

## **ADDENDUM NO. 2**

### **PROJECT TP2371 FEDERAL PROJECT STBG-3323(414)**

#### **N. OAK TRAFFICWAY COMPLETE STREET PROJECT – NE 69<sup>th</sup> STREET TO NE 72<sup>nd</sup> STREET**

**GLADSTONE, MISSOURI**

**DATE: 10/28/26**

This Addendum forms a part of the Contract described above. The original Contract Documents and any prior addenda remain in force and effect except as modified by the following which shall take precedence over any provisions in the prior documents.

#### Changes/Corrections/Clarifications:

- 1) Traffic Signal Components
  - a. Bid Item 87 (Signal Head, 4T) and Bid Item 90 (Signal Head, 4T) are duplicate line items.
  - b. Bid Item 117 (Visors) - The quantity of eleven (11) shown in the Bid Form represents the number of signal heads, not the number of individual signal indication lenses. Each signal head consists of multiple indications, each requiring an individual visor. Contractor shall furnish and install all visors necessary for each signal head. Measurement for payment shall be based upon signal head, not the actual quantity of visors supplied and installed.
  - c. Side-Mounted UPS System – Provide a side-mounted uninterruptible power supply (UPS) system capable of maintaining normal traffic signal operation for a minimum of four (4) hours during a loss of utility power. The cost of such system shall be considered subsidiary to the cost of the power supply (Bid Item 100).
  - d. Bid Item 114 (LED Street Name Signs) – Signs shall be internally illuminated. The unit price shall include all power, electrical circuits, mounting brackets, and related appurtenances to provide a complete system.
  - e. Demolition of the existing traffic signal and related components shall be included in the unit price for clearing, grubbing & demolition.
- 2) Foundation Systems – Unless specifically identified as a separate bid item, all foundation systems shall be considered subsidiary to the applicable bid item, including, but not limited to, traffic signals, controller cabinets, and monuments. Shop drawings for all foundation systems shall be submitted and shall be signed and sealed by a Professional Engineer licensed in the State of Missouri.
- 3) Bored Conduit – The City will allow HDPE conduit in lieu of rigid steel or metal.
- 4) Storm Sewer
  - a. Sheet 42 – The existing storm pipe downstream of Structure D-01 is 24" RCP.

- b. Quantities were calculated based on the plan and profile sheets. In the event of any discrepancies between the quantities shown on Sheet 43 or Sheet 99 of the project drawings and those listed in the Bid Form, the quantities provided in the Bid Form shall govern.

5) Landscaping Components

- a. Overstory trees shall have a minimum caliper of 3 inches.
- b. Understory trees shall have a minimum caliper of 1.5 inches.
- c. Shrubs shall be furnished in containers with a minimum capacity of 5 gallons.
- d. Perennials and ornamental grasses shall be furnished in containers with a minimum capacity of 1 gallon.

6) Metal Fabrication – All metal fabricated items installed on the project shall conform to the attached specification.

7) Streetlighting

- a. Within the project limits, there are sixteen (16) City-owned 40-foot poles (black in color), four (4) Evergy-owned poles (designated “GL” on the pole), and eight (8) decorative pedestrian lights. Bid item(s) for pole removal have been added to the Bid Form. The Contractor shall remove all City-owned poles not designated for relocation and deliver them to Gladstone Public Works, located at 4000 NE 76th Street, Gladstone, MO 64119, for use as spare poles. Evergy will coordinate the removal of its own poles.
- b. The permanent metal banners shown on Sheet L202 shall be installed on the new streetlights with double bracket arms in the center of the roadway. Two banners shall be installed per pole. These poles shall be designed to support the loading of these banners. The Contractor shall supply one (1) spare pole designed for this loading and deliver it to Gladstone Public Works. The cost of this pole shall be considered subsidiary to the other bid items.

8. Roundabout Programmable Color-Changing LED Lighting – The intent of Bid Item 140 was to illuminate the monument and highlight the artistic panels behind it. For this addendum, the lighting system has been divided into two components, as shown on the attached drawing:

- c. Nineteen (19) linear feet of programmable, color-changing LED strip lighting installed as shown; and
- d. Two (2) programmable, color-changing LED up lights, with one installed on each side of the artistic panels.

The lighting system shall include user-friendly controls that allow the colors and lighting sequences to be easily programmed and changed for special events and other occasions. The unit price for each item shall include all power connections, electrical circuits, materials, labor, and equipment necessary to provide and install a complete, fully operational system.

8) Bid Form – Replace the original Bid Form with the attached Bid Form. Changes are highlighted.

