ADDENDUM

Public Building Commission of Chicago | Richard J. Daley Center | 50 West Washington Street, Room 200 | Chicago, Illinois 60602 | (312) 744-3090 | pbcchicago.com

ADDENDUM NO.: **01**

PROJECT NAME: **WPA Street Reconstruction (Medill Avenue)**

PROJECT NO.: **22759**

CONTRACT NO.: **C1603**

DATE OF ISSUE: **September 20, 2022**

NOTICE OF CHANGES, MODIFICATIONS, OR CLARIFICATIONS TO CONTRACT DOCUMENTS

The following changes, modifications, or clarifications are hereby incorporated and made an integral part of the Contract Documents. Unless clearly expressed otherwise by this Addendum, all terms and conditions defined in the original Contract Documents shall continue in full force and effect and shall have the same meaning in this Addendum. Issued Addenda represent responses/clarifications to various inquiries. Contractors shall be responsible for including all associated labor/material costs in its bid. Drawings/specifications corresponding to inquiry responses will be issued with the Issue for Construction Documents, upon issuance of building permit.

ITEM NO. 1: **CHANGE TO KEY DATES**

None.

ITEM NO. 2: **REVISIONS TO BOOK 1 – PBC INSTRUCTIONS TO BIDDERS**

Change 1 **Book 1 – ADD** "Permitting" to Section II E. Time of Completion Descriptions, Schedule Milestone #1: Mobilization.

Change 2 **Book 1 – DELETE** Schedule of Prices and **REPLACE** with attached Updated Schedule of Prices.

Change 3 **Book 1 – DELETE** Fillable Bid Form (Excel) and **REPLACE** with Updated Fillable Bid Form (Excel) available from Cushing's Plan Room and the PBC Project Opportunity Page.

ITEM NO. 3: **REVISIONS TO BOOK 2 – PBC STANDARD TERMS AND CONDITIONS**

None.

ITEM NO. 4: **REVISIONS TO BOOK 3 – TECHNICAL SPECIFICATIONS**

Change 1 **ADD** Appendix A – CDOT Division of Electrical Operations – Electrical Material Specification.

Change 2 **ADD** Appendix B – CDOT Division of Electrical Operations – Standard Electrical Drawings.

ITEM NO. 5: **REVISIONS TO DRAWINGS**

Change 1 **REVISED** Drawing Sheet No. 3 – Summary of Quantities

a. Tree Removal (6 to 15 IN Diameter) updated QUANTITY to 63.
b. Tree Removal (over 15 IN Diameter) updated QUANTITY to 16.

Change 2 **ADD** Drawing Sheet No. 3a – Coordination with Other City Departments Notes and Protection of Existing Trees in the Right of Way.

ITEM NO. 6: **REQUESTS FOR INFORMATION**

RFI-1.

Question: **In the Summary of Quantities, you list the Unit for Tree Removals as Unit. Does this mean the unit is Each or something else?**

Response: The quantities listed in the "Summary of Quantities" for Tree Removal line items #2 and #3 have been revised. Please refer to updated Schedule of Prices and updated Sheets included in this Addendum.

RFI-2.

Question: **Please clarify location of item #60600605 – Concrete Curb, Type B. It does not appear to be labeled in the "Plan & Profile" drawings.**

Response: Furnish and install concrete curb (Type "B") at Alley returns and ADA curbs adjacent to landscape area(s), in accordance with the CDs (refer to CDOT's "Rules and Regulations for Construction in the Public Way" as referenced in Book 3).

This Addendum includes the following attached Specifications and/or Documents:

1. Updated Schedule of Prices
2. BOOK 3 – Appendix A – CDOT Division of Electrical Operations – Electrical Material Specification.

This Addendum includes the following attached Drawings:

1. Updated Sheets (Drawings) labeled Addendum No. 01.
2. BOOK 3 – Appendix B – CDOT Division of Electrical Operations – Standard Electrical Drawings.

END OF ADDENDUM NO. 01

B. SCHEDULE OF PRICES

Bidders are strongly encouraged to use the Excel Calculation Workbook (available to bidders from the Cushing and Company Planroom: http://dfs.cushingco.com/pbc.htm) to ensure accurate calculations for the Schedule of Prices, Total Base Bid, and Total Award Criteria. Please follow instructions on the Bid Form for Electronic and/or Hard Copy (handwritten) Submission.

UPDATED SCHEDULE OF PRICES

WPA STREET RECONSTRUCTION W. Medill Ave from N. Oak Park Ave. to N. Normandy Ave.
CDOT PROJECT NO.: B-2-759 – PBC CONTRACT C1603
Bidder's pricing for each line item should carry its share of the costs of work, plus its share of overhead and profit. Bidders should avoid nominal pricing for some lines and enhanced pricing for other lines.
Bids that the PBC considers to be materially unbalanced will be rejected.

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
1	*****	SPECIAL EXCAVATION	CU YD	4299		
2	20100110	TREE REMOVAL (6 TO 15 IN DIAMETER)	UNIT	63		
3	20100210	TREE REMOVAL (OVER 15 IN DIAMETER)	UNIT	16		
4	CDOT2010010	ROOT PRUNING	FOOT	140		
5	CDOT2070020	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU YD	60		
6	20800150	TRENCH BACKFILL	CU YD	33		
7	21101615	TOPSOIL FURNISH AND PLACE, 4-INCH	CU YD	134		
8	25200110	SODDING, SALT TOLERANT	SQ YD	1201		
9	*****	TREE INSTALLATION: PARKWAYS, PITS, AND SIDEWALK OPENINGS	EACH	22		
10	CDOT2510010	SHREDDED HARDWOOD BARK MULCH	SQ YD	123		
11	CDOT3110010	SAND CUSHION, VARIABLE DEPTH	SQ YD	200		
12	31101100	SUB-BASE GRANULAR MATERIAL, TYPE B, 6-INCH	CU YD	553		
13	35300200	PORTLAND CEMENT CONCRETE BASE COURSE, 7-INCH	SQ YD	2520		
14	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	1765		

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
15	40604060	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2-INCH	TON	283		
16	40600635	LEVELING BINDER (MACHINE METHOD), N50 1-1/2 INCH	TON	212		
17	40600525	LEVELING BINDER (HAND METHOD), N50	TON	1		
18	80173	BITUMINOUS COST ADJUSTMENT	L SUM	1		
19	*****	PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH	SQ FT	1172		
20	CDOT4240010	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SQ FT	3096		
21	CDOT4240030	PORTLAND CEMENT CONCRETE ADA CURB RAMP, 5-INCH	SQ FT	872		
22	CDOT4240040	PORTLAND CEMENT CONCRETE ADA CURB RAMP, 8-INCH	SQ FT	253		
23	CDOT4240055	LINEAR DETECTABLE WARNING TILES (CAST IRON)	SQ FT	168		
24	42300400	PORTLAND CEMENT CONCRETE DRIVEWAY AND ALLEY PAVEMENTS, 8-INCH	SQ YD	273		
25	60600605	CONCRETE CURB, TYPE B	FOOT	50		
26	CDOT6060020	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12	FOOT	1668		
27	*****	CRUSHED STONE (TEMPORARY USE)	TON	195		
28	*****	DRILL AND GROUT TIE BARS, No.5, EPOXY COATED	EACH	568		
29	*****	DRILL AND GROUT DOWEL BARS, No.8, EPOXY COATED	EACH	100		
30	CDOT5870010	PROTECTIVE CONCRETE SEALER	SQ YD	160		

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
31	*****	SAW CUTTING PAVEMENT	FOOT	281		
32	*****	DRIVEWAY AND ALLEY RETURN PAVEMENT REMOVAL (SPECIAL)	SQ YD	466		
33	*****	SIDEWALK REMOVAL (SPECIAL)	SQ FT	3931		
34	CDOT4400010	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	286		
35	78300100	PAVEMENT MARKING REMOVAL	SQ FT	368		
36	CDOT6020020	INLET, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	2		
37	CDOT6020010	CATCH BASINS, TYPE A, 4-FOOT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	4		
38	*****	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EACH	5		
39	*****	STORM SEWERS, EXTRA STRENGTH VITRIFIED CLAY PIPE, 8-INCH	FOOT	58		
40	CDOT6050020	REMOVING CATCH BASINS	EACH	7		
41	*****	SEWER CLEANING AND TELEVISING	FOOT	743		
42	*****	VORTEX RESTRICTOR	EACH	4		
43	*****	FRAMES	EACH	2		
44	*****	LIDS	EACH	2		
45	*****	ADDITIONAL MASONRY	VERT FT	4		
46	78000400	THERMOPLASTIC PAVEMENT MARKING, LINE 6-INCH	FOOT	344		
47	78000650	THERMOPLASTIC PAVEMENT MARKING, LINE 24-INCH	FOOT	241		

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
48	X2600010	SIGN PANEL, TYPE 1, RETROREFLECTIVE, TYPE A - SINGLE-SIDED	SQ FT	74		
49	X2600009	SIGN PANEL, TYPE 1, RETROREFLECTIVE, TYPE A - DOUBLE-SIDED	SQ FT	8		
50	*****	SIGN SUPPORT POST, DIG METHOD	EACH	16		
51	*****	SIGN SUPPORT POST, DRILL METHOD	EACH	2		
52	X2600007	REMOVE AND SALVAGE SIGN PANEL	EACH	8		
53	*****	REMOVE AND SALVAGE SIGN PANEL AND POLE ASSEMBLY	EACH	14		
54	*****	CURB AND MEDIAN PAINTING	FOOT	32		
55	112	ELECTRICAL HANDHOLE, 30-INCH IN DIAMETER WITH A 24-INCH FRAME AND LID	EACH	4		
56	132	CONDUIT IN TRENCH, 2-INCH POLYVINYL CHLORIDE CONDUIT, SCHEDULE No.80	FOOT	136		
57	157	HELIX FOUNDATION, 5 FOOT, 10-INCH BOLT CIRCLE, 4 ANCHOR BOLTS	EACH	9		
58	193A	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 1.25-INCH	FOOT	708		
59	195A	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 2-INCH	FOOT	262		
60	196	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 3-INCH	FOOT	294		
61	213	POLE, ANCHOR BASE, RELOCATE COMPLETE	EACH	3		
62	214	POLE, ARM, LUMINAIRE, EXISTING RESIDENTIAL, PAINT COMPLETE	EACH	1		
63	234A	SERVICE ENTRANCE ON POLE TOP, 2-INCH	EACH	1		

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
64	235	CONDUIT RISER UP POLE, 2-INCH	EACH	1		
65	270	WIRE, TEMPORARY AERIAL, 2-1/C No.8 ALUMINUM	FOOT	220		
66	249	TRIPLEX CABLE IN CONDUIT, 2 1/C No.6 & 1 1/C No.8	FOOT	1967		
67	265	CONTROLLER, RESIDENTIAL STREET LIGHT 240 VOLT	EACH	2		
68	510	REMOVE POLE, STEEL, AB, 7 GA., 27'6"	EACH	2		
69	526	REMOVE LUMINAIRE, 400W/310W,150W	EACH	3		
70	529	REMOVE MAST ARM, STEEL, 8-FOOT	EACH	3		
71	539	REMOVE POLE MOUNTED STREET LIGHT CONTROLLER	EACH	2		
72	502	REMOVE BRANCH WIRES, 2 No.6	FOOT	1233		
73	601	BREAKDOWN STREET LIGHT FOUNDATION	EACH	5		
74	705	POLE, ALUMINUM, RESIDENTIAL, DAVIT, 10-INCH BOLT CIRCLE	EACH	6		
75	705A	ARM, DAVIT, ALUMINUM, 4.5-INCH SKY/RES, 8-FOOT	EACH	6		
76	1628	LUMINAIRE, LED, FOR RESIDENTIAL STREETS-STAGGERED	EACH	6		
77	2993	MID-MOUNT RESIDENTIAL LED ACORN LUMINAIRE AND ARM, SILVER	EACH	6		
78	*****	CONSTRUCTION SIGN	EACH	2		
79	*****	TRAFFIC CONTROL COMPLETE	L SUM	1		
80	CDOT6700010	ENGINEER'S FIELD OFFICE, TYPE A	CAL MONTH	3		
81	66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1		

ITEM NO.	CODE NUMBER	ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
82	66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1		
83	66901006	REGULATED SUBSTANCES MONITORING	CAL DA	20		
84	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	1000		
85	*****	SPECIAL WASTE HAULING AND DISPOSAL	TON	6		
86	66900530	SOIL DISPOSAL ANALYSIS	EACH	2		
87	**TOTAL COST OF ALL ITEMS** (Enter on Bid Form Line 1 – Base Work Only)				$	

Bidders are strongly encouraged to use the Excel Calculation Workbook (available to bidders from the Cushing and Company Planroom: http://dfs.cushingco.com/pbc.htm) to ensure accurate calculations for the Schedule of Prices, Total Base Bid, and Total Award Criteria. Please follow instructions on the Bid Form for Submission.

If completing manually for Hard Copy Submission: please complete ALL LINES in the Schedule of Prices and enter the total (LINE 87) on BID FORM LINE 1 BASE WORK ONLY. This Schedule of Prices forms part of your Bid. The Schedule of Prices must be complete and submitted with your bid. It is HIGHLY recommended for Bidders to use the Excel Sheet provided to ensure accurate calculations.

Hard Copy Bidders: Enter Line 87 as your Base Work Only bid (Bid Form Line 1).

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APPENDIX A

CDOT - DIVISION OF ELECTRICAL OPERATIONS

ELECTRICAL MATERIAL SPECIFICATION

CDOT Material Specifications Index

Spec #	Description	Date
1351	WIRE: SINGLE CONDUCTOR NO. 12 COPPER WITH CROSS LINKED	08-27-13R
1452	POLE: ANCHOR BASE, ALUMINUM, TAPERED TUBULAR SHAFT	03-19-14R
1453	MAST ARMS: ALUMINUM, TRUSS TYPE AND DAVIT TYPE	03-14-13R
1457	CABLE: SERVICE ENTRANCE, THREE INSULATED CONDUCTORS IN ONE OVERALL JACKET,	08-03-06R
1458	ELECTRICAL MANHOLE FRAMES AND COVERS 24 INCH AND 30 INCH DIAMETER	03-04-14R
1462	RIGID STEEL CONDUIT (HOT DIPPED GALVANIZED)	11-21-14R
1465	GROUND RODS	07-12-06R
1467	ROD: ANCHOR, STEEL, WITH HARDWARE	06-28-12R
1526	HELIX FOUNDATIONS	06-12-14R
1528	PRECAST CONCRETE STRUCTURES	06-06-14R
1533	NON-METALLIC CONDUIT	11-21-14R
1534	CABLE: SINGLE CONDUCTOR, COPPER 600 VOLT	08-05-13R
1546	ORNAMENTAL BRACKET ARMS FOR MID-MOUNT RESIDENTIAL AND ARTERIAL	03-07-14R
1602	ROADWAY LED LUMINAIRE ORNAMENTAL ACORN FOR RESIDENTIAL STREETS	4/9/21
1607	RESIDENTIAL STREET LIGHTING CONTROLLER	10/10/17
1608	ROADWAY LIGHTING CONTROL SMART NODES	4/2/21
1609	OUTDOOR LED LUMINAIRE SPECIFICATIONS: RESIDENTIAL STREETS, ALLEYS, & ARTERIAL STREETS (Cobra	10/20/17

ELECTRICAL SPECIFICATION 1351
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED AUGUST 27, 2013

WIRE: SINGLE CONDUCTOR NO. 12 COPPER WITH CROSS LINKED POLYETHYLENE INSULATION

SUBJECT

1. This specification states the requirements for insulated wire intended for use as a conductor to connect street light luminaires to aerial distribution wires or underground distribution cables in a street lighting circuit. This wire is also known as pole wire.

GENERAL

2. (a) Specifications. The cable shall conform in detail to the requirements herein stated and to the latest referenced specifications of the following organizations:

American Society for Testing and Materials (ASTM)
Insulated Cable Engineers Association (ICEA)
National Electric Code (NEC)
National Electrical Manufacturers Association (NEMA)
Underwriters Laboratories (UL)

(b) Acceptance. Cable not conforming to this specification will not be accepted.

(c) Sample. If requested by the Commission Representative, a three (3) foot sample of the cable intended to be provided under this specification, shall be submitted to the Engineer of Electricity within fifteen (15) business days after receipt of the request.

(d) Warranty. The manufacturer shall warrant the cable to be first class material throughout. The manufacturer will be responsible for any cable failing during normal and proper use within one (1) year after the date of installation. The manufacturer will provide replacement of any failed cable segment, from the point of normal termination to the next point of normal termination. There will be no cost to the City.

CABLE

3. (a) Construction. The cable shall consist of an uncoated copper conductor concentrically encased in a moisture resistant thermosetting plastic of cross linked polyethylene. The cable shall be listed with UL as Type RHW-2 or Type USE-2, and shall meet the NEC's requirements for these types of cable up to 90º C in wet or dry locations.

(b) Color. Cable will be either black, red, or green.

(c) Marking. The cable must be identified by a permanently inscribed legend in white lettering. The legend must have the following information at a minimum: 1/C #12AWG, 600V, XLPE, 90º, RHW-2 orUSE-2, manufacturer's name, date of manufacture. The legend must be repeated at approximately eighteen inch (18") intervals parallel to the longitudinal axis of the cable.

(d) Overall cable diameter shall be approximately 0.19inches.

CONDUCTOR

4. (a) Material. Conductor shall be Number 12 AWG consisting of seven (7) strands of uncoated copper wires (.0305 inch diameter) per ASTM-B3.

(b) Resistivity. Conductor shall conform to the requirements of ASTM B-33.

INSULATION

5. (a) Type. The insulation shall be a cross linked polyethylene compound meeting the physical and electrical requirements herein specified and the requirements of NEMA WC-70 (ICEA S-95-658).

(b) Thickness. The insulation must be circular in cross section and have an average thickness of 45 mils. The thickness must not vary by more than plus or minus five percent (+/-5%).

TESTS

6. (a) General. The tests required to determine compliance with this specification must be certified by the manufacturer or an independent testing facility. Before shipment, copies of the test reports must be forwarded to the Division of Engineering for approval. The City reserves the right to reject any cable failing to meet the requirements of the tests. Tests must be made in accordance with methods in ASTM D-470.

(b) Physical Properties

Initial Values:

Tensile strength, minimum psi	2000
Elongation at rupture, minimum %	250

After Aging:

After 168 hours in an air oven at 121º +/-1ºC:

Tensile strength, minimum % of initial value	80
Elongation at rupture, minimum % of initial value	80

(c) Modulus Test. After initial conditioning period of four (4) minutes at a temperature of 150º C and at 100% elongation, the modulus must not be less than 110 pounds per square inch.

(d) Accelerated Water Absorption Characteristics.

1. Electrical Method. After twenty-four (24) hours immersion in tap water at 75º +/- 1º C, the specific inductive capacity of the insulation must not be more than 7. After a continued fourteen (14) day immersion, the specific inductive capacity must not be more than three percent (3%) higher than the value determined at the end of the first day, nor more than two percent (2%) higher than the value determined at the end of the seventh day.

2. Gravimetric Method. The insulation must not absorb more than five (5) milligrams of water per square inch of exposed surface area after immersion in distilled water at 70º C for a period of seven (7) days.

(e) Electrical Characteristics. Each completed length of insulated conductor must withstand a test voltage of 3000 volts AC for a period of five (5) minutes after immersion in water for not less than six (6) hours and while still immersed. After withstanding this dielectric test, the cable must have an insulation resistance constant of not less than 25,000.

(f) Cold Bend Test. The cable must pass the cold bend, long-time voltage test on short specimens as outlined in ASTM D-470.

PACKING

7. (a) Sealing. Both ends of each length of cable must be thoroughly sealed to prevent the entrance of moisture and other foreign matter.

(b) The cable must be delivered in coils containing five hundred (500) feet each. Each coil must be packed in individual dispenser cartons. Each carton must be labeled, identifying the cable type and size, manufacturer, and date of manufacture.

ELECTRICAL SPECIFICATION 1452
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 19, 2014

POLE: ANCHOR BASE, ALUMINUM, TAPERED TUBULAR SHAFT

SUBJECT

1. This specification states the requirements for tapered, tubular, aluminum anchor base poles. They will support street light luminaires mounted on either truss type arms or davit style arms. The poles will be served by underground cables.

GENERAL

2. (a) Specifications. The poles shall conform in detail to the requirements herein stated, and to the requirements of the following organizations as cited herein:

Aluminum Association (AA)
American Association of State Highway and Transportation Officials (AASTHO)
American National Standards Institute (ANSI)
American Society for Testing and Materials (ASTM)
American Welding Society (AWS)
Society for Protective Coatings (SSPC)

(b) Acceptance. Poles not conforming to this specification will not be accepted. The Commission will be the sole judge in determining if the poles meet this specification.

(c) Bidders Drawings. Bidders must submit with their bids detailed scale drawings of the mast showing actual dimensions, details, and welds. Shop drawings must be original engineering drawings created by the manufacturer. The drawings must show every dimension necessary to show how all parts will fit each other and be properly held in assembly. These drawings must also be submitted in electronic format, in the latest version of either MicroStation or AutoCAD, if so requested by the City.

(d) Standard Drawings. The drawings mentioned herein are drawings of the Department of Transportation being an integral part of this specification cooperating to state necessary requirements.

(e) Sample. If requested by the Commission Representative, one completely assembled anchor-base pole of the manufacture intended to be furnished, must be submitted for review by the Commission within fifteen (15) business days after receipt of notice.

(f) Warranty. The manufacturer shall warrant the performance and construction of the light poles to meet the requirements of this specification and shall warrant all parts, components, and appurtenances against defects due to design, workmanship, or material developing within a period of five years after the light poles have been delivered. This will be interpreted particularly to mean structural or mechanical failure of any element or weld, or any faults in the anodized surfaces. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commission will be the sole judge in determining which replacements are to be made. The Commission's decision will be final.

STANDARDS

3. (a) Assembly. Each anchor base pole shall consist of an aluminum mast with handhole entry, aluminum hinged entry door, grounding nut, mast base plate, top cap for non-davit masts, bolt covers, and all necessary hardware required for complete assembly of these parts, ready for assembly, without special tools.

(b) Interchangeability. Members of each pole type must be mutually interchangeable for assembly, so that no reworking will be required to make any member fit properly in the place of any other similar member of any other similar pole.

(c) Design. Each pole type must conform in design and dimensions to the pertinent drawing(s) listed in Table A.

MASTS

4. (a) Mast Size. The outside diameters of the mast of each pole type shall be as listed in Table A. The mast taper will be approximately 0.14 inches per foot.

(b) Material. The shaft must be fabricated from one length of 6063-T4 wrought aluminum alloy meeting the requirements of ASTM B221. After all welding operations are completed, the mast must be brought to a T6 temper having minimum physical characteristics of ASTM B221. The wall thickness of the shaft and the diameter of the shaft shall be as listed in Table A and as shown on the appropriate standard drawing. Material certification shall be provided from the tube manufacturer.

(c) Fabrication. The mast must be fabricated with no longitudinal or lateral welds in the tube. The completed masts must have smooth external surfaces free from protuberances, dents, cracks or other imperfections marring their appearance. Each mast must be straight and centered on its longitudinal axis.

(d) Base. The mast base must be a permanent mold aluminum casting conforming to the requirements for aluminum alloy 356-T6 of ASTM B-108 or ASTM B-26. The base shall be similar in shape and dimensions to that shown on the appropriate standard drawing for the specific mast. The base shall consist of a collar, flange, and any other members necessary to provide strength and reduce the concentration of anticipated stresses. The shaft must extend into the base as shown on the appropriate standard drawing and be circumferentially welded to the base casting at the top outer surface and the lower inner surface of the base. Bases must be attached to the mast so that the bearing surface of the base is at right angles to the longitudinal axis of the mast.

Non-metallic removable bolt covers which completely cover the anchor bolts and nuts must be provided. The covers must be attached with stainless steel screws or another type of non-seizing fastener, as approved by the Commission. The covers must enclose the anchor bolts and be secured in an approved manner.

All anchor rod openings for each pole type must have a width as listed in Table A. Each opening must be sized to have a circumferential slot length equal to 15º of the circumference.

(e) Cable Entry for Conventional Poles. An opening of approximately one and one quarter inches (1-1/4") in diameter, rimmed with a rubber or nylon grommet, must be furnished and installed at the point on the shaft where the clamp on the upper member of the mast arm bracket meets the pole. Certain masts may require two cable entries, depending on the order. There will be no extra compensation for the extra cable entry. This cable entry requirement does not apply to pole masts designed for davit style arms. This requirement does apply to conventional poles (Drawings 890 and 938).

(f) Option: Side Mount for Luminaire. If requested, the pole mast will be prepared for the mounting of a sidewalk-side luminaire. An opening of approximately one and one-quarter inches (1-1/4”) in diameter, rimmed with a rubber or nylon grommet, must be furnished and installed at the proper height, as indicated on the appropriate standard drawing, or as directed in the order. In addition, two (2) holes must be drilled to accept two (2) rivnuts for mounting a City back plate for a mid-mount luminaire. All three (3) holes must be properly spaced and aligned to accept the City standard back plate for the appropriate mid-mount luminaire. The rivnuts (3/8-16) must be inserted in the pole. The holes must be properly aligned with the handhole as

indicated on the standard drawings.

(g) Top of Shaft for Davit Arm. The top one foot of the mast shall be formed as shown on the appropriate standard drawing. An adapter ring may be provided if required. Two sets of holes 9/16 inches in diameter must be drilled through the mast to accommodate two bolts to attach a davit arm. The lower set (two holes) must be in line with the mast arm. The other set must be 90° apart from the other. These requirements apply to pole masts designed for davit style arms.

(h) Provision for Ground. A tapped hole must be provided on an extension or offset, centered on the handhole door frame's interior vertical surface, to accept a 1/2"-13 bolt for a ground connection.

(i) Entry. A vertical doorframe for reinforcing a door opening which provides access to the interior of the mast must be welded on the inside of the pole and be centered approximately 18 inches above the bottom of the base. The doorframe must be formed and welded of aluminum alloy 6063-T6 with a cross-section to adequately reinforce the opening of the mast. The doorframe must be as indicated on the appropriate standard drawing. The actual door opening must be sized to perfectly match the door size. For all arterial poles and for all conventional poles, the vertical centerline of the entry must be at a right angle clockwise to the vertical centerline of the mast arm. For the residential davit poles, the vertical centerline of the entry must be in-line with the vertical centerline of the mast arm. An internal flange must be welded to the inside of the pole at the bottom of the door opening. This flange will be drilled to accept a bolt. The bolt will be used to attach a hinged door to the pole. An aluminum tab must be welded to the inside upper portion of the door opening. A hole must be drilled into the tab that will accept a 1/4 inch screw. The hole must be centered horizontally in the door opening and must be centered 3/8 of an inch down from the uppermost portion of the door opening. A steel spring clip must be mounted to the tab. The clip must be made to accept a 1/4"-20 machine screw.

(j) Door. The removable door must be formed of the same aluminum as the pole. The door must fit the pole opening within a tolerance of 1/8 of an inch. The door must be flush with the pole surface in the closed position and appear as part of the original mast. The door must be attached to an internal hinge which will allow the door to open out and down. The hinge must be bolted to a flange on the inside of the pole at the bottom of the door opening, so that the door and hinge may be un-bolted and replaced if need be. The door opening must be sized according to the appropriate standard drawing. A hole must be drilled in the top of the door in alignment with the hole on the mast. A 1/4"-20 Allen head button machine screw must be provided to fasten the door to the doorframe. The screw must have a stainless steel core with a nylon threaded body. Other types of non-seizing fasteners may be considered.

All doors of the same size must be interchangeable. The door and attachment method will be subject to approval by the Commission or his duly authorized representative.

(k) Tag. To each pole must be attached immediately below the handhole, by mechanical means and not by adhesive, a stainless steel tag with a stamped or embossed legend which must include the pole outside diameter at the base, the overall length, and the wall thickness.

(l) Structural Requirements. The mast shall be manufactured in accordance with AASTHO's 1994 version of the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals". The shaft and base assembly must be designed to meet AASTHO's 1994 criteria for 80 MPH wind loading with a 30% gust factor. The poles shall be designed appropriately for Chicago street lighting applications, including mast arm and luminaires. Thirty - foot davit poles and thirty- foot conventional poles for arterial streets must also allow for banner and flower basket attachments. The pole manufacturer must provide load calculations that verify that the poles are designed properly.

TOP CAP FOR NON-DAVIT POLES

5. The top cap shall be aluminum alloy. It must have smooth surfaces, neat edges and corners and be free from fins, holes, or other casting flaws. Three stainless steel set screws not less than 3/8 inches long must be equally spaced in tapped holes around the skirt to securely hold the top in place.

VIBRATION DAMPER

6. Each pole shaft will have an internal vibration damper, if requested, located at a position as shown on the appropriate standard drawing. The vibration damper must be welded or bolted to the inside of the pole shaft. If the standard drawing does not show a vibration damper none should be provided. The design of the vibration damper is subject to approval by the Commission or his representative.

HARDWARE

7. All the hardware necessary to complete the assembly of the pole must be furnished. All hardware will be as specified elsewhere in these specifications. Hardware not specified elsewhere must be stainless steel, or equal corrosion-resistant non-seizing metal, or a non-metallic material subject to approval by the Commission.

WELDING

8. (a) General. Every welded joint shall be made in conformity with the proper interpretation of the standard welding symbols of the American Welding Society as indicated on the drawings. Each bidder must submit with his proposal a drawing showing the sizes and types of welds, must state the type of electrode, and must describe the welding methods, he proposes to use in fabricating the pole.

(b) Testing. All welds of five percent (5%) of the poles in every lot must be inspected for penetration and soundness of the welds by radiography, or by a penetrant method. Acceptance or rejection will be governed by the same conditions as in the TESTING Section.

(c) Certifications. Welders must have proper certification for the welding operations required. Welding by non-certified personnel will not be allowed. Certifications must be available upon request.

FINISH

9. (a) General. All completed masts shall have a brushed satin natural finish or an anodized finish, as required by the project or in the purchase order.

(b) A satin aluminum finish requires that each mast be rotary sand finished. The satin finish shall be accomplished by using 40-50 grit belts to remove taper marks and scratches. A minimum of one pass with a 120 grit belt over the entire shaft is required to provide a uniform appearance.

(c) An anodized finish will be either matte black or semi-gloss black. A color sample must be submitted for approval before any factory production. The anodizing process must include cleaning, etching, anodizing, and sealing the mast. The etching process must meet the requirements of AA-C22. The anodizing process must meet the requirements of AA-A42. The contractor must submit his anodizing process for approval before any factory production.

MAST TEST

10. (a) General. All completed masts shall be available for testing for maximum deflection and set. The masts must meet the structural requirements of Section 4(l). Unless specifically authorized in writing, all tests must be made by the manufacturer. A record of every test must be made and a certified copy of the test record must be submitted to the Electrical Section of the Division of Engineering before the masts are shipped.

(b) Lot. Tests for deflection of the mast must be made upon five (5%) percent of all the masts in every lot (two (2) min.). The selection of masts for testing must be random from the entire completed lot. If any of the masts in any lot fail to meet the test, an additional three (3%) percent of the masts of the same lot must be tested (two (2) min.). If any of these masts fail to meet the test requirements, the entire lot will be subject to rejection, except that the manufacturer may subject each mast in the lot to the test, and those which fulfill the requirement will be accepted. After testing, each base weld must be inspected by radiography or the penetrant method to determine that the welds have not been affected. After testing, no permanent set should be visible or apparent. The mast should appear straight.

(c) Mast Requirements. With base rigidly anchored, a test load of 500 pounds must be applied at a point approximately eighteen inches (18") from the free end. The load must be applied at right angles to the center line of the mast and in the same vertical plane. With no failure of any component part, the deflection must not be greater than 7.5% of the pole height. After removal of the load, the deflection measurement device must be reset to zero and the test load must be reapplied. The deflection must not change from the deflection noted in the first test by more than ±5%.

PACKAGING

11. (a) General. The poles must be shipped in bundles. Each pole or bundle shall be wrapped so that the poles can be handled and stored without damage to the surfaces.

(b) Bundles. The poles in each bundle must be laid base to top to form an approximately rectangular cylinder. Materials such as lumber (2" x 4" min.), non-marring banding, and other appropriate bundling materials must be used to make a rigid, long lasting, bundle capable of being handled, shipped and stored without shifting of contents or breaking. Any bundles, in which either poles or packaging is received broken, damaged or with contents shifted, will not be accepted and it will be the responsibility of the supplier to return the bundle to its original destination at no cost to the City of Chicago. The bundles should be capable of being stacked two (2) high without breaking, or shifting of the contents. Each bundle must be capable of being lifted by a fork lift truck or crane and the bundles must be shipped on a flat bed truck to facilitate unloading.

(c) Hardware. The bolt covers and their attachment devices must be shipped with each bundle. The package must be labeled and placed in a prominent position to facilitate accessibility, and must be attached to, or within, the bundle in such a manner as to assure safe delivery. Payment will be withheld for any bundle delivered without the accompanying hardware. Pole caps must be attached at the manufacturer's facilities, or be packed separately in a

manner similar to the bolt covers, and the same payment conditions will prevail. Cracked, broken or chipped parts will be considered as an incomplete delivery as regards payment.

TABLE A

POLE	THICK	BOLT CIRCLE	ANCHOR ROD	BASE PLAT	MAX. D	DRAWI

	N E S S			E	E F L	N G
7"x4.5"x12'-5"	.156"	10"	1.0"	0.75"	11"	940
7"x4.5"x20'-0"	.156"	10"	1.0"	0.75"	18"	890
8”x4.5”x27’	.312	11.5”	1.0”	0.75”	26”	975
10"x6"x24'-5"	.312"	15"	1.25"	1.25"	22"	941
10"x6"x27'-10.5"	.312"	15"	1.25"	1.25"	25"	938
10”x6”x29’-4.625”	.312”	15”	1.25”	1.25”	27”	971
10”x6”x34’-4.625”	.312”	15”	1.25”	1.25”	31”	972

ELECTRICAL SPECIFICATION 1453
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 14, 2013

MAST ARMS: ALUMINUM, TRUSS TYPE AND DAVIT TYPE

SUBJECT

1. This specification covers the requirements for aluminum mast arms for supporting street light luminaires. The aluminum arms will be supported by aluminum light poles.

GENERAL

2. (a) Specifications. The mast arms shall conform in detail to the requirements herein stated and to the requirements of the following organizations as cited herein:

Aluminum Association (AA)
American Association of State Transportation and Highway Officials (AASTHO)
American National Standards Institute (ANSI)
American Society for Testing and Materials (ASTM)
American Welding Society (AWS)
Society for Protective Coatings (SSPC)

(b) Acceptance. Mast arms not conforming to this specification will not be accepted. The Commission will be the sole judge in determining if the arms meet this specification.

(c) Bidders Drawings. Bidders must submit with their bids detailed scale drawings of the mast arm and bracket attachment proposed to be welded to the mast arm as the means for attaching these mast arms to poles. For davit arms, drawings must show how the davit is attached to the top of the light pole and is secured. The drawings must give every dimension necessary to show how the parts will fit each other and be properly held in assembly. These drawings must also be submitted in electronic format, in the latest version of either Microstation or Autcad, if so requested by the City.

(d) Drawings. The drawings mentioned herein are drawings of the Department

of Transportation being an integral part of this specification cooperating to state the necessary requirements.

(e) Sample. If requested by the Commission Representative, one complete mast arm of the manufacture intended to be furnished, must be submitted within fifteen (15) business days upon receipt of such request.

(f) Warranty. The manufacturer shall warrant the performance and construction of the mast arms to meet the requirements of this specification and shall warrant all parts, components, and appurtenances against defects due to design, workmanship, or materials, developing within a period of five years after the mast arms have been delivered. This will be interpreted particularly to mean structural or mechanical failure of any element or weld, or any faults in the anodized surfaces. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commission will be the sole judge in determining which replacements are to be made. The Commission's decision will be final.

(g) Structural Requirements. The arms shall be manufactured in accordance with AASTHO's 1994 version of the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. The arms must be designed to meet AASTHO's 1994 criteria for 80 MPH wind loading with a 30% gust factor. The arms shall be designed for Chicago street lighting applications. The arm manufacturer must provide structural calculations that verify that the arms are designed properly.

TRUSS ARM DESIGN

3. (a) Each mast arm must be a truss type fabricated of two (2) inch "standard" aluminum pipe or tube 6063-T4 alloy conforming to the requirements of ASTM B429, or ASTM B221, or other approved design. The arm must be heat treated to a T-6 temper after fabrication and welding.

(b) Mast Arm Attachment. The mast must be attached to the pole by means of an extruded aluminum clamp with a bolting arrangement to hold the arm firmly in place. The extrusion must be aluminum alloy 6061-T6 conforming to the requirements of ASTM B221, B308, or an approved equal. The clamps shall be designed to securely fasten the mast arm to the pole so that the arm cannot be dislodged vertically or horizontally from its intended position on the pole by wind gusts, vibrations or other normally anticipated natural phenomena.

(c) Dimensions. The truss type arm must have the dimensions indicated on Standard Drawing 943 or Standard Drawing 944 for the appropriate arm specified. Truss arms will be available in nominal horizontal lengths of 4 foot, 6 foot, 8 foot, 12 foot, and 15 foot, with either 4.5 inch or 6 inch clamps.

The distance between the lower and upper members, measured between the vertical centers of the upper and lower attachment plates, must be 1'-9". With the arm attached to the pole intended to be supplied, the vertical rise from the center of the top attachment plate to the horizontal centerline of the end of the arm must be no greater than 2'-8". The horizontal axis of the free end of the upper member, when attached to the pole, must not exceed 3^{o} above the true horizontal without the luminaire weight, nor be less than $1/2^{o}$ above the true horizontal with a 35 lb. weight supported at the free end of the arm.

(d) Mating of Members. The upper and lower members shall be mated in such a manner as to assure that they will not separate due to vibration, weather conditions such as high wind gusts, icing, etc., or any other normally anticipated stress condition.

(e) Interchangeability. Members of each truss arm size must be mutually interchangeable for assembly, so that no reworking will be required to make any member fit properly in the place of any other similar member of any other similar arm.

DAVIT ARM DESIGN

4. (a) Each arm must be fabricated from either 4.5 inch diameter or 6.0 inch diameter aluminum tubing of 6063-T4 alloy. After all fabrication and welding, the arm must be heat treated to a T6 temper.

(b) The arm must be attached to the mast by slipping the bottom of the arm tube over the top of the mast. The arm must have four (4) holes pre-drilled at its base to accommodate two (2) through bolts set 90° apart, as shown on the Standard Drawings. The bottom bolt will be in direct line with the length of the arm. The holes must match the holes in the mast so that after assembly the arm and mast appear as a single continuous unit. When bolted to the pole, the arm must not shift or become dislodged by wind gusts, vibrations, or other phenomena.

(c) The davit arm must be dimensioned as indicated on Standard Drawing 945, 946, 948, 949, or 950, for the appropriate arm specified. Davit arms must be available in nominal horizontal lengths of 8 foot and 12 foot for the 4.5 inch pole tops. Davit arms must be available in nominal lengths of 8 foot, 12 foot, and 15 foot for 6 inch pole tops. Davit arms will be single or twin as specified. A 2 3/8 inch diameter tenon will be attached to the end of each arm. The horizontal axis of the tenon, when the arm is attached to the pole, must not exceed 3° above the true horizontal without the luminaire weight, nor be less than 1/2° above the true horizontal with a 35 lb. weight supported by the tenon.

(d) Interchangeability. All davit arms for a 4.5 inch pole top must be

interchangeable with each other. The same is required of davit arms for a 6 inch pole top.

WELDING

5. (a) General. Every welded joint shall be made in conformity with the proper interpretation of the standard welding symbols of the American Welding Society as indicated on the drawings. Each bidder must submit with his proposal a drawing showing the sizes and types of welds, must state the type of electrode, and must describe the welding methods, he proposes to use in fabricating the arms.

(b) Testing. All welds of five percent (5%) of the arms in every lot must be inspected for penetration and soundness of the welds by radiography or by penetrant inspection. Acceptance or rejection will be governed by the same conditions as in the TESTING Section.

(c) Certifications. Welders must have proper certification for the welding operations required. Welding by non-certified personnel will not be allowed. Certifications must be made available upon request.

FINISH

6. (a) General. All completed arms shall have a brushed satin natural finish or an anodized finish, as required by the project or in the purchase order.

(b) A satin aluminum finish requires that each arm be rotary sand finished. The satin finish shall be accomplished by using 40-50 grit belts to remove taper marks and scratches. A minimum of one pass with a 120 grit belt over the entire arm is required to provide a uniform appearance.

(c) An anodized finish will be either matte black or semi-gloss black. A color sample must be submitted for approval before any factory production. The anodizing process must include cleaning, etching, anodizing, and sealing the aluminum arm. The etching process must meet the requirements of AA-C22. The anodizing process must meet the requirements of AA-A42. The contractor must submit his anodizing process for approval before any factory production.

HARDWARE

7. All hardware furnished for attachment of mast arm to pole must be series 300 stainless steel. All hardware necessary to complete the assembly of the arm to the pole must be provided.

MAST ARM TESTS

8. (a) General. Five percent (5%) of the mast arms of each size in every order shall be tested for structural integrity.

(b) Tests. The mast arms, when securely attached to a suitable and proper supporting structure, must withstand a horizontal (sideward) pulling force as indicated in Table A, and a vertical (downward) load as indicated in Table A. These loads may be applied independently. Each load must be applied at the end of the arm without any apparent permanent set, or damage to the welds joining the arm and mast arm attachment. The appropriate loading for each arm is indicated in Table A. On twin arms each arm extension must be tested.

(c) Rejection. If the mast arms fail to meet the test, an additional three percent (3%) of the mast arms in the same lot must be tested. If any of these mast arms fail to meet the test requirements, the entire lot will be subject to rejection, except that the manufacturer may subject each mast arm in the lot to the test, and those which fulfill the requirements will be accepted.

(d) All mast arms must meet the structural requirements of Section 2(g). All tests shall be certified by the manufacturer. Test results should be submitted to the Electrical Section of the Division of Engineering, upon request.

PACKAGING

9. (a) General. The mast arms must be shipped in bundles. Each arm or bundle shall be wrapped so that the arms can be handled and stored without damage to the surfaces.

(b) Bundles. The bundles shall consist of fifty (50) to seventy five (75) arms laid to form an approximately rectangular bundle. Materials such as lumber (2"x4"), stainless steel banding, and other appropriate bundling materials must be used to make a rigid, long lasting, bundle capable of being handled, shipped and stored without shifting of contents or breaking, subject to approval. Any bundles, in which either the arms or packaging, is received broken, damaged, or with contents shifted, will not be accepted, and it will be the responsibility of the supplier to return the bundle to its original destination at no cost to the City of Chicago. The bundles should be capable of being stacked two (2) high without breaking, or shifting of the contents. Each bundle must be capable of being lifted by a fork lift truck or crane and the bundles must be shipped on a flat bed truck to facilitate unloading.

(c) Hardware. The clamp backs and mounting hardware must be attached to the clamp fronts on the end of the arm, and must be shipped with each mast arm bundle. Mounting hardware for the davit arms must be packed and shipped

with each davit arm bundle. Payment will be withheld for any bundle delivered without the accompanying hardware. Cracked, broken or chipped parts will be considered as an incomplete delivery as regards payment.

TABLE A

ALUMINUM ARM	HORIZONTAL LOAD	VERTICAL LOAD	DRAWING #
Truss 4.5"x 4'	100#	250#	943
Truss 4.5"x 6'	100#	250#	943
Truss 4.5"x 8'	100#	250#	943
Truss 4.5"x 12'	100#	250#	943
Truss 4.5"x 15'	100#	250#	943
Davit 4.5"x 8'	100#	250#	945
Davit 4.5"x 12'	100#	200#	946
Davit 6.0"x 8'	100#	250#	948
Davit 6.0"x 12'	100#	250#	949
Davit 6.0"x 15'	100#	250#	950

ELECTRICAL SPECIFICATION 1457
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED AUGUST 3, 2006

CABLE: SERVICE ENTRANCE, THREE INSULATED CONDUCTORS IN ONE OVERALL JACKET, 600 VOLT

SUBJECT

1. This specification states the requirements for a three conductor (two power conductors and one neutral conductor) Ethylene Propylene Rubber (EPR) insulated, chlorosulfonated polyethylene (CSPE) or polyvinyl chloride (PVC) jacketed cable for installation on Commonwealth Edison service poles for the purpose of providing secondary power feeds from Commonwealth Edison to a City disconnect mounted on the pole for street lighting or traffic signal circuits.

GENERAL

2. (a) Specifications. The cable shall conform in detail to the requirements herein stated, and to the applicable portions of the specifications and methods of test of the following agencies:

(1) ICEA Specification S-95-658
(2) IEEE Standard 383
(3) ASTM Standard E-662-79
(4) ASTM Standard D-470-81
(5) UL 44
(6) UL 854

(b) Acceptance. Cable not conforming to this specification will not be accepted.

(c) Sample. A three (3) foot sample of the cable intended to be provided under this contract must be submitted to the Engineer of Electricity within fifteen (15) business days after receipt of such a request from the Commission Representative.

(d) Warranty. The manufacturer shall warranty the cable to be first class material throughout. If the cable is installed within one year of the date of shipment, the manufacturer must replace any cable failing during normal and proper use within two years of installation. The cable length to be replaced will be the

entire unspliced length where the fault has been located. The Commission will be the sole judge in determining if a cable has failed and should be replaced. All replacements under this warranty must be made free of charge F.O.B. delivery point of the original contract

CABLE

3. (a) Construction. The cable must consist of three (3) conductors separately insulated and color coded. Suitable fillers must be used to produce essentially a round cross section in the completed cable. The insulated conductors must be cabled with a suitable left hand lay in conformance with the latest revision of ICEA S-95-658. A binder tape must be used over the cabled conductor assembly and a jacket applied overall.

(b) Sealing. The ends of each length of cable shall be sealed against the entrance of moisture.

(c) Marking. The color of the neutral conductor must be white; that of the phase conductors must be black and red, respectively. The jacket must be black.

(d) Each conductor shall consist of a round copper wire with a tight fitting, free stripping, concentric layer of Ethylene Propylene insulation. The cable must be rated for continuous duty at 90^{o}C operating temperature, wet or dry, 130^{o}C emergency overload temperature and 250^{o}C short circuit temperature.

CONDUCTOR

4. (a) Material. The conductor shall either be soft or annealed round copper wire, tin coated.

(b) Specifications. The conductor must meet the requirements of ASTM B3, and B8 for stranded Class B copper.

(c) Size. The conductor size shall be as stated in the proposal or on the plans.

INSULATION

5. (a) Type. The insulation must be Ethylene Propylene compound meeting the physical and electrical requirements specified herein.

(b) Thickness. The insulation must be circular in cross-section, concentric to the conductor, and must have an average thickness not less than 30 mils (.030”) for #14 AWG, 55 mils (.055") for #4 AWG, 65 mils (.065”) for #2 AWG, 80 mils (.080") for #1/0 AWG, 80 mils (.080”) for #2/0 AWG, and a spot thickness not less than ninety percent (90%) of the average thickness.

(c) Initial Physical Requirements:

(1) Tensile Strength, min., psi. 1200

(2) Elongation at Rupture, min. % 250

(d) Air Oven Exposure Test. After conditioning in an air oven at 121 + 1°C for 168 hours using methods of test described in ASTM-D 573:

(1) Tensile strength, min% of unaged value 75

(2) Elongation, min % of unaged value at rupture 75

(e) Mechanical Water Absorption:

(1) Gravimetric Method: After 168 hours in water at 70 + 1°C:

Water absorption, maximum
(Mg. per sq. in) 5.0

(f) Cold Bend Test Requirements. The completed cable must pass the "Cold-Bend, Long-Time Voltage Test on Short Specimens" of ASTM D-470 except that the test temperature must be minus (-) 25°C.

(g) Electrical Requirements.

(1) Voltage Test. The completed cable must meet an A.C. and D.C. voltage test in accordance with ASTM- D-470 and D-2655.

(2) Insulation Resistance. The completed cable must have an insulation resistance constant of not less than 20,000 when tested in accordance with methods shown in ASTM D-470.

JACKET

6. (a) Type. The jacket shall be either a chlorosulfonated polyethylene (CSPE) or a polyvinylchloride (PVC) compound meeting the physical and electrical requirements specified herein. CSPE must meet the environmental requirements of CFR Title 40, Part 261 for leachable lead content.

(b) Thickness. The jacket must be circular in cross-section, concentric with the insulation, must have an average thickness not less than 45 mils (.045”) for #14 AWG, 80 mils (.080") for #2 and #4 AWG, and not less than 95 mils (.095”) for #1/0 and #2/0 AWG, and a spot thickness not less than ninety percent (90%) of the average thickness.

(c) Initial Physical Requirements:

(1) Tensile strength minimum PSI..... 1800
(2) Elongation at rupture, minimum percent 300

(d) Air Oven Exposure Test. After conditioning in an air oven at 121 ± 1°C for 168 hours:

(1) Tensile strength, minimum percent of unaged value 75
(2) Elongation at rupture, minimum percent of unaged value 60

(e) Mechanical Water Absorbtion. After 168 hours at 70 ± 1°C:

(1) Milligrams per square inch, maximum 20

TESTING

7. (a) General. Tests shall be performed on insulation, jacket and completed cables in accordance with the applicable standards as listed in these specifications. Included in these tests will be a 70,000 BTU per hour flame test in accordance with IEEE 383. Where standards are at variance with each other or with other portions of this specification, the most stringent requirements, as determined by an engineer from the Division of Engineering, will apply. All tests shall be conducted on cable produced for this order.

(b) Number of Tests. Insulation and jacket tests shall be conducted on samples taken every 5,000 feet or fraction thereof of each conductor size. In no case must less than two (2) samples be taken. Approximately five percent (5%) of the cable must be tested. Where the cable fails to conform to any of the tests specified herein, samples must be taken from each reel and must successfully conform to all tests specified herein. Reels from which samples fail to conform, will be rejected.

(c) Test Reports. No cable may be shipped until certified copies of all factory tests have been reviewed and approved by the engineer.

PACKAGING

8. (a) Cable Marking. The cable must be identified by a permanently inscribed legend in white lettering as follows:

3/C - No. (conductor size) AWG-600V-90ºC-EPR/CSPE or EPR/PVC-manufacturer's name- month/year of manufacture

The legend must be repeated at approximately eighteen (18) inch intervals on the outside surface of the cable parallel to the longitudinal axis of the conductor.

(b) Reels. The completed cable shall be delivered on sound substantial, non-returnable reels. Both ends of each length of cable must be properly sealed against the entrance of moisture and other foreign matter by the use of clamp-on cable caps. The ends must be securely fastened so as not to become loose in transit. Before shipment, all reels must be wrapped with cardboard or other approved wrapping.

(c) Footage. Each reel must contain 1,000 foot of cable for either #4 AWG or #2 AWG and 500 feet of cable for #1/0 AWG or #2/0 AWG. A tolerance limit of plus or minus ten percent (+10%) shall be adhered to.

(d) Reel Marking. A metal tag must be securely attached to each reel indicating the reel number, contract number, date of shipment, gross and tare weights, description of the cable and the total footage. Directions for unrolling the cable must be placed on the reel with an approved permanent marking material such as oil-based paint or a securely attached metal tag.

TABLE 1 - THREE CONDUCTOR SERVICE ENTRANCE CABLE

Size (AWG)	Overall Diameter (mils)	No. Of Strands	Test Volts (KV)	Footage per Reel	Insulation (mils)	Jacket (mils)
4	950	7	4.5	1000	55	80
2	1100	7	4.5	1000	65	80
1/0	1400	19	5.5	500	80	95
2/0	1800	19	5.5	500	80	95

ELECTRICAL SPECIFICATION 1458
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 4, 2014

ELECTRICAL MANHOLE FRAMES AND COVERS 24 INCH AND 30 INCH DIAMETER

SCOPE

1. This specification describes the requirements for both 24 inch and 30 inch round frames and covers. These frames and covers will be used for electrical manholes and handholes and will provide access to the interior of the manholes and handholes. The 24 inch frames and covers will be used in parkway and sidewalk areas. The 30 inch frames and covers will be used in streets and in driveways and will provide sufficient strength to withstand normal traffic conditions.

GENERAL REQUIREMENTS

2. (a) Conformance. The manhole frames and covers shall conform with every detail of the requirements herein stated and to the specifications and methods of test of the American Society for Testing and Materials cited by ASTM Designation Number in which the most recently published revision will govern.

(b) Acceptance. Frames and covers not conforming to this specification will not be accepted. The Commission will have the final say as to whether or not the frames and covers meet specifications.

(c) Drawings. The drawings mentioned herein are drawings of the Department of Transportation, Division of Engineering, and must be interpreted as part of these specifications.

(d) Sample. Upon request, one complete manhole frame and cover of the manufacture intended to be furnished must be submitted within fifteen (15) business days after receipt of such a request from the Commission Representative. The samples must be delivered to the Division of Electrical Operations, 2451 South Ashland Avenue, Chicago, Illinois.

(e) Warranty. The manufacturer shall warrant that the frames and covers meet the specifications and warrant the frames and covers for a period of one (1)

year from the date of delivery against defects which may occur during that period from normal and customary use. Any frame or cover which fails during this period must be replaced by the manufacturer at no cost to the City.

