KANSAS CITY AREA TRANSPORTATION AUTHORITY WITH
CITY OF KANSAS CITY, MISSOURI
KANSAS CITY STREETCAR AUTHORITY
PORT AUTHORITY OF KANSAS CITY, MO

KANSAS CITY STREETCAR

RIVERFRONT EXTENSION
FTA FAIN # MO-2022-002-00
KCATA PROJECT No.: 2021-SC-3P01
KCMO PROJECT No.: 89022015
ISSUED FOR BID
DECEMBER 2022
(T49N, R3W)

https://www.kcata.org/about_kcata/entries/current_opportunities

This work will be called Package 6 (Prob 6) and will be posted on KCATA’s website for a General Contractor bid.

These plans have been separated into different packets to assist potential subcontractors in reviewing their potential scopes of work.

302833
<table>
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<tr>
<th>Seq</th>
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<th>Plan</th>
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**KANSAS CITY STREETCAR - RIVERFRONT EXTENSION**

**INDEX OF DRAWINGS**

**SHEET 4**

NOT FOR CONSTRUCTION

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322837
<table>
<thead>
<tr>
<th>CONDUCTIONS</th>
<th>CONTACT WIRE</th>
<th>SPAN WIRE</th>
<th>TROLLEY WIRE</th>
<th>SOLO HANDER WIRE</th>
<th>FEED TAP WIRE</th>
<th>SUPPLEMENTARY FEEDER CABLE</th>
<th>FLEXIBLE HANDER WIRE</th>
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<tr>
<td>500 KCMIL</td>
<td>1/4</td>
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<td>3/8</td>
<td>1/2</td>
<td>11 MM</td>
<td>4 MM</td>
<td>253 KCMIL</td>
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<td>MATERIAL</td>
<td>COPPER</td>
<td>GALVANIZED STEEL</td>
<td>GALVANIZED STEEL</td>
<td>GALVANIZED STEEL</td>
<td>STAINLESS STEEL</td>
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<td>MAXIMUM DESCRIPTION</td>
<td>SOLID GROOVED TROLLEY WIRE</td>
<td>7 WIRE STRAND</td>
<td>7 WIRE STRAND</td>
<td>7 WIRE STRAND</td>
<td>ROUNDED JACKET TO SYNTHETIC ROPE</td>
<td>SOLO</td>
<td>7 WIRE</td>
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<td>TYPE</td>
<td>HARD DRAWN</td>
<td>SEAMED/ANTIN</td>
<td>SEAMED/ANTIN</td>
<td>SEAMED/ANTIN</td>
<td>LUGGED/1000</td>
<td>SEAMED/ANTIN</td>
<td>ALLOY 9 BRONZE</td>
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<td>STRAND (DIAMETER IN)</td>
<td>0.060</td>
<td>0.100</td>
<td>0.200</td>
<td>0.300</td>
<td>0.370</td>
<td>0.500</td>
<td>0.157 (mm)</td>
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<td>OVERALL DIAMETER (IN)</td>
<td>0.200</td>
<td>0.250</td>
<td>0.320</td>
<td>0.400</td>
<td>0.530</td>
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<td>CROSS SECTIONAL AREA (IN²)</td>
<td>0.250</td>
<td>0.280</td>
<td>0.580</td>
<td>0.870</td>
<td>0.917</td>
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<td>ASTM STANDARD</td>
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<tr>
<td>WEIGHT - NO ICE (LBS/FT)</td>
<td>1.650</td>
<td>1.210</td>
<td>0.200</td>
<td>0.270</td>
<td>0.650</td>
<td>0.650</td>
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<td>BREAKING LOAD (LBS)</td>
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<td>3,100</td>
<td>11,000</td>
<td>15,000</td>
<td>26,700</td>
<td>11,200</td>
<td>7,900</td>
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<td>MODULUS OF ELASTICITY (PSI)</td>
<td>19 x 10^6</td>
<td>29 x 10^6</td>
<td>29 x 10^6</td>
<td>29 x 10^6</td>
<td>29 x 10^6</td>
<td>29 x 10^6</td>
<td>19 x 10^6</td>
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<td>THERMAL COEFFICIENT (°F)</td>
<td>9.4 x 10^-6</td>
<td>6.7 x 10^-6</td>
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<td>6.7 x 10^-6</td>
<td>6.7 x 10^-6</td>
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<td>NORMAL TENSION @ 60°F, NO ICE (LBS)</td>
<td>2,990</td>
<td>---</td>
<td>---</td>
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<tr>
<td>WEIGHT WITH 150° F HAILING ICE (LBS/FT)</td>
<td>1,760</td>
<td>690</td>
<td>712</td>
<td>87</td>
<td>1,142</td>
<td>2,850</td>
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**NOTES:**
1. FOR GENERAL NOTES REFER TO DRAWING 00101, FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING 00102.
2. FEEDER CABLES AND JUMPER WIRE TO BE INSULATED FOR 2,000 VOLTS AND TO OPERATE AT 87°C.
3. 6MM SOLID WIRE TO BE USED FOR INCLINED PENDULUM HANGERS AND CURVE PENDULUM HANGERS (FULL CIRCLE).
4. ALL GUY WIRE TO REMAIN SMOOTH TO AIVAIR 475 AND HAVE A CLASS C COAT OF GALVANIZED.
5. ALL END OF PIVOT STRAIN SYNTHETIC ROPE TO HAVE COILING CAP TO PREVENT WATER INTRUSION.

