## March 31, 2017

### Addendum No. 2

### Lakefront Bicycle Trail #2 (Navy Pier Flyover)

#### CDOT Project No. E-4-710 Specification No. 134329

For which proposals will be opened in the office of the Department of Procurement Services, Room 103, City Hall, 121 North LaSalle Street, Chicago, Illinois 60602, on April 12, 2017 at 11:00 a.m., Central Time

#### BIDDER WILL ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE PROPOSAL PAGE

#### I: Questions and Answers

Q1: Please provide connections details of the cable rail post south of rib 1-1. It appears these mount to concrete and not to a rib.

A1: The cable rail post south of rib 1-1 is connected to a short rib at the abutment diaphragm as shown on sheet S-41 and A-4.01. The connection of this post to the short rib is the same as at typical ribs as detailed on sheet S-44.

Q2: Removable covers are called for at each post. Please provide a pay item for these covers.

A2: Removable nosing covers are considered components of the steel guardrail posts and are noted to be included within item 15 under the description component 2.

Q3: No pay item is found for the cable rail post and horizontal steel rail. Is this to be paid in item 15? If so, how will 189 post be paid in the lump sum item?

A3: The cable rail post (Steel guardrail posts) and the horizontal steel rail (steel handrail elements identified as painted) are included in item 15 under the description components 2 and 4.

Q4. The HSS 2.875 x 0.203 steel pipe guardrail is shown to be shop welded to the post. REF C-C/S-43. This is shown as continuous the length of the structure without any field welds. How is this achieved?

A4: The weld of the HSS 2.875 x 0.203 steel pile guardrail to the <u>outside</u> of the guardrail post webs shall be performed in the field. The weld of the HSS 2.875 x 0.203 steel pile guardrail <u>between</u> the guardrail post webs remains as a shop weld. Remove and replace Sheet S-43 with the attached Sheet S-43 revised.

Q5: It appears the cable rail pay item is the footage of the path (1,500') and not the (27,000') of actual cable required. Please confirm this is the intent and that the per foot payment will be for an 18 line system.

Addendum No. 2 City of Chicago A5: As noted in the specification for Item 60, the pay item is measured "per lineal foot for the CABLE RAIL SYSTEM (note that this measurement is for length of guard rail as a system not for the cumulative length of cable within the system)". This pay item is for the system including 18 lines of cable and all connection hardware. The system length is 1,500 which is the sum of the path edges. Actual cable length required would be calculated based on the system length times the number of cable rows.

In addition, nylon grommets have been added at the hole locations in the posts to protect against cable abrasion. Remove and replace DS-193 thru DS-195 and Sheet A-3.02 with the attached DS-193 revised thru DS-195 revised and Sheet A-3.02 revised.

Q6: The bifurcation railing area is shown as rolled rails and curb. Please confirm that all other rails and curbs are straight / segmented and not rolled to follow the path.

A6: Rails are radiused to match the path curvature. All curbs except at the inside radius at the bifurcation (including in the bifurcation area) can be segmented. The inside radius at the bifurcation must be a true radius shape to follow the path shape. The following guidelines are required when segmenting the curb pieces between posts:

- 600' and greater radius = One segment between posts is acceptable
- 230'-270' radius = Two segments minimum is acceptable
- 80' to 180' radius = Three segments minimum is acceptable.

Remove and replace Sheet A-3.01 with the attached Sheet A-3.01 revised.

Q7: The stainless steel curb cover notes a 5/8" shim fillet weld on the architectural drawings and tack welded on the structural drawings. Please clarify the size of the fillet and the length.

A7: Details for welding between the curb, 5/8" shim and C9 channel are provided on Sheets S-41, S-42 & A-3.01. Two details are presented: (1) At curb Joint Locations and (2) at midspan/intermediate locations. At both locations, the ¼" fillet shown on the outside of the shim and the web of the C9 may be omitted, as shown on attached Sheet S-42 revised. At (1) a ¼ fillet is specified between the shim and the C9 on S-42 and a tac weld is specified between the curb and the shim on sheet S-41 and A-3.01. At (2), the same method is specified, however, an alternative connection as approved during the phase 1 construction consisting of a shop fillet between the shim and the curb and a field tac weld between the C9 and the shim would be considered an approved alternative if submitted for approval during construction. Remove and replace Sheet S-42 with the attached Sheet S-42 revised.