DESIGN

3. (a) The frames and covers shall each conform in detail to the designs shown on Drawings 872, 874 and 10927.

(b) Each frame and cover shall weigh approximately as shown on the drawings.

(c) Machining. The bearing surfaces of both the cover and the frame shall be machine finished as indicated on the drawings.

(d) Workmanship. The frames and covers must be mutually interchangeable size for size, so that each lid will fit every frame neatly without jamming and with only such clearance as the drawings indicate. In addition, 24" & 30" covers must fit existing 24" & 30" frames, as shown on drawings 872, 874 and 10927. The castings shall be neat, true to pattern and free from cracks and casting flaws. No welding of defective castings will be permitted nor must the castings be painted.

(e) Material. The frames and covers must be made of Class 30 Cast Iron described in the specifications for Gray Iron Castings of ASTM A48. No plugging of defective castings will be permitted.

TESTS

4. (a) Test bars of the metal used for the castings shall be made and tested for tensile and transverse strength in accordance with ASTM A48. The metal must be tested at the works of the manufacturer. The manufacturer must furnish a certified copy of all test data sheets to the City prior to delivery of the castings. Frames and covers shall each be considered a separate casting for determining the requirement of testing.

ELECTRICAL SPECIFICATION 1462
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED NOVEMBER 21, 2014

RIGID STEEL CONDUIT
(HOT DIPPED GALVANIZED)

SCOPE

1. This specification describes rigid steel conduit, zinc coated. This specification also describes rigid steel conduit that is both zinc and PVC coated. The conduit will be used underground or on structure as a raceway for electrical cables.

GENERAL REQUIREMENTS

2. (a) Rigid steel conduit must be zinc coated by the hot-dip process. Conduit must be furnished in 10 foot lengths, threaded on each end and with one coupling attached to one end and a protective cap at the other end.

(b) The conduit shall be manufactured according to Underwriters Laboratories Standard U.L. - 6 and must meet ANSI Standard C 80.1 and the requirements of NEC Article 344. In addition, conduit must be recognized as an equipment grounding conductor as per NEC Article 250. There will be no exceptions to meeting these standards.

(c) Acceptance. Conduit not conforming to this specification will be rejected. The Commission will be the final judge in determining if the conduit meets the specification.

(d) Sample. If requested by the Commission Representative, a sample of conduit must be submitted to the Engineer of Electricity within fifteen (15) business days of receipt of such a request.

(e) Warranty. The manufacturer shall warrant the construction and performance of the conduit to meet the requirements of this specification and shall warrant all parts and components against defects due to design, workmanship, or material developing within a period of one (1) year after the conduit has been delivered.

STEEL

3. Conduit shall be formed from steel suitable for use as an electrical raceway. It shall be structurally sound so that it will hang straight and true when supported by hangers in accordance with Chicago electrical code requirements and shall be capable of being field bent without deformation of the walls.

Conduit shall have a circular cross section sufficiently accurate to permit the cutting of threads in accordance with Table 2 and shall provide a uniform wall thickness throughout. All surfaces shall be smooth and free of injurious defects. The dimensions and weights of rigid steel conduit must be in accordance with Table 1.

THREADING AND CHAMFERING

4. Each length of conduit, and each nipple, elbow and bend must be threaded on both ends, and each end must be chamfered to remove burrs and sharp edges.

The number of threads per inch, and the length of the threaded portion at each end of each length of conduit, nipple and elbow must be as indicated in Table 2. The perfect thread must be tapered for its entire length, and the taper must be 3/4 inch per foot.

ZINC COATING

5. After all cutting, threading, and chamfering all conduit surfaces shall be thoroughly cleaned before application of zinc. The cleaning process shall leave the interior and exterior surfaces of the conduit in such a condition that the zinc will be firmly adherent and smooth.

The conduit must be hot dipped galvanized both inside and out to provide approximately two (2) ounces of zinc per square foot. This is equivalent to 3.4 mils of zinc coating. An additional interior coating to aid in the installation of wires is required.

COUPLINGS

6. (a) The outside surface of couplings shall be protected by means of a zinc coating. The zinc content of the coating on the outside surface must be equivalent to a minimum thickness of 3.4 mils.

(b) Couplings shall be so made that all threads will be covered when the coupling is pulled tight on standard conduit threads.

(c) Both ends of the coupling must be chamfered to prevent damage to the

starting threads.

(d) The outside diameter, length and weight of coupling must be as indicated in Table 3.

(e) Couplings must be straight tapped, except that the 2 1/2 inch and larger sizes may be taper-tapped.

PVC COATED (WHEN SPECIFIED)

7. (a) Only hot dipped galvanized conduit, couplings, and fittings may be polyvinylchloride (PVC) coated.

(b) All conduit, couplings, and fittings must be cleaned before being coated.

(c) All conduit, couplings, and fittings must have a PVC coating applied to the exterior by dipping in liquid plastisol. The coating thickness must be a nominal 40 mils.

(d) All coated conduit, couplings, and fittings must conform to the requirements of NEMA Standard RN1- Section 3, “External Coatings”. The latest revision will apply.

PACKING AND IDENTIFICATION

8. The pipe shall be delivered in bundles. Each length of conduit must be marked with the manufacturer's name or trademark. Securely attached to each bundle at two (2) locations on the bundle must be a weather resistant tag containing the following information:

a. conduit size
b. footage of bundle
c. gross weight of bundle
d. manufacturer’s name

Precaution will be taken by the contractor in handling during shipment or delivery of conduit, and any conduit found to be damaged will not be accepted.

TEST AND INSPECTION

9. Galvanized rigid conduit must be capable of being bent cold into a quarter of a circle around a mandrel, the radius of which is four times the nominal size of the conduit, without developing cracks at any portion and without opening the weld.

The protective coatings used on the outside and inside surfaces of rigid steel conduit must be sufficiently elastic to prevent their cracking or flaking off when a finished sample of 2 inch conduit is tested within one year after the time of manufacture, by bending it into a half of a circle around a mandrel, the radius of which is 3 1/2 inches.

Tests on sizes other than 1/2 inch may be conducted within one year after the time of manufacture. If such tests are conducted, the conduit must be bent into a quarter of a circle around a mandrel, the radius of which is six times the nominal size of the conduit.

One of the following three test methods shall be employed for measuring the thickness or extent of the external zinc coating on conduit:

(a) Magnetic test.
(b) Dropping test.
(c) Preece test (Material which will withstand four 1-minute immersions will be considered as meeting requirements as follows; the zinc content of the coating on the outside surface must be equivalent to a minimum thickness of 3.4 mils).

All tests and inspections must be made at the place of manufacture prior to shipment unless otherwise specified, and shall be so conducted as not to interfere with normal manufacturing processes.

Each length of conduit shall be examined visually both on the outside and inside to determine if the product is free from slivers, burrs, scale or other similar injurious defects (or a combination thereof), and if coverage of the coating is complete.

If any samples of rigid steel conduit tested as prescribed in this specification should fail, two additional samples must be tested, both of which must comply with the requirements of the specification.

All pipe which may develop any defect under tests, or which may before testing or on delivery be found defective, or not in accordance with these specifications, must be removed by the Contractor at his own expense; and such pipe so removed by the Contractor must be replaced by him within ten (10) days of such rejection with other pipe which will conform to these specifications.

TABLE 1

Design Dimension and Weights of Rigid Steel Conduit

Nominal or Trade Size of Conduit	Inside Diameter	Outside Diameter	Wall Thickness	Length Without Coupling	Minimum Weight of Ten Unit Length w/couplings
(Inches)	(Inches)	(Inches)	(Inches)	(Feet/Inches)	(Pounds)
1/2	0.622	0.840	0.109	9-11 1/4	79.00
3/4	0.824	1.050	0.113	9-11 1/4	105.0
1	1.049	1.315	0.133	9-11	153.0
1 1/4	1.380	1.660	0.140	9-11	201.0
1 1/2	1.610	1.900	0.145	9-11	249.0
2	2.067	2.375	0.154	9-11	334.0
2 1/2	2.469	2.875	0.203	9-10 1/2	527.0
3	3.068	3.500	0.216	9-10 1/2	690.0
3 1/2	3.548	4.000	0.226	9-10 1/4	831.0
4	4.026	4.500	0.237	9-10 1/4	982.0

NOTE: The applicable tolerances are:

Length: + 1/4 inch (without coupling)

Outside diameter: + 1/64 inch or -1/32 inch for the 1 1/2 inch and smaller sizes, ± 1 % for the 2 inch and larger sizes.

Wall thickness: - 12 1/2 %

TABLE 2

Dimensions of Threads

Nominal or Trade Size of Conduit (Inches)	Threads per Inch	Pitch Diameter at end of Thread (Inches) Tapered 3/4 Inch per foot	Length of Thread (Inches) Effective L2	Overall L4
1/2	14	0.7584	0.53	0.78
3/4	14	0.9677	0.55	0.79
1	11 1/2	1.2136	0.68	0.98
1 1/4	11 1/2	1.5571	0.71	1.01
1 1/2	11 1/2	1.7961	0.72	1.03
2	11 1/2	2.2690	0.76	1.06
2 1/2	8	2.7195	1.14	1.57
3	8	3.3406	1.20	1.63
3 1/2	8	3.8375	1.25	1.68
4	8	4.3344	1.30	1.73

NOTE: The applicable tolerances are:

Threaded Length (L4 Col 5): Plus or minus one thread

Pitch Diameter (Col 3): Plus or minus one turn is the maximum variation permitted from the gaging face of the working thread gages. This is equivalent to plus or minus one and one half turns from basic dimensions, since a variation of plus or minus one half turn from basic dimensions is permitted in working gages.

TABLE 3

Designed Dimensions and Weights of Couplings

Nominal or Trade Size of Conduit (INCHES)	Outside Diameter (INCHES)	Minimum Length (INCHES)	Minimum Weight (POUNDS)
1/2	1.010	1-9/16	0.115
3/4	1.250	1-5/8	0.170
1	1.525	2	0.300
1 1/4	1.869	2-1/16	0.370
1 1/2	2.155	2-1/16	0.515
2	2.650	2 1/8	0.671
2 1/2	3.250	3-1/8	1.675
3	3.870	3-1/4	2.085
3 1/2	4.500	3-3/8	2.400
4	4.875	3-1/2	2.839

ELECTRICAL SPECIFICATION 1465
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED JULY 12, 2006

GROUND RODS

SUBJECT

1. This specification states requirements for ground rods and clamps to be used for ground electrodes in street lighting, traffic signal, and miscellaneous electrical circuits.

GENERAL

2. (a) Ground rods must be copper clad, steel rods suitable for driving into the ground without deformation of the rod or scoring, separation or other deterioration of the copper cladding.

(b) Sample. If requested by the Commission Representative, the contractor must furnish one sample of the ground rod proposed to be furnished within fifteen (15) business days from receipt of such request. The sample ground rod must be delivered to the Division of Electrical Operations, 2451 S. Ashland Avenue, Chicago, Illinois 60608.

(c) Warranty. The manufacturer shall warrant every ground rod against defects due to design, workmanship, or material developing within a period of one (1) year after the ground rod has been accepted. Any ground rod which fails during this period must be replaced by the contractor without expense to the City. The Commission or the Commission Representative will be the sole judge in determining which replacements are to be made.

(d) The Commission will be the sole judge in determining whether the submitted ground rods meet the requirements of this specification. Ground rods not accepted must be removed at the sole expense of the contractor.

DESIGN

3. (a) The ground rods and couplings must meet the latest requirements of (National Electrical Manufacturer's Association) NEMA Standard GR-1, for copper bonded ground rod electrodes and couplings. The ground rods must also meet the requirements of (Underwriter's Laboratories) UL 467.

   (b) Ground rods shall be made of steel core suitable for driving into the earth without deformation.

   (c) A uniform covering of electrolytic copper, 10 mils in thickness, shall be metallically bonded to the steel core to provide a corrosion resistant, inseparable bond between the steel core and the copper overlay.

   (d) The finished rod must be of uniform cross-section; straight, and free of nicks, cuts or protuberances.

   (e) The rod must be pointed at one end and chamfered at the other.

   (f) All ground rods must be three-quarter inches (3/4") in diameter. The length shall be as specified in the order or in the plans. The length and diameter of the rod and the manufacturer must be clearly and permanently marked near the top of the rod (chamfered end).

   (g) All ground rods must have a ground clamp capable of accommodating a No. 6 AWG Copper Wire.

PACKING

4. (a) Ground rods must be packed in bundles with reinforced tape or plastic banding that will not damage the rods. Small bundles may then be bound in larger bundles held together with steel banding.

   (b) Ground clamps must be packed in a suitable carton. The carton must be labeled to indicate the contents.

SPECIFICATION 1467
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED JUNE 28, 2012

ROD: ANCHOR, STEEL, WITH HARDWARE

SUBJECT

1. This specification states the requirements for steel anchor rods with hardware for street light pole foundations.

GENERAL

2. (a) Specifications. The anchor rods shall conform in detail to the requirements herein stated, and to the specifications of the American Society for Testing and Materials cited by ASTM Designation Number, of which the most recently published revision will govern.

(b) Drawing. The drawings mentioned herein are issued by the Department of Transportation, Division of Engineering, and are an integral part of this specification.

ANCHOR ROD

3. (a) Fabrication. Each anchor rod must be fabricated in conformity with City of Chicago drawings numbered 806, 811, 830 and 844.

(b) Material. The rods must be fabricated from cold rolled carbon steel bar meeting the requirements of ASTM Specification A-36, except that the Specification must be modified to provide a minimum yield point of 55,000 psi (379 MPa).

(c) Thread. The straight end of each rod must be threaded as shown on City of Chicago drawing for that size rod, and must be American Standard, National Coarse.

HARDWARE

4. Hardware furnished with the anchor rod shall be as shown on the applicable drawing. It must include two (2) hexagonal nuts, American Standard Regular, two (2) flat washers, type B, series W, and one (1) lock washer, steel, helical spring. The nuts must have a Class 2 or 3 fit.

FINISH

5. Galvanizing. The threaded end of each rod must be hot dipped galvanized for the distance shown on the applicable drawing. The thickness of the galvanized coating must not be less than 0.0021 inches. Each hexagonal nut and washer must be galvanized to the minimum thickness required by ASTM A-153, Class C, or ASTM B-454, Class 50. After galvanization, each anchor rod and nut must have a mating fit equivalent to the American Standard Class 2 or 3 fit for nuts and bolts.

TESTS

6. At the discretion of the Commission, anchor rods and hardware furnished under this specification will be subject to testing to determine compliance with the materials physical requirements.

INSPECTION

7. Final inspection must be made at point of delivery. Any anchor rods and hardware rejected must be removed by the Contractor at his sole expense.

ELECTRICAL SPECIFICATION 1526
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED JUNE 12, 2014

HELIX FOUNDATIONS

SUBJECT

1. This specification covers the requirements for steel helix foundations. These foundations may be used to support street light poles for both residential and arterial streets. They may also be used to support aluminum traffic signal posts. They may not be used for any combination poles that support both street lighting and traffic signals, or any traffic signal poles that support monotube arms.

GENERAL

2. (a) Specifications. The foundations must conform in detail to the requirements herein stated and to the specifications and methods of test of the American Society for Testing and Materials cited by ASTM Designation Number of which the most recently published revision will govern.

(b) Acceptance. Foundations not conforming to this specification will not be accepted.

(c) Drawings. The drawings mentioned herein are drawings of the Department of Transportation. They are integral parts of this specification cooperating to state necessary requirements.

(d) Bidders Drawings. The apparent low bidder must submit detailed scale drawings of the foundations showing actual dimensions, details, and welds, if so requested. Shop drawings must be original engineering drawings created by the manufacturer. The drawings must give every dimension necessary to show how the foundation will function and how the pole or post will be mounted. These drawings must be submitted in electronic format, preferably MicroStation 95, if requested by the City.

(e) Sample. One complete foundation of each size and of the manufacture intended to be furnished must be submitted within fifteen (15) business days upon request of the Commission Representative.

(f) Warranty. The manufacturer must warrant the performance and construction

of the foundations to meet the requirements of this specification and must warrant all parts, components, and appurtenances against defects due to design, workmanship, or material developing within a period of three years after the foundations have been delivered. This will be interpreted particularly to mean structural or mechanical failure of any element or weld, or failure of any portion of the galvanizing system. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commission will be the sole judge in determining which replacements are to be made and the Commission's decision will be final.

DESIGN

3. (a) Material. Steel must meet or exceed the requirements of ASTM A36. The shaft may be ASTM A53 Grade B, ASTM A252 Grade 2 or ASTM A36.

(b) Dimensions. Each foundation must be dimensioned as shown on Standard Drawing 936. There are three types of foundations; a five foot foundation with a 13 inch bolt circle for three anchor bolts, a five foot foundation with a ten inch bolt circle for four anchor bolts, and a seven foot foundation with a ten to fifteen inch bolt circle for four anchor bolts.

(c) Construction. Each foundation must have a shaft .250 inches thick with an outside diameter of 8-5/8 inches. The base plate must be 1 inch thick. The shaft must extend 1 inch into the base plate and be circumferentially welded top and bottom. The base plate must be even and flat on top with no sharp edges. The top of the base plate must be clearly and permanently marked to indicate the cableway orientation. The helix screw plate must be fabricated from a 3/8 inch thick 14 inch diameter circle of steel formed to a 3 inch pitch. The pilot point must extend 9 inches below the screw plate. The leading end of the pilot must be rounded, diamond shape, or chisel shaped. The pilot point must be welded concentric with the axis of the foundation. The cableways must be 3 inches wide by 18 inches long and be located as indicated on Standard Drawing 936. There must be no sharp edges on the cableway openings.

After fabrication, the complete foundation must be hot dipped galvanized in accordance with the provisions of ASTM A123, Grade B. This requires a zinc coating equal to 2 ounces per square foot. Touch up of small areas using a cold zinc rich coating or a cold galvanized coating is not permitted.

WELDING

4. (a) Standards. Every weld must be made in conformity with the American Welding Society. Each bidder must submit with his proposal a drawing showing the sizes and types of welds, must state the type of electrode, and

must describe the welding methods he proposes to employ in fabricating the foundations.

(b) Testing. The welds must be inspected for penetration and soundness by the magnetic particle inspection method or by radiography. If the magnetic inspection process is used, the dry method with direct current must be employed.

TESTING

5. (a) The foundations must be capable of withstanding 10,000 foot-pounds of torque applied about the main axis.

(b) The manufacturer must certify the type of steel used to form the foundations.

(c) The manufacturer must certify that the welds have been properly tested.

PACKAGING

6. (a) General. The foundations must be packaged so as not to incur any damage during shipping and unloading. Materials such as lumber (2"x4" min.), non-marring banding, and other appropriate bundling materials must be used to make a rigid, long lasting, bundle capable of being handled, shipped and stored without shifting or breaking of the contents. Each bundle must be capable of being lifted by a forklift truck and the bundles must be shipped in a flat bed truck to facilitate unloading.

(b) All foundations will be delivered to the Division of Electrical Operations storage yard at 1539 South Ashland Avenue in Chicago, or to another location within the City as indicated on the order.

ELECTRICAL SPECIFICATION 1528
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED JUNE 6, 2014

PRECAST CONCRETE STRUCTURES

SUBJECT

1. This specification covers the requirements for precast concrete structures to be used for City of Chicago electrical facilities. The structures will include manholes, handholes, and street light pole foundations.

GENERAL

2. (a) Specifications. The precast structures must conform in detail to the requirements herein stated and to the specifications and methods of test of the American Society for Testing and Materials cited by ASTM Designation Number of which the most recently published revision will govern.

(b) Acceptance. Precast structures not conforming to this specification will not be accepted. The Commission or the Commission Representative will be the sole judge in determining if the precast structures meet this specification. The Commission's decision will be final.

(c) Drawings. The drawings mentioned herein are drawings of the Department of Transportation. They are integral parts of this specification cooperating to state necessary requirements.

(d) Bidders Drawings. The apparent low bidder must submit detailed scale drawings of the precast structures showing actual dimensions and details, if so requested. Shop drawings must be original engineering drawings created by the manufacturer. The drawings must give every dimension necessary and show how the structure is assembled.

(e) Sample. One complete precast structure of each item must be submitted within fifteen (15) business days upon request of the Commission Representative.

(f) Warranty. The manufacturer must warrant the performance and construction of the precast structures to meet the requirements of this specification and must warrant all parts, components, and appurtenances against defects due to

design, workmanship, or material developing within a period of one (1) year after the precast structures have been delivered. This will be interpreted particularly to mean structural failure of any element. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commission will be the sole judge in determining which replacements are to be made. The Commission=s decision will be final.

DESIGN

3. (a) Material. Concrete must be Portland cement concrete, Class SI or PC, meeting current IDOT specifications. Pulling irons in manholes must meet or exceed the requirements of ASTM A36 steel. Pulling irons must be hot dipped galvanized. Steel reinforcing bars must meet or exceed the requirements of ASTM A615, Grade 60. Cable supports in manholes, including stanchions and racks, must be manufactured for that specific purpose. Stanchions must be non-metallic and must be capable of accommodating several different sizes of cable hooks at various elevations. A minimum of eight cable hooks, 4 inches in length, must be provided with each manhole, and should include any hardware necessary to affix the hooks to the racks. Cable hooks for handholes must be manufactured for that specific purpose. Cable hooks for handholes must be a minimum of 3 inches in length and 3 inches in depth. Anchor rods in foundations must meet the latest Electrical Material Specification 1467. Conduit elbows in foundations must meet the latest Electrical Material Specification 1462.

(b) Foundations must include conduit elbows, anchor rods, washers, and nuts. The 7 foot foundation must include a 6 foot re-bar cage. Handholes must include cable hooks. Manholes must include cable racks, pulling irons, and cable hooks. Each manhole and each handhole must have lifting anchors cast in the concrete to facilitate shipment and installation. If the manhole or handhole is in more than one piece, instructions for assembly must be provided. Also, a sufficient amount of bonding agent must be provided. The bonding agent must be approved material. Frames and covers, sump grates, clay tile, and ground rods are not included under this specification.

(c) Dimensions of Manholes and Handholes. Each manhole or handhole must be dimensioned as shown on the appropriate standard drawing. The 30 inch diameter handhole is Standard Drawing 867. The 36 inch diameter handhole for 24 inch frame and cover is Standard Drawing 866. The 36 inch diameter for 30 inch for frame and cover is Standard Drawing 871. The 3 foot by 4 foot by 4 foot manhole for a 24 inch diameter frame and cover is Standard Drawing 730. The 3 foot by 4 foot by 4 foot manhole for 30 inch frame and cover is Standard Drawing 729. The 4 foot by 6 foot by 6 foot manhole for 24 inch frame and cover is Standard Drawing 732. The four foot by 6 foot by 6 foot manhole for 30 inch frame and cover is Standard Drawing 733. The 5

foot 4 inch by 7 foot 4 inch manhole roof is Standard Drawing 733.

(c) Dimensions of Grade Rings. Grade rings shall be in four different dimensions. The 39 inch outside diameter ring shall have a 24 inch diameter opening and shall come in both 2 inch and 4 inch thicknesses. The 45 inch outside diameter ring shall have a 30 inch diameter opening and shall also come in both 2 inch and 4 inch thicknesses.

(d) Dimensions of foundations. The residential street light foundation shall be dimensioned as shown on standard drawing 565. The 7 foot arterial street light foundation shall be as shown on standard drawing 818.

DELIVERY

4. All manholes, handholes, and foundations will be delivered to the Division of Electrical Operations storage yard at 1539 South Ashland Avenue in Chicago, or to another location within the City as indicated on the order. Any manhole, handhole, or foundation deemed to be defective by the Commission or his representative must be removed and replaced at no cost to the City. The Commission=s decision will be final.

ELECTRICAL SPECIFICATION 1533
DIVISION OF ENGINEERING DEPARTMENT
OF TRANSPORTATION CITY OF CHICAGO
REVISED NOVEMBER 21, 2014

NON-METALLIC CONDUIT

SCOPE

1. This specification states the requirements for both rigid and coilable non-metallic conduit. The conduit will be used for low voltage (600 volt rated cables) electrical street lighting and traffic control systems. It may also be used for fiber-optic communications cables. This conduit will be installed underground. Rigid non-metallic conduit may be installed on structure.

GENERAL

2. (a) Standards. The following standards are referenced herein.

ASTM – American Society for Testing and Materials
NEC – National Electrical Code
NEMA – National Electrical Manufacturer's Association
UL – Underwriter's Laboratories

(b) Warranty. The manufacturer must warrant the conduit against defective workmanship and material for a period of one year from date of installation or date of delivery. Any conduit that is found to be defective must be replaced without cost to the City.

(c) Sample. If requested by the Commission Representative, a sample of the conduit intended to be furnished under this specification, must be submitted to the Engineer of Electricity within fifteen (15) business days upon receipt of such request.

MATERIAL

3. (a) Rigid non-metallic conduit will be made of polyvinyl chloride (PVC). All conduit and fittings must comply with ASTM D 1784 and with the applicable sections of NEMA TC2, UL standard 651, and NEC Article 352. Fittings must meet the standards of NEMA TC3 and TC6, as well as UL 514.

(b) Coilable non-metallic conduit will be made of high-density polyethylene (HDPE). All conduit must comply with ASTM D3350, ASTM D 1248, and NEMA TC7.

(c) A tape must be installed in the HDPE conduit at the factory. The tape is for pulling cable through the conduit. The tape must be specifically manufactured for this purpose. The tape must have a tensile strength of at least 1000 pounds.

SIZES

4. (a) PVC and HDPE will come in two wall thicknesses: schedule 40 and schedule 80.

(b) PVC will come in ten-foot sections. HDPE will come on reels.

(c) Nominal inside diameters (in inches) for non-metallic conduits will include the following: $^{1}/_{2}$, $^{3}/_{4}$, 1, 1 $^{1}/_{4}$, 1 $^{1}/_{2}$, 2, 2 $^{1}/_{2}$, 3, 3 $^{1}/_{2}$, 4.

PACKING

5. Rigid conduit must be shipped in bundles. Coilable conduit must come on wooden reels. Both bundles and reels must be tagged to indicate the size and diameter of the conduit, the quantity in feet, the weight, and the manufacturer's name. The conduit itself must be marked to indicate the type and size, as well as the manufacturer.

ELECTRICAL SPECIFICATION 1534
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO REVISED AUGUST 5, 2013

CABLE: SINGLE-CONDUCTOR, COPPER 600 VOLT

SUBJECT

1. This specification states the requirements for single conductor cables intended to be used in 240 VAC street lighting circuits. The cable will also be used as service cable for both street light controllers and traffic signal controllers. The cables will be installed in underground conduit and rated as 600 volt.

GENERAL

2. (a) Specifications. The cable must conform in detail to the requirements herein stated, and to the applicable portions of the latest revisions of the specifications and methods of test of the following agencies:

    (1) ASTM – American Society for Testing and Materials
    (2) ICEA – Insulated Cable Engineers Association
    (3) IEEE – Institute of Electrical and Electronics Engineers
    (4) UL – Underwriters Laboratories

    (b) Acceptance. Cable not in accordance with this specification will not be accepted.

    (c) Sample. If requested by the Commission Representative, a three (3) foot sample of the cable intended to be provided under this specification must be sent to the attention of the Engineer of Electricity within fifteen (15) days of receipt of such request.

    (d) Warranty. The manufacturer must warrant the cable to be first class material throughout. In lieu of other claims against them, if the cables are installed within twelve (12) months of date of shipment, the manufacturer must replace any cable failing during normal and proper use within two years of date of installation. All replacements under this warranty must be made free of charge F.O.B. delivery point of the original contract.

CABLES

3. (a) Construction. The cable must consist of an uncoated multiple strand copper conductor with a tight fitting thermoset, free stripping, concentric layer of ethylene propylene (EPR) insulation.

(b) The number of strands and the outer diameter of the cable shall be as noted in TABLE A.

(c) Cable shall be UL approved for sunlight resistance and for direct burial applications.

(d) Cable must meet IEEE 383 and UL 1581 70,000 BTUs per hour flame test requirements.

COLOR CODE

4. (a) Triplexed cable shall consist of a black cable, a red cable, and a green ground cable. Triplexed cable will have a 16” to 18” lay.

(b) Individual cables will be black, red, or white, depending upon the order.

CONDUCTOR

5. (a) Material. The conductors must be soft round copper strands.

(b) Specifications. The conductor must meet the requirements of ASTM B3 and ASTM B8.

(c) Sizes. The conductor sizes must be in accordance with all requirements in Table A of this specification.

(d) Stranding. The number of strands must be as indicted in Table A. Stranding must meet the requirements of ASTM B8, Class B.

INSULATION

6. (a) Type. The insulation must be ethylene propylene rubber compound (EPR) meeting the requirements of ICEA S-95-658 and UL 44 for RHW-2 cable and UL 854 for USE-2 cable.

(b) Thickness. The insulation must be circular in cross-section, concentric to the conductor, and must have an average thickness not less than that set forth in Table A of this specification, and a spot thickness not less than ninety percent (90%) of the average thickness.

(c) Cable Marking. The cable must be identified by a permanently inscribed legend in white lettering as follows:

1/C No. (conductor size) AWG-600V-90°C-EPR-RHW-2

The legend must be repeated at approximately eighteen (18) inch intervals on the outside surface of the cable parallel to the longitudinal axis of the conductor. A sequential footage marking must be located on the opposite side from the legend.

TESTING

7. (a) Initial Physical Requirements.

1. Tensile strength, minimum, p.s.i. 1200
2. Elongation at rupture, minimum % 250

(b) Oven Exposure Test. After conditioning in an air oven at 121±1°C for 168 hours using methods of test described in ASTM D 573:

1. Tensile strength, minimum % of initial value 75
2. Elongation at rupture, minimum percent of initial value 75

(c) Water Absorption Test. Gravimetric method: After 168 hours in water at 70±1°C water absorption, at a maximum – 5 milligrams per square inch

(d) Cold Bend Test. The completed cable must pass the test requirements of ASTM D 470, except that the test temperature must be -25°C.

(e) Electrical Tests.

1. Voltage. The completed cable must meet an A.C. and D.C. voltage test in accordance with ASTM D 470 and D 2655.

2. Insulation Resistance. The completed cable must have an insulation resistance constant of not less than 20,000 ohms when tested in accordance with ASTM D 470.

(f) Flame Tests. Cable must pass a 70,000 BTU flame test in accordance with IEEE 383.

(g) All of the above tests must be on cable produced for the order. Tests must be taken on samples taken every 25,000 feet, or fraction thereof, of each conductor size.

(h) Test Reports. No cable shall be shipped until certified copies of all factory tests have been reviewed and approved by the City. Cable that does not pass any one of the above tests will be rejected.

PACKAGING

8. (a) Reels. The completed cable must be delivered on sound substantial, non-returnable reels. Both ends of each length of cable must be properly sealed against the entrance of moisture and other foreign matter by the use of clamp-on cable caps. The ends must be securely fastened so as not to become loose in transit. Before shipment, complete 2 X 4 lagging must be applied to all reels.

(b) Footage. Each reel must contain the length of cable as set forth in Table A of this specification. Alternate lengths may be considered.

(c) Reel Marking. A metal tag must be securely attached to each reel indicating the reel number, contract number, date of shipment, gross and tare weights, the appropriate City commodity code if applicable, and a description of the cable. Also, each reel must have permanent marking on it indicating the total footage, and the beginning and ending sequential footage numbers. Directions for unrolling the cable must be placed on the reel with an approved permanent marking material such as oil-based paint or a securely attached metal tag.

TABLE A

CONDUCTOR AWG	STRANDS	INSULATION THICKNESS MILS	A-C TEST VOLTS	REEL LENGTH FEET	OVERALL DIAMETER INCH
14	7	45	5500	2000	.133
12	7	45	5500	2000	.152
10	7	45	5500	2000	.176
8	7	60	5500	2000	.236
6	7	60	5500	2000	.274
4	7	60	5500	2000	.322
2	7	60	5500	1000	.382
1/0	19	80	7000	1000	.470
2/0	19	80	7000	1000	.514
3/0	19	80	7000	1000	.564
4/0	19	80	7000	1000	.620
250 MCM	37	95	8000	1000	.705

ELECTRICAL SPECIFICATION 1546
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 7, 2014

ORNAMENTAL BRACKET ARMS FOR MID-MOUNT RESIDENTIAL AND ARTERIAL LUMINAIRES

SUBJECT

1. This specification states the requirements for a street lighting bracket arm for a mid-mount residential luminaire, and a street light bracket arm for a mid-mount arterial luminaire. The bracket for the mid-mount residential luminaire will be mounted to a light pole approximately ten feet above grade. The bracket for the mid-mount arterial luminaire will be mounted to a light pole approximately 16 feet above grade.

GENERAL

2. (a) Information Required. Each bidder must submit with his proposal the following information relative to the brackets he proposes to furnish:

    1. Outline drawing (electronic format).
    2. Complete description and weight
    3. Manufacturer's name and catalogue designation of the bracket.

(b) Sample. One complete bracket with hardware, of the manufacture intended to be furnished, must be submitted upon request of the Commission Representative within fifteen (15) business days from the receipt of notice.

(c) Assembly. Each bracket must be delivered completely assembled, wired, and ready for installation. Each bracket must come complete with all necessary mounting hardware. Three one conductor #12 pole wire will be installed in each bracket by the supplier. This cable will be 18 feet in length for the residential bracket and 25 feet in length for the arterial bracket.

(d) Warranty. The manufacturer must warrant the performance and construction of the brackets to meet the requirements of this specification, and must warrant all parts, components and appurtenances against defects due to design, workmanship or material developing within a period of one (1) year after the bracket has been placed in service. Any bracket, or part thereof, not

performing as required, or developing defects within this period must be replaced by the manufacturer without expense to the City.

BRACKET

3. (a) Material. Each arm must be constructed of cast aluminum conforming to ASTM B26/B26M, Grade 319. A steel pipe must be inserted into the arm to provide added strength. The steel must conform to ASTM A595, Grade A. The pole plate must be constructed of high strength galvanized carbon steel. The tenon must be a minimum of 3/16" in thickness.

(b) Appearance. The residential bracket arm must conform in appearance and dimensions to that shown on Electrical Standard Drawing Number 959. The arterial bracket arm must conform in appearance and dimensions to that shown on Electrical Standard Drawing Number 959A.

(c) Construction. Castings must have smooth external surfaces free from protuberances, dents, cracks, or other imperfections marring their appearance. Welding or plugging of casting defects is prohibited. All wire ways must be smooth and free from any sharp edges. The pipe end at the tenon must have a plastic grommet, or otherwise made free of any sharp edges, to protect the wire.

(d) Structure. The contoured back plate for the residential bracket must be fastened to the street light pole with two(2), 3/8-16 X 1-1/4 inch stainless steel bolts with two(2) split lock washers (bolts and washers will be provided with this item). The back-plate for the arterial bracket must allow for the option of band mounting by two 5/8 inch steel bands (banding will not be provided under this specification). The bracket arm must be expected to withstand normal vibrations, wind, and inclement weather and not fail or become loose.

PAINTING

4. (a) Surface Preparation. Exterior surfaces of the bracket arm must be prepared by "Solvent Cleaning" per SSPC-SP1 using a solvent recommended for aluminum surfaces such as "Sherwin Williams MEK #R6K10." Solvent must be used as per written instructions of manufacturer to remove all oil, grease, dirt and contaminants.

(b) Primer Type. Within one hour of surface preparation, surfaces must be primed using a primer specifically recommended for aluminum surfaces such as "Sherwin Williams Industrial Wash Primer #P60GZ."

(c) Primer Application. Primer must be applied in accordance with written instructions of manufacturer to produce a minimum dry thickness film of 3.0

mils. Primer must dry for a minimum of 30 minutes and a maximum of 60 minutes before application of finish coat.

(d) Finish Coat. Finish coat must be a polyurethane enamel specifically recommended for use over a primed aluminum surface. Two (2) coats of finish must be applied. Each coat must be a minimum of 1.5 mils dry thickness.

(e) Color will be gloss black or silver as specified on the order.

(f) Alternate painting methods may be considered.

WIRE

5. Each bracket will have individual insulated conductors of the length and number described previously. Each wire shall be EPR insulated. Cable shall be rated at 600 volts. The cable shall meet the requirements of ICEA S-95658, UL44 (RHW-2), and UL854 (USE-2). The insulation shall be color coded: one conductor red, one conductor black, and one conductor green.

PACKAGING

6. (a) Packing. Each bracket with wire installed must be securely packed in a suitable carton so that it will not be damaged by shipment and/or handling. Back plates and bolts will be packed separately within the same carton.

(b) Marking. Each carton must be clearly marked on the outside in letters not less than three-eights (3/8) inch tall with the legend: "ORNAMENTAL MID-MOUNT RESIDENTIAL BRACKET" or “ORNAMENTAL MID-MOUNT ARTERIAL BRACKET”, the appropriate City Commodity Code Number, the name of the manufacturer, the date of manufacture, and the contract number under which the brackets are being furnished.

ELECTRICAL SPECIFICATION 1602 DIVISION OF ENGINEERING DEPARTMENT OF TRANSPORTATION CITY OF CHICAGO REVISED APRIL 9, 2021

ROADWAY LED LUMINAIRE ORNAMENTAL ACORN FOR RESIDENTIAL STREETS

1. SUBJECT

A. This specification states the requirements for an ornamental Acorn Light Emitting Diode (LED) outdoor lighting luminaires. The specified LED luminaires will be used to replace existing High Pressure Sodium (HPS) and Ceramic Metal Halide (CMH) luminaires on Chicago residential streets. The LED luminaires will be integrated into a centralized lighting management system.

2. GENERAL

A. References

American National Standards Institute (ANSI)

- ANSI C78.377-2015, "American National Standard for Electric Lamps—Specifications for the Chromaticity of Solid State Lighting (SSL) Products"
- ANSI C82.77-10-2014, "American National Standard for Lighting Equipment—Harmonic Emission Limits—Related Power Quality Requirements"
- ANSI C136.2-2015, "American National Standard for Roadway and Area Lighting Equipment—Dielectric Withstand and Electrical Transient Immunity Requirements"
- ANSI C136.10-2010, "American National Standard for Roadway and Area Lighting Equipment—Locking-Type Control Devices and Mating Receptacles—Physical and Electrical Interchangeability and Testing"
- ANSI C136.15-2015, "American National Standard for Roadway and Area Lighting Equipment—Luminaire Field Identification"
- ANSI C136.22-2004 (R2009, R2014), "American National Standard for Roadway and Area Lighting Equipment—Internal Labeling of Luminaires"
- ANSI C136.25-2013, "American National Standard for Roadway and Area Lighting Equipment—Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures"
- ANSI C136.31-2015, "American National Standard for Roadway and Area Lighting Equipment—Luminaire Vibration"
- ANSI C136.37-2011, "American National Standard for Solid State Light Sources

Used in Roadway and Area Lighting"
- ANSI C136.41-2013, "American National Standard for Roadway and Area Lighting Equipment–Dimming Control Between an External Locking Type Control and Ballast or Driver"
- ASTM B85/B85M-14, "Standard Specification for Aluminum-Alloy Die Castings"
- ASTM B117-16, "Standard Practice for Operating Salt Spray (Fog) Apparatus"
- ASTM D523-14, "Standard Test Method for Specular Gloss"
- ASTM D1654-08, "Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments"
- ASTM G154-12a, "Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials"

Illuminating Engineering Society of North America (IES)

- ANSI/IES LM-63-02, "Standard File Format for Electronic Transfer of Photometric Data"
- IES LM-79-08, "Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products"
- ANSI/IES LM-80-15, "IES Approved Method: Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules"
- ANSI/IES RP-8-14, "Roadway Lighting"
- IES TM-21-11 (with Addendum B), "Projecting Long Term Lumen Maintenance of LED Light Sources"

Institute of Electrical and Electronics Engineers (IEEE)

- IEEE Std 1789-2015, "IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers"

International Electrotechnical Commission (IEC)

- IEC 60929:2011 (with Amendment 1), "AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements"

Underwriters Laboratories (UL)

- ANSI/UL 1598 (3rd Edition), "Luminaires"

B. Submittal Requirements:

The bidder shall submit the following information pertaining to the specified luminaire:

a. Completed ATTACHMENT G – Submittal Form

b. Product Data Sheets.

i. Luminaire data sheets – including summary product description, dimensioned outline drawings, and nominal characteristics including but not limited to: initial luminous flux (lumens), input power (watts), input voltage range (volts), LED drive current (milliamps), correlated color temperature (kelvins), color rendering index, effective projected area (square feet) and weight (pounds).

ii. LED Driver data sheet – including information described in LED Driver Requirements Section III-I-3.

iii. LED light source data sheet

iv. Surge protection device data sheet - if applicable

c. Photometric Performance Data

If so requested by the Commission Representative, the bidder shall provide photometric calculations, within fifteen (15) days of such request, that demonstrate the luminaire's photometric performance will meet or exceed the photometric requirements listed in this specification. The submitted lighting calculations must include point-by-point illuminance, luminance and veiling luminance data, as well as listings of all indicated averages and ratios. Photometric reports must include the following information and be in accordance with the standards listed below:

IES LM-79-08 photometric report that includes measured values for initial luminous flux, input power, correlated color temperature, and color rendering index. LM-79, ISTMT, and LM-80 reports must correspond directly to submitted luminaires, and must be produced by test laboratories that satisfy the Testing Laboratory Requirements of the Design Lights Consortium (https://www.designlights.org/content/QPL/ProductSubmit/LabTesting).

ANSI/IES LM-63-02 electronic format photometric file that corresponds to the LM-79 report.

Photometric calculations that demonstrate compliance with the illumination requirements specified herein using the LM-63 file. Calculation grids and observer locations not specified herein must be in accordance with ANSI/IES RP-8-14.

IES TM-21-11 calculation standards must be applied to photometric calculations specified herein:

- deriving the lumen maintenance (lamp lumen depreciation) factor.
- ANSI/IES LM-80-15 in-situ temperature measurement testing and

(ISTMT) reports containing data used in TM-21 calculations must also be submitted. TM-21 calculations must apply to the maximum LED case temperature from ISTMT, and must be submitted in the spreadsheet format of the ENERGY STAR TM-21 calculator (https://www.energystar.gov/products/spec/luminaires_specification_version_2_0_pd).

Safety Certification - file number indicating compliance with UL 1598. Applicable testing bodies are determined by the US Occupational Safety Health Administration (OSHA) as Nationally Recognized Testing Laboratories (NRTL) and include: CSA (Canadian Standards Association), ETL (Edison Testing Laboratory), and UL (Underwriters Laboratory).

Vibration Testing - the luminaire must comply with ANSI C136.31 at Vibration Test Level 2 (3.0 G).

Product Sample. Upon a request from the Commission Representative, a sample of the luminaire that the bidder proposes to submit must be delivered to the City, within fifteen (15) days of such a request. Sample must be representative production unit and be supplied at no cost to the City.

C. Assembly.

Each luminaire must be delivered completely assembled, wired, and ready for installation.

D. Warranty.

The luminaire manufacturer must warrant the performance and construction of luminaires to meet the requirements of this specification, and must warrant all parts, components and appurtenances against defects due to design, workmanship or material developing within a period often (10) years from the date of acceptance by the City.

- The inability of a luminaire to be dimmed will constitute a luminaire failure.
- Failure of 10% or more of the LED light sources (packages or arrays/modules) in a luminaire will constitute a luminaire failure.
- The warranty must apply for application on all of the City's existing electrical systems, both grounded and ungrounded.

E. Manufacturing Experience and Capacity

The manufacturer must demonstrate at least a five year history of manufacturing LED roadway and outside area luminaires. The manufacturer must also demonstrate the capacity to supply the quantities required for the contract in a timely manner.

3. CAPITAL

(a) Material. Each capital shall be die-cast aluminum conforming to ASTM B85, Grade 360. The top of the luminaire globe shall be spun aluminum, .090 inches

thick. The finial shall be cast aluminum conforming to ASTM B26, grade 319.

(b) Appearance. The capital shall conform in appearance to that shown on Electrical Standard Drawing Number 958.

(c) Construction. Castings must have smooth external surfaces free from protuberances, dents, cracks or other imperfections marring their appearance. Welding or plugging of casting defects is prohibited.

(d) Structural Integrity. The capital shall fit over a 3" high by 3" O.D. tenon. The attachment to the bracket must provide the structural integrity to hold the luminaire firmly in place during the vibrations anticipated due to passing heavily loaded vehicles, wind loading, and inclement weather. A minimum of 3/16" thickness of metal must be provided where the set screws are inserted to minimize the possibility of stripping the threads when the set screws are tightened into place. The set screws must be 5/16-18 stainless steel hex head screws. A minimum of three (3) set screws must be provided, evenly spaced at 120° apart.

4. PAINTING

(a) Surface Preparation. Exterior surfaces of the capital shall be prepared by "Solvent Cleaning" per SSPC-SP1 using a solvent recommended for aluminum surfaces such as "Sherwin Williams MEK #R6K10." Solvent must be used as per written instructions of the manufacturer to remove all oil, grease, dirt and contaminants.

(b) Primer Type. Within one hour of surface preparation, surfaces must be primed using a primer specifically recommended for aluminum surfaces such as "Sherwin Williams Industrial Wash Primer #P60GZ."

(c) Primer Application. Primer shall be applied in accordance with written instructions of the manufacturer to produce a minimum dry thickness film of 3.0 mils. Primer must dry for a minimum of 30 minutes and a maximum of 60 minutes before application of finish coat.

(d) Finish Coat. Finish coat shall be a polyurethane enamel specifically recommended for use over a primed aluminum surface. Two (2) coats of finish must be applied. Each coat must be a minimum of 1.5 mils dry thickness.

(e) Durability. The paint must be capable of passing 1000 hours of salt spray as per ASTM B117.

(f) Color will be silver or anodized, as specified on the order. Color samples will be approved by the Commission.

(g) Alternate painting methods will be considered where the contractor can demonstrate to the satisfaction of the Commission that these methods have been in successful use for a five (5) year minimum period.

5. COMPONENT MOUNTING

(a) Modular Construction. All electrical components shall be securely mounted to the capital by means of easily removable stainless steel captive thumb screws or by

easily operated stainless steel latches. The luminaire shall be designed to allow easy access to quick disconnects, terminal blocks and components for installation and maintenance.

(b) Quick Disconnect. Wiring from the terminal block to the components must utilize a three (3) conductor, phenolic, polarized, quick disconnect device.

(c) Interchangeability. The driver must be mutually field interchangeable so that units can be restored to working condition without trouble shooting components.

6. ELECTRICAL COMPONENTS

LED Optical Arrays

The LED arrays must be properly secured at the factory and must not require field adjustment for optimum photometric performance.

Terminal Block

A terminal block of high grade molded plastic of the barrier or safety type must be mounted within the housing in a readily accessible location.

Terminal block wiring; all necessary terminals, pre-wired to all luminaire components, must be provided.

Terminal block terminals must have copper plated or brass plated, clamp-type pressure connectors of an approved type for "line" connections, to accommodate wire sizes from #12 to #8 A.W.G.

Terminal block terminals for internal component connections must be either the screw-clamp or quick disconnect type.

LED Driver:

Voltage. The electronic driver must operate at an input voltage range of between 120 and 277 volts, 60 Hertz. It must automatically sense the input voltage and adjust the output accordingly. The City uses nominal input voltages of 120, 208, and 240 for street lighting. When operated at any supply voltage between 80 percent and 110 percent of its rated supply voltage and at rated input frequency, a driver shall provide current and/or voltage regulation that equals or exceeds the values specified by the manufacturer.

Electrical Safety. Luminaires must operate at or below the Low-Risk Level, as defined in Figure 18 of IEEE 1789-2015. This requirement must be satisfied across the dimming range.

Power Factor (PF). The power factor of the driver over the design range of input voltages specified above must be in accordance to ANSI C82.77-2014. PF must be $\geq$ 0.9.

Total Harmonic Distortion (THD). The driver input current must have specified THD

in accordance to ANSI C82.77-2014. THD must be ≤32%.

Thermal Protection. The driver must be thermally protected to shut off when operating temperatures reach unacceptable levels.

Electromagnetic Interference. Luminaire must comply with the FCC radiation emission limits for Class B digital devices given at 47 CFR 15.109.

Electrical Transient Immunity.

- Dielectric Withstand Testing - luminaire must meet the performance requirements specified in ANSI C136.2-2015 for dielectric withstand, using the DC test level and configuration.

- Electrical Transient Immunity - luminaire must meet the performance requirements specified in ANSI C136.2-2015 for electrical transient immunity, using the Enhanced (10 kV / 5 kA) combination wave test level.

- Transient Immunity Testing Requirements

- During electrical transient immunity testing, the device under test (DUT) must: be connected to the power source through a series coupler/decoupler network (CDN), using a two-wire (hot or hot/neutral) connection between both the power supply and CDN input and the CDN output and DUT.
- If AC mains is used to power the DUT, the input waveform must be characterized and documented both before and after electrical transient immunity testing, with the DUT operating at rated full output.
- For Pre-Test DUT Characterization, the diagnostic measurements shall, at a minimum, include the following: real power, input current (RMS; Root-Means-Square), power factor, and current distortion factor (THD-I Total Harmonic Distortion) when operating at rated full output.

- Manufacturer must indicate on submittal form whether failure of the electrical transient immunity system can possibly result in disconnect of power to luminaire.

Dimming Capability. The driver must be capable of dimming. The dimming range must be 10% to 100% of full output. The digital lighting interface must be 0-10 VDC as per the requirements of ANSI C136.41. There must be a minimum of 100 dimming steps between the top and bottom of the dimming range.

Wiring.

All components must be completely factory wired with non-fading, color coded leads. These leads must be insulated with an approved class of insulation and must be #16

AWG conductor at a minimum.

All wires within a single circuit path must be of the same size.

No wire-nut splicing will be allowed.

No unnecessary splices will be allowed.

Quick disconnects must be provided for all components.

All wires must be properly terminated.

Component Mounting.

All electrical components must be securely mounted in such manner that individual components can be easily maintained or replaced. Permanent straps or tie-wraps will not be permitted. The entire assembly should be easily disconnected and removed for replacement.

7. ACORN GLOBE

(a) Appearance. The Acorn Globe must conform in appearance and design to that shown on Electrical Standard Drawing Number 958.

(b) Top. The spun aluminum top and bottom globe sections will be secured with a .5 inch overlap design using 4 #10-24 stainless steel pan head screws with 4 aluminum nutserts providing a mechanical lock. A sealant must also be applied to make the globe dust-proof.

(c) Material. The globe bottom must consist of a clear DR acrylic lens having a minimum cross-section of 3/32", securely bonded to an aluminum base to provide a solid key for the set screws fastening it to the capital. The lens must provide maximum resistance to ultra-violet degradation along with maximum mechanical durability. The globe must have prismatics to obtain an IES Type II/ III distribution. The globe must be attached to the capital with 4 5/16-18 hex head screws evenly spaced at 90° apart. Lock nuts must be provided.

(d) Optional House Side Reflector. A house-side reflector shall be provided if requested. The reflector shall be mounted to a removable bracket. The reflector shall be mounted on the bracket and attached by a spring clamp, or other suitable means. The reflector shall be constructed of aluminum and polished to a high specular finish. Reflectance of the reflecting surfaces shall not be less than 75%. Measurements shall be made with a reflectometer using the fiber-optic method. The reflector shall be sized so that it fits through the globe neck and the globe can be removed without any interference from the reflector.

(e) Gaskets. Gasketing must be provided for the interface of the globe and capital to effectively provide a dustproof optical assembly. This proposed gasketing material must be shown to have been effective in other applications for a minimum period of five (5) years. Should the optical system also require a filter, it must be a charcoal "breathing" filter of adequate size to provide effective filtering of particle and gaseous contaminants.

(f) Alternate Designs. Other globe designs providing the required photometrics and giving equal performance and structural rigidity will be considered. However, no alternates will be allowed without the express written consent of the Commission.

(g) The completed luminaire must be listed by an independent, nationally recognized testing laboratory to verify that the luminaire does not present an electrical or fire hazard.

8. PHOTOMETRIC REQUIREMENTS

(a) The manufacturer must demonstrate that the luminaire shall meet or exceed the specified photometric requirements. The manufacturer must provide photometric calculations using published luminaire data as part of the submitted package. Submittal information must include computer calculations which demonstrate achievement of all listed performance requirements. Computer calculations must be performed for roadway lighting and for sidewalk/parkway lighting. The submitted roadway lighting calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point illuminance and luminance, as well as listings of all indicated averages and ratios. The submitted sidewalk/parkway calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point horizontal illuminance and vertical illuminance, as well as listings of all indicated averages and ratios.

(b) Unless otherwise indicated, the light distribution will be classified as medium-semicutoff-Type II or Type III (M-S-II or M-S-III), as defined in Appendix E of I.E.S. RP-8-14.

(c) Performance Requirements using this luminaire only (normally this luminaire will be used in conjunction with another luminaire):

1. Roadway Illuminance:

Average Horizontal	0.48fc
Uniformity Ratio Av/Min	5:1

2. Roadway Luminance:

Average Luminance	0.5 cd/m2
Uniformity Ratio Av/Min	5.1:1
Uniformity Ratio Max/Min	26:1

The above requirements should be achieved using a light loss factor(LLF) of 0.7.