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Each Bidder shall acknowledge receipt of this addendum by fixing his signature below, by noting this addendum on his Proposal, and by attaching this addenda to his Bid.

City of Gladstone , 7010 N. Holmes, Gladstone, Missouri 64118

**ACKNOWLEDGEMENT**

The undersigned acknowledges receipt of this addendum and the Bid submitted is in accordance with information, instructions and stipulations set forth herein.

Bidder \_\_\_\_\_

By: \_\_\_\_\_

Date: \_\_\_\_\_

## ADDENDUM NO. 2 BID FORM

| BASE BID |                                                                           |      |          |           |       |
|----------|---------------------------------------------------------------------------|------|----------|-----------|-------|
| Item No. | Description                                                               | Unit | Quantity | Unit Cost | Total |
| 1        | Mobilization                                                              | LS   | 1.0      |           |       |
| 2        | Clearing, Grubbing & Demolition                                           | LS   | 1.0      |           |       |
| 3        | Unclassified Excavation                                                   | CY   | 650.0    |           |       |
| 4        | Embankment                                                                | CY   | 180.0    |           |       |
| 5        | Stabilized Compacted Subgrade (9" - Roundabout, Islands)                  | SY   | 4,240.0  |           |       |
| 6        | Type 5 Aggregate Base Course (6" - Roundabout, Islands)                   | SY   | 4,240.0  |           |       |
| 7        | Type 1 Aggregate Base Course (4" - Commercial Drives, Sidewalks, Parking) | SY   | 4,834.0  |           |       |
| 8        | Cold Milling (2")                                                         | SY   | 14,614.0 |           |       |
| 9        | Asphaltic Concrete Surface: Virgin Type 5-01 (2" - Roadway, Commercial)   | Ton  | 1,808.5  |           |       |
| 10       | Asphaltic Full Depth Base Patch: Type 1R (As-Needed)                      | Ton  | 90.4     |           |       |
| 11       | Concrete Roundabout Apron (8" Colored) (NRDJ)                             | SY   | 303.0    |           |       |
| 12       | Concrete Median (6" Colored, Stamped)                                     | SY   | 120.0    |           |       |
| 13       | Concrete Roundabout Pavement (10") (NRDJ)                                 | SY   | 3,255.0  |           |       |
| 14       | Concrete Fill (Pavement Widening) (8")                                    | SY   | 327.0    |           |       |
| 15       | Concrete Curb & Gutter (CG-1)                                             | LF   | 6,350.0  |           |       |
| 16       | Concrete Straight Curb (Roundabout, Islands) (C-1)                        | LF   | 4,350.0  |           |       |
| 17       | Concrete Curb & Gutter(Roundabout) (Special) (3")                         | LF   | 460.0    |           |       |
| 18       | Concrete Commercial Driveway (8" Fiber - No Reinforcement)                | SY   | 1,992.0  |           |       |
| 19       | Commercial Concrete Parking Lot (6" Fiber, #4 GFRP @ 24" OC/EW) *NP       | SY   | 390.0    |           |       |
| 20       | Concrete Sidewalk (4" Fiber, No Reinforcement)                            | SY   | 975.0    |           |       |
| 21       | Concrete Sidewalk (6" Fiber @ ADA Ramps, Welded Steel Wire Reinforcement) | SY   | 286.0    |           |       |
| 22       | Concrete Shared Use Path (4" Fiber) (Welded Steel Wire Reinforcement)     | SY   | 1,191.0  |           |       |
| 23       | Penetrating Concrete Sealer (Roundabout Pavement, Islands, Drives)        | SY   | 5,670.0  |           |       |
| 24       | Detectable Warning Surface (Cast-In-Place/Replacable)                     | SF   | 290.0    |           |       |
| 25       | 18" Dia PVC Drain Basin w/ 2'x2' Heavy Duty Grate *NP                     | EA   | 1.0      |           |       |
| 26       | Curb Inlet (5'x3')                                                        | EA   | 6.0      |           |       |

