

ADDENDUM #1

**City of Sharonville, OH
Sharonville Fire Station #87 Renovation
11210 Reading Road, Sharonville, OH 45241
Hamilton County, OH
CT Project Number 170636
Issue Date: December 10, 2019**

BID DUE DATE AND TIME: THURSDAY, DECEMBER 19, 2019 BY 2:00 P.M.

To All Bidders:

This addendum amends or supplements the original specifications, related documents, and previous addendums for this project. Please include a copy of this addendum with your bid submission to prove receipt of Addendum No.1 and its terms.

SPECIFICATIONS AND BIDDING DOCUMENTS:

1. Specification Index:
 - a. Corrected Specification Index – New Specification Index now includes Divisions 8, 9,10,11,12. Divisions not included in the Index were included in the Project Manual. **See included attachment with corrected Index.**
2. Section 055213 – Pipe and Tube Railings:
 - a. PDF file on CDs identified as 055213 PIPE AND TUBE RAILINGS are actually Section 064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS. PDF file identified as 064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS contains the same. **See included attachment for 055213 PIPE AND TUBE RAILINGS**

CONSTRUCTION DOCUMENTS:

1. Drawing G001:
 - a. Updated Drawing Index - Sheet S201 is deleted in its entirety
 - b. Exterior rendering *image* has been updated.



December 10, 2019

Addendum #1

Page | 2

2. Drawing S101:
 - a. Omitted Note 6 Earthquake Design Data *Deleted*
3. Drawing S102:
 - a. Sheet S102 *Deleted*
4. Drawing S601:
 - a. Detail 8/S601*Deleted*
5. Drawing S701:
 - a. Detail 3/S701 *Deleted*
6. Drawing A102:
 - a. Oil/Silt Separator shown now matches graphically what's shown on P105
 - b. Wall opening between Tools/Storage 117 and SCBA 118 has been modified to omit the small "bump" on wall common to Corridor 116
7. Drawing A103:
 - a. Move Door 206 to the East 3'-0"
8. Drawing A104:
 - a. Corrected door graphics in Elevation 2/A104 & Section 3/A104
9. Drawing A106:
 - a. Change keynote 5.8 now indicates Aluminum Letters – **Red Factory Finish**
10. Drawing A201:
 - a. Change Keynote 10.4 to 5.8 on Detail 5/A201
 - b. Change Doors 125 & 129 to Painted Hollow Metal (Insulated) Doors
11. Drawing A301:
 - a. Corrected door graphics in Building Sections 1 & 2/A301
12. Drawing A302:
 - a. Corrected door graphics in Building Section 11/A302
13. Drawing A404:
 - a. Revise 5/A404 to move Door 206 location to the East 3'-0".



December 10, 2019

Addendum #1

Page | 3

- b. Corrected Door tag number on 8/A404.
- c. Corrected Graphics on 5/A404.

14. Drawing A601:

- a. Added General Note #2 to Door Schedule – *All doors to be painted P1 unless noted otherwise.*
- b. Added Remark #7 to Door 100
- c. Changed Door 125 to **Type 1** Door
- d. Added Remark #8 to Door 125
- e. Changed Door 129 to **Type 1** Door

15. Drawing EL103:

- a. Corrected to show Ceiling Fans in Room 205 Fitness to be centered between 2x2 lights in same bay where shown.
- b. Corrected Wall Mounted Fixture in Room 204 Restroom to be shown surface mounted above sink area.

16. Drawing M101:

- a. Delete note referring to: ***Boilers to be removed by City.***

17. Drawing M601:

- a. Corrected HVAC Louver Schedule to describe Louver Finishes *by Architectural Selections, not Black.*
- b. Corrected HVAC Louver Schedule to describe L-2 Face Size as **24" x 125-3/4"**



December 10, 2019

Addendum #1

Page | 4

EXHIBIT A CLARIFYING STATEMENTS AND RESPONSES TO QUESTIONS

City of Sharonville, OH
Sharonville Fire Station #87 Renovation
Pre-Construction Conference
DECEMBER 4, 2019 – 10:30 AM TO 12:00 PM
AGENDA – WITH NOTES

-
- 1) Introductions / Sign-in (*By Michael Anderson (CT)*)
 - a) City of Sharonville (Sharonville)
 - i) *Kirk Mousa*
 - ii) *John Mackey*
 - b) CT Consultants, Inc. (CT)
 - i) *Michael Anderson*
 - c) Bidders (Contractor)/Attendees
 - i) *Re: Sign-In Sheet*
 - 2) Communications
 - a) Identify points of contact for Sharonville and CT. Chief Kirk Mousa, Sharonville will manage the project for the City of Sharonville. Michael Anderson, CT will manage the project for CT Consultants, Inc. *During the course of the life of the project, there may be a few others from the City of Sharonville involved in the process (TBD).*
 - b) All communications from Contractor, including RFI's and Submittals, shall be in writing to CT. Sharonville shall be copied on all responses from CT to Contractor. *(email correspondence is considered in writing) concurrently to CT and City to the primary points of contacts unless otherwise directed).*
 - c) All RFI's shall be consecutively numbered and include specification reference number where applicable. *Supplemental information, request or communications on an RFI will be sub numbered as follows RFI #1a, RFI #1b, etc.*
 - 3) Preparation of Bid
 - a) All bids must be submitted on the bid forms provided by CT in the purchased Bid Package Disc, using the provided Bid Forms is required to be a potential Contractor on this project. Bidders using their own bid forms will be rejected. Clarifications and Addenda will be issued by CT. *(No exceptions)*
 - b) The *entire bid book* must be submitted to Sharonville sealed with the Bidder's name, address and telephone number on the outside of the envelope. Prices for labor and materials shall be quoted separately and no additional process or qualifying clauses



December 10, 2019

Addendum #1

Page | 5

shall be written in. **Section “G” Bid Proposal and Legal Forms, Signed copy of Addendum #1 with Exhibit “A”.**

