



#### ADDENDUM #1

City of Salem, MA Congress Street Area Surface Improvements Project

Date of Addendum: June 9, 2023 Bid Due Date: June 15, 2023

Addendum #1 includes additional plan sheets for electrical design along with updated C-401 and Bid Form.

Clarification to project timeline is as follows:

- Project to be completed with final application for payment submitted by May 15, 2024.

#### **Questions & Answers:**

None

#### **Updated Plans & Specifications (Attached)**

Specifications: 00 41 01 - Bid Form

Plans: C-401, E-001 & E-100

#### **SECTION 00 41 01**

#### **BID FORM**

#### ARTICLE 1 - DEFINED TERMS

1.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions and Supplementary Conditions, if any.

#### ARTICLE 2 - BID RECIPIENT

2.01 This Bid is submitted to:

City of Salem
98 Washington Street
Salem, Massachusetts 01970
ATTN: David Knowlton, City Engineer/ DPS Director

2.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

#### ARTICLE 3 – BIDDER'S ACKNOWLEDGEMENTS

- 3.01 Bidder accepts all of the terms and conditions of the Bidding Documents including, without limitation:
  - A. those dealing with disposition of Bid security;
  - B. those included in the Supplementary Instructions to Bidders;
  - C. insurance and bonding requirements (Payment Bond and Performance Bond each equal to 100% of the total Contract Price) set forth in the General Conditions and Supplementary Conditions, if any;
  - D. Contract Times as set forth in the Agreement; and
  - E. provisions for liquidated damages as set forth in the Agreement.
- 3.02 This Bid will remain subject to acceptance for 90 calendar days after the Bid opening or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3.03 Bidder acknowledges receipt of the following Addenda.

| <u>Addendum No.</u> | Addendum Date |
|---------------------|---------------|
|                     |               |
|                     |               |
|                     |               |
|                     |               |
|                     |               |
|                     |               |
|                     |               |
|                     |               |

Bidder acknowledges the representations and certifications included in Section 00 45 05 are made a condition of the Bid.

#### ARTICLE 4 - BASIS OF BID

4.01 Bidder will complete the Work under Work Authorizations in accordance with the Contract Documents for the following price(s) based on unit prices included in the following schedule. Bidder must complete all items. BID PRICES SHALL EXCLUDE SALES AND USE TAX.

### Base Bid Price Form – Peabody Street, Congress Street, Ward Street, & Harbor Street

| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 101.01   | SITE PREPARATION  |                       | (Figures)                   | item mee                |
| 101.01   | @   | 1                     |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER LUMP SUM                                | LS                    |                             |                         |
| 102.511  | ROADSIDE TREE PROTECTION                                      |                       |                             |                         |
|          |   | 80                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    |                       |                             |                         |
| 119      | RODENT CONTROL  |                       |                             |                         |
|          | @   | 1                     |                             |                         |
|          |   |                       |                             |                         |
|          |   | LS                    |                             |                         |
| 400      | Dollars and Cents PER LUMP SUM                                |                       |                             |                         |
| 120      | EARTH EXCAVATION & DISPOSAL                                   | 85                    |                             |                         |
|          | @   | 03                    |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              | CY                    |                             |                         |
| 120.1    | UNCLASSIFIED EXCAVATION                                       |                       |                             |                         |
| 120.1    | ONCEASSITED EXCAVATION  | 340                   |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              | Cf                    |                             |                         |
| 121.1    | CLASS A ROCK EXCAVATION                                       |                       |                             |                         |
|          |   | 470                   |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              | •                     |                             |                         |
| 151      | GRAVEL BORROW   |                       |                             |                         |
|          |   | 400                   |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              |                       |                             |                         |
|          |   |                       |                             |                         |
|          | CONTINUED ON NEVED  | ACE.                  |                             |                         |
|          | CONTINUED ON NEXT P   | AGE                   |                             |                         |

| Item No. |   |          | Unit Bid Price | Total Bid  |
|----------|---|----------|----------------|------------|
|          | Written Words                                 | Quantity | (Figures)      | Item Price |
| 170      | FINE GRADING & COMPACTING                     | 3290     |                |            |
|          | @   | 3230     |                |            |
|          |   |          |                |            |
| -        | Dellara and Conta DED COLLADE VADD            | SY       |                |            |
| 201      | Dollars and Cents PER SQUARE YARD CATCH BASIN |          |                |            |
| 201      | CATCH BASIN                                   | 4        |                |            |
|          | @   |          |                |            |
|          |   | EA       |                |            |
| _        | Dollars and Cents PER EACH                    | EA       |                |            |
| 204      | GUTTER INLET                                  |          |                |            |
|          |   | 2        |                |            |
| _        | @   |          |                |            |
|          |   | EA       |                |            |
|          | Dollars and Cents PER EACH                    |          |                |            |
| 220      | DRAINAGE AND SEWER STRUCTURES ADJUSTED        | 6.4      |                |            |
|          | @   | 61       |                |            |
| _        | e   |          |                |            |
| -        |   | EA       |                |            |
| 220.2    | Dollars and Cents PER EACH                    |          |                |            |
| 220.3    | DRAINAGE STRUCTURE - CHANGE IN TYPE           | 3        |                |            |
|          | @   | J        |                |            |
|          |   |          |                |            |
| -        | Dollars and Cents PER EACH                    | EA       |                |            |
| 221      | FRAME AND COVER                               |          |                |            |
|          | THE MILE AND COVER                            | 36       |                |            |
|          | @   |          |                |            |
|          |   | EA       |                |            |
|          | Dollars and Cents PER EACH                    | EA       |                |            |
|          |   |          |                |            |

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| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 222      | FRAME AND GRATE   | Quantity              | (Figures)                   | Teem rice               |
|          | TIVUVE 7110 GIVILE  | 19                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    | 271                   |                             |                         |
| 223      | 12 INCH HOOD  | _                     |                             |                         |
|          | @   | 3                     |                             |                         |
|          |   |                       |                             |                         |
|          |   | EA                    |                             |                         |
| 224.42   | Dollars and Cents PER EACH                                    |                       |                             |                         |
| 224.12   | 12 INCH SDR-35 PVC PIPING                                     | 100                   |                             |                         |
|          | @   | 100                   |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER LINEAR FOOT                             | LF                    |                             |                         |
| 350.8    | NEW WATER GATE VALVE BOX                                      |                       |                             |                         |
|          |   | 34                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    |                       |                             |                         |
| 358      | WATER GATE VALVE BOX ADJUSTED                                 | 20                    |                             |                         |
|          | @   | 38                    |                             |                         |
|          |   |                       |                             |                         |
|          |   | EA                    |                             |                         |
| 381      | Dollars and Cents PER EACH                                    |                       |                             |                         |
| 301      | NEW WATER SERVICE BOX   | 56                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER EACH                                    | EA                    |                             |                         |
| 381.3    | WATER SERVICE BOX ADJUSTED                                    |                       |                             |                         |
|          |   | 68                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    |                       |                             |                         |
|          | CONTINUED ON NEXT   | PAGE                  |                             |                         |

| Issue Date: May 2023 | Issue | Date: | Mav | 2023 |
|----------------------|-------|-------|-----|------|
|----------------------|-------|-------|-----|------|

| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 402      | DENSE GRADED CRUSHED STONE                                    | Quantity              | (Figures)                   | iteminice               |
| 402      | DENSE GRADED CROSHED STONE                                    | 1,320                 |                             |                         |
|          | @   | ·                     |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              | CY                    |                             |                         |
| 415.1    | ROADWAY MILLING (2" DEPTH)                                    |                       |                             |                         |
|          | NOTE WITH WHILE IN O (2 DET TH)                               | 12,800                |                             |                         |
|          | @   |                       |                             |                         |
|          |   | SY                    |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | 31                    |                             |                         |
| 450.231  | SUPERPAVE SURFACE COURSE-12.5 POLYMER (SSC-                   |                       |                             |                         |
|          | 12.5-P)   | 1,550                 |                             |                         |
|          | @   | ,                     |                             |                         |
|          |   |                       |                             |                         |
|          |   | TONS                  |                             |                         |
| 454      | Dollars and Cents PER TON                                     |                       |                             |                         |
| 451      | MISC HMA FOR PATCHING   | 900                   |                             |                         |
|          | @   | 300                   |                             |                         |
|          |   |                       |                             |                         |
|          | Dollars and Cents PER TON                                     | TONS                  |                             |                         |
| 452      | BITUMEN FOR TACK COAT   |                       |                             |                         |
| .52      | BITOWENTON FACE COAT  | 896                   |                             |                         |
|          | @   |                       |                             |                         |
|          |   | GAL                   |                             |                         |
|          | Dollars and Cents PER GALLON                                  | GAL                   |                             |                         |
| 482.3    | SAWCUT ASPHALT  |                       |                             |                         |
|          |   | 500                   |                             |                         |
|          | @   |                       | -                           |                         |
|          |   | LF                    |                             |                         |
|          | Dollars and Cents PER LINEAR FOOT                             |                       |                             |                         |
| 506      | NEW GRANITE CURB TYPE VB - STRAIGHT                           | 44.5                  |                             |                         |
|          | @   | 415                   |                             |                         |
|          |   |                       |                             |                         |
|          |   | LF                    |                             |                         |
|          | Dollars and Cents PER LINEAR FOOT                             |                       |                             |                         |
|          | CONTINUED ON NEXT   | PAGE                  |                             |                         |
|          |   | -                     |                             |                         |

| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 516      | NEW GRANITE CURB CORNER, TYPE A                               | 34                    |                             |                         |
|          | @   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    |                       |                             |                         |
| 580      | REMOVED AND RESET GRANITE CURB                                | 2.665                 |                             |                         |
|          | @   | 2,665                 |                             |                         |
|          | Dollars and Cents PER LINEAR FOOT                             | LF                    |                             |                         |
| 675      | BARRIER FENCE   | 180                   |                             |                         |
|          | Dollars and <u>C</u> ents PER LINER FOOT                      | LF                    |                             |                         |
| 697.1    | SILT SACK   | 3                     |                             |                         |
|          | @   |                       |                             |                         |
|          | Dollars and Cents PER LUMP SUM                                | LS                    |                             |                         |
| 701      | NEW CEMENT CONCRETE SIDEWALK (4")                             | 3,115                 |                             |                         |
|          | @   | 3,223                 |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | SY                    |                             |                         |
| 701.1    | NEW CEMENT CONCRETE DRIVEWAY (6")                             | 310                   |                             |                         |
|          | @   |                       |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | SY                    |                             |                         |
| 701.2    | NEW CEMENT CONCRETE WHEELCHAIR RAMP                           | 195                   |                             |                         |
|          | @   |                       |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | SY                    |                             |                         |
| 702.2    | SIGN SUPPORT WITH BREAKAWAY STEEL POST ASSMBLY                | 1                     |                             |                         |
|          |   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    |                       |                             |                         |

| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 707.01   | FLEXIBLE POROUS PAVEMENT                                      | 2000                  |                             |                         |
|          | Dollars and Cents PER SQUARE FOOT                             | SF                    |                             |                         |
| 707.1    | PARK BENCH  | 2                     |                             |                         |
|          | @   | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    | LA                    |                             |                         |
| 707.9    | BIKE HOOP  @  | 3                     |                             |                         |
|          | Dollars and Cents PER EACH                                    | EA                    |                             |                         |
| 734      | STREET SIGN - REMOVE & RESET  @                               | 30                    |                             |                         |
|          | Dollars and Cents PER EACH                                    | EA                    |                             |                         |
| 748      | MOBILIZATION  @   | 4                     |                             |                         |
|          | Dollars and Cents PER LUMP SUM                                | LS                    |                             |                         |
| 751      | LOAM & SEED   | 400                   |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | SY                    |                             |                         |
| 751.72   | COMPOST  @  | 20                    |                             |                         |
|          | Dollars andCents PER CUBIC YARD                               | CY                    |                             |                         |
| 777.442  | SHADE TREES   | 5                     |                             |                         |
|          | @ Cents PER EACH  | EA                    |                             |                         |
|          | Dollars and Cents PER EACH                                    | ]                     |                             |                         |

| 770 442        |  |           | I I |
|----------------|--|-----------|-----|
| 778.442        | STRUCTURAL SOIL                                  | 10        |     |
|                | @  |           |     |
|                |  |           |     |
|                |  | CY        |     |
|                | Dollars and Cents PER CUBIC YARD                 |           |     |
| 785.1          | SHRUBS, 5'-8' HT.                                | 5         |     |
|                | @  |           |     |
|                |  | EA        |     |
|                | Dollars andCents PER EACH                        |           |     |
| 785.11         | SHRUBS, 1 GALLON                                 | 139       |     |
|                | @  | 203       |     |
|                |  | EA        |     |
|                | Dollars andCents PER EACH                        | 2, (      |     |
| 796.1          | ORNAMENTAL GRASSES, 1 GALLON                     | 489       |     |
|                | @  | 403       |     |
|                |  | EA        |     |
|                | Dollars andCents PER EACH                        | LA        |     |
| 796.11         | ORNAMENTAL GRASSES, SOD                          | 1,700     |     |
|                | @  | 1,700     |     |
|                |  | SY        |     |
|                | Dollars andCents PER SQUARE YARD                 | 31        |     |
| 804.1 <u>5</u> | 1-1/2 INCH ELECTRICAL CONDUIT TYPE NM-PLASTIC-   |           |     |
|                | (UL)   | 200       |     |
|                | @  |           |     |
|                |  | LF        |     |
| 004.2          | Dollars and <u>C</u> ents per LINEAR FOOT        |           |     |
| 804.2          | 2 INCH ELECTRICAL CONDUIT TYPE NM-PLASTIC-(UL)   | 200       |     |
|                | @  |           |     |
|                |  | LF        |     |
| 011.20         | Dollars and <u>C</u> ents per LINEAR FOOT        |           |     |
| 811. <u>20</u> | ELECTRICAL HANDHOLE                              | 1         |     |
|                | @  |           |     |
|                |  | EA        |     |
| 212.22         | Dollars and <u>C</u> ents per <u>EACH</u>        |           |     |
| 812.09         | LIGHT STANDARD FOUNDATION PRECAST                | 3         |     |
|                | @  |           |     |
|                |  | EA        |     |
| 040.00         | Dollars and <u>C</u> ents per EACH               |           |     |
| 813.30         | WIRE TYPE 7 NUMBER 10                            | 400       |     |
|                | @  |           |     |
|                |  | <u>LF</u> |     |
|                | Dollars and <u>C</u> ents per <u>LINEAR FOOT</u> |           |     |