(d) Typical Roadway. Lighting should be designed for the specific roadway designated in the project. If there is no specific location, typical roadway values should be used. Typical values are as follows:

1.	Right-of way	66’
2.	Curb-to-curb	34’

3. Mounting height	10’
4. Setback	3’
5. Arm Length	0’
6. Overhang	0’
7. Staggered Pattern	
8. Pole Spacing Same Side	240’
9. Pavement	R3

9. TESTING

(a) Testing. All testing must be done on a prototype of the actual luminaire to be provided under this specification. If recent test results are available, they may be considered as meeting the testing requirements of this specification. The Commission or Commission’s representative will have the final approval of which tests are adequate.

(b) The manufacturer will be responsible for all costs associated with the specified testing, incidental to this contract.

(c) Photometric testing must be in accordance with IES recommendations. The photometric tests must be conducted with a reference lamp and ballast. The tests, at a minimum, must yield:

1. An isofootcandle chart with maximum candela and half maximum candela trace.
2. An isocandela diagram.
3. Maximum plane and maximum cone plots of candela.
4. A candlepower table (house and street side).
5. A coefficient of utilization chart.
6. A luminous flux distribution table.

(d) The luminaire must meet the electrical and photometric requirements of IESNA LM -79.

(e) The luminaire must meet the lumen maintenance requirements of IESNA LM -80.

(f) The luminaire must meet the requirements of IESNA TM-21 for long term maintenance of LED light sources.

(g) The LEDs must meet the requirements for chromaticity per ANSI C78.377.

(h) The following applicable UL standards shall be met:

1. 8750 LED Light Sources in Lighting Products
2. 1598 Luminaires
3. 1012 power units other than Class 2
4. 1310 Class 2 power units
5. 2108 low voltage lighting systems

(i) Additional Types of Testing.

1. Interchangeability of all component parts.

2. Thermal testing in accordance with U.L. Standard 1572 or Standard 1598. The fixture must be placed in a controlled 25° Celsius environment and be energized for a minimum of 8 hours. At no time will any of the components exceed the manufacturer's recommended operating temperatures. At no time will any surface of the refractor exceed the manufacturer's recommended temperature limits.
3. Vibration testing in accordance with ANSI Standard C136.31. Upon completion of the test, all set screws, castings, and components must be secure and undamaged. The luminaire will not be energized during the test, and will not include the LED's and fuses. However, the luminaire must be fully operational after the test.
4. Moisture testing in accordance with U.L. Standard 1572 or Standard 1598. The luminaire will be subjected to a water spray from various directions for a sufficient amount of time to verify that the inside lamp compartment stays dry and that the fixture does not take on water. After the water spray the inside of the refractor must remain dry and the fixture should be demonstrated to operate properly.

10. PACKAGING

(a) Packing. Each luminaire assembly must be securely packed in a suitable carton so that it will not be damaged by shipment and/or handling.

(b) Marking. Each carton containing a luminaire must be clearly marked on the outside in letters not less than three-eighths (3/8) inch tall with the legend: "ORNAMENTAL, RESIDENTIAL MID-MOUNT, ACORN, LED". The appropriate City Commodity Code Number, the name of the manufacturer, the date of manufacture, and the contract number under which the luminaire is furnished shall also be listed.

Article I. ATTACHMENT G - Product Submittal Form

Lighting Context	**e.g. Alleys**			
Product Information Description	***Product Data (Summary)***			***Submittal Reference Document***
Luminaire Designation				
Luminaire Manufacturer				
Luminaire Model Number				
Luminous Flux – initial			lumens	
Luminaire input power—initial			watts	
Luminaire input power—maintained			watts	
Luminaire input voltage- nominal range			volts	
LED drive current - initial			milliamps	
LED drive current - maintained			milliamps	
CCT (correlated color temperature)			kelvin	
CRI (color rendering index)				
EPA (effective projected area) - nominal			sq. ft.	
Luminaire Weight - nominal			lbs.	
Control Interface			ANSI C136.41, 7-pin	
LED Driver – dimming capability	Dimmable, 0-10V		Dimmable, DALI	
LED driver- rated life			years	
Electrical transient immunity ANSI C136.2 combination wave test level	Basic (6kV/3kA)	Enhanced (10kV / 5kA)	Elevated (20kV/10kA)	
Vibration Test-ANSI C136.31			Level 2	
Luminaire warranty period			years	
IES LM-80 test duration			hours	IES LM-80-15 report
LED lumen maintenance at 36,000 hours			%	TM-21 calculator
Max. LED case temperature			degrees Celsius	ISTMT report

ELECTRICAL SPECIFICATION 1607
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
OCTOBER 10, 2017

RESIDENTIAL STREET LIGHTING CONTROLLER

SUBJECT

1. This specification states the requirements for a residential street lighting controller and cabinet for controlling residential street lighting circuits. The controller is intended to be mounted to a Commonwealth Edison wood pole.

GENERAL

2. (a) Organizations. Specifications from the following organizations are referenced in this specification:

ASTM – American Society for Testing and Materials
NEMA – National Electrical Manufacturers Association
UL – Underwriters Laboratories

(b) Specifications. The controller and cabinet must conform in detail to the requirements herein stated, to the specifications ASTM, cited by ASTM designation number, in which the most recently published revision will govern. Cabinets must meet or exceed the requirements of a NEMA 4X enclosure type and must be U.L. listed.

(c) Acceptance. Controllers not conforming to this specification will not be accepted.

(d) Drawings. The drawings mentioned herein are drawings of the Department of Transportation, and must be interpreted as part of these specifications cooperating to state necessary requirements.

(e) Sample. One complete controller of the manufacture intended to be furnished must be submitted upon request of the Commission Representative within fifteen (15) business days after receipt of such a request. The sample must be delivered to the Division of Electrical Operations, 2451 South Ashland Avenue, Chicago, Illinois 60608.

(f) Warranty. The manufacturer must warranty the controller and cabinet against flaws in material or workmanship for a period of two (2) years from the date of delivery. Any controller, cabinet, or components developing flaws within this period must be replaced by the manufacturer, including shipment, at no cost to the City.

DESIGN

3. (a) Drawings. The controller and cabinet must conform in detail to requirements shown on Electrical Standard Drawing 985.

(b) Dimensions. The overall outside dimensions of the control cabinet must be 19.5 inches in height by 17.5 inches in width by 9.6 inches in depth. Cabinets must have sloped tops to shed water.

CABINET REQUIREMENTS

4. (a) Cabinet. The cabinet must be classified as NEMA 4X. The cabinet and the door must be constructed of gray, hot molded, fiberglass reinforced polyester resin compound with a minimum of 20% glass fibers by weight. Fiberglass material must meet UL 746C requirements with halogen-free and self-extinguishing characteristics. The enclosure should be listed under UL standard 508. The cabinet door opening must be double flanged on all four (4) sides. The cabinet will be made of one piece of molded fiberglass.

(b) Door. The door will be fabricated of one-piece of fiberglass. The door size must be as shown on Electrical Standard Drawing 985. The door must be hinged on the left side when facing the cabinet. The door must have a gasket that meets the requirements found in U.L.508 Table 21.1. The gasket must form a weather-tight seal between the cabinet and the door.

(c) Hinge. Hinge must be a continuous stainless steel piano hinge bolted to the cabinet and door with 1/4-20 stainless steel carriage bolts and nylon insert lock nuts. The hinge leaves must not be exposed externally when the door is closed. Only the hinge knuckles must be visible upon closing the door. The hinge pin must be .250 inch diameter stainless steel and must be capped top and bottom by weld to render it tamper-proof.

(d) Latching. Two (2) quick release, padlockable, stainless steel latches must be provided.

(e) Cable Openings. The top of the cabinet must have an opening to accommodate a cord grip for a cable up to 1.375 inches in diameter. The bottom of the cabinet must have an opening to accommodate a 2.0 inch schedule 40 rigid galvanized steel conduit. The cord grip and conduit hub

must be included as part of the cabinet assembly.

(f) Cabinet Mounts. The cabinet must be equipped with two (2) galvanized steel brackets, a minimum of 1/16" in thickness, which will allow mounting to a wood pole. Each bracket will be mounted to the back of the cabinet with two (2) 1/4-20 stainless steel hex head bolts with washers, and nuts. Each bracket will be formed of a single piece of galvanized steel, 16" by 6". The top of the bracket will be straight and have two holes drilled to accept the mounting bolts of the cabinet. The lower part of the bracket must be bent to form two "wings" to fit around the ComEd pole. Each wing will be drilled to accept 1/2-13 X 4" stainless steel lag bolts. All bolts will be included.

PANEL

5. The panel must be composed of phenolic plastic 1/2 inch in thickness. It must be securely bolted to the cabinet using stainless steel hardware. The panel must have holes cut into it, and holes drilled into it, to accept mounting of all the electrical components. The location of the components must be as indicated on Electrical Standard Drawing 985.

ELECTRICAL COMPONENTS

6. (a) Circuit breakers must have thermal magnetic trips. Each breaker must be enclosed in a hard case insulated housing. The frame must be rated for 100 amp service at 240 volts. The minimum interrupting capacity will be 18,000 r.m.s. amperes at 240 volts. All breakers must be UL listed.

(b) Wiring will be as indicated on Electrical Standard Drawing 985. All wire will have stranded copper conductors. All wires must be insulated with an approved 125º Centigrade insulation.

(c) All components will be as indicated on Drawing 985, or approved equals.

THIS SPECIFICATION SHALL NOT BE ALTERED

ELECTRICAL SPECIFICATION 1608
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED APRIL 2, 2021

ROADWAY LIGHTING CONTROL SMART NODES

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1. SUBJECT

This specification states the requirements for smart lighting control nodes. Each external or internal individual node is to be wired to an individual roadway luminaire. A third node will be used for control of a group of luminaires. Each node shall be connected to a wireless mesh network. There are three nodes specified. One node will consist of a standard twist-lock type (external node) which will be mounted to a matching receptacle on the outside of a roadway luminaire. The second type node will be mounted internally to a luminaire (internal node). The third type of node shall control a group of luminaires on a common circuit (circuit node). The nodes shall provide two-way wireless communications between the luminaires and the City's smart lighting system. Functions shall consist of energy monitoring, on/off control, dimming, and outage reporting.

2. GENERAL

2.1 Information Required. Each bidder shall submit with his proposal the following information relative to the nodes he proposes to furnish.

(1) Manufacturer's catalog description, including manufacturer's name and catalog ordering numbers.

(2) Specification sheets.

(3) Any other information as required herein.

2.2 Assembly. Each control node shall be delivered completely assembled, wired, and ready for installation.

2.3 Warranty. The manufacturer shall warrant every node against any defects due to design or workmanship developing within a period of five (5) years after the nodes have been accepted by the City. This will be interpreted particularly to mean failure of any component impairing the proper operation of the unit. Any

node developing defects within this period shall be replaced by the manufacturer at their sole expense and without cost to the City.

2.4 Sample. If so requested, a sample of the nodes of the manufacture intended to be furnished under this contract must be submitted to the Division of Electrical Operations within fifteen (15) days upon receipt of a request from the Commission Representative.

2.5 The manufacturer shall be ISO 9001 certified for quality management in the manufacturing field.

2.6 Nodes shall be FCC compliant for non-electrical interference.

2.7 Compliance. The nodes shall conform in detail to the requirements herein stated, and to the standards herein cited, of which the latest revisions shall govern.

3. HOUSING

3.1 Housings shall be molded of a UV stabilized polycarbonate, pigmented to an approved color. The housing is required to be impact resistant.

3.2 A weather-proof, permanent label shall be attached to each unit indicating the manufacturer's name, month and year of manufacture, model and serial number, voltage and load ratings, and provision for marking installation and removal dates.

3.3 The dimensions of the external twist-lock node shall not exceed 5" high by 3.5" in diameter. The external node shall not weigh more than10 ounces.

3.4 The dimensions of the internal node shall not exceed 2.5" high, 4.25" length, and 3.5" width. The internal node shall not weigh more than 11 ounces.

3.5 The internal smart node and the circuit smart node shall have lead wires of approximately 12 inches.

3.6 The external node shall have a neoprene or other approved gasket attached to the base to effectively seal the connections against weather and dust.

4. ENVIRONMENTAL

4.1 The nodes shall operate within the temperature range of -40º C to +70º C.

4.2 The external node shall have an ingress protection rating of IP66.

4.3 The internal node shall have an ingress protection rating of IP65.

4.4 The circuit node shall have an ingress protection rating of IP65.

5. ELECTRICAL

5.1 The nodes must function properly within the existing City lighting circuits and the power distribution system as provided by ComEd. Existing conditions shall not adversely affect the nodes, nor keep them from performing properly.

5.2 Power consumption shall be less than 2watts (at 120 volts).

5.3 The nodes must be stable and reliable over the range of 105 to 305 volts A.C., at 50/60 cycles.

5.4 Surge Arrestor. Over voltage protection shall be provided for the control components and the load circuit by means of a metal oxide varistor (MOV) or other specifically approved type arrestor. It must limit high voltage surges to a value at least 20% below the basic impulse insulation level (BIL in accordance with EEI-NEMA) of the control. The MOV must be rated for a minimum of 320 joules 6KV/3KA. In both external and internal nodes, the MOV must be mounted internally in the control housing.

5.5 Switching Relay. The ON-OFF switching operations shall be accomplished by normally closed contacts which must be opened by means of a rugged, properly rated, magnetic relay, subject to approval. The switching shall be positive and free of chatter and/or sticking of contacts. The contractor must provide test data verifying that contact chatter does not exceed 5 milliseconds when operated under loads as herein specified. The relay must have contacts of silver alloy, tungsten, or other specifically approved material.

5.6 Capacity. Maximum pass-through current shall be 10 amps. Maximum loading shall be 1500VA (960 watts).

5.7 Circuit nodes shall have an external antenna. The antenna shall be capable of being mounted to a cabinet and be weather hardened and vandal resistant. Lead wires for the antenna shall be included with each circuit node. A single antenna shall be capable of being shared by multiple nodes.

5.8 External twist-lock nodes shall be 7-pin. Internal nodes and circuit nodes shall have 7 lead -in wires. The circuit node shall also have wires for the antenna.

6. OPERATION

6.1 The external nodes shall meet the requirements of ANSI C136.10 for twist-lock controls, as well as UL 773. All nodes shall meet the requirements of ANSI C136.41 for dimming control.

6.2 Internal nodes shall be able to communicate with the network even when installed inside the metal housing of a luminaire.

6.3 If an external node loses communication, then operation will default to the photocell. If the photo-cell malfunctions, the control will default to the on position.

6.4 If an internal node or circuit node loses communication, then the default operation of the node will provide power to the luminaire and the luminaire will remain on or be turned on.

6.5 Ability for Light turn-on or turn-off by programmed schedule.

6.7 0-10VDC driver control, allowing dimming.

6.8 Remote control and reporting (two-way communications).

6.9 Metering.

(1) Energy metering (0.5% accuracy).

(2) Energy metering by hour, day, minute, with record keeping.

(3) Metering Range: 105 to 305 VAC, 10A RMS (ANSI C12.20)

7. PHOTO-CONTROL

7.1 The internal smart nodes and the circuit smart nodes shall not have a built-in photocell.

7.2 The external twist-lock node shall have a built-in photocell.

(1) Photoconductive Cell. The photocell shall consist of a suitable substrate, a chemically inert electrode material and a thin layer of photosensitive cadmium sulfide or other acceptable photosensitive material. It must be hermetically sealed in a glass to metal package to prevent moisture and contamination damage. Plastic cased cells are not acceptable. Filtered silicon sensors in clear epoxy cases are also acceptable. The cell must not

be subject to overloading due to the demand of the design circuit nor the ambient temperatures surrounding the cell.

(2) The external node control must be calibrated at 120V AC for a "turn-on" setting of 1.50 + 0.30 horizontal foot candles of natural illumination with a 2-5 second turn OFF delay. The "turn-off" setting must be adjusted to one and one half (1.5) times the "turn-on" setting. The external node control must have a 1-2 second turn ON delay.

8. NETWORKING

The control nodes must operate on an open standards secure (WiSun) IEEE 802.15.4g wireless mesh based multi-application network with embedded Itron (formerly Silver Springs Network) communications.

The control nodes shall support Frequency-Hopping Spread Spectrum up to 300kbps mesh networking as well as automatic data routing with self-configuration, auto-healing & redundant uplinks.

The nodes shall operate within the City's Itron network.

9. SECURITY

The control nodes must have full application and link-layer security with full PKI (Public Key Infrastructure), Advanced Encryption Standard AES-128 or AES 256, and embedded firewall which includes. integrated multi-layer security with end-to-end encryption and capability to prohibit unauthorized access.

10. PACKAGING

10.1 Carton. Each smart lighting control node shall be individually packed in a carton of adequate strength and properly secured and protected to prevent damage to the unit during shipment, handling and storage. A master carton shall contain multiple units, each in individual cartons.

10.2 Marking. Each carton shall be clearly marked on the outside with the legend "SMART LIGHTING INTERNAL CONTROL NODE", "SMART LIGHTING EXTERNAL CONTROL NODE", or "SMART LIGHTING CIRCUIT NODE" (or similar as appropriate), with the number of units in the carton: volt-ampere load rating, voltage, manufacturer's name and catalogue number, and shipping or manufacturing date.

ELECTRICAL SPECIFICATION No. 1609
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
OCTOBER 20, 2017

OUTDOOR LED LUMINAIRE SPECIFICATIONS:
RESIDENTIAL STREETS, ALLEYS, & ARTERIAL STREETS (Cobra Head)

I. SUBJECT

A. This specification states the requirements for non-ornamental Light Emitting Diode (LED) outdoor lighting luminaires. The LED luminaires will be integrated into a centralized lighting management system.

II. GENERAL

A. References

American National Standards Institute (ANSI)

- ANSI C78.377-2015, "American National Standard for Electric Lamps—Specifications for the Chromaticity of Solid State Lighting (SSL) Products"
- ANSI C82.77-10-2014, "American National Standard for Lighting Equipment—Harmonic Emission Limits—Related Power Quality Requirements"
- ANSI C136.2-2015, "American National Standard for Roadway and Area Lighting Equipment—Dielectric Withstand and Electrical Transient Immunity Requirements"
- ANSI C136.10-2010, "American National Standard for Roadway and Area Lighting Equipment—Locking-Type Control Devices and Mating Receptacles—Physical and Electrical Interchangeability and Testing"
- ANSI C136.15-2015, "American National Standard for Roadway and Area Lighting Equipment—Luminaire Field Identification"
- ANSI C136.22-2004 (R2009, R2014), "American National Standard for Roadway and Area Lighting Equipment—Internal Labeling of Luminaires"
- ANSI C136.25-2013, "American National Standard for Roadway and Area Lighting Equipment—Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures"
- ANSI C136.31-2015, "American National Standard for Roadway and Area Lighting Equipment—Luminaire Vibration"
- ANSI C136.37-2011, "American National Standard for Solid State Light Sources Used in Roadway and Area Lighting"
- ANSI C136.41-2013, "American National Standard for Roadway and

Area Lighting Equipment–Dimming Control Between an External Locking Type Control and Ballast or Driver”
- ASTM B85/B85M-14, “Standard Specification for Aluminum-Alloy Die Castings”
- ASTM B117-16, “Standard Practice for Operating Salt Spray (Fog) Apparatus”
- ASTM D523-14, “Standard Test Method for Specular Gloss”
- ASTM D1654-08, “Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments”
- ASTM G154-12a, “Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials”

Illuminating Engineering Society of North America (IES)

- ANSI/IES LM-63-02, “Standard File Format for Electronic Transfer of Photometric Data”
- IES LM-79-08, “Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products”
- ANSI/IES LM-80-15, “IES Approved Method: Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules”
- ANSI/IES RP-8-14, “Roadway Lighting”
- IES TM-21-11 (with Addendum B), “Projecting Long Term Lumen Maintenance of LED Light Sources”

Institute of Electrical and Electronics Engineers (IEEE)

- IEEE Std 1789-2015, “IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers”

International Electrotechnical Commission (IEC)

- IEC 60929:2011 (with Amendment 1), “AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements”

Underwriters Laboratories (UL)

- ANSI/UL 1598 (3rd Edition), "Luminaires”

B. Submittal Requirements:

The Contractor must submit the following information pertaining to each specified luminaire type within fifteen (15) days of request:

1. Completed ATTACHMENT B – Submittal Form

2. Product Data Sheets.

   a) Luminaire data sheets – including summary product description, dimensioned outline drawings, and nominal characteristics including but not limited to: initial luminous flux (lumens), input power (watts), input voltage range (volts), LED drive current (milliamps), correlated color temperature (kelvins), color rendering index, effective projected area (square feet) and weight (pounds).

   b) LED Driver data sheet – including information described in LED Driver Requirements Section III-I-3.

   c) LED light source data sheet

   d) Surge protection device data sheet - if applicable

3. Photometric Performance Data

   The manufacturer must provide photometric calculations, as part of each luminaire's submittal package, that demonstrate the luminaire's photometric performance will meet or exceed the photometric requirements listed in this specification. The submitted lighting calculations must include point-by-point illuminance, luminance and veiling luminance data, as well as listings of all indicated averages and ratios. Photometric reports must include the following information and be in accordance with the standards listed below:

   a) IES LM-79-08 photometric report that includes measured values for initial luminous flux, input power, correlated color temperature, and color rendering index.

   b) ANSI/IES LM-63-02 electronic format photometric file that corresponds to the LM-79 report.

   c) LM-63 photometric calculations that demonstrate compliance with the illumination requirements specified herein using the LM-63 file. Calculation grids and observer locations not specified herein must be in accordance with ANSI/IES RP-8-14.

   d) IES TM-21-11 calculations that derive the lumen maintenance (lamp lumen depreciation or LLD) factor applied to photometric calculations specified herein.

   - ANSI/IES LM-80-15 and in-situ temperature measurement testing (ISTMT) reports containing data used in TM-21 calculations must also be submitted.

- TM-21 calculations must apply to the maximum LED case temperature from ISTMT, shall not extrapolate beyond six times the duration of available LM-80 test data, and must be submitted in the spreadsheet format of the ENERGY STAR TM-21 calculator (https://www.energystar.gov/products/spec/luminaires_specification_version_2_0_pd).

LM-79, ISTMT, and LM-80 reports must correspond directly to submitted luminaires, and must be produced by test laboratories that satisfy the Testing Laboratory Requirements of the Design Lights Consortium (www.designlights.org/content/QPL/ProductSubmit/LabTesting).

ISTMT must be conducted in accordance with the Design Lights Consortium Manufacturer's Guide (https://www.designlights.org/content/qpl/productsubmit).

ISTMT shall be conducted in an ambient temperature of 25 ± 5 °C. Ambient temperature variations above or below 25 °C shall be respectively subtracted from or added to temperatures recorded at points on the luminaire.

4. Safety Certification - file number indicating compliance with UL 1598. Applicable testing bodies are determined by the US Occupational Safety Health Administration (OSHA) as Nationally Recognized Testing Laboratories (NRTL) and include: CSA (Canadian Standards Association), ETL (Edison Testing Laboratory), and UL (Underwriters Laboratory).

5. Vibration Testing - the luminaire must comply with ANSI C136.31 at Vibration Test Level 2 (3.0 G).

6. Product Samples - at least two samples of each luminaire that the contractor proposes to use must be submitted to the City. All samples must be representative production units and be supplied at no cost to the City.

C. Assembly.

Each luminaire must be delivered completely assembled, wired, and ready for installation.

D. Warranty.

The luminaire manufacturer must warrant the performance and construction of luminaires to meet the requirements of this specification, and must warrant all parts, components and appurtenances against defects due to design, workmanship or material developing within a period often (10) years from the date of acceptance by the City.

- The inability of a luminaire to be dimmed will constitute a luminaire failure.
- Failure of 10% or more of the LED light sources (packages or arrays/modules) in a luminaire will constitute a luminaire failure.

- The warranty must apply for application on all of the City's existing electrical systems, both grounded and ungrounded.
- During the warranty period the City may, from time to time, test a random sampling of 10-20 luminaires for verification of light output per IES LM-79 and to test dimming functionality for a given luminaire population. The percentage of luminaires not performing as required in the random sampling will be applied to the total population quantity to determine the number of new luminaire replacements that must be delivered to the City by the manufacturer, without expense to the City.

E. Manufacturing Experience and Capacity

The manufacturer must demonstrate at least a five year history of manufacturing LED roadway and outside area luminaires by providing a list of prior projects with project description, date, location, quantities and reference contact information. The manufacturer must also demonstrate the capacity to supply the quantities required for the contract in a timely manner.

III. CONSTRUCTION

A. Weight

The net weight of these luminaires must not be more than 30 pounds.

B. Housing.

The preferred luminaire housing material is die-cast aluminum alloy meeting ASTM Specification A380. Alternate materials may be considered. The housing must enclose the mounting hardware, LED arrays, control receptacle, terminal board, and electronic driver. The housing must include a surface to facilitate leveling with a spirit level. The housing must have integral heat sink characteristics, such that all enclosed components will operate within their designed operating temperatures under expected service conditions. No external or removable heat shields or heat sinks; are permitted. The housing must be designed to encourage water shedding. The housing must be designed to minimize dirt and bug accumulation on the optic surface.

C. Mounting Provisions.

The luminaire must include a heavy gauge slip fitter clamping assembly suitable for secure attachment over the end of a two (2) inch 2" IP (2.375" OD) steel pipe with an approved means of clamping it firmly in mounting bracket. The slip fitter mounting clamp must contain an approved shield around the pipe entrance to block the entry of birds.

D. Access Door-Panel.

An access door panel allowing access to the terminal strip and LED driver must be provided. A die-cast aluminum door-panel composed of aluminum alloy A380 is preferred; alternate materials may be considered. The door-panel must be hinged to the luminaire housing and suitably latched and fastened at the closing end. It must be made to be removed easily. The hinge and fastening devices must be captive parts which will not become disengaged from the door panel.

E. Hardware.

All machine screws, locknuts, pins and set screws necessary to make a firm assembly, and for its secure attachment to the mast arm, must be furnished in place. All hardware must be of stainless steel, zinc plated steel, copper silicon alloy or other non-corrosive metal, and where necessary must be suitably plated to prevent electrolytic action by contact with dissimilar metals.

F. Finish.

The luminaire must have a polyester powder coat with a minimum 2.0 mil thickness. Surface texture and paint quality will be subject to approval. Color must be as specified in the order. A paint chip must be submitted as a sample upon request. The finish must exceed a rating of six per ASTM D1654 after 1000 hours of testing per ASTM B117. The coating must exhibit no greater than 30% reduction of gloss per ASTM D523 after 500 hours of QUV testing at ASTM G154 Cycle 6.

G. Ingress Protection.

1. The luminaire electric compartment housing must have an ingress protection rating of IP54 or better as described in ANSI C136.25-2013). The optical system must have a minimum rating of IP 66.

2. The luminaire must be listed for wet locations by a U.S. Occupational Safety Health Administration (OSHA) Nationally Recognized Laboratory (NRTL) and have a safety certification and file number indicating compliance with UL 1598.

H. General Luminaire Requirements

1. The luminaire must be rated to operate between -40° to +50° Celsius.

2. The luminaire must have the option of adding a house side shield. The shield should be designed to be easily installed in the field. The house side shield must be composed of a sturdy material capable of withstanding vibrations and weather conditions. The shield must cut off light trespass at approximately one mounting height behind the pole.

3. The luminaire must meet the requirements of ANSI C136.22 for internal labeling. A bar code with pertinent information for warranty and maintenance must be attached to the inside of the housing. A separate bar code label must be on the driver

4. The luminaire must be able to provide pertinent product information, for warranty and maintenance purposes, in a digital format that is compliant with the Digital Addressable Lighting Interface (DALI) protocol. This information will be transmitted through the networked Lighting Management control system.

I. Electrical Components

1. LED Optical Arrays

a) The LED arrays must be properly secured at the factory and must not require field adjustment for optimum photometric performance.

2. Terminal Block

a) A terminal block of high grade molded plastic of the barrier or safety type must be mounted within the housing in a readily accessible location.

b) Terminal block wiring; all necessary terminals, pre-wired to all luminaire components, must be provided.

c) Terminal block terminals must have copper plated or brass plated, clamp-type pressure connectors of an approved type for "line" connections, to accommodate wire sizes from #12 to #8 A.W.G.

d) Terminal block terminals for internal component connections must

be either the screw-clamp or quick disconnect type.

3. LED Driver:

a) Voltage. The electronic driver must operate at an input voltage range of between 120 and 277 volts, 60 Hertz. It must automatically sense the input voltage and adjust the output accordingly. The City uses nominal input voltages of 120, 208, and 240 for street lighting. When operated at any supply voltage between 80 percent and 110 percent of its rated supply voltage and at rated input frequency, a driver shall provide current and/or voltage regulation that equals or exceeds the values specified by the manufacturer.

b) Electrical Safety. Luminaires must operate at or below the Low-Risk Level, as defined in Figure 18 of IEEE 1789-2015. This requirement must be satisfied across the dimming range.

c) Power Factor (PF). The power factor of the driver over the design range of input voltages specified above must be in accordance to ANSI C82.77-2014. PF must be ≥ 0.9.

d) Total Harmonic Distortion (THD). The driver input current must have specified THD in accordance to ANSI C82.77-2014. THD must be $\leq 32\%$.

e) Thermal Protection. The driver must be thermally protected to shut off when operating temperatures reach unacceptable levels.

f) Electromagnetic Interference. Luminaire must comply with the FCC radiation emission limits for Class B digital devices given at 47 CFR 15.109.

g) Electrical Transient Immunity.

- Dielectric Withstand Testing - luminaire must meet the performance requirements specified in ANSI C136.2-2015 for dielectric withstand, using the DC test level and configuration.
- Electrical Transient Immunity - luminaire must meet the performance requirements specified in ANSI C136.2-2015 for electrical transient immunity, using the Enhanced (10 kV / 5 kA) combination wave test level.
- Transient Immunity Testing Requirements
- During electrical transient immunity testing, the device under test (DUT) must: be connected to the power source through a series coupler/decoupler network (CDN), using a two-wire (hot or hot/neutral) connection between both the

power supply and CDN input and the CDN output and DUT.

- If AC mains is used to power the DUT, the input waveform must be characterized and documented both before and after electrical transient immunity testing, with the DUT operating at rated full output.

- For Pre-Test DUT Characterization, the diagnostic measurements shall, at a minimum, include the following: real power, input current (RMS; Root-Means-Square), power factor, and current distortion factor (THD-I Total Harmonic Distortion) when operating at rated full output.

- Manufacturer must indicate on submittal form whether failure of the electrical transient immunity system can possibly result in disconnect of power to luminaire.

h) Dimming Capability. The driver must be capable of dimming. The dimming range must be 10% to 100% of full output. The digital lighting interface used for dimming must be DALI (Digital Addressable Lighting Interface) as per the requirements of IEC 62386. There must be a minimum of 100 dimming steps between the top and bottom of the dimming range.

4. Wiring.

a) All components must be completely factory wired with non-fading, color coded leads. These leads must be insulated with an approved class of insulation and must be #16 AWG conductor at a minimum.

b) All wires within a single circuit path must be of the same size.

c) No wire-nut splicing will be allowed.

d) No unnecessary splices will be allowed.

e) Quick disconnects must be provided for all components.

f) All wires must be properly terminated.

5. Control Device Receptacle and Cap.

a) Twist-lock Receptacle for a control device that meets ANSI C136.41 must be mounted in the top of the housing with provision for proper positioning of the control device.

b) 7-pin Receptacle. The luminaire control receptacle must be fully

prewired and compliant with ANSI C136.41.

c) 3-prong Shorting Cap that meets ANSI C136.10 must be provided.

d) Receptacle Wire Leads must all be properly terminated.

e) Receptacle repositioning. The receptacle must be able to be repositioned without the use of tools.

f) Control Devices Not Included in LED Specifications. Whereas specifications for control receptacles are included, specifications for control devices are not. The control device performance requirements are part of the lighting management system specifications in the Smart Lighting Project Technology specifications.

6. Component Mounting.

All electrical components must be securely mounted in such manner that individual components can be easily maintained or replaced. Permanent straps or tie-wraps will not be permitted. The entire assembly should be easily disconnected and removed for replacement.

IV. PHOTOMETRIC REQUIREMENTS

1. Light Pollution.

To limit light pollution, the submitted luminaires must not emit any light above the horizon (0 lumens at angles ≥ 90° from luminaire nadir).

2. Lumen Maintenance.

a) LED arrays must deliver a minimum of 90% of initial lumen output at 36,000 hours of operation.

b) Light Loss Factor (LLF) < 1.0. Calculations for maintained values, i.e. LLF = LLD x LDD x LAT.

(1) Lamp Lumen Depreciation (LLD) calculated at 60,000 hours as per Section II-B-3-d above,
(2) Luminaire Dirt Depreciation (LDD) ≤0.90, and
(3) Luminaire Ambient Temperature (LAT) ≤0.96

Luminaires with less than 10,000 hours of available LM-80 test data may be submitted for consideration but must be clearly indicated as such.

3. Color Attributes

a) Color Rendering Index (CRI) shall be no less than 65.

b) Nominal Correlated Color Temperature (CCT) shall be 3000K as defined by ANSI C78.377 and described below:

Manufacturer-Rated Nominal CCT (K)	Allowable IES LM-79 Chromaticity Values	
	Measured CCT (K)	Measured Duv
3000	2870 to 3220	-0.006 to 0.006

4. City of Chicago Typical Lighting Contexts

   ATTACHMENT A (below) lists the photometric performance requirements for luminaires used in the following typical municipal outdoor lighting applications:

   - Modern Residential Streets - staggered poles on both sides.
   - Arterial Streets – two-sided opposite pole spacing
   - Arterial Streets – two-sided staggered pole spacing

ATTACHMENT A – Photometric Performance Requirements

STREET PARAMETERS				
TYPICAL LIGHTING CONTEXT	**RESIDENTIAL**	**ARTERIAL**		
POLE CONFIGURATION*	STAGGERED	OPPOSITE	STAGGERED	
RIGHT OF WAY (Width)	66 ft.	100 ft.	80 ft.	66 ft.
IES PAVEMENT CLASS	R3	R3	R3	R3
STREET WIDTH (Curb to Curb)	34 ft.	80 ft.	60 ft.	48 ft.
LANES (Incl Prking &Median)	4	7	6	4
PARKWAY (Width)	10 ft.	4 ft.	4 ft.	N/A
SIDEWALK (Width)	6 ft.	6 ft.	6 ft.	9 ft.
HEIGHT TO LUMINAIRE	18 ft.	33 ft.	33 ft.	33 ft.
MAST ARM LENGTH	8 ft.	12 ft.	12 ft.	8 ft.
POLE SETBACK (From Curb to Center of Pole)	3 ft.	3 ft.	3 ft.	3 ft.
IN-LINE POLE SPACING	220 ft.	210 ft.	210 ft.	210 ft.
MAINTAINED PERFORMANCE REQUIREMENTS				
LUMINAIRE REQUIREMENTS	STAGGERED	OPPOSITE	STAGGERED	
Max Input Power - Default /Normal Luminance (Watts)	120	180	180	180
Default/Normal AVG. Luminance (cd/m^2)	≥1.5	≥1.7	≥1.7	≥1.7
AVG/MIN Uniformity Ratio	≤ 6:1	≤ 3:1	≤ 3:1	≤ 3:1
MAX/MIN Uniformity Ratio	≤10:1	≤ 5:1	≤ 5:1	≤ 5:1
MAX Veiling Luminance Ratio	≤ 0.4	≤ 0.3	≤ 0.3	≤ 0.3
AVG. Boosted Luminance (cd/m^2) [Add-Alternate]	≥2.25	≥2.5	≥2.5	≥2.5
SIDEWALK				
Default AVG. Horizontal Illuminance (fc)	≥0.50	≥0.50	≥0.50	≥0.50
AVG.MIN Uniformity Ratio (Horizontal Illuminance)	≤ 4:1	≤ 4:1	≤ 4:1	≤ 4:1
LIGHT TRESPASS RESTRICTIONS - (as measured in a vertical plane 10' beyond ROW ≤3'				
MAX Vertical Illuminance	≤ 0.07	≤ 0.3	≤ 0.30	≤ 0.30

ATTACHMENT B - Product Submittal Form

Lighting Context	**e.g. Alleys**			
Product Information Description	***Product Data (Summary)***			***Submittal Reference Document***
Luminaire Designation				
Luminaire Manufacturer				
Luminaire Model Number				
Luminous Flux – initial			lumens	
Luminaire input power—initial			watts	
Luminaire input power—maintained			watts	
Luminaire input voltage- nominal range			volts	
LED drive current - initial			milliamps	
LED drive current - maintained			milliamps	
CCT (correlated color temperature)			kelvin	
CRI (color rendering index)				
EPA (effective projected area) - nominal			sq. ft.	
Luminaire Weight - nominal			lbs.	
Control Interface			ANSI C136.41, 7-pin	
LED Driver – dimming capability	Dimmable, 0-10V		Dimmable, DALI	
LED driver- rated life			years	
Electrical transient immunity ANSI C136.2 combination wave test level	Basic (6kV/3kA)	Enhanced (10kV / 5kA)	Elevated (20kV/10kA)	
Vibration Test-ANSI C136.31			Level 2	
Luminaire warranty period			years	
IES LM-80 test duration			hours	IES LM-80-15 report
LED lumen maintenance at 36,000 hours			%	TM-21 calculator
Max. LED case temperature			degrees Celsius	ISTMT report

STANDARD SYMBOLS

EXISTING	PROPOSED	
W	W	WATER DISTRIBUTION
G	G	GAS LINE
G		ABANDONED/REMOVAL ITEM
FO	FO	FIBER OPTIC
E	E	ELECTRIC LINE
		CITY ELECTRIC
T	T	TELEPHONE
		SEWER
CTV	CTV	CABLE TV
A	A	AERIAL WIRE
		CTA DUCT
		FIRE HYDRANT
		LIGHT STANDARD
		BUFFALO BOX, WATER
	A	BUFFALO BOX, WATER, TO BE ADJUSTED
		BUFFALO BOX, GAS
G		GAS REGULATOR
G		GAS VALVE
T		AT&T MANHOLE
E		COM ED MANHOLE
		POWER POLE
		TRAFFIC SIGNAL
		TRAFFIC SIGNAL CONTROL BOX
		INLET
	A	INLET TO BE ADJUSTED
	F	INLET TO BE FILLED
	R	INLET TO BE RECONSTRUCTED
		INLET TO BE REMOVED
		CATCH BASIN
	A	CATCH BASIN TO BE ADJUSTED
	F	CATCH BASIN TO BE FILLED
	R	CATCH BASIN TO BE RECONSTRUCTED
		CATCH BASIN TO BE REMOVED
		SEWER MANHOLE
	A S	SEWER MANHOLE TO BE ADJUSTED
	R S	SEWER MANHOLE TO BE RECONSTRUCTED
W	W	WATER VAULT
	A W	WATER VAULT TO BE ADJUSTED
M		WATER METER
C		CITY ELECTRIC HANDHOLE
C		CITY ELECTRIC MANHOLE
	A C	CITY ELECTRIC MANHOLE TO BE ADJUSTED
6''		TREES, EXISTING, WITH DIAMETER
	6''	TREES TO BE REMOVED
		SOIL BORING
		SIGN POST
		BUILDING FACE
		FENCE
		DIRECTION OF FLOW
(*.**)	*.**	ELEVATION
T/S		TOP OF STEP
B/S		BOTTOM OF STEP
		HIGH POINT
BM		BENCHMARK
CP		CONTROL POINT
**.*		ORDINANCE GRADE

CIVIL ENGINEER
CIVILTECH ENGINEERING
30 N. LASALLE STREET, SUITE 3220
CHICAGO, IL 60602
P. 312.726.5910

LIGHTING ENGINEER
TRANSMART
100 S. WACKER DRIVE, SUITE 400
CHICAGO, IL 60606
P. 312.922.1700

THIS CERTIFIES THAT THESE DRAWINGS HAVE BEEN REVIEWED TO THE BEST OF MY KNOWLEDGE AND I BELIEVE THEY ARE IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA), AND ALL CODES AND BUILDING ORDINANCES OF THE CITY OF CHICAGO, STATE OF ILLINOIS.

LICENSED ARCHITECT / LICENSED ENGINEER

IR-108716
EFP-111109

PRIOR TO CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO CALL D.I.G.G.E.R. AT 312-744-7000 FOR UNDERGROUND UTILITY LOCATIONS.

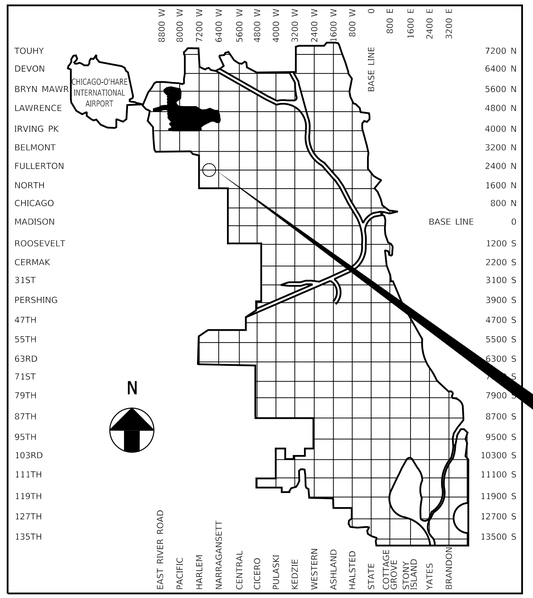
CITY OF CHICAGO
LORI E. LIGHTFOOT, MAYOR

PUBLIC BUILDING COMMISSION OF CHICAGO
CARINA E. SÁNCHEZ, EXECUTIVE DIRECTOR

CHICAGO DEPARTMENT OF TRANSPORTATION
GIA BIAGI, COMMISSIONER
DANIEL BURKE, S.E., P.E., MANAGING DEPUTY COMMISSIONER

CONTRACT PLANS
FOR
CONTRACT NO. C1603
WORKS PROGRESS ADMINISTRATION ("WPA") STREET RECONSTRUCTION (MEDILL AVENUE)
WEST MEDILL AVENUE FROM NORTH OAK PARK AVENUE TO NORTH NORMANDY AVENUE
CHICAGO, IL 60707

PBC PROJECT NO.: 22759
C.D.O.T. PROJECT NO.: B-2-759
WARD 36

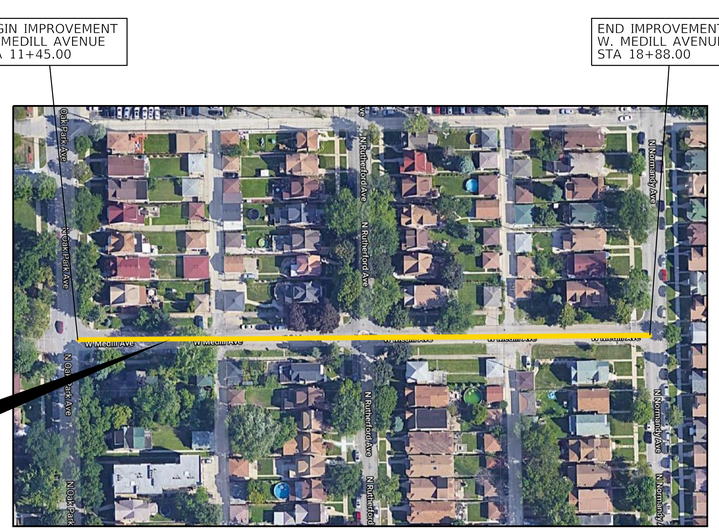


LOCATION MAP
NOT TO SCALE

INDEX OF DRAWINGS

PUBLIC BUILDING COMMISSION OF CHICAGO

ADDENDUM NO. 1



INDEX MAP
NOT TO SCALE

LENGTH OF IMPROVEMENT = 743 L.F. (0.14 MILES)

CHICAGO WORKS
INVESTING IN COMMUNITIES THROUGH INFRASTRUCTURE
MAYOR LORI E. LIGHTFOOT

GENERAL NOTES

1. ANY REFERENCE TO 'STANDARD SPECIFICATIONS' THROUGHOUT THE PLANS OR SPECIAL PROVISIONS WILL BE INTERPRETED TO BE THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) 'STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION' (SSRBC), ADOPTED APRIL 1, 2016, AND THE IDOT SUPPLEMENTAL SPECIFICATIONS', ADOPTED JANUARY 1, 2022.

2. ALL DIMENSIONS SHOWN ON THE PLANS ARE TO THE FACE OF THE CURB, UNLESS OTHERWISE SPECIFIED.

3. THE CONTRACTOR MUST TAKE ALL NECESSARY SAFETY PRECAUTIONS TO PROTECT ABUTTING PROPERTY, UTILITIES, PEDESTRIANS, AND VEHICULAR TRAFFIC.

4. IT IS CALLED TO THE CONTRACTOR'S ATTENTION THAT CERTAIN PERMITS AND FEES WILL BE REQUIRED BY VARIOUS DEPARTMENTS OF THE CITY OF CHICAGO. ALL PERMITS ARE INCIDENTAL.

5. PARKING METER AND PARKING PAY BOX WORK REQUIRED DUE TO CONSTRUCTION MUST BE PERFORMED BY THE CITY OF CHICAGO DEPARTMENT OF REVENUE ONLY. THE CONTRACTOR SHALL PAY ALL FEES REQUIRED BY SECTION 9-68-050 OF THE MUNICIPAL CODE OF CHICAGO. REFER TO ARTICLE 10, SECTION E OF THE PROJECT SPECIFICATIONS FOR FURTHER INFORMATION. THIS INCLUDES ANY AND ALL PARKING METERS AND PARKING PAY BOXES TO BE INSTALLED, REMOVED OR RELOCATED AT THE PROJECT LOCATION OR AT ANY AND ALL LOCATIONS DIRECTLY OR INDIRECTLY INVOLVED WITH THE PROJECT.

6. THE CTA SHALL REMOVE/REPLACE ALL CTA BUS STOP SIGNS AND BUS SHELTERS WITHIN THE PROJECT LIMITS. THE CONTRACTOR MUST CONTACT THE CTA AT TRAFFIC.PLANNING@TRANSITCHICAGO.COM AT LEAST TWO WEEKS PRIOR TO SIDEWALK REMOVAL OPERATIONS TO COORDINATE THIS WORK.

7. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST SUBMIT A PROPOSED CONSTRUCTION SCHEDULE IN A FORMAT APPROVED BY THE COMMISSION. NO WORK WILL BE PERMITTED TO PROCEED UNTIL THE PROPOSED SCHEDULE IS REVIEWED AND APPROVED BY THE COMMISSION.

8. THE COMMISSION RESERVES THE RIGHT TO ORDER, IN WRITING, CHANGES IN THE WORK OR THE CONTRACT TIME. THESE CHANGES MAY CONSIST OF ADDITIONS, DELETIONS OR OTHER REVISIONS, AT THE DISCRETION OF THE COMMISSION.

9. WHEN UNSEEN CIRCUMSTANCES IMPACT THE CONTRACTORS APPROVED CONSTRUCTION SCHEDULE, IT MAY BE NECESSARY TO ADJUST OR REVISE THE SCHEDULE IN ORDER TO MAINTAIN PROGRESS AND PROVIDE FOR PEDESTRIAN AND VEHICULAR SAFETY, THE CONTRACTOR SHALL COOPERATE FULLY WITH THE COMMISSION IN THIS REGARD.

10. LANE CLOSURES, WORK ZONE RESTRICTIONS, REVISED WORK DAY HOURS AND WEEKEND OR HOLIDAY WORK SCHEDULES ARE SUBJECT TO THE APPROVAL OF THE COMMISSION. THE CONTRACTOR MUST RECEIVE WRITTEN AUTHORIZATION, EITHER BY PERMIT OR NOTIFICATION BY THE COMMISSION, BEFORE PROCEEDING WITH WORK UNDER THESE CIRCUMSTANCES.

11. THE CONTRACTOR MUST NOTIFY THE DEPARTMENT OF STREETS AND SANITATION AT (312) 746-4524 72 HOURS PRIOR TO THE NEED FOR TOWING RELOCATION OF VEHICLES, THE CITY OF CHICAGO WILL BE RESPONSIBLE FOR REMOVING PARKED VEHICLES LOCATED IN THE SCHEDULED WORK AREA. SIGNS PREVENTING PARKING WILL BE POSTED BY THE COMMISSION OR HIS STAFF 72 HOURS BEFORE THE WORK IS SCHEDULED. PRIOR TO POSTING SIGNS THE COMMISSION SHALL NOTIFY THE ALDERMAN'S OFFICE OF THE RESURFACING SCHEDULE. THE POLICE ARE TO BE PRESENT TO ISSUE TICKETS AND SUPERVISE TOWING PRIOR TO THE RELOCATION OF VEHICLES.

12. THE CONTRACTOR SHALL FURNISH THE NAME(S) OF THE PROJECT SUPERINTENDENT OR PROJECT MANAGER ASSIGNED TO THE PROJECT AT THE TIME OF THE PRE-CONSTRUCTION MEETING.

13. 10 FEET TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURB AND GUTTER AND MEDIAN IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED IN THIS CONTRACT.

14. THE CONTRACTORS SHALL COORDINATE ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF CHICAGO.

15. BUTT JOINTS SHALL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS THE EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT DETAILS AT INTERSECTIONS".

16. THREE QUARTER INCH (3/4") THICK EXPANSION JOINT SHALL BE PLACED BETWEEN THE SIDEWALK AND ALL STRUCTURES SUCH AS ADJACENT BUILDINGS, CURBS, LIGHT STANDARDS, TRAFFIC LIGHT STANDARDS AND MANHOLES WHICH EXTEND THROUGH THE SIDEWALK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF PCC SIDEWALK.

17. CONTRACTOR IS TO RESTORE ALL UNPAVED AREAS DAMAGED DURING CONSTRUCTION OPERATIONS TO THEIR ORGINAL CONDITION INCLUDING THE FINE GRADING AND SODDING BEYOND THE AREA OF THE PROPOSED SEEDING AND SODDING, AS SHOWN ON THE STANDARD DETAILS, AT NO ADDITIONAL COST TO THE COMMISSION.

18. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING OF CONSTRUCTION.

19. PAY ITEMS IN THE SUMMARY OF QUANTITIES HAVE BEEN ESTIMATED. IF, IN THE ENGINEER'S OPINION, THE WORK IS NOT REQUIRED, THE ITEM WILL BE DEDUCTED FROM THE CONTRACT AND NO ADDITIONAL COMPENSATION TO THE CONTRACTOR WILL BE ALLOWED.

20. BUS PAD STANDARD DIMENSION SHALL BE 10' X 80' AND SHALL BE INSTALLED AFTER THE PLACEMENT OF THE FINAL SURFACE COURSE. THE FINAL LOCATION OF ALL BUS STOPS PADS MUST BE VERIFIED IN THE FIELD AND APPROVED BY THE COMMISSION PRIOR TO CONSTRUCTION.

21. WHERE THE PROPOSED BACK OF CURB, DRIVEWAY, OR SIDEWALK IS LOCATED FIVE FEET OR LESS FROM THE FACE OF EXISTING PARKWAY TREES, ROOT PRUNING BY AN APPROVED MECHANICAL ROOT PRUNING SAW MUST BE DONE PRIOR TO THE STREET/SIDEWALK EXCAVATION WHERE NOTED ON THE PLANS OR DIRECTED BY THE COMISSION. WORK UNDER THIS ITEM SHALL BE PERFORMED WITH SECTION 201 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, EXCEPT AS HEREIN MODIFIED.

22. PERMISSION FOR ROOT PRUNING ON MORE THAN ONE SIDE OF AN EXISTING TREE MUST BE OBTAINED FROM THE BUREAU OF FORESTRY. WHENEVER ROOTS OF TREES TO REMAIN ARE EXPOSED DURING CONSRUCTION, THE DAMAGED ROOT ENDS ARE TO BE REMOVED BY BEING CUT OFF CLEANLY.

23. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DEPARTMENT OF TRANSPORTATION OF ANY DAMAGE TO CITY OWNED AND MAINTANED TRAFFIC SIGNS, SIGNALS, GUARDRAILS, FENCES, ETC.

24. THE ENTIRE AREA WHICH IS TO RECEIVE BITUMINOUS MATERIAL (TACK COAT) SHALL BE SWEPT CLEAN BEFORE THE MATERIAL APPLICATION. SWEEPINGS SHALL NOT BE DEPOSITED IN THE GUTTER OR ON THE CURB, PARKWAY, OR SIDEWALK, BUT SHALL BE PICKED UP AND DISPOSED OF PROPERLY.

MAINTENANCE OF TRAFFIC NOTES

1. TRAFFIC WILL BE MAINTAINED ON ALL STREETS AND PARKING WILL BE PROHIBITED WITHIN 50 FEET OF THE CONSTRUCTION AREA AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO NOTIFY THE DIVISION OF ENGINEERING-TRAFFIC SECTION 48 HOURS BEFORE COMMENCING CONSTRUCTION.

