

# PROJECT MANUAL

## BOILER REPLACEMENT BOS CENTER

1 CONVENTION CENTER PLAZA  
SPRINGFIELD, ILLINOIS 62701

ELA PROJECT NO. 19-041

TRADES: MECHANICAL

BY:



DATE: October 1, 2019

ARCHITECT

**Evan Lloyd Associates, Inc.**  
1630 South Sixth Street  
Springfield, Illinois 62703  
217/789-7011

PROJECT MANUAL FOR:

**Boiler Replacement**  
BOS Center  
1 Convention Center Plaza  
Springfield, Illinois 62701

ELA Project No. 19-041

DATE: September 3, 2019

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SPECIFIERS:

DIVISION 1:

Timothy B. Smith  
EVAN LLOYD ASSOCIATES, INC.  
217/789-7011  
tsmith@evanlloyd.com

DIVISION 15:

Mechanical  
Tilman Ritter  
EVAN LLOYD ASSOCIATES, INC.  
217/789-7011  
tritter@evanlloyd.com

Evan Lloyd Associates, Inc. will receive sealed bids for the following project:

Boiler Replacement  
Prairie Capital Convention Center  
1 Convention Center Plaza  
Springfield, Illinois 62701

**Trade:**               **Mechanical** (includes all heating, ventilating, plumbing, and electrical work).

**Pre-Bid Meeting:** 10:00 a.m., Monday, November 25, 2019 in the BOS Center lobby.

**Deliver Bids To:** BOS Center  
1 Convention Center Plaza  
Springfield, Illinois 62701

**Bid Opening:** 3:00 p.m., Thursday, December 5, 2019 in the BOS Center, Administrative Office Conference Room (2<sup>nd</sup> Floor). No proposals will be accepted after the specified date and time.

**Obtain Plans**

**From:** BOS Center, 1 Convention Center Plaza, Springfield, Illinois 62701.

**Information to Bidders:**

- All proposals shall be enclosed and sealed in an envelope indicating on the outside the name of the contractor, project description, and date of bid opening.
- All Bidders are to comply with the requirements of the American Institute of Architects (AIA) Document A701, Instructions to Bidders, 1997. A copy of which is available at the Architect's office.
- The Illinois Department of Labor prevailing rate of wages for Sangamon County is required for each craft or type of worker needed to execute the contract.
- All work must be in compliance with city codes.
- The Owner reserves the right to reject any and all bids.

END 00030

BIDDING AND CONTRACT REQUIREMENTS

Document 00050 - General Conditions  
of the Contract

GENERAL

A. REQUIREMENTS INCLUDE:

1. American Institute of Architects (AIA) Document A201, General Conditions of the Contract, 1997, is hereby incorporated into the Contract Documents to the same force and effect as if repeated herein.
2. A copy of the "General Conditions of the Contract", 1997, is available at the Owner's office.
3. Certificates of Insurance.
  - a. General Contractor shall file with the owner a Certificate of Insurance, showing complete coverage of all insurance required by this section, signed by the insurance company's authorized agent.
  - b. The owner shall be included as an additional insured for Commercial/Comprehensive General Liability, Umbrella, and Builder's Risk policies or certificates.
  - c. Each policy, binder or certificate shall contain a provision that the policy will not be canceled, changed, or altered until at least 10 calendar days prior written notice has been given to the named insured and the owner.
  - d. The owner will require submittal of the Builders Risk Insurance policy.
4. Required Minimum Insurance Coverage's.
  - a. Comprehensive Automobile Liability:
    - 1). \$1,000,000 Bodily Injury Per Person.
    - 2). \$5,000,000 Bodily Injury Aggregate Limit.
    - 3). \$500,000 Property Damage Per Occurrence.
    - 4). \$5,000,000 Property Damage Aggregate Limit.
    - 5). \$5,000,000 Combined Single Limit Coverage for bodily injury and property damage per occurrence in the same aggregate limit will be accepted in lieu of the separate limits specified above.
  - b. Workmen's Compensation: Statutory Limits

- 1). Employer's Liability: \$500,000 Bodily Injury Per Person.
- c. Commercial/Comprehensive General Liability (occurrence form).
- 1). \$1,000,000 Bodily Injury Per Person.
  - 2). \$5,000,000 Bodily Injury Aggregate Limit.
  - 3). \$ 500,000 Property Damage Per Occurrence.
  - 4). \$5,000,000 Property Damage Aggregate Limit.
  - 5). \$5,000,000 Combined Single Limit Coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

Umbrella or Excess of Loss Coverage. If the limits specified in Section 101.C.2.a and 101.C.2.c are not met, an Umbrella or Excess Liability policy of not less than \$1,000,000 for any one occurrence and subject to the same aggregate over the Comprehensive Automobile Liability and Commercial/Comprehensive General Liability coverages is acceptable.

Builder's Risk Insurance.

- 1). Builder's Risk Insurance shall be purchased and maintained by the General Contractor.
- 2). The policy shall be a Completed Value All Risk Builder's Risk/Installation Floater policy or a combination thereof. The policy shall be written in an amount equal to 100% of the total sum of all subcontracts.
- 3). Coverage shall include the following work and property:
  - a). The installed work of all contractors until Substantial Completion of the entire project.
  - b). Building materials and supplies, equipment, machinery and fixtures intended to become a permanent part of the project. Coverage shall include on the premises, at temporary storage locations, and in transit.
  - c). Construction forms, scaffolding and temporary structures on the premises.
  - d). Drawings and specifications used to document as-constructed conditions.
  - e). Debris removal resulting from a covered peril.
  - f). Fire or collapse resulting from excluded perils.

- 4). Coverage may only exclude the following property:
  - a). Tools, equipment, and other personal property of the contractors and their employees.
  - b). Vehicles of any kind.
  - c). Lawns, trees, shrubs or plants.
  - d). The value of existing buildings prior to renovation under this contract.
  
- 5). Perils excluded may only include:
  - a). Earth movement, including earthquake, landslide or mud slide.
  - b). Surface or subsurface water.
  - c). Dishonest acts of the insured or its employees.
  - d). Trick or fraud.
  - e). Mysterious disappearance.
  - f). Inventory shortage.
  - g). Corrosion, rust, rot, mold, wear and tear.
  - h). Dampness of atmosphere.
  - i). Changes in temperature.
  - j). Setting, cracking, shrinking, expanding of walls, ceilings, floors, foundations, etc.
  - k). Operation of building ordinances or laws.
  - l). Loss of use or occupancy.
  - m). Design error.
  - n). War, rebellion, insurrection, radioactive contamination.
  - o). Pollution clean up.
  
- 6). The Owner and all assigned or other contractors shall, by name or referenced, be included as additional insured as their interest may appear.
  
- 7). A deductible clause of a maximum of \$5,000 per loss shall be included.
  - a). The Owner will assume responsibility for the deductible amount for installed work unless responsibility for the loss can be attributed to a negligent act by a single contractor.
  - b). Contractor shall assume responsibility for the deductible amount for losses under .3B and .3C, above.
  
- c). The policy by its terms or endorsement shall specifically permit and allow for beneficial or partial occupancy

prior to substantial completion of the project by the Owner.

- d. The Owner and each contractor waive all rights each against the others for damages caused by fire or any other peril to the extent any loss or claim is covered by Builder's Risk Insurance or any other valid insurance applicable to the project except such rights as they may have to the proceeds of such insurance held by any of the insured as a result of loss. Each insured contractor shall require similar waivers of subrogation from all subcontractors.

END 00050



BID TO: BOS Center, 1 Convention Center Plaza, Springfield, Illinois 62701

BID FROM: \_\_\_\_\_ BID FOR MECHANICAL WORK  
(Bidder's Name)

\_\_\_\_\_  
(Bidder's Address)

Date:

THE UNDERSIGNED:

- 1. Acknowledges receipt of:
  - A. Drawings and Project Manual for Project No. ELA 19-041, dated September 3, 2019.
  - B. Addenda: No. \_\_\_\_\_, dated \_\_\_\_\_.  
 Addenda: No. \_\_\_\_\_, dated \_\_\_\_\_.  
 Addenda: No. \_\_\_\_\_, dated \_\_\_\_\_.  
 Addenda: No. \_\_\_\_\_, dated \_\_\_\_\_.
- 2. Has examined the site and all bidding documents. They shall be responsible for performing all work specifically required of them by all parts of the bidding documents, including all specifications for the entire project even though such work may be included as related requirements noted on other sheets.
- 3. Agrees to:
  - A. Hold this bid open until 60 calendar days after bid opening date.
  - B. Accept the provisions of the Instructions to Bidders regarding disposition of bid security.
  - C. Enter into and execute a contract with the Owner, when awarded on the basis of this bid, and in connection therewith to:
    - 1. Furnish and insurance in accord with the bidding documents.
    - 2. Accomplish the work in accord with the Contract.
    - 3. Complete the work within the contract time.
- 4. CONTRACT TIME: The Contractor shall complete all the work in accord with the Contract in 60 days from the Notice of Award.

BIDDING AND CONTRACT REQUIREMENTS

Document 00300 - Bid Form

BASE BID, OPTION NO. 1 GENERAL WORK: Bidder agrees to perform all Work shown or specified in the bidding documents, for the sum of:

\_\_\_\_\_ DOLLARS \$ \_\_\_\_\_

BASE BID, OPTION NO. 2 GENERAL WORK: Bidder agrees to perform all Work shown or specified in the bidding documents, for the sum of:

\_\_\_\_\_ DOLLARS \$ \_\_\_\_\_

BIDDER'S NAME \_\_\_\_\_

PROPOSED PRODUCT SUBSTITUTION LIST

The Base Bid includes only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being added to or deducted from the Base Bid.

Bidder understands that acceptance of any proposed substitution is at the Owner's option. Approval or rejection of any substitutions listed below will be indicated prior to executing the Contract.

MANUFACTURER'S NAME AND PRODUCT	ADD	DEDUCT
_____	_____	_____
_____	_____	_____
_____	_____	_____

Bidder's proposal shall be in accord with the provisions of Division 1 - General Conditions, Section 01630, "Substitutions and Product Options."

EVALUATION. Contract award will be made in accord with Instructions To Bidders. Only the successful bidder's Proposed Product Substitution List will be evaluated.

BIDDER'S NAME: \_\_\_\_\_

BIDDING AND CONTRACT REQUIREMENTS

Document 00300 - Bid Form  
Representations & Certificates

REPRESENTATIONS & CERTIFICATES. The bidder by the execution of this Bid Form makes the following representations and certificates as a part of his bid on the project identified in the Bid Form. In the case of a joint venture bid, each party represents and certifies as to his own organization.

- 1. AVAILABILITY. The number and amount of the other contracts and awards pending which I am or will become obligated to perform, now and during the course of my work on this project, will not interfere with or hinder the timely prosecution of my work.
- 2. 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.
- 3. OPEN COMPETITION. I have not offered any money or other valuable thing to any person to induce him/her not to bid on this project, or as recompense for his/her not having bid on this project, and therefore have not violated the prevention of competition in preparing my bid.