|    |                                                                    |    |       |  |  |
|----|--------------------------------------------------------------------|----|-------|--|--|
| 27 | Curb Inlet (8'x3')                                                 | EA | 10.0  |  |  |
| 28 | Curb Inlet (8'x4')                                                 | EA | 2.0   |  |  |
| 29 | Junction Box (4'x3')                                               | EA | 1.0   |  |  |
| 30 | Junction Box (4'x4')                                               | EA | 1.0   |  |  |
| 31 | Junction Box (5'x5')                                               | EA | 1.0   |  |  |
| 32 | Junction Box (Special)                                             | EA | 1.0   |  |  |
| 33 | Adjust Exist. Junction Box & Install New Top (B-00EX, MH-02X)      | EA | 2.0   |  |  |
| 34 | Std. Manhole (4' Dia.)                                             | EA | 1.0   |  |  |
| 35 | Grate Inlet - Special (C-05)                                       | EA | 1.0   |  |  |
| 36 | Field Inlet (3' x 3')                                              | EA | 1.0   |  |  |
| 37 | 24" Dia PVC Drain Basin w/ 2'x2' Heavy Duty Grate & Curb Inlet Top | EA | 3.0   |  |  |
| 38 | Adjust Curb Inlet & Install New Top                                | EA | 2.0   |  |  |
| 39 | 12" HDPE                                                           | LF | 33.0  |  |  |
| 40 | Street Cut Restoration (8" Conc. Min)                              | LF | 33.0  |  |  |
| 41 | 12" HDPE *NP                                                       | LF | 15.0  |  |  |
| 42 | 15" HDPE                                                           | LF | 186.4 |  |  |
| 43 | 18" HDPE                                                           | LF | 139.5 |  |  |
| 44 | 24" HDPE                                                           | LF | 193.1 |  |  |
| 45 | 15" RCP (Class III)                                                | LF | 16.0  |  |  |
| 46 | 18" RCP (Class III)                                                | LF | 307.4 |  |  |
| 47 | 24" RCP (Class III)                                                | LF | 97.5  |  |  |
| 48 | 30 RCP (Class III)                                                 | LF | 120.4 |  |  |
| 49 | 36" RCP (Class III)                                                | LF | 40.0  |  |  |
| 50 | 1" Type K Copper Water Service Relocation (As-Needed)              | LF | 200.0 |  |  |
| 51 | 4" PVC Sewer Service Relocation (As-Needed)                        | LF | 200.0 |  |  |
| 52 | Relocate Water Meter & Pit - New Materials                         | EA | 9.0   |  |  |
| 53 | Adjust Water Valve                                                 | EA | 16.0  |  |  |
| 54 | Post-Construction Manhole Adjustment (As-Needed)                   | EA | 6.0   |  |  |
| 55 | Post-Construction Valve Adjustment (As-Needed)                     | EA | 6.0   |  |  |
| 56 | Relocate Fire Hydrant                                              | EA | 2.0   |  |  |
| 57 | Adjust Fire Hydrant to Grade                                       | EA | 1.0   |  |  |

|    |                                                                         |     |         |  |  |
|----|-------------------------------------------------------------------------|-----|---------|--|--|
| 58 | Adjust Sanitary Manhole Top                                             | EA  | 6.0     |  |  |
| 59 | Decorative Integral Sidewalk Retaining Wall                             | VSF | 1,808.0 |  |  |
| 60 | Large Block Gravity Retaining Wall w/ 48" Black Majestic Style Rail     | VSF | 90.0    |  |  |
| 61 | Large Block Gravity Retaining Wall w/ 48" Black Majestic Style Rail *NP | VSF | 582.0   |  |  |
| 62 | Silt Fence                                                              | LF  | 500.0   |  |  |
| 63 | Curb Inlet Protection                                                   | EA  | 16.0    |  |  |
| 64 | Temporary Traffic Control Signage                                       | SF  | 500.0   |  |  |
| 65 | Temporary Traffic Barrier                                               | LF  | 500.0   |  |  |
| 66 | Type III Barricade                                                      | EA  | 5.0     |  |  |
| 67 | 36" Temporary Surface Mount Flexible Delineators                        | EA  | 100.0   |  |  |
| 68 | Channelizer Cones w/ Base                                               | EA  | 200.0   |  |  |
| 69 | Permanent Traffic Control Signage                                       | SF  | 216.0   |  |  |
| 70 | Permanent Traffic Control Sign Posts (2" Perf. 12GA Post w/ Anchor)     | LF  | 276.0   |  |  |
| 71 | Relocate Exist. Sign                                                    | EA  | 2.0     |  |  |
| 72 | Temporary 4" White and Yellow Lines, Waterborne Paint                   | LF  | 4,000.0 |  |  |
| 73 | Temporary Arrows (All Types)                                            | EA  | 20.0    |  |  |
| 74 | 4" Parking Stalls, Waterborne Paint *NP                                 | LF  | 840.0   |  |  |
| 75 | 4" Solid White and Broken White Line, MMA + Beads                       | LF  | 818.0   |  |  |
| 76 | 4" Solid Yellow and Broken Yellow Line, MMA + Beads                     | LF  | 1,650.0 |  |  |
| 77 | 4" Dbl Yellow Centerline, MMA + Beads                                   | LF  | 640.0   |  |  |
| 78 | 6" Solid White Line, MMA + Beads                                        | LF  | 1,210.0 |  |  |
| 79 | 6" Dotted White Line, MMA + Beads                                       | LF  | 94.0    |  |  |
| 80 | 6" Dotted Yellow Line, MMA + Beads                                      | LF  | 70.0    |  |  |
| 81 | 8" Dotted White Line, MMA + Beads                                       | LF  | 54.0    |  |  |
| 82 | 24" Solid White Stop Bar Line, MMA + Beads                              | LF  | 108.0   |  |  |
| 83 | 24" Solid Crosswalk Line, MMA + Beads                                   | LF  | 568.0   |  |  |
| 84 | Yield Line Triangle, MMA + Beads                                        | EA  | 70.0    |  |  |
| 85 | Left Turn Arrow, MMA + Beads                                            | EA  | 19.0    |  |  |
| 86 | Roundabout Lane Use, MMA + Beads                                        | EA  | 8.0     |  |  |
| 87 | Signal Head, Type 4T                                                    | EA  | 1.0     |  |  |
| 88 | Signal Head, Type 3S                                                    | EA  | 2.0     |  |  |