Q8: The C9 channel is both galvanized and shop primed. This will require removal (grinding) of both to perform the curb shim welding. Please confirm this is acceptable and also confirm that finish paint is not required on the channel prior to the shim installation.

A8: Correct, the C9 Channel is both galvanized and painted. It will be the contractors means and methods to complete welds of the galvanized material in the field per AWS. Grinding is acceptable provided paint/galvanization is touched up afterwards.

Q9: The parapet railing is shown without grout or any type of shimming for standard concrete tolerances. Please confirm grout and or shims are acceptable in order to provide a level rail.

A9: IDOT does not specify shim for this standard pay item and details are developed based on IDOT standard details. Shims up to 1/8" in thickness of the same size as the base plate will be considered acceptable if needed for field adjustments and will be considered included in the cost of the item parapet railings.

Q10: Is a steel guardrail required at the temp bridge? If so, please provide details.

A10: Parapet railing is provided along both sides of the temp bridge per details on sheet S-11 and S-12.

Q11: Will we be allowed to access the phase II project via the completed phase I path / ramp?

A11: This will be coordinated during construction.

Q12: Specification for item 56,57,58,59 notes a bike track mock up. Please confirm this isn't required.

A12: The bike track is not required. Remove and replace DS-188 with the attached DS-188 revised.

Q13: Due to the complexity of this project we request a one week extension.

A13: The bidding opening date has been postponed from March 28, 2017 until April 12, 2017 at 11:00 a.m., Central Time.

Q14: Reference Sheets AL-1 to AL-3, can control points and work points be provided in NAD 83 State Plane Coordinates?

A14: This will be coordinated during construction.

Q15: S-44 details the railing post U-Bracket to be made with CJP groove welds. Due to the depth of bevel on the 3/4" plates and the interior dimension of the bracket only 5-7/8" wide, this weld would be extremely difficult to achieve as designed. Can this weld be changed to a PJP groove weld and/or fillet weld so long as it still meets the design loads?

A15: A combination 5/8" min PJP (outside) and ¼" min fillet (inside) is an acceptable alternative to the CJP weld shown on the plans. If this alternative weld or other weld of equal or greater strength to the CJP weld provided on the plans is preferred, it shall be submitted for approval during construction.

Q16: S-44 Detail 4 shows the 1/4" fillet field weld on each side of the railing u-bracket to the structure, and Section A-A also shows the U-Brackets field welded top and bottom to the structure. Please confirm that the u-brackets for all railing posts are required to be welded all around to the structure.

A16: The plan details are correct. <sup>1</sup>/<sub>4</sub>" fillet on the sides is the primary structural weld. The top and bottom weld is required for sealing.

Q17: S-43 Section B-B details a double bevel PJP groove weld of the stainless saddle to the steel post that is ground flat. The inside bevel weld will be difficult to achieve and even more difficult to grind flat along the curvature of the saddle without damaging the saddle itself. Please confirm the inside bevel can be changed to a fillet weld, so long as it still meets the design loads.

A17: The weld detail shown in Section B-B is consistent with the final details produced during phase 1 construction and shall be per plan for consistency with phase 1.

Q18: S-43 Section C-C details the HSS steel pipes shop welded to the outside of the posts. The design of these posts has them fitting over a conduit and getting welded to a rib that is just wide enough to receive the design field welds on all sides. With the fabrication and erection tolerances of both the structure and the posts themselves, the posts will more than likely have to be installed individually in

Addendum No. 2 City of Chicago Jamie L. Rhee Chief Procurement Officer order for the design to work. This will mean that every intermediate pipe will have to be field welded to the posts. Please confirm this is acceptable.

A18: Field welding of the HSS to the exterior side of the posts is acceptable. See A4. Remove and replace Sheet S-43 with the attached Sheet S-43 revised.

Q19: Please confirm if there is a specific weld requirement for the 1/2" web plate to the railing posts.

A19: A 5/16" Fillet weld shall be used between the  $\frac{1}{2}$ " web plate and  $\frac{3}{4}$ " steel post plates.

Q20: Please confirm if the steel fillet welds need to be ground completely smooth or if they just need to be cleaned, free of any burrs or defects.

A20: All welds facing pedestrian areas shall be ground smooth in the shop.

Q21: Item 56 specifications for the curbs call for a reflective #7 finish, phase 1 of the trail used a less reflective #4 satin finish that matched the handrail. Please confirm we are to match the finish on phase 1.

