

Project Manual For

COMMUNITY HIGH SCHOOL DISTRICT 99

Project No. 07-5274-36D

Downers Grove South Roofing Project

Prepared For

COMMUNITY HIGH SCHOOL DISTRICT 99

1436 Norfolk Street

DOWNERS GROVE, IL 60516

BID PACKAGES-GROUP 1

Bid Package # 01.....Roofing

February 15, 2017



DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS
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Project: Community High School District 99
Downers Grove South- Roofing Project
Project No. 07-5274-36D

Owner: Community High School District 99
4436 Main St.
Downers Grove, IL 60515

Architect: Wight & Company
2500 North Frontage Road
Darien, Illinois 60561

Date: *February 15, 2017*

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END OF SECTION 00010

NOTICE TO BIDDERS:

Notice is hereby given that *Community High School District 99* is accepting sealed bids for the *Downers South High School Roofing Project*. Such proposals as herein concerned shall be for the following as described:

BID GROUP NO. 1 BID PACKAGE #01:

Bid Package #01 – Roofing

SEALED BIDS will be received by *Community High School District 99* at the place, date and time stated below and publicly opened and read there:

PLACE:
Administrative Center
6301 Springside Avenue
Downers Grove, IL 60516

DUE DATE:
Thursday, March 9, 2017

TIME:
1:00 PM (CST)
(as Date/Time stamped by
District 99's Receptionist)

All bids must be sealed and marked on the envelope with the bid package title and bid package number.

Pre-qualification of all bidders in this bid group is required prior to the bid due date. Submit one fully executed copy of AIA Document A305 "Contractor's Qualification Statement" prior to submitting this bid form. In addition to supplying this form, each trade Contractor is also required to answer the following questions and provide these answers with your AIA Document A305.

The Construction Manager for this project is Wight Construction, Inc. All questions concerning this project or those concerning bidding requirements should be directed to Craig Polte at 630-918-8120. **Questions must be received in writing, or via email (cpolte@wightco.com), until 12:00 PM, Friday March 3rd.**

The competency, experience and responsibility of the bidders will be considered in making awards. Bid security in the form of a Bid Bond, certified or Bank Draft in the amount equal to not less than 10% of the bid and made payable to Community High School District 99.

All Contracts for the Construction of Public Works are subject to the Illinois Prevailing Wage Act (820 ILCS 130/1-12).

DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS
SECTION 00200 –NOTICE TO BIDDERS

Bidders can make arrangements to visit the site by contacting Craig Polte at 630-918-8120 or by email: cpolte@wightco.com

The Board of Education of District #99 reserves the right to accept or reject any or all bids.

South High School Roofing Project

- 1) ***Plans and Specifications can be viewed or downloaded electronically via ISQFT.com Please send email to cpolte@wightco.com to receive electronic invitation after 2:00 PM on Wednesday, February 15, 2017.***

This invitation is issued in the name of *Community High School District 99*

<u>COMMUNITY HIGH SCHOOL DISTRICT 99 SOUTH ROOFING</u> <u>SHEET INDEX FOR BID GROUP 1</u>		
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DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS
SECTION 00201 - GENERAL PROVISIONS

1.0 **In General**

This section contains provisions governing the rights and responsibilities of the Construction Manager and each of its Subcontractors. Each Subcontractor shall be bound by the provisions of this section as if the provisions were contained in the subcontract between the Construction Manager and the individual Subcontractor.

1.1 Execution, Correlation and Intent

- 1.1.1 Execution of the Contract by the Subcontractor is a representation that the Subcontractor has visited the site, become familiar with the local conditions under which the Work is to be performed and correlated personal observations with the requirements of the Contract Documents.
- 1.1.2 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Subcontractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by the Subcontractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- 1.1.3 Organization of the Specifications into divisions, sections and articles and the arrangement of Drawings shall not control the Subcontractor in dividing the work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- 1.1.4 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.
- 1.1.5 Should discrepancies appear among the Contract Documents or between the Contract Documents and existing conditions, the Subcontractor shall request an interpretation from the Construction Manager before bidding. If the Subcontractor fails to make such request, it is presumed that both provisions were included in the bid and the Construction Manager shall determine which of the conflicting requirements shall govern. The Subcontractor shall perform the Work at no additional cost to the Owner in accordance with the Construction Manager's determination. Where conflicts exist between or within the Contract Documents and applicable standards, codes, ordinances or manufacturer's recommendations, and clarification has not been requested from the Construction Manager prior to bidding as provided for above, the more stringent or higher quality standard shall prevail. Large-scale drawings shall take precedence over small-scale drawings, figured dimensions on the drawings over scaled dimensions and noted material over graphic representations.
- 1.1.6 The Subcontractor shall provide all work and materials which any section or part of the Drawings, Specifications or conditions require him to provide regardless of whether such requirement is or is not faithfully repeated in other parts of documents thereof to which the provision might be appropriate

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~~07-51695274-10-2206~~
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DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS
SECTION 00201 - GENERAL PROVISIONS

2.0 Subcontractor's Responsibilities

- 2.1 Subcontractor's Work. Subcontractor shall furnish all labor, materials and equipment, provide supervision, and direct the work, inspect, test, and provide tools, construction equipment and specialty items necessary to execute and complete construction of the Subcontract Work. Subcontractor warrants that it has inspected the site and has satisfied itself regarding all conditions affecting the Subcontract Work and the meaning and intention of the Subcontract Documents. Subcontractor is solely responsible for the means, methods, techniques, sequences and coordination of the Subcontract Work.
- 2.2 Review of Contract Documents and Field Conditions by Subcontractor. The Subcontractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner and shall at once report to the Construction Manager errors, inconsistencies or omissions discovered. The Subcontractor shall not be liable to the Owner or Construction Manager for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Subcontractor recognized such error, inconsistency or omission and knowingly failed to report it to the Construction Manager. If the Subcontractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Construction Manager, the Subcontractor shall assume responsibility for such performance and shall bear the amount of the attributable costs for correction.
- 2.3 The Subcontractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Subcontractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Construction Manager at once.
- 2.4 The Subcontractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 2.14.
- 2.5 Supervision and Construction Procedures. The Subcontractor shall supervise and direct the Work, using the Subcontractor's best skill and attention. The Subcontractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.
- 2.6 The Subcontractor shall be responsible to the Construction Manager for acts and omissions of the Subcontractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Subcontractor.
- 2.7 The Subcontractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager in the Construction Manager's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Subcontractor.
- 2.8 The Subcontractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

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SECTION 00201 - GENERAL PROVISIONS

- 2.9 Workmanship and Construction Equipment. The Subcontract Work shall be executed in accordance with the provisions of the Subcontract and in a thorough, first-class, sound, workmanlike, safe, and substantial manner. All construction equipment shall be in first-class operating condition, safe, fit for the uses for which intended, and suitable for the safe and efficient performance of the Subcontract Work. Subcontractor agrees to perform the Subcontract Work and provide construction equipment to the satisfaction and approval of Construction Manager.
- 2.10 Protection of the Work. The Subcontractor shall take necessary precautions to properly protect the Subcontractor's Work and the work of others from damage caused by the Subcontractor's operations. Should the Subcontractor cause damage to the Work or property of the Owner, the Construction Manager or others, the Subcontractor shall promptly remedy such damage to the satisfaction of the Construction Manager, or the Construction Manager may remedy the damage and deduct its cost from any amounts due or to become due the Subcontractor, unless such costs are recovered under applicable property insurance.
- 2.11 Compliance with Law
 - 2.11.1 The Subcontractor shall conform to all Illinois statutory requirements, including, but not limited to, the following Acts:
 - 2.11.1.1 Equal Employment Opportunity - Applicable Laws. Employment opportunities shall be free from discrimination. The prohibition in employment discrimination contained in 775 ILCS 10/1 is incorporated into the Contract and is intended to insure compliance with the applicable laws and with the Illinois Department of Human Rights Rules and Regulations for Public Contracts (44 Ill. Admin. Code, Ch. X, §750 Appendix A) (to the extent constitutionally required).
 - 2.11.1.2 The Human Rights Act, as amended, Administrative Rules promulgated by the Illinois Human Rights Commission to the extent constitutionally required.
 - 2.11.1.3 An Act to prohibit unjust discrimination in employment because of age and providing penalties, as amended. 775 ILCS 5/1-101.
 - 2.11.1.4 An Act to give preference to veterans of the United States Military and Naval Service in appointments and employment upon public works by, or for the use of the State or its political subdivisions, as amended. 330 ILCS 55/1, et seq.
 - 2.11.1.5 The Service Men's Employment Tenure Act. 330 ILCS 60/1, et seq.
 - 2.11.1.6 In no event shall minors be employed except as authorized under an Act to regulate the employment of children. 820 ILCS 205/1, et seq.
 - 2.11.1.7 An Act requiring employment of Illinois Workers on public works projects, as amended, to the extent constitutionally required. 30 ILCS 570/1, et seq.
 - 2.11.1.8 The Worker's Compensation Act, as amended. 820 ILCS 305/1, et seq.

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2.11.1.9 Certification required by the Drug-Free Workplace Act. 30 ILCS 580/1, et seq.

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- 2.11.1.10 The Subcontractor, by executing this Agreement, certifies that it is not barred from contracting with any unit of state or local government as a result of a violation of §33E-3 or §33E-4 of 720 ILCS 5/33E-1, et seq.
- 2.11.1.11 Where bid specifications do not require a current license and the contract is capable of securing a license before commencement of the project. (The deficiency is waivable).
- 2.11.1.12 Compliance with Illinois Drug-Free Workplace Act (Ill. Rev. Stat., ch 127,par.)
- 2.11.1.13 Employment of Illinois Workers on Public Works Act, 30ILCS 570/0.01 et.al.
- 2.11.2 Prevailing Wage Act
 - 2.11.2.1 Subcontractor shall pay the then prevailing rate of wages for the county where the project is to be located, as established by the Illinois Department of Labor for each craft or type of worker needed to execute the contract in accordance with 820 ILCS 130/0.01, et seq.
 - 2.11.2.2 The Subcontractor shall prominently post the current Schedule of Prevailing Wages at the project site, and shall notify immediately in writing all of its Subcontractors, etc., of all changes in the Schedule of Prevailing Wages.
 - 2.11.2.3 Any increases in costs to the Subcontractor due to changes in the prevailing rate of wages or labor law during the term of any contract shall be at the expense of the Subcontractor and not the expense of Construction Manager or Owner.
 - 2.11.2.4 Change Orders shall be computed using the prevailing wage rates applicable at the time the change order work is scheduled to be performed.
 - 2.11.2.5 Project Expenses. Subcontractor shall maintain, for a minimum of five years after the completion of the contract, adequate books, records, and supporting documents to verify the amounts, receipts, and uses of all disbursements of funds passing in conjunction with the contract. Those records shall be available for review and audit by the Owner. The Subcontractor agrees to cooperate fully with any such audit and shall provide full access to all relevant materials.
 - 2.11.2.6 Subcontractor shall comply with federal, state and local tax laws, social security acts, and unemployment compensation acts insofar as applicable to the performance of the Subcontract.
- 2.11.3 Subcontractor shall secure and pay for permits and governmental fees, license and inspections necessary for the proper execution and completion of the Subcontract Work.
- 2.11.4 Subcontractor represents it has a valid license authorizing it to do business within the political unit or municipality of the Project site if such license is required and

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agrees to maintain same throughout the duration of the Subcontract Work at its expense.

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- 2.11.5 Subcontractor shall submit to Construction Manager within five days of notification, Subcontractor payroll documentation as proof of prevailing wage compliance.
- 2.12 Accounts and Schedule of Values. Subcontractor shall keep such accounts as may be necessary for financial management under the Subcontract. Subcontractor shall base its Applications for Payment on the Verified Schedule of Values provided to Construction Manager in the bid documents unless Subcontractor and Construction Manager agree to a different Schedule of Values. In the event the Schedule of Values is changed as a result of a Change Order, a new Schedule of Values will be provided to Construction Manager and shall be used for all subsequent Applications for Payment.
- 2.13 Cooperation/Coordination
- 2.13.1 Subcontractor shall cooperate and coordinate work with Construction Manager, Owner and other Subcontractors in scheduling and performing the Subcontract Work to avoid conflict, delay or interference in the Project or in the work of Construction Manager, Owner or other Subcontractors. Subcontractor shall avoid interference with the operation of adjacent facilities, streets, sidewalks, railroad tracks and utilities.
- 2.13.2 If any part of the Subcontract Work depends on timely and proper execution or results of the work of Construction Manager, Owner or other Subcontractors, Subcontractor shall promptly report any delays, discrepancies or defects in such other work to Construction Manager in writing before proceeding with the Subcontract Work. Subcontractor's failure to make such reports shall constitute acceptance of such other work as being fit, proper, and ready to receive the Subcontract Work.
- 2.13.3 If the Subcontract Work takes place in or around an existing facility, Subcontractor shall abide by the Owner's rules for the facility; Subcontractor's access to the facility will be restricted to those areas which are the subject of the Subcontract Work; and there shall be no interruption in Owner's operating systems, equipment or utilities without the written authorization of Construction Manager.
- 2.13.4 Subcontractor shall protect benchmarks and monuments whether of record or by other Subcontractors, and replace same if damaged by Subcontractor.
- 2.13.5 Subcontractor shall use the site entrances and staging and parking areas (if available) designated by Construction Manager.
- 2.14 Submittals
- 2.14.1 Subcontractor shall prepare or cause to be prepared, all shop drawings, samples, and other submittals, which are required by the Subcontract Documents or are necessary to the performance of Subcontractor's obligations hereunder. Such submittals shall bear the Subcontractor's approval stamp and shall be submitted to Construction Manager in accordance with the Subcontract Schedule and in any case in time to permit adequate review by the Construction Manager and in such sequence as to cause no delay in the Project or in the work of Owner, Construction Manager or Construction Manager's other Subcontractors. All required submittals shall be transmitted to the Construction Manager according

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to the master project schedule or as adjusted upon a mutually agreed schedule revision. This Subcontractor acknowledges and agrees to a \$100.00 per day back-charge for each working day beyond the agreed to date that these documents are not submitted to Construction Manager.

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- 2.14.2 By approving and forwarding submittals, Subcontractor represents that it has determined and verified all materials, field measurements, and field construction criteria related thereto, and that it has checked and coordinated the information contained within such submittals with the requirements of the Subcontract Work and of the Subcontract Documents.
- 2.14.3 Subcontractor shall not be relieved of responsibility for any deviation from the requirements of the Subcontract Documents or for errors or omissions in the approval of submittals by the Architect.
- 2.14.4 Subcontractor shall direct specific attention, in writing or on resubmitted submittals, to revisions other than those requested by the Architect on previous submittals.
- 2.14.5 No portion of the Subcontract Work shall be commenced until the submittals required by the Subcontract Documents have been reviewed and approved by the Architect for conformance with the design concept of the Subcontract Work and information given in the Subcontract Documents. Commencement of the Work prior to review and approval of the submittals by the Architect shall constitute an absolute warranty of sufficiency by Subcontractor. Approval of submittals by the Architect shall in no way relieve Subcontractor of any warranty or responsibility concerning the submittals.
- 2.15 Royalties and License Fees. Subcontractor shall pay royalties and license fees required by the Subcontract Work. Subcontractor shall defend suits or claims for infringement of patent or copyrights and shall defend, indemnify and save Construction Manager and Owner harmless from loss on account thereof.
- 2.16 Clean Up. Subcontractor shall keep the premises in which Subcontract Work is performed, or which is used or affected by the Subcontractor, free from the accumulation of trash and other debris caused by its operations. If Subcontractor fails to comply with this Section within twenty-four (24) hours after receipt of notice of noncompliance from Construction Manager, Construction Manager may perform such necessary clean up and deduct the costs for same from any amounts due or to become due to Subcontractor. Within five (5) days of completion of the Subcontract Work, Subcontractor shall remove its tools, surplus materials, temporary construction, construction equipment and machinery from the Project site and leave the premises "broom clean," or cleaner if so provided in the Subcontract Documents.
- 2.17 Record Drawings. Subcontractor shall maintain one reproducible record copy of the drawings, specifications, product data, samples, shop drawings, Change Orders and other modifications, in good order at the site. They shall be marked currently to record changes made during construction. They shall be delivered to the Construction Manager within ten working days of substantial completion. This Subcontractor acknowledges and agrees to a \$100.00 per day back-charge for each day these documents are not submitted to Construction Manager after the aforementioned to working day period. They shall become the property of Owner upon completion of the Subcontract Work or termination under Article 10 of this Agreement.
- 2.18 Reports and Communication. Subcontractor shall furnish Construction Manager with periodic progress reports on Subcontract Work as requested, including information on the status of materials and equipment which may be in the course of preparation,

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manufacture or delivery. Subcontractor's communications concerning the Subcontract Work shall be exclusively with Construction Manager.

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- 2.19 Property. Subcontractor shall take necessary precautions to protect Owner's property, its property, the Subcontract Work, and the work and property of other Construction Manager Subcontractors, whether located on or off the Project site from damage or loss caused by operations under the Subcontract. Subcontractor shall also take the necessary precautions to protect property off the Project site from damage or loss caused by its operations including, but not limited to, adjacent facilities, streets, sidewalks, and utilities. Subcontractor shall be responsible for damages or loss caused by its operations.
- 2.20 Representative. Five (5) days prior to commencement of the Subcontract Work, Subcontractor shall furnish to Construction Manager written designation of its representative who shall be at the site to represent Subcontractor, and to receive notices, orders and instructions on Subcontractor's behalf, and to be in charge of and responsible for Subcontract Work. Subcontractor's representative shall be competent, fully acquainted with the Subcontract Work, and have the authority to approve changes in the Subcontract Work. Subcontractor's representative shall render approvals and decisions promptly and furnish information expeditiously and in time to meet the dates set forth in the Subcontract Schedule. Construction Manager reserves the right to reject any Subcontractor representative, at which time Subcontractor shall have five (5) working days to provide adequate representative acceptable to Construction Manager
- 2.21 Labor
- 2.21.1 Subcontractor shall supply a sufficient and adequate number of properly and jurisdictionally skilled workmen and competent supervisors to insure the prompt and efficient performance of the Subcontract Work in accordance with the Subcontract Schedule.
- 2.21.2 Subcontractor shall give proper consideration to any collective bargaining agreements which may affect the Subcontract Work or other work at the site. Subcontractor shall perform the Subcontract Work in compliance with the provisions of any collective bargaining agreements binding upon it, shall not interfere with or cause the breach of any collective bargaining agreements to which Subcontractor is not signatory. Subcontractor shall plan and conduct its operations so that its employees will work in a harmonious relationship with other labor at the site. Subcontractor shall take any action necessary to assure that there will be no delays, work stoppages, excessive labor costs or other labor difficulties of any kind due to, or arising out of, any such agreements or due to, or arising out of any labor disputes.
- 2.21.3 Subcontractor shall defend and indemnify Construction Manager and Owner against all claims resulting from failure by Subcontractor to comply with Section 2.14. Subcontractor assumes all responsibility for any loss or damage attributable to any labor difficulty of any kind caused by or involving Subcontractor or its employees.
- 2.21.4 ~~Kotecki Waiver~~: Subcontractor (and any Subcontractor into whose subcontract this clause is incorporated) agrees to assume the entire liability for all personal injury claims suffered by its own employees, including without limitation claims suffered by its own employees asserted by persons allegedly injured on the Project; waives any limitation of liability defense based upon the Worker's Compensation Act, court interpretations of said Act or otherwise; and agrees to indemnify and defend Owner, Design Professional and Construction Manager and

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their agents, employees and consultants (“the indemnittees”) from all such loss, expense, damage or injury, including reasonable attorney’s fees, that the indemnittees may sustain as a result of such claims, except to the extent that Illinois law prohibits indemnity for the indemnittees’ own negligence.

2.22 Safety of Persons and Property

2.22.1 The Subcontractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

2.22.1.1 employees on the Work and other persons who may be affected thereby;

2.22.1.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Subcontractor or the Sub-subcontractors; and

2.22.1.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

2.22.2 The Subcontractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

2.22.3 The Subcontractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

2.22.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Subcontractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

2.22.5 The Subcontractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract documents) to property referred to in Clauses 2.21.1.2 and 2.21.1.3 caused in whole or in part by the Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Subcontractor is responsible under Clauses 2.21.1.2 and 2.21.1.3, except damage or loss attributable to acts or omissions of the Owner or Construction Manager or anyone directly or indirectly employed by either of them, or by anyone for whose acts either or them may be liable, and not attributable to the fault or negligence of the Subcontractor.

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- 2.22.6 The Subcontractor shall designate a responsible member of the Subcontractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Subcontractor's superintendent unless otherwise designated by the Subcontractor in writing to the Owner and Construction Manager.
- 2.23 Emergencies
- 2.22.1 In an emergency affecting safety of persons or property, the Subcontractor shall act, at the Subcontractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Subcontractor on account of an emergency shall be determined per the contract documents.
- 2.24 Safety Precautions and Procedures
- 2.24.1 Subcontractor shall be solely and exclusively responsible for protecting its employees and all other persons from risk of death, injury or bodily harm arising out of or in any way connected with the Subcontract Work. Subcontractor shall furnish a written designation of a representative responsible for implementation and enforcement of Subcontractor's safety program. This representative shall be at the site whenever Subcontract Work is being performed.
- 2.24.2 Subcontractor shall furnish the Construction Manager's Project Safety Manager with the past 3 years OSHA 200 Logs, Incident Rates, and Lost Work Day Rates for review.
- 2.24.3 Subcontractor agrees to comply with all applicable federal, state, city and county laws, ordinances, rules and regulations for the safety of persons or property in the performance of the Subcontract Work including, but not limited to, the requirements of the Occupational Safety and Health Act of 1970, and amendments, and regulations promulgated and issued pursuant thereto. Failure to comply may result in fines to be assessed as back-charges.
- 2.24.4 Subcontractor shall develop and enforce a written safety program to ensure compliance with the obligation under Section 2.23. Contractor shall submit this written safety program to Construction Manager with ten days of award notification. Construction Manager will review the program for the limited purpose of determining that Subcontractor has a legitimate program. Construction Manager will not review the program to determine its adequacy. Construction Manager will monitor Subcontractor's program at the site in connection with Construction Manager's general inspection functions. Construction Manager's review of such program or monitoring of Subcontractor's enforcement efforts does not in any way absolve Subcontractor from its sole responsibility for safety. Subcontractor shall report any injury to an employee, agent, supplier, or material men to Construction Manager within twenty-four (24) hours of its occurrence and provide Construction Manager with a copy of its safety/incident report.
- 2.24.5 Subcontractor shall provide sufficient, safe and proper facilities, labor and material needed for the access and inspection of Subcontractor's Work by Construction Manager, Owner and other Subcontractors.

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- 2.24.6 Subcontractor agrees to comply with the "Hazard Communication Standard" of the Occupational Safety and Health Administration. To the extent required by such standard, Subcontractor will adopt and implement a written hazard communication program to protect its employees from potential exposure of hazardous chemicals at the job site and will provide lists or inventories of hazardous chemicals in its possession at the job site, warning and handling labels for such chemicals, and material safety data sheets for such chemicals to Construction Manager.
 - 2.24.7 When the use or storage of explosives or other hazardous materials or equipment is necessary for execution of the Subcontract Work, Subcontractor shall carry on such activities with properly qualified personnel under properly qualified supervision.
 - 2.24.8 Subcontractor shall abide by its safety program and procedures, or those of the Construction Manager, whichever is most stringent. A copy of the Construction Managers Safety Program will be provided to the Subcontractor.
 - 2.24.9 Subcontractor shall provide for protection of persons and for vehicle passing around or through the work area of this Subcontractor.
 - 2.24.10 Subcontractor shall adopt the Construction Manager's Drug and Alcohol Program to include pre-employment, post accident, random and suspicion drug testing. All non-negative testing results will disqualify a contractor's employee from working on the project. The Construction Manager's Drug and Alcohol Program is included in the Project Safety Manual. All expenses associated with the Drug and Alcohol Program are the requirement of the subcontractor. Subcontractor shall provide sufficient evidence of negative drug testing results to the Project Safety Manager prior to a contractor's employee being admitted to the project site.
- 2.25 Warranties
- 2.25.1 Subcontractor warrants to Construction Manager and Owner that all materials and equipment furnished under its contract will be new, unless otherwise specified, and that all construction work will be of first-class quality, free from improper workmanship and defective materials, and fit for the purpose intended. Subcontractor agrees to correct all Contract Work performed and material supplied by it under its contract which proves to be defective in material or workmanship within a period of one (1) year from the date of Substantial Completion as defined in Paragraph 5.3 or for such longer period of time as may be provided in the Contract Documents. Any warranty or guarantee obtained by Subcontractor from any manufacturer shall be deemed to have been obtained for the benefit of Construction Manager and Owner. This warranty shall be in addition to all other warranties and remedies, expressed or implied, under the law.
 - 2.25.2 Subcontractor shall collect all equipment manuals and deliver them to Construction Manager upon completion, together with all written warranties or guarantees from equipment manufacturers.

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- 2.26 Field Office. Subcontractor shall provide any office or storage trailer complete with all necessary utilities, gas, telephone and water needed for its own use. Location of such facilities shall be subject to approval by Construction Manager and shall be subject to relocation at Subcontractor's expense. Any temporary installation required for these facilities shall be paid for by Subcontractor. Subcontractor shall be responsible for the security and protection of its materials, equipment and tools.
- 2.27 Equipment and Materials
- 2.27.1 Subcontractor shall be responsible for arranging for the shipment of materials and equipment which it is to provide to the Project site and shall consign all such shipments to itself as consignee at the Project shipping address, freight fully prepaid. Subcontractor shall make all delivery payments promptly, including any demurrage charges.
- 2.27.2 Subcontractor shall advise Construction Manager in advance of all major shipments of equipment and materials, and shall coordinate the arrival and unloading of same with Construction Manager.
- 2.27.3 Subcontractor shall promptly unload its shipments and promptly release its carrier's equipment. In the event Subcontractor is unable to promptly unload a shipment, Subcontractor shall notify Construction Manager of such inability not less than five (5) working days in advance of the shipment's arrival. Construction Manager, at its sole option, may unload or make arrangements for others to unload such shipments and Subcontractor will be responsible for the cost thereof.
- 2.27.4 If Construction Manager or Owner is to furnish materials or equipment to Subcontractor for the Subcontract Work, Subcontractor shall notify Construction Manager sufficiently in advance of the date they are needed to permit Construction Manager or Owner to accomplish their delivery by the date needed. Such materials and equipment shall be unloaded and received by Subcontractor in the presence of Construction Manager's authorized representative and the quantities thereof shall be checked jointly by Subcontractor and Construction Manager. The delivery and acceptance of all such materials and equipment shall be recorded in writing and Subcontractor shall sign forms satisfactory to Construction Manager to acknowledge receipt and acceptance of such materials and equipment. Subcontractor shall note any damage to Construction Manager or Owner furnished materials and equipment prior to Subcontractor's acceptance of delivery. Subcontractor shall notify Construction Manager of any materials and equipment supplied to Subcontractor by Construction Manager or Owner which are surplus and shall cooperate with Construction Manager and Owner in the disposition of such surplus as directed by Construction Manager. In the event of misfit of Construction Manager or Owner furnished materials or equipment, Subcontractor shall promptly notify Construction Manager, take steps to avoid standby time due to such misfit, and continue to progress with other portions of the Subcontract Work pending correction of such misfit.
- 2.27.5 Subcontractor shall store and install all materials and equipment necessary for the Subcontract Work in such a way as to preserve their quality and fitness which includes, but is not limited to, actions required to protect same from damage due to weather, fire, theft, and construction operations. This responsibility begins when Subcontractor accepts delivery of the materials and equipment procured by

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it or Construction Manager and continues until Substantial Completion.

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2.28 Layout. Subcontractor shall provide such layout as is necessary for completion of the Subcontract Work from basic control points and benchmarks provided by Construction Manager.

3.0 Construction Manager's Responsibilities and Rights

- 3.1 Construction Manager shall sequence, and coordinate activities of the Subcontractors in accordance with the latest approved construction schedule.
- 3.2 Information. Construction Manager will make information which affects the Subcontract Work and which becomes available to Construction Manager promptly available to Subcontractor.
- 3.3 Instructions. Construction Manager shall give instructions or orders only to persons designated as authorized representatives of the Subcontractor.
- 3.4 Contractor shall accept instructions or orders only from persons designated as authorized representatives of Construction Manager.
- 3.5 Stop Work Orders. Construction Manager may order the Subcontract Work or any portion thereof stopped when Subcontractor fails to correct work not in conformance with the Subcontract Documents or fails to supply adequate labor, materials or construction equipment until the cause for such order has been eliminated. Construction Manager's failure to exercise this right does not absolve Subcontractor of its responsibilities.
- 3.6 Completing and Correcting Work. After giving twenty-four (24) hours' notice to Subcontractor, Construction Manager may complete or correct any part of the Subcontract Work which Subcontractor has neglected to show itself otherwise unable to expeditiously complete or correct and deduct the cost of doing so from Subcontractor's payments. If the work not accomplished involves more than one Subcontractor, the cost will be divided in accordance with Construction Manager's determination. Construction Manager may avail itself of the above procedure and of such other rights and remedies which are available under its subcontract, applicable law, or both.

4.0 Subcontracts

4.1 Selection of Subcontractors. Subcontractor shall submit to Construction Manager a list of its Subcontractors and material men with a description of the corresponding items of work within ten (10) days of execution of this Agreement and in any event prior to commencing the Subcontract Work if it has not previously submitted same with its bid submittal. Construction Manager reserves the right to approve or disapprove any organization listed thereon for any reason. The list shall be updated as necessary by Subcontractor. Subcontractor shall select competent Subcontractors and shall be responsible for the management of its Subcontractors' performance of their work.

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4.2 Sub-Subcontractor's Contract. No contractual relationship shall exist between Owner or Construction Manager and any of Subcontractor's Subcontractors. Subcontractor shall use an appropriate written subcontract for its Subcontractors under which its Subcontractors assume all obligations and responsibilities Subcontractor has assumed toward Construction Manager and Owner under the Subcontract Documents including, but not limited to, naming Construction Manager and Owner as additional insured's as required at Paragraph 8.2.1.4.6 and satisfying all other requirements of Section 8.2.

5.0 **Subcontractors Construction Scheduling**

5.1 Schedule

5.1.1 Subcontractor shall accomplish the Subcontract Work within the period of time set forth in the Subcontract Documents (Project Manual Section 01010) and as indicated in the Subcontractor's Schedule prepared pursuant to this Section. Within ten (10) days after execution of this Agreement or prior to commencing the Subcontract Work, whichever occurs first, Subcontractor shall propose a schedule in a form and content acceptable to which minimally includes durations, planned crew sizes, planned procurement dates, and planned submission dates of required submittals.

5.1.2 Subcontractor's proposed Schedule shall anticipate the usual amount of delay from all causes encountered in the locale of the site and for the type of work involved. Construction Manager shall review the proposed Schedule and make such revisions as are necessary to make it consistent with the Schedule for the Project. Subcontractor will perform in accordance with the Subcontract Schedule which is approved by Construction Manager.

5.1.3 Construction Manager reserves the right to modify the construction schedule. The subcontractor shall adjust their material procurement and on-site activities in accordance with the Construction Managers revised schedule.

5.2 Subcontract Time

5.2.1 The Subcontract Work to be performed under the Subcontract shall commence, progress, and be completed in accordance with the Subcontract Schedule provided pursuant to Paragraph 5.1.2. Time is of the essence.

5.2.2 The term day, as used in the Subcontract Documents, shall mean calendar day, unless otherwise specifically designated.

5.3 Substantial Completion and Commencement of Warranties

5.3.1 The date of Substantial Completion of the Project, or a designated portion thereof, is the date when construction is sufficiently complete in accordance with the drawings and specifications so Owner can occupy or utilize, or in fact does occupy or utilize this Project, or designated portion thereof, for the use for which it is intended.

5.3.2 The date of Substantial Completion shall be established by a Certificate of Substantial Completion signed by the Owner and Construction Manager.

5.3.3 Owner shall have the right to occupy or use that portion of the Project which has been found to be substantially complete and Subcontractor shall not be entitled

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to any extra compensation on account of Owner's occupancy or use, nor shall Subcontractor be relieved of any of its responsibilities, including the required times of completion.

- 5.3.4 Warranties or guarantees called for by the Subcontract, or by the drawings and specifications and addenda attached as Exhibit 1, shall commence on the date of Substantial Completion of the Project, or designated portion thereof, as reflected by the Certificate of Substantial Completion.
- 5.4 Delays
 - 5.4.1 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by causes inherent in the Subcontract Work's scope and complexity and in the locale of the Project site, Subcontractor shall overcome such delays, using premium time if necessary at no additional cost to Construction Manager. Subcontractor agrees it will make no claim for damages of any sort or schedule extensions for delays of this nature. Subcontractor acknowledges the Subcontract Price and Subcontract Schedule are based on the fact it shall not recover such damages or costs and shall not be given extensions for such delays.
 - 5.4.2 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by Construction Manager, Owner, or any separate Subcontractor employed by either of them, or by the action of any governmental or regulatory body, or by changes ordered in the Subcontract Work or by labor disputes not directly involving Subcontractor's employees, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, acts of God or any causes beyond the control of Subcontractor, then the Subcontract Schedule may be extended by Change Order for the period of such delay. The time extensions shall be solely determined and fixed by Construction Manager and contingent on Owner's approval, but no such extension shall be made unless a written claim with detailed substantiation therefore is presented to Construction Manager within five (5) days of occurrence causing the delay. Except as provided in Paragraph 5.4.3. Subcontractor shall have no claim against Construction Manager or Owner for damages or additional costs for its direct material and labor costs, its indirect job site costs, extended overhead, disruption and financing costs, lost profits, consequential damages, or other compensation for such delays. Subcontractor acknowledges that the Subcontract Price is based on the fact it shall not recover such damages or costs.
 - 5.4.3 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by the bad faith or active interference of Construction Manager, Owner or any separate Subcontractor employed by Owner, the Subcontract Price may be adjusted by Change Order. The price adjustment, if any, shall be limited to Subcontractor's direct material and labor costs and its indirect job site costs, including field supervision, field office costs and rental equipment, incurred during the period of the delay. No claim shall be made by Subcontractor for any other compensation, including, but not limited to, the recovery of extended overhead, financing costs, lost profits or consequential damages. The time extension and/or price adjustment shall be solely determined

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and fixed by Construction Manager and contingent upon Owner's approval, but no such extension or adjustment shall be made unless a written claim with detailed substantiation therefore is presented to Construction Manager within five (5) days of the occurrence of the wrongful event causing the delay. Subcontractor acknowledges that the Subcontract Price is based on the fact it may not recover such costs or damages due to such delay.

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- 5.4.4 If Subcontractor is delayed by the acts or failures to act of other Construction Manager Subcontractors, its sole remedy for delay damages resulting there from shall be against such other Subcontractor. Subcontractor shall be responsible to other Construction Manager Subcontractors for delay damages which arise from Subcontractor's acts or failures to act. Subcontractor shall defend, indemnify and hold harmless Owner and Construction Manager from claims against them by other Construction Manager Subcontractors for delays which result from Subcontractor's acts or failures to act.
- 5.4.5 Construction Manager may direct Subcontractor to complete the Subcontract Work ahead of the Subcontract Schedule or to maintain the Subcontract Schedule when delays are caused by the circumstances described at Paragraphs 5.4.3, 5.4.2, and 5.4.4. Upon written Change Order to this effect, Subcontractor shall accelerate the Subcontract Work and the Subcontract Price will be adjusted by Change Order. The price adjustment shall be limited to the premium time necessary to accomplish the accelerated Subcontract Schedule and the fringe benefits and social security tax on same less any reduction in indirect job site costs, including field supervision, field office costs and rental equipment, which occur as a consequence of the acceleration. Subcontractor will make no claim for any other compensation and acknowledges that the Subcontract Price is based on the fact it may not recover any other costs.

6.0 Changes in the Subcontract Work

- 6.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 6 and elsewhere in the Contract Documents.
- 6.2 A Change Order shall be based upon agreement among Subcontractor and Construction Manager; a Construction Change Directive may or may not be agreed to by the Subcontractor; an order for a minor change in the Work may be issued by the Construction Manager alone.
- 6.3 Changes in the Work Shall be performed under applicable provisions of the Contract Documents, and the Subcontractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.
- 6.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner Construction Manager or Subcontractor, the applicable unit prices shall be equitably adjusted.
- 6.5 Change Orders
 - 6.5.1 Construction Manager may, at any time and without invalidating its Subcontract or Subcontractor's bond, make changes in Subcontractor's Work whether it be an addition, deletion or other revision thereof, by written Change Order, provided said changes are within the general scope of the Subcontract.

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- 6.5.2 Subcontractor shall notify Construction Manager in writing if it contests the Change Order's changes in the Subcontract Price and/or Subcontract Schedule no later than ten (10) days after Subcontractor's receipt of the Change Order. Timely contesting of the Change Order is a condition precedent to making a claim related to the Change Order. If no agreement is reached between the parties regarding the adjustment of the Subcontract Price, then Subcontractor shall be reimbursed for the costs of such work, as determined appropriate by Construction Manager, pursuant to Section 7.2, plus 10% of such costs for overhead and profit in the case of work performed with Subcontractor's forces and 10% in the case of work performed by Subcontractor's Subcontractors. In the event the Change Order causes a decrease in the cost of the Subcontract Work, the Subcontract Price shall be decreased by the amount of Construction Manager's determination of the decrease in the costs of labor, materials and equipment no longer required, based upon the most recent Schedule of Values.
- 6.5.3 Subcontractor shall proceed with the changes required in a Change Order upon receipt of the Change Order so as not to delay the progress of the work whether or not the changes in the Subcontract Work or changes in the Subcontract Price or Subcontract Schedule are contested by Subcontractor.
- 6.5.4 If Subcontractor makes changes in the Subcontract Work without a written Change Order, Subcontractor shall not be entitled to adjustments to the Subcontract Price or Subcontract Schedule and shall be responsible for any costs or damages incurred by Construction Manager, Owner and their Subcontractors as a result of the change.
- 6.6 Cost of Work. The Cost of Work in any Change Order shall be limited to the costs of materials and equipment (excluding sales tax where applicable); costs of delivery and unloading; costs of labor (including social security, unemployment insurance and fringe benefits required by Subcontractor's agreement with its employees); rental costs of equipment and machinery not owned by Subcontractor, exclusive of hand tools; and the additional costs of supervision and field office personnel directly attributable to said Change Order.
- 6.7 Concealed, Unknown or Hazardous Conditions
- 6.7.1 If Subcontractor encounters conditions at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Subcontract Documents or (2) unknown physical conditions of an unknown nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Subcontract Documents, then Subcontractor shall give written notice promptly to Construction Manager but in no event later than ten (10) days after the conditions are encountered and in all cases before the conditions are disturbed. The Subcontract Price and Subcontract Schedule may be adjusted for such concealed or unknown condition by Change Order.
- 6.7.2 In the event Subcontractor encounters material reasonably believed to be asbestos or a hazardous substance which has not been rendered harmless, Subcontractor shall immediately stop work in the area affected and report the condition to Construction Manager. Work shall be resumed as directed by Construction Manager.