RESPECTFULLY SUBMITTED, signed and sealed this \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Contractor Firm Name

ATTEST:  
\_\_\_\_\_  
Signature

BY \_\_\_\_\_

\_\_\_\_\_  
Corporation Secretary  
(Corporations Only)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Official Address

\_\_\_\_\_  
Telephone

Project No. ELA 19-041

SIGNATURE REQUIRED

# Sangamon County Prevailing Wage for September 2019

(See explanation of column headings at bottom of wages)

Effective Date	Trade Title	Region	Type	Class	Foreman										Other Fringe Benefit
					Base Wage	Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	
4/5/2019	ASBESTOS ABT-GEN	All	BLD		31.77	33.02	1.5	1.5	2	2	6.3	16.66	0	0.9	0
8/15/2018	ASBESTOS ABT-MEC	All	BLD		31.56		1.5	1.5	2	2	8.25	3	0	0	0
4/5/2019	BOILERMAKER	All	BLD		37	39.5	1.5	1.5	2	2	7.07	23.72	1.5	1.05	0
4/5/2019	BRICK MASON	All	BLD		31.72	33.31	1.5	1.5	2	2	9.1	13.96	0	0.85	0
4/5/2019	CARPENTER	All	BLD		32.24	34.49	1.5	1.5	2	2	8.55	17.5	0	0.54	0
4/5/2019	CARPENTER	All	HWY		33.3	35.05	1.5	1.5	2	2	8.55	17.5	0	0.52	0
8/15/2018	CEMENT MASON	All	BLD		29	30.5	1.5	1.5	2	2	9.1	12.98	0	0.57	0
4/5/2019	CEMENT MASON	All	HWY		29	30.25	1.5	1.5	2	2	9.1	13.26	0	0.65	0
8/15/2018	CERAMIC TILE FNSHER	All	BLD		31.03	31.03	1.5	1.5	2	2	9.1	10.29	0	0.15	0
8/15/2018	ELECTRIC PWR EQMT OP	All	ALL		45.09	56.52	1.5	1.5	2	2	7.1	12.62	0	0.45	0
8/15/2018	ELECTRIC PWR GRNDMAN	All	ALL		30.81	56.52	1.5	1.5	2	2	6.67	8.62	0	0.31	0
8/15/2018	ELECTRIC PWR LINEMAN	All	ALL		50.11	56.52	1.5	1.5	2	2	7.25	14.03	0	0.5	0
8/15/2018	ELECTRIC PWR TRK DRV	All	ALL		32.32	56.52	1.5	1.5	2	2	6.72	9.05	0	0.32	0
10/26/2018	ELECTRICIAN	All	BLD		35.34	37.34	1.5	1.5	2	2	7.58	10.61	0	0.4	0
4/5/2019	ELECTRONIC SYS TECH	All	BLD		31.6	33.6	1.5	1.5	2	2	7.05	8.95	0	0.4	0
8/15/2018	ELEVATOR CONSTRUCTOR	All	BLD		44.78	50.38	2	2	2	2	15.43	16.61	3.58	0.61	0
3/1/2019	GLAZIER	All	BLD		35.91	37.91	1.5	1.5	2	2	6.25	10.2	0	0.68	0
4/5/2019	HT/FROST INSULATOR	All	BLD		38.7	39.7	1.5	1.5	2	2	10.26	12.21	0	0.7	0
4/5/2019	IRON WORKER	All	BLD		31.64	33.64	1.5	1.5	2	2	9.82	15.16	0	0.7	0
10/26/2018	IRON WORKER	All	HWY		33.11	34.86	1.5	1.5	2	2	9.82	9.15	0.68	0.7	0.24
10/26/2018	LABORER	All	BLD		29.27	30.52	1.5	1.5	2	2	6.3	16.66	0	0.8	0
4/5/2019	LABORER	All	HWY		29.38	30.13	1.5	1.5	2	2	6.3	16.96	0	0.8	0
8/15/2018	LATHER	All	BLD		32.24	34.49	1.5	1.5	2	2	8.55	17.5	0	0.54	0
8/15/2018	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.47	0
8/15/2018	MARBLE FINISHERS	All	BLD		30.7	30.7	1.5	1.5	2	2	8.57	9.94	0	0.1	
8/15/2018	MARBLE MASON	All	BLD		31.72	33.31	1.5	1.5	2	2	9.1	13.96	0	0.85	0
8/15/2018	MILLWRIGHT	All	BLD		32.24	34.49	1.5	1.5	2	2	8.55	17.96	0	0.54	0

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8/15/2018	MILLWRIGHT	All	HWY		34.98	36.73	1.5	1.5	2	2	8.55	18.52	0	0.52	0
1/4/2019	OPERATING ENGINEER	All	BLD	1	36.79	38.36	1.5	1.5	2	2	11.3	10.6	0	2.05	0
8/15/2018	OPERATING ENGINEER	All	BLD	2	34.32	38.36	1.5	1.5	2	2	11.3	10.6	0	2.05	0
8/15/2018	OPERATING ENGINEER	All	BLD	3	30.53	38.36	1.5	1.5	2	2	11.3	10.6	0	2.05	0
1/4/2019	OPERATING ENGINEER	All	BLD	4	38.36	38.36	1.5	1.5	2	2	11.3	10.6	0	2.05	0
4/5/2019	OPERATING ENGINEER	All	HWY	1	42.77	0	1.5	1.5	2	2	11.3	10.6	0	2.05	0
4/5/2019	OPERATING ENGINEER	All	HWY	2	38.17	0	1.5	1.5	2	2	11.3	10.6	0	2.05	0
4/5/2019	OPERATING ENGINEER	All	HWY	3	31.09	0	1.5	1.5	2	2	11.3	10.6	0	2.05	0
8/15/2018	OPERATING ENGINEER	All	HWY	4	44.38	0	1.5	1.5	2	2	11.3	10.6	0	2.05	0
8/15/2018	PAINTER	All	ALL		31.13	32.63	1.5	1.5	2	2	5.9	10.63	0	0.65	0
8/15/2018	PAINTER OVER 30FT	All	ALL		32.13	33.63	1.5	1.5	2	2	5.9	10.63	0	0.65	0
8/15/2018	PAINTER PWR EQMT	All	ALL		32.13	33.63	1.5	1.5	2	2	5.9	10.63	0	0.65	0
8/15/2018	PAINTER SIGNS	All	ALL		16.24		1.5	1.5	2	2	0	0	0	0	0
8/15/2018	PILEDRIVER	All	BLD		33.24	35.49	1.5	1.5	2	2	8.55	17.5	0	0.54	0
8/15/2018	PILEDRIVER	All	HWY		33.3	35.05	1.5	1.5	2	2	8.55	17.5	0	0.52	0
8/15/2018	PIPEFITTER	All	BLD		42.35	46.35	1.5	1.5	2	2	7.25	10.51	0	1.11	0
8/15/2018	PLASTERER	All	BLD		32	33.75	1.5	1.5	2	2	8.65	13.75	0	0.8	0
1/4/2019	PLUMBER	All	BLD		42.35	46.35	1.5	1.5	2	2	7.25	10.51	0	1.11	0
4/5/2019	ROOFER	All	BLD		30.7	33.2	1.5	1.5	2	2	10.4	9.25	0	0.53	0
4/5/2019	SHEETMETAL WORKER	All	BLD		35.15	38.55	1.5	1.5	2	2	9.2	14.98	0	0.8	0
8/15/2018	SPRINKLER FITTER	All	BLD		42.87	45.62	1.5	1.5	2	2	8.67	9.55	0	0.52	0
8/15/2018	STONE MASON	All	BLD		31.72	33.31	1.5	1.5	2	2	9.1	13.96	0	0.85	0
8/15/2018	TERRAZZO FINISHER	All	BLD		30.7	30.7	1.5	1.5	2	2	8.57	9.94	0	0.1	
8/15/2018	TERRAZZO MASON	All	BLD		32.2	32.2	1.5	1.5	2	2	8.57	9.94	0	0.1	
8/15/2018	TILE MASON	All	BLD		32.53	32.53	1.5	1.5	2	2	9.1	10.29	0	0.15	0
12/14/2018	TRUCK DRIVER	All	ALL	1	37.16		1.5	1.5	2	2	12.65	6.35	0	0.25	18.51
4/5/2019	TRUCK DRIVER	All	ALL	2	37.69	41.17	1.5	1.5	2	2	12.65	6.35	0	0.25	0
4/5/2019	TRUCK DRIVER	All	ALL	3	37.98	41.17	1.5	1.5	2	2	12.65	6.35	0	0.25	0
4/5/2019	TRUCK DRIVER	All	ALL	4	38.3	41.17	1.5	1.5	2	2	12.65	6.35	0	0.25	0
8/15/2018	TRUCK DRIVER	All	ALL	5	39.32	41.17	1.5	1.5	2	2	12.65	6.35	0	0.25	0
12/14/2018	TRUCK DRIVER	All	O&C	1	29.73		1.5	1.5	2	2	12.65	6.35	0	0.25	18.51
12/14/2018	TRUCK DRIVER	All	O&C	2	30.15		1.5	1.5	2	2	12.65	6.35	0	0.25	18.51
4/5/2019	TRUCK DRIVER	All	O&C	3	30.38	32.94	1.5	1.5	2	2	12.65	6.35	0	0.25	0
12/14/2018	TRUCK DRIVER	All	O&C	4	30.64		1.5	1.5	2	2	12.65	6.35	0	0.25	18.51

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8/15/2018	TRUCK DRIVER	All	O&C	5	31.46	32.94	1.5	1.5	2	2	12.65	6.35	0	0.25	0
8/15/2018	TUCKPOINTER	All	BLD		31.72	33.31	1.5	1.5	2	2	9.1	13.96	0	0.85	0

Legend: RG (Region)  
TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)  
C (Class)  
Base (Base Wage Rate)  
FRMAN (Foreman Rate)  
M-F>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

### SANGAMON COUNTY

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.

Oil and chip resealing (O&C) means the application of road oils and liquid asphalt to coat an existing road surface, followed by application of aggregate chips or gravel to coated surface, and subsequent rolling of material to seal the surface.

### 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.

CERAMIC TILE FINISHER, MARBLE FINISHER, TERRAZZO FINISHER

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Assisting, helping or supporting the tile, marble and terrazzo mechanic by performing their historic and traditional work assignments required to complete the proper installation of the work covered by said crafts. The term "Ceramic" is used for naming the classification only and is in no way a limitation of the product handled. Ceramic takes into consideration most hard tiles.

#### ELECTRONIC SYSTEMS TECHNICIAN

Installation, service and maintenance of low-voltage systems which utilizes the transmission and/or transference of voice, sound, vision, or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background/foreground music, intercom and telephone interconnect, field programming, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school, intercom and sound burglar alarms and low voltage master clock systems.

Excluded from this classification are energy management systems, life safety systems, supervisory controls and data acquisition systems not intrinsic with the above listed systems, fire alarm systems, nurse call systems and raceways exceeding fifteen feet in length.