**Typical Section**

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**Notes for Construction:**
These plans are intended for multi-use and are subject to the project.
NOTES:

1. FOR GENERAL NOTES REFER TO DRAWING 001.
2. CROSS CONTACT WIRE CLAMP TO BE POSITIONED AT A DISTANCE FROM THE POINT OF SWITCH AS INDICATED ON LAYOUT DRAWINGS. CONTRACTOR TO PROVIDE ADDITIONAL CROSS CONTACT WIRE CLAMPS TO BE USED WHERE CONTACT WIRE CLAMS TO RIDE ON THE SAFE ZONE OF THE PANTOGRAPH.
3. INSTALLATION AND STAGGER OF CROSS CONTACT WIRE SHALL ENSURE THAT CONTACT WIRE REMAINS WITHIN THE SAFE ZONE OF THE PANTOGRAPH AT ALL LOCATIONS DURING NORMAL OPERATING CONDITIONS.
4. JUMPERS SHALL BE POSITIONED SO THAT MOVEMENT OF CONTACT WIRES WILL NOT RESULT IN TAILING OF THE CROSS CONTACT WIRE CLAMPS.
5. PULLOVER STEADY ARM TO BE LOCATED AT REQUIRED STAGGER THAT IS DECIDED FROM SUPERELEVATION CURVE CENTERLINE.
6. PULLOVER OFFSETS ARE SHOWN WITH ARROWS IN LAYOUT DRAWINGS. CENTER TO CENTER DISTANCE OF CONTACT WIRE FROM CENTER TO CENTER OF TRACK. OUTSIDE OF CURVE DIMENSIONS ARE IN INCHES.
7. FOR CROSS LEVEL TRACK, PULLOVERS AND STEADY ARMS TO BE OFFSET FROM PERPENDICULAR TRACK CENTERLINE.
8. STAGGER AND OFFSET VALUES VARY AND ARE INDICATED ON THE LAYOUT PLANS. TYPICAL OFFSET FOR PULLOVERS ON CURVING B 1 1/2 INCHES AND FOR TANGENT STAGGERS 1 1/2 INCHES.
9. PULLOVER SATING FOR CURVES IS SHOWN ON THE CURVING LAYOUT DRAWINGS AND SHALL NOT EXCEED A SPACING WHERE THE CONTACT WIRE EXCEEDS THE CURVING SAFE OPERATING ZONE OF 10".
10. CROSS CONTACT WIRE CLAMPS TO BE PLACED ON WIRE ACCORDING TO TEMPERATURE AND MOVEMENT OF WIREFLOW WIRE. REFER TO SHEET Y007 FOR POSITIONING TABLE.
### Vertical and Wind Loads

