identify tools, equipment, vehicles, etc.

Procedure

1. If device, valve, switch, or piece of equipment is locked out, a "Danger Tag" shall be attached.
2. No device, valve, switch or piece of equipment shall be operated with a "Danger Tag" and/or lockout attached regardless of circumstances! ! !
3. Systems consisting of electrical components will be checked, locked and tagged first by electrical craft employee working on the circuit.
4. The electrical craft will be the first lock on, and the last lock off.
5. Where placing of lock is not feasible, the circuit conductor will be disconnected from the breaker and tagged out.

6. The panel cover must be of the type that will cover all breakers when closed and must be equipped with a hasp in order to secure a lock to prevent the panel door from being opened.
7. If panel cover is of a type that cannot be locked closed, a cover must be secured over the panel cover and be locked closed and tagged while any work is being performed on any of those circuits.
8. If the above cannot be accomplished, each circuit will be tagged out as prescribed and an electrician will stand by the panel board to prevent breakers from being tampered with. This physical presence will continue daily until the work is complete.
9. All "Danger Tags" must be dated and signed. Also on tag, must be the intended work and equipment for which tag has been placed.
10. If employees of more than one craft or crew are to work on a system, circuit, machinery, or component, the supervisor from that craft shall place his individual lock and tag; and verify that the system, circuit, machinery or component being tagged, is indeed the system that is to be worked on.
11. Only the person that placed the lock and tag shall remove it without special authorization from the Project Manager, Construction Manager or Craft Superintendent.
12. Padlocks, Lockout Devices and "Danger Tags" shall be made available as specified above.
13. Padlocks shall be color coded for craft identification and shall only be used by that craft for lockout purposes, i.e. valves, switches, electrical components, etc.
14. Padlocks shall be issued from the contractor responsible where a sign in/out log will be maintained. Locks and tags shall be issued to the foremen or supervisor responsible for the craft performing the work.
15. The contractor of each craft discipline will be responsible for assuring all padlocks are personally identified, that will be used for lock and tag purposes.
16. The Contractor Superintendent(s) will be responsible for ordering their own craft's padlock. A master key will also be provided.
17. Any employee(s) or person(s) found to have removed another's lock and/or tag will be subject to disciplinary action up to and including dismissal from the project.

Special Situations

1. When due to the nature of work, a supervisor who has employees assigned to work on systems that are between construction and client turnover that is to be locked and tagged out in order to perform work, the below shall be applied:
2. Prior to the electrical foreman de-energizing the system, the foreman will ascertain whether system or device has been turned over and accepted by the client; If system is signed off, the client shall assume responsibility for de-energizing system and becoming the tagging authority.
3. Contractor Electrical foreman/craft journeyman places lock and tag and tries to engage the equipment.
4. The electrical journeyman or lead man will meter the tagged equipment to verify that it is de-energized.

3.11 HOT WORK

1. Before engaging in hot work i.e. gas welding/cutting, soldering, grinding, utility shutdowns and crossovers submit Hot Work Permit Forms for approval and use.

Electric Arc Welding

1. A suitable, approved fire extinguisher shall be ready for instant use in any location where welding is done.
2. Screens, shields, or other safeguards should be provided for the protection of men or materials, below or otherwise exposed to sparks, slab, falling objects, or the direct rays of the arc.
3. A dedicated fire watch shall be present at all welding operations and remain for at least 1 hour after the hot work has halted.
4. The welder shall wear approved eye and head protection.
5. Trades assisting the welder shall also wear protective glasses, head protection and protective clothing.
6. Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
7. Electric welding equipment, including cables, shall meet the requirements of the National Electric Code.
8. All arc welding and cutting cables shall be of the completely insulated flexible type capable of handling the maximum current requirements of the work.
9. Cables in need of repair shall not be used.
10. The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable connecting the circuit connector or through a separate wire which is grounded at the source of the current.
11. All ground connections shall be inspected to insure that they are mechanically strong and electrically adequate for the required current.
12. Welding practices shall comply with all applicable regulations.

Gas Welding or Cutting

1. When gas cylinders are stored, moved, or transported, the valve protection cap shall be in place.
2. When cylinders are hoisted, they shall be secured in an approved cage or basket. The valve cap shall never be used for hoisting.
3. All cylinders shall be stored, transported, and used in an upright position. If the cylinder is not equipped with a valve wheel, a key shall be kept on the valve stem while in use.
4. At the end of each work day or if work is suspended for a substantial period of time, compressed gas cylinder valves must be closed, regulators removed and properly stored.
5. Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.
6. Cylinders containing oxygen or acetylene or other fuel gas shall be stored in designated areas outside the structure as approved by the CM.
7. No one shall use a cylinder's contents for purposes other than those intended by the supplier.
8. All hose used for carrying acetylene, oxygen or other fuel gas shall be inspected at the beginning of each working shift.
9. Defective hose shall be removed from service.
10. Oxygen cylinders and fittings shall be kept away from oil and grease.
11. Oxygen shall not be directed at oily surfaces, greasy clothes or hands.
12. Regulators, gauges, backflow check valves, and torches shall be kept in proper working order.
13. An approved fire extinguisher shall be readily available.
14. Flash arrestors are required on the oxygen and acetylene hoses, at the regulators.
15. Appropriate personal protective equipment, such as burning glasses, shields, and/or gloves shall be used.
16. Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
17. Work permits shall be obtained daily, prior to any burning or cutting operations on the site.

Work Permit Procedures

General Procedures

1. A copy of this section of the Project Safety Plan will be issued to all Contractors, and will serve as notice by the CM that a work permit as specified by the CM is necessary before starting any hazardous work activity.
2. The work permit shall be obtained from the CM before starting each day's work.
3. The procedures for initiating a hazardous work permit are listed on the permit application appropriate to the type of work.
4. Hazardous work Permits include, but are not limited to the following activities: Hot Work, Confined space entry, Guardrail removal, Line Breaks, after Hours work, Trenching and

excavation, Crane use and Barricade installation.

5. Additional job-specific hazardous work permits may be required, due to special project conditions, to be incorporated into the project safety plan. These will also be considered as a contract commitment.

Hot Work

1. Hot work is defined as a process or procedure, which could result in a fire if not properly controlled. Common types of hot work are welding, burning, cutting, brazing, soldering.
2. Hot work will usually be permitted only during normal working hours.
3. Permits will be issued the day before work is to be accomplished, and the work area will be inspected to verify that adequate control has been established.
4. A copy of the permit will be available at the point of work.
5. An adequate number of fire extinguishers will be available within 50-feet of the point of work for which a permit is issued.
6. The Contractor will take the necessary precautions when welding or burning above walls to assure that protection is maintained on both sides of the wall and areas below are protected on multilevel buildings.

END OF SECTION 01 30 00

SECTION 01 31 13 – CONTRACT COORDINATION

PART 2 - GENERAL

2.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 01 Specification Sections, apply to this Section. Not all sections may apply to work being done at Edison.

2.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Administrative and supervisory personnel.
3. Project meetings.
4. Requests for Information (RFIs).

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

C. Related Sections include the following:

1. Division 01 Section "Summary of Work" for a description of the division of Work and responsibility for coordination activities not in this Section.
2. Division 00 Section "Milestone Schedule and Critical Submittals" for preparing and submitting Contractor's Construction Schedule.
3. Division 01 Section "Use of Site" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
4. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

2.3 DEFINITIONS

A. RFI: Request for information from Contractor seeking interpretation or clarification of the Contract Documents.

2.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.

Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for maintenance, service and repair.

C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities of each Contract include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.

   a.) Contractor for Abatement Demolition to prepare initial Construction Schedule, get durations and finalize for submission to Architect and Construction Manager.

2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-installation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Training

E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

2.5 SUBMITTALS

A. Product Data, Shop Drawings, Coordination Drawings, Color Samples, etc. will all be submitted for Architect Approval using Submittal Exchange.

B. Coordination Drawings (**NOT APPLICABLE**): Separate prime Contracts to coordinate and prepare Coordination Drawings for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. DRAWINGS FOR MECHANICAL, PLUMBING FIRE PROTECTION AND ELECTRICAL WORK

a. Drawings contain diagrammatic layouts and indicate general arrangement of systems, piping conduit, etc.
b. Prior to installation of material and equipment, review and coordinate work with Architectural and Structural Drawings for exact space conditions, where not readily discernible request information from Architect before proceeding.
c. Check Drawings of all other trades to verify extent of material and equipment to be installed in spaces available and consider layout alternatives so that all requirements can be accommodated.
d. Maintain maximum headroom at all locations without finished ceilings.
e. Maintain finished ceiling heights as indicated.
f. Coordinate installations with other trades to prevent conflict with work of other trades and cooperate in making reasonable modifications in layout as needed.
g. Where conflicts occur with placement of mechanical and electrical materials as they relate to placement of other building materials, the Field Architect and Construction Manager shall be consulted for assistance in coordination of the available space to accommodate all trades.

2. PRIORITY OF CONSTRUCTION SPACE

a. Following is the Order of Priority for Construction Space:
Not Applicable

3. COORDINATION DRAWINGS

a. The ductwork contractor/subcontractor shall prepare a complete set of drawings at scale of minimum 1/4" equals 1'-0".
1) The construction documents in their original, copies or electronic file form are the Architect's instrument of service and are protected under copyright laws.
2) The reproduction of these documents for use as coordination drawings or shop drawings is prohibited without the Architect's written consent and authorization.

3) Each contractor shall prepare a coordination drawing indicating their work, with appropriate elevations and grid dimensions.
4) Each contractor shall sign and date the Coordination Drawing after the addition of his information.
5) Fabrication shall not start until receipt of completed coordination drawings is acknowledged by the Construction Manager in writing to the Architect.

6) Contractors and Specialty Trades (including, but not limited to):
- a) Masonry and Precast
- b) Structural Steel
- c) Ductwork
- d) Fire protection piping
- e) Other piping
- f) Electrical

7) Coordination Drawings required for all corridors, rooms, horizontal exits from duct shafts, crossovers and any other areas where congestion of work may occur.

8) They shall incorporate the following line color pattern:
- a) Fire Protection – Red
- b) Electrical – Blue
- c) Plumbing – Green
- d) Duct Work – Lavender
- e) Reflected Ceiling – Light Green
- f) Walls – Black and Shaded
- g) HVAC – Orange

9) Coordination Meetings: Conduct Project coordination meetings at biweekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

a) Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
b) Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
c) Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the

schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

4. ADDITIONAL CONTENT FOR COORDINATION DRAWINGS

Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

a) Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b) Indicate required installation sequences.
c) Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

5. SHEET SIZE: 24 by 36 inches.

6. Number of Copies: Submit (8) opaque copies of each submittal, as required. Architect will return one copy.

a. Submit four copies where Coordination Drawings are required for operation and maintenance manuals. Architect will retain one copy; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

7. Reference Section 23 05 00 1.11 and Section 26 05 00 1.14 for additional information.

C. Key Personnel Names: Within fifteen (15) business days before starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

2.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

2.7 CONTRACTOR'S MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated. If attendance by the Architect, Construction Manager, Program

Manager, Technology Consultant, or Owner is necessary or desired then coordinate the time and location of the meeting with the appropriate parties.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Construction Manager and Architect of scheduled meeting dates and times, even if attendance by same is not required.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three (3) business days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, Architect and Construction Manager, but no later than fifteen (15) business days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, Construction Manager and their consultants (Technology Consultant/Program Manager); prime Contractors and their superintendents; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Procedures for processing field decisions and Change Orders.
    f. Procedures for RFIs.
    g. Procedures for testing and inspecting.
    h. Procedures for processing Applications for Payment.
    i. Distribution of the Contract Documents.
    j. Submittal procedures.
    k. Preparation of Record Documents.
    l. Use of the premises and existing building.
    m. Work restrictions.
    n. Owner's occupancy requirements.
    o. Responsibility for temporary facilities and controls.
    p. Construction waste management and recycling.
    q. Parking availability.
    r. Office, work, and storage areas.
    s. Equipment deliveries and priorities.
    t. First aid.
    u. Security.
    v. Progress cleaning.

w. Working hours.
x. Owner's health and safety requirements.
y. Agree upon a schedule for regular meetings.

3. Minutes: Construction Manager will record and distribute meeting minutes.

C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Construction Manager of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. The Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility problems.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written recommendations.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Minutes: Construction Manager will record and distribute meeting minutes.
   a. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
   b. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: The Construction Manager shall conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Owner,, Construction Manager, and Architect each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) RFIs.
16) Status of proposal requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.

20) Documentation of information for payment requests.

3. Minutes: Construction Manager will record and distribute the meeting minutes to Owner, Architect, and Contractors.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

2.8 REQUESTS FOR INFORMATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI using the form specified.

1. RFIs shall originate with the Prime Contractor. RFIs submitted by entities other than the Prime Contractor will not be responded to.

2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

3. RFIs will be processed via the submittal submission procedures established for this project utilizing Submittal Exchange.

4. Prime Contractor will fill in all applicable fields of the Request for Information form established for this Project and is available for Contractors' use from the submittal procedures established for this project. A copy of this form is included in this Project Manual in Division 00 "Request of Information"

5. The format for naming the electronic version of the RFI shall be:
   a. Contract Number – RFI number
      1) The Contract number is the same as the number on the Bid Form.
      2) The RFI number shall be sequential starting with #001.

6. RFIs shall be prepared electronically using a computer program capable of reading, field filling, and saving the completed form as a PDF (Portable Document Format) computer file:
   a. Internet Service and Equipment Requirements:
      1) Email address and Internet access at Contractor's main office.
      2) *Adobe Acrobat* (www.adobe.com), or other similar PDF review software for applying electronic stamps and form filling.

7. Contractor shall upload the RFI to the appropriate category on the project website established for this project, or other submission procedures established.

8. The Contractor shall be notified by the Construction Manager via e-mail once the response from the Architect has been made available.

9. Contractor shall bear responsibility for the Architect/Engineer's time for unnecessary or frivolous RFI's.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following on the project form established for this Project:

1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Architect.
5. Contract Number.
6. RFI number, numbered sequentially.
7. Name/Location of Project Work Site (if Contract involves multiple addresses).
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

    a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. Hard-Copy RFIs: RFI Form is attached in Project Manual.

1. Identify each page of attachments with the RFI number and sequential page number.

D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

E. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 3:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.

e. Requests for interpretation of Architect's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.

2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 43 "Change Order Requests."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within five (5) business days of receipt of the RFI response.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Manager within five (5) business days if Contractor disagrees with response.

G. RFI Log: Each Contract to prepare, maintain, and submit a tabular log of RFIs organized by the RFI number bi-weekly; log to include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 3 - PRODUCTS (Not Used)

PART 4 - EXECUTION

4.1 MAINTENANCE OF ON-SITE DOCUMENTS

A. Contractor shall maintain all Construction Documents, and changes to them, in an orderly manner at each Work Site and shall immediately make them accessible to the Owner, Architect, or Construction Manager upon request. Documents of this type include, but are not limited to:

1. Construction drawings with posted addenda.
2. Project Manual with posted addenda.
3. Construction Progress Drawings (as-builts).
4. Approved submittals.
5. Updated construction schedules.
6. Requests for Information.
7. Changes to the work.
8. Architect’s Supplementary Instructions

9. Insurances and Bonds.
10. MSDS sheets.

END OF SECTION 01 31 13

SECTION 01 32 16 - CONTRACTOR'S CONSTRUCTION SCHEDULE

PART 5 - GENERAL

5.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction and other Division 01 Specification Sections, apply to this Section.

5.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.

B. Related Sections include the following:

1. Division 01 Section "Summary of Work" for preparing a combined Contractor's Construction Schedule.
2. Division 01 Section "Construction Procedures and Control" for submitting and distributing meeting and conference minutes.
3. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
4. Division 01 Section "Quality Control" for submitting a schedule of tests and inspections.

5.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.

F. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Fragment: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

H. Major Area: A story of construction, a separate building, or a similar significant construction element.

I. Milestone: A key or critical point in time for reference or measurement.

J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

5.4 SUBMITTALS

A. Submittals Schedule: Refer to Division 01 Section “Submittal Procedures”.

B. Preliminary Construction Schedule: Submit two (2) opaque copies.

1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.

C. Contractor's Construction Schedule: Submit two (2) opaque copies of initial schedule, large enough to show entire schedule for entire construction period.

D. Construction Reports: Submit two (2) copies at weekly intervals.

E. Field Condition Reports: Submit two (2) copies at time of discovery of differing conditions.

5.5 QUALITY ASSURANCE

A. Pre-scheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Construction Procedures and Control." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:

1. Discuss constraints, including phasing work stages, area separations, interim milestones, and partial Owner occupancy.
2. Review time required for review of submittals and re-submittals.
3. Review requirements for tests and inspections by independent testing and inspecting agencies.
4. Review time required for completion and startup procedures.
5. Review and finalize list of construction activities to be included in schedule.
6. Review submittal requirements and procedures.
7. Review procedures for updating schedule.

5.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 6 - PRODUCTS

6.1 SUBMITTALS SCHEDULE

A. Preparation: Refer to Division 01 Section “Submittal Procedures”.

B. CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

C. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

D. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

E. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than thirty (30) days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and re-submittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
4. Startup and Testing Time: Include not less than twenty-one (21) days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.

F. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
4. Work Restrictions: Show the effect of the following items on the schedule:

a. Coordination with existing construction.
b. Limitations of continued occupancies.
c. Uninterruptible services.
d. Partial occupancy before Substantial Completion.
e. Use of premises restrictions.
f. Seasonal variations.
g. Environmental control.

5. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Mockups.
    e. Fabrication.
    f. Sample testing.
    g. Deliveries.
    h. Installation.
    i. Tests and inspections.
    j. Adjusting.
    k. Curing.
    l. Startup and placement into final use and operation.

G. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

H. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

6.2 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven (7) days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first sixty (60) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

6.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. CPM Schedule: Prepare Contractor's Construction Schedule using a computerized, time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than thirty (30) days after date established for the Notice to Proceed.

    a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
4. Use "one workday" as the unit of time. Include list of nonworking days and holidays incorporated into the schedule.

B. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

    a. Preparation and processing of submittals.
    b. Mobilization and demobilization.
    c. Purchase of materials.
    d. Delivery.
    e. Fabrication.
    f. Installation.
    g. Testing.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.

C. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Authorized changes in the Contract Time.

PART 7 - EXECUTION

7.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one (1) week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 16

SECTION 01 32 19 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

1. Drawings and general provisions of Contract apply to work of this section.

1.02 CERTIFICATE OF CAPITAL IMPROVEMENT

1. A Certificate of Capital Improvement will be supplied to the Contractors by the School District.

1.03 PERFORMANCE AND LABOR AND MATERIALS PAYMENT BOND

1. Simultaneously with his delivery of the executed contract, the successful bidder must deliver to the Board all Performance and Labor and Materials Payment Bonds and Insurances in accordance with Section 00 73 16 “Insurance and Bonds Requirements.”

1.04 ADDITIONAL SURETY

1. The Contractor shall furnish an additional surety bond in an amount at least equal to one hundred percent (100%) of the cost of any adjustment in the contract price, by reason of an authorized change in the work, as security for faithful performance of the additional work and for the additional payment of all persons performing labor and furnishing materials in connection with this contract.

PART 2 - PRODUCTS

2.01 SUBMITTALS – (All to be submitted electronically through Submittal Exchange.)

1. Permits and Certificates

1. Provide the District with a copy of all required permits such as “Right-of-Way Permits”, “Plumbing Permits”, “Open Flame Permits”, “Highway Work Permits”, “Electrical Underwriters Certificate”, “Department of Health Permit and Certificates”, etc. if such permits are required for the specific tasks on the project. (Typically “Building Permit” is issued to the District directly by the New York State Education Department and is not the responsibility of the Contractor to acquire).

2. Shop Drawings

1. The Prime Contractor shall submit via Submittal Exchange all submittals including product data, shop drawings and samples. Detailed requirements for shop drawings relating to certain portions of the work are stated in the drawings and various sections of these specifications. Refer to individual sections. Shop drawings furnished by sub-contractors or material vendors shall be submitted only by the Prime Contractor via Submittal Exchange. All manufactured products shall be identified by the name of the manufacturer and catalog number. Each copy of shop drawings shall be clearly marked with the title of the job and the Contractor's name. The Contractor shall indicate on the shop drawing submittal the factory delivery date and/or lead time. Refer to Section 00 72 16 - General Conditions.

2. Equipment layout shop drawings shall indicate dimensioned layout, rough-in and connection data for mechanical/electrical. Each roughing-in location shall be dimensioned accurately from the building walls.

3. Shop drawings of custom-fabricated and/or field installed material/equipment/systems, etc. shall show equipment under this contract, indicating all reinforcement, as well as details for the installation and relation to adjoining and related work which requires cutting and close fitting, anchoring, etc. Layouts shall provide the fine-tuned coordination with other systems, equipment, structure, ceiling layouts, heights, existing conditions, etc. and shall include necessary adjustments so work can be properly installed.

4. All shop drawings and product submittals shall minimally reference equipment, materials, etc. to identification system used in specifications and/or drawings, dates, project field dimensions, applicable standards, etc..

5. All shop drawings shall coordinate with existing/new adjacent conditions and make adjustments in the work within the general intent of the project.

6. By submitting shop drawings, the Contractor represents that he/she has determined and verified materials, field measurements, field conditions and has checked/coordinated that information within such submittals with the requirements of the work and the contract documents.

3. Manufacturer's Affidavit

1. The Contractor, if requested, shall furnish affidavit from manufacturer, certifying that materials or products delivered to the job meet requirements specified. However, such certifications shall not relieve Contractor from responsibility of complying with any added requirements specified herein.

4. Samples and Mock Ups

    1. The Contractor shall submit a sufficient number of samples for approval and per the Architect/Engineer's request plus one for retention by the Construction Manager for each item requiring sample submission. When it is necessary to retain a sample at the construction site for comparative purposes such as a workmanship sample, the Contractor shall submit one additional sample. Refer to individual sections and Section 00 72 16 - General Conditions. When mock-ups ("constructed on site" samples) are required, the complete requirements are specified in the individual section involved.
    2. A pre-installation meeting will be required to review mock up and to certify the installation will be acceptable.
    3. Mock ups will be required on this project. Refer to individual Specification Section for mock up requirements.

5. Substitutions/Equivalents

    1. All requests for equivalents must be submitted prior to award of contract in conformance with the “Equivalents” procedures set forth in the Instructions to Bidders (Section 00 21 13). Any request for substitutions the Contractor wishes to make after contract award shall be governed by the “Substitution” procedures in the General Conditions (Section 00 72 16).

6. Operating and Maintenance Manuals (Also refer to Closeout Submission Requirements of Section 01 77 00 and to O and M Manuals and Data of Section 01 78 23).

    1. Detailed requirements for operating and maintenance manuals relating to certain portions of the work are stated in the various sections of these specifications. The Contractor shall submit three (3) complete copies of each required manual to the Architect/Engineer on flash drive, along with two (2) hard copies, for review prior to final payment. Once approved, manual will be submitted to the Construction Manager for recordkeeping. The operating manual shall list all products and assemblies, warranties and manufacturer’s instructions. It shall also include any diagnostics, schematics and software passwords necessary for service and maintenance. Detailed requirements for operating and maintenance manuals relating to certain portions of the work are stated in the various sections of these specifications. Refer to individual sections and Section 00 72 16 - General Conditions.

2. Organize operating and maintenance manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb tabbed). Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data and similar applicable information. Bind each manual of each set in a heavy-duty 3-ring binder and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder, including identification of school and dates of work.

7. Warranties Manual

1. All Contractors shall submit to the Architect/Engineer two copies of a manual of all manufacturer's and builder's warranties and bonds, as required by the contract documents. Include in this manual the project title, an index of warranties and the initial warranty date. Refer to Article 2.1.6 of this section. All warranties shall be effective, unless stated otherwise, from the date of final payment. Refer to Section 00 72 16 - General Conditions.

8. No ACBM Statement

1. No Asbestos Containing Building Material (ACBM) shall be used on this project. Prior to the application of final payment, the Contractor shall submit to the Construction Manager, a signed statement on the Contractor's corporate letterhead identifying the project name, date of project issue and contract number, to the effect that no work of this project involved the application, installation or provision of known or suspected asbestos containing building material (ACBM).

9. As-Built Documents

1. The Contractor shall maintain at the site one record copy of the drawings, specifications, addenda, approved shop drawings, product data, samples, change orders, etc. in good order and clearly marked to record field changes and selections made during construction that are not otherwise documented.
2. As-Built Documents shall include but not be limited to;
    1. Building Construction; All wall relocations, detail changes, structural changes, etc.
    2. In-Ground Buried Work; All distribution line locations, dimensioned from prominent building lines, so as to completely locate line including jogs, direction changes, etc.
    3. Concealed Building Construction Work; All horizontal and vertical distribution lines. This includes all systems distribution even if small sizes (i.e. fire alarm conduits, small gas distribution lines, hot water re-circulation loops, etc.). Where work is concealed locate by dimension.

If exposed (includes within ceiling plenums) only generate scalable locations as necessary.

4. Locations of Equipment; All valves, unions, dampers, equipment requiring maintenance, etc. if different form original drawings, or not indicated.
5. Existing Distribution Systems; All encountered as it relates to this contract's work.
6. General Sizes and Materials; If not otherwise indicated on contract drawings.
7. Where the original drawing is substantially correct the Contractor shall indicate so by clearly marked check (□) over each distribution and branch point, equipment location, etc. Where original drawing incorrectly locates installed work, the Contractor shall erase or 'neatly' "X" out continuously those lines.
8. Prior to application for final payment, the Contractor shall submit three (3) flash drives, each containing a full set of as-built documents, drawn to scale, in PDF format, indicating actual installed conditions, including change order work, to the Construction Manager for approval as record documents.
9. The Contractor shall bear all expenses incurred to record and reproduce record documents that reflect drawing corrections and clarifications relative to found field conditions, and field changes that were induced by, or as a result of the Contractor. Change Order requests, and drawing changes prepared by the Architect/Engineer, shall be so documented on the original drawing by the Architect/Engineer.

10. Receipts and Invoices

    1. Provide prompt submittal of itemized invoices and/or receipts for the purchase and installation of all devices, fixtures and equipment, at the Construction Manager's request. Provide a complete description of items indicated on submittal.

11. Energy Rebate Items

    1. For all equipment proposed for installation that will result in a decreased electrical demand, i.e. high efficiency lighting, ballasts, motors, etc., the Contractor shall submit two (2) copies of sales receipts or purchase orders to the Construction Manager. Such documentation shall state date of purchase, dealer's name and address, equipment or product manufacturer, model numbers, quantity purchased and cost per item. Submittal of documentation shall be made to the Construction Manager within 30 days of purchase.

PART 3 – SUBMITTAL SCHEDULE

Submittal Schedule: Each Contractor shall input the date that each submittal to be uploaded onto Submittal Exchange. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

2. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

3. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first thirty (30) days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

    a. All curtain wall, window, door submittals, etc. will be due within 20 days of award of contract or as needed in order to get work completed per the schedule.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled date of fabrication.
    h. Scheduled dates for purchasing.
    i. Scheduled dates for installation.
    j. Activity or event number.

5. The submittal schedule shall indicate that all action submittals are to be sent to the Architect within thirty (30) days after the execution of the Owner/Contractor Agreement.

    a. If a submittal cannot be sent to the Architect within the specified time period, then the Contractor shall provide an explanation for the additional time.

6. Within thirty (30) calendar days after the execution of the Contract, the Contractors shall submit, to the Project Construction Manager, a copy of the confirmed delivery date for each required material or product.

7. See below chart for a sample submittal schedule:

	DATA		DRAWINGS		WARRANTY
ITEM/SECTION	RECEIVED	APPROVED	RECEIVED	APPROVED	PERIOD
	DATE	DATE	DATE	DATE	
Bonds and Insurance					
Project Schedule					
Submittal Schedule					
Schedule of Values					
Coordination Schedule					
Other					
Other					
Other					
Other					
Other					
Other					
Preliminary Punch List					
Test Reports					
O & M Manuals					
Other Closeouts					

PART 4 – ADMINISTRATIVE REQUIREMENTS

C. Architect's Digital Data Files: Refer to Section 01 35 00 Electronic Document Transfer.

A. Electronic Submittal Requirement: All action and informational submittals shall be submitted as PDF formatted.

1. Use a submittal number assigned by the Architect or Construction Manager.

2. All submittals will be returned to the prime contractors.

3. Internet Service and Equipment Requirements:
   a. Email address and Internet access at Contractor's main office.
   b. *Adobe Acrobat* (www.adobe.com), or other similar PDF review software for applying electronic stamps and comments.

B. Submittal package: Assemble each submittal and re-submittal individually and appropriately for transmittal and handling.

1. Provide a completed "Submittal Cover" form with each submittal, found in Section 00 62 11, as the first page of every submittal.
   a. Every submittal shall be accompanied by a fully executed copy of the Submittal Cover sheet and set forth the following:
      1) Contract number.
      2) Contract for: School Name/Number and SED Project Control Number.
      3) Contractors' name.
      4) Sub-contractor and supplier's name.

5) Submission number and the date for each initial submittal and re-submittal.
6) Shop drawings name and number.
7) Contents.
8) Name of manufacturer.
9) Specification section paragraph number(s) showing product being submitted on.
10) Signature of contractor indicating approval of the submittal with date of approval and all applicable check boxes marked.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.

3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Processing Time: Allow time for submittal review, including time for re-submittals, as follows. Time for review shall commence upon Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including re-submittals.

1. It is the Contractor’s responsibility to provide required submittals complete with enough information to show conformance with the construction documents in a time frame that will not affect the construction schedule. The construction schedule will not be extended due to the Architects’ “RETURNED WITHOUT ACTION”, “REJECTED” or “REVISE AND RESUBMIT” action on a submittal when the submittal is found to be lacking adequate information showing conformance with the contract documents and/or does not conform to the contract document requirements.

2. The Architect will review a maximum of two submittals for any single item requiring a submission at no cost to the Contractor. Upon request by the Architect, the Contractor will compensate the Owner, via back charge for all further submissions to the Architect and/or Owner due to submissions that do not provided enough data to prove compliance with the specifications, or that in the opinion of the Architect do not meet the project specifications. Compensation will be computed by the additional hours needed to perform the review and correspondence multiplied by the Architect’s normal billing rate.

3. Initial Review: Allow five (5) working days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

4. Re-submittal Review: Allow five (5) working days for review of each re-submittal.

E. Options: Identify options requiring selection by Architect.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Re-submittals: Make re-submittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.

2. Note date and content of revision in label or title block and clearly indicate extent of revision.

3. Resubmit submittals until they are marked with approval notation from Architect's action stamp that indicates “NO EXCEPTION TAKEN”, or “MAKE CORRECTIONS NOTED”.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete printed copies of all approved action submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

J. Inspection of Documents: Construction progress drawings (as-builts), approved submittals, updated construction schedule.

7.2 EXECUTION SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals as PDF electronic files.

a. After their review, the Architect will post the annotated file to the Project’s website. The Contractor will then be notified via e-mail that the submittal has been reviewed, and may download the submittal file.
b. The Contractor is responsible for printing hard copies of electronic submittals for their own use.

2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. Clearly mark each copy of each submittal in bold marking of contrasting color to show which products and options are applicable.

2. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

3. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams showing factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

4. Submit Product Data before or concurrent with Samples.

5. Submit Product Data in the following format:

    a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.
    d. Notation of coordination requirements.
    e. Notation of dimensions established by field measurement.

f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. PDF Format Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than *24 by 36* inches (750 by 1067 mm).

3. Submit Shop Drawings in the following format:

a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

a. Transmit samples via hand delivery, currier, or mail service to the Architect's Office.
b. Forward a copy of the transmittal to the Construction Manager.

2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Project name and site name, if Project involves multiple site locations.
b. Submittal number assigned per submittal schedule.
c. Generic description of Sample.
d. Product name and name of manufacturer.
e. Sample source.
f. Number and title of applicable Specification Section.
g. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, also provide corresponding electronic submittal of the completed Submittal Cover, a digital image file illustrating the Sample's characteristics, and identification information for record.

a. Transmit printed copies of the above along with the physical Sample in the same quantity as required for the Samples.

4. Disposition: Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit three (3) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected

from manufacturer's product line. Architect, through Construction Manager, will return one (1) submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

   a. Number of Samples: Submit minimum Four (4) sets of Samples. Architect and Construction Manager will retain Three (3) Sample sets; remainder will be returned.

      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
   a. PDF electronic file.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Reports."

G. Application for Payment and Schedule of Values: Comply with requirements specified in the General Conditions of the Contract.

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Control."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed

before installation of product, for compliance with performance requirements in the Contract Documents.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

W. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

X. Construction Photographs: Provide photos of progress on a weekly or monthly basis for each phase and area of work. Any areas of conflict will be documented with photos as well as air tests and other monitored activities. All underground and “to be concealed” areas will be documented with photos as required to properly document as build conditions.

Y. Material Safety Data Sheets (MSDS): Contractor shall provide and maintain a hard copy of all MSDS sheets at each Project Site as per OSHA requirements. Do not submit MSDS sheets to the Architect or Construction Manager.

7.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

7.4 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

7.5 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. No Exception Taken – Submittal is approved and released for fabrication and can be incorporated into the work.
2. Make Corrections Noted - Submittal is approved and released for fabrication and can be incorporated into the work with the modifications as noted.
3. Revise & Resubmit – Submittal is not approved and resubmission is required per the Architect’s comments. Such products cannot be purchased nor incorporated into the work.
4. Rejected – Submittal is not approved and submission does not meet requirements of the Project. Resubmit products that conform to the Contract Documents.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Submittals not required by the Contract Documents may be returned by the Architect without action.

E. Submittals that do not follow the protocol that is outlined in the applicable Specification Section, or this Section, of the Project Manual may be returned to the Contractor without action by the Architect.

F. Submittal packages received from sources other than the Contractor, or other than from the Contractor via the Construction Manager, will be discarded by the Architect.

END OF SECTION 01 32 19

SECTION 01 32 26 - CONSTRUCTION PROGRESS REPORTS

PART 8 - GENERAL

8.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction and other Division 00 and 01 Specification Sections, apply to this Section.

8.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Submittals Schedule.
   2. Daily construction reports.
   3. Field condition reports.

B. Related Sections include the following:
   1. Division 01 Section "Construction Procedures and Control" for submitting and distributing meeting and conference minutes.
   2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
   3. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

8.3 SUBMITTALS

A. Submittals Schedule: Refer to “Submittal Procedures” section of Project Manual.

B. Construction Reports: Submit one (1) copy daily. Reports need to be submitted by 9:00 a.m. of the day following the day of the report.

C. Field Condition Reports: Submit two (2) copies at time of discovery of differing conditions.

8.4 QUALITY ASSURANCE

A. Pre-scheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Construction Procedures and Control."
   1. Review time required for review of submittals and re-submittals.
   2. Review requirements for tests and inspections by independent testing and inspecting agencies.
   3. Review time required for completion and startup procedures.

8.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 9 - PRODUCTS

9.1 SUBMITTALS SCHEDULE

A. Preparation: Refer to Division 01 Section “Submittal Procedures”.

9.2 REPORTS

A. Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial Completions and occupancies.
19. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

END OF SECTION 01 32 26

SECTION 01 35 00 - ELECTRONIC DOCUMENT TRANSFER

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Work of this Section shall be performed in accordance with the requirements of the Contract Documents, including but not limited to Instructions to Bidders, Agreement and General Conditions and General Requirements.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for the request and transfer of electronic documents from the Architect/Engineer to the Contractor, Subcontractors and the associated Equipment Vendors.

B. Electronic Documents include, but are not limited to, the following:
   1. Drawings in .pdf and AutoCAD .dwg format
   2. Specifications and printed documents in .pdf format.

C. Transfer of documents includes, but is limited to, the following:
   1. E-mail attachments.
   2. A/E's FTP site.

D. All drawings, specifications or other documents of any kind prepared by the Architect/Engineer or its subconsultants, whether in hard copy or any electronic or machine-readable format, including Electronic Documents are, and shall remain, instruments of their services. These Instruments of Services were prepared solely for use in connection with this Project. The Architect/Engineer and its subconsultants retain all common law, statutory and other reserved rights, including the copyright.

E. The Electronic Documents are provided as a convenience to the Contractor for informational purposes only in connection with the Contractor's performance of its responsibilities and obligations relating to the Project. The Electronic Documents do not replace or supplement the paper copies of the Drawings and Specifications which are, and remain, the Contract Documents for the Project or the paper copies of any other document prepared by the Architect/Engineer or its subconsultants.

F. If any differences exist between printed Instruments of Services and the Electronic Documents, the information contained in the printed documents shall be presumed to be correct and shall take precedence over the Electronic Documents.

G. Contractor agrees and understands that field conditions may alter or modify the configuration, products, materials, and installation of the information shown on the electronic documents. Contractor shall be fully responsible to verify all field conditions and if applicable to modify the electronic documents to the actual conditions prior to use of the documents. These documents are provided as a convenience only, and do not

change the responsibility of the Contractor as outlined in the Drawings and Specifications.

H. Architect/Engineer will not be responsible for, or required to provide assistance to the Contractor in the plotting or printing of any documents.

1.3 ELECTRONIC DOCUMENT TRANSFER PROCEDURES

A. Coordination: Coordinate transfer requests with performance of construction activities. Transmit each request to the CM and A/E sufficiently in advance of scheduled needs to avoid delay:
    1. Processing: To avoid the need to delay installation as a result of the time required to process document transfers:
        a. Allow 10 working days for the A/E's processing of each request, after receipt of a written request and the required processing fee.
        b. The A/E will not authorize an extension of time because of the Contractor's failure to transmit requests and fees to the A/E sufficiently in advance of the Work to permit processing.

B. Electronic Document Transfer Requests: Contractor shall submit a written request for any transfer consisting of the following:
    1. Signed, completed copy of the attached "Electronic Document Transfer Agreement". An example is provided as Section 01 35 00A.
    2. List of drawing numbers and titles requested.

END OF SECTION 01 35 00

EXAMPLE ONLY - USE YOUR COMPANY'S AGREEMENT

Electronic Document Transfer Agreement

This Agreement is made this _____ day of _____, 20_____ (the "Agreement"), between _____ SWBR (the "Architect") and _____ (the "Contractor") relating to the use by the Contractor of CAD data concerning the project described and set forth in the agreement between the Owner and Contractor dated _____.

The Contractor agrees as set forth below:

1. The CAD files are to be transferred from the Architect for this Project. The CAD files are not to be considered Contract Documents, but reasonable facsimiles thereof, and are provided by SWBR as a convenience to the Contractor for the project described above. In accepting and utilizing any designs, drawings or other data on any form of electronic media generated and provided by SWBR, the Contractor covenants and agrees that all such drawings and data are instruments of service of SWBR, who shall be deemed the author of the depicted design, drawings and data, and shall retain all common law, statutory law, and other rights, including copyrights.
2. The Contractor further agrees not to use these drawings and data, in whole or in part, for any purpose or project other than the project contained in the electronic media. The Contractor agrees to waive all claims against SWBR resulting in any way from any unauthorized changes or reuse of the drawings and data for any other project by anyone other than SWBR.
3. In addition, the Contractor agrees, to the fullest extent permitted by law, to indemnify and hold SWBR harmless from any damage, liability or cost, including reasonable attorney's fees and costs of defense, arising from any changes made by anyone other than SWBR or from any reuse of the designs, drawings and data without written consent of SWBR.
4. Under no circumstances shall transfer of the drawings and other instruments of service on electronic media for use by the Contractor and Users be deemed a sale by SWBR and SWBR makes no warranties, either express or implied, of merchantability and fitness for any particular purpose.
5. The terms and conditions set forth above are not intended to supersede the terms and conditions of the aforementioned agreement between the Owner and SWBR, but rather this Agreement is intended to supplement that agreement.
6. This Agreement is entered into as of the date and year first written above.

ARCHITECT	CONTRACTOR
By:	By:
Title:	Title:

Project Safety Standards

for

Rochester Schools Modernization Program

Date: May 2021

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DEFINITIONS: The following definitions shall apply herein.

ANSI (American National Standards Institute): A professional organization chartered to promote and facilitate voluntary consensus standards and conformity assessment systems, and safeguarding their integrity.
Authorized Person: A person approved or assigned by their employer to perform a specific type of duty or duties or at a specific location on the Project.
Competent Person: A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
National Electrical Code (NEC): The National Electric Code is a set of electrical safety standards that is a subset of the national fire codes set forth by the National Fire Protection Agency. The NEC has been adopted by nearly every area within the United States as a guideline for safe electrical installation.
National Fire Protection Agency (NFPA): A United States organization charged with creating and maintaining minimum standards and requirements for fire prevention and suppression activities, training, and equipment, as well as other life-safety codes and standards. This includes everything from building codes to the personal protective equipment utilized by firefighters while extinguishing a blaze.
OSHA (Occupational Health and Safety Administration): The U.S. federal agency charged with developing and enforcing regulations designed to protect the workforce.
Qualified Person: A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrate their ability to solve or resolve problems relating to the work or the Project.

Project Introduction

The Edison Career and Technology High School project involves installation of eight sets of interior fire rated doors. These are being installed in an occupied building. Student, staff, and contractor safety is priority.

Testing done to exposed surfaces in April 2021 revealed no presence of Asbestos Containing Materials, Lead, or PCBs in the areas being renovated. However, it is incumbent on the contractor, if exposure of a surface leads to concern, to stop work and contact the Construction Manager before proceeding.

Administration

Policy Statement

It is the Owner's intention that all contractors commit to maintaining an accident-free workplace. There is never an acceptable reason for compromising safety. Contractors must provide a safe place to work at all times and to conduct all operations in a manner as to provide protection for all individuals who might come into contact with these operations. By law, every contractor is obligated to conform to the requirements of the Federal Occupational Safety and Health Act of 1970 (OSHA) and all additions and revisions thereto, as well as other applicable federal, state and local requirements. In addition, and when not in conflict with the foregoing legal standards, all contractors, must comply with the minimum safety standards and protocol set forth in this "Project Safety Standards." **All supervisory employees of contractors must accept responsibility for the prevention of accidents and for conducting all operations under their direction in a safe and efficient manner.** The collective goal should be to achieve accident-free work that conforms to all Contract Document requirements. With the cooperation, dedication and assistance of every contractor, this will be a successful and safe Project.

Statement of Final Authority

- All persons who enter the work area for any reason during construction will be required to comply with the minimum standards set forth in this Section in addition to all applicable legal requirements.
- Each contractor must submit a site-specific safety program ("Safety Program") upon award of a Contract, prior to commencing any work. The Safety Program must implement all requirements of OSHA as well as the minimum standards set forth in this Section.
- If the Construction Manager finds areas of work or individuals that are not in noncompliance with OSHA requirements, or any other applicable law or regulations, or the minimum standards set forth herein, the Construction Manager shall have the authority to order immediate correction and cessation of the non-compliant occurrence or condition.
- **Non-compliance, if not immediately corrected, will be grounds for Contractor dismissal and/or denial of access to the Project site**. All costs of correction shall be borne by the non-compliant Contractor.
- Nothing contained herein, however, shall serve to relieve a contractor of its liabilities and/or obligations required by OSHA as well as all other applicable law, or the minimum standards of this Section.

Responsibilities

Construction Manager (CM)

- Audit the Contractor's Safety Program to determine if it conforms to the above requirements, provided that any failure by the Construction Manager to determine non-conformity herewith shall not relieve contractor of its obligations set forth in this Section.
- Provide weekly, written site inspections of the job site, notify the Contractors of any unsafe practices and conditions for which they are responsible, and counsel them on the appropriate corrective actions when necessary. Site inspections shall be reviewed and discussed with the construction team.
- Provide all new Contractors and their subcontractors with a safety orientation before they start working on the Project site. The orientation shall include at least a list of work rules, identification of hazardous areas, and the location of MSDS sheets. This orientation will inform the contractor of hazards specific to the site operations. After the orientation is complete, contractor's employees shall be required to sign a statement and complete an exam in order to confirm that they received and understood the training.
- Identify the location where MSDS sheets provided from the contractors can be found for the Project.
- Maintain required records and accident prevention materials at the job site so that an adequate history is maintained for the Project.
- Monitor the entrance and exit to and from the job site.
- Review injury and first aid records during the Project to identify injury trends to take positive action to reduce or eliminate such injuries from occurring.
- Examine and become familiar with the job site and adjacent areas from the standpoint of access and facilities regarding safety.
- Evaluate any difficulties that might be encountered in complete execution of the work safely. Make frequent inspections of the site so as to initiate corrective measures to eliminate unsafe practices and conditions.
- Immediately investigate all accidents or near miss accidents and take corrective actions to help prevent reoccurrence.
- Appoint a Project Manager to perform the duties set forth below.

CM's Project Manager

- Direct and administer the Safety Program. All reports, surveys, accident reports and other information relating to safety are to be submitted in a timely manner to the Project Manager.
- Establish a safety organization to assure the involvement of all personnel in the safety effort and to provide for their participation.
- Appoint the Project Superintendent as the CM's representative to monitor safety activities on the site.

- Evaluates contractor's safety performance for compliance with all applicable laws and regulations, as well as with the standards set forth in this Section.

CM's Project Superintendent

- Oversee compliance with the requirements of the Project Safety Standards.
- Plan and require all work to be done in compliance with the Project Safety Standards.
- Perform and document weekly inspections relating to safety.

Contractors

- The name of and résumé for each Contractor's Safety Plan coordinator will be provided to the CM for review prior to starting work on the site.
- Contractors with a staff and crew of 20 or more on site (including subcontractors of all tiers) shall appoint a full time safety representative. Contractors with a staff and crew on site of less than 20 shall anticipate that the safety aspects of this position will encompass substantial time during the work week and may occasionally require fulltime attention. For this reason, serious consideration shall be given to the ability of a superintendent or foreman to simultaneously meet the responsibilities of both positions.
- Each safety coordinator will meet the following criteria:
    - A minimum of an OSHA 30-hour construction hazard recognition certification; be certified as a competent person in the type of work being performed; First Aid and CPR-certified; experienced in the construction industry in the type of work being performed.
    - Each Safety coordinator has the right and authority to stop any and all hazardous work being performed by their employer whenever imminent danger to life and health exists.
    - Conduct regular and frequent inspections for the Contractor's work areas.
    - Take immediate action to eliminate unsafe acts and/or conditions.
    - Ensure that prior to the start of any work activity; every foreman has reviewed each task assignment with every affected employee to assure a comprehensive understanding of the safety requirements and precautions to be taken while performing this work.
    - Ensure that appropriate personal protective equipment is provided and its use enforced.
- Each safety coordinator shall participate in accident and incident investigation involving their work and employees and those of their subcontractors.
- Each safety coordinator shall attend safety meetings as scheduled by the CM.
- Contractor shall instruct each employee on Project site in the recognition and avoidance of unsafe acts and/or conditions applicable to its work environment to control or eliminate injury or illness.

- Contractor is responsible for providing and requiring the use of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions. All records shall be maintained at a location accessible to the CM.
- Contractor is responsible for notifying the CM of any hazardous chemicals or substances that are brought or cause to have been brought on Project site. Contractor shall provide the CM with a copy of Contractor's Hazardous Communication Program, Chemical information list, and Material Safety Data Sheet(s) (MSDS) for the chemical(s) or substance(s) intended for use on the site. The CM will provide a centrally located place for this information. Contractor is responsible for maintaining a copy of Contractor's Hazard Communication Program, Chemical Information List, and Material Safety Data Sheet(s) on site for Contractor's own reference and employee training. The proper storage, use and disposal of wastes of any hazardous chemicals or substances are the responsibility of Contractor.
- Contractor is responsible for conforming to OSHA and NFPA standards of fire protection and prevention practices. Contractor shall also comply with all fire and safety rules and regulations established on the Project.
- If Contractor fails to correct safety violations, the CM will issue the Contractor written notification, outlining safety violations. Failure of the Contractor to abate may result in the removal of the Contractor from the Project site, and the CM's approved bidders list, or other appropriate measures.
- Compliance with Federal, State, Local Laws and regulations is the contractual obligation of Contractors working on this Project. Conflicts between current laws or contractual requirements shall be resolved by adhering to the more stringent requirement. Any Project requirement of this Section which exceeds the minimum standards established by OSHA, shall be incorporated in Contractor's Safety Program.
- The Contractor shall ensure that its supervisors are aware of their responsibilities, which include:
    - Become familiar with the requirements of all accident prevention standards and safety rules pertaining to their job.
    - Be responsible for carrying out the procedures required by the Project Safety Standards.
    - Ensure that each employee under their supervision has received the initial Project safety orientation provided by the CM.
    - Explain to all employees applicable safe practice rules and regulations under their direct supervision.
    - Supervise the instruction and training of new employees either personally or through delegated experienced persons until the new employee

satisfactorily demonstrates their ability to perform the work in a safe and efficient manner.

- Be responsible for continuous housekeeping in their area and for the use and maintenance of all personal protective devices, equipment, and safeguards.
- Notify their direct supervisor and/or the Contractor's safety representative concerning work areas where they believe protective devices are required. Such safety devices will include, but not be limited to, the following: Machine guards, operational shields, exhaust vent hoods and systems, welding shields, approved personal protective equipment, automatic stops and controls, barricades, railings, etc.
- Report to their own direct supervisor all cases of employees who, in their opinion, are not qualified for the work to which they have been assigned or who engages in unsafe practices.
- Attend and participate in all supervisors' safety meetings.
- Conduct or arrange for weekly "toolbox" safety meetings for all employees under their supervision as required. Minutes of "toolbox" meetings are to be maintained and a copy of each is to be given to the CM before end-of - shift the day given.

- Each Contractor shall complete a "Safety Task Assignment Process" form each day for all work crews, discuss with each work crew on a daily basis or when non-routine tasks occur and provide a copy to the CM at the end of the work day with their daily report.
- Report immediately, all accidents in which personal injury, property damage or a near-hit occurs.
- Should an accident occur involving a Contractor's employee, the Principal/Owner of the Contractor shall attend a "Principals" meeting at the Project location to review the incident. The CM will conduct this meeting.
- Assist in accident investigation and submit a report promptly on required forms. Lessons learned from such investigations shall be incorporated into all future daily activities and plans of the Contractor.
- In the event Contractor utilizes employees whose primary language is not English, the contractor shall provide for appropriate interpretation to assure complete comprehension.
- Periodically analyze work methods in detail for the purpose of job simplification and for the establishment of safe work methods.
- Site safety inspections are to be an ongoing process and documented at least weekly. Contractors should document inspections on the "Site Audit Checklist" or approved Contractor's form and submit to the CM.
- Ensure that all hazards created in an area as a result of work activities are addressed before the crew leaves the area, including breaks or lunch.

- Contractor's supervisors (i.e., Project Manager, superintendents, foremen) will be required to attend a Supervisor Skills Workshop when offered by the CM. The training will consist of 2 (two)- 4 (four) hour sessions and be taught by a designated CM employee.

Employees

- No employee shall be required or knowingly permitted to work in an unsafe environment except for the purpose of making safety corrections and then only after proper precautions have been taken for their protection.
- Each employee is responsible for learning and abiding by those rules and regulations which are applicable to the assigned tasks and for reporting observed or anticipated hazards to their immediate Supervisor. If the hazard is not immediately corrected, the affected employee will report the hazard to the CM.
- All employees shall observe the following rules of conduct:
    - **Courtesy**: Employees shall observe standards of behavior and conduct their work in a manner to avoid offending any Owner employees or visitors. Each individual on this Project must be given the courtesy that would be extended to one's family or best friend.
    - **Personal Protective Equipment**: all persons on the site will wear hard hats, eye protection, gloves and work boots with substantial soles. All other personal protective equipment, including respirators or eye protection, as appropriate to assigned tasks, shall be utilized in the proper manner at all times while there is exposure to the hazards.
    - **Clothing**: Clothing suitable for the weather and your work shall be worn. Torn or loose clothing, cuffs or neckwear, which may be a hazard, are not allowed. Shirts must be worn and have short sleeves. Pants must have legs (no shorts allowed). Clothing shall be maintained in a clean, neat and repaired fashion
    - **Vehicles**: Employees shall park their vehicles in designated areas. There will be no on-site parking provided for this Project. Operation of vehicles on the Project site shall conform to all local traffic laws. The maximum speed limit on the Project site is 10 miles per hour.
    - **Smoking**: Smoking or use of tobacco products in any form is not permitted anywhere on the Project site.
    - **Intoxicants**: Consumption of alcoholic beverages or controlled substances is not allowed on the Project. All workers who are taking physician-prescribed or over-the-counter medication must be fit for work. **All employees are specifically directed to the "Drug Policy" which is a part of this Project Safety Standards.**
    - **Accidents**: All employees must immediately advise their Supervisor of any injury on the Project or any non-injury accident that involves damage to property or equipment.

- **Personal Conduct**: Practical jokes, horseplay, scuffling, wrestling or fighting is prohibited.
- **Good Housekeeping**: Good housekeeping on the Project is mandatory and every employee must do their part daily to minimize dust and to clean up their work area to keep the Project clean for safety and efficiency. Controls shall be observed which keep dirt from being tracked into areas outside the workspace. Clean-up methods shall follow prescribed techniques to minimize the distribution of dust into the air.
- **Authorized Access**: Employees shall confine their activities to the areas designated as the work site. The employee's Supervisor shall obtain permission from the appropriate Owner representative prior to entry into any areas outside the work site.
- **Fire Protection**: Employees shall adhere to all fire protection regulations, and shall conduct their work in a manner to preserve the fire safety integrity of the building.
- **Entertainment Devices**: No televisions, radios, CD/cassette/digital music players, gaming systems, or other entertainment devices are allowed to be used while work is being performed.
- **Cell Phones**: Cell phones on the Project are only permitted for the furtherance of Project-related business. At no time shall cell phones be used while operating equipment or machinery or while exposed to hazards created by equipment or machinery.

Accident Investigation

- For all injuries or near-hits that risk injury to person or property, the CM is to be notified immediately. Copies of ALL accident reports must be filed with CM immediately.
- Any accident or incident resulting in a lost-time injury, fatality, damage to property or equipment exceeding U.S. $1,000, a serious "near-hit" or the recognition of a potential hazard to health and environment is to be investigated by a committee comprised of the following, as appointed by the CM: CM Project Manager, the CM Project Superintendent, and Contractor's Supervisor, or anyone familiar with the practices involved in the incident who can contribute to its analysis and recommend actions to prevent a reoccurrence.
- The investigation shall begin promptly after the incident. Results of the investigation and recommendations for preventive action shall be documented within five (5) workdays of the incident.
- With the Owner's permission, a brief news release may be posted, for the information of workers, covering fatalities and serious occurrences.
- The occurrences are also to be discussed at the regular or special safety meetings.

- This investigation and report shall be made immediately, but release may await any similar investigation and reports required by governmental regulations.
- The CM shall also review first aid injuries to establish trends and practices that deviate from work standards and shall report and take corrective actions.
- The CM shall provide for the Owner, in the Monthly Progress Report, a safety report covering safety activities for the preceding month. The report shall include:
    - The accident experience, recordable, lost time, first-aid and near-hit incidents for the month.
    - The relationship of the accident experience to the number of people employed using a recognized national standard for recordable injuries and lost time injuries.
    - A review and summary of the safety activities, problem areas, and contemplated action, including fire hazards and environmental hazards.

Discipline - Enforcement

- All contractors shall conform to the requirements of these Project Safety Standards.
- Should an Imminent dangerous condition be discovered, all work in the area of danger will be stopped until corrections are effected.
- Should the CM find contractor areas of work or individuals in non-compliance with OSHA or the Project Safety Standards, the CM shall have the authority to order immediate correction of the non-compliance.
- All costs of correction shall be borne by the contractor(s) deemed responsible.
- Nothing contained herein, however, shall serve to relieve a contractor of its liabilities and/or obligations under OSHA as well as other applicable laws or regulations, or of these Project Safety Standards.
- The CM may withhold payment of any sums due contractors for failure to follow these Project Safety Standards. The CM will issue a written, 24-hour notice in this regard requiring immediate response by the contractor.
- Repeated violations or lack of cooperation with regard to the Project Safety Standards by employees of a contractor will indicate non-compliance with provisions included in the contract and may be reason for the employee being barred from the Project site and/or for termination of the contractor's contract.
- At orientation, new employees are given their first warning: If an employee fails to follow the rules, the CM may issue a notice of violation.
- **1st Notice of Violation**: Notice is sent to employer. Employee must come in and see the CM to review violation so there is an assurance the employee knows how serious this citation is and what corrective action must be taken.

- **2nd Notice of Violation**: The individual will be removed from the property and banned from further access to the site.
- **"Immediate removal from the property" Violations** will result when:
  - Any employee, supervisor or manager exposes themselves or other employees to imminent loss of life or substantial and unjustified risk of bodily harm.
  - Any employee, supervisor or manager openly exhibits disregard, defiance or disrespect for the requirements of these Project Safety Standards.
  - Any employee, supervisor or manager knowingly falsifies any investigative document or testimony involved in an investigation.
  - Violent physical encounters (fighting) occur. All individuals involved in the incident are subject to removal.
  - Threats are made against any personnel performing their duties.
  - Theft or destruction of property occurs.
  - Any employee, supervisor or manager consumes, possesses, distributes or is under the influence of alcohol/drugs. Reference is made to the "Drug Policy," herein below.
  - Other Citations: Violations of safety, traffic, housekeeping or material storage rules

Hazard Analysis

- Prior to beginning work, each contractor shall prepare a hazard analysis that defines the activities to be performed and identifies the sequence of the work, the specific hazards, and the methods to be used to eliminate or minimize each hazard.
- The hazard analysis shall be submitted prior to, and will be reviewed during the pre-construction meeting by the CM, and the contractor's supervisors and safety representative. The hazard analysis shall be written in a form acceptable to the CM.
- Hazard Analysis shall be done when the scope of the work or conditions change.
- Each contractor's Foreman will inform his/her work crew of the Hazard Analysis for their work activity each day prior to start of work or when conditions change.
- Each contractor shall submit for review by the CM a site specific safety program which addresses all the elements of this safety plan as they will be implemented by the contractor, its contractors, vendors and suppliers.
- The Hazard Analysis will be included as an appendix to the contractor's site-specific Safety Program.

Inspection and Auditing

Purpose and Scope

- To establish a basic inspection/audit program for the elimination of unsafe practices by employees and to establish a hazard free work environment for all employees on the Project.

Objectives

- To reaffirm the Contractor's basic responsibility for the actions of the employees as originally assigned under OSHA.
- The exercise of these responsibilities by all contractors will be the effective deterrent to accidents arising from unsafe practices and physical conditions, which will materially enhance the construction efficiency of this Project.

Procedures

- Control will be achieved only when each trade contractor fulfills their contractual and statutory responsibilities and applies all practical steps to maintain safe and healthful work practices and conditions.

Project Controls

- Continued monitoring/audit of the performance of the Contractor and their supervision under this Section will be made by both the CM and the Contractors' supervisory staff.
- Contractors will be notified of any unsafe practices observed.

- The Contractor's safety supervisor, the Project Safety representative and the Construction Manager's field staff shall utilize a nationally recognized inspection form.

Supervisory Control

Contractor

Contractor will be responsible for conducting continuous daily surveys of their operations to insure they are aware of the probable sources of potential injury or loss due to unsafe acts of procedures.

Planning

Contractors must extensively plan the procedures to be followed for each operation using Hazard Analysis procedures and submit such plans to the CM. Personnel chosen to perform any such planned operation shall be thoroughly briefed in all aspects of the procedure, including emergency actions to be taken in the event of a mishap.

Inspections

In addition to inspections conducted by the CM, Insurance Representatives, and each Contractor, construction activities are subject to periodic inspection by OSHA Compliance Officers.
Each Contractor is required to notify the CM in writing prior to starting work if they, by their Company policy, they will require a warrant for OSHA to inspect their work. The CM does not require a warrant.
Contractors shall forward copies of any and all inspection reports and/or citations received by the Contractor from OSHA to the CM. All information will remain confidential.
In the event that an OSHA Compliance Officer visits the site, he/she will be directed to the CM office. The appropriate Contractors will then be notified so that an Opening Conference may be conducted. The CM will organize an inspection party, consisting of both employer and employee representatives.

Notification of Hazards

Each Contractor shall notify the CM verbally or in writing of the existence of any hazardous conditions, property, or equipment at the work site, which are not under the Contractor's control. However, it is the Contractor's responsibility to take all necessary precautions against injury until corrected by the responsible party.

Equipment and Facilities

All Contractors operating equipment and facilities used shall be inspected, and maintained as directed by this manual; as dictated by the applicable Federal and State safety and health regulations. In the event of conflict, the more stringent requirement will take precedence.