- c) Supplementary bid documents must be completed and submitted with the Bid in the Bid Package. **(No exceptions)**

Substitution of Materials and Equipment may be substituted with equivalent materials provided that brand name literature and specifications are provided with the proposed substitution. It will be the sole judgment of Sharonville as to the acceptability of the proposed substitution. **The City and CT are currently evaluating substitution request from several suppliers. This list will be issued to all registered bidders as they are approved. If they are not posted and the contractor chooses to use an unapproved alternate, the contractor assumes all risk associated should the City not approve the alternate. This risk shall be to supply the specified item at no additional cost to the City.**

- d) Bid security bond of 10% and corporate Surety approved by the owner is required and shall be made payable to the City of Sharonville. **(No exceptions)**
- e) Building permit is being applied for with the City of Sharonville and will be approved prior to beginning work. **There will be no cost to the contractor for the necessary permits. They will be issued to the City as the owner and subsequently assigned to the successful bidder. There should be no water or sewer capacity fees as the current approved taps are being reused.**
- f) Anything else needed in order for Contractor to proceed? **None were expressed by the contractor representatives present.**
- g) Contractor to discuss with the City mobilization dates after award. Secure construction perimeter site fencing shall be installed at the project site no earlier than February 1, 2020 – coordinate with the City of Sharonville on placement. **City of Sharonville indicated that they will begin the move-out process from the Fire Station the week of December 9, 2019. The awarded contractor and bid price will be announced publicly at the January 14, 2020 council meeting. The anticipated earliest date for securing the site at this time remains valid for beginning February 1, 2020.**

4) Plans and Specifications:

- a) Bidding Documents are current; no new plans or specifications will be issued. Addendum #1 with discussion clarifications and plan adjustments to follow this meeting, issued to bidders via email ~~by CT by EOB on Friday 12/6/2019.~~ **Refer to itemized drawing changes noted beginning on Page 1 of this Addendum – Issued on 12/10/2019.**
- b) Contractor is responsible for subcontractors (if any) having all ASI, Change Orders, and revised documents in the field. **(No exceptions)**



December 10, 2019

Addendum #1

Page | 6

- c) Any discrepancies in the plans, specifications, or details must be brought to CT's **and the City's** attention and clarified prior to installation of the work. Assumptions will not justify improper work. **(No exceptions)**
- d) The Owner (Sharonville) may accept any improper or defective work at their risk, in which case the Contract Sum must be equitably reduced through a deduct change order. ~~**described in Article 7 of the Project Manual.**~~

5) Contract:

- a) The General Construction amount is estimated at \$2,400,000. **(No exceptions)**
- b) As a general reminder, there are no unit prices or allowances in this project. **As discussed in meeting there may be areas of damaged roof insulation difficult to determine without demolition. See attached new Unit Price Form to use for areas of damaged roof insulation above expected amounts.**
- c) Per the Contract Documents, the Substantial Completion date is no later than Friday, August 28, 2020. **(No exceptions)**

All changes will be by written authorization only. These will be handled per the Contract Documents and A201 General Conditions of the Contract. **As discussed above in item 4b). There will be additional discussion of this process with the successful contractor at the preconstruction meeting as needed.**

- i) Request for proposal will be used for any monetary changes, and if acceptable to Sharonville, a Change Order will be issued. **See above.**
- ii) For issues that do not involve monetary changes, Supplemental Instructions will be issued. **(No exceptions)**

6) Project Submittals

- a) Contractor to submit a Schedule of Values (AIA G703) as soon as possible, but before first pay application. **(No exceptions)**
- b) Contractor to submit Construction Schedule and Submittals Schedule as soon as possible. **(No exceptions)**
- c) How will shop drawings and submittals be delivered and responded to? **Shop drawings are to be submitted directly to CT consultants with a copy to the City. The City does accept hard copy or electronic versions of shop drawings. Shop drawings will require CT's and the City's approval.**
- d) Contractor shall **review** and sign all submittals to the Architect **and the City**. Submittals shall have the referenced spec section on the attachment and the email subject line. Failure to do so will result in submittal being returned with no action taken. **(No exceptions)**
- e) The Contractor is responsible for maintaining updated record documents showing any changes to the work. Copies of these will be submitted to the City of Sharonville at



December 10, 2019

Addendum #1

Page | 7

conclusion of project, along with any applicable maintenance data and warranties. **(No exceptions)**

7) Progress Payments

- a) Progress payment requests (Pay Applications) shall be submitted no more than monthly to Sharonville for approval. Please submit these at least 10 days before the progress payment falls due, no specific calendar date is required. **City has no specific pay date schedule.**
- b) "Pencil copy" shall be submitted prior to formal application. **This will expedite the final version for approval and subsequent payment. These should be submitted approximately 10 days prior to the formal pay request.**
- c) Submit Waivers of Mechanics' Liens from previous pay application for sub-contractors and material suppliers with all pay requests, otherwise application will be denied. **(No exceptions)**
- d) Discuss Sharonville specific requirements (format, number of copies, etc.) needed for pay application submittals. **The City has no specific requirements.**
- e) Note that project cost is in excess of \$500,000, prevailing wages will apply. **(No exceptions)**
- f) Retainage: Partial payments to the contractor for work and materials delivered to the site shall be made at 92% of the value of the work until the work is 50% complete. After 50% complete, Sharonville will pay for the full value of the work. **(No exceptions)**
- g) Income tax shall be collected by the City on all salaries, wages, commissions and other compensation both resident and non-resident as a result of work done, services performed or rendered in the City **(No exceptions)**

8) Scheduling

- a) Progress Meetings to be held on an as needed basis. **Bi-weekly initially and weekly during phases with the most construction activity.**