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. Drivers on 2 axle trucks hauling less than 9 ton. Air compressor and welding machines and brooms, including those pulled by separate units, truck driver helpers, warehouse employees, mechanic helpers, greasers and tiremen, pickup trucks when hauling materials, tools, or workers to and from and on-the-job site, and fork lifts up to 6,000 lb. capacity.

Class 2. Two or three axle trucks hauling more than 9 ton but hauling less than 16 ton. A-frame winch trucks, hydrolift trucks, vactor trucks or similar equipment when used for transportation purposes. Fork lifts over 6,000 lb. capacity, winch trucks, four axle combination units, and ticket writers.

Class 3. Two, three or four axle trucks hauling 16 ton or more. Drivers on water pulls, articulated dump trucks, mechanics and working forepersons, and dispatchers. Five axle or more combination units.

Class 4. Low Boy and Oil Distributors.

Class 5. Drivers who require special protective clothing while employed on hazardous waste work.

TRUCK DRIVER - OIL AND CHIP RESEALING ONLY.

This shall encompass laborers, workers and mechanics who drive contractor or subcontractor owned, leased, or hired pickup, dump, service, or oil distributor trucks. The work includes transporting materials and equipment (including but not limited to, oils, aggregate supplies, parts, machinery and tools) to or from the job site; distributing oil or liquid asphalt and aggregate; stock piling material when in connection with the actual oil and chip contract. The Truck Driver (Oil & Chip Resealing) wage classification does not include supplier delivered materials.

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OPERATING ENGINEERS - BUILDING

CLASS 1. Asphalt Screed Man; Aspco Concrete Spreaders; Asphalt Pavers; Asphalt Plant Engineer; Asphalt Rollers on Bituminous Concrete; Athey Loaders; Backfillers, Crane Type; Backhoes; Barber Green Loaders; Bulldozers; Cableways; Cherry Pickers; Clam Shells; C.M.I. & similar type autograde formless paver, autograde placer & finisher; Concrete Breakers; Concrete Pumps; Derricks; Derrick Boats; Draglines; Earth Auger or Boring Machines; Elevating Graders; Engineers on Dredges; Gravel Processing Machines; Head Equipment Greaser; High Lifts or Fork Lifts; Hoists with two or more drums or two or more load lines; Locomotives, All; Mechanics; Motor Graders or Auto Patrols; Operators or Leverman on Dredges; Operators, Power Boat; Operators, Pug Mill (Asphalt Plants); Orange Peels; Overhead Cranes; Paving Mixers; Piledrivers; Pipe Wrapping and Painting Machines; Pushdozers, or Push Cats; Robotic Controlled Equipment in this Classification; Rock Crushers; Ross Carrier or Similar Machines; Rotomill; Scoops, Skimmer, two cu. yd. capacity and under; Scoops, All or Tournapull; Sheep-Foot Roller (Self Propelled); Shovels; Skid Steer; Skimmer Scoops; Temporary Concrete Plant Operators; Test Hole Drilling Machines; Tower Machines; Tower Mixers; Track Type End Loaders; Track Type Fork Lifts or High Lifts; Track Jacks and Tampers; Tractors, Sideboom; Trenching or Ditching Machine; Tunnelluggers; Vermeer Type Saws; Water Blaster Cutting Head; Wheel Type End Loaders; Winch Cat.

CLASS 2. Air Compressors (six to eight)\*; Asphalt Boosters and Heaters; Asphalt Distributors; Asphalt Plant Fireman; Oiler on Two Paving Mixers When Used in Tandem; Boom or Winch Trucks; Bull Floats or Flexplanes; Concrete Finishing Machine; Concrete Saws, Self-Propelled; Concrete Spreading Machines; Conveyors (six to eight)\*; Generators (six to eight)\*; Gravel or Stone Spreader, Power Operated; Hoist (with One Drum and One Load Line); Light Plants (six to eight)\*; Mechanical Heaters (six to eight)\*; Mud Jacks; Post Hole Digger, Mechanical; Pug Mills when used for other than Asphalt operation; Robotic Controlled Equipment in this Classification; Road or Street Sweeper, Self Propelled; Rollers (except bituminous concrete); Seaman Tiller; Straw Machine; Vibratory Compactor; Water Blaster, Power Unit; Welding Machines (six to eight)\*; Well Drill Machines.

CLASS 3. Air Compressors (one to five)\*; Air Compressors, Track or Self-Propelled; Automatic Hoist; Building Elevators; Bulk Cement Batching Plants; Conveyors (one to five)\*; Concrete Mixers (Except Plant, Paver, or Tower); Firemen; Generators (one to five)\*; Greasers; Helper on Single Paving Mixer; Hoist, Automatic; Light Plants (one to five)\*; Mechanic Helpers; Mechanical Heaters (one to five)\*; Oilers; Power Form Graders; Power Sub-Graders; Robotic Controlled Equipment in this Classification; Scissors Hoist; Tractors without power attachments regardless of size or type; Truck Crane Oiler and Driver (1 man); Vibratory Hammer (power source); Water Pumps (one to five)\*; Welding Machines (1/300 Amp. or over)\*; Welding machines (one to five)\*

CLASS 4. Lattice Boom Crawler Cranes; Lattice Boom Truck Cranes; Telescopic Truck-Mounted Cranes; Tower Cranes.

\* Combinations of one to eight of any Air Compressors, Conveyors, Welding Machines, Water Pumps, Light Plants, or Generators shall be in batteries or within 400 feet and shall be paid as per the Classification Schedule contained in this Article.

OPERATING ENGINEERS - HIGHWAY

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CLASS 1. Asphalt Screed Man; Asphco Concrete Spreaders; Asphalt Pavers; Asphalt Plant Engineer; Asphalt Rollers on Bituminous Concrete; Athey Loaders; Backhoes; Barber Green Loaders; Bulldozers; Cableways; Carry Deck Pickers; Cherry Pickers (Rough Terrain); C.M.I. & similar type-autograde formless paver, autograde placer & finisher; Concrete Breakers; Concrete Plant Operators; Concrete Pumps; Derricks; Derrick Boats; Dewatering Systems; Earth Auger or Boring Machines; Elevating Graders; Engineers on Dredges; Gravel Processing Machines; Grout Pump; Head Equipment Greaser; High Lifts or Fork Lifts; Hoists with two or more drums or two or more load lines; Hydro Jet or Hydro Laser; Locomotives, All; Mechanics; Motor Graders or Auto Patrols; Multi-Point Power Lifting Equipment; Operators or Leverman on Dredges; Operators, Power Boat; Operators, Pug Mill (Asphalt Plants); Overhead Cranes; Paving Mixers; Piledrivers; Pipe Wrapping and Painting Machines; Push-dozers, or Push Cats; Robotic Controlled Equipment in this Classification; Rock Crushers; Ross Carrier or Similar Machines; Roto-Mill; Scoops, Skimmer, two cu. yd. capacity and under; Sheep-Foot Roller (Self Propelled); Shovels; Skid Steer; Skimmer Scoops; Test Hole Drilling Machines; Tower Machines; Tower Mixers; Track Type End Loaders; Track Type Fork Lifts or High Lifts; Track Jacks and Tampers; Tractors, Side-boom; Trenching or Ditching Machine; Tunnelluggers; Vermeer-Type Saws; Wheel Type End Loaders; Winch Cat; Scoops, All or Tournapull.

CLASS 2. Air Compressors (six to eight)\*; Articulated Dumps; Asphalt Boosters and Heaters; Asphalt Distributors; Asphalt Plant Fireman; Boom or Winch Trucks; Building Elevators; Bull Floats or Flexplanes; Concrete Finishing Machine; Concrete Saws, Self-Propelled; Concrete Spreading Machines; Conveyors (six to eight)\*; Generators (six to eight)\*; Gravel or Stone Spreader, Power Operated; Hoist, Automatic; Hoist with One Drum and One Load Line; Light Plants (six to eight)\*; Mechanical Heaters (six to eight)\*; Mud Jacks; Off Road Water Wagons; Oiler on Two Paving Mixers When Used in Tandem; Post Hole Digger, Mechanical; Robotic Controlled Equipment in This Classification; Road or Street Sweeper, Self-Propelled; Rollers (except bituminous concrete); Scissor Hoist; Sea-man Tiller; Straw Machine; Vibratory Compactor; Water Pumps (six to eight)\*; Well Drill Machines.

CLASS 3. Air Compressors (one to five)\*; Air Compressors, Track or Self-Propelled; Bulk Cement Batching Plants; Conveyors (one to five)\*; Concrete Mixers (Except Plant, Paver, or Tower); Firemen; Generators (one to five)\*; Greasers; Helper on Single Paving Mixer; Light Plants (one to five)\*; Mechanic Helpers; Mechanical Heaters (one to five)\*; Oilers; Power Form Graders; Power Sub-Graders; Pug Mills when used for other than Asphalt operation; Robotic Controlled Equipment in This Classification; Tractors without power attachments, regardless of size or type; Truck Crane Oiler and Driver (1 man); Vibratory Hammer (power source); Water Pumps (one to five)\*; Welding Machines (one 300 Amp. or over)\*; Welding Machines (one to five)\*.

CLASS 4. Lattice Boom Crawler Crane; Lattice Boom Truck Crane; Telescopic Truck-Mounted Crane; Tower Crane.

\*Combinations of one to eight of any Air Compressors, Conveyors, Welding Machines, Water Pumps, Light Plants or Generators shall be in batteries or within 400 feet and shall be paid as per the Classification Schedule contained in this Article.

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,

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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.

BIDDING & CONTRACT REQUIREMENTS

Document 00825 - Prevailing Wage Act

PREVAILING WAGE ACT

1. Pursuant to Public Act 820 ILCS 130/0.01 et seq., 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.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01010 - Project Summary

The General Conditions, Supplementary Conditions and Division 1, General Requirements are hereby made a part of each division and section of the project specifications.

**GENERAL**

A. REQUIREMENTS INCLUDE

1. Replace boilers.
2. Located at: 1 Convention Center Plaza, Springfield, IL 62701.

B. DEFINITIONS. The following terms are used throughout the contract documents. The work will be governed in accord with the definitions.

1. Fabricated: Fabricated pertains to items specifically assembled or made of selected materials or components to meet individual design requirements.
2. Manufactured: Manufactured means standard units, usually mass produced by an established manufacturer of the respective item.
3. Provide: Provide means furnish and install.
4. Shop fabricated or shop made: Shop fabricated or shop made refers to items made by the Contractor in his own shop.

C. INSURANCE, DESIGNATED PURCHASER. Contractor purchase and maintain Builder's Risk insurance in accord with the General Conditions.

D. CONTRACT

1. Construct project under single Contract.

E. PRODUCTS

1. Products furnished by others: No Asbestos Containing Materials, Lead Paint, or other Hazardous Materials shall be furnished.
2. Products furnished by the Contractor, described in specifications: No Asbestos Containing Materials, Lead Paint, or other Hazardous Materials shall be furnished.
3. This project is tax exempt. The Owner will provide the awarded contractor their tax exempt number.
4. Purchaser's duties: (Note: Purchaser is defined as an individual who acquires products for a construction project.)