|     |                                                                             |                   |         |      |      |
|-----|-----------------------------------------------------------------------------|-------------------|---------|------|------|
| 89  | Signal Head, Type 4B                                                        | EA                | 3.0     |      |      |
| 90  | Signal Head, Type 4T                                                        | EA                | 0.0     | 0.00 | 0.00 |
| 91  | Signal Head, Type 1S, Pedestrian                                            | EA                | 4.0     |      |      |
| 92  | SH-Flat Sheet - Signal Sign                                                 | SF                | 37.0    |      |      |
| 93  | Post, Signal 4 FT.                                                          | EA                | 1.0     |      |      |
| 94  | Post, Signal 15 FT.                                                         | EA                | 1.0     |      |      |
| 95  | Post, Type C, 35 FT. Arm or 10.7 M Arm                                      | EA                | 1.0     |      |      |
| 96  | Post, Type C, 40 FT. Arm or 12.2 M Arm                                      | EA                | 2.0     |      |      |
| 97  | Controller Assembly Housing, NEMA TS2 Econolite Cobalt Controller           | EA                | 1.0     |      |      |
| 98  | Audible Detector, Pushbutton                                                | EA                | 4.0     |      |      |
| 99  | Video Detection System                                                      | EA                | 3.0     |      |      |
| 100 | Power Supply Assembly, Type-2 with 120V Lighting Control Cabinet - Complete | EA                | 1.0     |      |      |
| 101 | Signal Head, Type 3B                                                        | EA                | 5.0     |      |      |
| 102 | Conduit, 2 IN., Trench with Tracer Wire                                     | LF                | 46.0    |      |      |
| 103 | Conduit, 3 IN., Trench with Tracer Wire                                     | LF                | 124.0   |      |      |
| 104 | Conduit, 3 IN., Pushed with Tracer Wire                                     | LF                | 156.0   |      |      |
| 105 | Cable, 2 AWG 1 Conductor, Power                                             | LF                | 270.0   |      |      |
| 106 | Cable, 8 AWG 1 Conductor, Power                                             | LF                | 50.0    |      |      |
| 107 | Cable, 16 AWG 2 Conductor                                                   | LF                | 520.0   |      |      |
| 108 | Cable, 16 AWG 5 Conductor                                                   | LF                | 530.0   |      |      |
| 109 | Cable, 16 AWG 7 Conductor                                                   | LF                | 1,140.0 |      |      |
| 110 | Pull Box, Preformed Class 1                                                 | EA                | 1.0     |      |      |
| 111 | Pull Box, Preformed Class 2                                                 | EA                | 3.0     |      |      |
| 112 | Pull Box, Preformed Class 3                                                 | EA                | 1.0     |      |      |
| 113 | Signal Mounting Brackets                                                    | LS                | 1.0     |      |      |
| 114 | LED Street Name Sign - 24" x 96" - Complete                                 | EA                | 3.0     |      |      |
| 115 | Retroreflective Backplates, 4 Lens                                          | EA                | 4.0     |      |      |
| 116 | Retroreflective Backplates, 3 Lens                                          | EA                | 7.0     |      |      |
| 117 | Visors, 12" Lens                                                            | EA<br>Signal Head | 11.0    |      |      |
| 118 | Visors, PED                                                                 | EA                | 4.0     |      |      |
| 119 | Rect. Rapid Flashing Beacon (RRFB) Assembly - Complete                      | EA                | 3.0     |      |      |