| _             | -   | i         | 1 |
|---------------|---|-----------|---|
| <u>813.53</u> | GROUND WIRE #10   | 200       |   |
|               | @   | <u> </u>  |   |
|               |   | <u>LF</u> |   |
|               | <u>Dollars and Cents per Linear Foot</u>  |           |   |
| 823.71        | HIGHWAY LIGHTING POLE & LUMINAIRE REMOVED & STACKED   | 1         |   |
|               | @   |           |   |
|               |   | EA        |   |
|               | Dollars and <u>C</u> ents per EACH  | LA        |   |
| 823.9         | ORNAMENTAL STREET LIGHT – 100W LED WITH POLE  | 3         |   |
|               | @   | 3         |   |
|               |   | EA        |   |
|               | Dollars and <u>C</u> ents per EACH  | LA        |   |
| 829           | "STOP" SIGN   |           |   |
|               | @   | 1         |   |
|               | <u> </u>  |           | - |
|               |   | EA        |   |
|               | Dollars and Cents PER EACH  |           |   |
| 855           | TRAFFIC MANAGEMENT  |           |   |
|               |   | 1         |   |
|               | @   |           | - |
|               |   | LS        |   |
|               | Dollars and Cents PER LUMP SUM  |           |   |
| 856           | POLICING  |           |   |
|               |   | 4,800     |   |
|               | @   |           |   |
|               |   |           |   |
|               | Dollars and Cents PER MAN HOUR  | MH        |   |
| 857           | RAISED CROSSWALK WITH DECORATIVE PAVEMENT   |           |   |
|               | MAISED CROSSWALK WITH DECONATIVE PAVEIVENT  | 1         |   |
|               | @   |           |   |
|               |   |           |   |
|               | Della control of the | EA        |   |
|               | Dollars and Cents PER EACH  |           |   |

TOTAL BASE BID PRICE (based on Unit Price Schedule above):

### Alternate #1 Bid Price Form – Peabody Street Full Depth Roadway Construction

| Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|----------|---|-----------------------|-----------------------------|-------------------------|
| 120.1    | UNCLASSIFIED EXCAVATION                                       |                       |                             |                         |
|          | _   | 1650                  |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              | ]                     |                             |                         |
| 121.1    | CLASS A ROCK EXCAVATION                                       |                       |                             |                         |
|          |   | 150                   |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              |                       |                             |                         |
| 151      | GRAVEL BORROW   |                       |                             |                         |
|          |   | 50                    |                             |                         |
|          | @   |                       |                             |                         |
|          |   | CY                    |                             |                         |
|          | Dollars and Cents PER CUBIC YARD                              |                       |                             |                         |
| 170      | FINE GRADING & COMPACTING                                     | 2.000                 |                             |                         |
|          | @   | 3,000                 |                             |                         |
|          |   |                       |                             |                         |
|          |   | SY                    |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             |                       |                             |                         |
| 402      | DENSE GRADED CRUSHED STONE                                    | 1,500                 |                             |                         |
|          | @   | 1,300                 |                             |                         |
|          |   |                       |                             |                         |
|          |   | CY                    |                             |                         |
| 445.4    | Dollars and Cents PER CUBIC YARD                              |                       |                             |                         |
| 415.1    | DEDUCT ROADWAY MILLING (2" DEPTH) – PEABODY STREET            | <u>3,000</u>          |                             |                         |
|          | @   | <u>3,000</u>          |                             |                         |
|          |   | CV                    |                             |                         |
|          | Dollars and Cents PER SQUARE YARD                             | <u>SY</u>             |                             |                         |
| 440      | CALCIUM CHLORIDE FOR DUST CONTROL                             |                       |                             |                         |
|          |   | 2,800                 |                             |                         |
|          | @   |                       |                             |                         |
|          |   | LB                    |                             |                         |
|          | Dollars and Cents PER POUND                                   |                       |                             |                         |
|          |   |                       |                             |                         |
|          |   |                       |                             |                         |
|          |   |                       |                             |                         |
|          | CONTINUED ON NEXT   | PAGE                  |                             |                         |

|          | Item Description with Unit or Lump Sum Price in    | Estimated | Unit Bid Price | Total Bid  |
|----------|--|-----------|----------------|------------|
| Item No. | Written Words                                      | Quantity  | (Figures)      | Item Price |
| 450.231  | SUPERPAVE SURFACE COURSE-12.5 POLYMER (SSC-12.5-P) | - 375     |                |            |
|          | Dollars and Cents PER TON                          | TONS      |                |            |
| 450.31   | SUPERPAVE INTERMEDIATE COURSE                      |           |                |            |
| .00.02   | @  | 750       |                |            |
|          | Dollars and Cents PER TON                          | TONS      |                |            |
| 452      |  |           |                |            |
| 452      | BITUMEN FOR TACK COAT                              | 210       |                |            |
|          | @  | 210       |                |            |
|          | Dollars and Cents PER GALLON                       | GAL       |                |            |
| 482.3    | SAWCUT ASPHALT                                     |           |                |            |
|          | @  | 200       |                |            |
|          |  | LF        |                |            |
| 055      | Dollars and Cents PER LINEAR FOOT                  |           |                |            |
| 855      | TRAFFIC MANAGEMENT                                 | _         |                |            |
|          | @  | 1         |                |            |
|          |  | LS        |                |            |
|          | Dollars and Cents PER LUMP SUM                     |           |                |            |

TOTAL ADD ALT. #1 BID PRICE (based on Unit Price Schedule above):

### Alternate #2 Bid Price Form – Leavitt @ Congress

| TOUR STATE   ROADSIDE TREE PROTECTION   2   | Item No. | Item Description with Unit or Lump Sum Price in Written Words | Estimated<br>Quantity | Unit Bid Price<br>(Figures) | Total Bid<br>Item Price |
|---|----------|---|-----------------------|-----------------------------|-------------------------|
| @ EA  Dollars and Cents PER EACH  119  RODENT CONTROL @   | 102.511  | ROADSIDE TREE PROTECTION                                      |                       |                             |                         |
| Dollars and Cents PER EACH  119   |          | @   | 2                     |                             |                         |
| 119 RODENT CONTROL @ 1 Dollars and Cents PER LUMP SUM   |          | Della control Control DED EACH                                | EA                    |                             |                         |
| Dollars and Cents PER LUMP SUM  | 110      |   |                       |                             |                         |
| Dollars and Cents PER LUMP SUM  120.1 UNCLASSIFIED EXCAVATION  @  | 119      |   | 1                     |                             |                         |
| Dollars and Cents PER LUMP SUM  120.1 UNCLASSIFIED EXCAVATION   |          |   |                       |                             |                         |
| 120.1 UNCLASSIFIED EXCAVATION  @  CY  Dollars and Cents PER CUBIC YARD  121.1 CLASS A ROCK EXCAVATION  @  CY  Dollars and Cents PER CUBIC YARD  170 FINE GRADING & COMPACTING  @  SY  Dollars and Cents PER SQUARE YARD  201 CATCH BASIN  @  Dollars and Cents PER EACH  Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1 |          | Dollars and Cents PER LUMP SUM                                | LS                    |                             |                         |
| @ CY Dollars and Cents PER CUBIC YARD  121.1 CLASS A ROCK EXCAVATION  | 120.1    |   |                       |                             |                         |
| Dollars and Cents PER CUBIC YARD  121.1 CLASS A ROCK EXCAVATION  @  |          | @   | 20                    |                             |                         |
| 121.1 CLASS A ROCK EXCAVATION  @  |          |   | СҮ                    |                             |                         |
| @ CY Dollars and Cents PER CUBIC YARD  170 FINE GRADING & COMPACTING  @ SY Dollars and Cents PER SQUARE YARD  201 CATCH BASIN  @ EA Dollars and Cents PER EACH  DRAINAGE STRUCTURE - CHANGE IN TYPE  1  |          |   |                       |                             |                         |
| @   CY   Dollars and Cents PER CUBIC YARD   335   | 121.1    | CLASS A ROCK EXCAVATION                                       | 10                    |                             |                         |
| Dollars and Cents PER CUBIC YARD  |          | @   | 10                    |                             |                         |
| 170 FINE GRADING & COMPACTING  @ SY  Dollars and Cents PER SQUARE YARD  201 CATCH BASIN  @ EA  Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1   |          |   | CY                    |                             |                         |
| 201 CATCH BASIN  @  Cents PER SQUARE YARD  2   Dollars and Cents PER SQUARE YARD  2   Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1  | 170      |   |                       |                             |                         |
| @   SY   Dollars and Cents PER SQUARE YARD   2     @   EA     Dollars and Cents PER EACH   2   2     EA   DRAINAGE STRUCTURE - CHANGE IN TYPE   1   1   | 170      | FINE GRADING & COMPACTING                                     | 335                   |                             |                         |
| Dollars and Cents PER SQUARE YARD   2   |          | @   |                       |                             |                         |
| Dollars and Cents PER SQUARE YARD   2   |          |   | CV/                   |                             |                         |
| 201   |          | Dollars and Cents PER SOUARE YARD                             | 51                    |                             |                         |
| @ EA  Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1  | 201      |   |                       |                             |                         |
| Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1  |          |   | 2                     |                             |                         |
| Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1  |          | @   |                       |                             |                         |
| Dollars and Cents PER EACH  220.3 DRAINAGE STRUCTURE - CHANGE IN TYPE  1  |          |   | EA                    |                             |                         |
| 1   |          | Dollars and Cents PER EACH                                    |                       |                             |                         |
|   | 220.3    | DRAINAGE STRUCTURE - CHANGE IN TYPE                           | _                     |                             |                         |
|   |          | @   | 1                     |                             |                         |
| EA  |          |   | FΔ                    |                             |                         |
| Dollars and Cents PER EACH  |          | Dollars and Cents PER EACH                                    |                       |                             |                         |
| CONTINUED ON NEXT PAGE  |          |   |                       |                             |                         |