<table>
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<tr>
<th>Span No.</th>
<th>VERTICAL LOAD (LBS)</th>
<th>WIND LOAD (LBS)</th>
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<td>OC-1</td>
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<td>OC-4</td>
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<tr>
<td>0.00</td>
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<tr>
<td>60</td>
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**Wind Load (MPH):**

- W100: 5.1
- W150: 6.8

**Radiation:**

- 0.00
- 0.15
- 0.50
- 0.30
- 0.30

### Wind and Vertical Loads

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th>Temp (F)</th>
<th>Wind (MPH)</th>
<th>Stretch (IN)</th>
<th>Breakoff (IN)</th>
<th>Basis</th>
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<tr>
<td>OC-1</td>
<td>0.00</td>
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<td>OC-2</td>
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<td>0.00</td>
<td>0.00</td>
<td>BLEE</td>
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<tr>
<td>OC-4</td>
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<td>0.00</td>
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<tr>
<td>OC-6</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>LOW TEMPERATURE</td>
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**Non-Operating Conditions:**

- NOC-1: -22 40 0.3 2000 %/ NOC-1 STRUCTURAL/LOW FSS
- NOC-2: -22 15 0.3 2000 %/ NOC-1 STRUCTURAL/LOW FSS
- NOC-3: 0 10 0 2000 %/ NOC-1 LOW TEMP HIGH WIND
- NOC-4: 0 10 0 2000 %/ NOC-1 CONDUCTOR CLEARANCE

### Radial Loads by Angle

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<th>Angle (DEGREES)</th>
<th>Operating</th>
<th>Non-Operating</th>
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<tr>
<td>Tension (NORMAL)</td>
<td>Tension (MAXIMUM)</td>
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<td>1</td>
<td>43</td>
<td>50</td>
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<td>6</td>
<td>&lt;80</td>
<td>&lt;100</td>
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<td>&lt;450</td>
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<tr>
<td>35</td>
<td>&lt;450</td>
<td>&lt;500</td>
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### Notes

1. For general notes refer to drawing 0004, for structural steel and concrete notes refer to drawing 0003, and abbreviations refer to drawing 0002.
2. Tables provide loadings for various span lengths and arc presented for reference. Tension and blowoff provided are based on a ruling span of 150 feet.
3. For NEC/DIN, NESC/FM 11.5.2.9, a constant component of 0.5% shall be added to the resultant load between the vertical load and wind load.
4. Blowing is considered at mid-span.
NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING GS41. FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING GS32.
2. FOR PIER CAP ATTACHMENT DETAILS REFER TO DWG 995.
3. PIER CAP WIDTH OF 4'-6" AND REINFORCEMENT SPACING, ACC, ARE BASED ON AS-BUILT DRAWINGS. GRAND BOULEVARD VIADUCT REPLACEMENT, LATEST REVISION DATED 11/29/2011. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF THE PIER CAP ATTACHMENT ASSEMBLIES.
4. ANCHOR BOLTS SHALL BE ANCHORED INTO EXISTING PIERS USING CEMENTITIOUS GROUT IN CORED HOLES. GROUT SHALL BE 3000 PSI.
5. WHERE DRAIN PIPES INTERFERE WITH PLACEMENT OF OCS POLE BRACKETS, CONTRACTOR TO MOVE, ADJUST, OR CHANGE SUPPORTS OR DRAIN TO ALLOW BRACKET PLACEMENT.
6. WHERE ELECTRICAL CONDUIT BOXES INTERFERE WITH PLACEMENT OF OCS POLE BRACKETS, CONTRACTOR TO MOVE, ADJUST, OR CHANGE LOCATION OF CONDUITS AND BOXES TO ALLOW OCS POLE BRACKET PLACEMENT.
7. WHERE CHANGES TO DRAIN AND ELECTRICAL EQUIPMENT IS REQUIRED, CONTRACTOR SHALL PROPOSE NEW ARRANGEMENT TO THE ENGINEER FOR APPROVAL.
8. FOR POLE HEIGHTS REFER TO POLE & FOUNDATION SCHEDULE ON DRAWINGS Y111 AND Y112.