Meetings

Meeting - Pre-construction

- The Contractor, before starting work at the Project site, shall attend a pre-construction meeting with the CM to understand the Project conditions and safety requirements.
- A Project site tour shall be made to confirm the Contractor's awareness of potential safety hazards.
- Contractor, to assure a safe work place, shall provide appropriate methods, equipment, devices and material.
- Contractor shall provide or develop its own Project specific Safety Program and submit it to the CM for review prior to starting work at the Project site.
- Such review shall not relieve Contractor of responsibility for safety, nor shall such reviews be construed as limiting in any manner the CM's authority to enforce the provisions of this Section.
- It is the Contractor's obligation to undertake any action as may be required to establish and maintain safe working conditions at the Project site.

Meetings - During Construction

- A Project start safety conference will be held with the superintendent(s), safety coordinator and Foremen of each new Contractor prior to coming on the site.
- The CM will issue the Project start package information and will issue special instructions to the Contractors in support of the Project Safety Standards when needed.
- The CM will conduct regularly scheduled meetings with the Supervisors of new Contractors coming on the site and explain safety goals, contents of this manual and otherwise provide site orientation, safety activities and information. All Supervisors will be required to attend this orientation after coming on the site.
- Contractor meetings will be held as necessary and as directed by the CM. All Contractors actually working on the Project will have a representative at the safety meeting to maintain all safety requirements for their trade.
- The CM will conduct safety Meetings on a regularly scheduled basis. Minutes of the meeting will be a topic of all scheduling and progress meetings.
- All Contractors are required to hold weekly 10-15 minutes **"Tool Box" safety**

meetings for all employees. Topics related to work assigned, and current safety problems will be discussed. Monthly meetings for supervisory and clerical employees will be held. The CM will monitor these "Tool Box" meetings through personal attendance or by reviewing a copy of the meeting report.

- Prior to starting any major operation, which would involve locking/tagging procedures, a meeting must be set up involving the CM, and every Contractor Superintendent and every Contractor Safety representative affected by the work.
- Specific procedures must be adopted and reviewed by all concerned with the operation prior to commencement of the work.
- Daily, or more often if the craft crews' task should change, a documented meeting shall be held between the crew foreperson or superintendent and the crew to discuss the assigned task referred to as a **Safety Task Assignment (STA) or Task Hazard Analysis (THA)**. The agenda for this meeting shall include a description of the assigned task, the hazards posed for the crew and the Project by virtue of performing the task, the control measures to be implemented to mitigate the hazards, required personal protective equipment, tools and equipment, environmental and logistical considerations, individual crew member assignments, and fitness for duty of the crew members. See the Appendices for a sample form to document the STA/THA meeting.

OSHA/State

OSHA Required Training

- Instruction and training of employees is a requirement of OSHA and will be enforced on this Project.
- Training of contractor personnel is the responsibility of the contractor.
- All Contractor personnel must attend the CM 's "New Employee Orientation" prior to their starting work on their first day on the Project.

OSHA - Inspection

- It is the CM's policy to allow OSHA to conduct an inspection of the Project (subject to review by the CM, if necessary). If a contractor wishes to assert their rights under the U.S. Constitution regarding inspection by OSHA, then it must so notify OSHA prior to the start of any such inspection.
- The CM will accompany the OSHA inspection party at all times and will make arrangements for the necessary meetings between OSHA, contractors and organized labor representatives (if any). The CM does not assume liability or responsibility for the presence of any alleged hazards or their correction.
- Contractors will inform the CM of the issuance of any OSHA citations and provide a copy when requested.

Project - Code of Safe Practices

Each individual working on this Project will be required to attend a safety orientation meeting at the start of their assignment. At the conclusion of the meeting, each will be required to sign a Code of Safe Practices indicating their agreement to follow that Code while on the Project. This does not relieve the trade contractor of any responsibility to properly orient and train their employees for the specifics of their work.

Project Safety Rules

- All personnel on this Project, including the employees of Contractor, will be required to comply with these rules. Contractor shall ensure and indicate that all its employees have read these rules and understood its contents. The employee must sign a declaration, which shall then be retained by Contractor with the employee's personnel file. In addition, Contractor shall comply with the following:
- Long or short sleeve shirts shall be worn at all times. All shirts shall be tucked in trousers at all times. All shirts shall be hemmed at neck, sleeve and tail. “Muscle Shirts” are prohibited.
- Long pants are required. “Shorts” are prohibited.
- A well-constructed boot/shoe that provides ankle protection with a substantial, flexible sole shall be worn. Exposure to hazard dictates whether or not a protective toe guard will be required. Sandals, tennis shoes, or any other street type shoes (even if equipped with ANSI toe protection), will not be permitted.
- Loose fitting clothes or dangling jewelry shall not be worn around moving machinery, grinding operations, welding, or other hazardous operations.
- Hair, which could come in contact with, or be caught in machinery, shall be protected by a hardhat or hair net, as appropriate.
- Approved hard hats meeting specifications contained in the most current addition of the American National Standards Institute (ANSI), Z89.1 and/or Z89.2 are required. “Cowboy-type” hard hats are not allowed. Baseball caps and other soft headwear are not allowed under the Hard Hat suspension.
- All contractors’ means of ingress and egress shall be adequately marked and kept clear of stored material, debris and equipment.
- No firearms are allowed on the Project site.
- Practical jokes, horseplay, scuffling, wrestling and/or fighting are prohibited and may be grounds for immediate dismissal.
- Reflective vests or clothing shall be worn by all personnel exposed to equipment during the site work and excavation phases of the Project or when deemed necessary by the CM.
- Stilts may only be used where allowed by local regulation and then only where the floor is clean and free of debris and obstructions, there are no uncovered

floor holes, where there are no pipe- stub-ups and all guardrails are raised to provide adequate fall protection.

- Drinking and/or possession of intoxicants on The Owner's property is forbidden. The use of narcotics, unless authorized by a physician, and notification provided to the Project Manager/Superintendent is forbidden. Violation(s) of the above will result in immediate dismissal.

Protection of the Public

Access to the Site

- No work shall be performed in any area occupied by the public unless specifically reviewed and permitted by the CM. In that the Project interfaces with the public, precautions to be taken include, but are not limited to:
    - Each Contractor shall take such necessary action as is needed to protect and maintain public use of sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, exits and vehicular roadways. The Contractor shall protect the public with appropriate sidewalk sheds, canopies, catch platforms, fences, guardrails, barricades, shields, and adequate visibility as required by laws and regulations of governing authorities.
    - Such protection shall guard against flying materials, falling or moving materials and equipment, hot or poisonous materials, flammable or toxic liquids and gases, open flames, energized electric circuits or other harmful exposures.
    - Guardrails shall be made of rigid materials complying with the requirements for standard guardrails as defined by OSHA and the Project Safety Standards.
    - Temporary sidewalks, ramps or stairs shall be provided with guardrails on both sides whenever permanent sidewalks, ramps or stairs are obstructed by the work.
    - The CM may authorize barricades, secured against accidental displacement, meeting the requirements of local authorities, where fences, sheds, walkways and/or guardrails are impractical. During the period when any barricade, fence, shed, walkway, or guardrail is removed for the purpose of work, a watchman shall be placed at all openings.
    - Appropriate warnings, signs and instructional safety signs shall be conspicuously posted where necessary.
    - A signalman shall control the moving of motorized equipment in areas where the public might be endangered.
    - Warning lights, including lantern, torches, flares and electric lights, meeting the requirements of governing authorities shall be provided and maintained from dusk to sunrise along guardrails, barricades, temporary sidewalks and at every obstruction to the public.

- These warning signs and lights shall be placed at both ends of such protection or obstruction and not over 20 feet apart alongside of such protection or obstructions.

- With respect to operations being performed on public roadways, all New York State or U.S. Department of Transportation (DOT) and municipal requirements doe public safety will be strictly observed.
- Access to the site is limited to the entrance designated for construction traffic as indicated on the site plans issued with the construction documents.
- At no time is Contractor personnel or vehicles to obstruct traffic on public streets or Owner entry driveways.
- All material deliveries shall be scheduled in advance with the Project Superintendent and shall be completed within the time segment allocated for the specific delivery.
- The above shall be implemented only where allowed by the governing authority. Where the owner of the property specifically prohibits such protective devices, rules and regulations of the governing authority shall apply.

Authorized Visitors

- All visitors to the site are required to register with the CM upon arrival. Each Contractor will be expected to regulate their visitors accordingly.
- All visitor passes expire upon departure from the site and are to be surrendered to the gate security guard.

Parking

- Parking shall be in designated areas only.
- All vehicles delivering materials to the Project shall be authorized to do so by the CM.
- Unauthorized vehicles may be removed at the direction of the CM and all towing charges will be the responsibility of the vehicle Owner.
- Fire hydrants and all designated fire lanes shall remain clear at all times for the use of emergency vehicles.

Employee Identification

- Where required, all Project site employees will be issued an identification badge and hardhat sticker upon completion of their initial safety orientation and after having passed their alcohol and drug test.
- All persons without a hardhat identification sticker shall report to the CM s office for verification of employment status, attendance at an orientation session, or issuance of a single day visitor pass.
- This identification badge will remain the property of the CM and the Owner. The identification badge shall be maintained in good condition and on the person to whom it is issued.
- The identification badge shall be returned to the CM or the Owner when

employment on the Project is terminated or when requested by the CM, or other authorized and designated person.

- All lost or stolen identification cards shall be immediately reported to the CM or the Owner.

Tours

- It is of the utmost importance that a high degree of protection be afforded all persons touring the Project site.
- The following guidelines shall be complied with by personnel who are responsible for the organization, direction and safe conduct of the tours:
- All group tours will be cleared through the Owner's representative and the CM, allowing for maximum notice.
- All tours will be coordinated by the CM to accommodate the Project schedule, to make necessary preparations, and to assure safety precautions are observed.
- The CM will review the following items with the person requesting the tour:

Number of visitors

Individual tour groups in non-hazardous areas should be limited to no more than 10 persons per tour guide (i.e,. a tour group of 20 will require at least two tour guides).

Clothing

Tour groups will be required to wear appropriate clothing (i.e., slack and low-heeled, solid-soled shoes).

Children

Children under the age of 12 will not be permitted to accompany tours. An adult must accompany each child age 12 to 15, although the CM at its discretion may prohibit access to minors. No one under the age of 18 years shall be permitted to work on the Project.

Personal Protective equipment

Hard hats, boots, raincoats, eye protection, etc., will be supplied as required.

Release and Hold Harmless

Each visitor will be required to sign this form prior to the start of the tour. In the case of children, an adult must sign for them, preferably a parent.

Immediately prior to entering the Project site, all visitors shall be briefed about the need for careful and orderly conduct, including mention of any special hazards, which may be encountered.

Technical and official visitor tours will be conducted in accordance with the above safety precautions. Since technical tours are often conducted through areas of more hazardous work, it is recommended that the number of people on such tours be proportionate to the degree of hazard involved.

Substance Abuse Policy – Minimum

Purpose

The owner and the CM have a commitment to protect people and property and to provide a safe working environment. The purpose of this policy is to establish a drug-free work environment for each worker.

Policy

- The use possession, distribution, or sale on the Project site, facilities, or work places of any of the following is strictly prohibited: alcoholic beverages, intoxicants, non-prescription drugs, and related drug paraphernalia.
- Workers must not report for duty or perform work while under the influence of any alcoholic beverage, intoxicant, illegal or non-prescription drugs, or any other substance which may impair a worker's physical or mental abilities.
- Workers on the Project site will be subject to search as provided herein. Applicants and workers will be required to consent to drug testing as provided herein.
- This policy will apply where state law or regulation and/ or collective bargaining agreements allow.

Definitions

The following definitions shall apply to terms used in this "Substance Abuse Policy – Minimum

Accident - Any event resulting in injury to a person or property to which a worker contributed as a direct or indirect cause.
Alcohol - Ethyl (Ethanol). References to use or possession of alcohol include the use of any beverage, mixture, or preparation containing alcohol.
Applicant - Any individual who is referred or makes application for employment on the Project site.
Contraband - Substances including but not limited to the following: drugs, alcohol, and drug paraphernalia.
Controlling Employer - Any individual or firm that provides Workers to perform work on the Project site and is responsible for their hiring, advancement, payment, discipline, and termination.
Drug - Any substance (other than alcohol) including prescription drugs which may impair mental or motor function; including, but not limited to, any psychoactive substance, controlled substance, marijuana, or designer or simulated drugs. This definition does not apply to prescription drugs that have been disclosed to the CM and the Controlling Employer by the worker and are approved for use within prescription limits.
Drug Paraphernalia - Any article intended for the use, storage, or sale of illegal drugs.
Employee - Any individual, salaried or hourly, who actually performs work for a Controlling Employer on the Project site.

Incident - Any event that the CM determines has the attributes of an accident, except that no harm was caused to personnel or property.
Project Site - All part of any office, work site, or other Project location, including parking lots under the control of the Owner and/or the CM.
Testing Facilities - A laboratory where a specimen can be tested for drugs and alcohol within threshold limits according to standards established by the U.S. Department of Transportation (DOT) and is certified by the U.S. Department of Health and Human Services (HHS) under the National Laboratory Certification Program (NLCP) or in the case of a foreign laboratory is approved for participation by the U.S. DOT with respect to Part 40.
Tobacco Products - Any article containing tobacco, including but not limited to cigars, cigarettes, pipe tobacco, snuff, and chewing tobacco.
Worker(s) – Any individual, salaried or hourly, of any employer who will be performing work on the Project site.

Drug Detection Thresholds

Drug Detection Thresholds will be in accordance with U.S. DOT.

- All confirmatory drug testing shall be done in NLCP-certified facility

Prescription Drugs

- Any worker using a prescription drug, which may impair mental or motor function, shall, as soon as possible, notify their employer who is to notify the CM and/or the Controlling Employer.
- For the safety of all workers, the CM may direct the Controlling Employer to not permit the worker on the Project site until released as fit for duty by the prescribing physician.
- The CM reserves the right to obtain a confirming medical opinion before allowing the worker to return to duty.

Worker Pre-Assignment Testing (per applicable laws)

- All workers, salaried or hourly, who are hired, transferred or temporarily assigned to the Project site shall be required to consent to drug testing in accordance with applicable laws prior to assuming Project responsibilities.
- Controlling Employers shall certify to the CM in writing on company letterhead signed by an officer of the employer that their current workers have passed a drug test ***immediately prior*** to assignment to working on the Project site.

Post- Accident Testing (per applicable laws)

- After an accident or incident, the CM will ask the Controlling Employer to test all those involved.

Reasonable Suspicion Testing (per applicable laws)

- The CM will also ask the Controlling Employer to test workers when a reasonable suspicion exists that the worker has been using drugs or alcohol.
- The maximum level of alcohol blood content shall not exceed 0.08 g/100 ml blood or equivalent.

Random Testing (per applicable laws)

- Urine and/or blood drug screening analysis of workers and others on the Project site may be conducted on a random basis at periodic, unannounced intervals during the construction of the Project, in accordance with applicable laws.
- A minimum of 12% of active employees on site will be selected, at random, for drug screening, or as required per Regional Substance Abuse Program Consortium. Controlling Employers must certify negative test results to the CM; otherwise worker shall not be permitted to return to the Project site.

Discipline and Rehabilitation

- Unless a Project-specific Substance Abuse Policy by the CM or Owner is in effect, each Controlling Employer shall certify that they have a Substance Abuse Policy which incorporates as a minimum the following requirements:
    - When an applicant submits to pre-assignment testing and passes the required test, s/he will be eligible for further employment consideration.
    - If the applicant fails the required test, s/he may reapply for employment consideration after a period of no less than sixty (60) calendar days have elapsed. The CM may waive this sixty-day waiting period if the applicant completes an acceptable drug/alcohol rehabilitation program and presents acceptable proof of completion of the program to the CM. An applicant who fails the second test will not be considered for employment at the Project site for a period of no less than one year.
    - All workers who refuse to submit to a drug and alcohol test, or who fail to pass a drug and alcohol test will be removed from the Project site by the Controlling Employer and will be referred to their personnel management for disciplinary action.
    - A worker on the Project site, facility, or work place in possession of contraband is subject to disciplinary action, up to and including barring from the site by the CM and immediate termination by the Controlling Employer. Contractors and/or workers who are in possession of contraband are subject to removal and denial of future access to the Project site.

Financial Obligation of the Controlling Employer

- The Controlling Employer will bear the cost of time, transportation, and testing for workers who are being given drug and alcohol tests.

Confidentiality

- The CM will take steps to maintain the confidentiality of information generated by the implementation and enforcement of this policy and these procedures.
- Disclosure will be made only in appropriate circumstances. The Controlling Employer shall be responsible for maintaining the confidentiality of all information generated by the implementation and enforcement of this policy and these procedures for their own workers.
- The CM shall have the right to audit compliance with this policy and these procedures by the Controlling Employer, which shall include access to this confidential information.

Training

- Supervisors and management personnel will be trained to recognize appropriate symptoms and to administer the policy in a consistent, confidential, and intelligent manner.

Contractors and Suppliers

- The CM and all Controlling employers will include the provisions of this policy and these procedures, in their contracts with subcontractors, suppliers, consultants, agents, and others involved in providing goods or services on the Project site, and will require that they do the same with respect to their lower-tier contractors, suppliers, etc.

Posting and Distribution

- Significant sections of this policy and these procedures will be given to each applicant and worker upon request.
- A warning notice will be posted in a conspicuous location on the Project site.
- This Substance Abuse Policy will be included in each pre-bid and pre-construction meeting as well as an integral part of the Project Safety Standards and contract documents.
- The CM may revise and amend this policy and these procedures as required.

Procedures for Examination Post-Accident Screening When Required By the CM

- A Controlling Employer supervisor is to accompany an injured employee or those employees involved in the accident or incident involving a worker to the clinic or medical facility.
- Controlling Employers shall certify any worker(s) involved in an accident or incident tested negative for drugs and alcohol prior to allowing them to return to the Project site.
- If the injured worker refuses to give a specimen of body fluid, the Controlling contractor supervisor is to notify the CM. The worker is to be advised, again, that the refusal to submit to drug screening is a violation of the Project Safety Standards, and that refusal will result in removal from the site.
- Results of all drug screenings and analyses must remain strictly confidential.
- Workers must report all injuries immediately to their supervisor, whether the injury requires medical treatment or first aid only.

Random Testing Policy

- Drug screening analysis of workers and others on the Project site may be conducted on a random basis at periodic, unannounced intervals during the construction of the Project, in accordance with applicable laws.
- Controlling Employers shall advise their employee immediately prior to selection for random testing and shall ensure workers submit to drug screening as soon as possible, and no longer than 1 hour from being notified.
- Controlling Employers must certify negative test results to the CM; otherwise, the worker shall not be permitted to return to the Project site.

Third Party Inspections

- In addition to visits and safety inspections by its own corporate or insurance representatives, Contractor is advised that authorized third parties may inspect the Project from time to time. Among others so authorized are Owner's Representatives, insurance companies and OSHA.
- Upon their proper identification and clearance through security, they are entitled to access and courteous consideration.
- The CM must be made aware of their presence upon arrival, and in any case as soon as possible, of the purpose and results of such visits which relate to safety.

Tool Box Training

- Instruction and training of employees is an OSHA requirement and, as such, will be required on this Project. Examples of such required training to be provided by Contractor are:
    - Newly employed, promoted and/or transferred personnel shall be verbally instructed in the safety practices required by their work assignments.
- All work assignments must include specific attention to safety. "Follow-up" monitoring is required in order to prevent accidents.
- OSHA requires that employees performing specific non-routine tasks or operating specific equipment be trained in its usage.
- Training of contractor personnel is the responsibility of the contractor.
- Conduct Tool Box safety meetings for all employees at least once a week.
- Maintain an attendance record by having employees sign the reverse side of the Toolbox Safety Meeting Report, or equivalent form.
- Complete the Report and submit it to the CM Office within 24 hours after each meeting.
- File all toolbox meeting reports and summaries so that they are available for review at any time during Project operations or for a period of five years following termination of the Project.
- It is the responsibility of Contractor to explain the hazards involved in an assignment to all employees, either individually or in a group before they actually begin an assigned task. This task may only require a few words, but in many cases it will require the actual demonstration of how the Project can be done safely and the pointing out of the hazards that may be or will be encountered in any task.

Environmental

Environmental - Asbestos

- OSHA regulations have been promulgated to protect workers from exposure to airborne asbestos fibers.

- Under the Asbestos Control and Licensing Act, a contractor must be licensed by the Department of Labor and the state in which the work is being performed in order to remove asbestos.

Notification

- Before starting asbestos removal work, the United States Environmental Protection Agency (EPA) and the Local Department of Environmental Management must be notified in writing by the contractor and appropriate permits must be on file. The CM and/or its agent will verify this information by way of contract requirements.

Training

- Employees of the contractor must be appropriately trained and licensed prior to the removal of any asbestos contaminated material.
- Any contractor's employees who may be exposed to Asbestos must be trained in the recognition of hazards and appropriate controls.

Posting

- The asbestos material removal area shall be cordoned-off to discourage entry.
- Appropriately worded caution signs must be posted at all approaches to the area at such interval to allow individuals to take any necessary protective steps before entering the removal area.

Asbestos Handling

- The encapsulation, removal and/or disposal of ACM shall be performed by a Contractor licensed to do such work in which the work is being performed and in accordance with all applicable laws and regulations and per approved abatement plans.

Work Practices

- Asbestos containing materials shall be worked in a wet state sufficient to prevent the emission of airborne fibers in excess of the permissible exposure limits.
- Work areas are to be adequately protected, through appropriate type enclosures, so as to ensure that no asbestos contaminated material will be permitted to leave the controlled area.

Personal Protective Equipment

- In instances where re-usable clothing is used, the following precautions must be followed:
    - Contaminated clothes must be appropriately bagged and labeled. Notification and transportation to authorized laundries and haulers.
    - All employees working in asbestos removal areas shall wear appropriate personal protective equipment.

Cleanup

- There shall be no dry sweeping of asbestos material. Use floor coverings to prevent debris from falling to lower floors and to speed up house-keeping.

Labeling and Waste Disposal

- Appropriately worded labels must be affixed to all materials, waste, debris, etc., containing asbestos friable materials. Asbestos waste and/or asbestos contaminated material must be collected and discarded in sealed, labeled, impervious containers by contractor.
- The following label content is acceptable to both the EPA and OSHA:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
BREATHING ASBESTOS DUST MAY
CAUSE SERIOUS BODILY HARM

- The CM shall be provided with copies of all air monitoring reports and certified disposal receipts prior to final payment.

Environmental - Lead

Lead Painted Components

- Lead based paint can possibly be identified on numerous surfaces throughout these facilities. In keeping with the requirements of the OSHA's Lead Exposure in the Construction Industry Standard (29 CFR 1926.62) (OSHA Standdard), every painted surface shall be considered a potential lead hazard.
- A potential source of lead emission is the disturbing of painted surfaces of structures and components within these facilities. Typical activities that would significantly disturb a painted surface include the following:
    - Removal of all or part of the paint by hand or power tools
    - Removal of all or part of the paint by blast cleaning
    - Removal of all or part of the paint by other means such as the use of chemical strippers or a heat gun
    - Structural work to the surface such as welding, burning, cutting, or drilling
    - Manual demolition of buildings, portions of buildings, or the building components.
- The primary consideration when specifying work methods shall be the requirement to protect workers from exposure to lead above the Permissible Exposure Limit (PEL). Further considerations when specifying work methods shall be the effort to reduce the release of lead into the air, water and soil, and to reduce to a minimum the generation of debris.
- At all times when activities which disturb paint are in process, the Competent Person for lead shall have unrestricted access to the work area for inspection, and shall have the authority to stop work when the control measures being utilized are not as specified in this section or the OSHA Standard, if the control measures are not adequately controlling exposures or if other hazards are identified which require work to be stopped.

- All air monitoring conducted by a Competent Person for lead or other qualified representative shall be performed in accordance with the OSHA Standard.
- Detailed and accurate records of all monitoring and other relevant data used in conducting employee exposure assessments shall be kept and maintained in accordance with the OSHA Standard.
- Signs shall be posted in each work area where work on painted surfaces disturbs the paint in such a way so as to expose personnel to lead contaminated dust, debris, or lead fumes. At minimum they shall read:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

- All worker protection requirements will, at minimum, meet the current OSHA Standard. These requirements include but are not limited to:
  - Signage, Barriers & Access
  - Exposure Monitoring
  - Respiratory Protection
  - Medical Surveillance & Records
  - Education & Training
  - Decontamination & Clearance
- All work involving lead removal or re-coating shall be conducted in a manner that minimizes the release of lead and lead containing materials into the air, water, and soil.
- All lead containing hazardous wastes that are generated shall be contained, collected, segregated, labeled and held at a location
- Designated or approved by the Owner or the CM pending the appropriate disposition.
- Contractor shall provide for proper disposal of waste, including EPA identification number, notification, certification, manifest, etc.
- All waste containers must be leak proof and capable of being securely covered.
- **All waste containers shall be clearly labeled with weather resistant labels using indelible ink to identify the type of waste they contain.**

Environmental - On-site Hazards

- Material that is designated as a hazardous substance requires special attention by the Contractor and workers to minimize the exposure.
- A plan addressing the proper handling, storage and disposal of hazardous material must be developed.

- The CM and the Owner must be immediately notified of any hazardous material leak or spill.
- Any Contractor-caused oil spills must be reported immediately to the CM.

Environmental - Silica

- Contractors shall submit their silica protection program for review by the CM prior to the pre-construction conference.
- As a minimum the contractor's silica protection program shall comply with OSHA regulations and shall address the following items:
    - Statement of the contractor's commitment to prevent silicosis and to comply with OSHA's standards.
    - Description of air monitoring to determine the silica levels generated by tasks to provide a basis for:
        - Selecting engineering controls,
        - Selecting respiratory protection,
        - Selecting work practices to reduce dust, and
        - Determining if a medical surveillance program is necessary.
    - Description of engineering controls which are proposed for the Project to eliminate or reduce the amount of silica in the air and the build-up of dust on equipment and surfaces.
    - Description of less hazardous materials than crystalline silica which are proposed for abrasive blasting and automatic blast cleaning machines or tools to be utilized.
    - Description of high-efficiency particulate air filter vacuums to be used by employees and work practices to vacuum, hose down, or wet clean work areas and equipment.
    - Description of warning signs and other barriers proposed to identify work areas where respirable silica may be present and to limit access to only authorized employees.
    - Description of personal protective equipment and clothing to be provided to employees and changing facilities if necessitated by the level of silica dust exposure.
    - Certification of training provided to employees about health effects of silica exposure, engineering controls and work practices that reduce dust, the importance of maintenance and good housekeeping, as well as the proper type and fitting of respirators; and include a statement that the employee is or is not enrolled in a medical surveillance program.

Environmental - Powered Equipment

- If internal combustion engines are used on powered equipment in enclosed areas, the contractor is responsible for monitoring the quality of breathing air for harmful contaminants and adequate oxygen and is responsible for providing adequate ventilation.

Emergency Action Plans and Procedures

Emergency Procedures - Medical Services

Contractor's Responsibilities

- Prior to commencement of work, provisions must be made for prompt medical attention in case of serious injury.
- Each contractor shall have a minimum of one First Aid/CPR trained individual on the Project and inform the CM of their name.
- Ensure that adequate first aid supplies shall be easily accessible when required.
- Provide proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service.
- Telephone numbers and addresses of the physicians, hospital and ambulance shall be conspicuously posted.
- Contractor shall complete and provide to the CM an "Employer's First Report of Injury" within 24 hours of any/all incidents involving work activities associated with the Project. Contractors are advised to maintain their own OSHA 300 Log as an OSHA requirement.
- Contractor shall ensure that each of its lower-tier contractors meet these medical requirements.
- If the injured employee is released by the doctor for light or restricted work duty, the Contractor shall make available restricted duty work for the injured employee.
- Each occupational illness or injury shall be reported immediately by Contractor's employee to Contractor's first aid attendant and the CM.
- Contractor's first aid attendant or other competent person shall treat the injured employee as often as necessary to ensure complete recovery, or until a decision is made to seek medical treatment.
- Contractor must provide for the prompt transportation of the injured person to a hospital or other emergency facility.
- A representative of the Contractor shall drive the injured employee to the medical facility and remain at the facility until the employee is ready to return.

- Contractor's representative shall carry necessary forms; i.e., authorization slips, return to work notices to the medical facility.
- If it is necessary for the Contractor's first aid attendant to accompany the injured employee, provisions must be made by Contractor to have another employee, properly trained and certified in first aid, available to render same during the absence of the regular first aid attendant.
- If the employee is able to return to the Project site the same day, he/she must return with a statement from the doctor stating same and containing such information as date, employee's name, date of return to regular or restricted duty, date he/she is to return to doctor, diagnosis, signature and address of doctor.
- If the injured employee is unable to return to the Project site the same day, the employee who transported him/her should bring this information back to the Project site and report it to the CM.
- If it is necessary to call the outside medical facility, this call should be made by the CM Project Manager while the injured employee is being transported.
- Medical cases requiring ambulance services would be such cases as severe head injuries, amputations, heart attacks, severe bleeding, stopped breathing, etc.
- Should ambulance service be necessary, the following procedures should be taken immediately:
    - Contact Contractor first aid attendant or nearest employee properly trained and certified in first aid.
    - While first aid is being administered, contact the CM immediately.

Emergency Procedures - Alarms, Fire, Bomb, Weather, Environmental, Public Demonstration

- In order that necessary emergency services may be supplied promptly, each contractor shall post in a conspicuous place a list of emergency telephone numbers along with the type of information to be transmitted for each emergency situation.
- All accidents are to be handled by the ranking person present, with whoever is available to assist.
- The ranking person shall direct someone to notify first-aid personnel, and to call for emergency services as necessary.
- The CM Project Superintendent is to be notified as soon as this can be done without delaying assistance to the injured. He/she will then take appropriate action.
- In accidents resulting in injury to personnel, individuals qualified to administer first-aid will assist the injured, will stabilize their condition, and will arrange for transportation to a hospital if further treatment is required.

- Except when necessary, to avoid further injury, or to prevent additional damage to the work, equipment will not be moved, or the position of items, parts, pieces, controls, etc. will not be changed until photographs have been made and notes taken by the CM Project Superintendent or the person designated to make the investigation and report.
- As soon as the CM Project Superintendent can release the area from this constraint, contractors concerned will clean up and make repairs to return to a normal situation.
- Where a specific procedure has not been established, reasonable judgment should be used in determining what course to follow.

Alarms

- The CM shall be notified of all emergencies and notify the appropriate emergency service of the incident and initiate appropriate action.
- Fire alarms within the area of new construction will consist of three short blasts on an air horn or other suitable alarm located at the means of egress, stairway, ladder, or building entry.
- Telephone notification of the fire department will be initiated immediately after sounding the air horn alarm.
- Telephones are available in the Project site office.
- Radio contact with the Project site office and the CM shall be used to inform all concerned regarding the fire.
- A continuous long blast on the air horn may be used to summon first aid assistance in the event of an accident.

Fire

- The following procedures are established in the event of a fire. "RACE"

R **R**escue... anyone in immediate danger.
A **A**larm... activate pull station; go to phone and dial 911.
C **C**ontain... close doors and windows, isolate the fire.
E **E**xtinguish... use correct extinguisher.

Accident Involving Serious Injury or Death

- The following procedures are established in the event of an accident involving serious injury or death to employees, workers, or members of the general public.
    - Individuals qualified to administer first-aid will assist the injured, will stabilize their condition, and will arrange for transportation to the hospital emergency room if further treatment is required.
    - The CM is to be notified immediately. Immediate notification (within 8 hours) of the local OSHA office is required in the event of a fatality or serious injuries that may lead to a fatality.

- All non-essential personnel shall be removed and/or kept back from the area.
- Rescue personnel shall be provided assistance as requested.
- No comments shall be made. All inquiries shall be referred to the CM Project Manager.
- No on-site photographs are to be taken without the specific approval of the CM Project Manager and the CM Project Superintendent.
- The CM shall make a full investigation and file an Accident/Injury Report within twenty-four (24) hours of the occurrence.
- Within the immediate area of the accident scene, nothing is to be disturbed nor removed after proper evacuation of the injured personnel.
- Except when necessary to avoid further injury, equipment will not be moved, or the position of items, parts, pieces, controls, etc. will not be changed until photographs have been made and notes taken by the CM Project Superintendent or other person designated to make the investigation and report.
- As soon as the CM can release the area from the above constraint, contractors concerned will clean up and make repairs to return to a normal situation.

Property Damage Accidents

- The following procedures are established in the event of accident involving property damage.
  - The CM is to be notified as soon as this can be done without delaying efforts to prevent further damage. He will take appropriate action and direct other personnel to assist as necessary.
  - Efforts shall be taken to protect against further damage where possible.
  - All non-essential personnel shall be removed and/or kept back from the area.
  - No comments shall be made. All inquiries shall be referred the CM.
  - No on-site photographs are to be taken without the specific approval of the CM
  - The CM shall make a full investigation and file an Accident/Injury Report within twenty-four (24) hours of the occurrence.
  - Within the immediate area of the accident scene, nothing is to be disturbed nor removed after proper evacuation of the injured personnel.
  - Except when necessary to avoid further injury, equipment will not be moved, or the position of items, parts, pieces, controls, etc. will not be changed until photographs have been made and notes taken by the CM.
  - As soon as the CM can release the area from the above constraint,

contractors concerned will clean up and make repairs to return to a normal situation.

Severe Weather

- The following procedures are intended to prepare the Project site in the event of severe weather conditions.
  - Since severe weather may occur during the Project without advance warning, all work activities and Project site conditions must be planned with a concern for emergency preparations.
  - Each contractor, at the time of mobilization, shall deliver to the CM a complete list of the contractor's supervisors with the complete after-hours telephone numbers. The list shall be kept current and shall be updated accordingly.
  - Each contractor shall insure that his field trailers and his sub-tier contractors' field trailers are anchored in at least three locations.
  - Upon notification of a Severe Weather Watch by the U. S. Weather Bureau, the following actions are to be initiated:
    - Each contractor having on-site, fuel-powered generators are requested to notify the CM of the numbers and wattage. Generators may be needed to provide temporary power for rescue or clean-up activities.
    - All materials shall be secured to prevent them from becoming air borne during high winds. Particular attention needs to be given to picking up scrap materials and hauling or covering trash containers.
    - Crawler and mobile cranes shall have booms lowered at the end of the shift.
    - Cranes not capable of lowering booms shall be permitted to weathervane or free swing. Check to assure that swinging booms will not contact other objects such as power lines, structures, etc.
    - Sufficient flashlights, batteries, and bulbs shall be provided to assigned emergency response personnel. A supply of fresh batteries shall be maintained at the Project for use in an emergency response.

Other Major Catastrophe

- Examples of other major catastrophes include, but are not limited to, the following:
  - Major fire.
  - Collapse of large portions of structures or large sections of scaffolds.
  - Heavy damage by wind or floods.
- Local authorities will be provided with an emergency call list to summon the CM's and the contractor's personnel to the site in the event of a major catastrophe outside working hours, on Saturdays or Sundays, etc.

- The CM Project Superintendent or his best-qualified alternate will cooperate fully with the directives of the local emergency authorities in the event of a major catastrophe. S/he will take any or all of the following actions, as appropriate.
  - Initiate fire fighting, tie down building, etc.
  - Call for assistance from outside: fire trucks, ambulances, electricians, life flight helicopters, Civil Defense Support, police.
  - Stop work.
  - Call for site evacuation, to clear site access roads.
  - Issue instructions to supervisors and to others as necessary.
  - Set up security control at the disaster area.
  - Set up communications center in site trailers: radio/telephone.
  - Call in operators for heavy equipment such as front loaders, cranes, etc.
  - Other actions considered necessary in the particular situation.

Bomb Threat

- When a bomb threat is received or if a suspicious article is found, the CM will take the following actions.
  - Work shall be stopped immediately and the Project and office shall be evacuated of all personnel.
  - A count will be made to assure that all are present.
  - Local police, fire or bomb disposal authorities shall be notified.
  - A search of the site will be made as directed by appropriate authorities.
  - If a suspicious article is found, DO NOT TOUCH IT. Notify the appropriate authorities.
  - Do not allow anyone except authorized personnel to re-enter the area.
  - If necessary to stop or detour traffic away from the affected area, local police or flagmen shall be utilized.
  - No comments shall be made. All inquiries shall be referred to the CM.
  - No on-site photographs are to be taken without the specific approval of the CM
  - The CM shall make a full investigation and file a report within twenty-four (24) hours of the occurrence.
  - If repeated threats occur within a short period of time, the CM will evaluate the situation and take appropriate action. This action may include shutting down the Project site for that day.

Environmental Spill

- In the event of a spill of environmentally damaging materials, immediate response is required to prevent or minimize the impact this event will have upon

the environment and the public welfare.

- All personnel shall continue to observe standard precautions for handling the materials as detailed in the manufacturer's product Material Safety Data Sheet (MSDS), including the use of personal protective equipment.
- Where conditions warrant, the contractor shall have emergency spill containment supplies available for immediate use.
- The following general procedures apply to the immediate response which must be initiated:
    - Immediately, all personnel in the immediate area of the release shall be alerted to the hazardous material and the nature of the immediate danger to themselves and the environment.
    - As soon as possible, the CM shall be notified and requested to initiate emergency containment and clean up procedures.
    - The Local Fire Department shall be notified to mobilize their hazardous materials response units and shall be given the necessary information regarding the materials, which were released.
    - If safe to do so, every effort shall be made to contain the materials within berms, by absorbent materials, or through other appropriate means, until proper handling and disposal personnel may be mobilized at the site.
    - Particular attention needs to be taken to avoid contamination of surface water, storm sewers, sanitary sewers, ground, plants and animals.
    - All non-essential personnel shall be removed and kept back from the area.
    - No comments shall be made. All inquiries shall be referred to the CM Project Manager.
    - No on-site photographs are to be taken without the specific approval of the CM Project Manager and the Project Superintendent.
    - The CM shall make a full investigation and file an Accident/Injury Report within twenty-four (24) hours of the occurrence.
    - Within the immediate area of the accident scene, nothing is to be disturbed nor removed after proper evacuation of the injured personnel.
    - Except when necessary to avoid further injury, equipment will not be moved, or the position of items, parts, pieces, controls, etc. will not be changed until photographs have been made and notes taken by the Project Superintendent or other person designated to make the investigation and report.
    - The Owner’s or Rochester City School District (RSCD)’s environmental official shall be notified to initiate the response of available environmental remediation contractors who are under standby contract.
    - As soon as the environmental remediation contractor has cleared the site, the Project Superintendent will release the area for contractors concerned

to clean up and make necessary repairs to return to a normal situation.

Public Demonstrations

- When a public demonstration is expected or occurs, the CM will take the following actions.
  - Work on the Project site shall continue where not encumbered by the public demonstration; however work in the immediate area shall be stopped and all Project employees shall be evacuated.
  - A count will be made to assure that all are present.
  - Local police shall be notified, and all employees shall cooperate fully with the law enforcement authorities.
  - Do not allow anyone except authorized personnel to enter the Project site.
  - All visitor passes are revoked and all visitors shall be escorted from the Project site.
  - If necessary to stop or detour traffic away from the affected area, local police or flagmen shall be utilized.
  - No comments shall be made. All inquiries shall be referred to the Project Manager.
  - No on-site photographs are to be taken without the specific approval of the CM.
  - The CM shall make a full investigation and file a report within twenty-four (24) hours of the occurrence.
  - If repeated public demonstrations occur within a short period of time, the CM will evaluate the situation and take appropriate action. This action may include shutting down the Project site for that day or obtaining a judicial restraining order.

Work Practices

Concrete (Cast-in-place)

- All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements as prescribed in ANSI-A10.9-most recent version, "Safety Requirements for Concrete Construction and Masonry Work."

Confined Space Entry

- Contractor shall develop an entry procedure to be used when Contractor's employees are required to enter confined areas or spaces.
- Confined Space entry procedures will conform to OSHA 1910.146 and the owner’s requirements.

- A confined space entry permit must be completed and posted at the entrance to the confined area.
- Documentation of appropriate formal training for all involved in the confined space activity (entrants, attendants, supervisor, and rescue personnel) shall be submitted to the CM for approval prior to any entry.

Crane Safety and Rigging

- The Contractor shall conform to the more stringent of Federal, State, local, client or CM safety policy.
- Contractors whose activities require the use of cranes shall be responsible for their proper set up and operation and shall advise the CM prior to the arrival on-site.
- The contractor shall supply the CM with documented evidence of their competent person's training, and of their 'qualified persons', as required by 1926.1404, 1926.27, 1926.1428, and where specified in 1926.1400, including the Operators, Riggers, Signal Persons, and 'Assembly/Disassembly Director.
- The Assembly/Disassembly Director shall be responsible to ensure that all provisions of safety as specified in 1926.1404 are met including but not limited to: adequate site and ground bearing conditions, proper blocking and cribbing, knowing load weights and center of gravity, equipment capacity, support of booms and counterweights, rigging of boom and suspension systems, determination of safe wind speeds, etc.

Inspection

- Inspections are required pre- and post-assembly in the configuration that the crane will be used, as well as in severe service and after adjustment or repair, for each piece of equipment.
- Contractors shall provide the CM evidence of annual inspection by a third-party inspection agency not under the control or ownership of the crane owner and approved by the CM Safety Manager.
- All repairs and adjustments noted on the inspection shall be corrected prior to next use. 'Temporary alternative measures' as specified within OSHA regulations will not be accepted.
- This applies to power-operated equipment used in construction that can hoist, lower and horizontally move a suspended load, as specified in 1926.1400.
    - Such equipment includes, but is not limited to: articulating cranes (such as knuckle-boom cranes); crawler cranes; floating cranes; cranes on barges; locomotive cranes; mobile cranes (such as wheel-mounted, rough-terrain, all-terrain, commercial truck-mounted, and boom truck cranes); multi-purpose machines when configured to hoist and lower (by means of a winch or hook) and horizontally move a suspended load; industrial cranes (such as carry-deck cranes); dedicated pile drivers; service/ mechanic trucks with a hoisting device; a crane on a monorail; tower cranes (such as fixed jib ("hammerhead boom"), luffing boom and self-erecting);

pedestal cranes; portal cranes; overhead and gantry cranes; straddle cranes; side-boom tractors; derricks; and variations of such equipment.

- Inspections shall be performed by a qualified person designated by the contractor in accordance with 1926.1412, 1926.1413, and the manufacturer's recommendation and ANSI B30 Standard for the type of crane being inspected and the most current version.
- This inspection shall be completed prior to each shift starting work, as well as when equipment is modified, repaired or adjusted, post assembly, monthly, annually and in conditions of severe service.

Operation

- This certification will be for each crane and lifting device and associated rigging equipment brought onto the site.
- At least every 12 months, or if the crane or its associated rigging has sustained any incident which may have resulted in damage, in cases of severe service, or after if any repair or modification the crane and its associated rigging shall be fully re-inspected by a qualified person in accordance with OSHA regulations, with proof of inspection provided to the CM.
- No work shall proceed without evidence of a current annual inspection meeting the CM's requirements.
- No claims will be accepted for losses sustained by the contractor for delays caused by failure to comply with these requirements.
- Temporary alternative measures for safety devices or operational aids will not be accepted.
- Safety devices, including but not limited to: crane level indicator, boom and jib stops, foot pedal locks, check valves on hydraulic outrigger and stabilizer jacks, and horns, must be in proper working order before equipment operations can begin- temporary alternative measures are not permitted to be used.
- Operational Aids, including but not limited to: boom hoist limiting device, boom angle indicator, load radius indicator, luffing jib limiting device, anti two-blocking device, load weighing device (such as a load moment indicator), and outrigger stabilizer position monitor must be in proper working order- temporary alternative measures are not permitted to be used.

Special Procedures

- A lift procedure shall be developed by the Contractor's qualified person, and overseen by the Contractors qualified and competent Assembly/disassembly director for the following and submitted to the CM prior to the lift taking place:
    - Critical Lift (defined as when lifting a load where the weights are at or over 75% of the rated capacity of the crane and rigging as determined by the manufacturer).
    - Multi-Crane Lift.
    - 100 Tons or greater Lift.

- Any application that deviates from the manufacturers recommendations.
- When special or unique hazards are under or adjacent to the load at any time during the lift.
- When the CM determines such a procedure is necessary.

- The Lift Procedure will include a Hazard Analysis developed by the Contractor and submitted to the CM along with Pre-Lift meetings, which shall be held at 30 days prior to the lift, the day prior to the lift and immediately prior to the lift with the actual workforce doing the lift.
- All concerned parties must be present for the meetings with minutes of the meeting recorded by the CM.
- The Lift Procedure will include documentation of calculations which incorporates weight deductions of all rigging equipment, a load chart for the crane(s) that will be used, a site plan and layout sheet which will include the path of travel of the load, swing radius protection and any other necessary factors.

Record Keeping

- All records pertaining to crane inspections shall be kept with the crane or in the trade contractor's site field office in accordance with applicable OSHA regulations.
- If during any safety inspection, the operator or supervisor cannot produce the required crane inspection sheets, the crane shall be shut down as soon as possible and shall be inspected.
- Where crane operators are required to be licensed by the State where the Project is being built they shall have a current license and provide a copy to the CM when requested.
- Duplicates of Certification records shall be maintained on Project site by Contractor and made available to the CM upon request.
- The contractor shall provide evidence of competency of the operator to the CM.

Rigging

- Only qualified riggers shall perform rigging operations.
- A Competent Person appointed by the Contractor shall inspect all rigging equipment. Inspection shall be done and documented prior to each shift starting work, monthly and annually in accordance with 1926.1413. If there are any deficiencies in equipment, it shall be removed from service and corrected or replaced per manufacturer's criteria.
- All rigging equipment that is defective or damaged shall be immediately removed for the Project site.
- Chain slings are not permitted to be used for any lifting operation unless specifically designed for a unique application.
- Wire rope slings shall bear a legible manufacturers capacity tag.

- Tag lines shall be used on all loads.
- All hooks used for overhead lifting shall be equipped with safety latches or alternate lifting methods such as clamps will be used. Shake-out/sorting hooks may only be used for unloading materials from trucks and will not be used for overhead lifting.

Signals

- The contractor shall appoint a qualified and trained signal person that meets the definition of 1926.1428 c and 1926.1430
- When hand signals are used, only the standard method for signals shall be used 1926.1400 App A.
- Operator and signal person shall meet prior to hoisting lifts to confirm understanding of signals.

Operator Qualifications

- The crane operator(s) shall be proficient in the operation of the crane(s) and licensed in the State/City where the operation is being performed, or—outside of NYC—certified by an accredited crane operator testing organization, such as the National Commission for the Certification of Crane Operators (NCCO), or by an audited employer program developed by an accredited crane operator testing organization and audited by a third party qualified auditor.

Power line Safety

- Crane and rigging operations are not permitted within 20 ft of power lines unless the power lines are de-energized and confirmed by a qualified utility company representative.
- Where encroachment is required within 20 ft from power lines in accordance with 1926.1408, Table A
    - A planning meeting shall be conducted with the assembly/Disassembly director, operator, crew and other workers in the area to review steps to prevent encroachment
    - Tag lines must be non-conductive
    - Dedicated spotters shall be used
    - Proximity alarms or range control warning device shall be used

Demobilization

- The Project Superintendent and each contractor shall organize and schedule the orderly removal of their Project site offices and trailer facilities, the termination of temporary utility services, the transfer of telephone services to their offices, and the forwarding of mail.
- The site shall be left in the conditions specified by the contract documents.
- The Project Superintendent shall inspect the site with the Owner to verify that all permanent security and safety devices are in place and performing their intended function.

Demolition

Structural Demolition

- An engineering survey shall be completed before the start of demolition.
- All structural shoring shall have stamped drawing and calculations by a registered Professional Engineer.
- Areas being demolished must be secured by means of barricades to prevent unauthorized personnel from entering the area.
- Subcontractors must submit, prior to the start of construction, a detailed demolition plan to include, means and methods, related drawings, and other relevant safety plans.

Dust & Infection Control

- All debris containers must be covered before being removed from the construction area.
- All temporary partitions that are installed must have a fire rating equal to that which they are replacing and at least 2-hours in all cases.
- All temporary partitions shall be installed deck-to-deck and taped to prevent dust transmission.
- Construction areas must maintain negative air pressure. To accomplish this, the use of portable HEPA-filtered air machines may be used. When using the Projects ventilation system, approval from the CM is required.
- Routes shall be established for the removal of debris and movement of materials through occupied areas of Project.
- Walk-off mats or other means shall be used at construction entrances to prevent dust and other foreign matter from being tracked throughout the Project.
- Doors and entrances shall have bottom floor-sweeps installed.
- Where solid partitions of plywood or drywall are not possible, fire resistant polyethylene shall be used or fire-resistant tarps. All seams will be duct taped and dust proof entrances used.
- Appropriate signage will be posted at construction entrances.
- Powered hand tools shall be of the dust collecting type.
- All concrete and block shall be wet cut.
- Housekeeping must be performed on a continuous basis.
- Eating and smoking are not allowed inside the construction work areas.
- Temporary toilet facilities must be provided with adequate hand washing facilities equipped with towels and hand soap.

Interim Life Safety Measures

- Interim life safety measures shall be coordinated with the school before construction starts.
- This should include re-routing of fire escapes, signage requirements, fire exits, area mapping, and local fire marshal approval of the plan.
- Fire protection plan shall include – Hot work permits, fire watch, provisions for protection when sprinklers, smoke, and heat detectors are inactive, storage of compressed gas cylinders.

Electric - Temporary

- All electrical work, installation and wire capacities shall be in accordance with the pertinent provisions of the National Electrical Code (most current version), ANSI and OSHA Standards.
- All 120 volt, single phase, 15 & 20 amp temporary power circuits (with the exception of temporary lighting) shall have ground fault circuit interrupters installed.
- In addition all tools, cords and power sets shall have an assured equipment inspection program maintained on quarterly basis.
- The color codes used for identifying inspected & tested equipment on this Project are:

▪ January, February, March	▪ White
▪ April, May, June	▪ Green
▪ July, August, September	▪ Red
▪ October, November, December	▪ Orange

- (NOTE: The cycle of colors is repeated for the next year)
- Portable tools will have the appropriate color code affixed to the male (plug) end following inspection.
- Extension cords will have the appropriate color code affixed to both ends (plug & receptacle). The previous quarter's color code will be removed to avoid confusion.
- When using permanent power, once established in new construction or in renovation work, Ground Fault Circuit Interrupters must be used in conjunction with the AEGC inspections.
- All necessary open wiring must be made inaccessible to unauthorized employees or visitors and not be subject to damage.

- Open wiring is NOT acceptable for temporary lighting circuits.
- Lighting on barricades, fences, or sidewalk coverings shall be encased in metal raceway.
- Temporary lighting must have guards to prevent accidental contact with the bulb except where the bulb is deeply recessed in the reflector.
- Temporary lights shall not be suspended by the cord unless the fixture was specifically designed in that manner.
- Portable electric lighting used in moist or other hazardous locations such as drums, tanks, vessels, bins, bunkers, etc., shall be operated at a maximum of 12 volts (non-explosive).
- All shop lighting and portable task lighting shall have a cover and guard installed when in use or available for use.
- Extension cords used with portable tools must be of a heavy-duty 3-wire type. Flat extension cords are prohibited.
- Damaged electrical cords shall not be used.
- All extension cords will be suspended seven feet (7') above finish floor or work platform. Extension cords will not be fastened with staples, hung from nails, or suspended by non-insulated wire.
- All non-current carrying parts of electrical equipment must be grounded or have an approved double-insulated setup.
- Grounded circuits must have enough capability to carry all currents likely to be imposed on it.
- Contractor shall determine before operations start if there is any energized equipment or electrical circuit in the work area, which might have risk to the worker.
- Equipment and conductors that must be de-energized shall be identified to the CM who will arrange to de-energize the equipment under the Lockout and Tagging procedure/system.
- Contractor shall use the Project Lockout/Tagout procedure and strictly adhere to the use of this requirement. CM will monitor adherence to the procedure on a regular basis.
- All temporary power panels shall have covers installed at all times. All open or exposed breaker spaces shall be adequately covered, and labeled.
- All electrical equipment and wiring in hazardous locations must conform to the National Electrical Code standards.
- The frames of all cutting, welding (arc, heli-arc, gas-plasma-arc) machines shall be grounded.
- Fish tapes or lines made of metal or any other conductive medium are prohibited. Nonconductive tapes and lines will be used in their place.

- All temporary wiring shall be effectively grounded in accordance with the National Electrical Code (Articles 305 and 310).
- All wiring used for temporary lighting shall be in accordance with the most recent NEC.
- Defective Electrical Tools and Equipment - All electrical tools and extension cords found to be defective (Examples: missing or broken ground pins, exposed internal conductors) will immediately be rendered in-operative by cutting off the plug end or by immediately removing from the Project.
- Electrical work (e.g. tie-ins, panel maintenance) shall be conducted only on de-energized (locked out and tagged out) systems.
- All circuit disconnects must be locked in the open position or otherwise appropriately identified with affixed tags stating "DANGER - DO NOT ENERGIZE" or other equivalent wording prior to working on the system or equipment.
- Employees are not permitted to work on any energized circuits unless conditions mandate and written approval is obtained from the Regional Safety Manager.
- The pre-task planning for all work on energized systems must be submitted for review.
- Additionally, work practices must conform to all applicable owner, state and federal requirements including the NEC and the most recent version of NFPA 70E.

Elevated Work (Other than Fall Protection)

Ladders

- Manufactured ladders on the Project shall comply with the regulations of ANSI-A14.1-1968 (or most recent version), Safety Code for Portable Wood Ladders or ANSI-A14.2-1972 (or most recent version), as required by OSHA.
- All ladders shall be used in the manner and for the purposes for which they were designed and constructed.
- The side rails or extension shall extend 36 inches above the landing. When this is not possible, grab rails shall be installed.
- All ladders in use shall be tied, blocked, stabilized by a second worker or otherwise secured to prevent accidental displacement.
- When working on/from a ladder at elevations greater than six (6') feet or more above the work surface, all ladders (including stepladders) must be tied, blocked, stabilized by a second worker or otherwise secured against accidental displacement.
- Where adequate anchorages are available, workers shall tie off using a Personal Fall Arrest System or utilize a different means of gaining access (i.e., scissor lift, scaffold, etc.).
- Portable metal ladders shall not be used.

Scaffolding

- All employees erecting, using and dismantling scaffolds shall be trained in the hazards present and the safe procedures to be followed to eliminate exposure to those hazards and shall be provided with fall protection when 6-feet or more above the next lower level.

Concrete and Masonry

- All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements as prescribed in ANSI-A10.9-1970 (or most recent version)"Safety Requirements for Concrete Construction and Masonry Work."

Stairways

- Upon delivery to the Project site all office trailers and material storage trailers shall be provided with stairway access to all doorways and shall have landings with railings which allow for at least 20 inches of clearance in front of any door swing.
- Stairway placement shall follow placement of the upper floor deck as soon as practical.

Hoists and Elevators

- Temporary personnel elevators and material hoists shall be constructed, installed and maintained in compliance with the manufacturer's instructions and the provisions of applicable statutes and regulations of governing authorities.
- No elevators or hoists are to be used for the movement of materials and personnel until the devices have been certified and licensed by a third party inspector qualified to approve the equipment.
- No person shall be allowed to ride on a material hoist except for the purposes of inspections and maintenance.

Elevated Work - Fall Protection

- A Fall Protection Plan must be developed by the contractor for all work with a fall exposure greater than 6-feet with a copy provided to the CM prior to start of work.
- “Controlled Access Zones”, “Safety Monitoring”, and “warning Lines” are not permitted.
- Personal Fall Arrest systems shall be worn and used by all workers when working six (6') feet or more above the ground/floor or whenever working in a precarious position, unless other adequate fall protection such as guardrails or safety nets are provided.
- All lanyards are to be as short as possible, but in no event longer than six (6') feet. Shock absorbing lanyards must be used unless a Self-Retracting Lanyard is in use. Wire rope lanyards are prohibited unless approved by the CM.

- Personal Fall Arrest System shall also be worn and attached to the manufacturer's approved anchorage when working in aerial lifts and to vertical drop lines when working from suspended scaffolding.
- Only one individual shall use a vertical safety lines at a time.
- When wire rope is used as a guardrail providing fall protection, *please refer to the* 'Perimeter Protection' section within this Safety plan for design and installation details
- When wire rope is used as a horizontal lifeline, it shall be designed by a registered Professional engineer and installed and maintained by a competent person. It shall be designed, installed and maintained to meet, at a minimum, the requirements of OSHA as contained in 29 CFR 1926.502.
- To eliminate the potential of a fall when working on a flat roof or deck, a warning barrier meeting the following requirements may be used 15 feet from the fall hazard. If a worker is between the warning barrier and the fall hazard, a positive means of fall protection must be used.
    - Warning tape is not allowed as a warning barrier.
    - Warning barriers shall consist of ropes, wires, or chains, and supporting stanchions erected as follows:
    - The warning barrier rope, wire, or chain shall be flagged at not more than 6-foot (1.8 m) intervals with high-visibility material;
    - The warning barrier rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches (.9 m) from the walking/working surface and its highest point is no more than 39 inches (1.0 m) from the walking/working surface;
    - After being erected, with the rope, wire, or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds (71 N) applied horizontally against the stanchion, 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;
    - The rope, wire, or chain shall have a minimum tensile strength of 500 pounds (2.22 kN), and after being attached to the stanchions, shall be capable of supporting, without breaking, the loads applied to the stanchions as prescribed in paragraph (f)(2)(iii) of this section; and
    - The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.
- Steel Erection - Refer to Section entitled "Steel Erection".
- Precast/Prestressed Concrete - Refer to Section entitled "Architectural Precast Concrete".

Elevator Safety

- Contractor shall comply with all applicable provisions of OSHA, and ANSI, as well as the National Elevator Industry Inc., Field Employees Safety handbook.

Excavation

- The contractor must designate a competent person trained in soil classification and the recognition of trenching and excavation hazards. This person must be on-site when excavating or trenching is being done.
- Appropriate documentation to meet the OSHA trenching and excavation standards is to be maintained on site.
- Where protective systems as defined in 29 CFR 1926.650-652 are designed by a licensed Professional Engineer, who is not a regular CM employee, the resulting design documents must be reviewed by the CM prior to the commencement of the work to assure that the documents set forth the accurate and complete assumptions (as set forth in the current applicable contract specifications) upon which the design is based.
- Prior to opening any excavation or trench an excavation permit from the CM is required. Contractor shall notify necessary personnel to determine whether under-ground installations; i.e. sewer, telephone, fuel, electric lines, etc., may be encountered and where they are located.
- Excavation permits shall be required on a daily basis while the excavation is open.
- Trenches 4 feet and over in depth or presenting a hazard to the worker shall be shored or walls cut back to protect employees from cave-in.
- All trenches and excavations shall be properly barricaded to prevent persons from walking into them.
- When an excavation will remain open longer than one work shift, a barrier sufficient to protect people from falling into the excavation or erected at a minimum of 6-feet from the excavation in order to warn of the fall hazard must be erected and maintained for the time duration that the excavation remains open.
- Excavation contractors will provide a spill kit for use on site in the event of a hazardous material spill.
- Drilled caissons will have fall protection provided both during and upon completion of the drilling by use of personal fall protection, guardrails or use of casing extending a minimum of 42 inches above the ground.

Personal Protective Equipment

- All job hazard analyses designed to meet the contractors' scope of work and included in the contractors' site specific safety plan or additions thereto shall

include a description of all required personal protective equipment for each crew member of every task identified. This list of required personal protective equipment shall be updated or modified based on a review of the Daily Safety Task Assignment by the crew and its' supervisor to mitigate exposure to previously unidentified hazards.

- Appropriate eye protection meeting the requirements of ANSI Z87 (most recent version) with side shields are required to be worn in a manner to protect the eyes while in construction areas at all times.
- In addition, approved eye and face protection is required as follows:
- Goggles, welding hoods and shields, or face shields will be required to be properly worn at all times when in the area of operations, such as when welding, burning, grinding, chipping, chemical handling, corrosive liquids or molten materials, drilling, sawing, driving nails, power actuated tools, concrete pouring, tampers and gasoline fueled hand operated equipment (i.e. chain saws). This section will also apply to those employees of Contractors who are assisting any worker as an apprentice or helper.
- Prescription glasses must meet the requirements of ANSI Z87 (most recent version), or be covered with over-the-glass safety glasses or face shield.
- Hard hats must have the suspension aligned with the user's head as designed by the manufacturer and may not be worn over other hats or caps such as baseball caps.
- When exposed to welding radiation, appropriate eye shade protection attached to the hard hat is required for the welder. Welding operations shall provide for the protection of others from unintentional exposure to radiation by strategically locating welding shields..
- Chaps designed for use while using a chain saw as well as hearing protection, appropriate gloves, and face shields are required for any work involving chain saws.
- Hand Protection.
    - Gloves of appropriate design and construction are a requirement whenever exposure to hand injuries and/or lacerations is likely to exist.
    - Typical hazards include but are not limited to chemical skin absorption, heat/cold, laceration, punctures, biological contaminants and/or irritants, abrasion, and chemical burns.
    - The contractor will review all relevant MSDS, past injury experience, professional industry organizations' recommendations and publications, vendors' literature, best practices, and their own job hazard analyses to determine exactly which glove is correct protection for the hazard

identified and require their use whenever an employee is exposed to the hazard.