- a. Schedule delivery date with supplier in accord with approved construction schedule.
- b. Obtain installation drawings and instructions. Deliver to Contractor.
- c. Submit claims for transportation damages.
- d. Arrange guarantees, warranties.

5. Contractor's duties:

- a. Designate specific delivery date for each product in approved construction schedule.
- b. Promptly inspect all delivered products, report damaged or defective items.
- c. Handle at site, including unloading, uncrating, and storage.
- d. Protect from damage.
- e. Repair or replace items damaged as a result of Contractor's operations.
- f. Install, connect, finish products.

F. CONTRACTOR USE OF PREMISES

1. Confine operations at site to areas permitted by:

- a. Law.
- b. Contract.

2. Do not unreasonably encumber site with materials or equipment.

3. Do not load structure with weight that will endanger structure.

4. Assume full responsibility for protection and safekeeping of products stored on premises.

5. Move all stored products or equipment which interfere with operations of Owner or other contractors.

6. Obtain and pay for use of additional storage or work area needed for operations.

7. Contractors will provide reasonable access to the site and shall not prohibit nor interfere with lawfully conducted inspections or site visits by properly identified representatives of regulatory agencies or collective bargaining units.

8. Fire Protection:

- a. Fires: Contractor shall prohibit the lighting of fires about the premises and use due diligence to see that such prohibition is enforced. Debris and waste materials shall not be burned at the construction site but shall be promptly removed to prevent the accumulation of combustibles on the site or within the building.
- b. Welding and Cutting: It shall be the responsibility of each Contractor to

take precautionary measures to prevent fire.

- c. Heaters: The heaters in Contractor's job offices shall be properly installed to protect combustible walls, floor and roof. Salamander heaters or other types of open flame heaters shall not be used except with the special permission of the Architect/Engineer and then only when such salamanders or open flame heaters are maintained under constant supervision.
- d. Flammables: Gasoline and other fuels shall be kept and handled in accord with NFPA and in UL Listed and Labeled safety cans and shall be stored away from hazardous work areas.

G. TEMPORARY UTILITIES

- 1. Mechanical Contractor provide:
  - a. Own telephone service and telephones.
  - b. Temporary lighting (work, security, safety, and lamps).
  - c. Temporary ventilation.

H. BARRIERS

- 1. Mechanical contractor provide and maintain:
  - a. Barrier to prevent unauthorized entry, and to protect the work, existing facilities and utilities, trees and plants from construction operations.
  - b. Remove all barricades and fencing when no longer needed, at completion of project or as directed by the owner.

END 01010.

I. **GENERAL**

A. WORK INCLUDES

1. Base Bid:

- a. Mechanical contractor shall coordinate its construction activities with their subcontractors and other entities involved to assure efficient and orderly installation of each part of the work.
- b. Mechanical contractor shall coordinate its operations with operations included under different sections of the specifications that depend on each other for proper installation, connection, and operation.

b. Mechanical Contractor Provide:

- (1) Schedule its construction operations in the sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or after its own installation.
- (2) Where availability of space is limited, mechanical contractor shall coordinate installation of different components with their subcontractors to assure maximum accessibility for required maintenance, service, and repair.
- (3) Make adequate provisions to accommodate items scheduled for later installation.
- (4) Internal wiring of equipment, device or system provided by that Contractor.
- (5) Interconnecting wiring for items composed of more than one piece, provided by same Contractor.
- (6) Wiring of accessory items considered an integral part of equipment, device or system specified to make system function correctly, provided by same Contractor.
- (7) Except where indicated on drawings or specified as responsibility of Electrical Subcontractor.

c. Mechanical Contractor:

- (1) Cooperate with all subcontractors. Coordinate installation of equipment, devices and wiring to ensure proper location and function of equipment or system.
- (2) Provide interconnection diagrams to subcontractors for water, gas, electric, sewer, air or other services on a timely basis to maintain work schedule and ensure proper operation of equipment or system.

- d. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - (1) Prepare similar memoranda for the owner and separate contractors where coordination of their work is required.
  
- e. Administrative Procedures: The Mechanical Contractor shall coordinate scheduling and timing of its required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and assure orderly progress of the work. Such administrative activities include, but are not limited to, the following:
  - (1) Preparation of schedules.
  - (2) Installation and removal of temporary facilities.
  - (3) Delivery and processing of submittals.
  - (4) Progress meetings.
  - (5) Project closeout activities.

B. QUALITY ASSURANCE

- 1. When Contract Documents specify wiring between various pieces of equipment, furnished by other than the Electrical subcontractor, to be provided by the Electrical Subcontractor the contractor furnishing the equipment shall provide complete wiring diagrams to the Electrical Subcontractor in accord with the installation schedule.
  
- 2. Coordinate openings in walls, floors or ceiling. Mechanical Contractor provide openings.

END 01042.



DIVISION 1 - GENERAL REQUIREMENTS  
Section 01060 - Regulatory Requirements

1. GENERAL

1.01. REQUIREMENTS INCLUDE

- A. Contractor shall comply with all laws, rules and regulations governing the work.
1. When the Mechanical Contractor observes that contract documents are at variance with specified codes, notify Owner in writing immediately. Owner will process changes in accord with General Conditions.
  2. When the Mechanical Contractor performs any work knowing or having reason to know that the work is contrary to such laws, rules and regulations and fails to so notify the Owner, the General Contractor shall pay all costs arising therefrom. However, it will not be the Contractor's primary responsibility to make certain that the contract documents are in accord with such laws, rules and regulations.

1.02. DEFINITIONS AND ABBREVIATIONS

A. Definitions:

1. Dates: Reference Codes, Regulations and Standards are the issue current at date of bidding documents unless otherwise specified.
2. Codes: Codes are rules, regulations or statutory requirements of government agencies.
3. Standards: Standards are requirements set by authorities, custom or general consent and established as accepted criteria.

B. Abbreviations:

- |     |        |                                                                            |
|-----|--------|----------------------------------------------------------------------------|
| 1.  | ADA    | Americans with Disabilities Act                                            |
| 2.  | ANSI   | American National Standards Institute.                                     |
| 3.  | ASHRAE | American Society of Heating, Refrigeration and Air-Conditioning Engineers. |
| 4.  | ASTM   | American Society for Testing and Materials.                                |
| 5.  | AWWA   | American Waterworks Association                                            |
| 6.  | CDB    | Capital Development Board.                                                 |
| 7.  | CPSC   | Consumer Product Safety Commission. (Federal)                              |
| 8.  | DHEW   | Department of Health, Education & Welfare (Federal)                        |
| 9.  | FED    | Federal Agencies.                                                          |
| 10. | FM     | Factory Mutual Engineering Corp.                                           |
| 11. | IAGO   | Illinois Attorney General's Office.                                        |
| 12. | IDOL   | Illinois Department of Labor.                                              |
| 13. | IDOT   | Illinois Department of Transportation.                                     |
| 14. | IDPH   | Illinois Department of Public Health.                                      |
| 15. | IEPA   | Illinois Environmental Protection Agency.                                  |
| 16. | IDPR   | Illinois Department of Public Regulations.                                 |
| 17. | ISPE   | Illinois Society of Professional Engineers.                                |
| 18. | NFPA   | National Fire Protection Association.                                      |
| 19. | OSFM   | Office of State Fire Marshal.                                              |
| 20. | SOS    | Secretary of State.                                                        |
| 21. | UL     | Underwriters Laboratories, Inc.                                            |

1.03. QUALITY ASSURANCE.

A. Mechanical Contractor:

1. Ensure that copies of specified codes and standards are readily available to Contractor's personnel. Copies are available at the Contractor's expense from source or publisher.
2. Ensure that Contractor's personnel are familiar with workmanship and installation requirements of specified codes and standards.

1.04. REGULATORY REQUIREMENTS

A. Source and requirements:

1. FED:

- a. ADA 1990.
- b. DHEW: Title V: Handicapped Accessibility.

2. State of Illinois:

- a. Illinois Steel Products Procurement Act, as amended (Illinois Revised Statutes, ch. 48, par. 1801 et seq.).
- b. Illinois Purchasing Act, as amended (Illinois Revised Statutes, ch. 127, par. 132.1 et seq.).
- c. Illinois Accessibility Code – Current edition.
- d. ADA Standards for Accessible Designs, 2010

3. IDPH:

- a. Illinois State Plumbing Code – Current edition.

4. IEPA:

- a. Air Pollution Standards.
- b. Noise Pollution Standards.
- c. Water Pollution Standards.
- d. Public Water Supplies.
- e. Solid Waste Standards.
- f. Illinois Recommend Standards for Sewage Work.

5. OSFM:

- a. Boiler and Pressure Vessel Safety Act and Rules and Regulations (Illinois Revised Statutes, ch. 127 1/2, par. 151 et seq.).
- b. Illinois Rules and Regulations for Fire Prevention and Safety, NFPA 101-2000.

6. STANDARDS:

- a. International Building Code, 2012.
- b. Illinois State Plumbing Code, latest edition.
- c. International Mechanical Code, 2012.
- d. International Firecode, 2006.
- e. International Energy Conservation Code, 2012
- f. NFPA 70, NEC 2005.
- g. NFPA 101, Life Safety Code, 2000.

h. ASHRA 90.1, 2001

END 01060.

**GENERAL**

- A. REQUIREMENTS INCLUDE
  - 1. Mechanical Contractor:
    - a. Attend specified meetings.
    - b. Ensure attendance of subcontractors and suppliers when specified or directed.
  
- B. RELATED REQUIREMENTS
  - 1. Specified elsewhere:
    - a. 00050 - General Conditions of Contract.
    - b. 01310 - Construction Schedules.
    - c. 01370 - Schedule of Values.
    - d. 01700 - Contract Closeout.
    - e. 01720 - Project Record Documents.
    - f. 01730 - Operating and Maintenance Data.
    - g. 01740 - Warranties and Bonds.
  
- C. PRECONSTRUCTION MEETING.
  - 1. Contractor will schedule within five business days after Notice of Award.
  - 2. Attendance:
    - a. Owner.
    - b. Contractor.
    - c. Major subcontractors.
  - 3. Minimum Agenda:
    - a. Distribute and discuss:
      - (1) Project Directory; Major subcontractors, etc.
      - (2) Tentative construction schedule.
    - b. Critical work sequencing, scheduling (See Section 01310).
    - c. Designation of responsible personnel.
    - d. Establish chain of authority.
    - e. Interrelation and coordination of contractors.
    - f. Processing of field decisions and change orders.
    - g. Adequacy of distribution of contract documents.
    - h. Submittals: In accord with 01340. Submit:
      - (1) Schedules.
      - (2) Shop drawings, product data and samples.
      - (3) Test reports.
      - (4) Manufacturer's certification of products.
      - (5) Schedule of values.
      - (6) Manpower reports.