|     |                                                                                           |     |         |     |     |
|-----|-------------------------------------------------------------------------------------------|-----|---------|-----|-----|
| 120 | Ethernet Cable, Radio                                                                     | LF  | 60.0    |     |     |
| 121 | Ethernet Cable, PTZ                                                                       | LF  | 35.0    |     |     |
| 122 | SHF-Flat Sheet Fluorescent                                                                | SF  | 12.0    |     |     |
| 123 | PTZ Camera                                                                                | EA  | 1.0     |     |     |
| 124 | Wireless Communication Radio                                                              | EA  | 1.0     |     |     |
| 125 | New Streetlight Pole - 40' Aluminum Pole w/ Double 12' Bracket Arm (Black)                | EA  | 10.0    |     |     |
| 126 | New Ped. Pole - 14' Holophane Wadsworth Decorative Cast Aluminum Pole                     | EA  | 19.0    |     |     |
| 127 | Remove & Reinstall Exist. 40' Aluminum Streetlight Pole w/ 12' Bracket Arm                | EA  | 13.0    |     |     |
| 128 | Remove & Reinstall Exist. 14' Pedestrian Pole & Fixture                                   | EA  | 4.0     |     |     |
| 129 | Type "F1" Screw-In Foundation                                                             | EA  | 23.0    |     |     |
| 130 | Type "R" Screw-In Foundation                                                              | EA  | 23.0    |     |     |
| 131 | Streetlight Fixture - AEL Autobahn Series LED Fixture, 15,090 Lumen, 3000K                | EA  | 23.0    |     |     |
| 132 | Ped. Light Fixture - Holophane/GranvilleII LED 60W w/ Glass Acorn Post Top - Match Exist. | EA  | 19.0    |     |     |
| 133 | Conduit, 2 IN., Metallic Bored                                                            | LF  | 0.0     | 0.0 | 0.0 |
| 134 | Conduit, 2 IN., HDPE Bored with Tracer Wire                                               | LF  | 3,970   |     |     |
| 135 | Cable, 8 AWG 3 Conductor                                                                  | LF  | 7,700.0 |     |     |
| 136 | Pull Box, Preformed Class 1                                                               | EA  | 25.0    |     |     |
| 137 | Modify Exist. Streetlight Base Mounted Control Station                                    | EA  | 1.0     |     |     |
| 138 | New Streetlight Base Mounted Control Station                                              | EA  | 1.0     |     |     |
| 139 | New Streetlight Power Supply                                                              | EA  | 1.0     |     |     |
| 140 | Programmable Color Changing Strip LED Light for Roundabout Gateway Sign - Complete        | LF  | 19.0    |     |     |
| 141 | Roundabout Leaf Panel - Complete                                                          | EA  | 5.0     |     |     |
| 142 | Monument Marker - Complete                                                                | EA  | 10.0    |     |     |
| 143 | Gateway Signage "Gladstone" - Complete                                                    | VSF | 150.0   |     |     |
| 144 | Wayfinding Signage - Complete                                                             | EA  | 6.0     |     |     |
| 145 | Permanent Pole Banners                                                                    | EA  | 20.0    |     |     |
| 146 | Irrigation (Water Meter Pit, Backflow, Power, Controller) - Complete                      | SF  | 1,520.0 |     |     |
| 147 | Overstory Trees - 3" Caliper                                                              | EA  | 48.0    |     |     |
| 148 | Understory Trees - 1.5" Caliper                                                           | EA  | 9.0     |     |     |
| 149 | Shrubs - 5 Gal                                                                            | EA  | 21.0    |     |     |
| 150 | Perennials & Grasses - 1 Gal                                                              | EA  | 1,320.0 |     |     |

|                       |                                                                |    |         |  |  |
|-----------------------|----------------------------------------------------------------|----|---------|--|--|
| 151                   | Mulch (3" depth)                                               | CY | 58.1    |  |  |
| 152                   | Hydroseeding                                                   | AC | 1.0     |  |  |
| 153                   | Sod                                                            | SY | 3,000.0 |  |  |
| 154                   | Convert Curb/Grate Inlet to Junction Box (A-51, D-00)          | EA | 2.0     |  |  |
| 155                   | Trailer Mounted Arrow Board                                    | EA | 2.0     |  |  |
| 156                   | Remove Exist. 40' Aluminum Streetlight Pole w/ 12' Bracket Arm | EA | 3.0     |  |  |
| 157                   | Remove Exist. 14' Pedestrian Pole & Fixture                    | EA | 4.0     |  |  |
| 158                   | Programmable Color Changing LED Up-Lighting - Complete         | EA | 2.0     |  |  |
|                       |                                                                |    |         |  |  |
| <b>Total Base Bid</b> |                                                                |    |         |  |  |