- General requirements. Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.
- Selection. Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

Fire Protection

- Contractor shall be responsible for fire protection in its work and operational areas, including offices, tool rooms, and storage areas twenty four (24) hours per day, seven days per week through the duration of this Contract.
- The contractor, as required by OSHA and the local fire protection code, must provide appropriate fire suppression equipment.
- The contractor will provide for a fire watch trained in the use of fire extinguishers throughout the hot work and at least one half hour after the hot work has ceased.
- Additional fire watches may be required if the possibility exists for sparks, slag, embers, etc. to travel to adjacent rooms or floors below the hot work.
- At a minimum 20 pound multi-purpose ABC extinguishers are allowed on the Project.
- Only safety containers approved by UL and the local Fire Marshall, and properly labeled as to their contents, are to be used for handling and/or storage of flammable liquids in quantities more than one gallon.
- All tarpaulins and plastic used for temporary covers shall be of fire resistant manufacture.

Hazard Communication Program

- The Occupational Safety and Health Act (OSHA) requires that each employee potentially exposed to hazardous chemicals be advised of the potential hazards and how to guard against those hazards.
- Each contractor whose employees are potentially exposed to hazardous chemicals must develop a list of all such chemicals used on the Project; gather material safety data sheets (MSDSs) for those materials; develop a labeling system for all materials; and train all potentially exposed personnel in the hazards and their controls for all listed compounds.
- These steps are outlined in detail in the following material.

- Employee training for this requirement will be documented and acknowledged by signatures following each session.

Material Safety Data Sheets (MSDS)

- Every contractor will be responsible for development and maintenance of a list of hazardous chemicals utilized within the Project operations and will be further responsible for obtaining and maintaining MSDS's for all such hazardous chemicals.
- Employees will be allowed access to this information and the specific MSDS for chemicals utilized in their work areas.
- All questions relating to the program should be directed to the contractor's superintendent or safety representative.
- A copy of each MSDS will be delivered to the CM prior to work starting involving that substance.

Employee Information and Training

- All new and present employees will be given information regarding the requirements of the Chemical Hazard Communication Program; the hazardous chemicals present in their work place; and the physical and health risks of these chemicals.
- This training may be met through orientation sessions for new employees, and refreshers for all during toolbox talks. The information and training will also include the following elements:
    - The symptoms of overexposure to the chemicals.
    - How to determine the hazardous presence or release of a chemical in the work place.
    - Methods to reduce or prevent the exposure to hazardous chemicals, such as control procedures, work practices, or personal protective equipment.
    - Procedures to follow in the event of an exposure to hazardous chemicals. The location of the log containing the MSDS's, which apply to their work place and the location of the written Chemical Hazard Communication Program.
    - How to review MSDS's to obtain the hazard information for the chemical, and how to read the labels, which are required on the chemical containers. When a new hazardous chemical is obtained for use, each employee who could be exposed will be given the information and training as described above, and a copy of the MSDS's for the chemical will be obtained and distributed to those who actually use the chemical in the work place. The MSDS's will be available to all employees during each work shift.
    - Proper disposal procedures of waste materials shall be enforced. Labeling of waste containers and disposal of all hazardous materials by a licensed

disposal facility is required.

Container Labeling

- All chemical containers at the site must be clearly labeled as to the contents, the hazards involved, and the name and address of the manufacturer.
- All secondary containers of hazardous chemicals are to be clearly labeled with the same information as the original container.
- Each contractor's superintendent or safety representative shall perform the above responsibilities for all their materials.

Hazardous Non-Routine Tasks and Nearby Work

- In the event an employee is assigned to perform, or is assigned to work in an area where a hazardous task, non-routine to their work, the employee will be given the additional information and training related to the hazardous chemicals which may be encountered in the non-routine task.
- The first-line foreman, contractor superintendent, or contractor safety representative will provide this information and training.
- The information will include the specific chemical hazards of the task, the controls and protective measures required, the types of personal protective equipment required, how to use the equipment, the nature of other work being performed in or near the non-routine task, and what emergency procedures are involved with the task.

Demolition

- To the best of the Owner's knowledge, there is no asbestos, lead, polychlorinated biphenyl (PCB), or hazardous materials anywhere in the designated work areas. AIA-A201 Subparagraph 10.1.2 applies: Contractor shall stop the Work if material reasonably believed to be asbestos, lead, polychlorinated biphenyl (PCB), or hazardous materials is encountered in the Work area.

Chemicals in Unlabeled Pipes, Vessels and Containers

- To ensure that employees who work on unlabeled pipes, vessels or containers have been informed as to the hazardous materials contained within, the following policy has been established:
- Prior to starting work on unlabeled pipes, vessels or containers, employees are to contact their foreman for the following information:
    - Type of chemical in the pipe, vessel or container.
    - Potential hazards.
    - Safety precautions which should be taken.

Audit and Review

- It will be the responsibility of each contractor's superintendent and safety representative to review the entire Hazard Communication Program, and to

revise and update the material contained herein to reflect all changes in the purchase, use, storage, and handling of hazardous chemicals at the Project site.

- It will be the further responsibility of the superintendent and safety representative to periodically audit that procedures in the use of the hazardous chemicals meet the requirements as set forth in the MSDS's.

Housekeeping

- **On a daily basis**, all debris and scrap material shall be removed from the work area.
- Debris and other loose materials shall not be allowed to accumulate in stairwells.
- Containers shall be provided for the collection and separation of waste, trash, oily and used rags and other refuse. Metal (dumpster type) containers must be used and emptied promptly.
- Garbage and other waste shall be disposed of at frequent or more regular intervals in a manner approved by the CM.
- Contractor shall notify the CM of any hazardous waste it will generate during performance of the Work.
    - Contractor has the direct responsibility of maintaining proper storage of these wastes while on site and will verify to the CM in writing that the wastes have been disposed of in a legal manner.
    - A copy of the haulers manifest must be provided to the CM.
- Contractor shall not pour, bury, burn, nor in any way dispose of a chemical on the work Project site.
- Contractor shall clear all combustible debris to a solid waste disposal Project site properly licensed under the laws of the State having jurisdiction.
- NO OPEN BURNING OF DEBRIS, OR RUBBISH WILL BE PERMITTED ANYWHERE ON THE PROJECT SITE.
- NO SMOKING OR TABACCO PRODUCT USE ON CONSTRUCITON SITE.
- Materials and supplies shall be stored in locations, which will not block access-ways, and arranged to permit easy cleaning of the area.
- In areas where equipment might drip oil or cause other damage to the floor surface, a protective cover of heavy gauge, flame resistant, oil proof sheeting shall be provided between the equipment and the floor surface sheeting so that no oil or grease contacts the concrete. This requirement is applicable to both finished and unfinished floors.
- All hoses, cables, extension cords, and similar materials shall be located, arranged and grouped so that they will not block any access-way and will permit easy cleaning and maintenance.

Interim Life Safety Matters for Occupied Facilities

Specific Measures

- Whenever construction affects the facility's ability to accommodate occupants (either because of disruption of services, interruption of normal operations, or when hazards are present), it will become necessary to implement interim life safety measures, as follows:
  - Ensure that all exits are clear. This includes areas directly affected as well as all other exits.
  - Ensure that there is free access to emergency services, that vehicles, material, etc. are not blocking the access route.
- Disabling of fire protection systems. A small disaster could escalate if the fire protection system is not functional. Care should be given to provide an alternate system while the primary system is off-line. This includes scheduled maintenance, upgrade, repairs, or adding of coverage resulting in disabling system, and disabling system to allow maintenance or repairs to be completed on other systems (e.g. hot work).
- Fire alarm, detection, and suppression systems must not be impaired. A temporary (but equivalent) system shall be used if the system is impaired. These temporary systems must be tested monthly.
- Temporary construction partitions shall be smoke tight and noncombustible. Adequate signage shall discourage casual observers from opening or entering the partitions.
- Additional (double) fire-fighting equipment must be provided, as well as personnel trained in its use.
- Smoking is prohibited on this Project in and adjacent to all construction areas. Strict enforcement must occur.
- Construction site shall be kept clean and orderly. This includes material piles, debris, platforms, and break areas.
- Hazard surveillance of sites shall be increased and documented. Attention is to be given to evacuation routes, construction areas, storage, office/lunch areas, and fuel storage.
- Whenever the safety of an adjacent area is compromised because of construction, staff shall be informed. Alternate exit routes shall be identified.
- Facility-wide education programs are conducted explaining interim life safety matters and current life safety deficiencies.
- The construction site must be restricted from all but authorized staff. Adequate signage shall be provided.
- Alternate access must be provided for public and emergency traffic whenever disruption occurs.

- Policy and procedures must ensure that roads and pathways are clear of mud, debris, materials, etc.
- Proper notification must be made to local authorities (fire, police, other) whenever life safety is diminished.
- Governing body shall be kept apprised of status of life safety during Project.
- Construction workers must be made aware of egress routes.
- Construction workers' egress routes must be inspected daily to ensure no obstacles.
- Effective storage, housekeeping, and debris-removal policies and procedures must be in place to reduce collection of combustibles in construction areas.
- Whenever fire zones are altered, the owner's staff will be informed in regard to new or different life safety measures regarding their changed configuration and fire safety.

Line Break

- This section refers to any entry into an operating Process System under installation, testing, or operating conditions and is subject to the procedures for "line breaking".
- All employees are to be informed of the inherent dangers of working on operating process systems.
- Entries can be made only with approval of the Owner and the CM.
- Added hazard potential exists when cooling occurs, vacuums, which may be holding liquids in pockets often break without warning and liquid is released to run to the lowest point. Plugs (particularly solidified process materials) can move and release materials after the first connection is broken.
- The Owner and the CM must agree on the location of first breaks
- All systems must be considered as having the potential to discharge contained energy/material from open ends of lines or broken flanges at any time even after the line has been drained and vented.
- No Contractor may enter an operating piping system or equipment until the requirements of this procedure are met. Systems activated for testing purposes fall under this procedure.
- Under no circumstances will any line/system be violated other than via the lock and tag procedure.

Lockout/Tagout Procedures

- The contractor must adhere and strictly follow either the Project Lockout and Tagout requirements, the Owner or CM's requirements, if any, or the contractors own requirements, whichever is the most stringent.

- Electrical work (e.g. tie-ins, panel maintenance) shall be conducted only on de-energized (locked out and tagged out) systems.
- All circuit disconnects must be locked in the open position or otherwise appropriately identified with affixed tags stating "DANGER - DO NOT ENERGIZE" or other equivalent wording prior to working on the system or equipment.
- Employees are not permitted to work on any energized circuits unless conditions mandate and written approval is obtained from the Regional Safety Manager.
- The pre-task planning for all work on energized systems must be submitted for review.
- Work practices must conform to all applicable owner, state and federal requirements including the NEC and the most recent version of NFPA 70E.

Lockout Devices

- Only individually keyed padlocks shall be used. Padlocks are to be painted per the craft color code for easier detection and craft identification.
- A lockout device of the standard scissor type that will allow the placing of more than one padlock is required, when more than one individual is working on a circuit or mechanical process.
- A piece of chain or cable may be necessary to complete a lockout on some valves or controls and shall be used wherever needed.

Danger Tags

- 'Danger Tags' are not 'Danger Signs', and shall not be used where a sign is needed.
- Two standardized Danger Tags shall be used on this Project. They are described as follows:
  - "DANGER - DO NOT USE": This tag must be attached to each padlock on a lockout.
  - "UNSAFE - DO NOT USE": This tag does not require an attachment to a padlock, but may be used if needed. This tag shall be used to identify tools, equipment, vehicles, etc.

Procedure

- If device, valve, switch, or piece of equipment is locked out, a "Danger Tag" shall be attached.
- No device, valve, switch or piece of equipment shall be operated with a "Danger Tag" and/or lockout attached regardless of circumstances! ! !
- Systems consisting of electrical components will be checked, locked and tagged first by electrical craft employee working on the circuit.
- The electrical craft will be the first lock on, and the last lock off.
- Where placing of lock is not feasible, the circuit conductor will be disconnected from the breaker and tagged out.

- The panel cover must be of the type that will cover all breakers when closed and must be equipped with a hasp in order to secure a lock to prevent the panel door from being opened.
- If panel cover is of a type that cannot be locked closed, a cover must be secured over the panel cover and be locked closed and tagged while any work is being performed on any of those circuits.
- If the above cannot be accomplished, each circuit will be tagged out as prescribed and an electrician will stand by the panel board to prevent breakers from being tampered with. This physical presence will continue daily until the work is complete.
- All "Danger Tags" must be dated and signed. Also on tag, must be the intended work and equipment for which tag has been placed.
- If employees of more than one craft or crew are to work on a system, circuit, machinery, or component, the supervisor from that craft shall place his individual lock and tag; and verify that the system, circuit, machinery or component being tagged, is indeed the system that is to be worked on.
- Only the person that placed the lock and tag shall remove it without special authorization from the Project Manager, Construction Manager or Craft Superintendent.
- Padlocks, Lockout Devices and "Danger Tags" shall be made available as specified above.
- Padlocks shall be color coded for craft identification and shall only be used by that craft for lockout purposes, i.e. valves, switches, electrical components, etc.
- Padlocks shall be issued from the contractor responsible where a sign in/out log will be maintained. Locks and tags shall be issued to the foremen or supervisor responsible for the craft performing the work.
- The contractor of each craft discipline will be responsible for assuring all padlocks are personally identified, that will be used for lock and tag purposes.
- The Contractor Superintendent(s) will be responsible for ordering their own craft's padlock. A master key will also be provided.
- Any employee(s) or person(s) found to have removed another's lock and/or tag will be subject to disciplinary action up to and including dismissal from the Project.

Special Situations

- When due to the nature of work, a supervisor who has employees assigned to work on systems that are between construction and client turnover that is to be locked and tagged out in order to perform work, the below shall be applied:
- Prior to the electrical foreman de-energizing the system, the foreman will ascertain whether system or device has been turned over and accepted by the

client; If system is signed off, the client shall assume responsibility for de-energizing system and becoming the tagging authority.

- Contractor Electrical foreman/craft journeyman places lock and tag and tries to engage the equipment.
- The electrical journeyman or lead man will meter the tagged equipment to verify that it is de-energized.

Operating Facilities and Equipment

- All systems covered under this section whether electrical, mechanical or others are considered those systems where no future construction activity is warranted.

Electrically Operated Systems

- Client representative or designee de-energizes system demonstrating accuracy to construction electrical supervisor, then locks and tags.
- Construction electrical foreman/journeyman ascertains that fuses, breakers or throws have been removed, when applicable; tags, locks and tries system.
- Electrical foreman/journeyman, meters the side of the system to be worked on to verify it is de-energized and safe.
- Upon completion of work, the journeyman removes their lock/tag and advises the construction electrical supervisor.
- Client representative or designee clears system, removes lock and tag and re-energizes if necessary.

Other Systems

- Plant engineer or designee de-energizes system and makes system safe.
- Client mechanics or designee(s) makes first break in flanges, places blanks, blinds or valves, and demonstrates that the system is empty and decontaminated.
- Construction (Client) Coordinator or designee verifies that the system is de-energized and tagged.
- Construction Craft supervisor locks, tags and tries system, surrenders the key to the journeyman who will then perform the assigned task.
- Upon completion of work, the journeyman will return the key to the assigned supervisor and tag and lock are removed.
- Construction (Client) Coordinator or designee assures that system is clear, and then removes lock and tag.
- Client mechanics or designee(s) re-energize system.

Construction

- All systems under this section whether electrical, mechanical or others, are considered those systems that are still in the construction phase.

- Equipment or circuits that are de-energized shall be maintained inoperative at their main power source and shall have locks and tags attached to prevent accidental turn on.
- A staff member shall be designated from the electrical department (Superintendent or General Foreman), to assume the responsibility, for the removal of locks and tags, and activation of power from the main switchgear through end line component.

Masonry

- In addition to the requirements contained in OSHA 29 CFR 1926. 706, the following is required:
  - A person, appointed by the Masonry Contractor, who meets the OSHA definition of Qualified Person, will prepare a Hazard Analysis. The Hazard analysis will be reviewed with the CM Project Safety Manager and CM Project Superintendent prior to start of work.
  - The Mason's qualified person shall approve all changes in the Hazard Analysis.
  - A copy of the Hazard Analysis shall be maintained at the Project site showing all approved changes with a copy provided to the CM.
  - The implementation of the Hazard Analysis shall be by a person appointed by the Masonry contractor who meets the OSHA definition of Competent.
  - The Hazard Analysis shall be reviewed with each person working on the masonry wall each day prior to starting work.
  - A safe means of access to the level being worked shall be maintained.
  - There shall be protection provided to prevent tools and material from striking any person below the work/storage level.
  - A tag line shall be used to control all loads.
  - When loads are being hoisted, all personnel are to be prevented from walking under the load.
  - No one shall be permitted to ride a load under any circumstances.
  - A measuring device to accurately determine wind speed shall be provided by the masonry contractor with observations made available to the CM upon request.

Masonry Wall Bracing

- The masonry contractor shall provide the CM a design, prepared by a Professional Engineer, meeting the requirements of OSHA 29 CFR 1926.706 (b) and the Standard Practice for Bracing Masonry Walls under Construction as developed by the Council for Masonry Wall Bracing.

- No one shall be permitted within the limited access zone of an unbraced or braced wall subjected to winds of more than 35 mph (20 mph if during the initial period of construction).
- A DANGER sign shall be placed on every unsupported masonry wall that is more than 6 feet in height, braced or unbraced, and 50 feet or less in length. The sign shall be placed at each end of the wall and at intervals of not more than 100 feet along each side of the wall. The sign shall contain the words *DANGER* and *THIS UNSUPPORTED WALL IS UNSTABLE IN WINDY CONDITIONS.*

Fall Protection (See Elevated Work - Fall Protection)

- All employees engaged in masonry work, including overhand laying or any other activity that exposes them to a fall of 6 feet or greater shall be provided with and use fall protection. This protection shall be either a personal fall arrest system consisting of a full-body harness, double, shock-absorbing lanyard, and anchorage or a safety net or a guardrail. “Controlled Access Zones” are not permitted.
- Fall protection requirements shall be rigorously enforced with any observed violation cause for removal from the Project.
- Body belts are not permitted as part of a fall restraint system. Only full body harnesses will be used as part of a personal fall arrest system.

Perimeter Protection

- A guardrail system will be constructed in accordance with OSHA 29 CFR 1926.500. or alternative fall protection consisting of safety nets or personal fall arrest equipment provided.

Motor Vehicles and Equipment

- All equipment must be inspected daily before use by Contractor's operator.
- Contractor must also make documented and complete inspections at 30-day intervals with proper documentation maintained at the Project site by Contractor and copies shall be made available to the CM upon request.
- Defective equipment shall be repaired or removed from service immediately.
- All Contractors’ operators of construction equipment should be properly licensed and certified by a competent person.
- Copies of the certifications shall be maintained on Project site by Contractor and made available to the CM upon request.
- Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried and all passengers shall be properly seated with seat belt used.
- Standing/kneeling on the back of moving vehicles is prohibited.

- Locations for storage of all fuels, lubricants, starting fluids, etc., shall be reviewed by the CM prior to use by Contractor for storage and shall conform to the requirements of the NFPA as well as the local Fire Marshal.
- Where required, contractors shall provide equipment diapers to protect from environmental spills.
- Drivers of motor vehicles shall have a valid state drivers license (CDL when applicable) and be instructed to exercise judgment as well as observe posted speed limits.
- All contractors' means of ingress and egress shall be adequately marked and kept clear of stored material, debris and equipment.
- Pedestrians always have right-of-way over motorized traffic.
- Horns shall be sounded at blind corners, when passing, and/or for warning.
- Established hand signals or turn signals are to be used.
- Reckless driving or other non-observance of these instructions will be cause for withdrawal of driving privileges on the Project.
- Any ATV's used on the Project shall be "four"- wheeled, not three-wheeled.
- All vehicles permitted access to the site must display an appropriate vehicle identification badge from the rear view mirror or other conspicuous location at all times while on the Project.
- Seat belts shall be worn by all employees operating motor vehicles and any equipment with rollover protection structures during performance of work.
- Properly trained and equipped flag persons shall be used whenever construction traffic accesses or exits from public highways as well as when construction traffic and deliveries interfere with the planned flow of traffic on public highways.

Precast / Prestressed Concrete

- Fall Protection for all employees engaged in work with a fall exposure of 6 feet or greater above a lower level shall be either a guardrail system, a safety net system or personal fall arrest system.
- The use of "Safety Monitoring" and "Warning Line System" and "Controlled Access Zones" are not permitted.
- Refer to the Section "Elevated Work Fall Protection" for additional requirements.
- A pre-construction meeting between the CM, the Fabricator and the Erector must be held to discuss the following topics:
    - Sequence of erection;
    - Schedule of delivery by load list;
    - Crane capacities;
    - Crane lift plan with calculations based on load and crane location;
    - Anchor bolt certification;
    - Review of the structural plans and details;
    - Stabilization plans for the structure during all phases of erection;

- Temporary bracing and guying procedures and equipment for deck members, columns and wall panels.

- The Erector is to provide the CM the following:
  - Written erection plan prepared by a Company Officer or Professional Engineer indicating complete details of all phases of erection that shall include at least the following:
  - Crane lift plans with load calculation based on the cranes to be used and various setup locations,
  - Written stabilization plans for all phases including the use of temporary guying and bracing for columns and wall panels,
  - Written documentation of temporary connection details for use until permanent connections are completed including capabilities of workers doing the installation, types of welds or adequacy of bolted connections.
  - Listing of competent persons for fall protection, crane operation and erection along with phone numbers for emergency contact.
  - Fall protection plan in accordance with the CM Safety Plan including Leading Edge protection both during installation and after. Sequencing breaks and end of workday protective measures will also be detailed. Interior floor hole protection must be provided per OSHA Subpart M greater than 2 inches in the least dimension.
  - Custody of Guardrail cables following completion of precast erection. Erector to present a plan detailing how the cables will be safely removed utilizing Personal Fall Arrest Systems; or safety nets.
  - Silica protection of workers during cutting of concrete.
  - Hazard Analysis of all operations, presented to all workers prior to each shift on hazards specific to the day's operation.
  - Proof of training for all erection crewmembers.
  - Delivery locations for trailers including adequate ground preparation and plan for unloading.
  - Wind loading considerations including when operations will be suspended due to high winds.
  - Any proposed field modifications to the approved Erection Plan shall be approved by a Company Officer or the Professional Engineer of Record, added to the plan, which shall be available at the jobsite. A copy must be submitted to the CM prior to any change.
  - Lifting inserts, which are embedded or otherwise attached to precast concrete members, shall be capable of supporting at least four times the maximum intended load applied or transmitted to them, and shall be used in accordance with the manufacturer's recommendations.

- Lifting hardware shall be capable of supporting at least five times the maximum intended load applied or transmitted to the lifting hardware.
- Adjustment of precast members, after initial placement, which requires the lifting of the members in any manner, shall not be made unless wire rope safety tiebacks are used or the members are attached to the crane load line.
- Chains are not permitted to be used as slings. Chain "come-along" are permitted with proof of required inspections and certification.

Pressure Testing Safety Requirements

- Pressure testing involves hazards, such as the release of hazardous energy, being struck by loose fittings or burst pipe. In addition, if an inert gas, such as nitrogen is used, it can displace oxygen and can create an oxygen-deficient atmosphere, which can be harmful or fatal. If flammable gas is used, it can cause an explosion if there is an ignition source. Contractors shall develop a site/task specific Job hazard Analysis (JHA), (STA) or (THA), as well as their own procedures for safely pressure testing pipe, and review with the CM prior to starting this activity.
- Contractors shall develop a site/task specific Job Hazard Analysis (JHA) as well as their own procedures for safely pressure testing pipe and review with the CM prior to starting this activity.
- The following procedure shall set forth the minimum requirements to ensure that pressure testing is performed safely.
  - Contractor performing pressure testing shall barricade area off and place signage restricting access to only authorized personnel.
  - Authorized personnel shall wear appropriate PPE consistent with the contractors JHA. (examples should include: hard hat, safety glasses, face shield, gloves, etc in accordance with the MSDS for testing medium).
  - All mechanical devices, such as valves and blinds used to isolate the system shall have a lock and tag affixed by the contractor to prevent accident pressure release.
  - Contractor and authorized personnel shall walk down the system and check the integrity of all connections, caps, seals and fittings within the system to be tested to ensure they are secure.
  - Contractor shall install additional supports on piping necessary for increased pressure or weight of testing medium.
  - Test equipment and gauges shall be inspected by the contractor and confirmed to be in proper working order before testing is begun.
  - Maximum test pressure and duration of the test shall be communicated to the contractor's authorized testing personnel and the CM.
  - Contractor to develop a Venting procedure for dissipating inert gas safely.
  - Contractor shall develop a Drain procedure to drain water or other fluids safely, without polluting drains or creating slippery conditions.
  - Contractor shall review the JHA with all authorized personnel prior to the test.

- Testing shall be performed under the supervision of the contractor supervisor.
- Testing shall be conducted in accordance with pipe and testing equipment manufacturers precautions and specifications.
- Test pressure shall not exceed the maximum allowable test pressure for any vessel, pumps, valves, or other components in the system.
- All repairs or adjustments to the system being tested shall be done only after the system pressure is safely and completely relieved and the test gauges indicate 0 psig pressure.
- Only mechanical devices, such as gate or ball valves shall be used for incremental release of flow in depressurizing systems.
- The opening or 'breaking' of flanges shall never be used as a means of depressurizing a tested system.
- Upon acceptance of the pressure test, pressure in the system shall be completely relieved so that the test gauges indicate 0 psig, and verified by contractors supervisor.
- Contractor shall conduct all testing in accordance with applicable laws, codes, and ASME B31, B16 and related standards.

Sanitation

Housekeeping

- The site, work areas, and all site occupied by the CM and contractor's personnel will be maintained in a clean, healthy and sanitary condition.
- Work areas, passageways and stairs, in and around buildings and structures, shall be kept clear of debris.
- Construction materials shall be stored in an orderly manner.
- Storage areas and walkways on the site shall be maintained free of dangerous depressions, obstructions, and debris.
- Construction equipment shall be stored or placed in an orderly manner.
- Good housekeeping on the Project is mandatory and every employee must do his part daily to minimize dust and to clean up his work area to keep the Project clean for safety and efficiency.
- Controls shall be observed which keep dirt from being tracked into areas outside the workspace.
- Immediate cleanup is required when dust, dirt or debris may affect the owner's operations.
- Eating within the construction Project shall be confined to areas designated by the CM for such purposes.
- Employees shall properly dispose of all lunch refuse and drink containers in trash receptacles

- Failure to maintain adequate housekeeping and to perform daily clean-up will result in the following actions:
- Written Notice: Upon receipt, the contractor shall take immediate action to perform housekeeping and clean up.
- If having been given sufficient notice, the contractor fails to clean up; the work will be performed by others, and the errant contractor back-charged for all related costs.
- Daily and final clean up must be performed in accordance with contract documents.

Facilities

- The locations of lunch areas and employee toilet facilities will be designated by the CM and approved by the Owner.

Refuse and Garbage

- Each contractor will provide an adequate number of covered garbage containers. The site will be cleaned and garbage and refuse will be collected at least daily and removed from the building.

Potable Water

- Each contractor shall provide potable water at the work site and test it at least weekly if delivery is from other than municipal supplies.
- Sanitary facilities shall be provided for personal hygiene.

Scaffold

- The Contractor's designated Competent Person shall inspect all scaffolds prior to each work shift with written documentation provided to the CM on a daily basis.
- All scaffolds shall bear a tag, signed and dated by the contractor's competent person, denoting that the scaffold has been inspected and is safe to use prior to any employee utilizing that scaffold that day.
- Any contractor using scaffolding shall provide the CM with the name of their Competent Person along with the content of the Competent Person's training program and proof of Scaffold User Training for all employees who may work on scaffolding.
- Ladder Jack scaffold are not permitted on this Project.
- Scaffolds with a width less than 60 inches must have guardrails (top, mid and toe) installed when the work platform is in excess of 48 inches above the floor or lower work area.
- Scaffold cross bracing is not permitted to be used as a substitute for guardrails. Swing gates will be provided at all ladder or stair access points.
- Where material is being landed on a scaffold, the outrigger extension will not be used to support the material unless it is deemed adequate by the manufacturer and a factor of safety of 4 is provided.

- All non-mobile scaffold frames shall have base plates installed.
- All mobile scaffolds will have wheels locked when in use and stationary.
- Nominal grade lumber is not allowed as scaffold planking.
- All individuals who are in scissor lifts shall wear a full body harness and be tied off by a lanyard to a manufacturer's approved anchorage point within the scissor lift.
- Standing on guardrails is not allowed.
- Only approved anchorages shall be used for fall arrest anchorage points.
- **A mast climbing elevating work platform that may be adjustable by manual or powered means must meet the requirements of ANSI Standard ANSI/SIA A92.9-1993, American National Standard for Mast- Climbing Work Platforms.**

Stair Scaffolds

- 'System' scaffold stairs shall be erected as early as possible during the building construction to facilitate safe access to all working levels, once the steel erector has released the floor/level to the CM.
- Scaffold stairs shall remain in place until the permanent stairs are constructed and made available for use by the CM.
- Stair scaffolds shall be constructed in accordance with manufacturer's instructions by trained and qualified workers under the direction of a competent person.
- Stair scaffolds shall be inspected daily by a competent person, authorized by the CM, at the beginning of each shift.
- The competent person shall date and initial a Scaffold tag, and place the tag at the entrance to the stair scaffold.
- Stairs used during winter months shall be enclosed to prevent ice and snow from creating slippery conditions.
- Temporary lighting in accordance with OSHA requirements shall be installed on all enclosed stair scaffolds.

Steel Erection

Erection Plan

- An erection plan will be prepared by the Steel Erector's Qualified Person and reviewed with the CM Project Safety Manager and/or the CM Project Superintendent prior to start of work. Refer to OSHA 1926, Subpart R, Appendix A.
- The erection contractor's qualified person shall approve all changes in the safety erection plan.
- A copy of the erection plan shall be maintained at the Project site showing all approved changes with a copy provided to the CM.

- The implementation of the erection plan shall be under the supervision of a competent person.
- A safe means of access to the level being worked shall be maintained. Climbing and sliding on columns or diagonals, is not allowed.
- Containers, such as buckets or bags, shall be provided for storing or carrying bolts or rivets.
- When bolts, drift pins, or rivet heads are being removed, a means shall be provided to prevent accidental displacement.
- Tools shall be secured in such a manner to prevent their falling.
- Fall protection provisions, such as lifeline attachments, dynamic fall restraints and other such devices shall be considered during shop drawing preparation, shall be incorporated in fabricated pieces, and shall have safety lines or devices attached prior to erection wherever possible.
- A tag line shall be used to control all loads.
- For the protection of other crafts on the Project, signs shall be posted in the erection area by the erection contractor reading, "*Danger Men Working Overhead*" and only ironworkers allowed in this area. This will include shakeout areas, erection areas and the load travel path from the storage area to the erection area.
- When loads are being hoisted, all personnel are to be prevented from walking under the load.
- No one shall be permitted to ride a load under any circumstances.
- Crane personnel platforms will not be used for any purpose without the written approval of the CM.
- Material shall not be hoisted to a structure unless it is ready to be put into place and secured.
- Bundles of metal decking or small material shall be so secured as to prevent their falling out from the rigging.
- Christmas treeing (multiple lifts) is not allowed unless exception approved by the CM
- All workers engaged in steel erection activities including connecting, bolting-up, decking, welding or any other activity that exposes them to a fall of 6 feet or greater shall be provided with and use fall protection.
- This fall protection shall be either a personal fall arrest system consisting of a full-body harness, double, shock-absorbing lanyard, and anchorage or a safety net or a guardrail. Nether “Controlled Decking Zones” nor “Safety-monitor systems” are permitted. Metal deck is not considered a form of fall protection.
- Fall protection requirements shall be rigorously enforced during steel erection with any observed violation cause for removal from the Project.

- Body belts are not permitted as part of a fall restraint system. Only full body harnesses will be used as part of a personal fall protection system.

Perimeter Protection

- When wire rope is used as a guardrail providing fall protection it shall be designed at all elevations where a fall of 6' or greater is possible.
- To be in compliance the perimeter fall protection system shall be comprised of four 3/8 inch diameter wire rope cables installed at 60", 42", 21", and 0" above the deck or floor with non-combustible mesh fabric having openings of ½" or less and capable of withstanding 50 pounds force without damage or displacement.
- The mesh fabric shall be secured to the wire rope adequately to withstand wind load and/or to prevent materials from passing beyond the perimeter protection.
- Wire ropes shall be installed to prevent deflection beyond 3" when 200# of force is applied in a downward direction.
- All splices of wire rope shall be loop type with a minimum of 3 wire rope clamps. No straight splices shall be used.
- Turnbuckles shall be installed at all changes of direction and at straight runs of 60' or greater to provide for cable tightening.
- Wire rope guardrails shall be tensioned to 2,400 pounds of force, initially, and maintained to comply with OSHA fall protection requirements.
- Wire rope guardrails shall be installed immediately following the erection of beams and columns. The length of cable shall not exceed 60 feet without being terminated. Cables shall be terminated at all 90 degree turns and shall be 'looped' connections with 3 wire rope clips used at all connections (line splicing is not permitted). All sequence breaks will require a two (2)-cable assembly.
- Turnbuckles shall be installed on top and mid-rail wire rope cables at each perimeter side, and at intervals not to exceed 60 feet, or as directed by the CM. Loading bays shall have separate guardrail and turnbuckle assemblies installed.

Interior Protection

- Installation of guardrails at interior floor openings, i.e. stair or mechanical shafts, shall conform to one, or a combination of the following:

  Option 1
  - Install 3/8" galvanized air craft cable through stanchions at 60", 42", 21", and 0" above the deck or floor with non-combustible mesh fabric having openings of ½" or less and capable of withstanding 50 pounds force without damage or displacement. Terminate cables at 90 degree turns.

  Option 2
  - Bolt 2 ½" x 2 ½"x ¼"steel angles onto stanchions. A mid-stanchion / post is required for spans greater than 8 feet.

  Option 3

- Secure 2"x 4" construction grade lumber to steel stanchions. A mid-stanchion / post is required every 8'
    - Guardrails shall not be used as a horizontal lifeline as part of a personal fall arrest system unless designed by a licensed Professional Engineer and installed under the supervision of the steel erector's competent person.
    - Top and Midrail cables, as outlined above, shall also be used at all sequence breaks.

Signs, Signals, Barricades and Lights (Motor Vehicle Exposure)

- Signs, signals and barricades shall be visible at all times where a hazard exists and will be in compliance with ANSI D6.1 (most recent version), Uniform Manual of Traffic Control or regulations promulgated by the local authority.

Temporary Heat

- No open flame heaters are allowed.

Welding, Cutting and Burning – Hot-work

Electric Arc Welding

- A suitable, approved fire extinguisher shall be ready for instant use in any location where welding is done.
- Screens, shields, or other safeguards should be provided for the protection of men or materials, below or otherwise exposed to sparks, slab, falling objects, or the direct rays of the arc.
- A dedicated fire watch shall be present at all welding operations and remain for at least 1 hour after the hot work has halted.
- The welder shall wear approved eye and head protection.
- Trades assisting the welder shall also wear protective glasses, head protection and protective clothing.
- Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
- Electric welding equipment, including cables, shall meet the requirements of the NEC.
- All arc welding and cutting cables shall be of the completely insulated flexible type capable of handling the maximum current requirements of the work.
- Cables in need of repair shall not be used.
- The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable connecting the circuit connector or through a separate wire which is grounded at the source of the current.

- All ground connections shall be inspected to insure that they are mechanically strong and electrically adequate for the required current.
- Welding practices shall comply with all applicable regulations.

Gas Welding or Cutting

- When gas cylinders are stored, moved, or transported, the valve protection cap shall be in place.
- When cylinders are hoisted, they shall be secured in an approved cage or basket. The valve cap shall never be used for hoisting.
- All cylinders shall be stored, transported, and used in an upright position. If the cylinder is not equipped with a valve wheel, a key shall be kept on the valve stem while in use.
- At the end of each work day or if work is suspended for a substantial period of time, compressed gas cylinder valves must be closed, regulators removed and properly stored.
- Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.
- Cylinders containing oxygen or acetylene or other fuel gas shall be stored in designated areas outside the structure as approved by the CM.
- No one shall use a cylinder's contents for purposes other than those intended by the supplier.
- All hose used for carrying acetylene, oxygen or other fuel gas shall be inspected at the beginning of each working shift.
- Defective hose shall be removed from service.
- Oxygen cylinders and fittings shall be kept away from oil and grease.
- Oxygen shall not be directed at oily surfaces, greasy clothes or hands.
- Regulators, gauges, backflow check valves, and torches shall be kept in proper working order.
- An approved fire extinguisher shall be readily available.
- Flash arrestors are required on the oxygen and acetylene hoses, at the regulators.
- Appropriate personal protective equipment, such as burning glasses, shields, and/or gloves shall be used.
- Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
- Work permits shall be obtained daily, prior to any burning or cutting operations on the site.

Work Permit Procedures

General Procedures

- A copy of this section of the Project Safety Standards will be issued to all Contractors, and will serve as notice by the CM that a work permit as specified by the CM is necessary before starting any hazardous work activity.
- The work permit shall be obtained from the CM before starting each day's work.
- The procedures for initiating a hazardous work permit are listed on the permit application appropriate to the type of work.
- Hazardous work Permits include, but are not limited to the following activities: Hot Work, Confined space entry, Guardrail removal, Line Breaks, after Hours work, Trenching and excavation, Crane use and Barricade installation.
- Additional job-specific hazardous work permits may be required, due to special Project conditions, to be incorporated into the Project Safety Standards. These will also be considered a contract commitment.

Hot Work

- Hot work is defined as a process or procedure, which could result in a fire if not properly controlled. Common types of hot work are welding, burning, cutting, brazing, soldering.
- Hot work will usually be permitted only during normal working hours.
- Permits will be issued the day before work is to be accomplished, and the work area will be inspected to verify that adequate control has been established.
- A copy of the permit will be available at the point of work.
- An adequate number of fire extinguishers will be available within 50-feet of the point of work for which a permit is issued.

The Contractor will take the necessary precautions when welding or burning above walls to assure that protection is maintained on both sides of the wall and that areas below are protected on multilevel buildings.

Confined Space

- When work in confined spaces is scheduled, such as a caisson, boiler, deep excavations, etc., consideration must be given to two major known and recognized hazards:
- The possibility of fire or explosion, flammable gases, fumes, vehicle fumes, vapors, or dusts.
- The possibility of injury to the worker (or loss of consciousness) as a result of inhalation or absorption through the skin of toxic materials or from oxygen deficiency.
- For work in a confined space, the responsibility for recognition and advance

notification is the Contractor's.

- The Project Superintendent and the Project Safety Coordinator will be notified and will evaluate the situation, issuing a work permit in those cases for which he considers it necessary.
- The Contractor will be responsible for providing equipment and special instructions for the worker, such as ventilating units, respirators, safety belts and life lines, etc., and for conformance to all applicable OSHA standards.
- It is required that the "buddy system be used and that an observer will tend all workers in a confined space.
- Rescue procedures must be agreed upon beforehand.

Guard Rail Opening

- The Project Superintendent and the Regional Safety Manager may approve work, which requires the opening of guardrails or the removal of holes covers to be performed, in advance.
- Particular attention shall be given to the alternate means of fall protection, which will be required to safely perform the work and protect other workers in the vicinity of the fall exposure.
- Specific plans for providing alternate fall protection shall be described in the request for the work permit.

Off-Hours Work

- The Project Superintendent and the Project Safety Coordinator shall approve work, which is required to be performed outside normal working hours established at the site, in advance.
- Any work occurring within the existing Owner facility shall be at the convenience of the Owner. All off –hour work shall comply with all conditions imposed by the contract specifications and the work permit issued by the Project Safety Coordinator or other persons identified by the Owner.

END OF SECTION 01 35 23

NOTE: THE FOLLOWING FORMS ARE PROVIDED AS EXAMPLE ONLY. THE CONSTRUCTION MANAGER IS NOT REQUIRED TO USE THESE FORMS. PLEASE REVIEW BEFORE USING AND EDIT APPROPRIATELY, REMOVING ALL REFERENCES TO LPCiminelli or LPC. LPCiminelli, RJSCB, RSMP, RCSD, their assigns or successors, are not responsible for use of these forms.

Safety Forms

SUMMARY OF FORMS

Code of Safe Practices-Safety Orientation	SAF 001
Fall Prevention Plan	SAF 002
Job Safety Analysis (JSA)	SAF 003
Disciplinary Action Form	SAF 004
Hot Work Permit	SAF 005
Trenching and Excavation Permit	SAF 006
Contractor Safety & Competent Person Contact	SAF 014
Confined Space Entry Evaluation	SAF 018 A
Permit-Required Confined Space Entry Permit	SAF 018
Project Safety Appraisal Checklist	SAF 019
Limited Access Authorization	SAF 020

CONTRACTOR/SUBCONTRACTOR INSTRUCTIONS FOR FORMS

A. The Construction Manager (CM) will maintain a file for each contractor/subcontractor at the job site.

B. Signatures are required on each form prior to commencing work.

Safety Orientation – SAF 001

1. Employees and visitors entering the project will attend a site orientation.

2. Reviewed with a CM representative, info filled out and signed. Photo ID and/or an orientation sticker will be provided. The photo ID/sticker must be displayed on hard hat. NO ID = NO WORK.

Fall Prevention Plan – SAF 002

1. Completed by each contractor/subcontractor competent person prior to starting an activity requiring fall prevention.

2. Reviewed with CM prior to commencing work

3. Contractor/subcontractor to review with workers prior to starting – proof of documented review (Attendee list with signatures)

4. Copy of completed document to the CM.

Job Safety Analysis – SAF 003

1. Completed by the contractor/subcontractor competent person prior to starting a major activity

2. Reviewed with the CM prior to commencing work

3. Contractor/subcontractor to review with workers prior to starting – proof of documented review (Attendee list with signatures)

4. Copy of completed document to the CM

Disciplinary Action Form – SAF 004

1. Completed by the CM when a safety procedure/ policy has been violated by a contractor/subcontractor employee

2. A copy shall be given to the contractor/subcontractor's supervisor and employee.

3. Lack of employee signature is cause for immediate removal from site.

4. Contractor/subcontractor to provide a copy of their disciplinary action form for the file

Hot Work Permit – SAF 005

1. Completed by contractor/subcontractor competent person before performing hot work and/or spark-producing activity.

2. The CM review with contractor/subcontractor prior to work starting to ensure precautions have been taken. Copy of permit given to contractor/subcontractor to post in work area

3. The CM reserves the right to determine if certain activities (i.e. grinding) are exempt from a fire watch.

4. After hot work has been completed and a 30-minute fire watch has taken place, the contractor/subcontractor competent person is to sign the form and return it to the CM.

Trenching and Excavation Permit – SAF 006

1. Completed and signed by contractor/subcontractor competent person before any trenching/excavation work can start.

2. Reviewed with the CM prior to commencing work. Copy to the CM

Safety & Competent Person Site Contact List – SAF 014

1. Completed by competent person and updated

2. CM will maintain a file of each contractor/subcontractor Competent Personnel at the project site.

Confined Space Evaluation /Confined Space Entry Permit – SAF 018/SAF 018A

1. Completed by the contractor/subcontractor competent person prior to commencing work

2. Reviewed with the CM prior to commencing work

3. Contractor/subcontractor to review with workers prior to starting – proof of documented review (Attendee list with signatures)

4. Copy of completed document to the CM prior to commencing work

Note: Minimally the Confined Space Entry Evaluation Form is required for crawl spaces/attics as well as other confined/enclosed spaces. A Confined Space Entry Permit may be required per OSHA 1910.146 based on the completion of the evaluation form.

Construction Site Safety Appraisal Checklist – SAF 019

Completed by contractor/subcontractor competent person and submitted two times per month (bi-weekly). Complete applicable areas of the form.

Note: Must be submitted in order for pay application to be processed & reviewed

Limited Access Turnover – SAF 020

1. Complete this form in conjunction with the CM and each affected contractor/subcontractor Superintendent/Foreman/Competent person.

2. This form shall be reviewed and signed by the CM and affected contractors/subcontractors superintendent/foreman releasing a work zone at the project.

Code of Safe Practices – Safety Orientation – SAF 001

Rochester Schools Modernization Program – Phase 2a

Project Name:

Employee Name (PRINTED)**:** _____

Company: _____

I agree to abide by the following Code of Safe practices while on this Project:

1. To assist the Project in being incident and injury free, I have granted permission to the Construction Manager to discuss all aspects of working safely with me. Likewise I have the right to discuss safety issues with the Construction Manager, other trades (regardless of trade jurisdiction or craft) and to stop work at any time I feel there is an unsafe condition to me or others.
2. I understand there are requirements for this Project in excess of OSHA as set forth in the Project Safety Standards. I will abide by those "above-OSHA" requirements of the Project Safety Standards.
3. I will work in a safe manner, protecting others, and myself and will report observed hazards to my supervisor. If not addressed, I will further report these hazards to the Construction Manager's Superintendent.
4. I will dress properly for the project, wearing a long or short-sleeved shirt, long pants and work boots with ankle protection and substantial soles.
5. I will use personal protective equipment as required by my trade, and will wear my hard hat and safety glasses at all times.
6. I will abide by the six-foot fall protection rules, including the use of a harness where required.
7. I will park only in designated areas and observe a ten mile per hour speed limit on site.
8. I understand there is a policy prohibiting the use of tobacco products in any form on the Project site.
9. I will eat only in designated areas and dispose of trash in proper containers.
10. I will not use any intoxicants or other controlled substances on the Project.
11. I will report all injuries and accidents involving persons or property.
12. I will not bring any weapons, including knives with blades over 4 inches, onto the site.
13. I will conduct myself in a professional manner and not engage in any violence, horseplay, practical jokes, or other behavior obnoxious to the general public. I will not bring, write, or draw any sexually explicit materials on site.
14. I will not use headset type radios, music players, personal televisions, or other personal entertainment devices on site.
15. I will not use my cell phone in work areas, around heavy equipment, or while engaged in work activities. If I must use a cell phone, I will do so in safe areas, and only conduct jobsite business, or for a personal emergency.
16. I will comply with the security procedures established throughout the Project, for entrance to the site.

Signed: _____

Today's Date: _____

Code of Safe Practices – Safety Orientation – SAF 001

SAFETY ORIENTATION SAF 001

The following provisions, which may be stricter than federal, state, or local safety, fire, and environmental laws, rules, and regulations, will apply. These policies shall be followed and enforced by each contractor/subcontractor. Violators are subject to disciplinary action up to dismissal at the discretion of LPCiminelli.

- Work hours are subject to owner's requirements. Anticipated work hours for this project are 7:00 AM to 3:30 PM during summer hours and school breaks, and 3:00PM -11:00PM while school is in session. Earlier start times will not be permitted unless authorized in writing by LPCiminelli.
- Suppliers, consultants, agents, and visitors shall not be permitted on site unless they have signed in with LPCiminelli. Visitors will observe and comply with site safety procedures and policies of the Project.
- Personnel are required to wear proper PPE while working or walking throughout the construction site. Hard hats, safety glasses with side shields, and are High visibility apparel with reflective stripes is required at all times.
- Suitable clothing for construction will be worn on this project. (No shorts, tennis shoes, or tank tops will be allowed). Shirts will be worn at all times and have a minimum of 4" sleeve, extend to the belt and have no offensive messages. Full-length pants are required to the ankle with no low rise or excessive bagging and/or sagging.
- Work shoes protecting your ankle and with a substantial flexible sole are required.
- Familiarize yourself with the location of fire extinguishers, first aid kits, and Safety Data Sheets.
- All contractor employees and visitors shall leave the building during a fire alarm, regardless of the incident. All contractor employees and visitors shall meet at the designated meeting area be accounted for by your superintendent/foremen.
- **Tobacco use is NOT permitted on campus at all.**
- **NO alcoholic beverages** or use of controlled substances on project grounds, nor shall any personnel arrive to work under the influence of these substances.
- Accidents/incidents/hazards shall be reported immediately to your Supervisor/foreman. The supervisor/foreman shall report all accidents/incidents/hazards within 1 hour to LPCiminelli.
- Submittal to post-accident alcohol and drug testing is required. Failure to do so may result in immediate removal from the site.
- **NO firearms**, crossbows, bow and arrows or knives shall be allowed on project grounds.
- Use of cell phones is restricted to supervisor/foreman only and must not be used during operation of equipment and/or machinery.
- No riders on machinery, equipment, pick-up truck beds, etc. except in designated operator or passenger positions. Seat belts must be work on equipment where such protection is required.
- Lock out Tag out procedures as defined by OSHA and is required, including while changing bits, blades, discs, cut-off wheels, etc on any power tool – de-energize first.
- The use of ground fault circuit interrupter (GFCI) on power sources is mandatory – permanent power in the building is temporary power for construction – no exceptions! Any missing ground pins, or exposed parts of temporary power cords shall be unplugged and cut up or thrown away.
- Work is not permitted in areas with inadequate lighting. Contractors are to provide task-specific lighting as necessary (i.e. above ceiling, in closets, etc.).
- Hazardous or regulated materials shall be handled, utilized, stored, and disposed of according to EPA and OSHA regulations.
- Entry into a confined space is prohibited until the employer's competent person has completed and reviewed the Confined Space Entry Evaluation Form SAF 018. OSHA Standards and LPC procedures are to be followed. Personnel air monitoring and air movement will be a minimum requirement in all crawl spaces.
- Only qualified personnel with proper training are to operate heavy equipment.
- Personnel handling and working with compressed gas cylinders shall ensure proper storage and handling.
- 100% fall protection against falls from elevations of 6' or more is required, except when working from ladders designed to be less than 10' in height.

Code of Safe Practices – Safety Orientation – SAF 001

- No painter's scaffolds shall be used on site.
- Roped/ribboned-off areas are considered potential hazard zones and shall be respected as such. Passing through such areas is prohibited except to those employees specifically designated to work within the area. Contractors are advised to use RED tape to prevent entry into ribboned-off areas.
- Any barricade, hole cover, handrail, or mid-rail system removed from any opening, floor opening, covered pit, or confined space, requires the system to be immediately restored prior to leaving the area unattended. Please note personal fall protection equipment may be required prior to removing any of the aforementioned systems.
- The use of metal, job built, broken, or unsecured ladders are prohibited. Ladder usage shall be in accordance with applicable standards
- There shall be no work performed from the top of or top step of any stepladder.
- A-frame (step) ladders are only to be used in an open position with spreaders locked.
- Work is not permitted on a scaffold system that has not been inspected prior to use and/or has been constructed by a competent person.
- Scaffolding shall be protected against unauthorized access during non-working hours.
- The use of a full-body harness and lanyard is required at all times while moving/working in an aerial lift by all occupants.
- Only scissor lifts that have a legible manufacturer's inspection plate and instructions are permitted for use. Each lift shall have a guardrail system, and a visible, valid annual inspection certificate.
- Contractors/subcontractors are responsible to maintain housekeeping in all of their work areas. LPCiminelli may, at the contractor/subcontractors' expense, order the removal of debris, rubbish, or other materials determined to be a hazard/potential hazard within 8 hours of written notice. Housekeeping in all areas accessible to the public will be maintained to the highest standard. A "clean as you work" policy will be maintained.
- Each contractor shall maintain sufficient trash cans in their work/lunch/break areas and empty daily
- Work is not permitted in areas where means of egress is obstructed therefore materials are not to be stored or placed in a doorway or blocking an aisle.
- Spark-producing activities require a Hot Work Permit SAF 005, fire extinguishers within 10 feet of the work, and in most cases, a 30-minute fire watch after the Hot Work operation is complete. LPCiminelli reserves the right to determine if certain activities (i.e. grinding) are exempt from a fire watch.
- Professional and courteous conduct is expected while working at the project site. "Wandering the project" is not permitted.
- Sexual harassment, harassment and obscene language will not be tolerated on the project site.
- Workers are to use temporary toilets provided at the job site
- Observe speed limits on school grounds
- Be cognizant of school activities – school is full during 2nd shift for after school activities.
- CLOSE WINDOWS AFTER YOU LEAVE THE ROOM!

Code of Safe Practices – Safety Orientation – SAF 001

I have read the Safety Orientation and will abide by all requirements contained herein.
(PRINT ALL INFORMATION)

Name (Print): _____

Company: _____

Subcontractor to: _____

Designation: ☐ PM ☐ Foreman/Superintendent ☐ Visitor ☐ Worker

Job Classification (Trade): _____

Emergency Contact Name: _____

Emergency Contact Phone Number:_____

(Your) Address: _____

Town/City: _____ State: _____

Signature: _____ Date:_____

Badge/Sticker ID #_____

Fall Prevention Plan SAF 002

Project Name	Contractor Name:	Date: …./…./….
Completed By:	Competent Person:	Date(s) Covered by Plan: …./…./…. - …./…./….

Description of work: *(What scope of work is being performed under this plan?)*

Description of fall exposure: *(How high is working surface and how will access be gained?)*

Describe walking or working surface and how tools/equipment will be carried:

Environmental factors present?

Heat ☐ Yes ☐ No	Cold ☐ Yes ☐ No	Ice/snow ☐ Yes ☐ No
Slippery/wet ☐ Yes ☐ No	Wind ☐ Yes ☐ No	Glare ☐ Yes ☐ No

If yes describe any precautions you will take:

What steps if any are needed to protect workers below: (*controlled access, barricades, covers)*

What protection method(s) have you selected?

Guard Rail/Toe Boards ☐	Fall Arrest ☐	Warning Line ☐
Fall Restraint ☐	Safety Monitor ☐	Safety Net ☐

If Fall Arrest System will be used complete the following:

Is a rated 5000 lb anchorage point available? Yes ☐ No ☐

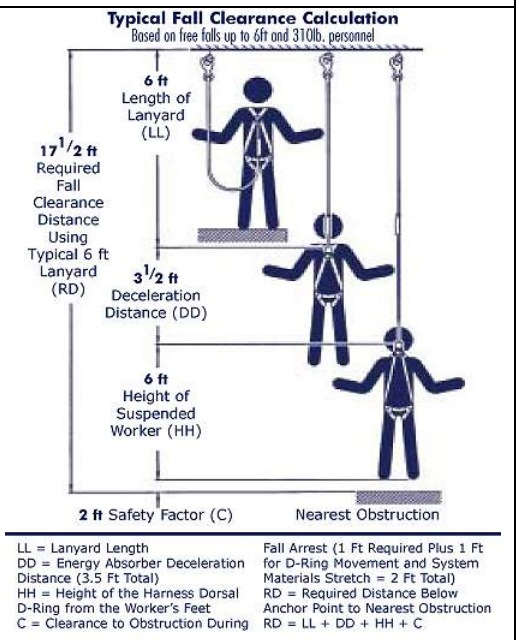
If there is no current anchorage point, what will you use?

1. Anchorage connector for concrete ☐ 2. Anchorage connector for steel ☐
3. Anchorage connector for roof ☐ 4. Horizontal life line ☐
5. Other _____

Length/type of lanyard/SRL to be used: (Maximum length is 6 ft, must have energy absorber for fall arrest)

_____

_____

Fall Protection Calculations:	
Do you have adequate clearance: Yes ☐ No ☐ Length of lanyard: _____Ft Deceleration distance + 3/1/2 feet Height of worker __+_____ Safety factor +2 feet Required minimum fall clearance=_____ *Note: All employees assigned to work on this job scope must be instructed in the fall protection measures designated for this work. After instruction, each employee shall sign on the backside of this sheet signifying that he/she has been instructed in the fall protection measures to be utilized on this work.*	

Are there any hazards below? (Protrusions, impale hazards, equipment, electrical wires, etc.)
If so what protection measures will you take?

_____

_____

Are there any swing fall hazards? If so what protection measures will you take?

_____

_____

Describe your rescue plan to ensure rescue within 10 minutes of fall:

_____

Competent Person Signature_____ _____

CM Reviewer _____

Job Safety Analysis SAF003

Contractor Competent Person shall submit prior to commencing a major work activity

SECTION 1: IDENTIFICATION OF WORK

Job Name:	**Date:**
Contractor:	**Competent Person:**
Description & Location of the Work:	

SECTION 2: SAFETY PRECAUTIONS/EQUIPMENT REQUIRED

A	Fire Extinguisher (Type _____)	J	Standby/Spotter
B	Fire Shield/Curtain	K	Lockout/Tagout
C	Hot Work Permit	L	Gas/Oxygen Detection
D	Gloves (Type _____)	M	Warning Signs
E	Safety Glasses/Face Shield	N	Barricade Type:
F	Body Protection (Type _____)	O	Moving Construction Equipment
G	Hearing Protection	P	Spill Containment
H	Fall Protection – See SAF 002	Q	Energized Electrical Permit
I	Respiratory Protection (Type_____)	R	Other: _____

Sequence Of Job Steps	Potential Hazards	Choose Recommended Controls from Above (List by Letter)

Comments: _____

_____

_____

SECTION 3: REVIEWED BY (Requires at least 2 signatures)

CM Representative: _____

Contractor Competent Person: _____

Disciplinary Action Form SAF 004

Violation of any safety procedure or policy could result in permanent removal from the project at the discretion of LPC

Date: _____

Contractor: _____

Address: _____

Contractor Employee: _____

Job Classification: _____

Location: _____

_____

Violation: _____

_____

_____

Disposition: _____

_____

_____

Note: Please sign and print names

Signature: _____
Contractor employee

Signature: _____
Contractor Supervisor

Signature: _____
CM Representative

Hot Work Permit SAF005

Contractor:_____ Date: _____

Specific Work Location-: _____

Describe Work Process: _____

_____

Hot Work Competent Person: _____

ATTENTION

Before implementing any hot work permit, the safety representative or his appointee shall inspect the work area and confirm that precautions have been taken.

Precautions:

_____ Cutting and welding equipment in good working condition

_____ Sprinkler system in service

_____ Local fire department phone number posted

_____ Combustibles moved away from other side of wall

Within 35 Feet of Work:

_____ Floors swept clean of combustible material

_____ Combustible floors wet down and/or shielded

_____ No flammable materials stored near work area

_____ Wall and floor openings covered

_____ Covers suspended beneath work to collect sparks

Within Confined Spaces:

_____ Confined space permit

Fire Watch:

_____ Provided during and 30 minutes after work process finished

_____ Fire Extinguisher _____N/A

Special Precautions: _____

The location where this work is to be done has been examined, necessary precautions taken, and permission is granted for this work.

Permit Issue Date: _____ Expire Per Shift: _____

LPCiminelli Representative: _____

Contractor Competent Person: _____

FINAL CHECK

Final Check-Up Required: To be made 30 minutes after completion of any operation unless a formal designated fire watch is assigned. Work area and adjacent areas to which sparks and heat may have spread were inspected 30 minutes after the work was completed.

Signed: _____

Contractor Competent Person

Trenching and Excavation Permit SAF006

This permit shall be completed and signed before excavation work can begin.

Date: _____

Contractor:_____

Specified Work Area: _____

Specified Work Process: _____

One Call Confirmation #: _____
(copies of fax responses from Dig Safety required)

Review of As-Build and Project Drawings Performed: ☐ yes; ☐ no; ☐ not available

Depth: _____

Soil Classification: _____

Method of Protecting Employees:

Sloping _____

Shoring _____

Benching _____

Shield _____

Other _____

Access Ladders _____

Spoil Piles/Materials 2' From Edge _____

Ramp _____

Atmospheric Testing _____

Reviewed By:

_____
Contractor Competent Person

_____
CM Representative

Contractor / Subcontractor
Safety & Competent Person Site Contact List
SAF014

Completed by the contractor/subcontractor's project team and updated as required

Contractor's Name: _____ **Date:** _____

Onsite Designated Safety Representative: _____

Title: _____ **Phone/Cell Number:** _____

Contractor's Corporate Safety Representative: _____

Title: _____ **Phone/Cell Number:** _____

Competent person(s) as applicable:

Weekly Jobsite Inspections: _____
Name *Number*

Excavation/Trench: _____
Name *Number*

Hoisting & Rigging: _____
Name *Number*

Fall Protection: _____
Name *Number*

Hot Work Permit: _____
Name *Number*

Scaffolding Erection & Inspections: _____
Name *Number*

Confined Space: _____
Name *Number*

LOTO and Electrical Energized Work: _____
Name *Number*

Submitted by: _____ Title: _____

Each applicable line should be complete with the appropriate contact names and phone numbers for this site-specific job location and returned to LPC Project Team before mobilization.