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6.8 Construction Change Directives

- 6.8.1 A Construction Change Directive is a written order prepared by the Construction Manager, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum of Contract Time, or both. The Construction Manager may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract sum and Contract Time being adjusted accordingly.
- 6.8.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.
- 6.8.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - 6.8.3.1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - 6.8.3.2 unit prices stated in the Contract Documents or subsequently agreed upon;
 - 6.8.3.3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
 - 6.8.3.4 as provided in Subparagraph 6.8.6.
- 6.8.4 Upon receipt of a Construction Change Directive, the Subcontractor shall promptly proceed with the change in the Work involved and advise the Construction Manager of the Subcontractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.
- 6.8.5 A Construction Change Directive signed by the Subcontractor indicates the agreement of the Subcontractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
- 6.8.6 If the Subcontractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Construction Manager on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, and also under Clause 6.8.3.3, the Subcontractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph 6.8.6 shall be limited to the following:
 - 6.8.6.1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' or workmen's compensation insurance;
 - 6.8.6.2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

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6.8.6.3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Subcontractor or others;

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- 6.8.6.4 costs of premiums for all bonds and insurance, permit fees, and sales, use of similar taxes related to the Work; and
- 6.8.6.5 additional costs of supervision and field office personnel directly attributable to the change.
- 6.8.7 Pending final determination of cost to the Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by the Subcontractor to the Construction Manager for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, in any, with respect to that change.
- 6.8.8 If the Construction Manager and Subcontractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Construction Manager for determination.
- 6.8.9 When the Construction Manager and Subcontractor agree with the determination made by the Construction Manager concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.
- 6.9 Minor changes in the Work. The Construction Manager will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Construction Manager and Subcontractor. The Subcontractor shall carry out such written orders promptly.

7.0 Payments to Subcontractor

7.1 Progress Payments

- 7.1.1 On or before the 7th day of each month, after the contract work has commenced, subcontractor shall submit a "pencil draft" application for payout to Construction Manager. Having made such changes as directed by Construction Manager and on or before the 25th day of each month after the Subcontract Work has commenced, Subcontractor shall submit an Application for Payment to Construction Manager for the period ending on the 30th day of the same month which shall indicate the percentage of work completed or material stored at the site for each major segment of the work on the Schedule of Values, and the current amounts due therefore. Subcontractor's verified Application for Payment shall be submitted on forms acceptable to Construction Manager with such additional substantiating information as may be requested by Construction Manager. Construction Manager, Owner, and any other party whose approval is required by the Subcontract Documents shall have the right of inspection and verification of the Application for Payment. Each Application for Payment shall be accompanied by an unconditional partial waiver of lien stating that the

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subcontractor waives and releases any and all of the undersigned's rights and claims under the Illinois Public Construction Bond Act to the same extent the undersigned waives and releases any and all lien or claim of, or right to lien under the statutes of Illinois relating to mechanics liens. Subcontractor shall also provide partial lien waivers from its Subcontractors and suppliers when required by Construction Manager.

- 7.1.2 Such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Changed Orders.
- 7.1.3 Such applications may not include requests for payment of amounts the Subcontractor does not intend to pay to a Sub-subcontractor or material supplier because of a dispute or other reason.
- 7.1.4 Construction Manager shall include Subcontractor's Application for Payment in Construction Manager's next Application for Payment to Owner provided Subcontractor's Application is timely received, there has been a reasonable opportunity for inspection and verification, and it has been accompanied by the required lien waivers and submissions required under Paragraph 7.1.7.
- 7.1.5 Construction Manager shall pay Subcontractor within ten (10) days of its receipt of payment by Owner, subject to the conditions of Paragraphs 7.1.6 and 7.1.7, as follows:
 - 7.1.5.1 Ninety percent (90%) of currently due amounts shown on the Application for Payment.
 - 7.1.5.2 When a major segment of work is one hundred percent (100%) completed, or materials one hundred percent (100%) purchased and accepted by Owner and Construction Manager, Construction Manager may, at its sole discretion, release the proportionate retainage with respect to that segment, and make full payment therefore to Subcontractor.
- 7.1.6 Approval of an Application for Payment for stored items on or off the site shall be conditioned on submission by the Subcontractor of bills of sale and applicable insurance or such other documents satisfactory to the Owner and Construction Manager to establish Owner's title to materials and equipment or otherwise protect Owner's and Construction Manager's interest therein, including transportation to the site. Stored items shall be marked as belonging to Owner upon payment for same. Subcontractor shall submit evidence satisfactory to Construction Manager and Owner that goods are marked belonging to Owner.
- 7.1.7 Subcontractor warrants and guarantees that title to all Subcontract Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will pass to the Owner upon receipt of such payment by Construction Manager, free and clear of all liens, claims, security interests or encumbrances hereinafter referred to as Liens. Subcontractor shall indemnify, defend and save harmless Construction Manager and Owner against Liens filed on the property of Owner by Subcontractor's Subcontractors, material men or suppliers for amounts they claim are due them from Subcontractor for Subcontract Work. Within ten (10) days of receiving notice from Owner or

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Construction Manager to do so, Subcontractor shall obtain the release of any such Liens. If Subcontractor fails to do so within the time provided herein, Construction Manager may satisfy such Liens by payment, notwithstanding Subcontractor's defenses thereto and without liability to Subcontractor or its surety therefore and may retain out of any payment due, or to become due to Subcontractor thereafter, an amount sufficient to indemnify Construction Manager and Owner for such payment and any other expenses incurred by either of them as a result of such Lien. Subcontractor shall also be responsible for the amount of any premium for any bond given by Construction Manager or Owner to obtain the discharge of any Lien, or for the interest on any money deposited for the purpose of discharging any Lien.

7.2 Certificates for Payment

7.2.1 The Construction Manager will, within seven days after receipt of the Subcontractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Subcontractor, for such amount as the Construction Manager determines is properly due, or notify the Subcontractor and Owner in writing of the Construction Manager's reasons for withholding certification in whole or in part as provided in Subparagraph 7.3.1.

7.2.2 The issuance of a Certificate for Payment will constitute a representation by the Construction Manager to the Owner, based on the Construction Manager's observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Construction Manager's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Construction Manager. The issuance of a Certificate for Payment will further constitute a representation that the Subcontractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Construction Manager has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Subcontractor's right to payment or (4) made examination to ascertain how or for what purpose the Subcontractor has used money previously paid on account of the Contract Sum.

7.3 Decisions to Withhold Certification

7.3.1 The Construction Manager may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's opinion the representations to the Owner required by Subparagraph 7.2.2 cannot be made. If the Construction Manager is unable to certify payment in the amount of the Application, the Construction Manager will notify the Subcontractor and Owner

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as provided in Subparagraph 7.2.1. If the Subcontractor and Construction Manager cannot agree on a revised amount, the Construction Manager will promptly issue a Certificate for Payment for the amount for which the Construction Manager is able to make such representations to the Owner. The Construction Manager may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's opinion to protect the Owner from loss because of:

7.3.1.1 defective Work not remedied;

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- 7.3.1.2 third party claims filed or reasonable evidence indicating probable filing of such claims;
 - 7.3.1.3 failure of the Subcontractor to make payments properly to Sub-subcontractors or for labor, materials or equipment;
 - 7.3.1.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
 - 7.3.1.5 damage to the Owner or another Subcontractor;
 - 7.3.1.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
 - 7.3.1.7 persistent failure to carry out the Work in accordance with the Contract Documents.
- 7.3.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.
- 7.4 Final Payment
- 7.4.1 Subject to Paragraph 7.4.2, Final Payment shall be made to Subcontractor when Subcontractor has achieved final completion in accordance with the requirements of the Subcontract Documents. Final completion includes, but is not limited to, completion of the Subcontract Work to the satisfaction of Owner and Construction Manager; Subcontractor's payment of all its Subcontractors and material men; settlement of all claims; payment and recorded release of all mechanics' liens; delivery of all guarantees, warranties, equipment operation and maintenance manuals, record documents, appropriate certificates, and all other required approvals and acceptances by city, county, and state governments, or other authorities having jurisdiction; removal of all rubbish tools, scaffolding, and surplus material and equipment from the site; consent to release of Final Payment from Subcontractor's surety; receipt of appropriate certificates of insurance evidencing continuing insurance obligations; and submittal of Subcontractor's Final Application for Payment.
- 7.4.2 Final payment to Subcontractor will be made upon Application for Payment and paid no later than thirty (30) days after inspection and verification by Construction Manager and Owner, payment by Owner to Construction Manager, and the satisfaction of all other conditions required for payment. The word "FINAL" shall be placed on the last Application for Payment and an unconditional Final Waivers of Lien shall be attached thereto stating that the subcontractor waives and releases any and all of the undersigned's rights and claims under the Illinois Public Construction Bond Act to the same extent the undersigned waives and releases any and all lien or claim of, or right to lien under the statutes of Illinois relating to mechanics liens. Acceptance of Final Payment by Subcontractor shall constitute a release and waiver by Subcontractor of all claims Subcontractor has or may have against Construction Manager, Construction Manager's surety, and Owner.
- 7.5 Effect of Payment and Occupancy. Progress payments, final payment, partial or entire use or occupancy by Owner and/or Construction Manager shall not constitute acceptance of

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any work not in conformance with the Subcontract Documents.

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7.6 Condition Precedent to Payment. Payment by Owner to Construction Manager for the Subcontract Work is a condition precedent to Subcontractor's payment by Construction Manager. Subcontractor is entitled to payment only for that portion of the Subcontract Work for which Construction Manager has been paid by Owner. Subcontractor expressly assumes the risk of nonpayment by Owner.

8.0 Indemnity, Insurance and Bonds

8.1 Indemnity. To the fullest extent permitted by law, Subcontractor shall defend and indemnify and hold harmless Construction Manager, the Architect and the Owner, their subsidiaries and affiliates and officers, directors, shareholders, partners, managers, members, agents and employees of any of them (and the foregoing's respective successors, assigns, heirs, estates and personal representatives), against all claims, damages, losses, and suits for loss or damage to property (other than the Work itself), or personal and bodily injury, including death, to persons, and from all judgments recovered therefore, and from all expenses for defending such claims or suits, including court costs, litigation expenses, and attorney's fees, which result from the performance of the Subcontract by Subcontractor, its Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable to the extent caused, in whole or in part, by negligent acts or omission of Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable. All indemnification provisions contained in this Contract shall survive the termination of the Contract.

8.2 Insurance

8.2.1 Without limiting the liability of Subcontractor under its Subcontract, Subcontractor shall purchase and maintain the following insurance to cover its operations under its Subcontract. Said insurance shall be provided by insurance companies acceptable to Construction Manager and licensed to do business in the state where the Project is located and have a policyholder's rating of "A-" and a financial size rating of "VII" or higher in the most current Best's Key Rating Guide.

8.2.1.1 Worker's Compensation Insurance, which affords insurance with statutory limits as required by Illinois (all states endorsement including occupational diseases), together with Employer's Liability Coverage with limits of not less than the following:

\$500,000 each accident Bodily Injury by Accident

\$500,000 policy limit Bodily Injury by Disease

\$500,000 each employee Bodily Injury by Disease.

Such insurance shall include a Waiver of Subrogation endorsement in favor of Construction Manager, Construction Manager, Architect/Engineer and Owner and coverage extensions as required by applicable state or federal jurisdictions i.e. (U. S. Longshoremen's and harbor Worker's Act Coverage, Maritime Coverage (Jones Act) etc.

Evidence of coverage is still required from Employee Leasing Company should employees be leased.

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- 8.2.1.2 Comprehensive Automobile Liability Insurance covering all owned, hired (rented) and non-owned vehicles with the following minimum limit of liability \$1,000,000 bodily injury and property damage each accident.
- 8.2.1.3 Commercial General Liability Insurance which is written on an occurrence basis, with the following minimum limits of liability:

General aggregate per project	\$2,000,000
Products/completed operations aggregate	\$2,000,000
Personal and advertising injury	\$1,000,000
Each occurrence	\$1,000,000
- 8.2.1.4 The Commercial General Liability policy shall include bodily injury, property damage, personal injury and broad form contractual liability coverage with the following coverages:
 - 8.2.1.4.1 Products and completed operations coverage for at least two years beyond the completion date of the project and the project is put to its intended use.
 - 8.2.1.4.2 Blanket contractual liability coverage which sets forth that coverage exists for the indemnification agreement as applicable to the Subcontractor's obligations under Paragraph 8.1.
 - 8.2.1.4.3 Exclusions for property in the care, custody and control of the Subcontractor shall be deleted.
 - 8.2.1.4.4 Exclusions for explosion, collapse and underground property damage shall be deleted.
 - 8.2.1.4.5 **Construction Manager shall be the certificate holder. Wight Construction, Inc., ("Design-Builder/Construction Manager"), Architect/Engineer and the Owner shall each be named as additional insured's on the Commercial General Liability Policy per form CG2010 (11/85) or its equivalent language which is CG2010 (10/01) with the CG2037 (10/01), Auto Liability, Pollution Liability and any required Excess policies.** The Commercial General Liability, Auto Liability, Pollution Liability and required Excess policies shall include a severability of interest or cross-liability clause; a waiver of subrogation in favor of the additional insured's and shall be endorsed to apply on a primary and non-contributory basis with respect to any applicable insurance maintained by Construction Manager, Construction Manager, Architect/Engineer or Owner. Such inclusion as an additional insured shall extend to completed operations coverage and shall not be limited by an insured vs. insured exclusion.
 - 8.2.1.4.6 Personal injury with the employee and contractual

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liability exclusions deleted.

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8.2.1.5 Umbrella liability insurance excess of the coverages in provisions 8.2.1.1-8.2.1.4 and with a coverage form at least as broad as underlying insurance including any special coverage extensions for the following limits of liability:

Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

The insurance limits in provisions 8.2.1.1-8.2.1.5 above may be provided by any combination of primary insurance policies and excess liability ("umbrella") insurance policies provided the resulting insurance is equivalent to the insurance stated hereunder.

8.2.1.6 Aircraft or Watercraft Liability Insurance

This section is applicable only if the Work involves the use of an aircraft or watercraft of any type being used by the Subcontractor or any tier of Subcontractor. The Subcontractor shall maintain or require the operator of the aircraft or watercraft public bodily injury and property damage liability insurance. Aircraft liability insurance is to include passenger liability with combined single limits for bodily injury and property damage of \$5,000,000 each occurrence. Watercraft liability is to be provided in an amount not less than \$1,000,000 per vessel including coverage for wages, maintenance and cure for any master(s) or member(s) of the crew. Workers' Compensation coverage is to include applicable coverage extensions for crew and passengers.

8.2.1.7 Physical Damage Insurance

All-risks of direct physical loss insurance on all vehicles, valuable papers, construction equipment, scaffolding, towers, forms, supplies, trailers, mobile office trailers tools including tools owned by mechanics, and any other property of similar nature which are not consumed in forming a part of the completed Work that are owned, borrowed, rented by, or in the care, custody and control of, Subcontractor to their full insurable value. The requirement to secure and maintain such insurance is solely for the benefit of the Subcontractor.

8.2.2 Subcontractor shall furnish certificates for Construction Manager and Owner evidencing satisfaction of the insurance requirements of Section 8.2 before beginning the Subcontract Work and upon renewal of such coverages during the performance of its Subcontract. Additionally, certificates of insurance are to be provided annually as evidence thereof of extended completed operations coverage. The certificates shall provide that thirty (30) days written notice shall be given to Construction Manager before the policies are changed or canceled. Subcontractor shall, itself, give written notification to Construction Manager as

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soon as it receives notice of change or cancellation from its insurance company. The certificates of insurance shall plainly designate the name of the Project. Failure to furnish such certificates shall not relieve Subcontractor from its obligations under Section 8.2. Certificates of insurance must evidence the inclusion of the Additional Insured's on a primary and non-contributory basis; severability of interest clause; the required General Liability per project aggregate; and waiver of subrogation clauses. Any applicable deductible or self-insured retention shall be stated on such certificate.

- 8.2.3 Failure to carry and keep the insurance coverages required herein in force shall constitute an event of default under this Contract. The Construction Manager reserves the right to withhold the issuance of the Notice to Proceed, to deny access to the Project, or to withhold payments under this Contract until proper evidence of insurance as required herein is received by the Construction Manager.
 - 8.2.4 The insurance coverages as required herein are not intended to preclude the Subcontractor from obtaining, at their own expense, other coverages and higher limits where required by law or as required by the Subcontractor's operations. Failure of the Subcontractor to secure insurance or to maintain adequate amounts of insurance shall not obligate the Construction Manager, Construction Manager, Architect/Engineer and Owner for any losses hereunder.
 - 8.2.5 Notwithstanding the insurance proceeds available and collectible by the Subcontractor, the limits of liability specified herein do not in any way limit the liability of the Subcontractor. Any applicable deductible or self-insured retention shall be paid by the Subcontractor.
 - 8.2.6 The Subcontractor shall require certificates of insurance of their respective vendors, suppliers, material dealers, independent truckers/haulers, and others who merely transport, pick up, deliver or carry materials, personnel, parts equipment or any other items or persons to or from the Project. Such certificates of insurance shall evidence the Workers' Compensation, General Liability, Automobile Liability, and Umbrella Liability coverages carried.
 - 8.2.7 Warranty Work: If Subcontractor and all others for whose work the Subcontractor is responsible for is required to return to the Project during a warranty period, insurance shall be proved and maintained as required in Article 8.
 - 8.2.8 Subcontractor shall require evidence of insurance substantially the same as required of Subcontractor from each tier of Subcontractor prior to commencement of work by each tier of Subcontractor.
- 8.3 Waiver of Subrogation. Construction Manager and Subcontractor waive all rights against (1) each other and any of their Subcontractors, agents and employees, each of the other, and (2) the Owner and any of its Subcontractors, agents and employees, for damages caused by fire or other perils covered by builder's risk insurance provided under the Prime Contract or other property insurance applicable to the Subcontract Work, except such rights as they may have to proceeds of such insurance held by the Owner as fiduciary. The Subcontractor shall require of its Subcontractors, agents and employees, by appropriate agreements, written where legally required for validity, similar waivers in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to

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a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

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8.4 Bonds

- 8.4.1 Subcontractor shall furnish a Performance and Payment Bond, in an amount at least equal to the Subcontract Price as security for the faithful performance and payment of its obligations under the Subcontract and it shall not be a violation of the terms of the bond to order changes in the Subcontract Work. The penal sum of each bond shall be adjusted to include the amounts of all change orders. This bond shall be provided within ten (10) calendar days of execution of this agreement. This bond shall remain in effect at least until the later of two (2) years after the date when final payment becomes due or Subcontractor completes its warranty obligations. The bond shall be in the form prescribed by law, regulation or by the Subcontract Documents and be executed by such sureties as are acceptable to Construction Manager and Owner and are licensed to do business in Illinois. The bond shall be signed by an agent and must be accompanied by a certified and current copy of the authority to act. The bond shall name Construction Manager and Owner as dual obligees.
- 8.4.2 The Performance, Labor and Material Bond shall be executed in conformity with American Institute of Architects, Doc. A312™-2010 with coverage provided by a Surety having a policyholder's rating of "A" and minimum class of FSC VIII financial rating in the Best's Insurance Guide, latest edition. A certified copy of the power of attorney from the surety company stating that the person executing the bond shall accompany the bond.
- 8.4.3 If at any time the Construction Manager or the Owner shall become dissatisfied with any Surety or Sureties, or for any other reason, such bond shall cease to be adequate security. Subcontractor shall within five (5) days after receipt of notice to do so, substitute an acceptable bond in such form and sum and signed by such other Sureties as may be satisfactory to Construction Manager. No further payment shall be deemed due nor shall be made until the new Sureties shall have qualified.
- 8.4.4 Whenever the Subcontractor shall be and is declared by the Owner or Construction Manager to be in default under the Subcontract, the Surety of the Subcontractor shall be responsible to reimburse the Construction Manager or Owner in a timely manner and at Construction Manager's or Owner's prevailing rates up to the penal sum of the bond for any and all Work and expense incurred time and material billing by the Construction Manager as a result of the Subcontractor's default including but not limited to additional construction management, architectural fees, miscellaneous costs and expenses, testing, consulting fees, engineering fees or accounting fees. The provisions of the clause for charging of costs, fees and extra work against the Subcontractor shall apply to subparagraphs 3.5, 9.1.1, and 9.1.2.
- 8.4.5 It shall be the duty of the Surety to give an unequivocal notice of intent to remedy the default or defaults promptly or to perform the contracts promptly or to pay to the Construction Manager or Owner the completion cost to remedy the default or defaults up to the penal sum of the bond. Surety shall give such notice in writing to the Construction Manager and Owner within ten (10) days after receipt of the Construction Manager's or Owner's declaration of default and notice of termination of the Subcontractor. Time is of the essence in the Surety's

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election to remedy the default. In said notice of election, the Surety shall indicate the date on which the remedy or performance will commence, and it shall then be the duty of the Surety to give prompt notice in writing to Construction Manager and Owner immediately upon completion of (a) the remedy and/or correction of each default, (b) the remedy and/or correction of each item of condemned Work, (c) the furnishing of each omitted item of Work, and (d) the performance of the contract. The Surety shall conduct a due diligence investigation before asserting solvency of its Principal or rely solely on its Principal's denial of default as justification for its failure to give notice of election or for its failure to promptly remedy the default or defaults or perform the contract. If in the event Surety requires additional time to investigate the declaration of default, the Construction Manager or Owner may, without prejudice to its rights under the Bond, temporarily continue construction of the Project and charge the costs of such Work, including Work performed on a time and material basis at the firm's prevailing time and material rates.

Upon the Subcontractor's default and the Owner's declaration of Subcontractor's default, Owner shall provide notice, along with a copy of Section 8.4 of the General Conditions of the Subcontract, to Surety of same.

- 8.4.6 In the event the said Surety shall fail to act promptly as provided herein, then Construction Manager or Owner shall cause ten (10) days notice of such failure to be given, both to said Principal and Surety, and at the expiration of said ten (10) days, the Obligees shall have the authority to cause said Work to be done, and when the same is completed and the cost thereof ascertained, the said Principal and Surety shall and hereby agree to pay any completion costs in excess of the remaining contract balance, but not exceeding the penal sum of the bond.

After declaration of default and termination, and as the contract is completed by a completing contractor or by Surety in accordance with the terms of the Contract Documents, to the extent the construction funds remain and are attributable to the defaulted contractor, Construction Manager or Owner shall pay completing contractor or Surety in accordance with the Schedule of Values as certified by the Architect, and upon completion, any funds which remain due on said contract, the same shall be paid to said Surety.

- 8.4.7 Whenever the Subcontractor shall be and is declared by the Owner or Construction Manager to be in default under the Subcontract, the Subcontractor and Surety further agree as part of this obligation to pay all such damages of any kind arising out of incomplete Work or damaged Work, that may result from a failure in any respect to perform and complete said contract, including, but not limited to, all repair and replacement costs necessary to rectify construction error, architectural and engineering costs and fees, all consultant fees, construction management fees and expenses, all testing and laboratory fees, and all legal fees, expenses and litigation expenses and costs incurred by the Construction Manager or Owner as a result of the default.

After the Surety's receipt of the Obligees' declaration of the Subcontractor's default, the Construction Manager and Owner hereby agree to cooperate with

~~Community Consolidated School District 62~~ ~~Community High School District 99~~ High School
~~District 99~~ ~~00201-38~~ ~~07-5274-36D~~
~~South High School Roofing Project~~ Bid Group 1
~~07-51695274-10-2206~~
~~District Wide Additions and Alterations - Phase 1 North High School Phase IIS~~
~~Bid Group 32~~

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DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS
SECTION 00280 - PREVAILING WAGE RATES

PREVAILING RATE OF WAGES

- 0.1 Pursuant to Public Act 86-799, these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

Attached is a copy of the latest available prevailing wage rates from the State of Illinois web site. Contractor is required to be current with and pay the current prevailing wage rates in effect for this project.

TILE MASON	BLD	43.840	47.840	1.5	1.5	2.0	10.55	11.40	0.000	0.990
TRAFFIC SAFETY WRKR	HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500
TRUCK DRIVER	ALL 1	35.920	36.120	1.5	1.5	2.0	8.280	8.760	0.000	0.150
TRUCK DRIVER	ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCKPOINTER	BLD	42.620	43.620	1.5	1.5	2.0	10.05	13.34	0.000	0.670

Legend: RG (Region)
 TYP (Trade Type - All, Highway, Building, Floating, Oil & Chip, Rivers)
 C (Class)
 Base (Base Wage Rate)
 FRMAN (Foreman Rate)
 M->8 (OT required for any hour greater than 8 worked each day, Mon through Fri.)
 OSA (Overtime (OT) is required for every hour worked on Saturday)
 OSH (Overtime is required for every hour worked on Sunday and Holidays)
 H/W (Health & Welfare Insurance)
 Pensn (Pension)
 Vac (Vacation)
 Trng (Training)

Explanations

DUPAGE COUNTY

IRON WORKERS AND FENCE ERECTOR (WEST) - West of Route 53.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Low voltage installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft.; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turntrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turntrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

PART 1 GENERAL

1.1 SUMMARY

A. General Notes Pertaining to all and or specific Bid Packages:

Bid Pkg. #	Trade	Scope Item #	Scope – This Trade Contractor’s scope shall include but not be limited to the scope listed below. Please see entirety of bid documents for all scope.
ALL	ALL	0.1	Each Trade Contractor shall submit one fully executed copy of AIA Document A305 “Contractor’s Qualification Statement” prior to the bid due date as identified in the Notice to Bidders. Faxed submittals are acceptable. A305 document copies may be obtained from the Chicago AIA office located at 222 Merchandise Mart Plaza, Suite 1049, Chicago, IL 60654
ALL	ALL	0.2	Each Trade Contractor shall coordinate all on-site activities including but not limited to site access, site parking, deliveries, etc. with Wight Construction Services, Inc. on-site supervision.
ALL	ALL	0.3	ALL TRADE CONTRACTORS shall be responsible for keeping scrap and debris cleared from the construction site on a continuing basis. TRADE CONTRACTORS will be required to list their respective dollar value for clean up on the Schedule of Values Form G703 no later than 5 business days from the issuance of Notice to Proceed. Each TRADE CONTRACTOR providing work during any week period will be required to furnish DAILY cleanup personnel, for the needed time to clean the building as directed by the Construction Manager. If this cleanup is not completed to the satisfaction of the Construction Manager, the Construction Manager will contract clean up to be done, and the TRADE CONTRACTOR will be back-charged accordingly.
ALL	ALL	0.4	This Trade Contractor’s field personnel shall complete a safety orientation (managed by the Construction Manager; approximate duration is 1-hour) prior to any on-site activities. At a minimum, the Trade Contractor’s Project Manager and site foreman will be required to attend. If this Trade Contractor fails to attend this meeting on the specified date and time, the Trade Contractor will be charged for a separate orientation at the hourly billing rates for Wight Construction’s Safety Officer.
ALL	ALL	0.5	All Trade Contractors shall be responsible for safety for this portion of work. Provide all necessary scaffolding, handrails, ladders, equipment, etc. necessary to perform the described work. Comply with all O.S.H.A., local, state, or federal safety authorities having jurisdiction.
ALL	ALL	0.6	Each Trade Contractor shall exclude tax payment of Retailers’ Occupation Tax, the Service Occupation Tax (both state and local), the Use Tax and the Service Use Tax, as required by IL Law. The tax exempt letter for District 99 will be furnished to all of the successful bidders.
ALL	ALL	0.7	Control line surveying will be by others. All Trade Contractors shall protect and maintain all survey work by others. This Trade Contractor shall be responsible for all layout and in field measurements related to this Trade Contractor’s work and shall coordinate this layout work with the layout of adjacent work by others.
ALL	ALL	0.8	Each Trade Contractor shall conduct all contract related activities within the guidelines for phasing and scheduling established on this project. It is the responsibility of each Trade Contractor to review and accept, as part of contract, the regular and ongoing schedule updates on this project.

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.9	<p>The industry rule of thumb term “Use is Acceptance” will be enforced.</p> <ul style="list-style-type: none"> a) When work is performed, it will be assumed this Trade Contractor has inspected and accepted the quality and coordination of the work of other trade contractors that this Trade Contractor is working on or against. b) Start of work by this Trade Contractor on top of or against any other surface means this Trade Contractor has accepted the quality and completeness of that surface. c) This Trade Contractor is responsible for preparing (i.e. cleaning) adjacent surfaces including but not limited to those surfaces completed by others prior to proceeding.
ALL	ALL	0.10	As defined by the American Institute of Architects, “the Contractor is the person or entity identified as such in the agreement and is referred to throughout the Contract as if singular in number. The term “Contractor” means the Contractor or the Contractor’s authorized agent.” Trade Contractor, Subcontractor, Sub-Tier Contractor or any derivative thereof shall are all considered synonymous with Contractor.
ALL	ALL	0.11	Each Trade Contractor shall complete the payment application Schedule of Values sheet including full disclosure and listing of each aspect of Trade Contractor’s work valued in excess of \$5,000, within 5 working days of the issuance of a Letter of Intent from Wight Construction.
ALL	ALL	0.12	ALL TRADE CONTRACTORS furnishing material for delivery and installation at any time on this project shall be responsible for the purchase and storage of that material at no additional cost to the Owner. Payment for off-site stored material will not be considered.
ALL	ALL	0.13	ALL TRADE CONTRACTORS shall promptly notify the Construction Manager of any damage caused to their work by another TRADE CONTRACTOR and shall be responsible to remedy their claim with the party causing the damage. Should the responsible party, within 24 hours’ notice, fail to remedy all damages or loss, the Construction Manager shall have the right to remedy the situation and the cost thereof will be back charged to the TRADE CONTRACTOR responsible for the damage or loss.

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.14	<p>Performance Clause: All Trade Contractors shall at all times supply a sufficient number of jurisdictionally skilled workers to perform, with promptness and diligence, the work covered by contract. Should any workers performing work covered by contract engage in a strike, work stoppage and/or slowdown of any kind or cease to work because of picketing or a labor dispute of any kind, Construction Manager may, at its option and without prejudice to any other remedies it may have, after twenty-four (24) hours written notice to Contractor, provide any such labor and deduct the cost thereof from any moneys then due or thereafter to become due to Contractor. Further, Construction Manager may at its option, without prejudice to any other remedies it may have, terminate the employment of Contractor for work under this contract. Construction Manager shall have the right to enter upon the premises and take possession, for the purpose of completing the work hereunder, of all Contractors' materials, tools and equipment thereon. Further, Construction Manager may finish the work either with its own employees or those of other contractors. When terminated by Construction Manager, Contractor will not receive any further payments under the contract or otherwise. Contractor shall remain liable for any damages that Construction Manager incurs. If expenses incurred by Construction Manager, in completing the work, exceed the unpaid balance due Contractor, Contractor shall pay difference to Construction Manager. In addition, Construction Manager may collect other damages incurred as a result of Contractor's default. Construction Manager shall have a lien upon all on-site material, tools, equipment or other property of Contractor to secure payment thereof. In the event of any inconsistency between the provisions of the performance clause and any other provisions of the contract or the contract documents, the provisions for the performance clause shall prevail. Any provisions of the contract or the contract documents with respect to arbitration or determination of disputes arbitrator or others shall not apply to this performance clause.</p>
ALL	ALL	0.15	<p>If the work of this Trade Contractor is determined by Construction Manager to be deficient in any way this Trade Contractor understands and accepts that in-progress and/or completed work will be redone at the full expense of this Trade Contractor on a time line as established by Construction Manager.</p>
ALL	ALL	0.16	<p>Warranty will be executed upon substantial completion of the entire project. Based on the sequencing of work this Trade Contractor understands that portions of the work may be completed well in advance of this substantial completion date.</p>
ALL	ALL	0.17	<p>All TRADE CONTRACTORS are required to conduct a preliminary punch list walk through with the Construction Manager. TRADE CONTRACTORS will have an allotted time frame to complete deficiencies. TRADE CONTRACTOR is also required to conduct a final walk through with the Construction Manager and Owner and correct and complete those deficiencies within 2 weeks of final punch list. If the TRADE CONTRACTOR fails to complete punch list within allotted time frame, the Construction Manager reserves the right to hire a separate trade contractor to make the corrections to complete those punch list items not addressed and back charge the TRADE CONTRACTOR at the cost of the work.</p>
ALL	ALL	0.18	<p>It is the responsibility of each TRADE CONTRACTOR to assure that his respective area of construction is watertight and protected from the elements, as necessary and as a result of his work, throughout the construction period.</p>

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.19	All drawings, specification sections, and scopes of work should be referenced for the extent of the work under all accounts.																	
ALL	ALL	0.20	Although Specifications are allocated to the respective "Scopes of Work", it is the intention of the Construction Manager that each TRADE CONTRACTOR read all Specification Sections, and that the Scopes of Work shall take precedence over any allocation of work made by the Architect.																	
ALL	ALL	0.21	All TRADE CONTRACTORS shall be responsible for repair of ruts and removal of trapped water on a continuous basis caused by the use of their motorized equipment.																	
ALL	ALL	0.22	All TRADE CONTRACTORS shall be responsible for damage caused by the use of their motorized lifts, rolling scaffold or other elevated type equipment used on the project.																	
ALL	ALL	0.23	All TRADE CONTRACTORS shall be responsible for cleaning mud and stone off of the tires and tracks of their vehicles and construction equipment prior to entering public roadways off of the project site.																	
ALL	ALL	0.24	All TRADE CONTRACTORS shall be responsible for submitting a work schedule for all of their work on the site within ten working days from of the issuance of a Letter of Intent from Wight Construction. This is to include all durations for each phase of work to be performed by this TRADE CONTRACTOR.																	
ALL	ALL	0.25	<p>It is hereby acknowledged that TRADE CONTRACTOR will provide the following insurance coverage as noted in the project manual:</p> <p>General Liability – Per Project Aggregate, including CG 2010 (11/85) or its equivalent language which is CG2010 (10/01) the CG2037 (10/01) and Waiver of Subrogation endorsement in favor of Additional Insured's</p> <table style="margin-left: 40px;"> <tr> <td>General aggregate per project</td> <td style="text-align: right;">\$2,000,000</td> </tr> <tr> <td>Products/completed operations aggregate</td> <td style="text-align: right;">\$2,000,000</td> </tr> <tr> <td>Personal and advertising injury</td> <td style="text-align: right;">\$1,000,000</td> </tr> <tr> <td>Each occurrence</td> <td style="text-align: right;">\$1,000,000</td> </tr> </table> <p>Automobile Liability Insurance – In favor of additional insured's</p> <table style="margin-left: 40px;"> <tr> <td>Bodily Injury and Property Damage Each Accident</td> <td style="text-align: right;">\$1,000,000</td> </tr> </table> <p>Excess/Umbrella Liability Insurance – Per Occurrence, In favor of additional insured's</p> <table style="margin-left: 40px;"> <tr> <td>Aggregate</td> <td style="text-align: right;">\$5,000,000</td> </tr> <tr> <td>Each occurrence</td> <td style="text-align: right;">\$5,000,000</td> </tr> </table> <p>Workman's Compensation – Including Waiver of Subrogation endorsement in favor of Additional Insured's</p> <table style="margin-left: 40px;"> <tr> <td>\$500,000 each accident Bodily Injury by Accident</td> </tr> <tr> <td>\$500,000 policy limit Bodily Injury by Disease</td> </tr> <tr> <td>\$500,000 each employee Bodily Injury by Disease</td> </tr> </table>	General aggregate per project	\$2,000,000	Products/completed operations aggregate	\$2,000,000	Personal and advertising injury	\$1,000,000	Each occurrence	\$1,000,000	Bodily Injury and Property Damage Each Accident	\$1,000,000	Aggregate	\$5,000,000	Each occurrence	\$5,000,000	\$500,000 each accident Bodily Injury by Accident	\$500,000 policy limit Bodily Injury by Disease	\$500,000 each employee Bodily Injury by Disease
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\$500,000 each accident Bodily Injury by Accident																				
\$500,000 policy limit Bodily Injury by Disease																				
\$500,000 each employee Bodily Injury by Disease																				
ALL	ALL	0.26	Each Trade Contractor shall be responsible for removal and disposal of their waste. All reporting of disposal shall follow spec. section 017419.																	
ALL	ALL	0.27	Pay Applications AND Waivers are to be submitted in original signature triplicates.																	
ALL	ALL	0.28	Provide sufficient equipment, material, skilled manpower, supervision and/or premium time/shift work (all without additional compensation) as may be required to complete the work of this Trade Contractor in accordance with the overall project substantial completion date. Reference Division 0 – Bidding and Contract Requirements, Section 01250 – Construction Schedule.																	
ALL	ALL	0.29	TRADE CONTRACTOR shall be prepared to meet within one week of bid opening to conduct scope reviews, provide submittal log and discuss award of contract.																	