VIADUCT OCS TYPICAL STRUCTURE
SECTION VIEW
NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING DS41; FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING DS03.
2. FOR POLE TYPE, LENGTH, AND OFFSET AT SPECIFIC LOCATIONS REFER TO POLE AND FOUNDATION SCHEDULE DRAWINGS Y111 TO Y112.

SOUTH APPROACH OCS TYPICAL STRUCTURE
VIEW FACING NORTH

NORTH APPROACH OCS TYPICAL STRUCTURE
VIEW FACING SOUTH
ITEM 7 - DOWN GUY ANCHOR PLATE

BILL OF MATERIALS

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<td>100500</td>
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<tr>
<td>2</td>
<td>2</td>
<td>TENSION CLE, &quot;FIBER GC&quot;</td>
<td>CROSBY</td>
<td>133233</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>T-NUT/2C</td>
<td>CROSBY</td>
<td>133795</td>
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<tr>
<td>4</td>
<td>8</td>
<td>PREFORMED ENCLUTCH, 1&quot; STRAND</td>
<td>MAC</td>
<td>50407</td>
</tr>
<tr>
<td>5</td>
<td>A/B</td>
<td>BONN IN/OUT</td>
<td>MAC</td>
<td>A/B</td>
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<tr>
<td>6</td>
<td>2</td>
<td>14 PORCELAIN INSULATOR</td>
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<td>U096</td>
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<td>Compression washer block</td>
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<td>POLE CLAMP</td>
<td>MAC</td>
<td>SEE DWG. Y046</td>
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NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING GSH-4. FOR STRUCTURAL STEEL AND CONCRETE NOTES REFER TO DRAWING GSH-1, FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING GSH-3.
2. STRUCTURAL STEEL PLATE TO CONFORM TO ASTM A527.
3. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL CONFORM TO ASTM A522 AND ASTM A503.
4. FOR SHACKLE FOUNDATION DETAILS, SEE DRAWING Y025.
5. FOR DISTANCE OF DOWN GUY FOUNDATION FROM POLE, SEE LAYOUT DRAWINGS.
DOUBLE BRACKET ARM MOUNTING BRACKET

BRACKET ARM SOCKET (TYPE)

BRACKET ARM SOCKET DETAIL

NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING 0010 FOR STRUCTURAL STEEL AND CONCRETE NOTES REFER TO DRAWING 0090 FOR STEEL AND HANGER ANCHORS REFINED TO DRAWING 0030.
2. BOLTS AND CLIPS PINS SHALL BE STEEL CONFORMING TO ASTM A325, TYPE 1, AND GALVANIZED IN CONFORMANCE WITH ASTM A663, CLASS C.
3. NUTS SHALL BE STEEL CONFORMING TO ASTM A193, GRADE D, AND GALVANIZED IN CONFORMANCE WITH ASTM A193, CLASS C.
4. WASHERS SHALL BE FLAT AND GALVANIZED HARDENED STEEL FOR USE WITH FASTENERS TO ASTM A325.
5. POLE SOCKET TO HAVE 2x4x8" SCHEDULE 40 IPS INSERTED INTO IT.
6. FOR LOCATION OF DOUBLE BRACKET ARMS REFER TO LAYOUT PLAN.
7. DOUBLE BRACKET BEAM USED FOR OVERLAPS.
## BILL OF MATERIALS