\* NP - Non-Participating - Not Eligible For Federal Reimbursement

| Bid Alternate A - 16" Water Main Relocation |                                |      |          |           |       |
|---------------------------------------------|--------------------------------|------|----------|-----------|-------|
| Item No.                                    | Description                    | Unit | Quantity | Unit Cost | Total |
| A1                                          | 16" RJ C900 PVC DR18           | LF   | 185      |           |       |
| A2                                          | 8" RJ C900 PVC DR18            | LF   | 44       |           |       |
| A3                                          | 16"x16" Tapping Sleeve & Valve | EA   | 1        |           |       |
| A4                                          | 8"x8" Tapping Sleeve & Valve   | EA   | 1        |           |       |
| A5                                          | 16" Gate Valve                 | EA   | 1        |           |       |
| A6                                          | Connection Detail A            | EA   | 1        |           |       |
| A7                                          | Connection Detail B            | EA   | 1        |           |       |
| Total Bid Alternate A                       |                                |      |          |           |       |

| Bid Alternate B - Street Light (New Materials) |                                                                                         |      |          |           |       |
|------------------------------------------------|-----------------------------------------------------------------------------------------|------|----------|-----------|-------|
| Item No.                                       | Description                                                                             | Unit | Quantity | Unit Cost | Total |
| B1                                             | Add "New Streelight Pole - 40' Aluminum Pole w/ 12' Bracket Arm (Black)"                | EA   | 13       |           |       |
| B2                                             | Add "New Ped. Pole - 14' Holophane Wadsworth Decorative Cast Aluminum Pole"             | EA   | 4        |           |       |
| B3                                             | Add " New Ped. Light Fixture - Holophane/GranvilleII LED 60W w/ Glass Acorn Post Top"   | EA   | 4        |           |       |
| B4                                             | Deduct "Remove & Reinstall Exist. 40' Alum. Streetlight Pole w/ 12' Arm" (Bid Item 127) | EA   | -13      |           |       |
| B5                                             | Deduct "Remove & Reinstall Exist. 14' Pedestrian Pole & Fixture" (Bid Item 128)         | EA   | -4       |           |       |
| B6                                             | Remove Exist. 40' Aluminum Streetlight Pole w/ 12' Bracket Arm                          | EA   | 13       |           |       |
| B7                                             | Remove Exist. 14' Pedestrian Pole & Fixture                                             | EA   | 4.0      |           |       |
| Total Bid Alternate B                          |                                                                                         |      |          |           |       |

| <b>Bid Alternate C - Penetrating Concrete Sealer (Public Curbs &amp; Sidewalks)</b> |                                                             |      |          |           |       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------|------|----------|-----------|-------|
| Item No.                                                                            | Description                                                 | Unit | Quantity | Unit Cost | Total |
| C1                                                                                  | Apply Penetrating Concrete Sealer to Public Curb and Gutter | LF   | 10,000   |           |       |
| C2                                                                                  | Apply Penetrating Concrete Sealer to Public Sidewalks       | SY   | 2,255    |           |       |
| <b>Total Bid Alternate C</b>                                                        |                                                             |      |          |           |       |

| <b>Bid Alternate D - Paint NE 72nd Street &amp; N. Oak Traffic Posts &amp; Mast Arms</b> |                                               |      |          |           |       |
|------------------------------------------------------------------------------------------|-----------------------------------------------|------|----------|-----------|-------|
| Item No.                                                                                 | Description                                   | Unit | Quantity | Unit Cost | Total |
| D1                                                                                       | Paint Traffic Signal Post and Mast Arms Black | EA   | 4        |           |       |
| <b>Total Bid Alternate D</b>                                                             |                                               |      |          |           |       |

| <b>Bid Alternate E - N. Oak at NE 70th Ter Pavement Treatment</b> |                                        |      |          |           |       |
|-------------------------------------------------------------------|----------------------------------------|------|----------|-----------|-------|
| Item No.                                                          | Description                            | Unit | Quantity | Unit Cost | Total |
| E1                                                                | Clearing, Grubbing & Demolition        | LS   | 1        |           |       |
| E2                                                                | Concrete Pavement (10" Colored) (NRDJ) | SY   | 750      |           |       |
| <b>Total Bid Alternate E</b>                                      |                                        |      |          |           |       |

**SECTION 05 50 00  
METAL FABRICATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes the extent of exterior metal fabrications indicated on the drawings.