9) Contractor Parking, Storage and Deliveries, Working Hours

- a) Review site sign-in and sign-out procedures for all Contractor personnel, subcontractors, suppliers and other required project support. **(No exceptions)**
- b) Discuss locations and areas to be utilized for staging and parking with Sharonville prior to mobilization **Upon award of the contractor, the entire site is available to the contractor for use of storage, construction trailers as deemed necessary by the contractor. Contractor shall provide a site plan diagram describing key areas of construction, including staging, laydown, construction trailer, contractor parking, etc.**
- c) What site storage provisions need to be made? **Per 9b above**
- d) Contractor must receive all deliveries; Owner will not be responsible for materials that are dropped off. **(No exceptions)**



December 10, 2019

Addendum #1

Page | 8

- e) Dumpster location? **Per 9b above**

What hours will construction take place (typically)? No work before 7:30am or after 7:30 pm Mon-Sat, no Sunday or National Holiday work shall be performed. Chief Kirk Mousa may authorize work hours or days in variance of this. Any issues with contractors being on site earlier or later than normal working hours? Security and access issues? **Any work on Sunday or Holidays must be submitted in writing (includes email) to the City and CT Consultants. Once again electronic request is preferred and can be responded to in the quickest manner.**

10) Use of Sharonville's Facilities

- a) It is imperative that site security be maintained at all times (not just working hours). **(No exceptions)**
- b) Utilities – Water and electric may be used without metering charges and will be City of Sharonville's expense. **(No exceptions)**
- c) Properly screened sanitary provisions shall be provided by Contractor. **(No exceptions)**
- Provide not less than 72 hours' notice when scheduling utility outages. **We do not believe there will be requirements for any utility outages that affect anyone other than this site.**
- d) Temporary signage requirements. **None required for this project by the City at this time. When Building/Zoning comments are received, they may address these issues further.**

11) Clean-Up/Dust and Noise Control

- a) Vehicular debris being tracked onto Reading and Cornell roadways will be monitored, and clean up enforced by Sharonville. **As discussed, this is a busy intersection and keeping a clean roadway, relatively quiet worksite is important to being a good neighbor in this area.**
- b) Keep dust/dirt and noise control measures in place and be respectful to adjoining homeowners and business owners as this is a mixed-residential neighborhood. **Per 9b above.**

12) Reading of vendor email questions submitted:

- Per our conversation this morning, please accept this substitution request and supporting documents for the Groves Turnout Gear storage. We are a sub-contractor in Des Moines and would like to bid Groves as an equal. – Groves Turnout Gear (See CSI Form 1.5C) **Groves Turnout Gear Storage is an approved alternate to Gear Grid brand.***
- I was in discussions with some of the KLH engineers about offering equals on a couple of lighting fixture types that we are not listed on and they have pointed me in this direction. I'm trying to find out how I can get listed as equal on the schedule on the few types we are not listed. – BR Lighting & Controls **(See CSI Form 1.5C & KLH Engineer Comments on Item #3 below)***



December 10, 2019

Addendum #1

Page | 9

3. (By KLH) Sheet EL601 – ELECTRIC LIGHTING – LUMINAIRE SCHEDULE

o Subject to compliance with quality, aesthetics, photometrics, etc., the following are considered acceptable equivalent luminaires:

- ☐ Type EXM – Emergi-lite ELXN400
- ☐ Type SL1 – SSL Coveline Wet 1.5
- ☐ Type TL – Jesco DL-AC-Flex
- ☐ Type Y1 – Trace-Lite TLED804
- ☐ Type Z1 – Lightolier FD4R

o For fixture types AB4/AB5, the submitted fixture only includes one option for the diameter of the slipfitter adapter. Since this needs to match what is existing in the field, the manufacturer would need to provide confirmation that they can provide the fixture if the adapter is discovered to be a different size once in construction. We do not recommend accepting this substitution without further information. The aesthetic doesn't quite match the basis-of-design.

o We do not recommend accepting the LE substitution because it does not include an option for integral battery backup.

o We do not recommend accepting the Z7 substitution because the fixture does not meet the intent of the basis-of-design. The fixture is not rated for use in an insulated ceiling, and the fixture depth is too large.

4. I'm writing about the card access and security cameras on the project. There is nothing in division 28 about them and I wanted to make sure I am not missing them. I'm not sure if you are the one that will be helping with that portion of the decision or if they have one selected already. Either way a little guidance would be great. If you have a contact with the end user that will be using the systems I would be happy to reach out to them to discuss options. – Johnson Controls **The City has engaged MobilComm to provide Card Access and Security for the Firestation. The requirements for each of those items is detailed out on sheet T-512. It notes the access control is rough-in only and the only thing required at the camera locations is the category cable. Attached is their SOW.**

5. I would like to bid on the attached portion of this project but need answers to a few key components. I need to know the expectation on the psf (load) rating and what decking material they would like? – (Bidder) **The live load is indicated in the left column of the Structural General Notes on Drawing S001, 150 psf for areas not specifically listed below. See Plan 2 "Partial Second Floor & Mezzanine Framing Plan" on Drawing S101 for the Mezzanine's floor deck with the note:**

**AT MEZZANINE DECK, TOTAL SLAB
DEPTH = 4" (2VLI20 - 2" GALVANIZED
METAL DECK + 2" CONCRETE W/ WWR**



December 10, 2019

Addendum #1

Page | 10

6X6 W2.1XW2.1). SPANS AS INDICATED.

Bidders should bid that slab on deck and shall not substitute alternative flooring designs without written permission from the Engineer of Record.

The Specification Section 053100 also has important requirements for the deck.