- i. Major equipment deliveries and priorities.
- j. Procedures for maintaining record documents.
- k. Use of premises:
  - (1) Office and storage areas.
  - (2) Access.
- l. Safety and first aid procedures.
- m. Housekeeping procedures.
- n. Pay Meetings, including dates, time and location.
- o. A/E Observation.
- p. Barriers.
- q. Construction Aids.
- r. Temporary Utilities.

#### D. PAYMENT AND PROGRESS MEETINGS

1. Owner will schedule and administer payment and progress meetings. Contractor will:
  - a. Prepare agenda.
  - b. Distribute written notice and agenda of regular and called meetings five business days in advance of meeting date.
  - c. Make physical arrangements for meetings.
  - d. Preside at meetings.
  - e. Record minutes; include significant proceedings and decision.
  - f. Distribute copies of minutes to participants within eight business days after meetings.
2. Attendance:
  - a. Owner.
  - b. Mechanical Contractor.
  - c. Subcontractors and suppliers.
3. Minimum agenda:
  - a. Review, approve minutes of previous meeting.
  - b. Review work progress since last meeting; review schedule.
  - c. Review applications for payment.
  - d. Status of Pending RFPCO's.

#### COORDINATION MEETINGS

1. Mechanical Contractor will schedule and administer coordination meetings.
  - a. Prepare agenda.
  - b. Distribute written notice and agenda of meetings five business days in advance of meeting date.
  - c. Make physical arrangements for meetings.
  - d. Preside at meetings.
  - e. Record minutes; include significant proceedings and decisions.
  - f. Distribute copies of minutes of meetings to participants, and Owner within eight business days after meetings.
2. Attendance:

- a. Mechanical Contractor.
- b. Subcontractors and suppliers as pertinent to agenda.
- c. Safety Representative.
- d. Representatives of governmental or other regulatory agencies.

3. Minimum agenda:

- a. Review, approve minutes of previous meeting.
- b. Review work progress since last meeting.
- c. Note field observations, problems, and decisions.
- d. Identify problems which impede planned progress.
- e. Review off-site fabrication problems.
- f. Develop corrective measures and procedures to maintain/regain schedule.
- g. Discuss maintenance of construction schedule.
- h. Plan progress during next work period.
- i. Review coordination problems.
- j. Review submittal schedules, expedite to maintain schedule.
- k. Maintenance of quality and work standards.
- l. Review changes proposed by Owner for:
  - 1. Effect on construction schedule.
  - 2. Effect on completion date.
- m. Complete other current business.

END 01200.

GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor: Submit master schedule to Owner within 10 business days after preconstruction meeting. Maintain, coordinate and distribute schedule.
2. Mechanical Contractor: Revise schedule monthly.
3. Coordination:
  - a. Schedules of subcontractors will be available for inspection.
  - b. Coordinate schedules with subcontractors.
  - c. Mechanical Contractor will resolve conflicts among schedules of various contractors.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 01010 - Project Summary.
  - b. 01200 - Project Meetings.
  - c. 01340 - Shop Drawings, Product Data, and Samples.
  - d. 01370 - Schedule of Values.

C. FORM OF SCHEDULES

1. Prepare a standard horizontal bar chart.
  - a. Provide separate horizontal bar column for each class of work, activity or long-lead equipment item.
  - b. Columns should follow table of contents of Project Manual.
  - c. Identify each column:
    - (1) By major specification section number.
    - (2) By distinct graphic delineation.
  - d. Horizontal time scale: Identify first work day of each month.
  - e. Scale and spacing: To allow space for updating.
2. Sheet size:
  - a. Minimum: 8½" x 11"
  - b. Maximum: 11" x 17"

D. CONTENT OF SCHEDULES

1. Indicate complete sequence of construction by activity.
  - a. Shop drawings, product data and samples: In accordance with 01340.
    - (1) Submittal dates.
    - (2) Dates when reviewed copies will be required.

- b. Decision dates for: Selection of finishes.
  - c. Product procurement date, fabrication time and delivery dates.
  - d. Dates for beginning, and completion of, each element of construction.
2. Identify work on separate floors, on separate phases, or other logically grouped activities.
  3. Indicate cumulative percentage of work completed as of first day of every month.
  4. Furnish separate schedule, showing submittals, review items, procurement schedules, and delivery dates specified in 1.03.A.
  5. Define critical portions of entire schedule.

E. UPDATING

1. Update monthly. Indicate:
  - a. Progress of each activity since previous submission.
  - b. Projected completion dates for all activities.
  - c. Activities modified since previous submission.
2. Compare projected completion dates to previous submission. State when behind, on, or ahead of previous projection.
3. Include:
  - a. Major changes in scope.
  - b. Revisions in duration of activities.
  - c. Other identified changes.
4. Furnish narrative report, including:
  - a. Discussion of problem areas, including current and anticipated delay factors, and their impact.
  - b. Corrective action taken, or proposed, and its effect.
  - c. Description of revisions.
  - d. Effect of change on schedules of other contractors:
    - Effect on schedule due to change in scope.
    - Other changes that may affect schedule.

A. SUBMITTALS

1. Submit initial schedules within 10 business days after date of preconstruction meeting.
  - a. Owner will review schedules and return review copy within 10 business days after receipt.
  - b. When directed, resubmit within five business days after return of reviewed copy.
2. Submit monthly updated schedules accurately depicting progress to first day of each month.



3. Submit two copies to the Owner.

#### DISTRIBUTION

1. Distribute copies of approved schedules to:

Job site file.

Contractor.

Subcontractors and suppliers on as-needed basis.

Architect/Engineer.

Owner.

Instruct recipients to report inability to comply with projected completion dates, and to furnish a detailed explanation together with suggested remedies.

END 01310.

GENERAL

1.01 DESCRIPTION

- A. Work included: provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contractor's Documents.
- B. Breakdown contracts by labor and material.
- C. Indicate name of subcontractor/suppliers for each contract
- D. Show all contracts totaling \$500 minimum.
- E. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and in Division 1 of these Specifications.
  - 2. Schedule of Values is required to be compatible with the Affidavit accompanying applications for payment.

1.02 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
- B. When so required by the Owner, provide copies of the subcontracts or other data acceptable to the Owner, substantiating the sums described.

SUBMITTALS

- A. Within 10 days after the pre-construction meeting, the Contractor shall submit a proposed Schedule of Values to the Owner.
- B. Monthly certified payroll forms for every worker on the project must be submitted with each pay application.
- C. Meet with the Owner and determine additional data, if any, required to be submitted.
- D. Secure the Owner's approval of the Schedule of Values at least 10 days prior to submitting the first application for payment.

END 01370.

I. GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor:
  - a. Quality assurance - control of installation.
  - b. Tolerances.
  - c. References.
  - d. Mockup.
  - e. Inspecting and testing laboratory services.
  - f. Manufacturers' field services and reports.

B. RELATED SECTIONS

1. 01060 - Regulatory Requirements.
2. 01340 - Submittals: Submission of manufacturers' instructions and certificates.
3. 01410 - Testing Laboratory Services.
4. 01600 - Material and Equipment.

C. QUALITY ASSURANCE - CONTROL OF INSTALLATION

1. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
2. Comply with manufacturers' instructions, including each step in sequence.
3. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner before proceeding.
4. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
5. Perform work by persons qualified to produce workmanship of specified quality.
6. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

D. TOLERANCES

1. Monitor tolerance control of installed Products to produce acceptable Work. Do not permit tolerances to accumulate.
2. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Owner before proceeding.
3. Adjust products to appropriate dimensions; position before securing Products in place.

E. REFERENCES

1. For products or workmanship specified by association, trade, or other consensus standards, complies with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
2. Conform to reference standard by date of issue current on date for receiving bids or date specified in the individual specification sections, except where a specific date is established by code.
3. Obtain copies of standards where required by product specification sections.
4. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Owner shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

F. INSPECTING AND TESTING LABORATORY SERVICES

1. Owner will appoint, employ, and pay for specified services of an independent firm to perform inspecting and testing.
2. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Owner.
3. Inspecting, testing, and source quality control may occur on or off the project site. Perform off-site inspecting or testing as required by the Owner.
4. Reports will be submitted by the independent firm to the Owner in triplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
5. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
  - a. Notify Owner and independent firm 24 hours prior to expected time for operations requiring services.
  - b. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
6. Testing or inspecting does not relieve Contractor to perform Work to contract requirements.
7. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Owner. Payment for retesting will be charged to the Contractor by deducting inspecting or testing charges from the Contract Sum/Price.

G. MANUFACTURERS' FIELD SERVICES AND REPORTS

1. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
2. Submit qualifications of observer to Owner 30 days in advance of required observations. Observer subject to approval of Owner.

3. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
4. Submit report in duplicate within 30 days of observation to Owner for information.

PRODUCTS

Not Used

3. EXECUTION

Not Used

END 01400.

I. GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor: Provide and maintain construction aids and equipment for common use and to facilitate execution of the work including, but not limited to the following:
  - a. Ramps.
  - b. Runways.
  - c. Temporary enclosures.
2. Mechanical Contractor: Provide and maintain for his own forces all other construction aids required to complete his work.
3. See respective specification sections for particular requirements.
4. Remove all construction aids on completion of the work, or as directed.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 01010 - Project Summary.
  - b. 01530 - Barriers.

II. PRODUCTS

A. MATERIALS:

1. Materials may be new or used, suitable for purpose. Comply with specified codes and standards.

B. CONSTRUCTION AIDS:

1. Maintain facilities and equipment in first class condition.

C. TEMPORARY ENCLOSURES

1. Provide temporary weather-tight enclosure of exterior walls for successive areas of building as work progresses, to provide acceptable working conditions, provide weather protection for materials, allow for effective construction heating, and to prevent entry of unauthorized persons as follows:

- a. Provide temporary exterior doors with self-closing hardware and padlocks.
  - b. Provide other enclosures, removable, for work and handling of materials.
  - c. Provide filters at return air duct work.
2. Provide temporary air tight interior enclosures or filtration systems to prevent dust from demolition or construction entering the existing air spaces outside of the construction perimeters.

## EXECUTION

- A. PREPARATION. Consult with Owner's, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the work.
- B. INSTALLATION
  1. Comply with respective Project Manual Specifications Sections.
  2. Relocate construction aids as construction progresses to expedite storage or work and to accommodate legitimate requirements of Owner and other contractors at the site.
- C. REMOVAL
  1. Completely remove temporary materials, equipment and services:
  2. When construction needs can be met by authorized use of permanent construction, or when authorized by the Owner at project completion.
  3. Clean and repair damage caused by installation or use of temporary facilities.

END 01525.

1. GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor:

- a. Provide and maintain suitable barriers to prevent unauthorized entry and protect the work from construction operations.
- b. Remove when no longer needed, at completion of the work or as directed.

B. RELATED REQUIREMENTS

1. Specified elsewhere:

- 01010 - Project summary.
- 01525 - Construction aids.

