

ELECTRICAL LEGEND

- 12m. BARRIER, GROUND, OR BRIDGE MOUNTED LIGHTING STANDARD WITH (1) 250W HPS COBRA HEAD LUMINAIRE.
- 12m. BARRIER, GROUND, OR BRIDGE MOUNTED LIGHTING STANDARD WITH (2) 250W HPS COBRA HEAD LUMINAIRES.
- UNDERPASS LUMINAIRE, 1000W MH 240V LUMINAIRE. STERNER #891-CUSTOM-CB-N-N-40100-1000-H-240-E BLACK FINISH AND PROVIDE ACCESSORIES NECESSARY FOR MOUNTING TO BOTTOM SIDE OF BRIDGE
- UNDERPASS LUMINAIRE, 100W HPS 120V LUMINAIRE. LITHONIA #KPS5100S-R3-120-WL-DBL BLACK FINISH AND PROVIDE WITH ACCESSORIES NECESSARY FOR MOUNTING TO BOTTOM SIDE OF BRIDGE
- LIGHTING CONTROL CENTER
- SERVICE POLE
- IRRIGATION SYSTEM PUMP AND CONTROLLER. SEE IRRIGATION PLANS FOR DETAILS
- GROUND MOUNTED WEATHERPROOF JUNCTION BOX MOUNTED FLUSH WITH GRADE, UNLESS NOTED OTHERWISE. SEE SHEET NO. 668 FOR DETAIL.
- 78mm RMC CONDUIT UNDER ROADWAYS (GALVANIZED).
- CABLE IN DUCT. (53mm MINIMUM). THE A3 INDICATES THE CIRCUIT NUMBER 2/C #6 AWG, 600V. PER CIRCUIT, W/#6 GRD.
- EXISTING LIGHT UNIT TO BE REMOVED
- EXISTING LIGHT UNIT TO REMAIN
- 250W HPS COBRA HEAD LUMINAIRE MOUNTED ON JOINT USE POLE.
- GROUND MOUNTED WEATHERPROOF PULL BOX. SEE SHEET NO. 653 FOR DETAIL.
- 21mm x 3.048m GROUND ROD AND ASSOCIATED JUNCTION BOX FOR BRIDGE MOUNTED LUMINAIRES.
- DUCTBANK. SEE DETAIL THIS SHEET.

APPROVED SUBMITTALS:
 No. 20.1-Screw-In Foundation Anchors for Street Light Poles
 No. 20.2.A-Light Poles
 No. 22-Ground Rod and Clamp cut Sheets
 No. 25-Utility Marker Tape-Catalog Cut Sheets
 No. 26-Cable-In-Duct Drawings
 No. 27-Light Fixtures and Lamp Drawings
 No. 28-Wire Fuse Holders and Misc. Drawings
 No. 31.A-Lighting Controllers
 No. 61.A-Revised Electric Light Pole Drawings
 No. 69-Color and Finish of Lighting Control Cabinets
 RFI No. 3- Duct Bank Pull Box