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.30	Contact J.U.L.I.E. 72 hours minimum prior to any excavation work. Record and document all contact with J.U.L.I.E. including but not limited to Dig Number; present J.U.L.I.E. dig number and all other J.U.L.I.E. related documentation to the Construction Manager 24-hours minimum prior to any excavation. All these J.U.L.I.E. documentation shall be included as part of the close out documentation.
All	All	0.31	Weekly Certified Payroll Reports are required with monthly pay application. Certified Payroll reports are also required on any sub-tiers performing labor.
All	All	0.32	Contractors to provide all necessary signage to alert traffic or other of the work being performed and to provide all related traffic control items as shown on the drawings and/or contract documents. Any TRADE CONTRACTOR not adhering to the traffic control requirements will result in the Construction Manager bringing a flagger onsite at the cost of the TRADE CONTRACTOR(S).
All	All	0.33	All mobilizations and demobilizations related costs of this TRADE CONTRACTOR are to be included without consideration of additional compensation.
All	All	0.34	Change orders are required to be turned in no later than 15 days after the work has been completed and must be accompanied by a signed T&M ticket from the Superintendent. Change orders turned in later than 15 days and/or not accompanied by signed T&M ticket will be subject to rejection.
All	All	0.35	All TRADE CONTRACTORS shall be responsible for his/her for any temporary power needed by that TRADE CONTRACTOR
All	All	0.36	All TRADE CONTRACTORS shall be responsible for the coordination with all other contractors through the Wight Superintendent to achieve final result
All	All	0.37	IT IS THE RESPONSIBILITY OF EACH TRADE CONTRACTOR TO READ THE SCOPES OF WORK FOR ALL TRADES.
All	All	0.38	All TRADE CONTRACTORS must wear High visibility shirts or a high visibility vest at all times. Hard hats and safety glasses must be worn at all times.
All	All	0.39	Each trade contractor must sign in and sign out on the sign-in sheet located in the jobsite trailer every day.
All	All	0.40	Daily Reports are required by trade contractors each day by 8am to the project superintendent in the jobsite trailer. Weekly Tool Box talks will be provided by Superintendent and are to be returned the following day in the jobsite trailer.
All	All	0.41	All trade contractors are required to submit Job Hazard Analysis and method statements as required by the construction manager.

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

01	Roofing	01.01	This trade contractor shall remove and dispose of existing roofing material down to existing deck. This TRADE CONTRACTOR shall be responsible for a complete roof installation including but not limited to rigid insulation, metal coping, all flashing, ice and water shield, bonding adhesives, lap sealants, mastics, and fasteners required for the roofing as indicated on construction documents and/or as specified in the project manual.
01	Roofing	01.02	This TRADE CONTRACTOR shall be responsible for all layout work, measuring and field dimensioning associated with this Trade Contractor's work.
01	Roofing	01.03	This TRADE CONTRACTOR shall be responsible for any sealants required to maintain integrity of roofing, including the sealing of all flashing to the building structure.
01	Roofing	01.04	This TRADE CONTRACTOR shall be responsible for providing all cants and cants strips, as required within the specifications and indicated on the drawings.
01	Roofing	01.05	This TRADE CONTRACTOR shall be responsible for providing all roof flashing, including base flashings counter-flashing and sheet metal items, as required for a complete roofing system, including around roof levels, all roof penetrations, roof drains, pitch pockets, rail supports, mechanical equipment support steel, rain hoods, roof hatches, etc. Contractor will furnish and install all stops and stop collars as required within the specifications and indicated on the drawings.
01	Roofing	01.06	This TRADE CONTRACTOR shall be responsible for all counter flashing assemblies, down spouts, miscellaneous flashing, trim, coping, and all required inserts, receivers, reglets, cleats, anchors, plates, seaming, fasteners, and accessories as required within the specifications and indicated on the drawings.
01	Roofing	01.07	This TRADE CONTRACTOR shall be responsible for including field installation inspections by manufacturer of material purchased within this Contract. Contractor is responsible for maintaining guarantee and warranty for labor and material furnished and installed under this Contract as well as maintaining the guarantee for the existing roof surfaces as indicated on the construction documents and/or specified in the project manual.

DIVISION 1 – GENERAL CONDITIONS
SECTION 00300– Bid Package Scope Document

01	Roofing	01.08	This TRADE CONTRACTOR shall be responsible for all flashing of Contractor’s work required by the penetration of decks, slabs and walls of various piping, conduits, ductwork, etc. as required within the specifications and indicated on the drawings. This TRADE CONTRACTOR is responsible for any equipment curb modification required for this project.
01	Roofing	01.09	This TRADE CONTRACTOR shall be responsible for installing his work to assure against ponding.
01	Roofing	01.10	This TRADE CONTRACTOR is to include a \$10,000.00 allowance in the base bid for changes or unforeseen conditions. These funds will only be dispersed upon written approval from the construction manager and the owner.
01	Roofing	01.11	Alternate #1 Additional cost for the roofing sections as noted on the drawings as Alternate #1. See bid form.
01	Roofing	01.12	Alternate #2 Additional cost for roof pads as shown on the drawings. See bid form.

END OF SECTION 00300

BID DATE: March 9, 2017 at 1:00 p.m. (CST)
(as date/time stamped by Community High School District's Receptionist)

BID TO: Community High School District 99
Administrative Center
6301 Springside Avenue
Downers Grove, IL 60516

RECEIVED BY:

BID FROM: _____

BID FOR: ***Bid Group 1 - Bid Package #01 Roofing***
South High School
1436 Norfolk Street
Downers Grove, IL 60516

It is required to have one original bid form and one copy of your bid form.

THE UNDERSIGNED:

Acknowledges receipt of:

Plans and specifications for the work indicated above.

Addenda: No. _____ dated _____
No. _____ dated _____
No. _____ dated _____
No. _____ dated _____

Having examined the site of the work, and having familiarized himself or herself with local conditions affecting the cost of the work and with all requirements of the bidding documents including Instructions to Bidders, drawings, specifications and duly issued addenda as prepared by the architect, Wight & Company, hereby agrees to perform all work and furnish all labor, material and equipment specifically required of him by the bidding documents and such additional work as may be included as related requirements in other divisions or sections of the specifications, exclusive of alternate bids.

Agrees:

To furnish and install the described material and/or services for stated lump sum price.

To hold this bid open until **90** calendar days after bid opening date.

To accept the provisions of the General Provisions (Project Manual Division 0 – Bidding & Contracting

Requirements Section 00201) and disposition of bid security.

To enter into and execute a contract with the Owner, if awarded on the basis of this bid, and in connection therewith to:

1. Furnish all bonds and insurance required by the bidding documents.
2. Accomplish the work in accordance with the contract.
3. Complete the work within the contract time herein specified.

Completion Time:

The undersigned agrees to begin construction immediately, or as directed by the Construction Manager, upon notice of contract award and to perform the following components of the work in accordance with the Construction Manager’s Construction. This schedule is bound in the Project Manual. See attached scope of work in section 0300.

SCOPE OF WORK:

The work in this agreement (without additional compensation) shall include, but shall not necessarily be limited to, all skilled labor, supervision, premium time, materials, tools, equipment, plant, supplies, samples, shop drawings, design/engineering drawings, layout, transportation, supervision, contributions, insurance, taxes (if applicable), compliance with all agencies (City / Village, County, State, Federal and/or any other jurisdictional agency, as may be required) and/or all services and facilities necessary and/or required for the performance of all Work shown, detailed, and/or implied by the following documents and as defined herein.

It is understood that this Trade Contractor shall perform the Work for a complete and operational system as indicated or implied in all Contract Documents. It is recognized and understood that the documents upon which the bid is based are at a conceptual phase and this Contractor who has certain skills and judgments based upon his knowledge of techniques, procedures, systems, general state of the art of his specialty is expected to include in the scope of work, all items required in order to carry out a complete and functional system whether or not shown or described in the contract documents. This contract will be awarded on the basis of such documents with the understanding that this contractor is to furnish and install all items required for the proper completion of this work without adjustment to this contract price. No extra payments shall be made of claims entertained as a result of such items, unless it can be clearly demonstrated to be added scope to the contract and beyond the original intent of the documents.

Contractor to provide all Trade Contract work referenced in:

1. Any sheet of this bid group package including (reference Division 0 – Bidding and Contract Requirements, Section 00200 – Notice to Bidders).
2. Specification 00300 Bid Packages Scope Document.

WORK BASE BID: For providing all work including all allowances as required for the completion of the construction of the base bid project as shown on the drawings and specifications and NOT including alternate bids and/or contractor's proposed alternates and substitutes.

BASE BID

TOTAL BASE BID AMOUNT **South High School Roofing Project**

_____ Dollars (\$ _____)

Alternate #1

Additional cost for the roofing sections as noted on the drawings as Alternate #1

_____ Dollars (\$ _____)

Alternate #2

Additional cost for roof pads as shown on the drawings

_____ Dollars (\$ _____)

Award Basis:

The project will be awarded based upon the attached Evaluation Criteria, Section 301a. Owner and Construction Manager alternate's may be considered to find the most qualified bidder if the result of combining the base bid and the selected alternate(s) is the most qualified bid, and is to the benefit of the owner.

Each of the following amounts for alternate construction includes the entire cost of such construction, except as otherwise noted. Acceptance of any or all of the alternates for inclusion in the contract is the sole prerogative of the owner.

All additional costs due to the alternates are included in the amount to be added to the base bid, so that no additional costs will be borne by the owner due to acceptance of alternates. This alternate price is not to be included in the base bid price.

Owner Requested Alternates:

Each of the following amounts for alternate construction includes the entire cost of such construction, except as otherwise noted. Acceptance of any or all of the alternates for inclusion in the contract is the sole prerogative of the owner.

All additional costs due to the alternates are included in the amount to be added to the base bid, so that no additional costs will be borne by the owner due to acceptance of alternates.

Proposed Alternates: (Contractors Proposed Alternates)

Item Specified	Proposed Alternate	Change in Bid Price
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Owner Requested Scheduling Information:

Note: The work of this Trade Contractor is to be completed in accordance with the overall project schedule as identified elsewhere in this project manual and/or as subsequently directed by Construction Manager. This Trade Contractor shall submit a proposed submittals list/schedule/material log within five (5) calendar days of Notice To Proceed.

1. Shop drawings / Submittal for this trade contractor will be submitted within 10 calendar days of receipt of notice to proceed.

Bid Acceptance:

If written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned within the time noted herein, after the date of opening of bids or at any time thereafter before this bid is withdrawn, the undersigned agrees that he will execute a construction contract in accordance with the bids as accepted.

The Owner reserves the right to award the contract to its best interests, review and accept any and all value engineering alternatives, negotiate with the lowest responsible bidder, to reject any or all bids, to waive any informalities in bidding and to hold all bids for the bid guarantee period. The Owner reserves the right to award separate contracts for any of the items of work bid herein.

Bid Deposit:

The undersigned furnishes herewith, as required in the Instructions to Bidders, a bid deposit in the amount of ten percent (10%) of the amount bid in the form of Cashier's Check, or Certified Check, made payable to the Owner or Bid Bond, naming the Owner as obligee. (Bidder to check form of deposit furnished.)

It is understood and agreed that should the undersigned fail to enter into a contract with the Owner or furnish acceptable contract security within the time and in the manner herein provided, the bid deposit shall be retained by the Owner as liquidated damages and not as a forfeiture. As it is impossible to determine precisely an exact amount of damages the Owner will sustain, it is agreed that the bid deposit is a fair and equitable estimate of such damages.

REPRESENTATIONS AND CERTIFICATIONS:

The bidder makes the following representations and certifications as part of his bid on the project herein identified in the Bid Form. In the case of a joint venture bid, each party represents and certifies as to his own organization.

AVAILABILITY. The number and amount of contracts and awards pending which I am and/or will be obligated to perform, now and during the course of the project, will not interfere with or hinder the timely prosecution of my work.

SURETY. I have notified a Surety Company that I am submitting a bid for work to be performed on the project. The Surety Company has agreed to issue a performance and labor and material payment bond for my work, if my bid is accepted and the contract awarded to me.

INDEPENDENT PRICE DETERMINATION. The contract sum in this bid has been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.

PREVAILING WAGE. The contractor and each subcontractor shall pay not less than the general prevailing rate of hourly wages for work of a similar character in the locality in which the work is performed and not less than general prevailing rate of hourly wages for legal holidays and overtime work in the performance of work under this contract, as established by the Illinois Department of Labor, pursuant to an act of the General Assembly of the State of Illinois approved June 26, 1941 as amended according to Section 820 ILCS 130/1.

Pursuant to Section 820 ILCS 130/5, the contractor and each subcontractor shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them, and also showing the actual hourly wages paid to each such individual, which record shall be open at all reasonable hours to inspection by the Owner, its officers and agents, and to agents of the Illinois Department of Labor.

The contractor and each subcontractor hereby agree, jointly and severally, to defend, indemnify and hold harmless the Owner from any and all claims, demands, liens or suits of any kind or nature whatsoever (including suits for

injunctive relief) by the Illinois Department of Labor under the Illinois Prevailing Wage Act, Section 820 ILCS 130/1., or by any laborer, worker or mechanic employed by the contractor or the subcontractor who alleges that he has been paid for his services in a sum less than prevailing wage rates required by Illinois law. The Owner agrees to notify the contractor or subcontractor of the pendency of any such claim, demand, lien or suit. By submitting a bid, each bidder agrees to waive any claim it has or may have against the Owner, the Architect, Engineer, Construction Manager and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid; waiver of any requirements under the Bid Documents; or the Contract Document; acceptance or rejection of any bids; and award of the Contract.

Signature:

Respectfully submitted this _____ day _____, 2017

Type of Firm (Bidder to indicate)

_____ Individual

_____ Partnership

_____ Corporation

_____ Joint Venture

_____ Other

(CORPORATE SEAL)

(Firm Name)

(Address)

(Telephone Number) (FAX)

(E-mail Address)

(Bidder's Signature)

(Title)

Subscribed and sworn to me
this _____ day of _____, 2013

NOTE: All pages of this bid form must be returned with your proposal. Failure to do so shall disqualify your bid.

CERTIFICATE OF BIDDER ELIGIBILITY

720 ILCS 5/33E-11 REQUIRES THAT ALL CONTRACTORS BIDDING FOR PUBLIC AGENCIES IN THE State of Illinois certify that they are not barred from bidding on public contracts for bid rigging or bid rotation.

The following certification must be signed and submitted with bidder's bid proposal. FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

_____, as part of its bid for the _____ work for Community High School District 99, Downers Grove, Illinois, DuPage County, Illinois certified that said contractor is not barred from bidding on the aforementioned contract as a result of violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33-E4.

Firm: _____

By: _____
(Signature)

(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This _____ day of _____, 2017

NOTARY PUBLIC

**CRIMINAL CODE CERTIFICATION
AS REQUIRED BY:
STATE OF ILLINOIS CRIMINAL CODE OF 2012, 720 ILCS 5/33E-11**

I, _____ the individual whose signature appears below on this bid/contract
for _____ hereby certify that the bidding party/contracting
party is not barred from bidding on the contract as a result of a violation of either Section 33E-3 or Section 33E-4
of 720 ILCS 5/33E-3 or 5/33E-4 of the Illinois Compiled Statutes, as amended.

By: _____
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before
me this ____ day _____, 20__.

Notary Public

EQUAL EMPLOYMENT OPPORTUNITY

Section I. This EQUAL EMPLOYMENT OPPORTUNITY CLAUSE is required by the Illinois Human Rights Act and the Rules and Regulations of the Illinois Department of Human Rights published at 44 Illinois Administrative Code Section 750, *et seq.*

Section II. In the event of the Contractor's noncompliance with any provision of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Rules and Regulations of the Department of Human Rights (hereinafter referred to as the Department) the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and this Contract may be canceled or voided in whole or in part, and other sanctions or penalties may be imposed or remedies involved as provided by statute or regulation.

During the performance of this Agreement, the Contractor agrees:

A. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.

B. That, if it hires additional employees in order to perform this Contract, or any portion hereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

C. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizenship status, age, or physical or mental handicap unrelated to ability, military status or an unfavorable discharge from military service.

D. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Vendor's obligations under the Illinois Human Rights Act and Department's Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with the Act and Rules and Regulations, the Contractor will promptly notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations under the Contract.

E. That it will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and Department's Rules and Regulations.

F. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and Department's Rules and Regulations.

G. That it will include verbatim or by reference the provisions of this Equal Employment Opportunity Clause in every subcontract it awards under which any portion of this Contract obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as the other provisions of this Agreement, the Contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Department to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

ACKNOWLEDGED AND AGREED TO:

By: _____
Authorized Agent of Contractor (name and title)

DATE: _____

SEXUAL HARASSMENT POLICY

_____, having submitted a bid for _____ (Name of Contractor)
_____ to Community High School District No. 99, hereby certifies
that said contractor has a written sexual harassment policy in place in full compliance with 775 ILCS 5/2-105 (A) (4).

By: _____
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before
me this ____ day _____, 20__.

Notary Public

TAX CERTIFICATION

I, _____, having been first duly sworn depose and state as follows:

I, _____, am the duly authorized agent for
to _____, which has submitted a proposal
Community High School District No. 99 for

_____ and I hereby certify that _____ is not delinquent in the payment of any tax administered by the Illinois Department of Revenue, or if it is:

- a. it is contesting its liability for the tax or the amount of tax in accordance with procedures established by the appropriate Revenue Act; or
- b. it has entered into an agreement with the Department of Revenue for payment of all taxes due and is currently in compliance with that agreement.

By: _____
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before
me this ____ day _____, 20__.

Notary Public

SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS PROJECTS

The Contractor certifies that it has in place a written program that meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (Public Act 95-0635), and will provide a copy thereof to Community High School District No. 99 prior to commencement of work on the Project.

By: _____
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before
me this ____ day _____, 20__.

Notary Public

**CERTIFICATE REGARDING
EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS**

_____ agrees if at the time the Agreement is executed, or if during the term of the Agreement, there is excessive unemployment in Illinois as defined in the Employment of Illinois Workers on Public Works Act, 30- ILCS 570/0/01 et seq., as two consecutive months of unemployment exceeding 5%, then _____ agrees to employ Illinois laborers in accordance with the Employment of Illinois Workers on Public Works Act. An "Illinois laborer" is defined as any person who has resided in Illinois for at least thirty (30) days and intends to become or remain an Illinois resident.

Firm: _____

By: _____
(Signature)

(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This _____ day of _____, 2017

NOTARY PUBLIC

PREVAILING WAGE AFFIDAVIT

AFFIDAVIT: "I (we) hereby certify and affirm that if awarded a contract with Community High School District 99, we will comply fully with the "Illinois Prevailing Wage Act (Ill. Rev. Stat., 1987 Ch. 48, Sections 398 s-1-12 as amended by Public Act 86-693 and 86-799 effected January 1, 1990, and any other amendments effective thereafter)". We further understand that current prevailing wage standards are included in the Supplementary General Conditions.

The following affidavit must be signed and submitted with bidder's bid proposal. FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

_____, as part of its bid for the _____ work for Community High School District 99, Downers Grove, Illinois, certifies that said contractor is not barred from bidding on the aforementioned contract as a result of a violation of the Illinois Prevailing Wage Act (Ill. Rev. Stat., 1987 Ch. 48, Sections 398 s-1-12 as amended by Public Act 86-693 and 86-799 effected January 1, 1990).

Firm: _____

By: _____

(Signature)

(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This _____ day of _____, 2017

NOTARY PUBLIC

NON-COLLUSION AFFIDAVIT

AFFIDAVIT: "I (we) hereby certify and affirm that my (our) proposal was prepared independently for this project and that it contains no fees or amounts other than that for the legitimate execution of this work as specified and that it includes no understanding or agreements in restraint of trade."

The following affidavit must be signed and submitted with bidder's bid proposal.
FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

_____, as a part of its bid for the _____ work for Community High School District 99, Downers Grove, Illinois, certifies that said Contractor is not barred from bidding on the aforementioned contract as a result of a violation of the above Non-Collusion Affidavit.

Firm: _____

By: _____

(Signature)

(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This _____ day of _____, 2017

NOTARY PUBLIC

Criminal Background Investigations

Contractor hereby represents, warrants and certified that no officer or director thereof has any knowledge that any employee thereof has been convicted of committing or attempting to commit "Criminal Code of 1961," 720 ILCS, Sections 5/11-6 (Indecent solicitation of a child), 5/11-9 (Public indecency), 5/11-14 (Prostitution), 5/11-15 (Soliciting for a prostitute), 5/11-15.1 (Soliciting for a juvenile prostitute), 5/11-19 (Pimping), 5/11-19.1 (Juvenile pimping), 5/11-19.2 (Exploitation of a child), 5/11-20 (Obscenity), 5/11-20.1 (Sexual assault), 5/12-14 (Aggravated criminal sexual assault), 5/12-15 (Criminal sexual abuse), and 5/120-16 (Aggravated criminal sexual abuse), and/or those offenses defined in the "Cannabis Control Act," 720 ILCS, 550/1 et seq. (except the "Illinois Controlled Substances Act," 720 ILCS 570/100 et seq. and/or any offense committed or attempted in any other state or against the laws of the United States, which if committed or attempted in this State, would have been punishable as one or more of the foregoing offenses.

Contractor further agrees that it shall not employ any person who have or may have direct, daily contact with the pupils of any school in the district, and for whom a criminal background investigation has not been conducted pursuant hereto, and further represents and agrees that all applicants for any such employment shall furnish with their applications the attached written "Authorization for Criminal Background Information" form authorizing the Board of Education to request a criminal background investigation of said applicant pursuant to Section 5/10-21.9 of the School Code of Illinois and to receive criminal history record information pursuant thereto to determine if the applicant has been convicted of committing or attempting to commit any of the criminal or drug offenses enumerated above. Contractor further agrees to submit with said authorization payment for any costs and expenses associated with the criminal background investigation.

Contractor further represents, warrants, and certifies that no applicant for employment with respect to whom the criminal investigation reveals any conviction for committing and/or attempting to commit any of the above enumerated offenses shall be employed thereby in any position that involves or may involve contact with the students of the school district.

This certification is executed on the date hereinafter indicated by the designated contractor by its duly authorized officer.

Firm: _____

By: _____
(Signature)

(Printed Name & Title)

Date: _____

Criminal Background Investigation

The undersigned hereby authorizes in Board of Education of Community High School District 99, Downers Grove, Illinois, to request a criminal background investigation from the Illinois State Police, pursuant to Section 5/10-21.9 of the School Code of Illinois, 105 ILCS 5/10-21.9 and to receive criminal history record information pursuant thereto.

By: _____
(Signature of Applicant of Employee)

(Printed or Typed Name of Applicant Employee)

Date: _____

BUSINESS CLASSIFICATION

a) Business Entity (check one)

Corporation (Publicly held)* Not-for-Profit* Government Agency/Public Institution*
 Corporation (Privately held) Partnership Sole Proprietor

* If checked, do not complete section III (b) and (c) below.

b) Business Ownership (check one) If minority or woman owned, attach copy of certification evidence.

Large Business: Male Owned Woman Owned
Small Business: Male Owned Woman Owned

BUSINESS DEFINITIONS

Small Business Concern - an independently owned and operated concern certified, or certifiable, as a small business by the Federal Small Business Administration (SBA). Standard Industrial Classification (SIC) codes may be found in the Federal Acquisition Regulations, Section 19.102 or in the Federal Procurement Regulations, Section 1-1.701.

Small Disadvantaged or Minority Business Concern - a small business concern which is at least fifty-one percent (51%) owned by one or more socially and economically disadvantaged individuals or in the case of any publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by such individuals; and whose management and daily business operations are controlled by one or more of such individuals. Business owners who certify that they are members of named groups (Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans) are considered socially and economically disadvantaged.

Woman-Owned Business - a business concern that is at least fifty-one percent (51%) owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management.

c) Race/Ethnicity of Ownership (check one) based on definitions below.

Black Asian/Pacific or Asian/Indian Caucasian
 Hispanic Native American (American Indians, Eskimos, Aleuts and native Hawaiians)

ETHNIC GROUP DEFINITIONS

Black Americans: United States citizens whose origins are in any of the Black racial groups of Africa.

Hispanic Americans: United States citizens whose origins are in Mexico, Puerto Rico, Cuba, Portugal, Central or Central America.

Native Americans: United States citizens whose origins are in any of the original peoples of North America, i.e., American Indians, Eskimos, Aleuts and native Hawaiians.

Asian Pacific/Asian Indian Americans: United States citizens whose origins are in Japan, China, Korea, Taiwan, Cambodia, Laos, Vietnam, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands, the Northern Mariana Islands, India, Pakistan, or Bangladesh.

I certify that the business classification and ethnicity indicated above reflects the true and correct status of this business in accordance with current Federal Small Business Administration criteria. I agree to inform Community High School District 99 immediately in writing of any changes to the information contained herein, including changes in ownership, controlling interest or operations. I understand that falsely certifying this information may result in suspension from participation in Community High School District 99 - North High School Phase II project.

Name: _____ Title: _____
(Print or Type)

Signature: _____ Date: _____

END OF SECTION 00301

PART 1 - GENERAL

1.1 SUMMARY

- A. The Owner is: Community High School District 99
6301 Springside Avenue
Downers Grove, IL 60516

- B. The Architect is: Wight & Company
2500 North Frontage Road
Darien, Illinois 60561

- C. The Construction Manager is: Wight Construction Services, Inc.
2500 North Frontage Road
Darien, Illinois 60561

- D. Section Includes:
 - 1. Project description.
 - 2. Contracts scope description.
 - 3. Applicable regulatory requirements.
 - 4. Permits and licenses.
 - 5. Access to the site.
 - 6. Contractor's use of the premises.
 - 7. Coordination requirements.
 - 8. Work sequence.

- E. Related Sections:
 - 1. Contract responsibilities and general requirements: Elsewhere in Division 1.
 - 2. Scope of Work for each trade is identified bid package scope document 00300.

1.2 PROJECT DESCRIPTION

- A. The Bid Group consists of completing scope as associated with the project identified as Community High School District 99 Downers Grove North Boiler House Upgrades.

- B. The project location is: South High School
1436 Norfolk Street
Downers Grove, IL 60516

- C. The Group No. 1 Bid Package(s) work consists of:

Bid Package #01 – Roofing

- D. The work consists of:
 - 1. Access to site.
 - 2. Contractor's use of the premises.
 - 3. Coordination requirements.
 - 4. Coordination drawings.

- E. Sequencing:
 - 1. Refer to the attached Construction Schedule for construction sequences for this project.

1.3 PRIME CONTRACTS

- A. Each prime contract shall include the work described in:
 - 1. The agreement.
 - 2. The General Provisions.
 - 3. The Bid Form.
 - 4. Division 1 specification sections, except as specifically indicated to be the responsibility of a particular Contractor.

- B. Other sections which include descriptions of the scope of work of prime contracts are:
 - 0. Section 01010 – Summary of Work
 - 1. Section 01025 – Payment, Modification and Completion Procedures.
 - 2. Section 01200 – Progress Documentation and Procedures.
 - 3. Section 01250 – Construction Schedule.
 - 4. Section 01300 – Submittals.
 - 5. Section 01400 – Quality Control Procedures.
 - 6. Section 01510 – Temporary Utilities.
 - 7. Section 01600 – Product Requirements.
 - 8. Section 01630 – Product Options & Substitutions
 - 9. Section 01700 – Construction Procedures.
 - 10. Section 01800 – Project Record Documents.

- C. All Contractors' Duties:
 - 1. Owner is exempt from sales tax on products permanently incorporated in work.
 - 2. Obtain sales tax exemption certificate number from Owner.
 - 3. Place exemption certificate number on invoices for materials incorporated in work.
 - 4. All contractors shall provide Performance, Labor and Material Payment Bonds.
 - 5. Secure and pay for, as necessary for proper execution and completion of work, and as applicable at times of receipt of bids:
 - a. Permits: All permits required (except Building Permit).
 - b. Government fees.
 - c. Licenses.
 - 6. All contractors working on site must be licensed and bonded according to requirements of Will County.
 - 7. Contact inspecting agencies associated with contractor specific work to: a) schedule any and all required inspections, b) complete that work required for acceptance of contractor specific work by the jurisdictional inspecting agency, and c) submit all inspecting agency sign-off related documentation to Construction Manager.

1.4 DEFINITIONS

- A. Furnish: To supply products to the project site, including delivering ready for unloading and replacing damaged and rejected products.

- B. Install: To put products in place in the work ready for the intended use, including unloading, unpacking, handling, storing, assembling, installing, erecting, placing, applying, anchoring, working, finishing, curing, protecting, cleaning, and similar operations.

- C. Provide: To furnish and install products.

- D. Indicated: Shown, noted, scheduled, specified, or drawn, somewhere in the contract documents.

- A. 1.5 AS ADOPTED BY THE ILLINOIS ADMINISTRATIVE CODE, TITLE 23: EDUCATION AND CULTURAL RESOURCES, SUBTITLE a: EDUCATION, CHAPTER 1: STATE BOARD OF EDUCATION, SUBCHAPTER D: CONSTRUCTION AND BUILDING MAINTENANCE, PART 180 HEALTH/LIFE SAFETY CODE FOR PUBLIC SCHOOLS, SECTION 180.60 APPLICABILITY:

ILLINOIS ADMINISTRATIVE CODE, TITLE 23,180

1. 2009 International Building Code
2. 2009 International Energy Conservation (IECC)
3. 2009 International Existing Building Code (IEBC)
4. 2009 International Fire Code (IFC); excluding Chapter 4;
5. 2009 International Fuel Gas Code (IFGC);
6. 2009 International Mechanical Code (IMC);
7. 2009 International Property Maintenance Code (IPMC)

B. AMENDMENTS

1. The provisions of 29 Ill. Adm. Code 1500 (Joint Rules of the Office of the State Fire Marshal and the Illinois State Board of Education: School Emergency and Crisis Response Plans) shall apply instead of Chapter 4 of the International Fire Code.
2. The administrative provisions of this part shall apply instead of the administrative provisions contained in Sections 101.4, 103-108, 110-113, and 115 of Chapter 1 of the International Building Code.
3. The Illinois Accessibility Code (71 Ill. Adm. Code 400) shall apply instead of the accessibility provisions set forth in Chapter 11 of the International Building Code.
4. The requirements set forth in the Illinois Plumbing Code (77 Ill. Adm. Code 890) shall apply instead of those expressed in Section 101.4.4 of Chapter 1 and incorporated in Chapter 35 of the International Building Code.
5. The requirements set forth in the Illinois State Fire Marshal's rules titled Boiler and Pressure Vessel Safety (41 Ill. Adm. Code 120) shall apply instead of those expressed in the Boiler and Pressure Vessel Safety Code (ASME 98) published by the American Society of Mechanical Engineers and incorporated in Chapter 35 of the International Building Code.

C. Authorities

1. Downers Grove Fire Department.
2. City of Downers Grove.

D. Other regulations may also be applicable.

E. Obtain copies of the regulations listed above and keep at the project site for the use of all parties.

F. Submit copies of all permits, licenses, and similar permissions obtained, and receipts for fees paid, to the Construction Manager directly.

1.6 ACCESS TO THE SITE AND USE OF THE PREMISES

A. The space available to the Contractor for the performance of the work, either exclusively or in conjunction with others performing other construction as part of the project, is the areas of construction.

B. ***Other areas are off limits to all construction personnel unless permission is granted by the Owner and Construction Manager.***

- C. Access to site will be restricted as required by the Construction Manager.
- D. The following existing facilities may be used by construction personnel:
 - 1. NONE
- E. The Owner will continue to occupy the existing building adjacent to the areas where construction is to occur.
 - 1. Conduct the work so as to cause the least interference with the Owner's operations.
 - 2. Limited storage areas will be available at the project site.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 COORDINATION WITH OCCUPANTS / VILLAGE

- A. Occupied areas include all areas in which the Owner's regular operations will be going on or to which the Owner requires access during the construction period, whether conducted by the Owner or his customers, clientele, or the public.
- B. Perform all work on weekdays, between 7:00 a.m. and 4:00 p.m., except as otherwise indicated on the drawings, elsewhere in the specifications and or as restricted by local ordinance. Activities which will require temporary shut down of necessary utilities must be scheduled for non-operating hours, and must be scheduled to cause no interruption to Park District and/or any village activity.
- C. Separate occupied areas from construction areas with dust-proof partitions.
 - 1. Where it is absolutely necessary to conduct construction operations in occupied areas, obtain the Owner's approval of the time period, the areas to be used, and the means of separating the work from the occupants.
- D. Limit access through occupied areas to those days and times which the Construction Manager and Owner approves.
- E. Provide separate access from the exterior to the construction areas, without passing through occupied areas.
- F. When the following must be modified, provide alternate facilities acceptable to the Construction Manager:
 - 1. Emergency means of egress.
 - 2. Entrances which must remain open.
 - 3. Utilities which must remain in operation.
 - 4. Informational signage.

3.2 SECURITY PROCEDURES

- A. Limit access to the site to persons involved in the work.
- B. Provide secure storage for materials for which the Owner has made payment and which are stored on site.
- C. Secure completed work as required to prevent loss.

- D. Contractor personnel will be required to check in through the Construction Manager’s office each day.

3.3 COORDINATION

- A. Each prime Contractor shall coordinate his activities with the activities of other Contractors.
- B. If necessary, inform each party involved, in writing, of procedures required for coordination; include requirements for giving notice, submitting reports, and attending meetings.
 - 1. Inform the Owner when coordination of his work is required.
- C. See other requirements in other portions of the contract documents.

END SECTION 01010

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Schedule of values.
 - 2. Payment procedures.
 - 3. Modification procedures.
 - 4. Completion procedures.

- B. Related Requirements Specified Elsewhere in the Project Manual:
 - 1. Progress payment dates and time limits.

1.2 CONTRACT CONDITIONS

- A. See the General Provisions for additional requirements.

- B. The Owner will retain from each progress payment an amount equal to 10 percent of the value of the work covered by the progress payment.
 - 1. At substantial completion the contractor may apply for release of retainage sufficient to bring the total of payments to 95 percent of the contract sum, less those amounts that are withheld to cover incomplete or incorrect work and unsettled claims, as defined elsewhere.

- C. No payment will be made for materials or equipment stored off site unless specifically approved in advance, in writing by the owner. Submit copy of the owner's agreement to pay for such materials and equipment with the application for payment covering such materials, equipment, receipts and such specific certificates of insurance for such stored material.

- D. Payments may be withheld if the contractor fails to make dated submittals within the time periods specified.

1.3 DEFINITIONS

- A. Change Proposal Request: Any written request from the Construction Manager to the contractor for a quotation, price, or breakdown on a change proposed but not ordered.

- B. Final Completion: The stage at which all incomplete and incorrect work has been completed or corrected in accordance with the contract documents.

- C. List of Incomplete Work: A comprehensive list of items to be completed or corrected, prepared by the contractor for the purpose of obtaining certification of substantial completion. This list is also referred to as a "punchlist."

- D. Modifications: Written amendments to the contract signed by the Construction Manager and the contractor, change orders, construction change directives, and written orders for a minor change in the work issued by the Construction Manager.

- E. Schedule of Values: A detailed breakdown of the contract sum into individual cost items, which will serve as the basis for evaluation of applications for progress payments during construction.

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

- F. Substantial Completion: The time at which the work, or a portion of the work which the Construction Manager agrees to accept separately, is sufficiently complete in accordance with the contract documents so that the owner can occupy or use the work for its intended purpose.
- G. Time and Material Work: Work which will be paid for on the basis of the actual cost of the work, including materials, labor, equipment, and other costs as defined elsewhere, as documented by detailed records. This basis is also referred to using the terms "cost-plus," "cost of the work," "force account," and similar terms.

1.4 SUBMITTALS

- A. Schedule of Values: First application for payment will not be reviewed without schedule of values.
 - 1. Submit in size not larger than 8-1/2 by 11 inches.
 - 2. Submit 3 copies.
 - 3. Identify with:
 - a. Project name.
 - b. Project number.
 - c. Construction Manager's name.
 - d. Owner's name.
 - e. Contractor's name and address.
 - f. All major subcontractors, material suppliers, etc.
 - g. Submittal date.
- B. Applications for Progress Payments: Submit sufficiently in advance of date established for the progress payment to allow for the processing indicated.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF VALUES

- A. Each prime contractor shall prepare a schedule of values for his work.
- B. Schedule of Values: Break costs down into line items which will be comparable with line items in applications for payment.
 - 1. Coordinate line items in the schedule of values with portions of the contract documents which identify units or subdivisions of work; provide cross-referencing if necessary to clarify.
 - a. Specifically, correlate with the project manual table of contents.
 - 2. Divide major subcontracts and material suppliers into individual cost items.
 - 3. Where applications for payment are likely to include products purchased or fabricated but not yet installed, provide individual line items for material cost, installation cost, and other applicable phases of completion.
 - 4. Show overhead and profit as a single line item.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

5. Include the following information for each line item, using AIA Standard Schedule of Values Form.
 - a. Item name.
 - b. Applicable specification section.
 - c. Dollar value, rounded off to the nearest whole dollar (with the total equal to the contract sum).
 - d. Proportion of the contract sum represented by this item, to the nearest one-hundredth percent (with the total adjusted to 100 percent).
 6. Provide the following supporting data for each line item:
 - a. Subcontractor's name.
 - b. Manufacturer or fabricator's name.
 - c. Supplier's name.
- C. Submit schedule of values within 14 days after execution of the contract.
- D. The Construction Manager will notify the contractor if schedule is not satisfactory; revise and resubmit acceptable schedule.
- E. Submit a revised schedule of values when modifications change the contract sum or change individual line items.
1. Make each modification a new line item.
 2. Show the following information for each line item:
 - a. All information required for original submittal.
 - b. Identification of modifications which have affected its value.
 3. Submit prior to next application for payment.

3.2 APPLICATIONS FOR PAYMENT

- A. Application for Payment Forms: Use AIA original current editions of G702, Application and Certificate for Payment, and AIA G703, Continuation Sheet.
- B. Preparation of Applications for Payment: Complete form entirely.
1. Make current application consistent with previous applications, certificates for payment, and payments made.
 2. Base application on current schedule of values and contractor's construction schedule.
 3. Include amounts of modifications issued before the end of the construction period covered by the application.
 4. Include signature by person authorized by the contractor to sign legal documents.
 5. Notarize each copy.
 6. Submit in 3 copies.
 7. Attach waivers of lien.
 8. Attach revised schedule of values, if changes have occurred, unless application forms already show entire schedule of values.
 9. Attach copy of the owner's agreement to pay for materials and equipment stored off site, and any other supporting documentation required by the Design/Builder or the contract documents.

