

**Contract Documents and Specifications**

**For**

**WB STADIUM - ADD CENTER AISLE HANDRAILS IN SECTIONS 1-9**

**For**

**University of South Carolina**

**Project # CP00349450**

**May 14, 2012**

**Design Team:**

**Jumper-Carter-Sease Architects**

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Project Name: WB STADIUM - ADD CENTER AISLE HANDRAILS IN SECTIONS 1-9

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SE-311

## Invitation for Minor Construction Quotes

**SCBO NOTES 2, 4 and 5 APPLY TO THIS INVITATION FOR QUOTES**

PROJECT NAME: WB Stadium - Add Center Aisle Handrails in Sections 1 - 9

PROJECT NUMBER: CP00349450 PROJECT LOCATION: Williams Brice Stadium

BID SECURITY REQUIRED? Yes ☐ No ☒

PERFORMANCE BOND REQUIRED? Yes ☐ No ☒

PAYMENT BOND REQUIRED? Yes ☐ No ☒ CONSTRUCTION COST RANGE: < \$ 50,000

DESCRIPTION OF PROJECT:  
Provide and install painted center aisle handrails in sections 1 thru 9 of the lower west bowl at Williams Brice Stadium. Small and minority business participation is encouraged. Vendors are responsible for checking the USC purchasing website for updates and addendums for this project.  
Website: <http://purchasing.sc.edu> See Facilities and Construction Solicitations/Awards

A/E NAME: Jumper-Carter-Sease Architects A/E CONTACT: Todd Sease

ADDRESS: 412 Meeting Street PHONE: 803-791-1020 Fax: 803-791-1022

CITY: West Columbia STATE: sc ZIP: 29169 E-MAIL: Todd@jcsarchitects.com

PLANS ON FILE AT: AGC: \_\_\_\_\_  
 DODGE: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

PLANS MAY BE OBTAINED FROM: <http://purchasing.sc.edu> See Facilities and Construction Solicitations/Awards

PLAN DEPOSIT AMOUNT: \$ 0 IS DEPOSIT REFUNDABLE? Yes ☐ No ☐

PRE-QUOTE CONFERENCE? ☒ Yes ☐ No MANDATORY ATTENDANCE? ☐ Yes ☒ No

DATE: 5/31/12 TIME: 10am PLACE: 743 Greene St., Cola, SC 29208 Conf Rm 53

AGENCY: University of South Carolina

NAME AND TITLE OF AGENCY COORDINATOR: Kay Keisler

ADDRESS: 743 Greene St PHONE: 803-777-5812 Fax: 803-777-8739

CITY: Columbia STATE: sc ZIP: 29208 E-MAIL: kkeisler@fmc.sc.edu

IFQ CLOSING DATE: 6/7/12 TIME: 2pm LOCATION: 743 Greene St, Cola, SC 29208 CR 53

IFQ DELIVERY ADDRESSES:

HAND-DELIVERY:

743 Greene Street  
Columbia, SC 29208  
Attn: Kay Keisler

MAIL SERVICE:

743 Greene St  
Columbia, SC 29208  
Attn: Kay Keisler

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION? (Agency MUST check one) ☒ YES ☐ NO

APPROVED BY: \_\_\_\_\_  
 (State Engineer)

\_\_\_\_\_  
 (Date)

SE-331  
Quote Form

2011 Edition

*Quotes shall be submitted only on SE-331*

QUOTE SUBMITTED BY: \_\_\_\_\_  
(Offeror's Name)

QUOTE SUBMITTED TO: University of South Carolina  
(Agency Name)

FOR PROJECT: CP00349450 WBS-ADD CENTER AISLE HANDRAILS IN SECT 1-9  
(Number) (Name)

**OFFER**

1. In response to the Form SE-311, *Request for Minor Construction Quotes*, and in compliance with the *Instructions to Bidders* for the above-named Project, the undersigned **OFFEROR** proposes and agrees, if this Quote is accepted, to enter into a Contract with the **AGENCY** in the form included in the Solicitation Documents, and to perform all Work as specified or indicated in the Solicitation Documents, for the prices and within the time frames indicated in the Solicitation and in accordance with the other terms and conditions stated.