2. WHEN THE PAVEMENT CONSTRUCTED IS PORTLAND CEMENT CONCRETE BASE COURSE OR PORTLAND CEMENT CONCRETE PAVEMENT, IT SHALL NOT BE OPENED TO TRAFFIC, INCLUDING CONSTRUCTION TRAFFIC, UNTIL AFTER THE SPECIFIED CURING PERIOD AS DEFINED IN ARTICLE 701.17(c)(5) OF THE 'STANDARD SPECIFICATIONS' AND UNTIL THE JOINTS HAVE BEEN SEALED.

3. THE CONTRACTOR'S VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST OR ACROSS THE FLOW OF TRAFFIC. THESE VEHICLES SHALL ENTER OR LEAVE THE WORK AREA IN A MANNER WHICH WILL NOT BE HAZARDOUS TO OR INTERFERE WITH NORMAL TRAFFIC AND SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE COMMISSION.

4. ACCESS TO EXISTING CROSS ROADS AND DRIVES MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

5. ADEQUATE PROVISIONS FOR PEDESTRIAN TRAFFIC MUST BE PROVIDED AT ALL TIMES.

6. FOR ADDITIONAL REQUIREMENTS, SEE CDOT SPECIAL PROVISION FOR TRAFFIC CONTROL AND PROTECTION IN BOOK 3.

7. IN AREAS WHERE MULTIPLE LOCATIONS ARE PROPOSED TO BE CONSTRUCTED, THE CONTRACTOR WILL BE REQUIRED TO STAGE WORK SO AS NOT TO ADVERSELY AFFECT THE FLOW OF PEDESTRIAN AND VEHICULAR TRAFFIC WITHIN THE GENERAL AREA. THE PROPOSED CONSTRUCTION SCHEDULE SHOULD REFLECT A PROGRESSION OF WORK THAT WILL MAINTAIN TRAFFIC TO THE SATISFACTION OF THE COMMISSION.

8. STOCKPILING OF EXCAVATED MATERIALS AND/OR CONSTRUCTION DEBRIS ON THE JOBSITE WILL NOT BE PERMITTED AND SHALL BE REMOVED FROM THE JOBSITE EACH AND EVERY DAY AND DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE CONSIDERED A TRAFFIC CONTROL DEFICIENCY WILL BE SUBJECT TO THE CHARGES IN ACCORDANCE WITH THE ITEM TRAFFIC CONTROL COMPLETE.

9. "FRESH OIL" SIGNS MUST BE POSTED AT ALL INGRESSES TO PRIMED SURFACES. FAILURE TO INSTALL AND MAINTAIN THESE SIGNS WILL BE CONSIDERED A TRAFFIC CONTROL DEFICIENCY AND THE CONTRACTOR SHALL BE SUBJECT TO CHARGES IN ACCORDANCE WITH THE ITEM TRAFFIC CONTROL COMPLETE.

10. THE CONTRACTOR SHALL PROTECT ALL SECTIONS OF NEWLY COMPACTED HMA SURFACE COURSES FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL THEY COOL DOWN TO THE SATISFACTION OF THE COMMISSION. DAMAGES TO THE MAT SHALL BE FIXED IMMEDIATELY TO THE SATISFACTION OF THE COMMISSION.

11. IN THE EVENT THAT THE CONTRACTOR CANNOT FINISH THE MILLING AND/OR PAVING OPERATION DUE TO DELAYS CAUSED BY THE CITY OR PRIVATE UTILITY WORK OR ADJACENT CONSTRUCTION AND MOVES TO ANOTHER LOCATION, OR TERMINATES HIS OPERATION, THE CONTRACTOR MUST FINISH THE MILLING AND/OR PAVING OPERATION AS SOON AS SAID LOCATION IS CLEARED OF ALL CONFLICTING WORK AT NO ADDITIONAL COST TO THE COMMISSION.

CIVIL NOTES

1. THE ENTIRE AREA WHICH IS TO RECEIVE 'BITUMINOUS MATERIALS (PRIME COAT)' MUST BE SWEPT CLEAN BEFORE THE MATERIAL IS APPLIED. THE SWEEPINGS WILL NOT BE DEPOSITED IN THE GUTTER OR ON THE CURB, PARKWAY, OR SIDEWALK, BUT ARE TO BE PICKED UP AND DISPOSED OF PROPERLY BEYOND THE LIMITS OF THE PROJECT ON THE SAME DAY THAT THE SWEEPING IS DONE. THE WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO 'BITUMINOUS MATERIALS (PRIME COAT)'.

2. IF AN EXISTING MAILBOX MUST BE REMOVED OR RELOCATED TO COMPLETE THE WORK, THE CONTRACTOR MUST NOTIFY THE POST OFFICE. THE COST OF ANY COORDINATION WITH THE POST OFFICE WILL BE CONSIDERED INCIDENTAL TO 'SIDEWALK REMOVAL'.

3. THE CONTRACTOR SHALL INFORM THE COMMISSION 72 HOURS PRIOR TO REMOVING ANY STREET CAR TRACKS. THE COMMISSION WILL VERIFY THAT THE TRACKS AND/OR THE BURIED NEGATIVE GROUND CABLE IS NOT BEING USED FOR ELECTROLYSIS.

4. THE EXISTING PAVEMENT IS REQUIRED TO BE SAWCUT IN ORDER TO PROVIDE FOR A STRAIGHT EDGE BUTT JOINT WHERE COMBINATION CONCRETE CURB AND GUTTER IS TO BE REPLACED, WHERE FULL DEPTH PATCHES ARE TO BE CONSTRUCTED, WHERE TRENCHES FOR PROPOSED DRAINAGE STRUCTURES ARE TO BE EXCAVATED, AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE COMMISSION. FOR COMBINATION CONCRETE CURB AND GUTTER, THE SAWCUT IS REQUIRED TO BE DEEP ENOUGH TO PENETRATE THE EXISTING BASE COURSE WHERE NECESSARY TO ASSURE A STRAIGHT EDGE FOR THE FULL DEPTH OF COMBINATION CONCRETE CURB AND GUTTER. FOR PATCHES AND DRAINAGE STRUCTURES, THE SAWCUT SHALL BE FULL DEPTH. ALL OTHER SAWCUTTING WILL BE TO THE DEPTHS SHOWN ON THE PLANS OR GIVEN IN THE SPECIFICATIONS. ALL SAWCUTTING SHOWN ON THE PLANS OR OTHERWISE REQUIRED FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

5. ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON CHICAGO CITY DATUM WHICH IS 579.88 FEET ABOVE MEAN SEA LEVEL, 1935 ADJUSTMENT.

6. THREE QUARTER INCH (3/4") THICK EXPANSION JOINT SHALL BE PLACED BETWEEN THE SIDEWALK AND ALL STRUCTURES SUCH AS ADJACENT BUILDINGS, CURBS, LIGHT STANDARDS, TRAFFIC LIGHT STANDARDS AND MANHOLES WHICH EXTEND THROUGH THE SIDEWALK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF PCC SIDEWALK.

7. THE GENARAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM TO CONTINUOUSLY MONITOR THE WORKER SAFETY AND SOIL CONRAMINATION AT SEVERAL LOCATIONS. SEE SPECIAL PROVISION AND SUPPLMENTAL SPECIFICATIONS FOR DETAILS.

8. CURB AND GUTTER CONSTRUCTION SHALL PROVIDE A MINIMUM CURB HEIGHT OF 3 INCHES AND A MAXIMUM HEIGHT OF 9 INCHES.

9. THE COST OF REMOVING BRICKS WITHIN SIDEWALK REMOVAL LIMITS SHALL BE CONSIDERED INCLUDED IN THE COST OF SIDEWALK REMOVAL. REMOVAL OF EXISTING BENCHES, BICYCLE RACKS, AND TRASH RECEPTACLES WILL BE CONSIDERED INCLUDED IN THE COST OF SIDEWALK REMOVAL.

11. THE CONTRACTOR SHALL CHECK THE ELEVATION AT THE PROPERTY LINE BEFORE SETTING THE TOP OF CURB ELEVATION AND, IF NECESSARY, SHALL ALTER THE CURB EXPOSED AND/OR GUTTER ELEVATION TO MEET THE ADJACENT PROPERTY LINE ELEVATION TO THE SATISFACTION OF THE COMMISSION.

12. ALL WORK MUST CONFORM TO THE MOST CURRENT CHICAGO DEPARTMENT OF TRANSPORTATION RULES AND REGULATIONS FOR WORK IN THE PUBLIC WAY IN COMPLIANCE WITH THE AMERICANS WITH DISABILITY ACT, AVAILABLE ON THE CITY OF CHICAGO WEBSITE.

UTILITY NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE THE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. SUCH VARIATIONS WILL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID AT THE CONTRACT UNIT PRICE FOR THE WORK.

2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CHICAGO UTILITY ALERT NETWORK AT (312) 744-7000 OR J.U.L.I.E. AT (800) 892-0123 SO THAT UTILITIES AND THEIR APPURTENANCES MAY BE LOCATED AND ADJUSTED OR MOVED, IF NECESSARY, AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION OPERATIONS. THE CONTRACTOR MUST COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE 'STANDARD SPECIFICATIONS'.

3. THE COMMISSION DOES NOT GUARANTEE THE COMPLETENESS OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS REGARDING UTILITIES, EITHER PUBLIC OR PRIVATE, SUCH AS SEWERS, MANHOLES, CATCH BASINS, GAS AND WATER MAIN, TELEPHONE AND ELECTRICAL DUCT LINES, AND SIMILAR STRUCTURES. THE CONTRACTOR MUST VERIFY THE EXACT LOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH THE CONSTRUCTION OPERATIONS AND MUST REPORT TO THE COMMISSION ANY OMISSIONS AND DIFFERENCES FROM LOCATIONS SHOWN ON THE PLANS. THE COST OF THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

4. THE CONTRACTOR IS REQUIRED TO PROTECT ANY EXISTING AND NEW UTILITIES WHEN CONSIDERED NECESSARY BY THE COMMISSION, USING METHODS APPROVED BY THE COMMISSION. THE CONTRACTOR WILL BRACE AND SUPPORT THE UTILITIES PROPERLY TO PREVENT SETTLEMENT, DISPLACEMENT, OR CHANGE TO THE UTILITIES. THE COST OF UTILITY PROTECTION AS SPECIFIED IN HEREIN WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

5. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION WILL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE.

6. EXCEPT AS NOTED ON THE PLANS, IN THE GENERAL NOTES, AND IN THE SPECIFICATIONS,UTILITY RELOCATION OR ADJUSTMENT WILL BE PERFORMED BY THE RESPECTIVE UTILITY OWNERS AT THEIR OWN EXPENSE AND WILL NOT BE CONSIDERED PART OF THIS CONTRACT. THE CONTRACTOR WILL NOTIFY THE AFFECTED UTILITY OWNERS AND SCHEDULE HIS/HERWORK ACCORDINGLY. THE COST OF THIS COORDINATION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

7. ANY PAVEMENT REMOVAL AND REPLACEMENT OPERATION TO BE DIRECTLY ABOVE A COMMONWEALTH EDISON (COMED) COMPANY LINE WILL BE CLOSELY COORDINATED WITH COMED. REPRESENTATIVES FROM THE CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION, PUBLIC BUILDING COMMISSION, AND COMED MUST BE PRESENT DURING PERFORMANCE OF THIS WORK, AS ARRANGED BY THE CONTRACTOR.

8. PEOPLES GAS FACILITIES ARE PRESENT WITHIN AREA OF CONSTRUCTION. SERVICE IS AFFECTED. USE EXTREME CAUTION NEAR ALL GAS FACILITIES DURING CONSTRUCTION AND RELATED EXCAVATION ACTIVITIES. HAND DIGGING OR NON-INVASIVE EXCAVATION IS REQUIRED TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF GAS FACILITIES PRIOR TO CROSSING AND WORKING WITHIN 3' OF ALL GAS FACILITIES. A MINIMUM OF 3' HORIZONTAL EDGE-TO-EDGE CLEARANCE IS REQUIRED FOR GAS FACILITIES WITH DIAMETERS OF 16" OR SMALLER, AND 5' EDGE-TO-EDGE CLEARANCE FOR GAS FACILITIES WITH DIAMETERS 18" AND LARGER. MAINTAIN A MINIMUM OF 18" EDGE TO EDGE VERTICAL CLEARANCE WHEN CROSSING GAS FACILITIES 16" OR LESS IN DIAMETER, AND 24" EDGE-TO-EDGE VERTICAL CLEARANCE WHEN CROSSING 18" AND LARGER DIAMETER GAS FACILITIES. CONTACT 811 CHICAGO/DIGGER 312-744-7000 FOR LOCATES 48 HOURS PRIOR TO START OF CONSTRUCTION.

MODEL: Model
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-gennote

USER NAME = kkb	DESIGNED - MR/JB	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION
	DRAWN - MR/JB	REVISED -	
PLOT SCALE = 20.00 sf / in.	CHECKED - LM/NV	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

GENERAL NOTES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	2
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

UTILITY NOTES (CONT.)

9. THE USE OF CONCRETE, FLOW FILL, OR THE LIKE IS PROHIBITED WITHIN 24 INCHES OF ALL GAS FACILITIES, NOR SHALL IT ENCASE ANY GAS FACILITY. A BUFFER OF 24" SAND IS TO BE USED BETWEEN FLOW FILL AND ALL GAS FACILITIES. A MINIMUM OF 6" FA-02 OR FM-02 SAND SHALL BE USED WHEN BACKFILLING OTHER MATERIALS AROUND ANY EXPOSED GAS FACILITY. CONTRACTOR EXPOSING GAS FACILITY IS RESPONSIBLE FOR PROVIDING THE SAND. ANY DAMAGES TO PEOPLES GAS FACILITIES SHALL BE THE RESPONSIBILITY OF THE INSTALLING UTILITY AND THEIR CONTRACTOR(S). CALL 866-556-6002 IMMEDIATELY FOR ANY DAMAGES TO THE GAS FACILITIES. VERTICAL ADJUSTMENTS REQUIRED FOR VALVE BASIN FRAMES, COVERS, GAS SHUT-OFF VALVES, ROADWAY BOXES SHALL BE COMMUNICATED TO TAD EATON, PAVING & RESTORATION, TAD.EATON@PEOPLESGASDELIVERY.COM, 4 WEEKS PRIOR TO THE START OF RESTORATION FOR PLANNING & SCHEDULING. ALL GAS FACILITIES ARE TO BE MAINTAINED.

10. USE CAUTION WHEN REMOVING AND PLACING TREES. PEOPLES GAS CAST IRON AND DUCTILE IRON GAS MAINS MAY REQUIRE SUPPORT DURING CONSTRUCTION AND RELATED EXCAVATION ACTIVITIES. ANY EXPOSED JOINTS MUST BE SUPPORTED AND CAST IRON JOINTS SEALED BY GAS COMPANY PERSONNEL. CONTACT THE LOCAL PGL SHOP ENGINEERING SUPERVISOR, A MINIMUM OF 5 BUSINESS DAYS PRIOR TO EXCAVATION TO SET UP ON-SITE INSPECTION. INSPECTION BY PEOPLES GAS IS REQUIRED PRIOR TO BACKFILL. INSPECT GAS MAIN AND COATING INTEGRITY PRIOR TO BACKFILL.

11. DIRECTIONAL DRILLING IS CONSIDERED A HIGH RISK EXCAVATION AS DETERMINED BY PHMSA AND NTSB; AS SUCH SPECIAL CONSIDERATIONS SHALL TAKE PLACE NEAR NATURAL GAS DISTRIBUTION LINES. CONTRACTOR MUST OBSERVE BORE HEAD WHILE CROSSING GAS FACILITIES AND VERIFY THAT MINIMUM VERTICAL CLEARANCE IS OBTAINED. LOCATIONS OF EXISTING GAS FACILITIES MUST BE VERIFIED AT SUFFICIENT INTERVALS, OR A MAX OF DISTANCE OF 50FT, WHEN PARALLELING TO ENSURE MINIMUM HORIZONTAL SEPARATION IS MAINTAINED. CONTACT SYSTEM INTEGRITY OPERATIONS SUPERVISOR TO SET UP ON-SITE INSPECTION. ALL DIRECTIONAL DRILL PROJECTS WILL BE PLACED ON PEOPLES GAS WATCH & PROTECT. NORTH SHOP: NORTH OF CHICAGO AVE/ASHLAND AVE /NORTH AVE NORTH-SHOP-OUC@PEOPLESGASDELIVERY.COM CENTRAL SHOP: SOUTH OF CHICAGO AVE/ ASHLAND AVE / NORTH AVE TO NORTH OF 87TH ST / ASHLAND AVE / CHICAGO RIVER / CERMAK RD CENTRAL-SHOP-OUC@PEOPLESGASDELIVERY.COM SOUTH SHOP: SOUTH OF 87TH ST / ASHLAND AVE / CHICAGO RIVER / CERMAK RD SOUTH-SHOP-OUC@PEOPLESGASDELIVERY.COM

ADA NOTES

1. FOR THE LATEST CITY OF CHICAGO ADA REQUIREMENTS FOR THE PLANS GO TO WWW.CITYOFCHICAGO.ORG.

LANDSCAPING NOTES

1. THE CONTRACTOR IS REQUIRED TO OBTAIN A PERMIT TO REMOVE, PLANT, SPRAY, OR IN ANY WAY AFFECT THE GENERAL HEALTH OR STRUCTURE OF TREES IN THE PUBLIC WAY. THIS PERMIT MAY BE OBTAINED FROM THE DEPUTY COMMISSIONER OF CITY OF CHICAGO BUREAU OF FORESTRY.

2. TREES MUST BE TAGGED BY C.D.O.T. CONTACT JEFF BRINK AT (312) 744-7844.

DEPT. OF WATER MANAGEMENT NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE ADEQUATE PROTECTION OF THE EXITING SEWERS, DRAIN CONNECTIONS, SEWER STRUCTURES, AND BENCH MONUMENTS DURING CONSTRUCTION OPERATIONS, AND THE USE OF HEAVY EQUIPMENT WITHIN THE LIMITS OF THE PROJECT.

2. IT IS THE RESPONSIBILITY OF THE UTILITY COMPANY/GOVERNMENT AGENCY AND ITS CONSULTANTS/CONTRACTORS TO OBTAIN THE NECESSARY BACKGROUND INFORMATION FROM THE DRAWINGS/CONTRACT PLANS AND FOR EXISTING FACILITIES PROTECTION DURING THE CONSTRUCTION STAGE. RECORDS FROM THE DEPARTMENT OF BUILDINGS, SEWER UNIT INCLUDE: EXISTING SEWERS, DRAIN CONNECTIONS, SEWER STRUCTURES, BENCH MONUMENT LOCATIONS, ORDINANCE GRADES, AGE OF SEWER, AND PIPE MATERIAL. COPIES OF SEWER RECORDS CAN BE OBTAINED ON PAYMENT TO THE DEPARTMENT OF BUILDINGS, SEWER UNIT, LOCATED AT CITY HALL, 121 N. LASALLE ST. ROOM 900, CHICAGO, IL 60602.

3. A PERMIT IS REQUIRED FROM THE DEPARTMENT OF BUILDINGS, SEWER UNIT PRIOR TO THE CONSTRUCTION OF, OR REPAIRS TO, UNDERGROUND SEWERS, DRAIN CONNECTIONS, OR SEWER STRUCTURES, INCLUDING THE ADJUSTMENT OF SEWER STRUCTURES AND THE REMOVAL/REPLACEMENT OF FRAMES AND LIDS. THE PERMIT MUST BE OBTAINED BY A DRAINLAYER CURRENTLY LICENSED FROM THE DEPARTMENT OF BUILDINGS, SEWER UNIT.

4. IN ORDER TO PROTECT THE CITY'S BENCH MONUMENTS, ALL BENCH MONUMENT LOCATIONS WITHIN THE LIMITS OF THE PROJECT SHOULD BE LISTED ON THE PLAN SHEETS. IF ANY BENCH MONUMENTS ARE NOT LOCATED OR IF DAMAGE TO ANY BENCH MONUMENTS IS ENCOUNTERED, PLEASE CONTACT THE DEPARTMENT OF WATER MANAGEMENT IMMEDIATELY AT (312) 747-7892 OR (312) 747-7893. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPLACEMENT OF ANY BENCH MONUMENT DAMAGED OR DESTROYED DURING CONSTRUCTION.

5. IN THE RELOCATION OR CONSTRUCTION OF PRIVATE OR PUBLIC UTILITIES, INCLUDING PIPE UNDERDRAINS AND/OR SUBDRAINS, THE UTILITY SHOULD BE LOCATED AS FAR AWAY AS POSSIBLE FROM THE DEPARTMENT OF WATER MANAGEMENT FACILITY. A MINIMUM DISTANCE OF THE OUTSIDE DIAMETER OF THE SEWER (O.D.) PLUS 4 FEET MUST BE MAINTAINED BETWEEN THE SEWER AND THE UTILITY CENTER LINES. IF THE OUTSIDE DIAMETER/WIDTH OF UTILITY CONDUIT IS MORE THAN THE SEWER O.D., A MINIMUM OF 4 FEET HORIZONTAL CLEARANCE MUST BE OBTAINED FROM THE OUTSIDE FACE TO OUTSIDE FACE. FOUR FEET HORIZONTAL CLEARANCE IS ALSO REQUIRED FROM ALL SEWER STRUCTURES. A MINIMUM OF 10 FEET HORIZONTAL CLEARANCE AND 18 INCHES VERTICAL CLEARANCE IS DESIRABLE BETWEEN THE SEWER AND A WATER MAIN.

6. MANHOLES, CATCH BASINS, AND INLETS MUST BE PROTECTED FROM THE ENTRY OF ASPHALT/DEBRIS INTO THE SEWER SYSTEM DURING CONSTRUCTION. THE CONTRACTOR WILL MARK LOCATIONS OF ALL SEWER STRUCTURES ON THE SIDEWALK BEFORE STARTING PAVEMENT REMOVAL/REPLACEMENT. ADJUSTMENT OF FRAMES AND LIDS OF SEWER STRUCTURES MUST BE COMPLETED PRIOR TO STREET RESURFACING.

7. THE UTILITY COMPANY/GOVERNMENT AGENCY OR ITS REPRESENTING CONTRACTOR MUST MAINTAIN ACCESS TO THE EXISTING SEWER FACILITIES, INCLUDING SEWER STRUCTURES, AT ALL TIMES AND COORDINATE THE PROPOSED IMPROVEMENTS WITH THE DEPARTMENT OF WATER MANAGEMENT ENGINEER/INSPECTOR TO AVOID ANY INTERRUPTION OF THE SEWER FACILITIES' MAINTENANCE OR SERVICES. THE SEWER FLOW MUST BE MAINTAINED AT ALL TIMES.

8. THE CONTRACTOR MUST LOCATE AND PROMPTLY AND PROPERLY CONNECT TO THE NEW SEWERS ALL LIVE HOUSE DRAINS, CATCH BASIN DRAINS, AND OTHER EXISTING LATERALS, DRAINS, AND SEWERS OF WHATEVER NATURE WHICH ARE CONNECTED TO THE EXISTING SEWERS BEING REPAIRED OR REPLACED.

9. EXISTING CATCH BASIN LATERALS TO BE REUSED MUST BE RODDED AND FLUSHED IN THE PRESENCE OF THE DEPARTMENT OF WATER MANAGEMENT INSPECTOR. A NEW CONNECTION TO THE MAIN SEWER IS REQUIRED IF THE EXISTING CATCH BASIN LATERAL IS NOT APPROVED BY THE SEWER INSPECTOR.

10. WHEN A SEWER STRUCTURE IS ABANDONED, ALL PIPE OPENINGS MUST BE PLUGGED, STRUCTURES FILLED WITH TRENCH BACKFILL, LIDS AND FRAMES REMOVED, AND SURFACE RESTORED AS PER THE DEPARTMENT OF WATER MANAGEMENT STANDARDS AND SPECIFICATIONS.

11. WHEN DIRECTED BY THE COMMISSION, THE CONTRACTOR IS REQUIRED TO REPLACE ANY BROKEN FRAMES AND LIDS OF SEWER STRUCTURES WITH THE DEPARTMENT OF WATER MANAGEMENT STANDARD FRAMES AND LIDS.

12. THE FRAMES AND LIDS OF SEWER STRUCTURES TO BE ABANDONED, REMOVED, OR FILLED SHOULD BE SALVAGED, AND THE CONTRACTOR MUST NOTIFY THE DEPARTMENT OF WATER MANAGEMENT FOR PICK UP.

13. IN ARTERIAL STREETS, PERFORATED LIDS MUST BE PLACED ON ALL SEWER STRUCTURES UNLESS OTHERWISE APPROVED BY THE COMMISSION. IN RESIDENTIAL STREETS, MANHOLES MAY REQUIRE CLOSED LIDS. CONTRACTOR TO COORDINATE WITH THE DEPARTMENT OF WATER MANAGEMENT INSPECTOR.

14. DURING CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR SHALL MAINTAIN THE SURFACE DRAINAGE OF THE ROAD AT ALL TIMES.

15. IF THE CONDITION OF EXISTING CATCH BASINS OR INLETS IS SUCH THAT THEIR ADJUSTMENT IS NOT FEASIBLE AT THE TIME OF CONSTRUCTION, THE CONTRACTOR MUST FURNISH AND INSTALL NEW CATCH BASINS OR INLETS AND THEIR APPURTENANCES AS DIRECTED BY THE COMMISSION AND WITH THE CONCURRENCE OF THE DEPARTMENT OF WATER MANAGEMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR 'CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)' OR FOR 'INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)'.

16. THE LOCATION OF PROPOSED WATER LINES, METER VAULTS, VALVES AND RPZ'S SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL MARK THE LAYOUT AND LOCATION OF THE WATER LINES, METER VAULTS, VALVES, AND RPZ'S FOR REVIEW BY COMMISSION PRIOR TO ANY EXCAVATION.

17. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PROPOSED WATER SERVICE CONNECTIONS PRIOR THE INSTALLATION OF THE IRRIGATION SYSTEM. THE CITY OF CHICAGO, DEPARTMENT OF WATER MANAGEMENT WILL PERFORM THE WATER SERVICE CONNECTION TO THE EXISTING WATER MAIN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS AND PAY THE ASSOCIATED FEES. ALL PERMIT FEES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

18. IN CASE OF DAMAGE TO THE CITY'S SEWER SYSTEM, PRIVATE AND PUBLIC DRAIN CONNECTIONS, AND/OR BENCH MONUMENTS, THE CONTRACTOR MUST CONTACT THE DEPARTMENT OF BUILDINGS, SEWER UNIT, IMMEDIATELY AT PHONE NUMBER (312) 744-3351. THE CONTRACTOR MUST, AT HIS/HER OWN COST, REPLACE THE AFFECTED SEWERS, DRAIN CONNECTIONS, SEWER STRUCTURES AND/OR BENCH MONUMENTS AS NECESSARY. THE SEWER FLOWS MUST BE MAINTAINED AT ALL TIMES.

19. FLOW RESTRICTORS MUST BE INSTALLED IN ALL CATCH BASINS, OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. FLOW RESTRICTORS MUST NOT BE INSTALLED IN CLOSE PROXIMITY TO VIADUCT AREAS, BUS STOPS, OR EMERGENCY ENTRANCES. FLOW RESTRICTORS ARE AVAILABLE FOR PICK-UP AT THE DWM'S CENTRAL DISTRICT, LOCATED AT 3901 S. ASHLAND AVENUE, BY CALLING (312) 747-1777, BETWEEN 7:00 AM - 3:00 PM, 48 HOURS IN ADVANCE.

20. AS-BUILT PLANS MUST BE SUBMITTED SOON AFTER WORK COMPLETION. FINAL PAYMENT WILL NOT BE MADE TO THE CONTRACTOR UNTIL THE SEWER UNIT OF THE DWM ACKNOWLEDGES RECEIPT OF "AS-BUILT PLANS".

21. IN CASE OF DAMAGE TO THE CITY OF CHICAGO SEWERS, PRIVATE AND PUBLIC DRAINS, SEWER STRUCTURES AND/OR BENCH MONUMENTS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE DEPARTMENT OF WATER MANAGEMENT AT (312) 747-7892 OR (312) 747-7893.

22. PERFORATED LIDS SHALL BE PLACED ON ALL MANHOLES AND CATCH BASINS.

23. CITY OF CHICAGO WATER VALVE VAULTS AND SEWER STRUCTURES SHALL NOT BE CLOSED, COVERED OR OTHERWISE OBSTRUCTED DURING CONSTRUCTION WITHOUT WRITTEN PERMISSION FROM THE CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT.

24. WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES SUCH THAT THE NATURAL FLOW OF WATER IS OBSTRUCTED, IT SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL UTILITY STRICTURES SHALL BE FREE FROM DIRT AND DEBRIS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR CATCH BASINS AND MANHOLES TO BE ADJUSTED IN THIS CONTRACT.

25. ANY EXISTING STORM SEWER DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE COMMISSION.

26. THE CONTRACTOR SHALL MAINTAIN THE SURFACE DRAINAGE OF THE ROAD DURING CONSTRUCTION UNTIL THE COMMISSION ACCEPTS MAINTENANCE OF THE IMPROVED STREET.

27. FOR FULL DEPTH CONSTRUCTION OF THE STREET, PLEASE MAKE A NOTE IN THE PLAN ALL THE SEWER(S) IN THE PROJECT AREA WILL BE TELEVISED BEFORE AND AFTER CONSTRUCTION. CONTACT DEPARTMENT OF WATER MANAGEMENT AT (312) 747-4680.

28. THE CONTRACTOR IS REQUIRED TO CONDUCT A PRE-CONSTRUCTION VIDEOTAPED INSPECTION PRIOR TO THE ISSUANCE OF A SEWER PERMIT AND A POST-CONSTRUCTION VIDEOTAPED INSPECTION PRIOR TO ACCEPTANCE OF THE SEWER. THE VIDEOTAPE MUST BE SUBMITTED TO THE SEWER UNIT OF THE DWM FOR REVIEW AND APPROVAL. SHOULD PRE-CONSTRUCTION TELEVISING INDICATE CONDITIONAL ISSUES WITH THE SEWER, IT SHALL BE REPLACED OR REHABILITATED PRIOR TO CONSTRUCTION AS PART OF THE PROJECT IMPROVEMENT.

29. PLEASE SEE CDWM-SEWER SECTION'S REQUIREMENTS FOR EXISTING FACILITY CONSTRUCTION.

SUMMARY OF QUANTITIES

Item #	DESCRIPTION	UNIT	QUANTITY
1	SPECIAL EXCAVATION	CU YD	4299
2	TREE REMOVAL (6 TO 15 IN DIAMETER)	UNIT	63
3	TREE REMOVAL (OVER 15 IN DIAMETER)	UNIT	16
4	ROOT PRUNING	FOOT	140
5	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU YD	60
6	TRENCH BACKFILL	CU YD	33
7	TOPSOIL FURNISH AND PLACE, 4-INCH	CU YD	134
8	SODDING, SALT TOLERANT	SQ YD	1201
9	TREE PLANTING, 2-1/2 INCH TO 3-INCH B&B	EACH	22
10	SHREDDED HARDWOOD BARK MULCH	SQ YD	123
11	SAND CUSHION, VARIABLE DEPTH	SQ YD	200
12	SUB-BASE GRANULAR MATERIAL, TYPE B, 6-INCH	CU YD	553
13	PORTLAND CEMENT CONCRETE BASE COURSE, 7-INCH	SQ YD	2520
14	BITUMINOUS MATERIALS (TACK COAT)	POUND	1765
15	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2-INCH	TON	283
16	LEVELING BINDER (MACHINE METHOD), N50 1-1/2 INCH	TON	212
17	LEVELING BINDER (HAND METHOD), N50	TON	1
18	BITUMINOUS COST ADJUSTMENT	L SUM	1
19	PORTLAND CEMENT CONCRETE SIDEWALK, 8-INCH	SQ FT	1172
20	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SQ FT	3096
21	PORTLAND CEMENT CONCRETE ADA CURB RAMP, 5-INCH	SQ FT	872
22	PORTLAND CEMENT CONCRETE ADA CURB RAMP, 8-INCH	SQ FT	253
23	LINEAR DETECTABLE WARNING TILES (CAST IRON)	SQ FT	168
24	PORTLAND CEMENT CONCRETE DRIVEWAY AND ALLEY PAVEMENTS, 8-INCH	SQ YD	273
25	CONCRETE CURB, TYPE B	FOOT	50
26	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12	FOOT	1668
27	CRUSHED STONE (TEMPORARY USE)	TON	195
28	DRILL AND GROUT TIE BARS, No.5, EPOXY COATED	EACH	568
29	DRILL AND GROUT DOWEL BARS, No.8, EPOXY COATED	EACH	100
30	PROTECTIVE CONCRETE SEALER	SQ YD	160
31	SAW CUTTING PAVEMENT	FOOT	281
32	DRIVEWAY AND ALLEY RETURN PAVEMENT REMOVAL (SPECIAL)	SQ YD	466
33	SIDEWALK REMOVAL (SPECIAL)	SQ FT	3931
34	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	286
35	PAVEMENT MARKING REMOVAL	SQ FT	368
36	INLET, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	2
37	CATCH BASINS, TYPE A, 4-FOOT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	4
38	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EACH	5
39	STORM SEWERS, EXTRA STRENGTH VITRIFIED CLAY PIPE, 8-INCH	FOOT	58
40	REMOVING CATCH BASINS	EACH	7
41	SEWER CLEANING AND TELEVISING	FOOT	743
42	VORTEX RESTRICTOR	EACH	4
43	FRAMES	EACH	2
44	LIDS	EACH	2
45	ADDITIONAL MASONRY	VERT FT	2
46	THERMOPLASTIC PAVEMENT MARKING, LINE 6-INCH	FOOT	344
47	THERMOPLASTIC PAVEMENT MARKING, LINE 24-INCH	FOOT	241
48	SIGN PANEL, TYPE 1, RETROREFLECTIVE, TYPE A - SINGLE-SIDED	SQ FT	74
49	SIGN PANEL, TYPE 1, RETROREFLECTIVE, TYPE A - DOUBLE-SIDED	SQ FT	8
50	SIGN SUPPORT POST, DIG METHOD	EACH	16
51	SIGN SUPPORT POST, DRILL METHOD	EACH	2
52	REMOVE AND SALVAGE SIGN PANEL	EACH	8
53	REMOVE AND SALVAGE SIGN PANEL AND POLE ASSEMBLY	EACH	14
54	CURB AND MEDIAN PAINTING	FOOT	32
55	ELECTRICAL HANDHOLE, 30-INCH IN DIAMETER WITH A 24-INCH FRAME AND LID	EACH	4
56	CONDUIT IN TRENCH, 2-INCH POLYVINYL CHLORIDE CONDUIT, SCHEDULE No.80	FOOT	136
57	HELIX FOUNDATION, 5 FOOT, 10-INCH BOLT CIRCLE, 4 ANCHOR BOLTS	EACH	9
58	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 1.25-INCH	FOOT	708
59	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 2-INCH	FOOT	262
60	CONDUIT, POLYETHYLENE No.80, DIRECTIONAL BORING, 3-INCH	FOOT	294
61	POLE, ANCHOR BASE, RELOCATE COMPLETE	EACH	3
62	POLE, ARM, LUMINAIRE, EXISTING RESIDENTIAL, PAINT COMPLETE	EACH	1
63	SERVICE ENTRANCE ON POLE TOP, 2-INCH	EACH	1
64	CONDUIT RISER UP POLE, 2-INCH	EACH	1
65	WIRE, TEMPORARY AERIAL, 2-1/C No.8 ALUMINUM	FOOT	220
66	TRIPLEX CABLE IN CONDUIT, 2 1/C No.6 & 1 1/C No.8	FOOT	1967
67	CONTROLLER, RESIDENTIAL STREET LIGHT 240 VOLT	EACH	2
68	REMOVE POLE, STEEL, AB, 7 GA., 27'6"	EACH	2
69	REMOVE LUMINAIRE, 400W/310W,150W	EACH	3
70	REMOVE MAST ARM, STEEL, 8-FOOT	EACH	3
71	REMOVE POLE MOUNTED STREET LIGHT CONTROLLER	EACH	2
72	REMOVE BRANCH WIRES, 2 No.6	FOOT	1233
73	BREAKDOWN STREET LIGHT FOUNDATION	EACH	5
74	POLE, ALUMINUM, RESIDENTIAL, DAVIT, 10-INCH BOLT CIRCLE	EACH	6
75	ARM, DAVIT, ALUMINUM, 4.5-INCH SKY/RES, 8-FOOT	EACH	6
76	LUMINAIRE, LED, FOR RESIDENTIAL STREETS-STAGGERED	EACH	6
77	MID-MOUNT RESIDENTIAL LED ACORN LUMINAIRE AND ARM, SILVER	EACH	6
78	CONSTRUCTION SIGN	EACH	2
79	TRAFFIC CONTROL COMPLETE	L SUM	1
80	ENGINEER'S FIELD OFFICE, TYPE A	CAL MONTH	3
81	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1
82	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1
83	ON-SITE MONITORING OF REGULATED SUBSTANCES	CAL DA	20
84	NON-SPECIAL WASTE DISPOSAL	CU YD	1000
85	SPECIAL WASTE HAULING AND DISPOSAL	TON	6
86	SOIL DISPOSAL ANALYSIS	EACH	2

TREE PLANTING SCHEDULE

SYMBOL	NAME	COMMON NAME	QUANTITY
AG	GINKGO BILOBA	AUTUMN GOLD GINKGO	6 EACH
CO	CELTIS OCCIDENTALIS	HACKBERRY	4 EACH
RL	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	6 EACH
SO	QUERCUS IMBRICARIA	SHINGLE OAK	6 EACH
		TOTALS	22 EACH

MODEL: Model
FILE NAME: pw:\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-sog

USER NAME = kkb	DESIGNED - MR/TC	ADDENDUM NO. 1	
	DRAWN - MR/TC	REVISED - 09/19/2022	1
PLOT SCALE = 20.00 sf / in.	CHECKED - LM/NV	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	3
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

Date of Issue: September 20, 2022
PBC: Addendum No. 1 - WPA Street Reconstruction (Medill Avenue) - C1603

COORDINATION WITH OTHER CITY DEPARTMENTS NOTES

A. WATER SYSTEM WORK AND USAGE

IF WATER FROM A CITY HYDRANT IS NECESSARY FOR THE EXECUTION OF THE WORK, YOU MUST OBTAIN A HYDRANT PERMIT FROM THE CITY'S DEPARTMENT OF WATER MANAGEMENT. YOU MUST OBTAIN A PERMIT FROM THAT DEPARTMENT ALSO FOR ANY CONSTRUCTION, REPAIR OR ADJUSTMENT OF ANY WATER MAIN, BRANCH OR SERVICE CONNECTION. REQUESTS FOR PERMITS MUST BE MADE AT THE DEPARTMENT OF WATER MANAGEMENT, CITY HALL, 121 NORTH LASALLE STREET, ROOM 906, CHICAGO, ILLINOIS 60602; 312/744-7060.

B. SEWER SYSTEM WORK

IF YOU WILL BE CONSTRUCTING, REPAIRING, ADJUSTING OR CLEANING ANY SUBSURFACE STRUCTURE DESIGNED TO COLLECT OR TRANSPORT STORM AND/OR SANITARY WASTE WATER, EITHER IN PRIVATE PROPERTY OR IN THE PUBLIC WAY YOU, THROUGH A LICENSED DRAINLAYER, MUST OBTAIN A PERMIT ISSUED UNDER THIS SECTION X.B. (A LICENSED DRAINLAYER IS A PERSON POSSESSING A CURRENT SEWER AND DRAIN LICENSE ISSUED BY THE DEPARTMENT OF WATER MANAGEMENT.) REQUESTS FOR PERMITS MUST BE MADE AT THE DEPARTMENT OF WATER MANAGEMENT (SEWERS AND DRAINS), 333 S. STATE STREET, ROOM 410, CHICAGO, IL 60604-3971; 312/747-8117.

PROJECT PLANS MUST BE SUBMITTED TO THE DEPARTMENT OF WATER MANAGEMENT (SEWERS AND DRAINS) SUFFICIENTLY IN ADVANCE FOR EXAMINATION AND REVIEW. PLANS MEETING THE DEPARTMENT'S REQUIREMENTS MUST BE SUBMITTED WITH THE APPLICATION FOR PERMIT AT LEAST FOUR DAYS BEFORE THE ISSUANCE OF PERMIT. WHEN APPLYING FOR A PERMIT, YOU MUST SUBMIT THREE SETS OF PLANS THAT SHOW ALL NEW UNDERGROUND SEWER WORK INSIDE AND AROUND THE PROJECT WITH A CLEAR SITE OR LOCATION PLAN TOGETHER WITH THE ESTIMATE OF QUANTITIES FOR SEWER SIZES AND SEWER STRUCTURES TO BE INSTALLED.

A COPY OF THE PERMIT MUST BE ON THE WORK SITE BEFORE THE START OF CONSTRUCTION. FAILURE TO OBTAIN A PERMIT BEFORE THE START OF CONSTRUCTION WILL RESULT IN A PENALTY AND COULD RESULT IN THE REVOCATION OF THE DRAINLAYER'S LICENSE.

YOU MUST ARRANGE FOR SEWER INSPECTIONS AT LEAST 48 HOURS BEFORE THE START OF WORK. INSPECTIONS MAY BE REQUESTED BY CALLING (312)744-7501 FOR PLUMBING INSPECTIONS AND (312) 747-7892 FOR MASON INSPECTIONS.

C. PARKING METER REMOVAL AND REPLACEMENT

THE CITY VIA THE METERED PARKING CONCESSIONAIRE SHALL CLOSE OR REMOVE AND OPENED OR REINSTALL ANY PARKING METERS, INCLUDING SIGNS INDICATING PAY BOXES, AS MAY BE REQUIRED. HOWEVER, YOU MUST PAY ALL FEES AND LOST METER REVENUES REQUIRED BY M 9-68-050 OF THE CHICAGO MUNICIPAL CODE. YOU MUST ADVISE THE DEPARTMENT OF TRANSPORTATION, BUREAU OF INSPECTIONS, CONSTRUCTION COMPLIANCE SECTION (PUBLIC WAY PERMITS), ROOM 804, CITY HALL, CHICAGO, ILLINOIS 60602, IN WRITING AT LEAST TWO WEEKS IN ADVANCE OF THE CLOSURE CITING THE LOCATION AND METER NUMBER OF THE METERS TO BE CLOSED OR REMOVED. CLOSURES OF LESS THAN 6 HOURS ON A GIVEN DAY AND LIMITED TO LESS THAN 10 BUSINESS DAYS ARE STRONGLY ENCOURAGED, AND YOU MUST BE PREPARED TO DETAIL ANY REASON REQUIRING CLOSURES OF A LONGER HOURLY AND DAILY DURATION.

YOU MAY NOT REMOVE ANY PARKING METERS WITHOUT THE EXPRESS WRITTEN CONSENT OF THE COMMISSIONER. IF YOU VIOLATE THIS PROVISION, YOU (A) RECOGNIZE THAT THE CITY WILL SUFFER DAMAGES AS A RESULT, INCLUDING THE COSTS INCURRED BY THE CITY IN TRACKING, RETRIEVING, AND REPAIRING DAMAGE TO THE PARKING METERS, AND (B) WILL BE LIABLE FOR LIQUIDATED DAMAGES IN THE AMOUNT OF $350 FOR EACH SINGLE-SPACE PARKING METER OR $10,000 FOR EACH PAY BOX YOU REMOVED. ALL AMOUNTS, INCLUDING ANY OTHER DEBTS, WILL BE DEDUCTED FROM ANY AMOUNTS DUE OR THAT MAY BECOME DUE YOU.

NOTIFICATION MUST BE PROVIDED IMMEDIATELY ONCE METERS CAN BE OPENED OR REINSTALLED. THAT NOTIFICATION MUST BE E-MAILED TO THE DEPARTMENT OF REVENUE AT PARKING-METER-CLOSURE@CITYOFCHICAGO.ORG. PLEASE INCLUDE "REOPEN/REINSTALL" IN THE SUBJECT LINE AND PROVIDE DETAILS CONCERNING PERMIT NUMBERS, LOCATIONS, AND DATES THAT THE METERS MAY BE OPENED OR REINSTALLED.

THE CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION AND THE DEPARTMENT OF REVENUE MAY MODIFY THESE REQUIREMENTS IN THE FUTURE.

D. TRAFFIC AND PARKING SIGN REMOVAL AND REPLACEMENT

THE CITY WILL REMOVE AND RE-INSTALL ANY TRAFFIC AND PARKING SIGN(S) AS MAY BE REQUIRED, HOWEVER, YOU WILL BE RESPONSIBLE FOR ALL FEES RELATIVE TO THE REMOVAL AND REPLACEMENT OF ALL OF THE CITY'S TRAFFIC AND PARKING SIGNS. YOU MUST INFORM THE BUREAU OF SIGNS AND MARKINGS, IN WRITING, OF THE LOCATION OF EACH SIGN TO BE REMOVED AND SPECIFY ITS DISTANCE FROM THE PROPERTY LINE OF THE NEAREST CROSS STREET. EACH SIGN LEGEND MUST ALSO BE STATED. THIS INFORMATION MUST BE PROVIDED AT LEAST FIVE DAYS BEFORE REMOVAL. YOU MUST ALSO INFORM THE BUREAU OF SIGNS AND MARKINGS, IN WRITING, OF WHEN SIGNS MAY BE REINSTALLED AS SOON AS THIS DATE IS KNOWN. CONTACT THE BUREAU OF SIGNS AND MARKINGS, 3458 S. LAWNDALE, CHICAGO, ILLINOIS, 60623, ATTN.: DEPUTY COMMISSIONER, (312)747-2210.

E. TREES

IN ACCORDANCE WITH §10-32-060 *ET SEQ*. OF THE MUNICIPAL CODE, YOU MUST OBTAIN A PERMIT FROM THE BUREAU OF FORESTRY WHEN REMOVING PLANTING, TRIMMING, SPRAYING, OR IN ANY WAY AFFECTING THE GENERAL HEALTH OR STRUCTURE OF TREES IN THE PUBLIC WAY. THERE IS NO FEE FOR THIS PERMIT. THE PERMIT MUST BE OBTAINED FROM THE BUREAU OF FORESTRY PERMITS DIVISION; 3200 S. KEDZIE, CHICAGO, ILLINOIS 60623; (312/747-2098), FAX (312) 747-2178.

THE BUREAU OF FORESTRY REQUIRES 48 HOURS' NOTICE BEFORE STARTING WORK FOR ALL ACTIVITIES WITH THE EXCEPTION OF TREE PLANTING, WHICH REQUIRES TWO WEEKS' PRIOR NOTICE. TO OBTAIN TREE PLANTING PERMITS, TWO COPIES OF THE SITE PLAN MUST BE PRESENTED TO THE BUREAU FOR ITS REVIEW AND APPROVAL. A BUREAU REPRESENTATIVE MUST ALSO ASSIST IN THE SELECTION OF THOSE TREES TO BE PLANTED IN THE PUBLIC WAY. TREE PLANTING STANDARDS AND SPECIFICATIONS ARE OUTLINED IN THE BUREAU OF FORESTRY'S "MANUAL OF TREE PLANTING STANDARDS," WHICH IS AVAILABLE UPON REQUEST FROM THE BUREAU OF FORESTRY.

F. DEMOLITION

IF DEMOLITION OF A STRUCTURE OR REMOVAL OF AN UNDERGROUND STORAGE TANK IS REQUIRED DURING CONSTRUCTION, YOU MUST OBTAIN A PERMIT AND PAY THE REQUIRED FEE AS SET FORTH IN THE MUNICIPAL CODE AND ITS AMENDMENTS TO DATE. THE PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF CONSTRUCTION AND PERMITS, CITY HALL, 121 NORTH LASALLE STREET, ROOM 900, CHICAGO, ILLINOIS 60602; (312/744-3400).

PROTECTION OF EXISTING TREES IN THE RIGHT OF WAY

1. IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 10-32 OF THE MUNICIPAL CODE YOU MUST PROTECT ALL TREES AND SHRUBS AT THE CONSTRUCTION SITE FROM DAMAGE. YOU MUST RESTORE ALL DAMAGED PARKWAYS TO THEIR ORIGINAL CONDITION AND REPAIR OR REMOVE AND REPLACE ANY TREES AND SHRUBS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY (AS DETERMINED BY THE DEPARTMENT OF STREETS AND SANITATION, BUREAU OF FORESTRY) AT YOUR EXPENSE. IF ANY TREES OR SHRUBS DAMAGED BY CONSTRUCTION ACTIVITY MUST BE REMOVED AND REPLACED, AND TREES OR SHRUBS OF COMPARABLE SIZE, TYPE, AND VALUE ARE UNAVAILABLE OR THE TIME FOR PLANTING IS UNSUITABLE, THE CITY WILL CHARGE YOU THEIR APPRAISED VALUE DETERMINED AS PROVIDED UNDER §10-32-200 OF THE MUNICIPAL CODE, WHICH AMOUNT THE CITY WILL DEDUCT FROM AMOUNTS DUE YOU, OR, IF NO AMOUNTS ARE DUE, THEN YOU MUST PROMPTLY PAY THE CITY THE AMOUNTS DETERMINED. ANY TREE GREATER THAN 4" D.B.H. THAT IS PERMANENTLY DAMAGED DUE TO THE CONSTRUCTION PROJECT AND NOT ORIGINALLY MARKED FOR REMOVAL MUST BE REPLACED WITH A NEW TREE AS IDENTIFIED BY THE BUREAU OF FORESTRY AND MUST HAVE A MINIMUM OF 4" CALIPER B&B. ANY DAMAGED TREE SMALLER THAN 4" CALIPER MEASURED 6" ABOVE THE GROUND MUST BE REPLACED IN KIND, INCH FOR INCH.

2. YOU MUST INSTALL A PROTECTION BARRIER OR TEMPORARY FENCE OF AT LEAST 1.2M (4 FEET) IN HEIGHT AROUND EACH TREE TO BE PROTECTED AND PRESERVED. THE TREE PROTECTION MUST BE INSTALLED BEFORE THE ACTUAL CONSTRUCTION STARTS AND MAINTAINED FOR THE DURATION OF THE PROJECT.

   WITHIN THIS PROTECTION ZONE, YOU MUST PREVENT CONSTRUCTION MATERIALS FROM BEING STORED, EQUIPMENT FROM BEING OPERATED AND TEMPORARY STORAGE BUILDINGS OR WORK TRAILERS FROM BEING PLACED.

   THE PROTECTION BARRIER MUST BE CONSTRUCTED OF ORANGE SNOW FENCING SECURELY FASTENED TO FENCE POSTS SPACED A MAXIMUM OF 1.5 M (5 FEET) ON CENTER. POSTS ARE 1.8M (6 FEET) IN LENGTH WITH 61 CM (2 FEET) SET INTO THE GROUND AND 1.2M (4 FEET) EXTENDING ABOVE GROUND. THE FENCING MUST BE ATTACHED TO THE POST WITH A MINIMUM OF FOUR NYLON LOCKING TIES EVENLY SPACED AT EACH POST.

   DIMENSIONS OF THE PROTECTION BARRIER ARE AS FOLLOWS:

   TREES LOCATED IN TREE PITS: WHERE TREES ARE LOCATED WITHIN TREE PITS, THE TEMPORARY FENCING SHOULD BE INSTALLED AT A MINIMUM DISTANCE OF THE INSIDE DIMENSION OF THE TREE PIT OPENING WITH ONE STAKE AT EACH CORNER OF THE OPENING.

   TREES LOCATED IN PARKWAYS OR BOULEVARDS:

   SMALL TREES (<9" D.B.H.): MINIMUM 1.5M (5 FEET) FROM FACE OF TREE ALONG THE PARKWAY LENGTH. IN THE DIMENSION BORDERED BY THE PUBLIC SIDEWALK OR CURB, THE TEMPORARY FENCING MUST BE THE WIDTH OF THE GRASS PARKWAY WITH A MAXIMUM OFFSET OF 30CM (1 FOOT) FROM BACK OF CURB OR EDGE OF SIDEWALK. IN NO CASE MUST THE CLOSURE BE LESS THAN 61CM (2 FEET) FROM THE CENTERLINE OF THE TREE.
   (EXAMPLE: 6" TREE IN A 6' PARKWAY AS MEASURED FROM BACK OF CURB TO SIDEWALK. THE DIMENSION OF THE PROTECTION FENCING WOULD BE 1.2M X 3M (4' X 10') WITH TREE IN THE CENTER). NOTE: LARGER GRASS PARKWAYS (>12') MAY ALLOW FOR A TEN FOOT BY TEN FOOT (10' X 10'). THUS, THE DIMENSION BORDERED BY THE SIDEWALK OR CURB WOULD NOT AFFECT FENCING DISTANCE.

   MEDIUM (10" TO 15" D.B.H.): MINIMUM OF TEN (10) FEET FROM FACE OF TREE ALONG THE PARKWAY LENGTH. IN THE DIMENSION BORDERED BY THE PUBLIC SIDEWALK OR CURB, THE FENCING MUST BE THE WIDTH OF THE GRASS PARKWAY WITH A MAXIMUM OFFSET OF ONE FOOT FROM BACK OF CURB OR EDGE OF SIDEWALK. IN NO CASE MUST THE CLOSURE BE LESS THAN TWO FEET FROM THE CENTERLINE OF THE TREE.