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

- C. Provide the following information with every application for payment which involves work completed on a time and material basis:
 - 1. Detailed records of work done, including:
 - a. Dates and times work was performed, and by whom.
 - b. Time records and wage rates paid.
 - c. Invoices and receipts for products.
 - 2. Provide similar detailed records for subcontracts.
- D. Transmit application for payment with a transmittal form itemizing supporting documents attached.
 - 1. Transmit to the Construction Manager.

3.3 WAIVERS OF LIEN

- A. Submit, with each application for payment, waivers of lien from every entity who performed work during the period covered by the previous application for payment, and who may be legally entitled to file a mechanic's or other lien against the work.
- B. Waiver of Lien Forms: Use forms acceptable to the owner.

3.4 FIRST PAYMENT PROCEDURE

- A. The first application for payment will not be reviewed until the following submittals have been received:
 - 1. Certificates of insurance.
 - 2. Schedule of values.
 - 3. List of subcontractors, principal suppliers, and fabricators.
 - 4. Submittal schedule.
 - 5. Unit price schedule. (If applicable.)
 - 6. Names of the contractor's principal staff assigned to the project.
 - 7. All submittals specified to occur prior to first application for payment or prior to first payment.

3.5 MODIFICATION PROCEDURES

- A. Designate a single individual authorized to receive change documents and who will be responsible for informing others of changes to the work.
- B. Changes in cost resulting from modifications shall include only those costs specified elsewhere in the contract documents.
- C. When requested in writing, the contractor shall provide sufficient information for evaluation of proposed changes within 7 days.
- D. Provide the following information for every change proposal request:
 - 1. The amount of change in the contract sum, if any.
 - 2. The amount of change in the contract time, if any, with explanation.
 - 3. Cost breakdown, using schedule of values line items, separated into material and labor costs, additions and deletions, and with overhead and profit handled in the same manner as specified for the schedule of values.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

4. The period of time within which the proposed changes in contract sum or time will be valid.
5. A statement describing the effect the change may have on the work of other prime contractors.
6. Upon request, provide the following information:
 - a. Quantities and unit costs of products, labor, and equipment.
 - b. Insurance and bonds.
 - c. Overhead and profit.
- E. When changes are performed on a time and material basis, identify the applicable modification on the application for payment.
- F. Provide the following information with every claim for additional costs:
 1. Origin and date of claim.
 2. Detailed records as specified for time and material work.
- G. The contractor may propose changes.
 1. Do not use change order form.
 2. Provide the information required for change proposal requests.
 3. Describe reasons for change.
 4. Document proposed substitutions as specified elsewhere.

3.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Request for inspection and application for payment may coincide.
- B. The Construction Manager will perform one inspection for substantial completion, upon request of the contractor.
 1. If the Construction Manager is unable to issue the certificate of substantial completion because the work is not considered to be substantially complete, the contractor shall pay all subsequent inspection costs, including compensation for the Construction Manager's services and expenses.
 2. Only one certificate of substantial completion will be issued, for the entire project.
- C. Do not submit request for inspection for substantial completion until the following activities have been completed:
 1. Delivery of maintenance materials and tools.
 2. Demonstration of all equipment and systems.
 3. Instruction of the owner's personnel.
 4. Removal of temporary facilities.
 5. Final cleaning.
 6. All activities specified to occur prior to substantial completion.
- D. Do not submit request for inspection for substantial completion until the following submittals have been completed:
 1. List of incomplete work.
 2. Startup reports.
 3. Final testing, adjusting, and balancing reports.
 4. Demonstration reports.
 5. Instruction reports.
 6. Warranties.
 7. Operation and maintenance data.
 8. Project record documents.

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DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

9. All submittals specified to occur prior to substantial completion.

- E. Submit the following with application for payment following substantial completion:
 - 1. Contractor's affidavit of release of liens.
 - 2. Meter readings of all utilities services for which the contractor has been paying.
 - 3. Request for reduction or release of retainage.
 - 4. Final list of incomplete work.
 - 5. Other data required by the contract documents.

3.7 FINAL COMPLETION PROCEDURES

- A. Request for final inspection and final application for payment may coincide.
- B. The Construction Manager will perform one inspection for final completion, upon request of the contractor.
 - 1. Submit the following with request for inspection:
 - a. Previous inspection lists indicating completion of all items.
 - b. If any items cannot be completed, obtain prior approval of such delay.
 - 2. If the Construction Manager is unable to issue the certificate for final payment because the work is not complete, the contractor shall pay all subsequent inspection costs, including compensation for the Construction Manager's services and expenses.
- C. Do not submit request for final inspection until the following activities have been completed:
 - 1. Completion of all work, except those items agreed upon by the owner.
 - 2. All activities specified to occur between substantial completion and final completion.
- D. Do not submit request for final inspection until the following submittals have been completed:
 - 1. Maintenance agreements.
 - 2. All other outstanding specified submittals.
- E. Submit the following with the final application for payment:
 - 1. Certified copy of the previous list of items to be completed or corrected, stating that each has been completed or otherwise resolved for acceptance.
 - 2. Updated final statement, accounting for final changes to the contract sum.
 - 3. Meter readings of all utilities services for which the contractor has been paying after substantial completion.
 - 4. Certification that financial obligations to governing authorities and public utilities have been fulfilled.
 - 5. Description of unsettled claims.
 - 6. Other data required by the contract documents.

END SECTION 01025

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Progress documentation requirements:
 - a. Contractor's construction schedule.
 - b. Progress reports.
 - 2. Progress procedures:
 - a. Progress meetings.
- B. Contract time is indicated elsewhere.
- C. Related Sections:
 - 1. Applications for payment: Elsewhere in Division 1.
 - 2. Coordination meetings: Elsewhere in Division 1.
 - 3. Preconstruction meeting: Elsewhere in Division 1.
 - 4. Schedule of values: Elsewhere in Division 1.
 - 5. Submittal schedule: Elsewhere in Division 1.
 - 6. Quality control activities schedule: Elsewhere in Division 1.

1.2 SUBMITTALS

- A. Contractor's Construction Schedule.
 - 1. Submit within 5 days after notice of Contract Award.
- B. Daily Construction Reports: Submit every week.
- C. Progress Reports: Submit with each application for payment.

1.3 FORM OF SUBMITTALS

- A. Schedules - General:
 - 1. Provide legend of symbols and abbreviations for each schedule.
 - 2. Use the same terminology as that used in the contract documents.
 - 3. When transparencies are submitted, use only media which will not fade or lose contrast over time.
 - 4. When opaque copies are submitted, submit a minimum of 4 copies.
 - 5. Where percentage of completion information is required within time bars, mark updated schedules to show actual percentage of completion.
- B. Reports - General:
 - 1. Submit a minimum of 4 copies.
- C. Photographs: Not Required

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

INFORMATION REQUIRED OF CONTRACTOR

- A. Submit the following information for preparation of construction schedules, and revise at intervals as directed by the Construction Manager:
 - 1. Description of activity; separate into activities of not more than 15 days' duration.
 - 2. Immediately preceding and succeeding activities.
 - 3. Estimated duration in working days.
 - 4. Earliest and latest start dates.
 - 5. Earliest and latest finish dates.
 - 6. Actual start and finish dates.
 - 7. Float time.
 - 8. Monetary value, keyed to schedule of values.
 - 9. Percentage of activity completed.
 - 10. Size of work force required.
 - 11. Entity responsible.

1.4 QUALITY ASSURANCE

- A. Not Used.

1.5 COORDINATION

- A. The Construction Manager is responsible for coordinating scheduling of all contracts.
- B. Each prime Contractor shall provide scheduling information as specified and as required by the Construction Manager.
- C. Each prime Contractor is responsible for coordinating with other contractors.
- D. In preparation of schedules, take into account the time allowed or required for the Construction Manager's administrative procedures.
- E. Notify entity responsible for coordination of schedules promptly when problems are anticipated in meeting schedule dates.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Prepare and submit preliminary construction schedule.
- B. Provide preliminary construction schedule in the form of bar charts:
 - 1. Show activities for the first 90 days of construction in detail; show remainder in skeletal form.
 - 2. Show completion of the work in advance of the date established for substantial completion.

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

3. Include dates and description of all submittals required during the first the first 90 days of construction.
 - a. Include those required by the construction schedule.
 - b. Submittal dates may be provided in a separate list rather than on the schedule.

3.2 CONSTRUCTION MANAGER'S CONSTRUCTION SCHEDULE

- A. Prepare and submit all information required for preparation of integrated construction schedule by Construction Manager:
 1. Base construction schedule on preliminary construction schedule, with adjustments due to changes since start of work.
 2. Use the same items of work as shown in the schedule of values.
 3. Show projected progress in increments of 10 percentage points for:
 - a. Site Work
 - b. Carpentry
 - c. Gypsum Board Systems/Plaster & Acoustical Ceilings
 - e. Painting
 - f. Casework
 - g. Masonry
 - h. Flooring
 - l. Electrical
 - j. Data & Communications
 - k. Plumbing
 - l. Fire Protection
 - m. HVAC
 4. Where related activities must be performed in sequence, show relationship graphically.
 5. Indicate activities separately for:
 - a. Each separate work area.
 6. Incorporate the submittal schedule specified elsewhere.
 7. Incorporate the quality control activities schedule specified elsewhere.
 8. Show dates of:
 - a. Each activity that influences the construction time.
 - b. Preconstruction meeting.
 - c. Quality control activities which involve long lead time or long elapsed time.
 - d. Ordering dates for products requiring long lead time.
 - e. All submittals required.
 - f. Completion of structure.
 - g. Substantial and final completion, with time frames for the Design/Builder's completion procedures.
 9. In developing the schedule take into account:
 - a. Phased completion.
 - b. Work under other contracts.
 - c. Continued occupancy.
 - d. Interruption of services to occupied facilities.
 - e. Occupancy by Owner prior to substantial completion.
 - f. Site limitations.
 - g. Provisions made for future work.
- B. Update the schedule whenever changes occur or are made, or when new information is received, but not less often than at the same intervals at which applications for payment are made.
 1. Indicate changes made since last issue; show actual dates for activities completed.

3.3 PROGRESS REPORTS

- A. Daily Construction Logs: Every day, record the following information concerning events at the site:
 - 1. Approximate number of persons at the site.
 - 2. Names of prime Contractors at site.
 - 3. Visitors to the site.
 - 4. Modifications to the contract received; modifications implemented.
 - 5. Delays; reasons for delay.
 - 6. Emergencies and accidents.
 - 7. Losses of material and property.
 - 8. Meetings held and significant decisions made there.
 - 9. Names of subcontractors at site.
 - 10. Special reports made.
 - 11. Orders and requests of representatives of governing authorities.
 - 12. Unusual events.
 - 13. Utility service disconnections and connections.

- B. Progress Reports: Prepare a narrative report describing the general state of completion of the work and describing in detail the following:
 - 1. Actual and anticipated delays, their impact on the schedule, and corrective actions taken or proposed.
 - 2. Actual and potential problems.
 - 3. Status of change order work.
 - 4. Effect of delays, problems, and changes on the schedules of other prime Contractors.
 - 5. Outstanding change proposal requests.
 - 6. Status of corrective work ordered by the Design/Builder.

- C. Progress Photographs: Not Required

3.4 PROGRESS MEETINGS

- A. The Construction Manager will schedule and conduct weekly progress meetings during the construction period.
 - 1. Meetings will be held once a month in the week just prior to submission of application for payment or once a week; progress meeting schedule will be at the discretion of the Construction Manager.

- B. The following are required to attend:
 - 1. All prime Contractors.
 - 2. Prime Contractors' superintendents.
 - 3. Major subcontractors and suppliers.
 - 4. Others as directed by the Construction Manager.
 - 5. Others who have an interest in the agenda.

- C. Prepare to cover the following topics when applicable:
 - 1. Review minutes of previous meeting.
 - 2. Status of submittals and impending submittals.
 - 3. Actual progress of activities in relation to the schedule.
 - 4. Actual and anticipated delays, their impact on the schedule, and corrective actions taken or proposed.
 - 5. Actual and potential problems.

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

6. Effect of delays, problems, and changes on the schedules of all prime Contractors.
7. Status of corrective work ordered by the Construction Manager.
8. Progress expected to be made during the next period.

END OF SECTION 01200

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01250 - CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.1 SUMMARY

The schedule for the scope of work covered under this project is as follows:

Roofing work can begin on June 12, 2017 and must be completed by August 10, 2017.

END OF SECTION 01250

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Preparing and processing of submittals for review and action.
 - 2. Preparing and processing of informational submittals.

- B. Submit the following for the Design/Builder's review and action:
 - 1. Shop drawings.
 - 2. Product data.
 - 3. Samples.
 - 4. Structural design calculations.
 - 5. Submittals for which procedures are not defined elsewhere.

- C. Submit the following as informational submittals:
 - 1. Structural design information required by the contract documents.
 - 2. Certificates.
 - 3. Coordination drawings.
 - 4. Reports.
 - 5. Qualification statements for manufacturers/installers.
 - 6. Certification of structural design.

- D. Related Sections: The following are specified elsewhere in Division 1:
 - 1. Payment, modification, and completion submittals.
 - a. Applications for payment.
 - b. Schedule of values.
 - c. Change proposals.
 - 2. Progress of work submittals:
 - a. Contractor's construction schedules.
 - b. Progress reports.
 - 3. Quality control submittals:
 - a. Quality control activities schedule.
 - b. Inspection reports.
 - c. Test reports.
 - 4. Product submittals:
 - a. Product option submittals.
 - b. Requests for substitution.
 - c. Operating and maintenance data.
 - d. Warranties.
 - e. Maintenance materials and tools.
 - 5. Contract closeout submittals:
 - a. Equipment and systems demonstration reports.
 - b. Request for determination of substantial completion.
 - c. Project record documents.
 - 6. Other administrative submittals:
 - a. Survey data.
 - b. Layout data.

1.2 DEFINITIONS

- A. Shop Drawings: See General Provisions.
 - 1. Shop drawings also include:
 - a. Product data specifically prepared for this project.
 - b. Shop or plant inspection and test reports, when made on specific materials, products, or systems to be used in the work.
- B. Product Data: See General Provisions.
 - 1. Product data submittals also include:
 - a. Performance curves, when issued by the manufacturer for all products of that type.
 - b. Selection data showing standard colors.
 - c. Wiring diagrams, when standard for all products of that type.
- C. Samples: See General Provisions.
- D. Informational Submittals: Submittals identified in the contract documents as to be submitted for information only.

1.3 FORM OF SUBMITTALS

- A. Sheets Larger Than 8-1/2 by 14 Inches:
 - 1. Maximum sheet size: 30 by 42 inches.
 - a. Exception: Full size pattern or template drawings.
 - 2. Number of copies:
 - a. Submittals for review:
 - 1. One correctable reproducible print, not folded and 3 copies of blue- or black-line print(s).
 - 2. Reproducible will be returned.
 - b. Informational submittals:
 - 1. 5 copies of opaque prints.
 - 2. 3 copies will be returned.
- B. Small Sheets or Pages:
 - 1. Minimum sheet size: 8-1/2 by 11 inches.
 - 2. Maximum sheet size for opaque copies: 8-1/2 by 14 inches.
 - 3. Number of copies:
 - a. Transparencies: Same as for larger sheets.
 - b. Opaque copies:
 - 1. For review: 5 copies.
 - a. 3 copies will be retained.
 - 2. Informational submittals: 5 copies.
- C. Samples: 2 sets of each.
 - 1. 1 set will be returned.
- D. If additional sets are needed by other entities involved in work represented by the samples, submit with original submittal.
- E. Copies in excess of the number requested will not be returned.

- F. Provide additional copies, if required for operating and maintenance data, marked to indicate their purpose.
- G. Provide additional copies for project record documents.

1.4 COORDINATION OF SUBMITTALS

- A. Coordinate submittals and activities that must be performed in sequence, so that the Design/Builder has enough information to properly review the submittals.
- B. Coordinate submittals of different types for the same product or system so that the Construction Manager has enough information to properly review each submittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TIMING OF SUBMITTALS

- A. Transmit each submittal at or before the time indicated on the approved schedule of submittals.
 - 1. Prepare and submit for approval a schedule showing the required dates of submittal of principal submittals.
 - 2. Organize the schedule by the applicable specification section number.
 - 3. Incorporate the contractor's construction schedule specified elsewhere.
 - 4. Incorporate the quality control activities schedule specified elsewhere.
 - 5. Submit within 30 days after commencement of the work.
 - 6. Revise and resubmit the schedule for approval when requested.
- B. Deliver each submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary; failure of the Contractor in this respect will not be considered as grounds for an extension of the contract time.
- C. Deliver each informational submittal prior to start of the work involved, unless the submittal is of a type which cannot be prepared until after completion of the work; submit promptly.
- D. If a submittal must be processed within a certain time in order to maintain the progress of the work, state so clearly on the submittal.
- E. If a submittal must be delayed for coordination with other submittals not yet submitted, the Construction Manager may at his option either return the submittal with no action or notify the Contractor of the other submittals which must be received before the submittal can be reviewed.
- F. Allow a minimum of 10 business days for the first processing of each submittal. Allow more time when submittals must be coordinated with later submittals.
- G. Allow a minimum of 6 business days for processing of resubmittals.

3.2 SUBMITTAL PROCEDURES - GENERAL

- A. Contractor Review: Sign transmittal form for each submittal certifying compliance with the requirements of the contract documents.
- B. Notify the Construction Manager, in writing and at time of submittal, of all points upon which the submittal does not conform to the requirements of the contract documents, if any.
- C. Do not commence work which requires review of any submittals until receipt of returned submittals with an acceptable action.
- D. Do not allow submittals without an acceptable action marking to be used for the project.
- E. Submit all submittals to the Construction Manager for review.
- F. Do not submit substitute items that have not been approved by means of the procedure specified elsewhere.
- G. Do not include requests for substitution (either direct or indirect) on submittals; comply with procedures for substitutions specified elsewhere.
- H. Preparation of Submittals:
 - 1. Label each copy of each submittal, with the following information:
 - a. Project name.
 - b. Date of submittal.
 - c. Construction Manager's name and address.
 - d. Subcontractor's name and address.
 - e. Supplier's name and address.
 - f. Manufacturer's name.
 - g. Specification section where the submittal is specified.
 - h. Numbers of applicable drawings and details.
 - i. Other necessary identifying information.
 - j. Indicate whether manufacturer or other source is listed on the Owner's preferred vendor list.
 - 2. Pack submittals suitably for shipment.
 - 3. Submittals to receive Design/Builder's action marking: Provide blank space on the label or on the submittal itself for action marking; minimum 4 inches wide by 5 inches high.
- I. Transmittal of Submittals:
 - 1. Submittals will be accepted from the Construction Manager only. Submittals received from other entities will be returned without review or action.
 - 2. Submittals received without a transmittal form will be returned without review or action.
 - 3. Transmittal form: Use AIA G810.
 - a. The Contractor's certification signature.
 - 4. Fill out a separate transmittal form for each submittal; also include the following:
 - a. Other relevant information.
 - b. Requests for additional information.

3.3 SHOP DRAWINGS

- A. Content: Include the following information:
 - 1. Dimensions, at accurate scale.
 - 2. All field measurements that have been taken, at accurate scale.
 - 3. Names of specific products and materials used.
 - 4. Details, identified by contract document sheet and detail numbers.
 - 5. Show compliance with the specific standards referenced.
 - 6. Coordination requirements; show relationship to adjacent or critical work.
 - 7. Name of preparing firm.

- B. Preparation:
 - 1. Reproductions of contract documents are not acceptable as shop drawings.
 - 2. Copies of standard printed documents are not acceptable as shop drawings.
 - 3. Identify as indicated for all submittals.
 - 4. Space for Construction Manager's action marking shall be adjacent to the title block.

3.4 PRODUCT DATA

- A. Submit all product data submittals for each system or unit of work as one submittal.

- B. When product data submittals are prepared specifically for this project (in the absence of standard printed information) submit such information as shop drawings and not as product data submittals.

- C. Content:
 - 1. Submit manufacturer's standard printed data sheets.
 - 2. Identify the particular product being submitted; submit only pertinent pages.
 - 3. Show compliance with properties specified.
 - 4. Identify which options and accessories are applicable.
 - 5. Include recommendations for application and use.
 - 6. Show compliance with the specific standards referenced.
 - 7. Show compliance with specified testing agency listings; show the limitations of their labels or seals, if any.
 - 8. Identify dimensions which have been verified by field measurement.
 - 9. Show special coordination requirements for the product.

3.5 SAMPLES

- A. Samples:
 - 1. Provide samples that are the same as proposed product.
 - 2. Where unavoidable variations must be expected, submit "range" samples, minimum of 3 units, and describe or identify variations among units of each set.
 - 3. Where selection is required, provide full set of all options.
 - 4. Where products are to match a sample prepared by other entities, prepare sample to match.

- B. Preparation:
 - 1. Attach a description to each sample.
 - 2. Attach name of manufacturer or source to each sample.

3. Where compliance with specified properties is required, attach documentation showing compliance.
 4. Where there are limitations in availability, delivery, or other similar characteristics, attach description of such limitations.
 5. Where samples are specified to be returned for installation in the work, indicate such requirement on transmittal form.
- C. Keep final sample set(s) at the project site, available for use during progress of the work.

3.6 REVIEW OF SUBMITTALS

- A. Submittals for approval will be reviewed, marked with appropriate action, and returned.
- B. Informational submittals: Submittals will be reviewed.
1. "X" action: No action taken.
 2. "Not Approved" action: Revise the submittal or prepare a new submittal complying with the comments made.

3.7 RETURN, RESUBMITTAL, AND DISTRIBUTION

- A. The Construction Manager will mail submittals to contractors, unless contractors arrange for pickup at the Construction Manager's office.
- B. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the Construction Manager.
1. Exception: Transmittal number for resubmittal shall be the number of the original submittal plus a letter suffix (example: 14245-1 would become 14245-1A).
- C. Distribution:
1. Distribute one copy to each prime Contractor.
 2. Record distribution on transmittal form with copy to the Construction Manager.

END OF SECTION 01300

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General quality control activities.
 - 2. Procedures for the following:
 - a. Testing and evaluation of test results.
 - b. Inspections.
 - 3. Procedures for quality control activities performed by:
 - a. Public authorities having jurisdiction.
 - b. Construction Manager.
 - 4. Procedures for submittal of quality control documentation.
- B. Quality control activities required are specified in other sections.
- C. See General Provisions for additional requirements for testing, inspections, and approvals.
- D. Related Sections:
 - 1. Alternates: See Bid Forms

1.2 SUBMITTALS

- A. Reports: Provide certified copies of reports.
 - 1. Unless otherwise indicated, submit for review by the Construction Manager.
 - 2. Submit reports within 2 weeks after execution of quality control activity, but not later than the date of application for payment for the work to which the quality control activity relates.
 - 3. Reports shall be prepared by the entity performing the quality control activity.
 - 4. Submit copies directly to governing authorities when so directed.
 - 5. Include the following information in all types of reports:
 - a. Date of report.
 - b. Project name (and number, if applicable).
 - c. Description of the quality control activity.
 - d. Name, address, and telephone number of entity performing activity.
 - e. Date quality control activity was performed.
 - f. Specification section(s) involved.
 - g. Basis for evaluation (test method, etc.).
 - h. Results or conclusions, including evaluations and interpretations.
 - i. Title, name, and signature of person performing activity.

1.3 QUALITY ASSURANCE

- A. Qualifications of Testing and Inspection Personnel:
 - 1. As indicated in individual sections.
- B. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either the National Bureau of Standards (NBS) standards or to accepted values of natural physical constants.

1.4 COORDINATION WITH OTHER ENTITIES

- A. Cooperate with other entities performing quality control activities.
- B. Provide samples of materials and design criteria as indicated and when requested.
- C. Provide other assistance, equipment, tools, and storage facilities as specified.
- D. If desired, make arrangements with those entities and pay for additional similar or related testing or inspection required for the contractor's use or convenience.

1.5 SEQUENCING AND SCHEDULING

- A. Coordinate quality control activities to avoid delay and to make it unnecessary to uncover work for testing or inspection.

PART 2. - PRODUCTS (NOT USED)

PART 3. - EXECUTION

3.1 GENERAL

- A. Provide work of the specified quality; where quality level is not indicated, provide work of quality customary in similar types of work.
 - 1. Where codes, laws, or regulations require work of higher quality or performance, provide work complying with those codes, laws, and regulations.
 - 2. Where two or more quality provisions of the contract documents conflict, comply with the most stringent requirement; where requirements are different but apparently equal, and where it is uncertain which requirement is most stringent, obtain clarification from the Design/Builder before proceeding.
 - 3. Actual quality may exceed the specified quality; verify that such differences are acceptable to the owner (other criteria may make excessive quality undesirable).
- B. Control products, suppliers, manufacturers, site conditions, installers, and workmanship in such a manner as to produce work of the specified quality.
- C. Comply with manufacturers' instructions and recommendations.
 - 1. Keep a record of instructions and recommendations which supplement or conflict with the manufacturer's written instructions.
 - 2. When manufacturers' instructions and recommendations conflict with the contract documents, obtain clarification from the Construction Manager before proceeding.
- D. Use installers who are capable of producing work of the specified quality.
- E. Each prime contractor shall perform all specified quality control activities related to his work unless indicated to be performed by other entities.

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01400 - QUALITY CONTROL PROCEDURES

3.2 TESTING

- A. Perform tests specified.
- B. When results of tests are unsatisfactory, make whatever changes or repairs are necessary and retest.
- C. Submit written report of each original test and of each retest.

3.3 INSPECTING

- A. Perform inspections specified.
- B. When inspections reveal unsatisfactory work, make whatever changes or repairs are necessary and re-inspect.
- C. Submit written report of each original inspection and each re-inspection.

3.4 PROTECTION AND REPAIR

- A. When work is uncovered during quality control activities, provide protection from damage.
- B. Correct work damaged by quality control activities; where repair is indicated as an unacceptable method, replace the work.

END OF SECTION 01400

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Temporary utilities.
 - a. Water supply.
 - b. Use of permanent water service.
 - c. Electric power and lighting, except extension cords.
 - d. Use of permanent electrical systems.
- B. Related Sections:
 - 1. Access to site: Elsewhere in Division 1.
 - 2. Regulatory requirements: Elsewhere in Division 1.
 - 3. Storage and protection of materials and equipment: Elsewhere in Division 1.

1.2 DEFINITIONS

- A. Temporary Facilities: Construction, fixtures, fittings, and other built items required to accomplish the work but which are not incorporated into the finished work.
- B. Temporary Utilities: A type of temporary facility; primary sources of electric power, water, natural gas supply, etc., obtained from public utilities, other main distribution systems, or temporary sources constructed for the project, but not including the fixtures and equipment served.

1.3 SUBMITTALS

- A. Reports of inspections, tests, and approvals for the installation and use of construction facilities, which are made or given by public authorities.

1.4 QUALITY ASSURANCE

- A. Comply with requirements of governing authorities, as to type, quantity, location, and use of temporary facilities.

1.5 PROJECT CONDITIONS

- A. Obtain easements where required.
- B. Locate construction facilities as directed by the construction manager.
- C. Use of permanent facilities prior to substantial completion is subject to the owner's approval and conditions.
 - 1. Each permanent facility used for construction purposes shall be operated, maintained, and protected during such use by the original installer.
 - 2. Specified warranties shall not be reduced or voided by temporary use.

1.6 SEQUENCING AND SCHEDULING

- A. Maintain required facilities until not needed or until shortly before substantial completion; remove facilities before substantial completion.
 - 1. Exception: Where use of permanent facilities is allowed.

DIVISION 1 – GENERAL CONDITIONS
SECTION 01510 - TEMPORARY UTILITIES

- B. Change over to use of permanent facilities, when applicable, as soon as possible, except when use of permanent facilities is not allowed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide materials which are both suitable for the use and durable enough to withstand the use and abuse to be expected.

2.2 TEMPORARY UTILITIES

- A. Temporary Water Service: By Demolition Contractor if required.
 - 1. Provide water adequate for demand of construction operations.
 - 2. Piped water service:
 - a. Do not use permanent piping system to distribute nonpotable water.
 - b. Existing water service in the building may be used.
 - c. Take precautions to prevent damage due to leaks and spills inside building.
- B. Temporary Power: By Demolition Contractor as required.
 - 1. Provide electricity adequate for demand of construction operations.
 - (a) Existing electrical service in the building may be used.
- C. Temporary Lighting : By Demolition Contractor
 - 1. Provide temporary lighting for construction work. A minimum of 15 footcandles.
 - 2. Basic requirements
 - a. Covered lamps with safety guards.
 - 3. Contractors or subcontractors who require lighting in excess of that specified shall make arrangements with the electrical contractor and pay all additional costs.

PART 3 - EXECUTION

3.1 GENERAL

- A. Cooperate with other contractors in location of temporary facilities.

3.2 TERMINATION AND REMOVAL

- A. Remove temporary facilities when no longer needed, or when use of appropriate permanent facility is approved, but not later than substantial completion.
 - 1. Exception: When longer usage is requested by the Construction Manager.
- B. Complete permanent work delayed until removal of temporary facilities.
- C. Permanent Facilities Used during Construction: Clean; replace parts that are worn in excess of that expected during normal usage.

END OF SECTION 01510

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PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General product requirements, including:
 - a. General specification requirements for all products.
 - b. Product options.
 - c. Procedures for substitution requests.
 - 2. General requirements for product documentation, including:
 - a. Requirements and procedures for schedule of products.
 - b. General requirements for operation and maintenance data.
 - c. General requirements for warranties.
 - 3. General procedures for products including:
 - a. Procedures for transportation and handling.
 - b. Procedures for delivery and receiving.
 - c. Procedures for storage.

1.2 DEFINITIONS

- A. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.

1.3 SUBMITTALS

- A. Schedule of Products: Submit for approval.
- B. Final Schedule of Products: Submit for project record.
- C. Operation and Maintenance Data: Submit for project record.
- D. Warranties: Submit for project record.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Components required to be supplied in quantity within a specification section shall be identical, interchangeable, and made by the same manufacturer.
- B. Do not use products removed from existing construction, unless specifically permitted by the contract documents or approved by the owner.

PART 3 - EXECUTION

3.1 PRODUCT OPTIONS

- A. It is the contractor's responsibility to select products which comply with the contract documents and which are compatible with one another, with existing work, and with products selected by other contractors.
 - 1. Verify that electrical characteristics of products are compatible with electrical systems; notify Design/Builder of all discrepancies.
- B. No substitute products will be considered, except in the event of unavailability of the specified product through no fault of the contractor.
- C. Definition of Substitute Product: Any product which does not meet the requirements of the contract documents, whether in product characteristics, performance, quality, or manufacturer or brand names, is considered a substitute.
- D. Product Options: Where products are specified using more than one method, such as description with a manufacturer list, use a product meeting the requirements of both specification methods.
- E. Products Specified by Reference Standard: Use any product meeting the specification. Provisions of reference standards shall not modify the responsibilities of the owner or Construction Manager as defined in the contract documents.
- F. Products Specified by Description: Use any product meeting the specification.
- G. Products Specified by Performance Requirements: Use any product meeting the specification.
- H. Products Covered by an Allowance Included in the Contract Documents: Provide products of types and in quantity as directed by the Construction Manager.
 - 1. At the earliest possible date after execution of the contract, inform the Construction Manager of the latest date by which the final selection of the product is required in order to avoid delay of the work.
 - 2. When requested, provide information for use in making selections.
- I. Products Specified by Listing a Brand Name Product as the "Basis of Design": Provide a product equivalent to the product specified within the limits of variation specified; submit substitution request for all products other than that listed as basis of design.
- J. Products Specified by Listing Brand Names(s): Provide one of the products listed; no substitutions will be allowed.
- K. Products Specified by Listing Manufacturer(s): Provide a product meeting the specification and made by one of the manufacturers listed.

- 3.2 SUBSTITUTION PROCEDURE
- A. Submission of request for substitution shall constitute a representation by the contractor that he:
1. Has investigated the proposed product and determined that it is equal to or better than the specified product. Absence of an explicit comparison of any characteristic of the proposed product to the specified product shall constitute a representation that the proposed product is equal to or better than the specified product with regard to that characteristic.
 2. Will provide the same warranty for the proposed product as for the specified product.
 3. Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
 - a. Redesign.
 - b. Additional components and capacity required by other work affected by the change.
 4. Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
 5. Will reimburse the owner for additional costs for evaluation of the substitution request, redesign if required, and re-approval by authorities having jurisdiction if required.
- B. Substitutions will not be considered when acceptance would require substantial revision of the contract documents.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request.
- D. Substitution requests will not be considered when submitted directly by subcontractor or supplier.
- E. Substitution Request Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the contract documents.
1. Submit request to the Construction Manager.
 2. Submit 3 copies of each request and accompanying data.
 3. Submit request as specified for change order proposals.
 4. Only one request for substitution will be considered for each product.
- F. Data Required with Substitution Request: Provide at least the following data:
1. Identify product by specification section and paragraph number.
 2. Manufacturer's name and address, trade name and model number of product (if applicable), and name of fabricator or supplier (if applicable).
 3. Complete product data.
 4. A list of other projects on which the proposed product has been used, with project name, the design professional's name, and owner contact.
 5. An itemized comparison of the proposed product to the specified product.
 6. Net amount of change to the contract sum.
 7. List of maintenance services and replacement materials available.
 8. Statement of the effect of the substitution on the construction schedule.
 9. Description of changes that will be required in other work or products if the substitute product is approved.

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01600 - PRODUCT REQUIREMENTS

- G. The Construction Manager will determine acceptability of the proposed substitution.
- H. When the proposed substitution is not accepted, provide the product (or one of the products, as the case may be) specified.

3.3 SCHEDULE OF PRODUCTS

- A. Prepare a complete schedule of products used, including the following for each product:
 - 1. Manufacturer's name.
 - 2. Brand or trade name.
 - 3. Model number, if applicable.
 - 4. Reference standard, if more than one is applicable.
 - 5. Arrange products in the schedule by specification sections; indicate paragraph where specified.
- B. Prepare and submit a preliminary schedule within 7 days after award of contract; resubmit when revised; submit final schedule prior to final payment.
- C. Schedule of products shall not be used to obtain approval of substitute products; make separate request for substitution.

3.4 OPERATION AND MAINTENANCE DATA

- A. Provide operation and maintenance data as specified in individual product sections.
 - 1. Provide data sufficient for operation and maintenance by owner without further assistance from the manufacturer.
- B. Data Required For Products - General:
 - 1. Name of manufacturer and product.
 - 2. Name, address, and telephone number of subcontractor or supplier.
 - 3. Local source of replacements.
 - 4. Local source of replaceable parts and supplies.
- C. Product Data: Where product data is specified for inclusion in operation and maintenance data, provide manufacturer's data sheets marked to indicate specific product and product options actually installed; delete inapplicable data.
- D. Custom Manufactured Products: Provide all information needed for reordering.
- E. Finish Materials: Manufacturer's product data, color/texture designations, and manufacturer's instructions for care, cleaning, and maintenance.
- F. Products Exposed to Weather and Products for Moisture Protection: Manufacturer's product data, recommended inspection schedule and procedures, maintenance and repair procedures, and maintenance materials required.
- G. Equipment: Provide at least the following information:
 - 1. Product data giving equipment and function description, with normal operating characteristics and limiting conditions.
 - 2. Starting, operating, and troubleshooting procedures.
 - 3. Cleaning and maintenance requirements and procedures.
 - 4. External finish maintenance requirements.
 - 5. List of maintenance materials required.

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DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01600 - PRODUCT REQUIREMENTS

6. List of special tools required.
 7. Parts list: List all replaceable parts, with ordering data.
 8. Recommended quantity of spare parts to be maintained in storage.
 9. Recommended maintenance schedule.
- H. Systems: Provide overall function description, with diagrams, prepared especially for this project.
- I. Form of Data: Prepare data in the form of an instructional manual.
1. Arrange content logically, using section numbers and sequence of sections indicated on the table of contents of this project manual.
 2. When multiple volumes are used, arrange by related subjects; identify contents in cover title.
 3. Assemble into 3-ring binders with maximum 2-inch ring size.
 - a. Hardback, cleanable plastic covers.
 - b. Identify each book with title "Operation and Maintenance Instructions" and project name.
 - c. Page size 8-1/2 by 11 inches, maximum.
 - d. Prepare special typewritten data on minimum 20-pound paper.
 - e. Provide tabbed divider for each product and system.
 - f. Drawings: Bind in with other data; provide reinforced binding edge; fold larger drawings to size of pages.
 1. Do not use pockets or loose drawings.
 4. Provide table of contents for each volume listing:
 - a. Name of the project.
 - b. Name, address, telephone number, and contact name of:
 - (i) Construction Manager.
 - (ii) Contractor.
 - c. Index of products and systems included in volume.

3.5 WARRANTIES

- A. Provide warranties as specified in individual product sections.
- B. Manufacturer Warranties: Manufacturer's standard product warranty running for the manufacturer's standard term, unless otherwise indicated.
 1. Submit copies of all manufacturer warranties which extend beyond the end of the contract correction period.
- C. Special Project Warranties: Written warranty commencing at date of substantial completion, running for the term indicated, and signed by the entities specified.
 1. Where completion of warranty item is materially delayed beyond the date of substantial completion, provide warranty commencing on date of acceptance.
 2. Submit each special project warranty.
- D. Provide 2 notarized copies of each executed warranty.
- E. Show actual date of commencement on each warranty.

3.6 TRANSPORTATION AND HANDLING

- A. Require supplier to package finished products in a manner which will protect from damage during shipping, handling, and storage.
- B. Transport products by methods which avoid damage.
- C. Deliver in dry, undamaged condition in manufacturer's unopened packaging.
- D. Provide equipment and personnel adequate to handle products by methods which prevent damage.
- E. Provide additional protection during handling where necessary to prevent damage to products and packaging.
- F. Lift large and heavy components at designated lift points only.