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<td>ASTM A42</td>
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<td>POLE CLAMP/TELLS</td>
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<td>LOOP INSULATOR</td>
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<td>SHACKLE FOR LOOP INSULATOR</td>
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<td>CHAIN, IX</td>
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<td>12</td>
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<td>13</td>
<td>1/2&quot; IR CLEVIS PIN WITH COTTER KEY</td>
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<td>16</td>
<td>WIRE, SPAN, 3/8&quot;</td>
<td>ASTM A42</td>
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<td>17</td>
<td>SLICE, IMPACT RESIST</td>
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<td>STEEL SWAP</td>
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### NOTES

1. FOR GENERAL NOTES REFER TO DRAWING 303189 AND G351, FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING 303189.
2. ARRANGEMENTS SHOWN ARE TYPICAL AND CONSTRUCTION OPENINGS MAY NEED ALTERATIONS OR ADJUSTMENTS TO SUIT FIELD CONDITIONS.
3. BRACKET ARMS SHALL BE HORIZONTAL WITH RESPECT TO HORIZON.
4. ASSEMBLY TYPE SUSPENDED FROM BRACKET ARM VARIES AND IS INDICATED ON LAYOUT PLANS.
5. FOR TYPICAL BRACKET ARM ASSEMBLY 6A-4 DETAILS REFER TO DRAWING 303189.

---

**Diagram:**

- **Bracket Arm Assembly:**
  - Slope for Bracket Arm Guy
  - Use a pole of 10’ and 8’

---

**Scale Drawing:**

- 1/2" = 1’-0"

---

**Dimensions:**

- X: 4’ (Typ)
- Y: 1’

---

**Scale In Feet:**

- 1/2" = 1’-0”

---

**NOT FOR CONSTRUCTION**

---

**KANSAS CITY STREETCAR - RIVERFRONT EXTENSION**

**OVERHEAD CONTACT SYSTEM**

**BRACKET ARM ASSEMBLIES**

**SECTION INSULATOR SUPPORT**

**ISSUE FOR:**

**ISSUE DATE:** 12/31/2022

---

**FOR:**

- RideKC Streetcar
- HNTB Engineering

---

**NOT FOR CONSTRUCTION**

---

**Plot Date:** 12/31/2022

---

**Plot Scale:** 1/2" = 1’-0”

---

**Plot Note:** This set of plans is not for construction. These plans are intended to aid in the interpretation of the project.
NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING 0016. FOR STRUCTURAL STEEL AND CONCRETE NOTES REFER TO DRAWING 0402.
2. SYMBOLS AND ABBREVIATIONS REFER TO DRAWING 0003.
3. JUMPER CABLES ATTACHED TO SINGLE CONTACT WIRES SHALL BE INSULATED.
4. CONTACT WIRE CLAMPS TO BE TOP ENTRY.

JUMPER ASSEMBLY - JRA-1

BASE OF DESIGN

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<td>FEED TAP CLAMP EAR</td>
<td>WAC</td>
<td>DJH0401</td>
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| 2    | 500 | 300 KCMIL INSULATED FEEDER CABLE | E \

NOTE: CONTRACTOR MAY SUBMIT PARTS LISTED ABOVE OR APPROVED EQUAL.
NOTES:

1. FOR GENERAL NOTES REFER TO DRAWING G01M, FOR STRUCTURAL STEEL AND CONCRETE REFER TO DRAWING G01E, FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING G002.

2. FOR LOCATION AND TYPE OF SUSPENSION, FOR SECTIONALIZE REFER TO LAYOUT DRAWING.

3. SECTION INSULATOR TO BE SUSPENDED WITH TRIANGULAR SUSPENSION WIRE AS INSTRUCTED.

4. LINE ANGLE FOR SECTIONALIZER TO BE 9 DEGREES IN A 120-FOOT SPAN. WIRE ANGLE WILL ALLOW THE PLANE OF THE HORIZONTAL TREAT TO BE PARALLEL, WITH THE TRACK.