|                   | Item Description with Unit or Lump Sum Price in | Estimated    | Unit Bid Price | Total Bid  |
|-------------------|---|--------------|----------------|------------|
| Item No.          | Written Words                                   | Quantity     | (Figures)      | Item Price |
| 221               | FRAME AND COVER                                 |              |                |            |
|                   |   | 5            |                |            |
|                   | @   |              |                |            |
|                   |   | EA           |                |            |
|                   | Dollars and Cents PER EACH                      | LA           |                |            |
| 222               | FRAME AND GRATE                                 |              |                |            |
|                   |   | 5            |                |            |
|                   | @   |              |                |            |
|                   |   |              |                |            |
|                   | Dollars and Cents PER EACH                      | EA           |                |            |
| 224.12            | 12 INCH SDR-35 PVC PIPING                       |              |                |            |
| 224.12            | 12 INCH 3DK-33 F VC FIFING                      | 50           |                |            |
|                   | @   |              |                |            |
|                   |   |              |                |            |
|                   |   | LF           |                |            |
| 252.42            | Dollars and Cents PER LINEAR FOOT               |              |                |            |
| <del>252.12</del> | NEW WATER GATE VALVE BOX                        | <del>5</del> |                |            |
|                   | @   | 3            |                |            |
|                   |   |              |                |            |
|                   |   | EA           |                |            |
|                   | Dollars and Cents PER EACH                      |              |                |            |
| 350.8             | NEW WATER GATE VALVE BOX                        | 2            |                |            |
|                   | @   | 2            |                |            |
|                   |   |              |                |            |
|                   |   | EA           |                |            |
|                   | Dollars and Cents PER EACH                      |              |                |            |
| 358               | WATER GATE VALVE BOX ADJUSTED                   |              |                |            |
|                   | <u> </u>  | 2            |                |            |
|                   | @   |              | 1              |            |
|                   |   | EA           |                |            |
|                   | Dollars and Cents PER EACH                      |              |                |            |
| 402               | DENSE GRADED CRUSHED STONE                      |              |                |            |
|                   |   | 80           |                |            |
|                   | @   |              | -              |            |
|                   |   | CY           |                |            |
|                   | Dollars and Cents PER CUBIC YARD                | ] (          |                |            |
|                   |   | 1            | ı              | ı          |
|                   |   |              |                |            |
| 1                 | CONTINUED ON NEXT                               | PAGE         |                |            |

| Itom No        | Item Description with Unit or Lump Sum Price in | Estimated | Unit Bid Price | Total Bid  |
|----------------|---|-----------|----------------|------------|
| Item No. 415.1 | Written Words                                   | Quantity  | (Figures)      | Item Price |
| 413.1          | ROADWAY MILLING (2" DEPTH)                      | 850       |                |            |
|                | @   |           |                |            |
|                |   | SY        |                |            |
|                | Dollars and Cents PER SQUARE YARD               | . 3.      |                |            |
| 450.231        | SUPERPAVE SURFACE COURSE-12.5 POLYMER (SSC-     |           |                |            |
|                | 12.5-P)   | 100       |                |            |
|                | @   |           | _              |            |
|                |   | TONS      |                |            |
|                | Dollars and Cents PER TON                       |           |                |            |
| 451            | MISC HMA FOR PATCHING                           | 100       |                |            |
|                | @   | 100       |                |            |
|                |   | TONS      |                |            |
|                | Dollars and Cents PER TON                       |           |                |            |
| 452            | BITUMEN FOR TACK COAT                           |           |                |            |
|                | @   | 59.5      |                |            |
|                |   |           | -              |            |
|                | Dollars and Cents PER GALLON                    | GAL       |                |            |
| 482.3          | SAWCUT ASPHALT                                  |           |                |            |
|                | @   | 200       |                |            |
|                |   | 1.5       |                |            |
|                | Dollars and Cents PER LINEAR FOOT               | LF        |                |            |
| 506            | NEW GRANITE CURB TYPE VB - STRAIGHT             |           |                |            |
|                | @   | 165       |                |            |
|                |   |           | 1              |            |
|                | Dollars and Cents PER LINEAR FOOT               | LF        |                |            |

#### CONTINUED ON NEXT PAGE

|          | Item Description with Unit or Lump Sum Price in | Estimated | Unit Bid Price | Total Bid  |
|----------|---|-----------|----------------|------------|
| Item No. | Written Words                                   | Quantity  | (Figures)      | Item Price |
| 580      | REMOVED AND RESET GRANITE CURB                  |           |                |            |
|          | @   | 140       |                |            |
|          | -   |           |                |            |
|          | Dollars and Cents PER LINEAR FOOT               | LF        |                |            |
| 701      |   |           |                |            |
| /01      | NEW CEMENT CONCRETE SIDEWALK (4")               | 300       |                |            |
|          | @   |           |                |            |
|          |   | SY        |                |            |
|          | Dollars and Cents PER SQUARE YARD               | . 31      |                |            |
| 701.2    | NEW CEMENT CONCRETE WHEELCHAIR RAMP             |           |                |            |
|          |   | 35        |                |            |
|          | @   |           |                |            |
|          |   | SY        |                |            |
|          | Dollars and Cents PER SQUARE YARD               | J. 31     |                |            |
| 748      | MOBILIZATION                                    |           |                |            |
|          | @   | 1         |                |            |
|          |   |           |                |            |
|          | Dollars and Cents PER LUMP SUM                  | LS        |                |            |
| 829      | Dollars and Cents PER LUMP SUM "STOP" SIGN      |           |                |            |
| 023      | STOP SIGN                                       | 1         |                |            |
|          | @   |           |                |            |
|          |   | F.A.      |                |            |
|          | Dollars and Cents PER EACH                      | EA        |                |            |
| 855      | TRAFFIC MANAGEMENT                              |           |                |            |
|          | _   | 1         |                |            |
|          | @   |           |                |            |
|          |   | LS        |                |            |
|          | Dollars and Cents PER LUMP SUM                  | -         |                |            |
| 856      | POLICING  | 460       |                |            |
|          | @   | 160       |                |            |
|          |   | МН        |                |            |
|          | Dollars and Cents PER MAN HOUR                  |           |                |            |