DUCTBANK CALL-OUT SCHEDULE

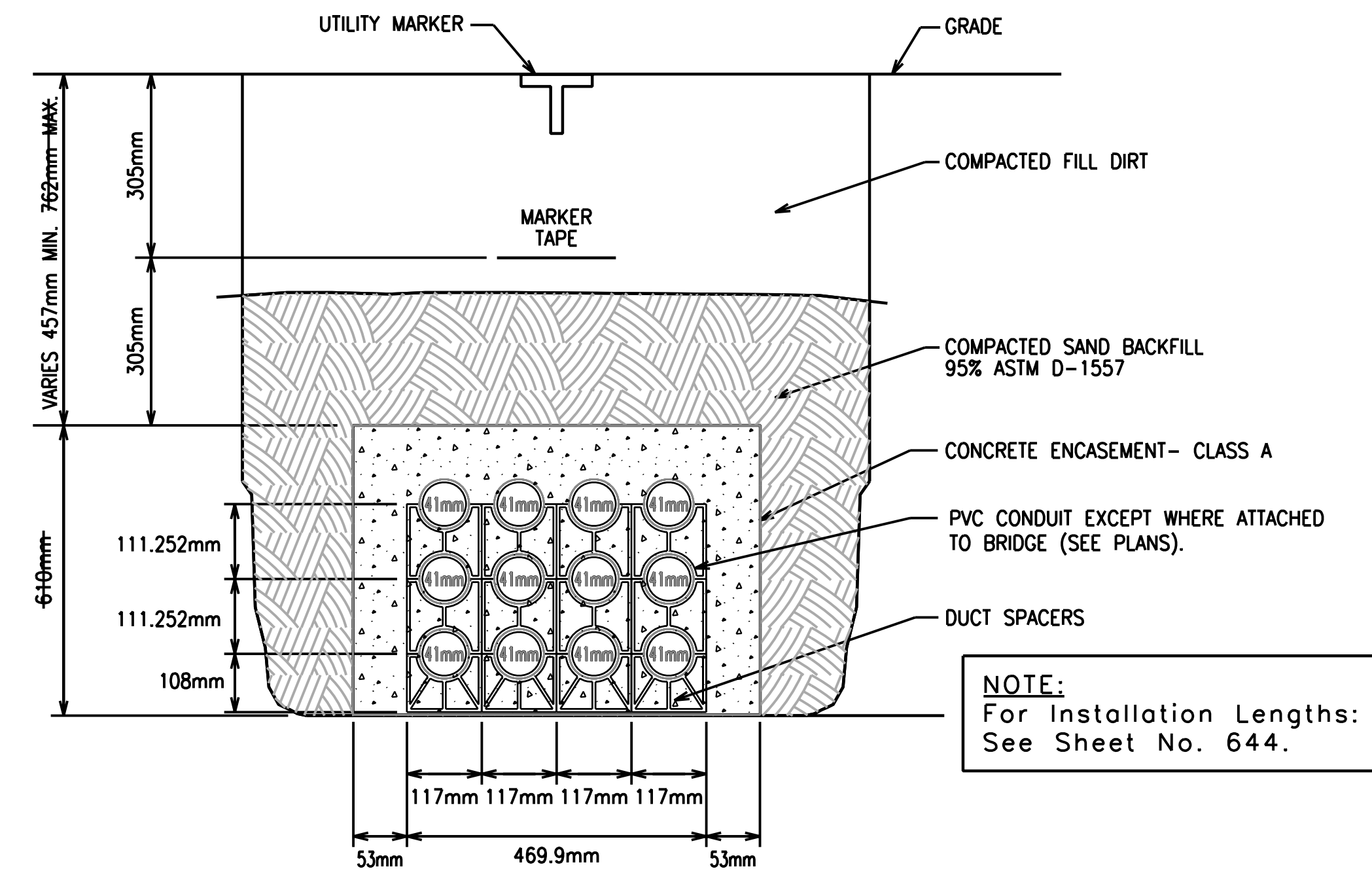
| POINT | NORTH | EAST | STATION | OFFSET |
|-------|--------------|--------------|------------|----------|
| DB1 | 511,356.5379 | 490,831.0917 | 14+827.500 | -39.2454 |
| DB2 | 511,365.7550 | 491,170.2923 | 15+168.115 | -36.1903 |
| DB3 | 511,380.1444 | 491,269.2516 | 15+268.991 | -42.5117 |
| DB4 | 511,392.0219 | 491,341.2228 | 15+342.700 | -46.8000 |
| DB5 | 511,396.3736 | 491,397.7089 | 15+400.000 | -44.2200 |
| DB6 | 511,423.7002 | 491,574.7344 | 15+581.300 | -43.9461 |
| DB7 | 511,439.3241 | 491,649.9001 | 15+659.000 | -45.1173 |
| DB8 | 511,436.8695 | 491,727.9585 | 15+740.000 | -45.9148 |
| DB9 | 511,465.9959 | 491,780.6145 | 15+794.000 | -42.8297 |
| DB10 | 511,488.2665 | 491,867.7674 | 15+885.000 | -42.9000 |
| DB11 | 511,495.6829 | 491,934.2753 | 15+951.764 | -32.3269 |
| DB12 | 511,534.8318 | 492,061.8964 | 16+086.439 | -32.3452 |
| DB13 | 511,549.2826 | 492,069.5067 | 16+098.300 | -43.7000 |
| DB14 | 511,579.4460 | 492,145.5111 | 16+181.000 | -47.6000 |
| DB145 | 511,603.3739 | 492,210.3376 | 16+251.000 | -47.8000 |
| DB15 | 511,634.1422 | 492,302.0842 | 16+348.000 | -43.0000 |
| DB16 | 511,695.1210 | 492,407.2667 | 16+510.900 | -40.0700 |
| DB17 | 511,834.6190 | 492,700.6820 | 16+842.300 | -40.0700 |
| DB18 | 511,906.2935 | 492,892.8154 | 17+001.400 | -45.2000 |
| DB19 | 511,936.2459 | 492,971.8528 | 17+085.700 | -39.0700 |
| DB20 | 511,992.2731 | 493,092.4760 | 17+218.700 | -39.0700 |
| DB21 | 511,991.1835 | 493,105.4416 | 17+230.000 | -32.6200 |
| DB22 | 512,057.5208 | 493,248.2622 | 17+387.475 | -32.6199 |
| DB23 | 512,077.2856 | 493,269.4311 | 17+415.000 | -41.6279 |
| DB24 | 512,110.6935 | 493,341.4136 | 17+493.432 | -41.9808 |
| DB25 | 512,178.6921 | 493,529.4040 | 17+688.100 | -42.0178 |
| DB26 | 512,182.0636 | 493,556.1333 | 17+710.000 | -37.8302 |
| DB27 | 512,189.8192 | 493,578.1199 | 17+736.633 | -39.7166 |
| DB28 | 512,206.3956 | 493,649.2411 | 17+807.790 | -39.8722 |
| DB29 | 512,212.5987 | 493,758.9111 | 17+914.586 | -27.6922 |
| DB30 | 512,223.4790 | 493,851.0499 | 18+005.642 | -29.1723 |
| DB31 | 512,239.3138 | 494,149.1262 | 18+303.453 | -30.3330 |
| DB32 | 512,262.1137 | 494,288.7441 | 18+444.000 | -46.4394 |
| DB33 | 512,274.7524 | 494,317.6735 | 18+473.500 | -57.6821 |
| DB34 | 511,338.2661 | 491,670.4051 | 15+659.000 | -58.0000 |
| DB35 | 511,974.3370 | 493,248.4025 | 17+352.560 | -42.8821 |
| DB36 | 512,067.8419 | 493,243.4683 | 17+387.475 | -44.0000 |