3.7 DELIVERY AND RECEIVING

- A. When possible arrange deliveries so that storage is not required.
- B. Arrange deliveries of products to allow time for inspection prior to installation.
- C. Coordinate delivery to avoid conflict with the work and to take into account both the conditions at the site and the availability of personnel, handling equipment, and storage space.
- D. Clearly mark partial deliveries to identify contents, to permit easy accumulation of entire delivery, and to facilitate assembly.
- E. Promptly inspect shipments and remedy damage, incorrect quantity, incompleteness, improper or illegible labeling, and noncompliance with requirements of contract documents and approved submittals.

3.8 STORAGE

- A. No outdoor storage areas are available on site.
- B. Off-site storage of products for which application for payment will be made: Store only in bonded warehouse.
- C. General Storage Procedures:
 - 1. Store products immediately on delivery.
 - 2. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
 - 3. Store in a manner to prevent damage to the stored products and to the work.
 - 4. Store moisture-sensitive products in weather tight enclosures.
 - 5. Store indoors if necessary to keep temperature and humidity within ranges required by manufacturer.
 - 6. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

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SECTION 01600 - PRODUCT REQUIREMENTS

7. Arrange storage to provide access for inspection and inventory.
8. Periodically inspect and remedy damage and noncompliance with required conditions.

END OF SECTION 01600

DIVISION 1 – GENERAL REQUIREMENTS
SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

Part 1. GENERAL

1. SUMMARY

A. Section Includes:

1. Procedures for substitutions during bidding period.
2. General product requirements, including:
 - a. Product options.
 - b. Procedures for substitution requests.

B. Related Sections:

1. Submittal transmission, handling, and action procedures: Elsewhere in Division 1.
2. General installation procedures: Elsewhere in Division 1.
3. Owner instruction for equipment and systems: Elsewhere in Division 1.
4. Project record documents: Elsewhere in Division 1.

Part 2. PRODUCTS (NOT USED)

Part 3. PART - EXECUTION

1. PRODUCT OPTIONS

A. It is the Contractor's responsibility to select products which comply with the contract documents and which are compatible with one another, with existing work, and with products selected by other contractors.

1. Verify that electrical characteristics of products are compatible with electrical systems; notify Design/Builder of all discrepancies.
2. Where visual matching to an established physical sample is required, the Construction Manager's decision will be final.

B. Do not use any substitute products which have not been approved in accordance with the requirements of the contract documents; formal substitution request is required.

C. Where the specification is silent on whether substitutions will be considered, substitutions will not be considered.

D. Definition of Substitute Product: Any product which does not meet the requirements of the contract documents, whether in product characteristics, performance, quality, or manufacturer or brand names, is considered a substitute.

E. Product Options: Where products are specified using more than one method, such as description with a manufacturer list, use a product meeting the requirements of both specification methods.

F. Products Specified by Reference Standard: Use any product meeting the specification. Provisions of reference standards shall not modify the responsibilities of the Owner or Construction Manager as defined in the contract documents.

G. Products Specified by Description: Use any product meeting the specification.

H. Products Specified by Performance Requirements: Use any product meeting the specification.

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- I. Products Specified to Match a Physical Sample: Use any product that matches; obtain the Construction Manager's approval.
 - J. Products Specified by Listing a Brand Name Product as the "Basis of Design": Provide a product equivalent to the product specified within the limits of variation specified. Use of a product other than that specified constitutes a representation by the Contractor that he will comply with all the conditions specified for acceptance of substitutions, although formal submittal of a request for substitution is not required.
 - K. Products Specified by Listing Brand Name(s) Accompanied by Language Indicating that Substitutions Are Not Allowed: Provide one of the products listed.
 - L. Products Specified by Listing Brand Name(s) Accompanied by Language Indicating that Substitutions Are Allowed: Provide a product meeting the specification; submit substitution request for any brand-name product that is not listed.
 - M. Products Specified by Listing Manufacturer(s) Accompanied by Language Indicating that Substitutions Are Not Allowed: Provide a product meeting the specification and made by one of the manufacturers listed.
 - N. Products Specified by Listing Manufacturer(s) Accompanied by Language Specifically Indicating that Substitutions Are Allowed: Provide a product meeting the specification; submit substitution request for any manufacturer not listed.
 - O. Language indicating that substitutions are not allowed includes:
 - 1. "Provide one of the following products."
 - 2. "Provide products made by one of the manufacturers listed."
 - 3. "Provide products complying with the contract documents and made by one of the following."
 - 4. "No substitutions."
 - 5. "Provide products complying with the contract documents and made by one of the following"
 - 6. Other similar language.
 - P. Language indicating that substitutions are allowed includes:
 - 1. Substitutions will be considered.
 - 2. "... will be among those considered acceptable."
 - 3. "Or approved equal."
 - 4. Other similar language.
2. SUBSTITUTIONS DURING THE BIDDING PERIOD
- A. Substitution Requests: Attach to the Bid Form.
 - B. Acceptable substitutions will be added to the contract documents by modification.
3. SUBSTITUTIONS AFTER AWARD OF THE CONTRACT
- A. Substitutions will not be considered between the bid date and the award of the contract.

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SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

- B. Substitutions will not be allowed after award of the contract except when, through no fault of the Contractor, none of the specified products is available.
4. SUBSTITUTION PROCEDURE
- A. Submission of request for substitution shall constitute a representation by the Contractor that he:
 - 1. Has investigated the proposed product and determined that it is equal to or better than the specified product. Absence of an explicit comparison of any characteristic of the proposed product to the specified product shall constitute a representation that the proposed product is equal to or better than the specified product with regard to that characteristic.
 - 2. Will provide the same warranty for the proposed product as for the specified product.
 - 3. Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
 - a. Redesign.
 - b. Additional components and capacity required by other work affected by the change.
 - 4. Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
 - 5. Will reimburse the Owner for additional costs for evaluation of the substitution request, redesign if required, and re-approval by authorities having jurisdiction if required.
 - B. Substitutions will not be considered when acceptance would require substantial revision of the contract documents.
 - C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request.
 - D. Substitution requests will not be considered when submitted directly by subcontractor or supplier.
 - E. Substitution Request Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the contract documents.
 - 1. Submit request to the Construction Manager.
 - 2. Submit 4 copies of each request and accompanying data.
 - 3. Submit request as specified for change order proposals.
 - F. Data Required with Substitution Request: Provide at least the following data:
 - 1. Identify product by specification section and paragraph number.
 - 2. Manufacturer's name and address, trade name and model number of product (if applicable), and name of fabricator or supplier (if applicable).
 - 3. Complete product data.
 - 4. A list of other projects on which the proposed product has been used, with project name, the design professional's name, and owner contact.

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5. An itemized comparison of the proposed product to the specified product.
 6. Net amount of change to the contract sum.
 7. List of maintenance services and replacement materials available.
 8. Statement of the effect of the substitution on the construction schedule.
 9. Description of changes that will be required in other work or products if the substitute product is approved.
- G. The Construction Manager will determine acceptability of the proposed substitution.
- H. When the proposed substitution is not accepted, provide the product (or one of the products, as the case may be) specified.

END OF SECTION 01630

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. General construction and installation procedures.
 2. Cutting procedures.
 3. Patching procedures.
 4. Existing hazardous material procedures.
 5. Cleaning during construction.
 6. Facility startup.
 7. Project completion procedures.
 8. Final cleaning.

B. Related Sections:

1.2 DEFINITIONS

- A. Concealed Spaces: Spaces which are not accessible after completion of construction.
- B. Cutting: Removal of material by cutting, sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation.
- C. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.
- D. Debris: Rubbish, waste materials, litter, volatile wastes, and similar materials, with the exception of surplus materials which are to become the property of the owner.
- E. Fire Barriers: Any wall, floor, ceiling, or roof which is indicated as having a fire resistance rating.
- F. Operational Elements: Equipment, moving parts, electrical conductors, sound and vibration control materials, waterproofing, vapor retarders, piping, ducts, tanks, and other similar materials and components which convey or retard the passage of liquids, gases, heat, light, persons, animals, or insects or which perform a similar function; not including structural elements.
- G. Patching: Restoration to completed condition by patching, repairing, refinishing, finishing, filling, closing up, and similar operations.
- H. Safety-Related Elements: Materials and assemblies whose principal function is the promotion of the safety of the building and its occupants, including fire and smoke barriers, fireproofing, emergency egress doors and windows, guardrails, equipment guards, and other similar construction.
- I. Smoke Barriers: Any wall, floor, ceiling, or roof which is indicated as being designed to prevent passage of smoke and gases; may be indicated as "smoke barrier," "smoke partitions," "smoke wall," or similar designation.

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- J. Spaces Not Normally Occupied: Accessible spaces such as roofs, accessible plenums and shafts, accessible spaces above ceilings, trenches, equipment vaults, manholes, accessible attics, and similar spaces, but not including the interior of duct or concealed spaces.

1.3 SUBMITTALS

- A. Proposals for Cutting and Patching: Submit request sufficiently in advance of the time the work is to be performed to obtain approval; include:
1. Description of the nature of the work and how it is to be performed, including reasons why cutting cannot be avoided.
 2. Description of results expected, including impact on safety and on structural, operational, and visual qualities.
 3. Products to be used.
 4. If utilities are affected, describe the changes required and be specific as to how long service will be cut off.
 5. If cutting of structural work results in the need for additional reinforcement, provide details and engineering calculations to show how that reinforcement satisfies the original structural requirements.
- B. Startup Reports:
1. Submit within 5 days after startup of item covered by report.
 2. Include a statement that the item has been installed properly and is functioning correctly.
 3. Include the following information:
 - a. Item started up.
 - b. Date of startup operation.
 - c. Entity performing startup.
 - d. Applicable specification section.
 - e. Results of startup.
 - f. Signature of person performing startup.
- C. Demonstration Reports:
1. Submit within 7 days after each demonstration period.
 2. Include the following information:
 - a. Description of equipment or system demonstrated, cross-referenced to the contract documents.
 - b. Date of demonstration.
 - c. Name and title of person performing demonstration.
 - d. Name, title, and signature of person observing demonstration.

1.4 QUALITY ASSURANCE

- A. Cleaning: Perform cleaning in accordance with the recommendations of the manufacturer or fabricator of the product or system. Use only cleaning materials and tools which are specifically recommended, which are not hazardous to health or property, and which will not damage finishes.

PROJECT CONDITIONS

- 1.5 A. The existing facility will be occupied during the period in which the work will be conducted; avoid interference with use of those areas and interruption of access to them.
1. Do not obstruct required exit ways unless alternative exit ways satisfactory to the authorities having jurisdiction are available.

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- B. Take precautions to prevent fires and to facilitate fire-fighting operations.
 - 1. Keep flammable materials in non-combustible containers; store away from potential fire sources; remove flammable waste regularly.
 - 2. Keep temporary and permanent fire fighting facilities readily accessible; keep fire fighting routes open.
 - 3. Do not allow smoking in areas where highly combustible or explosive materials are present.
 - 4. Carefully supervise the operation of potential fire sources, including heating units.
 - 5. Conduct welding operations in manner to prevent fire; comply with local regulations.

- C. Take precautions to prevent accidents due to physical hazards:
 - 1. Provide barricades, warning lights, or signs as required to inform personnel and the public of the hazard being protected against.
 - 2. Safety barricades: Comply with regulations.
 - 3. Provide temporary walkways where walking surfaces are hazardous.
 - 4. Notify the owner before beginning work that involves hazardous operations, including use of explosives and the like.

- D. Take care to prevent pollution of air, water, and soil.
 - 1. Comply with environmental protection regulations.

- E. Do not use tools or equipment which produce harmful levels of noise.
 - 1. Minimize the use of noise-making tools and equipment during hours that adjacent buildings are occupied.

- F. Keep the site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.

- G. Provide temporary means of draining roofs where required.

- H. Conduct construction operations so that no part of the work and no part of the existing construction is subjected to damaging operations or influences which are in excess of those to be expected during normal occupancy conditions.

- I. Conduct construction operations so that waste of power, water, and fuel is avoided.

- J. Provide temporary supports as required to prevent movement and structural failure.

- K. Install products only during environmental conditions which will ensure the best possible results.

1.5 SEQUENCING AND SCHEDULING

- A. Install products only at the time and in the sequence which will ensure the best possible results.

- B. Coordinate required administrative activities with related construction activities.

PART 2 - PRODUCTS

2.1 MATERIALS

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SECTION 01700 - CONSTRUCTION PROCEDURES

- A. Patching Materials: Identical to the materials of the work to be cut, unless indicated as specific materials specified in other sections.
 - 1. For exposed materials for closing up openings, use materials identical to those of the adjacent construction; concealed materials are not required to be identical.
 - 2. If identical materials are not available or cannot be used, use materials that provide best visual match; obtain approval of the Construction Manager.
 - 3. Use materials that perform equally as well as, or better than, the material cut.
 - 4. If necessary, determine composition of existing materials to be patched by testing.

PART 3 - EXECUTION

3.1 GENERAL EXAMINATION REQUIREMENTS

- A. Prior to performing work, examine the applicable substrates and the conditions under which the work is to be performed.
- B. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding.
 - 1. If the conditions to be corrected involve the work of another prime contract, notify the Construction Manager promptly.
- C. Conditions which could have been discovered by examination will not be allowed as cause for claims for extra work.
- D. Notify the Construction Manager promptly of any modifications required due to existing conditions or previous work.
- E. Before starting work which might affect existing construction, verify the existence and location of such construction.
 - 1. In particular, verify the following:
 - a. Underground utilities.
 - b. Other underground construction.
 - c. Location and invert elevation of points of connection to piped utilities.
- F. Verify that utility requirements of operating equipment are compatible with building utilities.
- G. Verify space requirements of items which are shown diagrammatically on the drawings.

3.2 GENERAL PREPARATION REQUIREMENTS

- A. Take field measurements as required to fit the work properly.
- B. Recheck measurements prior to installing each product.

3.3 GENERAL INSTALLATION PROCEDURES

- A. Accurately locate the work and components of the work; make vertical work plumb; make horizontal work level.
- B. See sections describing specific parts of the work for additional requirements.
- C. Where space is limited, install components to maximize space available for maintenance and to maximize ease of removal for replacement.

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- D. In finished areas, conceal pipes, ducts, and wiring within the construction, unless otherwise indicated.
- E. In ceiling areas without a finished suspended ceiling, maintain minimum headroom clearance of 8 feet.
- F. Coordinate exact locations of fixtures and outlets with finish elements.
- G. Install work in such manner and sequence as to preclude, if possible, or at least to minimize, cutting and patching.
- H. Existing Construction:
 - 1. Perform work in existing construction in same manner as for new construction unless otherwise specified.
 - 2. Where a new surface exposed to view is an extension of any existing surface, align both surfaces without a change of plane and make a neat transition between finishes.
 - a. If a change of plane is necessary due to the configuration of the existing surface, terminate the existing surface and its finish along a straight line at a natural line of division.
 - 3. Where portions of existing work are removed, patch remaining work with neat transitions between remaining surfaces without evidence of cutting.
 - a. Where neat transitions between remaining surfaces are not possible due to configuration of existing surfaces, obtain instructions from the Design/Builder.
 - 4. Where existing construction is removed, remove existing utility services located within or upon the existing construction.
 - a. Cap cut ends of abandoned piping, conduit, and duct in such a manner that they are concealed in finish work.

3.4 CLEANING AND PROTECTION

- A. Remove debris from concealed spaces prior to enclosing the space.
- B. Keep the site and the work free of waste materials and debris.
 - 1. Remove waste from site periodically.
 - 2. When temperature exceeds or is expected to exceed 80 degrees F, remove waste at frequency necessary to prevent development of health hazards and nuisance odors.
 - 3. Keep hazardous and unsanitary materials in containers separate from other waste.
- C. Clean areas in which work is to be done to level of cleanliness necessary for proper execution of that work.
 - 1. Where dust would impair execution of work, broom- and vacuum-clean the entire interior area and keep clean.
- D. Keep installed work clean, and clean again when soiled by other operations.
 - 1. Provide periodic cleaning as required to prevent damage due to soiling.
 - 2. Remove liquid spills promptly.
- E. Protect installed work from soiling and damage.
 - 1. Provide protective coverings as required.
 - 2. Provide protective coverings for work which may be damaged by subsequent operations.
 - 3. Where heavy abuse is expected, use minimum of plywood for protection.

4. Maintain protective coverings until substantial completion.

3.5 CUTTING AND PATCHING PROCEDURES

- A. Use specified cutting and patching procedures when cutting or patching is required for any of the following activities:
 1. Fitting the parts of the work together.
 2. Modifying existing construction.
 3. Repairing existing work to remain.
 4. Installing ill-timed work.
 5. Removing and replacing defective and nonconforming work.
 6. Removing samples of work for testing.
 7. Making openings in elements of work for penetrations, such as for piping, conduit, duct, and the like.
 8. Uncovering work for observation.
 9. Repairing damage.
- B. Each prime contractor shall be responsible for cutting, fitting, or patching required to complete his work or to make its parts fit together properly.
 1. When it is necessary to cut the work of another prime contractor, obtain the written consent of such contractor prior to proceeding.
 2. Do not unreasonably withhold the contractor's consent to cutting the contractor's work.
- C. Perform cutting and patching at earliest time feasible, unless otherwise indicated or directed by the Construction Manager.
- D. Use procedures specified in applicable product sections as well as those specified in this section:
 1. Use procedures recommended by original installer, when such information is available.
 2. Where required, obtain approval of procedures by the Construction Manager.
 3. Cut using methods that are least likely to damage adjacent work and work to remain and which will provide proper surfaces for patching.
 4. Make cuts neatly with minimum disturbance of adjacent work.
 - a. Use appropriate tools intended for sawing or grinding and not for chopping or hammering.
 - b. Do not use pneumatic tools without prior approval.
 5. Where installation of similar new work is included, perform patching in manner specified for installation of new work.
 6. Where new work is inserted into or through the work that is cut, fit the patched work tightly to the new work.
 7. Patch with seams which are durable and as invisible as possible.
 8. Repair substrate prior to patching finish.
- E. Employ skilled workers to perform cutting and patching work.
 1. Use the original installer of the work to perform cutting and patching of the following:
 - a. Any products so indicated in the applicable product section.
- F. Work Exposed to View: Do not cut or patch in a manner that would result in a lessening of the building's aesthetic value, as determined by the Construction Manager.
 1. Generally, cut from exposed side into concealed spaces to avoid unnecessary

DIVISION 1 - GENERAL REQUIREMENTS
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- damage to finish.
2. Do not cut and patch in a manner that would result in substantial visual evidence of cut and patch work.
 3. Restore exposed patched finishes in a manner which eliminates evidence of patching and refinishing.
 - a. For continuous surfaces, extend refinish to nearest intersection, with a neat transition to adjacent surfaces.
 - b. For assemblies: Refinish entire unit.
 - c. Painted piping, conduit, and duct: Clean and repaint.
 4. Remove and replace work which is patched in a visually unacceptable manner.
- G. Structural Elements: Maintain structural capacity; do not increase deflection under design load; provide reinforcing where required.
1. See structural sections for additional requirements.
 2. Before cutting any structural member, obtain the Design/Builder's approval of the proposed method.
- H. Existing Construction:
1. Patch existing work to match adjacent existing work to remain.
 2. Where specified procedures for similar new work are applicable, use those procedures for cutting and patching existing construction.
 3. Take precautions to avoid damage to unanticipated utilities and structural elements. If such elements are encountered, report nature and extent to the Construction Manager and request instructions as to how to proceed.
 4. Do not cut existing mechanical and electrical services which are to remain in use until provisions have been made to relocate or reconnect them within 4 hours.
 5. Make neat transitions between existing and new surface finishes.
- I. Concealed Work: Uncover the concealed work, cut and patch, and patch the covering work.
- J. Concrete and Masonry: Use saws or drills which produce a neat cut; remove in small sections.
- K. Insulation: Replace insulation whenever it is cut in order to modify the element it is insulating.
- L. Slabs on Grade: Use methods that will not crack or disturb adjacent slabs or partitions.
- M. Operational Elements: Maintain capacity to perform in the manner intended, including energy performance; do not cut or patch in any manner that would increase maintenance requirement, decrease life expectancy, or decrease safety.
1. Before cutting the following, obtain the Construction Manager's approval of proposed method:
 - a. Any product for which approval is required in the applicable product section.
 - b. Roofing.
 - c. Piping, wiring, conduit and duct.
- N. Safety-Related Elements: Do not cut or patch in a manner that would result in decreased safety.
1. Before cutting the following, obtain the Construction Manager's approval of the proposed method:
 - a. Any product for which approval is required in the applicable product section.

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b. Fire/smoke barriers.

- O. Fire/Smoke Barriers: Do not cut more than absolutely necessary.
 - 1. Cut penetration holes to sizes required for penetration seal assemblies required.
 - 2. Patch all oversize holes and cuts made in error.
 - 3. Perform patching in a manner which complies in all respects with the original construction; if not possible, report nature of difficulty to the Construction Manager and request instructions.
- P. Protect that part of the project which is exposed during cutting and patching operations from adverse weather.
- Q. Cover openings made whenever they are not in use.

3.6 INSTALLATION OF COMPONENTS

- A. Install all products in accordance with manufacturer's instructions and recommendations, whether conveyed in writing or not.
- B. Mounting Heights: Where mounting heights are not indicated, install components at mounting normally encountered for similar components.
 - 1. Obtain the Construction Manager's instructions for uncertain mounting heights.
- C. Separate incompatible materials with suitable materials or spacing.
 - 1. Prevent cathodic corrosion.
- D. Provide all anchors and fasteners required and use methods necessary to securely fasten work.
 - 1. Allow for thermal expansion and contraction, and for building movement.
- E. Joints in Exposed Work:
 - 1. Make joints of uniform widths.
 - 2. Where joint locations are not indicated, arrange joints for the best visual effect.
 - a. When in doubt, obtain the Construction Manager's instructions.
- F. After installation, adjust operating components to proper operation.

3.7 FACILITY STARTUP

- A. Put each item of equipment and each system into full, satisfactory operation.
- B. Prior to Startup:
 - 1. Verify that equipment and systems are complete, correctly connected to utilities, and tested.
 - a. Comply with requirements of manufacturer.
 - 2. Inspect and test as required to ensure that work is installed as specified and to determine suitability for energizing.
 - 3. Provide power and fuel for startup and testing.
 - 4. Change over from temporary to permanent utility sources.
 - 5. Re-adjust and lubricate operating components as required to ensure smooth and unhindered operation.
 - a. Check drive rotations, belt tension, control sequences, and other features which might cause damage if not properly adjusted.

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6. When required by manufacturer, have manufacturer's representative prepare for startup or supervise such preparation.
- C. Notify the Construction Manager at least 5 days prior to startup of each item and system.
- D. Execute startup under supervision of responsible personnel in accordance with the manufacturer's instructions.
 1. When required by manufacturer, have manufacturer's representative perform startup.
 2. Submit a written report of startup operation.
- E. After startup, adjust equipment and systems as required for proper operation.
 1. Where specified, perform tests or inspections to determine status of operation.
- F. Demonstrate the operation and maintenance of equipment and systems to personnel designated by the owner, prior to substantial completion.
 1. Have final operating and maintenance data available during demonstration.
- G. For equipment and systems which have different operation at different seasons, demonstrate operation during subsequent seasons until fully demonstrated.

3.8 FINAL CLEANING

- A. Each prime contractor shall perform final cleaning of his own work.
- B. Remove materials and equipment which are not part of the work and all debris from the site prior to substantial completion.
 1. Remove all surplus materials which are to remain property of the contractor; obtain the owner's instructions as to disposition of surplus material remaining on site and deliver, store, or dispose of as directed.
 2. Remove protective coverings.
 3. Remove temporary facilities.
- C. Dispose of debris in a lawful manner.
 1. Do not burn or bury debris on the site.
 2. Do not dispose of volatile wastes in storm or sanitary drains.
- D. Perform final cleaning prior to requesting inspection for substantial completion.
 1. Use only professional cleaners.
 2. Clean to the level of cleanliness that would be expected by a commercial building owner from a janitorial service.
- E. Clean entire project site and grounds.
 1. Clean up landscaped areas.
 2. Broom clean paved areas.
 3. Rake smooth all exposed earth surfaces.
 4. Remove snow and ice from building and site accesses.
- F. In spaces to be occupied, remove dirt, stains, and other foreign substances from all accessible surfaces and remove nonpermanent labels.
- G. Remove debris from roofs, gutters, downspouts, and roof drains.

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- H. In spaces not normally occupied, remove debris and surface dust and wipe equipment clean, removing excess lubrication, paint, and other foreign substances.
- I. Remove paint and other coatings from permanent labels and from mechanical and electrical equipment nameplates.
- J. Leave the project clean and ready for occupancy.

3.10 PROJECT COMPLETION PROCEDURES

- A. Complete the work, prior to substantial completion, as required to obtain consent to occupancy from the governing authorities.
- B. Arrange for final inspections by governing authorities to be accomplished prior to substantial completion.
- C. If temporary locking systems differ from permanent locking systems, change over to permanent systems prior to substantial completion.

END OF SECTION 01700

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01800 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project record documents consisting of:
 - a. Record drawings.
 - b. Record project manual (specifications).
 - c. Record submittals:
 - 1. Shop drawings.
 - (ii) Product data.
- B. Related Sections:
 - 1. Operation and maintenance data: Elsewhere in Division 1.
 - 2. Warranties: Elsewhere in Division 1.

1.2 SUBMITTALS

- A. Project Record Documents: Submit prior to substantial completion.
 - 1. Record drawings: Submit in form of reverse sepia reproduces.
 - a. Submit original marked-up print set.
 - b. Submit 3 additional opaque print copy sets.
 - c. Sets shall include all drawings, whether changed or not.
 - 2. Other record documents: Submit 3 originals or good quality photocopies.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MAINTENANCE OF PROJECT RECORD DOCUMENTS

- A. Do not use record documents of any type for construction purposes.
- B. Maintain record documents in a secure location at the site while providing for access by the contractor and the Construction Manager during normal working hours; store in a fire-resistive room or container outside of normal working hours.
- C. Record information as soon as possible after it is obtained.
- D. Assign a person or persons responsible for maintaining record documents.
- E. Record the following types of information on all applicable record documents:
 - 1. Dimensional changes.
 - 2. New and revised details.
 - 3. Depths of foundations.
 - 4. Locations and depths of underground utilities.
 - 5. Actual routings of piping and conduits.
 - 6. Revisions to electrical circuits.
 - 7. Locations of utilities concealed in construction.
 - 8. Particulars on concealed products which will not be easy to identify later.

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DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01800 - PROJECT RECORD DOCUMENTS

9. Changes made by modifications to the contract; note identification numbers if applicable.
10. New information which may be useful to the owner, but which was not shown in either the contract documents or submittals.

3.2 RECORD DRAWINGS

- A. Each contractor shall maintain a complete set of opaque prints of the contract drawings, marked to show changes which occur due to his work.
- B. Where the actual work differs from that shown on the drawings, mark this set to show the actual work.
 1. Mark location of concealed items before they are covered by other work.
 2. Mark either record contract drawings or shop drawings, whichever are best suited to show the change.
 3. Where changes are marked on record shop drawings, mark cross-reference on the applicable contract drawing.
- C. When the contractor is required by a provision of a modification to prepare a new drawing, rather than to revise existing drawings, obtain instructions from the Construction Manager as to the drawing scale and information required.
- D. Keep drawings in labeled, bound sets.
 1. Mark with red pencil.
 2. Mark work of separate contracts with different colors of pencils.
 3. Incorporate new drawings into existing sets, as they are issued.
- E. Review completed record set with the Construction Manager.
- F. Upon authorization by the Construction Manager, each prime contractor shall prepare a full set of transparencies of contract drawings marked with all changes shown on his set of record prints.
- G. The Construction Manager will furnish transparencies of original contract drawings at the cost of \$20.00 (twenty dollars) per sheet.

3.3 RECORD PROJECT MANUAL

- A. Maintain a complete copy of the project manual, marked to show changes.
- B. Where the actual work differs from that shown in the project manual, mark the record copy to show the actual work.
 1. Include a copy of each addendum and modification to the contract.

3.4 RECORD SUBMITTALS

- A. Maintain a complete set of all submittals made during construction, marked to show changes.
- B. Each contractor shall maintain a complete set of all submittals made during construction, marked to show changes which occur due to his work.

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DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01800 - PROJECT RECORD DOCUMENTS

1. Maintain submittals in cardboard file boxes, labeled to show contents.
 2. Sort submittals by applicable specification section and file in order of submittal identification number.
- C. Record Shop Drawings: Record the types of information specified for all record documents.
1. Mark changes on record shop drawings only when contract drawing would not be capable of showing the change clearly or completely.
 2. Mark changes in manner specified for record drawings.
- D. Record Product Data Submittals: Record the types of information specified for all record documents.
1. In addition, record the following types of information:
 - a. Changes in the products as delivered to the site.
 - b. Changes in manufacturer's instructions or recommendations for installation.
- E. Record Coordination Drawings: Record the types of information required for all record documents.
1. Mark up in the manner specified for record drawings.

3.5 TRANSMITTAL TO OWNER

- A. Collect, organize, label, and package ready for reference.
1. Provide cardboard file boxes for submittals.
 2. Provide cardboard drawing tubes with end caps for transparencies.
 3. Bind print sets with durable paper covers.
 4. Label each document (and each sheet of drawings) with "PROJECT RECORD DOCUMENTS - This document has been prepared using information furnished by _____" [insert the contractor's name], and the date of preparation.
- B. Submit to the Construction Manager.

END OF SECTION 01800

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

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 administrative and procedural requirements for the following:
 - 1. Recycling nonhazardous demolition and construction waste.
 - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Division 01 Section "Sustainable Design Requirements" for additional LEED requirements.
 - 2. Division 01 Section "Multiple Contract Summary" for coordination of responsibilities for waste management.
 - 3. Division 02 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
 - 4. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.
 - 5. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 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. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1.4 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report from responsible waste hauler or use **Form A7 for construction waste**. Include the following information, **Use FORM A8**:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- C. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements, that employs a LEED-Accredited Professional, certified by the USGBC, as waste management coordinator.
- 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 including responsibilities of waste management coordinator.
 - 2. Review requirements for documenting quantities of each type of waste and its disposition.

3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. [**Use Form A1 for construction waste.**] Include estimated quantities and assumptions for estimates. Use **Form 2 for Tracking Demo Waste.**
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. [**Use Form A3 for construction waste.**] Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures. **Use FORM A4 for tracking demolition waste.**
 1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 3. 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.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
 1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Savings in hauling and tipping fees that are avoided.
 5. Handling and transportation costs. Include cost of collection containers for each type of waste.
 6. Net additional cost or net savings from waste management plan.
- E. Forms: Prepare waste management plan on Forms A1, A3, A5 and A7 included at end of Part 3.

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Architect. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- 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 and prior to construction.
 - 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 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 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 Contractor.
- 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 according to approved construction waste management plan.
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.

3.3 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.

3.4 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.

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

3.5 ATTACHMENTS

A. Form A1:

CONSTRUCTION WASTE IDENTIFICATION							
MATERIAL CATEGORY	GENERATION POINT	EST. QUANTITY OF MATERIALS RECEIVED* (A)	EST. WASTE - % (B)	TOTAL EST. QUANTITY OF WASTE* (C = A x B)	EST. VOLUME CY (CM)	EST. WEIGHT TONS (TONNES)	REMARKS AND ASSUMPTIONS
Packaging: Cardboard							
Packaging: Boxes							
Packaging: Plastic Sheet or Film							
Packaging: Polystyrene							
Packaging: Pallets or Skids							
Packaging: Crates							
Packaging: Paint Cans							
Packaging: Plastic Pallets							
Site-Clearing Waste							
Masonry or CMU							
Lumber: Cut-Offs							
Lumber: Warped Pieces							
Plywood or OSB (scraps)							
Wood Forms							
Wood Waste Chutes							
Wood Trim (cut-offs)							
Metals							
Insulation							
Roofing							
Joint Sealant Tubes							
Gypsum Board (scraps)							
Carpet and Pad (scraps)							
Piping							
Electrical Conduit							
Other:							

* Insert units of measure.

B. Form A3:

CONSTRUCTION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS (TONNES)	DISPOSAL METHOD AND QUANTITY			HANDLING AND TRANSPORTION PROCEDURES
			EST. AMOUNT SALVAGED TONS (TONNES)	EST. AMOUNT RECYCLED TONS (TONNES)	EST. AMOUNT DISPOSED TO LANDFILL TONS (TONNES)	
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pallets						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						
Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

C. Form A5:

COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN								
MATERIALS	TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)	EST. COST OF DISPOSAL (B)	TOTAL EST. COST OF DISPOSAL (C = A x B)	REVENUE FROM SALVAGED MATERIALS (D)	REVENUE FROM RECYCLED MATERIALS (E)	LANDFILL TIPPING FEES AVOIDED (F)	HANDLING AND TRANSPORTATION COSTS AVOIDED (G)	NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pallet								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

D. Form A7:

CONSTRUCTION WASTE REDUCTION PROGRESS REPORT								
MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (TONNES) (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C)	TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100)
			ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (B)	ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (C)		
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pallet								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

END OF SECTION 017419

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions AIA Document A201-2007 and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 2. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 3. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Divisions 02 through 33 Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
 - 5. Submit test/adjust/balance records.
 - 6. Submit sustainable design submittals required in Division 01 sustainable design requirements Section and in individual Division 02 through 33 Sections.
 - 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.

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SECTION 017700 – CLOSEOUT PROCEDURES

5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Division 01 Section "Demonstration and Training."
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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. Reinspection: Request reinspection 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.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization 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. Use CSI Form 14.1A (available at www.csinet.org), or another form acceptable to Architect.
1. Organize list of spaces in sequential order.
 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.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
 4. Submit list of incomplete items in one of the following format:
 - a. MS Excel electronic file. Architect will return annotated file.
 - b. PDF electronic file. Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 1. Warranty Electronic File: Scan warranties and assemble complete warranty submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.

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- l. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - q. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 024119 – SELECTIVE DEMOLITION

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:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Removal of existing items to be reinstalled.
- B. Related Requirements:
 - 1. Division 01 Section "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Division 01 Section "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 INFORMATIONAL SUBMITTALS

- A. Predemolition Photographs or Video: Submit before Work begins.
- B. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.6 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. 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.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 01 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. 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.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:
 - 1. Roofing membrane.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

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 ANSI/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. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Perform 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 demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or videotapes.
 - 1. Provide photographs or video of conditions that might be misconstrued as damage caused by demolition operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
 - 1. Comply with requirements for existing services/systems interruptions specified in Division 01 Section "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated services/systems.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition 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 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. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - f. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PREPARATION

- A. 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.
 - 1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."

- B. Temporary Facilities: 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 Section "Temporary Facilities and Controls."

- C. Temporary Shoring: 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.

3.4 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, to minimize disturbance of adjacent surfaces. 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 until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

9. Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section "Construction Waste Management and Disposal."

B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
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.

- C. 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.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Roofing: Remove no more existing roofing than can be covered in one day by new roofing and so that building interior remains watertight and weathertight. Refer to applicable Division 07 Section for new roofing requirements.

1. Remove existing roofing, flashings, gravel stop, and roof accessories as indicated on Drawings.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

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 Division 01 Section "Construction Waste Management and Disposal."

- B. Burning: Do not burn demolished materials.

- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 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 024119

SECTION 061000 – 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. Wood nailers and blocking.

1.3 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.
 - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 INFORMATIONAL SUBMITTALS

- A. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with performance requirements indicated.
- B. Warranty of chemical treatment manufacturer for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber and other panels. Provide for air circulation within and around stacks and under temporary coverings.
 - 1. For lumber pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
 - 1. WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
- D. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA C2 (lumber), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber. Do not use material that is warped or does not comply with requirements for untreated material.

- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing members less than 18 inches above grade.
 - 4. Wood floor plates that are installed over concrete slabs directly in contact with earth.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including cant strips, rooftop equipment bases and support curbs, bucks, nailers, blocking, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture Content: 19 percent maximum for lumber items are not specified to receive wood preservative treatment.
- D. Grade: For dimension lumber sizes, provide No. 2 SPIB or WWPA of S-P-F species. For board-size lumber, provide No. 3 Common grade per NELMA, NLGA, or WWPA; No. 2 grade per SPIB; or Standard grade per NLGA, WCLIB or WWPA of S-P-F species.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where miscellaneous carpentry is exposed to weather, in ground contact, in area of high relative humidity, or in contact with wood-preservative-treated lumber, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber.
- E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- F. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

3.2 WOOD NAILERS, STRIPPING, AND BLOCKING

- A. Install where shown and where required for attaching other work. Cut and shape to required size. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

END OF SECTION 061000

SECTION 070150 – PREPARATIONS FOR RE-ROOFING

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:
 - 1. Roof tear-off.
 - 2. Roof re-cover preparation.
 - 3. Removal of base flashings.
- B. Related Requirements.
 - 1. Division 01 Section "Summary" for use of the premises and phasing requirements.
 - 2. Division 01 Section00 "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.
 - 3. Division 07 Section "EPDM Membrane Roofing" for temporary roof/vapor retarder.

1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Existing Membrane Roofing: Ballasted single-ply membrane roofing.
- C. Roof Tear-Off: Removal of existing membrane roofing system from deck.
- D. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- E. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.6 INFORMATIONAL SUBMITTALS

- A. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of new membrane roofing system.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Re-roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; deck Installer; roofing Installer including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing system tear-off and replacement including, but not limited to, the following:
 - a. Reroofing preparation, including membrane roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system that is to remain during and after installation.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof drain plugging and plug removal requirements.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - e. Existing deck removal procedures and Owner notifications.
 - f. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - g. Structural loading limitations of deck during reroofing.
 - h. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.
 - i. HVAC shutdown and sealing of air intakes.
 - j. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - k. Governing regulations and requirements for insurance and certificates if applicable.
 - l. Existing conditions that may require notification of Architect before proceeding.