Confined Space Entry Evaluation SAF018

Contractor: _____
Space to be entered:_____
Duration of Permit:_____to____
Reviewed By: _____

Permit No: _____

Definition: 1910.146 (b)
Confined space means a space that:
- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- Has limited or restricted means for entry or exit; and
- Is not designed for continuous employee occupancy

Is Space Large Enough And So Configured That An Employee Can Bodily Enter And Perform Work?

No → This is Not Confined Space

YES

Does The Space Have Restricted Means For Entry Or Exit?

No → This is Not Confined Space

YES

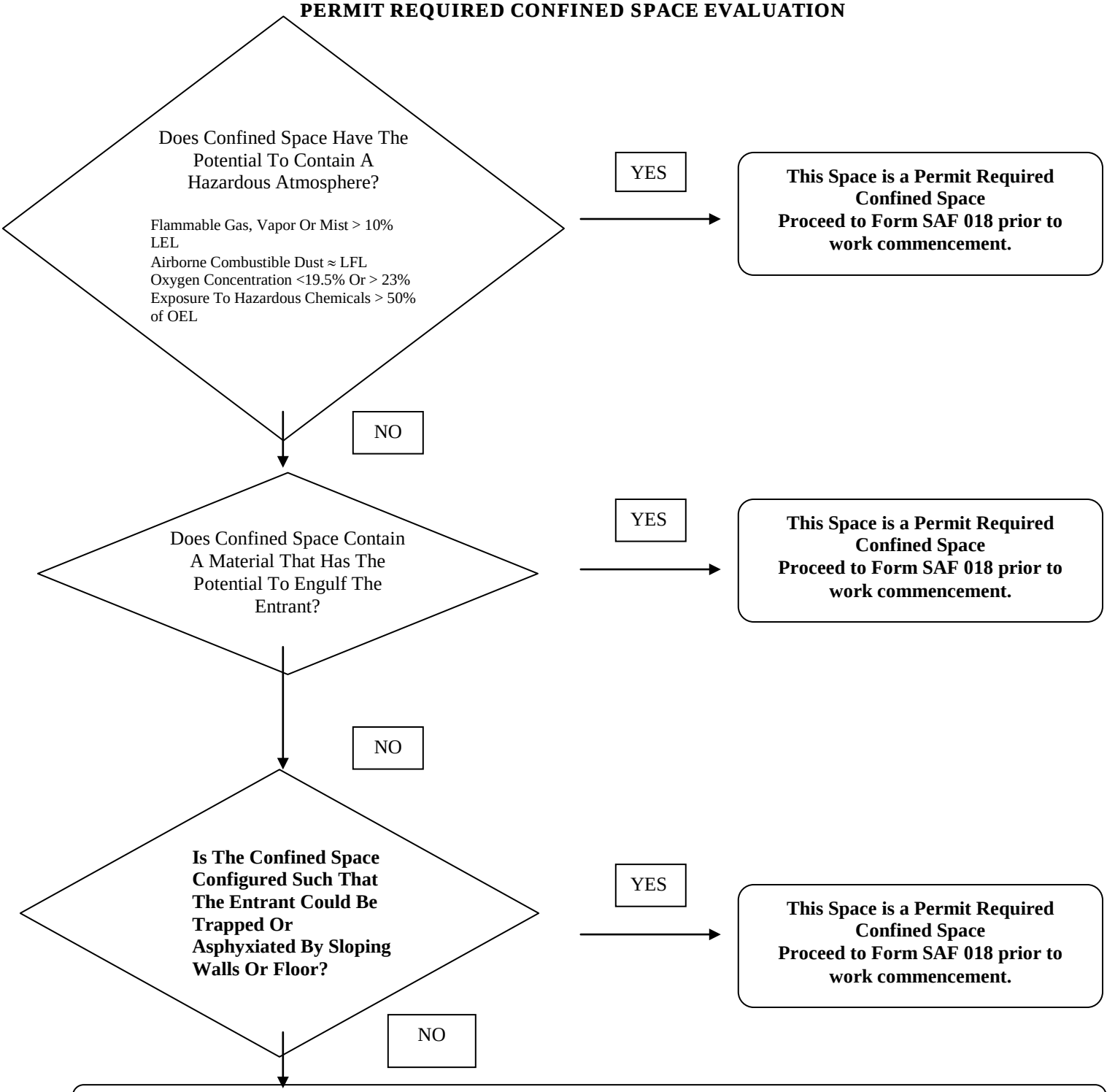
Is Space Designed For Continuous Employee Occupancy?

No → This is a Confined Space

YES → This is Not Confined Space

Go To Permit Required Confined Space Evaluation Form
(Next)

PERMIT REQUIRED CONFINED SPACE EVALUATION



If this space does not contain any other recognized serious safety or health hazards, then this is not an OSHA permit required confined space.

Contractor Competent Person:_____ Date:_____

LPC Representative:_____ Date:_____

Confined Space Entry Permit SAF018A

Space to be entered: _____

Authorized duration of permit: _____ Time: _____ to _____

Reviewed by: _____ **(Permit is valid for one shift)**

Permit Space Hazards
(Indicate specific hazards with initials)

_____Oxygen deficiency (less than 19.5 %)
_____Oxygen enrichment (greater than 23.5 %)
_____Flammable gases/vapors (greater than 10 % of LFL)
_____Airborne combustible dust (meets exceeds LFL)
_____Toxic gases or vapors (greater than PEL))
_____Mechanical hazards
_____Electrical shock
_____Materials harmful to skin
_____Other: _____

Equipment Required For Entry and Work
(Specify as required)

{ } Hardhat { } Face Shield
{ } Safety Glasses { } Gloves
{ } Goggles { } Other _____

Respiratory protection: _____

Atmospheric testing/monitoring: _____

Communication: _____

Rescue Equipment: _____

Preparation for Entry
(Check after steps have been taken)

_____Notification of affected departments of service interruption

_____Isolation methods

{ } Lockout/tagout { } Barriers
{ } Blank/blind { } Ventilate
{ } Purge/clean { } Atmospheric Test
{ } Inert { } Other _____

_____Personal awareness

{ } Pre-entry briefing on specific hazards & control methods
{ } Notify contractors of permit & hazard conditions
{ } Other: _____
{ } Hotwork
{ } Line breaking
{ } Other: _____

Communication Procedures
(To be used by attendants and entrants)

Supervisor(s)
(List by name)

Authorized Entrants
(List by name or attach roster)

Emergency Services

Name of Service	Phone Number	Method of Contact

Authorized Attendants
(List by name)

Testing Record

	Acceptable Conditions	Result ___:___ AM/PM	Result ___:___ AM/PM	Result ___:___ AM/PM	Result ___:___ AM/PM	Result ___:___ AM/PM	Result ___:___ AM/PM
Oxygen-min.	> 19.5% - < 23.5%						
Flammability	<10% LEL/LFL						
H2S	<10ppm						
Toxic (specify)	<ARL						
CO	<35ppm						
Other (list below)							
Heat	°F/°C						
Tester Initials							

Comments:_____

_____

_____

Authorization By Entry Supervisors: Authorization below indicates that the appropriate steps have been taken to minimize the risk associated with confined space entry.

_____	_____	_____
_____	_____	_____
Printed Name	**Signature**	**Date/Time**

Construction Site Safety Appraisal Checklist SAF019

Contractor/Subcontractor shall submit two times per month

Date & Time: _____

Company: _____

Inspected By: _____

Description	Yes	No	N/A	Comments
A. Jobsite Office				
1. OSHA Poster				
2. OSHA Form 300				
3. Emergency telephone #'s				
4. First-Aid Kit				
B. Hazard Communication				
1. Material Safety Data Sheets (MSDS)				
2. Written program on file				
C. Public Protection				
1. Warning signs, flagging in place				
2. Trenches/excavations demarcated				
3. Drop-offs protected				
4. Ladders Lowered/Secured				
5. Hazard Lights if necessary				
D. Housekeeping (Material Storage)				
1. Near ladders, stairs, ramps & machinery				
2. Trash cans, dumpsters emptied often				
3. Nails, boards, debris removed				
E. Personal Protection Equipment				
1. Hardhats				
2. Shoes/boots (no tennis shoes or similar)				
3. Shirts and long pants				
4. Eye/face protection				
5. Safety belts/lanyards /Fall Protection Plan				
6. Hearing protection				
7. Respirators				
F. Barricades or Covers Installed				
1. Floor openings				
2. Holes 2" or more				
3. Elevator Shafts				

Description	Yes	No	N/A	Comments
4. Stairwells and stairways				
5. Wall openings				
6. Elevation changes				
G. Scaffolds/Ladders				
1. Mudsills & base plates secured				
2. Level				
3. Guardrails in place 6-feet or more				
4. Proper decking materials and width				
5. Wheels locked on mobile scaffolds				
6. Access ladders available				
7. Inspection by competent person				
H. Excavation/Trenching				
1. Excavation plan completed & filed				
2. Inspected daily, more as required				
3. 2-feet – Spoils from edge				
4. 3-feet – Ladder above excavation				
5. 4-feet – Ladder provided every 25-feet				
6. 5-feet – Employee protection (Shield, sloped, benched)				
7. 6-feet – Fall protection provided				
8. Greater than 20-feet, engineer designed				
9. Inspected daily, more as required				
10. Underground/Overhead utilities marked				
I. Electrical				
1. Electrical energized work request/plan				
2. Path to ground complete				
3. Frayed cords, broken plugs				
4. Panels secured and GFCI's working				
5. Temporary lighting with cages				
6. GFCI's in use				
7. No openings in panel boxes				
8. Energized outlets, plugs with cover plates				
9. Permanent power & GFCI's used				
10. Extension cords not trip hazards				

Description	Yes	No	N/A	Comments
11. Cords not run over by lifts/machines				
12. 3-wire cords, no 16, 18 or higher gauge				
J. Fire Protection				
1. Hot works permit on file				
2. One extinguisher, 2AS rating, for each 3,000 sq. ft. of protected area				
3. One extinguisher or more, 2A rating, for each floor, adjacent to each stairway				
4. Inspected				
5. Welders/roofers have extinguishers nearby				
6. Fire alarm available/fire evacuation plan				
K. Flammable Liquids/Materials				
1. Only approved containers (safety cans)				
2. Labeled				
L. Compressed Gas Cylinders (Oxygen/Acetylene)				
1. Only approved containers (safety cans)				
2. Away from heat				
3. Secured				
4. Fire extinguisher in proximity				
5. Properly stored oxygen bottles stored 20-feet from acetylene bottles or 1/2 hour fire barrier installed between them				
6. Gauges/valves/hoses				
a. Good condition				
b. Fire arresters installed (both hoses)				
7. Eye protection available				
8. Ventilation				
M. Electric Welders				
1. Insulated grips on electric holders				
2. Cable and connectors (ck condition)				
a. Insulated				
b. Flexible				
c. Splices insulated and prohibited within 10-feet of holder				
d. Welding machine frame				

Description	Yes	No	N/A	Comments
grounded				
3. Shielding in place				
4. Proper eye protection				
5. Proper ventilation				
N. Hoists – Material or Personnel				
1. Material hoists				
a. Designed by licensed professional engineer, installed per manufacturers recommendations				
2. Competent person assigned to inspect				
O. Demolition				
1. Engineering survey performed prior to				
2. Jobsite meeting held				
3. All signs, warning signals, protective equipment in place				
4. Non-essentials removed from area				
5. Utilities secured and verified disconnected				
6. Adjacent buildings, windows and walls secured, braces and limited accesses				
P. Fall Protection				
1. 6-foot fall rule project-wide				
2. Plan written & reviewed prior to work				
3. Guardrail systems in place				
4. Personal fall arrest system				
5. Covers secured & labeled				
6. Wall openings guarded				
7. Top rail – 42” plus/minus 3”				
8. Midrail installed midway between toprail & walking working surface				
9. Fall protection provided when guardrails removed to receive materials/supplies				

Limited Access Zones Authorization SAF020

On behalf of LPCiminelli Inc., the following Limited Access Zone (LAZ) Areas have been released by the attending Contractor for generic site work activities. This documentation includes, but is not limited to, Steel Erection Zones, Masonry Wall Zones and Roofing Work Zones.

Each LAZ area must be signed off by the releasing contractor/subcontractor's competent person and an LPC representative BEFORE the area is opened up to generic site usage.

Only those areas that are necessary for another work group's activities are to be released. For example, if a full bay of previous steel erection activities is available but the requesting contractor only needs a portion of that bay, then only that necessary portion will be released.

Date Location/Area Comments/Conditions

CM Representative: _____

Contractor/Subcontractor's Competent Person: _____

Contractor/Subcontractor's Company: _____

Date: _____

Original Copy to be returned to CM site office for filing: copies distributed as necessary.

SECTION 01 35 46 - INDOOR AIR QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

1. Work in this section includes but is not limited to the following:
    1. The abatement of asbestos containing building material (ACBM).
    2. The abatement of lead-based paint.
    3. The abatement of PCBs

1.02 SUBMITTALS

1. The Contractor shall submit all notices, records, receipts, and all other information as may be required by the Board.

2. The Contractor shall submit all required notices, licenses, certifications and work practice methods, including approved variance, as required by the appropriate agency. The Contractor shall also submit all records pertaining to worker monitoring data and waste manifests as required for job specific recordkeeping.

PART 2 – PRODUCTS
(not applicable)

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

1. Work of this section shall be done in compliance with, but not limited to, the following;
    1. 29 CFR 1910 and 1926 - OSHA Construction Standard
    2. 40 CFR 61 - National Emissions Standards for Hazardous Air Pollutants (NESHAP)
    3. 40 CFR 763 - Asbestos Hazard Emergency Response Act (AHERA)
    4. 12 NYCRR 56 - Code Rule 56 and applicable variances
    5. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (HUD)
    6. 40 CFR Part 745 - EPA lead abatement regulations

2. Additional conditions and requirements regarding Work of this section will be elaborated in the event that unanticipated ACBM and/or lead-based paint is discovered and is determined to affect the progress of the Work. No work will proceed without authorization from the Construction Manager.

3. Work in this section shall be executed in such a manner so as to prevent undue and unnecessary delays in the progress of the project.

END OF SECTION 01 35 46

SECTION 01 45 00 - QUALITY CONTROL

PART 10 - GENERAL

10.1 Special Inspections is the monitoring of materials and workmanship that are critical to the integrity of the building structure. It is typically the review of the work of the General Construction Contractor as required by Section 1704 of the New York State Building Code (BC-NYS), to assure that the approved drawings and specifications are being followed and that relevant code and reference standards are being observed. The Special Inspection process is in addition to the inspections conducted by the Owner's Construction Manager and the design professional as part of structural observations. These inspections will be provided by the Owner by a separate independent Special Inspections Contractor.

10.2 SPECIAL INSPECTIONS, as shown herein are not anticipated for the work described in the Edison Door project.

10.3 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 01 Specification Sections, apply to this Section.

10.4 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
    a. All Prime Contracts: Verify all Specification Sections for testing requirements in addition to the following:

1) Testing done for the convenience of the Prime Contractor or their Sub-Contractors.
2) Testing related to remedial operations or possible defects.

C. Related Requirements:

1. Division 01 Section “Cutting and Patching” for repair and restoration of construction disturbed by testing and inspection activities,

2. Divisions 02 through 33 Sections for specific test and inspection requirements.

10.5 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.

2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.

3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

10.6 CONSTRUCTION TESTING

A. Prime Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, each Prime Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. Costs for these services are to be included in the Contract Sum.

1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are Prime Contractor's responsibility, Prime Contractor shall employ and pay a qualified independent testing agency to perform quality-control services.

2. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.

a. Where the Owner has engaged a testing agency and Prime Contractor is also required to engage an entity for the same or related element, the Prime Contractor shall not employ the entity engaged by the Owner, unless agreed to in writing by the Owner.

B. Retesting: Prime Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Prime Contractor's responsibility.

1. Cost of retesting construction, revised or replaced by Prime Contractor, is Prime Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.

C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

1. Provide access to the Work.
2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
3. Ladders.
4. Provide facilities for storage and curing of test samples.
5. Delivery of samples to testing laboratories.
6. Provide design mix documentation.
7. Provide security and protection of samples and test equipment at the Project Site.

D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Construction Manager and Prime Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.

1. The agency shall notify the Architect, Construction Manager and Prime Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
3. The agency shall not perform any duties of Prime Contractor.

E. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. Each Prime Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities through the Construction Manager.

10.7 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values

are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

10.8 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

10.9 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

10.10 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency or inspecting agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection methods, citing ASTM reference standard used.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on re-testing and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.

4. Statement whether conditions, products, and installation will affect warranty.

5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

10.11 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. Each independent inspection and testing agency engaged shall be authorized by jurisdiction to operate in the state where Project is located.

2. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

3. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

4. Testing agency qualifications must be approved by the Architect prior to proceeding with work.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

a. Provide test specimens representative of proposed products and construction.
b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.

K. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

L. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
a. Construct mockups complete, including work of all trades required in finished Project.

2. Notify Architect and Construction Manager seven (7) calendar days in advance of dates and times when mockups will be constructed.

3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.

4. Demonstrate the proposed range of aesthetic effects and workmanship.

5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
   a. Allow seven (7) calendar days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

7. Demolish and remove mockups when directed unless otherwise indicated.

M. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

N. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 through 33.

10.12 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for re-testing and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified.

2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least twenty-four (24) hours in advance of time when Work that requires testing or inspecting will be performed.

4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in triplicate, of each quality-control service.

5. Contractor shall furnish to the Laboratory such samples of materials as may be necessary for testing purposes.

6. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

7. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in pre-installation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Re-testing/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency and Special Inspector Responsibilities: Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.

3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Does not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

6. Do not perform any duties of the Contractor.

7. Submit reports to the Architect, Construction Manager, and Contractor within seven (7) calendar days of the test.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Provide safe access to items to be tested. This includes sheeting and ladders for deep excavation; scaffolding and ladders for inspection and testing of superstructure items. Incidental labor and facilities necessary to facilitate tests and inspections.
2. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
3. Facilities for storage and field curing of test samples.
4. Delivery of samples to testing agencies.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
6. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.
2. Provide and maintain, for the sole use of the Testing Agency, adequate facilities for safe storage and proper curing of concrete test cylinders on the project site for the first 24 hours as required by ASTM C31-69.

10.13 SPECIAL TESTS AND INSPECTIONS

A. General: Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the *Building Code of New York State (BC-NYS).*

B. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections attached to this Section, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to

perform the Work. The General Construction Contractor shall provide adequate documentation as requested by the design professional to determine that the off-site fabrication of structural members and assemblies is in compliance with the intent of Section 1704.2-1704.2.2 of the BC-NYS. The fabricator of said components must demonstrate an established quality control program with quality control personnel conducting regular inspections to verify that the work is in conformance with the requirements of the BC-NYS and applicable reference standards.

2. Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with copy to Contractor and to authorities having jurisdiction. The Special Inspections Contractor will furnish copies of all test and Special Inspection reports as follows;
   .1 Construction Manager – 2 copies
   .2 Design Professional – 1 copy
   .3 Prime Contractor – 1 copy

3. Submitting a final report of special tests and inspections at Substantial Completion, which shall include a list of unresolved deficiencies.

4. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.

5. Re-testing and re-inspecting corrected work.

C. Qualifications: The Special Inspector shall be a Professional Engineer licensed in New York State.

1. The Testing Agency shall meet all the qualifications stated elsewhere in this Section and shall be approved by the Architect.

2. Inspectors: Special Inspections shall be performed by inspectors who are either Professional Engineers licensed to practice in the State of New York, or Engineers-In-Training (EIT) with an education and background in structural engineering except as indicated below:

   a. Special Inspection of soils and foundations may be conducted by Professional Engineers or EIT's with an education and background in geotechnical engineering.
   b. Technicians conducting tests of concrete shall be an ACI certified Concrete Field Technician – Grade 1 or higher.
   c. Personnel conducting inspections of concrete work may be an ACI certified Concrete Construction Inspector or other qualified individuals designated and supervised by the Special Inspector, with experience inspecting concrete work.
   d. Personnel conducting inspections of other work including but not limited to masonry, wood framing, and steel framing, may be individuals with experience inspecting such work, and designated and supervised by the Special Inspector.

e. Technicians conducting tests or inspections of welds shall be AWS Certified Welding Inspectors. Technicians conducting ultrasonic testing shall also be certified as an ASNT-TC Level II or Level III technician.
f. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test being conducted. Such Technicians shall not evaluate test results.
g. Technicians of Testing/Inspecting Agencies for smoke control shall have experience in fire-protection engineering, mechanical engineering, and shall have certification as air balancers.

3. Submittals: The Special Inspector and Testing/Inspecting Agency shall submit to the Architect for review, a copy of their qualifications which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing same.

4. Conflicts of Interest: The Special Inspector and Testing/Inspecting Agency shall disclose any past or present business relationship or potential conflict of interest with the Contractors or Sub-contractors whose work will be inspected or tested.

D. Owner Responsibilities: The Owner will Contract with and pay for the services of the Special Inspector.

1. Contract Documents: The Owner will provide the Special Inspector with a complete set of Contract Documents, sealed by the Architect and approved by the Authorities Having Jurisdiction (AHJ).

E. Contractor's Responsibilities for Special Inspections: The Contractor will cooperate with the Special Inspector and their agents so that the Special Inspections and Testing may be performed without hindrance.

1. Notification: The Contractor shall notify the Special Inspector and Testing agency at least forty-eight (48) hours in advance of a required inspection or test as indicated in the Schedule of Special Inspections.

2. Access: The Contractor shall provide incidental labor and facilities to provide safe access for the Special Inspector or their agents to the work to be inspected or tested;

a. To obtain and handle samples at the site or at the source of products to be tested,
b. To facilitate tests and inspections,
c. To storage and curing of test samples on site.

3. Distant Fabricators: If any material(s) or fabricator(s) that require Special Inspections are fabricated in a plant over 200 miles away from the Project Site and the Special Inspector is required to visit the plant, then the Contractor shall be responsible for reimbursing the Special Inspector for mileage and travel expenses incurred beyond that distance limitation.

4. Re-testing/Re-inspection: The Contractor will be responsible for the cost of any retesting or re-inspection of work which fails to comply with the requirements of the Contract Documents.

5. The Contractor shall allow the Special Inspectors or their agent's use of current, updated Construction Documents showing changes to the Work, including but not limited to submittals and shop drawings that have been approved by the Architect.

F. Limitations of Special Inspector's Authority: The Special Inspector shall not:

1. …release, revoke, alter, or enlarge on the requirements of the Contract Documents.
2. …have control over the Contractor's means and methods of construction.
3. …be responsible for construction site safety.
4. …have the authority to stop work.

G. Testing/Inspecting Agency Responsibilities to the Special Inspector: After the work requiring special inspections is complete, each testing/inspecting agency shall provide an "Agent's Final Report of Special Inspections" to the Special Inspector, stating that testing was completed in substantial conformance with the Contract Documents.

PART 11 - PRODUCTS (Not Used)

PART 12 - EXECUTION

12.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

12.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams

that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section 01 73 29.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

12.3 FINAL REPORT OF SPECIAL INSPECTIONS

A. The Final Report of Special Inspections shall be completed by the Special Inspector and submitted to the Architect and Owner prior to issuance of a Certificate of Occupancy.

B. Use *Form 102-2001* published by the Council of American Structural Engineers, or other similar form.

1. The Final Report of Special Inspections shall state that required inspections have been performed and shall itemize any discrepancies which were not corrected nor resolved.

3.4 SCHEDULE OF SPECIAL INSPECTIONS

The following schedule indicates those special inspections. The testing / inspection described below will likely not be required on the Edison Door Installation Project. However, it is the Owner's option to request them. This schedule will be updated by the Architect/Engineer for each Project site, as applicable.

TYPE OF INSPECTION	QUANTITY OF SPECIAL INSPECTIONS
1. SOILS - EXCAVATION & FILL	
A) Visual inspection to confirm proper site prep and/or extent or continuation of excavation due to poor soil conditions.	*One inspection near completion of excavation.*
B) Visual inspection to confirm proper installation procedures of fill/backfill operations (greater than 12").	*One inspection during second half of backfilling (concurrent with sieve analysis & proctor).*
C) Sieve analysis testing of fill materials (ROB, stone, sand, etc) being used at site.	*One sieve test of fill material during second half of backfilling process.*

D)	Modified proctor of cohesive soils for Moisture-Density Relations using 10 lb. hammer & 18" drop (D1557).	*One proctor test during second half of backfilling process.*
E)	Density by Nuclear Gauge.	*Not Required.*

2. CONCRETE CONSTRUCTION

A)	Visual inspection of reinforcing steel and anchor bolts for placement, bar laps, spacing, size, bends, etc. and forms for stability, design conformance, releasing agents, snap-ties, etc. prior to and during concrete placement to confirm proper installation procedures (ACI 318: 3.5, 7.1-7.7).	*One inspection of strip footing forms & rebar at beginning of pour (concurrent with pour sampling). One inspection of foundation wall forms & rebar at beginning of pour (concurrent with placement inspection & pour sampling).*
B)	Visual inspection of concrete being placed and vibration to confirm proper installation procedures (ACI 318: 5.9 - 5.10). (Typically concurrent with sample collection)	*One placement inspection during pour of foundation walls (concurrent with concrete sampling).*
C)	Concrete sampling includes; Sampling (ASTM C172), Slump Test (ASTM C143), Air Content (ASTM C173) and (5) Compressive Strength Cylinders (ASTM C31 or C192).	*One test set during pour of footings. One test set during pour of foundation wall.*
D)	Compressive Strength on Concrete Cylinders - Includes capping, curing, cylinder molds (ASTM C31 and C39). Scheduled breaks (unless directed otherwise): 1 @ 7-day, 3 @ 28-day and 1 @ 56-day. If the first 2 of the 3 @ 28-day breaks are low, hold the third 28-day break for an additional 56-day break.	*One test set for footings. One test set for foundation wall.*

E)	Visual inspection for maintenance of specified curing temperature and technique (ACI 318: 5.11-5.13).	*Not Required.*
F)	Visual inspection of the erection of precast concrete members for placement, reinforcement, connections, grouting, etc. (ACI 318: ch 16).	*One site inspection during erection. One site inspection during grouting.*

3. MASONRY CONSTRUCTION

A)	Visual inspection of masonry including placement of units and mortar joints (ACI 530.1: art 2.6A); placement, size and location of reinforcement, type of connectors and anchorage (ACI 530. art 2.4 & 3.4); clear grout space (ACI 530.1: art 3.2D); proportions of site prepared grout (ACI 530.1: art 2.6B); placement of grout (ACI 530.1: art 3.5) to confirm proper installation procedures.	*One site inspection of cmu & reinforcing during first third of masonry erection including grout review. One site inspection during second third of masonry erection (concurrent with mortar sample). One site inspection during grouting operation (concurrent with grout sample).*
B)	Visual inspection for maintenance of specified curing temperature and technique during hot or cold weather (ACI 503.1: art 1.8).	*Not Required.*
C)	Preparing grout and/or mortar specimen prisms (ACI 530.1: art 1.4).	*One mortar specimen. One grout specimen.*
D)	Grout specimen compression test (4"x4"x8").	*One grout compression test.*
E)	Mortar cube compression test (2"x2"x2").	*One mortar compression test.*

4. STEEL CONSTRUCTION

A)	Visual inspection of structural steel for component verification in conformance with ASTM standards including steel frame joint details (ASTM A6 or A568).	*One site inspection at completion of steel erection (concurrent with weld inspection).*
B)	Visual and torque inspection of bolted connections (AISC LRFD)	*Not Required.*
C)	Visual inspection of welds by AWS methods and standards (AWS D1.1 or D1.3)	*One site inspection at completion of steel erection.*
D)	Butt welds for structural steel testing by Ultrasonic inspection (AWS Method).	*Not Required.*
E)	Fillet welds for structural steel inspection by Magnetic Particle inspection (AWS Method).	*Not Required.*

PART 4 - PRODUCTS
(Not applicable)

END OF SECTION 01 45 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

Refer to Sections 01 10 00 (Scope of Work), 01 14 19 (Use of Site), 01 55 00 (Access Roads, Parking, and Staging Areas (01 55 00), and the Site Logistics Plan (01 55 00A), for Temporary Facilities and Controls requirements.

SECTION 01 55 00 – ACCESS ROADS, PARKING AND STAGING AREAS

PART 1 GENERAL

1.01 Access Roads and parking.

PART 2 PRODUCTS

2.01 Materials

Not used

PART 3 EXECUTION

3.01 Installation

A. Deliveries shall be made to the dock area on the north side of the Edison Campus, beneath the bridge. Coordination with the Custodian, Antonio (Tony) Williams, is required by calling 585-739-8942.

3.02 Access Roads

A. Access roads will not be required. Use existing roadways for entry / exit.

3.03 Existing Pavements and Parking Areas

A. Existing site driveways and parking may be used for construction traffic:

- Parking facilities are available for construction personnel. Utilize the Edison North Parking lot as shown on the Site Logistics Plan 01 55 00A. Temporary parking by construction personnel is allowed on site and is restricted to locations indicated on the Site Logistics Plan and as directed by the Construction Manager.

- Storage of construction trailers or storage shed will be restricted to locations indicated on the Site Logistics Plan and as directed by the Construction Manager and may in no way interfere with the District's daily functions.

- Traffic Regulations:
  - Utilize only designated entrances.
  - Maintain all traffic regulations.

3.04 Maintenance

A. Temporary staging is allowed on site and is restricted to the location(s) indicated on the Site Logistics Plan and as directed by the Construction Manager. Staging area(s) shall be kept neat and orderly by the Contractor. Contractor is responsible for securing materials left out overnight.

PART 4 OTHER CONSIDERATIONS

2.01 Signage

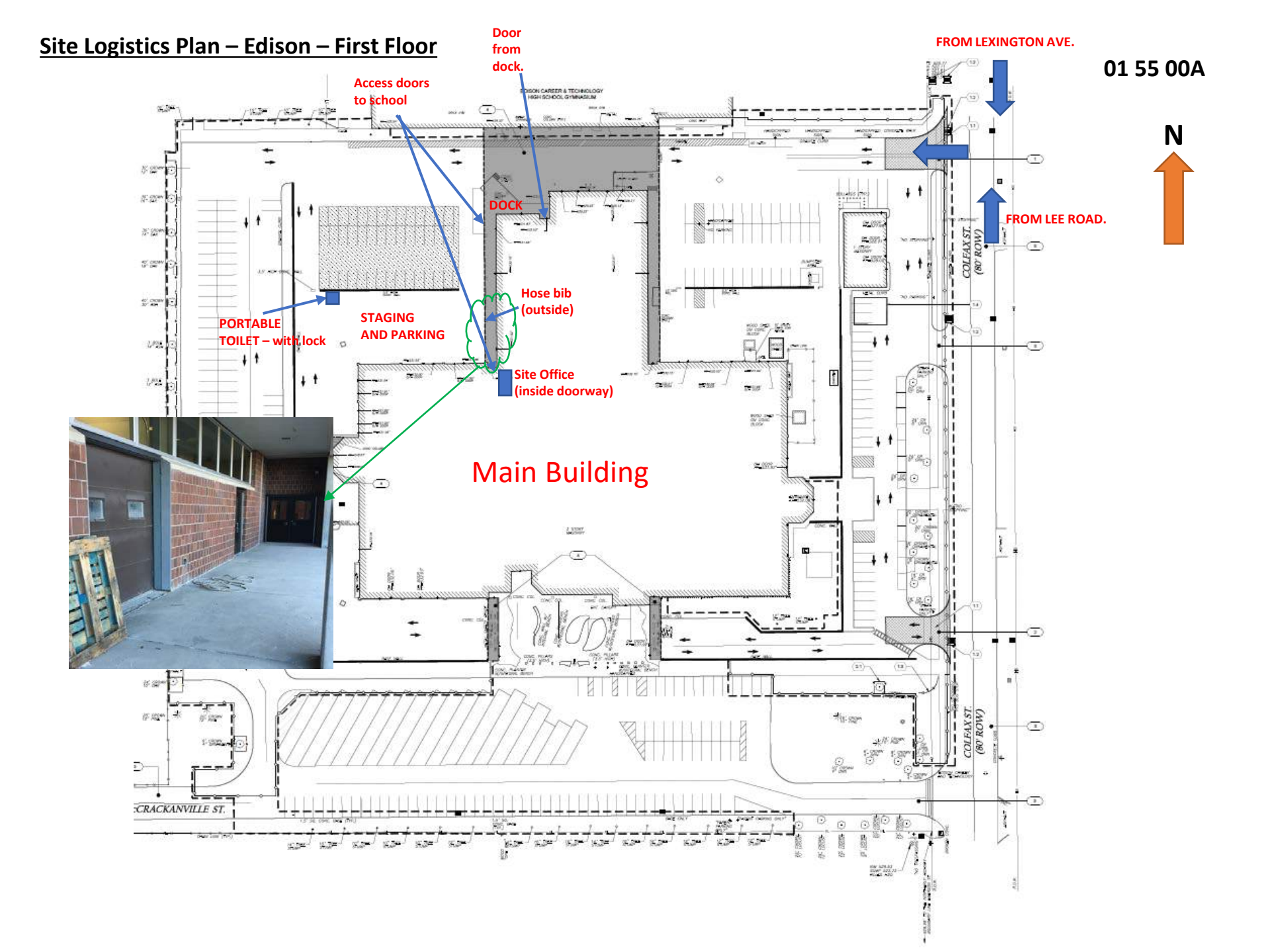
A. Use of an optional Project Identification sign shall be coordinated with the Architect and shall include the following as a minimum:

- Program symbols: RSMP, City of Rochester, Rochester School District
- Architect and Construction Manager
- General Trades Contractor
- Program Manager (Savin/Gilbane)
- Rochester Joint Schools Construction Board Members:

Signage can be placed temporarily at work sites where doors are being installed. Any costs for signage will be borne by the General Trades Contractor.

Site Logistics Plan – Edison – First Floor

01 55 00A



SECTION 01 56 10 - NOISE CONTROL

PART 1 - GENERAL

1.01 Requirements Included

A. Provide and maintain labor, methods, equipment, and temporary construction as necessary to provide controls over environmental conditions at the construction site and related areas under Contractor's control; remove physical evidence of temporary facilities at completion of Work.

B. Comply with the general noise and vibration restrictions as set forth by current OSHA, State and local government and as required by the Owner to avoid disruption of adjacent facility use.

C. The building will have occupants during construction. Coordinate any possibilities of noise interruption with the Construction Manager.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 01 56 10

SECTION 01 56 90 – CONSTRUCTION CLEANING

PART 1 - GENERAL

1.01 Requirements Included

A. Cleaning and disposal of waste materials, debris and rubbish during construction.

1.02 Cleaning Notice

A. Each Contractor is responsible for clean-up and disposal of waste materials, debris and rubbish on a daily basis.

B. The Owner/Construction Manager may issue written notification of insufficient cleaning relative to the requirements of this Section. Upon issuance of the cleaning notice:

1. All waste and accumulation of trash containing the Contractor's debris shall be removed from the Owner's premises within 24 hours of notification.

2. All designated project areas containing the Contractor's debris or requiring general housekeeping shall be left fine broom clean (interior) or raked clean (exterior or rough surface). Sweeping compound shall be used for all interior broom cleaning to control dust.

C. Failure by the Contractor to comply with the 24 hour requirement of the notice to the satisfaction of the Owner/Construction Manager will result in a cleaning program directed by the Construction Manager at the expense of the Contractor. Cost of clean-up performed for the Owner will be deducted from the Contractor's Request for Payment.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Cleaning

A. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from closed or remote spaces, prior to closing the space.

C. Daily clean interior areas to provide suitable conditions for work.

D. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.

E. Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.

3.02 Disposal

A. Dumpsters shall be located on site, accessible to building and roads. Contractor (exceptions see Section 01 10 00) may legally load acceptable construction debris into the Dumpsters (from this project only). Cost of all disposal fees for these Dumpsters shall be by the Contractor and Dumpsters shall remain on the project until project completion, or as directed by Construction Manager.

B. Dumpsters and costs of all disposal fees for the work shall be the responsibility of the Contractor.

C. It is the responsibility of all Contactors to secure all Dumpsters provided by same during off-hours.

END OF SECTION 01 56 90

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:
   1. Division 01 Section "References" for applicable industry standards for products specified.
   2. Division 01 Section "Closeout Procedures" for submitting warranties for Contract closeout.
   3. Divisions 02 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through review process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

A. Product List: Submit a list, in tabular from, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
2. Form: Tabulate information for each product under the following column headings:

    a. Specification Section number and title.
    b. Generic name used in the Contract Documents.
    c. Proprietary name, model number, and similar designations.
    d. Manufacturer's name and address.
    e. Supplier's name and address.
    f. Installer's name and address.
    g. Projected delivery date or time span of delivery period.
    h. Identification of items that require early submittal approval for scheduled delivery date.

3. Completed List: Within Thirty (30) days from Notice To Proceed, submit Five (5) copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
4. Architect's Action: Architect will respond in writing to Contractor Ten (10) days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.

B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

    a. Statement indicating why specified material or product cannot be provided.
    b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
j. Cost information, including a proposal of change, if any, in the Contract Sum.
k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within Seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within Fifteen (15) days of receipt of request, or Seven (7) days of receipt of additional information or documentation, whichever is later.

a. Form of Acceptance: Change Order.
b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
3. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
3. Where products are accompanied by the term "as selected," Architect will make selection.
4. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
5. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
6. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.

3. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
4. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
5. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
6. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
7. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

    a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.

8. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.

    a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
    b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. Refer to Section 01 25 00 – Substitution Procedures.

PART 4 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 71 16 - ACCEPTANCE OF EXISTING CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 00 and 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.
7. Correction of the Work.

B. Related Sections include the following:

1. Division 01 Section 01 30 00 "Construction Procedures and Control" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section 01 32 19 "Submittals" for submitting surveys.
3. Division 01 Section 01 73 29 "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
4. Division 01 Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

D. Certified Surveys: Submit three (3) copies signed by land surveyor.

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a Request for Information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on the form provided in Section 01 25 10 “RFI Form”.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Construction Manager promptly and in writing.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Architect and Construction Manager when deviations from required lines and levels exceed allowable tolerances.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Construction Manager.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect and Construction Manager before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two (2) permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

D. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

3.7 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.9 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 71 16

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Contractor is responsible for all cutting, fitting and patching required for alteration Work, including but not limited to:

1. Coordination between all trades.
2. Performing sequential excavation and backfill. **(NOT APPLICABLE)**
3. Completing the Work or making its several parts fit together properly or integrate with other Work.
4. Uncovering portions of the Work to provide for installation of ill-timed Work.
5. Removing and replacing defective Work.
6. Removing and replacing Work not conforming to requirements of Contract Documents.
7. Removing samples of installed Work as specified for testing.
8. Providing routine penetrations of non-structural surfaces for installation of materials such as piping and electrical conduit.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.3 SUBMITTALS

A. Cutting and Patching Plan: Submit a plan describing procedures at least 15 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.

a. Include workmen qualifications for cutting and patching of weather-exposed or moisture-resistant elements, and sight exposed finished surfaces of existing construction being altered.
b. Include workmen qualifications for cutting and patching of weather-exposed or moisture-resistant elements, and sight exposed finished surfaces of existing construction being altered.

4. Dates: Indicate when cutting and patching will be performed.
5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.

   a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Enclosure Elements: Indicate measures regarding the integrity or effectiveness of weather-exposed or moisture-resistant elements and systems.
8. Alternatives to Cutting and Patching: Include a description of alternatives to cutting and patching.
9. Notices: Notify Owner and separate contractor when cutting and patching affects newly installed construction not performed under this Project; include evidence of notification and written permission.
10. Construction Manager's Approval: Obtain approval of cutting and patching plan before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.4 QUALITY ASSURANCE

A. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

   1. A structural element includes any load-bearing, lateral force-resistant member, and wind or seismic movement resisting construction.
   2. Take precautions and exercise care to ensure Work is removed neatly and without movement or settlement to remainder of building. Contractor will be held liable for any damage, movement, settlement caused thereby or resulting therefrom.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Examples of operating elements include, but are not limited to, the following:

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.
9. Operating systems of special construction in Division 13 Sections

C. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Examples of miscellaneous elements include, but are not limited to, the following:

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior curtain-wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.
6. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

F. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

G. Qualifications: Workmen to have minimum three (3) years experience in working with materials being cut and patched.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials.

1. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
2. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

C. Materials used for sealing openings shall have a fire rating equal to or greater than the rating of the floor, ceiling or partition and shall comply with applicable codes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjacent Occupied Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
2. Restore Work and surfaces with new products in accordance with requirements of the Contract Documents.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. Employ original Installer for cutting and patching of newly installed construction; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Where specifically indicated on the Drawings, patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    a. Refinish entire surfaces as necessary to provide an even new finish.
    b. For continuous surfaces, refinish to nearest intersection.
    c. For assemblies, entirely refinish.
    d. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    e. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend on finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials.
   a. Patch subfloors under removed partitions, fixed equipment, etc. by cutting back, applying underlayment, concrete fill or other acceptable leveling fill as necessary to provide subfloor that is level with adjacent existing subfloors and properly prepared to receive finish flooring.
   b. In renovated rooms/areas to receive new floor finishes, remove existing finish flooring and related materials and prepare subfloor by cutting back, applying concrete fill or other acceptable leveling fill as necessary to provide subfloor that is level and properly prepared to receive new floor finish as required by Room Finish Schedule and material manufacturers written recommendations.
   c. In renovated rooms/areas to receive new wall finishes, those portions of existing walls that remain shall have their surfaces patched, cut back, or brought forward as necessary, and prepared as required to receive the new finishes per Room Finish Schedule.
   d. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for the substrate over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
   e. In rooms or areas where patching is required on one wall only, that entire wall is to be refinished to match the existing finish and color, including existing painted doors, door frames and window frames if they occur in that wall.
   f. In rooms or areas where patching is required on two or more walls, all walls including painted doors, door frames and painted window frames, are to be refinished.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
   a. In rooms or areas where patching is required in an existing plaster or gypsum wallboard ceiling, the entire ceiling is to be repainted. In rooms where patching is required in existing acoustic tile ceilings, patch ceilings with matching type and pattern of acoustic tile, clean all remaining tile and apply one coat of white latex paint by roller over all tile surfaces. Clean all exposed metal suspension system.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
6. Openings created as a result of removal of materials must be patched to match adjacent construction as to materials and finishes, unless otherwise indicated.

   a. Contractor responsible for cutting and patching shall also be responsible for furnishing and installing lintels where openings are cut through existing masonry or concrete walls. Refer to Lintel Schedule in Division 05 Section ”Metal Fabrications” for sizing of lintels, unless lintels are shown on Drawings.

7. Where existing equipment is removed and new equipment is installed in the existing opening, the Contractor installing the new equipment shall close up the unused portion of the opening with materials matching adjacent construction.
8. When new rubber or vinyl stair treads, risers, and landings are installed at existing stairs, paint all exposed steel.
9. Paint all exposed insulated or non-insulated pipes and ducts in finished rooms or areas.
10. Where existing equipment or assemblies are removed, the Contractor removing the equipment shall patch and repair the floor, walls and ceiling.

D. Roofing: **(NOT APPLICABLE)**

1. Before commencing with cutting and patching of roofing, consult with the Owner regarding the existence of an outstanding roofing warranty. If such a warranty exists, obtain written approval of the methods to be used from the roofing manufacturer who issued the warranty so as not to affect the value of the warranty.
2. If necessary, cutting and patching of roofing to be performed by roofing manufacturer authorized personnel only.
3. Cut, patch, repair and extend roofing and insulation as follows:

    a. Where disturbed or damaged by alteration Work or activities related to same.
    b. Where new Work connects to existing construction.

4. Roof areas penetrated for alterations shall be protected against damage and leakage by the Contractor performing the Work. Roof openings shall not be left uncovered or unprotected overnight or during any periods of rainy or inclement weather.
5. Remove loose aggregate, if applicable, and store away from work area.
6. Work shall be performed in a manner to provide for permanent water-tight splice or repair.
7. Roof repair and alteration Work and materials shall match existing roofing materials and construction.
8. Upon completion and inspection of splice or repair Work, remove debris from the roof and replace the aggregate as required.
9. Protect undisturbed existing and newly repaired roofing subject to traffic and damage.

3.4 CLEANING

A. Clean areas and spaces where cutting and patching are performed.

B. Completely remove excess paint, mortar, oils, putty, and similar materials from finished surfaces.

END OF SECTION 01 73 29

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Disposing of nonhazardous demolition and construction waste.

1.2 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility as identified in section 02 41 00 selective demolition.

E. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work as identified in section 02 41 00 selective demolition.

1.3 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 7 days of date established for the Notice of Award.

1.4 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan.
2. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
3. Review waste management requirements for each trade.

1.5 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification and waste reduction work plan.

B. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
3. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
4. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 01 requirements for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project site.

C. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

E. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

F. Plumbing Fixtures: Separate by type and size.

G. Lighting Fixtures: Separate lamps by type and protect from breakage.

H. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

    a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.

B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.

D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

E. Metals: Separate metals by type.

1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

H. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

I. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

J. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

1. Store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

K. Carpet Tile: Remove debris, trash, and adhesive.

1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

L. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

M. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 74 23 - FINAL CLEANING

FINAL CLEANING:

Provide final cleaning of this project's work, including related areas impacted by this project, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

1. Remove labels which are not required as permanent labels.

2. Clean transparent materials, including mirror and window/door glass, to a polished condition, remove substances which are noticeable as vision obscuring materials. Replace broken glass and damaged transparent materials.

3. Clean exposed exterior and interior hard-surface finishes, to a dirt free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original condition.

4. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.

5. Clean and shop vacuum concrete floors in non-occupied spaces (i.e. including equipment and storage areas) to broom-clean standard.

6. Clean and wet mop hard-surface floors in occupied spaces to wet mop standard.

7. Vacuum clean and shampoo carpeted surfaces and other similar soft surfaces.

8. Clean and wipe plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.

9. Clean and wipe light fixtures and lamps as to function with full efficiency.

10. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances.

11. Sweep paved parking and sidewalk areas to a broom-clean condition, remove stains, petro-chemical spills and other foreign deposits. Rake grounds which are neither planted or paved, to a smooth even textured surface.

12. Wipe surfaces of mechanical and electrical equipment clean, remove and clean areas around equipment of any excess lubrication and other substances that may have resulted during installation or startup.

13. Prevent the spread of debris by providing plastic barriers between clean spaces and those still undergoing work or cleaning operations.

END OF SECTION 01 74 23

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.

B. Related Sections include the following:
1. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases, if applicable.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Work duration construction photographs, damage or settlement surveys, property surveys, and similar final record information, as applicable.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.

7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. **Complete testing of Access Control Systems.**
9. Submit test/adjust/balance records. (Not Applicable)
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities. (Not Applicable)
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to the General Conditions of the Contract for Construction.
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect and Construction Manager. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three (3) copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

a. Project name and SED control number
b. Date.
c. Name of Architect and Construction Manager.
d. Name of Contractor.
e. Page number.

END OF SECTION 01 77

SECTION 017823 - OPERATION AND MAINTENANCE MANUALS AND DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 00 and 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals. (NOT APPLICABLE)
3. Operation manuals for systems, subsystems, and equipment.
4. Maintenance manuals for the care and maintenance of products, materials, and finishes, systems and equipment.

B. Related Sections include the following:

1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Division 01 Section "Closeout Procedures" for submitting operation and maintenance manuals.
3. Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

A. Submit one (2) copies of each manual and the as-built drawings in final form at to the Construction Manager within 15 days of completion. These will be reviewed by Architect. The Architect will return copy with comments within seven (7) days after final inspection if corrections or additional information are required. Correct or modify each

manual to comply with Architect's comments and resubmit for review if required. For the final submission:

1. Submit two (2) copies of each corrected O & M Manuals to Construction Manager within fifteen (15) days of receipt of Architect's comments.

2. Include three (3) copies electronically (flash drives) incorporating all O & M Manual input as described in Part 3 below, and as-built drawings for distribution.

1.5 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY (As Applicable)

A. Organization: Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

A. Multiple Project Sites: When the Project involves multiple project sites prepare separate manuals for each separate site address, including in each manual only those items that apply to each individual site. (NOT APPLICABLE)

B. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

C. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

D. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major

components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS (Not Applicable)

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

4. Fire.
5. Flood.
6. Gas leak.
7. Water leak.
8. Power failure.
9. Water outage.
10. System, subsystem, or equipment failure.
11. Chemical release or spill.

B. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

C. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information, as applicable:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in the manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated. (NOT APPLICABLE)

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Project Record Documents."

G. Submittals: A copy of each, approved submittal shall be included in the Manual, both in the hard copy and electronically.

H. Warranties: Provide all manufacturers’ and vendors’ warranty information.

I. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

SECTION 01 78 39 - PROJECT RECORD DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions of the Contract for Construction, and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Sections include the following:

1. Division 01 Section "Closeout Procedures" for general closeout procedures.
2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

A. Record Drawings: Submit one (1) set of marked-up Record Prints showing construction modifications.

B. Record Specifications: Submit one (1) copy of marked-up Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one (1) copy of each Product Data submittal.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one (1) set of black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

   a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
   b. Accurately record information in an understandable drawing technique.
   c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:

   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.
   h. Duct size and routing.
   i. Locations of concealed internal utilities.
   j. Changes made by Change Order or Change Directive.
   k. Changes made following Architect's written orders.
   l. Details not on the original Contract Drawings.
   m. Field records for variable and concealed conditions.
   n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, Alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:

    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Architect.
    e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Construction Manager's reference during normal working hours. Record Documents will be checked monthly, incomplete documents will be reason to withhold payments.

END OF SECTION 01 78 39

SECTION 02 41 19.03 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Demolition and removal of selected portions of building or structure.
   2. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
   1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Submit before Work begins.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
   1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

C. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, and templates.
   1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Arrange to shut off utilities with utility companies.
   2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
   3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
      a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
      b. Equipment to Be Removed: Disconnect and cap services and remove equipment.
      c. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
      d. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
      e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

3.4 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 01.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.

C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:
1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area off-site designated by Owner.
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:
   1. Clean and repair items to functional condition adequate for intended reuse.
   2. Pack or crate items after cleaning and repairing. Identify contents of containers.
   3. Protect items from damage during transport and storage.
   4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

E. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
   4. Comply with requirements specified in Section 01 74 19 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19.03

SECTION 04 01 02 – MASONRY RESTORATION AND CLEANING

PART 1 – GENERAL

1.1 DESCRIPTION

A. The Contractor for this work shall be held to have read all of the biding requirements, the Proposal Forms, the General Conditions of the Contract, the Supplementary General Conditions and Division 1, and in the execution of the work he will be bound by all of the conditions and requirements therein.

1.2 WORK REQUIRED -

A. Furnish all labor, materials and complete all work in this section as shown on the drawings and / or specified herein to install the interior door sets.

1.3 RELATED SECTIONS

A. Joint Sealants: 07 92 00

B. Painting: 09 91 00

1.4 QUALITY ASSURANCE

A. Restoration Specialist: (NOT APPLICABLE) Work must be performed by a firm having not less than five (5) years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration process and operations indicated.
   1. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning are in progress. Supervisors shall not be changed during Project except for causes beyond the control of restoration specialist firm.
   2. Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing.

B. Source Limitations: Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties**. Additional ceramic-faced CMUs can be found in the yard on Edison near the masonry classroom**.

C. Preconstruction Testing Services: (NOT APPLICABLE) Owner will engage a qualified independent testing agency to test the following. Provide test specimens and assemblies as indicated.
   1. Replacement Brick: For each proposed type of replacement brick, according to sampling and testing methods in ASTM C 67 for compressive strength, 24-hour cold water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).

2. Existing Brick: For each type of existing brick indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove existing bricks from locations designated by Architect.

D. Sample Area Repointing: (NOT APPLICABLE) Prepare two (2) separate sample areas approximately 3' high by 4' wide for each type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality and color match of materials and workmanship expected in pointing joints.
1. The Contractor shall provide sample areas during the submittal process to insure curing time for the mock ups prior to commencing of work.
2. Sample area shall include materials, methods and all other details of construction that will be used in the completed work.
3. Sample area will be an actual location of the work requiring repointing work and if acceptable to Architect, will remain in place.
4. Perform additional sample area work as required by Architect until a sample area is found to be acceptable.
5. Do not begin repointing operations until the sample area is approved by the Architect.
6. Acceptable sample area will be used as reference standard for the remaining work.

E. Restoration Mockups: (NOT APPLICABLE) Prepare mockups of restoration as follows to demonstrate aesthetic effects and qualities of materials and execution. Prepare mockups on existing walls under same weather conditions to be expected during remainder of the work.
1. Repair an area approximately 36 inches (900 mm) high by 48 inches (1200 mm) wide for each type of masonry material indicated to be rebuilt or replaced.
2. Mock ups shall be provided by the Contractor and approved by the Architect prior to commencing on the work. The Contractor shall provide mock ups during the submittal process to insure curing time for the mock ups prior to commencing of work.

F. Sample Area - Cleaning
1. Before full-scale application, review manufacturer's product data sheets to determine the suitability of each product for the specific surfaces. Apply each restoration cleaner to test panels to determine dilution rates, dwell times, number of applications, compatibility, effectiveness, application procedures, effects of pressure rinsing and desired results.
2. Apply restoration cleaners to test panels in accordance with manufacturer's instructions. Allow test panels to thoroughly dry, not less than seven (7) days before evaluating final appearance and results. Do not begin full scale applications until test panels are inspected and approved by the Architect.
   a. Size: Minimum 3 feet by 4 feet each.
   b. Locations: As determined by the Architect. At least one of the cleaning test panel areas shall be the same area as one of the sample repointing areas.

The common test area shall expose mortar aggregate to determine final mortar color.

c. Restoration Cleaners: Number of test panels as required to completely test each restoration cleaner with each type of substrate and with each type of material or stain to be cleaned.

3. Test all cleaning effluents generated by the restoration cleaning of the test panels to determine any hazardous characteristics. Comply with applicable federal, state and local environmental regulations regarding testing, handling, treatment, containment, collection, transport, disposal, and discharge of hazardous waste.
4. Retain and protect approved test panels in undisturbed condition during the work of this section, as standards for judging the restoration cleaning work.

1.5 SOURCE OF MATERIALS

A. Obtain materials from masonry restoration from a single source for each type of materials required (face brick, stone, sand, etc.) to ensure match of quality, color, pattern and texture.
   1. Each type of exposed masonry unit to be used for replacing existing units.

1.6 SUBMITTALS

A. Products Data: Submit manufacturer's technical data for each product indicated including recommendations for their application and use. Include test reports and certification substantiating that products comply with requirements.

B. Each type of exposed masonry unit to be used for replacing existing units.

C. Qualification Data: For restoration specialists. Submit qualifications as specified in 1.4.

D. Restoration Program: Submit written program for each phase of restoration process including protection of surrounding materials on building and site during operations. Describe in detail materials, methods and equipment to be used for each phase of restoration work.
   1. Include methods for keeping pointing mortar damp during curing period.
   2. If alternative methods and materials to those indicated are proposed for any phase of restoration work, provide written description, including evidence of successful use on other, comparable projects, and program of testing to demonstrate effectiveness for use on this project.

E. Cleaning Program: Describe cleaning process in detail, including materials, methods, and equipment to be used and protection of surrounding materials on building and Project site, and control of runoff during operations.
   1. If materials and methods other than those indicated are proposed for cleaning work, provide a written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.

F. Samples: Submit, for verification purposes, samples of the following:

1. Each new exposed masonry material to be used for replacing existing material. Include in each set of samples the full range of colors, colors and textures to be expected in completing the work.
2. Provide sample in mock up with mortar samples 3 feet by 4 feet for approval by the Architect. Mock ups are to be provided at the time of submittals, prior to commencing work. Contractor shall resubmit samples until approved by Architect.
3. Anchor; Each type of anchor.
4. Stone repair material; sample of cured repair material depicting match with existing stone.

1.7 DELIVERY, STORAGE AND HANDLING

A. Carefully pack, handle and ship masonry units and accessories strapped together in suitable packs of pallets or in heavy cartons. Unload and handle to prevent chipping and breakage.

B. Deliver other materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products or manufacturers.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

E. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water and from staining or intermixture with earth or other types of materials.

F. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

G. Store cleaning material containers upright in a cool, dry, well ventilated place, out of the sun. Store away from all other chemicals and potential sources of contamination. Keep lights, sparks, and heat away from containers. Do not drop onto or slide across sharp objects. Keep containers tightly closed when not in use. Store and handle materials in accordance with manufacturer's instructions.

1.8 PROJECT CONDITIONS

A. Protect persons, motor vehicles, surrounding surfaces of building whose masonry surfaces are being restored, building site and surrounding buildings from injury resulting from masonry restoration work.

B. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 degrees F (4 degrees C) and 90 degrees F (32 degrees C) and will remain so for at least 7-days after completion of work.

C. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above.

D. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least 7 days after completion of cleaning.

E. Prevent grout or mortar used in repointing and repair work from staining face of surround masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.

F. Protect sills, ledges and projections from mortar dropping. A seal coat shall be applied to asphalt not protected and stained during the masonry restoration at no cost to the owner.

G. Installer must review installation procedures and coordination with other work, with Contractor, and other Contractors and Subcontractors whose work will be affected by masonry work.

H. Cold weather protect:
1. Remove any ice or snow formed on work bed by carefully applying heat until top surface is dry to touch.
2. Do not use frozen materials mixed or coated with ice or frost. Do on use salt to thaw ice in anchor holes or slots. Do not lower the freezing point or mortar by use of admixture or antifreeze agents, and do not use calcium chloride in mortar or grout.

I. During all seasons, protect partially completed work against weather when work is not in progress. Cover top of walls with strong waterproof, non-staining membrane extending at least 2’ down both sides of walls and anchor securely in place.

1.9 SEQUENCING / SCHEDULING

A. Perform masonry restoration in the following sequence:
1. Remove plant growth.
2. Inspect masonry for open mortar joints and point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
3. Remove paint.
4. Clean masonry.

5. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
6. Repair masonry, including replacing existing masonry with new masonry materials.
7. Rake out mortar from joints to be repointed.
8. Point mortar and sealant joints.
9. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
10. Where water repellents are to be used on or near masonry work, delay application of these chemicals until after pointing and cleaning.

B. As scaffolding is removed, patch anchor holes used to attach scaffolding. Contractor to utilize lift in lieu of scaffolding where applicable.

PART 2 – PRODUCTS

2.1 MASONRY MATERIALS

A. Face brick and accessories: Provide face brick and accessories, including units for lintels, arches, corners, and other special ground, cut or sawed shapes where required to complete masonry restoration work.
1. Provide units with color, surface texture, physical properties and size to match existing brickwork.
2. Brick Masonry Units: For work that is infill areas on the existing building, utilize salvaged brick to the fullest extent possible. If additional brick is required, the following are basis for design. Specific brick are designated for specific vintage of the building:
a. 1910/1912/1915 –25%, Belden, Modular 503-505 A 15-48; 25%, Belden, Colonial Red Range; 50% Palmetto Brick Co, Red Smooth.
b. 1917 - Preferred majority field: 100%, Belden, Modular 503-505 A 15-48.
c. 1920 - % TBD, Belden, Modular 503-505 A 15-48; % TBD Belden colonial Red.
d. 1980's –100%, Browerston, Olde Harvard Smooth Modular.
e. 1995 (loading dock & elevator addition): 100%, General Shale, Red Range Smooth.

B. Building Brick: Provide building brick complying with ASTM C62 for masonry work concealed from view, of same vertical dimension as face brick.

2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, type II
1. Provide non-staining white cement complying with staining requirement of ASTM C91 for not more than 0.3% water-soluble alkali.

B. Hydrate Lime: ASTM C 207, Type S.

C. Aggregate for Mortar: ASTM C 144, unless otherwise indicated.
1. Colored mortar aggregate: Natural or manufactured sand selected to produce mortar color indicated.

a. For pointing mortar provide sand with rounded edges.

D. Match size, color, texture and gradation of existing mortar as closely as possible.

E. Water: Clean, free of oils, acids, alkalis and organic matter.

F. Aggregate for grout: ASTM C 404

G. Sand: ASTM C 144, except graded with 100% passing the No. 16 sieve for ¼" and narrower joints.

2.3 MORTAR MIXTURE

A. General:
1. New mortar shall be soft enough to prevent damage to historic masonry materials. New mortar shall match the original in color and texture.
2. Measure and mixing: Measure cementitious and aggregate materials in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical batch mixer.
   a. Mixing pointing mortar: Thoroughly mix cementitious and aggregate materials together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix which will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 1 to 2 hours. Add remaining water in small portions until mortar of desired consistency is reached. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
3. Color mortar: Mortar to match existing historical mortar. Produce mortar of color required by use of selected ingredients. Do no adjust proportions without architect's approval.
   a. Mortar color may vary on building. Field verify with Architect and Owner's representative.
4. Do not use admixtures of any kind in mortar, unless otherwise indicated.