6. I have a question concerning this project, as far as temperature controls. Johnson Controls was not mentioned, would you accept their controls? – (Bidder) **There is no scope of work for an Automated Building Control System. Johnson is acceptable for building temperature controls for individual RTUs and HVAC.**

7. No equipment schedule or sequence of operations are provided for these units. Please advise what controls are to be provided.– (Mechanical Vendor Bidder) **Basis of design manufacturer and model for gravity ventilators is indicated on sheet M-104. Motor operated dampers are called out for ductwork from each gravity ventilator on sheet M-102 and M-103. Controls sequences for the outside air and relief dampers are located on sheet M-502.**

8. Thank you very much for the call just a moment ago and consideration of our equals package on this project. Please see the attached PDF document and let me know if you need anything else from us. **(See KLH Engineer Comments on Item #9 below)**

9. (By KLH) Sheet EL601 – ELECTRIC LIGHTING – LUMINAIRE SCHEDULE

Subject to compliance with quality, aesthetics, photometrics, etc., the following are considered acceptable equivalent luminaires:

Type AB4/AB5 – Lumenpulse PUR100Y

Type GAZ – WAC 5212

Type LE – Pinnacle EX6WET

Type TL – Optic Arts Flex DC 30

Type Z1 – Green Creative 10NCDL

Type Z7 – Intense LC4

10. Sheet A004, note 32.3 Generator enclosure. What type of enclosure is required? Do not see any info on plans or in specs. – (Bidder) **Generator Enclosure, including Fencing or Walls is not required – Generator may be placed in the open.**

11. Section 015000, 2.1, A: temporary fencing is not shown on site plan A004, will temporary fencing be required? – (Bidder) **Temporary fencing is required and awarded contractor will need to provide a diagram of where fencing is being located and construction areas are behind the fencing after being awarded – not in bid package.**



December 10, 2019

Addendum #1

Page | 11

13) General Discussion, Questions and Answers

- a) Q: Can Roofing Insulation repair be included in the bid as a "Unit Cost"? The condition of the existing insulation to be repaired could vary greatly and until the membrane is removed, this cannot be known with certainty.

A: Yes, Submit unit costs for roof insulation repair only with attached new formwork. See New Spec Section and 5b.

- b) Q: Per note on drawing M101, the Boiler is to be removed by the City. Will the Piping also be removed by the City?

A: Note indicating boiler to be removed by the City is in error. Awarded contractor is to remove existing boiler and piping as part of building demolition procedures.

14) Clarifications and Follow-up

- a) The provided Specifications direct the awarded contractor to perform HazMat and Asbestos abatement identified in the included Terracon Asbestos Survey dated May 13, 2019. It was mentioned during the meeting that the City is abating the building of asbestos prior to the contractor being onsite. **The City will not be abating the building of hazardous materials and the contractor should include this scope of work in their bid as previously directed. Refer to Bid Package for Asbestos Survey Report.**
- b) The City has indicated they will be removing the following items from the building prior to demolition: **Existing Plywood Turnout Gear Lockers, Existing Kitchen Casework, Laminate Tops and Appliances, Existing Wall-hung Trophy Case, Existing Wall Hung Electronic devices including Phones, Existing Wall-hung Paper Towel Dispensers, Hand Sanitizer Dispensers.**

This addendum shall be considered in submitting your bid and shall be attached to the Appendix A: Bid Schedule - Summary and made a part thereof. Please sign and date this page below and include in your submitted bid or alternatively scan and e-mail to manderson@ctconsultants.com to acknowledge receipt of this Addendum No. 1.

Please direct any questions regarding this process to Michael Anderson, Senior Architect, at manderson@ctconsultants.com or telephone at 513.792.8405.

Michael A. Anderson, RA, AIA
Senior Architect



December 10, 2019

Addendum #1

Page | 12

Printed name of bidder representative signing below & Company Name

Signature of Bidder

Date

Printed name of bidder representative signing below & Company Name

Signature of Bidder

Date

Attachments:

1. Revised Specification Index (Pages 1-7)
2. 012100 Allowances
3. 012200 Unit Prices
4. 055213 Pipe and Tube Railings
5. Bid Forms: Unit Price Schedule & Allowance Schedule
(To be included with your Bid Forms)
6. Pre-Bid Meeting Sign-In Sheet

END OF ADDENDUM 1

SPECIFICATION INDEX

PROJECT INFORMATION SHEET

SHARONVILLE CITY OFFICIALS

LEGAL NOTICE

DESCRIPTION

PAGE NUMBERS

BIDDING AND CONTRACT REQUIREMENTS

SECTION A	INFORMATION AND INSTRUCTIONS TO BIDDERS.....	1 – 5
SECTION B	CONTROL WORK	1 – 2
SECTION C	LEGAL RELATIONS AND PUBLIC RESPONSIBILITY	1 – 3
SECTION D	PREVAILING WAGE.....	1 – 91
SECTION E	GENERAL CONDITIONS OF THE CONTRACT	1 – 1
SECTION F	SUPPLEMENTAL CONDITIONS FOR GENERAL CONDITIONS..	1 – 1
SECTION G	BID PROPOSAL AND LEGAL FORMS	1 – 26

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

003126	EXISTING HAZARDOUS MATERIAL INFORMATION.....	1 – 1
--------	--	-------

DIVISION 01 – GENERAL REQUIREMENTS

011000	SUMMARY	1 – 4
012300	ALTERNATES.....	1 – 2
012500	SUBSTITUTION PROCEDURES.....	1 – 4
012600	CONTRACT MODIFICATION PROCEDURES.....	1 – 3
012900	PAYMENT PROCEDURES	1 – 5
013100	PROJECT MANAGEMENT AND COORDINATION	1 – 11
013200	CONSTRUCTION PROGRESS DOCUMENTATION	1 – 5
013300	SUBMITTAL PROCEDURES.....	1 – 9
014000	QUALITY REQUIREMENTS.....	1 – 9
015000	TEMPORARY FACILITIES AND CONTROLS.....	1 – 8
016000	PRODUCT REQUIREMENTS	1 – 6
017300	EXECUTION.....	1 – 9
017700	CLOSEOUT PROCEDURES.....	1 – 6
017823	OPERATION AND MAINTENANCE.....	1 – 8
017839	PROJECT RECORD DOCUMENTS.....	1 – 5