5. CROSS SPAN SUSPENSION TO BE TIGHT WITH MINIMAL SAG.

6. SECTION INSULATOR TO BE MARKED ON TRACK CENTERLINE.

7. RUNNER PLANE OF SECTIONALIZER TO BE PARALLEL, WITH TRACK PLANE, ADJUST LINE INSULATOR HANGER WIRES AS NEEDED.

8. INSTALL AND ADJUST SECTIONALIZER AND SUSPENSION ACCORDING TO MANUFACTURER’S RECOMMENDATIONS.

9. INSTALL DEEP INSULATORS IN DOUBLE SPAN WIRE AS SHOWN ON THIS DRAWING.

10. SUSPENSION OF SECTIONALIZER AT TRACK STATION 2251.05 LS: CROSSOVERS ON A SPAN WIRE WASHBOARDER AND WILL REQUIRE A TRIANGULAR SUSPENSION AND FLEXIBLE TYPE WIRE ROPE.

11. SECTION INSULATOR TO BE IDENTIFIED, SCALE MODEL AS USED ON THE STARTER LINE.

12. L = DISTANCE BETWEEN H SUPPORTS.

13. N = DISTANCE BETWEEN PIPE.

14. M = DISTANCE BETWEEN TRAPEZE.

15. SECTION INSULATOR - END VIEW

16. SECTION INSULATOR SUSPENSION FROM TRAPEZE, SI-1

17. SECTION INSULATOR SUSPENSION FROM PIPE, SI-2

18. DETAIL - SPREADER PIPE

19. DETAIL

20. SPAN WIRE TRAPEZE - PLAN VIEW

21. CONTACT WIRE

22. DETECTION OF TRAVEL

23. 2" BORED AS PIPE

24. DISTANCE TO SUPPORTS

25. 1" WIRE, RIGID PIPE

26. TERMINATION SPAN WIRE, ETC., COMMISSION MIN.

27. CLAMPING DEVICE, MULTIPLE SPANS SEE DRAWING Y004

28. TRAVEL, END, SI-1 H, 217

29. LINE INSULATOR, TYPE 2 Spiral SPAN WIRE, PRO/PIPE

30. PIPE, SPRINGING 2.4" SCHEDULE 80 STEEL MAC 2811400

31. SPRING

32. TRAVEL, INSULATORS

33. HANGER LINE, SI-1 IPS HANGER ROPE 0.031" WIRE ROPE

34. TRAVEL, INSULATOR - SPRINGS

35. SUPPORT A, B, C, D FOR SECTIONALIZER

36. SLEEVE, CIRCUMFERENCE 8-V TUBE WIRE ROPE

37. SLEEVE CARRIER PIPE

38. STRAND, 6/19-5/8"
NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING GM, FOR STRUCTURAL, STEEL AND CONCRETE NOTES REFER TO DRAWING GM2, FOR SYMBOLS AND ABREVIATIONS REFER TO DRAWING G32.
2. INSTALL AND SET SPRING TENSIONER SPRING IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS, NOMINAL TEMPERATURE IS 70°F. SPRINGS TO BE SET UP IN THEIR RESPECTIVE TENSION LENGTH.
3. FOR LOCATION OF SPRING TENSIONER DEVICES REFER TO LAYOUT PLAN.
4. SETTING CHARTS TO BE PROVIDED BY SPRING MANUFACTURERS.
5. DEADEND ASSEMBLY ATTACHES TO SPRING YOKE PLATE.
6. SPTA-285 USED ONLY AT ONE LOCATION POLE RAG.

BILL OF MATERIALS

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1. FOR GENERAL NOTES REFER TO DRAWING 01-01 AM FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING 01-01 AM.

2. POLE TAGS SHALL BE REFLECTIVE SELF ADHESIVE MARKERS, BLACK LETTERS ON WHITE BACKGROUND, NUMBERS TO BE 2'-4'H AND TEXT TO BE HELVETICA MEDIUM.