A21: #4 satin finish is the intended finish to match phase 1. Remove and replace DS-190 with the attached DS-190 revised

Q22: The steel guardrails are under pay item 15 with the bridge structure, which references IDOT standards 505 and 506. This will require the guardrails to be fabricated by an AISC certified Bridge and Highway Component Manufacturer, welded per the AWS D1.5 bridge welding code, have all welds inspected by 2 separate welding inspectors, and have a final inspection by the Engineer's QA before being allowed to ship to the field, among other requirements that are not typical for an architectural guardrail system. Please confirm the guardrail must follow any and all of these requirements set forth in Section 505 - Steel Structures.

A22: AISC certification requirements shall be per IDOT specifications. With the exception of the field connections at the base of the cable rail system posts (U-bracket to rib/C9 and U-bracket to posts), AWS D1.1 may be utilized to perform, test, and accept all welds associated with fabrication of the cable rail system assemblies. Inspection and documentation requirements shall be consistent with the CDOT Project Documentation Guide (PDG).

Q23: The Steel guardrail consists of components that are not typically fabricated directly by an AISC Bridge and Highway Component Manufacturer, such as the stainless steel saddles, rolled steel pipes, rolled sheet metal nosing covers, etc. Is it acceptable to have these components made by a non-AISC shop? Will the engineer require a shop inspection of these parts before they are delivered?

A23: Certification and inspection requirements shall be per IDOT specifications and CDOT PDG.

Q24: The steel guardrails placed in item 15 of the specifications reference IDOT standards section 506 for painting. Section 506 requires the painter to have an AISC Sophisticated Paint Endorsement, with a Level-II NACE coating inspector on staff, supplying QC paperwork prior to the guardrail being allowed to ship. All steel is supposed to be blasted and prime painted in the shop within 24hrs before it is allowed to ship to site. If the system is designated to be field finished painted by a certified applicator, please confirm the steel fabrication shop would still be required to meet the same Sophisticated Paint requirements set forth in section 506 when applying only the primer.

A24: The shop responsible for surface preparation and priming of the guardrails is still required to have the AISC Sophisticated paint endorsement as they are among the designated miscellaneous items listing in section 506.03(a) of the IDOT SSRBC

Q25: Please confirm the welding code to be followed and certified under for the welding of the stainless steel saddles to the steel posts. Please also confirm what type of shop test will be required for the weld, if *any, and the frequency of the test.* 

A25: Stainless steel to carbon steel welds shall meet the requirements of AWS D1.6

Q26: Due to limited access to Dusable Park, can CDOT host a site visit that would provide access to the park?

A26: CDOT is no longer scheduling site visits.

Q27: Since access has been limited, will CDOT consider extending the bid date two weeks?

A27: The bidding opening date has been postponed from March 28, 2017 until April 12, 2017 at 11:00 a.m., Central Time.

Q28: Will construction access be permissible off of E North Water St.? This area is currently fenced and gated.

A28: This will be coordinated during construction.

Q29: Will CDOT allow excavated material to remain on site in the Dusable Park area and capped with clean fill to eliminate the hauling off contaminated material?

A29: Analysis and disposal of material to be excavated shall be dealt with in accordance with requirements of the contract plans and specifications.

#### ALL REVISIONS INSCRIBED HEREIN WILL BE INCORPORATED INTO THE BID SPECIFICATION PER ADDENDUM NO. 2

#### END OF ADDENDUM 2

# Lakefront Bicycle Trail #2, Ogden Slip to Chicago River CDOT PROJECT NO: E-4-710

#### ITEM 56 \*\*\*\*\* CURB COVER

#### ITEM 57 \*\*\*\*\* JUNCTION BOX COVER PLATES

#### ITEM 58 \*\*\*\*\* BEAM SEAT SHROUD

#### ITEM 59 \*\*\*\*\* BIFURCATION CURB COVER

**Description:** This work under these pay items shall consist of furnishing all labor, materials, tools, and equipment required to furnish and install CURB COVER, JUNCTION BOX COVER PLATES, BEAM SEAT SHROUD and BIFURCATION CURB COVER as indicated on the Contract Plans. Work includes all fasteners, painting and other finishing, friction fittings, and isolation pads and washers for separation between dissimilar metals.

#### Submittals:

- A. Product Data: For each type of product indicated, including finishing materials.
- B. Shop Drawings: Show fabrication and installation details for decorative metal.
  - 1. Include plans, elevations, component details, and attachments to other work.
  - 2. Indicate materials and profiles of each decorative metal member, fittings, joinery, finishes, fasteners, anchorages, and accessory items.
- C. Mill Certificates: Signed by manufacturers of stainless-steel certifying that products furnished comply with requirements.
- D. See also PAY ITEM PATH, CABLE RAIL, AND COLUMN MOCKUP.