DESCRIPTION**PAGE NUMBERS****DIVISION 02 – EXISTING CONDITIONS**

024119	SELECTIVE DEMOLITION	1 – 7
--------	----------------------------	-------

DIVISION 03 – CONCRETE

033000	CAST-IN-PLACE CONCRETE.....	1 – 20
033543	POLISHED CONCRETE FINISHING	1 - 3

DIVISION 04 – MASONRY

042000	UNIT MASONRY	1 – 15
--------	--------------------	--------

DIVISION 05 – METALS

051200	STRUCTURAL STEEL FRAMING	1 – 10
053100	STEEL DECKING.....	1 – 6
054000	COLD-FORMED-METAL FRAMING	1 – 10
055000	METAL FABRICATIONS.....	1 – 10
055113	METAL PAN STAIRS	1 – 11
055213	PIPE AND TUBE RAILINGS.....	1 – 9

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

061053	MISCELLANEOUS ROUGH CARPENTRY	1 – 7
064116	PLASTIC-LAMINATE-CLAD-ARCHITECTURAL CABINETS.....	1 – 8

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

071326	SELF-ADHERING SHEET WATERPROOFING	1 – 5
072100	THERMAL INSULATION	1 – 3
074213.13	FORMED METAL WALL PANELS	1 – 8
074213.19	INSULATED METAL WALL PANELS.....	1 – 10
075423	THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING	1 – 12
077100	ROOF SPECIALTIES	1 - 8
078413	PENETRATION FIRESTOPPING	1 – 6
078443	JOINT FIRESTOPPING.....	1 – 5
079200	JOINT SEALANTS	1 - 10

DESCRIPTION**PAGE NUMBERS****DIVISION 08 – OPENINGS**

081113	HOLLOW METAL DOORS AND FRAMES	1 – 8
081416	FLUSH WOOD DOORS	1 – 7
083113	ACCESS DOORS AND FRAMES	1 – 5
083613	SECTIONAL DOORS	1 – 9
084113	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS	1 – 10
086200	UNIT SKYLIGHTS	1 – 4
087111	DOOR HARDWARE (DESCRIPTIVE SPECIFICATIONS	1 – 21
088000	GLAZING	1 – 11

DIVISION 09 – FINISHES

092216	NON-STRUCTURAL METAL FRAMING	1 – 10
092400	CEMENT PLASTERING	1 – 5
092900	GYPSUM BOARD	1 – 9
093013	CERAMIC TILING	1 – 11
095113	ACOUSTICAL PANEL CEILINGS	1 – 9
096513	RESILIENT BASE AND ACCESSORIES	1 – 6
096566	RESILIENT ATHLETIC FLOORING	1 – 5
096813	TILE CARPETING	1 – 6
099113	EXTERIOR PAINTING	1 – 7
099123	INTERIOR PAINTING	1 – 7

DIVISION 10 – SPECIALTIES

101419	DIMENSIONAL LETTER SIGNAGE	1 – 6
101423.16	ROOM-IDENTIFICATION PANEL SIGNAGE	1 – 7
102800	TOILET, BATH, AND LAUNDRY ACCESSORIES	1 – 5
104413	FIRE PROTECTION CABINETS	1 – 5
104416	FIRE EXTINGUISHERS	1 – 4
105030	TURNOUT GEAR LOCKERS	1 – 4
105300	METAL CANOPIES	1 – 3
107500	FLAGPOLES	1 – 5

DESCRIPTION**PAGE NUMBERS****DIVISION 12 – FURNISHINGS**

122413	ROLLER WINDOW SHADES	1 – 5
123600	CONCRETE COUNTERTOPS	1 – 6
123661.16	SOLID SURFACING COUNTERTOPS	1 – 4

DIVISION 22 PLUMBING

220170	OPERATION AND MAINTENANCE OF PLUMBING SYSTEMS	1 – 3
220501	COMMON WORK RESULTS FOR PLUMBING	1 – 10
220503	SUBMITTALS FOR PLUMBINGD	1 – 13
220505	EXISTING CONDITIONS AND DEMOLITION	1 – 4
220513	COMMON MOTOR REQUIREMENTS FOR PLUMBING	1 – 2
220513.13	VARIABLE FREQUENCY DRIVES FOR PLUMBING	1 – 3
220516	EXPANSION FITTINGS AND LOOPS FOR PLUMBING PIPING	1 – 4
220517	SLEEVES AND SEALS FOR PLUMBING PIPING	1 – 5
220518	ESCUTCHEONS FOR PLUMBING PIPING	1 – 2
220519	METERS AND GAUGES FOR PLUMBING PIPING	1 – 4
220523	GENERAL DUTY VALVES OR PLUMBING PIPING	1 – 6
220529	HANGERS AND SUPPORTS FOR PLUMBING PIPING AND	1 – 11
	EQUIPMENT	
220548	SEISMIC CONTROLS FOR PLUMBING SYSTEMS	1 – 3
220553	IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT	1 – 3
220593	TESTING, ADJUSTING AND BALANCING FOR PLUMBING	1 – 12
	SYSTEMS	
220719	PLUMBING SYSTEMS INSULATION	1 – 14
221116	DOMESTIC WATER PIPING	1 – 10
221119	DOMESTIC WATER PIPING SPECIALTIES	1 – 9
221123	DOMESTIC WATER PUMPS	1 – 3
221316	SANITARY WASTE AND VENT PIPING	1 – 10
221319	SANITARY WASTE PIPING SPECIALTIES	1 – 9
221319.13	SANITARY WASTE INTERCEPTORS	1 – 2
221413	STORM DRAINAGE PIPING	1 – 10
221423	STORM DRAINAGE PIPING SPECIALTIES	1 – 4
221500	GENERAL SERVICE COMPRESSED AIR SYSTEMS	1 – 6
221613	NATURAL GAS PIPING	1 – 12
223001	THERMOSTATIC MIXING VALVES	1 – 2
223400	FUEL-FIRED, DOMESTIC WATER HEATERS	1 – 4
224000	PLUMBING FIXTURES	1 – 8