3. SIDE POLES TO HAVE NUMBERS FACING THE TRACK AND DIRECTION OF TRAFFIC.

4. POLE NUMBERS REFER TO THE POLE SCHEDULE ON DRAWINGS Y111 THRU Y112 AND QCS LAYOUTS ON DRAWINGS Y116 THRU Y117, NUMBERS WITH A REFER TO NUMERICAL POLE NUMBERS FOR THE RIVERFRONT EXTENSION.

5. FOR POLE LENGTHS AND TYPES, REFER TO THE POLE SCHEDULE ON DRAWINGS Y111 THRU Y112 AND QCS LAYOUTS ON DRAWINGS Y116 THRU Y117.

6. THE PLATE SHALL BE ENGRAVED OR CAST WITH THE FOLLOWING INFORMATION: MANUFACTURERS NAME, POLE SIZE, DAT MANUFACTURERS SPECIFICATIONS, BUTT SECTION MODULE AND STRENGTH OF STEEL, POLE TAG SHALL BE 1'-2" THICK, GRADE 304 STAINLESS STEEL WELDED TO POLE BUTT ALL AROUND EDGES OF TAG WITH STAINLESS STEEL WELDING ROD, LETTERING SHALL BE OF SUITABLE DEPTH, ENGRAVED OR SUPPORTED HEIGHT, IF CAST, SO THAT THE FINISH OF THE POLE SHALL NOT OBSCURE THE LETTERING.

7. BASE DIAMETER OF POLE FOR POLE TAG SHALL NOT INCLUDE CORROSION COLLAR.

NOTE: TAG TO CONFORM TO IEEE STANDARD 1820-2012

POL NUMBERING DETAIL

OVERHEAD CONTACT SYSTEM

KANSAS CITY STREETCAR - RIVERFRONT EXTENSION

NOT FOR CONSTRUCTION

DATE: 12-23-2022

ISSUE FOR BID

STREETCAR

OVERHEAD CONTACT SYSTEM

MISCELLANEOUS

POLE NUMBERING DETAIL

303208

Y081 376
NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING SHEE1 FOR STRUCTURAL, STEEL, AND CONCRETE NOTES REFER TO DRAWING SHEE2 FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING SHEE3.
2. CONDUITS TO BE #4 RHC, EXTERIOR GRADE HEAVY WALL TYPE, COUPLINGS TO BE CERRY SLEEVES.
3. CONDUITS TO HAVE A FLEXIBLE CONNECTION BETWEEN POLES TO FACILITATE VIBRATION.
4. CABLE TO BE RUN FROM TOP OF CONDUIT RUN AND PULLED DOWN INTO CONDUITS TO DECREASE TENSION AND SIDEWALL PRESSURE.
5. DELETE ANY DRAIN FITS OR ELECTRICAL CONDUIT AND WIRING WHERE OCS POLE SUPPORT IS MOUNTED ON THE BRIDGE DECK.
6. POLES TO WHICH CONDUITS ARE MOUNTED ARE TO BE 12" x 6" FLANGE SLEEPERS, SET DIRECTLY IN THE EARTH, CONDUITS TO BE FITTED INTO FOUNDATION BEFORE CONCRETE POUR.
7. DIMENSIONS ARE APPROXIMATE AND CONTRACTOR TO DETERMINE BEST FIT IN THE FIELD AND ADJUST AS REQUIRED.
8. REFER TO LAYOUT DRAWINGS FOR SPAN WIRE AND FEEDER CABLE ATTACHMENT HEIGHTS ON POLES.
9. ALL CONDUIT OPENINGS TO BE SEALED WITH ROUTE KC SEAL, CONDUIT SUPPORT DETAILS TO BE SUBMITTED TO THE CONTRACTOR FOR APPROVAL. ALL MOUNTING MATERIALS, INCLUDING BOLTS, NUTS, WASHERS, AND LOCKWASHERS TO BE STAINLESS STEEL.
10. EACH FEEDER CABLE TO BE EQUIPPED WITH SURGE ARRESTORS AT THE TOP OF THE BRIDGE POLE GROUND WIRE TO BE RUN DOWN POLES IN PHENOLIC CONDUIT TO SEPARATE GROUND RUN.