2.4 JOINT REINFORCEMENT, TIES AND ANCHORING DEVICES

A. Materials: Comply with requirements indicated below for basic materials and with requirements indicated under each form of joint reinforcement, tie and anchor for size and other characteristics.

B. Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 153, Class B-2 (1.5 oz. per sq. ft. of wire surface) for zinc coating applied after prefabrication into units.

C. Hot-Dip Galvanized Carbon Steel Sheet: ASTM A 366, Class 2 or ASTM A 635; hot-dip galvanized after fabrication to comply with ASTM A 153, Class B.

D. Joint Reinforcement: Provide welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 101, with prefabricated corner and tee units, and complying with requirements indicated below:

1. Width: Fabricate joint reinforcement in units with widths of approximately 2" less than nominal width of walls and partitions as required to provide mortar coverage of not less than 5/6" on joint faces exposed to exterior and ½" elsewhere.
2. Wire size for Side Rods: 0.1483" diameter.
3. Wire Size for Cross Rods: 0.1483" diameter.
4. For multi-wythe masonry provide type as follows:
   a. Truss design with diagonal cross rods spaced not more than 16" o.c. and number of side rods as follows:
      1.) Number of Side Rods for Multiple-Wythe Brick Masonry – one side rod for each wythe.

E. Provide ties, anchors and fasteners as required to perform work. Provide products for use of the following manufacturers:
1. AA Wire Products Co.
2. Dur-O-Wal, Inc.
3. Heckman Building Products, Inc.
4. Hohmann & Bernard, Inc.
5. Masonry Reinforcing Corp. of America
6. National Wire Products Corp.

F. Adjustable Wall Ties – 3/16" diameter cold-drawn steel wire, ASTM A82; 2 piece construction consisting of pintle section with 2 legs and corresponding eye section. Maximum clearance between connecting parts shall be 1/16". Wall tie shall be of size for at least 1-1/2" embedment into the mortar bed of solid masonry units.
1. Finish: 1.5 oz. per sq. ft. hot dipped galvanized after fabrication, ASTM A 153, Class B-2.
2. For solid masonry wythes, provide z-shaped ties.

G. Corrugated Wall Ties for Brick: 22 gage corrugated steel, 7/8" wide, length to provide 2-1/2" long embedment, ASTM A 153, Class B-2, 1.5 oz. per sq. ft. hot dipped galavanized after fabrication.
1. Galvanizing: Provide a zinc coating meeting the requirements of ASTM A123.

H. Loose galvanized steel lintels conforming to A36 grade steel.
1. Galvanizing: Proved a zinc coating meeting the requirements of ASTM A123.

I. Weepholes: Medium density polyethylene, 3/8" outside diameter by 4" long.

2.5 THRU-WALL FLASHING MATERIALS

A. Copper-Fabric Laminating Flashing: Manufacturer's standard flashing.
1. Provide copper sheet of weight 5 oz. per sq. ft., bonded with asphalt between two layers of glass fiber cloth.

B. Adhesive for Flashing: Of type recommended by manufacturer of flashing material for use indicated.

C. Available Products: Subject to requirements, products that may be incorporated in the work include:

1. Copper-fabric laminate flashing:
   a. "Copper Fabric", Afco Products, Inc.
   b. "Type FCC-Fabric Covered Copper", Phoenix Building Products.
   c. "Copper Fabric Flashing", Sandell Manufacturing Co., Inc.
   d. "York Copper Fabric Flashing", York Manufacturing, Inc.

D. Copper Thru-wall Flashing: ASTM B 370; Temper HOO (Cold rolled) except where temper 060 is required for forming; 16 oz.; except as otherwise indicated.

E. Stone Anchors: Type and size indicate or, if not indicated, to match existing in size and type. Fabricate anchors and dowels from AISI Type 302/304 stainless steel.

2.6 CLEANING MATERIALS

A. Water for Cleaning: Potable.

B. Hot Water: Heat water to a temperature of 140 to 160 deg F (60 to 71 deg C).

C. job-Mixed Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate (TSPP), ½ cup (125 mL) of laundry detergent, and 20 quarts (20 L) of hot water for every 5 gal. (20 L) of solution required.

D. Manufacturers: Specifications are based on materials manufactured by PROSOCO INC. Equal or products of similar compounds manufactured by DIETRICH and ARCAL are acceptable.

E. Acidic Cleaner for Brick: Manufacturer's standard acidic masonry restoration cleaner composed of hydrofluoric acid blended with other acids, detergents, wetting agents, and inhibitors.
   1. Products:
      a. American Building Restoration Products, Inc.; 801Heavey Duty Masonry Cleaner.
      b. Diedrich Technologies Inc.; 101 Masonry Cleaner.
      c. Hydrochemical Techniques, Inc; Hydroclean Brick, Granite, Sandstone and Terra Cotta Cleaner (HT-626).
      d. Price Research Ltd.; Price Heavy Duty Restoration Cleaner.

F. Limestone and Masonry Prewash: "Sure Klean 766 Limestone & Masonry Prewash." Non-acidic alkaline gel for dissolving heavy carbon soiling from masonry surfaces.
   1. Form: Gel.
   2. Color: Translucent.
   3. pH: 14.
   4. Specific Gravity: 1.27.
   5. Flash Point: None.
   6. This product and its level of cleaning will be required on approximately 25% of the stone surfaces.

G. Limestone Restorer: “Sure Clean Limestone Restorer.” Removes atmospheric dirt, mildew, and other stains from unpolished limestone and other high calcium-based surfaces.
1. Form: Clear Liquid.
2. Color: Light Amber.
3. pH: 0.3.
4. Specific Gravity: 1.14.
5. Flash Point: None.
6. This product and its level of cleaning will be required on 100% of the stone surfaces and is in addition to Limestone and Masonry Prewash specified herein.

H. Restoration Cleaner: “Sure Klean Cleaner.”
1. Form: Clear Liquid.
2. Color: Light Amber.
3. pH: 1.2.
4. Specific Gravity: 1.05.
5. Flash Point: None.
6. This product and its level of cleaning will be required on 100% of the brick masonry and is in addition to Limestone and Masonry Prewash specified herein.

I. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical cleaner manufacturer.

J. Asphalt and Tar Remover: Manufacturer’s standard asphalt and tar remover consisting of a blend of petroleum solvents and wetting agents.
1. Products: Subject to compliance with requirements, provide the following;
a. “Sure Klean Asphalt and Tar Remover”, ProSoCo, Inc.

2.7 STONE MATERIAL

A. Cementitious Repair Mortar: Trowel applied, Portland cement, color matched repair mortar for natural stone or cast stone.
1. Mimic by Conproco Corporation.
2. Matrix by Conproco Corporation.
3. Jahn M70 Natural Stone Repair Mortar.

B. Stone Crack Repair:
1. Eucopoxy Injection Resin by Euclid Chemical
2. Akepox 1005 by Akemi

C. Stone Cleaners:
1. Limestone Restorer: Unpolished limestone and cast stone cleaner by Prosoco.
2. BioKlean: Biological and atmospheric stain remover by Prosoco.

2.8 MISCELLANEOUS MATERIALS

A. Liquid Strippable Masking Agent: Manufacturer’s standard liquid, film-forming, strippable masking material for protecting glass, metal and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.

1. Products:
   a. American Building Restoration Products, Inc.; LM 130 Acid Shield.
   b. Diedrich Technologies Inc.; Diedrich Acid Guard.
   c. ProSoCo; Sure Klean Strippable Masking.

B. Masonry Repair Anchors, Expansion Type: Mechanical fasteners designed for masonry veneer stabilization consisting of ¼-inch diameter, Type 304 stainless steel rod with brass expanding shells at each end and water shedding washer in the middle. Expanding shells shall be deigned to provide positive mechanical anchorage to veneer on one end and backup masonry on the other.
   1. Products:
      a. Dur-O-Wal, a Dayton Superior Company; Mechanical Repair Anchors.
      b. Hohmann & Barnard, Inc.; #521RA Repair/Restoration Anchor.

C. Masonry repair Anchors, Spiral Type: Type 304 stainless steel spiral rods deisgned to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.
   1. Provide adhesive installed anchors complete with manufacturer's standard epoxy adhesive and injection tubes, screens, sleeves, or other devices required for installation.
   2. Provide driven-in anchors deigned to be installed in drilled holes and relying on screw effect rather than adhesive to secure them to backup and veneer.
   3. Products:
      a. Dur-O-Wall, a Dayton Superior Company; Dur-O-Flex.
      b. Heckmann Building Products, Inc.; #391 Spiro Remedial Tie.
      c. Helifix Ltd.; Helifix HRT60.

D. Lead Joint Covers – Nuclead or Weatehrcap, Inc.

PART 3 – EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
   1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exist that must remain in service during course of restoration and cleaning work.

B. Comply with chemical cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, building, and other surfaces that could be harmed by such contact.
   1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid

masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.

2. Keep wall wet below area being cleaned to prevent streaking from runoff.
3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surface.
4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

C. Prevent mortar from staining face of surrounding masonry and other surfaces.
1. Cover sills, ledges, and projections to protect from mortar droppings.
2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
3. Immediately remove mortar in contact with exposed masonry and other surfaces.
4. Clean mortar splatters from scaffolding at end of each day.
5. Provide temporary rain drainage during work to direct water away from building.

3.2 UNSUSED ANCHOR REMOVAL

A. Remove masonry anchors, brackets, wood nailers, and other extraneous items no longer in use unless identified as historically significant or indicated to remain.
1. Remove items carefully to avoid spalling or cracking masonry.
2. If item cannot be removed without damaging surrounding masonry, cut off item flush with surface and core drill surrounding masonry and item as close around item as practical.
3. Patch holes where items were removed unless directed to remove and replace units.

3.3 BRICK REMOVAL AND REBUILDING

A. Brick Removal: Extent of removals to be as shown on drawings:
1. Carefully remove by hand at locations indicated any brick which are damaged, spalled or deteriorated. Cut out full units from joint to joint and in manner to permit replacement with full size units.
2. Support and protect masonry indicated to remain with surround removal area.
3. Salvage whole, undamaged brick for reuse.
4. Removal mortar, loose particles and soil from salvaged brick by cleaning with brushes and water. Store for reuse.
5. Clean remaining brick at edges of removal areas by removing mortar, dust and loose debris in preparation for rebuilding.

B. Brick Rebuilding:
1. Install new and salvaged brick to replace removed brick. Fit replacement units into bonding and coursing pattern of existing. If cutting is required us motor driven saw deigned to cut masonry with clean, sharp unchipped edges.
2. Lay replacement brick with completely filled bed, head and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet clay brick

which have ASTM C 67 initial rates of absorption (suction) of more than 30 grams per 30 sq. in. per minute. Use wetting methods which ensure that units are nearly saturated by surface dry when laid. Maintain joint width for replacement units to match existing.

3. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
4. Repoint new mortar joints in repaired area to comply with requirements for repointing existing masonry, except rake out joints before mortar sets.

3.4 PREPARATION

A. Joint Raking: Extent of repoint to be as shown on drawings:
   1. Rake out mortar from joints to depths equal to 2 ½ times their widths but no less than 5/8" nor less that that required to expose sound, unweathered mortar.
   2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
   3. Do not spall edges of masonry units or widen joints. Replace any masonry units which become damaged.
      a. Use of diamond blades can be used to cut out deteriorated mortar but it must be demonstrated that the power tools do not harm the brick. If any brick is damaged, the Contractor shall cut out old mortar by hand with chisel and mallet.

B. Joint Pointing:
   1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at rime of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
   2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint hard before applying next year.
   3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer slightly from face. Where existing bricks have rounded edges recess final layer slightly from face/ Take care not to spread mortar edges onto exposed masonry surfaces, o to featheredge mortar.
   4. When mortar is thumbprint hard, tool joints to match original appearance of joints. Unless otherwise indicate. Remove excess mortar from edge of joint by brushing.
   5. Cure mortar by maintaining in a damp condition for not less than 72 hours.

3.5 FLASHING OF MASONRY WORK

A. Proved concealed flashing in masonry work at, or above, lintels, and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior. Prepare masonry surfaces smith and free from projections which could puncture flashing, Extend

flashing though exterior face of masonry and turn down to from drip. Cut off edge flush with face of brick or stone after face material is installed.

B. Extend flashing the full length of lintels and shelf angles and minimum of 4" into masonry each end. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 4", and through the inner wythe to within ½" of the interior face of the wall in exposed work. Where interior surface of inner wythe is concealed by furring, carry flashing completely through the inner wythe and turn up approximately 2". At heads and sills turn up ends not less than 2" to form a pan. Lap and seal joints of flashing.

C. Interlock end joints of deformed metal flashing by overlapping deformations not less than 1-1/2" and seal lap with elastic sealant.

D. Install flashing to comply with manufacturer's instructions.

E. Provide weep holes in the head joints of the first course of masonry immediately above concealed flashings. Space 24" o.c., unless otherwise indicated.

F. Provide 16 oz. copper thru-wall flashing where coping stones are removed and reset. Lap and seal joints of flashing.

3.6 REPAIR DAMAGED BRICK

A. Brick removal:
1. Carefully remove by hand any brick which are damaged, spalled or deteriorated. Contractor shall review scope of damaged brick replacement with Owner's Representative prior to start of brick removal. Cut out full units from joint to joint and in manner to permit replacement with full size units.
2. Support and protect masonry indicated to remain which surrounds removal area.
3. Salvage as may whole, undamaged bricks as possible.
4. Remove mortar, loose particles and soil from salvaged brick by cleaning with brushes and water. Store brick for reuse.
5. Clean remaining brick at edges of removal areas be removing mortar, dust, and loose debris in preparation for rebuilding.

B. Brick Rebuilding:
1. Install new or salvaged brick to replace removed brick. Fit replacement units into bonding and coursing of existing brick. If cutting is required use mortar driven saw designed to cut masonry with clean, sharp unchipped edge.
2. Provide strap anchors fastened to backup at 1611 o.c. vertically and horizontally.
3. Lay replacement brick with completely filled bed, head and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place.
4. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.

3.7 COPING STONE INSTALLATION

A. Reset coping stones removed to rebuild brick parapets as shown on the drawings.

B. Set thru-wall flashing prior to resetting coping stones.

C. Drill holes in coping stones as required for installation of stainless steel dowels and set-in sealant.

D. Mortar joints should match color and texture of the surrounding band stone above.

E. Tool joints after setting to match joints of surrounding stone.

3.8 STONE REPAIR

A. Section covers work required to repair spalled, deteriorated or damaged natural stone. Repair stones shown on the drawings.

B. Carefully remove lose stone fragments in areas to be repaired. Reuse only pieces of spalled stone which are in should condition, all materials that would prohibit a proper bond and clean the entire surface of the stone with Limestone Restorer by ProSoCp and then with BioKlean by ProSoCo according to the Manufacturer's instructions.

C. Cut the perimeter of the repair areas to a minimum depth of ½", perpendicular to the surface.

D. Clean each repair area with clean water and a scrub brush. Note: The repair area must be saturated surface dry (SSD) but holding no standing water, when the repair mortar is applied.

E. Repair the damaged limestone areas with Stone Repair Mortar. Match the clean adjacent limestone surface color and texture.

F. Cure the repair areas by misting for 24 hours or enclose the areas with polyethylene. Note: The polyethylene cannot touch the surface of the repair mortar.

G. Remove soil, loose stone particles, mortar, and other debris and foreign material from surfaces to be bonded of both fragment and building stone from which it was removed by cleaning with still brush.

H. Apply adhesive to comply with adhesive manufacturer's direction. Coat boding surfaces of building stone with stone-to-stone adhesive completely filling all voids and covering all surfaces. Fit stone fragments onto building securely in place until adhesive has cured.

I. After adhesive has cured fully, further anchor stone fragments larger than 6" x 6" in any dimension with ¼" diameter plain stainless steel rods set into ½" diameter holes drilled at a 45 degree angle through face of stone. Center and space anchor rods not more than 5" nor less than 3" apart and less than 2", from any edge. Insert rods not less than 2" into

backing stone and 2" into fragment with end countersunk at least ¾" from exposed face of stone.

J. Clean any residual adhesive from edges. Wet stone and fill any chipped areas and drill holes with patching area to match texture of, and be level with surrounding stone surfaces. Keep patching mortar damp for 72 hours.

3.9 STONE PATCHING

A. Section covers work required to patch stone.

B. Remove loose particles, soil, debris, oil and other contaminants from existing stone units at locations indicated by cleaning with stiff brush.

C. Brush coat stone surfaces with mortar to stone adhesive comply with manufacturer's directions.

D. Place patching mortar in layers no thicker than 2". Roughen surface of each layer to provide key for next.

E. Keep each layer damp for 72 hours or until mortar has set.

F. Unacceptable patches are defined as those with poor color or texture match or patches with hairline cracks or showing separation from stone at edges. Remove patches and refill to provide patches with acceptable color match and free of defects.

3.10 ERECTION, GENERAL

A. After mortar has fully hardened thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristly brushes and clean water, spray applied at low pressure.

3.11 CLEANING MASNRY, GENERAL

A. Harsh chemical or high-pressure washing can damage the protective outer coating of historic brick masonry. Cleaning shall remove surface dirt using the gentlest methods possible. Start cleaning process using non-ionic pH detergents and not chemicals, non-metallic brushes or scrapers, and water pressure no greater than 150 psi (low pressure spray only).

B. Use only those cleaning methods indicated for each masonry material and location.

C. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes resist chemical cleaner being used.
   1. Use spray equipment that provides controlled application at volume and pressure indicated, measures at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.

a. Equip units with pressure gages.

D. Spray application of chemical cleaners.
1. For chemical cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone shaped spray tip.
2. For water spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
3. For heated water spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.
   a. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
   b. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
4. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or ship masonry surface.
5. Remove asphalt and tar with solvent-type paint remover.
   a. Appy only to asphalt and tar by brush without rewetting.
   b. Allow paint remover to remain on surface for 10 to 30 minutes.
   c. Rinse off with cold water using low-pressure spray.
   d. Repeat application if needed.
6. Water Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches (150 mm) from surface of masonry and pply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.
7. Chemical Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical cleaner manufacturer's written instructions; use brush or spray application methods, at Contractor's option. Do not spray at pressure exceeding 50 psi (345kPa). Do not allow chemicals to remain on surface for periods loner than those indicated or recommended by manufacturer.
   a. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting.
   b. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
8. Apply neutralizing agent and repeat rinse, if necessary, to produce tested pH of between 6.7 and 7.5
9. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

END SECTION 04 01 02

SECTION 06 10 00.03 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking, cants, and nailers.
4. Plywood backing panels.

1.3 DEFINITIONS

A. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.

B. Exposed Framing: Framing not concealed by other construction.

C. OSB: Oriented strand board.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:
1. Wood-preservative-treated wood.
2. Engineered wood products.
3. Power-driven fasteners.
4. Post-installed anchors.
5. Metal framing anchors.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
   1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings.

2.3 DIMENSION LUMBER FRAMING

A. Framing Lumber: No. 2 grade.
   1. Species:
      a. Hem-fir; WCLIB or WWPA.

2.4 ENGINEERED WOOD PRODUCTS

A. Source Limitations: Obtain each type of engineered wood product from single source from a single manufacturer.

B. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
   1. Extreme Fiber Stress in Bending, Edgewise: 3100 psi for 12-inch nominal-depth members.
   2. Modulus of Elasticity, Edgewise: 2,000,000 psi.

C. Parallel-Strand Lumber: Structural composite lumber made from wood strand elements with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
   1. Extreme Fiber Stress in Bending, Edgewise: 2900 psi for 12-inch nominal-depth members.
   2. Modulus of Elasticity, Edgewise: 2,200,000 psi.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Cants.

B. Dimension Lumber Items: Standard, Stud, or No. 3 grade lumber of the following species:
   1. Hem-fir; WCLIB or WWPA.

C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

E. Plywood Sheathing: Either DOC PS 1 or DOC PS 2, Exterior sheathing.
   1. Thickness: As indicated on Drawings.

2.6 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.7 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193, or ICC-ES AC308 as appropriate for the substrate.
   1. Material for Interior Use:
      a. Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
   2. Material for exterior, exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity:
      a. Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.8 METAL FRAMING ANCHORS

A. Allowable design loads, as published by manufacturer, shall meet or exceed those of indicated on Drawings as basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
   1. Use for interior locations unless otherwise indicated.

2.9 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.

E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

F. Do not splice structural members between supports unless otherwise indicated.

G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

H. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

I. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
   1. Use inorganic boron for items that are continuously protected from liquid water.
   2. Use copper naphthenate for items not continuously protected from liquid water.

J. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

K. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
   1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
   2. ICC-ES evaluation report for fastener.

L. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 JOIST FRAMING INSTALLATION

A. General: Install joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists as follows:
   1. Where supported on wood members, by using metal framing anchors.

B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

C. Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third at ends. Do not bore holes larger than one-third depth of joist; do not locate closer than 2 inches from top or bottom.

D. Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists unless nailed to header or band.

E. Provide solid blocking between joists under jamb studs for openings.

F. Provide bridging of type indicated below, at intervals of 96 inches o.c., between joists.
   1. Diagonal wood bridging formed from bevel-cut, 1-by-3-inch nominal-size lumber, double-crossed and nailed at both ends to joists.
   2. Steel bridging installed to comply with bridging manufacturer's written instructions.

3.4 PROTECTION

A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 00.03

SECTION 078413 – PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes firestopping for penetrations required by work and as indicated, and for the following applications: Each Contractor is responsible for providing firestopping for his own work.
   1. Penetrations through fire-rated floor slabs, both employ holes and holes accommodating items such as cables, pipes, ducts, conduit, etc.
   2. Penetrations through fire-rated walls and partitions.
   3. Openings between top of walls and floor or roof slabs.
   4. Expansion joints in walls, floors, and wall and floor slab assemblies.
   5. Openings and/or penetrations through smoke barriers, or special compartmented areas.

1.3 REFERENCES

A. American Society for Testing and Materials Standards (ASTM):
   1. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials
   2. ASTM E814: Standard Test Methods for Fire Tests of Through-Penetration Firestops
   3. ASTM E119: Standard Test Methods for Fire Tests of Building Construction Materials
   4. ASTM E1399: Standard Test Methods for Cyclic Movement and Measuring of Joint Systems
   5. ASTM E1725: Standard Test Methods for Fire Tests of Fire-Resistive Barrier Systems of Electrical Systems Components
   6. ASTM E1966: Standard Test Methods for Fire Tests of Joints

B. Underwriters Laboratories, Inc. (UL):
   1. UL 723 Surface Burning Characteristics of Building Materials
   2. UL 1479 Fire Tests of Through-Penetration Firestops, including air leak test.
   3. UL 2079 Fire Test of Building Joint Firestop Systems
   4. UL Fire Resistance Directory (Component Listing Test Criterion)

C. ICBO Uniform Building Code (UBC):
   1. UBC 7-2 (1997) Standard Fire Test of Rated Door Assemblies (specified for positive and negative furnace test pressure)

2. UBCC 7-14 (1997) Standard Fire Test of Rated Window Assemblies (specified for positive and negative furnace test pressure)

D. National Fire Protection Agency (NFPA)
1. NFPA 80 Standard Fire Door and Window Assembly Tolerances
2. NFPA 252 Standard Fire Test for Fire Rated Doors (not specified for positive or negative furnace test pressure)
3. NFPA 257 Standard Fire Test for Fire Rated Windows (not specified for positive or negative furnace test pressure)
4. NFPA 101 Life Safety Code
5. NEC 70 National Electrical Code

1.4 SUBMITTALS

A. Submit in accordance with Section 013300, unless otherwise indicated.

B. Product Data: Manufacturer's product literature for each type of firestop material as follows:
1. Product characteristics, typical uses, installation procedures, performance and limitation criteria.
2. Material Safety Data Sheets (MSDS)

C. Product Test Reports: From a qualified testing agency indicating that firestop system complies with requirements, based on comprehensive testing of current products.

1.5 PERFORMANCE REQUIREMENTS

A. General: Provide firestop systems that are produced and installed to resist the spread of fire according to requirements indicated, resist passage of smoke and other gases and maintain original fire-resistance rating of construction assembly.

B. F-Rated systems: Provide firestop systems with F-rating as determined per ASTM E814 but not less than that equaling or exceeding fire-resistance ratings of the construction assembly.

C. T-Rated Systems: Provide firestop systems with T-ratings as determined per ASTM E814 and ASTM E119 where systems protect penetrating items exposed to potential contact with adjacent materials in occupiable floor areas.

D. L-Rated Systems: Provide firestop systems with L-ratings as determined per ASTM E814, where systems maintain a barrier to cold smoke at all: penetrations, connections with other surfaces, separations required to permit building movement, sound or vibration absorption, and other construction gaps.

E. For firestop systems exposed to view, traffic, moisture, and physical damage, provide products that after curing do not deteriorate when exposed to these conditions both during and after construction.

F. For firestop systems exposed to view, provide products with flame-spread ratings of less than 25 and smoke-developed ratings of less than 450, as determined per ASTM E84.

G. Construction joint/gap firestop systems shall be tested for cyclic movement according to ASTM E1399 standard test methods, to meet or exceed 500 cycles at 10 cycles per minute

1.6 QUALITY ASSURANCE

A. Fire Protection Installer shall be an experienced installer, (including individual trades people such as electrical, mechanical, insulators, etc.) who is qualified by having the necessary experience, staff, and training to install manufacturer's products per specified requirements, plus the following:
   1. Acceptable to or licensed by manufacturer, state or local authority.
   2. Established a record of successful in-service experience with firestop systems or completion of manufacturer's certified product installation training.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver firestop system products to project site in original unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, shelf life, qualified testing and inspection agency's classification marking, curing time and mixing instructions.

B. Store and handle materials for firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes. Follow manufacturer's instructions.

1.8 PROJECT CONDITIONS

A. Existing Conditions: Verify the condition of the substrates and correct unsatisfactory conditions before installing firestop system products; follow manufacturer's instructions.

B. Environmental Limitations: Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestop systems.

C. Ventilation: Ventilate firestop systems during installation per manufacturer's written instructions by natural means or where this is inadequate, forced-air circulation.

D. Protection: Provide masking and drop clothes to prevent contamination of surfaces by firestop system materials.

1.9 COORDINATION

A. Coordinate construction and sizing of sleeves, openings, core-drilled holes, cut openings and penetrating items to ensure that firestop systems are installed according to specified requirements.

B. Do not cover-up or conceal firestop system installations behind other construction until Architect and Owner have examined each installation.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturer: Products meeting Specifications as manufactured by the following:
   1. W.R. Grace & Co.
   2. Johns Manville Fire Protection Systems
   3. 3M Fire Protection Products
   4. United States Gypsum Co.

2.2 MATERIALS:

A. Firestop systems and materials shall meet the requirements specified herein

B. Compatibility: Provide firestop systems that are compatible with one another, with the substrates forming openings, and with the items, if any, penetrating through the firestop system under conditions of service and application as demonstrated by the firestop system manufacturer based on testing and field experience.

C. Accessories: Provide components for each firestop system that is needed to install fill materials and to comply with "Performance Requirements" Article 1.05. Use only components specified by firestop systems manufacturer and approved by the qualified testing and inspecting agency for firestop systems indicated. Accessories include, but are not limited to, the following items:
   1. Permanent forming/damming/backing materials, including the following:
      a. Slag/rock-wool-fiber insulation
      b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
      c. Fire-rated form board
      d. Fillers for sealants
   2. Temporary forming materials.
   3. Substrate primers
   4. Collars and steel sleeves

2.3 THROUGH-PENETRATION FIRESTOP SYSTEMS FOR FIRE-RATED ASSEMBLIES

A. Systems or devises listed in the UL Fire Resistance Directory under categories XHCR (firestop devises) and XHEZ (firestop systems) may be used, providing that they conform to the construction type, penetrate type, annular space requirements and fire rating

involved in each separate instance, and that the system is symmetrical for wall applications. Systems or devises must be asbestos-free.

B. Additional requirements: Withstand the passage of cold smoke either as an inherent property of the system, or by the use of a separate product included as a part of the UL system or devise, and designed to perform this function.

C. All through-penetration firestop system products must be from a single manufacturer. All trades will use products from the same manufacturer.

2.4 CONSTRUCTION JOINT/GAP FIRESTOP SYSTEMS FOR FIRE RATED ASSEMBLIES

A. Fill, void or cavity materials listed in the UL Fire Resistance Directory under category XHHW may be used, providing it conforms to the construction type and fire rating involved in each separate instance.

B. Forming materials listed in the UL Fire Resistance Directory under category XHKU may be used, providing it conforms to the construction type and fire rating involved in each separate instance and meets UL 2079 and ASTM E1966.

C. Additional requirements: Withstand the passage of cold smoke either as an inherent property of the system, or by the use of a separate product included as a part of the UL system or devise, and designed to perform this function.

D. All construction joint/gap firestop system products must be from a single manufacturer. All trades will use products from the same manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which firestop system is to be installed and notify the Architect of conditions detrimental to proper or timely completion of the work.

B. Examine substrates to determine they are satisfactory to receive firestop system materials.
   1. Conduct tests according to firestop systems manufacturer's written recommendations to verify that substrates are free of oil, grease, rolling compounds, incompatible primers, loose mill scale, dirt or other foreign substances capable of impairing bond of fire-resistive materials.
   2. Verify objects penetrating firestop materials, including clips, hangers, support sleeves, and similar items are securely attached to substrates.
   3. Verify substrates are not obstructed by ducts, piping, equipment, and other suspended construction that will interfere with applying fire-resistive materials.

C. Verify that environmental conditions are safe and suitable for installation of fire stop materials.

D. Do not proceed with installation of firestop system until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the Architect.

3.2 PREPARATION

A. Clean and repair substrates that could impair the adhesion or proper fitting of firestop materials, including oil, grease, rolling compounds, incompatible primers, and loose mill scale.

B. Secure all pipe, conduit, cable and other items, which penetrate firestop materials.

C. Provide masking and temporary covering as required to prevent contamination of adjacent surfaces by firestop materials.

3.3 INSTALLATION - GENERAL

A. Installation of firestop systems shall be performed in strict accordance with manufacturer's detailed installation instructions and procedures.

B. Extend firestop material in full thickness over entire area of each substrate or opening to be protected.

C. Protect firestop material from damage on surfaces subject to traffic.

3.4 INSTALLATION OF FIRESTOP SYSTEMS

A. General
   1. Install through-penetration firestop systems to comply with "Performance Requirements: Article 1.05 and firestop systems manufacturer's written installation instructions and published drawings for products and applications indicated.
   2. Install forming/damming/backing materials and other accessories of types required to support fill material during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
      a. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop system.
   3. Install fill materials for firestop systems by proven techniques to produce the following results:
      a. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items as required to achieve fire-resistance ratings indicated.
      b. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
      c. For fill materials that will remain exposed after completing work, finish to produce smooth, uniform surfaces that are flush with adjoining surfaces.

B. Field Quality Control

1. Proceed with enclosing through-penetration firestop systems with other construction only after inspection and approval by Architect.
2. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.
3. Inspection Agency: If required, owner will engage a qualified independent inspecting agency to inspect through-penetration firestop systems and to prepare test reports indicating whether through-penetration firestop systems comply with or deviate from requirements.

C. Identification
   1. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems. Include the following information on labels:
      a. The words: "Warning-Through-Penetration Firestop System-Do Not Disturb. Notify Building Management of Any Damage".
      b. Contractor's name and address, and phone number.
      c. Through-penetration firestop systems designation of applicable testing and inspection agency.
      d. Date of installation
      e. Through-penetration firestop system manufacturer's name.
      f. Installer's name.

D. Cleaning and Protection
   1. Clean off excess fill materials adjacent to openings as work progresses by methods & with cleaning materials that are approved in writing by through-penetration firestop systems manufacturer & that don’t damage materials at openings.
   2. Provide final protection and maintain conditions during and after installation that ensures through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce through-penetration firestop systems comply with specified requirements.

END OF SECTION 078413

SECTION 07 84 43 - JOINT FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Joints in or between fire-resistance-rated constructions.
   2. Joints at exterior curtain-wall/floor intersections.
   3. Joints in smoke barriers.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: For each joint firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing agency.
   1. Engineering Judgments: Where Project conditions require modification to a qualified testing agency's illustration for a particular joint firestopping system condition, submit illustration, with modifications marked, approved by joint firestopping system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each joint firestopping system, for tests performed by a qualified testing agency.

1.6 CLOSEOUT SUBMITTALS

A. Installer Certificates: From Installer indicating that joint firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with UL's "Qualified Firestop Contractor Program Requirements."

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not install joint firestopping systems when ambient or substrate temperatures are outside limits permitted by joint firestopping system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.

B. Install and cure joint firestopping systems per manufacturer's written instructions using natural means of ventilation or, where this is inadequate, forced-air circulation.

1.9 COORDINATION

A. Coordinate construction of joints to ensure that joint firestopping systems can be installed according to specified firestopping system design.

B. Coordinate sizing of joints to accommodate joint firestopping systems.

C. Notify Owner's testing agency at least seven days in advance of joint firestopping installations; confirm dates and times on day preceding each series of installations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics:
1. Perform joint firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
2. Test per testing standards referenced in "Joint Firestopping Systems" Article. Provide rated systems complying with the following requirements:
a. Joint firestopping systems shall bear classification marking of a qualified testing agency.
1) UL in its "Fire Resistance Directory."
2) Intertek Group in its "Directory of Listed Building Products."

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. 3M Fire Protection Products.
2. A/D Fire Protection Systems Inc.
3. Hilti, Inc.
4. RectorSeal.
5. Specified Technologies, Inc.
6. Tremco, Inc.

2.3 JOINT FIRESTOPPING SYSTEMS

A. Joint Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which joint firestopping systems are installed. Joint firestopping systems shall accommodate building movements without impairing their ability to resist the passage of fire and hot gases.

B. Joints in or between Fire-Resistance-Rated Construction: Provide joint firestopping systems with ratings determined per ASTM E 1966 or UL 2079.
   1. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of the wall, floor, or roof in or between which it is installed.

C. Joints at Exterior Curtain-Wall/Floor Intersections: Provide joint firestopping systems with rating determined per ASTM E 2307.
   1. F-Rating: Equal to or exceeding the fire-resistance rating of the floor assembly.

D. Joints in Smoke Barriers: Provide fire-resistive joint systems with ratings determined per UL 2079 based on testing at a positive pressure differential of 0.30-inch wg.
   1. L-Rating: Not exceeding 5.0 cfm/ft. of joint at both ambient and elevated temperatures.

E. Exposed Joint Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

F. Accessories: Provide components of fire-resistive joint systems, including primers and forming materials, that are needed to install elastomeric fill materials and to maintain ratings required. Use only components specified by joint firestopping system manufacturer and approved by the qualified testing agency for conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for joint configurations, substrates, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Before installing fire-resistive joint systems, clean joints immediately to comply with fire-resistive joint system manufacturer's written instructions and the following requirements:
   1. Remove from surfaces of joint substrates foreign materials that could interfere with adhesion of elastomeric fill materials or compromise fire-resistive rating.
   2. Clean joint substrates to produce clean, sound surfaces capable of developing optimum bond with elastomeric fill materials. Remove loose particles remaining from cleaning operation.
   3. Remove laitance and form-release agents from concrete.

B. Prime substrates where recommended in writing by joint firestopping system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

A. General: Install fire-resistive joint systems to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

B. Install forming materials and other accessories of types required to support elastomeric fill materials during their application and in position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
   1. After installing elastomeric fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of fire-resistive joint system.

C. Install elastomeric fill materials for fire-resistive joint systems by proven techniques to produce the following results:
   1. Elastomeric fill voids and cavities formed by joints and forming materials as required to achieve fire-resistance ratings indicated.
   2. Apply elastomeric fill materials so they contact and adhere to substrates formed by joints.
   3. For elastomeric fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

A. Joint Identification: Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove or joint firestopping system. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
   1. The words "Warning - Joint Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
   2. Contractor's name, address, and phone number.
   3. Designation of applicable testing agency.
   4. Date of installation.
   5. Manufacturer's name.
   6. Installer's name.

3.5 FIELD QUALITY CONTROL

A. Inspecting Agency: Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E 2393.

B. Where deficiencies are found or joint firestopping systems are damaged or removed due to testing, repair or replace joint firestopping systems so they comply with requirements.

C. Proceed with enclosing joint firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

A. Clean off excess elastomeric fill materials adjacent to joints as the Work progresses by methods and with cleaning materials that are approved in writing by joint firestopping system manufacturers and that do not damage materials in which joints occur.

B. Provide final protection and maintain conditions during and after installation that ensure joint firestopping systems are without damage or deterioration at time of Substantial Completion. If damage or deterioration occurs despite such protection, cut out and remove damaged or deteriorated fire-resistive joint systems immediately and install new materials to produce fire-resistive joint systems complying with specified requirements.

3.7 JOINT FIRESTOPPING SYSTEM SCHEDULE

A. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHBN or Category XHDG.

B. Where Intertek Group-listed systems are indicated, they refer to design numbers in Intertek Group's "Directory of Listed Building Products" under product category Expansion/Seismic Joints or Firestop Systems.

C. Floor-to-Floor, Joint Firestopping Systems:
1. UL-Classified Systems: FF-D- 0000-0999.
2. Assembly Rating: 2 hours, unless otherwise indicated on the Drawings.
3. Nominal Joint Width: As indicated.
4. Movement Capabilities: Class I.

D. Wall-to-Wall, Joint Firestopping Systems:
1. UL-Classified Systems: WW-D- 0000-0999.
2. Assembly Rating: 2 hours, unless otherwise indicated on the Drawings.
3. Nominal Joint Width: As indicated.
4. Movement Capabilities: Class I.

E. Floor-to-Wall, Joint Firestopping Systems:
1. UL-Classified Systems: FW-D- 0000-0999.
2. Assembly Rating: 2 hours, unless otherwise indicated on the Drawings.
3. Nominal Joint Width: As indicated.
4. Movement Capabilities: Class I.

F. Head-of-Wall, Fire-Resistive Joint Firestopping Systems:
   1. UL-Classified Systems: HW-D- 0000-0999.
   2. Assembly Rating: 2 hours, unless otherwise indicated on the Drawings.
   3. Nominal Joint Width: As indicated.
   4. Movement Capabilities: Class I.

G. Perimeter Joint Firestopping Systems:
   1. UL-Classified Perimeter Fire-Containment Systems: CW-D- 0000-0999 or 2000-2999.
   2. Integrity Rating: 2 hours, unless otherwise indicated on the Drawings.
   3. Insulation Rating: 1/4 hour.
   4. Linear Opening Width: 8 inches, maximum.
   5. Movement Capabilities: Class III.

END OF SECTION 07 84 43

SECTION 079200 – JOINT SEALANT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 Specifications sections, apply to work specified in this section.

1.2 SUMMARY

A. Section Includes:
Urethane joint sealants.
Preformed joint sealants.
Acoustical joint sealants.

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

B. Use manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

C. Submit not fewer than eight pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.

D. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

E. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.

F. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

G. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their ad

hesion to Project joint substrates as follows:

H. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.

I. Conduct field tests for each application indicated below:
   1. Each kind of sealant and joint substrate indicated.
   2. Notify Architect seven days in advance of dates and times when test joints will be erected.

J. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.

K. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.

L. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.4 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.
   1. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
   2. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
   3. Joint-Sealant Schedule: Include the following information:
   4. Joint-sealant application, joint location, and designation.
   5. Joint-sealant manufacturer and product name.
   6. Joint-sealant formulation.
   7. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer and testing agency.

B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

C. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate:
   1. For each sealant specified to be validated by SWRI's Sealant Validation Program.
   2. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

D. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
   1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
   2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
   3. Preconstruction Field-Adhesion Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
   4. Field-Adhesion Test Reports: For each sealant application tested.
   5. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

C. Product Testing: Test joint sealants using a qualified testing agency. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

D. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

E. Mockups: Install sealant in mockups of assemblies specified in other Sections that

are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions: When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C). When joint substrates are wet. Where joint widths are less than those allowed by
joint-sealant manufacturer for applications indicated. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

B. Warranty Period: Two years from date of Substantial Completion.

C. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace
those that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: 10 years from date of Substantial Completion.
      Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
      a. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
      b. Disintegration of joint substrates from natural causes exceeding design specifications.
      c. Mechanical damage caused by individuals, tools, or other outside agents.
      d. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and

application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

C. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

F. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

A. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use NT.

B. Products: Subject to compliance with requirements, provide the following : BASF Building Systems; Sonolastic NP 2.
Sika Corporation, Construction Products Division; Sikaflex - 2c NS.
Tremco Incorporated; Vulkem 227.

2.3 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin)

or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
   a. Concrete.
   b. Masonry.
   c. Unglazed surfaces of ceramic tile.

3. Exterior insulation and finish systems.
4. Remove laitance and form-release agents from concrete.
5. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
   a. Metal.
   b. Glass.
   c. Porcelain enamel.
   d. Glazed surfaces of ceramic tile.
6. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
7. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 or

use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

D. Do not leave gaps between ends of sealant backings. Do not stretch, twist, puncture, or tear sealant backings. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

F. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
4. Tooling of Nonsag Sealants: Immediately after sealant application and before
5. skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
6. Remove excess sealant from surfaces adjacent to joints.
7. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

G. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

H. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193. Use masking tape to protect surfaces adjacent to recessed tooled joints.

I. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:
1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
2. Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch (10 mm).

3. Hold edge of sealant bead 1/4 inch (6 mm) inside masking tape.

4. Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate. Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.

J. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Extent of Testing: Test completed and cured sealant joints as follows:

B. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate. Perform 1 test for each 1000 feet (300 m) of joint length thereafter or 1 test per each floor per elevation.

C. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

D. Inspect tested joints and report on the following:
   1. Whether sealants filled joint cavities and are free of voids.
   2. Whether sealant dimensions and configurations comply with specified requirements.
   3. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
   4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

E. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

F. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
Joint Locations:
1. Construction joints in cast-in-place concrete.
2. Control and expansion joints in unit masonry.
3. Joints between metal panels.
4. Joints between different materials listed above.
5. Perimeter joints between materials listed above and frames of doors windows and louvers.
6. Control and expansion joints in ceilings and other overhead surfaces.
7. Urethane Joint Sealant: Multicomponent, nonsag, Class 25.
8. Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Interior joints in horizontal traffic surfaces. Joint Locations:
1. Isolation joints in cast-in-place concrete slabs.
2. Control and expansion joints in tile flooring.

3. Preformed Joint Sealant: Preformed silicone.
4. Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
Joint Locations:
1. Control and expansion joints on exposed interior surfaces of exterior walls.
2. Perimeter joints of exterior openings where indicated.
3. Tile control and expansion joints.
4. Vertical joints on exposed surfaces of interior unit masonry concrete walls and partitions.
5. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.
6. Preformed Joint Sealant: Preformed silicone.
7. Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
Joint Sealant Location:
1. Joints between plumbing fixtures and adjoining walls, floors, and counters.
2. Tile control and expansion joints where indicated.
3. Preformed Joint Sealant: Preformed silicone.
4. Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
Joint Location:
1. Acoustical joints where indicated.
2. Other joints as indicated.
3. Joint Sealant: Acoustical.
4. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Interior standard steel doors and frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to SDI A250.8.

1.4 SUBSTITUTION AND SAMPLES

A. Preferred Products: Due to successful performance, durability and maintainability, the Plant Maintenance Department of the Rochester City School District stocks parts, is trained to repair, and uses the specified preferred products listed as the Basis of Design, in the Door and Frame Sets.

B. Equivalents: Equivalents of equal or better quality than those shown in this Section 08 11 13, paragraph 2.1 A, may be made if approved by the Architect and the Rochester City School District's Facilities Design Group. If the Bidder intends to use an equivalent on this project, the equivalent must be submitted with their Bid for approval prior to the award of the Contract, using a separate *Request for Equivalent Form* for each item requested, found in Section 00 63 19 of the Contract Documents. Physical samples of those items proposed for substitution in place of items referenced in paragraph 2.1 A of this Section, may be required. Thereafter, if no requests for equivalents are presented prior to award of the Contract, it is assumed that the Bidder has intended in his Bid to use the products listed herein.

C. Sample Request: Any request by the Architect for samples shall be furnished by the hardware supplier no later than five (5) days after said request is received.

1.5 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, temperature-rise ratings, and finishes.

B. Shop Drawings: Include the following:
   1. Elevations of each door type. Door/frame widths and frame depths to be verified in field.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   4. Locations of reinforcement and preparations for hardware.
   5. Details of accessories.
   6. Details of glazing.

C. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on door schedule. Coordinate with final door hardware schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

B. Oversize Construction Certification: For assemblies required to be fire-rated and exceeding limitations of labeled assemblies.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
   1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   1. Steelcraft; an Allegion brand. (BASIS OF DESIGN)
   2. Ceco Door; ASSA ABLOY.
   3. Pioneer Industries.

B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

B. Smoke- and Draft-Control Assemblies: Provide assemblies with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
   1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
   2. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.

C. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

D. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.77 deg Btu/F x h x sq. ft. when tested according to ASTM C 518.

2.3 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2; SDI A250.4, Level B.
   1. Doors:
      a. Type: As indicated in the Door and Frame Schedule.

b. Thickness: 1-3/4 inches.
c. Face:
1) Doors up to 36 inches wide: Uncoated, cold-rolled steel sheet, minimum thickness of 0.042 inch.
2) Doors over 36 inches wide: Uncoated, cold-rolled steel sheet, minimum thickness of 0.053 inch
d. Edge Construction: Model 2, Seamless.
e. Core: Manufacturer's standard kraft-paper honeycomb, and vertical steel stiffener.
f. Fire-Rated Core: Manufacturer's standard vertical steel stiffener core for fire-rated and temperature-rise-rated doors.

2. Frames:
a. Materials:
1) For doors up to 36 inches wide: Uncoated steel sheet, minimum thickness of 0.053 inch.
2) For door over 36 inches and frames in masonry construction: Uncoated steel sheet, minimum thickness of 0.067 inch.
b. Sidelite Frames: Fabricated from same thickness material as adjacent door frame.
c. Construction: Full profile welded.

3. Exposed Finish: Prime.

2.4 BORROWED LITES

A. Fabricate of uncoated steel sheet, minimum thickness of 0.053 inch.

B. Construction: Full profile welded.

C. Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as metal as frames.

D. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2.5 FRAME ANCHORS

A. Jamb Anchors:
1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
3. Post-installed Expansion Anchor: Minimum 3/8-inch-diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M; hot-dip galvanized according to ASTM A 153/A 153M, Class B.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

G. Glazing: Comply with requirements in Section 08 80 00 "Glazing."

2.7 FABRICATION

A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
   1. Sidelite Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding.
   2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

3. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
   b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
1. Reinforce doors and frames to receive non-templated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

D. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
1. Provide stops and moldings flush with face of door, and with square stops unless otherwise indicated.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 Hollow-Metal Frames: Comply with SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
   a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
   b. Install frames with removable stops located on secure side of opening.
2. Fire-Rated Openings: Install frames according to NFPA 80.
3. Floor Anchors: Secure with postinstalled expansion anchors.
   a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
4. Solidly pack mineral-fiber insulation inside frames.
5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
   a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.
1. Non-Fire-Rated Steel Doors: Comply with SDI A250.8.
2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors according to NFPA 105.

D. Glazing: Comply with installation requirements in Section 08 80 00 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 CLEANING AND TOUCHUP

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13

SECTION 08 71 00 – DOOR HARDWARE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Drawing Schedule Section 08 71 00.01 applies to this Section.

1.02 DESCRIPTION OF WORK

1. "Hardware" includes items known commercially as builder's hardware which are required for swing, sliding and folding doors except special types of unique and non-matching hardware specified in the same section as the door and door frame.

2. All hardware furnished in connection with doors bearing Underwriters' Labels or where necessary to meet building codes, federal guidelines for non-discrimination on the basis of disabilities (ADA), and special requirements will be in strict accordance with conditions established by the authority having jurisdiction and subject to approval of that authority.

3. Locking and latching devices on doors from classrooms and all other rooms accessible to students shall be of a type that will always allow free and unobstructed exit from that space by a familiar means such as a lever or exit device.

4. All building exits and any door which is a required means of egress from an area having an occupant load of 50 persons or more may be provided with a latch or lock device only if it is an approved exit device, U.L. labeled for "ACCIDENT HAZARD"

1.03 SCOPE OF WORK

1. The hardware supplier shall furnish and delivery to the project all items or architectural hardware hereinafter specified in the plans and specifications, or where necessary to assure the proper operation of all doors and wherever hardware is scheduled. Items not specifically mentioned but necessary to complete the work shall be furnished, matching in quality and finish the items described or specified. Supplier is responsible for proper coordination of all finish hardware with related sections to insure compatibility of products.

2. Items included in this section are as follows:

All Door Hardware
Thresholds
Weatherstripping
Key Cabinet

3. Fire-Rated Assemblies inspection

1.04 RELATED WORK IN OTHER SECTIONS

1. The following items are specified in other Divisions of the Specifications:

Cabinet Hardware
Steel/Expansion Joint Covers/Sill Plates
Window Hardware
Toilet Partition Hardware
Identifying Devices
Marble Thresholds

1.05 QUALITY ASSURANCE

1. Obtain each kind of hardware (latch and locksets, hinges, etc.) from only one manufacturer, although several may be indicated as offering products complying with requirements.

1. Supplier: A recognized builders hardware supplier who has been furnishing hardware in the project vicinity for a period of not less than 2 years, and shall have in his employ or at his disposal a qualified Architectural Hardware Consultant certified by an independent organization such as the Door and Hardware Institute or the Society of Architectural Hardware Consultants. The hardware consultant shall be available to meet with the architect and/or General Contractor upon reasonable notice to: 1) review the hardware schedule submittal, 2) coordinate with other trades,
.

1.06 REGULATORY REQUIREMENTS

1. Comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), “Accessibility Guidelines for Buildings and Facilities (ADAAG),” ANSI A117.1, FED-STD-795, “Uniform Federal Accessibility Standards.”

2. Fire Rated Openings: Provide hardware for fire rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or an approved testing agency for types and sizes of doors required and complies with requirements of door and door frame labels.

3. Fire-Rated Assemblies Inspection: Upon completion of the installation, all fire door assemblies shall be tested to confirm proper operation of the closing device and that it meets all criteria of a fire door assembly as per NFPA 80 2007 Edition. At completion of the project, written record shall be furnished by the door hardware supplier and given to the owner to be made available to the Authority Having Jurisdiction, “AHJ”. The record shall show all fire rated openings, door number and location, along with hardware supplied and installed for the opening. The inspection of the fire doors that are swinging doors with builder’s hardware

type to be performed by individuals with knowledge and understanding of the operating components of the type of door being subjected to testing as required by the AHJ.

1.07 SUBMITTALS

1. Submit manufacturers technical information for each item of hardware. Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish. Transmit copy of applicable data to Installer.

2. The hardware schedule shall consist of the actual product series numbers. Bidders are required to follow manufacturer's catalog requirements for actual size of door closers, brackets and holders. All door sizes are to be noted on the hardware schedule and all hardware shall be in strict accordance with height, width, and thickness requirements. Where closers or overhead door stops are scheduled, the hardware schedule shall indicate the degree of opening for each door affected.

3. The hardware supplier shall submit to the architect for approval the complete hardware schedule within ten (10) days after award of the contract. No hardware shall be delivered until the hardware schedule has been approved by the architect.

4. The schedule shall follow requirements of the specification and shall indicate type, manufacturer's name, catalog number, location and finish of each item to be furnished, all in accordance with the Door & Hardware Institute "Architectural Hardware Scheduling Sequence and Format". "Vertical" scheduling format only. "Horizontal" schedules will be returned "Not Approved." Preface sheet listing category only and manufacturer's names of items being furnished as follows:

1.08 SUBSTITUTIONS AND SAMPLES

1. Preferred Products: Due to successful performance, durability and maintainability, the Plant Maintenance Department of the Rochester City School District stocks parts, is trained to repair, and uses the specified preferred products listed as the Basis of Design, in the Hardware Sets.

2. Equivalents: Equivalents of equal or better quality than those shown in this Section 08 71 00, paragraph 3.01, may be made if approved by the Architect and the Rochester City School District’s Facilities Design Group. If the Bidder intends to use an equivalent on this project, the equivalent must be submitted with their Bid for approval prior to the award of the Contract, using a separate Request for Equivalent Form for each item requested, found in Section 00 63 19 of the Contract Documents. Physical samples of those items proposed for substitution in place of Basis of Design referenced in paragraph 3.01 of this Section, may be required. Thereafter, if no requests for equivalents are presented prior to award of the Contract, it is assumed that the Bidder has intended in his Bid to use the products listed herein.

3. Sample Request: Any request by the architect for samples shall be furnished by the hardware supplier no later than five (5) days after said request is received.

1.09 MARKING, PACKING, DELIVERY AND STORAGE

1. All locks, exit devices, door closers, overhead door holders, hinges, kickplates, pulls and push plates, threshold and other similar items shall be individually packed in separate, suitable original containers as furnished by the hardware manufacturers. Each container shall be clearly marked with items numbers, article numbers and names, corresponding to that listed in the hardware schedule.

2. Small miscellaneous items, such as door stops, coat and hat hooks and door silencers that would not require specific location identifications, may be quantity packed if properly labeled with item numbers, etc.

3. The Contractor shall check the hardware upon delivery with the aid of a representative of the hardware supplier's firm. The Contractor shall be responsible for the proper storage of all hardware until ready for application.

1.10 JOB CONDITIONS

1. Coordinate hardware with other work. Tag each item or package separately, with identification related to the final hardware schedule, and include basic installation instructions in the package. Furnish hardware items of proper design for use on doors and frames of the thicknesses, profile, swing, security and similar requirements indicated, as necessary for proper installation and function. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.

2. Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Check the shop drawings of such other work, to confirm that adequate provisions are made for the proper installation of hardware. All template information shall be in accordance with the DHI handbook, "Recommended Procedure for Processing Hardware Schedules and Templates".

PART 2 - PRODUCTS

2.01 MATERIALS AND FABRICATION

1. The drawings show the direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of the door movement as shown.

2. Produce hardware units of the basic metal and forming method indicated, using the manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser (commercially recognized) quality than specified for the applicable

hardware units by FS-H-l06, FS FF-G-lll, FS FF-H-ll6 and FS FF-H-l2l. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.

3. Manufacture hardware to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.

4. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match the hardware finish or, if exposed in surfaces of other work, to match the finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.

5. Provide concealed fasteners for hardware units, which are exposed when the door is closed, except to the extent no standard units of the type specified are available with concealed fasteners. All surface mounted hardware on wood doors shall be installed with thru bolts.
6. Furnish a complete set of specialized tools as needed for Owner's continued adjustment, maintenance, and removal and replacement of builder’s hardware.

7. The Contractor shall check the hardware upon delivery with the aid of a representative of the hardware supplier’s firm. The Contractor shall be responsible for the proper storage of all hardware until ready for application.

2.02 MANUFACTURERS

1. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated in the Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following.

2. Manufacturer's Product Designations:

Butt Hinges:	Ives
Continuous Hinges:	Ives
Locksets:	Schlage
Exit Devices:	Von Duprin
Push Bars:	Von Duprin
Door Pulls:	Von Duprin, Ives
Closers:	LCN
Automatic Door Operators	LCN
Overhead Stop & Holders:	Glynn-Johnson
Kickplates:	Ives
Silencers:	Ives
Floor/Wall Stops:	Ives
Threshold, Seals & Weatherstrip	Zero International

Wall Magnets: LCN

2.03 FINISH

1. Finish of hardware shall be:

.1 Hinges US26D/652 @ all wood and hollow metal doors. US28/628 @ all aluminum and FRP doors.

.2 Closers - Powder coat, equal to LCN 689.
.3 Trim (push, pull, kickplates) US32D/630.
.4 Exit Devices
US26D/626 lock and end stile cases as noted.
US26D trim.
US32D/630 touch pad.
Anodized finish on devices mounted on aluminum doors shall match door and frame finish.
.5 Weather and sound seals; Dark Bronze or clear anodized as noted.
.6 Thresholds; Abrasive cast, or mill finish Aluminum, as specified.
.7 Silencers; Grey

2.04 KEYING

1. Keys and Locking System

.1 All keys, cores and cylinders to be Everest 29 restricted “T” family, as manufactured by Schlage Lock Company (owners existing system).
.2 All cylinders must be keyed to the great grand master system following the specific instructions of the school district or its appointed liaison.
.3 All codes must be generated at the lock manufacturer mastery department and copyrighted.
.4 All keying shall be done at the factory or by a qualified locksmith with factory bitting under the direction of a certified Architectural Hardware Consultant (AHC).
.5 All locks and lock cylinders must accept large format interchangeable core as well as standard core cylinders where applicable.
.6 Provide interchangeable core cylinders at all exterior doors, and interior doors with exit devices, standard core cylinders on all other interior doors.
.7 Provide 3 change keys per lock, 5 master keys for each master system and 5 grandmasters for each grandmaster system. Furnish one extra key blank per lock.

5. Keying Schematic and Layout

.1 Lock manufacturer shall successfully conduct keying meetings to ensure proper keying of all locks and cylinders.
.2 The keying schematic shall conform to district keying system requirements in regard to proper lock manufacturer, keyway, code generation and master key order placement.

.3 Hardware supplier shall submit keying schedule for approval prior to placing an order for the locks. Furnish a bitting list to the school district before installation of permanent cylinders.

3. Locks and Cylinders

.1 Any lock manufacturer used must make housings for standard core cylinders as well as large format cores.
.2 Lock manufacturer's representative must assist in keying locks and code generation in such a way that it will conform to all above specifications.
.3 Lock manufacturer's housing must be able to accept Schlage Everest UL437 listed cylinder.
.4 Mortise locksets shall be used on all new doors and for retrofit of existing doors with old mortise lock cutouts.
.5 Mortise locksets shall be L9000 series as manufactured by Schlage Lock Co. Trim design shall be 17 lever with L style escutcheon unless specified otherwise. Trim design to be verified on a per job basis.
.6 ND series cylindrical locksets as manufactured by Schlage Lock Co. shall be used when retrofitting existing doors with cylindrical lock cutouts.
.7 Furnish a key cabinet system where projects have fifty new doors or involve rekeying the entire building, Telkee or equal.
.8 Furnish temporary cylinders, or keying for the construction period. Coordinate all permanent cylinder, keys and keying requirements with Roddy Johnson, Locksmith / Plant Maintenance Division (585)-336-4126.

2.05 MATERIALS As listed below, unless indicated otherwise in Hardware Sets

1. Hinges – Ives, (Stanley, McKinney, Hager)

.1 All 5BB1 (EXCEPT as noted)
.2 (3) hinges up to and including 90" door height
.3 (4) hinges for doors over 90"
.4 Width of hinge = 4½" except as noted, furnish wide throw hinges where trim conditions require.
.5 Height of hinge = 4½" up to 38" door width - 5" on doors over 38"
.6 ALL hinges on corridor doors shall be NRP (non-removable pin)

2. Continuous Hinges – Ives, (Select Products, Roton)

.1 Hinge shall be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising. The door leaf and jamb leaf shall be geared together for the entire length of the hinge and joined by a channel. Hinge knuckle shall be monolithic in appearance. Continuous hinges with visible knuckle separations are not acceptable. Vertical door loads shall be carried on minimum 3/4" acetyl bearings through a full 180 degrees. All (HD) heavy-duty hinges shall have a minimum of (32) acetyl bearings supplied on a (84") tall continuous hinge.

.2 Screw hole locations on door leaf and jamb leaf to be templated.

3. Locksets- Schlage L Series, (Corbin Russwin ML2000VR Series, Best 45H Series

.1 Locksets shall be Schlage L9000 series mortise type and must have the following features:
.2 Hand of lock can be changed without disassembly of lock case.
.3 Lever support springs are replaceable without disassembly of lock case.
.4 Outside spindles on locking functions on sets with lever handle trim shall be of a type which is separate from the inside spindle. Threaded swivel connection between outside and inside lever trim is unacceptable.

.5 Trim to be applied by threaded bushing. Exposed fasteners shall not be acceptable.

.6 Manufacturer shall provide universal lock chassis, one lock case for knobs or levers.

4. Lock Trim

.1 Locksets shall be furnished with lever handle trim (Trim design to be determined on a per job basis). Levers shall be solid in construction, 4-¾" minimum length. Escutcheons shall be cold forged. Roses shall be heavy wrought, 2-1/8" maximum diameter.

.2 All locks to be furnished with (6) pin cylinders as specified above. Cylinder cams shall match the lock manufacturer's template.