GENERAL NOTES

- ALL EXISTING CONCRETE BASES TO BE REMOVED SHALL BE REMOVED TO A MINIMUM OF 457mm BELOW GRADE AND BACKFILLED, OR AS DIRECTED BY THE ENGINEER.
- ALL METAL PARTS OF SWITCHES, CASES, POLES, CONDUIT, ETC. WHERE USED ABOVE GROUND SHALL BE GROUNDED WITH #6 AWG COPPER WIRE. RESISTANCE TO GROUND SHALL BE LESS THAN 25 OHMS AND SHALL BE CHECKED WITH AN OHM METER FURNISHED BY THE CONTRACTOR.
- ALL ABANDONED CABLE SHALL BE DISCONNECTED FROM THE ENERGIZED CIRCUIT.
- THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF LIGHTING AND TRAFFIC SIGNAL EQUIPMENT WITH ALL EXISTING AND PROPOSED UTILITIES. WHERE CONFLICTS ARISE, THE EQUIPMENT SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
- ALL WIRING SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND THE SPECIFICATIONS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL LIGHTING EQUIPMENT INCLUDING POLES, MAST ARMS, LUMINAIRES, LAMPS, WIRING, CONDUIT FITTINGS, SUPPORTS, CONCRETE BASES FOR POLES, ANCHOR BOLTS, INTERCONNECTIONS, GROUND RODS AND ALL INCIDENTALS NECESSARY FOR THE COMPLETE INSTALLATIONS WITHIN THE LIMITS SHOWN ON THE PLANS. THE LIGHTING SYSTEM SHALL BE COMPLETE AND THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT NECESSARY FOR THE SATISFACTORY OPERATION OF THE LIGHTING SYSTEM WHETHER SPECIFICALLY MENTIONED OR NOT.
- THE UNDERGROUND CONDUCTOR IN DUCT SHALL BE INSTALLED APPROX. 610mm BELOW GROUND LINE. THE CONDUCTOR IN DUCT CAN BE PLOWED OR TRENCHED AND BACKFILLED. CONDUIT SHALL BE LOCATED WHERE IT WILL NOT CONFLICT WITH PROPOSED LANDSCAPE PLANTINGS (TREE, SHRUBS, ETC.) AND IRRIGATION LINES. ALL CONDUIT FOR MEDIAN LIGHT POLES WAS RUN ON TOP OF CEMENT TREATED BASE AND ENCASED IN CONCRETE PAVEMENT.
- ALL TRENCHING AND CIRCUITING SHALL BE DONE WITHIN CITY OF WICHITA AND/OR KDOT R/W.
- BACKFILL IN ALL AREAS SHALL BE FREE OF RUBBLE AND ROCK AND SHALL BE COMPACTED WHERE UNDER PAVEMENT.
- MAKE SPLICES IN THE DUCT SECONDARY CABLE INSIDE OF TOWER BASES AND JUNCTION BOXES ONLY. CONTACT THE BUREAU OF TRAFFIC ENGINEERING FOR APPROVAL OF OTHER SPLICE LOCATIONS.
- OZ EXPANSION JOINTS SHALL BE INSTALLED IN THE CONDUIT RUNS AT ALL BRIDGE EXPANSION JOINTS.
- POSITION ENCLOSURES SO THAT THE PHOTOCELLS ARE POINTED DUE NORTH.
- THE IRRIGATION SYSTEM ELECTRICAL SERVICES SHALL BE 120/240V SINGLE PHASE, THREE WIRE. THE CONTRACTOR SHALL COORDINATE INSTALLATION WITH THE IRRIGATION CONTRACTOR.