2. PRODUCTS

A. MATERIALS. Materials may be new or used, suitable for purpose. Comply with specified codes.

B. BARRIERS: Materials at Contractor's option, appropriate for purpose.

3. EXECUTION

A. INSTALLATION

- 1. Install facilities of a neat and uniform appearance.
- 2. Maintain barriers during entire construction period.
- 3. Relocate barriers as construction progresses.

4. REMOVAL

A. Remove at completion of related work.

B. Clean and repair damage caused by installation, and clean the area to original condition.

END 01530.



**GENERAL**

A. REQUIREMENTS INCLUDE

1. Contractor:
  - a. Provide controls over environmental conditions at the construction site and related areas under the Contractor's control.
  - b. Remove physical evidence of temporary controls at completion of work or as directed.

B. DEBRIS CONTROL

1. Initiate and maintain a specific program to prevent accumulation of debris at construction site.

C. POLLUTION CONTROL

1. Prevent the discharge of noxious substances from construction operations.
2. Provide equipment and personnel; perform emergency measures to contain all spillages, and to remove contaminated soils or liquids. Excavate and dispose of all contaminated soil off-site. Replace with suitable compacted fill and topsoil.
3. Take measures necessary to prevent pollutants from entering public waters. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants.
  - a. Prevent toxic concentrations of chemicals.
  - b. Prevent harmful dispersal of pollutants into the atmosphere.

END 01560.

I. GENERAL

A. REQUIREMENTS INCLUDE

1. Contractor provides daily cleaning and disposal of waste materials, debris and rubbish during construction.
2. Contractor provides daily cleaning of mud from the sidewalks and road.

B. RELATED REQUIREMENTS

1. Specified elsewhere:  
  
01710 - Final Cleaning.  
Individual Specification Sections: Specific cleaning for product or work.

II. PRODUCTS

A. EQUIPMENT

1. Provide covered containers for deposit of waste materials, debris and rubbish.

EXECUTION

A. CLEANING

1. Maintain areas under Contractor's control free of waste materials, debris and rubbish.
2. Remove debris and rubbish from trenches, pipe chases, plenums, attics, crawlspaces, and other closed or remote spaces, prior to closing the space.
3. Clean interior and exterior areas prior to start of surface finishing. Continue cleaning on an as-needed basis.
4. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces.

- B. DISPOSAL. Regularly remove waste materials, debris and rubbish from site and dispose of off-site.

END 01561.

I. GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor provide:
  - a. Specified materials and equipment.
  - b. Transportation and delivery.
  - c. Equipment and personnel at site.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 01010 - Project Summary.
  - b. 01340 - Shop Drawings, Product Data, and Samples.
  - c. 01620 - Storage and Protection.
  - d. 01630 - Substitutions and Product Options.
  - e. 01710 - Final Cleaning.
  - f. 01730 - Operating and Maintenance Data.
  - g. Respective Specification Sections.

C. MANUFACTURER'S INSTRUCTIONS

1. When Contract Documents specify that installation shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to all parties involved in the installation, including one copy to the Architect/Engineer.
2. Maintain one set of complete instructions with the Contract Documents at the jobsite during installation and until completion.

II. PRODUCTS

A. MATERIALS AND EQUIPMENT INCORPORATED INTO THE WORK

1. Conform to project specifications and standards.
2. Comply with size, make, type and quality specified.
3. Manufactured and fabricated products:
  - a. Design, fabricate and assemble in accord with best engineering and shop practices.
  - b. Manufacture like parts of duplicate units to standard sizes and gauges

- c. to be interchangeable.
- c. Two or more items of the same kind shall be identical from the same manufacturer.
- d. All parts of systems shall be from the same manufacturer to the greatest extent practicable.
- e. Adhere to equipment capacities, sizes and dimensions shown or specified unless variations are specifically approved by Change Order.

## EXECUTION

### A. TRANSPORTATION, DELIVERY AND HANDLING

1. Arrange for transportation and deliveries of materials and equipment in accord with approved current construction schedules and in ample time to facilitate inspection prior to installation.
2. Coordinate deliveries to avoid conflict with work and conditions at site.
  - a. Work of Owner or their use of premises.
  - b. Limitations of storage space.
  - c. Availability of equipment and personnel for handling projects.
3. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
4. Clearly mark partial deliveries of component parts of assemblies or equipment to permit easy identification of parts and to facilitate assembly.
5. Immediately on delivery, inspect shipments to assure:
6. Product complies with Contract Documents and Owner approved submittals.
7. Quantities are correct.
8. Containers and packages are intact, labels are legible.
9. Products are properly protected and undamaged.
10. Provide equipment and personnel to handle products and equipment, including those furnished by Owner. Prevent damage to products or packaging.
11. Provide additional protection during handling to prevent scraping, marring, or otherwise damaging products, equipment, or surrounding surfaces.
12. Handle products and equipment in a manner to prevent bending or overstressing.
13. Lift packages, equipment, or components only at designated lift points.

STORAGE AND PROTECTION. See 01620.

END 01600.

GENERAL

1.01 REQUIREMENTS INCLUDE

- A. Mechanical Contractor and subcontractor provide and maintain:
  - 1. Storage for materials and equipment to be installed in Project.
  - 2. Protection and security for stored materials and equipment, on and off site.

1.02. RELATED REQUIREMENTS

- A. Specified elsewhere:
  - 1. 01010 - Project Summary.
  - 2. 01310 - Construction Schedule.
  - 3. 01340 - Shop Drawings, Product Data, and Samples.

1.03 OFF-SITE AUTHORIZATION. Payment for materials/equipment stored off-site will be permitted only on Owner's authorization in accord with General Conditions.

1.04. SUBMITTALS.

- A. In accordance with 01620, submit:
  - 1. Request for allocation of storage space.
  - 2. List of materials and equipment to be stored.
  - 3. Proposed location for storage.
  - 4. Special storage requirements.
  - 5. Schedule of anticipated storage dates.

2. PRODUCTS

2.01. MATERIALS, EQUIPMENT. May be new or used, but shall be serviceable, adequate for purpose, and shall not create unsafe conditions or violate applicable codes.

2.02. PROTECTIVE MATERIALS

- A. For duration of storage period, provide materials which will provide proper protection against the elements or other harmful environmental conditions. Materials may be new or used at contractor's option, but shall be:
  - 1. Of sufficient strength and durability for intended use.
  - 2. Recommended by manufacturer of products or equipment to be protected.
  - 3. Non-staining.

4. Non-hazardous.

3. EXECUTION

3.01 LOCATION.

- A. Where shown on drawings, or where authorized by the owner.
- B. Mechanical Contractor will resolve conflicts in storage requirements of all subcontractors.

3.02. LIMITATIONS

- A.. Do not exceed capacity of structure.
- B. Do not inhibit use of:
  - 1. Fire exits.
  - 2. Fire lanes.
  - 3. Parking.
  - 4. Work of other contractors.
- C. Store combustible materials in accord with specified regulations.

3.03. PROTECTION

- A. Protect all products and equipment from damage.

END 01620.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01630 - Substitutions and  
Product Options

1. GENERAL

A. REQUIREMENTS INCLUDE

1. Base all bids on providing all products exactly as specified.
2. For products specified only by reference or performance standards, select any products which meets or exceeds standards, by any manufacturers, subject to the Architect's and Owner's approval.
3. For products specified by naming several products or manufacturers, select any product and manufacturer names. Only those products or manufacturers named shall be considered acceptable.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 00050 - General Conditions of Contract.
  - b. 01340 - Shop Drawings, Project Data and Samples.
  - c. 01370 - Schedule of Values.

C. SUBSTITUTIONS, BIDDER/CONTRACTOR OPTIONS

1. **PRIOR TO BID OPENING:** The Owner will consider written requests to amend the bidding documents to add products not specified provided such requests are received at least 10 calendar days prior to bid opening date. Requests received after that time will not be considered. When a request is approved, the Owner will issue an appropriate addendum not less than 3 business days prior to bid opening date.
2. **WITH BID:** A bidder may propose substitutions with his bid by completing the Proposed Product Substitution List in the Bid Form, subject to the provisions stated thereon. Owner will review Proposed Product Substitution List of low bidder and recommend approval or rejection by Owner prior to award of contract.
3. **AFTER AWARD OF CONTRACT:** No substitutions will be considered after Notice of Award except under one or more of the following conditions:
  - a. Substitutions required for compliance with final interpretations of code requirements or insurance regulations.
  - b. Unavailability of specified products, through no fault of Contractor.
  - c. Subsequent information discloses inability of specified product to perform properly or to fit in designated space.



- d. Manufacturer/fabricator refusal to certify or guarantee performance of specified product as specified.
- e. When a substitution would be substantially to Owner's best interest.

## 2. SUBSTITUTION REQUIREMENTS

- 1. Submit 3 copies of each request for substitution. Include in request:
  - a. Complete data substantiating compliance of proposed substitution with Contract Documents.
  - b. For products:
    - (1) Product identification, including manufacturer's name and address.
    - (2) Manufacturer's literature:
      - Product description.
      - Performance and test data.
      - Reference standards.
    - (3) Samples.
    - (4) Name and address of similar projects on which product was used and date of installation.
  - c. For construction methods:
    - (1) Detailed description of proposed method.
    - (2) Drawings illustrating methods.
  - d. Itemized comparison of proposed substitution with product or method specified.
  - e. Data relating to changes in construction schedule.
  - f. Identify:
    - (1) Changes or coordination required.
    - (2) Other contract affected.
  - g. Accurate cost data on proposed substitution in comparison with product or method specified.
- 2. In making request for substitution, bidder/contractor represents:
  - a. They have personally investigated proposed product or method and determined that it is equal or superior in all respects to that specified.
  - b. They will provide the same guarantee for substitution as for product or method specified.
  - c. They will coordinate installation of accepted substitutions into work, making all changes for work to be complete in all respects.
  - d. Cost data is complete and includes all related costs under its contract,

but excludes:

1. Costs under separate contracts.
- e. They will pay all additional costs and expenses for Owner and other contractors.
3. Substitutions will not be considered when:
  - a. They are indicated or implied on shop drawings or product data submittals without formal request submitted in accord with Paragraph 1.04.
  - b. Acceptance will require substantial revision of Contract Documents.

END 01630.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - Contract Closeout

GENERAL

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor:
  - a. Building Commissioning.
  - b. Substantial completion.
  - c. Final completion.
  - d. Closeout submittals.
  - e. Application for final payment.

B. BUILDING COMMISSIONING

1. Mechanical Contractor:
  - a. Conduct a thorough and systematic performance test of each individual element, subsystem, and total system, in the presence of the Architect and Owner. Test shall demonstrate that all systems and components produce operation which, in all reasonable respects, complies with the requirements of the Contract Documents. Test all control, alarm, and specialty systems integral to or necessary for the proper functioning of the building.
  - b. Performance and operational testing of major mechanical and electrical equipment, including efficiency test.
  - c. Correct or adjust all deficiencies in operation noted during testing and re-test.
  - d. Demonstrate after correction as in 1.03.A.1.
2. Owner:
  - a. Witness, and record performance tests to assure that all testing, balancing, adjustments, and corrections have been completed for each contractor.
  - b. Verify that each system is operating, in all reasonable respects, in the manner specified.