2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, **OFFEROR** has submitted Bid Security as follows in the amount and form required by the Solicitation Documents:

☐ Bid Bond with Power of Attorney ☐ Electronic Bid Bond ☐ Cashier's Check  
(OFFEROR check one, if Bid Security is required)

3. **OFFEROR** acknowledges the receipt of the following Addenda to the Solicitation documents and has incorporated the effects of said Addenda into its Quote:

ADDENDUM No: \_\_\_\_\_

4. **OFFEROR** agrees that this Quote, including all bid alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 Days following the Quote Date, or for such longer period of time that **OFFEROR** may agree to in writing upon request of the **AGENCY**.

5. **OFFEROR** agrees that from the compensation to be paid, the **AGENCY** shall retain as Liquidated Damages the amount of for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted Contract Time for Substantial Completion, as provided in the Contract Documents.

6. **OFFEROR** herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fee, permits, licenses and applicable taxes necessary to complete the following items of construction work:

6.1 BASE BID \_\_\_\_\_  
(enter BASE BID in figures only)

6.2 ALTERNATE NO. 1 \_\_\_\_\_ to be ADDED/DEDUCTED from BASE BID.  
(circle one)

6.3 ALTERNATE NO. 2 \_\_\_\_\_ to be ADDED/DEDUCTED from BASE BID.  
(circle one)

FEIN/SSN: \_\_\_\_\_

SC Contractor's  
License Number: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone/Fax \_\_\_\_\_

E-mail \_\_\_\_\_

This Quote is hereby submitted on behalf of the Offeror  
named above.

BY: \_\_\_\_\_  
(Signature of Offeror's Representative)

\_\_\_\_\_  
(Print or Type Name of Offeror's Representative)

ITS: \_\_\_\_\_

SE-331

USC SUPPLEMENTAL GENERAL CONDITIONS  
FOR CONSTRUCTION PROJECTS

1. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies and stairs. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the building to the work area. Providing safe, accessible, plywood pedestrian ways around construction may be required if a suitable alternative route is not available.
2. Fraternization between Contractor's employees and USC students, faculty or staff is strictly prohibited-zero tolerance!
3. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
4. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke-free/tobacco free workplace.
5. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.
6. A welding permit must be issued by the University Fire Marshall before any welding can begin inside a building. Project Manager will coordinate.
7. Contractor must notify the University immediately upon the discovery of suspect material such as those potentially containing asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC Project Manager.
8. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site that are not regular or authorized parking lots. Personal vehicles must be parked in the perimeter parking lots. Parking permits can be obtained at the USC Parking Office located in the Pendleton Street parking garage. The lay down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to Parking. In turn, the contractor will mark off this area with a sign containing the project name, PM name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the PM. The area will be maintained in a neat and orderly fashion. Vehicles parked in the lay down area (or designated parking areas) will be clearly marked or display a CPC furnished placard for identification.

9. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
10. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.
11. For all projects over \$100,000, including IDC's, an SE-395, Contractor Performance Evaluation, will be completed by the USC Project Manager and reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed and a Construction Performance rating will be established.
12. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied at least 1 times per week. Construction waste must not be placed in University dumpsters. THE CONSTRUCTION SITE MUST BE THOROUGHLY CLEANED WITH ALL TRASH PICKED UP AND PROPERLY DISPOSED OF ON A DAILY BASIS AND THE SITE MUST BE LEFT IN A SAFE AND SANITARY CONDITION EACH DAY. THE UNIVERSITY WILL INSPECT JOB SITES REGULARLY AND WILL FINE ANY CONTRACTOR FOUND TO BE IN VIOLATION OF THIS REQUIREMENT AN AMOUNT OF UP TO \$1,000 PER VIOLATION.
13. **Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.**
14. The contractor will comply with all regulations set forth by OSHA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). As requested, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.
15. Tree protection fencing is required to protect existing trees and other landscape features to be preserved within a construction area. The limits of this fence will be evaluated for each situation with the consultant, USC Arborist and USC Project Manager. The tree protection fence shall be 5' high chain link fence unless otherwise approved by USC Project Manager. No entry or materials storage will be allowed inside the tree protection zone. A 4" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.
16. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following measures shall be taken: For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over areas impacted. For single loads over 9,000 lbs., two layers of 3/4" plywood is required.
17. For projects requiring heavy loads to cross walks tree root zones or lawns. A construction entry road consisting of 10' X 16' oak logging mates on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep

Updated: July 15, 2011

matting structurally functional.