1.8 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 - 1. Coordinate work activities daily with Owner so Owner can place protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
- E. Limit construction loads on roof to 20 lbs./sq. ft. for uniformly distributed loads and rooftop equipment wheel loads that do not damage existing construction.
- F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
- G. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove items that will interfere with installation of reroofing. Following completion of reroofing operations, reinstall items removed, using workers skilled in the trades involved.
 - 1. Disconnect, lift, and reinstall curb-mounted vent units and stacks to permit removal of existing flashings and installation of new flashings.
- B. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

- C. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
- E. Verify that rooftop utilities and service piping have been shut off before commencing Work.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.
- B. Remove aggregate ballast from roofing membrane.
- C. Full Roof Tear-Off: Where indicated, remove existing roofing membrane and other membrane roofing system components down to the deck.
 - 1. Remove roof insulation.
 - 2. Remove wood blocking, curbs, and nailers.
 - 3. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove unadhered bitumen, unadhered felts, and wet felts.
- D. Do not tear off more existing roofing membrane than temporary-roofing can be installed the same day.
 - 1. Refer to Division 075323 "EPDM Roofing Membrane" for temporary roof/vapor retarder requirements.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of membrane roofing system.
- B. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 or by pouring 1 pint of hot roofing asphalt on deck at start of each day's work and at start of each roof area or plane. Do not proceed with roofing work if moisture condenses under plastic sheet or if asphalt test sample foams or can be easily and cleanly stripped after cooling.

- C. If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.

3.4 EXISTING BASE FLASHINGS

- A. Remove existing base flashings around parapets, curbs, walls, and penetrations.
 - 1. Clean substrates of contaminants such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings specified in Division 07 Section "Sheet Metal Flashing and Trim."

3.5 DISPOSAL

- A. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site will not be permitted.
- B. Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 070150

SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

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. Adhered EPDM membrane roofing system.
- 2. Roof insulation.

- B. Related Requirements:

- 1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
- 2. Division 07 Section "Preparations for Re-Roofing."
- 3. Division 07 Section "Manufactured Roof Expansion Joints" for proprietary manufactured roof expansion-joint assemblies.
- 4. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.
- 5. Division 07 Section "Joint Sealants" for joint sealants, joint fillers, and joint preparation.
- 6. Division 22 Section "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
- 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
 1. Laboratory Test Reports: For adhesives and sealants used inside the weatherproofing system, indicating compliance with requirements for low-emitting materials.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes.
 3. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products, in manufacturer's standard sizes:
 1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
 2. Roof insulation, including tapered insulation and slopes.
 3. Walkway pads.
 4. Termination bars.
 5. Six insulation fasteners of each type, length, and finish.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer and manufacturer.
- B. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 1. Upon request submit evidence of meeting performance requirements.

- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.
- E. Research/Evaluation Reports: For components of membrane roofing system, from the ICC-ES.
- F. Field quality-control reports.
 - 1. Inspection Reports: Daily reports of roofing inspector, including weather conditions, description of work performed, tests performed, defective work observed, and corrective actions taken to correct defective work.
- G. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For membrane roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for membrane roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- C. Roofing Inspector Qualifications: An RCI Inc.-registered roofing observer (RRO) experienced with roofing-system indicated, or a technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification.
 - 1. Manufacturer's technical representative shall be an authorized full-time technical employee of the manufacturer.
 - 2. Roofing inspector shall be on site for a minimum of 3 full-time days to perform roof tests and inspections and to prepare start up, interim, and final reports.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 - 1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, walkway products, and other components of membrane roofing system.
 - 2. Warranty wind speed coverage shall be peak gusts of 72 miles per hour, as measured at 10 meters above ground level.
 - 3. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Carlisle SynTec Incorporated; Sure-White EPDM Membrane.
 - 2. Firestone Building Products Company; RubberGard EcoWhite EPDM Membrane.
 - 3. GenFlex Roofing Systems; FlexWhite EPDM Membrane.
 - 4. Mule-Hide Products Co., Inc.; White-on-Black EPDM
 - 5. Versico Roofing Systems; VersiGard EPDM White.

- B. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
 - 1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 - 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7.
 - 1. Corner Uplift Pressure: 84.6 lbf/sq. ft.
 - 2. Perimeter Uplift Pressure: 56.1 lbf/sq. ft.
 - 3. Field-of-Roof Uplift Pressure: 33.6 lbf/sq. ft.
 - 4. Depth of Perimeter and Corner Zones: 6 feet.
- D. Roof Edge Design: Comply with requirements of ANSI/SPRI ES-1.
- E. Exterior Fire-Test Exposure: ASTM E 108, Class B; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

2.3 EPDM MEMBRANE ROOFING

- A. EPDM: ASTM D 4637, Type I, nonreinforced uniform, flexible sheet.
 - 1. Thickness: 60 mils, nominal.
 - 2. Exposed Face Color: Black.

2.4 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- B. Sheet Flashing: 60-mil- thick EPDM, partially cured or cured, according to application.
- C. Bonding Adhesive: Manufacturer's standard.
- D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch-wide minimum, butyl splice tape with release film.
- E. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.
- F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- G. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

1. Provide black flashing accessories for black EPDM membrane roofing.

2.5 VAPOR RETARDER

- A. Self-Adhering Vapor Retarder. As supplied by roofing membrane manufacturer.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Firestone Building Products Company; MB Base SA; 60 mil nominal thickness; complying with ASTM D 5147, ASTM 1970, and ASTM E 2178, or comparable products by another listed manufacturer.
 - a. Primer/Adhesive: SA Primer Synthetic Rubber Polymer base.

2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by EPDM membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, glass-fiber mat facer on both major surfaces.
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.7 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
- D. Cover Board: Either of the following:
 - 1. Glass-mat, water-resistant gypsum substrate, ASTM C 1177, 1/4 inch thick, factory primed.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Georgia-Pacific Corporation; DensDeck Prime.
 - 2) USG; Securock Glass-Mat Roof Board.
 - 2. High-Density Polyisocyanurate, ASTM C 1289, Type II, Class IV, Grade 3, 1/4-inch thick.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Johns Manville; Invinsa Roof Board.
- E. Base Sheet:
 - 1. Expanded Perlite, Reinforcing Cellulosic Fibrous substrate, ASTM C 728, 3/4 inch thick.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Johns Manville; Fesco Board.
 - 2) USG; Securock Gypsum-Fiber Roof Board.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 VAPOR-RETARDER INSTALLATION

- A. Coordination: Coordinate installation of vapor retarder with the roof edge wood blocking, parapets, roof curbs, penetrations and other trades. Extend vapor retarder to vapor barrier at exterior walls.
- B. Self-Adhering Vapor Retarder Over Gypsum Roof Deck:
 - 1. Prime roof deck.
 - 2. Apply adhesive.
 - 3. Starting in low areas, position membrane without stretching over substrate.
 - 4. Lay vapor-retarder membranes so that flow of water is over or parallel, but never against, the lap.
 - 5. Position adjoining vapor retarder sheets in such a manner that side laps overlay lap of underlying sheet by 4 inches. End laps should overlay the underlying sheet by minimum 6 inches.
 - 6. Stagger end laps at least 5 feet apart and cut rounded corners.
 - 7. Lay vapor retarder felts free of wrinkles, creases, and/or fish mouths.

8. At vertical walls, terminate vapor retarder at base of roof with 1-1/2-inch vertical leg; install base flashing ply with 4-inch minimum lap on horizontal and up vertical surface; and seal.
9. Roll self-adhering vapor retarder into place with 90-lbf roller.
10. At vertical walls, prime wall at top of self-adhering vapor retarder on flat. Install base flashing piece with 4-inch minimum lap; roll into place to achieve bond.
11. Prime and flash all pipe and curb penetrations.

- C. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into membrane roofing system.

3.4 BASE SHEET

- A. Mechanically fasten base sheet to gypsum roof deck securely at terminations, penetrations, and perimeters. Use fasteners suitable for gypsum decks.

3.5 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- G. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 1. Ensure vapor retarder is clean and dry.
 2. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - a. Install bead foam adhesive parallel to insulation-board side edges in wet widths of 3/4 inch at 4 inches o.c.; 14 rows per 4'-0" width of insulation.
 - b. Embed insulation into bead foam adhesive, with joints staggered minimum 18 inches from joints of first layer. Step into place and position; roll

- insulation with 90-lbf water roller to achieve positive contact and adhesion between adhesive and insulation board. Verify that no creeping occurs.
- c. Weight insulation down with 5-gal adhesive pails until bead foam adhesive has set; one in center and one on each corner, so that no cupping or lack of adhesion occurs. Insulation that 'bounces' or depresses under foot pressure is unacceptable.
- H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 18 inches in each direction. Set cover boards in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining cover boards in place.
1. Install bead foam adhesive parallel to edge of insulation board side edge in wet widths of 3/4 inch at 4 inches o.c.; 14 per 4'-0" width of insulation.
 2. Embed coverboard with full contact into bead foam adhesive. Step into place and position; roll with 90-lbf water roller. Verify that no creeping occurs. Weight with 5-gallon adhesive pails; one in the center and one on each corner to achieve positive contact and adhesion.

3.6 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
 1. Do not crease field membrane.
- B. Start installation of membrane roofing in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
 1. Roll membrane with large water filled roller to achieve 100-percent bonding.
- E. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeters.
- F. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- G. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping membrane roofing according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of membrane roofing terminations.

- H. Leave seams uncovered until inspected by roofing system manufacturer.
- I. Repair tears, voids, and lapped seams in roofing that does not meet requirements.
- J. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
- K. Install membrane roofing and auxiliary materials to tie in to existing membrane roofing to maintain weather-tightness of transition and to not void warranty for existing membrane roofing system.

3.7 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
- B. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.
- C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
 - 1. Provide 1/2-inch thick plywood walk boards on 1-inch thick expanded polystyrene in areas of heavy traffic and take other measures necessary to prevent damage to roofing system.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075323

SECTION 076200 - SHEET METAL FLASHING AND TRIM

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. Formed roof-drainage sheet metal fabrication.
2. Formed low-slope roof sheet metal fabrications.
3. Formed roof-edge fascia.
4. Formed equipment support flashing.

- B. Related Requirements:

1. Division 06 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Division 07 roofing Sections for installation of sheet metal flashing and trim integral with roofing.
3. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion joint covers.

1.3 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
3. Review requirements for insurance and certificates if applicable.

4. Review sheet metal flashing observation and repair procedures after flashing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work. Include the following:

1. Identification of material, thickness, weight, and finish for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for joining, supporting, and securing sheet metal flashing and trim, including layout of fasteners, cleats, clips, and other attachments. Include pattern of seams.
4. Details of termination points and assemblies, including fixed points.
5. Details of special conditions.
6. Details of connections to adjoining work.

C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.

D. Samples for Verification: For each type of exposed finish.

1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
3. Accessories and Miscellaneous Materials: Full-size Sample.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

B. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing, trim, and accessories to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

1.10 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of

components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
 1. Exposed Coil-Coated Finishes:
 - a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Color: As selected by Architect from manufacturer's full range.
 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
 - C. Stainless-Steel Sheet: ASTM A 240 or ASTM A 666, Type 304, dead soft, fully annealed; with smooth, flat surface.
 1. Finish: 2D (dull, cold rolled).
 - D. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653, G90 coating designation.
 1. Surface: Smooth, flat.
 - E. Lead Sheet: ASTM B 749, Type L51121, copper-bearing lead sheet, with a minimum thickness of 0.0625 inch except not less than 0.0937 inch thick for applications where burning (welding) is involved.

2.3 UNDERLAYMENT MATERIALS

- A. Polyethylene Sheet: 6-mil-thick polyethylene sheet complying with ASTM D 4397.
- B. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
 - 4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153 or ASTM F 2329 or Series 300 stainless steel.
- C. Solder:
 - 1. For Stainless Steel: ASTM B 32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.
 - 2. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.
 - 3. Burning Rod for Lead: Same composition as lead sheet.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- H. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.
- I. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
 - 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 2. Obtain field measurements for accurate fit before shop fabrication.
 - 3. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.
- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.
- D. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" for application, but not less than thickness of metal being secured.
- G. Seams for Galvanized- or Stainless-Steel Sheet: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- H. Seams for Aluminum Sheet: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
- I. Do not use graphite pencils to mark metal surfaces.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof-Edge Fascia: Fabricate in minimum 96-inch long, but not exceeding 10-foot-long, sections.
 - 1. Wind-Restraint Cleat: Provide continuous cleat to be installed before roof-edge fascia to prevent wind uplift of roof-edge fascia's lower edge.
 - 2. Fabricate from the following materials:
 - a. Aluminum: 0.063 inch thick.
- B. Counterflashing: Fabricate from the following materials:
 - 1. Aluminum: 0.032 inch thick.
 - 2. Where surface-mounted counterflashing is indicated, provide counterflashing in configuration indicated, with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
 - 3. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.
- C. Roof-Penetration Flashing: Fabricate from the following materials:
 - 1. Stainless Steel: 0.019 inch thick.
- D. Roof-Drain Flashing: Fabricate from the following materials:
 - 1. Lead: 4.0 lb/sq. ft., hard tempered.

2.7 MISCELLANEOUS SHEET METAL FABRICATIONS

- A. Equipment Support Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.
 - 1. Verify compliance with requirements for installation tolerances of substrates.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

- A. General: Install underlayment as indicated.
- B. Polyethylene Sheet: Install polyethylene sheet with adhesive for anchorage to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped and taped joints of not less than 2 inches.
- C. Felt Underlayment: Install felt underlayment with adhesive for temporary anchorage to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

3.3 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
 - 4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
 - 5. Install sealant tape where indicated.
 - 6. Torch cutting of sheet metal flashing and trim is not permitted.
 - 7. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
 - 1. Coat back side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 - 2. Use lapped expansion provisions only where indicated on Drawings.

- D. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws. Use fasteners of sizes that will penetrate metal decking not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal joints as shown and as required for watertight construction.
 - 1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
- F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 1. Do not solder aluminum sheet.
 - 2. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
 - 3. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
- B. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.
- C. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum 4 inches and bed with sealant. Secure in a waterproof manner by means of anchor and washer at 36 inch centers.
- D. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric or butyl sealant and clamp flashing to pipes that penetrate roof.

3.5 ROOF-EDGE FASCIA INSTALLATION

- A. Install cleats, clips, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edge fasciae with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.6 MISCELLANEOUS FLASHING INSTALLATION

- A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.7 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.8 EXISTING VENTS, CURBS, AND PENETRATIONS

- A. If required by added insulation, extend existing curbs, vents, and penetrations, using methods and materials matching existing and approved by roof membrane manufacturer.

3.9 CLEANING AND PROTECTION

- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200

SECTION 077129 – MANUFACTURED ROOF EXPANSION JOINTS

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 metal-flanged, bellows-type roof expansion assemblies.
- B. Related Requirements:
 - 1. Division 06 Section "Rough Carpentry" for wooden curbs for mounting roof expansion assemblies.
 - 2. Division 07 Section "Ethylene-Propylene-Diene-Monomer (EPDM) Roofing."
 - 3. Division 07 Section "Roof Accessories" for manufactured and prefabricated metal roof curbs.

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. Shop Drawings: For roof expansion joints.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of splices, intersections, transitions, fittings, method of field assembly, and location and size of each field splice.
 - 3. Provide isometric drawings of intersections, terminations, and changes in joint direction or planes, depicting how components interconnect with each other and adjacent construction to allow movement and achieve waterproof continuity.
- C. Samples: For each exposed product and for each color specified, 6 inches in size.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

- B. Product Test Reports: For each fire-barrier provided as part of a roof-expansion-joint assembly, for tests performed by a qualified testing agency.
- C. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of roof membrane.

1.7 SCHEDULING

- A. Coordinate delivery and installation of roof expansion assemblies to prevent damage and provide timely integration of units with roofing membranes and flashing.

1.8 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Roof expansion joints shall withstand exposure to weather, remain watertight, and resist the movements indicated without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- C. Fire-Test-Response Characteristics: Provide fire-barrier assemblies with fire-test-response characteristics as determined by testing identical products, per test method indicated, by UL or another testing agency acceptable to authorities having jurisdiction. Assemblies shall be capable of anticipated movement while maintaining fire rating. Fire-barrier products shall bear classification marking of qualified testing agency.

2.2 BELLOWS-TYPE ROOF EXPANSION JOINT

- A. Source Limitations: Obtain bellows-type roof expansion joints approved by roofing membrane manufacturer and that are part of roofing membrane warranty.
- B. Flanged Bellows Roof Expansion Joint: Manufactured, continuous, waterproof, joint-cover assembly, consisting of exposed membrane bellows, laminated to flexible, closed-cell support foam, and secured along each edge to a 3- to 4-inch- wide metal flange for nailing to substrate. Provide each size and type indicated, factory-fabricated units for corner and joint intersections and horizontal and vertical transitions including those to other building expansion joints, splicing units, adhesives, and other components as recommended by roof-expansion-joint manufacturer for complete installation. Fabricate each assembly specifically for installation configuration indicated on Drawings.
 - 1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide Johns Manville; a Berkshire Hathaway company; Expand-O-Flash, or comparable products by one of the following:
 - a. C/S Group.
 - b. InPro Corporation.
 - c. MM Systems Corporation.
 - 2. Joint Movement Capability: Plus and minus 50 percent of joint size.
 - 3. Bellows: EPDM flexible membrane, nominal 60 mils thick.
 - a. Color: Black.
 - 4. Flanges: Galvanized steel, 0.022 inch thick.
 - a. Form: As indicated on Drawings.
 - 5. Secondary Seal: Continuous, waterproof membrane within joint and attached to substrate on sides of joint below the primary bellows assembly.
 - a. Thermal Insulation: Fill space above secondary seal with manufacturer's standard, factory-installed glass-fiber insulation; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84.
 - 6. Fire Barrier: Manufacturer's standard fire-resistive joint system with ratings determined per ASTM E 1966 or UL 2079 to resist spread of fire and to accommodate building thermal movements without impairing its ability to resist the passage of fire and hot gases.
 - a. Fire-Resistance Rating: Not less than fire-resistance rating of the roof assembly.

2.3 MATERIALS

- A. Galvanized Steel Sheet: ASTM A 653, hot-dip zinc-coating designation G90, stretcher-leveled standard of flatness and either commercial or forming steel, minimum 0.019 inch thick.
- B. EPDM Membrane: ASTM D 4637, Type standard with manufacturer for application.
- C. Silicone Extrusions: ASTM D 2000, UV stabilized, and that does not propagate flame.
- D. Adhesives: As recommended by roof-expansion-joint manufacturer and that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- E. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
 - 1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.
- F. Mineral-Fiber Blanket: ASTM C 665.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine roof-joint openings, inside surfaces of parapets, and expansion-control joint systems that interface with roof expansion joints, for suitable conditions where roof expansion joints will be installed.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written instructions for handling and installing roof expansion joints.
 - 1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
 - 2. Install roof expansion joints true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.

3. Provide for linear thermal expansion of roof expansion joint materials.
 4. Provide uniform profile of roof expansion joint throughout its length; do not stretch or squeeze membranes.
 5. Provide uniform, neat seams.
 6. Install roof expansion joints to fit substrates and to result in watertight performance.
 7. Torch cutting of roof expansion joints is not permitted.
- B. Splices: Splice roof expansion joints with materials provided by roof-expansion-joint manufacturer for this purpose, to provide continuous, uninterrupted, and waterproof joints.
1. Install waterproof splices and prefabricated end dams to prevent leakage of secondary-seal membrane.
- C. Fire Barrier: Install fire barrier where indicated to provide continuous, uninterrupted fire resistance throughout length of roof expansion joint, including transitions and end joints.
- D. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
- 3.3 PROTECTION
- A. Protect roof expansion joints from foot traffic, displacement, or other damage.
 - B. Remove and replace roof expansion joints and components that become damaged by moisture or otherwise.

END OF SECTION 077129

SECTION 077200 - ROOF ACCESSORIES

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. Roof curbs.
2. Equipment supports.
3. Prefabricated pipe hanger units.
4. Preformed flashings.
5. Prefabricated retrofit flashings.

- B. Related Requirements:

1. Division 06 Section "Rough Carpentry" for roof sheathing, wood cants, and wood nailers.
2. Division 07 Section "Roof Expansion Assemblies" for manufactured roof expansion-joint covers.

1.3 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

1. With Architect's approval, adjust location of roof accessories that would interrupt roof drainage routes.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, materials, dimensions of individual components and profiles, and finishes.

- B. Samples: For each type of exposed factory-applied finish required and for each type of roof accessory indicated, prepared on Samples of size to adequately show color.

1.5 QUALITY ASSURANCE

- A. Standards: Comply with the following:
 - 1. SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.
 - 2. NRCA's "Roofing and Waterproofing Manual" details for installing units.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship roof accessories properly labeled in heavy-duty packaging to prevent damage.

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify required openings for each type of roof accessory by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

2.2 ROOF CURBS

- A. Roof Curbs: Provide metal roof curbs, internally reinforced and capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded or sealed mechanical corner joints, with integral formed mounting flange at perimeter bottom. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.
 - 1. Manufacturers: Subject to compliance with requirements, provide roof curbs by one of the following:
 - a. Custom Curb, Inc.
 - b. Pate Company(The).
 - c. ThyCurb; Div. of Thybar Corporation.
- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Material: Zinc-coated (galvanized) steel sheet, not less than 0.079 inch thick.
 - 1. Finish: Baked enamel or powder coat.
 - 2. Color: As selected by Architect from manufacturer's full range.

D. Construction:

1. Insulation: Factory insulated with 1-1/2-inch- thick glass-fiber board insulation.
2. Factory-installed wood nailer at top of curb, continuous around curb perimeter.
3. Fabricate units to minimum height of 8 inches above roof surface, unless otherwise indicated.
4. Top Surface: Level around perimeter with roof slope accommodated by sloping the deck-mounting flange.

2.3 EQUIPMENT SUPPORTS

A. Equipment Supports: Rail-type metal equipment supports, capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported. Fabricate with welded or sealed mechanical corner joints, with integral formed mounting flange at perimeter bottom. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1. Manufacturers: Subject to compliance with requirements, provide equipment supports by one of the following:
 - a. Custom Curb, Inc.
 - b. Pate Company(The).
 - c. ThyCurb; Div. of Thybar Corporation.

B. Fabrication: Unless otherwise indicated or required for strength, fabricate units from minimum 0.0747-inch-thick, structural-quality, hot-dip galvanized or aluminum-zinc alloy-coated steel sheet; factory primed and prepared for painting with welded or sealed mechanical corner joints.

1. Provide preservative-treated wood nailers at tops of curbs and formed flange at perimeter bottom for mounting to roof.
2. Metal Counterflashing: Manufacturer's standard removable counterflashing, fabricated of same metal and finish as equipment support.
3. Fabricate units to minimum height of 8 inches, unless otherwise indicated.

2.4 PIPE AND DUCT SUPPORTS

A. Pipe and Duct Supports: Provide supports for piping and ductwork on roof with an engineered prefabricated unit designed for installation without roof penetrations, flashings, or damage to roof membrane, capable of supporting superimposed live and dead loads, including pipes and ducts to be supported. Units shall consist of a high-density, UV-protected, polypropylene plastic base, HDG structural steel frame, suitable hanger for pipe applications, nuts, threaded rods, and electro-plated spring nuts and bolts.

1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide the product indicated, or a comparable product by one of the following:
 - a. [MIRO Industries, Inc.](#)
 - b. [Pate Company \(The\).](#)

2. Prefabricated Pipe Hanger Units: Portable Pipe Hangers, Inc.; Model PS 1-2, or equal.

2.5 PREFORMED FLASHINGS

- A. Preformed Flashings: Prefabricated, watertight flashing system consisting of the following:
 1. Roof Curb: Galvanized roof curb, with integral base plate, continuously welded corner seams, factory-installed wood nailer, and 1-1/2-inch-thick rigid fiberglass insulation..
 2. Curb Cover: Laminated, acrylic coated, ABS plastic curb cover with prepunched holes. molded sealing ring on collared opening for watertight seal with cap.
 3. Curb Cover Cap: Manufacturer's standard design allowing both vertical and horizontal pipe movement without damage, 60 mil EPDM compression molded body with conically shaped steps, molded sealing grooves for watertight seal with curb cover, EPDM adapter rings as required, and stainless steel clamp band. Provide caps designed for multiple pipe penetrations where required. Size pipe boot and adapter ring to match roof penetration.
 4. Pipe Flashing: Manufacturer's standard design allowing both vertical and horizontal pipe movement without damage, 60 mil EPDM compression molded body with conically shaped steps to rubber cap, integral mounting flange, EPDM adapter rings as required, and stainless steel clamp bands. Provide boots designed for multiple pipe penetrations where required. Size pipe boot and adapter ring to match roof penetration.
- B. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide the following:
 1. Preformed Retrofit Flashings: "Small or Large Retrofit Flashings;" Portals Plus, Inc., or equal, complete with adapters as appropriate for penetration being flashed.
 2. Preformed Flashings: "Pipe Portal System" and "Pipe Flashings"; Portals Plus, Inc., or equal, compete with adapters as appropriate for penetration being flashed.

2.6 MATERIALS, GENERAL

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation and mill phosphatized for field painting where indicated.
 1. Mill-Phosphatized Finish: Manufacturer's standard for field painting.
- B. Glass-Fiber Board Insulation: ASTM C 726, nominal density of 3 lb/cu. ft., thermal resistivity of 4.3 deg F x h x sq. ft./Btu x in. at 75 deg F, thickness as indicated.
- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, complying with AWPA C2; not less than 1-1/2 inches thick.

- D. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
- E. Polyethylene Sheet: 6-mil-thick, polyethylene sheet complying with ASTM D 4397.
- F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.
- G. Bituminous Coating: Cold-applied asphalt mastic SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- H. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- I. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces; ASTM C 920, Type S, Grade NS, Class 25, and Uses NT, G, A, and, as applicable to joint substrates indicated, O.
- J. Roofing Cement: ASTM D 4586, nonasbestos, fibrated asphalt cement designed for trowel application or other adhesive compatible with roofing system.

2.7 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.8 GALVANIZED STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
 - 1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored and is ready to receive roof accessories.
- C. Verify dimensions of roof openings for roof accessories.

- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Underlayment: Where installing exposed-to-view components of roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene underlayment.
2. Bed flanges in thick coat of asphalt roofing cement where required by roof accessory manufacturers for waterproof performance.

- C. Roof Curb Installation: Install each roof curb so top surface is level.

- D. Equipment Support Installation: Install equipment supports so top surfaces are level with each other.

- E. Prefabricated Pipe Hanger and Duct Support Units: Support piping, conduits, and ducts routed across the roof by prefabricated pipe hanger and duct support units.

1. Locate base and support framing, accurately located and aligned, as indicated on Drawings, so deflection of piping does not exceed 1/240 of span. Install framing at spacing indicated, but no more than 10-feet o.c.
2. Set isolation pads, acceptable to manufacturer of roofing membrane, in adhesive if required by manufacturer's instructions.
3. Place bases on isolation pads, and adhere if required by code.
4. Set framing posts into bases and assemble framing structure as indicated.
5. Fasteners: Use galvanized fasteners for galvanized framing and stainless steel fasteners for stainless steel framing.
6. Piping or conduits 3 inches or larger shall be suspended or supported on either rollers, clevis hangers or band hangers to allow for expansion and contraction without movement of the bases.
7. Piping or conduit 2-1/2 inches or smaller shall be supported by single roller support or Unistrut which can accommodate multiple runs of conduits.
8. After installation, adjust height of each hanger, starting at the beginning of the pipe or conduit run, to maintain elevation and slope.

- F. Preformed Flashing Installation: Secure to roof membrane according to preformed flashing manufacturer's written instructions.
- G. Preformed Retrofit Flashings: Provide EPDM retrofit flashings, designed for existing penetrations that cannot be disconnected. Retrofit flashings shall have an integral tongue and groove, plus an overlapping flap, fastened with stainless steel hardware. Provide small (for 1 to 3 inch diameter round projections) or large (for 3-1/2 to 6 inch diameter round projections) retrofit flashings as required. For non-round projections, provide adapter rings designed to fit retrofit flashing.
- H. Seal joints with elastomeric sealant as required by preformed flashing manufacturer.

3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Clean exposed surfaces according to manufacturer's written instructions.
- C. Clean off excess sealants.
- D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 079200 - JOINT SEALANTS

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. Silicone joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. 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.
- C. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.
- C. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.

- B. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
 - 2. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.

1.6 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. 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. Silicone Sealant Warranty Period: 20 years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. 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 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. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Advanced Materials; SilPruf LM SCS2700.
 - c. Sika Corporation, Construction Products Division; Bondaflex Sil 290.
 - d. Tremco; Spectrem 1.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type 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), 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, blast cleaning, 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.
 - 3. Remove laitance and form-release agents from concrete.

4. Clean nonporous 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.
- B. 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.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant 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 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type 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.
 1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. 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.

- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified 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.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 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.

3.5 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.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application JS-1 : Exterior joints in vertical and horizontal nontraffic surfaces.
 - 1. Silicone Joint Sealant: Single-component, neutral curing, Class 100/50.

END OF SECTION 079200

Community High School District 99

Downers Grove South - ROOFING

1436 Norfolk Street, Downers Grove, IL 60516

02/15/2017

ISSUED FOR BID

PROJECT TEAM

CLIENT

DOWNERS GROVE COMMUNITY
HIGH SCHOOL DISTRICT 99
6301 SPRINGSIDE AVE.
DOWNERS GROVE, IL 60516

CONTACT: JIM KOLODZIEJ

ARCHITECT:

WIGHT & COMPANY
2500 NORTH FRONTAGE ROAD
DARIEN IL. 60561
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Design Firm Registration #184-000451

ELECTRICAL ENGINEER:

WIGHT & COMPANY
2500 NORTH FRONTAGE ROAD
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FAX: (630)969-7979
CONTACT: ANTHONY SULLENTRUP

INDEX OF DRAWINGS

GENERAL	
G0.0	COVER SHEET, INDEX, TEAM, LOCATION MAP
G1.4	ROOF REFERENCE PLAN
ARCHITECTURAL	
A2.4	ENLARGED ROOF PLANS & DETAILS
A2.5	ENLARGED ROOF PLAN & DETAILS
A2.6	ENLARGED ROOF PLAN
ME1.0	MECHANICAL/ELECTRICAL SCOPE NOTES & DETAILS
Grand total: 6	

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- GREEN _____ SEWERS
- WHITE _____ SAFE TO DIG

STATEMENT OF COMPLIANCE

I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE ENVIRONMENTAL BARRIERS ACT (IL. REV. STAT. 1985, CH. 111 1/2, PARS. 3711 ET SEQ AS AMENDED) AND THE ILLINOIS ACCESSIBILITY CODE, 71 IL ADM. CODE 400.

SIGNED: _____
ARCHITECT/ENGINEER

ILLINOIS REGISTRATION NO.: _____

DATE: _____

BUILDING CODE DATA

1. APPLICABLE CODES	
BUILDING CODE:	2015 IBC BUILDING CODE
MECHANICAL CODE:	2015 IBC MECHANICAL CODE
ELECTRICAL CODE:	2008 NATIONAL ELECTRICAL CODE
PLUMBING CODE:	2014 PLUMBING CODE
ACCESSIBILITY CODE:	2010 ADA STANDARDS FOR DESIGN
ENERGY CODE:	2015 IBC ENERGY CODE

2. GENERAL BUILDING DESCRIPTION

GROSS BUILDING AREA, EXISTING:	N/A
GROSS BUILDING AREA, TOTAL (NEW & EXISTING):	N/A

3. BUILDING OCCUPANCY TYPE SECTION 302

OCCUPANCY CLASSIFICATION:

4. CONSTRUCTION TYPE SECTION 503, 602

CONSTRUCTION TYPE:	
FIRE RESISTANCE RATING REQUIREMENTS	TABLE 601
STRUCTURAL FRAME:	0 HR
BEARING WALLS (EXTERIOR) (ALSO SEE TABLE 602):	0 HR
BEARING WALLS (INTERIOR):	0 HR
NON-BEARING WALLS (EXTERIOR):	SEE TABLE 602
NON-BEARING WALLS (INTERIOR):	0 HR
FLOOR CONSTRUCTION:	0 HR
ROOF CONSTRUCTION:	0 HR
EXTERIOR WALL FIRE SEPARATION DISTANCE	TABLE 602
LESS THAN 5'	1 HR
LESS THAN OR EQUAL TO 5' TO LESS THAN 10'	1 HR
LESS THAN OR EQUAL TO 10' TO LESS THAN 30'	0 HR
GREATER THAN OR EQUAL TO 30'	0 HR

5. ALLOWABLE HEIGHT AND AREA LIMITATIONS SECTION 503

BASE ALLOWABLE AREA:	N/A
BASE ALLOWABLE HEIGHT (FEET):	N/A
BASE ALLOWABLE HEIGHT (STORIES):	N/A

HEIGHT MODIFICATIONS SECTION 504

AUTOMATIC SPRINKLER SYSTEM INCREASE (FEET):	
AUTOMATIC SPRINKLER SYSTEM INCREASE (STORIES):	

AREA MODIFICATIONS SECTION 506

FRONTAGE INCREASE	
FORMULA: $If = 100 \times [F/P - 0.25] \times W/30$	
BUILDING PERIMETER (P):	
BUILDING FRONTAGE (F):	
FRONTAGE WIDTH (W):	
TOTAL FRONTAGE INCREASE (If):	

AUTOMATIC SPRINKLER SYSTEM INCREASE:

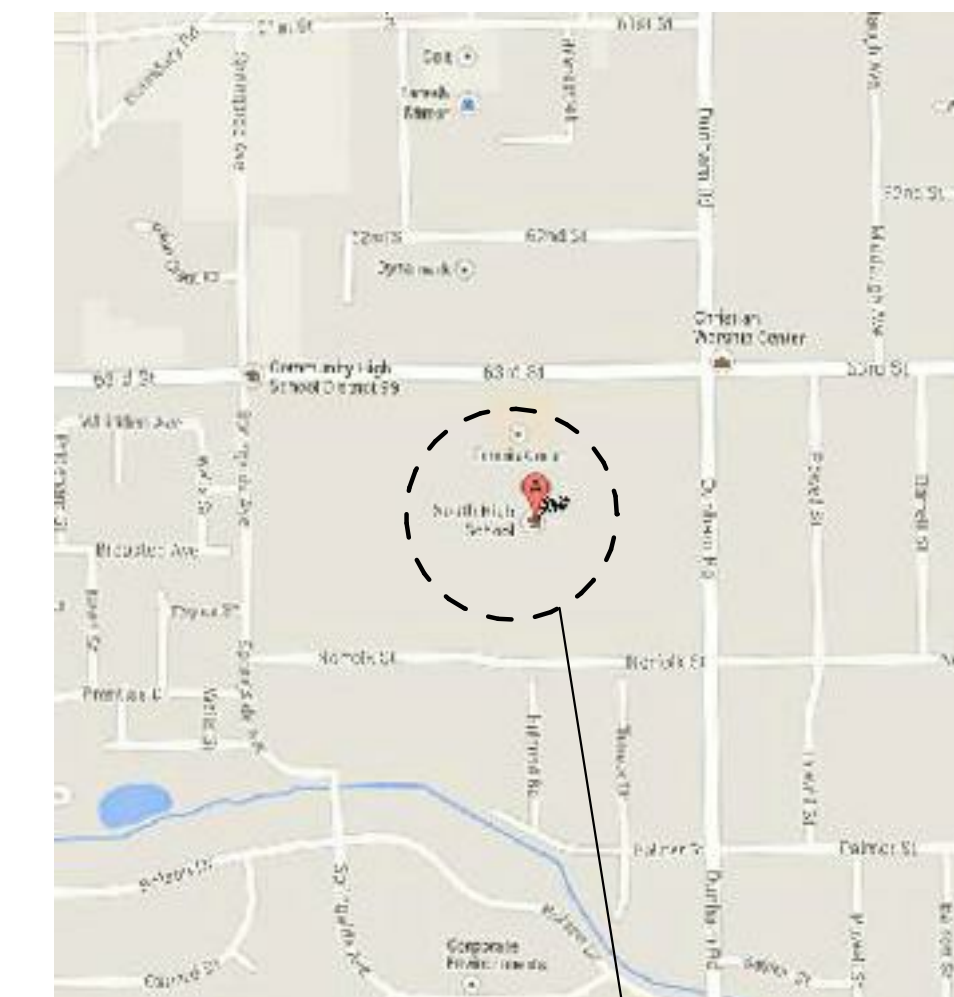
TOTAL ALLOWABLE BUILDING AREA

FORMULA: $Aa = At + [(At \times If)/100] + [(At \times Is)/100]$	
TOTAL ALLOWABLE AREA:	
TOTAL ACTUAL AREA:	

TOTAL ALLOWABLE HEIGHT:	
TOTAL ACTUAL HEIGHT:	

TOTAL ALLOWABLE STORIES:	
TOTAL ACTUAL STORIES:	

LOCATION MAP: DOWNERS GROVE SOUTH HIGH SCHOOL



South High School
1436 Norfolk Street, Downers Grove, IL 60516



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wightco.com

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Darien, IL 60561

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Downers Grove South - ROOFING

1436 Norfolk Street, Downers Grove, IL 60516

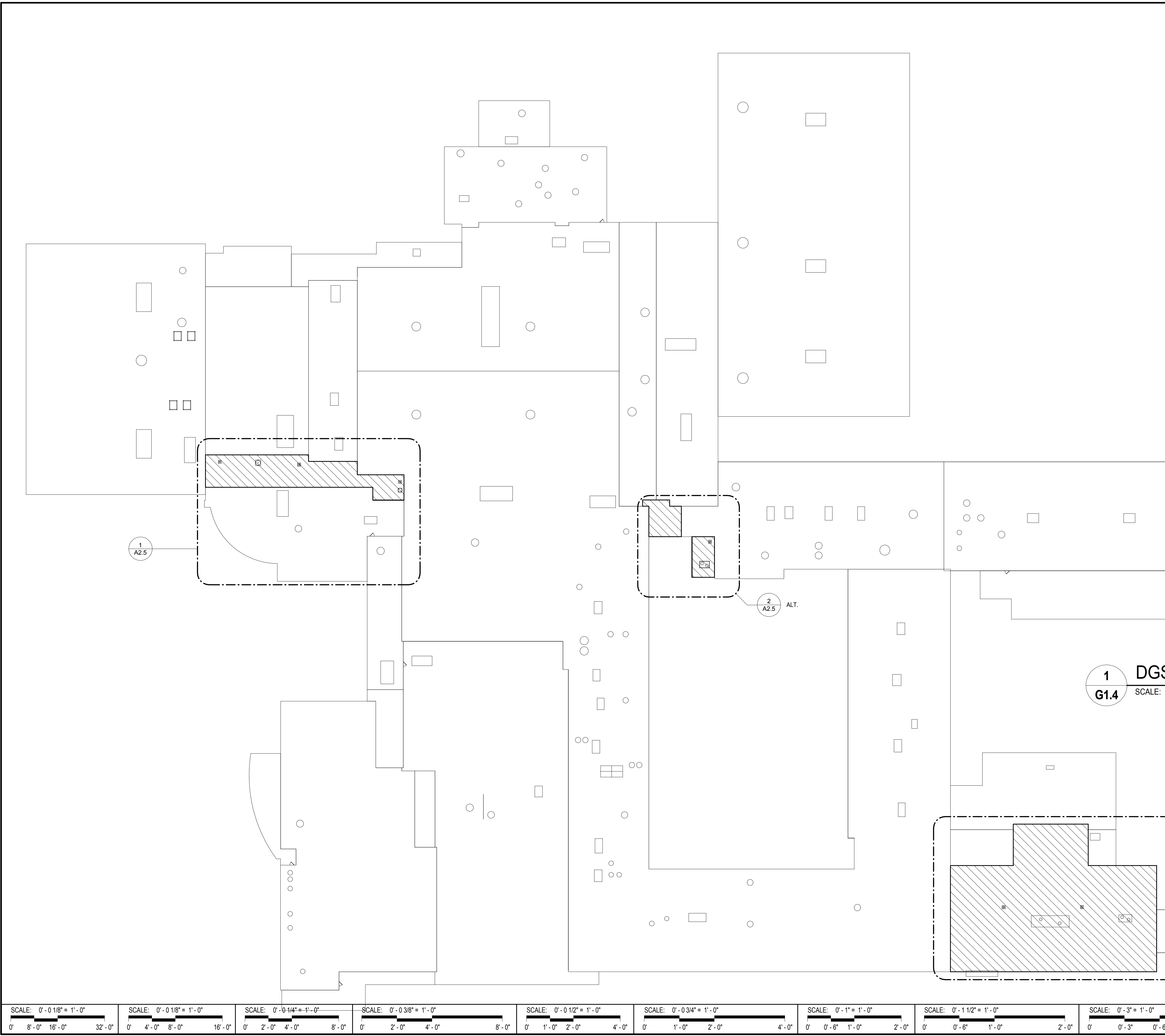
COVER SHEET, INDEX, TEAM, LOCATION MAP

Project Number:
02-5274-30

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AMF
Sheet:

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GENERAL NOTES

- ADDITIONAL THICKNESS OF NEW ROOFING SYSTEM WILL REDUCE EXISTING CURB HEIGHTS AND VENT HEIGHTS ABOVE FINISHED ROOFING SURFACE. MINIMUM OF 8" ABOVE ROOFING SURFACE TO TOP OF EQUIPMENT CURBS AND 12" FOR PLUMBING VENTS IS REQUIRED. THIS WILL REQUIRE EXISTING CURBS & PLUMBING VENTS TO BE EXTENDED. CONTRACTOR TO INCLUDE ALL LABOR AND MATERIALS TO DISCONNECT EQUIPMENT, MOVE EQUIPMENT ASIDE FOR INSTALLATION OF CURB EXTENSIONS, AND RE-INSTALLATION OF EQUIPMENT ON CURB, INCLUDING RECONNECTION OF EXISTING UTILITIES SERVING EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EQUIPMENT AND PLUMBING VENTS THAT WILL REQUIRE CURB EXTENSIONS OR VENT EXTENSIONS PRIOR TO BIDDING. SEE DETAILS THIS SHEET AND SHEET ME1.0 FOR ADDITIONAL INFORMATION.
- PROVIDE INSULATION SADDLES AT HIGH SIDE OF ALL ROOF CURBS TO DIVERT WATER AROUND CURBS.