#### TOTAL ADD ALT #2 BID PRICE (based on Unit Price Schedule above):

### SUMMARY OF BID:

BASE BID:

#### BASE BID & ADD ALT #1

BASE BID, ADD ALT #1 & #2:

- 4.03 Unit Prices have been computed in accordance with Paragraph 11.03.A of the General Conditions and Supplementary Conditions, if any.
- 4.04 Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for unit price items will be based on actual quantities determined and based on the unit prices included above, as provided in the General Conditions and Supplementary Conditions, if any.

#### 4.05 Contract Price Adjustments:

- A. Owner's Contingency Allowance items will be processed per Article 11.02 of the General Conditions.
  - 1. Base Prices for diesel fuel, gasoline, liquid asphalt, and portland cement in cast-in-place concrete to be used for Contract Price Adjustments are established in Section 00 73 73, SC-12.01 per MGL c30s38A.

#### ARTICLE 5 - TIME OF COMPLETION

- 5.01 Bidder agrees to the Contract Times as stated in the Agreement.
- 5.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

#### ARTICLE 6 – ATTACHMENTS TO THIS BID

6.01 The following documents are submitted with and made a condition of this Bid:

00 43 13 Bid Bond – Penal Sum Form

OR

Required Bid security in the form of 5% pf the Bidders Base Price

#### Supplements:

00 43 93 Bid Submittal Checklist

00 45 05 Bidder's Representations and Certifications including required submittals

00 45 13 Bidder's Qualifications

00 45 19 Non-collusion Affidavit

# Issue Date: May 2023 ARTICLE 7 - BID SUBMITTAL 7.01 This Bid is submitted by: Fill out ONE of the following sections A, B, C or D as appropriate. A. Corporation Corporation Name: State of incorporation: Type: (General Business, Professional, Service, other) By: (Signature – attach evidence of authority to sign) Name (typed or printed): Title: (CORPORATE SEAL) Attest: Business Address: Phone & Facsimile Nos: Email address: Date of qualification to do business as out-of-state corporation: B. Limited Liability Company (LLC) LLC Name: State in which organized: (Signature – attach evidence of authority to sign)

Name (typed or printed):

Title:

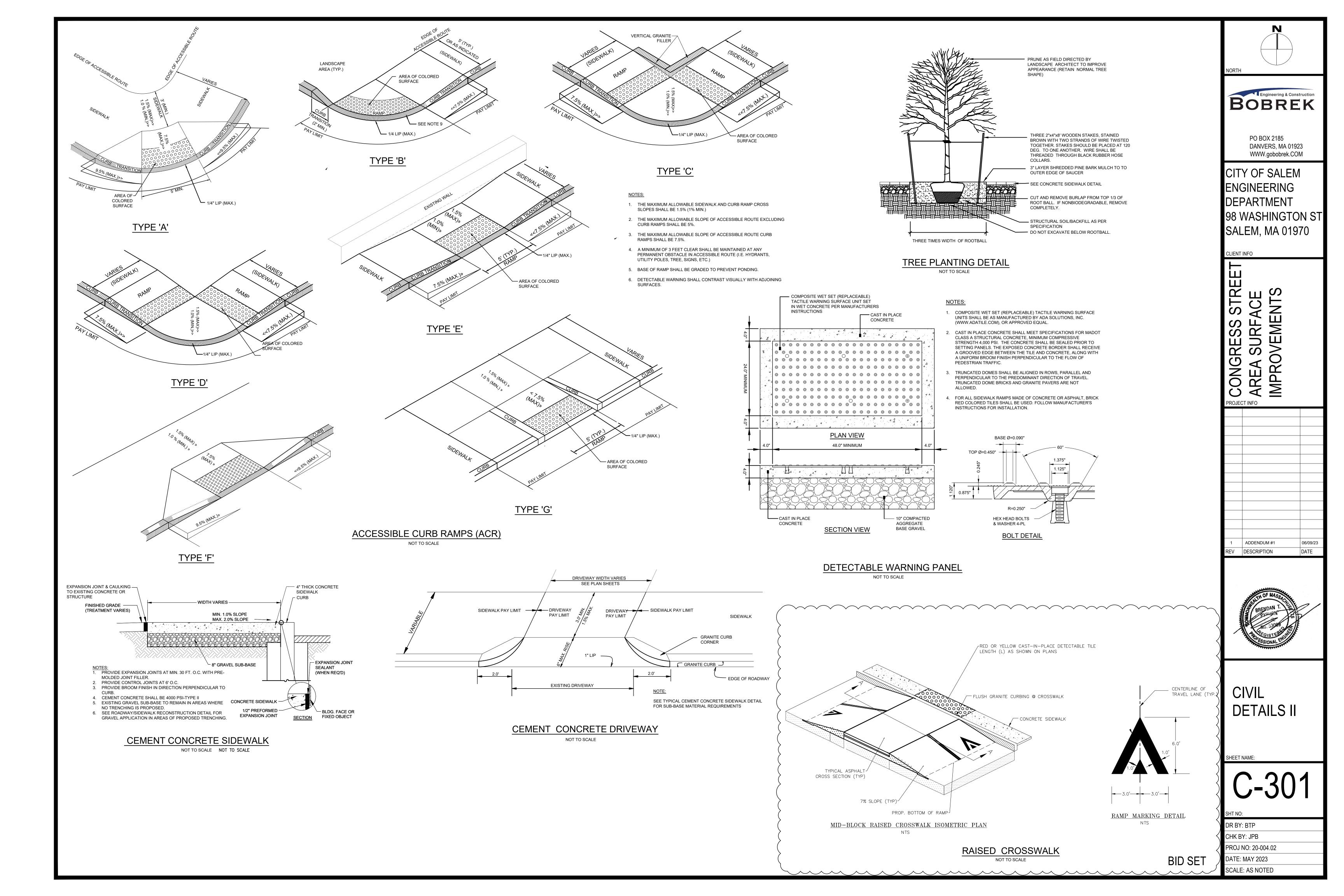
Business Address:

| Issue Date: May 2023   | Congress Street Surface Area Improvements Project  |
|--|--|
| Phone & Facsimile Nos:   |  |
| Email address:   |  |
| C. Joint Venture   |  |
| <u>First Joint Venturer Name</u> :                                   |  |
| By:  | dence of authority to sign)  |
| (Signature – attach evi  | dence of authority to sign)  |
| Name (typed or printed):   |  |
| Title:   | - <del></del>  |
| Business Address:  |  |
| Phone & Facsimile Nos:   |  |
| Email address:   |  |
| Second Joint Venturer Name:  |  |
| By:  |  |
|  | dence of authority to sign)  |
| Name (typed or printed):   |  |
| Title:   |  |
| Business Address:  | - <del></del>  |
| Phone & Facsimile Nos:   |  |
| Email address:   |  |
| (Each joint venturer must sign and limited liability company above.) | . The manner of signing for each individual, partnership, corporation that is a party to the joint venture should be in the manner indicated |
| Phone & Facsimile Nos:   |  |
| Email address:   | · <del></del>  |

| D. An Individual  |  |
|---|--|
| Name (typed or printed):                                  |  |
| By: (Individual's signature)                              |  |
| (Individual's signature)                                  |  |
| Doing business as:  |  |
| Business Address:   |  |
| Phone & Facsimile Nos:                                    |  |
| Email address:  |  |
| SUBMITTED ON:   |  |
| EIN/FEIN:   |  |
| Communications concerning this Bid shall be addressed to: |  |
| Name:   |  |
| Title:  |  |
| Business Address:   |  |
| Phone & Facsimile Nos:                                    |  |
| Email address:  |  |