18. Any damage to existing landscaping (including lawn areas) will be remediated before final payment is made.
19. Orange safety fence to be provided by the contractor. (USC Arborist, Kevin Curtis may be contacted at 777-0033 or 315-0319)

#### **Campus Vehicle Expectations**

1. All motorized vehicles on the University campus are expected to travel and park on roadways and/or in parking stalls.
2. All motorized vehicle traffic on USC walkways must first receive the Landscape Manager=s authorization. Violators may be subject to fines and penalties.
3. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
4. Contractors, vendors, and delivery personnel are required to obtain prior parking authorization before parking in a designated space. Violators may be subject to fines and/or penalties. See Item 10 below.
5. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held personally responsible for damages and restoration expense.
6. Vehicle drivers who park on landscape or drives must be able to produce written evidence of need or emergency requiring parking on same.
7. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
8. All drivers of equipment and vehicles will be respectful of University landscape, equipment, structures, fixtures and signage.
9. All incidents of property damage will be reported to Parking Services or the Work Management Center.
10. Parking on campus is restricted to spaces designated by Parking Services at the beginning of the project. Once the project manager and contractor agree on how many spaces are needed, the project manager will obtain a placard for each vehicle. This placard must be hung from the mirror of the vehicle, otherwise a ticket will be issued and these tickets cannot be “fixed”. Parking spaces are restricted to work vehicles only; no personal vehicles.

Project Name: WB Stadium – Add Center Aisle Handrails in Sections 1 - 9

Project Number: CP00349450

University of South Carolina

**CONTRACTOR'S ONE YEAR GUARANTEE**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

WE \_\_\_\_\_

as General Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;

Defects or failures resulting from abuse by Owner.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

\_\_\_\_\_  
[Name of Contracting Firm]

\*By \_\_\_\_\_

Title \_\_\_\_\_

\*Must be executed by an office of the Contracting Firm.

SWORN TO before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_ (seal)

\_\_\_\_\_ State

My commission expires \_\_\_\_\_



# TECHNICAL SPECIFICATIONS

SECTION 055000

METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop fabricated steel items.
- B. The extent of miscellaneous metal work is shown on the drawings and includes items fabricated from iron steel shape, plates, bars, strips, tubes, cables, pipes and castings which are not a part of the structural steel or other metal systems in other sections of these specifications.

1.02 RELATED REQUIREMENTS

- A. Section 09-9113 – Exterior Painting and Coating: Paint finish.

1.03 REFERENCE STANDARDS

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.
- B. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2008.
- C. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2007.
- D. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2009.
- E. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2010.
- G. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; American Welding Society; 2003, and Errata 2004.
- H. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- I. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).

1.04 SUBMITTALS

- A. See Section 01-3300 - Submittal Procedures, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.

PART 2 PRODUCTS

2.01 MATERIALS - GENERAL

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

- B. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers" or other LEED-approved standard for VOC content.
- C. For the fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
- D. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating and application of surface finishes.
- E. Materials shall be free from defects impairing strength, durability and appearance and of the best commercial quality.

#### 2.02 MATERIALS - STEEL

- A. Pipe: ASTM A 53/A 53M, Grade B Schedule 40, hot-dip galvanized finish.
- B. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- C. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type II - Organic, Level 1, Type III zinc dust complying with VOC limitations of authorities having jurisdiction.
  - 1. Galvanizing Repair Paint shall be ZRC Galvilite as manufactured by ZRC Worldwide or approved equal.

#### 2.03 MATERIALS - MALLEABLE IRON CASTINGS:

- A. ASTM A47, Grade as selected.

#### 2.04 ACCESSORIES

- A. Welding Materials: Provide the type and alloy of filler metal and electrodes in compliance with the recommendations of the producer of the metal to be welded and as required for color match, strength and compatibility in the fabricated items.

#### 2.05 FABRICATION

- A. Field measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible, to ensure proper fitting of the work. However, do not delay job progress; allow for trimming and fitting wherever the taking of field measurements before fabrication might delay the work.
- B. Form Exposed Work: True to line and level with accurate angles and surfaces and straight sharp edges.
- C. Fit and shop assemble items in largest practical sections, for delivery to site.
- D. Fabricate items with joints tightly fitted and secured.
- E. Continuously seal joined members by continuous welds.
- F. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- G. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
  - 1. Provide setting drawings, templates, instructions and directions for installation of anchorage devices such as concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery with other work to avoid delay.

## 2.06 FABRICATED ITEMS

- A. Metal Pipe Handrails: 1 1/4" deep hot dipped galvanized finish. Fully welded miters ground smooth to receive paint

## 2.07 FINISHES - STEEL

- A. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A 123/A 123M requirements. Galvanize all metal railing.