DESCRIPTION**PAGE NUMBERS****DIVISION 23 HVAC**

230170	OPERATION AND MAINTENANCE OF HVAC SYSTEMS	1 – 5
230501	COMMON WORK RESULTS FOR HVAC	1 – 9
230503	SUBMITTALS FOR HVAC	1 – 5
230529	HANGERS AND SUPPORTS FOR HVAC PIPING	1 – 9
	AND EQUIPMENT	
230548	SEISMIC CONTROLS FOR HVAC SYSTEMS.....	1 – 2
230553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	1 – 5
230593	TESTING, ADJUSTING AND BALANCING FOR HVAC.....	1 – 4
230713	DUCT INSULATION	1 – 5
230719	HVAC PIPING INSULATION	1 – 10
230900.13	STAND ALONE HVAC CONTROLS	1 – 12
230993	SEQUENCE OF OPERATIONS FOR HVAC CONTROLS	1 – 3
232113.20	AIR-CONDITIONS CONDENSATE PIPING	1 – 3
232300	REFRIGERANT PIPING	1 – 6
233113	METAL DUCTS.....	1 – 9
233300	AIR DUCT ACCESSORIES	1 – 9
233423	HVAC POWER VENTILATORS.....	1 – 4
233516	ENGINE EXHAUST SYSTEMS	1 – 4
233713	DIFFUSERS, REGISTERS AND LOUVERS	1 – 2
233813	COMMERCIAL KITCHEN HOODS AND DUCTWORK	1 – 6
235400	FURNACES.....	1 – 4
235533	GAS-FIRED UNIT HEATERS	1 – 3
238129	DUCTLESS SPLIT SYSTEM AIR CONDITIONING UNITS.....	1 – 6

DIVISION 26 ELECTRICAL

260100	OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS .	1 – 4
260501	COMMON WORK RESULTS FOR ELECTRIC.....	1 – 12
260502	COMMON ELECTRIC MATERIALS AND METHODS	1 – 4
260503	SUBMITTALS FOR ELECTRICAL SYSTEMS	1 – 6
260519	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS	1 – 5
	AND CABLES	
260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	1 – 7
260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	1 – 10

DESCRIPTION**PAGE NUMBERS****DIVISION 26 ELECTRICAL (Continued)**

260533	RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS	1 – 21
260537	J-HOOK PATHWAYS FOR ELECTRICAL SYSTEMS.....	1 – 3
260543	UNDERGROUND DUCTS AND RACEWAYS FOR	1 – 5
	ELECTRICAL SYSTEMS	
260548	SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS	1 – 2
260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	1 – 9
260584	MECHANICAL EQUIPMENT.....	1 – 5
260590	ELECTRICAL SPECIALTIES	1 – 2
260919	ENCLOSED CONTACTORS	1 – 2
260923	LIGHTING CONTROL DEVICES.....	1 – 5
262116	LOW-VOLTAGE UNDERGROUND ELECTRICAL SERVICE	1 – 2
	ENTRANCE	
262416	PANELBOARDS	1 – 5
262713	ELECTRICITY METERING	1 – 2
262726	WIRING DEVICES.....	1 – 10
262813	FUSES.....	1 – 2
262816.13	ENCLOSED CIRCUIT BREAKERS	1 – 3
262816.16	ENCLOSED SWITCHES.....	1 – 3
262913.13	ACROSS-THE-LINE MOTOR CONTROLLERS	1 – 4
263213	ENGINEER GENERATORS.....	1 – 15
263600	TRANSFER SWITCHES	1 – 7
264313	SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL	1 – 8
	POWER CIRCUITS	
265100	LIGHTING	1 – 9

DIVISION 27 – COMMUNICATION

270001	COMMON WORK RESULTS FOR COMMUNICATIONS.....	1 – 11
270002	QUALITY ASSURANCE FOR COMMUNICATIONS	1 – 4
270501	BASIC MATERIALS AND METHODS.....	1 – 11
270503	SUBMITTALS FOR COMMUNICATIONS.....	1 – 14
270528	PATHWAYS FOR COMMUNICATIONS	1 – 24
270550	FIRESTOPPING FOR COMMUNICATIONS.....	1 – 10
270553	IDENTIFICATION FOR COMMUNICATIONS.....	1 – 9

DESCRIPTION**PAGE NUMBERS****DIVISION 27 COMMUNICATION (Continued)**

270810	VERIFICATION TESTING OF STRUCTURED CABLING	1 – 21
271110	WALL LININGS FOR COMMUNICATION ROOMS	1 – 3
271116	CABINETS, RACKS, FRAMES AND ENCLOSURES	1 – 7
271123	CABLE MANAGEMENT AND LADDER RACK.....	1 – 8
271126	RACK MOUNTED POWER PROTECTION AND POWER STRIPS...	1 – 4
271333	COAXIAL BACKBONE CABLING.....	1 – 8
271513	COPPER HORIZONTAL CABLING	1 – 13
271533	COAXIAL HORIZONTAL CABLING	1 – 9
271543	FACEPLATES AND MOUNTING	1 – 4
274100	AUDIO AND VIDEO SYSTEMS	1 – 7

DIVISION 28 – SAFETY AND SECURITY

284621.11	DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM.....	1 – 14
284621.27	SINGLE-STATION AND MULTI-STATION SMOKE ALARMS	1 – 3
284621.31	SINGLE-STATION AND MULTI-STATION COMBINATION.....	1 – 2
	SMOKE CARBON MONOXIDE ALARMS	

DIVISION 32 – EXTERIOR IMPROVEMENTS

321313	CONCRETE PAVING	1 – 11
323223	SEGMENTAL RETAINING WALLS	1 – 7
329200	TURF AND GRASSES	1 – 6

UNIT PRICE SCHEDULE

For increasing the quantities of work items from those indicated on the Contract Document Drawings upon written instructions from the Architect, the following unit prices shall prevail:

Unit Price No. 1: Remove and replace deteriorated and damaged roof insulation

A. Description:

1. Remove and dispose of deteriorated, water damaged, or otherwise unsuitable existing roof insulation, and replace with insulation matching thickness.