   LARGE (>15" D.B.H.): MINIMUM OF 15 FEET FROM FACE OF TREE ALONG THE PARKWAY LENGTH. IN THE DIMENSION BORDERED BY THE PUBLIC SIDEWALK OR CURB, THE FENCING MUST BE THE WIDTH OF THE GRASS PARKWAY WITH A MAXIMUM OFFSET OF ONE FOOT FROM BACK OF CURB OR EDGE OF SIDEWALK. IN NO CASE MUST THE CLOSURE BE LESS THAN TWO FEET FROM THE CENTERLINE OF THE TREE.

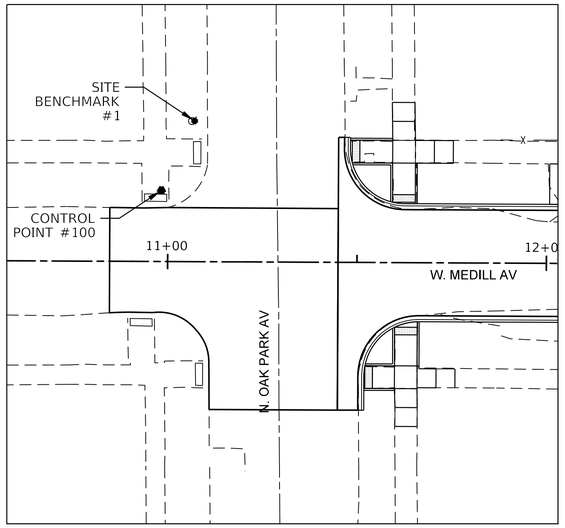
USER NAME = kkb	DESIGNED - MR/JB	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION
	DRAWN - MR/JB	REVISED - 09/19/2022	
PLOT SCALE = 20.00 sf / in.	CHECKED - LM/NV	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

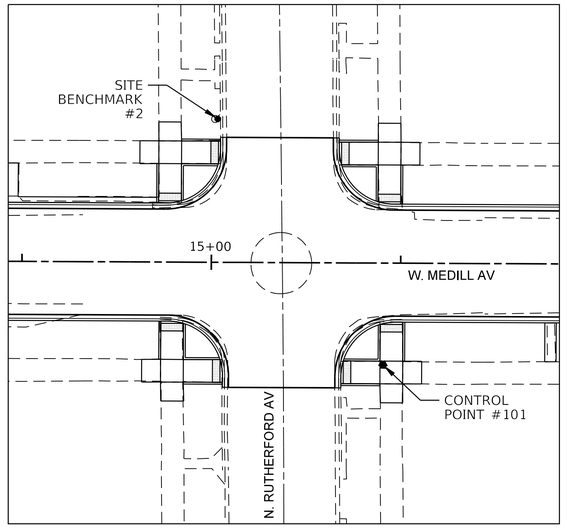
MODEL: Model

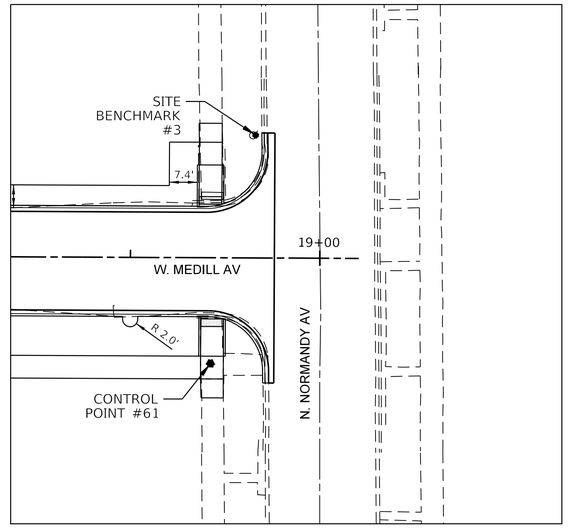
GENERAL NOTES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	3a
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



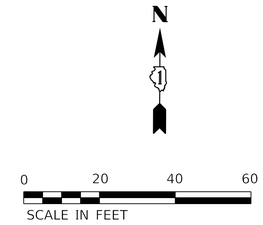




ALIGNMENT TIES AND BENCHMARKS W. MEDILL AV

CONTROL POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION	STATION	OFFSET
CITY BENCHMARK #244	W. DICKENS AV AND N. NEWLAND AV ABOUT 8.8' S. OF THE N. LINE OF W. DICKENS AV ABOUT 2.6' W. OF THE W. LINE OF N. NEWLAND AV	SEE DESCRIPTION	SEE DESCRIPTION	66.827	SEE NOTE	SEE NOTE
BM #1	CHAIN BOLT ON FIRE HYDRANT AT THE NORTHWEST CORNER OF W. MEDILL AV AND N. OAK PARK AV	NOT AVAILABLE	NOT AVAILABLE	70.25	11+06.96	37.15' LT
BM #2	CHAIN BOLT ON FIRE HYDRANT AT THE NORTHWEST CORNER OF W. MEDILL AV AND N. RUTHERFORD AV	NOT AVAILABLE	NOT AVAILABLE	71.56	15+01.50	37.86' LT
BM #3	NORTH NORTWEST FLANGE BOLT ON FIRE HYDRANT AT THE NORTHWEST CORNER OF W. MEDILL AV AND N. NORMANDY AV	NOT AVAILABLE	NOT AVAILABLE	69.17	18+82.90	32.41' LT
CP #100	ADA RAMP AT NORTHWEST CORNER OF W. MEDILL AV AND N. OAK PARK AV (CROSS CUT)	NOT AVAILABLE	NOT AVAILABLE	68.93	10+98.27	18.75' LT
CP #101	CORNER OF SIDEWALK AT SOUTHEAST CORNER OF W. MEDILL AV AND N. RUTHERFORD AV (CROSS CUT)	NOT AVAILABLE	NOT AVAILABLE	70.86	15+45.53	26.86' RT
CP #61	MIDDLE OF SIDEWALK AT SOUTHWEST CORNER OF W. MEDILL AV AND N. NORMANDY AV (CROSS CUT)	1914750.625	1131441.915	68.46	18+71.24	27.94' RT

NOTE: BENCHMARK/CONTROL POINTS LOCATED OUTSIDE OF PROJECT BOUNDARIES. NOT SHOWN ON SHEET.



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CDOT

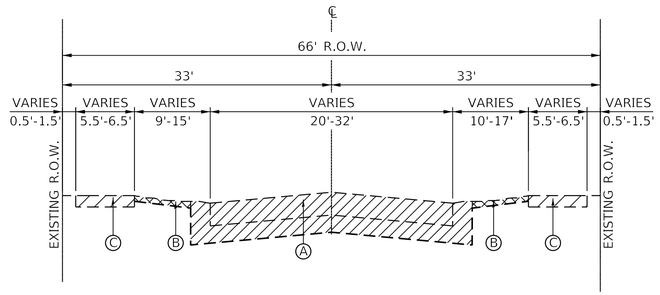
USER NAME = kkb	DESIGNED - MR/TC	ADDENDUM NO. 1
	DRAWN - MR/TC	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - LM/NV	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES, AND BENCHMARKS

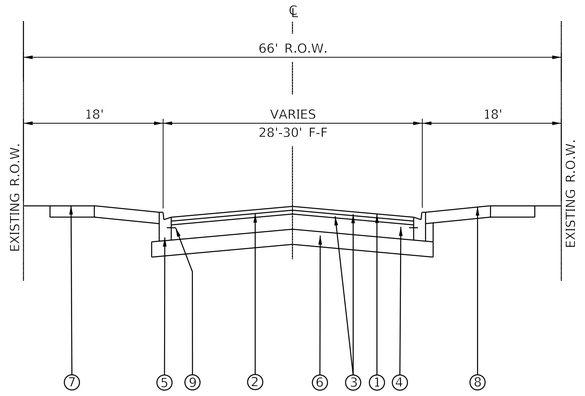
SCALE: 1:20 | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	4
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



EXISTING TYPICAL SECTION

W. MEDILL AVE.
STA. 11+45 TO STA. 18+88
(NTS)



PROPOSED TYPICAL SECTION

W. MEDILL AVE.
STA. 11+45 TO STA. 18+88
(NTS)

EXISTING LEGEND

- Ⓐ EXISTING PAVEMENT (TO BE REMOVED, VARIES 3" TO 8")
- Ⓑ GRASS OR GRAVEL PARKWAY
- Ⓒ EXISTING CONCRETE SIDEWALK (SEE NOTE 2)

REMOVAL LEGEND

- SPECIAL EXCAVATION
- DRIVEWAY AND ALLEY RETURN PAVEMENT REMOVAL
- SIDEWALK REMOVAL

PROPOSED LEGEND

- ① HOT MIX ASPHALT SURFACE COURSE, MIX D, N50, 2"
- ② LEVELING BINDER COURSE, (MACHINE METHOD), N50, 1½"
- ③ BITUMINOUS MATERIALS (TACK COAT)
- ④ P.C.C. BASE COURSE, 7"
- ⑤ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12
- ⑥ SUB-BASE GRANULAR MATERIAL, TYPE B, 6"
- ⑦ P.C.C. SIDEWALK, 5" (SEE NOTES 1 & 2)
- ⑧ TOPSOIL, 4" AND SODDING
- ⑨ DRILL AND GROUT TIE BARS, No.5, EPOXY COATED

NOTES:

1. NEW SIDEWALK SHALL BE CONSTRUCTED AT LOCATIONS AS NOTED ON THE PLANS.
2. SIDEWALK SHALL BE REPLACED AT LOCATIONS NOTED ON THE PLANS OR AS DIRECTED BY THE COMMISSION.
3. BITUMINOUS TACK COAT MUST BE APPLIED AT THE RATE OF 0.05 TO 0.025 POUNDS PER SQUARE FOOT. TACK COAT MUST BE APPLIED WHEN SO DIRECTED BY THE COMMISSION.
4. THE SUBBASE MATERIAL MUST BE CRUSHED STONE HAVING A CA-6 GRADATION WHICH MUST BE FURNISHED, PLACED TO A 6 INCH DEPTH, AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS FOR SUBBASE GRANULAR MATERIAL, TYPE B, AS STATED IN APPLICABLE PORTIONS OF SECTION 311 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
5. PAVEMENT REMOVAL MUST BE PRECEDED BY FULL DEPTH SAW CUTTING TO SEPARATE THE PORTION TO BE REMOVED FROM THE PORTION TO REMAIN. ANY PAVEMENT BEYOND THE LIMITS MARKED FOR REMOVAL THAT IS DAMAGED BY THE CONSTRUCTION MUST BE CUT FULL DEPTH WITH A CONCRETE SAW AND REPLACED AT NO ADDITIONAL COST TO THE CONTRACT.
6. FOR PORTLAND CEMENT CONCRETE PAVEMENT JOINTING AND COMBINATION CONCRETE CURB AND GUTTER JOINTING DETAILS, REFER TO THE LATEST DETAIL CONSTRUCTION STANDARDS OF THE DIVISION OF ENGINEERING, CHICAGO DEPARTMENT OF TRANSPORTATION.

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USER NAME = kkb	DESIGNED - MR/JB	ADDENDUM NO. 1	**CITY OF CHICAGO**	**TYPICAL SECTIONS**
	DRAWN - MR/JB	REVISED -	**DEPARTMENT OF TRANSPORTATION**	
PLOT SCALE = 20.0000 ' / in.	CHECKED - LM/NV	REVISED -		SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	5
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

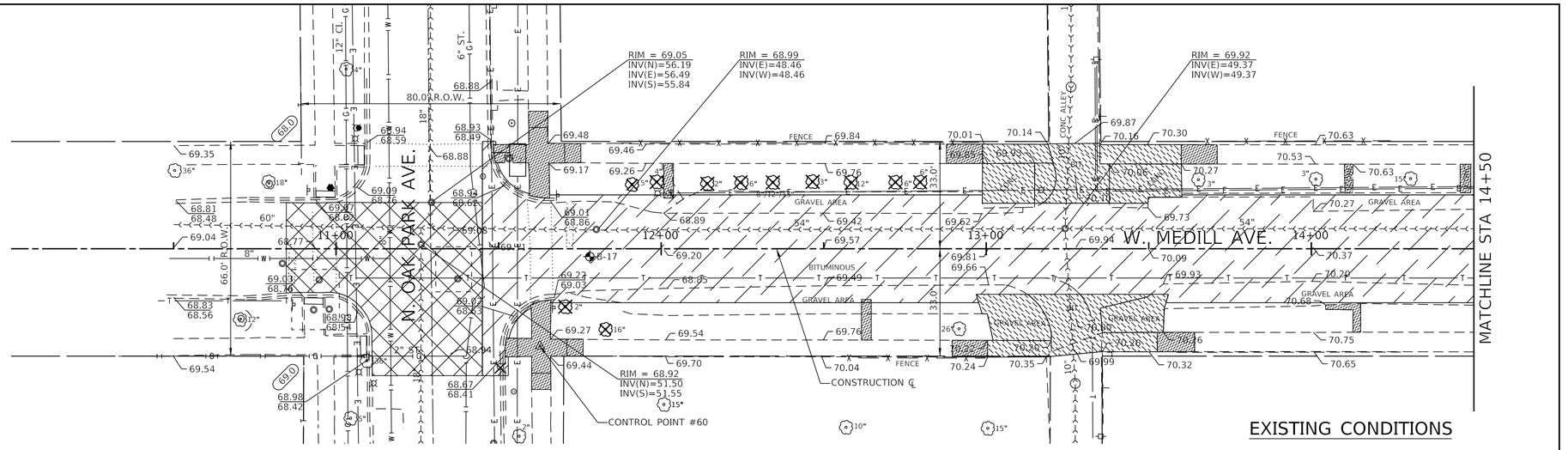
0 20 40 60

SCALE IN FEET

N

REMOVAL LEGEND

- SPECIAL EXCAVATION
- SIDEWALK REMOVAL
- DRIVEWAY AND ALLEY RETURN PAVEMENT REMOVAL
- HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH



EXISTING CONDITIONS

0 20 40 60

SCALE IN FEET

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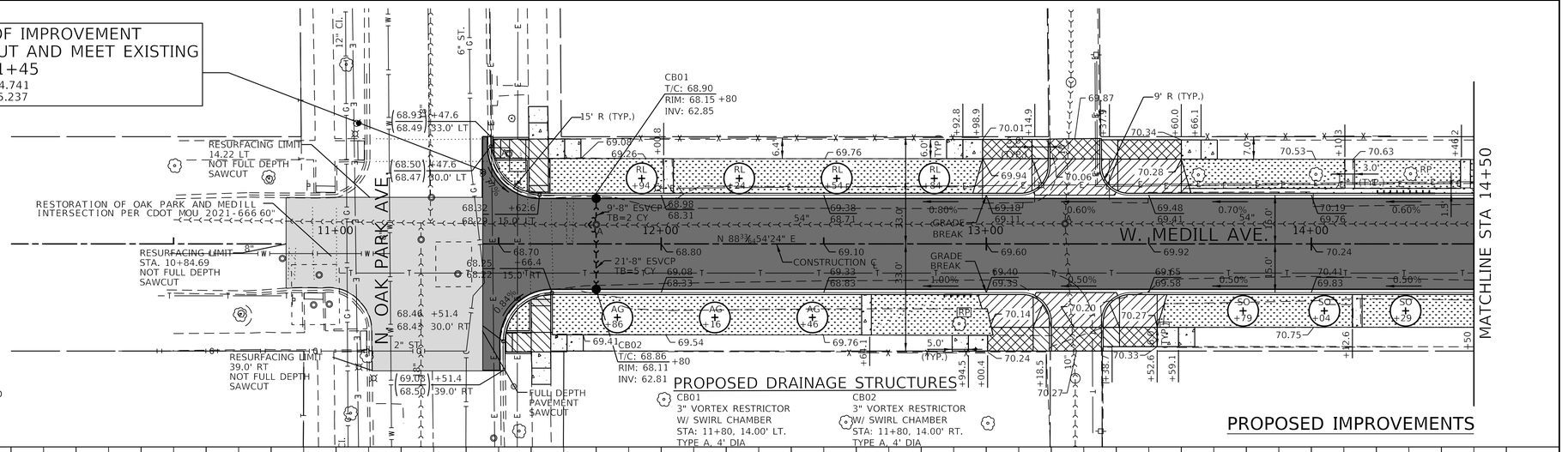
PROPOSED LEGEND

- PROPOSED PAVEMENT RECONSTRUCTION
- PROPOSED PAVEMENT RESURFACING
- PROPOSED ADA RAMP
- TACTILE/DETECTABLE WARNING TILES
- PROPOSED SIDEWALK, 5 INCH
- PROPOSED SIDEWALK, 8 INCH
- PROPOSED DRIVEWAY AND ALLEY PAVEMENTS
- PROPOSED SODDING
- PROPOSED CURB AND GUTTER
- ROOT PRUNING

LIMIT OF IMPROVEMENT
SAW CUT AND MEET EXISTING
STA. 11+45
N=1914764.741
E=1130715.237



TREE LEGEND

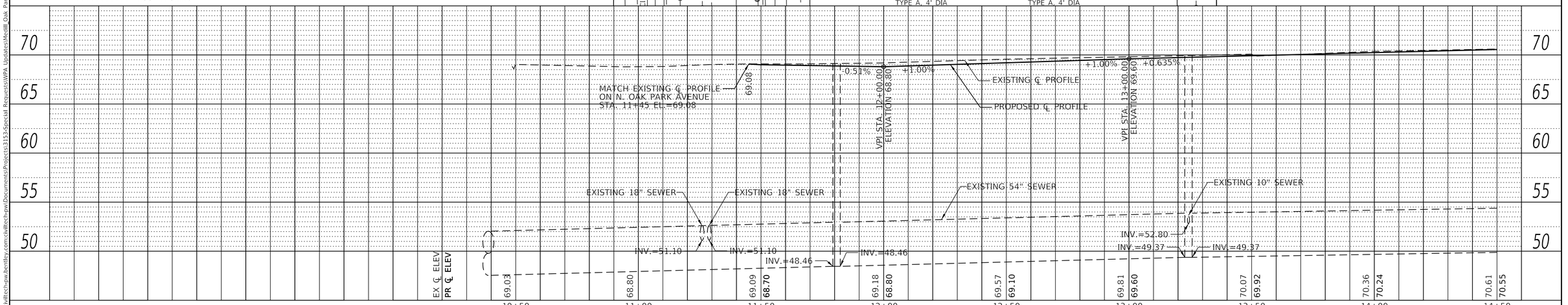
AG=AUTUMN GOLD GINKGO
CO=HACKBERRY
RL=REDMOND LINDEN
SO=SHINGLE OAK
RP=ROOT PRUNING

PROPOSED DRAINAGE STRUCTURES

CB01
3" VORTEX RESTRICTOR
W/ SWIRL CHAMBER
STA: 11+80, 14.00' LT.
TYPE A, 4' DIA

CB02
3" VORTEX RESTRICTOR
W/ SWIRL CHAMBER
STA: 11+80, 14.00' RT.
TYPE A, 4' DIA

PROPOSED IMPROVEMENTS



PROFILE

SURVEYED
PLOTTED
DRAWN
B.M. NOTED
STRUCTURE NO

CHECKED
CHECKED
CHKD

NOTE BOOK
NO.

DATE
BY

PLAN

SURVEYED
PLOTTED
DRAWN
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME

NOTE BOOK
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USER NAME = kkb	DESIGNED - MR/JB	ADDENDUM NO. 1	
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CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE

SCALE: 1:20 | SHEET 1 OF 2 SHEETS | STA. 11+45 TO STA. 14+50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	6
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Date of Issue: September 20, 2022
PBC: Addendum No. 1 - WPA Street Reconstruction (Medill Avenue) - C1603

USER NAME = kkb	DESIGNED - MR/JB	ADDENDUM NO. 1
	DRAWN - MR/JB	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - LM/NV	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE

SCALE: 1:20 | SHEET 2 OF 2 SHEETS | STA. 14+50 TO STA. 18+88

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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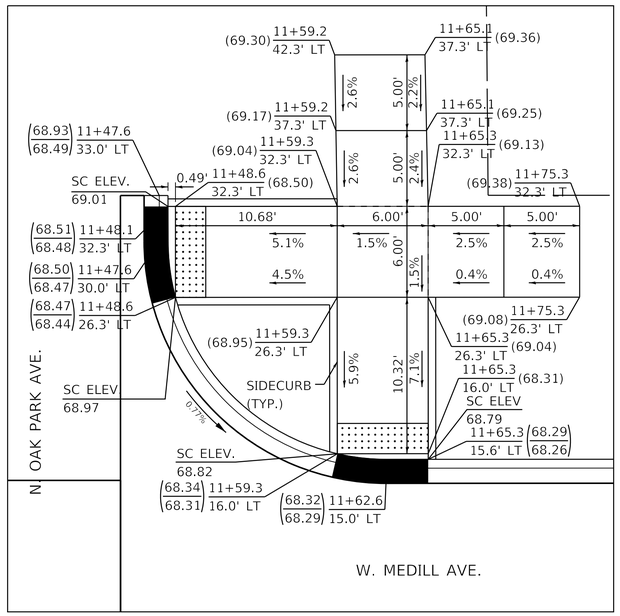
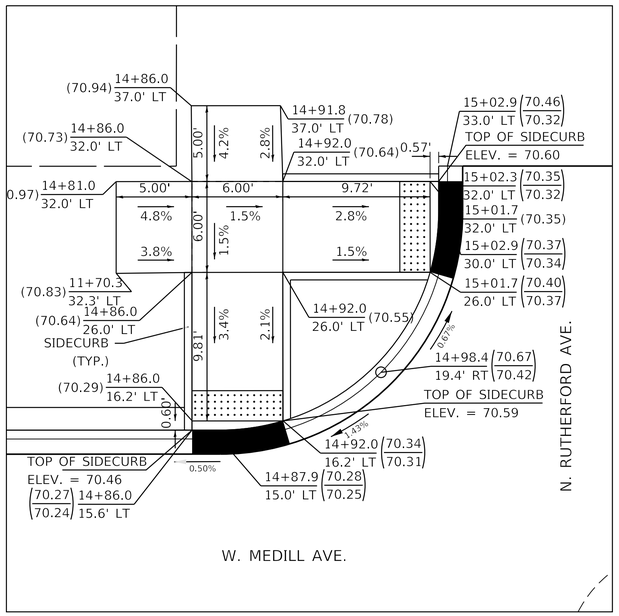
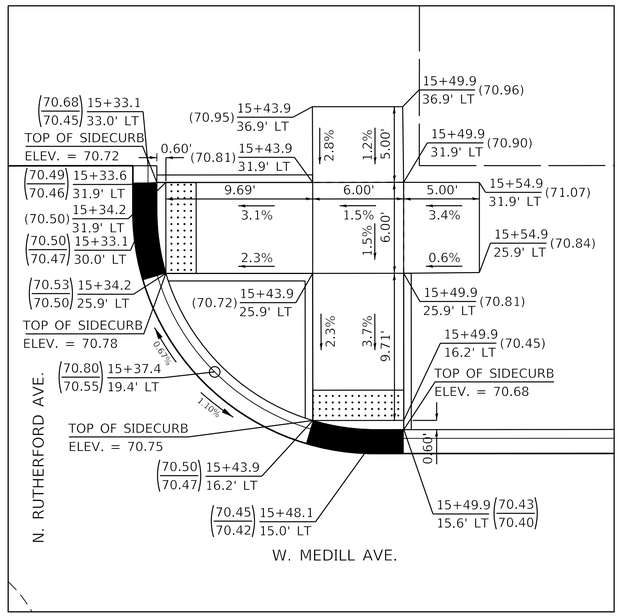
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



NE CORNER MEDILL AVE. &
OAK PARK AVE.



NW CORNER MEDILL AVE. &
RUTHERFORD AVE.



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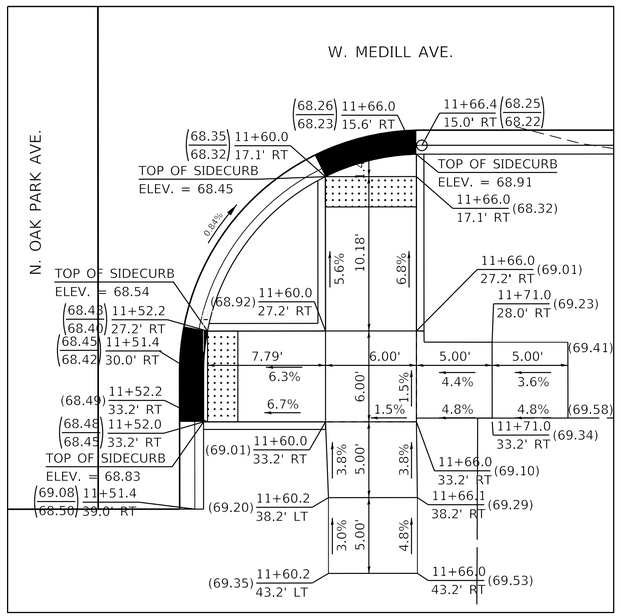
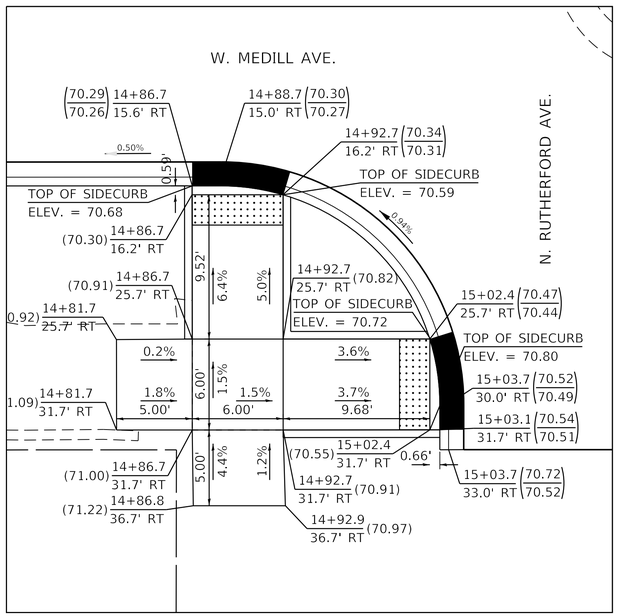
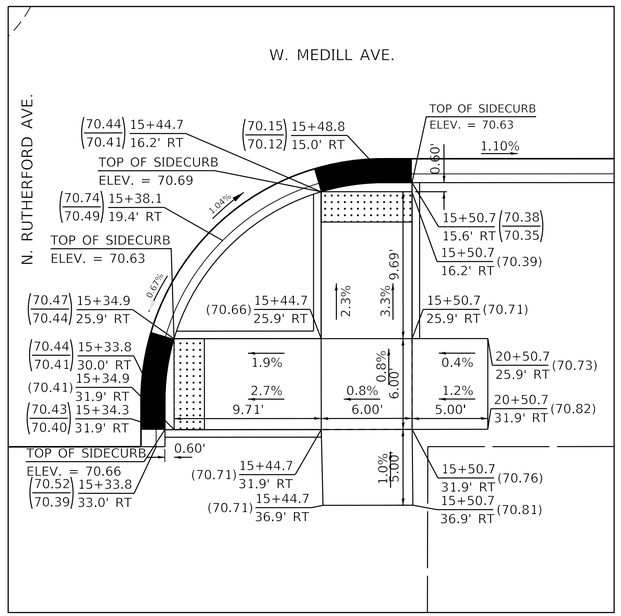
RUTHERFORD AVE.



SE CORNER MEDILL AVE. &
OAK PARK AVE.



SW CORNER MEDILL AVE. &
RUTHERFORD AVE.



SE CORNER MEDILL AVE. &
RUTHERFORD AVE.

NOTES

XX.XX - TOP OF CURB ELEVATION
XX.XX - FLOWLINE ELEVATION

HP - HIGH POINT

VARY CURB HEIGHT AS NEEDED TO ACHIEVE ELEVATIONS AS SHOWN. (MINIMUM CURB HEIGHT = 3")

SC = TOP OF SIDE CURB

■ - DEPRESSED CURB

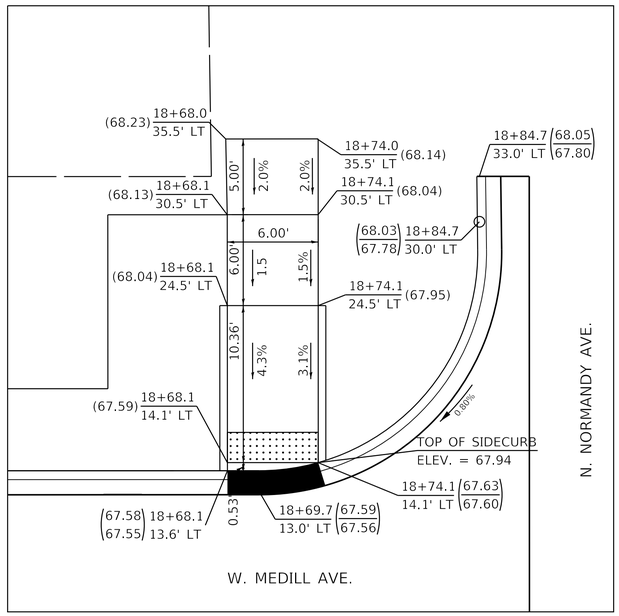
5 0 5 10
SCALE: 1" = 5'

N

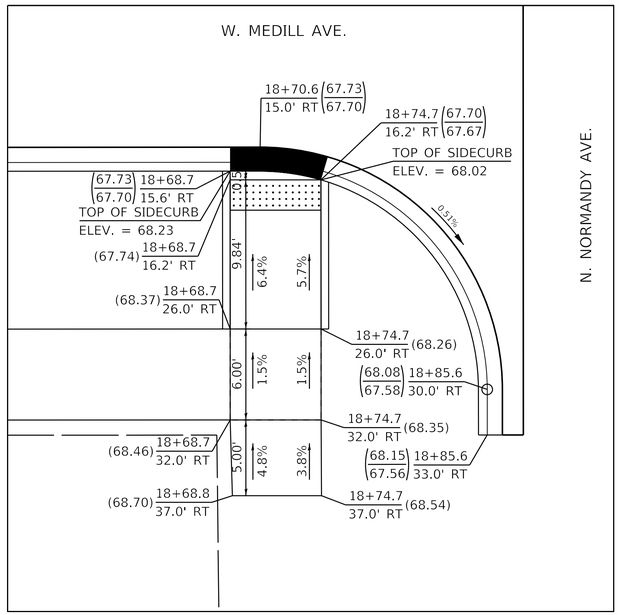
MODEL: Default
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC_Sheets\21-NO-01-sht-ada01

USER NAME = kkb	DESIGNED - SE/JB	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION	ADA GRADING DETAILS	
	DRAWN - SE/JB	REVISED -			
PLOT SCALE = 5.0000 ' / in.	CHECKED - LM/NV	REVISED -		SCALE: 1:5 SHEET 1 OF 4 SHEETS STA. TO STA.	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -			

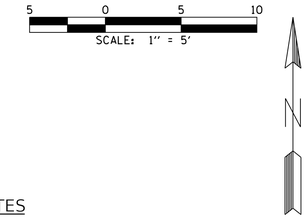
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	8
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



NW CORNER MEDILL AVE. & NORMANDY AVE.



SW CORNER MEDILL AVE. & NORMANDY AVE.



NOTES

XX.XX - TOP OF CURB ELEVATION
XX.XX - FLOWLINE ELEVATION

HP - HIGH POINT

VARY CURB HEIGHT AS NEEDED TO ACHIEVE ELEVATIONS AS SHOWN. (MINIMUM CURB HEIGHT = 3")

SC = TOP OF SIDE CURB

- DEPRESSED CURB

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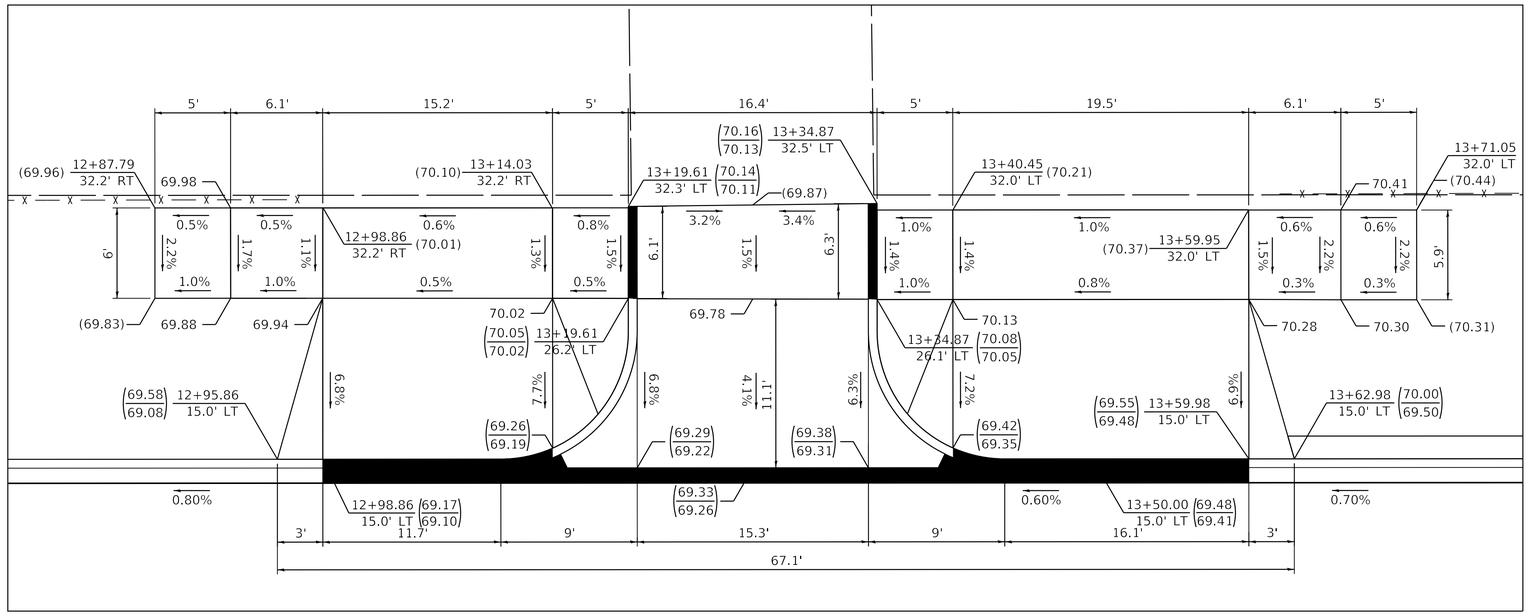
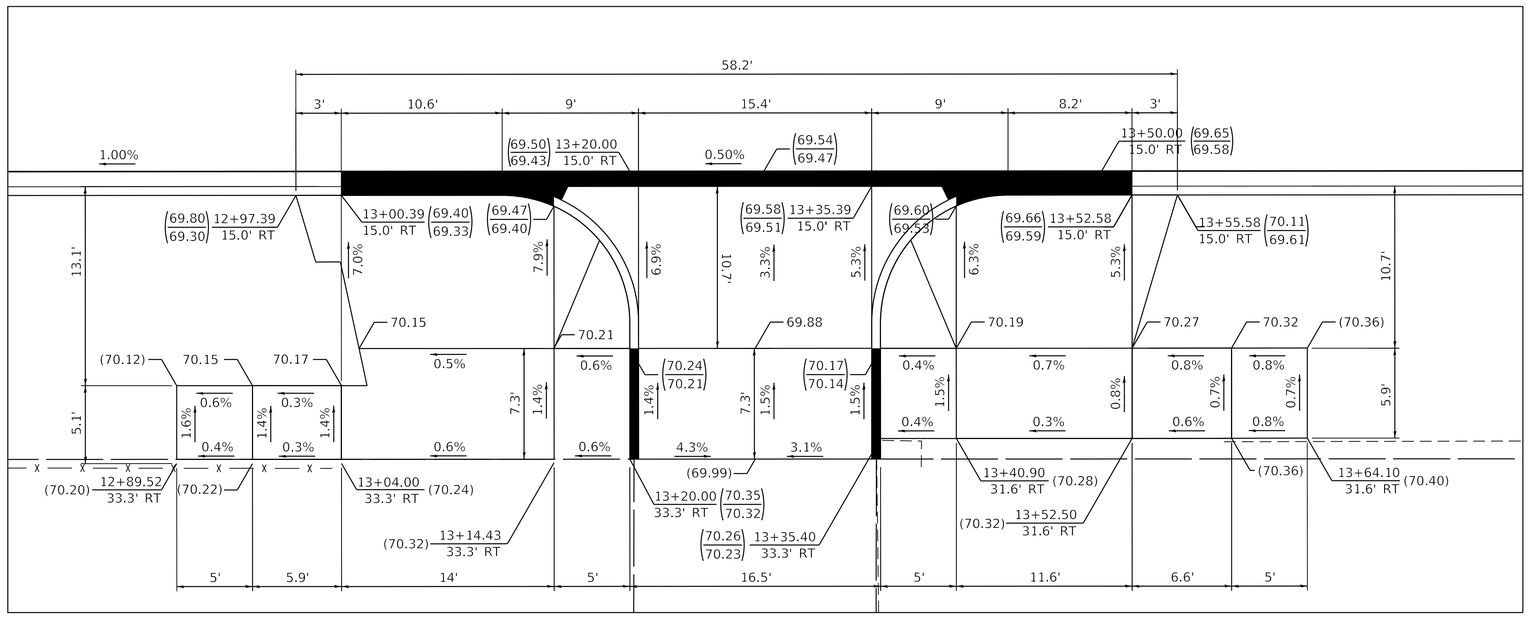
USER NAME = kkb	DESIGNED - SE/JB	ADDENDUM NO. 1	**CITY OF CHICAGO**	**ADA GRADING DETAILS**	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN - SE/JB	REVISED -	**DEPARTMENT OF TRANSPORTATION**		COOK / 27 / 9
PLOT SCALE = 5.0000 ' / in.	CHECKED - LM/NV	REVISED -			CONTRACT NO.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		SCALE: 1:5 / SHEET 2 OF 4 SHEETS / STA. / TO STA.	ILLINOIS / FED. AID PROJECT



MEDILL AVENUE - WESTBOUND
STA. 13+27.24



MEDILL AVENUE - EASTBOUND
STA. 13+27.70

5 0 5 10
SCALE: 1" = 5'

N

NOTES
XX.XX - TOP OF CURB ELEVATION
XX.XX - FLOWLINE ELEVATION

HP - HIGH POINT

VARY CURB HEIGHT AS NEEDED TO ACHIEVE ELEVATIONS AS SHOWN. (MINIMUM CURB HEIGHT = 3")

SC = TOP OF SIDE CURB

■ - DEPRESSED CURB

MODEL: Default
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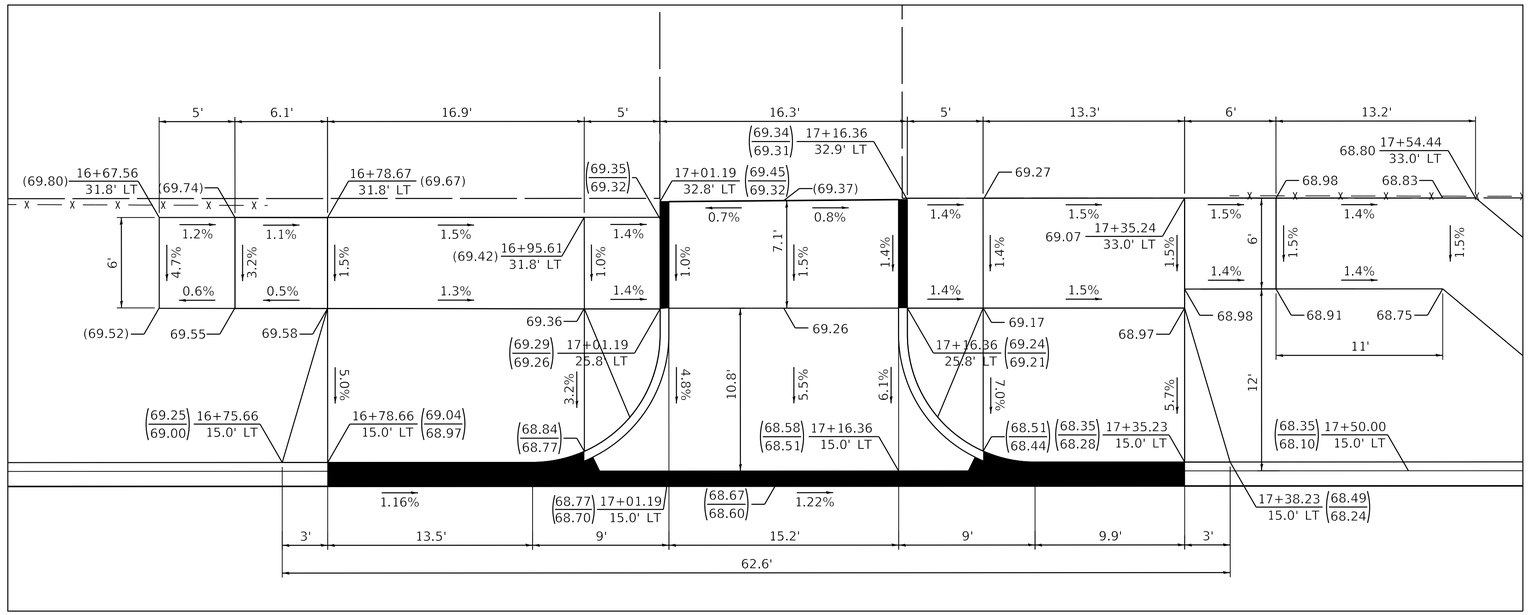
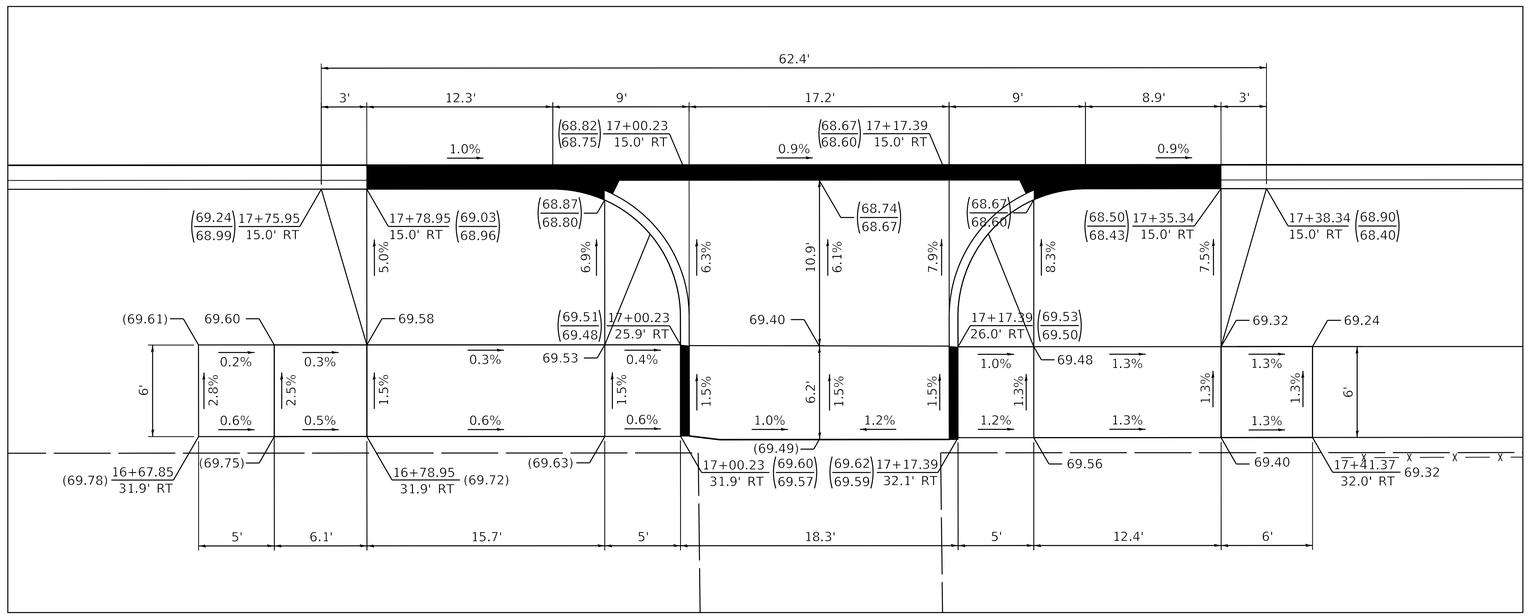
USER NAME = kkb	DESIGNED - MR/EV	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION	ADA GRADING DETAILS	
	DRAWN - MR/EV	REVISED -			
PLOT SCALE = 5.0000 ' / in.	CHECKED - LM/NV	REVISED -		SCALE: 1:5	SHEET 3 OF 4 SHEETS STA. TO STA.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -			

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	10
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

Date of Issue: September 20, 2022
PBC: Addendum No. 1 - WPA Street Reconstruction (Medill Avenue) - C1603



MEDILL AVENUE - WESTBOUND
STA. 17+08.78



MEDILL AVENUE - EASTBOUND
STA. 17+08.82

5 0 5 10
SCALE: 1" = 5'

N

NOTES
XX.XX - TOP OF CURB ELEVATION
XX.XX - FLOWLINE ELEVATION

HP - HIGH POINT

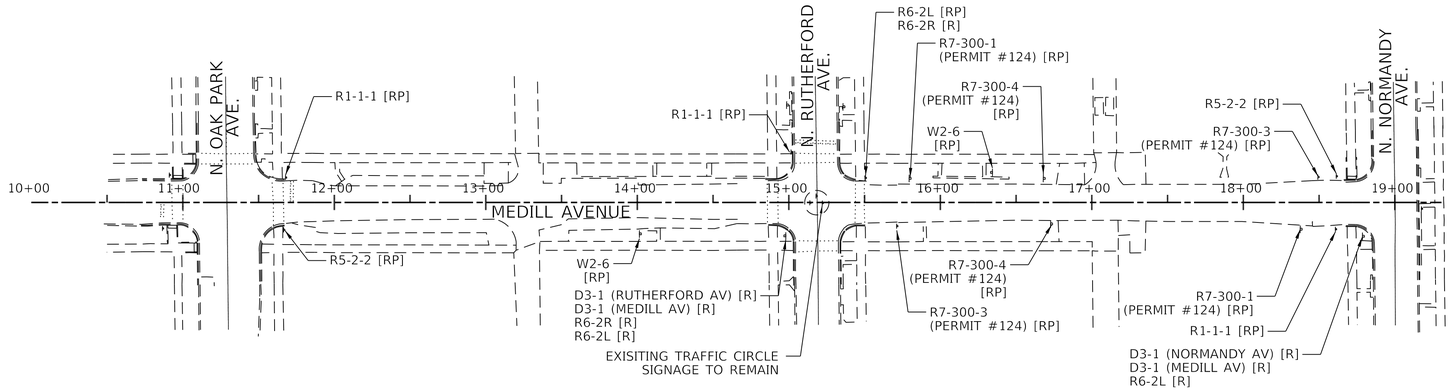
VARY CURB HEIGHT AS NEEDED TO ACHIEVE ELEVATIONS AS SHOWN. (MINIMUM CURB HEIGHT = 3")

SC = TOP OF SIDE CURB

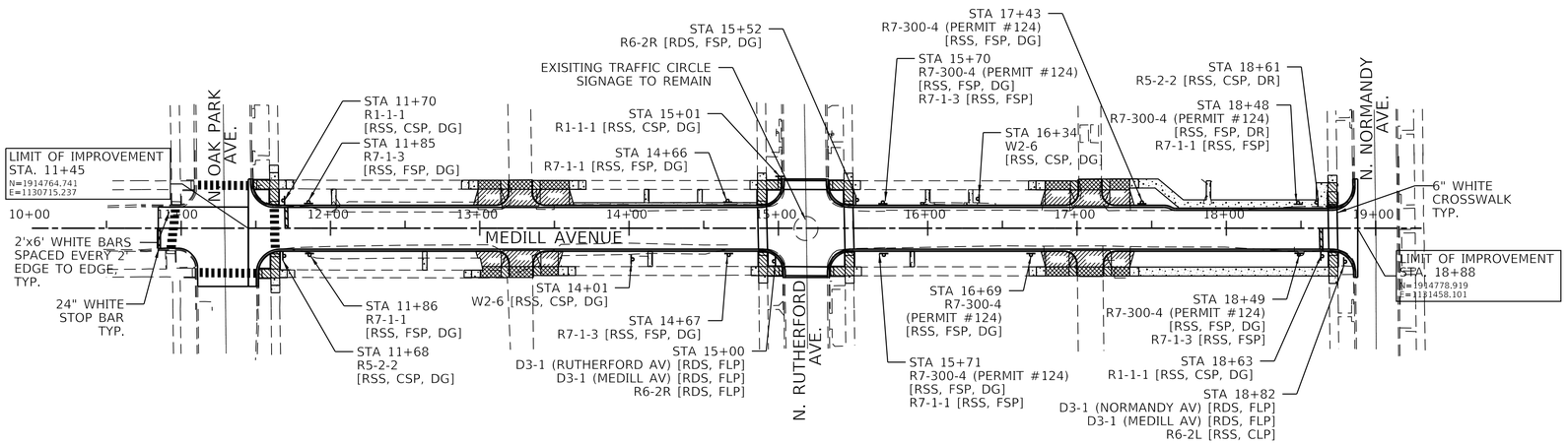
■ - DEPRESSED CURB

MODEL: Default
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC_Sheets\21-NO-01-sht-ada-04

USER NAME = kkb	DESIGNED - MR/EV	ADDENDUM NO. 1	**CITY OF CHICAGO**	**ADA GRADING DETAILS**	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN - MR/EV	REVISED -	**DEPARTMENT OF TRANSPORTATION**		COOK / 27 / 11
PLOT SCALE = 5.0000 ' / in.	CHECKED - LM/NV	REVISED -			CONTRACT NO.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		SCALE: 1:5 / SHEET 4 OF 4 SHEETS / STA. / TO STA.	ILLINOIS / FED. AID PROJECT

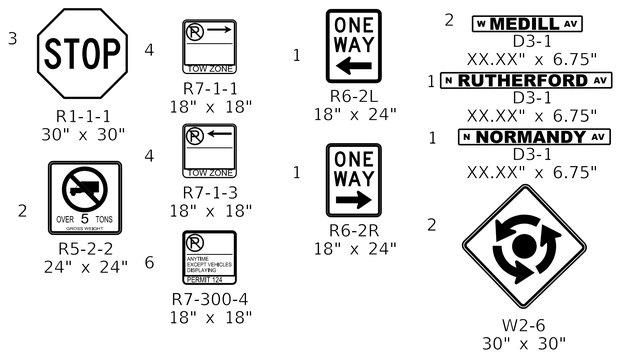


EXISTING CONDITIONS



PROPOSED IMPROVEMENTS

SIGNING AND STRIPING LEGEND



EXISTING SIGN LEGEND

0 50 100 150
SCALE IN FEET

N

SIGN CODE (SPECIAL TEXT) [ACTIVITY CODE]
(A) (B)

(A) SPECIAL TEXT

STREET NAME OR SPECIAL TEXT THAT DIFFERS FROM THE TEXT ASSOCIATED WITH EACH SIGN CODE (IF NEEDED)

(B) ACTIVITY CODE

R = REMOVE EXISTING SIGN PANEL AND SALVAGE
RP = REMOVE EXISTING SIGN PANEL AND POLE ASSEMBLY, FROM PARKWAY, AND SALVAGE

PROPOSED SIGN LEGEND

STATION

SIGN CODE (SPECIAL TEXT) [FURNISH CODE, MOUNT CODE, POLE CODE]
(A) (B) (C) (D)

(A) SPECIAL TEXT

STREET NAME OR SPECIAL TEXT THAT DIFFERS FROM THE TEXT ASSOCIATED WITH EACH SIGN CODE (IF NEEDED)

(B) FURNISH CODE

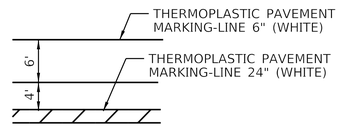
RSS = SIGN PANEL, TYPE 1, REFLECTIVE, SINGLE-SIDED
RDS = SIGN PANEL, TYPE 1, REFLECTIVE, DOUBLE-SIDED

(C) MOUNT CODE

CSP = CENTER MOUNT ON SIGN POLE
FSP = FLAG MOUNT ON SIGN POLE
CLP = CENTER MOUNT BANDED TO LIGHT POLE
FLP = FLAG MOUNT BANDED TO LIGHT POLE

(D) POLE CODE (IF REQUIRED)

DG = SIGN SUPPORT POST, DIG METHOD
DR = SIGN SUPPORT POST, DRILL METHOD



CODE	DESCRIPTION	AREA (SQ FT)	FURNISH AND MOUNT CODES						
			NDS	RSS	RDS	CSP	FSP	CLP	FLP
D3-1	STREET NAME	1.13			4				4
R1-1-1	STOP	6.25		3		3			
R5-2-2	NO TRUCKS (SYMBP;) OVER 5 TONS GROSS WEIGHT	4.00		2		2			
R6-2L	ONE WAY LEFT ARROW	3.00		1				1	
R6-2R	ONE WAY RIGHT ARROW	3.00			1				1
R7-1-1	NO PARKING (SYMBOL) RA TOW ZONE	2.25		4		4			
R7-1-3	NO PARKING (SYMBOL) LA TOW ZONE	2.25		4		4			
R7-300-4	NO PARKING (SYMBOL) ANYTIME EXC ZONE 124	2.25		6		6			
W2-6	INTERSECTION WARNING	6.25		2		2			
	TOTALS		0	22	5	21	0	1	5
	TOTAL AREA FURNISH SIGN PANEL		0	74	8	-	-	-	-

MODEL: Model
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\31353-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC_Sheet(s)21-NO-01-siht-pmk_sign

USER NAME = kkb	DESIGNED - MR/EV	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING & SIGNAGE
	DRAWN - MR/EV	REVISED -		
PLOT SCALE = 50.000 ' / in.	CHECKED - LM/NV	REVISED -		SCALE: 1:50 SHEET 1 OF 1 SHEETS STA. 11+45 TO STA. 18+88
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	12
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

CONTRACTOR TO CONTACT D.I.G.G.E.R @ 312-744-7000 ALL UTILITY COMPANIES TO LOCATE EXISTING UNDERGROUND UTILITY LINES PRIOR TO COMMENCEMENT OF WORK.