- TEMPORARY LIGHTING: THE CONTRACTOR SHALL PROVIDE A MINIMUM LIGHTING LEVEL OF 1 FOOTCANDLE AVERAGE MAINTAINED WITH AN AVERAGE TO MINIMUM UNIFORMITY OF 3:1 OR BETTER FOR MAINLINE THROUGH TRAFFIC CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THE EXISTING LIGHTING SYSTEM FROM STA. 17+150 TO 18+229. TEMPORARY LIGHTING SHALL BE PROVIDED FOR MAINLINE TRAFFIC ON SHO-FLY DETOURS AND FRONTAGE ROADS. TEMPORARY LIGHTING WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR "TEMPORARY LIGHTING SYSTEM" WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.
- REMOVAL OF LIGHT STANDARDS: LUMINAIRES AND OTHER ELECTRICAL MATERIAL SHALL BE SUBSIDIARY TO THE LUMP SUM BID FOR "ELECTRICAL LIGHTING SYSTEM".
- ALL VISUALLY EXPOSED EXTERIOR SURFACES OF POLES SHALL BE COATED WITH A URETHANE OR TRIGLYCIDYL ISOCYANURATE (TGIC) POLYESTER POWDER TO A MINIMUM DRY FILM THICKNESS (DFT) OF 2.0 mils. PRIOR TO APPLICATION OF TOP COAT, THE SURFACE SHALL BE MECHANICALLY ETCHED AND PRE-HEATED TO 450 DEGREES FAHRENHEIT FOR A MINIMUM OF ONE HOUR. THE COATING SHALL BE ELECTRO-STATICALLY APPLIED AND CURED AT A MINIMUM TEMPERATURE OF 400 DEGREES FAHRENHEIT. THE FINISHED COLOR FOR THE POLES SHALL BE BLACK AND APPROVED BY THE ENGINEER PRIOR TO APPLICATION ON THE BASIS OF COLOR CHIP SUBMITTALS.
- THE LIGHTING CONTROL CENTER CABINET AND MISCELLANEOUS ABOVE GROUND EQUIPMENT SHALL BE SHOP PAINTED WITH AN AEROSOL LACQUER CELLULOSE ESTER. THE CONTRACTOR SHALL SUBMIT TWO COPIES OF THE PROPOSED COATING SYSTEM TO THE ENGINEER FOR APPROVAL PRIOR TO APPLICATION. IN ADDITION TO THE REQUIREMENTS STIPULATED IN THE STANDARD SPECIFICATIONS, BANDING MATERIAL SHALL BE COATED WITH ETHYLENE-VINYL-ALCOHOL (EVA) COPOLYMER. THE COLOR SHALL BE FEDERAL STANDARD 595B COLOR NO. 20372 (BUCKSKIN).
- BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS FOR CLARITY ONLY. CONTRACTOR MAY GROUP SINGLE POLE BRANCH CIRCUITS IN MULTIPLE CIRCUIT HOME RUNS (2 CIRCUITS MAXIMUM). A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
- WIRING FOR THE VARIOUS LIGHTING SYSTEMS SHALL BE KEPT SEPARATE FROM EACH OTHER AND ROUTED IN DEDICATED DUCTS OR CONDUITS. COMMON TRENCHES MAY BE USED. THE LIGHTING SYSTEMS FOR THIS PROJECT INCLUDE:
 - MEDIAN (MAIN LINE) MOUNTED LIGHT FIXTURES.
 - FRONTAGE ROAD AND JOINT-USE POLE LIGHT FIXTURES.
 - UNDER BRIDGE MOUNTED LIGHT FIXTURES.
- SEPARATE ELECTRICAL SERVICES AND METERS WILL BE REQUIRED FOR THE FOLLOWING:
 - MEDIAN MOUNTED LIGHT FIXTURE SYSTEMS.
 - FRONTAGE ROAD AND JOINT-USE POLE LIGHT FIXTURE SYSTEMS.
 - UNDER BRIDGE MOUNTED LIGHT FIXTURE SYSTEM.
 - TRAFFIC CONTROL SYSTEMS.
 - IRRIGATION SYSTEMS.
 COORDINATE ALL SERVICE LOCATIONS AND REQUIREMENTS WITH UTILITY COMPANY.
- SEE SHEET NO. 15 FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL COORDINATE WORK FOR INSTALLATION OF THE UNDERPASS LIGHTING SYSTEM WITH THE BRIDGE CONTRACTOR.