LEGEND

	EXISTING ROOF: REMOVE EXISTING 4-PLY PITCH AND GRAVEL ROOFING, 2" RIGID INSULATION, & 3/4" BASE COVER BOARD. EXISTING GYPSUM DECK, ON SLOPED STRUCTURE, TO REMAIN. PATCH AREAS OF EXISTING ROOF AS REQUIRED. MATCH EXIST.
	NEW ROOFING: PROVIDE FULLY ADHERED EPDM SINGLE-PLY ROOF MEMBRANE, 1/4" COVER BOARD, (2) LAYERS 2" POLY-ISO INSULATION, 1/2" BASE SHEET MECHANICALLY FASTENED TO EXISTING DECK AND SLOPED STRUCTURE. PROVIDE VAPOR-RETARDER OVER EXISTING ROOF DECK.
	RD-X EXISTING ROOF DRAIN LOCATION. REMOVE AND REINSTALL AS REQUIRED FOR NEW ROOF WORK. SEE DETAIL 2/A2.4
	VTR-X EXISTING VENT THROUGH ROOF. EXTEND EXISTING PIPE AS REQUIRED TO MAINTAIN MIN. 8" OF FLASHING ABOVE ROOF AND 12" MIN. ABOVE ROOF TO TOP OF VENT. SEE DETAIL.
	O-SCUP PREFINISHED ALUMINUM OVERFLOW SCUPPER
	RTU EXISTING MECHANICAL UNIT AND CURB CAP TO BE TEMPORARILY REMOVED, STORED, AND PROTECTED AS REQUIRED FOR INSTALLATION OF NEW ROOF SYSTEM. MODIFY CURB AS INDICATED. REINSTALL CURB CAP. REINSTALL/RECONNECT MECHANICAL UNIT TO ORIGINAL FUNCTIONING CONDITION. REFER TO DETAIL.
	EF EXISTING EXHAUST FAN TO BE TEMPORARILY REMOVED, STORED, AND PROTECTED AS REQUIRED FOR INSTALLATION OF NEW ROOF SYSTEM. MODIFY CURB AS INDICATED. REINSTALL CURB CAP. REINSTALL/RECONNECT EXHAUST FAN TO ORIGINAL FUNCTIONING CONDITION. REFER TO DETAIL.
	E.J. EXPANSION JOINT LOCATION
	ALTERNATE # 2 WALKWAY PADS. REFER TO SPECIFICATIONS



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1 DGS OVERALL ROOF PLAN
 SCALE: 1" = 30'-0"
 NORTH

REV	DESCRIPTION	DATE
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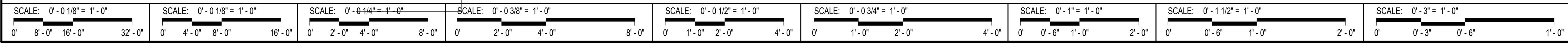
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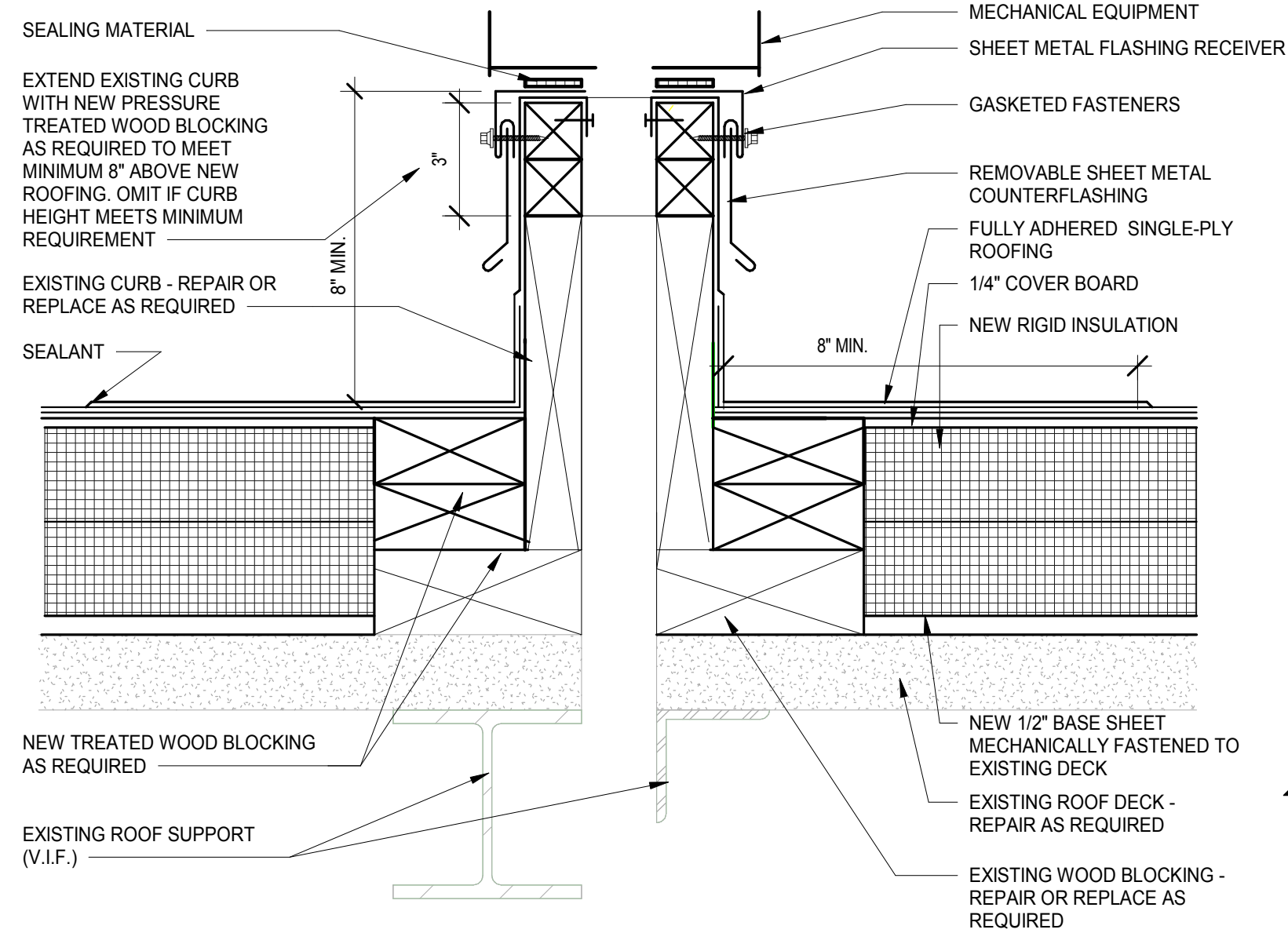
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ROOF REFERENCE PLAN

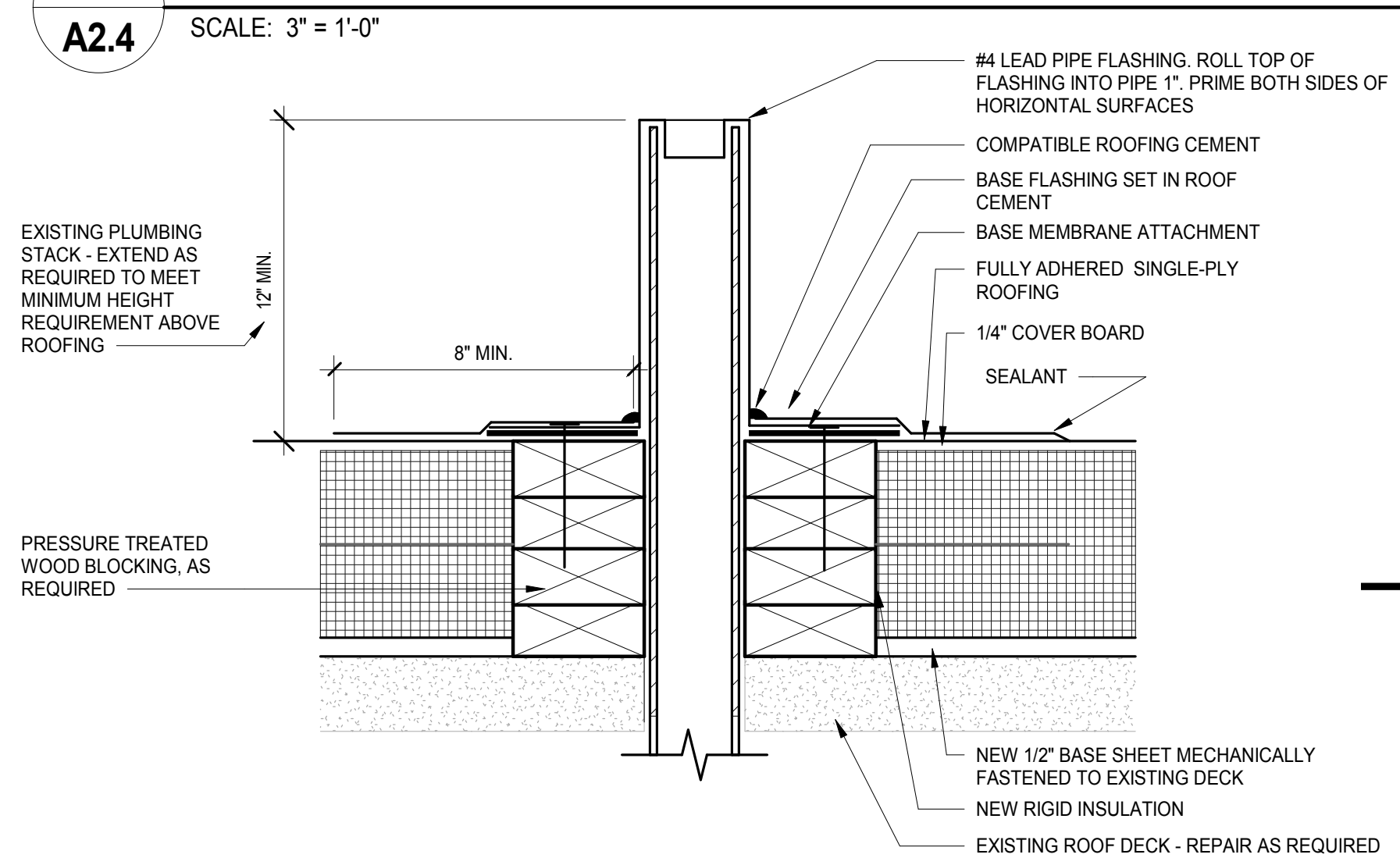
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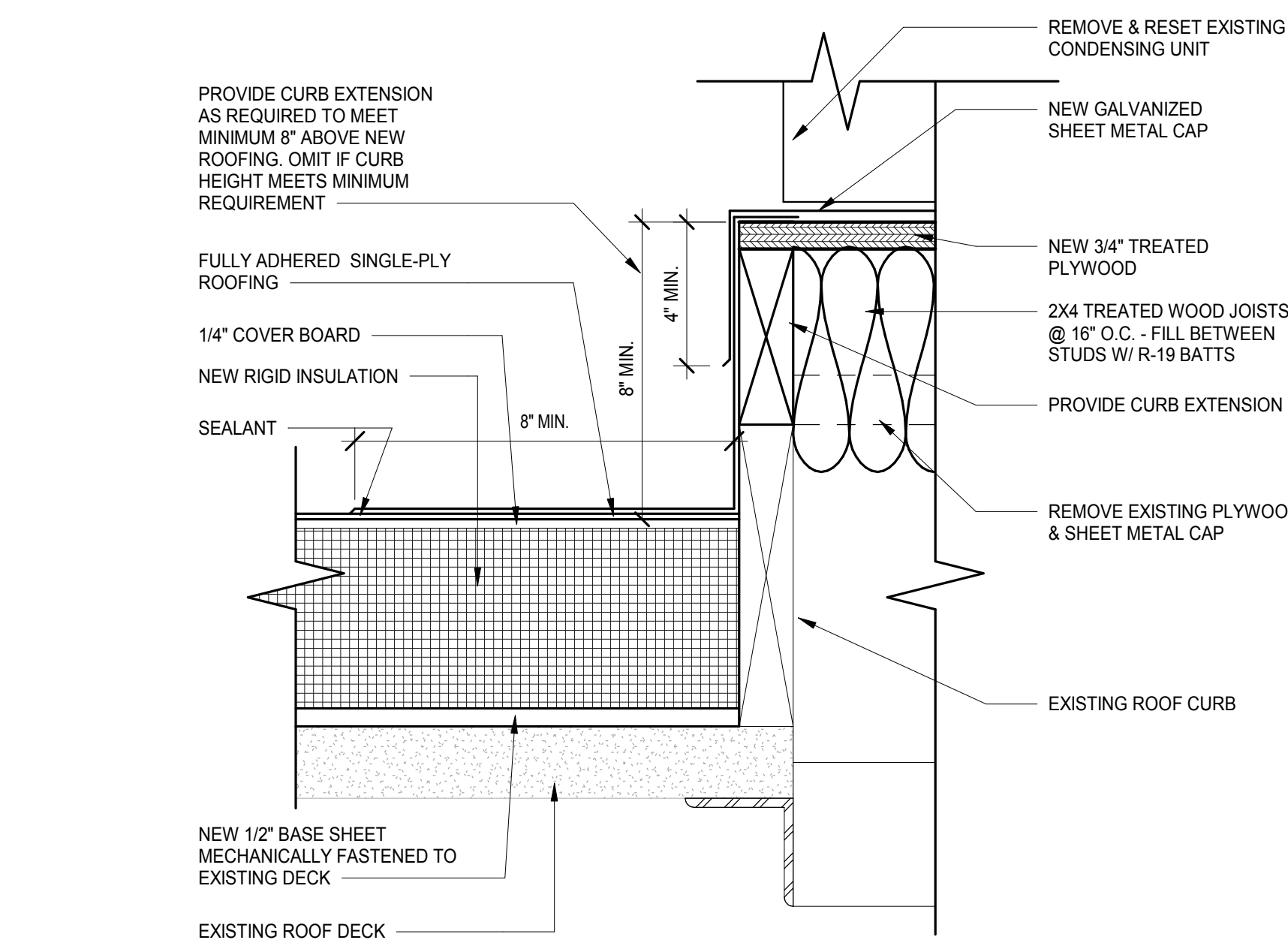




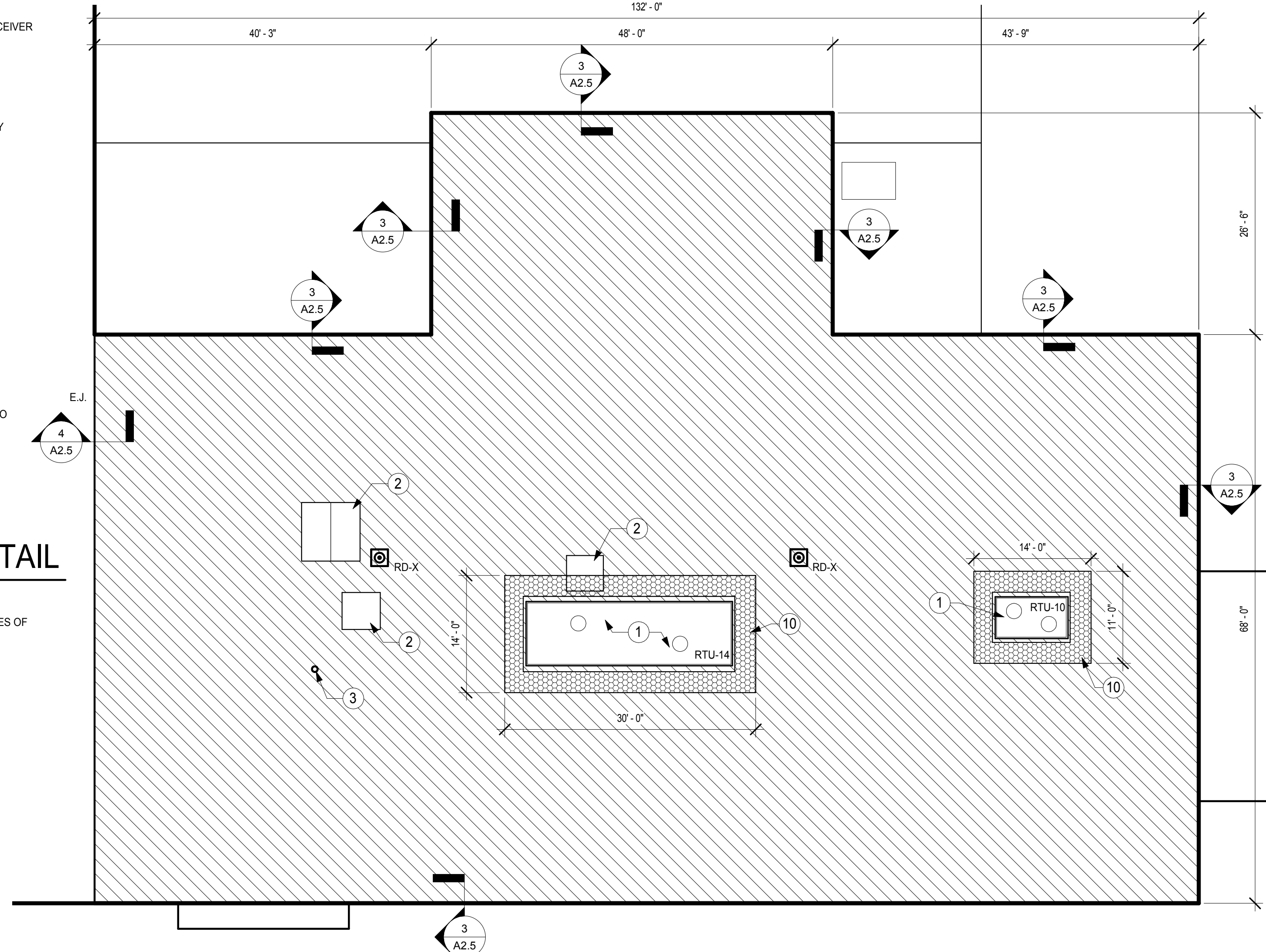
4 **TYPICAL MECHANICAL CURB EXTENSION DETAIL**
A2.4 SCALE: 3" = 1'-0"



5 **PLUMBING VENT EXTENSION DETAIL**
A2.4 SCALE: 3" = 1'-0"

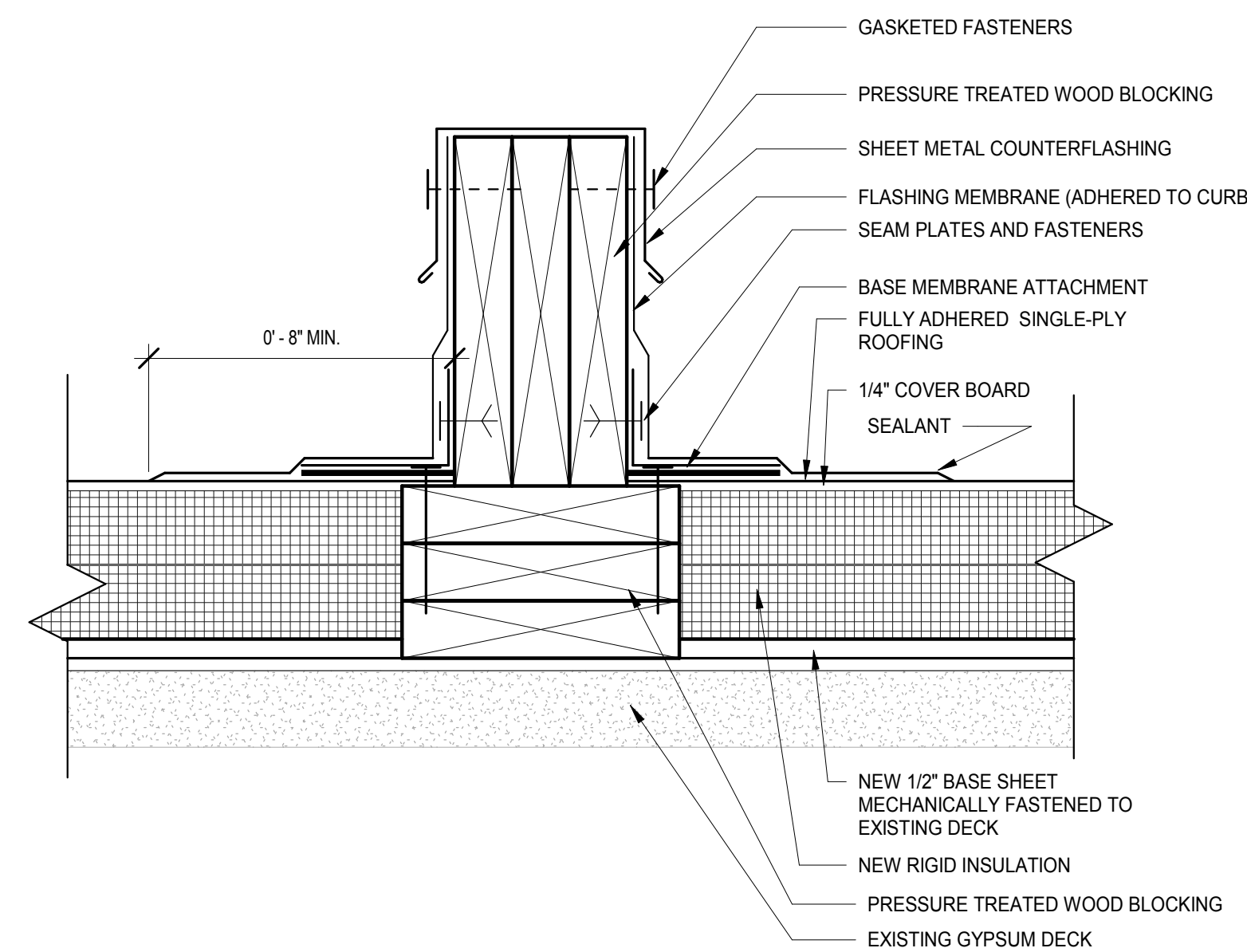


6 **CURB DETAIL @ CONDENSER UNITS**
A2.4 SCALE: 3" = 1'-0"

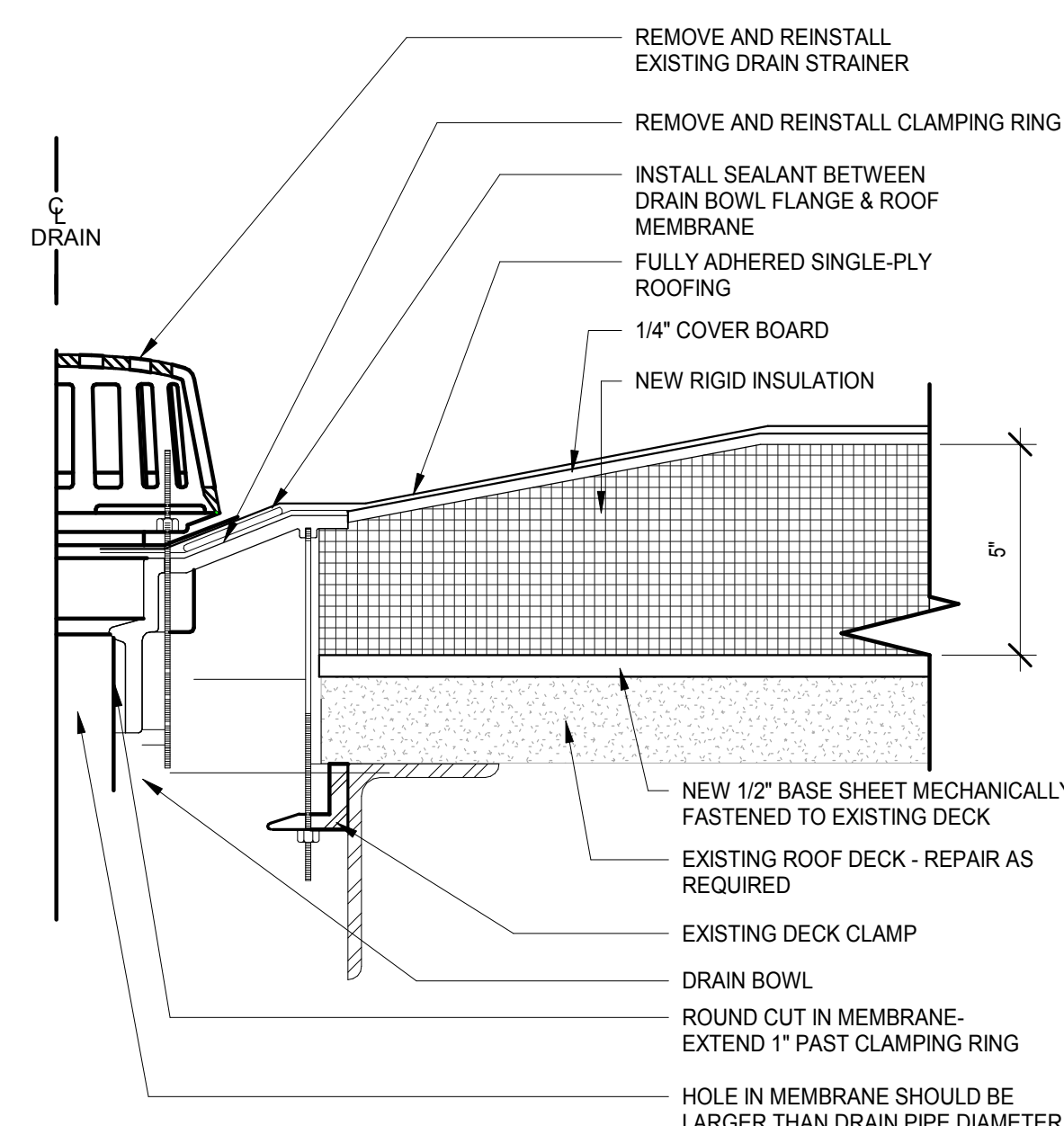


NEW ROOFING SYSTEM:
SINGLE PLY FULLY ADHERED MEMBRANE OVER 1/4\"/>

1 **ROOF AREA A**
A2.4 SCALE: 1" = 10'-0" NORTH



3 **EQUIPMENT RAIL SUPPORT**
A2.4 SCALE: 3" = 1'-0"



2 **TYPICAL ROOF DRAIN DETAIL**
A2.4 SCALE: 3" = 1'-0"

GENERAL NOTES

- ADDITIONAL THICKNESS OF NEW ROOFING SYSTEM WILL REDUCE EXISTING CURB HEIGHTS AND VENT HEIGHTS ABOVE FINISHED ROOFING SURFACE. MINIMUM OF 8" ABOVE ROOFING SURFACE TO TOP OF EQUIPMENT CURBS AND 12" FOR PLUMBING VENTS IS REQUIRED. THIS WILL REQUIRE EXISTING CURBS & PLUMBING VENTS TO BE EXTENDED. CONTRACTOR TO INCLUDE ALL LABOR AND MATERIALS TO DISCONNECT EQUIPMENT, MOVE EQUIPMENT ASIDE FOR INSTALLATION OF CURB EXTENSIONS, AND RE-INSTALLATION OF EQUIPMENT ON CURB, INCLUDING RECONNECTION OF EXISTING UTILITIES SERVING EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EQUIPMENT AND PLUMBING VENTS THAT WILL REQUIRE CURB EXTENSIONS OR VENT EXTENSIONS PRIOR TO BIDDING. SEE DETAILS THIS SHEET AND SHEET ME1.0 FOR ADDITIONAL INFORMATION.
- PROVIDE INSULATION SADDLES AT HIGH SIDE OF ALL ROOF CURBS TO DIVERT WATER AROUND CURBS.

LEGEND

- EXISTING ROOF:** REMOVE EXISTING 4-PLY PITCH AND GRAVEL ROOFING, 2" RIGID INSULATION, & 3/4" BASE COVER BOARD. EXISTING GYPSUM DECK ON SLOPED STRUCTURE TO REMAIN. PATCH AREAS OF EXISTING ROOF AS REQUIRED. MATCH EXIST.
- NEW ROOFING:** PROVIDE FULLY ADHERED EPDM SINGLE-PLY ROOF MEMBRANE, 1/4" COVER BOARD, (2) LAYERS 2.6" POLY-ISO INSULATION, 1/2" BASE SHEET MECHANICALLY FASTENED TO EXISTING DECK AND SLOPED STRUCTURE. PROVIDE VAPOR-RETARDER OVER EXISTING ROOF DECK.
- RD-X** EXISTING ROOF DRAIN LOCATION. REMOVE AND REINSTALL AS REQUIRED FOR NEW ROOF WORK. SEE DETAIL 2/A2.4
- VTR-X** EXISTING VENT THROUGH ROOF. EXTEND EXISTING PIPE AS REQUIRED TO MAINTAIN MIN. 8" OF FLASHING ABOVE ROOF AND 12" MIN. ABOVE ROOF TO TOP OF VENT. SEE DETAIL
- O-SCUP** PREFINISHED ALUMINUM OVERFLOW SCUPPER
- RTU** EXISTING MECHANICAL UNIT AND CURB CAP TO BE TEMPORARILY REMOVED, STORED, AND PROTECTED AS REQUIRED FOR INSTALLATION OF NEW ROOF SYSTEM. MODIFY CURB AS INDICATED. REINSTALL CURB CAP. REINSTALL/RECONNECT MECHANICAL UNIT TO ORIGINAL FUNCTIONING CONDITION. REFER TO DETAIL.
- EF** EXISTING EXHAUST FAN TO BE TEMPORARILY REMOVED, STORED, AND PROTECTED AS REQUIRED FOR INSTALLATION OF NEW ROOF SYSTEM. MODIFY CURB AS INDICATED. REINSTALL CURB CAP. REINSTALL/RECONNECT EXHAUST FAN TO ORIGINAL FUNCTIONING CONDITION. REFER TO DETAIL.
- E.J.** EXPANSION JOINT LOCATION
- ALTERNATE #2 WALKWAY PADS.** REFER TO SPECIFICATIONS

ROOFING KEY NOTES

- EXTEND HEIGHT OF EXISTING ROOF CURB & REPLACE CURB CAP PER DETAIL 6/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXISTING CAPPED CURB LOCATION. REMOVE & PATCH ROOF TO MATCH EXISTING.
- REMOVE ABANDONED STEEL PIPE PENETRATION. PATCH ROOF DECK TO MATCH EXISTING.
- EXISTING CONDENSING UNIT ON RAILS. REMOVE AND REINSTALL AS REQUIRED FOR NEW RE-ROOFING. SEE DETAIL 3/A2.4. REFER TO MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXTEND HEIGHT OF EXISTING EXHAUST FAN CURB PER DETAIL 4/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXTEND HEIGHT OF EXISTING PLUMBING VENT PER DETAIL 5/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- REMOVE EXISTING ROOF HATCH, EXTEND HEIGHT OF CURB, AND REINSTALL ROOF HATCH. SEE DETAIL 4/A2.4
- EXISTING WALL MOUNTED ROOF LADDER TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR NEW WORK.
- EXISTING 8" WIDE SCUPPER TO REMAIN. TAPPER TO DRAIN NEW INSULATION IN THIS LOCATION AS REQUIRED TO MEET EXISTING ELEVATION
- ALTERNATE #2 WALKWAY PADS, TYP. SEE SPECS



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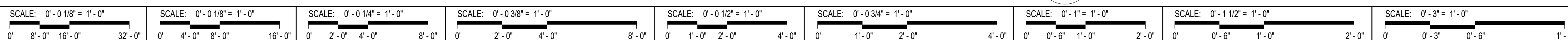
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ENLARGED ROOF PLANS & DETAILS

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GENERAL NOTES

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LEGEND

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- E.J. EXPANSION JOINT LOCATION
- ALTERNATE #2 WALKWAY PADS. REFER TO SPECIFICATIONS

ROOFING KEY NOTES

- EXTEND HEIGHT OF EXISTING ROOF CURB & REPLACE CURB CAP PER DETAIL 6/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXISTING CAPPED CURB LOCATION. REMOVE & PATCH ROOF TO MATCH EXISTING.
- REMOVE ABANDONED STEEL PIPE PENETRATION. PATCH ROOF DECK TO MATCH EXISTING.
- EXISTING CONDENSING UNIT ON RAILS. REMOVE AND REINSTALL AS REQUIRED FOR NEW RE-ROOFING. SEE DETAIL 3/A2.4. REFER TO MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXTEND HEIGHT OF EXISTING EXHAUST FAN CURB PER DETAIL 4/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- EXTEND HEIGHT OF EXISTING PLUMBING VENT PER DETAIL 5/A2.4. SEE MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES FOR ADDITIONAL WORK REQUIRED.
- REMOVE EXISTING ROOF HATCH, EXTEND HEIGHT OF CURB, AND REINSTALL ROOF HATCH. SEE DETAIL 4/A2.4
- EXISTING WALL MOUNTED ROOF LADDER TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR NEW WORK.
- EXISTING 8" WIDE SCUPPER TO REMAIN. TAPPER TO DRAIN NEW INSULATION IN THIS LOCATION AS REQUIRED TO MEET EXISTING ELEVATION
- ALTERNATE #2 WALKWAY PADS. TYP. SEE SPECS