5. Deadlocks – Yale 300 Series – (Accurate, Corbin/Russwin, Sargent)

6. Exit Devices – Von Duprin, (Stanley/Precision 2000 Apex, Sargent 80 Series):

.1 99 Series except as noted.
.2 Keyed removable mullions on pairs of doors unless noted otherwise.
.3 Furnish glass bead kits at fire doors wherever the glass area falls below 42" above finish floor.
.4 All devices shall incorporate fluid damper or similar device, which will slow down the touch bar return, thereby eliminating the noise commonly, associated with panic bars.
.5 Strikes at pullman type latches shall be roller type.
.6 The latch bolt shall be molly coated, a self-lubricating coating, which reduces friction and wear. Latch bolt shall have a deadlocking feature.
.7 Center Case: Shall be interchangeable with all functions.
.8 All internal parts shall be zinc dichromate coated.
.9 Strikes: Shall be roller type and come complete with a locking plate to prevent movement.
.10 Trim: Shall be heavy-duty type and fastened by means of concealed welded lugs and thru bolts from the inside. Lever trim shall be cast, or forged brass

with a minimum average thickness on the escutcheon of (.130). Plate on pull trim shall be minimum average thickness (.090) and have forged pulls.

.11 Lever trim shall incorporate two heavy duty compression springs and have breakaway feature.

7. Closers – LCN 4000 Series, (Sargent 281 Series less PRV):

.1 Furnish LCN with standard metal cover, EXCEPT as noted.
.2 Indicate degree of opening for mounting closer for each door on hardware schedule.
.3 Furnish with each closer a full-size screw location template for correct type of mounting and degree of opening.
.4 Furnish thru-bolts and ceal nuts (NOT GROMMETS) at all fire doors and as may be required by carpenter for correct fastening.
.5 Metal cover shall be fastened to closer body with tamper resistant screws, installed through holes in cover. Slotted covers are not acceptable. Closer arm shall be fastened to frame with tamper resistant screws.
.6 All closers shall meet or exceed the ANSI 117 standards.
.7 Furnish all adapter plates, brackets, and related closer accessories required by manufacturer for mounting closers on the doors and frames as detailed.
.8 All manual door closers shall be certified to exceed ten million (10,000,000) full load operating cycles by a recognized independent testing laboratory.
.9 All manual closers shall carry a manufacturers minimum ten (10) year warranty.
.10 Fully hydraulic, rack and pinion action with high strength cast iron cylinders and one-piece forged steel pistons.
.11 Hydraulic fluid of a type requiring no seasonal adjustments for temperatures from 120º F (49º C) to -30º F (-35º C).
.12 Pinion shaft minimum diameter of 11/16".
.13 Hydraulic regulation controlled by tamper-proof, non-critical screw valves, adjustable with a hex wrench. Separate adjustments for backcheck, general speed, and latch speed. Backcheck shall be properly located for protection of the door, frame, and applied hardware.
.14 Forged steel main arms. Forged steel main and forearms at PA application. Arms at PA location shall be vandal proof design. Any PA arm that can be taken apart in the field shall not be acceptable.

8. Push/Pull Plates – Ives (Rockwood Mfg., Baldwin) Except as indicated In Hardware Types Furnish:

.1 Push Plate #8200 3-½” x 15”
.2 Pull Plate #8305-8 3-1/2” x 15”

9. Kickplates – Ives 8400 Series (Rockwood Mfg., Baldwin)

.1 (.051”) thick.
.2 8” high except as noted.
.3 Width of door less 2” on push side.

.4 Width of door less ½" on pull side.
.5 Width of door less 6" on doors with surface vertical rods.

10. Stops – Ives, (Rockwood Mfg.)

.1 FS436 floor stops at all doors EXCEPT: WS407CVX where knob contacts wall or Glynn-Johnson (Rixson) 90/450 series OH Stop where floor and wall stops are impractical.

11. Overhead Door Holders – Glynn Johnson 90/450 Series (Rixson)

12. Thresholds – Zero (National Guard, Reese)
.1 Furnish #626 - notched for stops except as noted or detailed otherwise.
.2 Furnish stainless steel screws and lead anchors for fastening.

13. Sweep strips – Zero (National Guard C607, Reese 964)
.1 Nylon Brush type 8192 x width of door
.2 Polypropylene UNACCEPTABLE

14. Weatherstripping – Zero, (National Guard A625, Reese 961)
.1 Nylon brush type 8305 – head & jamb, except as noted
.2 Polypropylene UNACCEPTABLE

15. Soundproof Gasketing – Zero (National Guard, Reese)
.1 Wherever soundproofing is shown or listed in the specifications or drawings, furnish:
.1 170 adjustable gasketing – mitered at head and jambs
.2 361 automatic door bottom

16. Manual Flush Bolts – Ives (Door Controls, Rockwood Mfg.) FB458

17. Automatic Flush Bolts – Ives (Door Controls, Rockwood Mfg.)

.1 FB30 (metal doors) FB40 (wood doors)
.2 Furnish DP2 dustproof strike at bottom bolt

18. Self-Latching Bolts - Ives (Door Controls, Rockwood Mfg.)
FB50 (metal doors), FB60 (wood doors)
.1 Furnish DP2 dustproof strike at bottom bolt

19. Coordinators - Ives (Door Controls, Rockwood Mfg.)
.1 Furnish C O R Series with required brackets and CB-1 carry bar.

20. Electromagnetic Stops & Holder – LCN SEM Series, (Rixson, Dorma)

21. Astragals – Zero (National Guard, Reese)
.1 8194 at meeting stiles – at fire rated wood doors

22. Smoke Gasketing – Zero (National Guard, Reese)

.1 488S stick on silicone – head & Jamb

PART 3 - EXECUTION

3.01 HARDWARE SCHEDULE

The following hardware in Groups A, B, C constitutes the Basis of Design. Substitutions may be presented in the Bid, accompanied by *Request for Equivalent Review* form, found in Section 00 63 19 and per the instructions outlined in *Instructions to Bidders* Section 00 21 13, under Substitutions.

Hardware Group A

For use on Door #(s):
127 207 209

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
2	EA	CONT. HINGE	224HD		628	IVE
1	EA	FIRE RATED REMOVABLE MULLION	KR9954		689	VON
1	EA	FIRE EXIT HARDWARE	99-EO-F-4'-499F		626	VON
1	EA	FIRE EXIT HARDWARE	99-NL-F-4'-499F		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
2	EA	FSIC CORE	23-030 EV29 T		626	SCH
1	EA	MORTISE CYLINDER	26-091 ICX X K510-730 36-083		626	SCH
2	EA	SURFACE CLOSER	4111 EDA MC TBTRX		689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830 AS REQ (12/24/120V AC/DC TRI-VOLT)	↙	689	LCN
1	EA	GASKETING	488SBK PSA		BK	ZER

THEORY OF OPERATION: WHEN CLOSED AND LOCKED, KEY MANUALLY RETRACTS LATCH ON ACTIVE (RHR) LEAF.

DOORS HELD OPEN BY WALL MAGNETS. LOCATE WALL MAGNETS TO INSURE CONTACT WITH

DOOR ARMATURE WITHOUT MODIFICATION. AUTOMATIC RELEASE UPON SMOKE/FIRE ALARM ACTIVATION.

FREE EGRESS AT ALL TIMES.

Hardware Group B

For use on Door #(s):
203 204 205 206

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	CONT. HINGE	224HD		628	IVE
1	EA	CONT. HINGE	224HD EPT		628	IVE
1	EA	POWER TRANSFER	EPT10	↯	689	VON
1	EA	FIRE RATED REMOVABLE MULLION	KR9954		689	VON
1	EA	FIRE EXIT HARDWARE	99-EO-F-4'-499F		626	VON
1	EA	ELEC FIRE EXIT HARDWARE	RX-QEL-99-NL-F-4'-499F 24 VDC	↯	626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
2	EA	FSIC CORE	23-030 EV29 T		626	SCH
1	EA	MORTISE CYLINDER	26-091 ICX X K510-730 36-083		626	SCH
2	EA	SURFACE CLOSER	4111 EDA MC TBTRX		689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW B-CS		630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830 AS REQ (12/24/120V AC/DC TRI-VOLT)	↯	689	LCN
1	EA	GASKETING	488SBK PSA		BK	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120/240 VAC	↯		VON

CARD READER AND DOOR CONTACTS BY SECURITY CONTRACTOR.

THEORY OF OPERATION: WHEN CLOSED AND LOCKED PROPER CREDENTIAL TO READER RETRACTS LATCH ON ACTIVE (RHR) LEAF. KEY MANUALLY RETRACTS LATCH.

DOORS HELD OPEN BY WALL MAGNETS, LOCATE WALL MAGNETS TO INSURE CONTACT WITH DOOR ARMATURE WITHOUT MODIFICATION. AUTOMATIC RELEASE UPON SMOKE/FIRE ALARM ACTIVATION.

FREE EGRESS AT ALL TIMES.

Hardware Group C
For use on Door # 208:

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
2	EA	CONT. HINGE	224HD		628	IVE
1	SET	CONST LATCHING BOLT	FB51P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	FIRE EXIT HARDWARE	9975-NL-F-4'		626	VON
1	EA	FSIC CORE	23-030 EV29 T		626	SCH
1	EA	MORTISE CYLINDER	26-091 ICX X K510-730 36-083		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB		689	IVE
2	EA	SURFACE CLOSER	4111 EDA MC TBTRX		689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW B-CS		630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830 AS REQ (12/24/120V AC/DC TRI-VOLT)	✓	689	LCN
1	EA	GASKETING	488SBK PSA		BK	ZER

THEORY OF OPERATION: WHEN CLOSED AND LOCKED, KEY MANUALLY RETRACTS LATCH ON ACTIVE (RHR) LEAF.

DOORS HELD OPEN BY WALL MAGNETS, LOCATE WALL MAGNETS TO INSURE CONTACT WITH DOOR ARMATURE WITHOUT MODIFICATION. AUTOMATIC RELEASE UPON SMOKE/FIRE ALARM ACTIVATION.

FREE EGRESS AT ALL TIMES.

END OF SECTION 08 71 00 -16

SECTION 08 80 00 – GLASS AND GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DESCRIPTION OF WORK

A. "Glass" includes prime glass, processed glass, and fabricated glass products. "Glazing" includes glass installation and materials used to install glass. Types of work in this section include glass and glazing for:
   1. Doors and interior metal framed windows.
   2. Exterior Windows, Curtain Walls, Storefronts.
   3. Glass specification includes both field and factory installed products.

1.3 QUALITY ASSURANCE

A. Prime Glass Standard: FS DD-G-451.

B. Heat-Treated Glass Standard: FS DD-G-1430.

C. Safety Glass Standard: CPSC 16 CFR 1201.

1.4 SUBMITTALS

A. Provide product data.

1.5 SPECIFIED PRODUCT WARRANTY

A. Warranty on Hermetic seals: Provide insulating glass manufacturer's written warranty, agreeing to, within specified warranty period, furnish FOB Project site, replacement units for insulating glass units which have defective hermetic seals (excluding that due to glass breakage); defined to include intrusion of moisture or dirt, internal condensation at temperatures above -20 degrees F (31 degrees C), deterioration of internal glass coatings, and other visual evidence of seal failure or performance failure; provided manufacturer's instructions for handling, installation, protection and maintenance have been adhered to during warranty period.

B. Refer to General Conditions Section 00 72 16 Article 48 for glass warranty.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS

A. Glass **Type FG-1**: 1 hour fire rated "Pilkington Pyrostop" as manufactured by Pilkington North America, and distributed by Technical Glass Products, Kirkland, Washington, voice 1-800-426-0279, fax 1-800-451-9857, e-mail sales@fireglass.com, web site www.fireglass.com, or approved equal. Glass shall meet ANSI Z97.1: Standard for Safety Glazing Materials Used in Buildings, and CPSC 16CFR1201: Safety Standard for Architectural Glazing Materials. Meets or exceeds ASTM E119 and NFPA 257.

2.2 GLAZING SEALANTS AND COMPONENTS

A. Provide color of exposed sealant/compound indicated or if not otherwise indicated, as selected by Architect from manufacturer's standard colors, or black if no color is so selected. Comply with manufacturer's recommendations for selection of hardness, depending upon the location of each application, conditions at time of installation, and performance requirements as indicated. Select materials, and variations or modifications, carefully for compatibility with surfaces contacted in the installation.

B. 1-Part Silicone Rubber Glazing Sealant: Elastomeric silicone sealant complying with FS TT-S-001543, Glass A, non-sag. Provide acid type recommended by manufacturer where only non-porous bond surfaces are contacted; provide non-acid type recommended by manufacturer where one or more porous bond surfaces are contacted.

2.3 GLAZING GASKETS

A. Molded Neoprene Glazing Gaskets: Molded or extruded neoprene gaskets of the profile and hardness required for watertight construction; comply with ASTM D 2000 designation 2BC 415 to 3BC 620, black.

2.4 MISCELLANEOUS GLAZING MATERIAL

A. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

B. Setting Blocks: Neoprene or EPDM, 70-90 durometer hardness, with proven compatibility with sealants used.

C. Spacers: Neoprene or EPDM, 40-50 durometer hardness with proven compatibility with sealants used.

D. Compressible Filler (Rod): Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 5-10 psi compression strength for 25% deflection.

PART 3 - EXECUTION

3.1 STANDARDS AND PERFORMANCE

A. Protect glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. During installation, discard units with significant edge damage or other imperfections.

B. Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel, and with recommendations of Flat Glass marketing Association “Glazing Manual,” except where more stringent requirements are indicated.

END OF SECTION 08 80 00

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on interior substrates.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
   1. Submit Samples on rigid backing, 8 inches square.
   2. Step coats on Samples to show each coat required for system.
   3. Label each coat of each Sample.
   4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:
   1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
      a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
      b. Other Items: Architect will designate items or areas required.
   2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
   1. Maintain containers in clean condition, free of foreign materials and residue.
   2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Benjamin Moore & Co.
   2. PPG Paints.
   3. Sherwin-Williams Company (The).

B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

A. Material Compatibility:
   1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

C. Colors: As indicated on the Drawings.

2.3 CONCRETE UNIT MASONRY BLOCK FILLERS

A. Concrete Unit Masonry Block Filler: Factory-formulated latex block fillers.
   1. Benjamin Moore; Moorcraft SuperCraft Block Filler 285: Applied at a dry film thickness of not less than 8.1 mils.

2. PPG Paints; Speedhide Hi Fill Block Filler 6-15: Applied at a dry film thickness of not less than 8.2 mils.
3. Sherwin-Williams; PrepRite Interior/Exterior Block Filler B25W25: Applied at a dry film thickness of not less than 8.0 mils.

2.4 PRIMERS/SEALERS

A. Interior Concrete and Masonry Primer: Factory-formulated acrylic-latex interior primer for interior application.
1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer 253: Applied at a dry film thickness of not less than 1.2 mils.
2. PPG Paints; Perma-Crete Acrylic Masonry Surface Sealer 4-808/4-809: Applied at a dry film thickness of not less than 1.4 mils.
3. Sherwin-Williams; Loxon Concrete and Masonry Primer A24W8300: Applied at a dry film thickness of not less than 3.2 mils.

B. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer 253: Applied at a dry film thickness of not less than 1.2 mils.
2. PPG Paints; SPEEDHIDE Int. Latex Sealer QD 6-2: Applied at a dry film thickness of not less than 1.2 mils.
3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Primer B28W2600 Series: Applied at a dry film thickness of not less than 1.1 mils.

C. Interior Plaster Primer: Factory-formulated latex-based primer for interior application.
1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer 253: Applied at a dry film thickness of not less than 1.2 mils.
2. PPG Paints; SPEEDHIDE Int. Latex Sealer QD 6-2: Applied at a dry film thickness of not less than 1.8 mils.
3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Primer B28W2600 Series: Applied at a dry film thickness of not less than 1.1 mils.

D. Interior Wood Primer for Acrylic-Enamel and Semigloss Alkyd-Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.
1. Benjamin Moore; Moorcraft Super Spec Alkyd Enamel Underbody and Primer Sealer C245: Applied at a dry film thickness of not less than 1.5 mils.
2. PPG Paints; SEAL GRIP Int/Ext Acrylic Primer Sealer 17-921: Applied at a dry film thickness of not less than 1.8 mils.
3. Sherwin-Williams; Premium Wall and Wood Interior Latex Primer B28W8111 Series: Applied at a dry film thickness of not less than 1.8 mils.

E. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
1. Benjamin Moore; Moorcraft SuperSpec Alkyd Enamel Underbody and Primer Sealer C245: Applied at a dry film thickness of not less than 1.5 mils.
2. PPG Paints; Pitt-Tech Plus 90-912 DTM Industrial Primer: Applied at a dry film thickness of not less than 2.0 mils.

3. Sherwin-Williams; Kem Bond HS Universal Metal Primer B50 Series: Applied at a dry film thickness of not less than 3.0 mils.Interior Zinc-Coated Metal Primer:

F. Factory-formulated galvanized metal primer.
   1. Benjamin Moore; Moore's SSHP Acrylic Metal Primer P04: Applied at a dry film thickness of not less than 2.0 mils.
   2. PPG Paints; Pitt-Tech Plus 90-912 DTM Industrial Primer: Applied at a dry film thickness of not less than 2.2 mils.
   3. Sherwin-Williams; DTM Acrylic Primer/Finish B66W1: Applied at a dry film thickness of not less than 3.0 mils.

G. Interior Flat Acrylic Dry-Fall: Factory-formulated flat dry-fall for interior application.
   1. Benjamin Moore; 153 Sweep-Up Spray Latex Flat: Applied at a dry film thickness of not less than 1.5 mils.
   2. PPG Paints; SPEEDHIDE SUPER TECH WB Int. Dry Fall Latex 6-723XI: Applied at a dry film thickness of not less than 1.5 mils.
   3. Sherwin-Williams; Low VOC Waterborne Acrylic Dryfall B42W81: Applied at a dry film thickness of not less than 1.7 mils.

2.5 PAINTS

A. Interior Flat Acrylic Paint: Factory-formulated flat latex paint for interior application.
   1. Benjamin Moore; Moorcraft Super Spec Latex Flat 275: Applied at a dry film thickness of not less than 1.2 mils.
   2. PPG Paints; SPEEDHIDE Int. Latex Flat 6-70: Applied at a dry film thickness of not less than 1.3 mils.
   3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Flat Wall Paint B30W2600 Series: Applied at a dry film thickness of not less than 1.4 mils.

B. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell latex interior enamel.
   1. Benjamin Moore; Moorcraft Super Spec Latex Eggshell Enamel 274: Applied at a dry film thickness of not less than 1.3 mils.
   2. PPG Paints; SPEEDHIDE Int Eggshell Latex 6-411: Applied at a dry film thickness of not less than 1.3 mils.
   3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Egg-Shell Enamel B24W2600 Series: Applied at a dry film thickness of not less than 1.6 mils.

C. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss latex enamel for interior application.
   1. Benjamin Moore; Moorcraft Super Spec Latex Semi-Gloss Enamel 276: Applied at a dry film thickness of not less than 1.2 mils.
   2. PPG Paints; SPEEDHIDE Int SG Latex 6-500: Applied at a dry film thickness of not less than 1.3 mils.
   3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Semi-Gloss Enamel B31W2600 Series: Applied at a dry film thickness of not less than 1.3 mils.

D. Interior Flat Acrylic Dry-Fall: Factory-formulated flat dry-fall for interior application.

1. Benjamin Moore; 153 Sweep-Up Spray Latex Flat: Applied at a dry film thickness of not less than 1.5 mils.
2. PPG Paints; SPEEDHIDE SUPER TECH Int Dry Fog Flat 6-150XI: Applied at a dry film thickness of not less than 1.5 mils.
3. Sherwin-Williams; Waterborne Acrylic Dryfall B42 Series: Applied at a dry film thickness of not less than 4 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   1. Concrete: 12 percent.
   2. Masonry (Clay and CMUs): 12 percent.
   3. Gypsum Board: 12 percent.
   4. Plaster: 12 percent.
   5. Wood: 15 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Plaster Substrates: Verify that plaster is fully cured.

E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

F. Proceed with coating application only after unsatisfactory conditions have been corrected.
   1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Preparation of Surfaces to be Painted:
   1. Metal Work; Remove all oil and grease with non-flammable solvent. Remove all rust with steel wool.
   2. New Areas, Patched Areas, Touch up Areas; Clean and prepare all surfaces as required to provide a smooth, even substrate for proper application of finish.
   3. Applicator must examine areas and conditions under which paint is to be applied and notify contractor in writing if conditions detrimental to proper and timely completion of work. Do not proceed until unsatisfactory conditions have been corrected.

C. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

D. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
   1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceed that permitted in manufacturer's written instructions.

F. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

G. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.

H. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

I. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

J. Wood Substrates:
   1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
   2. Sand surfaces that will be exposed to view, and dust off.
   3. Prime edges, ends, faces, undersides, and backsides of wood.
   4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

K. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

L. Plaster Substrates: Do not begin paint application until plaster is fully cured and dry.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
   1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in occupied spaces:
   a. Equipment, including panelboards.
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
   h. Other items as directed by Architect.
2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Concrete and Masonry (Other Than Concrete Unit Masonry): Provide the following paint systems over interior concrete and brick masonry substrates:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior concrete and masonry primer.
      b. Finish Coats: Interior semigloss acrylic enamel.

B. Concrete Unit Masonry: Provide the following finish systems over interior concrete masonry:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a block filler.
      a. Block Filler: Concrete unit masonry block filler.
      b. Finish Coats: Interior semigloss acrylic enamel.

C. Gypsum Board and Plaster: Provide the following finish systems over interior gypsum board and plaster surfaces:
   1. Flat Acrylic Finish: Two finish coats over a primer.
      a. Primer: Interior gypsum board primer.
      b. Finish Coats: Interior flat acrylic paint.
   2. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior gypsum board primer.
      b. Finish Coats: Interior low-luster acrylic enamel.
   3. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior gypsum board primer.
      b. Finish Coats: Interior semigloss acrylic enamel.

D. Wood: Provide the following finish systems over wood surfaces:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior wood primer.
      b. Finish Coats: Interior semigloss acrylic enamel.

E. Ferrous Metal: Provide the following finish systems over ferrous metal:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior ferrous-metal primer.
      b. Finish Coats: Interior semigloss acrylic enamel.

F. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior zinc-coated metal primer.
      b. Finish Coats: Interior semigloss acrylic enamel.

G. Overhead Structure, Deck, Mechanical, and Electrical Elements: Provide the following finish.
   1. Flat Acrylic Dryfall finish: Two finish coats factory primed surface.

END OF SECTION 09 91 23

SECTION 10 14 73 - PAINTED SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Wall-identification signs for fire and smoke assemblies.

1.3 DEFINITIONS

A. Accessible: In accordance with the accessibility standard.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For painted signs.
   1. Show sign locations and mounting heights.
   2. Show message list, typestyles, graphic elements, and layout for each sign at least half size.

1.6 QUALITY ASSURANCE

A. Mockups: Prepare mockups of painted signs for each type of sign material and substrate indicated and each color and finish required to demonstrate aesthetic effects and to set quality standards for materials and execution. Duplicate appearance of approved Sample submittals.
   1. Locate mockups in locations that enable viewing under same conditions as the completed Work.
   2. Sign Mockups: Two sign texts that represent surfaces and conditions for signage application under same conditions as the completed Work.
   3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paint in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
   1. Painting may continue during inclement weather if surfaces and areas to have painted signs are enclosed and heated within temperature limits specified by manufacturer for surface preparation and during paint application and drying periods.

PART 2 - PRODUCTS

2.1 PAINTED SIGNS

A. Wall-Identification Sign: Sign applied directly on indicated substrate to identify fire and smoke assemblies, including preparatory treatment as required.
   1. Sign Material: Stenciled-on latex or VOC-compliant spray-applied paint or preprinted, self-adhesive decals.
   2. Font: Minimum 3 inches high characters in a contrasting color, with minimum 0.375-inch wide strokes.
   3. Text: As indicated on Drawings, Fire-Resistant Construction Legend.

2.2 PAINT MATERIALS

A. Sign Paints and Coatings: Inks, dyes, and paints that are recommended in writing by manufacturer for optimum adherence to substrate and are UV and water resistant for colors and exposure indicated.
   1. Compatibility: Provide paint materials that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for conditions affecting performance. Comply with paint manufacturer's written instructions for inspection.

B. If existing surfaces cannot be prepared to an acceptable condition for proper painting, notify Architect in writing.

C. Proceed with installation only after unsatisfactory conditions have been corrected and surface is dry.
   1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 INSTALLATION

A. Appearance Standard: Completed sign work shall have a sharp and uniformly delineated appearance as viewed by Architect from building interior at 10 feet away from painted surface.

B. Comply with manufacturers' written instructions for surface preparation and paint-application for each substrate condition.

C. Apply primers, sealers, undercoats, and transition coats so that they do not extend beyond the limits of the painted signage. Remove excess without damaging the substrate.

D. Install signs level, plumb, true to line, with uniform delineation and borders, and at locations and heights indicated.
   1. Prespaced characters with template, cutout stencil, or ruler and straightedge.

3.3 MARKING FIRE AND SMOKE ASSEMBLIES

A. Wall-Identification Signs: Permanently identify both sides of each fire and smoke assembly indicated on Drawings. Place signs in accessible, concealed floor, floor-ceiling, or attic space at maximum 15 feet from end of wall and at maximum intervals of 30 feet, measured horizontally along the assembly. Locate signs for greatest visibility in the space.

3.4 ADJUSTING AND CLEANING

A. Remove and reapply damaged or deformed signs and signs that do not comply with specified requirements. Reapply signs with damaged or deteriorated finishes that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. After completing sign application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

END OF SECTION 10 14 73

SECTION 26 05 01 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The drawings are diagrammatic, unless detailed dimensioned drawings are included, and show only approximate locations of equipment, fixtures, panelboards, conduits, and wiring devices. Exact locations are subject to the approval of the Owner's Representative. The general run of electrical feeders, branch circuits, and conduits, indicated on the drawings, is not intended to be the exact routing. Exact routings of conduit shall suit the job conditions.

B. Circuit designations, in the form of "Home Runs" on branches, indicate the designation of the branch circuit, the size and the quantity of branch circuit conductors, and the panel board or interconnection box from which the branch circuit is served.

C. Make measurements at the site and in the building during construction for all systems installed as the work progresses in such a manner that the equipment, piping, vents, ducts, conduit, and boxes will fit in the space available. Maintain headroom and if in unfinished areas, be as neatly installed, as obscure and "out-of-the-way" as physically possible. Where more than one trade is involved in an area, space or chase, all shall cooperate and install their own work to utilize the space equally between them in proportion to their individual requirements. In general, ductwork shall be given preference except where grading of piping becomes a problem, followed by piping then electrical wiring. If, after installation of any equipment, piping, ducts, conduit, and boxes, it is determined that ample maintenance and passage space has not been provided, rearrange work and /or furnish other equipment as required for ample maintenance space.

D. Any changes in the size or location of the material or equipment supplied, which may be necessary in order to meet field conditions or in order to avoid conflicts between trades, shall be brought to the immediate attention of the Owner's Representative and approval received before such alterations are made.

1.2 QUALITY ASSURANCE

A. Electric equipment shall be installed in a neat and workmanlike manner. All methods of construction, details of workmanship, that are not specifically described or indicated in the contract documents, shall be subject to the control and approval of the Owner's Representative.

B. Equipment and materials shall be of the quality and manufacture indicated in their respective sections of the specifications. The equipment specified is based upon the acceptable manufacturers listed. Equipment types, device ratings, dimensions, etc., correspond to the nomenclature dictated by those manufacturers. Where "or equal" is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval. All

equipment shall be tested at the factory. Unless specified elsewhere, standard factory inspection and operational tests will be acceptable.

1.3 SUBMITTALS

A. Submit the following equipment, materials and products, including all fittings and accessories:

1. Conduit
2. Surface Metal Raceway
3. Expansion Fittings
4. Power/Communications Poles
5. Wireway and Wire Trough
6. Channel Support Systems
7. Conductors
8. 5kV Cable
9. Cables
10. Cable Termination and Splice Kits
11. Poke-Through Service Fittings
12. Terminal and Equipment Cabinets
13. Flush Floor Boxes
14. Wiring Devices Including Dimmers
15. Telephone/Data Communication Outlets
16. Television Outlets
17. Elapsed Time Switches
18. Extension Cord Reels
19. Time Switches
20. Photoelectric Controls
21. Occupancy Sensors
22. Lighting Control Contactors
23. Boiler Shutdown Switches
24. Clocks
25. Underground Pullboxes (Handholes) and Covers
26. Manholes and Covers
27. Water Proofing Seals
28. Flashing, Sealing, Firestopping Materials
29. Salvageable Materials
30. Hand dryers
31. Ceiling Fans

1.4 SALVAGEABLE MATERIALS

A. Salvageable materials will be reviewed and identified by the Owner. Instruction shall be given to the Contractor whether the Owner will remove salvageable materials, or whether Contractor is to remove and deliver salvageable materials to a designated site.

B. Items normally accepted as salvage by the Owner:

1. Non PCB contaminated transformers, oil filled or dry

2. Meters, meter sockets and test switches
3. All deadfront switchgear
4. All three phase circuit breaker panelboards and covers
5. Circuit breakers
6. Disconnects (100 AMP and up)
7. Bus duct and apparatus
8. Luminaires
9. Fire protection equipment
10. Motors above 1/2 HP and up
11. Environmental and automation control equipment
12. Telephones
13. Central clock system

PART 2 - PRODUCTS

2.1 MATERIALS

A. Conduit, Raceway and Tubing:

1. Rigid Metal Conduit shall be hot-dipped galvanized or electro-galvanized steel, UL listed "rigid metal conduit."

   a. Acceptable Manufacturers:

      1) Republic Conduit
      2) Allied Tube and Conduit
      3) Wheatland Tube Company
      4) Approved equivalent

2. Electrical Metallic Tubing shall be electro-galvanized steel; UL listed "electrical metallic tubing."

   a. Acceptable Manufacturers:

      1) Republic Conduit
      2) Allied Tube and Conduit
      3) Wheatland Tube Company
      4) Approved equivalent

3. Flexible Metal Conduit shall be constructed one continuous length of electro-galvanized, spirally wound steel strip with interlocking convolutions and interior surfaces free from burrs and sharp edges. Shall be UL listed "flexible metal conduit" or "liquidtight flexible metal conduit" as required.

   a. Acceptable Manufacturers:

      1) Republic Conduit
      2) Allied Tube and Conduit
      3) Wheatland Tube Company

4) American Flexible Conduit Company

4. Rigid Non-Metallic Conduit (Schedule 40 for concrete encasement, Schedule 80 for direct burial or where exposed) shall be UL listed "rigid non-metallic conduit" for application in underground, encased, and exposed applications in accordance with Article 352 of the National Electrical Code. The conduit shall be made from polyvinyl chloride (PVC) and shall be rated for 90ºC conductors. Conduit and fittings shall be tested in accordance with the testing requirements defined in NEMA TC-2, NEMA TC-3, UL-651 and UL-514.

   a. Acceptable Manufacturers:

      1) Carlon
      2) Thomas & Betts
      3) Certainteed

5. PVC Coated Rigid Metal Conduit, prior to coating shall conform to the specifications for Rigid Metal Conduit, above. The conduit shall have hot dipped galvanized threads, and the threads and the inside of the conduit shall be urethane coated. The exterior of the conduit shall be PVC coated to a minimum thickness of 40 mils. All coated conduit shall conform to NEMA standard RN01. The conduit shall be bendable without damage to the interior or exterior coatings. All fittings and couplings shall be PVC coated to a minimum thickness of 40 mils on the exterior, and the interior and threads shall be urethane coated. All screws shall be stainless steel. The installed conduit system shall provide a continuous grounding path.

   a. Acceptable Manufacturers:

      1) Robroy Industries
      2) Ocal Incorporated
      3) Perma-Cote
      4) Approved equivalent

6. Surface Non-Metallic Three Compartment Raceway shall be constructed of PVC material meeting UL flammability requirements, rated for 600 volts and UL listed.

   a. Ivory finish.

   b. Provide with receptacles, telephone and data outlets as specified and shown on Drawings.

   c. Provide with NEC required dividers.

   d. Acceptable Manufacturers:

      1) Wiremold

2) Hubbell
3) Panduit

7. Surface Metal Raceway shall be .040 in. steel UL listed "Surface Metal Raceway". Use manufacturer's standard fittings designed to be used with the specific raceway.

a. One-Piece Raceway:

1) Ivory finish.
2) Acceptable Manufacturers:

a) Wiremold "700" Series (Design Make)
b) Approved equivalent

b. Two-Piece Prewired Raceways:

1) Ivory or stainless steel finish.
2) Wiring Harness:

a) Single circuit NEMA 5-15R, 15 ampere, 125 volt, grounded receptacles spaced 2 feet on centers.

3) Acceptable Manufacturers:

a) Wiremold 2000
b) Approved equivalent

c. Two-Piece Raceways:

1) Ivory finish.

2) Duplex or special receptacles as specified in wiring devices.

3) Single, 20 ampere, 125 volt, NEMA Type 5-20R receptacle raceway for 2100 raceway.

4) Provide divider in raceways utilized for power and communications.

5) Acceptable Manufacturers:

a) Wiremold 2100, G-3000, G-4000 or G-6000
b) Approved equivalent

B. Conduit Fittings:

1. Fittings for rigid metal conduit shall be fully threaded and shall be of the same material as the respective raceway system. Fittings for electrical metallic tubing shall be single screw indenter fittings for conduits up to 2 in. and double screw indenter fittings for conduits 2 in. and larger. Connectors shall also have insulated throat up to and including 1 in. size. For sizes 1-1/4 in. and larger, provide plastic insulating bushing. Die-cast, pressure cast fittings shall not be used. Fittings for rigid non-metallic conduit shall be solvent cemented in accordance with the manufacturer's instructions.

   a. Acceptable Manufacturers:

      1) O.Z. Gedney
      2) Steel City
      3) Thomas & Betts
      4) Crouse-Hinds
      5) Carlon

2. Expansion Fittings shall be watertight, combination expansion and deflection type designed to compensate for movement in any direction. Fittings shall have flexible copper braid bonding jumpers, neoprene sleeve and stainless steel bands, use aluminum body fittings for rigid aluminum conduit.

   a. Acceptable Manufacturers:

      1) Crouse-Hinds, Type "DX"
      2) O.Z./Gedney, Type "DX"
      3) Approved equivalent

C. Power/Communications Poles:

1. Poles shall contain a communication and power divider and be nominally 2-14 in. square by height required. Each pole shall be equipped with two (2), 20 ampere, 125 volt, grounded, duplex receptacles, and knockouts for telephone and computer/data connections. Constructed of a minimum of 0.050 in. thick, anodized aluminum extrusion, with removable trim plate and cover. Unit shall be furnished with top plate mounting assembly for easy installation to accessible ceiling. Unit shall be prewired with wire leads at top of pole.

   a. Acceptable Manufacturers:

      1) Wiremold AMDTP Series
      2) Hubbell "PAX-5" Series

D. Wireway and Wire Trough:

1. Wireway and Wire Trough shall be hinged cover type wireway with provisions for full lay-in along the entire length of run. Wireway shall be steel, enclosed with gray enamel finish. Provide JIC sectional NEMA dust resistant, oil tight type where subjected to moisture, in Pump Rooms, Mechanical, Electric and Fan Rooms, exterior walls, Wood Shop, and Maintenance Shop, and similar locations. Size to meet NEC fill requirements or larger as noted on Contract Documents. Provide knockouts along runs. Recess in wall where required for flush mounted equipment. Provide all elbows, tees, pullboxes, fittings, hangers, reducers, supports, supports, etc., to meet installation requirements.

   a. Acceptable Manufacturers:

      1) Square D "Square Duct"
      2) General Electric
      3) Hoffman
      4) Meco

E. Channel Support Systems:

1. Channel Support Systems shall be provided for racking up conduit, trapeze suspensions, cable racks and panel racks. Provide poured-in-place inserts for supporting channels at poured concrete walls and ceilings. Provide necessary accessories such as bolts, screws, anchors, connection plates, and straps as required to perform the necessary functions.

   a. Acceptable Manufacturers:

      1) Unistrut
      2) Globe
      3) Kindorf
      4) B-Line

F. Conductors and Cables:

1. Conductors shall be insulated for 600 volts, unless otherwise noted, and shall be standard AWG and kcmil sizes. Conductors shall be 98 percent copper, thermal plastic or cross-linked polymer insulated, heat and moisture resistant. Conductors shall be stranded, except for conductors used for fire alarm system wiring. Conductor sizes No. 18 AWG and smaller shall be a solid single strand; No. 16 AWG and larger shall be multiple stranded. Minimum conductor size shall be #12 AWG except smaller sizes may be used for communications and special systems. Conductor sizes shall be as called for. Conductors shall be labeled with UL seal and be marked with the manufacturer's name, wire size and insulation type. Insulation for all 600 volt conductors shall be Type THHN/THWN or Type XHHW, unless otherwise noted. Luminaire fixture

wire shall conform to the latest Underwriters Laboratories requirements. Flexible cords and cables for general portable use shall be Type "SO" or "SJO."

Cables for special use shall be of the type specified for the application.

a. Color Coding:

1) All circuits shall be color coded according to the following schedule.

	Three Phase 120/208V 240V	**Three Phase 277/480V**	**Single Phase 120/240V**
Ground	Green	Green	Green
Neutral	White	Gray	White
A or L1	Black	Brown	Black
B or L2	Red	Orange	Red
C or L3	Blue	Yellow	---

b. Acceptable Manufacturers:

1) General Cable
2) Prysmian
3) South Wire
4) Okonite
5) Senator

2. 5 kV Cable shall consist of single-conductor, shielded, ethylene propylene rubber (PR) insulated, polyvinyl chloride (PVC) jacketed, rated for 5,000 volts, grounded neutral, 133 percent insulation level service. Conductor shall be Class B stranding, compress-strand copper, size as called for. The conductor shall be covered with a layer of semiconducting tape complete covering the conductor and firmly bonded to the EPR insulation. Shielding shall consist of a semi-conducting insulating shield applied over the EPR insulation, and a 3 mil thick bare copper tape with a minimum 20 percent overlap applied over this shield, a non-hygroscopic polyester film tape shall separate the shielding from the cable jacket. A minimum .060 in. PVC jacket shall be applied overall. All cable shall comply with the following standards: ASTM B-496, ICEA S-93-639/NEMA WC74 and S-97-682, AEIC CS8 and UL 1072 for single conductor cable.

a. Design Make: Okonite
b. Acceptable Manufacturers:

1) Kerite

2) General Cable
3) Prysmian

3. 15 kV cable shall consist of single-conductor, shielded ethylene propylene rubber (EPR) insulated, polyvinyl chloride (PVC) jacketed, 133 percent insulation level service. Conductor shall be compact Class B stranded, copper, size as called for. The conductor shall be covered with an extruded thermoset layer of semiconducting material completely covering the conductor and firmly bonded to the EPR insulation. Shielding shall consist of a semi-conducting shield applied over the EPR insulation, and a 5 mil thick bare copper tape with a minimum 20 percent overlap applied over this shield. A minimum .080 in. PVC jacket shall be applied overall. All cable shall comply with the following standards: ASTM B-496, ICEA S-93-639/NEMA WC74 and S-97-682, AEIC CS8 and UL 1072 for single conductor cable.

   a. Acceptable Manufacturers:

      1) Kerite
      2) General Cable
      3) Okonite
      4) Prysmian

4. Mineral Insulated Cable:

   a. Cable shall be a manufactured system rated for two (2) hour fire rating minimum and be NRTL tested for such. System shall be rated 600V, continuous 90°C minimum and have a main copper conductor, magnesium oxide insulating material and outer soft drawn copper sheath. Jacket of HDPE material with conductor size and rating markings labeled.

   b. Utilize manufacturer termination kits for entry into boxes, panelboards, etc. Maximum of 6 ft. distance between cable supports. Manufacturer installation instructions/recommendations shall be strictly followed.

   c. The wiring cable shall be listed in the UL Fire Resistance Directory.

   d. Mineral insulated wiring Type MI cables shall have:

      1) Description: ANSI/NFPA 70, Type MI.

      2) Conductor: Solid high conductivity copper.

      3) Insulation Voltage Rating: 600 volts.

      4) Cable Temperature Rating: 90 degrees C.

      5) Termination Temperature Rating: 90 degrees C.

      6) Insulation Material: Magnesium oxide.

7) Sheath Material: Seamless soft-drawing copper.

8) Fire Rating: Complete cable system shall have a 2-hour rating as listed and classified by Underwriters Laboratories Inc.

e. All components for interfacing to MI cable shall be listed as compatible with MI cable provided.

f. Acceptable Manufacturers:

1) Pyrotenax
2) Approved equal

G. Cable Termination Kits, 5 kV:

1. The shielded power cable termination shall be capable of continuous operation at the rated voltage of the cable it is to be used on, up to 25 kV. It must be rated for continuous operation at 90°C, with an emergency overload temperature rating of 130°C. The termination shall meet the requirements of IEEE Standard 48, for a Class 1 Termination. It shall be a one-piece design, where high-dielectric constant (capacitive) stress control is integrated within a skirted insulator made of silicone rubber, munsel gray in color. The termination shall not require heat or flame for installation. The termination kit must contain all of the necessary materials required to make three terminations (except for the lugs). In addition to normal locations, the termination must be designed for contaminated indoor and outdoor locations.

2. Acceptable Manufacturers:

a. 3M Brand 5630K Series
b. Elastimold PCT-1 or PCT-2
c. Raychem
d. Approved equivalent

H. Separable Splices/Apparatus Connections, 5 kV:

1. The shielded power cable separable insulated connector splice or 600 Amp apparatus connection shall be capable of continuous operation at 25 kV, 600 amps and 90°C, with an emergency overload temperature rating of 130°C. The system and components shall meet the requirements of ANSI/IEEE 386 for 15 kV 600 amp dead-break interfaces. The elbow (tee-module) and all other rubber components shall be made of peroxide cured EPDM rubber, and the connecting components shall be insulated with molded epoxy. The system shall be available as specific kits for splicing, tapping (adding-on), dead-ending and apparatus connecting.

Provide with test point for apparatus connection.

a. Acceptable Manufacturers:

1) 3M Brand 5815 Series w/ Grounding Kit
2) Elastimold K656 Series w/ Grounding Kit
3) Raychem

I. Permanent Splices, 5 kV:

1. The shielded power cable splice must meet the requirements of ANSI/IEEE 404-1986 for a 25 kV voltage rating. It must be rated for continuous operation at 90ºC, with an emergency overload rating of 130C. The splice shall be made of peroxide cured EPDM rubber. The splice kit must contain all of the necessary materials required to make one inline splice (except for the connector), including a solderless mechanical ground jumper. The splice shall be designed for splicing tape shielded, wire shielded, and UniShield cables without the requirement of additional adapters. It shall be rated for indoor, outdoor and direct burial applications.

2. Acceptable Manufacturers:

a. 3M Brand 5550 Series (5-8 kV)
b. Elastimold PCJ Series
c. Raychem

J. Terminal Lugs and Connectors:

1. The copper lug shall be capable of continuous operation at the current rating of the cable it is used on. The lug shall be UL listed per UL 486A, using industry standard crimping tools and dies. Terminal lugs shall be solderless, pressure type with UL label for "CU/AL" conductor terminations. The lug shall be a closed-end compression (crimp) type, constructed of seamless, tin-plated copper. The lug shall be made with a chamfered inside end, for ease of conductor insertion. Both one and two hole lugs shall be NEMA sized for standard stud sizes and spacing. The lug shall be designed for use at voltages up to 35 kV.

a. Acceptable Manufacturers:

1) 3M Scotchlok 30,000 and 31,000 Series
2) Burndy
3) O.Z./Gedney
4) Thomas and Betts

2. The copper conductor connection shall be capable of continuous operation at the current rating of the cables it is used on. The connection shall be UL listed per UL 486A, using industry standard crimping tools and ides. The connector shall be an inline compression (crimp) type, constructed of seamless, tin-plated copper. The connector shall be constructed with chamfered inside-ends and with center cable stops. The connector shall be designed for use at voltages up to 35 kV.

   a. Acceptable Manufacturers:

      1) 3M Scotchlok 10,000 and 11,000 Series
      2) Burndy
      3) O.Z./Gedney
      4) Thomas and Betts

3. "Split-bolt" Connectors shall be solderless type.

   a. Acceptable Manufacturers:

      1) Burndy
      2) Kearney
      3) O.Z./Gedney
      4) Thomas and Betts
      5) Anderson

4. "TWIST ON" Connectors shall be spiral steel spring type and insulated with vinyl cap and skirt.

   a. Acceptable Manufacturers:

      1) 3-M Company "Scotch-Lock"
      2) Ideal "Wing-Nuts"
      3) Approved equivalent

5. Ground Connectors shall be cast type.

   a. Acceptable Manufacturers:

      1) Thermoweld
      2) Cadwell
      3) Approved equivalent

K. Boxes:

1. Outlet boxes and covers shall be galvanized steel, not less than 1-1/2 in. deep, 4 in. square or octagonal, with knockouts. Outlet boxes exposed to moisture, exterior, wet or damp locations shall be cadmium cast alloy complete with threaded hubs and gasketed screw fastened covers. Minimum box size shall be as indicated in Article 314 of the National

Electrical Code for the conductors and devices installed. Boxes shall be approved for the environmental condition where they will be installed.

a. Acceptable Manufacturers:

1) Steel City
2) Raco
3) Appleton
4) Crouse Hinds

2. Flush floor outlet boxes shall provide flush service for power or communications/data as called for. Boxes shall be suitable for carpet or tile applications. Stamped steel, concrete tight, fully adjustable box with interior and exterior leveling screws, and with 1/2 in., 3/4 in. and 1 in. knockouts. Complete with expandable cap to prevent ingress of concrete during pour. Provide polished brass integrated carpet plate/duplex floor plate and duplex receptacle where called for. Provide polished brass integrated carpet plate/3/4 in. - 1 in. floor plate where utilized for communications/data. Make: Steel City 68-D with P60-CACP or P60-3/4-2-CACP as required or approved equivalent.

3. Pull and junction boxes shall be constructed of not less than 14 gauge galvanized steel with trim for flush or surface mounting in accordance with the location to be installed. Provide screw-on type covers. Boxes installed in damp or wet locations shall be of raintight construction with gasketed cover and threaded conduit hubs. In no case shall boxes be sized smaller than as indicated in Article 314 of the National Electrical Code for conduit and conductor sizes installed. Boxes shall be approved for the environmental condition of the location where they will be installed.

a. Acceptable Manufacturers:

1) Hoffman
2) Keystone
3) Approved equivalent

4. Flush floor junction boxes shall be recessed cover boxes designed for flush mounting in masonry. Provide checkered plate gasketed cover suitable for foot traffic. Make: O.Z. Gedney Type YR or approved equal.

5. Flush Poke-Through Service Fitting (Power/Communication). Provide flush poke-through suitable for installation in a 6 in. diameter opening. Shall be complete with junction box, conduit and flush devices as indicated on plans. The complete assembly shall be suitable for two hour fire rated floors and have brass cover, color as selected by the Architect. Provide duplex receptacle(s) in all poke-through. Also, provide telephone and computer data outlets, completely wired, where indicated.

a. Design Make: Steel City with cover (color selected by Architect).

b. Acceptable Manufacturers:

1) Hubbell
2) Steel City
3) Approved equivalent

L. Terminal and Equipment Cabinets:

1. Terminal and equipment cabinets shall be code gauge galvanized steel with removable endwalls. Fronts shall be of code gauge steel, flush or surface type (as indicated) with concealed trim clamps, concealed hinges, flush lock, and grey baked enamel finish. Boxes and front shall be UL listed and shall be minimum 35 in. H x 24 in. W x 6 in. D. Provide removable insulated plywood terminal board mounted on inside back wall of cabinet.

a. Acceptable Manufacturer:

1) Square D "Mono-Flat"
2) Approved equivalent

M. Wiring Devices:

1. Wiring Devices (toggle switches, key switches, receptacles, dimmers, occupancy sensors) shall be specification grade as a minimum. Switch handle and receptacle shall be ivory as directed by the Owner's Representative. Provide device cover plates of satin finish type 302 stainless steel in finished areas and Yorkville "Invisoplage" for round or octagonal boxes only in unfinished areas. Provide neoprene gasketed cast aluminum box with raintight cover for switches and receptacles designated "WP".

a. Although only one manufacturers model number has been noted in each device description, acceptable manufacturers are:

1) Pass and Seymour
2) Hubbell
3) Arrow Hart
4) Leviton

2. Toggle Switches:

a. UL verified to meet latest Federal Specification WS-896, NEMA WD-1 and UL Test 20.
b. 20 ampere, 1-pole, 277 volt: P&S 20AC1.
c. 20 ampere, 2-pole, 277 volt: P&S 20AC2.
d. 20 ampere, 3-way, 277 volt: P&S 20AC3.
e. 20 ampere, 4-way, 277 volt: P&S 20AC4.

3. Key Switches:

   a. 20 ampere, 1-pole, 277 volt: P&S 20AC1-L.
   b. 20 ampere, 2-pole, 277 volt: P&S 20AC2-L.
   c. 20 ampere, 3-way, 277 volt: P&S 20AC3-L.
   d. 20 ampere, 4-way, 277 volt: P&S 20AC4-L.

4. Pilot Lights:

   a. 120V, P&S 437
   b. 277V, P&S 438

5. Receptacles:

   a. Back and side wiring options which accept No. 14 to No. 10 AWG solid and stranded conductors. One (1) piece plated steel or brass mounting strap. Bronze contacts. Meet requirements of Federal Specification W-C-596 and UL 496.

   b. NEMA 5-20R, 20 ampere, 125 volt, duplex receptacle: P&S 5362, Hubbell HBL5352, Leviton 5362.

   c. NEMA 6-20R (250V - 20A):

      1) Normal use, Hubbell 5461, brown.

   d. NEMA 6-30R (250V - 30A):

      1) Normal use, Hubbell 9330, black.

   e. NEMA 10-30R (125/250V - 30A):

      1) Normal utility, Hubbell 9350G, black face.

   f. NEMA 10-50R (125V/250V - 50A):

      1) Normal utility, Hubbell 7962-G, black face.

   g. NEMA 14-30R (125/250V - 30A):

      1) Normal utility, Hubbell 9430, black face.

   h. NEMA 14-50R (125/250V - 50A):

      1) Normal utility, Hubbell 9450, black face.

   i. NEMA 5-20R, 20 ampere, 125 volt, duplex G.F.I., 6ma trip receptacle: P&S 2091S.

j. NEMA 14-30R, 30 ampere, 125/250 volt, dryer receptacle: P&S 3864.

k. NEMA 14-50R, 50 ampere, 125/250 volt, range receptacle: P&S 3894.

l. NEMA 5/6-20R, 20 ampere 125/250 volt, duplex, combination: P&S 5890.

m. NEMA 5-15R, 15 ampere, 125 volt duplex, tamper resistant: P&S SG-62.

n. NEMA 5-15R, Clock Hanger Outlet - 15 ampere, 125 volt with hanger plate: P&S S3713-I.

o. 20 ampere, 125 volt, duplex, weather-proof: Crouse Hinds WLPD-5-20.

p. 30 ampere, 600 volt, 3-wire, 2-pole welding receptacle: Crouse Hinds ARE3322 W/APJ3385 plug (surface mount), Crouse Hinds AR332 W/APJ3385 plug (flush mount).

q. 30 ampere, 600 volt, 4-wire, 3-pole welding receptacle: Crouse Hinds AREA 3422 W/APJ3485 plug (surface mount), Crouse Hinds AR342 W/APJ3485 plug (flush mount).

r. 60 ampere, 600 volt, 3-wire, 2 pole welding receptacle: Crouse Hinds ARE 6323 W/APJ6385 plug (surface mount), Crouse Hinds AR632 W/APJ6385 plug (flush mount).

s. 60 ampere, 600 volt, 4-wire, 3-pole, welding receptacle: Crouse Hinds ARE6424 W/APJ 6485 plug (surface mount), Crouse Hinds AR642 W/APJ 6485 (flush mount).

6. Dimmers (Incandescent):

a. 600 watt: Lutron "Nova" NT-600 with Lutron LDC-10-TCP debuzzing coil.

b. 1000 watt: Lutron "Nova" NT-1000 with Lutron LDC-10-TCP debuzzing coil.

c. 1000 watt, 3-way: Lutron "Nova" NT-1003P with Lutron LDC-10-TCP debuzzing coil.

d. 1500 watt: Lutron "Nova" NT-1500 with Lutron LDC-16 TCP debuzzing coil.

e. Size dimmers for 150% of load being controlled.

f. Incandescent: Lutron NT-600 Series only (120V).

7. Extension Cord Reels:

a. Ceiling mounted. Positive stop action at any length, rachet lock, and automatic rewind spring. Provide heavy duty type with 20 feet of 12/3 cord terminating in Woodhead #3000 outlet box with P&S #5362 convenience outlet, and high impact plate.

b. Acceptable Manufacturers:

1) Woodhead #9383
2) Appleton RL1000 Series
3) Hubbell HBL45123R

8. Telephone/Data Communications Outlets:

a. 4 in. x 4 in. outlet box with single gang plaster ring with RJ11 connector and plate Hubbell 93181 telephone plate and 3/4 in. conduit stubbed to accessible ceiling space, arranged for further continuation.

9. Television Outlets:

a. 4 in. x 4 in. outlet box with single gang plaster ring with coax connector and plate and 2-3/4 in. conduit stubbed to accessible ceiling space, arranged for further continuation.

10. Time Switches:

a. Digital Lighting Controller:

1) Two inputs, two outputs, battery back-up.
2) Provide (2-pole), (3-pole) mechanically held contactor.
3) 120 volt clock input: Tork DGLC.
4) 277 volt clock input: Tork DGLC-3.

b. Time switches shall be provided with NEMA 1 general purpose, surface mount enclosures unless otherwise noted.

11. Elapsed Time Switches:

a. Mechanical spring wound timer, which requires no electricity to operate the timing mechanism. Device shall fit a standard 2-1/2 in. deep wall box. Switch contacts shall break current carrying contacts at the end of the timed cycle.

1) 0-30 Minutes: Tork A530M or equal.
2) 0-4 Hours: Tork A504HH or equal.
3) 0-12 Hours: Mark Time or equal.

12. Photoelectric Controls:

    a. Heavy Duty, 1/2 in. Conduit Mounting:

        1) 120 volt, SPST, 2000 watt: Tork Model 2101.
        2) 277 volt, SPST, 2000 watt: Tork Model 2104.

    b. Combination Photoelectric Control and Contactor:

        1) 120 volt, DPST, 3000 watt per pole: Tork Model 5403.
        2) 277 volt, DPST, 3000 watt per pole: Tork Model 5404-3.
        3) 208 volt, DPST, 3000 watt per pole: Tork Model 5404.

13. Occupancy Sensors:

    a. Occupancy sensors shall comply with the following as a minimum:

        1) Zero crossing switching operation (switch on/off only where sine wave is at zero volts) suitable for linear, non-linear and electronic/magnetic fluorescent ballasts for the loads indicated. Where the load to be controlled exceeds the sensor load rating provide a separate relay of adequate rating.

        2) Failure of the unit shall be to the on/closed position or manual operation.

        3) Motion sensitivity adjustment (dip switch or dial) and time delay adjustment (5 to 30 minutes minimum, dip switch or dial).

        4) Line voltage input and switching. Field selectable for 120 or 277 VAC, 60 Hz.

        5) UL listed and have a five year manufacturer full replacement warranty.

        6) Test mode feature to override the set time delay to allow adjusting of the sensitivity.

        7) Sensor locations shall be adjusted during construction and at occupancy as recommended by the manufacturer for optimal sensing and operation.

        8) Operation shall be close switch/contact upon motion sensing and open after the set amount of time delay without motion.

        9) Adjustable controls/settings shall only be accessible when the front cover is removed or from the back of the unit.

10) Unit color shall match the project devices except for the ceiling mounted units which shall match the ceiling color. All color selections shall be by the Architect.

11) Ultrasonic sensing shall not be affected by air movement and shall operate at 32 kHz minimum (shall not interfere with hearing aids or other equipment).

12) Provide components as needed for the indicated control.

13) A factory authorized representative shall coordinate and instruct the start up services of the sensors providing placement recommendations, connection guidance and start up supervision and adjustment.

b. Wall Mounted - Passive Infrared (PIR):

1) Unit shall fit into a standard single gang electrical box, have an off button and utilize PIR technology motion sensing.

2) Minimum Switching Capacity: 120 V - 800 W, 277 V - 1200 W.

3) The sensing shall be 180° and the sensitivity area to be a minimum of:

a) Major Motion (Walking/Arm Wave): 35 ft. x 30 ft.
b) Minor Motion (Small Motion at Desk): 20 ft. x 15 ft.

4) Ambient light level sensing (adjustable 20-300 fc) to prevent "on" operation when the ambient light level is greater than the set point level.

5) High impact resistant sensor lens.

6) Acceptable Manufacturers:

a) Pass & Seymour model OS300S (design make)
b) Hubbell
c) Watt Stopper
d) Sensor Switch

c. Wall Mounted - Dual Technology (PIR and Ultra Sonic):

1) Unit shall fit into a standard single gang electrical box, have an off button and utilize PIR and ultrasonic technology motion sensing. Both types of sensing are needed for contact closure but only one is needed to keep it closed.

2) Minimum Switching Capacity: 120 V - 800 W, 277 V - 1200 W.

3) The sensing shall be 180° and the sensitivity area to be a minimum of:

a) Major Motion (Walking/Arm Wave): 35 ft. x 30 ft.

b) Minor Motion (Small Motion at Desk): 20 ft. x 15 ft.

4) Ambient light level sensing (adjustable 20-300 fc) to prevent "on" operation when the ambient light level is greater than the set point level.

5) High impact resistant sensor lens.

6) Acceptable Manufacturers:

a) Hubbell Model AD1277 (design make)
b) Watt Stopper
c) Cooper
d) Sensor Switch

d. Wall Mounted - Dual Technology - Dual Switching:

1) Unit shall fit into a standard single gang electrical box, have two off buttons and utilize PIR and ultrasonic technology motion sensing. Both types of sensing are needed for contact closure but only one is needed to keep it closed. To have two contacts each fully rated, electrically separate and be commonly controlled.

2) Minimum switching capacity: 120 V - 800 W, 277 V - 1200 W.

3) The sensing shall be 180° and the sensitivity area to be a minimum of:

a) Major Motion (Walking/Arm Wave): 35 ft. x 30 ft.
b) Minor Motion (Small Motion at Desk): 20 ft. x 15 ft.

4) Ambient light level sensing (adjustable 20-300fc) to prevent "on" operation when the ambient light level is greater than the set point level.

5) High impact resistant sensor lens.

6) Acceptable Manufacturers:

a) Hubbell Model AD1277x2 (design make)

b) Watt Stopper
c) Cooper
d) Sensor Switch

e. Ceiling Mounted - Ultra Sonic:

1) Unit shall mount to standard octagonal box, have auxiliary contact (form C, 0.5A at 24 VDC) and utilize ultra sonic sensing.

2) Shall have self contained rated contacts or control a separate switch pack. If a self contained unit then the ratings and function shall meet or exceed the switch pack specifications.

3) Sensing shall be 360° with a minimum operating area of:

a) Major Motion (Walking/Arm Wave): 50 ft. x 30 ft.
b) Minor Motion (Small Motion at Desk): 40 ft. x 20 ft.
c) Corridor (Major Motion): 50 ft. x 16 ft.

4) Units shall be suitable for overlap of motion detection areas without reduction in spacing and false operation.

5) Sensing shall be suitable for a ceiling/mounting height of up to 12 ft. minimum.

6) Ambient light level sensing (adjustable 20-300 fc) to prevent "on" operation when the ambient light level is greater than the set point level.

7) The maximum depth shall be 1.5 in. below the ceiling/box.

8) Acceptable Manufacturers:

a) Hubbell Model ATU2000CRP (design make)
b) Watt Stopper
c) Cooper
d) Sensor Switch

f. Ceiling Mounted - Dual Technology:

1) Unit shall mount to standard octagonal box, have auxiliary contact (form C, 0.5A at 24 VDC) and utilize PIR and ultrasonic technology motion sensing. Both types of sensing are needed for contact closure but only one is needed to keep it closed.

2) Shall have self contained rated contacts or control a separate switch pack. If a self contained unit then the

ratings and function shall meet or exceed the switch pack specifications.

3) Sensing shall be 360° with a minimum operating area of:

a) Major Motion (Walking/Arm Wave): 50 ft. x 30 ft.
b) Minor Motion (Small Motion at Desk): 40 ft. x 20 ft.
c) Corridor (Major Motion): 50 ft. x 16 ft.

4) Units shall be suitable for overlap of motion detection areas without reduction in spacing and false operation.

5) Sensing shall be suitable for a ceiling/mounting height of up to 12 ft. minimum.

6) Ambient light level sensing (adjustable 20-300 fc) to prevent "on" operation when the ambient light level is greater than the set point level.

7) The maximum depth shall be 1.5 in. below the ceiling/box.