CITY CONSTRUCTION DEPARTMENT OR ITS CONTRACTOR MUST COORDINATE THE LIGHTING SCHEME WITH COMED BY CALLING THEIR ACCOUNT MANAGER @1-773-838-4345

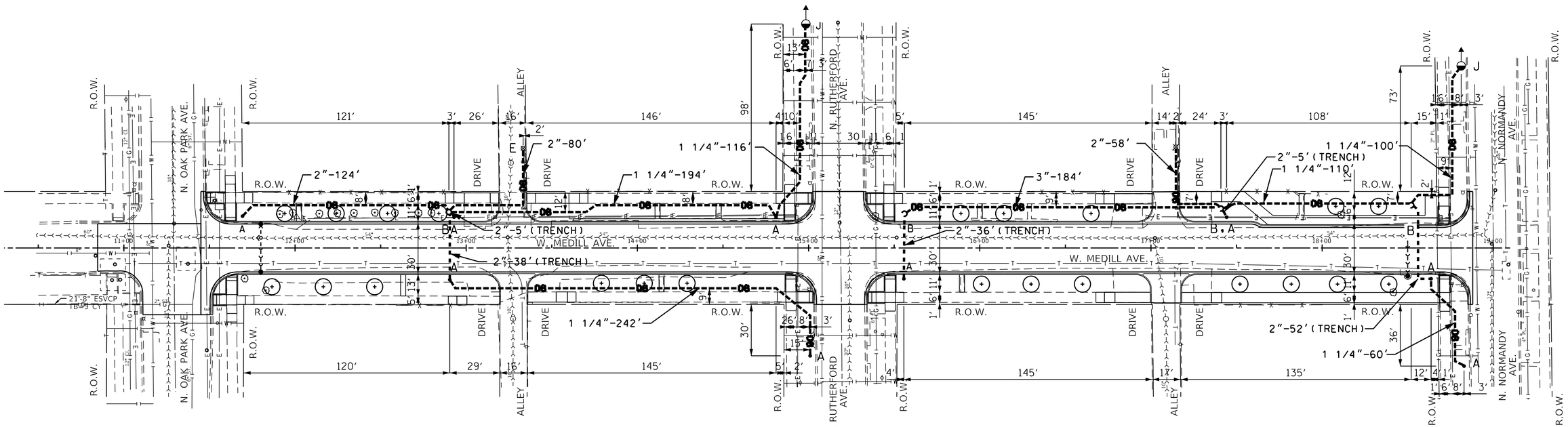
CONDUIT TO BE INSTALLED USING DIRECTIONAL BORING METHOD, UNLESS OTHERWISE NOTED.

DIRECTIONAL DRILLING IS APPROVED TO A MAXIMUM DEPTH OF 33 INCHES. ALL SERVICE CONTROL VALVE AND METER VAULT LOCATIONS MUST BE VERIFIED PRIOR TO CONSTRUCTION AND 3 FEET OF HORIZONTAL SEPERATION MUST BE MAINTAINED. SHOULD FIELD CONDITIONS REQUIRE ADDITIONAL ENGINEERING SERVICES OR RELOCATION, THEN CDOT SHALL SUBMIT FUNDING AND/OR RFI FOR DWM APPROVAL PRIOR TO INSTALLATION.

LEGEND:

-·--DB---·- DIRECTIONAL BORE

-·--OC---·- OPEN CUT TRENCH



NOTES:

"A"- INSTALL 10" B.C. x 5' HELIX FOUNDATION AS PER DRAWING NO. 936, 3' OFF FACE OF CURB UNLESS NOTED OTHERWISE

"B"- INSTALL 30" HANDHOLE AS PER DRAWING NO. 867 WITH 24" FRAME AND COVER AS PER DRAWING NO.966 & 968

"E"- INSTALL 2" ELBOW AND RISER ON COMED POLE W/SERVICE ENTRANCE HEAD.

"J"- INSTALL CONDUIT INTO EXISTING CONCRETE FOUNDATION

DWG. NO.

ATLAS Z1-17 | 21-188

USER NAME = kkb	DESIGNED - MRT	ADDENDUM NO. 1	
	DRAWN - MRT	REVISED -	
PLOT SCALE = 30.0000'/in. in	CHECKED - MKR	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

WPA STREETS
W. MEDILL AV. (N. OAK PARK AV. TO N. NORMANDY AV.)

SCALE: | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	13
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
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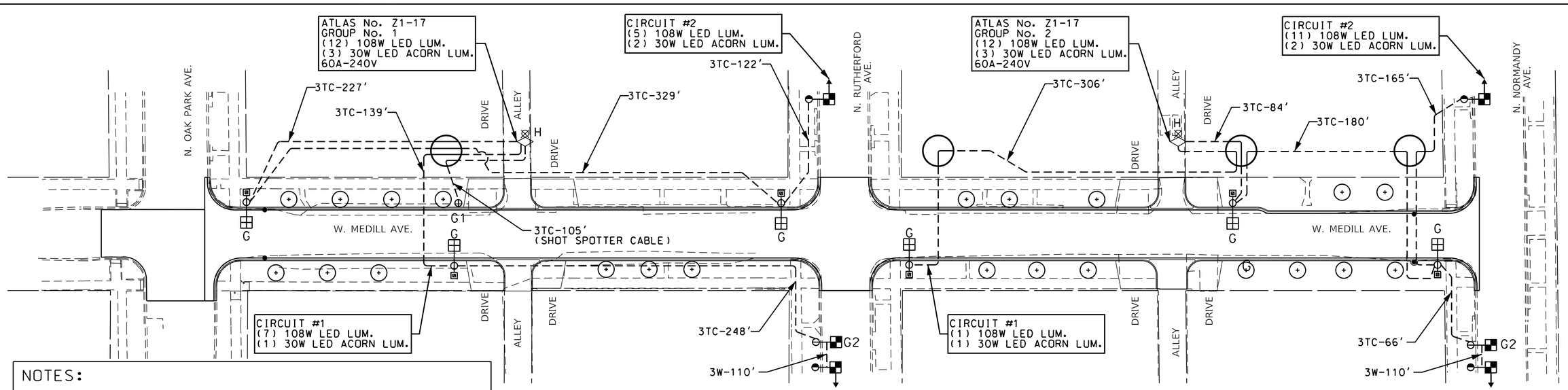
Date of Issue: September 20, 2022
PBC: Addendum No. 1 - WPA Street Reconstruction (Medill Avenue) - C1603



INSTALLATION OF STREET LIGHTING EQUIPMENT

NOTES:

"G"-- INSTALL POLE, STREET LIGHTING, ALUMINUM, 12.5' RESIDENTIAL WITH 8' DAVIT ARM AS PER DRAWING 940&945
INSTALL 108W LED RESIDENTIAL STREET LIGHTING LUMINAIRE/NODE AND 30W LED RESIDENTIAL ACORN LUMINAIRE/NODE

"G1"--RE-INSTALL STEEL POLE AND SHOT SPOTTER ON PROPOSED FOUNDATION PAINT BLACK.

"G2"--RE-INSTALL STEEL POLE, MAST ARM W/ LUMINAIRE ON PROPOSED FOUNDATION.

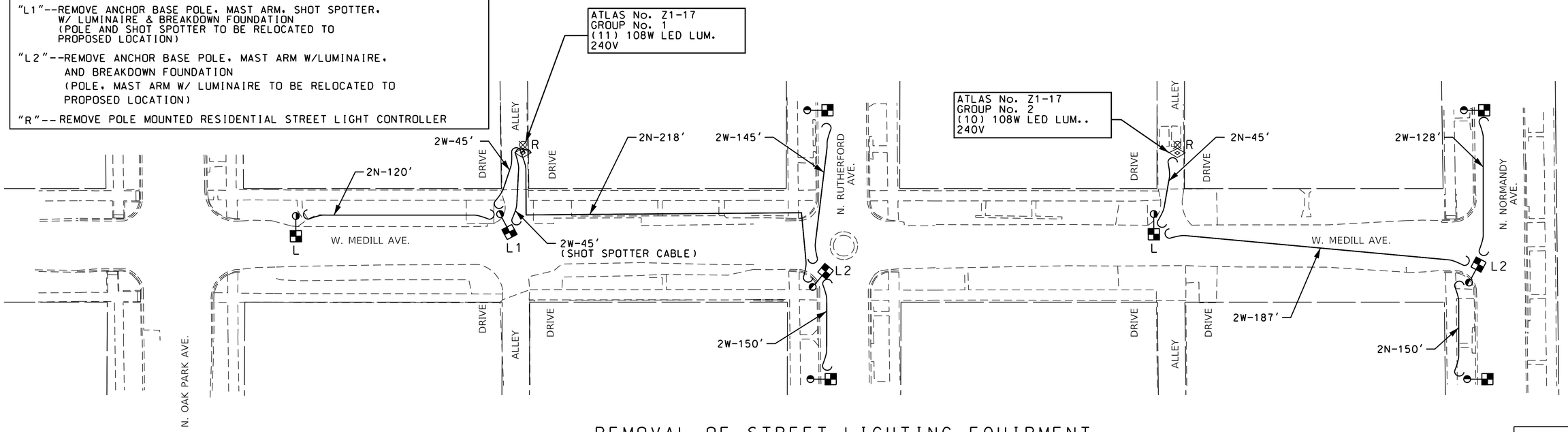
"H"-- INSTALL 60A-240V RESIDENTIAL STREET LIGHT CONTROLLER AS PER DRAWING NO. 955

"L"-- REMOVE ANCHOR BASE POLE, MAST ARM W/ LUMINAIRE & BREAKDOWN FOUNDATION

"L1"--REMOVE ANCHOR BASE POLE, MAST ARM, SHOT SPOTTER, W/ LUMINAIRE & BREAKDOWN FOUNDATION (POLE AND SHOT SPOTTER TO BE RELOCATED TO PROPOSED LOCATION)

"L2"--REMOVE ANCHOR BASE POLE, MAST ARM W/LUMINAIRE, AND BREAKDOWN FOUNDATION (POLE, MAST ARM W/ LUMINAIRE TO BE RELOCATED TO PROPOSED LOCATION)

"R"-- REMOVE POLE MOUNTED RESIDENTIAL STREET LIGHT CONTROLLER



REMOVAL OF STREET LIGHTING EQUIPMENT

DWG. NO. 21-189

ATLAS Z1-17

USER NAME = kkb	DESIGNED - MRT	ADDENDUM NO. 1	
	DRAWN - MRT	REVISED -	
PLOT SCALE = 30.0000 ' / in.	CHECKED - MKR	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

WPA STREETS
W. MEDILL AV. (N. OAK PARK AV. TO N. NORMANDY AV.)

SCALE: | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	14
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

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PROPOSED	PRESENT	
		SIGNAL, TRAFFIC 3 SECTION 1-WAY ADJUSTABLE, 12" OR AS NOTED
		SIGNAL, TRAFFIC 3 SECTION 2-WAY ADJUSTABLE, 12" OR AS NOTED
		SIGNAL OPTICALLY PROGRAMMED
		SIGNAL, PEDESTRIAN, COUNTDOWN
		SIGNAL, PEDESTRIAN, DON'T WALK/WALK
		SIGNAL FACE ARROW, 12" COLOR AS NOTED
		SIGNAL FACE, 1 SECTION YELLOW/GREEN ARROW DUAL INDICATION
		PUSH BUTTON, PEDESTRIAN
		SIGN, ILLUMINATED, WITH MESSAGE OR SYMBOL AS INDICATED
		MAST ARM, MONOTUBE, STEEL. SIZE AS INDICATED (SEE DWG. #870)
		MAST ARM, TRUSS, ALUMINUM. SIZE AS INDICATED
		CONTROLLER, TRAFFIC SIGNAL. PEDESTAL OR BASE MOUNTED AS INDICATED
		CONTROLLER, STREET LIGHTING. PEDESTAL OR BASE MOUNTED. (DWG. 876 or 880)
		CONTROLLER, STREET LIGHTING. POLE MOUNTED (DWG. #11940)
		POLE, WOOD. COMMONWEALTH EDISON COMPANY, SERVICE
		POLE, CITY STEEL, ANCHOR BASE, 34'6", 7 GA. 10" DI A. AND 15"B.C. 24"X7' FND. W/ 1¼" ANCHOR RODS DRG. #818.
		POLE, CITY STEEL, ANCHOR BASE, 34'-6", 3 GA. 10" DIA. AND 15" B.C. 24"X9' FND. W/ 1¼" ANCHOR RODS DRG. #818 (16',20'or 26'M.A.)
		POLE, CITY STEEL, ANCHOR BASE, 34"-6", 3GA., 11" DIA. AND 17 ¼" B.C. 30"X9' FND. W/ 1¼" ANCHOR RODS DRG. #816. (30' M.A.)
		POLE, CITY STEEL, ANCHOR BASE 34'-6", 3 GA. 12 ½" DIA. AND 16½" B.C. 30"X11' FND. W/ 1½" ANCHOR RODS DRG.#817. (35',40'or 44' M.A.)
		POLE, CITY STEEL, ANCHOR BASE, 32'-6", 3 GA. 10" DIA., WITH 3 GA. BAL. HSG. BASE AND 17¼" B.C. ON 30"X9' FND. W/ 1¼" ANCHOR RODS DRG. #816.
		POLE, CITY STEEL, ANCHOR BASE, 20',27'-6",29'-6", 7 GA. WITH STEEL BAL. HSG. BASE AND FND. W/ 10" D. B.C. AND 1" ANCHOR RODS DRG. #716.
		POLE,CITY STEEL, ANCHOR BASE, 20',27'-6",29'-6", 3 GA., WITH STEEL BAL. HSG. BASE AND FND. W/ 10" D. B.C. AND 1" ANCHOR RODS DWG.#719.
		POLE, CITY STEEL, ANCHOR BASE, 20',27'-6", 29'-6" 7 GA., AND ALUMINUM RESIDENTIAL DAVIT,AND FND. WITH 10" B.C. AND 1" ANCHOR RODS DWG#565 (CONCRETE) OR DWG.#936 (HELIX).
		POLE, CITY STEEL, ANCHOR BASE, 20',27'-6",29'-6" 3 GA.,AND FND. WITH 10" B.C. AND 1" ANCHOR RODS DWG. #565 (CONCRETE) OR DWG.#936 (HELIX).
		POLE , CITY STEEL, ANCHOR BASE, 32'-6", 7 GA., AND FND. WITH 11 ½" B.C. AND 1" ANCHOR RODS DWG. #753.
		POLE, CITY STEEL, ANCHR BASE, 32'-6", 3 GA., AND FND. WITH 11 ½" B.C. AND 1" ANCHOR RODS DWG. #753.
		POLE, CITY STEEL, ANCHOR BASE, 32'-6" 7 GA., ALUM. BHB AND FND. WITH 15" B.C.-24"X7' WITH 1" ANCHOR RODS DRG. #691.
		POLE, CITY STEEL, ANCHOR BASE, 32'-6", 3 GA., ALUM. BHB AND FND. WITH 15" B.C. 24"X 7' WITH 1" ANCHOR RODS DWG. #691.
		POLE, CITY ALUMINUM, WITH ROUND BAL. HSG. BASE, 25', 28', or 30' ON FND. WITH 14" B.C., ACQUIRED FROM CHICAGO PARK DISTRICT.
		POLE, CITY STEEL, EMBEDDED, 4"X 9"X 35' 7 GA., TAPERED TUBULAR. (DWG. #658)
		POLE, CITY STEEL, EMBEDDED, 4"X 9"X 35' 3 GA., TAPERED TUBULAR. (DWG. #658)
		POLE, CITY STEEL, EMBEDDED. (ACQUIRED FROM CTA)
		COLUMN,ELEVATED STRUCTURE
		POLE, WOOD. (SIZE AS NOTED)
		POLE, FOUNDATION WITH ELBOWS AS INDICATED.(SIZE AS NOTED)
		POLE, ORNAMENTAL OR OTHER, AS INDICATED ON THE PLANS
		RESIDENTIAL STREET LIGHTING CONTROLLER

PROPOSED	PRESENT	
		MANHOLE, 3'X4'X4' 24" F & C (DWG.#730) (A) 30" F & C (DWG#729) (B)
		MANHOLE, 4'X6'X6' 24" F & C (DWG.#732) (C) 30" F & C (DWG#733) (D)
		HANDHOLE, HEAVY DUTY, 36" I.D. (DWG.#866) 24" F & C (E). (DWG#871) 30" F & C (F)
		HANDHOLE, CIRCULAR WITH 24"FRAME & COVER.30"I.D. (#867) (G)
		FOUNDATION, CONTROLLER OR PEDESTAL, 13" B.C.,20"X5' (DWG. #709)
		FOUNDATION, TRAFFIC CONTROLLER DWG. #854. F.A. TERMINAL FND. DWG. #11972
		FOUNDATION, TRAFFIC TYPE "P", BASE MOUNT. (DWG. #888)
		FOUNDATION,CONTROLLER STREET LIGHT ,SPECIAL, 100A & 200A. (DWG.#876 & # 880)
		FOUNDATION, TRANSCLOSURE; TRANSCLOSURE HOUSING. (DWG.# 583 & #891)
		CONTROLLER,UNDERPASS LIGHTING 120V. & 240V. (DWG. #860 & #861)
		MANHOLE, UTILITY, E=COMMONWEALTH EDISON; T=ILL.BELL TEL.; G=PEOPLES GAS; W=CITY WATER; P=CHGO PARK DISTRICT; CTA=C.T.A; S= SEWER
		JUNCTION BOX, IN PAVEMENT (DWG. #815)
		DETECTOR LOOP IN PAVEMENT
		CONDUIT or P.V.C., NUMBER,SIZE & TYPE. (AS NOTED)
2D	2D	CONDUIT or P.V.C. ENCASED IN CONCRETE. (SECTION or NUMBER OF CONDUIT INDICATED
		LUMINAIRE, H.P.S.V. 400W LAMP, 240V, SEMI-CUTOFF
		LUMINAIRE, H.P.S.V. 400W LAMP, 240V, CUTOFF
		LUMINAIRE, H.P.S.V. 310W LAMP, 240V
		LUMINAIRE, H.P.S.V. 310W LAMP 240V, CUTOFF
		LUMINAIRE, H.P.S.V. 150W LAMP, 240V
		LUMINAIRE, H.P.S.V. 150W LAMP, 120V
		LUMINAIRE, H.P.S.V. 250W LAMP, 120V, (ALLEY LIGHT)
		LUMINAIRE, H.P.S.V. 250W LAMP, 120V
		LUMINAIRE, H.P.S.V. 400W LAMP, 240V, (FLOOD LIGHT)
		TERMINAL, CABINET F.A. & P.C.
		FIRE ALARM BOX, MOUNTED
		FIRE ALARM BOX, POLE MOUNTED
PR	PR	CABLE, TRAFFIC SIGNAL, COMMUNICATION, 1-PAIR #14 SHIELDED, IN CONDUIT
2	2	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2/C- #4, 600 V. EPR. IN CONDUIT
III	III	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2 1/C-#2 or #1/0 600V. EPR IN CONDUIT
II	II	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2/C-#10 or #6, 600V NSRI, IN CONDUIT
VII	VII	CABLE, TRAFFIC SIGNAL, 7/C-#12 or #14, 600V, EPR IN CONDUIT
X	X	CABLE, TRAFFIC SIGNAL, 10/C-#12 600V. EPR IN CONDUIT
	XIV	CABLE, TRAFFIC SIGNAL, 14/C-#14, 600V. EPR IN CONDUIT
XIX	XIX	CABLE, TRAFFIC SIGNAL, 19/C-#12 600V, EPR IN CONDUIT
2N	2N	CABLE, STREET LIGHT, 2 1/C-#6, 600V. RINS IN PARKWAY
2NC	2NC	CABLE, STREET LIGHT, 2 1/C-#6, 600V. RINS IN CONDUIT
3TC	3TC	CABLE, STREET LIGHT, 2 1/C-#6 EPRN 600V. & 1 1/C-#8 GREEN, TRIPLEXED, IN CONDUIT
3NC	3NC	CABLE, STREET LIGHT, 3 1/C-#1/0, or #2/0, or #4, 600V. EPR IN CONDUIT
2W	2W	WIRE, STREET LIGHT, 2 1/C-#6, HDNS. AERIAL
3W	3W	WIRE, STREET LIGHT, 2 1/C-#6 & 1 1/C #8, HDNS. AERIAL
III	III	CABLE, STREET LIGHT AERIAL, 3 1/C-#4 or #2 SELF SUPPORTING, 600V EPR
W FA	W FA	WIRE, F.A. & P.C. AERIAL, 1/C-#10, NUMERAL DENOTES QUANTITY
PR	PR	CABLE, F.A. & P.C. AERIAL, W/ MESSENGER #19-(NUMBER OF PAIRS AS INDICATED)
PR 6 6	6 PR	CABLE, F.A. & P.C. AERIAL, SELF SUPPORTING, #19-(NUMBER OF PAIRS AS INDICATED)
37 PR	37 PR	CABLE, F.A. & P.C., IN CONDUIT, #19-(NUMBER OF PAIRS AS INDICATED)
		DOWNLIGHT ASSEMBLY. (DWG. #850)
		LIGHT, TRAFFIC SAFETY ISLAND
		FLASHING BEACON & DOWNLIGHT

C.M.H. LUMINAIRES

PROPOSED	PRESENT	
		LUMINAIRE, C.M.H. 315W LAMP, 240V
		LUMINAIRE, C.M.H. 315W LAMP, 240V, (FLOOD)
		LUMINAIRE, C.M.H. 210W LAMP, 240V
		LUMINAIRE, C.M.H. 140W LAMP, 240V
		LUMINAIRE, C.M.H. 140W LAMP, 120V, (ALLEY)
		LUMINAIRE, C.M.H. 90W LAMP, 240V
		LUMINAIRE, C.M.H. 90W LAMP, 240V (ACORN)
		LUMINAIRE, C.M.H. 60W LAMP, 240V (ACORN)

H.P.S.V. ORNAMENTAL LUMINAIRES

PROPOSED	PRESENT			
		310W	PENDANT	(240V)
		400W	PENDANT	(240V)
		250W	PENDANT	(240V)
		150W	ACORN	(120V)
		150W	ACORN	(240V)
		50W	ACORN	(240V)
		100W	ACORN	(240V)
		150W	GLOBE	(240V)
		100W	GLOBE	(240V)
		50W	GLOBE	(240V)

L.E.D. LUMINAIRES

PROPOSED	PRESENT	
		(400W HPSV EQUIVALENT), 240V
		(100W HPSV EQUIVALENT), 240V, ACORN
		(310W HPSV EQUIVALENT), 240V
		(100/150W HPSV EQUIVALENT), 240V ACORN
		(250W HPSV EQUIVALENT), 240V
		(50W HPSV EQUIVALENT), 240V, ACORN

	DATE	REVISION
F	01-08-14	ADDED LED LUMINAIRES A.VIEU
E	09-19-13	ADDED CMH LUMINAIRES A.VIEU
D	02-06-04	REVISED/REDRAW R.POOL/B.I.
C	04-01-02	REVISED/REDRAW R.POOL/B.I.
B	12-4-01	ADDED ORNAMENTAL SYMBOLS
A	8-6-96	REDRAWN

SUPERSEDES DWG. *

WORK ORDER NO. _____ DATE _____

COST ALLOCATION ACCOUNT _____

APPROPRIATION ACCOUNT { MATERIAL _____ LABOR _____

STANDARD CODE FOR TRAFFIC SIGNALS/ STREET LIGHTING

CITY OF CHICAGO
DEPT. OF TRANSPORTATION
DIVISION OF ENGINEERING
ELECTRICAL SECTION

DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
R, IVY	R. CARTER	R. POOL/R.C/W.T.

SUPERVISING ENGINEER: ELEC. DESIGN ENGR.

ENGINEER OF ELECTRICITY:

GEN'L SUPT. OF CONSTRUCTION:

DEPUTY COMMISSIONER:

DWG. NO. 826

SIZE: 22"| 36" SCALE: NONE DATE: 09-19-13

MODEL: Default
FILE NAME: pw:\\cdtech-pw.bentley.com:cdtech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-Light-03.dgn

CDOT

USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	
	DRAWN -	REVISED -	
PLOT SCALE = 30.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

PROPOSED LIGHTING IMPROVEMENTS

SCALE: | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	15
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

GZA GeoEnvironmental, Inc.
915 Harger Road, Suite 330
Oak Brook, IL 60523
630-684-9100

BORING NUMBER H-1

CLIENT TranSystems Corporation
PROJECT NAME TS CDOT CCDD WPA Corridor #8
PROJECT NUMBER 81.0220359.21
PROJECT LOCATION Chicago, Cook County, IL
DATE STARTED 1/20/22 **COMPLETED** 1/20/22
GROUND ELEVATION 648 +/- 2 **HOLE SIZE** 2 inches
DRILLING CONTRACTOR Environmental Soil Probing
DRILLING METHOD Direct Push
LOGGED BY VLL **CHECKED BY** JJR
DRILL RIG Geoprobe 6610DT

GROUND WATER LEVELS (ft, bgs):

DATE	TIME	DEPTH	CASING	STAB
1/20/2022	DD	DRY		

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS	SAMPLE TYPE NUMBER (Depth Interval)	PID RESULTS	RECOVERY (ft)
0		Well-graded GRAVEL (GW/FILL), fine; little Clay; trace Sand, fine to coarse; gray, moist	1	S-1 (0-4)		2.9
		Poorly-graded SAND (SP/FILL), fine to coarse; trace Gravel, fine; trace Silt; gray, wet Sandy URBAN FILL containing Slag; some Silt; trace Gravel, fine; brown, moist				
4		Well-graded SAND (SW-SM), fine to medium; some Silt; trace Gravel, fine; brown, moist	1	S-2 (4-8)		1.9
		CLAY (CL); trace Gravel, fine; light gray and brown, mottled, moist				
8		Well-graded SAND (SW-SM), fine to medium; little Silt; trace Gravel, fine; trace Roots; dark and light brown	1	S-3 (8-12)		2.5
		CLAY (CL); trace Gravel, fine; trace Roots; gray to brown; moist				
12		End of boring at 12' BGS. Boring immediately backfilled with remaining soil.				

REMARKS
1. Sample Collected

GZA GeoEnvironmental, Inc.
915 Harger Road, Suite 330
Oak Brook, IL 60523
630-684-9100

BORING NUMBER H-2

CLIENT TranSystems Corporation
PROJECT NAME TS CDOT CCDD WPA Corridor #8
PROJECT NUMBER 81.0220359.21
PROJECT LOCATION Chicago, Cook County, IL
DATE STARTED 1/20/22 **COMPLETED** 1/20/22
GROUND ELEVATION 649 +/- 2 **HOLE SIZE** 2 inches
DRILLING CONTRACTOR Environmental Soil Probing
DRILLING METHOD Direct Push
LOGGED BY VLL **CHECKED BY** JJR
DRILL RIG Geoprobe 6610DT

GROUND WATER LEVELS (ft, bgs):

DATE	TIME	DEPTH	CASING	STAB
1/20/2022	DD	DRY		

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS	SAMPLE TYPE NUMBER (Depth Interval)	PID RESULTS	RECOVERY (ft)
0		Silty TOPSOIL; dark brown, moist	1	S-1 (0-4)		3.6
		SILTY CLAY (CL-ML); trace Gravel, fine; trace Roots; dark grayish brown, moist				
		CLAY (CL); trace Gravel, fine; trace Roots; grayish brown, moist				
		CLAY; trace Gravel, fine; gray and brown, mottled, moist				
4		CLAY; trace Gravel, fine; light gray and brown, mottled, moist	1	S-2 (4-8)		2.8
8			1	S-3 (8-12)		2.3
12		End of boring at 12' BGS. Boring immediately backfilled with remaining soil.				

REMARKS
1. Sample Collected

GZA GeoEnvironmental, Inc.
915 Harger Road, Suite 330
Oak Brook, IL 60523
630-684-9100

BORING NUMBER H-3

CLIENT TranSystems Corporation
PROJECT NAME TS CDOT CCDD WPA Corridor #8
PROJECT NUMBER 81.0220359.21
PROJECT LOCATION Chicago, Cook County, IL
DATE STARTED 1/20/22 **COMPLETED** 1/20/22
GROUND ELEVATION 648 +/- 2 **HOLE SIZE** 2 inches
DRILLING CONTRACTOR Environmental Soil Probing
DRILLING METHOD Direct Push
LOGGED BY VLL **CHECKED BY** JJR
DRILL RIG Geoprobe 6610DT

GROUND WATER LEVELS (ft, bgs):

DATE	TIME	DEPTH	CASING	STAB
1/20/2022	DD	8		

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	REMARKS	SAMPLE TYPE NUMBER (Depth Interval)	PID RESULTS	RECOVERY (ft)
0		Silty TOPSOIL; dark brown, moist	1	S-1 (0-4)		3.9
		Poorly-graded SAND (SP-SM), fine to coarse; little Silt, trace Gravel, fine; grayish brown, moist SILTY CLAY (CL-ML); trace Sand, fine to coarse; trace Gravel, fine; dark and light brown, moist				
4		CLAY (CL); trace Gravel, fine; light gray and brown, mottled, moist	1	S-2 (4-8)		1.7
8		CLAY (CL); trace Gravel, fine; light gray and brown, mottled, wet	1	S-3 (8-12)		3.2
		Well-graded SAND (SW-SM), fine to medium; little Silt; trace Gravel, fine; grayish brown, wet CLAY (CL); trace Gravel, fine; brown and gray, moist				
12		End of boring at 12' BGS. Boring immediately backfilled with remaining soil.				

REMARKS
1. Sample Collected

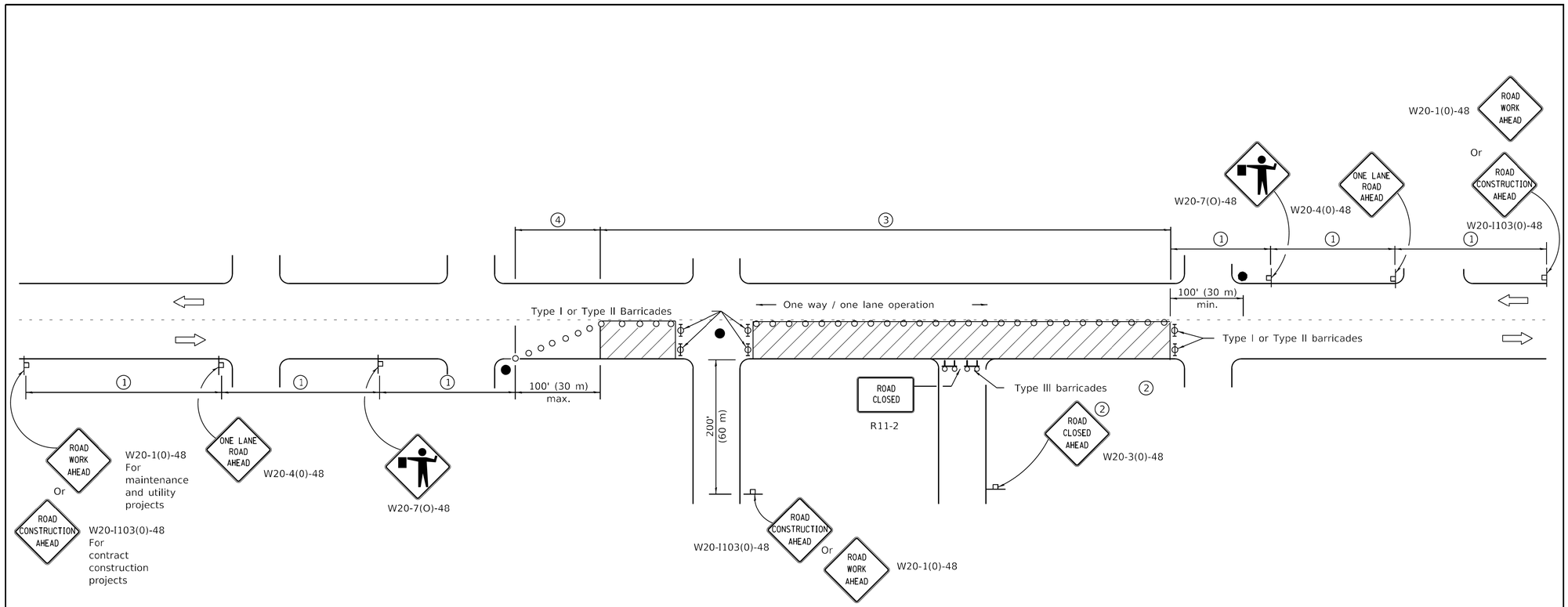
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	
	DRAWN -	REVISED -	
PLOT SCALE = 1.000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	16
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

1. Refer to SIGN SPACING TABLE for distances.
2. For approved sideroad closures.
3. Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).
	Corrected sign No.'s.

URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED

STANDARD 701501-06

USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1
	DRAWN -	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

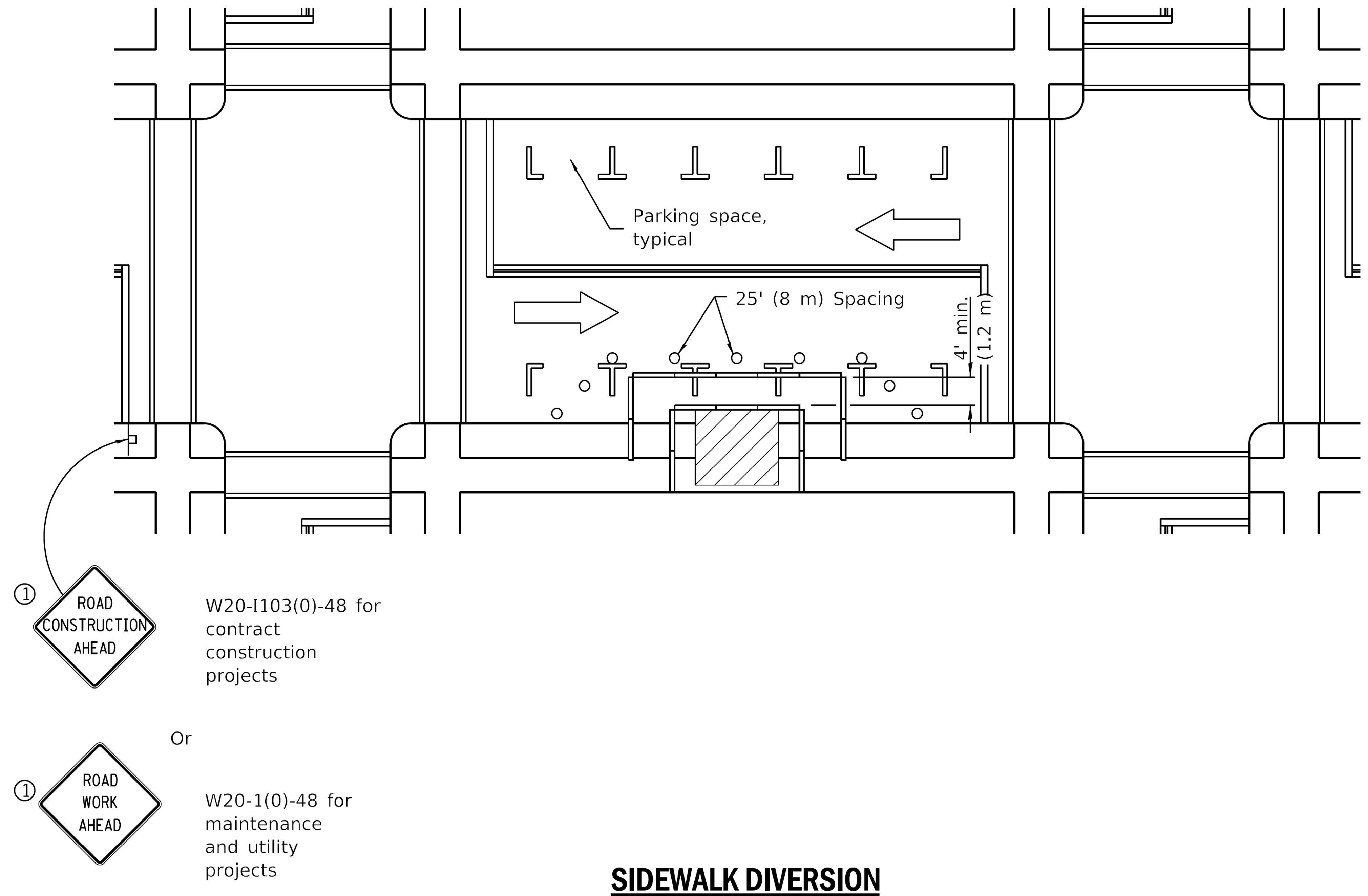
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

IDOT HIGHWAY STANDARDS

SCALE: | SHEET 1 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	17
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

MODEL: Default
FILE NAME: pw:\\cdvltech-pw.bentley.com:cdvltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-std-01

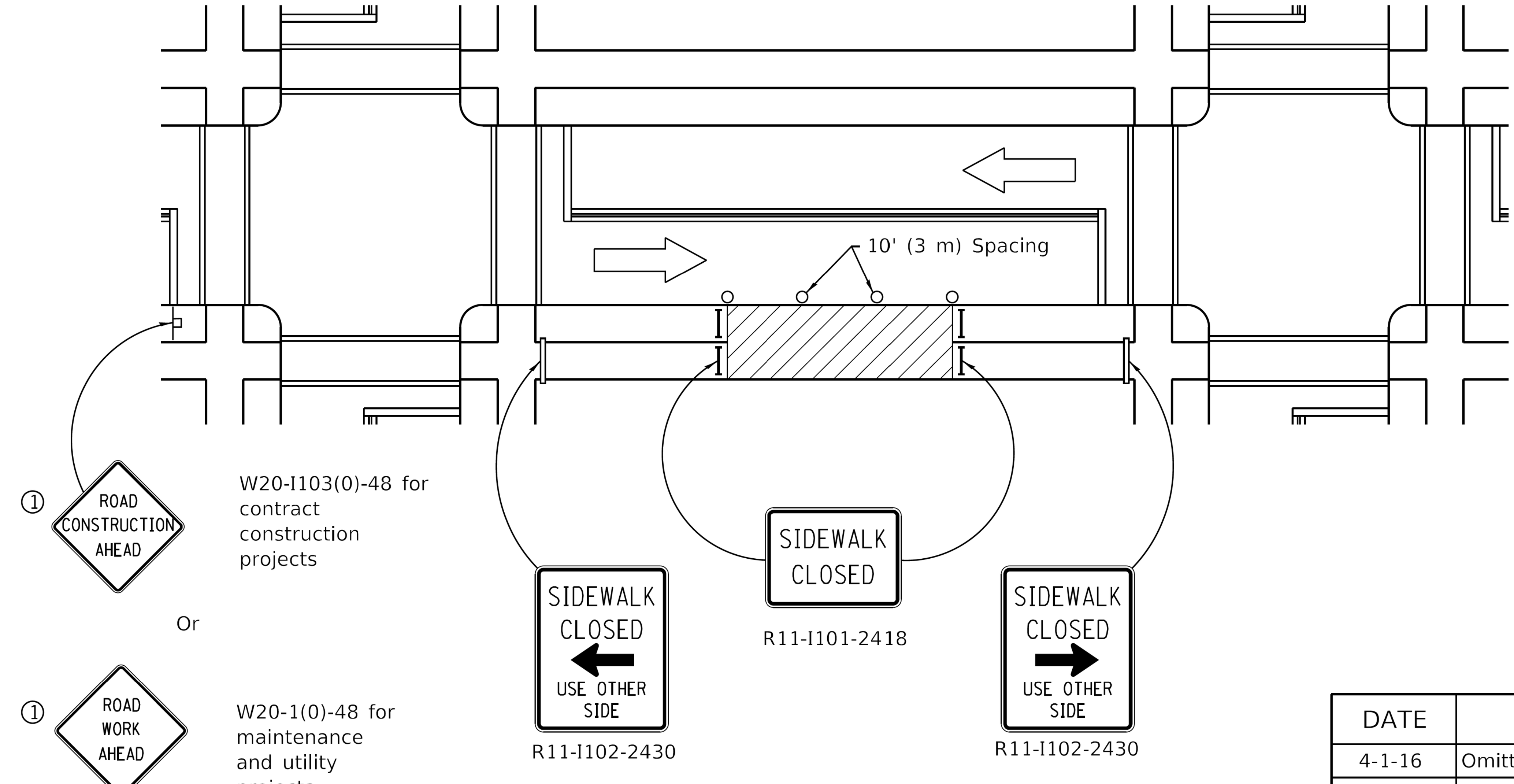


SIDEWALK DIVERSION

① Omit whenever duplicated by road work traffic control.

SYMBOLS

Symbol	Description
(hatched box)	Work area
(sign symbol)	Sign on portable or permanent support
(barricade symbol)	Barricade or drum
(circle)	Cone, drum or barricade
(Type III symbol)	Type III barricade
(bar symbol)	Detectable pedestrian channelizing barricade



SIDEWALK CLOSURE

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Omitted orange safety fence
	from standard as this is
	covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of
	plan views. Renamed Std.

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-06

MODEL: Default
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-02

CDOT

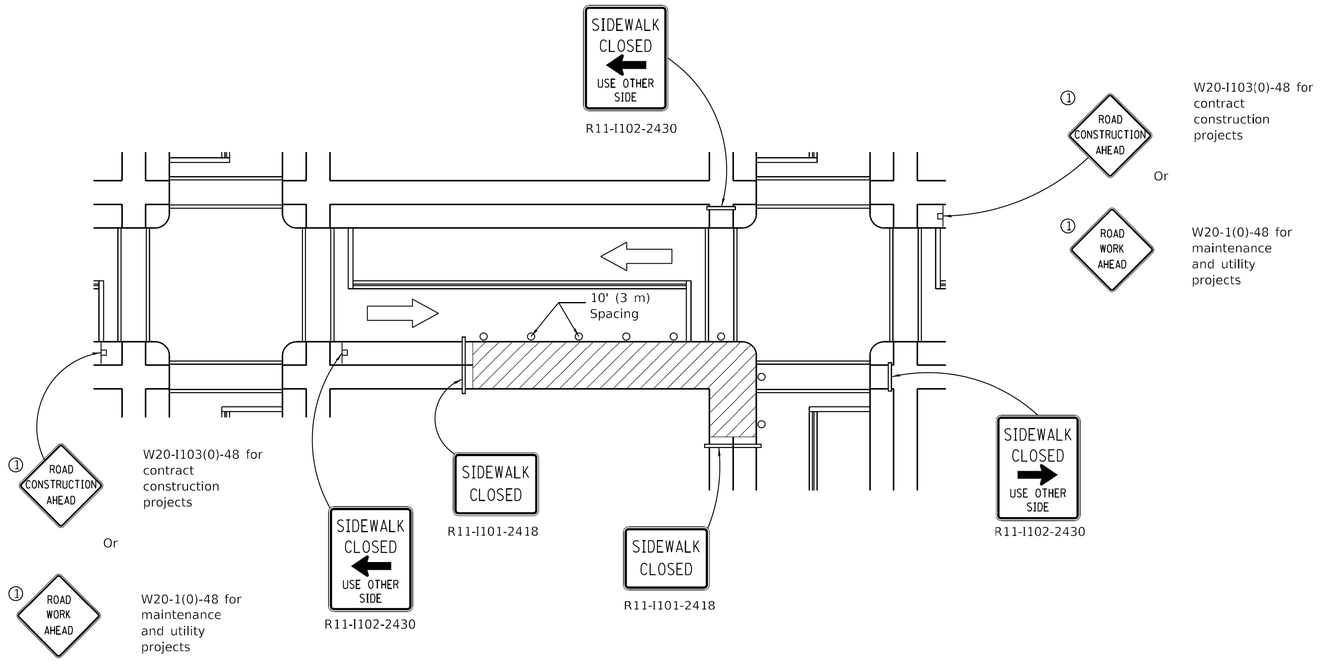
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1
	DRAWN -	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

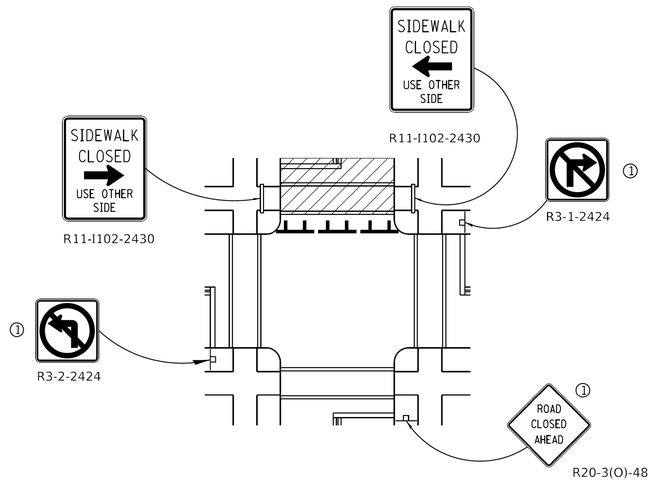
IDOT HIGHWAY STANDARDS

SCALE: SHEET 2 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	18
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

STANDARD 701801-06

MODEL: Default
FILE NAME: pw:\\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-03

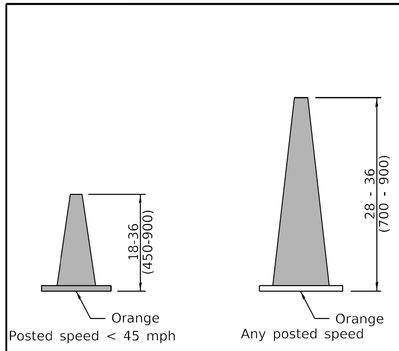
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	
	DRAWN -	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

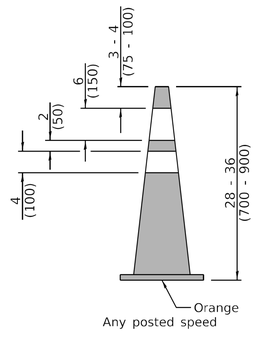
IDOT HIGHWAY STANDARDS

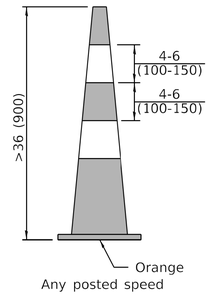
SCALE: | SHEET 3 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	19
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



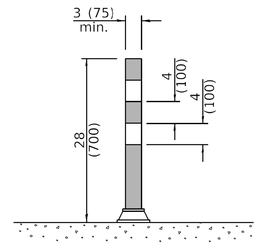
DAYTIME USE



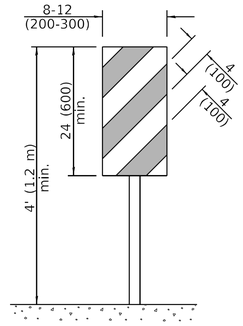


DAY OR NIGHTTIME USE

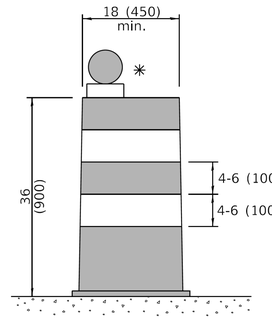
CONES



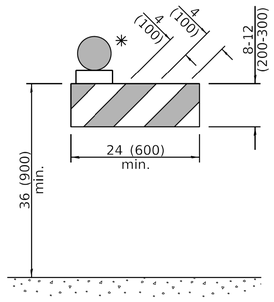
TUBULAR MARKER



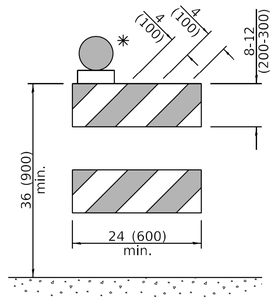
VERTICAL PANEL
POST MOUNTED



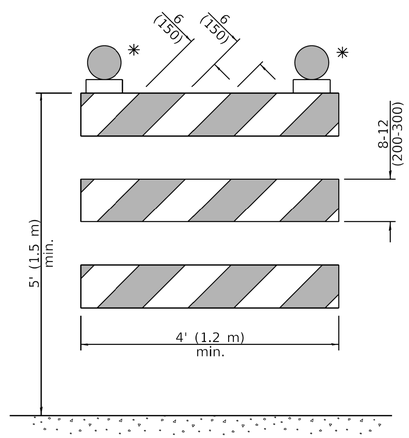
DRUM



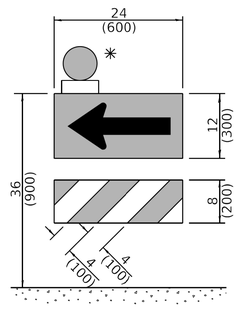
TYPE I BARRICADE



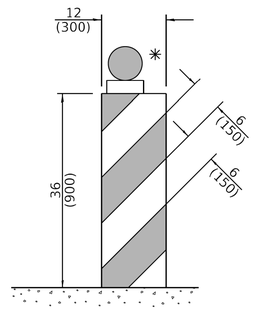
TYPE II BARRICADE



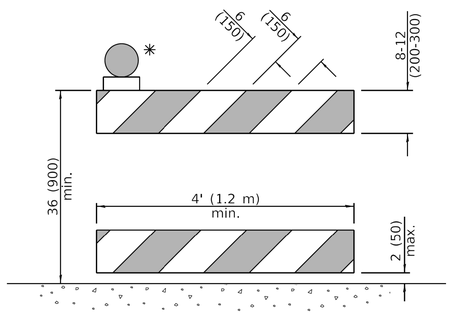
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

✳ Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

DATE	REVISIONS
1-1-19	Revised cone usage and
	added cones >36" (900 m) height.
1-1-18	Revised END WORK ZONE
	SPEED LIMIT sign from
	orange to white background.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

STANDARD 701901-08

MODEL: Default
FILE NAME: pw:\\cdoltech-pw.bentley.com:cdoltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-04

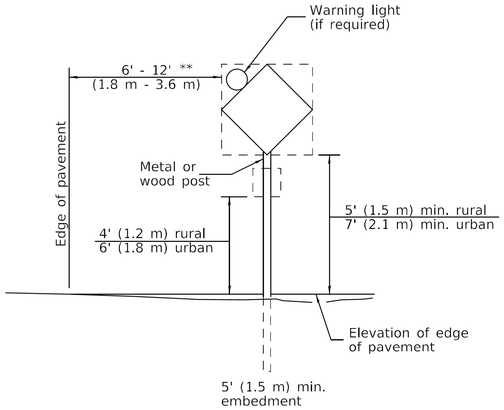
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	
	DRAWN -	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

IDOT HIGHWAY STANDARDS

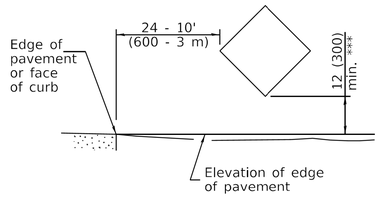
SCALE: | SHEET 4 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	20
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



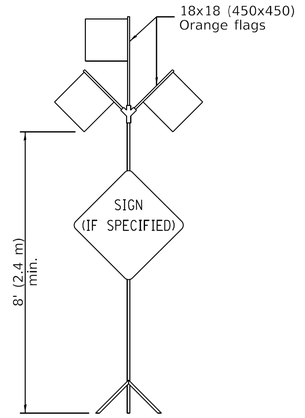
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

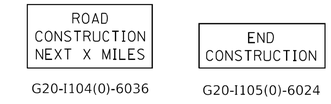


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE



G20-I104(0)-6036

G20-I105(0)-6024

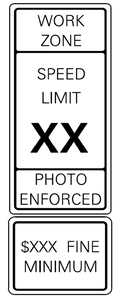
This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING



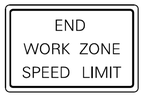
W21-III5(0)-3618

R2-1-3648

R10-I108p-3618 ****

R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

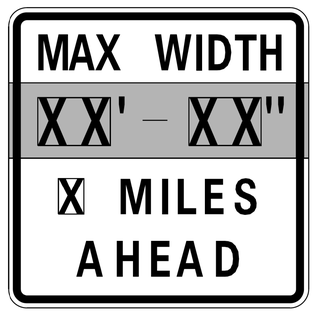


G20-I103-6036

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

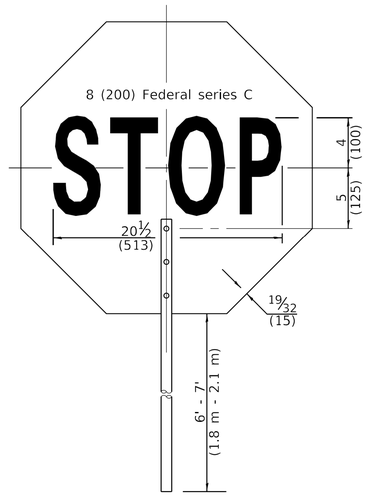
**** R10-I108p shall only be used along roadways under the jurisdiction of the State.