REV	DESCRIPTION	DATE
	ISSUED FOR BID	02/15/17

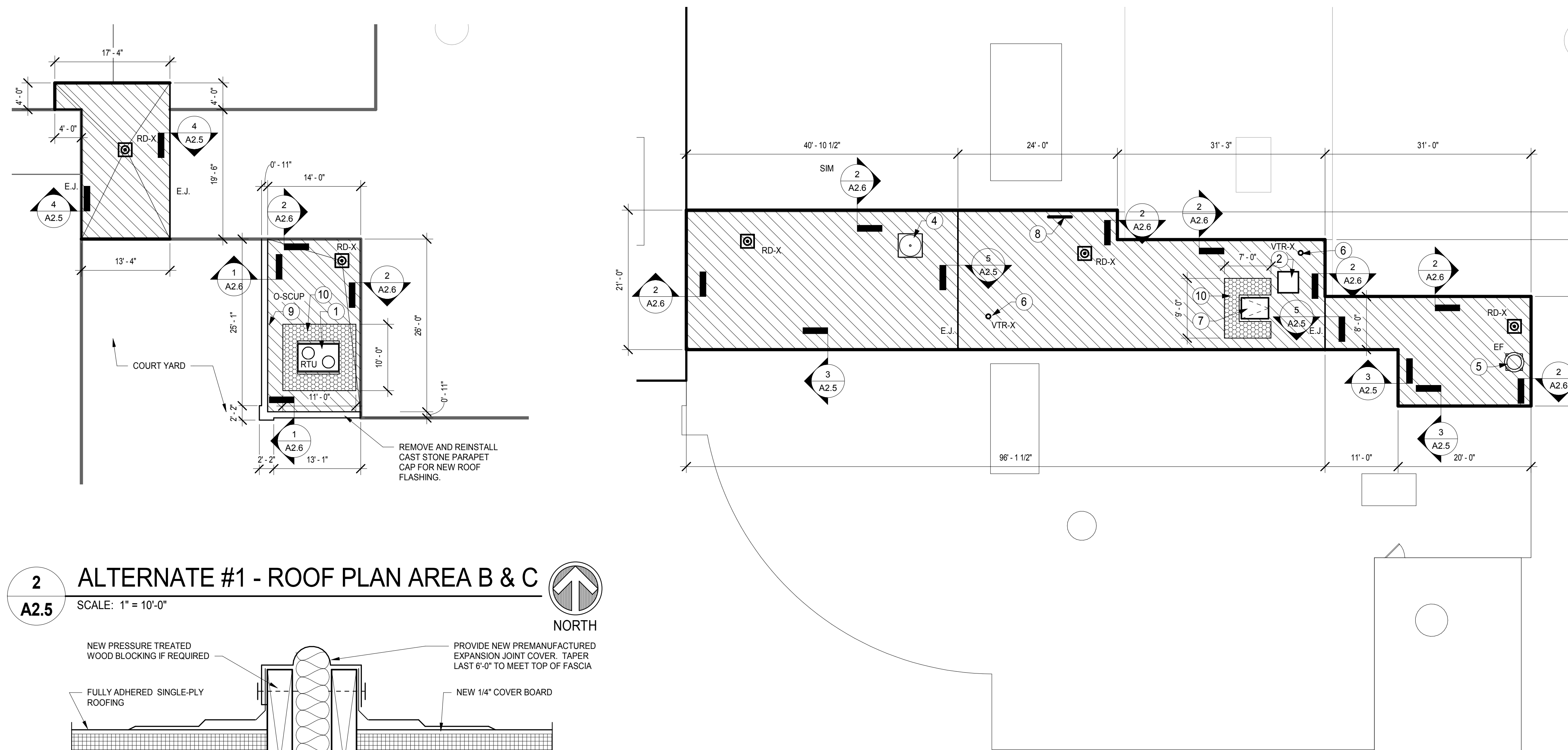
Downers Grove South - ROOFING

1436 Norfolk Street, Downers Grove, IL 60516

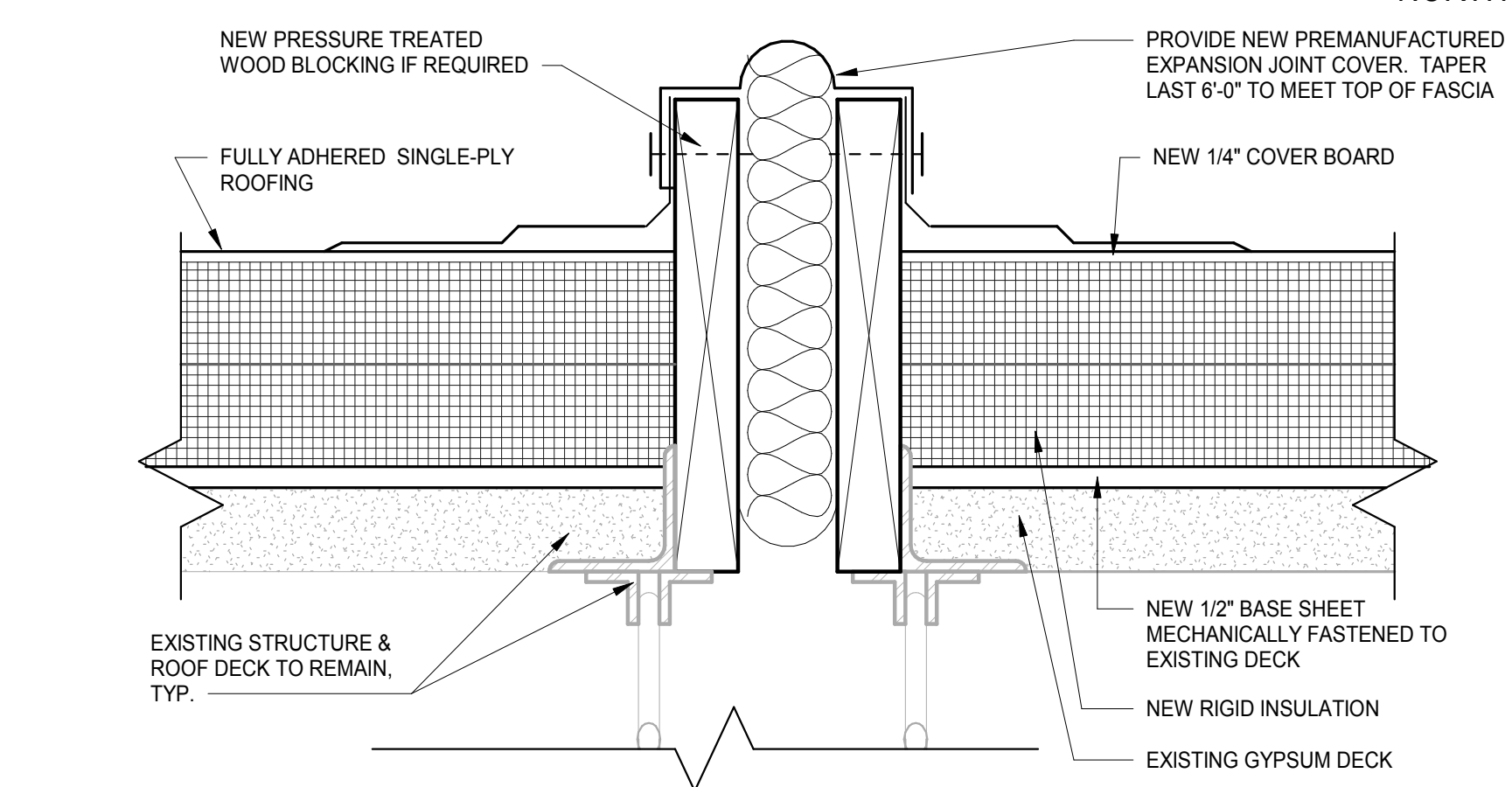
ENLARGED ROOF PLAN & DETAILS

Project Number:
02-5274-30
Drawn By:
AMF
Sheet:

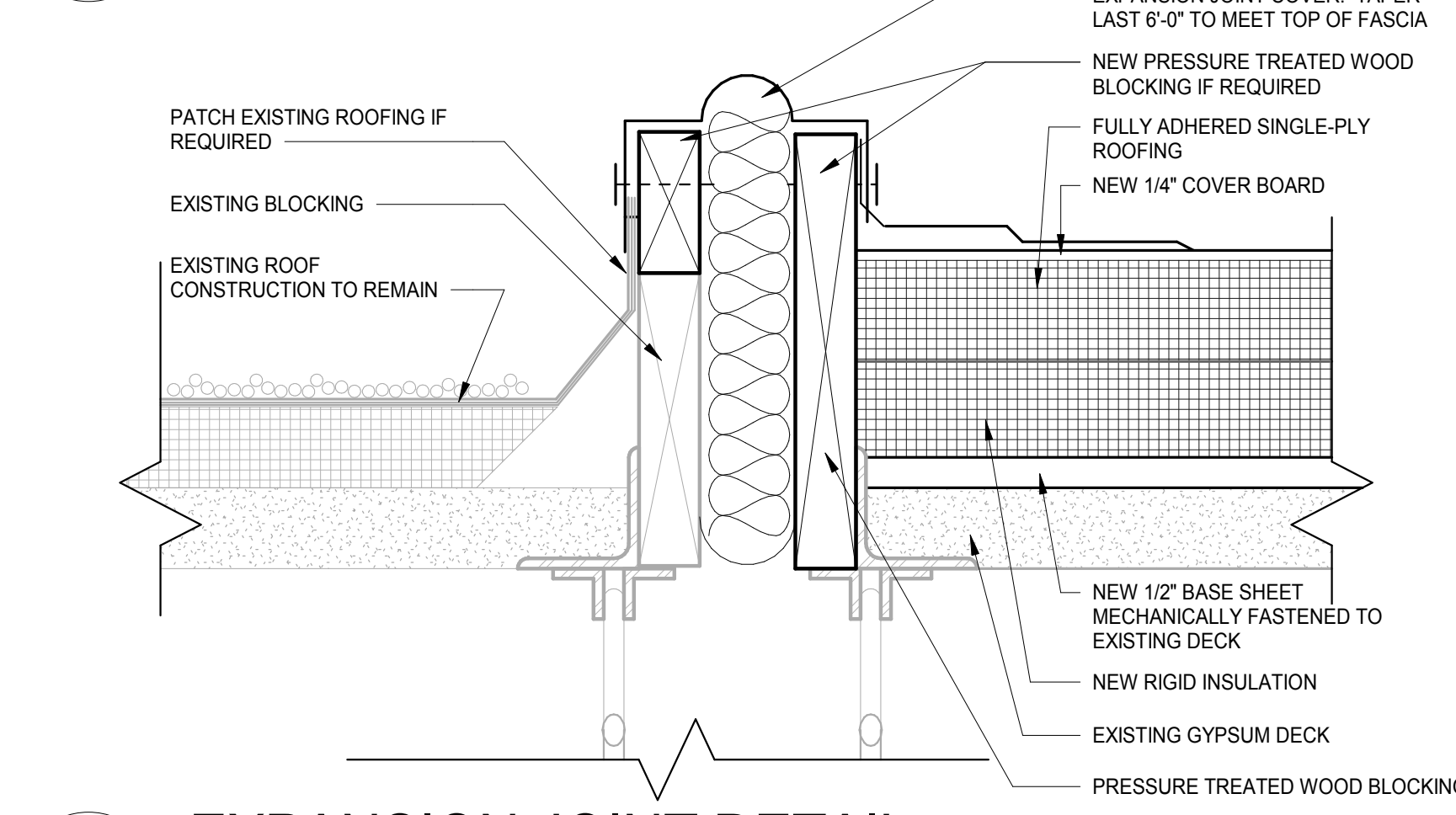
A2.5



2 ALTERNATE #1 - ROOF PLAN AREA B & C
SCALE: 1" = 10'-0"
NORTH



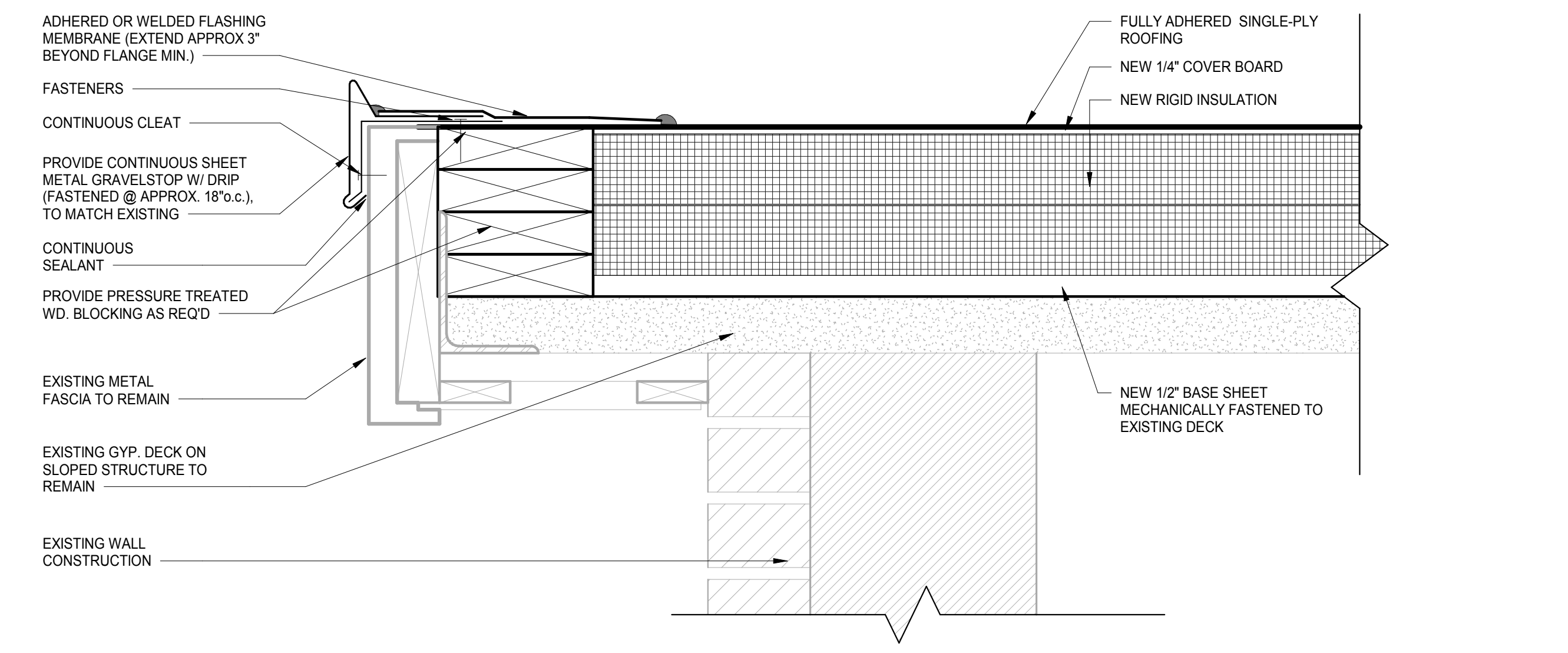
5 EXPANSION JOINT COVER DETAIL
SCALE: 3" = 1'-0"



4 EXPANSION JOINT DETAIL
SCALE: 3" = 1'-0"

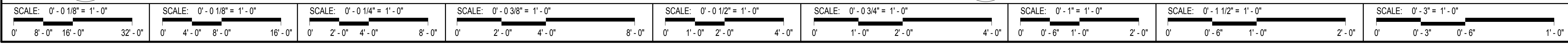
NEW ROOFING SYSTEM:
SINGLE PLY FULLY ADHERED MEMBRANE OVER 1/4" COVER BOARD, (2) LAYERS 2.6" RIGID INSULATION, 1/2" BASE SHEET MECHANICALLY FASTENED ON EXISTING GYPSUM ROOF DECK ON SLOPED STRUCTURE. PROVIDE VAPOR-RETARDER OVER EXISTING ROOF DECK.

1 ROOF PLAN AREA E
SCALE: 1" = 10'-0"
NORTH



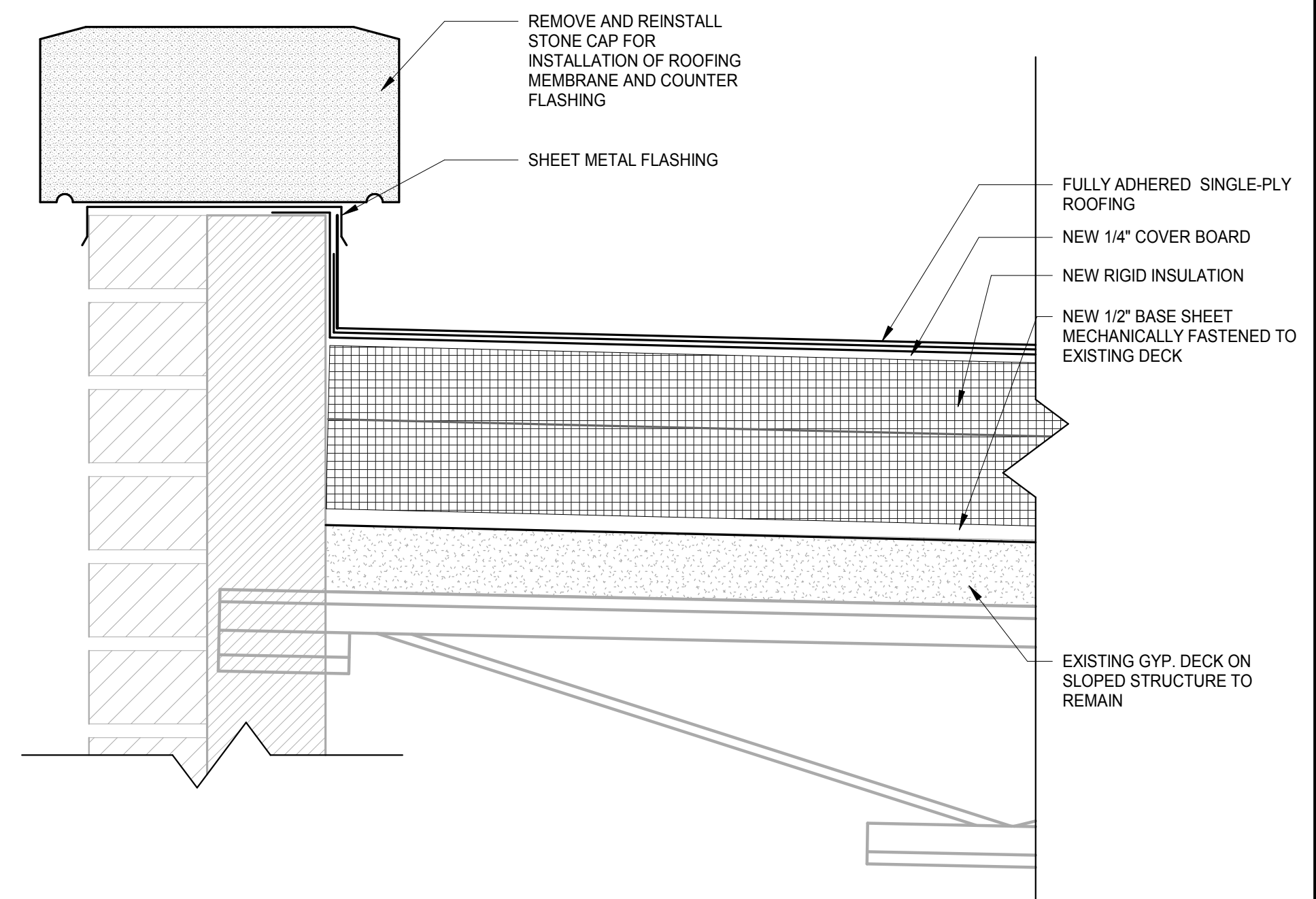
3 TYP. EDGE DETAIL
SCALE: 3" = 1'-0"

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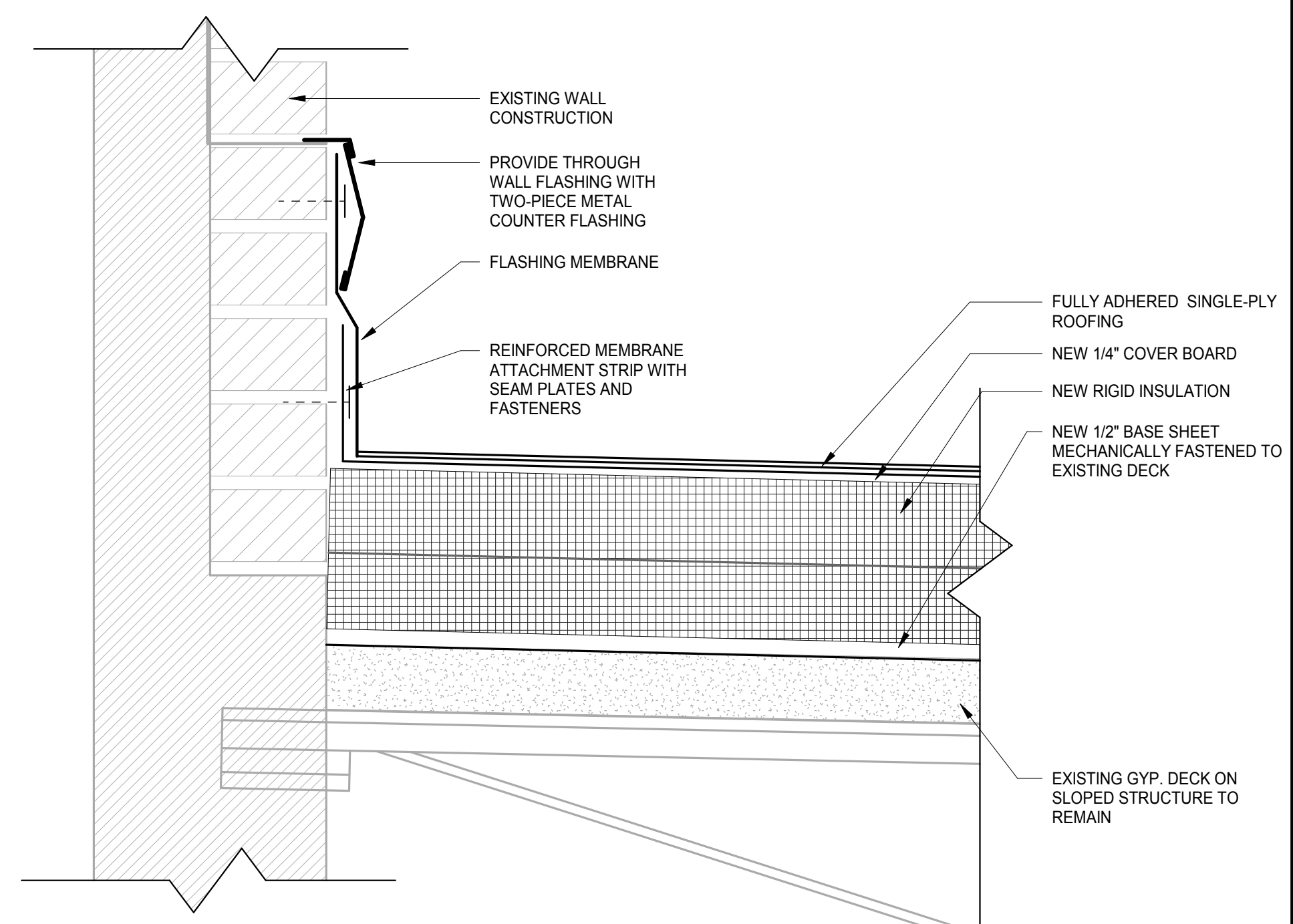




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 F 630.969.7979



1 PARAPET DETAIL
A2.6 SCALE: 3" = 1'-0"



2 FLASHING DETAIL AT WALL
A2.6 SCALE: 3" = 1'-0"

REV	DESCRIPTION	DATE
	ISSUED FOR BID	02/15/17

Downers Grove South - ROOFING

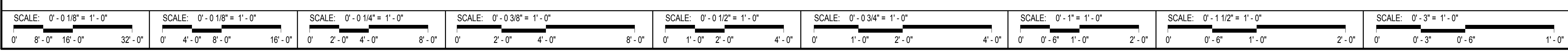
1436 Norfolk Street, Downers Grove, IL 60516

ENLARGED ROOF PLAN

Project Number:
 02-5274-30
 Drawn By:
 AMF
 Sheet:

A2.6

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GENERAL REMODELING NOTES - ALL CONTRACTORS

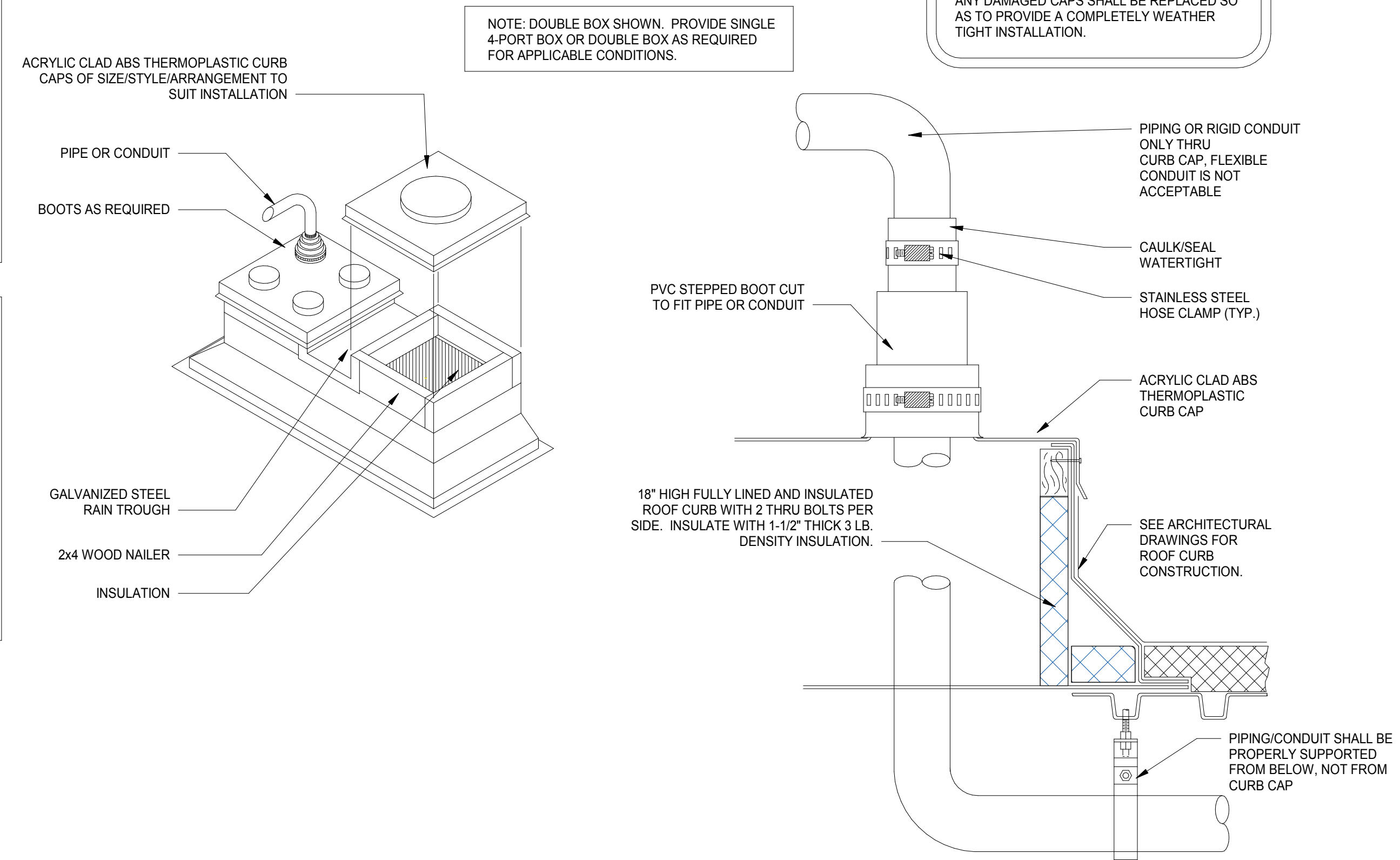
- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING, DUCTWORK, CONDUITS, RACEWAYS, ETC., AS SHOWN ON DRAWINGS, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS.
- CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, CONDUIT, RACEWAYS, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO ROUGH-IN. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS DIRECTED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTOR'S WORK.
- CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING, REFINISHING AND REMOVAL/REPLACEMENT OF NEW OR EXISTING BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK OR REMOVAL OF EXISTING WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT.
- SOME OF THE EXISTING ITEMS AND EQUIPMENT SCHEDULED TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER. ANY ITEMS THAT THE OWNER WANTS TO RETAIN SHALL BE REMOVED CAREFULLY SO AS NOT TO DAMAGE THEM. ALL OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, EQUIPMENT, ETC.
- IT IS MANDATORY THAT THE COMPLETE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING REMODELING/ALTERING OF SAID EXISTING BUILDING. THE SPECIFIC AREA(S) BEING REMODELED/ALTERED AT ANY SCHEDULED TIME ARE OBVIOUSLY EXCLUSIVE OF THIS STATEMENT. SERVICES TO EXISTING BUILDING SHALL BE KEPT IN CONTINUOUS OPERATION INCLUDING POWER, SIGNAL SYSTEMS, LIGHTING, TELEPHONE, HEATING, COOLING, VENTILATING, TEMPERATURE CONTROL, SEWERS AND HOT AND COLD WATER. ANY ABSOLUTELY NECESSARY INTERRUPTION OF THESE SERVICES TO ACCOMPLISH CONTRACT WORK SHALL BE ARRANGED WITH THE OWNER A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE. SUCH INTERRUPTIONS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AS FAR AS TIME INTERVAL IS INVOLVED AND TEMPORARY SERVICES SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT WHERE NECESSARY TO ACCOMPLISH THIS PURPOSE. TEMPORARIES SHALL BE REMOVED BY THE CONTRACTOR ONLY AFTER NEW PERMANENT SERVICES ARE INSTALLED AND FULLY OPERATIONAL.
- UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCBs, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- WHERE WORK CALLED FOR ON THE DRAWINGS OR IN THE SPECIFICATIONS INVOLVES THE REMOVAL OR RELOCATION OF PIPING OR EQUIPMENT CONTAINING REFRIGERANT, ALL REFRIGERANT SHALL BE RECOVERED BY APPROVED METHODS PER EPA REGULATIONS.
- CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED OUTSIDE THE BUILDING ON THE SITE UNLESS IT IS SUPPORTED OFF THE GROUND AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.

GENERAL SPECIFICATION NOTES - ELECTRICAL WORK

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND SHALL CONFORM TO ILLINOIS SHOOL CODE.
- PROVIDE ALL PERMITS AND INSPECTION FEES.
- ALL MATERIAL AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE BY THE OWNER.
- MINIMUM SIZE CONDUIT SHALL BE 3/4" E.M.T. AT DRY INTERIOR LOCATIONS AND 3/4" I.M.C. AT EXTERIOR OR WET LOCATIONS. ALL RACEWAY FITTINGS SHALL BE THREADED OR COMPRESSION TYPE.
- JUNCTION BOXES SHALL BE STAMPED STEEL WHERE 4"x4" OR LESS AT DRY INTERIOR LOCATIONS AND CAST ALUMINUM OR IRON AT EXTERIOR OR WET LOCATIONS. JUNCTION OR PULL BOXES LARGER THAN THE 4"x4" SHALL BE PAINTED STEEL AND BE RATED NEMA 3R.
- MINIMUM SIZE WIRE SHALL BE #12 HEWN WHERE REQUIRED, WITH #14 USED FOR CONTROL WIRING.
- WIRE SIZES AWG NO 14, NO 12 AND NO 10 SHALL BE SOLID, WIRE SIZE AWG NO. 8 AND LARGER SHALL BE STRANDED. ALL WIRE SHALL BE COLOR CODED.
- THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY CUTTING AND PATCHING INCLUDING SLEEVES AND INSERTS.
- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS ON THE PROJECT.
- THIS CONTRACTOR SHALL MAKE NECESSARY MODIFICATIONS AND ADJUSTMENTS TO ALL ELECTRICAL ITEMS AND EQUIPMENT AS MAY BE REQUIRED BY THIS WORK.
- ALL ELECTRICAL EQUIPMENT MUST MAINTAIN WORKING CLEARANCES AS REQUIRED BY NEC.
- BRANCH CIRCUIT WIRING SHALL BE ADJUSTED FOR VOLTAGE DROP.
- 120/208V - 0-75' - #12AWG MINIMUM
150'-225' - #8AWG MINIMUM

GENERAL SPECIFICATION NOTES - HVAC WORK:

- PATCH AND REFINISH ALL DAMAGED INSULATED SURFACES OF ALL EXISTING DUCTWORK, PIPING AND ASSOCIATED FITTINGS TO MATCH EXISTING WHERE NEW CONNECTIONS ARE BEING MADE.
- ALL SUPPLY AND RETURN DUCTWORK ABOVE ROOF SHALL BE EXTERNALLY INSULATED WITH 3 LB. DENSITY RIGID BOARD FIBERGLASS DUCT INSULATION WITH ALL SERVICE JACKET. DUCTS SHALL HAVE FINAL JACKET OF VENTURE CLAD 1577OW INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSULATION SHALL BE TAPERED AS REQUIRED TO COMPLETELY ELIMINATE ANY PONDING OF WATER.
- NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK AND CONFORM WITH ASTM STANDARDS WELDED FOR PIPE SIZES 2 1/2" AND OVER AND SCREWED FOR PIPE SIZES 2" AND UNDER. PAINT ALL NEW GAS PIPING WITH 2 COATS RUST RESISTANT PAINT.
- PROVIDE PIPE CURBS ON TOP OF 3/4" RUBBER ROOF GUARD PAD FOR NEW PIPE OR CONDUIT ON ROOF. SUPPORT PIPING OR CONDUITS MAXIMUM 6' ON CENTER. SEE DETAILS.
- AT COMPLETION OF PROJECT ALL CONTROL WIRING SHALL BE IN CONDUIT THROUGH ROOF AND ABOVE ROOF REGARDLESS OF EXISTING CONDITIONS. EXPOSED CONDUCTORS ABOVE ROOF WILL NOT BE ACCEPTABLE. ALL RACEWAYS THROUGH AND ABOVE ROOF SHALL BE IN COMPLIANCE WITH PIPE AND CONDUIT ROOF CURB DETAIL.



1 NEW UTILITY PORTAL DETAIL
ME1.0 SCALE: 1/8" = 1'-0"

MECHANICAL/ELECTRICAL EQUIPMENT SCOPE NOTES			
UNIT TYPE	ELEC NOTE(S)	MECHANICAL NOTE(S)	PLUMBING NOTE(S)
FREE STANDING CONDENSING UNIT	ELECTRICALLY DISCONNECT EXISTING UNIT TO ALLOW EXTENSION/REPLACEMENT OF ROOF CURB, REMOVAL/RE-INSTALLATION OF CURB CAP, AND ASSOCIATED ROOF REPLACEMENT SCOPE. REFER TO ARCHITECTURAL DRAWINGS. AT COMPLETION OF ROOF CURB WORK, RECONNECT UNITS AND MAKE EXTENSIONS OF CONDUCTORS AND RACEWAY TO ACCOMMODATE ANY HEIGHT DIFFERENCE. NEW CONDUCTOR AND RACEWAY SIZES/TYPES SHALL MATCH EXISTING. ALL SPLICES SHALL OCCUR ABOVE ROOF IN A CAST ALUMINUM WEATHER PROOF JUNCTION BOX OR BELOW ROOF IN ACCESSIBLE CEILINGS. PROVIDE RIGID CONDUIT THROUGH ROOF PENETRATION AND TRANSITION TO FLEXIBLE RACEWAY SYSTEM ABOVE ROOF IN CONFORMANCE WITH PIPING AND CONDUIT CURB DETAIL.	DISCONNECT EXISTING REFRIGERANT PIPING AND CONTROL WIRING IN CONDUIT FROM EXISTING AIR COOLED CONDENSING UNIT. RECOVER REFRIGERANT PER EPA STANDARDS. REMOVE AIR COOLED CONDENSING UNIT TO ALLOW FOR EXTENSION/ REPLACEMENT OF ROOF CURB AND ASSOCIATED ROOF REPLACEMENT SCOPE - SEE ARCHITECTURAL DRAWINGS. AT COMPLETION OF ROOF CURB WORK, REINSTALL UNIT AND MAKE ANY ALTERATIONS TO PIPING AND CONTROL WIRING IN CONDUIT TO ACCOMMODATE ANY HEIGHT DIFFERENCE. WHERE EXISTING CONTROL WIRING IS NOT IN CONDUIT, PROVIDE 1/2" CONDUIT THROUGH ROOF. PROVIDE NEW CONTROL WIRE FROM ACCESSIBLE JUNCTION BOX BELOW CEILING TO NEW UNIT WHERE EXISTING CABLES WERE EXPOSED TO WEATHER WITHOUT RACEWAY PROTECTION. REMOVE EXISTING POLYETHYLENE CONDENSATE TUBE WHERE PRESENT. MAKE NEW CONNECTION TO CONDENSATE PUMP WITH FULL SIZE POLYETHYLENE TUBE CONNECTED TO 1/2" SCHEDULE 40 PVC. TRANSITION TO PVC MUST BE IN ACCESSIBLE LOCATION ABOVE CEILINGS. ROUTE PVC THRU NEW PIPE CURB AND SEAL WITH GASKET FITTING. TERMINATE 6" ABOVE ROOF WITH DOWN TURNED ELBOW AND RUBBER SPLASH PAD.	-
EXHAUST FAN	ELECTRICALLY DISCONNECT EXISTING EXHAUST FAN FOR TEMPORARY REMOVAL TO ALLOW ROOF WORK AND EXTENSION/REPLACEMENT OF ROOF CURB, AND ASSOCIATED ROOF REPLACEMENT SCOPE. REFER TO ARCHITECTURAL DRAWINGS. AT COMPLETION OF ROOF WORK, RECONNECT UNIT AND MAKE EXTENSION OF CONDUCTORS AND RACEWAY TO ACCOMMODATE ANY HEIGHT DIFFERENCE. NEW CONDUCTORS AND RACEWAYS SHALL MATCH EXISTING ALL SPLICES SHALL OCCUR BELOW ROOF IN ACCESSIBLE CEILING.	DISCONNECT DUCTWORK AND REMOVE EXISTING EXHAUST FAN TO ALLOW FOR EXTENSION/REPLACEMENT OF ROOF CURB AND ASSOCIATED ROOF REPLACEMENT SCOPE - SEE ARCHITECTURAL DRAWINGS. AT COMPLETION OF ROOF CURB WORK, REINSTALL EXHAUST FAN ON CURB AND VERIFY PROPER OPERATION.	-
PLUMBING VENT	-	-	EXTEND HEIGHT OF VENT THRU ROOF (VTR) TO A MINIMUM OF 12" ABOVE REVISED ROOF HEIGHT. COORDINATE WITH NEW ROOF INSULATION THICKNESS. PROVIDE ALL NEW REQUIRED FLASHING.

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