8) Acceptable Manufacturers:

a) Hubbell Model ATD2000CRP (design make)
b) Watt Stopper
c) Cooper
d) Sensor Switch

g. Switch Pack:

1) Provide a minimum of one (1) switch pack for each ceiling mounted occupancy sensor. Provide additional units for multiple circuits (quantity to match the quantity of circuits).

2) Unit shall be plenum rated with line voltage side into a metallic box.

3) Low voltage power shall be suitable for a minimum of three (3) occupancy sensors. Multiple sensors shall be able to control a single switch pack.

4) Minimum switching capacity shall be 20A (all types of loads) at 120/277VAC.

h. Testing:

1) Each occupancy sensor shall be fully tested for proper operation of all functions after installation.

2) Testing shall include sensitivity, time delay, ambient lighting level, etc.

3) Operation and settings shall be acceptable to the Owner.

N. Automatic Load Control Relay (ALCR):

1. Senses normal power local outage and automatically energizes emergency circuit bypassing switch control. Relay shall be UL924 listed for use in monitoring and controlling emergency circuits; shall have 20A, 600 volt rating.

2. Locations to be centrally located. Coordinate with Owner.

3. Design Make: Watt-stopper, ELCU-200 Series.

O. Underground Pullboxes (Handholes):

1. Pullboxes shall be comprised of concrete walls and bottom sections using 3000 + psi concrete. Bottom shall have 12 in. diameter sump opening and 3/4 in. ground rod opening. Knockouts and openings shall be positioned for conduits or ducts. Provide two (2) rows of anchor bolt inserts for cable rack supports to permit installation of two (2) cable rack supports on each side wall and one (1) cable rack support on each end wall. Provide hot dipped galvanized steel pulling irons at 45° angle between floor and wall opposite each opening. Box shall be minimum 2'-0" wide x 2'-0" long x 3'-0" deep inside dimensions, or larger as required to meet National Electrical Code requirements. Provide 24 in. x 24 in. opening for frame and cover and a suitable masonry "Throat" between top of box and cover frame to allow for variation in final finished grade. Frame and cover shall be case iron and cover shall be imprinted with either "Electric", "Telephone", etc. to designate type of service. Electrical Contractor shall provide 18 in. drywell of #2 crushed stone under sump opening. Refer to drawings per details and locations.

a. Manufacturers:

1) Pullbox: Lakelands Drawing #PB-206.

2) Cover: Neenah Foundry Company #R 1640 Series, roadway type.

P. Manholes:

1. Manholes shall be comprised of concrete walls and bottom sections using 3000 + psi concrete. Bottom shall have 12 in. diameter sump opening and 3/4 in. ground rod opening. Knockouts and openings shall be positioned for conduits or ducts. Provide three (3) rows of anchor bolt inserts for cable rack supports to permit installation of two (2) cable rack supports on each side wall and two (2) cable rack supports on each end

wall. Provide hot dipped galvanized steel pulling irons at 45° angle between floor and wall opposite each opening. Box shall be minimum of 6'-0" wide x 10'-0" long x 7'-0" deep inside dimensions. Provide poured-in-place manholes in renovation areas and precast manholes in new construction areas. Provide a 36 in. diameter opening for frame and cover and a suitable masonry "Throat" between top of box and cover frame to allow for variation in final finished grade. Frame and cover shall be cast iron and cover shall be imprinted with either "Electric", "Telephone", etc. to designate type of serve. Provide flooring material that matches adjacent flooring for interior covers. Electrical Contractor shall provide 18 in. drywell of #2 crushed stone under sump opening. Refer to drawings per details and location.

a. Manufacturers:

1) Pre-Cast Manhole: Lakelands Drawing #U-133A.

2) Exterior Cover: Neenah Foundry Company #R-1640 Series, roadway type.

3) Interior Cover: Neenah Foundry Company #R-1796 Series.

Q. Ductbanks:

1. Ductbanks shall be rigid non-metallic conduit encased in 3000 psi concrete system. Provide all sleeve joints, couplings, bend sections, bends, elbows, offsets, angle couplings, bell ends, caps, base spacers and intermediate spacers as required to meet field conditions. All bends, stub-ups and wall, slab or floor-building penetrations shall be rigid steel conduit without exception.

R. Waterproofing Seals:

1. Provide expanding link type seal, for installation between duct/conduit, and sleeve or core-drilled hole in concrete.

2. Make: Link Seal, manufactured by Thunderline Corp., or approved equal.

S. Clocks:

1. Provide cord and plug connected 120 VAC synchronous motor driven clock.

2. All clock components shall be heavy-duty and completely sealed.

3. Provide shatterproof lens.

4. Provide hour, minute and second hands. Hand color shall be black. Dial shall be 12 in. round.

5. Provide external manual time setting mechanism.

6. Design Equipment: Simplex.

7. Make: DuKane, Edwards, Rauland Borg, or approved equal.

T. Flashing, Sealing, Fire-stopping:

1. Fire-Stopping for Openings Through Fire and Smoke Rated Wall and Floor Assemblies:

a. Provide materials and products listed or classified by an approved independent testing laboratory for "Through-Penetration Fire-Stop Systems". The system shall meet the requirements of "Fire Tests of Through-Penetration Fire-Stops" designated ASTM E814.

b. Provide fire-stop system seals at all locations where piping, tubing, conduit, electrical busways/cables/wires, ductwork and similar utilities pass through or penetrate fire rated wall or floor assembly. Provide fire-stop seal between sleeve and wall for drywall construction.

c. The minimum required fire resistance ratings of the wall or floor assembly shall be maintained by the fire-stop system. The installation shall provide an air and watertight seal.

d. The methods used shall incorporate qualities, which permit the easy removal or addition of electrical conduits or cables without drilling or use of special tools. The product shall adhere to itself to allow repairs to be made with the same material and permit the vibration, expansion and/or contraction of any items passing through the penetration without cracking, crumbling and resulting reduction in fire rating.

2. Acceptable Manufacturers:

a. Dow Corning Fire-Stop System Foams and Sealants
b. Nelson Electric Fire-Stop System Putty, CLK and WRP
c. S-100 FS500/600, Thomas & Betts
d. Carborundum Fyre Putty
e. 3-M Fire Products

U. Hand Dryers:

1. Hand dryers shall include a ¼ inch thick cast iron cover, finished with porcelain enamel. Motor shall be universal type, 1/10 HP at 7,500 rpm. Dryer shall deliver 7,300 linear feet of air per minute. Dryer shall be activated by means of a pushbutton control device and cam-operated timer. Dryer shall be listed by Underwriters Laboratories, Inc.

2. Electrical Characteristics:

a. Drying Cycle: 40 Seconds.
b. Nozzle: Fixed.
c. Volts: 115.
d. Amps: 15.
e. Watts: 1,725.
f. Frequency: 60 Hz.

3. Make: World Dryer Corporation, Model No. A2, or approved equivalent.

V. Ceiling Fans:

1. Ceiling fans shall have a 52 in. blade sweep unless otherwise noted. Celing fans in larger spaces, such as Libraries, Media Centers, Cafeterias, etc., shall have an 84 in. blade sweep unless otherwise noted. Motor shall be direct drive with sealed ball bearings. Quiet high efficiency type EC motor with digital inverter drive shall operate at 120 volt, 60 HZ, .6 amps form 60-182 RPM and a maximum of 35 dBA. Provide complete with three (3) hybrid resin blades, all mounting hardware and downrod with white enamel finish. Universal mount for both flat and sloped ceilings. Shall have 8" downrods for high ceilings and flush mounted "hugger style" for low ceilings. Provide mounting and associated hardware per manufacturer's recommendations and fan distance guidelines.

2. Controller: Hardwired 3-speed, multiple fan variable controller (Non-BT).

3. Warranty: Minimum 2-year motor warranty, 1-year parts warranty, 5-year motor controller warranty.

4. Make: Big Ass Fans Haiku L-Series with 3-speed wall controller.

2.2 WIRE GUARD

A. Were specified herein or shown on the drawings provided a wire guard for devices or equipment. Units shall be custom as needed for the application.

B. Wire guard shall be a minimum #6 wire gage of zinc plated steel, overall clear coating and welded at joints. For any unit needing access it shall have an integral hinge and locking means.

C. Wires shall have 2 inch maximum spacing.

D. Acceptable Manufacturers:

1. Design Make: American Time and Signal
2. Approved equal

PART 3 - EXECUTION

3.1 INSTALLATION

A. Unless otherwise noted, wiring for all systems indicated in the contract documents shall consist of insulated conductors installed in raceways. Raceways shall be continuous from outlet box to outlet box and from outlet box to cabinet, junction or pull box. Secure and bond raceways to all boxes and cabinets so that each system of raceways is electrically continuous throughout. Unless otherwise indicated on the drawings, install all wiring in the following raceway system:

1. Wiring Above 600 Volts in Indoor Dry Locations or Outdoors, Above Grade Locations: Rigid metal conduit or aluminum conduit.

2. Wiring Above 600 Volts, Below Grade: Rigid metal conduit, rigid non-metallic conduit encased in concrete with rigid metal conduit bends and penetrations through building floors and walls.

3. Wiring 600 Volts or Less in Dry Locations: Electrical metallic tubing.

4. Wiring 600 Volts or Less in Outdoors, Above Grade Locations: Rigid non-metallic conduit (Schedule 80).

5. Wiring 600 Volts or Less Installed Below Grade, in Concrete Floor Slabs or Below Ground Floor Slab: Rigid non-metallic conduit encased in concrete with rigid metal conduit bends and penetrations through building floors and walls.

6. All Wiring Installed in Hazardous Locations: Galvanized rigid metal conduit.

7. All Wiring Installed in Corrosive Locations: Schedule 80 rigid non-metallic conduit.

8. Flexible metal conduit shall be used for final connection to all motors, final connection to rotating or vibrating equipment, final connections to dry type transformers and final connections to recessed lighting fixtures. Liquidtight flexible conduit shall be used in all wet or damp locations. Maximum length of flexible conduit shall be 36 in., except that from outlet boxes to lighting fixture maximum length shall be 6 ft. Provide green insulated equipment grounding conductor in all flexible metal conduit.

9. Surface metal raceway may be used for surface runs in finished area where concealed conduit cannot be run or where specifically indicated on drawings. Submit detailed description and/or layout for approval prior to roughing.

B. Raceways:

1. Sized as indicated on the drawings. Where sizes are not indicated, raceways shall be sized as required by the National Electrical Code in

accordance with the quantity, size, and type of the insulation conductors to be installed. Raceways shall be minimum 1/2 in. trade size for branch circuit wiring and minimum 3/4 in. trade size for all telephone intercommunications, instrumentation, fire alarm, television and computer systems and for all branch circuit "Home Runs" to panelboards.

2. Installed to provide adequate grounding between all outlets and the established electrical system ground.

3. Cut square, free of burrs due to field cutting or manufacture, and bushed where necessary.

4. Installed with exterior surfaces not less than 6 in. from any surface with normal operating temperature of 200°F or higher.

5. Plugged at the ends of each roughed-in raceway with an approved cap or disc to prevent the entrance of foreign materials during construction.

6. Concealed throughout except where exposure is permitted by the Owner's Representative. All exposed raceways shall be painted to match existing adjacent surface finish as directed by the Architect.

7. Installed parallel or perpendicular to floors, walls and ceilings where exposed wiring is permitted.

8. Installed with a minimum of bends and offsets. All bends shall be made without kinking or destroying the cross section contour of the raceway. Factory made bends are acceptable and should be considered for raceways larger than 2".

9. Installed with UL approved rain-tight and concrete-tight couplings and connectors.

10. Firmly fastened within 3 ft. of each outlet box, junction box, cabinet or fitting. Raceways shall not be attached to or supported by wooden plug anchors or supported from mechanical work such as ductwork, piping, etc.

11. Installed with a #14 AWG fish wire in all telephone, intercommunication, "Spare" or "Empty" conduit runs to facilitate future installation of conductors.

12. Installed with expansion fittings at all building expansion joints such that no undue stress is placed on any electrical raceway due to the proper functioning of expansion joints.

13. Arranged in a neat manner for access and allow for access to work installed by other trades.

14. Raceways installed in concrete slabs shall be located so as not to affect structural integrity of slab, and such that conduit shall have a minimum of one inch of concrete cover on all sides. Obtain approval from the Owner's Representative prior to installing conduit larger than 1 in. trade size in concrete slabs. Raceways in slabs shall be for floor box use only.

15. Raceways installed below ground floor slab shall be encased in concrete with 3 in. minimum coverage on all sides. Where possible, install conduit directly below slab with concrete envelope poured monolithic with slab. Where this is not possible, support raceways and envelop maximum 5 ft. - 0 in. on centers from underside of structural slab by means of galvanized pipe hangers. Pipe hangers shall be coated with asphalt mastic. Installation shall maintain integrity of waterproofing membrane.

16. If it is necessary to burn holes through webs of beams or girders, call such points to the attention of the Owner's Representative and receive written approval both as to location and size of hole before proceeding with work. All holes shall be burned no larger than absolutely necessary.

17. Become familiar with the general construction of the building and place sleeves, inserts, etc., as required. All penetrations through existing floors shall be core drilled and sleeved.

18. Wherever a cluster of four (4) or more raceways rise out of floor exposed, provide neatly formed 6 in. high concrete envelop, with chamfered edges, around raceways.

19. All raceways shall be supported adequately by malleable iron pipe clamps or other approved methods. In exterior or wet locations, supports shall allow not less than 1/4 in. air space between raceway and wall. Firmly fasten raceway within 3 ft. of each outlet box, junction box, cabinet or fitting. The following table lists maximum spacing between conditions, strength of supporting members, etc.

20. Furnish and install such supports at no additional cost to owner.

Conduit Trade Size	Type of Run	Horizontal Spacing in Feet	Vertical Spacing in Feet
1/2 in., 3/4 in.	Concealed	7	10
1 in., 1-1/4 in.	Concealed	8	10
1-1/2 in. and larger	Concealed	10	10
1/2 in., 3/4 in.	Exposed	5	7
1 in., 1-1/4 in.	Exposed	7	8
1-1/2 in. and larger	Exposed	10	10

21. Where raceways puncture roof, install pitch pockets as required in order that the roof warranty is maintained. Coordinate with representative of roofing material manufacturer.

22. At each flush mounted panelboard, terminal cabinet, control cabinet, etc., provide four (4) spare 3/4 in. raceways from panelboard, etc., to an area above the nearest accessible ceiling space. Make 90° turn above the ceiling, arranged for further continuation of raceway, and cap.

23. Provide a bushing at each conduit termination unless fitting at box where conduit terminates has hubs designed in such a manner to afford equivalent protection to conductors. Provide grounding type insulated bushings on all conduit sizes 1-1/4 in. trade size and larger, and on all feeder raceways regardless of size. Provide standard bushings for conduits 1 in. and smaller unless otherwise stated.

C. Underground Raceways and Ductbanks:

1. Encase all underground raceways in concrete or sand bed envelopes. Where concrete is called for, form concrete envelope around raceways, 3 in. minimum thickness concrete at top, bottom and sides of raceways, conduits on 7-1/2 in. centers both directions with concrete between raceways. Top of concrete envelope shall be finished not less than 24 in. below finished grade, except where under building slabs. Open trench for its complete length before concrete is poured; if any obstructions are encountered, make provisions to avoid them. Support raceways minimum 3 in. above bottom of trench before pouring. Furnish and install precast concrete, plastic or fiber spacers. Stagger couplings. When concrete is specified, securely tie raceways in place to prevent floating. Pour concrete as soon as possible after placing and securing of raceways. Pull iron-shod mandrel, not more than 1/4 in. smaller than bore of raceway to remove concrete and other obstructions. Clean raceway by drawing through properly sized cylindrical brushes as many times as necessary to remove dirt. Concrete envelopes sized cylindrical brushes as many times as necessary to remove dirt. Concrete envelopes shall contain reinforcing rods wherever non-metallic raceways are used. Reinforcing shall be continuous runs of No. 4 deformed rods located in all four corners as well as top and bottom of envelope between each raceway. In locations where non-metallic raceways are used, change to heavy wall metallic conduit of same internal diameter before rising out of ground; provide metallic conduit elbows at conduit rise. Carry concrete envelope to a point 12 inches minimum above grade or floor slab at rise point if allowed by site conditions and equipment to be installed. Slope top of concrete away from raceway, chamfer edges.

Where raceways rise above grade and terminate in building, switchgear, pullbox, etc. provide conduit sealing bushing on each raceway or provide duct seal to fill all voids around conduit and cables. Cap all empty conduits watertight. Place conduit in straight lines. Seal, completely waterproof, all duct joints, then complete concrete encasement. Place direct-bury conduit tier-by-tier method, backfilling each layer to achieve proper spacing. Elbows shall have a minimum radius of 42 in. Follow proper low temperature installation procedures as recommended by PVC conduit vendor. Provide marking tape in soil above all duct banks per

NEC. Repair or replace all existing utilities and facilities damage, due to ductbank installation, as part of contract.

D. Wiring Methods:

1. Conductors shall not be installed until raceway system, including all outlets, cabinets, bushings and fittings, is completed. Verify that all work of other trades which may cause conductor damage is completed. Use only U.L. approved cable lubricants when necessary. Do not use mechanical means to pull conductors No. 8 or smaller.

2. In general, conductors shall be the same size from the last protective device to the load.

3. All wiring systems shall be properly grounded and continuously polarized throughout, following the color-coding specified. Connect branch circuit wiring at panelboards, as required, in order to provide a "balanced" three-phase load on feeders.

4. Provide insulated green ground conductor and white (gray for 277 volt) insulated neutral conductor in each branch circuit.

5. All feeder connections shall be made to bus and other equipment using solderless, pressure type terminal lugs.

6. For splices and taps, No. 10 AWG and smaller, use solderless "twist on" connectors having spiral steel spring and insulated with a vinyl cap and skirt.

7. For splices and taps, No. 8 and larger, use solderless "Split Bolt" type connectors or compression fittings.

8. Use cast connections for ground conductors.

9. Make all splices and connections in accessible boxes and cabinets only.

10. Cover uninsulated splices, joints, and free ends of conductor with rubber and friction tape of PVC electrical tape. Plastic insulating caps may serve as insulation. Heat shrink sleeves shall be acceptable for crimp type splices.

11. On termination at branch circuit outlets, leave a minimum of 8 in. free conductor for installation of devices and fixtures.

12. Feeder conductors shall be continuous from point of origin to load termination without splice. If this is not practical, contact the Owner's Representative and receive written approval for splicing prior to installation of feeder(s). Where feeder conductors pass through junction and pull boxes, bind and lace conductors of each feeder together. For

parallel sets of conductors, match lengths of conductors as near equal as possible.

13. Branch circuit conductors installed in panelboards, and control conductors installed in control cabinets and panels shall be neatly bound together using "Ty-Raps" or equivalent.

14. Provide conduit seals and explosion proof devices as indicated on the plans and as dictated by the National Electrical Code for all hazardous locations indicated on the drawings.

15. Lighting fixtures, detectors, etc., in mechanical equipment, boiler and pump rooms shall be installed with exposed wiring after equipment, ductwork, piping, etc., are in place. In general, lighting shall be as located on the drawings; where conflicts exist, locate lights for best distribution.

16. The following should be permitted to be installed in cable tray systems only under the conditions described in their respective National Electrical Code articles:

    a. Mineral-insulated, metal-sheathed cable (Article 330).

    b. Electrical nonmetallic tubing (Article 331).

    c. Multiconductor service-entrance cable (Article 338).

    d. Multiconductor underground feeder and branch-circuit cable (Article 339).

    e. Power and control tray cable (Article 340).

    f. Instrumentation tray cable (Article 727).

    g. Power limited tray cable (Sections 725-61 and 725-71).

    h. Other factory-assembled, Multiconductor control, signal, or power cables that and specifically approved for installation in cable trays.

    i. Intermediate metal conduit (Article 345).

    j. Rigid metal conduit (Article 346).

    k. Rigid non-metallic conduit (Article 347).

    l. Electrical metallic tubing (Article 348).

    m. Flexible metallic tubing (Article 350).

    n. Flexible metal conduit (350).

o. Optical fiber cables (Article 770).

p. Liquidtight flexible metal conduit and liquidtight flexible nonmetallic conduit (Article 351).

E. Outlet Boxes:

1. Consider location of outlets shown on drawings as approximate only. Study architectural, process piping, mechanical, plumbing, structural, roughing-in, etc., drawings and note surrounding areas in which each outlet is to be located. Locate outlet so that when fixtures, motors, cabinets, equipment, etc., are placed in position, outlet will serve its desired purpose. Where conflicts are noted between drawings, contact Owner's Representative for decision prior to installation. Comply with Article 370 of National Electrical Code relative to position of outlet boxes in finished ceilings and walls.

2. Prior to installation, relocate any outlet location a distance of five feet in any direction from location indicated on drawings if so directed by the Owner's Representative. Prior to completion of wall construction, adjust vertical height of any outlet from height indicated if so directed by Owner's Representative. The above modifications shall be made at no additional cost to the Owner.

3. Where outlets at different mounting heights are indicated on drawings adjacent to each other (due to lack of physical space to show symbol on drawings), install outlets on a common vertical line.

4. Where switch outlets are shown adjacent to strike side of door, locate edge of outlet box approximately 3 in. from door frame.

5. Outlet boxes in separate rooms shall not be installed "back-to-back" without the approval of the Owner's Representative.

6. Outlet boxes shall be sized to accommodate the wiring device(s) to be installed.

7. Outlet boxes installed in plaster, gypsum board or wood paneled walls shall be installed with raised plaster covers or raised tile covers.

8. Outlet boxes installed in tile, brick or concrete block walls shall be installed with extra-deep type raised tile covers or shall be 3-1/2 in. deep boxes with square corners and dimensions to accommodate conductors installed.

9. Surface ceiling mounted outlet boxes shall be minimum 4 in. square, 1-1/2 in. deep, galvanized sheet metal.

10. Surface wall mounted outlet boxes shall be cast type boxes having threaded or compression type threadless hubs. Exterior boxes shall be

cast type with threaded hubs and gasketed cover plates secured by non-ferrous screws.

11. Floor outlet boxes shall be installed flush with finished floor, adjust level and tile as required. Where finished floor is terrazzo, provide boxes specifically designed for installation in terrazzo. Where floors are to receive carpet, provide floor outlet with carpet flange.

12. Install a device cover plate over each and every outlet indicated on drawings. Do not install plates until painting, cleaning and finishing of surfaces surrounding the outlet are complete. Install single one-piece multi-gang covers over multi-gang devices.

F. Receptacles:

1. Provide 20 ampere 125 volt, duplex receptacles unless noted otherwise on the Drawings.

G. Junction and Pull Boxes:

1. Install junction and pull boxes in readily accessible locations. Access to boxes shall not be blocked by equipment, piping, ducts and the like. Provide all necessary junction or pull boxes required due to field conditions and size as require by the National Electrical Code.

H. Equipment Mounting Heights: Coordinate with architectural interior and exterior elevations.

1. Unless otherwise noted, mount devices and equipment at heights measured from finished floor to device/equipment centerline as follows:

a.	Toggle switches (up position "on")	46 in.
b.	Receptacle outlets (long dimension vertical, ground" pole farthest from floor)	18 in.
c.	Receptacle outlets above counters	8 in. above counters
d.	Receptacle outlets, above hot water or steam baseboard heaters. Do not install receptacle outlets above electric baseboard heaters	30 in.
e.	Receptacle outlets, hazardous areas; also for refrigerators	48 in.
f.	Receptacle outlets, weatherproof,	24 in.

	above-grade	
g.	Clock outlets (104 in. AFF or 10 in. below ceiling, whichever is lower). For large, high spaces, coordinate with Architect.	104 in.
h.	Telephone outlets	18 in.
i.	Telephone outlets, wall mounted	46 in.
j.	T.V. outlet	18 in.
k.	Fire alarm manual stations	46 in.
l.	Fire alarm combination audio/visual and standalone visual device (entire strobe lens at heights indicated)	80 in. to bottom of the notification device
m.	Standalone fire alarm audio device	90 in. (min) to 96 in. (max)
n.	Distribution panelboards, to top of backbox	72 in.
o.	Terminal cabinets, control cabinets, to top of backbox	72 in.
p.	Disconnect switches, motor starters, enclosed circuit breakers.	48 in.

2. Where structural or other interferences prevent compliance with mounting heights listed above, consult Owner's Representative for approval to change location before installation.

I. Hangers and Supports:

1. Provide steel angles, channels and other materials necessary for the proper support and erection of motor starters, distribution panelboards, large disconnect switches, large circuit breakers, pendant mounted lighting fixtures, etc.

2. Panelboards, disconnect switches, circuit breakers, cabinets, large pull boxes, cable support boxes and starters shall be secured to ceiling and floor slab and not supported from conduits. Small panelboards, etc., as approved by Owner's Representative, may be supported on walls. Racks for support of conduits and heavy electrical equipment shall be secured to building construction by substantial structural supports.

J. Identification:

1. Provide engraved screw type lamicoid identification nameplates on main switchboard, main service disconnects and on all panelboards using designation shown in panelboard schedule. Include voltage, phase, equipment served, voltage source to panel or equipment.

2. Provide engraved screw type lamicoid identification nameplates for each circuit breaker in the main distribution panel listing the panelboard or equipment connected to each device.

3. Provide engraved screw type lamicoid identification nameplates on all items of equipment including individual circuit breaker enclosures and disconnect switches, listing the equipment connected to the particular device provided under Specification Section 262000, including, but not limited to: starters, disconnect switches, variable speed drives, circuit breakers, etc. Include voltage, phase, equipment served, voltage source to panel or equipment.

4. Provide complete type written directory for each panelboard listing room number, function, etc, for each circuit breaker. Provide type written updated panelboard directories for existing panelboards affected by this work.

5. Nameplates shall be screw type engraved black, with white core, with Helvetica medium 3/16 in. lettering.

6. Identify junction and pullboxes for particular service such as power, lighting, fire alarm, telephone, interphone, public address, nurse call, etc. using stencil lettering on cover.

7. Using dymo tape label all receptacle and switch coverplates, power poles, etc. listing panel designation and circuit number. Dymo tape shall be attached to outside of receptacle or switch coverplates.

K. Spare Parts:

1. Deliver to Owner and obtain receipt for spare parts including key switches, fuses, etc.

3.2 TESTS

A. Branch circuits shall be tested during installation for continuity and identification and shall pass operational tests to determine that all circuits perform the function for which they are designed. For all feeder wiring rated 600 volts or less, provide 1,000 volt "Megger" insulation test prior to energizing feeders. Use a 1,000-volt motor driven megger for all tests. Test voltage shall be applied until readings reach a constant value, and until three (3) equal readings, each one (1) minute apart, are obtained. Minimum megger reading shall be 45 megohms for feeder conductors. Documents test results and submit for approval prior to energizing conductors.

B. For all feeder wiring rated above 600 volts, provide high potential test as follows:

1. Disconnect cable to be tested from switchgear, transformers, etc., at each end so that voltage is applied only to the cable being tested.

2. Test cable with 500-volt megger, to insure cable is clear of any grounds and perform a Polarization Index (PI) time resistance test as follows:

   a. Connect 5000 volt megger to cable and ground.

   b. Subject cable to 5000 volts for 10 minutes.

   c. Take readings at one (1) minute and ten (10) minutes and take the ratio of the 10 minute reading to the 1 minute reading and compare the results to the following table. If the cable insulation compares to the Okay of Good categories, continue to the Hypot test. If the results are less than favorable, investigate and correct before continuing.

INSULATION CONDITION	PI RESULT
POOR	<1
QUESTIONABLE	1 - 2
OK	2 - 4
GOOD	>4

3. Connect Hypot tester to well regulated 110 volt, AC source. If facility source is not suitable or available, provide regulator or portable generator with regulator, as required.

   a. Set sensitivity at minimum.

   b. Connect high voltage output lead to conductor, and ground lead to cable shield ground conductor.

   c. Turn on Hypot unit.

   d. Slowly raise DC voltage in 3 kV steps for 5 kV cable. After each step, wait until the charging current dissipates and a steady leakage current level is reached. The following table is for the design make cable, Kerite. If the contractor chooses to use a different manufacturer, they will be responsible for contacting the cable manufacturer for the test values. Test value shall be indicated in the submittal.

CABLE VOLTAGE (KV)	NEW INSTALL	FIRST 5 YEARS
	DC (KV)	DC (KV)
5	35	25

e. Record the leakage current for each voltage step and plot current versus voltage; separate curve for each cable.

f. Use cable manufacturer's recommended DC proof test voltage for new cables as maximum test voltage.

g. Leakage current should plot as a relatively flat curve. If a major change appears in the slope of the curve, reduce voltage by 2kV for 5 kV cable, and then bring the voltage back up in 500-volt increments to the previous level.

h. If an unacceptable bend is found and/or tester trips, reclean the terminations and repeat the test. If test result is not improved, a problem in the cable portion of the circuit exists.

i. If cable tests to the maximum voltage required, hold cable at this voltage for 15 minutes and plot leakage current versus time. Take readings at 0, 15, 30, 45, 60 seconds and then at one minute intervals for the next 15 minutes.

j. Ground conductor prior to disconnecting leads, as recommended in Hypot Tester's Manual.

4. Replace all new cable, terminations, splices found faulty, as part of the contract.

5. Document test results and submit to Engineers for approval prior to energizing cables.

END OF SECTION 26 05 01

SECTION 26 08 00 - COMMISSIONING OF ELECTRICAL SYSTEMS – FOR REFERENCE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Commissioning is a systematic process of verifying that all building systems perform interactively according to the Owner's operational needs, the design documents, manufacturer's recommendations, good engineering and workmanship practices. This is achieved by beginning in the design phase and documenting the Owner's requirements and continuing through construction, acceptance and the warranty period with actual verification of performance. The commissioning process shall encompass and coordinate the traditionally separate functions of system documentation, equipment startup, control system calibration, testing and balancing, performance testing and training.

B. Commissioning during the construction phase is intended to achieve the following specific objectives according to the Contract Documents:

1. Verify that applicable equipment and systems are installed according to the contract documents, manufacturer's recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installing contractors.

2. Verify and document proper performance of equipment and systems.

3. Verify that O&M documentation provided for the project is complete, accurate and represents the actual installed equipment.

4. Verify that the Owner's operating personnel are adequately trained.

C. The commissioning process does not take away from or reduce the responsibility of the system designers or installing contractors to provide a finished and fully functioning product.

D. Abbreviations: The following are common abbreviations used in the Specifications. Definitions are found in Article 1.2.

A/E - Architects and Design Engineers
CA - Commissioning Agent
CC - Controls Representative
CTR - Contractor Technical Representative
Cx - Commissioning
Cx Plan - Commissioning Plan Document
PC - Plumbing Contractor
EC - Electrical Contractor
FT - Functional Performance Test
GC - General Contractor
HC - Mechanical Contractor
PFI - Pre-Functional Inspection
PM - Project Manager (of the Owner)
TAB - Test and Balance Contractor

1.2 RESPONSIBILITIES

A. The responsibilities of various parties in the commissioning process are provided in this section. Additional specific responsibilities, when required, of the mechanical representative, TAB, controls representative, plumbing representative and those of the electrical representative are described in their particular contract specifications and documents. It is noted that the commissioning responsibilities of the Owner's Project Manager, Architect, HVAC mechanical and electrical designers/engineers and Commissioning Agent are not provided for in this contract. That is, the Contractor is not responsible for providing their services, and those responsibilities are listed here only for clarification of the commissioning process.

B. All Parties:

1. Follow the Commissioning Plan.

2. Attend the commissioning scoping meeting and additional meetings as necessary.

C. Commissioning Agent (CA):

1. The CA is not responsible for design concept, design criteria, compliance with codes, design or construction scheduling, cost estimating, or construction management. The CA may assist with problem solving non-conformance or deficiencies, but ultimately that responsibility resides with the EC and A/E. The primary role of the CA is to develop and coordinate the execution of the Commissioning Plan, observe and document system performance. Specifically, that systems are functioning in accordance with the documented design intent and in accordance with the Contract Documents. The Contractor will provide all tools or the use of tools to start, check-out and functionally test equipment and systems, except for specified testing with portable data-loggers, which shall be supplied by the CA.

2. Construction and Acceptance Phase:

a. Coordinates and directs the commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.

b. Coordinate the commissioning work and, with the EC and CTRs, verify that commissioning activities are being scheduled into the master schedule.

c. Revise the Commissioning Plan as necessary.

d. Plan and conduct a commissioning scoping meeting.

e. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor start-up and checkout procedures.

f. Before startup, gather and review the current control sequences and interlocks and work with installers and design engineers until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.

g. Review equipment submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with the A/E reviews.

h. Write and distribute prefunctional inspections. The CA will provide the EC and installers a list of the required submittals. The Contractor bears all costs associated with providing the requested submittals to the CA without any additional cost to the Owner, CA or others.

i. Develop prefunctional checklists for completion by Contractor.

j. Perform site visits, as necessary, to observe component and system installations. Attends selected planning and job-site meetings to obtain information on construction progress. Review construction meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving any discrepancies.

k. With necessary assistance and review from the Contractor and installers, write the functional performance test procedures for equipment and systems. This may include energy management control system trending, stand-alone datalogger monitoring or manual functional testing.

l. Verify completion of prefunctional checklists by selected equipment inspections, site observation and spot-checking.

m. Evaluate systems startup procedures by reviewing start-up reports and by selected site observation.

n. Execute, with the assistance of the Contractor and installers, functional testing of the control system before, or in conjunction with, the HVAC system TAB. Coordinate retesting as necessary until satisfactory performance is achieved.

o. Analyze select functional performance trend logs and monitoring data to verify performance.

p. Maintain a master deficiency and resolution log and a separate testing record. Provide the EC, PM and installers with written progress reports and test results with recommended actions.

q. Review equipment warranties to verify that the Owner's responsibilities are clearly defined.

r. Oversee and approve the training of the Owner's operating personnel.

s. Compile and maintain a Commissioning Record and Systems Energy Manual.

t. Review the preparation of O&M manuals.

u. Provide a final commissioning report.

v. Coordinate and supervise required seasonal or deferred testing and deficiency corrections.

w. Return to the site at ten (10) months into the twelve (12) month warranty period and review with facility staff the current building operation and the condition of outstanding issues related to the original and seasonal commissioning. Also interview facility staff and identify problems or concerns they have operating the building as originally intended. Make suggestions for improvements and for recording these changes in the O&M manuals. Identify areas that may come under warranty or under the original construction contract. Assist facility staff in developing reports, documents and requests for services to remedy outstanding problems.

x. Identify any warranty phase deficiencies and provide detailed documentation to the Contractor.

D. Electrical Contractor (EC):

1. Construction and Acceptance Phase:

a. Include the cost of supporting commissioning in the contract price.

b. Attend a commissioning scoping meeting and other commissioning team meetings.

c. Furnish a copy of all construction documents, addenda, change orders and submittals and shop drawings related to commissioned equipment to the CA. The CA will forward a request to the EC for copies of the submittals that the CA is required to review concurrently with the engineer as required by the LEED guidelines. The Contractor bears all costs associated with

providing the requested submittals to the CA without any additional cost to the Owner, CA or others.

d. Provide the requisite readiness notification to the CA for equipment prefunctional inspections and functional testing utilizing forms provided by the CA.

e. Participate in pre-functional inspections, startup and functional testing of all equipment, as directed by the CA.

f. Review the functional performance test procedures submitted by the CA, prior to testing.

g. Review commissioning progress and deficiency reports.

h. Coordinate the resolution of deficiencies identified by the CA.

i. Document the completion and/or action taken for the resolution of deficiencies as directed by the CA and described in the Cx Plan utilizing forms provided by the CA.

j. Coordinate and perform the training of Owner personnel. Notify the CA when training will be taking place.

k. Ensure that all installers execute their commissioning responsibilities according to the Contract Documents and schedule.

l. Prepare O&M manuals, according to the Contract documents, including clarifying and updating the original sequences of operation to as-built conditions.

m. Assist the CA as necessary in the seasonal or deferred testing and deficiency corrections required by the specifications.

n. Ensure that installers execute seasonal or deferred functional performance testing, witnessed by the CA, according to the specifications.

o. Ensure that installers correct deficiencies and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

E. Installers (CTRs):

1. Construction and Acceptance Phase:

a. Attend all commissioning scoping meetings and other commissioning team meetings.

b. Provide the requisite readiness notification to the EC for equipment prefunctional inspections and functional testing.

c. Complete prefunctional checklists developed by the CA.

d. Review the functional performance test procedures submitted by the CA, prior to testing.

e. Review commissioning progress and deficiency reports.

f. Coordinate the resolution of deficiencies identified by the CA.

g. Document the completion and/or action taken for the resolution of deficiencies as directed by the CA and described in the Cx Plan.

h. Coordinate and perform the training of Owner personnel.

i. Prepare O&M manuals, according to the Contract documents, including clarifying and updating the original sequences of operation to as-built conditions.

j. Assist the CA as necessary in the seasonal or deferred testing and deficiency corrections required by the specifications.

k. Ensure that seasonal or deferred functional performance testing, is executed and witnessed by the CA, according to the specifications.

l. Ensure deficiencies are corrected and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

F. Equipment Suppliers:

1. Provide all requested submittal data, including detailed start-up procedures and specific responsibilities of the Owner to keep warranties in force.

2. Assist in equipment commissioning with CTRs as per the contract documents.

3. Include all special tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment according to these Contract Documents in the base bid price to the Contractor.

4. Provide the information requested by the CA regarding equipment sequences of operation and testing procedures.

5. Review test procedures for equipment installed by factory representatives.

1.3 COMMISSIONING DOCUMENTATION

A. Provide the following information to the CA for inclusion in the commissioning record:

1. Plan for delivery and review of submittals, systems manuals and other documents and reports.

2. Identification of installed systems, assemblies, equipment, and components including design changes that occurred during the construction phase.

3. Process and schedule for completing construction checklists and manufacturer's prestart and startup checklists for electrical systems, assemblies, equipment and components to be verified and tested.

4. Certificate of completion certifying that installation, prestart checks and startup procedures have been completed.

5. Certificate of readiness certifying that electrical systems, subsystems, equipment and associated controls are ready for testing.

6. Test and inspection reports and certificates.

7. Corrective action documents.

8. Verification of testing, adjusting and balancing reports.

1.4 SYSTEMS TO BE COMMISSIONED

A. The following systems will be commissioned in this project. The Owner and the CA reserves the right to amend this list at anytime during the construction and acceptance process.

1. Electrical:

a. Emergency Generator System; including ATS(s)

b. Fire Alarm System (Point Addressable)

c. Electrical Distribution System

d. Theatrical Lighting System

e. Scoreboard

f. Building Wide Paging and Intercom System

g. Access Control System

h. Intrusion Detection System

i. Audio Entry System

j. Master and Secondary Clock System

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT

A. All standard testing equipment required to perform startup and initial checkout and required functional performance testing shall be provided by the Division contractor for the equipment being tested.

B. Special equipment, tools, instruments, (only available from vendor, specific to a piece of equipment) required for testing equipment, according to these Contract Documents, shall be included in the base bid price to the Contractor and left on site, except for stand-alone datalogging equipment that may be used by the CA.

C. Datalogging equipment and software required to test equipment will be provided by the CA, but shall not become the property of the Owner.

D. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications.

PART 3 - EXECUTION

3.1 MEETINGS

A. Scoping Meeting - The CA will schedule, plan and conduct a commissioning scoping meeting with the entire commissioning team in attendance. Meeting minutes will be distributed to all parties by the CA. Information gathered from this meeting will allow the CA to revise the Commissioning Plan to its final version, which will also be distributed to all parties.

B. Prefunctional Inspection (PFI) Meeting - The CA will schedule, plan and conduct a PFI meeting with the entire commissioning team in attendance to kickoff the PFI phase.

C. Functional Performance Testing Meeting - The CA will schedule, plan and conduct a functional performance test meeting with the entire commissioning team in attendance to kickoff the FT phase. The Controls Representative (CC) will play a critical role in the Functional Performance Testing. The CC's Project Manager will be required to attend this meeting.

D. Miscellaneous Meetings - Progress meetings will be scheduled and conducted by the CA, as necessary. Other meetings will be planned and conducted by the CA as the construction progresses. These meetings will cover coordination,

deficiency resolution and planning issues with particular CTRs. The CA will plan these meetings and will minimize unnecessary time being spent by CTRs.

3.2 REPORTING

A. The CA will provide regular reports to the Owner, PM, EC, and A/E depending on the management structure, with increasing frequency as construction and commissioning progresses.

B. The CA will regularly communicate with all members of the commissioning team, keeping them apprised for commissioning progress, and scheduling changes through memos, progress reports, etc.

C. Testing or review approvals and non-conformance and deficiency reports are made regularly with the review and testing as described in later sections.

D. A final summary report by the CA will be provided to the Owner. The report will include:

1. A brief summary report that includes a list of participants and roles, brief building description, overview of commissioning and testing scope, and a general description of testing and verification methods. For each piece of commissioned equipment, the report should contain the disposition of the CA regarding the adequacy of the equipment, documentation, and training as it relates to the Contract Documents in the following areas:

   a. Equipment meeting the equipment specifications.

   b. Equipment installation.

   c. Functional performance and efficiency.

   d. Equipment documentation.

   e. Operator Training.

2. All outstanding non-compliance items shall be specifically listed. Recommendations for improvement to equipment and operations, future actions, recommended commissioning process changes, etc. shall also be listed.

3. Also included in the Commissioning Record shall be the issues log, commissioning plan, progress reports, submittal and O&M manual reviews, training record, test schedules, construction checklists, start-up reports, functional tests and trend log analysis.

E. The CA will compile a Systems Manual that consists of the following:

1. Space and use descriptions.

2. Single line drawings and schematics for major systems (to be provided by the design engineer).

3. Control drawings and sequences of control (to be provided by the controls contractor).

4. Table of all setpoints and implications when changing them.

5. Schedules.

6. Instructions for operation of each piece of equipment for emergencies, seasonal adjustment, startup and shutdown.

7. Instructions for energy savings operations and descriptions of the energy savings strategies in the facility.

8. Recommendation for recommissioning the facility.

9. Energy tracking recommendations.

3.3 SUBMITTALS

A. The CA will provide the Contractor with a specific request for the type of submittal documentation the CA requires to facilitate the commissioning work. These requests will be integrated into the normal submittal process and protocol of the construction team. At a minimum the request will include the manufacturer and model number, the manufacturer's printed installation and detailed startup procedures, full sequences of operation, O&M data, performance data, any performance test procedures, control drawings and details of Owner contracted tests. In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the CA. All documentation requested by the CA will be included by the CTRs in their O&M manual contributions.

B. The CA will review submittals related to the commissioned equipment for conformance to the Contract Documents as it relates to the commissioning process, to the functional performance of the equipment and adequacy for developing test procedures. This review is intended primarily to aid in the development of functional testing procedures and only secondarily to verify compliance with equipment specifications. The CA will notify the Owner, PM, EC or A/E as requested, of items missing or areas that are not in conformance with Contract Documents and which require resubmission. The CA does not have approval responsibility, but is required to review the submittals concurrently with the engineer as required by LEED guidelines.

C. The CA may request additional design narrative from the A/E and Controls Contractor, depending on the completeness of the design intent documentation and sequences provided with the Specifications.

D. These submittals to the CA do not constitute compliance for O&M manual documentation. The O&M manuals are the responsibility of the Contractor, though the CA will review them.

3.4 SYSTEM START-UP AND TESTING

A. General Requirement:

1. All systems and system components shall be tested by the CTRs and in the presence of the Owner and Design Consultants if desired by the Owner and Design Consultants to demonstrate compliance with specified requirements.

   To minimize the time of commissioning, contracting, and Design Consultant team members, testing shall be done in seasonal single blocks of time insofar as possible.

2. The Contractor shall notify the CA fourteen (14) days prior to scheduled functional performance tests.

3. All testing shall be conducted under specified design operating conditions as approved by the CA and Design Consultants.

4. All elements of systems shall be tested to demonstrate that total systems satisfy all requirements of these Specifications. Testing shall be accomplished on a hierarchical basis. Each piece of equipment shall be tested for proper operation, and functionality of safety devices, followed by each system's subsystem, followed by the entire system, followed by any interlocks to other major systems.

5. All special testing materials and equipment shall be provided by the CTR. This includes, but is not limited to, proprietary equipment, hand-held control parameter/setpoint adjustment tools, water/air flow balancing readout and adjustment tools.

6. One copy of all factory test reports and records as well as all start-up documentation shall be provided to the CA.

B. Test Procedure Development and Test Documentation:

1. At least fourteen (14) days prior to startup of the electrical system, the CTR shall inform the CA, the Owner's Representative and Design Consultants of the intention to start up the system.

C. Installation Verification Requirements:

1. All systems and system components shall be checked and verified by the CTR that they have been installed according to the drawings, specifications, and manufacturer's written instructions, and that all connections have been made correctly. Discrepancies shall be corrected

and resolved to the satisfaction of the engineer and CA prior to proceeding any further with prefunctional inspections.

2. Each system of interlocked system components shall be observed and verified by the CTR that it is ready to function as specified.

3. Verification of complete and proper installation shall be completed prior to the CA authorizing functional performance testing.

4. The installation verification shall be documented by the CTR in a written format for each system/piece of equipment as designated by the CA. Each certificate of readiness shall be dated and initialed by the Contractor and clearly stating any items that are deficient or have not been completed. The protocols for this will be further clarified in the Commissioning Plan.

5. Certify that electrical systems, subsystems and equipment have been installed, calibrated and started and are operating according to the Contract Documents.

6. Certify that electrical instrumentation and control systems have been completed and calibrated, that they are operating according to the Contract documents, and that pretest set points have been recorded.

7. Certify that testing, adjusting and balancing procedures have been completed and that testing, adjusting and balancing reports have been submitted, discrepancies corrected and corrective work approved.

8. Set systems, subsystems and equipment into operating mode to be tested (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).

9. Inspect and verify the position of each device and interlock identified on checklists.

10. Check safety cutouts, alarms, and interlocks with smoke control and life-safety systems during each mode of operation.

11. Testing Instrumentation: Install measuring instruments and logging devices to record test data as directed by the CA.

D. Prefunctional Inspection Requirements:

1. The CA will provide the inspection forms for each system and equipment.

2. CA will verify the completion of the prefunctional checklists by the Contractor.

3. Prior to the CA performing the pre-functional inspection, the CTRs shall check the equipment for proper installation, adjustments, and shall calibrate the equipment to verify that it is ready to perform as specified.

4. Verification of complete and proper installation shall be completed prior to performing functional performance tests.

E. Functional Performance Testing Requirements:

1. A functional performance test shall be performed on each complete system. Each function shall be demonstrated to the satisfaction of the CA based on the written test procedure developed by the CA to demonstrate conformance to the requirements of the Contract Documents.

2. Each functional performance test shall be performed, witnessed and signed off by the CA. The CA and the CTRs will perform the functional testing together. Any exceptions to this will be made clear to the Owner as to the reason and justification.

3. The functional performance testing shall be conducted in accordance with prior approved procedures and documented as required.

4. The Contractor shall notify the contracting team, the CA, and Design Consultants, at least two weeks prior to the date of schedule functional performance tests. The seasonal functional performance test periods shall be scheduled over a single block of days. The schedule of functional performance tests shall be based on the construction completion schedule.

3.5 FUNCTIONAL TESTING SUPPORT REQUIREMENTS

A. General Requirements:

1. This section provides brief descriptions of the testing and support the Contractor and installers will be required to provide to perform the functional testing of the equipment for the project.

B. Lighting Fixtures and Switches:

1. Light fixtures will be verified that they are the proper fixture and the proper installation requirements have been adhered to. Switches will be tested for operation, including the operation of multiple 3-way switches.

2. The contractor is expected to test and verify the operation of every light and switch. The CA will sample approximately 25% of this system.

C. Lighting Controls (Interior):

1. All occupancy sensors will be tested for sensitivity and duration of "on period" after area has been vacated.

2. The Contractor is expected to test and verify the operation of every occupancy sensor. The CA will sample approximately 25% of this system.

D. Lighting Controls (Exterior):

1. The BMS schedule will be verified by the CA and the photoelectric override will be tested during actual operation via observation and utilizing an external light source.

2. The Contractor is expected to test and verify the operation of all of the exterior lighting. The CA will sample 100% of this system.

E. HVAC Electrical Components:

1. The CA will test selected amp draws and voltages on various HVAC motors. These tests correspond to full load operation, where practical.

2. The CA will test these devices after the testing and balancing (TAB) has been performed to confirm the TAB's readings.

3. The CA will verify the settings for any equipment that has associated heaters or adjustable load relays.

F. Emergency Generator System:

1. The Contractor(s) will be required to demonstrate all safeties (personnel and electrical e.g. emergency shutdown switches, low oil pressure, high coolant temperature, etc.); local generator control panel operation; local controls (such as combustion air dampers), and integrated 3rd party Building Management System controls including all related devices and sequence of operations.

2. The Cx Authority will define the tests and procedures in the Cx Plan as well as the individuals required to support the testing.

3. A representative will be required to manually operate all hand valves, and the controls contractor will be required to demonstrate their systems' integrated performance. Any local controls will require the representative who was responsible for the programming and setting up of the equipment to document the set points and demonstrate the performance of their equipment.

3.6 DOCUMENTATION, NON-CONFORMANCE AND APPROVAL OF TESTS

A. Documentation - The CA shall witness and document the results of all functional performance tests using the specific forms developed by the CA for that purpose.

B. Non Conformance:

1. The CA will record the results of the PFIs and functional tests utilizing the appropriate documentation. All deficiencies or non-conformance issues shall be noted and reported to the Owner, PM, EC and CTRs.

2. Reports of the deficiencies identified will be provided to the project team by the CA. Individual forms identifying the deficiencies for each trade will also be provided. These forms are utilized for the contractor to inform the CA of the action taken to address the deficiency items and these forms must be returned in a timely manner to the CA.

3. Corrections of minor deficiencies identified may be made during the tests at the discretion of the CA. In such cases, the deficiency and resolution will be documented by the CA.

4. Every effort will be made to expedite the testing process and minimize unnecessary delays, while not compromising the integrity of the procedures. However, the CA will not be pressured into overlooking deficient work or compromising acceptance criteria to satisfy scheduling or cost issues, unless there is an overriding reason to do so at the request of the Owner.

5. Cost of Retesting:

   a. The cost for the Installer to repeat a prefunctional inspection or functional test, if they are responsible for the deficiency, shall be theirs.

   b. The time for the CA to direct any retesting required because a specific prefunctional inspection of start-up test item, reported to have been successfully completed, but determined during functional testing to be faulty, will be backcharged to the appropriate CTR.

6. The Contractor shall respond in writing to the CA at least as often as commissioning meetings are scheduled concerning the status of each apparent outstanding discrepancy identified during commissioning. Discussion shall cover explanations of any disagreements and proposals for their resolution.

C. Failure Due to Manufacturer Defect or Improper Installation - If 10%, or three, whichever is greater, of identical pieces of equipment (size alone does not constitute a difference) fail to perform to the Contract Documents (either mechanically or substantively) due to manufacturing defect or improper installation, not allowing it to meet its submitted performance spec, all identical units may be considered unacceptable by the CA, PM, A/E or Owner. In such case, the Contractor shall provide the Owner with the following:

1. Within one (1) week of notification from the A/E (via the CA), the installer or manufacturer's representative shall examine all other identical units

making a record of the findings. The findings shall be provided to the CA or PM within two weeks of the original notice.

2. Within two weeks of the original notification, the installer or manufacturer shall provide a signed and dated written explanation of the problem, cause of failures, etc., and all proposed solutions, which shall include full equipment submittals. The proposed solutions shall not significantly exceed the specification requirements of the original installation.

3. The CA, EC and PM will determine whether a replacement of all identical units or a repair is acceptable.

4. Two examples of the proposed solution will be installed by the Contractor and the CA will be allowed to test the installations for up to one week, upon which the CA or PM will decide whether to accept the solution.

5. Upon acceptance, the installer and/or manufacturer shall replace or repair all identical items, at their expense, and extend warranty accordingly, if the original equipment warranty had begun. The replacement/repair work shall proceed with reasonable speed beginning within one week from when parts can be obtained.

D. Approval - The CA documents each satisfactorily demonstrated functional test.

3.7 OPERATION AND MAINTENANCE MANUALS

A. Standard O&M Manuals:

1. The specific content and format requirements for the standard O&M manuals are detailed in the contract documents. Special requirements for the controls representative and TAB are detailed in the contract documents.

2. Prior to substantial completion, the CA shall review the O&M manuals, documentation and redline as-builts for systems that were commissioned to verify compliance with the specifications. The CA will communicate deficiencies in the manuals to the CTRs, PM, EC, A/E or Owner as requested. Upon successful review of the corrections, the CA recommends approval and acceptance of these sections of the O&M manuals to the PM, EC, A/E and Owner. The CA also reviews each commissioned equipment's warranty and verifies that all requirements to keep the warranty valid are clearly stated. This work does not supersede the A/E's review of the O&M manuals according to the A/E contract.

3.8 TRAINING OF OWNER PERSONNEL

A. The EC shall be responsible for training coordination and scheduling and for ultimately ensuring that training is completed. The EC shall inform the CA when training will be scheduled.

B. The CA shall be responsible for overseeing and approving the content and adequacy of the training of the Owner personnel for commissioned equipment.

C. The CA shall interview the facility manager and lead engineer to determine the special needs and areas where training would be most valuable. The Owner and CA shall decide how rigorous the training should be for each piece of commissioned equipment.

D. In addition to these general requirements, the specific training requirements of Owner's personnel by CTRs, as detailed in the specifications, shall be provided.

E. Each CTR and vendor responsible for training will submit a written training plan to the CA, for review and approval prior to training. The plan will cover the following elements:

1. Equipment (included in training).

2. Intended audience.

3. Location of training.

4. Objectives.

5. Subjects covered (description, duration of discussion, special methods, etc.).

6. Duration of training on each subject.

7. Instructor for each subject and qualifications.

8. Methods (classroom lecture, video, site walk thru, actual demonstrations, etc.).

F. The CA develops criteria for determining that the training was satisfactorily completed, including attending some of the training.

3.9 DEFERRED TESTING

A. Unforeseen Deferred Tests - If any inspection or test cannot be completed due to the building structure, required occupancy condition or other deficiency, execution of inspections and functional testing may be delayed upon approval of the PM or Owner. These tests will be conducted in the same manner as the seasonal test as soon as possible. Services of necessary parties will be negotiated.

B. Seasonal Testing - During the warranty period, seasonal testing (tests delayed until weather conditions are closer to the system's design) shall be completed as part of this contract. The CA shall coordinate this activity. Tests will be executed, documented and deficiencies corrected by the appropriate CTRs, with

facilities staff and the CA witnessing. Any final adjustments to the O&M manuals and as-builts due to the testing will be made.

3.10 WRITTEN WORK PRODUCTS

A. The commissioning process generates a number of written work products described in various parts of the specifications. The Commissioning Plan lists all the formal written work products, describes briefly their contents, who is responsible to create them, and, who receives and approves them and the location of the specification to create them. In summary the written products are:

Product	**Developed By**
1. Final Commissioning Plan	CA
2. Commissioning Schedules	CA, EC and CTRs
3. Equipment Documentation Submittals	CTRs
4. Sequence Clarifications	A/E and CTRs as needed
5. Pre-Functional Inspection Forms	CA
6. Pre-Functional Inspections	CA
7. Startup and Initial Checkout Plans	CTRs
8. Final TAB Report	TAB CTR
9. Commissioning Progress Record	CA
10. Issue and Resolution Log	CA
11. Functional Test Procedures	CA
12. O&M Manuals	CTRs
13. Commissioning Record	CA
14. Overall Training Plans	EC and CTRs
15. Specific Training Syllabus	CA
16. Final Commissioning Report	CA

END OF SECTION 26 08 00

SECTION 26 20 00 - ELECTRIC DISTRIBUTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide an electrical distribution system as indicated on the Contract Documents and as specified herein.

1.2 QUALITY ASSURANCE

A. All methods of construction, details of workmanship, that are not specifically described or indicated in the contract documents, shall be subject to the control and approval of the Owner's Representative. Equipment and materials shall be of the quality and manufacture indicated in their respective sections of the specifications. The equipment specified is based upon the acceptable manufacturers listed. Equipment types, device ratings, dimensions, etc., correspond to the nomenclature dictated by those manufacturers. Where "or equal" is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval. All equipment shall be tested at the factory. Unless specified elsewhere, standard factory inspection and operational tests will be acceptable.

B. Installation shall be in accordance with NFPA-70 (National Electrical Code), National Electrical Safety Code (NESC), state codes, local codes, and requirements of authority having jurisdiction.

C. Equipment shall be designed, manufactured, assembled, and tested in accordance with the latest revisions of applicable published ANSI, NEMA, UL and IEEE Standards.

1.3 SUBMITTALS

A. Submit equipment, materials, products, as or similar to that shown below (AS APPLICABLE):

1. Switchboard, including the following:

a. Manufacturer and equipment type.

b. Standard catalog information sheet.

c. Detailed shop drawings indicating plan, elevation, end and isometric views.

d. Single-line diagram.

e. Complete Bill of Materials.

2. Dry type transformer(s) including shielded and linear load transformer(s)

3. Distribution switchboard.

4. Distribution and branch circuit panelboards.

5. Over-Current Device Information

6. Enclosed circuit breakers.

7. Motor starters, contactors and relays.

8. Disconnect switches.

9. Adjustable Speed Drives.

10. Submit settings and adjustments for Starters as recommended by starter and motor manufacturers, as follows:

    a. Where reduced voltage autotransformer type starters are called for, submit Autotransformer voltage tap settings and start-run time delay relay.

    b. Where "part winding" or "wye start, delta run," starters are called for, submit START-RUN time delay relay setting.

    c. Where special features are called for, submit voltage taps and settings, resistor adjustments, time delay relay settings.

    d. Where time delay relays are called for to achieve staggered restarts upon restoration of failed electric power, submit time delay relay settings.

11. Submit documentation of all grounding tests.

12. Meter Centers.

13. Surge Protective Devices.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Dry-Type Transformers:

1. Transformers to be self-cooled ventilated dry type. Transformers that require internal or external fan assisted forced air cooling to obtain ambient air (AA) rated kVA are not acceptable. Transformers 15 kVA and less shall have 185°C insulation system and shall be designed not-to-exceed 115°C rise above 40°C ambient. Transformers 30 kVA and higher shall have 220°C insulation system and shall be designed not-to-

exceed 150°C rise above 40°C ambient. Insulation systems shall be U.L. listed.

Cores shall be manufactured from a high-grade, non-aging, silicon steel with high magnetic permeabilities, low hysteresis and eddy current losses, and shall be clamped with structural angles and bolted to the enclosure to prevent damage during shipment or rough handling. Remove clamping after installation. Coils shall be copper, vacuum impregnated with non-hydroscopic thermosetting varnish and shall have a final wrap of electrical insulating material designed to prevent injury to the magnet wire. Transformers having coils with magnet wire visible will not be acceptable. 30 KVA, and larger, floor mounted. Under 30 KVA, wall mounted. Provide Mason type ND, Korfund or Vibrex vibration isolation devices for each transformer.

2. Ratings: Shall be as indicated on the "Transformer Schedule" or as noted on the drawings. IEEE #462 and NEMA #TP-1 Standards shall apply. The transformer efficiencies shall meet or exceed the requirements of the Energy Conservation Construction Code of New York State.

3. For transformers up to 300 kVA, provide with 6-2-1/2% full capacity taps, 2-FCAN (for connections above nameplate) and 4-FCBN (for connections below nameplate). For transformers above 300 kVA, provide 4-2-1/2% fully rated taps, 2-FCAN and 2-FCBN.

4. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

   a. Square D (Sorgel)
   b. Eaton Corporation
   c. General Electric
   d. Acme
   e. Heavy-Duty
   f. Howard

B. Dry Type Transformer for Non Linear Loads:

1. Transformer shall be similar in construction as dry type except:

   a. An electrostatic shield consisting of a single turn of copper between the primary and secondary winding and grounded to the transformer core.

   b. The neutral conductor shall be rated for 200% of normal phase current.

C. Harmonic profile shall be equal or less than a K factor of 4.

D. Distribution Switchboard:

1. Provide distribution switchboard as specified and scheduled herein and shown on the associated drawings. The switchboard shall meet Underwriter's Laboratories enclosure requirements and be furnished with an Underwriter's Laboratory label for service entrance equipment.

2. The switchboard shall be dead front with front and rear required. The switchboard framework shall consist of steel channels welded or bolted to the frame to rigidly support the entire shipping section for moving on rollers and floor mounting. The framework is to be formed, code gauge steel, rigidly welded and bolted together to support all cover plates, bussing and component devices during shipment and installation. Each switchboard section shall have as open bottom and an individual removable top plate for installation and termination of conduit. Top and bottom conduit areas are to be clearly shown and dimensioned on the shop drawings. The wireway front covers are to be hinged to permit access to the branch circuit breaker load side terminals without removing the covers. All front plates used for mounting meters, selector switches or other front mounted devices shall be hinged with all wiring installed and laced with flexibility at the hinged side. All closure plates shall be screw removable and small enough for easy handling by one man. The paint finish shall be grey ANSI Standard No., 61 enamel over a rust-inhibiting phosphate primer.