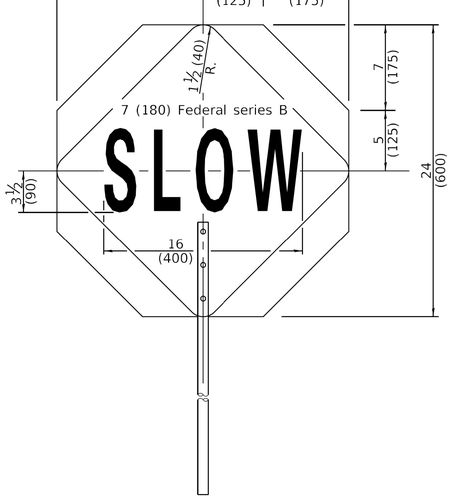
W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE



REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

STANDARD 701901-08

MODEL: Default
FILE NAME: pw:\\cdottech-pw.bentley.com:cdottech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-05

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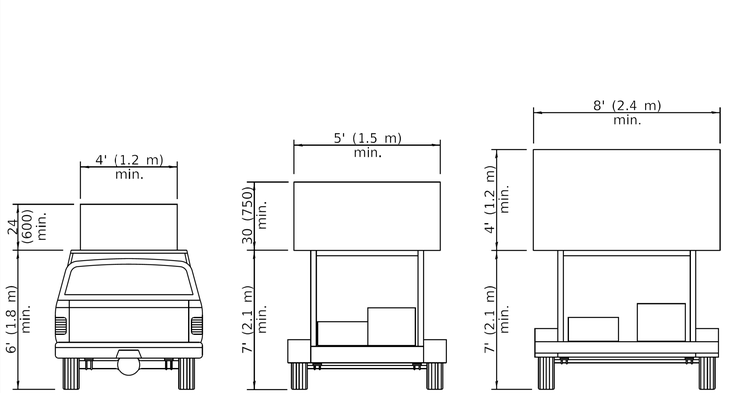
	DRAWN -	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

IDOT HIGHWAY STANDARDS

SCALE: | SHEET 5 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	21
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

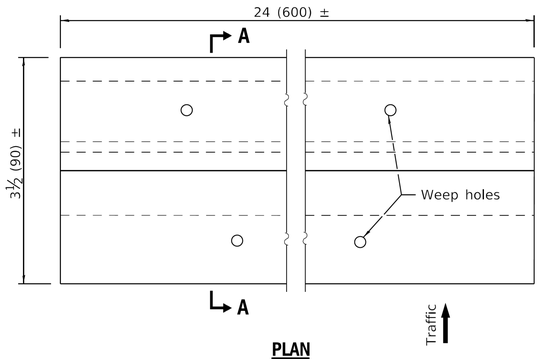


TYPE A ROOF MOUNTED

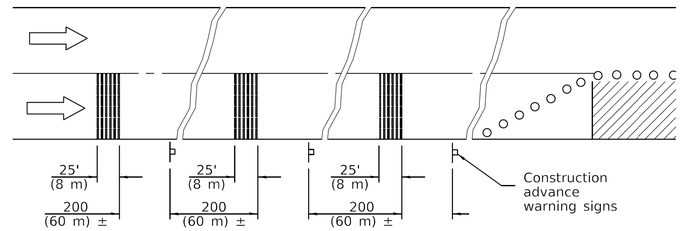
TYPE B ROOF OR TRAILER MOUNTED

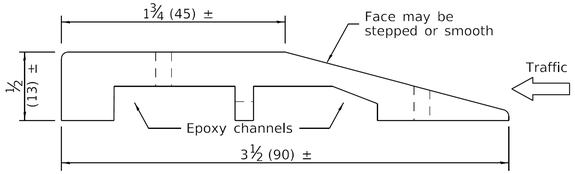
TYPE C TRAILER MOUNTED

ARROW BOARDS

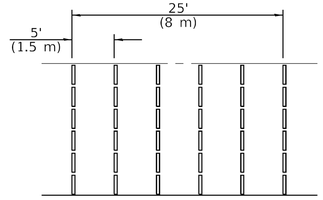


PLAN



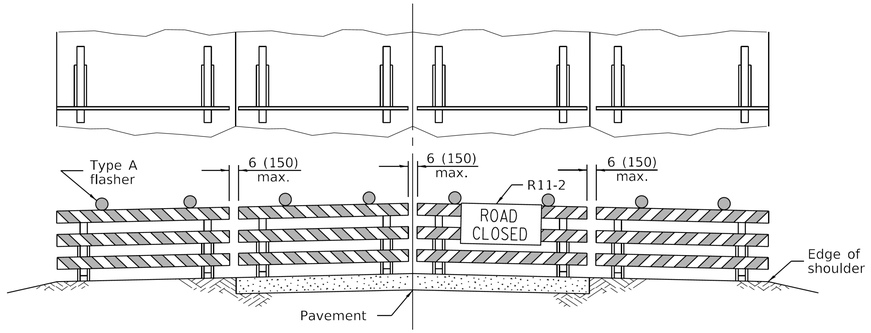


SECTION A-A



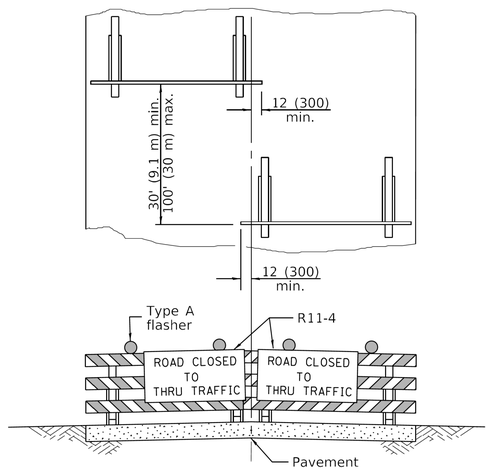
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901-08

MODEL: Default
FILE NAME: pw:\\Cvltech-pw.bentley.com:cvltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-06

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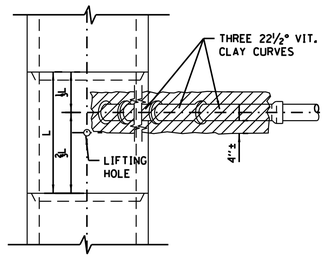
	DRAWN -	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

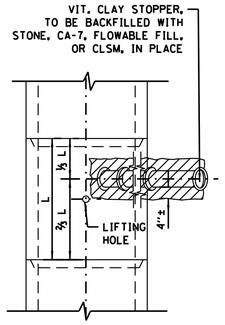
IDOT HIGHWAY STANDARDS

SCALE: | SHEET 6 OF 11 SHEETS | STA. | TO STA.

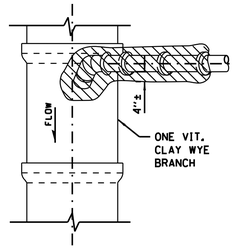
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	22
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



PLAN



PLAN



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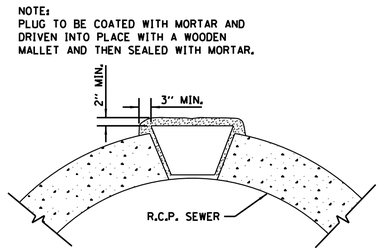
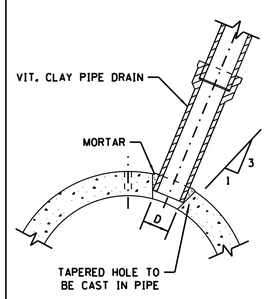


LIFTING HOLE PLUG DETAIL FOR CONCRETE PIPE



SIZE OF DRAIN	"D"
6"	6⅞"
8"	9⅛"
10"	11⅛"
12"	13½"
15"	17"
18"	20¼"
21"	23⅜"

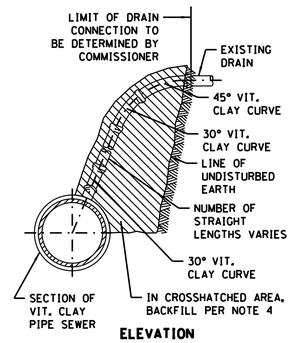
DETAIL OF TAPERED HOLE

ELEVATION

TYPICAL DRAIN CONNECTIONS FOR EXISTING DRAINS

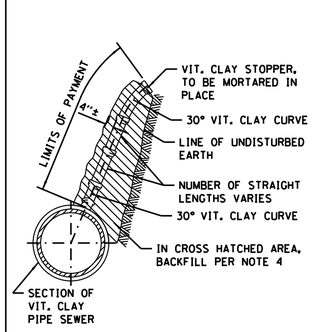
ELEVATION

TYPICAL DRAIN STACKS FOR FUTURE USE



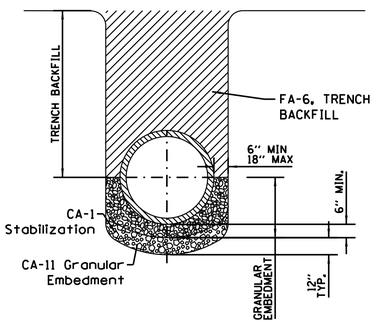
ELEVATION

TYPICAL DRAIN CONNECTIONS FOR EXISTING DRAINS



ELEVATION

TYPICAL DRAIN STACKS FOR FUTURE USE



NOTE:
1. FOR TRENCH BACKFILL, USE FA-6 SAND, CRUSHED CONCRETE SAND OR STONE SAND.

2. FOR GRANULAR EMBEDMENT, USE CA-11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

3. 12" OF CA-1 STONE IS ONLY REQUIRED WHEN UNSTABLE MATERIAL IS ENCOUNTERED AT TRENCH BOTTOM.

SEWER TRENCH DETAIL

NOTES:

1. ALL DRAIN CONNECTION JOINTS MUST BE MADE AS SPECIFIED IN SPECIFICATIONS..
2. FOR DUCTILE IRON PIPE DRAIN CONNECTIONS SEE SHEET NO. A.2.
3. FOR ALL GRANULAR EMBANKMENT, USE CA-7 OR CA-11
4. FOR BACKFILL OF HATCHED SUPPORT AREAS, USE CONCRETE. CA-11, FLOWABLE FILL, OR CLSM.

$FILE$
9/19/2022

STANDARD REVISIONS	
DATE	DESCRIPTION
2/24/15	APPROVED PLAN

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

VITRIFIED CLAY PIPE DRAIN CONNECTIONS

DRAWN: SBH
DESIGNED:
CHECKED: GD, DC, SO
REVIEWED:

A.1

OF

PN

MODEL: Default
FILE NAME: pw:\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-dh-det-07

CDOT

USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1
	DRAWN -	REVISED -
PLOT SCALE = 500.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

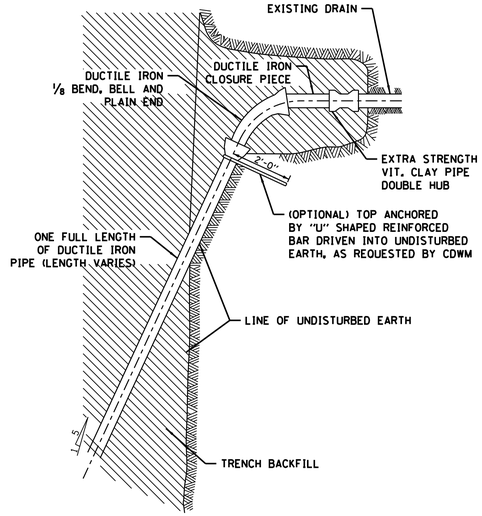
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

CDWM SEWER DETAILS

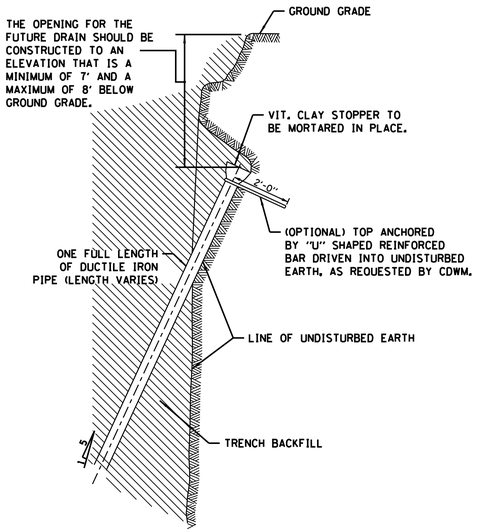
SCALE: | SHEET 7 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	23
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

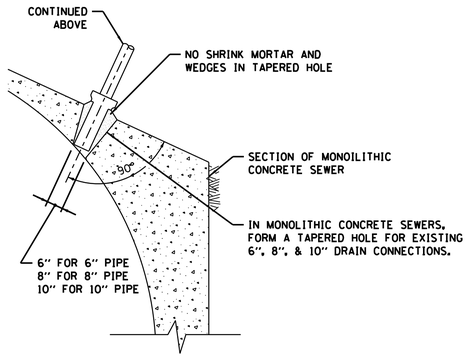
Date of Issue: September 20, 2022
PBC: Addendum No. 1 - WPA Street Reconstruction (Medill Avenue) - C1603



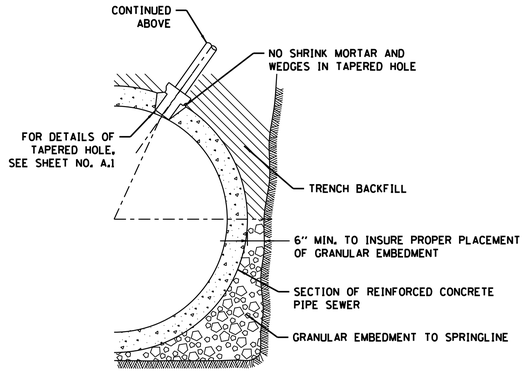
TYPICAL DRAIN CONNECTIONS FOR EXISTING DRAINS



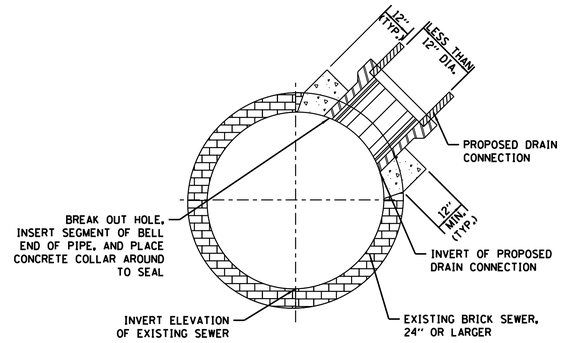
TYPICAL DRAIN STACKS FOR FUTURE USE



FOR MONOLITHIC CONCRETE SEWERS



FOR REINFORCED CONCRETE PIPE SEWERS



(NOT TO SCALE)

FOR BRICK SEWERS

DUCTILE IRON PIPE DRAIN CONNECTIONS

BRICK SEWER DRAIN CONNECTIONS

NOTES:
1. DUCTILE IRON PIPE MUST BE BELL END WITH PUSH-ON JOINTS CONFORMING TO ANSI SPECIFICATIONS A21.51 WITH CLASS 52 THICKNESS.
2. CONNECTIONS AND STACKS SHOWN MUST BE USED FOR 6", 8", & 10" DRAINS ONLY.
3. FOR VITRIFIED CLAY PIPE DRAIN CONNECTION AND DRAIN STACK CONSTRUCTION, SEE SHEET NO. A.1.
4. FOR TRENCH BACKFILL, USE FA-6 SAND, CRUSHED CONCRETE SAND, OR STONE SAND.
5. FOR GRANULAR EMBEDMENT, USE CA-11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

$FILE$
9/19/2022

STANDARD REVISIONS	
DATE	DESCRIPTION
1/5/15	APPROVED PLAN

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

DUCTILE IRON PIPE DRAIN CONNECTIONS

DRAWN: SBW
DESIGNED:
CHECKED:
REVIEWED:

A.2

OF

PN

MODEL: Default
FILE NAME: pw:\\Gultech-pw.bentley.com:cbultech-pw\Documents\Projects\3133-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NOI-01-sht-det-08

CDOT

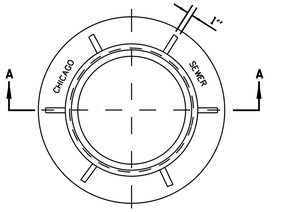
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1
	DRAWN -	REVISED -
PLOT SCALE = 500.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

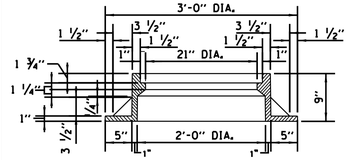
CDWM SEWER DETAILS

SCALE: | SHEET 8 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	24
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



PLAN

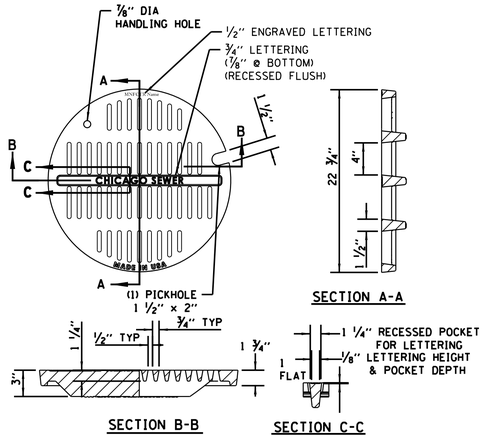


SECTION A-A

NOTE: METAL PLATES MUST BE FURNISHED FOR PERFORATED LIDS ON MANHOLES.

HEAVYWEIGHT MANHOLE FRAME

MATERIAL: CAST IRON



SECTION A-A

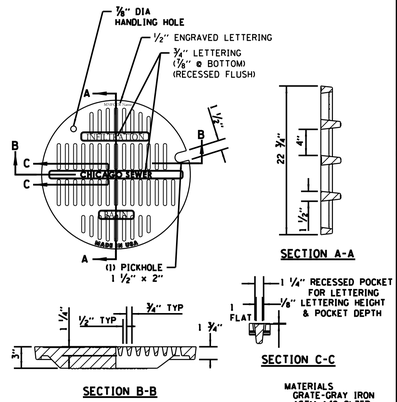
SECTION B-B

SECTION C-C

1 ¼" RECESSED POCKET FOR LETTERING

MATERIALS
GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

STANDARD CB/MH LID



SECTION A-A

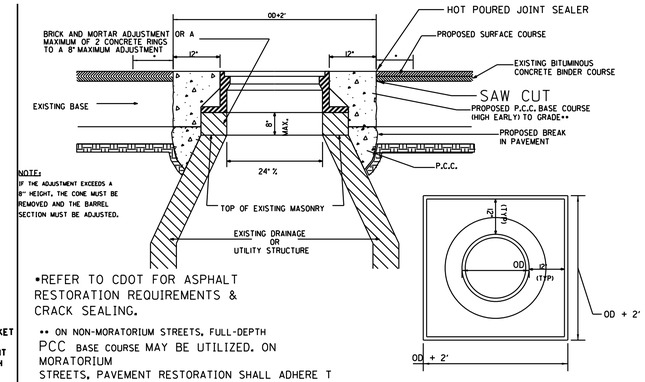
SECTION B-B

SECTION C-C

1 ¼" RECESSED POCKET FOR LETTERING

MATERIALS
GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

STANDARD LID FOR INFILTRATION SYSTEMS



*REFER TO CDOT FOR ASPHALT RESTORATION REQUIREMENTS & CRACK SEALING.

** ON NON-MORATORIUM STREETS, FULL-DEPTH PCC BASE COURSE MAY BE UTILIZED. ON MORATORIUM STREETS, PAVEMENT RESTORATION SHALL ADHERE T CDOT REQUIREMENTS.

PLAN VIEW (BASE TO GRADE)

NOTES:

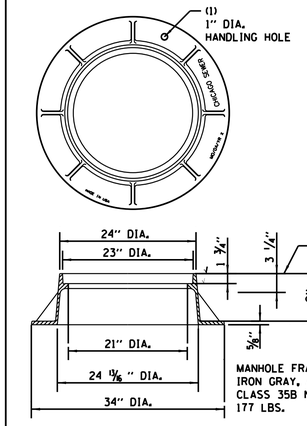
IF THE ADJUSTMENT EXCEEDS AN 8" HEIGHT, THE CONE MUST BE REMOVED AND THE BARREL SECTION MUST BE ADJUSTED.

THE CONTRACTOR IS REQUIRED TO REPLACE ANY BROKEN FRAMES AND LIDS OF SEWER STRUCTURES WITH STANDARD FRAMES AND LIDS OF THE DWM. IN ADJUSTMENT OR RECONSTRUCTION OF SEWER STRUCTURES, ANY NON-STANDARD FRAMES AND LIDS MUST BE REPLACED WITH STANDARD FRAMES AND LIDS. IN ADJUSTMENT OR RECONSTRUCTION OF INLETS, ANY NON-STANDARD INLETS (GUTTER BOXES) MUST BE REPLACED WITH DWM STANDARD INLETS.

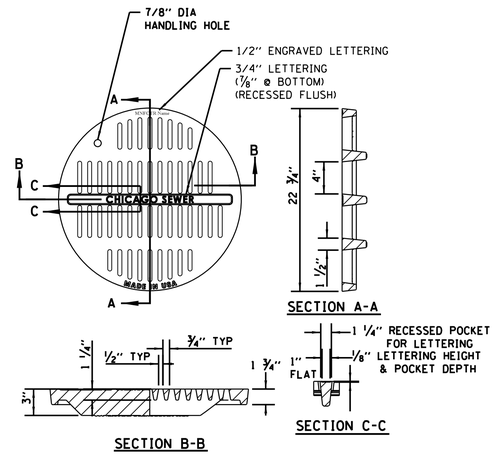
THE FRAMES AND LIDS OF SEWER STRUCTURES TO BE ABANDONED, REMOVED, OR FILLED MUST BE SALVAGED AND THE DWM NOTIFIED FOR PICK UP.

MANHOLES, CATCH BASINS AND INLETS MUST BE PROTECTED FROM THE ENTRY OF ASPHALT/DEBRIS INTO THE SEWER SYSTEM DURING CONSTRUCTION. THE CONTRACTOR MUST MARK LOCATIONS OF ALL SEWER STRUCTURES ON THE SIDEWALK BEFORE STARTING PAVEMENT REMOVAL/REPLACEMENT. ADJUSTMENT OF FRAMES AND LIDS OF SEWER STRUCTURES MUST BE COMPLETED PRIOR TO STREET RESURFACING.

DETAIL OF FRAME ADJUSTMENT



LIGHTWEIGHT MANHOLE FRAME



SECTION A-A

SECTION B-B

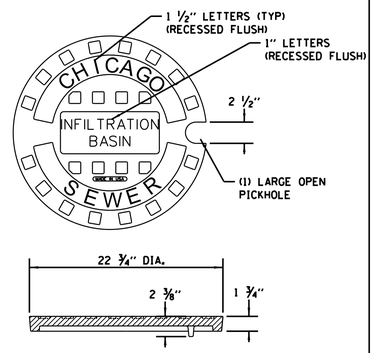
SECTION C-C

1 ¼" RECESSED POCKET FOR LETTERING

MATERIALS
GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

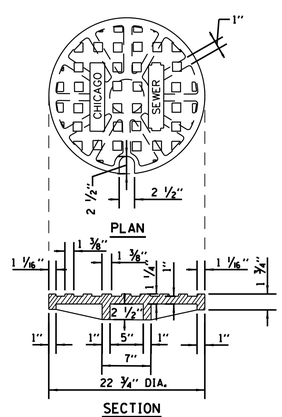
ADA MANHOLE LID

NOTE:
NOT TO BE USED WITHOUT PRIOR APPROVAL OF CDWM



COVER SECTION

INFILTRATION SOLID LID FOR CATCH BASIN



SECTION

SOLID LID FOR MANHOLES

STANDARD REVISIONS	
DATE	DESCRIPTION
1/5/15	Approved

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

MANHOLE LIDS AND FRAMES

DRAWN: SBH
DESIGNED:
CHECKED: CO, GC, SO
REVIEWED:

A.3

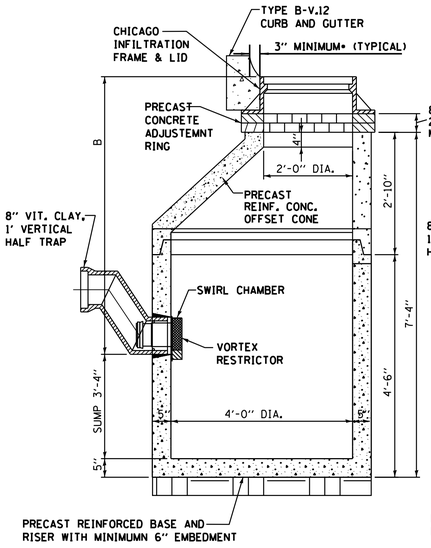
OF
PN

$FILE$
9/19/2022

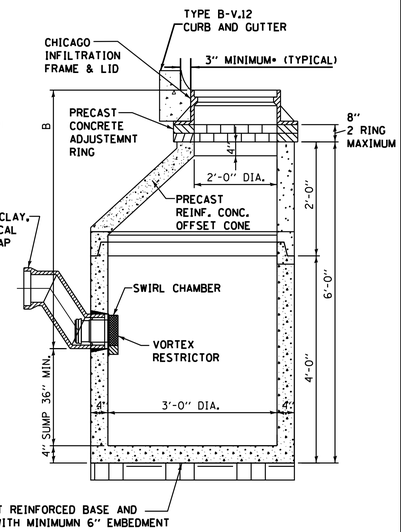
MODEL: Default
FILE NAME: pw:\\Gultech-pw.bentley.com:Gultech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC - Sheets\21-NO-01-SH-det-09

USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	**CITY OF CHICAGO**	**CDWM SEWER DETAILS**	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN -	REVISED -	**DEPARTMENT OF TRANSPORTATION**		COOK / 27 / 25
PLOT SCALE = 500.0000 ' / in.	CHECKED -	REVISED -			CONTRACT NO.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		SCALE: / SHEET 9 OF 11 SHEETS / STA. / TO STA.	ILLINOIS / FED. AID PROJECT

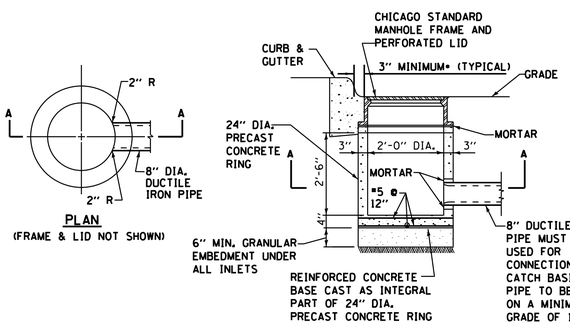
STANDARD DRAINAGE STRUCTURES FOR PUBLIC STREETS



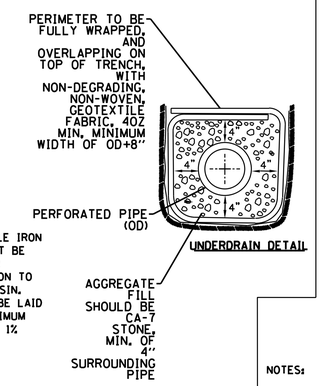
STANDARD CATCH BASIN-4' DIA.



STANDARD CATCH BASIN-3' DIA.



STANDARD INLET-2' DIA.



UNDERDRAIN DETAIL

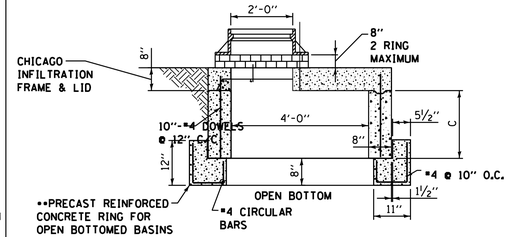
NOTE:
INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM SEWER ENGINEER OR FIELD INSPECTOR.

FOR TRENCH BACKFILL, USE FA-6 SAND, CRUSHED CONCRETE SAND, OR STONE SAND.

FOR GRANULAR EMBEDMENT, USE CA-11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

•OUTER EDGE OF FRAME TO FACE OF CURB

STANDARD DRAINAGE STRUCTURES FOR PUBLIC ALLEYS



GREEN ALLEY OPEN BOTTOM CATCH BASIN

TO BE USED IF STANDARD CONE WITH REQUIRED SUMP DEPTH INSTALLATION IS IMPOSSIBLE.

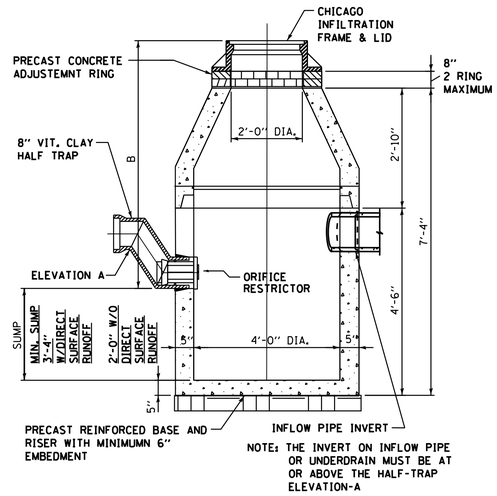
••IF FLAT TOP SLAB CATCH BASIN IS USED IN AN OPEN BOTTOM APPLICATION, THE FOLLOWING CRITERIA MUST BE FOLLOWED:

-"C" MUST BE A MINIMUM OF 3 FEET.

- PROVIDE A MINIMUM AGGREGATE BASE OF 1.0 FEET BELOW PRECAST REINFORCED CONCRETE RING.

-GEOTECH FABRIC MUST BE PLACED ON SIDES AND BOTTOM OF AGGREGATE SURROUNDING BASIN.

-AGGREGATE BASE MUST PROVIDE ADEQUATE STORMWATER STORAGE CAPACITY PER THE APPROVED/PERMITTED PLANS.



CATCH BASIN-ORIFICE RESTRICTOR

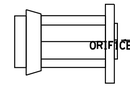
N.T.S.

NOTES:

1. FOR ANY DRAIN TILE CONNECTION, THE WATER TABLE MUST BE AT LEAST 3.5 FEET BELOW ELEVATION A.

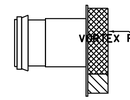
2. PVC UNDERDRAINS MUST BE 4" MINIMUM DIAMETER, (6" RECOMMENDED) AND MUST BE WRAPPED IN GEOTECH FABRIC.

DRAINAGE STRUCTURES RESTRICTORS



ORIFICE RESTRICTOR

INSERT THE RESTRICTOR INTO THE HALF-TRAP. UPON TIGHTENING OF THE CENTER NUT ON THE FACE OF THE RESTRICTOR, THE RUBBER O-RINGS WILL EXPAND INSIDE THE HALF TRAP, PROVIDING A WATER- TIGHT SEAL. PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.



VORTEX RESTRICTOR

PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.

INSERT THE RESTRICTOR WITH THE OPENING DOWN. UPON TIGHTENING OF THE 2 BOLTS ON THE FACE OF THE RESTRICTOR, THE RUBBER O-RINGS WILL PROVIDE A WATER- TIGHT SEAL.

GENERAL NOTES:

1. CATCH BASIN TO CATCH BASIN CONNECTIONS ARE ALLOWED IN PRIVATE SITES & ALLEYS. ONLY THE DOWNSTREAM CATCH BASIN IS REQUIRED TO HAVE A HALF-TRAP.

2. IF B < 4 FEET, THEN USE A DUCTILE IRON PIPE HALF TRAP AND FLAT TOP SLAB CATCH BASIN AS NECESSARY.

3. INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM FIELD INSPECTOR.

RESTRICTOR NOTES:

THE DWM'S RAIN BLOCKER RESTRICTOR PROGRAM MUST BE MAINTAINED WITH ANY ROADWAY IMPROVEMENT.

THE DESIGN OF ANY ROADWAY IMPROVEMENT MUST CONSIDER LIMITING THE NUMBER OF CATCH BASINS TO THE EXTENT PRACTICAL. THE NUMBER OF EXISTING STRUCTURES SHOULD NOT BE INCREASED.

THE RESTRICTORS CAN BE OBTAINED FROM DWM CENTRAL DISTRICT AT 3901 S. ASHLAND AVE. THE CONTRACTOR SHOULD ARRANGE FOR PICK UP BY CONTACTING 312-747-1177 (7AM TO 3PM, M-F)

FLOW RESTRICTORS MUST BE INSTALLED IN ALL CATCH BASINS OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. RESTRICTORS MUST NOT BE INSTALLED IN CATCH BASINS IN CLOSE PROXIMITY TO VIADUCT AREAS, BUS STOPS, OR EMERGENCY ENTRANCES. THE DWM MUST APPROVE THE NON-INSTALLATION OR REMOVAL OF ANY RESTRICTOR. REQUIREMENTS FOR RESTRICTOR INSTALLATION ARE AS FOLLOWS:

- •ARTERIAL STREETS: 3-INCH ORIFICE RESTRICTOR
- •BUS ROUTES: 3-INCH ORIFICE RESTRICTOR
- •RESIDENTIAL STREETS: 3-INCH VORTEX RESTRICTOR
- •ALLEYS: 3-INCH ORIFICE RESTRICTOR IN THE LAST CB.
- •CLOSED LIDS ARE REQUIRED ON ALL MANHOLES EXCEPT AT INTERSECTIONS WHERE A PERFORATED LID SHALL BE USED.

STANDARD REVISIONS	
DATE	DESCRIPTION
12/28/15	APPROVED

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

DRAINAGE STRUCTURE DETAILS

DRAWN SBW
DESIGNED
CHECKED
REVIEWED

A.18

OF

PN

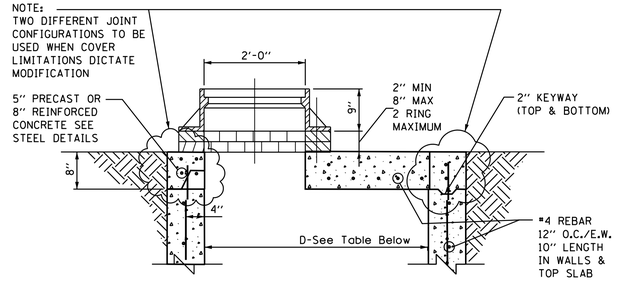
$FILE$
9/9/2022

MODEL: Default
FILE NAME: pw:\civiltech-pw.bentley.com:civiltech-pw.Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-10

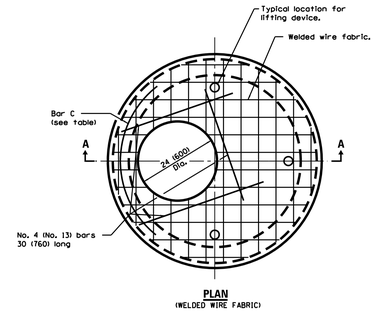
USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION	CDWM SEWER DETAILS
	DRAWN -	REVISED -		
PLOT SCALE = 500.0000 ' / in.	CHECKED -	REVISED -		SCALE: SHEET 10 OF 11 SHEETS STA. TO STA.
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	26
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

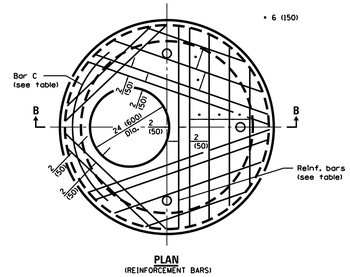
SPECIAL DRAINAGE STRUCTURES
FOR PUBLIC STREETS AND ALLEYS



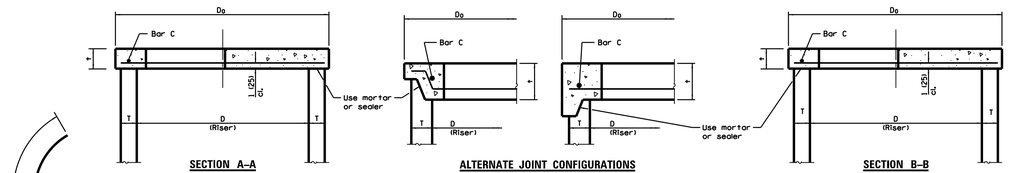
STANDARD FLAT TOP SLAB FOR CATCH BASINS



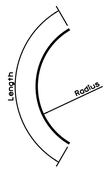
PLAN
(WELDED WIRE FABRIC)



PLAN
(REINFORCEMENT BARS)



SECTION A–A | **ALTERNATE JOINT CONFIGURATIONS** | **SECTION B–B**



BAR C

TABLE

D	T	Do (min.)	t	Reinforcement "Ay" W.W.F. @ Bar each direction	size	No. 4 (No. 13) Bar C Length	Radius
36 (900)	See applicable Standards	27 (675) + D	6 (150)	0.20 sq. in./ft. (425 sq. mm/m)	No. 4 (No. 13)	4'-0" (1.2 m)	19 (480)
4'-0" (1.2 m)			6 (150)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	4'-6" (1.35 m)	26 (660)
5'-0" (1.5 m)			8 (200)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	5'-0" (1.5 m)	32 (810)

GENERAL NOTES

The flat slab top may be used in lieu of the tapered tops shown on Standards 602001, 602011, 602016, 602306, 602401, or 602501 at the option of the Contractor or when field conditions prohibit the use of tapered tops.

All dimensions are in millimeters (inches) unless otherwise shown.

PRECAST REINFORCED CONCRETE FLAT SLAB TOP

STANDARD 602601-03

NOTES:
FLAT TOP SLAB AAPLICATION CAN ONLY BE USED WITH WRITTEN PERMISSION FROM CDWM.
USE LATEST IDOT DETAIL, #602601

STANDARD REVISIONS	
DATE	DESCRIPTION
9/5/17	APPROVED PLAN

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

FLAT TOP SLAB DETAILS

DRAWN: SBH
DESIGNED:
CHECKED:
REVIEWED:

A.4

OF

PN

$FILE$
9/19/2022

MODEL: Default
FILE NAME: pw:\civiltech-pw.bentley.com:civiltech-pw\Documents\Projects\3153-Special Requests\WPA Updates\Medill Oak Park to Normandy\Sheets\PBC Sheets\21-NO-01-sht-det-11

CDOT

USER NAME = kkb	DESIGNED -	ADDENDUM NO. 1	
	DRAWN -	REVISED -	
PLOT SCALE = 500.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 9/19/2022	DATE - 09/21/2021	REVISED -	

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION

CDWM SEWER DETAILS

SCALE: | SHEET 11 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	27	27
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

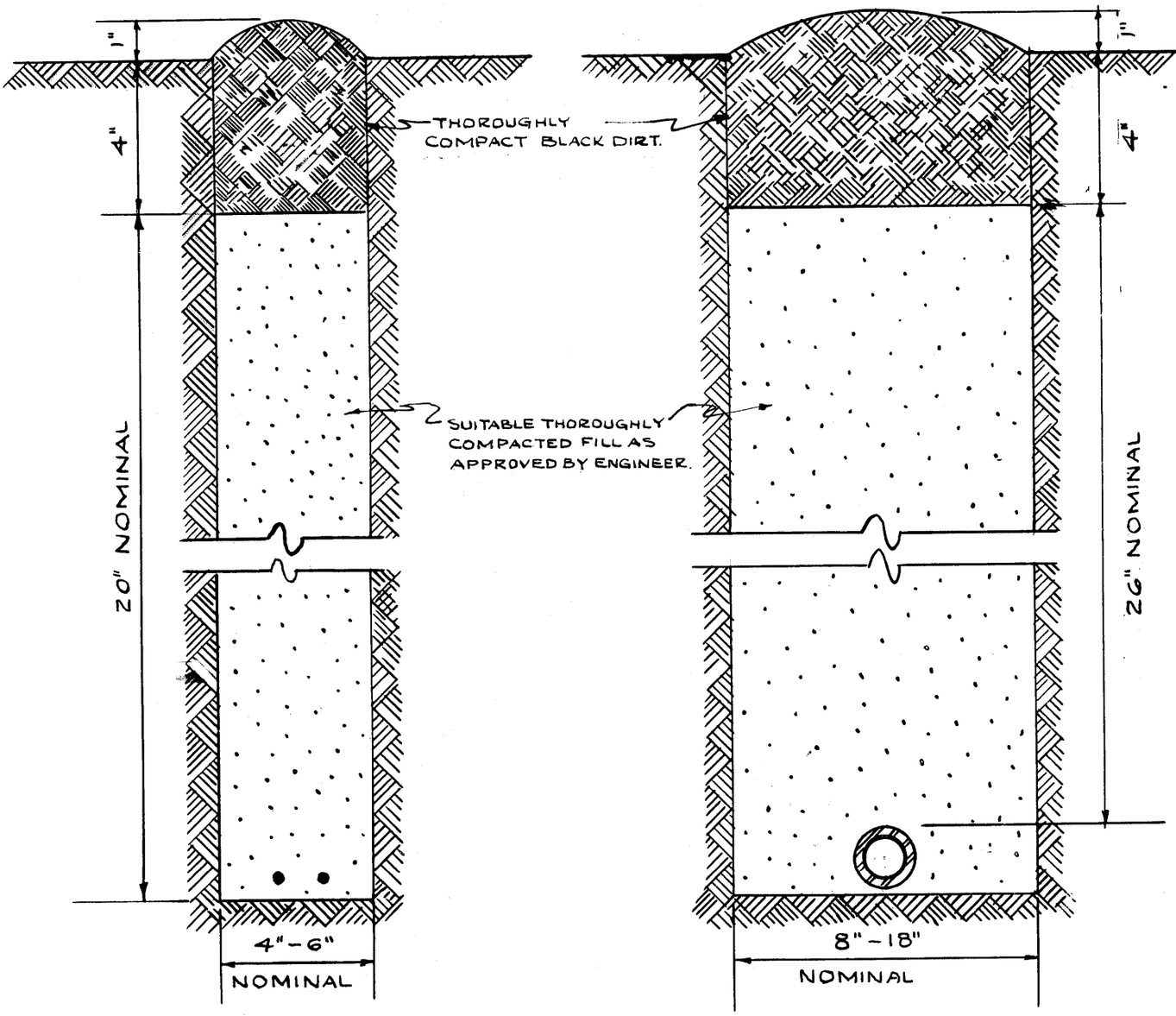
APPENDIX B

CDOT - DIVISION OF ELECTRICAL OPERATIONS

STANDARD ELECTRICAL DRAWINGS

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
STANDARD ELECTRICAL DRAWINGS
UPDATED 3/23/2022

Number	Title	Date
579	Trench Backfill	07-14-61
811	1-1/4"x60" Steel Anchor Bolt	07-29-82
813	Installation of Conduit under Pavement	03-13-81
837	Double Nut Construction	06-07-85
867	30" Handhole / 24" F&C	01-23-00
872	24" Frame and Cover	04-24-92
936	Helix Foundations for Poles	12-27-02
837	Double Nut Construction	06-07-85
940	Aluminum Davit Pole/ 7"x4.5"x12'-5"/ Residential	06-15-12
945	Aluminum Davit Arm / 4.5"x 8'	06-15-12
955	Residential Controller/ 240 Volt, 60 Amp	01-29-02
958	Luminaire Residential Mid-Mount	6/30/03
959	Bracket For Residential Mid-Mount Luminaire	02/01/06



CABLE TRENCH

CONDUIT TRENCH

NOTE

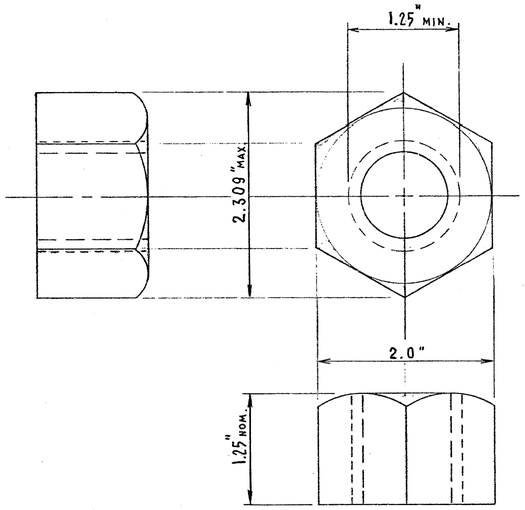
EXCESS SOIL FROM TRENCH TO BE COMPLETELY REMOVED FROM SITE AS SOON AS PRACTICABLE.

BLACK DIRT TO BE TAMPED & THOROUGHLY COMPACTED AS SHOWN.

STANDARD METHOD FOR BACKFILLING CABLE & CONDUIT TRENCHES IN SODDED PARKWAY & LAWNS

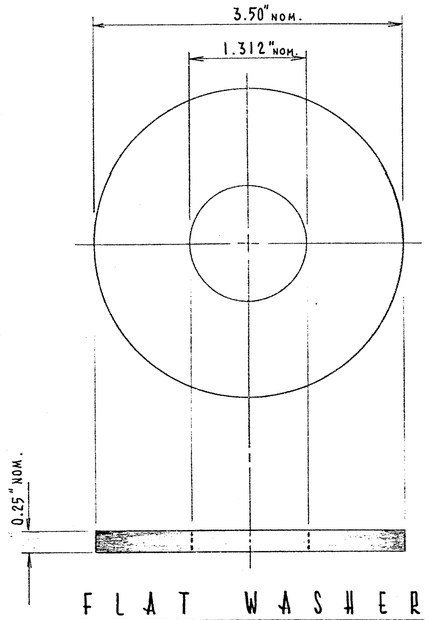
CITY OF CHICAGO
DEPT. OF STREETS & SANITATION
DIVISION OF ELECTRICAL ENGINEERING.

REVISION			
A			
B	DRAWN. W. E. HARP.	CHECKED. M. J. Kine	ENGINEER. J. O'CONNOR.
C	ENG. IN CHARGE. Dan D. Buckley		DRG. NO.
D			
E	SUPT. OF CONST. Joseph P. Keegan		579
F	DEPUTY COMM. John T. Kelly		
G			
H	SIZE. 8½"x14"	SCALE: ~	DATE. 27-1-28-61



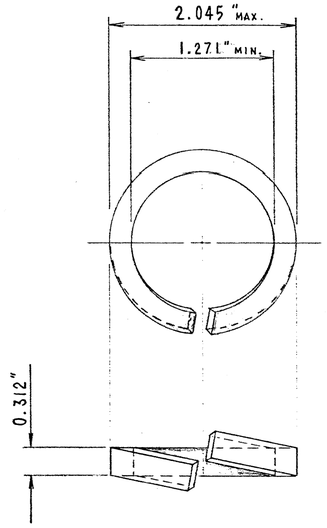
HEXAGON NUT

AMER. NAT'L. STD. HEAVY HEX. FLAT NUT
(ANSI B 18.2.2 - 1972)



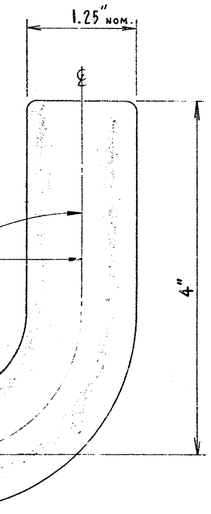
FLAT WASHER

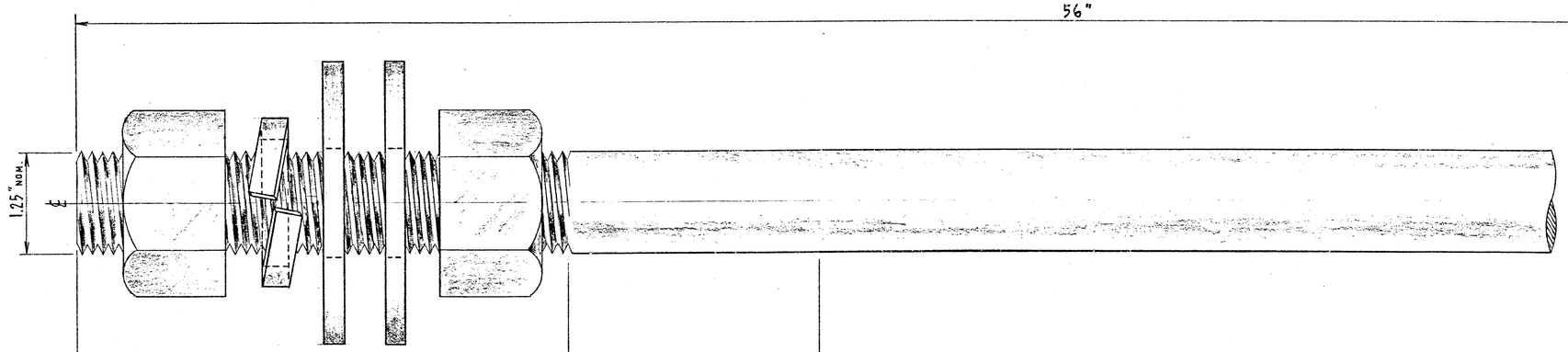
AMER. NAT'L. STD. TYPE "B"
SERIES "W"
(ANSI B 18.22.1-1965, R1975)



LOCK WASHER

AMER. NAT'L. STD. HELICAL SPRING LOCK WASHER
(ANSI B 18.21.1 - 1972)





MATERIAL:

ASTM A400, CLASS R-2 MODIFIED STEEL, 55 000 LBS. MINIMUM YIELD.

HARDWARE TO BE FURNISHED & ATTACHED IN PLACE ON ROD FOR SHIPPING:
2 HEX. NUTS, HEAVY, GALV., 1¼".
2 WASHERS, STEEL, ROUND, GALV., TYPE "B", SERIES "W", 1¼".
1 WASHER, LOCK, STEEL, GALV., HELICAL SPRING, REGULAR, 1¼".

BOLT & NUTS SHALL HAVE AN AMERICAN STANDARD CLASS 2 OR 3 FIT.
(NUT IS TAPPED OVERSIZE BY 1/32".)

1¼" x 60" STEEL ANCHOR ROD

COMMODITY CODE 37-8180-0236

REDRAWN

REVISED		
A	JULY 29, 1982	
B		
C		
D		
E		
F		
G		

CITY OF CHICAGO
DEPT OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

DRAWN: EUGENE GERULIS | CHECKED: A. DURELSKY | ENGINEER: M. SHINE

ELEC. DESIGN ENGINEER: M Shine

ENGINEER OF ELECTRICITY: Thomas Gilbert

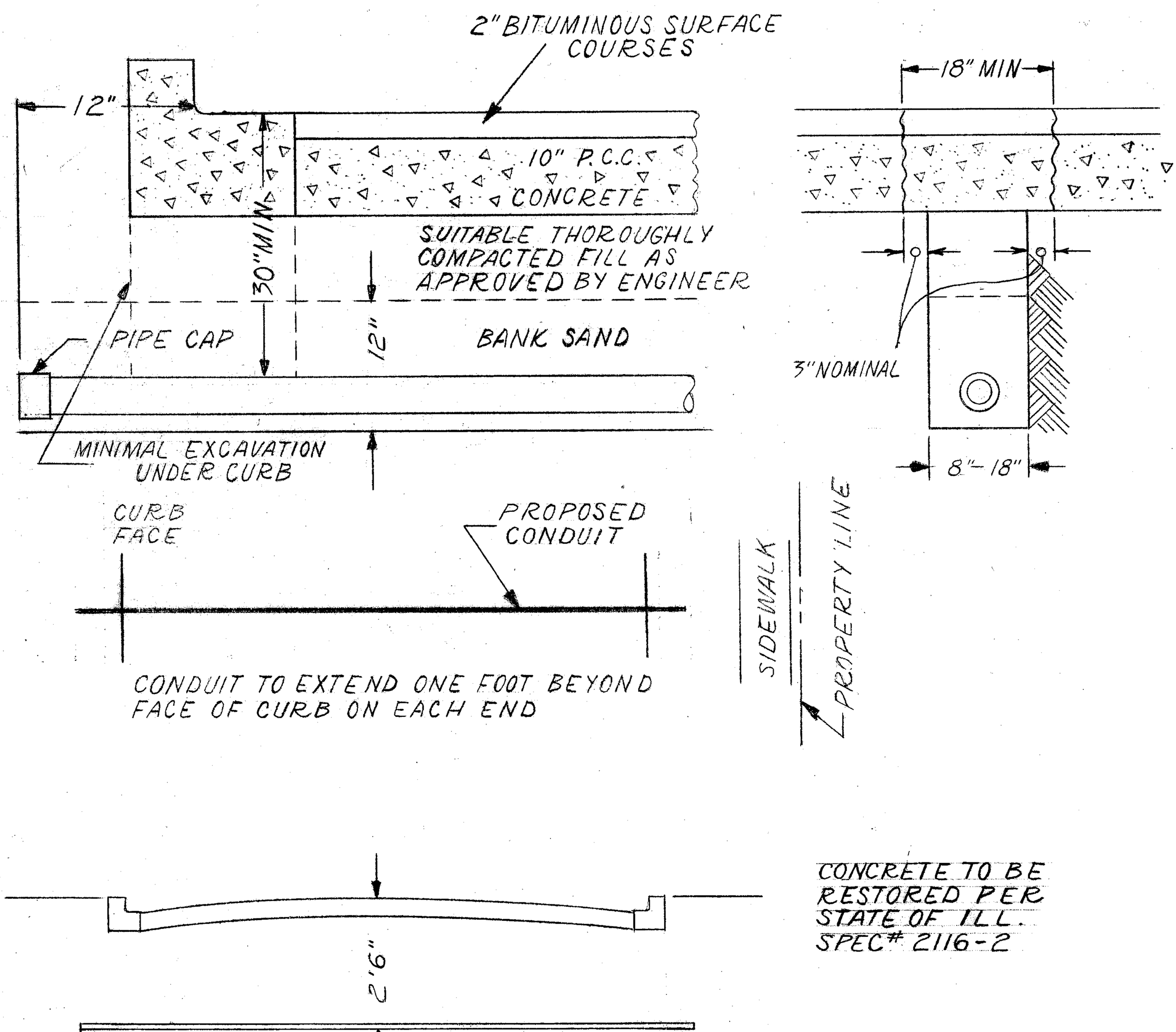
DEPUTY COMMISSIONER: Charles E. Brickley

DRG. NO. 811

SIZE 17"x 28" | SCALE | DATE AUG. 3, 1982

CONDUIT INSTALLATION UNDER PAVED STREET

TYPE III CURB & GUTTER TYPICAL



CONCRETE TO BE RESTORED PER STATE OF ILL. SPEC# 2116-2

INSTALLATION METHOD OF INSTALLING CONDUIT UNDER PAVED ROADWAY

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

DRAWN	CHECKED	ENGINEER
A.M. JOHNSON	R. SYCKOWSKI	R.L. MARTIN

Thomas Rudloff
ENGINEER OF ELECTRICITY

Charles E Buckley
SUPT. OF CONST.