\$_____

B. Unit of Measurement: Square Foot

C. See Division 1 Section "Allowances" for quantities of above to be included in the Total General Construction Base Bid as a Contingency Allowance.

Unit Price No. 2: Remove and replace deteriorated and damaged wood blocking/nailers

A. Description:

1. Remove and dispose of deteriorated, water damaged, or otherwise unsuitable existing wood blocking/nailers, and replace with blocking/nailers matching thickness.

\$_____

B. Unit of Measurement: Linear Foot

C. See Division 1 Section "Allowances" for quantities of above to be included in the Total General Construction Base Bid as a Contingency Allowance.

ALLOWANCE SCHEDULE

Allowances calculated below to be included in the General Construction Base Bid.

A. Allowance No. 1 (Contingency Allowance):

1. Unit Price No. 1 (Insulation) \$_____SF X 2,500 SF = \$_____

B. Allowance No. 2 (Contingency Allowance):

1. Unit Price No. 2 (Blocking/Nailers) \$_____LF X 100 LF = \$_____

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for applying unit-costs to stipulated quantities for establishing contingency allowances.
 - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, cost for delivery, handling, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Remove and replace deteriorated and water damaged roof insulation.
1. Description: Remove and dispose of deteriorated, water damaged, or otherwise unsuitable existing roof insulation, and replace with insulation matching thickness (assumed to be 1.5 inches thick), according to Section 075423 "Thermoplastic Polyolefin (TPO) Roofing."
 2. Unit of Measurement: Square feet of insulation removed and replaced.
 3. Coordinate unit price with contingency allowance in Section 012100 "Allowances."
- B. Unit Price 2: Remove and replace deteriorated and water damaged wood blocking and nailers.
1. Description: Remove and dispose of deteriorated, water damaged, or otherwise unsuitable existing wood blocking and nailers, and replace with blocking and nailers matching dimensions (assumed to be 2x6 members), according to Section 061055 "Miscellaneous Rough Carpentry."
 2. Unit of Measurement: Linear feet of blocking/nailers removed and replaced.
 3. Coordinate unit price with contingency allowance in Section 012100 "Allowances."

END OF SECTION 012200

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Contingency allowances, based on submitted unit-costs.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices.

1.3 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.4 CONTINGENCY ALLOWANCES

- A. Allowances shall be derived by applying the submitted unit-costs to the unit of measurement stipulated in the Schedule of Allowances below. This amount shall be included in the Bid Proposal, and included as a contingency allowance for unforeseen conditions.
- B. Use the contingency allowance only as directed by Architect for Owner's purposes.
 - 1. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Contingency Allowance based on Unit-Costs: Include the removal and replacement of 2,500 square feet of deteriorated and/or water damaged roof insulation as specified in Section 075423 "Thermoplastic Polyolefin (TPO) Roofing."
- B. Allowance No. 2: Contingency Allowance based on Unit-Costs: Include the removal and replacement of 100 linear feet of deteriorated and/or water damaged wood nailers and blocking as specified in Section 061055 "Miscellaneous Rough Carpentry."

END OF SECTION 012100

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel pipe and tube railings.
- B. Related Requirements:
 - 1. Section 055112 "Metal Pan Stairs" for steel tube railings associated with metal pan stairs.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
 - 3. Grout, anchoring cement, and paint products.

- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.
- D. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.
- E. Evaluation Reports: For post-installed anchors, from ICC-ES.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.

1. Delegated design is not required for railings, posts, and connections indicated on Drawings at mezzanine and deck areas, where specific sizes and details are included.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
 - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 STEEL

- A. Tubing: ASTM A 500 (cold formed) or ASTM A 513.
- B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
 1. Provide galvanized finish for exterior installations.
- C. Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.4 FASTENERS

- A. General: Provide the following:

1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 for zinc coating.
 2. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.
 3. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:
1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
 2. Provide Phillips flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
1. For railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- E. Intermediate Coats and Topcoats: Provide products that comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- G. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- H. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
 1. Water-Resistant Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.

- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- J. Form Changes in Direction as Follows:
 - 1. By bending or by inserting prefabricated elbow fittings.
 - 2. By flush bends or by inserting prefabricated flush-elbow fittings.
 - 3. By radius bends or by inserting prefabricated elbow fittings.
- K. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of railing members with prefabricated end fittings.
- M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
- N. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.7 STEEL FINISHES

- A. Galvanized Railings:
 - 1. Hot-dip galvanize exterior steel railings, including hardware, after fabrication.
 - 2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
 - 3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
 - 4. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
 - 5. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

- B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
- C. For nongalvanized-steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves; however, galvanize anchors to be embedded in exterior concrete or masonry.
- D. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- E. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
 - 1. Shop prime uncoated railings with universal shop primer indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches deep and 3/4 inch larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Leave anchorage joint exposed with 1/8-inch buildup, sloped away from post.
- C. Anchor posts to surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to supporting surfaces as follows:
 - 1. For steel pipe railings, weld flanges to post and fasten to supporting surfaces.

3.4 ATTACHING RAILINGS

- A. Anchor railing ends at walls with round flanges anchored to wall construction.
- B. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- C. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 - 2. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.