ADDENDUM NO. 2:

- Sheet 632
- Ductbank Detail: Change the overall height of the concrete encasement from 610 mm to 440 mm. It is acceptable to use excavated trench walls to form the ductbank where soil conditions permit rather than the formed ductbank shown. Delete the maximum depth of 762 mm from the top of ductbank to the top of the trench. Excavatable flowable fill will only be required under pavement where the depth of backfill from top of the ductbank to the top of subgrade exceeds 600 mm.



NOTE:
 For Installation Lengths:
 See Sheet No. 644.

Electric Lighting System: The following notes apply.

On the Lighting Plans, where multiple circuits are routed together, a single line has been shown for clarity. Multiple conduits or sleeves or cable in ducts will be required depending on the location and quantity of circuits.

Frontage Road light standards and joint use light standards at Maize and Tyler Road intersections will be maintained by Westor Energy. The Contractor shall provide the following: pole, mast arm, breakaway base and luminaires for all frontage road light standard including standards mounted on the Cowskin frontage road bridges (2 each).

- 37' (11.3 m) Valmont Pole / DS70-950A370-ODGVHFBFCFP-Block
- 8' (2.4 m) Valmont Arm / DS70-8D-GVFP-Block
- Valmont Breakaway Base / M-093-Block
- 480 volt, 250 Watt Copper Cobra Head / DV225SW83E-Block

All frontage road light standards shall be color black.

The Contractor shall confirm the part numbers with the Engineer and Westor Energy before ordering equipment.

Mainline Kellogg light standards will be maintained by the Kansa Department of Transportation. All median barrier mounted and Mainline bridge barrier mounted light standards shall be per the plans and specifications except that they shall have a galvanized finish instead of black.

DUCTBANK DETAIL
 NO SCALE

NOTE: THE CONTRACTOR SHALL CONSTRUCT THE 12-WAY DUCTBANK AT THE LOCATIONS SHOWN ON THE PLANS. THE VERTICAL ELEVATION OF THE DUCTBANK SHALL BE ADJUSTED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER TO CLEAR STORM SEWERS AND UTILITIES. THIS WORK SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT BID PRICE PER METER FOR "DUCTBANK". THE BID PRICE SHALL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, EXCAVATION, BACKFILL, PULLBOXES, BRIDGE ATTACHMENTS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. THE SUMMARY OF QUANTITIES INCLUDES QUANTITIES FOR CONDUIT.

| FHWA REGION NO. | STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
|-----------------|--------|-----------------|------|-----------|--------------|
| 7 | KANSAS | 54-87 K-6657-01 | 2002 | 632 | 1122 |

RECORD DRAWING

| No. | Revisions | By | Date |
|--|-----------|------------|-------------|
| CITY OF WICHITA | | | |
| ELECTRICAL | | | |
| GENERAL NOTES & LEGEND | | | |
| SEDGWICK COUNTY | | | |
| Professional Engineering Consultants, P.A. | | | |
| 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003 | | | |
| Designed by | SMS | Checked by | SMS |
| Drawn by | WAN | Date | APRIL, 2002 |
| | | Job No. | 97362 |

DSNR: WAN OPER: WAN SCALE: 1:500
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