## 2.08 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

# PART 3 EXECUTION

## 3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

## 3.02 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

## 3.03 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind joints smooth and touch up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot dip galvanized after fabrication and are intended for bolted or screwed field connections.
- C. Do not cut or abrade members with finishes which cannot be completely restored in the field. Where cutting, welding and grinding are required for fitting and jointing of the work, restore finishes to eliminate any evidence of such corrective work.
- D. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- E. Perform field welding in accordance with AWS D1.1/D1.1M.
- F. Obtain approval prior to site cutting or making adjustments not scheduled.
- G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.04 TOLERANCES

- A. Maximum Variation From Plumb: None.
- B. Maximum Offset From True Alignment: 1/8 inch.
- C. Maximum Out-of-Position: 1/8 inch.

END OF SECTION

1.0 GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification sections, apply to work of this section.

1.02 SCOPE OF WORK

- A. Work includes sealing (caulking) of joints where indicated on drawings, specified herein, and where required for a complete weather tight installation. Typical locations include, but are not necessarily limited to, the following:

1. Installation of metal pipe handrails
2. Caulking of epoxied handrails to existing waterproofing surface

1.03 DEFINITIONS:

- A. Sealant: A weatherproof elastomer used in filling and sealing joints, having properties of adhesion, cohesion, extendibility under tension, compressibility and recovery; shall be designed to make joints air and water tight. Material is designed generally for application to joints at exterior of structures and for other joints subject to movement.
- B. Caulking compound: A material used in filling joints and seams, having properties of adhesion and cohesion; shall not be required to have extensibility and recovery properties, usually applied to joints at interior of structures.
- C. Caulk: The process of filling joints, without regard to type of material.
- D. Joint failure: A caulked joint exhibiting one or more of the following characteristics:
  1. Leaks air and/or water
  2. Sealant migrates
  3. Sealant loses adhesion
  4. Sealant loses cohesion
  5. Sealant does not cure
  6. Sealant discolors
  7. Sealant stains adjacent work
  8. Sealant develops bubbles, air pockets or voids.

1.04 SUBMITTALS:

- A. Manufacturer's Data: Submit two copies of manufacturer's specifications, recommendations and installation instructions for sealant and associated miscellaneous material required. Include manufacturer's published data, or letter of certification, or certified test laboratory report indicating that material complies with requirements and is intended generally for applications shown. Show by transmittal that one copy of each recommendation and instruction has been distributed to Installer.
- B. Approval of Applicator: A letter on manufacturer's letterhead signed by an active company administrator certifying that applicator is approved at the time of bidding by manufacturer.
- C. Color Samples:
  1. Submit samples of manufacturer's standard and special colors as indicated at least 7 days prior to commencement of application.

2. Samples shall be actual materials or literature depicting actual material colors. Architect reserves the right to reject work not in conformance with selected colors, based upon samples submitted.
  3. Should Contractor select a manufacturer meeting specified requirements, except for minimum color range requirements, he shall be responsible for furnishing special colors within range requirements. Special colors shall be submitted for Architect's acceptance.
- D. Warranty: A warranty from the applicator upon completion guaranteeing the water tightness of the sealant installation for a period of five (5) years assuming responsibility for prompt and complete repair of any leaks occurring during this period. In addition, provide a letter on the manufacturer's letterhead at project close-out stating that work has been accomplished in accord with this specification and with manufacturer's application directive.
- 1.05 DELIVERY, STORAGE AND HANDLING
- A. Comply with manufacturer's instruction regarding environmental conditions under which materials may be stored.
- 1.06 JOB CONDITIONS:
- A. Weather Conditions
1. Install no materials under adverse weather conditions, or when temperatures are below or above those recommended by the manufacturer.
  2. Proceed with work only when forecasted weather conditions are favorable for joint cure and development of high early bond strength.
  3. Wherever joint width is affected by ambient temperature variations, install materials only when temperatures are in lower third of manufacturer's recommended installation temperature. Coordinate time schedule with Contractor to avoid delay of project.
- B. Protection of adjacent surfaces:
1. Protect by applying masking materials or manipulating application equipment to keep materials in joint. If masking materials are used, allow no tape to touch cleaned surfaces to receive sealant. Remove tape immediately after caulking, before surface skin begins to form.
  2. Remove misapplied sealants from surfaces using solvents and methods recommended by manufacturer.
  3. Restore surfaces from which sealants have been removed to original condition and appearance.
- 1.07 SERVICES OF MANUFACTURER'S REPRESENTATIVE
- A. Manufacturer of sealant materials shall provide the services of a factory representative who shall conduct on site check of caulking work to determine compliance with manufacturer's application directive.
- 1.08 APPLICATORS
- A. Subcontract the caulking and sealing work to a firm experienced in the application of the types of materials required, employing skilled tradesmen for the work and who are approved by the manufacturer of the materials.