3.5 ADJUSTING AND CLEANING

- A. Clean by washing thoroughly with clean water and soap and rinsing with clean water.
- B. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used

for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

3.6 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION 055213

PREBID MEETING - SIGN-IN SHEET (LEGIBLY)

City of Sharonville, Ohio
Sharonville Firestation #87

CT Project Number 170636 – December 4, 2019 10:30pm

NAME	COMPANY (REPRESENTING)	ADDRESS	PHONE#	EMAIL ADDRESS
Clint Isaac	Enterprise Roofing	1021 Irving Ave Dayton OH 45419	937-298-8661	cisaac@enterpriseroofing.com
Blake Gebhardt	Siemers Demolition	1021 Summer St Cincy, OH	937-545-7769	SiemersLLC@outlook.com
Terry Bachelier	DEMO INC	7601 School Rd 45249	513-202-4029	Demolitionco@Hotmail.com
Axel Alvarado	Cochran Eam	2046 Miles Woods Drive	859-307-9901	aalvarado@Cochran.com
JEFF LUKE	Johnson Controls	Wesley Ave Cincy OH 45212	513-544-3117	Jeff.A.Luke@JCI.com
Paul Poppleton	DFS	1 Techview Drive Cincy OH 45215	513-561-0051	jpoppleton@dfscincy.com
DAVID REBERSDORFER	ENDEAVOR CONSTRUCTION	6801 LONGSPURLING PLEASANT PLAIN OH 45162	513-276-2293	SAB@ENDEAVORCONSTRUCTION.COM
Tom SHECKEIS	GIEGLER	6156 GLENMAY 45211	513-497-7168	TSHECKEIS@GIEGLER.COM
Dan McBride	INSIGNIA	308 GORGRAVE Rd West Carrollton OH 45449	737-866-2341	Dan@IMAGINEINSIGNIA.com
JOHN GRIFFIN	Buckeye Power Sales	4992 Rolto Rd, West Chester, 45069	513-785-5561	jgriffin@buckeyepowersales.com
Ed Keen	DSEA Services	506 NORTHLAND 45240	513-674-1700	EKEEN@DOK.COM
Randy Clark	DER Development	750 US 50, Milford, OH 45150	513-831-7766 Ext 205	rclark@derdevelopment.com
Bill Stagg	Triton GC	8162 DUKE MASON 45040	513-460-1191	bstagg@TRITONSERVICESINC.COM
Donaco J. Jansen	Soos & Son Inc	350 W. River St. Cincinnati, OH 45201	859/491-2984	ELC@TITONCOZOO-TOWN.COM
Zach Evans	Perkins/Carnack	6005 Meijer Dr Milford OH 45150	513/248-4800	zachkuiper@PerkinsCarnack.com
Mike Ford	Rainbow ENV	3727 Jonken Dr CINC 45227	513/624/2700	resiford@rainbowenv.com
Chief Kirk Mousa	City of Sharonville	10900 Reading Road Sharonville, OH 45241	513.563.2248	kmousa@cityofsharonville.com
Michael Anderson, AIA	CT Consultants, Inc.	11120 Kenwood Road Cincinnati, OH 45242	513.791.1700	manderson@ctconsultants.com

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DAVE DINE

ENVIRONMENTAL
DEMOLITION GROUP

5520 TUTTUM RD. ERLANG, KY 859-363-4863 dldine@edgllc.biz

Rocky Townsend

Venture One Const

3883 Virginia Ave Cinn, OH 45227

513-527-4055 ZIFA @ VIC INC. Com
Contact Greg Albanese

ONBR →

DANIEL D. ROSZEL

CENTRAL INSULATION SYSTEMS, 300 MURRAY DR
RD, CULTE, OH (513) 242-0600
45217
2842 Banwick Rd.
Columbus, OH 43232
4740R Interstate P.
West Chester, OH 45246

droszel@centralinsulation.com

Steele Gaumer
Chuck Beatty

North American Environmental
Team Fishel

Steele@northamericanenviro.com
740-819-8350
cwbeatty@teamfishel.com

Doug Smith
Carl Padgett

Team Fishel/B
Kramer & Feldman

4740R Interstate Dr
West Chester OH 45246
7636 Production Dr
Cinti, OH 45237
4740R Interstate Dr
2865 Chancellor Dr. Suite 235
Crestview Hills, Ky 41017

DMSMITH@TEAMFISHEL.com
cpadgett@kficontractors.com
spwork@teamfishel.com
Tom Schneider -> introtoingproducts.com
ERIC@GREENCITYDEMOLITION.com
tfrank@empirebuildingco.com

SAM WORK
Tom Schneider
Tony Seftm AI Z

Team Fishel
Firestone Building Products
GREEN CITY DEMO

TOM FRANK

EMPIRE BUILDING CO.
513-574-0900

4520 BRIDGEVIEW RD
CINTI, OH 45211

Tyler Pouchot
Sherry Seger

K+T Construction
Schrudde & Zimmerman, Inc

285 Conover Dr
Franklin, OH 45005
1671 Park Rd, Suite 11
Ft. Wright, Ky 41011

tyler@ktconstructioninc.com
937-790-1020
SS@Schrudde-zimmerman.com
859-331-3160

Bill Bauer JR

Langdon INC

DAVID MATHIE

RHIZ

Matt Bowman

CSUSA

Dave Middendorf
Douglas Seyferth

Century Construction
Seyferth Building Co.

9865 Wayne Ave
8856 Harrison Ave
Hamilton, OH
34 Kenton Lundy Rd
Erkinger Ky 41018
Clevel OH 45002

billbauerjr@langdoninc.com
513-678-6817
Dave@SCOTTTRUSTCONSTRUCTION.com
Matt.Bowman@comfortsystemsusa.com
dmiddendorf@centuryconstructioninc.com
doug@seyferthbuilding.com

Steve Weidinger

Driekast Piping Co.

ROB MERRITT

TRUCKRAFT CONSTRUCTION

Zachary Meyer

Anderson Automatic Heating & Cooling

807 Foundational Road
Miford
5741 Harrison Ave, Cincy OH 45248

S.Weidinger@Driekast.com
RobM@TRUCKRAFTCONSTRUCTION.com
Zach@andersonautomatic.com