**END OF SECTION** 

Issue Date: May 2023



## ELECTRICAL SPECIFICATIONS

### PART 1 - GENERAL

- 1. THE OWNERS GENERAL CONDITIONS, SPECIAL CONDITIONS AND SUPPLEMENTAL CONDITIONS OR REQUIREMENTS ARE PART OF THIS
- 2. EXAMINATION OF SITE AND CONTRACT DOCUMENT: BEFORE SUBMITTING HIS PROPOSAL, THIS CONTRACTOR SHALL VISIT THE PREMISE AND REVIEW THE ENTIRE PROJECT. THE CONTRACTOR SHALL DETERMINE THE DIFFICULTIES, CONDITIONS, AND DISPOSAL REQUIREMENTS WHICH MAY BE ENCOUNTERED DURING THE WORK. ALL CHARGES RELATED TO MEETING THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCORPORATED INTO THE BID. IF DISCREPANCIES ARISE BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NO ADDITIONAL CHARGES WILL BE ALLOWED DUE TO EXISTING CONDITIONS.
- 3. THE INSTALLATION OF ALL ELECTRICAL SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE STATE BUILDING CODE, ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES.
- 4. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL. SHALL BE PROVIDED IN QUANTITIES NECESSARY TO COMPLETE THE WORK AND SHALL BARE ALL APPLICABLE LABELS FOR INTENDED USE.
- 5. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES AND CERTIFICATES, INCLUDE ALL FEDERAL, STATE AND LOCAL TAXES.
- 6. WORKMANSHIP: THE ENTIRE WORK PROVIDED IN THIS SPECIFICATION SHALL BE CONSTRUCTED AND FINISHED IN EVERY RESPECT IN A WORKMANLIKE AND SUBSTANTIAL MANNER. EQUIPMENT SHALL BE SECURELY INSTALLED PLUMB AND/OR LEVEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED BY WORK OF OTHER TRADES. OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS AS TO THE PROPER METHOD OF INSTALLING AND CONNECTING EQUIPMENT. OBTAIN ALL INFORMATION FROM THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS, WHICH MAY BE NECESSARY TO FACILITATE WORK AND THE COMPLETION OF THE WHOLE
- 7. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE DEVICES AND COMPONENTS SHOWN ON PLANS BUT NOT ON RISERS AND VICE VERSA AS IF EXPRESSLY SHOWN ON BOTH.
- RECORD DRAWINGS: IN ACCORDANCE WITH REQUIREMENTS, FURNISH AND KEEP IN THE JOB AT ALL TIMES, TWO (2) COMPLETE AND SEPARATE SETS OF BLACKLINE PRINTS OF THE ELECTRICAL WORK ON WHICH SHALL BE CLEARLY, NEATLY AND ACCURATELY NOTED, PROMPTLY AS THE WORK PROGRESSES, ALL ELECTRICAL CHANGES, REVISIONS AND ADDITIONS TO THE WORK. WHENEVER WORK IS INSTALLED OTHERWISE THAN AS SHOWN ON THE CONTRACT DRAWINGS, SUCH CHANGES SHALL BE NOTED.AT THE CONCLUSION OF WORK, PREPARE RECORD DRAWINGS IN ACCORDANCE WITH GENERAL CONDITIONS.
- 9. THE COMPLETED ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING BY THE ELECTRICAL CONTRACTOR TO BE FREE FROM DEFECTS OF MANUFACTURE AND INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER. ANY FAULT DUE TO DEFECTIVE OR IMPROPER MATERIAL, EQUIPMENT WORKMANSHIP OR DESIGN WHICH MAY DEVELOP SHALL BE MADE GOOD FORTHWITH BY, AND AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR, INCLUDING ALL OTHER DAMAGES DONE TO AREAS, MATERIALS AND OTHER SYSTEMS RESULTING FROM THIS FAILURE.
- 10. SUBMITTALS: EC SHALL PROVIDE ELECTRONIC PDF SUBMITTALS FOR ELECTRICAL EQUIPMENT TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SUBMITTALS SHALL INDICATE ALL MATERIALS, DIMENSIONS AND RATINGS. PROVIDE INFORMATION ON THE FOLLOWING ITEMS (ALLOW TEN DAYS FOR SUBMITTAL REVIEW):
- 10.1. CONDUIT & WIRE
- SUBSTITUTIONS SHOULD BE NOTED WHEN SUBMITTED WITH AN EXPLANATION FOR THE SUBSTITUTION.
- THE ACCEPTANCE OF SYSTEMS, EQUIPMENT AND DATA SHEETS IS A GENERAL APPROVAL SUBJECT TO THE CONTRACT DRAWINGS, CONTRACTOR FROM THE RESPONSIBILITY OF DATA SHEET ERRORS OR OMISSIONS. QUANTITY OF ITEMS INDICATED ON SUBMITTAL IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

## PART 2 - PRODUCTS

## GENERAL

- 1.1. AS PART OF THIS CONTRACT, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT, DEVICES, MATERIALS AND EQUIPMENT NECESSARY TO MAKE THE INSTALLATION COMPLETE AND OPERATIONAL IN EVERY DETAIL, WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A MANUFACTURERS WARRANTY.
- IT IS THE INTENT OF THE SPECIFICATIONS THAT ONE MANUFACTURER BE SELECTED, NOT A COMBINATION, FOR ANY PARTICULAR CLASSIFICATION OF MATERIAL; FOR EXAMPLE, ALL WIRE OF ONE MANUFACTURER, ALL SWITCHES OF ONE MANUFACTURER, ETC., EXCEPT SPECIFIC MATERIAL CLASSIFICATIONS IN WHICH DELIVERY TIME BECOMES A PROBLEM. THE ENGINEER MAY GIVE SPECIFIC EXEMPTION FROM THE REQUIREMENTS. 1.4. WHERE MATERIALS, EQUIPMENT, APPARATUS, OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR
- CATALOG NUMBER, SUCH DESIGNATION IS TO ESTABLISH STANDARDS OF PERFORMANCE, QUALITY, TYPE, AND STYLE.