#### Quality Assurance:

- A. Fabricator Qualifications: A firm experienced in producing decorative metal similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  1. AWS D1.6, "Structural Welding Code Stainless Steel."
- C. Samples: Provide material samples to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

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- B. Form decorative metal to required shapes and sizes, true to line and level with true curves and accurate angles and surfaces. Finish exposed surfaces to smooth, sharp, well-defined lines and arris.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work.
- D. Form simple and compound curves in bars, pipe, tubing, and extruded shapes by bending members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces.
- E. 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.
- F. Mill joints to a tight, hairline fit. Cope or miter corner joints. Fabricate connections that will be exposed to weather in a manner to exclude water.
- G. Provide weep holes where water may accumulate. Locate weep holes in inconspicuous locations.
- H. Provide necessary rebates, lugs, and brackets to assemble units and to attach to other work. Cut, reinforce, drill, and tap as needed to receive finish hardware, screws, and similar items unless otherwise indicated.
- Comply with AWS for recommended practices in shop welding. Weld behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded joints of flux, and dress exposed and contact surfaces.
  - Where welding cannot be concealed behind finished surfaces, finish joints to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 Welds: no evidence of a welded joint.

#### Finishes, General:

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

#### Stainless-Steel Finishes:

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
  - 1. Run grain of directional finishes with long dimension of each piece.
- C. Satin: No. 4. Finish shall be matched to that achieved in Phase 1 construction.

#### ITEM 60 \*\*\*\*\* CABLE RAIL SYSTEM

**Description.** This work shall consist of furnishing all labor, materials, tools, and equipment required to furnish and install the CABLE RAIL SYSTEM including associated fittings and hardware and as detailed on the Contract Plans and including special fittings tubes detailed at expansion joints.

#### Submittals.

- A. Product Data: For each type of product indicated, including each hardware element required and finishing materials.
- B. Shop Drawings: Show fabrication and installation details for decorative metal. Include plans, elevations, component details, and attachments to other work.

#### Quality Assurance.

A. Fabricator Qualifications: A firm experienced in producing cable rail systems similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

#### Project Conditions.

A. Field Measurements: Verify actual locations of walls and other construction contiguous with decorative metal by field measurements before fabrication and indicate measurements on Shop Drawings.

#### Materials.

- A. Wire Rope and Fittings:
  - 1. Wire Rope: 1-by-19 3/8" diameter wire rope made from wire complying with ASTM A 492, Type 316.
  - 2. Wire-Rope Fittings: Connectors of types indicated, fabricated from stainless steel Type 316, and with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.
  - 3. Provide grommets (black) at each hole where cable passes through the posts. Grommets shall be sized and shaped to fit tightly through and over the edges of the holes (see drawings). The center opening shall allow the cable to pass through freely. The grommet material shall be dimensionally and physically stable over time and shall not degrade due to moisture, UV light, temperature, and wear.
- B. Pipe Guard Rails at Expansion Joints:
  - Provide stainless steel pipe and pipe fittings per the drawings and per specifications for stainless steel and for welding as described in other sections of the specifications. (STAINLESS STEEL GUARD RAILS)
  - 2. Provide end fittings in male female connection as shown on the drawings with solid round bar fitted to inside diameter of the pipes to allow movement on one end.

Lakefront Bicycle Trail #2, Ogden Slip to Chicago River CDOT PROJECT NO: E-4-710

**General Requirements.** For consistency with the previous contract, the cable system shall be the ACS-3 Threaded Terminal to Threaded Terminal by the following manufacturer:

Ronstan Tensile Architecture 45 High Point Avenue #2, Portsmouth, RI 02871 Tel: 401 293-0539

#### Fabrication.

A. Make up wire-rope assemblies in the shop to field-measured dimensions with fittings machine swaged. Minimize amount of turnbuckle take-up used for dimensional adjustment so maximum amount is available for tensioning wire ropes. Tag wire-rope assemblies and fittings to identify installation locations and orientations for coordinated installation.

#### Finishes.

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

#### Examination.

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of Cable Rail System.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### Installation.