**1.2 PERFORMANCE REQUIREMENTS**

- A. Structural Performance: Design, engineer, fabricate, and install metal fabrications to withstand the structural loads as called for in local building codes without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.

**1.3 SUBMITTALS**

- A. See Section 01 3000 – Administrative Requirements, for submittal procedures.
- B. Product data for products used in miscellaneous metal fabrications, including paint products and grout.
- C. Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other sections.

Where metal fabrications are indicated to comply with certain design loadings, include structural computations, material properties, and other information needed for structural analysis that has been signed and sealed by the qualified professional engineer who was responsible for their presentation.

- D. Samples representative of materials and finished products may be requested by Landscape Architect.
- E. Welder certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" article.
- F. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project name, addresses, names of Architects and Owners, and other information.

**1.4 QUALITY ASSURANCE**

- A. Fabricator Qualifications: Firms experienced in successfully producing metal fabrications similar to that indicated for this Project, with sufficient production capacity to product required units without causing delay in the Work.
- B. Installer Qualifications: Arrange for installation of metal fabrications specified in this section by same firm that fabricated them.

- C. Qualify welding processes and welding operators in accordance with AWS D1.1 "Structural Welding Code – Steel", D1.3 "Structural Welding Code – Sheet Steel", and D1.2 "Structural Welding Code – Aluminum".
  - 1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone re-certification.
- D. Engineer Qualifications: Professional engineer licensed to practice in jurisdiction where project is located and experienced in providing engineering services of this kind indicated that have resulted in the successful installation of metal fabrications similar in material, design, and extent to that indicated for this Project.

#### 1.5 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication; show recorded measurements on final show drawings. Coordinate fabrication schedule with construction progress to avoid delay of Work.
  - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabrication of products without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

#### 1.06 SEQUENCING AND SCHEDULING

- A. Sequence and coordinate installation of signage and railings with other trades.

### PART 2 - PRODUCTS

#### 2.1 FERROUS MATERIALS

- A. Metal Surfaces, General: For metal fabrications exposed to view upon completion of the Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness, and, for steel sheet, variations in flatness exceeding those permitted by reference standards for stretcher-leveled sheet.
  - 1. Steel Plates, Shapes, and Bars: ASTM A36.
  - 2. Steel: Provide steel and iron in the form indicated complying with the following requirements:
    - a. Cold-Formed Steel Tubing: ASTM A 500: Type and grade (if applicable) as selected by fabricator and as required for design loading.
    - b. Hot-Formed Steel Tubing: ASTM A 501.
  - 3. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
  - 4. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers and shims as required, hot-dip galvanized steel per ASTM A 153.
  - 5. Welding Rods and Base Electrodes: Select in accordance with AWS specifications for the metal alloy to be welded.
  - 6. Malleable Iron Castings: ASTM A 47, grade 32510.

## 2.2 GROUT AND ANCHORING CEMENT

- A. Non-shrink Nonmetallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with CE CRD-C 621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.
- B. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Non-shrink Nonmetallic Grouts:
    - a. "Euco N-S Grout", Euclid Chemical Co.
    - b. "Masterflow 713", Master Builders.
    - c. "Sealtight 588 Grout", W.R. Meadows, Inc.
    - d. "SonogROUT", Sonneborn Building Products Div., Rexnord Chemical Products, Inc.
    - e. "Five Star Grout", U.S. Group Corp.

## 2.3 FASTENERS

- A. General: Provide stainless steel fasteners for all group installation of site amenities and provide zinc-coated fasteners for all exterior uses or where built into exterior walls. Select fasteners for the type, grade, and class required. All exposed portions of fastener shall be painted the same as the product it is attached to.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of the type, grade, and class required to produce connections that are suitable for anchoring railing to other types of construction indicated and capable of withstanding design loadings.
  - 1. For steel railings and fittings use plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating or ASTM B 696, Class 12 for Cadmium plating.
- C. Cast-in-Place and Post-installed Anchors in Concrete: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing laboratory.
  - 1. Cast-in-place anchors.

## 2.4 FINISH COATING

- A. All ornamental railings, handrails and components shall be powder coated with a thermosetting TGIC or Super Durable Polyester Powdercoating in accordance with American Architectural Manufacturers Association (AAMA) Standard Specifications for Powder Coating.
- B. A minimum coating thickness of 1 ½ mils shall be maintained.
- C. Colors to be selected by project Landscape Architect from manufacturer's full range color selection according to plans.