## CONDUIT:

- 2.1. ALL CONDUIT SHALL BE RUN CONCEALED UNLESS NOTED OTHERWISE. 2.2. CONDUITS ARE SHOWN DIAGRAMMATICALLY EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED BY FIELD
- CONDITIONS. ALL CONDUITS SHALL BE RIGIDLY SUPPORTED.
- 3. WIRING: WIRING SHALL BE A MINIMUM OF #12 AWG SOLID. ALL WIRE AND CABLE SHALL BE COPPER; NO ALUMINUM IS PERMITTED, WITHOUT APPROVAL OF THE OWNER/ENGINEER ON A VALUE ENGINEERING BASIS. WIRE AND CABLE SHALL BE MANUFACTURED BY PHELPS DODGE COPPER PRODUCTS CORP., GENERAL CABLE CO., TRIANGLE CONDUIT AND CABLE CO., OR EQUAL.
- 3.1. AWG #8 & LARGER SHALL BE STRANDED, AWG #10 AND SMALLER SHALL BE SOLID. ALL NEW WIRING SHALL BE THHN/THWN RATED 75-90 DEGREES, 600V. WET-DRY LOCATIONS.
- BRANCH CIRCUITS LONGER THAN 250FT FOR 277V SHALL BE AT LEAST #10AWG FROM PANEL TO LAST OUTLET.
- CIRCUITING SHOWN ON THE DWGS IS DIAGRAMMATIC PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT INDICATED

## PART 3 - EXECUTION

- SERVICE TO THE FACILITY: ELECTRICAL POWER OUTAGES MUST BE MINIMIZED AS NOT TO INTERFERE WITH THE BUILDING'S OPERATION. THE TIME AND DURATION OF ANY POWER OUTAGE MUST BE APPROVED BY AND SCHEDULED WITH THE BUILDING OWNER/AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER/AUTHORITY AT LEAST TEN CALENDAR DAYS FROM THE DATE OF PROPOSED POWER
- 2. SPECIAL COORDINATION INSTRUCTIONS 2.1. COORDINATION WITH WORK OF OTHER TRADES IS REQUIRED. THE FOLLOWING SPECIAL INSTRUCTIONS SHALL ALSO BE CAREFULLY
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP TO PROVIDE FOR ADEQUATE PROTECTION OF ALL ELECTRICAL EQUIPMENT DURING THE COURSE OF CONSTRUCTION OF THE PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL APPROVED INSULATION AT TERMINAL CONNECTION POINTS FOR ALL ELECTRICAL CONDUCTING MATERIALS, SUCH AS TRANSFORMER TERMINALS, TERMINAL STUDS, AND AT ANY OTHER SPECIAL LOCATIONS AS DIRECTED BY THE ENGINEER.
- PRIOR TO INSTALLATION OF CONDUIT AND WIRE, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS

### COOPERATION AND WORK PROGRESS

- 3.1. THE ELECTRICAL WORK SHALL BE CARRIED ON UNDER THE USUAL CONSTRUCTION CONDITIONS, IN CONJUNCTION WITH ALL OTHER WORK AT THE SITE. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND ALL CONTRACTORS AND EQUIPMENT SUPPLIERS WORKING ON THE SITE, COORDINATE THE WORK, AND PROCEED IN A MANNER SO AS NOT TO DELAY THE PROGRESS OF
- THE ELECTRICAL CONTRACTOR HAS A RESPONSIBILITY TO COORDINATE THE EXACT MOUNTING ARRANGEMENT AND LOCATION OF EQUIPMENT INDICATED ON THE DRAWINGS TO ALLOW FOR PROPER SPACE REQUIREMENTS FOR EQUIPMENT ACCESS, OPERATION,
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE THE DELIVERY OF ELECTRICAL EQUIPMENT TO THE PROJECT PRIOR TO THE TIME INSTALLATION OF EQUIPMENT WILL BE REQUIRED.

#### 4. INSTALLATION OF WIRING, CONDUIT AND BOXES

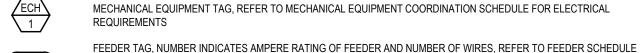
- 4.1. ALL CONDUIT AND WIRING SHALL BE INSTALLED CONCEALED.
- CONDUIT ENDS SHALL BE CUT SQUARE, THREADED, AND REAMED TO REMOVE BURRS AND SHARP EDGES. OFFSETS AND BENDS FOR CHANGES IN ELEVATION OF EXPOSED CONDUIT RUNS SHALL BE MADE AT WALLS OR BEAMS AND NOT IN OPEN SPACES BETWEEN WALLS OR BEAMS. CONDUITS SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE OPERATION OR MAINTENANCE OF ANY EQUIPMENT. STEEL SUPPORTS OR RACKS SHALL BE GALVANIZED STEEL CHANNEL AND FITTINGS.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO, OR AT RIGHT ANGLES TO, THE WALLS OF THE BUILDING, AND ALL BENDS SHALL BE  ${\tt MADE\ WITH\ STANDARD\ CONDUIT\ ELLS\ OR\ CONDUITS\ BENT\ TO\ -\ NOT\ LESS\ THAN\ -\ THE\ SAME\ RADIUS.\ HORIZONTAL\ RUNS\ OF\ EXPOSED}$ CONDUITS SHALL BE CLOSE TO CEILING BEAMS, PASSING OVER WATER OR OTHER PIPING WHERE POSSIBLE AND SHALL BE SUPPORTED BY PIPE STRAPS OR BY OTHER APPROVED MEANS, NOT MORE THAN 5' APART. INSTALLATION OF EXPOSED CONDUITS IN FINISHED AREAS OF THE BUILDING SHALL BE CHECKED WITH THE ENGINEERS FOR LAYOUT BEFORE INSTALLATION TO CONFORM TO THE PATTERN OF THE STRUCTURAL MEMBERS, AND WHEN COMPLETED, IS TO PRESENT THE MOST UNOBTRUSIVE APPEARANCE POSSIBLE. NO EXPOSED CONDUITS WILL BE PERMITTED ON WALLS OR PARTITIONS IN PUBLIC AREAS, UNLESS SPECIFICALLY NOTED. CONDUITS SHALL NOT BE INSTALLED WITHIN 3" OF HOT WATER PIPES, OR APPLIANCES, EXCEPT WHERE CROSSING IS UNAVOIDABLE
- AND, IN THAT CASE, THE CONDUIT SHALL BE KEPT AT LEAST 1" FROM COVERING OR PIPE CROSSED. IN GENERAL, NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE
- 4.6. ALL SPLICES IN WIRE #8 AWG AND SMALLER SHALL BE STANDARD PIGTAIL, MADE MECHANICALLY TIGHT AND INSULATED WITH PROPER
- THICKNESS OF INSULATING TAPE. WIRE #6 AND LARGER SHALL BE CONNECTED TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS. CONNECTORS SHALL BE SOLDERLESS TYPE, SUFFICIENTLY LARGE TO ENCLOSE ALL STRANDS OF THE CONDUCTOR AND SECUREL
- COLOR CODING PROVIDE COLOR CODING FOR SECONDARY SERVICE, FEEDERS, AND BRANCH CIRCUITS AS FOLLOWS, IN ACCORDANCE WITH NEC
- RECOMMENDATIONS AND STANDARD PRACTICES. MAKE CONNECTIONS TO TERMINALS FROM LEFT TO RIGHT ARRANGED PHASE A, B, AND C. PROVIDE SAME COLOR CODING FOR SWITCH LEGS AS CORRESPONDING PHASE CONDUCTOR. PROVIDE COLORED PLASTIC TAPE OF
- SPECIFIED COLOR CODE IDENTIFICATION FOR LARGE SIZE CONDUCTORS AVAILABLE ONLY IN BLACK. 6. TESTS: FURNISH ALL LABOR, MATERIAL, INSTRUMENTS, SUPPLIES, AND SERVICES AND BEAR ALL COSTS FOR THE ACCOMPLISHMENT OF
- TESTS HEREIN SPECIFIED. CORRECT ALL DEFECTS APPEARING UNDER TEST. REPEAT THE TESTS UNTIL NO DEFECTS ARE DISCLOSED. LEAVE THE EQUIPMENT CLEAN AND READY FOR USE. 6.1. THE ELECTRICAL CONTRACTOR SHALL PERFORM ANY TEST OTHER THAN HEREIN SPECIFIED WHICH MAY BE SPECIFIED BY LEGAL
- AUTHORITIES OR BY AGENCIES TO WHOSE REQUIREMENTS THIS WORK IS TO CONFORM. 7. FINAL INSPECTION AND TEST: PRIOR TO TEST, FEEDERS AND BRANCHES SHALL BE CONTINUOUS FROM SERVICE CONTACT POINT TO EACH
- OUTLET; ALL PANELS, FEEDERS, AND DEVICES CONNECTED AND FUSES IN PLACE. TEST SYSTEM FREE FROM SHORT CIRCUITS AND GROUNDS WITH INSULATION RESISTANCES NOT LESS THAN OUTLINES IN THE NATIONAL ELECTRICAL CODE. PROVIDE TESTING EQUIPMENT NECESSARY AND CONDUCT TEST IN PRESENCE OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE FINAL INSPECTION AND TEST SHALL INCLUDE THE FOLLOWING:
- 7.1. TESTING OF BRANCH AND FEEDER CONDUCTORS FOR CONTINUITY. TESTING OF ALL GROUND FAULT PROTECTIVE DEVICES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, SECTION 230-95.