- A. Install cable railing system including grommet sleeves in accordance with manufacturer's instructions at locations indicated on the drawings.
- B. Install cable railing system plumb, level, square, and rigid.
- C. Anchor cable railing system to mounting surface as indicated on the drawings.
- D. Use manufacturer's supplied cable hardware.
- E. Terminate and tension cables in accordance with manufacturer's instructions.
- F. Tension cables to a minimum of 400 pounds (181.44 kilograms) each in sequence in accordance with manufacturer's instructions.
- G. Ensure cables are clean, parallel to each other, and without kinks or sags.
- H. Replace defective or damaged components as directed by Commissioner.
- I. Repair damaged factory-applied finish as directed by Commissioner.

#### Adjusting and Tensioning.

A. Adjust cables and cable hardware as required to provide properly installed cable railing system as directed by Architect.

#### Cleaning And Protection.

A. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

**Method of Measurement.** This work will be measured for payment per lineal foot for the CABLE RAIL SYSTEM (note that his measurement is for length of guard rail as a system not for the cumulative length of cable within the system) that is acceptably furnished and installed at the locations shown on the Plans or as directed by the Commissioner. All hardware is incidental to the pay item. Cables are measured for each cable line and include all hardware required.

**Basis of Payment.** This work will be paid for at the contract unit price per "Linear Foot" for the CABLE RAIL SYSTEM. This price shall include all labor, materials, fabrication, shop drawings, transportation, erection, tools, and all other appurtenant work necessary to complete this item.





SECTION A-A (AT MIDSPAN COVER CONNECTION)

1. FOR STAINLESS STEEL CURB DETAILS SEE ARCHITECTURAL SHEETS.

| ^  |           |          |                     |  |  |  |
|--|-----------|----------|---------------------|--|--|--|
| 1  | JFA       | 3/23/17  | WELD MODIFICATION   |  |  |  |
| NO.  | BY        | DATE     | DESCRIPTION         |  |  |  |
|  | REVISIONS |          |                     |  |  |  |
| LAKEFRONT TRAIL IMPROVEMENT<br>FROM CHICAGO RIVER BRIDGE<br>TO OGDEN SLIP<br>SN 016–6572 |           |          |                     |  |  |  |
| CURB DETAILS<br>(SHEET 2 OF 2)   |           |          |                     |  |  |  |
|  |           |          |                     |  |  |  |
| CITY OF CHICAGO  |           |          |                     |  |  |  |
| DEPARTMENT OF TRANSPORTATION<br>BUREAU OF BRIDGES & TRANSIT                              |           |          |                     |  |  |  |
| DRAWN  |           | DC       | SHEET NO.           |  |  |  |
| CHECKED  |           | JFA      |                     |  |  |  |
| APPROVE  | D         | JFA      | S-42                |  |  |  |
| DATE   |           | 12/16/16 | REVISED             |  |  |  |
| SCALE N.I.S  |           |          |                     |  |  |  |
| CONTRAC  | I NO.     |          | PROJECT NO. E-4-(10 |  |  |  |







# 2. PAINTED STEEL GUARD RAILS ARE RADIUSED 3. TYPICAL STAINLESS STEEL CURBS CAN BE PATH CURVATURE BASED ON THE FOLLOIWING -600' AND GREATER RADIUS - ONE SEGMENT

-80' - 180' RADIUS - THREE SEGMENTS MINIMUM

CURB AT INSIDE RADIUS OF THE BIFURCATION

|           |    | 03/24/17 | ADDENDUM          |  |  |
|-----------|----|----------|-------------------|--|--|
|           |    |          |                   |  |  |
|           |    | 08/05/16 | ISSUED FOR REVIEW |  |  |
| NO.       | BY | DATE     | DESCRIPTION       |  |  |
| REVISIONS |    |          |                   |  |  |

## LAKEFRONT TRAIL IMPROVEMENT FROM CHICAGO RIVER BRIDGE TO OGDEN SLIP SN 016-6572

## RAILING ASSEMBLY DETAILS

## MULLER+MULLER architects

CITY OF CHICAGO

| DEPARTMENT OF TRANSPORTATION<br>BUREAU OF BRIDGES & TRANSIT |    |           |  |  |  |  |
|---|----|-----------|--|--|--|--|
| DRAWN   | SS | SHEET NO. |  |  |  |  |
| CHECKED   | DS |           |  |  |  |  |
| APPROVED  | JM | A-3.01    |  |  |  |  |

REVISED 5 of 10sheets

PROJECT NO. E-4-710

12/16/2016

VARIES

TBD

DATE

SCALE

ONTRACT NO.