## 2.5 FABRICATION, GENERAL

- A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Form exposed work true to line and level and accurate angles and surfaces and straight sharp edges.
- C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
  - 1. Temperature Change (Range): 100 degree F (55.5 degree C).
- D. Shear and punch metals cleanly and accurately. Remove burrs.
- E. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- F. Remove sharp or rough areas on exposed traffic surfaces.
- G. Weld corners and seams continuously to comply with AWS recommendations and the following:
  - 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 welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welder surface matches those adjacent.
- H. Form exposed connections with hairline joint, flush and smooth, using concealed fasteners whenever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- J. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of join pieces. Clearly mark units for reassembly and coordinated installation.
- K. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish

hardware, screws, and similar items.

- L. Fabricate joints that will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

## 2.6 ROUGH HARDWARE

- A. Furnish bent or otherwise customer fabricated bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures.

## 2.7 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports for applications indicated or which are not a part of structural steel framework, as required to complete work.
- B. Fabricate units to sizes, shapes, and profiles indicated and required to receive adjacent other construction retained by framing and supports. Fabricate from structural adjacent or steel shapes, plates, and aluminum or steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.

## 2.8 FINISHES, GENERAL

- A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to application and designations of finishes.
- B. Finish metal fabrications after assembly.

## 2.9 STEEL FINISHES

- A. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:
  - 1. Exteriors (SSPC Zone 1B): SSPC-SP6 "Commercial Blast Cleaning".
- B. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finish or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA1 "Paint Application Specification No. 1" for shop painting.

# PART 3 - EXECUTION

## 3.1 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

### 3.2 INSTALLATION - GENERAL

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; included threaded fasteners for concrete and masonry inserts, toggle bolts, though-bolts, lag bolts, wood screws, and other connectors as required.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. 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.
- E. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
  - 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 welding flux immediately.
  - 4. At exposed connections, finished exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.

### 3.3 ADJUSTING AND CLEANING

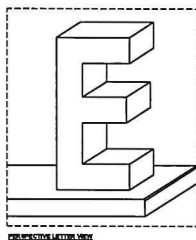
- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces.
  - 1. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.

### 3.4 PROTECTION

- A. Protect finishes from damage during construction period by use of temporary protective coverings approved by manufacturer. Remove protective covering at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alternations and refinish entire unit or provide new units.

END OF SECTION – 05 5000

- LIGHTING:**
- CONTRACTOR TO SUPPLY AND INSTALL TWO (2) PROGRAMMABLE COLOR CHANGING LED UP-LIGHTS WITH ONE (1) MOUNTED TO EACH SIDE OF THE DECORATIVE PANELS
  - SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR APPROVAL.
  - UNIT PRICES FOR THESE ITEMS SHALL INCLUDE POWER, CIRCUITS, FUTURES AND ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT TO PROVIDE COMPLETE SYSTEMS.



- NOTE:**
1. COLOR SAMPLES TO BE SUBMITTED TO BRUSHAGE MANUFACTURER (ONCE SELECTED), MANUFACTURER TO SUBMIT SHOP DRAWINGS AND COLOR SAMPLES OF LETTERS FOR REVIEW AND ACCEPTANCE BY LANDSCAPE ARCHITECT.
  2. BRUSHAGE MANUFACTURER TO PROVIDE BONDED AND SEALED STRUCTURAL ENGINEERED DRAWINGS.
  3. MANUFACTURER TO SUBMIT COLOR SAMPLES OF BRUSHAGE COMPONENTS FOR REVIEW AND ACCEPTANCE BY LANDSCAPE ARCHITECT.
  4. LOGO OPTIONS (TO BE DETERMINED): (1.) CITY OF GLACIESTONE, MO SEAL/LOGO; (2.) "O" LOGO

- LIGHTING:**
- A. CONTRACTOR TO SUPPLY AND INSTALL 18-LINEAR FEET OF PROGRAMMABLE COLOR CHANGING LED STRIP LIGHTING AS SHOWN, AND
  - B. SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR APPROVAL.
  - C. UNIT PRICES FOR THESE ITEMS SHALL INCLUDE POWER, CIRCUITS, FIXTURES AND ALL NECESSARY MATERIALS, LABOR AND



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|-----------------------------------------------------------------|--|------------------|-----------------------------|
| CITY OF<br>GLADSTONE, MISSOURI<br>DEPARTMENT OF<br>PUBLIC WORKS |  | DATE<br>10.28.28 | DESCRIPTION<br>ADDITIONAL # |
|-----------------------------------------------------------------|--|------------------|-----------------------------|



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### SITE DETAILS - SIGNAGE