KANSAS CITY STREETCAR - RIVERFRONT EXTENSION
OVERHEAD CONTACT SYSTEM CROSS SECTION OCS FEEDING POINT

NOTE: THIS SET OF PLANS ARE NOT FOR CONSTRUCTION. THESE PLANS ARE INTENDED TO HELP AMENDMENTS IN THIS DOCUMENT.
### POLE & FOUNDATION INSTALLATION SCHEDULE

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### NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING ONLY, FOR STRUCTURAL STEEL AND CONCRETE DETAILS REFER TO DRAWING ONLY, FOR SYMBOLS AND ABBREVIATIONS REFER TO DRAWING 0082.
2. FOR POLE DETAILS SEE DRAWINGS 1921 TO 1923.
3. FOR FOUNDATION DETAILS SEE DRAWINGS 1919 TO 1921.
4. FOR TRAFFIC SIGNALS, CONDUIT AND MASS ARM DETAIL SEE TRAFFIC SIGNAL DRAWINGS.
5. FOR COMMITMENT SWITCH ARRANGEMENT SEE DRAWING 0089.
6. FOR KICK MANHOLE LAYOUT SEE DRAWING 1919.
7. FOR POLE NUMBER TAG DETAILS SEE DRAWING 1920.
8. FOR PIPE DIRECTION, REFER TO BASE MOUNT ANNOTATIONS SHOWN ON CCS LAYOUT PLANS.

### REV. DATE DESCRIPTION

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### KANSAS CITY STREETCARE - RIVERFRONT EXTENSION

OVERHEAD CONTACT SYSTEM
STRUCTURE SCHEDULE
POLE AND FOUNDATION SCHEDULE
(SHEET 1 OF 2)

DATE: 12-31-2022

Y111 381

NOT FOR CONSTRUCTION
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING G311. FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING G322.
2. POLE IS TO BE INSTALLED ON POLE BY CONTRACTOR.
3. FOR BRIDGE ATTACHMENT DETAILS, REFER TO DRAWINGS Y037 AND Y038.
4. CONTRACTOR SHALL PROVIDE SHOULA FOR FOOTHOLD EXCAVATIONS ON POLES ADJACENT TO MSE BRIDGE APPROACH.
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING GS21, FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING GS22.
2. POLE E WILL BE INSTALLED ON POLE BY CONTRACTOR.
3. CONTRACTOR SHALL PROVIDE SHORING FOR FOOTING EXCAVATIONS ON POLES ADJACENT TO MSE BRIDGE APPROACH.
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING G301. FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING G302.
2. POLICE WILL BE INSTALLED ON POLES BY CONTRACTOR.
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING G201, FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING G202.
2. POLES WILL BE INSTALLED ON POLES BY CONTRACTOR.
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING GS21.
2. POLLED WILL BE INSTALLED ON POLY BY CONTRACTOR.
3. FOR POLE ATTACHMENT ON BRIDGE DETAILS, REFER TO DRAWINGS Y937 AND Y938.
4. FOR POLE GROUNDING ON BRIDGE DETAILS, REFER TO DRAWING Y935.

KANSAS CITY STREETCAR - RIVERFRONT EXTENSION
OCS BRIDGE GROUNDING LAYOUT PLAN
STA 126+00 TO STA 129+00

RIDEKC STREETCAR
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING GS01, FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING GS02.
2. POLE TO BE INSTALLED ON POLY BY CONTRACTOR.
3. FOR POLE ATTACHMENT ON BRIDGE DETAILS, REFER TO DRAWING Y037 AND Y038.
4. FOR POLE GROUNDING ON BRIDGE DETAIL, REFER TO DRAWING Y039.