B. SUBSTANTIAL COMPLETION

1. When Mechanical Contractor considers work substantially complete; and after building commissioning and training, submit written declaration to Architect that work, or designated portion thereof, is substantially complete. Include list of items to be completed or corrected.
2. Prior to preliminary substantial completion and inspection:
  - a. Submit:
    - (1) Draft Operating and Maintenance Data: In accord with 01730.
    - (2) Guarantees, Warranties and Bonds: In accord with 01740.
3. Owner will make a preliminary inspection within seven business days after receipt of Contractor's declaration.

4. Upon determining that work is substantially complete, Owner will:
  - a. Prepare a punch list of items to be completed or corrected, as determined by the inspection.
  - b. Prepare and process a certificate of substantial completion, containing:
    - (1) Date of substantial completion.
    - (2) Punch list of items to be completed or corrected.
    - (3) Date and time Owner will take occupancy of the project.
    - (4) Responsibilities of Owner and Contractor for:
      - (a) Insurance.
      - (b) Utilities.
      - (c) Operation and maintenance of mechanical, electrical, and other systems.
      - (d) Maintenance and cleaning.
      - (e) Security.
    - (5) Signatures of Contractor and Owner.
5. Mechanical Contractor:
  - a. Complete all work listed for completion or correction within designated time.
  - b. Perform final cleaning in accord with 01710.
6. Owner will occupy project or designated portions thereof under provisions stated in certificate of substantial completion.
7. At time of inspection, should substantial completion not be certified, complete the work and resubmit declaration in accord with 1.04.A.

C. FINAL COMPLETION.

1. Mechanical Contractor:
  - a. Submit written declaration to Owner that:
    - (1) Work complies with all aspects of Contract Documents.
    - (2) All items on substantial completion punch list have been completed or corrected.
    - (3) All adjustments to materials, equipment, or systems are complete.
    - (4) All tools, construction equipment and surplus materials have been removed from site.
2. Owner will make final inspection with Contractor to ensure completion of all contract requirements.
3. When the Owner considers that all work is finally complete in accord with contract document requirements, they will prepare and process closeout documents.

D. CLOSEOUT SUBMITTALS.

1. Mechanical Contractor submit:

- a. Evidence of compliance with requirements of the Contract Documents:
  - (1) Certificates of Inspection for Fire Protection and Electrical.
- b. Paid utility bills.

APPLICATION FOR FINAL PAYMENT

- 1. Contractor submit duly executed:
  - a. Final invoice.
  - b. Contractor's final declaration.
  - c. Separate releases of waivers of liens for all subcontractors, suppliers, and others with liens rights against property of Owner, together with complete list of those parties.
  - d. Final accounting statement, reflecting all adjustments to contract sum:
    - 1. Original contract sum.
    - 2. Additions and deductions resulting from:
      - a. All change orders.
      - b. Deductions for uncorrected work.
  - e. Total contract sum, adjusted.
  - f. Previous payments.
  - g. Sum remaining due.
- 2. Owner will process final statement in accord with the General Conditions of the Contract.

END 01700.

DIVISION 1 - GENERAL REQUIREMENTS  
Section 01710 - Final Cleaning

I. **GENERAL**

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor: Provide final cleaning:
  - a. At completion of work, or at such other times as directed by Owner, remove all waste, debris, rubbish, tools, equipment, machinery and surplus materials. Clean all sight exposed surfaces; leave work clean and ready for occupancy.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 01010 - Project Summary.
  - b. 01561 - Construction Cleaning.
  - c. 01700 - Contract Closeout.

C. SAFETY REQUIREMENTS

1. Standards: Maintain project in accord with the following safety and insurance standards:
  - a. Applicable Federal and State requirements.
  - b. National Fire Protection Association (NFPA).
2. Hazards Control:
  - a. Store volatile wastes in covered metal containers and remove from premises daily.
  - b. Prevent accumulation of wastes which create hazardous conditions.
  - c. Provide adequate ventilation during use of volatile or noxious substances.
3. Conduct cleaning and disposal operations to comply with State and Federal anti-pollution laws.
  - a. Do not burn or bury rubbish and waste materials on project site.
  - b. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - c. Do not dispose of wastes in streams or waterways.

D. SUBMITTALS

1. Manufacturer's recommendations for cleaning specified products.
2. Proposed cleaning products for products where manufacturer's recommendations are not specified.

II. **PRODUCTS**

A. MATERIALS

1. Select and use all cleaning materials and equipment with care to avoid scratching, marring, defacing, staining, or discoloring surfaces cleaned.
2. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.
3. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

## **EXECUTION**

### FINAL CLEANING

1. Employ experienced workmen for final cleaning.
2. Remove grease, dust, dirt, stains, labels, fingerprints, protection and other foreign materials from sight-exposed interior and exterior finished surfaces; polish surfaces so designated to specified finish.
3. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces to ensure performance.
4. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
5. Contractor soft broom clean all exposed concrete surfaces clean; other paved areas with soft or stiff broom as directed. Rake clean other surfaces on grounds.
6. Contractor sweep and mop clean all resilient and ceramic tile flooring and vacuum carpet.
7. Contractor remove snow and ice from access to building.
8. Contractor replace air handling filters if units were operated during construction.
9. Contractor clean ducts, blowers and coils, when directed by Architect.
10. Maintain finally cleaned areas until project, or designated portion thereof, is accepted by Owner.

END 01710.

DIVISION 1 - GENERAL REQUIREMENTS  
Section 01730 - Operating and Maintenance Data

1. **GENERAL**

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor:
  - a. Compile product data and related information appropriate for Owner's maintenance and operation of products and equipment provided under the Contract.
  - b. Instruct Owner's personnel in operation and maintenance of products, equipment, and systems.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 01700 - Contract Closeout.
  - b. 01740 - Warranties and Bonds.

C. SUBMITTALS

1. Form: Manufacturer's standard product or equipment data of same type and form furnished to manufacturer's service personnel.
2. Provide three sets of sturdy three ring binders properly labelled, of sufficient size to contain all submittals.

D. MANUAL CONTENT

1. Neatly typewritten table of contents for each volume, arranged in systematic order. Follow Project Manual format.
  - a. Contractor, name of responsible principal, address and telephone number.
  - b. List of each product specified to be included, indexed to volume content.
  - c. List with each product, the name, address and telephone number of:
    - (1) Subcontractor.
    - (2) Maintenance contractor, as appropriate.
    - (3) Identify area of responsibility of each.
    - (4) Local supply source for parts and replacement.
2. Product Data:
  - a. Include only sheets pertinent to specific product.
  - b. Annotate each sheet to:
    - (1) Clearly identify specific product or part installed.
    - (2) Clearly identify data applicable to installation.
    - (3) Delete reference to inapplicable installation.

3. Drawings:



- a. Supplement product data with drawings to clearly illustrate:
  - (1) Relationship of component parts of equipment and systems.
  - (2) Control and flow diagrams.
- 4. Written text to supplement product data for particular installation:
  - a. Organize in consistent format under separate headings for different procedures.
  - b. Provide logical sequence of instructions for each procedure.
- 5. Copy of each warranty, bond and service contract issued.
  - a. Provide information sheet for Owner's personnel. Give:
    - (1) Proper procedures in event of failure.
    - (2) Instances which might affect validity of warranties or bonds.

E. MANUAL FOR MATERIALS AND FINISHES

- 1. Submit two copies of complete manual in final form.
- 2. Content for products, applied materials and finishes:
  - a. Manufacturer's data, giving full information on products.
    - (1) Catalog number, size, and composition.
    - (2) Color and texture designations.
    - (3) Information for reordering special-manufactured products.
  - b. Instructions for care and maintenance.
    - (1) Manufacturer's recommendations for types of cleaning agents and methods.
    - (2) Cautions against cleaning agents and methods detrimental to product.
    - (3) Recommended cleaning and maintenance schedule.
- 3. Content for moisture-protection and weather-exposed products.
  - a. Manufacturer's data, giving full product information.
    - (1) Applicable standards.
    - (2) Chemical composition.
    - (3) Installation details.
  - b. Instructions for inspection, maintenance and repair.
- 4. Additional maintenance data requirements: Respective specification sections.

F. MANUAL FOR EQUIPMENT AND SYSTEMS.

- 1. Submit three copies of complete manual in final form.
- 2. Content, for each unit of equipment and system, as appropriate:

- a. Description of unit and component parts.
    - (1) Function, normal operating characteristics and limiting conditions.
    - (2) Performance curves, engineering data and tests.
    - (3) Complete nomenclature and commercial number of all replaceable parts.
  - b. Operating procedures:
    - (1) Start-up, break-in, routine and normal operating instructions.
    - (2) Regulation, control, stopping, shutdown and emergency instructions.
    - (3) Summer and winter operating instructions.
    - (4) Special operating instructions.
  - c. Maintenance procedures:
    - (1) Routine operations.
    - (2) "Troubleshooting" guide.
    - (3) Disassembly, repair and re-assembly.
    - (4) Alignment, adjusting and inspection.
  - d. Servicing and lubrication schedule.
    - (1) List of recommended lubricants.
  - e. Manufacturer's current printed operating and maintenance instructions.
  - f. Description of sequence of operation by control manufacturer.
  - g. Original manufacturer's parts list, illustrations, assembly drawings and diagrams for maintenance.
    - (1) Predicted life of parts subject to wear.
    - (2) Items recommended to be stocked as spare parts.
  - h. As-installed control diagrams by control manufacturer.
  - i. Each contractor's coordination drawings.
    - (1) As-installed color-coded piping diagrams.
  - j. Charts of valve tag numbers, with location and function of each valve.
  - k. List of original manufacturer's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.
  - l. Other data specified in pertinent specification sections.
3. Content, for each electric and electronic system, as appropriate:
- a. Description of system and component parts.
    - (1) Function, normal operating characteristics and limiting conditions.
    - (2) Performance curves, engineering data and tests.
    - (3) Complete nomenclature and commercial number of replaceable parts.
  - b. Circuit directories of panelboards.

- (1) Electrical service.
    - (2) Controls.
    - (3) Communications.
  - c. As installed color-coded wiring diagrams.
  - d. Operating procedures:
    - (1) Routine and normal operating instructions.
    - (2) Sequences required.
    - (3) Special operating instructions.
  - e. Maintenance procedures:
    - Routine operations.
    - "Troubleshooting" guide.
    - Disassembly, repair and re-assembly.
    - Adjustment and inspection.
    - a. Manufacturer's current printed operating and maintenance instructions.
    - b. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
    - c. Other data specified in pertinent specification sections.
- 4. Prepare and include additional data when need for such data becomes apparent during instruction of Owner's personnel.
- 5. Additional requirements for operating and maintenance data: Respective specification sections.