## 2.0 PRODUCTS

### 2.01 MATERIALS

- A. Sealant for Exterior Work: Provide Polyurethane-based elastomeric sealant complying with FS TT-S-00230C, Type II (Non-Sag), Class A, and ANSI A116.1. (This sealant must be by the same manufacturer and compliant with the epoxy adhesive listed below.)

These materials shall be of sufficient strength and hardness to withstand stiletto heel traffic without damage or deterioration of sealer system.

SONOLASTIC NP I                      by Sonneborn-Contech a BASF Brand  
Prior Approved Equal

- B. Adhesive for Pipe Rails: Provide two part 100% solids epoxy bonding adhesive complying with ASTM C 881, Type II (non-Sag), Class C.

CONCREXIVE Liquid LPL            by MBT Products a BASF Brand  
Prior Approved Equal

### 2.02 COLORS:

- A. As selected by Architect from manufacturer's standard selection.  
B. Colors of caulk are multicolor and shall match masonry, windows, metal roof and other separate finishes as selected by the architect.

### 2.03 COMPATIBILITY:

- A. Before purchase of the specified sealant, investigate its compatibility with the joint surfaces, joint fillers and other materials behind or below the joint in the construction. Provide only materials (manufacturer's recommended variation of the specified materials) which are known to be fully compatible with the actual installation conditions, as shown by the manufacture's published data or certification.

### 2.04 ACCESSORY MATERIALS:

- A. Joint Cleaner: Type recommended by sealant manufacturer for substrates indicated.
- B. Joint Primer/Sealer: Provide type of joint primer/sealer recommended by sealant manufacturer for joint surfaces to be primed or sealed.
- C. Bond Breaker Tape (BB-Tp): Polyethylene tape or other plastic tape as recommended by sealant manufacturer to be applied to sealant-contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant. Provide self adhesive tape where applicable.
- D. Sealant Backer Rod: Compressible rod stock of polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam as recommended by sealant mfg. for compatibility with sealant material. Provide size and shape of rod to control joint depth, break bond at bottom of joint, form optimum shape of bead on back size to minimize possibility of extrusion when joint is compressed.
- E. Tooling agent: Agent recommended by sealant manufacturer to insure contact of material with inner joint faces.
- F. Divider strips: Synthetic rubber or closed cell synthetic foam not less than 1/6" thick and full depth of sealant; approved by manufacturers of dissimilar materials as being compatible with each other.



3.0 EXECUTION

3.01 JOB MOCKUP:

- A. Prepare, caulk and finish one sample of each joint condition.
- B. Sample joints shall be accepted by Architect prior to beginning work. Retain approved samples as a standard for work.
- C. Only neat tooled joints will be accepted.

3.02 JOINT SURFACE PREPARATION

- A. Installer must examine joint surfaces, backing and anchorage of units forming sealant rabbet and conditions under which sealant work is to be performed and notify Contractor in writing of any conditions detrimental to proper and timely completion of work. Do not proceed with sealant work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
- B. Clean joint surfaces immediately before caulking joints. Remove dirt, insecure coatings, moisture and other substances which could interfere with bond
- C. Roughen joint surfaces on vitreous coated and similar non-porous materials, unless sealant manufacturer's product data indicates equal bond strength as porous surfaces. Rub with fine abrasive cloth or wool to produce dull sheen.

3.03 APPLICATION

- A. Comply with Sealant Manufacturer's printed instructions except where more stringent requirements are shown or specified and except where manufacturer's technical representative directs otherwise.
- B. Prime or Seal joint surfaces where recommended by sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.
- C. Install Sealant Backer Rod for all caulking materials, except where recommended to be omitted by sealant mfg. for application indicated.
- D. Employ installation techniques which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, fill joints to form a slight cove, so that joint will not trap moisture and dirt. Tool sealant as recommended by sealant manufacturer.
- E. Do not allow materials to overflow or spill onto adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces.
- F. Remove excess and misplaced materials as work progresses. Clean adjoining surfaces to eliminate evidence of misplaced materials, without damage to adjacent surfaces or finishes.
- G. Cure Sealants in compliance with manufacturer's product data to obtain high early bond strength, internal cohesive strength and surface durability.
- H. Install sealants to depths as shown, or, if not shown, as recommended by the sealant manufacturer.