#### **ABBREVIATIONS** IMC INTERMEDIATE METALLIC CONDUIT ALTERNATING CURRENT JUNCTION BOX KVA KILOVOLT-AMPERE AMPERE FRAME ABOVE FINISHED FLOOR KW KILOWATT ABOVE FINISHED GRADE LTG LIGHTING MCB MAIN CIRCUIT BREAKER AMPERE INTERRUPTING CAPACITY MCC MOTOR CONTROL CENTER ALUMINUM AMPERE TRIP MEC MASSACHUSETTS ELECTRICAL CODE AUTOMATIC TRANSFER SWITCH MLO MAIN LUGS ONLY AMERICAN WIRE GAUGE MTD MOUNTED CONDUIT MTG MOUNTING NEC NATIONAL ELECTRICAL CODE CIRCUIT BREAKER CIRCUIT No., # NUMBER CENTERLINE NS NON-SYSTEM NTS NOT TO SCALE DIRECT CURRENT PLUMBING CONTRACTOR PWR POWER DUAL ELEMENT DRAWING RGS RIGID STEEL CONDUIT ELECTRICAL CONTRACTOR RMS ROOT MEAN SQUARE VALUE EMH ELECTRICAL MANHOLE RPM REVOLUTIONS PER MINUTE ELECTRIC METALLIC CONDUIT SQUARE FOOT EWC ELECTRIC WATER COOLER SOLID NEUTRAL G/GND GROUND ST SHUT TRIP CIRCUIT BREAKER GENERAL CONTRACTOR SWBD SWITCHBOARD GROUND-FAULT PROTECTION FOR EQUIPMENT (GFPE CB) GROUND-FAULT PROTECTION FOR PERSONNEL (GFCI CB) VOLTS GFCI GROUND-FAULT CIRCUIT-INTERRUPTER VOLT-AMPERE VFD VARIABLE FREQUENCY DRIVE HORSEPOWER HVAC HEATING, VENTILATION AND AIR CONDITIONING WP WEATHERPROOF

## GENERAL NOTES

- LEGEND IS INTENDED TO SHOW DEPICTION OF SYMBOLS. IT DOES NOT IMPLY INTENT OF SCOPE. NOT ALL SYMBOLS SHOWN ON THIS LEGEND WILL BE USED ON THE DWGS.
- REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTING HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
- PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT TO MAKE INSTALLATION COMPLETE IN EVERY DETAIL UNDER THIS CONTRACT WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS.
- ALL EQUIPMENT AND WIRING ON DWGS IS SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN. ALL CONDUIT RUNS SHALL BE RIGIDLY
- COORDINATE WITH ARCHITECTURAL FURNITURE LAYOUTS FOR EXACT LOCATION OF WALL MOUNTED POWER AND COMMUNICATIONS DEVICES. COORDINATE ALL LIGHTING FIXTURES, UNDER CABINET LIGHTING FIXTURES AND SWITCH LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS.

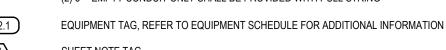
## **ANNOTATIONS**

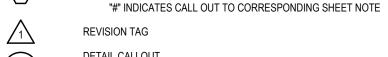


MECHANICAL EQUIPMENT TAG, REFER TO MECHANICAL EQUIPMENT COORDINATION SCHEDULE FOR ELECTRICAL



FOR ADDITIONAL INFORMATION. (2) 5" - EMPTY CONDUIT ONLY SHALL BE PROVIDED WITH PULL STRING





DETAIL CALLOUT E101

"#" INDICATES THE DETAIL REFERENCE NUMBER "E101" INDICATES THE DRAWING ON WHICH THE DETAIL CAN BE FOUND

SECTION "A-A", REFER TO DUCTBANK OR CONDUIT SECTION DETAIL

## BRANCH CIRCUIT AND FEEDER SYMBOLS

HOMERUN TO PANELBOARD "PP1", CIRCUIT NUMBER "2 REFER TO PANEL SCHEDULE FOR BREAKER SIZE AND NUMBER OF POLES CONCEALED UNLESS OTHERWISE NOTED

NUMBER OF ARROWS INDICATES NUMBER OF INDIVIDUAL HOMERUNS "2", "4", AND "6" UNLESS NOTED OTHERWISE, WIRING FOR EACH CIRCUIT SHALL BE:  $\longrightarrow \longrightarrow$ 20A/1P - 2#12,#12G-3/4"C PP1-2,4,6 20A/2P - 3#12 #12G-3/C

WIRING FOR MULTIPLE HOMERUNS MAY BE COMBINED IN CONDUIT IN ACCORDANCE WITH NEC REQUIREMENTS

HOMERUN FEEDER / BRANCH CIRCUIT CALLOUT: 4#1,#6G-1½"C INDICATES (3) #1 AWG (PHASE), (1) #1 AWG (NEUTRAL), (1) #6 GROUND IN A 1-1/2" CONDUIT

BRANCH CIRCUIT OR FEEDER CONCEALED UNLESS OTHERWISE NOTED. BRANCH CIRCUIT DIAGONAL LINES INDICATE NUMBER OF CONDUCTORS, GROUND WIRE(S) NOT INDICATED. MINIMUM SIZE CONDUCTOR #12 AWG AND 3/4" CONDUIT, UNLESS OTHERWISE NOTED.

FLEXIBLE CONNECTION TO MOTOR OR EQUIPMENT

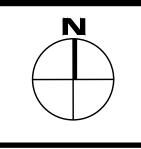
# SITE SYMBOLS

UNDERGROUND CONDUIT OR DUCT BANK, REFER TO SITE DETAILS FOR ADDITIONAL INFORMATION ELECTRIC MANHOLE (MH) / HANDHOLE (HH), REFER TO DETAIL

ф UTILITY POLE

SITE LIGHTING FIXTURE, REFER TO CIVIL PLANS

PAD MOUNTED TRANSFORMER



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**EMENT** 

REV DESCRIPTION DATE

**LEGEND AND** 

**SPECIFICATIONS** 

SHEET NAME:

DR BY: KWV CHK BY: DSK PROJ NO: 20-004.02 DATE: JUNE 7 2023

SCALE: AS NOTED

**BID SET** 