G. SUBMITTAL SCHEDULE.

- 1. Submit three copies of completed data in final form 15 business days prior to final inspection or acceptance.

H. INSTRUCTION OF OWNER'S PERSONNEL

- 1. Prior to final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.
- 2. Operating and maintenance manual shall constitute the basis of instruction.
- 3. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

END 01730.

**GENERAL**

A. REQUIREMENTS INCLUDE

1. Mechanical Contractor provide:
  - a. Compile specified warranties and bonds.
  - b. Co-executor specified submittals.
  - c. Review submittals. Verify compliance with Contract Documents.
  - d. Submit to Architect/Engineer.

B. RELATED REQUIREMENTS

1. Specified elsewhere:
  - a. 00050 - General Conditions of the Contract.
  - b. 01700 - Contract Closeout.

C. SUBMITTAL REQUIREMENTS

1. Assemble warranties and bonds, properly executed by each of the respective manufacturers, subcontractors, and suppliers.
2. Submit one original signed copy of each item.
3. Table of Contents: Neatly typed in orderly sequence; follow 1.06.
  - a. Product or work item.
  - b. Firm, with Principal's name, address, and telephone number.
  - c. Scope.
  - d. Date of beginning of warranty or bond (in accord with General Conditions).
  - e. Duration of warranty or bond.
  - f. Provide information for Owner's personnel: Proper procedure in case of product or equipment failure.
  - g. Contractor; responsible principal's name, address, and telephone number.

D. FORM OF SUBMITTALS

1. Prepare a single packet.
2. Format 8 1/2" x 11". Fold larger sizes to fit.
3. Cover: Identify each packet with typed label "Warranties And Bonds". List:

- a. Project Number and Title.
- b. Contractor's Name.
- c. Contract.

E. SUBMITTALS REQUIRED

- 1. Submit Warranties and Bonds as specified herein and as specified in individual specification sections.

F. General: The Contractor warrants that all work provided under the contract will be in conformance with the contract and free from defects in workmanship, materials, and equipment for a period of one (1) year or such longer period as may be specified in the contract documents, except as provided below. Warranty time periods shall commence with the date of owner acceptance of the certificate of substantial completion of the whole, or any part of the project. The warranty time period for any incomplete or uncorrected work including punch list work at the time of substantial completion shall commence with the date of final completion.

G. Extended Warranties: The contractor warrants that its workmanship, materials, and equipment for those building systems subject to seasonal loads will be in conformance with the contract and free from defects for a period of two years, commencing with the date of the certificate of substantial completion. This includes, but is not limited to, heating, ventilating, air conditioning, temperature control and test and balance work, as specified in the project manual.

H. Latent Defects. On demand by owner at any time within the ten (10) year period following substantial completion or final acceptance, if applicable, the Contractor shall promptly repair or replace all defective or non-conforming work resulting from, or constituting, latent defects, fraud, fraudulent concealment or gross negligence. The Owner will give timely notice of such defects.

I. Prompt Repair: Upon notice from the Owner of such defects or non-conforming work, the Contractor shall promptly visit the site in the company of owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or non-conforming work. The repair shall include all adjacent work not necessarily provided by the Contractor but damaged as a result of such defects or non-conforming work or as a result of remedying them. If the Contractor does not promptly repair or replace defective or non-conforming work, the owner may repair or replace such work and charge the cost thereof to the contractor. Work which is repaired or replaced by the contractor shall be inspected and shall be warranted by the contractor in accordance with this Article. The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

J. Commercial Warranties: The Contractor shall deliver all commercial warranties received from manufacturers to the Owner prior to final completion but this shall not reduce Contractor's obligations under this Article.

- K. Other Warranties: The Owner may require the Contractor to furnish other warranties as specified in the Project Manual.

END 01740.

1. GENERAL

1.01 WORK INCLUDES

A. Base Bid (Option #1):

1. Mechanical contractor provide (Natural Gas):
  - a. Full condensing Type 2 hot water boilers.
  - b. Titanium infused stainless steel Inox-Lamellar heat exchanger.
  - c. 96.8% efficiency.
  - d. Factory assembled and tested.
  - e. Piping as required to connect new boilers to the existing system.
  - f. Gas connection to boilers.
  - g. Electrical connection to burners.
  - h. Interlock new controls to the existing.
  - i. PVC combustion air and flue gas piping.
  - j. Water balancing.
  - k. Neutralizing kit.
2. Demolition of the existing boilers and portions of the piping as required for the installation of new boilers.
3. Demolition of the boiler flue pipes.
4. Remove combustion air fans and close off opening in exterior wall.

1.02 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Governing Codes:
  - a. 2014 Illinois State Plumbing Code.

1.03 REFERENCES

A. Referenced standards:

1. NFPA "Standard for the Installation of Gas Burning Equipment."
2. NFPA 54 "National Fuel Code."

3. ASME "Section IV."
4. CSA
5. AHRI
6. UL listed and labeled electrical components.

## 2. PRODUCTS

### 2.01 BOILERS

- A. Viessmann Full Condensing:
  1. Capacity: 2 – 2,500 MBH boilers with 2 heat engines each for N+1 redundancy.
  2. Titanium infused stainless steel Inox-Lamellar heat exchanger surface for maximum heat extraction.
  3. 160 psi maximum working pressure.
  4. Flue gas condensate runs off smooth "self-cleaning" heat exchanger surface.
  5. Large water content reduces wasteful burner cycling increasing system efficiency and overall durability – 108 gallons each boiler.
  6. 96.8 thermal efficiency.
  7. Extremely low water pressure drop – 11.6 Ft.hd at 280 gpm.
- B. Pumps:
  1. Reuse the existing pumps and valves.
- C. Building Automation Interface: Interlock controls to the existing building automation infrastructure to provide heating plant management functionality, including full modulating burner control for precise match of capacity.
- D. Installation Practices: Reconfigure the emergency stop switches to control all boiler room combustion equipment.
- E. Flue: Polypropylene.
- F. Combustion Air: Sealed combustion. Combustion air ducted directly to the boilers.
- H. Training: Technical support program provides operation training and refresher training as needed for the duration of the program (60 months).
- I. Water Balance: Included by Services Measurement and Ventilation Specialist.
- J. Warranty: The manufacturer shall provide the Owner a warranty form



that warrants the boiler for two (2) years and boiler vessel for ten (10) years and all other components for one (1) year after start-up date.

3. EXECUTION

3.01 BOILER INSTALLATION

- A. Boiler to be installed per manufacturer's printed instructions and as detailed on drawings.
- B. Set boiler on existing concrete pad.
- C. Test erected boiler per manufacturer's printed instructions.
- D. Boiler manufacturer's authorized service personnel shall provide start-up for boiler. Adjust all controls and certify that above has been completed in writing to Owner.
- E. Gas vents on regulators to be piped to exterior of building. Each vent shall be piped separately and terminated with a screened vent elbow. Terminal to be at least five (5) feet from any intake louvers or windows.
- F. Provide water balancing of new installation.
- G. Provide mechanical permit.

END OF SECTION 15555.1

1. GENERAL

1.01 WORK INCLUDES

A. Base Bid (Option #2):

1. Mechanical contractor provide (Natural Gas):
  - a. Full condensing Type 2 hot water boilers.
  - b. Titanium infused stainless steel Inox-Lamellar heat exchanger.
  - c. 96.8% efficiency.
  - d. Factory assembled and tested.
  - e. Piping as required to connect new boilers to the existing system.
  - f. Gas connection to boilers.
  - g. Electrical connection to burners.
  - h. Interlock new controls to the existing.
  - i. PVC combustion air and flue gas piping.
  - j. Water balancing.
  - k. Neutralizing kit.
2. Demolition of the existing boilers and portions of the piping as required for the installation of new boilers.
3. Demolition of the boiler flue pipes.
4. Remove combustion air fans and close off opening in exterior wall.

1.02 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Governing Codes:
  - a. 2014 Illinois State Plumbing Code.

1.03 REFERENCES

A. Referenced standards:

1. NFPA "Standard for the Installation of Gas Burning Equipment."
2. NFPA 54 "National Fuel Code."

3. ASME "Section IV."
4. CSA
5. AHRI
6. UL listed and labeled electrical components.

## 2. PRODUCTS

### 2.01 BOILERS

- A. Wiel-McLain #SVF-2500 Full Condensing:
  1. Capacity: 2 – 2,500 MBH boilers with 2 heat engines each for N+1 redundancy.
  2. Titanium infused stainless steel Inox-Lamellar heat exchanger surface for maximum heat extraction.
  3. 160 psi maximum working pressure.
  4. Flue gas condensate runs off smooth "self-cleaning" heat exchanger surface.
  5. Large water content reduces wasteful burner cycling increasing system efficiency and overall durability – 108 gallons each boiler.
  6. 96.8 thermal efficiency.
  7. Extremely low water pressure drop – 11.6 Ft.hd at 280 gpm.
- B. Pumps:
  1. Reuse the existing pumps and valves.
- C. Building Automation Interface: Interlock controls to the existing building automation infrastructure to provide heating plant management functionality, including full modulating burner control for precise match of capacity.
- D. Installation Practices: Reconfigure the emergency stop switches to control all boiler room combustion equipment.
- E. Flue: Polypropylene.
- F. Combustion Air: Sealed combustion. Combustion air ducted directly to the boilers.
- H. Training: Technical support program provides operation training and refresher training as needed for the duration of the program (60 months).
- I. Water Balance: Included by Services Measurement and Ventilation Specialist.
- J. Warranty: The manufacturer shall provide the Owner a warranty form

that warrants the boiler for two (2) years and boiler vessel for ten (10) years and all other components for one (1) year after start-up date.

3. EXECUTION

3.01 BOILER INSTALLATION

- A. Boiler to be installed per manufacturer's printed instructions and as detailed on drawings.
- B. Set boiler on existing concrete pad.
- C. Test erected boiler per manufacturer's printed instructions.
- D. Boiler manufacturer's authorized service personnel shall provide start-up for boiler. Adjust all controls and certify that above has been completed in writing to Owner.
- E. Gas vents on regulators to be piped to exterior of building. Each vent shall be piped separately and terminated with a screened vent elbow. Terminal to be at least five (5) feet from any intake louvers or windows.
- F. Provide water balancing of new installation.
- G. Provide mechanical permit.

END OF SECTION 15555.2

I. GENERAL

A. WORK INCLUDES

1. Mechanical contractor provide:

- a. Startup of all equipment and systems installed under contract. Provide all information and assistance cooperation with the testing, adjusting, and balancing services.

B. START-UP PROCEDURES.

1. Bearings:

- a. Inspect for cleanliness. Clean and remove foreign materials.
- b. Verify alignment.
- c. Replace defective bearings and those which run rough and noisy.
- d. Lubricate as necessary. Follow manufacturer's recommendations.

2. Motors:

- a. Inspect each motor for amperage comparison to nameplate value.
- b. Correct conditions which produce excessive current flow which exist due to equipment malfunction.

END 15995.