3. The switchboard bussing shall be plated copper and of sufficient cross-sectional area to continuously conduct rated full load current with a maximum average temperature rise of 50°C above an ambient temperature of 25°C. All switchboard bussing shall be continuously insulated throughout. Provide grounding bus. The main horizontal or through-bus shall be rated as indicated on the drawings. The bus bars shall be rigidly braced to comply with the withstand rating of the switchboard. The main horizontal bus bars between sections shall be located at the back of the switchboard to permit a maximum of available conduit area. The end section shall have bus bar provisions for the addition of a future section. The provisions shall include the bus bars installed and extended to the extreme side of the section and fabricated in such a fashion that the addition of a future section would require only the installation of a single splice bus connection per phase and neutral. The horizontal main bus bar supports, connections, and joints shall be bolted with carriage bolts and Belleville washers. The vertical bus shall be the same rating as the horizontal bus.

4. Each switchboard, as a complete unit, shall be given a single withstand short circuit current rating by the manufacturer. The withstand short circuit current rating shall certify that all equipment is capable of withstanding the stresses of a fault equal to the interrupting capacity rating of the smallest overcurrent protective device contained therein. Such rating shall be established by actual tests by the manufacturer on equipment constructed similarly to the subject switchboard. This test data shall be available and shall be furnished to the Architect/Engineer with the shop drawings submittal.

5. Main disconnect device shall be a molded case circuit breaker, up to 2500A**,** totally front accessible and front connectable. Main disconnect device shall be a molded case circuit breaker, up to 2500A, totally front accessible and front connectable. Line side circuit breaker connections are to be jaw-type plug on. Provide auxiliary tripping functions as called for. U.L. listed as suitable for use as service equipment.

6. Distribution molded case circuit breakers shall be group mounted and shall be totally front accessible and front connectable. The circuit breakers shall be mounted in the switchboard to permit installation, maintenance and testing without reaching over any line side bussing. The circuit breakers shall be removable without disturbing either the line side or load side cable terminations and all line and load side connections are to be individual to each circuit breaker. No common mounting brackets or electrical bus connectors will be acceptable. Line side circuit breaker connections shall be bolt-on type. Provide an externally operable mechanical means to trip the circuit breaker, enabling maintenance personnel to verify the ability of the circuit breaker trip mechanism to operate as well as exercise the breaker latch and operating mechanisms. Each type of circuit breaker assembly shall have undergone and passed heat tests according to UL test procedures and be UL listed.

7. Ratings shall be as indicated in the contract documents. Circuit breakers within the switchboard shall be fully rated for the scheduled interrupting rating. Reducing breaker ratings on the basis of "series rating" is not acceptable.

8. Provide utility customer current transformer compartment located in the service entrance section of the switchboard, connected for hot and cold sequence metering. Provisions for current transformers meeting utility company specifications shall be provided. The compartment shall be barriered and covered with a single-hinged door with sealing provisions. A voltmeter ammeter watthour meter shall be mounted in the door and supplied with current and potential transformers and instrument transfer switches where indicated. All front plates used for mounting meters, instrument transfer switches or other front mounted devices shall be hinged with all wiring installed and laced with flexibility at the hinged side.

9. Owner Meter(s): Provide a microprocessor based, digital, line monitor to display the following: phase amps, phase volts, watts, va, vars, power factor, frequency, watthours, watt demand, %THD. The device shall also have the capabilities to display the minimum and maximum of the following: voltage, current, power, power factor, frequency. Peak %THD and peak demand shall also be displayed. provide the necessary PT's and CT's required for the monitor. The monitor shall be mounted in a convenient location in the switchboard for easy viewing and operation. Also include the capabilities to be remotely monitored at a PC location.

10. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

    a. Square D "QED Power-Style" Design Make

E. Distribution Panelboards (Nominal 600 Volt):

1. Provide distribution panelboards as indicated in the "Panelboard Schedule" and as located on the drawings. Panelboards shall be equipped with quick make/quick break thermal magnetic, molded case circuit breakers as scheduled. U.L. listed as suitable for use as service equipment.

2. Panelboard bussing and lugs shall be copper. Provide grounding bus in each panelboard, securely bonded to the box. Panelboard bus structure, main lugs, and main breaker shall have current ratings as indicated. Such ratings shall be established by heat rise tests with maximum hot spot temperature on any connector or bus bar not to exceed 50°C rise above ambient.

3. Circuit breakers shall be equipped with individually insulated, braced and protected connectors. Large permanent, individual circuit numbers shall be affixed to each breaker in a uniform position. Tripped indication shall be clearly shown by the breaker handle taking a position between "ON" and "OFF." Provisions for additional breakers shall be such that no additional connectors will be required to add breakers.

4. Each Panelboard, as a complete unit shall have a short circuit rating equal to or greater than the rating shown on the panelboard schedule. All panelboards shall be fully rated. "Series ratings" are NOT acceptable. The use of series rating of panelboards for short circuit rating is not acceptable.

5. Panelboard assembly shall be enclosed in a steel cabinet. The rigidity and gauge of steel to be as specified in UL Standard 50 for cabinets. The size of wiring gutters shall be in accordance with UL Standard 67. Cabinets shall be equipped with locks and all locks shall be keyed alike. End walls shall be removable. Fronts shall be of code gauge, full-finished steel with rust-inhibiting primer and baked enamel finish.

6. The panelboard interior assembly shall be dead front with panelboard front removed. Panelboard front shall be door in door construction with full length piano-hinge. Main lugs or main breakers shall be barriered on five sides. The end of the bus structure opposite the mains shall be barriered.

7. Panelboards shall be U.L. listed for use intended.

8. Ratings shall be as indicated in the contract documents.

9. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

   a. Square D "I-Line" **-** Design Make

F. Branch Circuit Panelboards (480Y/277 volt, 208Y/120 volt, 240/120 volts):

1. Provide branch circuit panelboard as indicated in the "Panelboard Schedule" and as located on the drawings. Panelboards shall be equipped with quick make/quick break thermal-magnetic, molded case circuit breakers as scheduled. U.L. listed as suitable for use as a service equipment.

2. Panelboard bussing and lugs shall be copper. Provide grounding bus in each panelboard, securely bonded to the box. Panelboard bus structure and main lugs or main circuit breaker shall have current ratings as indicated. Such ratings shall be established by heat rise tests, conducted in accordance with UL Standard 67.

3. Provisions for additional circuit breakers shall be such that field addition of connectors or mounting hardware will not be required to add circuit breakers to the panelboard. Bus connections shall be bolt-on.

4. Each panelboard, as a complete unit, shall have a short circuit current rating equal to or greater than the rating shown on the panelboard schedule or on the plans. All panelboards shall be fully rated. "Series ratings" are NOT acceptable. Reducing breaker ratings on the basis of series rating is not acceptable.

5. The panelboard bus assembly shall be enclosed in a steel cabinet. The rigidity and gauge of steel to be specified in UL Standard 50 cabinets. Wiring gutter space shall be in accordance with UL Standard 67 for panelboards. Each front shall include a door and have a flush, stainless steel, cylinder type lock with catch and spring-loaded door pull. All panelboard locks shall be keyed alike. Doors shall be mounted by completely concealed steel hinges. A circuit directory frame and card with a clear plastic covering shall be provided on the inside of the door. Fronts shall be of code gauge, full-finished steel with rust inhibiting iron phosphate sealer and baked enamel finish. Minimum box width shall be 20 in. Provide corbin lock keyed to match the Owner's existing system.

Provide full length piano-hinged trim allowing access to wiring gutters without removal of trim.

6. Ratings shall be as indicted on the Panelboard Schedule.

7. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

   a. 480Y/277 Volt:

      1) Square D "NF" Design Make

   b. 208Y/120 Volt and 240/120 Volt:

      1) Square D "NQOD" **-** Design Make

G. Circuit Breakers:

1. Circuit breakers below 400 amp frame shall be molded case with inverse time and instantaneous tripping functions, unless indicated otherwise in contract documents.

2. Circuit breakers 400 amp frame and above shall be 100% rated and equipped with adjustable solid state trip units with ground fault, short time, short time delay, long time, long time delay, zone interlock for ground fault and overload, front adjustable, and instantaneous trip functions as indicated.

3. Branch circuit breakers shall be quick-make, quick-break, thermal-magnetic and trip indicating, and multipole breakers shall have common trip. Single pole 15 and 20 ampere circuit breakers shall be UL listed as "Switching Breakers" at 120V ac or 277 V ac and carry the SWD marking.

4. Ratings shall be as indicated in the contract documents.

5. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

   a. Square D Micrologic trip unit. **-** Design Make

6. Enclosed Circuit Breakers shall be molded case, thermal-magnetic type, ratings as noted, with overcenter, trip-free, toggle-type operating mechanism, quick-make, quick-break action and positive handle indication. Multiple pole breakers shall be common trip type. Each circuit breaker shall have a permanent trip unit containing individual thermal and magnetic trip elements in each pose. Provide provisions for padlocking in the "off" position. Breakers shall be calibrated for operation in an ambient temperature of 40°C and shall be suitable for mounting and operating in any position. Breakers shall have removable lugs, U.L. listed for copper and aluminum conductors. Breakers shall be installed in NEMA 1 general

purpose, surface enclosures, unless otherwise noted. U.L. listed as suitable for use as service equipment.

a. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

1) Square D
2) Cutler Hammer
3) General Electric
4) Siemens

H. Motor Starters:

1. Provide motor starters, disconnect switches, etc. as listed on the Electric Equipment and Control Schedule on the drawings.

2. Starters, contactors and controllers shall comply with NEMA standards having general purpose NEMA 1 or 1B enclosure unless otherwise called for. Provide explosion proof, weather resistant of watertight construction as required. Starters shall be minimum NEMA size 0 with thermal overloads in each phase sized per NEC, motor full load amperage, service factor, and motor operating conditions.

3. Pad lock arrangements shall be provided to lock the disconnect device in the "off" position. Magnetic starters shall be provided with a control power transformer with 120V secondary and primary and secondary fusing and be sized to accept the loads imposed there on. Starters shall have LED type pilot lights. Each starter subject to electrical interlock and/or automatic control shall have necessary auxiliary contacts.

4. Auxiliary devices: Provide pushbutton stations, pilot lights, devices, relays, transformers, selector switches, electric thermostats, auxiliary starter contacts as required for functions called for. Provide separate relay for each speed to operate electric dampers or other devices as required for multispeed motor circuit.

5. Manual Motor Starter:

a. Provide all starters with thermal overload(s); and pilot light(s) except explosion-proof types, and handle lock-out provisions. Gang starter with selector switch for multispeed applications. Provide single or 2-pole as required:

1) 120 volt, single-pole, surface mounted: Square-D FG-5P and handle guard.

2) 120 volt, single-pole, flush mounted: Square-D FS-1P and handle guard.

3) 120 volt, single-pole, H-O-A selector, surface mounted: Square-D FG-71P and handle guard.

4) 120 volt, single-pole, H-O-A selector, flush mounted: Square-D FS-71P and handle guard.

5) 120 volt, single-pole, surface mounted, explosion proof: Square-D FR-1.

6. Manual Motor Starter - Speed Controller: Shall be similar to "Manual Motor Starter", above, except two-gang with motor speed control sized to handle motor indicated, with positive full on and full off bypass of speed control unit.

7. Manual Starter with Relay: Shall be similar to "Manual Motor Starter", above, except to include a two-gang box with relay sized for load indicated, and hand-off-automatic switch. Connect relay for 120V operation on load side of starter in "automatic" mode. Coordinate connection of Form C maintained contact for control with Mechanical Contractor.

8. Magnetic Starter: Shall be single-speed, across-the-line type rated in accordance with NEMA standards, sizes and horsepower ratings. Starters shall be mounted in NEMA 1 enclosures unless otherwise indicated. Magnetic starters shall be equipped with double break silver alloy contacts; all contacts shall be replaceable without removing starter or disconnecting power wiring. Starter shall have straight-through wiring. Coils shall be of molded construction and shall be replaceable from the front without removing starter. Overload relays shall be melting alloy type with replaceable control circuit module. Thermal units shall be of one-piece construction and interchangeable. Starter shall be inoperative if thermal unit is removed. Provide hand-off-auto selector switch and "run" pilot light in cover. Wire for maintained contact unless otherwise noted.

9. Combination Magnetic Starter: Shall be similar to "Magnetic Starter", above, except shall include fusible disconnect switch connected ahead of starter. The disconnect handle shall be in control of the disconnect device with the door open or closed. Disconnect handle shall be clearly marked as to whether the disconnect device is "on" or "off".

10. Combination Two-Speed Magnetic Starter: Shall be similar to "Combination Magnetic Starter", above, except with two starters, and six thermal overload units coordinated to match torque and horsepower characteristics of the motor. Starter shall be designed for variable torque operation, and shall be provided with high-low-off-auto selector switch and high and low pilot lights mounted in the cover. Wire for maintained contact unless otherwise noted.

11. Combination Reduced Voltage Magnetic Starter: Shall be similar to "Combination Magnetic Starter", above, except autotransformer closed

transition reduced voltage type with autotransformer protection by winding over-temperature device.

12. Packaged Control Unit: Shall be furnished and mounted by others, and installed and connected by Electrical Contractor. Generally consists of one or more starters, disconnect switches and additional control devices prewired.

13. Contactor: Shall be similar to "Magnetic Starter", above, except without thermal overload units.

14. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

    a. Square-D - Design Make.
    b. or approved equal.

I. Disconnect Switches:

1. Shall be heavy-duty type three-pole, with "Quick-Make, Quick-Break" operating handle mechanically interlocked with the cover, horsepower and voltage rated to match equipment served. Where indicated switches shall be provided with dual-element, time delay, rejection type fuses. Switches shall be installed in NEMA 1, General Purpose Surface Enclosures, unless otherwise noted. Provide provisions for padlocking in the "off" position. Provide neutral bar in single phase or three phase, four wire circuits, and ground bar in all switches. Provide auxiliary contacts where called for. U.L. listed as suitable for use as service equipment.

2. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

    a. Square-D **-** Design Make.
    b. or approved equal.

J. Adjustable Speed Drive (ASD) w/ Drive Bypass:

1. The ASD shall be 5 HP minimum size, UL Listed, NEMA standard frame size for horsepower rating indicated including 115% motor service factor. Short circuit rating shall be 100kA minimum. Integral solid state programmable overload relay with selectable time class (10, 20 or 30) shall be provided.

2. Units shall be wall or floor mounted as suitable for the intended location. Units shall be an integral component of a motor control center where indicated. Units shall be in NEMA 4 enclosure.

3. The unit shall be provided with a 120V control power transformer. The control power transformer shall be provided with primary and secondary fusing.

4. Cooling fans shall have removable washable filter.

5. Unit shall be of twelve (12) pulse design with 30º phase shift isolation transformer. Transformer shall be installed in a common enclosure with the ASD. Provide with 5% input and output line reactor.

6. The allowable conductor length between the unit and the controlled motor shall be at least 300 feet for a standard rated motor. Ambient temperature range shall be 0 to 40ºC with a 3300' altitude.

7. Provide a dv/dt filter to minimize voltage doubling at the motor terminals caused by excessively long motor conductors from the ASD. The dv/dt filter shall be installed at the ASD unit, preferably in the same enclosure as the ASD.

8. Door mounted selector switch for Auto-Manual control. In the auto mode, the start command and speed control shall be provided from a remote source. In the manual mode, the start-stop and speed control shall be provided through the door mounted controls. Provide extra contact blocks on the selector switch for monitoring of switch position.

9. Door mounted pushbuttons for start-stop control. Stop pushbuttons shall always be active. Door mounted LED type pilot lights for indication of On (Green) and Off (Red). Door mounted human interface module for programming, display and speed control.

10. Programming shall include:

    a. One isolated, configurable analog input.

    b. Two isolated, configurable analog outputs.

    c. Alarm digital input for automatic shutdown, field configurable for ramped deceleration, full stop and manual/auto reset. Digital input to force unit to a preprogrammed speed for smoke control or other need.

    d. Four field programmable digital outputs.

11. Field selectable isolated process control interface to enable the ASD to follow 0-5 mA, 1-5 mA, 4-20 mA, 10-50 mA, 0-8 VDC, 1-4 VDC, or 0-10 VDC grounded or ungrounded signal from a process controller. Provide RS232 or RS485 communication module board.

12. Network connection shall be suitable for unit on/off and speed control. Communication to the building control system shall include actual motor speed verification, amperage, voltage, kW, and kWh. All unit programming functions shall be accessible through network communication. Communication shall be selectable for BACnet, Metasys, Modbus, Lonworks, Profibus and the project building control system.

13. Isolation Disconnect Switch: Provide isolation disconnect switch integral to unit with a provision for padlocking in the "Off" position.

14. Drive shall be a part of a unit with a three contactor isolated manual drive bypass as described below:

    a. The manual isolated drive bypass unit will consist of two units - a bypass starter unit and an adjustable speed drive (ASD) unit. The intent of the manual isolated drive bypass unit is to isolate the adjustable speed AC drive for servicing. The ASD unit door shall be interlocked with the bypass starter unit. When in the bypass mode the motor can be energized and de-energized with the across-the-line bypass starter. Starter shall meet the requirements of a magnetic starter defined in this section.

    b. All power components shall have a normal duty rating suitable for the nominal horsepower of the application.

    c. Bypass Starter Unit: The bypass starter unit shall include the fusible disconnect or circuit breaker, the bypass contactor and solid state overload relay, control circuit transformer and terminal blocks. “DRIVE ON” and “BYPASS ON” pilot lights shall be provided to indicate operational status. Shall be three contactor design.

    d. ASD Unit: A “DRIVE-OFF-BYPASS” selector switch, a “BYPASS START” push button and a “BYPASS STOP” push button shall be provided. These pilot devices shall be located in the same control station as the “DRIVE ON” and “BYPASS ON” pilot lights on the bypass starter unit.

    e. Isolating Disconnect: The isolating disconnect shall be a six-pole device capable of making and breaking the load. Auxiliary isolating disconnect contacts will permit the operation of only one unit at a time either the Bypass Starter or the ASD.

    f. Isolation Switch Operation:

        1) Bypass Mode: When in bypass mode the “BYPASS ON” pilot light shall be energized when the bypass motor control circuit is energized. When in bypass mode the bypass starter unit and the ASD unit are isolated from one

another. In addition, the isolation switch shall have means to be padlocked, to prevent being switched to drive mode. In this mode no power shall be present in the ASD enclosure.

2) Drive Mode: When in drive mode the isolating disconnect shall permit the starter bypass unit to supply power to the ASD unit and connects the ASD unit to the motor. When the isolation switch is in the drive mode the "DRIVE ON" pilot light shall be energized. In addition, the isolation switch shall have means to be padlocked to prevent being switched to bypass mode.

3) Unit shall be of three contactor construction.

15. Harmonic Analysis:

a. A harmonic analysis shall be undertaken before and after the installation of the equipment, by the successful bidder, which shall include current waveform analysis at the source, which feeds the respective ASD's. A report shall be submitted with the shop drawings to show current waveform, Crest Factor, Form Factor, and % THD for both odd and even current harmonics calculated to the 49^{th} Harmonic.

b. The successful bidder shall perform actual field measurements of the system harmonics once the ASD equipment is installed and functioning. The report shall be submitted to the engineers for review before final acceptance. Minimum values required are:

1) 1.5 Crest Factor.

2) Form Factor.

3) Current distortion limits shall not exceed the limits of IEEE 519-1992, Table 10-3 for the I_{sc}/I_{load} ratio for the power distribution system.

4) Graphic Display of current harmonics as a percentage of the fundamental current to at least the 15^{th} harmonic.

5) Voltage THD:

a) If the voltage THD exceeds 5%, the ASD manufacturer is to recommend the additional equipment required to reduce the THD to an acceptable level.

16. Design Make: Allen Bradley Powerflex 700 w/ Drive Bypass.

17. Make: Allen Bradley, Eaton Corporation, Square D, General Electric, ABB, Emerson or approved equal.

K. Fuses:

1. All fuses rated 600 volts and below shall be rejection type dual-element, time-delay type. Provide two (2) complete sets of fuses for all fusible disconnect switches. Deliver spare fuses to the Owner and obtain receipt.

2. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

a. Fuses 600 amperes and below: Bussman Type FRS-R (600 volts), Bussman Type FRN-R (300 volts) or equivalent.

b. Fuses rated above 600 amperes: Bussman Type KRP-C or equivalent.

L. Surge Protective Device:

1. Device shall be rated for location as shown on drawings.

2. Seven Mode Protection: Line-to-neutral (three), line-to-ground (three) and neutral-to-ground.

3. Provide test report from a recognized independent testing laboratory verifying the suppressor components can survive published surge current rating on both a per mode and per phase basis per ANSI/IEEE C62.41 and C62.45 (20 kV-1.2/50 microseconds, 10 kA-8/20 microseconds). Note that test data on individual module is not accepted.

4. Surge Current Capacity - The minimum total surge current tested with the ANSI/IEEE C42.41, 10 kA-8/20 microsecond waveform that the device is capable of withstanding shall be as shown in the following table:

	Application	Min. Surge Current Per Phase	Min. Surge Current Per Mode
a.	Service Entrance (Switchboards Switchgear, MCC Main Entrance)	250 kA	125 kA
b.	Distribution Panelboards	160 kA	80 kA
c.	High Exposure Roof Top Locations	160 kA	80 kA
d.	Branch Locations (Panelboards, MCC's, Busway)	120 kA	60 kA

5. Unit shall comply with UL-1449, latest edition. Voltage Protection Rating (VPR) per Mode must not exceed the following:

   a. 208Y/120, L-N 800 volts, L-G 700 volts, N-G 800 volts, L-L 1000 volts.

   b. 480Y/277, L-N 1000 volts, L-G 1200 volts, N-G 900 volts, L-L 1800 volts.

6. UL-1283 bi-directional high frequency noise attenuation for electric line noise shall be 50 dB at 10 kHz-100 MHz.

7. Each unit shall have a UL listed short circuit rating of 200 KAIC.

8. Indication system:

   a. A green/red LED indicator for each phase.
   b. Flashing trouble light.
   c. Shall alarm open circuit damage, thermal conditions and overcurrent.
   d. Transient surge counter.
   e. Provide dry contact for remote monitoring.

9. Integrated and External mounted model.

10. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

    a. Square D **-** Design Make.
    b. or approved equal.

M. Meter Centers:

1. Provide meter centers as specified herein and shown on the associated drawings. The meter centers shall meet Underwriter's Laboratories enclosure requirements and be furnished with an Underwriters Laboratories label for service entrance equipment.

2. Incoming service shall be indicated on drawings.

3. The meter centers shall be dead front with front accessibility only required. The switchboard framework shall consist of steel channels welded or bolted to the frame to rigidly support the entire shipping section for moving on rollers and floor mounting. The framework is to be formed, code gauge steel, rigidly welded and bolted together to support all cover plates bussing and component devices during shipping and installation. Top and bottom conduit areas are to be clearly shown and dimensioned on the shop drawings. The paint finish shall be gray enamel over a rust-inhibiting phosphate primer.

4. The meter centers shall consist of individual vertical sections bolted together to form a unit assembly with meter sockets.

5. The meter centers bussing shall be plated copper and of sufficient cross-sectional area to continuously conduct rated full load current with maximum average temperature rise of 50°C above an ambient temperature of 25°C. The main horizontal or through-bus shall be rated at the amperages indicated on the Drawings and shall consist of one single continuous conductor per phase and neutral. The bus bars shall be rigidly braced to comply with the 65,000 ampere withstand rating of the meter center. The main horizontal bus bars between sections conduit area. The end section shall be bus bar provisions for the addition of a future section.

6. The provisions shall include the bus bars installed and extended to the extreme side of the section and fabricated in such a fashion that the addition of a future section would require only the installation of a single splice bus connection per phase and neutral. The joints shall be bolted with carriage bolts and Belleville washers.

7. Each meter center, as a complete unit, shall be given a single withstand short circuit current rating by the manufacturer. The withstand short circuit current rating shall certify that all equipment is capable of withstanding the stresses of a fault to the interrupting capacity rating of the smallest overcurrent protective device contained therein. Such rating shall be established by actual tests by the manufacturer on equipment constructed similarly to the subject switchboard. This test data shall be available and shall be furnished to the Architect/Engineer with the ship drawings submittal.

8. Main disconnect device shall be fusible switch totally front accessible and front connectable. The fusible switch shall be in a separate enclosure, connected directly to the meter center. All conductor connections shall be bussed.

9. Individual service molded case circuit breakers shall be connected after the meter socket hot sequence, verify with Utility Company, and shall be mounted in the meter center to permit installation, maintenance and testing without reaching over any line side bussing. Provided an externally operable mechanical means to trip the circuit breaker, enabling maintenance personnel to verify the ability of the circuit breaker trip mechanism to operate as ell as exercise the breaker latch and operating mechanisms. Each type of circuit breaker assembly shall have undergone and passed heat tests according to UL test procedures and be UL listed.

10. Ratings shall as indicated on the Drawings.

11. Provide with 120/280V, 1 phase, 3 W meter sockets in the meter centers ready to accept meters furnished by Utility Company. Meter sockets shall

be grouped in a minimum number of columns, 6 meters maximum per column.

12. Manufacturers: Subject to compliance with contract documents, the following manufacturers are acceptable:

    a. Square D "EZMeter-Pak" **-** Design Make.
    b. or approved equal.

2.2 SHORT CIRCUIT LEVELS AND COORDINATION STUDY

A. The contractor shall adjust and program all overcurrent devices. The engineer will provide the settings/ratings of the fuses, relays and circuit breaker trip units to the contractor.

B. The contractor shall submit a product information for each overcurrent device including the following:

1. Device name (load served), manufacturer, model number/type, trip unit model number, time current curve (TCC) with TCC number, and available settings and parameters.

2. Overcurrent device instantaneous selectivity tables.

3. Feeder length and size

PART 3 - EXECUTION

3.1 INSTALLATION

A. All equipment shall be grounded per the NEC.

B. Electrical distribution equipment shall have lugs/terminations suitable for the indicated conductor size. Where conductors have been oversized for voltage drop and where approved by the Engineer it shall be allowed to reduce the conductor size using hydraulically crimpled splice in a box next to the distribution equipment to allow for standard lug termination.

C. Install dry-type transformers with adequate clearances for proper ventilation. Bolt floor mounted transformer to floor utilizing vibration isolators.

D. Distribution switchboards, motor control centers and floor mounted dry-type transformers shall be mounted on 4 in. high concrete pads which shall extend 3 in. on all sides. Securely bolt the unit to the pads for proper horizontal and vertical alignment.

E. Coordinate transformer pad dimensions with transformer manufacturer's requirements. Coordinate transformer pad locations, dimensions and details with General Contractor.

F. Motor Starters:

1. Coordinate overload and fuse sizes with Division 23 Contractor.

2. Coordinate termination of control wiring with Division 23 Contractor.

G. Variable Frequency Drives:

1. Set in place controllers on 4 in. high concrete base, on wall or freestanding steel frame as required. Completely erect and assemble, including shipping splits and make respective connections from terminal or terminal strips to any miscellaneous control devices.

2. Provide respective line side power supply connections to load side power terminals. Adjust unit controls in accordance with manufacturer's instructions.

3. Adjust unit controls in accordance with manufacturer's instructions.

4. A factory-trained manufacturer's service representative shall provide complete start-up services at the site during construction plus a separate (after startup on a 100% correctly operating drive) 4 hour training session for the Owner. Coordinate start-up and controls with Division 23 Contractor.

5. Equipment manufacturer to provide a **TWO** year full parts and labor warranty from date of start-up and Owner acceptance.

H. Identification:

1. Identify all items of equipment as described in Section 260501.

3.2 ELECTRICAL LOAD TEST

A. Conduct a load test prior to request for final payment and comply with the following:

1. Energize maximum normal light and power load for a period of two hours when scheduled.

2. Record voltage at service and at each panel.

3. Measure current in each phase of all feeders.

4. Adjust transformer taps as directed by engineer after review of report.

5. Provide and install all necessary metering equipment.

6. Owner's Representative or site representative shall witness the test.

7. Before final acceptance specified test shall be completed to the satisfaction of the Owner's Representative who shall be sole judge of the acceptability of such tests and who may direct the performance of such additional tests as deemed necessary in order to determine the acceptability of the systems, equipment, material and workmanship. Additional tests required by the Owner's Representative shall be provided at no additional cost. Protective equipment shall be actuated in a manner that clearly demonstrated their workability and operation.

3.3 SPARE PARTS

A. Deliver loose equipment to the Owner and obtain receipt for fuses, keys to panelboards, etc.

END OF SECTION 26 20 00

SECTION 28 13 00 - ACCESS CONTROL SYSTEM

PART 1 - GENERAL

1.1 ACCEPTABLE MANUFACTURERS

A. All access control equipment for the project shall be purchased by the Rochester Schools Modernization Program via New York State Contract and turned over to the Electrical contractor for installation as Owner supplied. The Electrical contractor shall be responsible to provide the services to develop the Access control system documentation, programming, installation of the equipment, wire, wire terminations, back boxes, conduit, wire-mold, fasteners, common installation material and commissioning such that the project has a complete and workable access control system compliant with section 281300.

1.2 WORK INCLUDED

A. Provide labor, material, equipment (outside of Owner supplied), services and warranty for a complete installation. startup and commissioning of the access control wiring as required in contract documents. Provide wiring, conduit, wire terminations, back boxes, wore-mold, fasteners and common installation material required to connect devices furnished as part of, or integral to the access control system regardless of the source of the supply. Control wiring includes, as required, 120v and lower voltage wiring for control signals directing equipment operation. Control circuits 24Vac in general, and no more than 120VAC where required. Provide wiring in accordance with the requirements in division 26, “Electrical “of this document and the National Electrical Code. Provide all devices required for proper system operation including electrical switches, transformers; disconnect switches, sensors, safety devices, power supplies, enclosure, and circuit breakers. Provided all wiring and terminations for the Access control system in accordance to the specification and detailed engineered drawings provided by factory representative. Provide all assembly, programming and testing of all items as necessary to create a coherent system, encompassing all combined intents of design, drawings, specifications, addenda, and professional quality of work.

B. The intent is a seamless expansion of the existing Andover building management system. This is to be defined as use of common programming methodology; communication protocol and operator interface such that the end product provides end user services in a manner identical to the system as currently installed. Hardware and software product which do not meet this design intent shall not be acceptable.

C. See project responsibility matrix below:

Electrical Prime Scope of Work Matrix
(EC) is the Prime Mechanical Contractor
(RCSD) is the Rochester City School District
(SI) is the System integrator, subcontractor of the Prime Electrical Contractor

Products				
Access control	Provided By	Installed By	Control Wiring By	Programmed By
Access control panels	RSMP	EC	EC	SI
Access door control modules	RSMP	EC	EC	SI
Input/Output boards	RSMP	EC	EC	SI
Proximity Card Readers	RSMP	EC	EC	SI
Door contacts	RSMP	EC	EC	SI
Request to exit sensors	RSMP	EC	EC	SI
Relays	RSMP	EC	EC	SI
ADA panels	RSMP	EC	EC	SI
Photobadge printer	RSMP	EC	EC	SI
Gate control long range reader	RSMP	EC	EC	SI
Mounting pedestal/backbox	**EC**	EC	EC	NA
Lockdown button	RSMP	EC	EC	SI
Door release button	RSMP	EC	EC	SI

1.3 SCOPE OF SYSTEM

A. Basic System Characteristics

1. The ACS shall communicate with the existing native TCP/IP Primary Network Controllers over the Owner's existing Ethernet TCP/IP enterprise network.

2. The ACS shall be capable of controlling a minimum of 12,000 doors, 57,000 cardholders; monitoring up to 100,000 supervised input points, and activating up to 100,000 output control points.

B. Base Bid

1. Contractor shall provide the ACS and work as shown on the drawing and specified herein including but not limited to the following:

a. Integrate ACS to the SMS Workstation.
b. Workstation Peripherals.
c. Access Control and Alarm Monitoring Controllers.
d. Utilize the existing Primary Network Controllers.
e. Local Field Controllers.
f. Field Hardware Devices.

g. Software Modules Required for Specification Operation.

1.3 REFERENCED AND SYSTEM CERTIFICATIONS

A. Design and operation of the SMS shall conform to the following referenced codes, regulations, and standards as applicable:

1. National Electrical Code (NEC)

2. UL 294 Access Control Systems

3. UL 1076 Line Supervision

4. FCC Rules and Regulations

5. Part 15, Radio Frequency Devices

6. National Electrical Manufacturers Association (NEMA)

7. Applicable Federal, State and Local laws, regulations, codes

8. Americans with Disabilities Act (ADA)

1.4 QUALITY ASSURANCE

A. Manufacturer: Andover Controls, or approved equal.

B. Installer: Company specializing in Security/Access Control Systems with a minimum of five years experience.

1.5 SUBMITTALS

A. Contractor shall submit all items in accordance with the requirements of Division 1, Submittals, and shall include, but not be limited to the following:

1. Model numbers of all components furnished on the job

2. Manufacturer’s catalog data sheets for all components

3. Complete engineered drawings indicating:

a. Point-to-point wiring diagrams for all devices

b. Termination details for all devices

c. Single-line system architecture drawings representing the entire system.

1.6 GUARANTEE

A. Period: The Contractor shall warrant all labor, workmanship and materials for a period of one (1) year from the date of final acceptance. Should a failure occur within the first year to the access control system, the Contractor shall provide all labor and materials necessary to restore the system to a complete operating condition, at no cost to the Owner.

1.7 SYSTEM DESCRIPTION & CAPABILITIES

A. Primary Function: The ACS's primary function shall be to regulate access through specific doors and gates to secured areas of the Owner's.

1. The ACS shall allow the configuration of an alarm and display workstation. The workstation and Primary Network Controllers shall be connected via the Owners high-speed IEEE 802.3 Ethernet backbone running TCP/IP protocol. This backbone shall be capable of having up to 256 nodes, i.e. workstations, servers, and Primary Network Controllers connected to it.

2. The Primary Network Controllers shall support multiple communication ports including an RS-485 network from which up to 254 standalone field controllers such as an access controller and alarm monitoring controllers connect.

3. The Alarm Monitoring and Display Workstation shall be able to monitor field hardware devices, such as card readers and field controllers. Administrative tasks such as assigning areas, schedules, report generation, displaying color graphic maps, etc. shall be provided from any Workstation on the network.

B. System Design: The ACS shall be designed to perform a wide variety of features and functions. These system functions should be categorized into three (3) primary "system departments" which shall include:

1. Access Control: The ACS's primary purpose shall be to provide access control. The system shall be able to make access granted or denied decisions, define access privileges, and to set schedules and holiday groups. All inputs and outputs shall be capable of being transmitted globally across all system networks. And through the use of application programming these inputs and outputs shall be capable of being linked at all field panels for purposes of implementing system-wide control strategies. The system shall support features such as area control, anti-passback, dial-up field hardware communications, extended shunt time, and multiple-man rule.

2. Alarm Management: The SMS shall be used for alarm monitoring. A color graphic application shall allow a user to create or import customized color graphic maps of their facility and to attach alarm icons to those maps. Alarms are to be prioritized. A status window shall provide

information about the specific alarm including date and time and location of the alarm. The SMS shall allow unique emergency instructions to be specified for each type of alarm.

Output control operations shall be available to lock, unlock or pulse control points, or groups of points as a standard feature. A cardholder call-up feature allows the quick search and display of images in the database. A user journal shall be available to log important daily events. A trace function shall be available for users to locate and track activity on specific cardholders or card readers.

3. Cardholder Management and Enrollment: The SMS shall include an employee management system integrated with the access control system. This employee management functionality shall allow the enrollment of cardholders into the database, and import/export of employee data. This functionality shall also allow the user to assign or modify access privileges of a cardholder.

PART 2 - PRODUCTS

2.1 OPERATIONAL REQUIREMENTS

A. General: The design of the ACS shall include devices and equipment used to monitor and control access to restricted areas, detect and deny unauthorized entries within specific buildings or areas, annunciate alarms and generate reports. Once incorporated with the day-to-day operations of the designated facility, this system shall detect and deter unauthorized entry into restricted areas.

B. Functional Responsibilities: The Owner shall have the responsibility for managing and operating the system, as well as maintaining the graphical representations of the designated facility input into the system's color graphics application. It shall be the responsibility of the Owner to enroll all personnel.

C. Operational Concept: The ACS shall consist of equipment and devices placed at predetermined locations to ensure that only cardholders that are authorized to enter secured areas through certain doors can do so. This shall be accomplished by means of a computer and electronic devices used in conjunction with door locks, card readers, and/or closed circuit television.

1. When an employee is newly hired or is changing job responsibilities, a personnel form shall be available within the SMS application. This employee data screen shall contain at a minimum 114 data entry fields of information. The employee data screen shall allow for multiple pages of user information that can be input upon enrollment. Beyond the 50 fixed fields there shall also be 64 user-definable fields. These fields shall vary in character length as dictated by the system. Data fields shall be assigned as alphanumeric or numeric.

D. System Expansion

1. System shall be expandable and shall only need programming, Ethernet Connections, and field wiring bus to add Equipment at the designated locations. Systems requiring Gateways or separate programming languages will not be acceptable.

2.2 FEATURES

A. The SMS system shall combine keyboard and mouse operations with graphical presentations of screen information. Each application shall provide consistent user interfaces across all operations of the system. Practical methods of generating help options, standard terminology, and menus shall be required. All routine information displayed and requiring input shall be in English language prose. No operation shall require the interpretation of machine code or the use of mnemonics.

B. Access Control

1. Access Privileges - All cardholders shall have facility access based on privileges assigned by controlled area, time and date. For example, some badges shall only allow access to the facility on weekdays between 8:00 a.m. and 5:00 p.m., while others allow access on weekends between 1 p.m. to 5 p.m. and so on. These time zones for each day are to be pre-defined by the Owner and shall be able to be modified quickly by authorized employees without vendor intervention. There shall be an unlimited number of user-definable access privileges.

2. Holidays - The Holidays application shall allow the Owner's System Administrator to create holiday schedules that designate individual days as holidays, or special days to cover vacations, maintenance shutdowns, or other events, indefinitely into the future. Holidays or special days can signal that the system shall operate on a schedule different from the normal schedule. The system shall not limit the number of holiday or special schedules that can be created.

3. Time / Date - The time and date of the system shall be set by the operating system of the client workstation. Dates for Daylight Savings Time shall automatically take effect.

4. Global Data Exchange and Operating Strategies - The SMS shall provide global data exchange and operating strategies. The system shall allow any input point configured in the system (i.e., door tamper, duress, etc.) to permit activation of any control output point such as a relay(s) that opens a door and/or sounds an alarm. The logic shall be developed using an application programming language that shall be capable of incorporating other parameters such as date and time; it shall not be limited by a fixed number of rules, or the simple linking of inputs to outputs. The global operating strategies feature shall provide the ability to drive any system output or outputs from single or multiple inputs, access events, alarms, etc. Each output point shall be controllable by the system and be configurable individually for the following responses:

5. Output relays (and groups) shall be capable of responding to:

    a. Input alarms from any field panel or card reader point in the system, or any combination thereof.

    b. Access events.

    c. Date and time parameters.

    d. Commands from a user.

6. Output relays (and groups) shall be capable of:

    a. Pulsing for a predetermined duration; duration shall be programmable for each relay individually.

    b. "Following" any input point from any field controller, I/O module, or card reader input in the system (on with alarm, off when clear, or as required).

    c. Locking On with alarm, requiring user intervention to reset the output relay.

    d. The system shall permit output relays to be ordered on, off, pulsed or reset back to a default setting.

7. Shunt Time: A Shunt Time feature shall be provided to allow users to program, at the door level, a length of time to hold a door open without creating an alarm condition at the monitoring workstation. The shunt time feature shall be usable by any cardholder with an active badge and appropriate access rights. Valid open times shall range from 0-9999 seconds. If the door fails to close prior to the expiration of the shunt period, a "door held open" alarm shall occur at the system's monitoring workstation. If the door is closed prior to the expiration of the shunt period, the door position switch shall become active immediately, allowing a “door forced open” alarm to be annunciated in the event of an intrusion.

8. Manual Control: A user shall have the ability to easily dictate manual control of all output points connected to the system via color graphic maps. Control points are defined as any door strike or any other relay output point of a Local Field Controller and I/O module. The System Administrator shall have the option to group these outputs to simplify common output command procedures.

9. All system outputs shall display upon command from the user in a list window or graphic map. The list and commands shall be operational without interfering with alarm monitoring operations. If an output is ordered to a setting, and is also on time zone control, the last command shall always override.

10. All manual control commands shall record into the activity log for viewing by any user given proper privileges to do so.

11. Manual control for doors, or any relay output, shall allow the user to disable the door/output (to not accept any cards), unlock the door/output (leaving the door strike unlocked), pulse the door/output open or reset the door/output to a pre-defined default setting.

12. Arm-Disarm: The user shall have the ability to determine the current status (armed or disarmed) as well as the current state (alarm/normal/fault) of an input point from an input list view at any time.

13. The user shall have a “Status” item in the list view. Both the current status and state shall be reflected by the color of the respective columns in the list view.

2.3 FIELD HARDWARE DEVICES

A. Overview: The ACS shall be equipped with the field hardware required to receive alarms, administer all access granted/denied decisions, provide interface capability to third-party systems, and implement global operation strategies. Depending upon the configuration, the ACS field hardware shall be able to include any or all of the following features:

1. Real Time Clock (RTC): A battery backed RTC shall provide the following information: time-of-day, day, month, year, and day-of-week. In normal operation, the system clock will be based on the frequency of the AC power. The system shall automatically correct for daylight savings time and leap years. The system shall provide means to synchronize the time between all controllers and workstations on the network.

2. Automatic Restart After Power Failure: Upon restoration of power, all controllers shall automatically and without human intervention: update all monitored functions; resume operation based on current, synchronized time and status, and implement special start-up strategies as required.

3. Approval Listings: As a minimum, all controllers shall be listed to comply with UL Standards 294 and 1076, FCC, and CE.

4. Indicator Lamps: As a minimum, all controllers shall have LED indication of Power Status, CPU/Activity status, Comm status and Error status.

B. Primary Network Controllers: Extend the existing Primary Network Controllers (PNC) to provide overall system coordination, accept control programs, perform automated control functions and security management and perform all necessary mathematical functions. It shall also be possible to permit multi-user operation from workstations and laptop service tools connected either locally or globally.

1. The PNC communication will be based around the Owner's existing Ethernet network at 10/100 MBPS**. A separate, dedicated, security network is not needed and thus not acceptable.** The PNC shall be a native TCP/IP device and shall not require use of terminal servers or other devices to allow direct Ethernet connectivity. Use of PC's that serve as Ethernet gateways to the field controllers shall also not be acceptable.

2. PNC's shall be microprocessor-based, multi-tasking, multi-user, and use real-time, digital control processors. Each control panel shall consist of modular hardware including power supply, CPU board, and input/output modules. A sufficient number of PNC's shall be supplied to fully meet the requirements of this specification and the drawings and riser diagram.

3. All PNC's on the Ethernet TCP/IP LAN/WAN shall be capable, out-of-the box, to be set up as a Web Server. The PNC shall have the ability to store HTML code and "serve" pages to a browser. Any computer on the network running any operating system capable of running a standard Internet browser shall allow the user to access real-time data from the PNC's via a standard Internet browser (Netscape / MS-IE) utilizing a TCP/IP Ethernet connection. Graphics and text-based pages shall be constructed using standard HTML code. The interface shall allow the user to choose any of the standard text or graphics-based HTML editors for page creation. It shall also allow the user to generate custom graphical pages and forms. The WEB interface shall be capable of password security, including validation of the requesting PC's IP address. The WEB interface shall allow the sharing of data or information between any controller, or process or network interface (BACnet, LON and TCP/IP) that the SMS has knowledge of, regardless of where the point is connected on the SMS network or where it is acquired from. The SMS WEB server shall have the ability to acquire any necessary graphics using standard pathing syntax within the HTML code mounted within the SMS WEB server. External WEB server hardware and software are not acceptable.

4. The PNC shall be equipped with an application-programming environment to allow users to create custom applications. All application

programs are to be developed using an easy-to-use plain English oriented programming language inclusive of a complete set of Boolean logical expressions. Use of high level programming languages such as C or C++, or system manufacturer defined "canned" application programs will not be permitted. Application programs shall be used to enhance the functionality of the SMS by permitting custom control strategies and third-party user interfaces to be implemented. All programs shall be self-documenting by allowing the users to place comments anywhere within the body of the program.

All global data shall be capable of being referenced at any PNC or Local Field Controller and used in application specific programs to control an output, or multiple outputs at that controller. Use of simple matrices to allow linking of inputs to outputs to meet this intent is not acceptable.

5. Memory: A minimum of 4MB of RAM shall be provided for Ethernet-based PNC's.

6. Communication Ports: Each Ethernet based PNC shall provide a powerful multi-user solution for network communications and information management across a high speed Ethernet based network at 10/100/1000 MBPS. The PNC may be supplied to operate on Ethernet using the TCP/IP protocol or over standard dial-up modem.

    a. Backbone based controllers shall provide communication to both the high speed Ethernet LAN and the Secondary Level Field bus. For Ethernet based Controllers, connections shall be available for 10Base-T, 10Base-2 and 10Base-FL media.

    b. As a minimum, the PNC shall have built-in network communication error checking to the International Standard CRC16. Typical communication media shall be 10Base-T (unshielded twisted pair) cable; the SMS vendor shall provide converters for duplex fiber optic transmission, particularly for external cable runs.

    c. This PNC shall provide four programmable RS-232/RS-485 ports for the Secondary Field Bus or printers, modems, terminals, and third-party software interfaces. A LON communications bus shall also exist for a family of application oriented I/O modules. The I/O bus shall permit LON communications using RS-485 or FTT-10.

7. Networking: Each PNC shall be able to exchange information with other PNC's over the high speed LAN. The network structure shall be transparent such that each controller may store and reference all global variables available in the network for use in the PNC's calculations or programs. Each PNC shall also have access to any of the readers, card records, inputs, outputs, and calculated variables contained in Field controllers that are connected to it through its local field bus.

8. Power Supply: PNC's shall operate from 100 to 240 VAC 50/60 Hz power. Line voltage below the operating range of the system shall be considered outages. The controller shall contain over voltage surge protection, and require no additional AC power signal conditioning.

9. Battery Back-up: The PNC battery backup UPS circuit with built-in battery charger shall provide automatic battery backup UPS power in event of AC line failure. Each PNC shall have a programmable battery back-up providing a choice of shutdown options, at least 72 hours of battery backup to maintain all volatile memory and real-time clock. Alternatively, this battery shall provide for full UPS operation for a minimum of 60 minutes.

C. Secondary Network Controllers

1. Local Field Controllers: Local Field Controllers (LFC) shall provide intelligent, stand-alone control of the facility. They shall contain their own internal RAM memory and continue to operate all local control functions even in the event of a Primary Network Controller processor failure. In addition, the LFC's shall be able to communicate to other controllers on its Field Bus even in the event of PNC failure. The LFC's shall maintain data integrity during a power failure through UPS or battery backed RAM.

2. LFC shall have the following:

   a. Integrated testing and diagnostics for self-testing.

   b. Suitable interfaces and appropriate universal inputs and outputs for the connection of mechanical or electrical plant equipment.

   c. Manual override facilities on all universal outputs for testing and commissioning purposes.

   d. Unique software address point on the network that does not require the manual setting of DIP or DIL switches.

   e. The provision of a service port facility to permit local access to be established as well as global networking data interrogation facilities.

3. These LFC's shall have facilities for local override, control and monitoring via either a built-in LCD keypad and display, or a remote wall/room mounted LCD keypad and display. The override displays shall be freely programmable, to display or allow adjustment of any parameter within the total system, and not just the associated field processor points.

4. The LFC's shall cover the following range of types:

   1) Access Control
   2) Intrusion Detection

5. The LFC shall be equipped with an application-programming environment to permit users to create custom applications. All application programs developed utilize an easy-to-use plain English oriented language. Use of high-level programming languages such as C or C++, or system manufacturer-defined "canned" application programs shall not be permitted. Application programs shall be used to enhance the functionality of the SMS by permitting custom control strategies and third-party user interfaces to be implemented. All programs shall be self-documenting by allowing the users to place comments anywhere within the body of the program. All global data shall be capable of being referenced at any Local Field or PNC and used in application specific programs to control an output, or multiple outputs at that controller. Use of simple matrices to allow linking of inputs to outputs to meet this intent is not acceptable.

D. Access Controllers

1. Description: Access controllers shall provide standalone operation of up to eight doors on a standard controller. Each controller shall store the personnel records for up to 78,000 card (or PIN) holders. In addition, each access controller contains inputs for monitoring door contacts, motion detectors and other supervised security input devices. Control programs shall be stored in battery-backed RAM. Each controller shall have the intelligence to perform all access control strategies, without communication to other controllers, for control functions not requiring data from other controllers.

   a. Each controller shall be able to have its program edited and/or modified either locally through a laptop service tool or through a Workstation connected to a Primary Network Controller.
   Each access controller shall complete its internal scan in less than one second. Each scan shall consist of updating of readers and keypads, supervised inputs, importing of data from other controllers, performing mathematical calculations and sequencing appropriate outputs for local control of doors, elevators, and other related devices. The maximum time for door opening from the proper presentation of a card shall be less than 1 second.

2. Memory: Local Access Controllers shall have a minimum of 256 Kb RAM, 512 Kb ROM, and 1 Mb EEPROM.

3. Communication Ports: Access Controllers shall provide communication to the field bus. In addition, a port shall be provided for connection to a laptop service tool to support local programming and parameter changes. It shall be possible from this port to access and program any controller on the field bus, any Primary Network Controller on the high speed LAN, or any Field Controller on a different field bus.

4. Input/Output:

a. Inputs:

1) The input section of the access controllers shall provide up to eight card reader channels and eight keypad channels. In addition, up to 32 supervised inputs on the controller shall be used for request-to-exit devices, door status devices, and general digital monitoring.

2) The card reader inputs shall accept Wiegand or ABA style readers including swipe, proximity, magnetic stripe (Track 2), and biometrics. Swipe readers shall be powered directly from the controller. Proximity readers shall have an external 12 VDC source.

3) Each supervised input circuit shall be able to distinguish among normal operation, a short, open circuit, or a fault. Inputs shall be able to utilize double resistor-based supervised circuits.

4) A normally open momentary switch shall be used for external tamper detection. The on-board switch shall detect whenever the cabinet of the access controller has been opened. A rear tamper switch shall also be provided to detect removal of the cabinet from the wall.

b. Outputs:

1) Output types shall be digital for control of doors. Each Controller shall provide up to eight door outputs and one auxiliary output for ON/OFF control of annunciators, lights, etc. Outputs shall be available with built-in override switches.

2) The digital outputs shall be rated for 24 VAC/DC operation at 5 amps minimum. Each output shall have a corresponding LED for visual indication of its state.

3) A board-mounted switch shall be provided for each output allowing local overrides. The position of the switch shall be detectable in software and available for alarm annunciation. If override switches are not provided on board, external switches shall be provided and wired to include feedback and alarming of the switch position, and shall be mounted in a locked enclosure.

5. Networking: Each Local Field Controller shall be able to exchange information between other Field Controllers and Primary Network Controllers during each field bus scan. The network structure shall be transparent such that each Field Controller may store and reference any global variables available in the network for use in the local controller's calculations or programs. Each Field Controller shall be capable of storing and referencing global variables. This peer-to-peer capability shall permit full entry/egress operation across any controllers on the network.

6. Power Supply: The LFC shall have a built-in, selectable power supply of 120/240 VAC 60/50 Hz, with a tolerance of +/- 20%.

7. Battery Backup: Each access controller shall have at least 72 hours of battery backup to maintain all volatile memory. Provide UPS for full operation for a minimum of 2.5 hours, expandable by use of additional batteries.

8. Packaging: The standard housing for the access controllers shall be a minimum of NEMA 1 rated enclosure. The enclosure shall include a ruggedized key lock to prevent unauthorized access, external power indication, and rear tamper switch.

E. Field Hardware Power Supplies: Power Supplies for field hardware shall be compatible with the SMS equipment installed. Power supplies shall be regulated, linear and isolated versions for the field panels and other equipment. Each version shall be available in UPS with battery back-up and non-UPS models. All power supplies shall be housed in tampered, locked enclosures.

2.4 PROXIMITY READERS

A. Provide readers as specified below:

1. Reader shall be equipped with a choice of mounting accessory kits for either glass and mullion mounting or surface mounting.

2. The reader shall contain an LED and a beeper that can be controlled individually by the host system.

3. On reader power-up, an internal self-test routine shall check and verify the setup configuration, determine the internal or external control of the LED and beeper, and initialize the reader operation.

4. The reader shall be sealed in a weatherized polycarbonate enclosure designed to withstand harsh environments and provide a degree of vandal resistance for reliable performance anywhere.

5. The reader shall interface with all existing Wiegand protocol access control systems. Reader output shall be in Wiegand format.

6. The reader shall include a tamper switch to provide electronic notification of reader tampering.

7. The reader shall recognize over 137 billion unique codes.

B. Design Makes:

1. "Point": HID ProxPoint Plus.

2. "Mini": HID MiniProx.

3. "Square": HID ProxPro.

4. "Vandal": Similar to Radionics K2002 (Semi-Flush Stainless Steel).

5. "Mini-Vandal": HID RP40 Multiclass Reader.

2.5 ELECTRIC DOOR STRIKE

A. Fail Secure Operation: Electrical activation shall react strike jaw, releasing latch-bolt so door can be opened without operating the latch itself.

B. When the door strike is in the located position, it shall be possible to gain access to the building through use of mechanical key lock, and exit the building by operating the interior side door hardware.

C. Rated for use with conventional mortise latch locks, cylindrical locks, unit locks and mortise panic exit devices.

D. Heavy-Duty stainless steel construction; durable 2,000,000 cycles; 1500 lbs. Holding strength; 70 lbs. Impact strength.

E. Exterior locations shall be UL listed burglary resistant.

F. UL listed for fire doors and frames: A label for single doors; B label for double doors.

G. Strikes shall meet or exceed the requirements of ANSI 156.5, Grade 1, 1992.

H. Custom color and finish as selected by Architect.

I. Capable of being continuously energized with silent operation.

J. 24 volt DC with remote mounted individually enclosed step-down transformer with in-line fusing.

K. Verify electric strike is compatible with existing door frame and hardware prior to pricing.

L. Acceptable Manufacturers:

1. Von Duprin.
2. Adams Rite.
3. Folger Adams.
4. HES.

PART 3 - EXECUTION

3.1 CONTRACTOR RESPONSIBILITIES

A. Installation of the security management system shall be performed by the Electrical Contractor. However, all installation shall be under the personal supervision of the Manufacturer's Representative. The Manufacturer's Representative shall certify all work is proper and complete. The design, scheduling, coordination, programming, training, and warranty requirements for the project shall be performed by the Manufacturer's Representative.

3.2 CLEANUP

A. At the completion of the work, all equipment pertinent to this section shall be checked and thoroughly cleaned, and all other areas shall be cleaned around equipment provided under this section. Clean the exposed surfaces of hangers and other exposed metal of grease, plaster, or other foreign materials.

3.3 WIRING, CONDUIT AND CABLE

A. ALL wiring (high voltage, 50 volts and greater) and conduit is to be installed in accordance with local and national electrical codes and Division 16 (Electrical division) specification.

B. All security control cable less than 50 volts shall to be considered low voltage.

C. All low voltage cable is to be run in conduit in any non-accessible concealed space and up to 10 ft. above floor level within mechanical rooms. Wiring above 10 ft or within accessible areas (ceilings, crawl spaces) may be run exposed with proper support with bridle rings. Wiring shall be run parallel and perpendicular to building lines in a neat and workmanlike manner and bundled with nylon tie wraps.

D. Conduit sleeves shall be run through any concrete or block walls for low voltage cable to be run through such walls.

E. All low voltage cable shall be run separate from high voltage cable. All microprocessor communications cable shall be run separate from any low or high voltage cable.

F. Any cable running in plenum rated areas shall be plenum rated cable.

G. Coaxial cable shall conform to RG62 or RG59 rating. Provide plenum rated coaxial cable when running in return air plenums.

H. Fiber optic cable shall include the following sizes; 50/125, 62.5/125 or 100/140.

I. Only glass fiber is acceptable, no plastic will be allowed.

J. Fiber optic cable shall only be installed and terminated by an experienced contractor.

K. Wires shall be installed a minimum of three (3) inches from hot water, steam, or condensate piping.

L. A true earth ground shall be available in the building. Ground shall be run from the source electrical panel ground to each controller.

M. Metallic surface raceway may be used in finished areas on non-accessible masonry walls AS APPROVED BY OWNER AND/OR ARCHITECT/ENGINEER. All surface raceway in finished areas shall be color matched to the existing finish within the limitations of standard manufacturer's colors.

3.4 INSTALLATION

A. Installation of the ACS shall include the appropriate equipment and shall be performed by a factory-trained Contractor Installer. The installation shall be completed to meet the requirements of this specification and the project drawings. The installation shall include the following:

1. Site planning and system configuration of field hardware and ACS.

2. Complete hardware setup of all system Workstations and peripherals.

3. Complete configuration of all system Workstations, peripherals and installation of field hardware.

4. Setup of specific network software configuration requirements.

5. Complete system diagnostics verification.

6. Complete system operation verification.

7. Problem reporting and tracking.

8. Project specific installation log.

9. Completion of specific customer acceptance test plans.

10. Programming and set-up of all ID cards and data bases.

11. Formal turnover of the specific project installation documentation to Maintenance Service Organization.

3.5 ELECTRIC DOOR STRIKE

A. Remove existing latch hardware. Modify existing door frame.

B. Provide electric door strike.

C. Provide branch circuiting inside door frame.

D. Coordinate with other trades.

E. Verify compatibility with existing door frame and hardware prior to pricing.

3.6 FIELD QUALITY CONTROL

A. General: Quality control services include inspections, tests, and related actions. Inspection and testing services are required to verify compliance with the requirements specified or indicated.

B. Quality Assurance

1. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source, and from the same manufacturer.

2. Descriptive Specification Requirements: Where specifications describe a product of assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics or otherwise complies with contract requirements.

3. Performance Specification Requirements: Where specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

C. Installation of Products

1. Comply with manufacturer's instructions and recommendations for installation of product in the applications indicated. Anchor products securely in place, accurately located and aligned with other work.

2. The Contractor is responsible to remedy defects due to faulty workmanship and materials that appear within one year from the date of acceptance in accordance with the General Conditions, unless Specifications specify a different duration.

3.7 SYSTEM ACCEPTANCE TEST

A. Phased Testing: A phased acceptance test and performance demonstration program shall be developed and documented by the Manufacturer's Representative. These requirements shall apply to all system components and software, including, but not limited to all system computers, field panels, card reader devices, CCTV cameras and equipment and interface capability. The Manufacturer's Representative shall perform the tests and document the results under the supervision and witnessing of the Owner and Engineer. Operational scenarios shall be developed and used by the Contractor to simulate the actual use of the system in the normal environment of the Owner's facility. The Engineer reserves the right to modify the Contractor's plan or develop new operational test and evaluation procedures to effectively document system operations.

3.8 SYSTEM DOCUMENTATION

A. Complete documentation shall be provided with the system. The documentation shall completely describe all operations, each program, data sets and the hardware and peripherals. All updates, addendum and adjustments to the documentation shall be provided at no additional charge, in the same quantities as originally required. Each Division shall define the initial quantities.

1. System Administrator Manual - Overview and step by step guide and instructions detailing all System Administrator responsibility and authority.

2. User Manual - Step by step guide and instructions detailing all system user functions and responsibilities.

3. Alarm Monitoring Manual - Step by step guide and instructions detailing all alarm monitoring system user functions and responsibilities.

4. Technical Maintenance Manual - Shall be a comprehensive and detailed document providing all maintenance action, system testing schedules, troubleshooting flowcharts, functional system layout and block diagrams and schematic diagrams of all system wiring.

3.9 SYSTEM TRAINING

A. Include four (4) four hour sessions of system training on-site by a representative of the SMS manufacturer during the warranty period. Training shall take place before the system is operational. A detailed description of the training material shall be included in the submittal package. All training courses shall enable the attendees to be capable of all normal system operations within their respective positions.

B. System Administrators shall receive a course detailing the system functions and operations. Course shall offer configuration training on all aspects of the system including data import-export, reports, cardholder management, system workstations, peripherals and field hardware.

C. Alarm Monitoring Users shall receive a course detailing the operation of all aspects of alarm monitoring functions, reports, error messages, alarm handling, output relay control and general overview of field hardware.

END OF SECTION 28 13 00