- I. Installer shall advise contractor of procedures required for protection of sealants and caulking compounds during construction period, so that they will be without deterioration or damage (other than normal weathering) at time of Owner's acceptance.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following exterior substrates:

1. Galvanized metal pipe handrails.

1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS:

The following categories of work are not included as part of the painter-applied finish work or are included in other sections of the specifications except as otherwise shown on drawings or specified herein.

1. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various sections for structural steel, miscellaneous metal items, hollow metal work and shop-fabricated or factory built metal mechanical and electrical equipment or accessories.
2. Colors: Paint colors will be as selected by the Architect and before any painting is done the Architect will furnish the Contractor with the selected color chips and schedule showing where the various colors will be applied. Finish colors shall exactly match the color chips.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each finish and for each color and texture required.

1.4 LIST OF PROPOSED MATERIALS

- A. List of Proposed Materials: Verify, in writing, that products proposed are from products listed herein. This submittal shall include full identifying product names and catalog numbers. Materials for prime coats, undercoats, finish coats and thinning applied to same surface shall be produced by the same manufacturer.

1.5 QUALITY ASSURANCE

- A. MPI Standards:
1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
  2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.

- B. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
  - 2. Final approval of color selections will be based on benchmark samples.
    - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

#### 1.6 DELIVERY AND STORAGE

- A. Deliver materials to job in original containers with labels intact and seals unbroken. Store materials and painters tools in a single room assigned for this use only. Keep storage place clean and neat and damage to it shall be corrected. Keep paint and other volatile material tightly covered at all times when not in actual use. Remove soiled and oily rags and waste from building every night and take every precaution to prevent spontaneous combustion.

#### 1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

#### 1.8 JOB, WEATHER, AND TEMPERATURE CONDITIONS

- A. Exterior painting: Do no exterior painting when temperature is below 50 degrees F., while surface is damp or during cold, foggy, rainy or frosty weather or when temperature is likely to drop to freezing within 24 hours. Avoid painting surfaces while they are exposed to hot sun. Allow 48 hours drying after rain before commencing painting.

- 1.9 COOPERATION WITH OTHER TRADES: Schedule this work and coordinate it with other trades and do not proceed until other work and/or job conditions are as required to achieve satisfactory results. Examine drawings and specifications for the work of various other trades and become familiar with all their provisions regarding painting. Surfaces that are left unfinished by requirement of other sections shall be painted or finished as part of the work covered by this section.

#### 1.10 INSPECTION OF SURFACES:

- A. Examine surfaces to receive paint finishes, in accord with Contract Conditions, for defects which cannot be corrected by procedures specified herein under "Preparation of Surfaces" and which might prevent satisfactory painting results. Do not proceed with work until such defects are corrected. Commencing of work constitutes acceptance of surfaces and thereafter, Contractor shall be responsible for satisfactory results as required herein.

## PART 2 - PRODUCTS

### 2.1 PAINT, GENERAL

#### A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

#### B. Colors: As noted on drawings.

#### C. Approved Manufacturers:

1. Sherwin Williams or prior approved equal.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- C. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
  1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION AND APPLICATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
  1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

- D. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.3 PREPARATION AND APPLICATION CLEANING: The Painting Contractor will not only protect his work at all times, but will also protect all adjacent work and materials by suitable covering or other method during the progress of his work. Upon completion of the work, he is to remove all paint and varnish spots from the premises, all rubbish and accumulated materials and he is to leave the work in a clean, orderly and acceptable conditions.

3.4 EXTERIOR PAINTING SCHEDULE

A. Metal Pipe Handrails

- 1. Latex over Water-Based Primer System:
  - a. Make sure to properly prep the metal before priming. Remove all debris and contamination. Use heavy duty detergent to remove any oils or packing compounds. Rinse with clear water and allow it to dry overnight. It is vital that a full wet coat of 6-10 wt mils be applied to result in dry film thickness of 3-4 mils d.f.t. Apply one full Prime Coat of Pro Industrial ProCryl Universal Metal Primer B66W310. Prime Coat: DTM Primer B66W1.
  - b. INTERMEDIATE COAT: DTM Acrylic B66 200/100 Series. (Gloss).
  - c. TOPCOAT: DTM Acrylic B66 200/100 Series. (Gloss).

END OF SECTION 099113