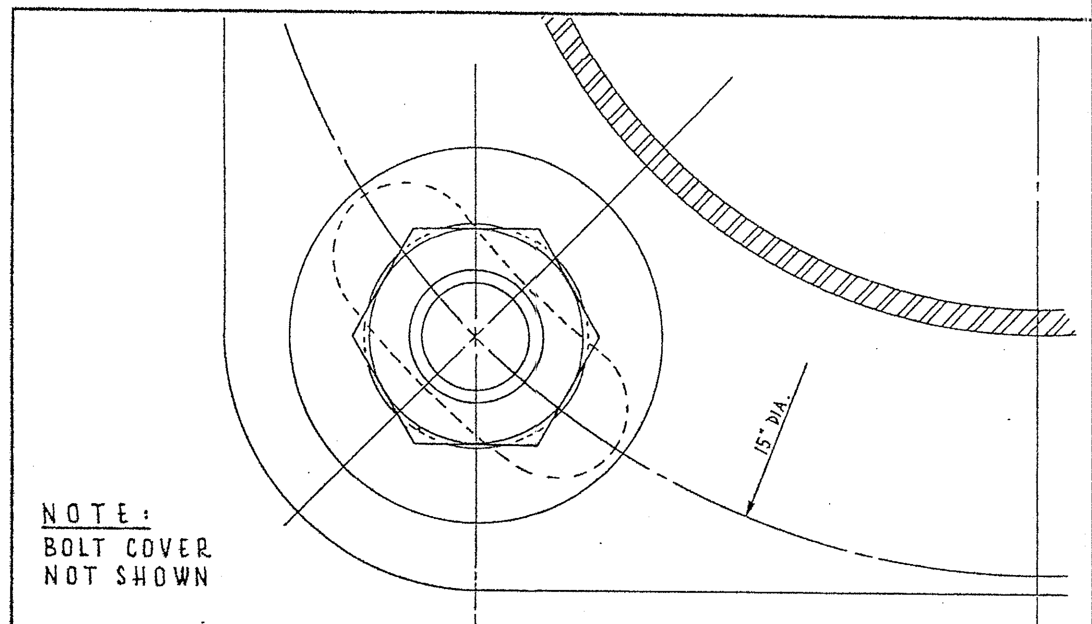
DEPUTY COMM.

DRG. NO. 813

SIZE 8½"X14"

SCALE N.T.S.

DATE 3-13-81



INSTALLATION NOTES

STEP 1 COAT EXPOSED PORTION OF ANCHOR BOLTS WITH APPROVED ANTI RUSTING GREASE ("NO-OX" OR EQUAL).

STEP 2 INSTALL LOWER LEVELLING NUTS & WASHERS. SET AT PROPER GRADE WITH HAND LEVEL, USE TABLE FOR APPROPRIATE DIMENSIONS.

STEP 3 MOUNT POLE OR PEDESTAL, ATTACH TOP WASHERS & NUTS HAND TIGHT.

STEP 4 PLUMB POLE OR PEDESTAL AFTER ALL MASTARMS, STREET LIGHTS, TRAFFIC SIGNALS & OTHER APPURTENANCES ARE ATTACHED TO POLE & TIGHTEN ALL NUTS.

STEP 5 ATTACH NUT COVERS WHERE REQUIRED.

STEP 6 DO NOT GROUT IN SPACE BETWEEN BOTTOM OF POLE & TOP OF FOUNDATION. TOP OF FOUNDATION OR SURFACE OF SIDEWALK MUST BE LEFT CLEAN AND SMOOTH.

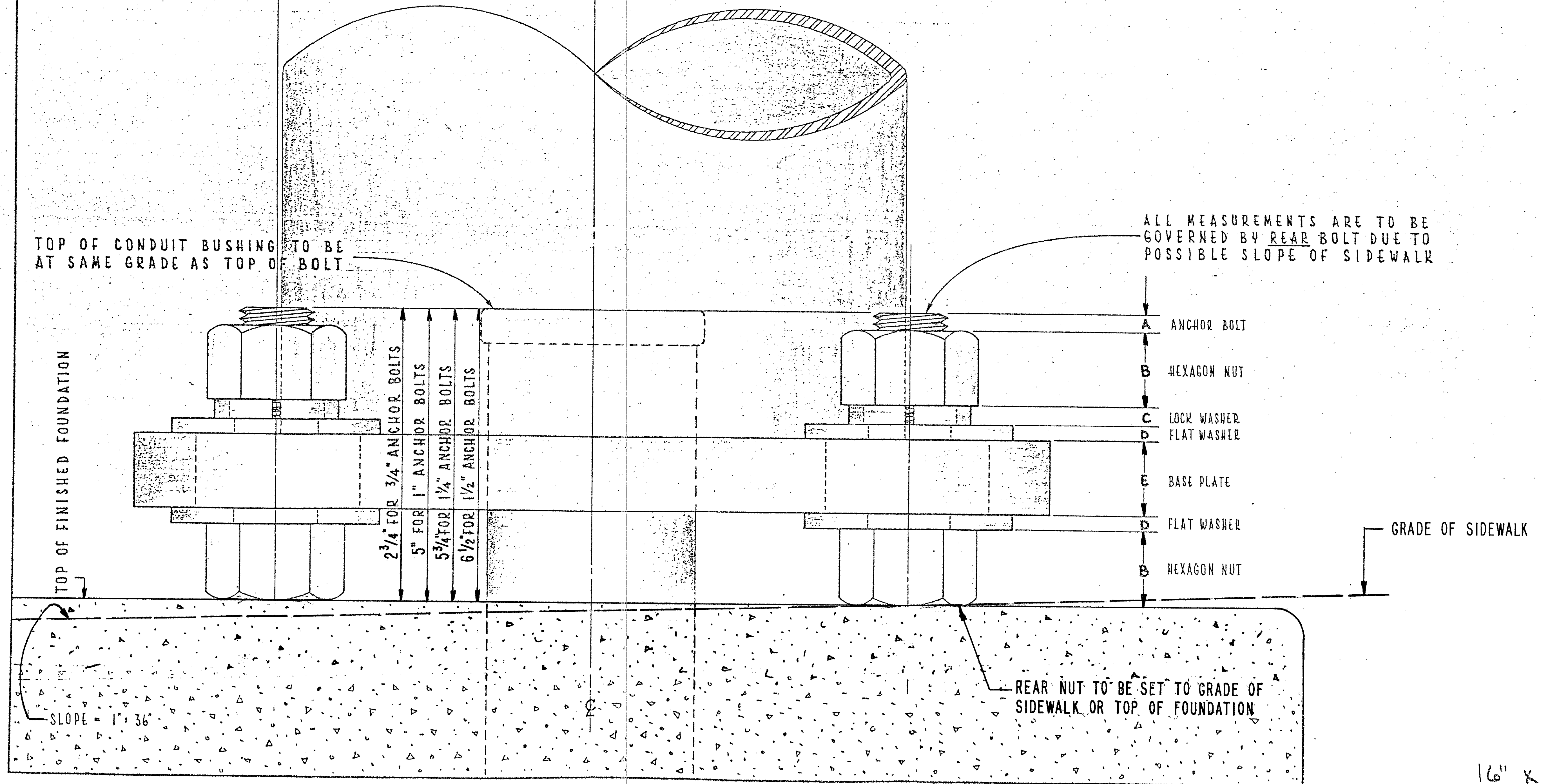
STEP 7 POLE OR PEDESTAL IS TO BE PERFECTLY PLUMB, NO "RAKE" IS TO BE LEFT.

IF NECESSARY:
ANCHOR BOLT TO BE TRIMMED WITH SAW. DO NOT BURN, AS THIS DRASTICALLY REDUCES THE TENSILE STRENGTH OF ANCHOR BOLT.

COAT ANCHOR BOLT WITH RUST-OLEUM HARD HAT ZINC RICH COMPOUND.

TABLE

UNIT	ANCHOR BOLT SIZE						
	1"		1 1/4"		1 1/2"		3/4"
	POLE GAUGES						ALUM. PED.
	7 GA.	3 GA.	7 GA.	3 GA.	7 GA.	3 GA.	
A	7/16"	7/16"	1 1/8"	1 5/16"	1 1/8"	7/8"	3/4"
B	1"	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	3/4"
C	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/16"
D	5/32"	5/32"	1/4"	1/4"	1/4"	1/4"	5/32"
E	1"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	5/8"

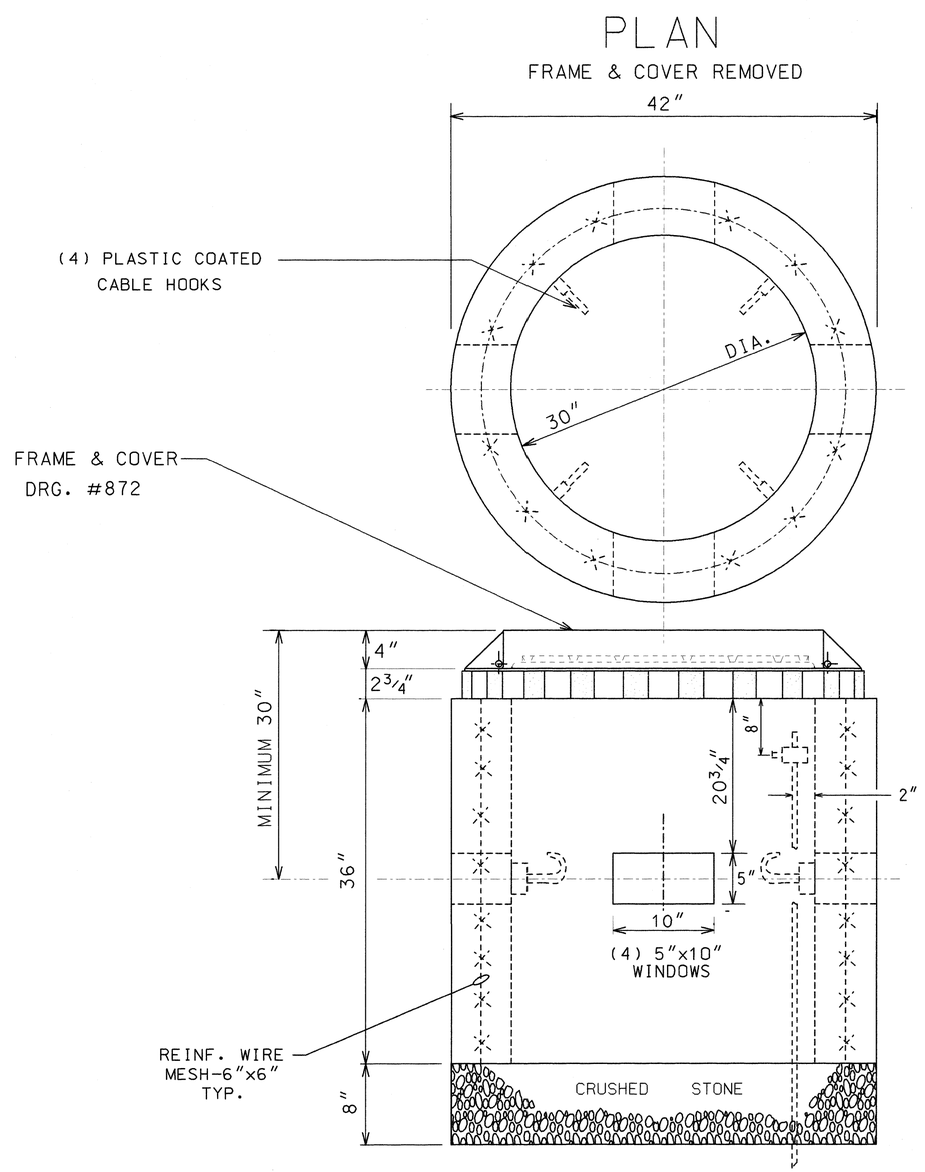


16" x 21"

CONSTRUCTION METHOD FOR "DOUBLE-NUT" INSTALLATION OF POLES AND PEDESTALS

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

DRAFTSMAN: EUGENE GERULIS	CHIEF DRAFTSMAN: R.J.S.	ENGINEER: M.J.S.
SUPERVISING ENGINEER:	ELEC. DESIGN ENGR.	DWG. NO. 837
ENGINEER OF ELECTRICITY: Michael J. Shine (signature) GEN'L. SUPT. OF ELECTRICITY		
DEPUTY COMMISSIONER: Ronald E. [signature]		
SIZE: 22 3 1	SCALE: 1" = 1"	DATE: 6-7-85



COMPLETE COMMODITY CODE NO. 05-6610-5310M			
CODE NO.	MATERIALS	SIZE	QUAN.
(1) 05-6610-5310	PRE-CAST HANDHOLE	30"X36"	1
(2) 05-9075-5470	STONE 3/4" CRUSHED	BAG	5
(2) 05-5082-5330	SONO TUBE	30"	1
(2) 05-5082-5342	SONO TUBE	42"	1
(2) 05-3267-2940	CONC. REDI-MIX	CU. YD.	1/2
(2) 57-0770-0000	6" X 6" MESH	36"X10'	1
05-1452-9720	BRICK		24
02-4299-5524	FRAME MANHOLE	24"	1
02-4574-5040	COVER, MANHOLE	24"	1
09-7796-9312	GROUND ROD	3/4"X12'	1
09-2630-3240	GROUND CLAMP		1

(1) PRE-CAST HANDHOLE SHALL INCLUDE CABLE HOOKS AND CONDUIT KNOCKOUTS.
(2) THESE ITEMS ARE FOR POURED-IN-PLACE HANDHOLES ONLY.

CONSTRUCTION NOTES:

1. 8" BED OF STONE FOR DRAINAGE.
2. ALL METALLIC CONDUITS ENTERING HANDHOLE SHALL EXTEND MINIMUM 1" & MAXIMUM 3" INSIDE INNER WALL AND BE EQUIPPED WITH AN APPROVED TYPE OF THREADED GROUNDING BUSHING.

	DATE	REVISION	
B	01-23-00	ADDED CABLE HOOKS PER COMMISSIONER MURPHY	(RC/RI)
A	12-8-95	REDRAW (CAD)	MP.

30" DIA. CONCRETE HANDHOLE

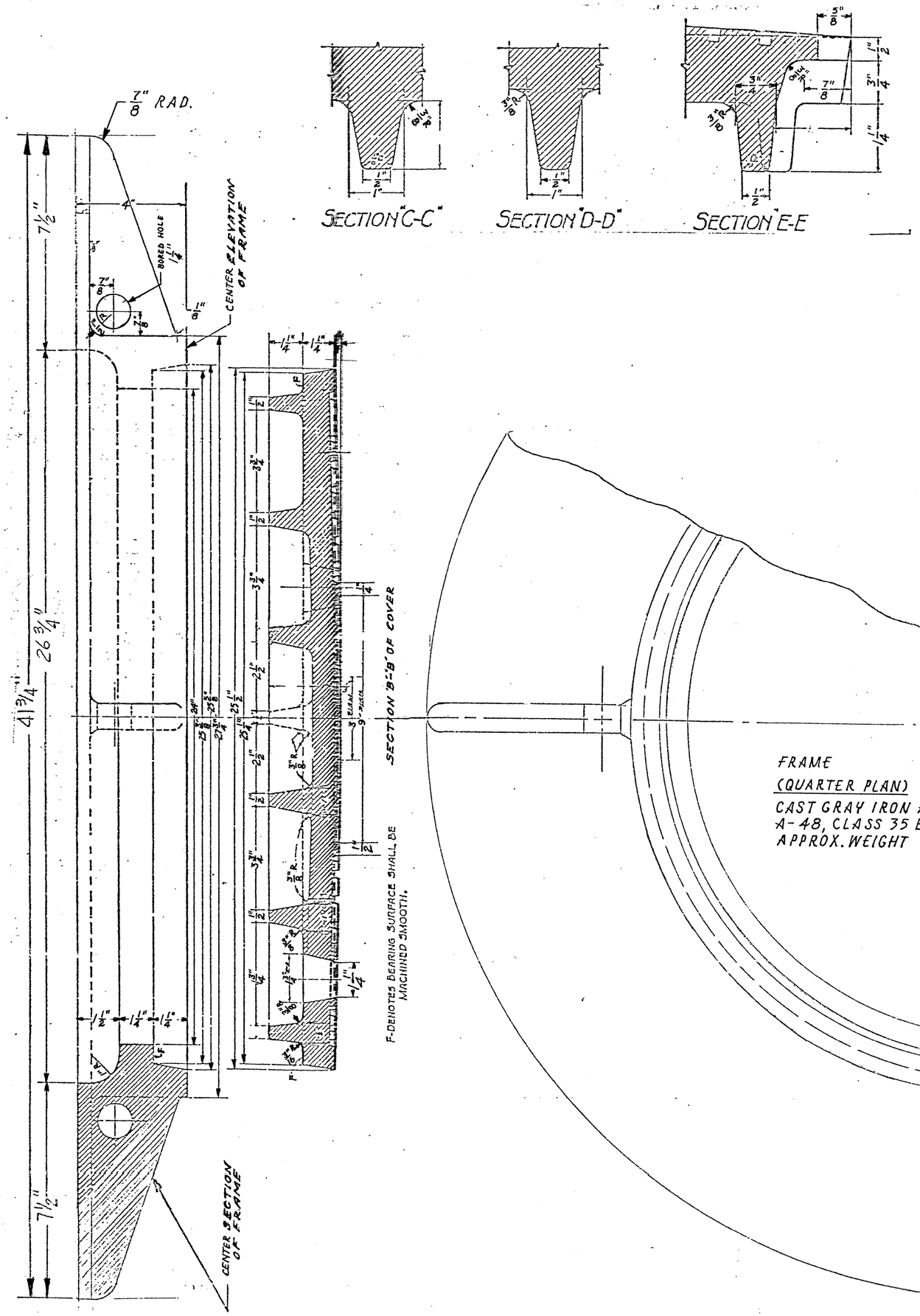
CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

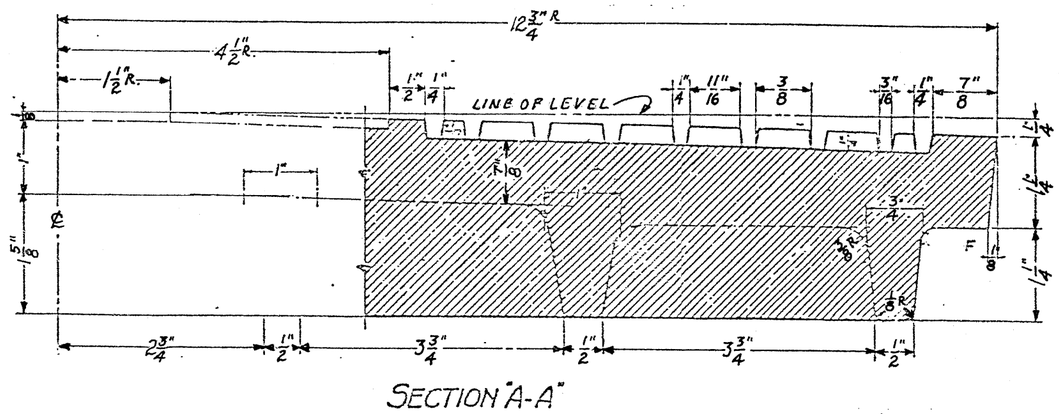
DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
M. PATTON	B. CARTER	TROMPKA / DEBARTOLO

SUPERVISING ENGINEER: ELEC. DESIGN ENGR.:
ENGINEER OF ELECTRICITY:
GEN'L SUPT. OF ELECTRICITY:
DEPUTY COMMISSIONER: B. Murphy

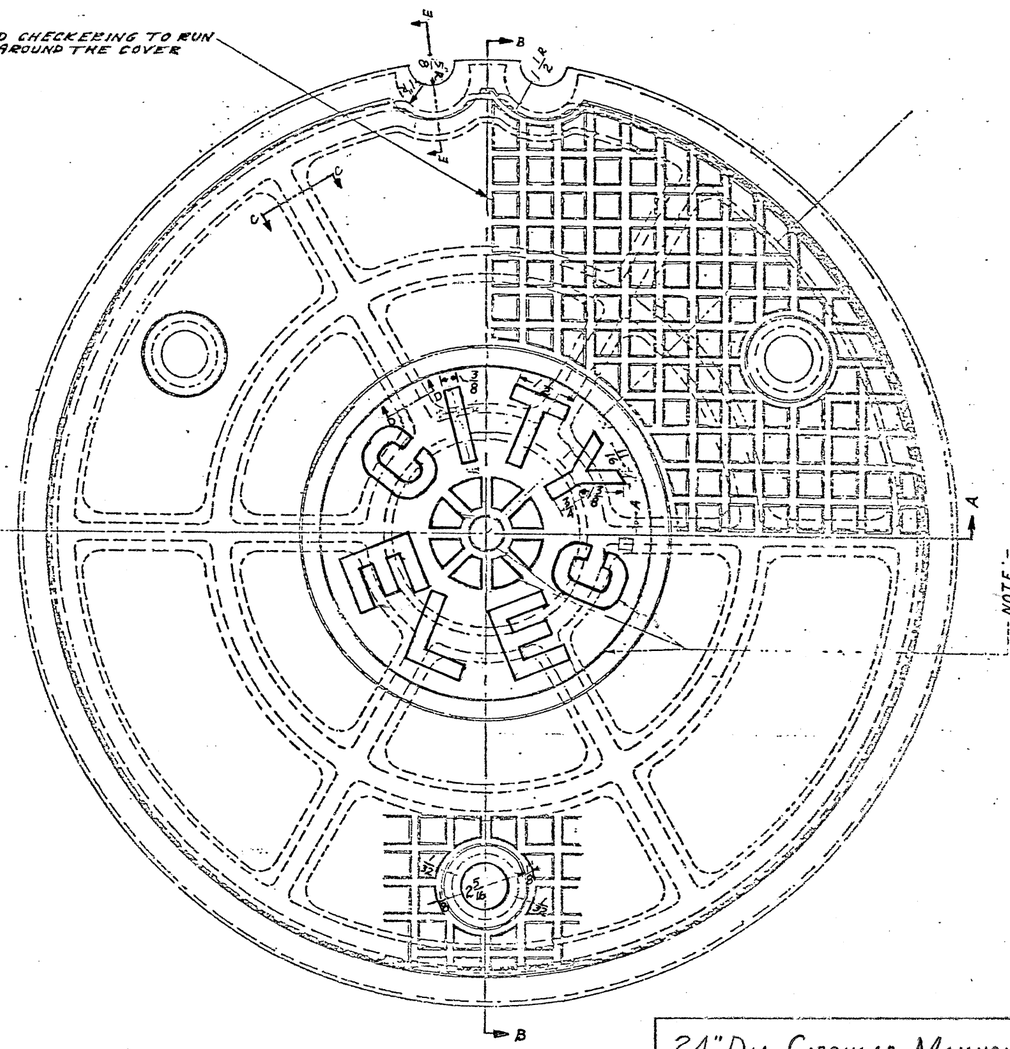
DWG. NO. 867

SIZE: 11" 17" SCALE: NONE DATE: 12-8-95





NOTE:- GRID CHECKERING TO RUN ENTIRELY AROUND THE COVER



COVER (PLAN) CAST IRON APPROX. WEIGHT 200 LBS.

COMMODITY CODE

FRAME

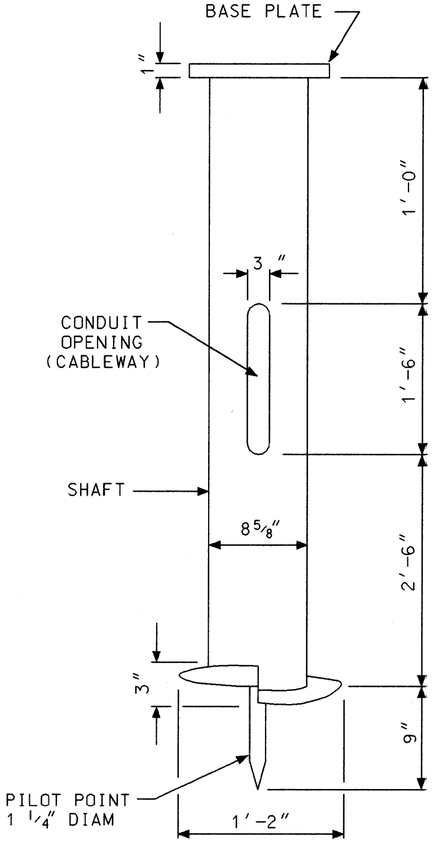
COVER - 02 4574-5040

SUPERSEDES DWG # 10797 DATED 2-10-35

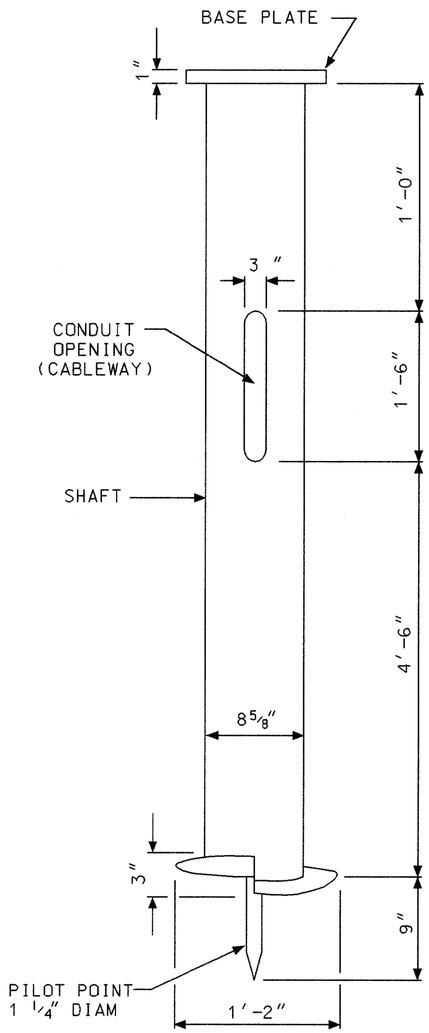
24" DIA. CIRCULAR MANHOLE FRAME & COVER WITH 41 3/4" O.D. FRAME

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

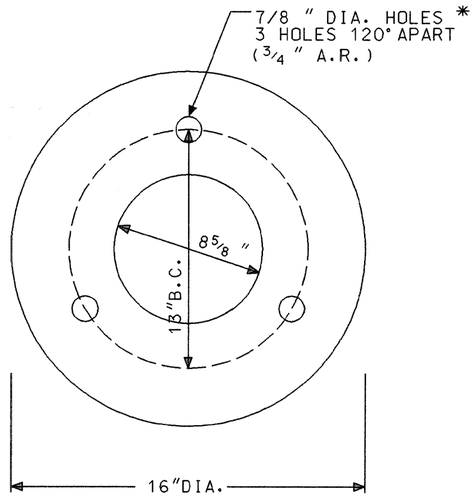
DRAFTSMAN: A. JOHNSON	CHIEF DRAFTSMAN: C. RESPINO	ENGINEER: M. DE BARTOLO
SUPERVISING ENGINEER:	ELEC. DESIGN ENGR.	DWG. NO. 872
ENGINEER OF ELECTRICITY:		
GEN'L SUPT. OF ELECTRICITY		
DEPUTY COMMISSIONER:		
SIZE:	SCALE: 4"	DATE: 4-24-92



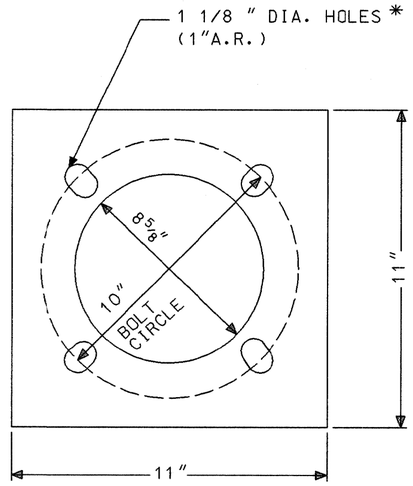
5' FOUNDATION



7' FOUNDATION

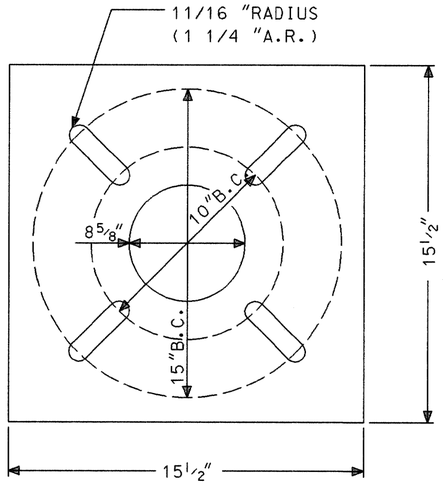


BASE PLATE
5 FOOT FOUNDATION
13" BOLT CIRCLE



BASE PLATE
5 FOOT FOUNDATION
10" BOLT CIRCLE

* HOLES IN BASE PLATE MAY BE RADIALLY SLOTTED



BASE PLATE
7 FOOT FOUNDATION
10"-15" BOLT CIRCLE

NOTES:

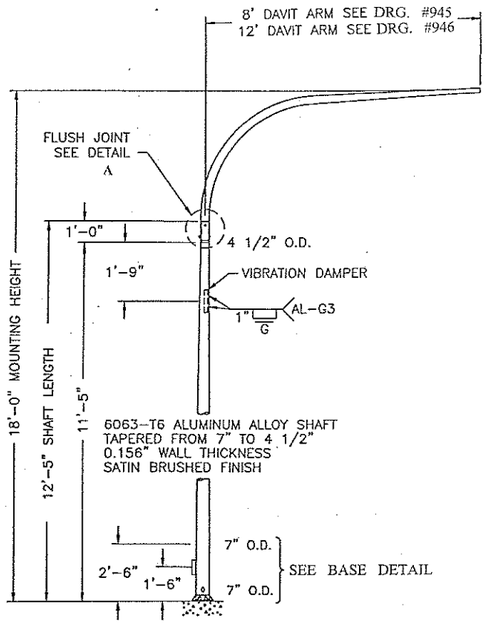
1. SHAFT MUST HAVE 1/4 " WALL AND HAVE 8 5/8 " OUTSIDE DIAMETER.
2. SHAFT MATERIAL MUST BE ASTM A53B STEEL PIPE OR LATEST REVISION.
3. HELIX MUST BE FORMED BY MATCHING METAL DIE.
4. HELIX MATERIAL MUST BE ASTM A709 GR 36 OR LATEST REVISION.
5. HELIX MUST HAVE 3 INCH PITCH.
6. PILOT POINT MATERIAL WILL BE ASTM A36 STEEL OR LATEST REVISION.
7. BASE PLATE MATERIAL WILL BE ASTM A36 STEEL.
8. ENTIRE STEEL FOUNDATION TO BE HOT DIP GALVANIZED PER ASTM A123 OR LATEST REVISION .
9. BASE PLATE MUST BE PERMANENTLY STAMPED WITH MANUFACTURER'S NAME, MANUFACTURING DATE, AND PRODUCT IDENTIFICATION.
10. BASE PLATE MUST BE PERMANENTLY MARKED ON TOP INDICATING CONDUIT OPENING ORIENTATION.

	REVISION	DATE
A		

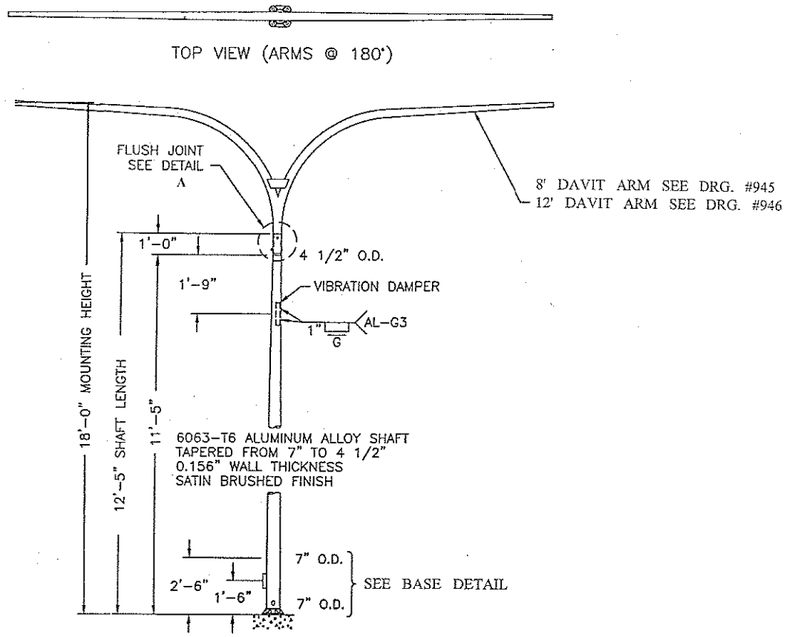
HELIX LIGHT POLE FOUNDATIONS

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

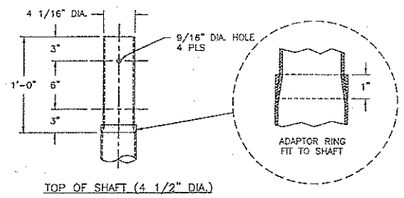
DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
I. ABABNEH	R. CARTER	R. POOL
SUPERVISING ENGINEER:	ELECTRICAL ENGR.	
ENGINEER OF ELECTRICITY:		DWG. NO.
GEN'L SUPT. OF ELECTRICITY:		936
DEPUTY COMMISSIONER:		
SIZE: 16" x 21"	SCALE: NONE	DATE: 27-12-02



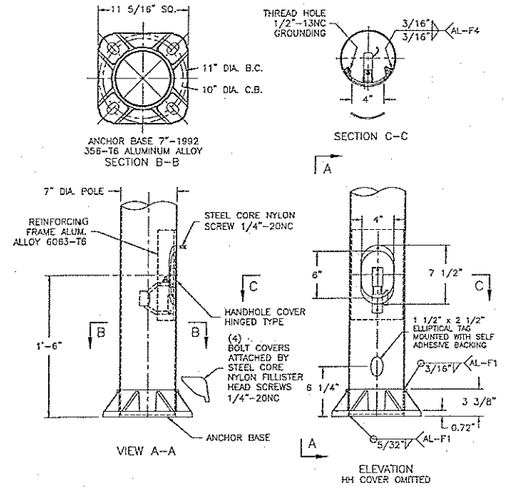
POLE WITH SINGLE DAVIT ARM



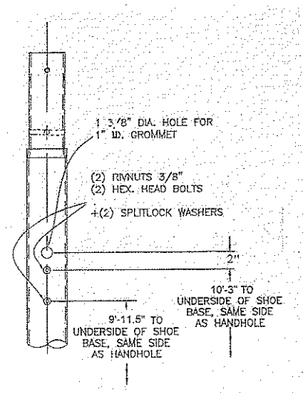
POLE WITH TWIN DAVIT ARMS



DETAIL A



POLE BASE



OPTION: SIDE MOUNT FOR LUMINAIRE

REVISED	06-15-2012

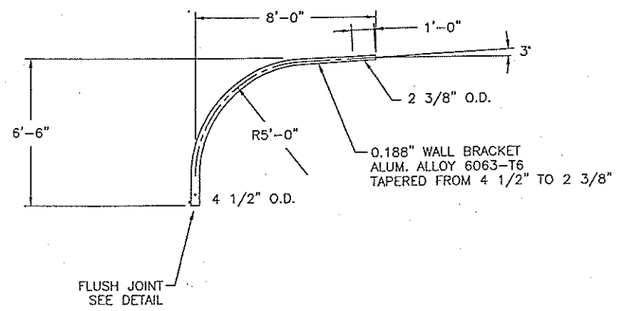
ALUMINUM DAVIT POLE

7" x 4.5" x 12'-5"

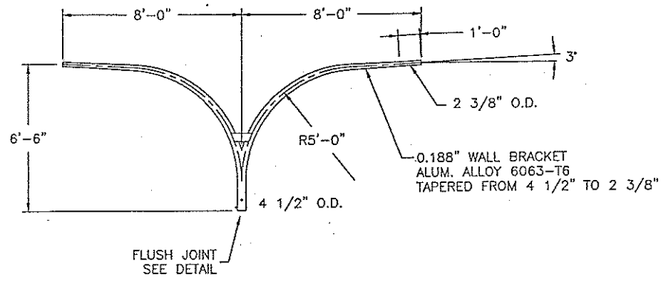
FOR RESIDENTIAL STREETS

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
DIVISION OF ELECTRICAL OPERATIONS

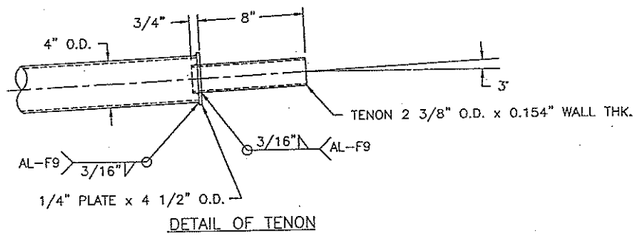
DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER
SUPERVISING ENGINEER:	ELEC. DESIGN ENGR.	DWG. NO.
ENGINEER OF ELECTRICITY		940
DEPUTY COMMISSIONER:		
SIZE:	SCALE:	DATE: 1-29-02



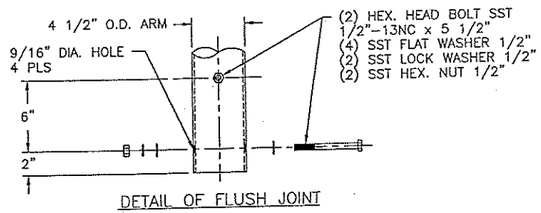
SINGLE DAVIT ARM



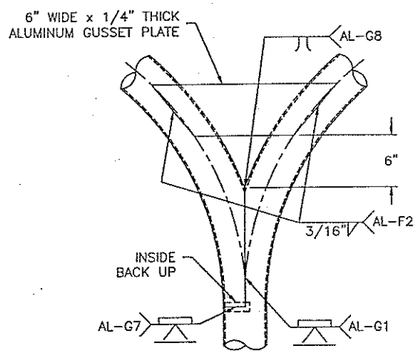
TWIN DAVIT ARM AT 180°



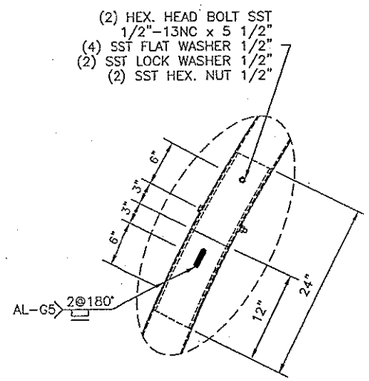
DETAIL OF TENON



DETAIL OF FLUSH JOINT



TWIN ARM (180°) WELD DETAIL



SPLICE DETAIL

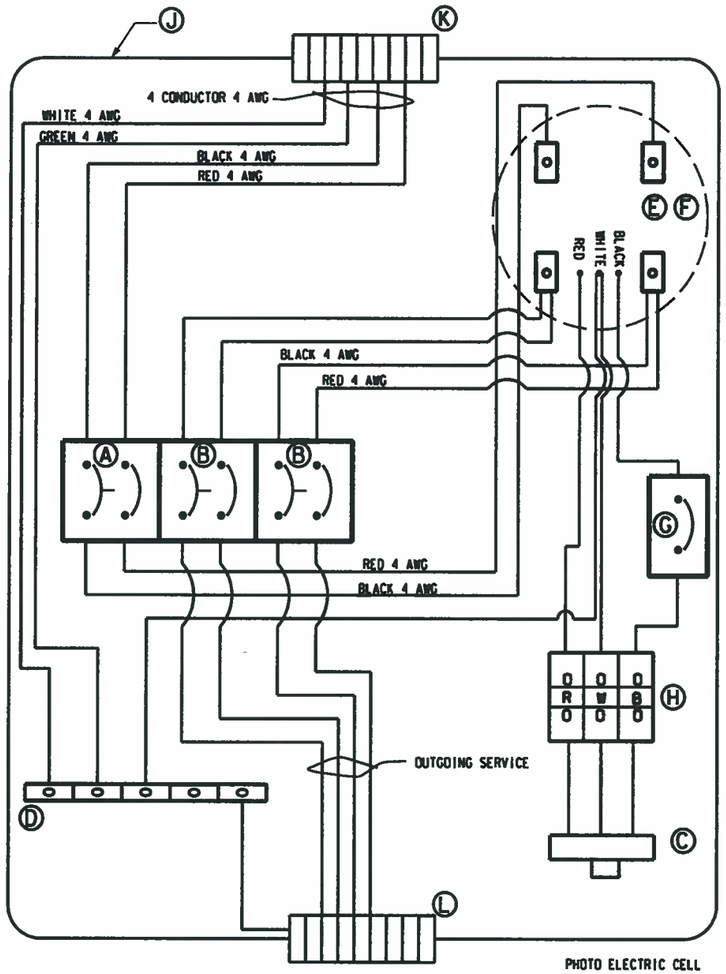
REVISED	06-15-2012

ALUMINUM DAVIT ARM

4.5" x 8'-0"

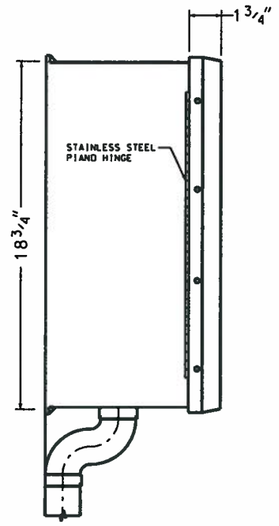
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
DIVISION OF ELECTRICAL OPERATIONS

DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
SUPERVISING ENGINEER:	ELEC. DESIGN ENGR.	DWG. NO. 945
ENGINEER OF ELECTRICITY:		
GEN'L SUPT. OF CONSTRUCTION:		
DEPUTY COMMISSIONER:		
SIZE:	SCALE:	DATE: 1-29-02

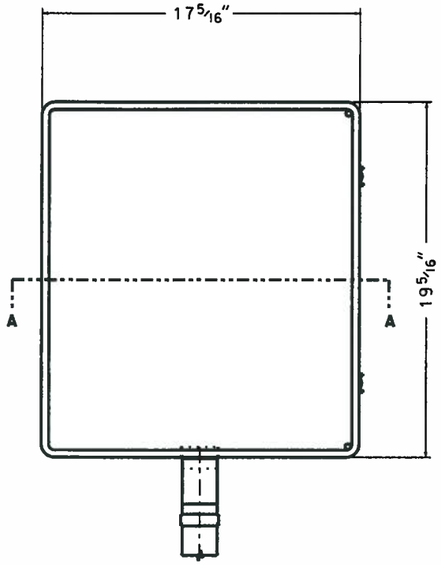


A- C/H 2P 60A QC2060
B- C/H 2P 30A QC2030
C- FISHER NIGHTLIGHTER #FA105-
120V PHOTOCELL CTRL
D- GB101 NEUTRAL BUS
E- CONTACTOR 50A MSD
F- MILBANK SOCKET AP2300
G- C/H 1P 15A QC1015
H- USD NDN3 TERM. BLK
J- VYNKIER ENCLOSURE VJ1816
K- T&B 2564 CORD GRIP
L- T&B H200GR FITTING

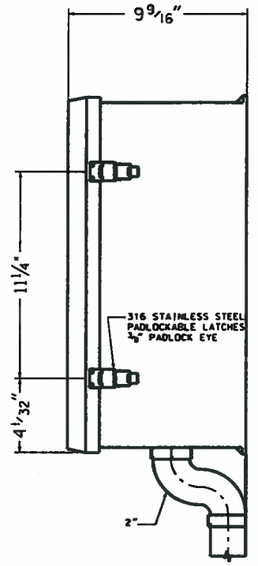
WIRING DIAGRAM



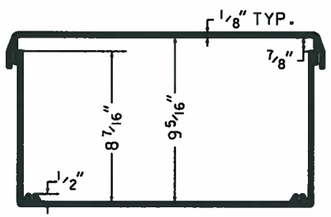
LEFT SIDE VIEW



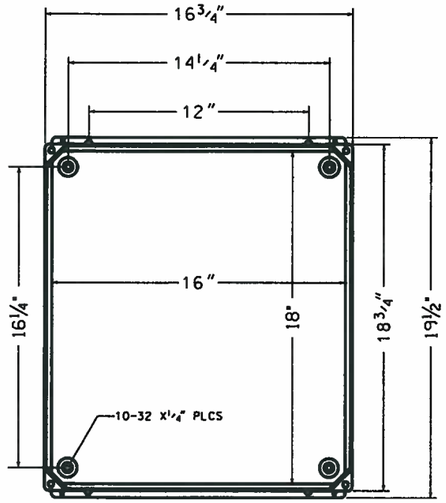
FRONT VIEW WITH COVER



RIGHT SIDE VIEW



SECTION A-A



FRONT VIEW WITH COVER REMOVED

A	PHOTOCELL INSIDE CONTROLLER	01/22/2007
	REVISION	DATE

60 AMP - 240 V RESIDENTIAL LIGHTING CONTROLLER

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

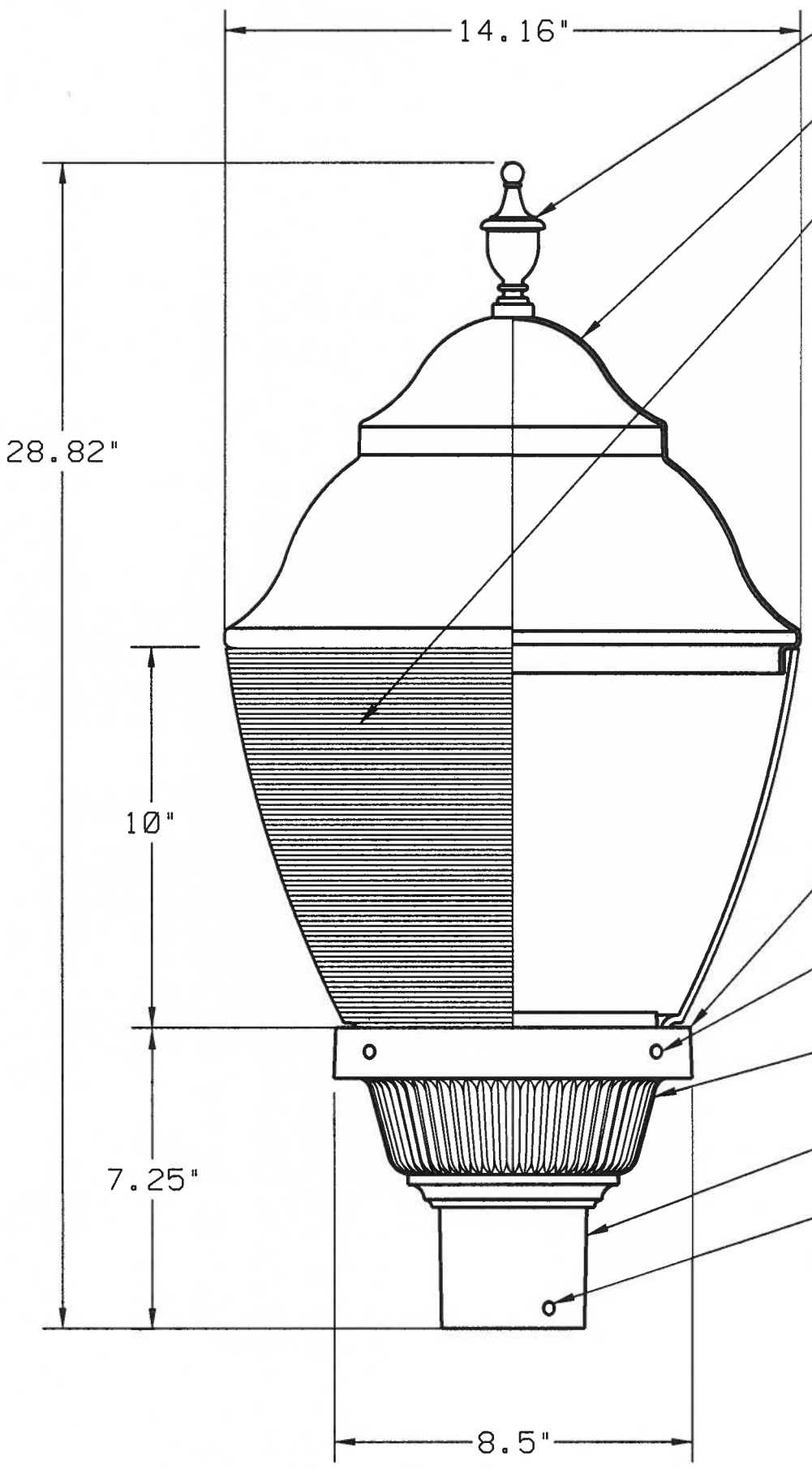
DRAFTSMAN	CHIEF DRAFTSMAN	ENGINEER
I. ABAGNEN	R.C.	R. POOL

SUPERVISING ENGINEER, DISTRIBUTION DIVISION
ENGINEER OF DISTRIBUTION
DEPT. SUPT. OF ELECTRICITY
DEPUTY COMMISSIONER

DWG. NO. 955

SIZE: 16" 21" | SCALE: NONE | DATE: 01-29-02

LUMINAIRE SPECIFICATIONS



FINIAL:
CAST ALUMINUM

ROOF:
SPUN ALUMINUM

REFRACTOR GLOBE:
PRISMATIC ACRYLIC
MODIFIED (CUT SHORTER)
(TYPE III OPTICS)

GLOBE HOLDER:
CAST ALUMINUM

GLOBE HOLDER FASTENERS:
STAINLESS STEEL (HEX. HEAD) 5/16"-18 (4@90°)

BALLAST ENCLOSURE:
DIE-CAST ALUMINUM

SLIP FITTER:
3" I.D.

SLIP FITTER FASTENERS:
STAINLESS STEEL
(ALLEN HEAD) 5/16"-18
(3@120°)

FINISH: POWDER COATED ALUMINUM OR GLOSS BLACK

A	3.15.11	OMIT HPS REFERENCES	G.PADIYAR
	DATE	REVISION	

LUMINAIRE RESIDENTIAL
MID-MOUNT

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICIAL ENGINEERING

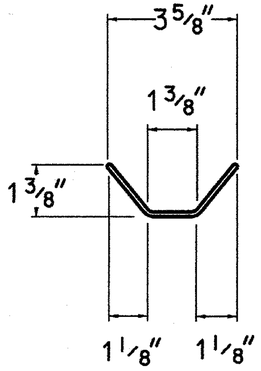
DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
B. GARNSEY	R. CARTER	B. GARNSEY

ELECTRICAL DESIGN ENGINEER
ENGINEER OF ELECTRICITY
GENERAL SUPERINTENDENT
DEPUTY COMMISSIONER

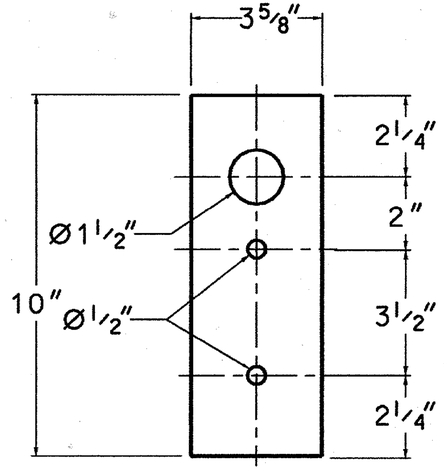
DRAWING NO.: 958

SIZE: 11" x 17" | SCALE: NONE | DATE: 6/30/03

...\New Drawings\958-A.dgn 3/28/2011 2:23:35 PM

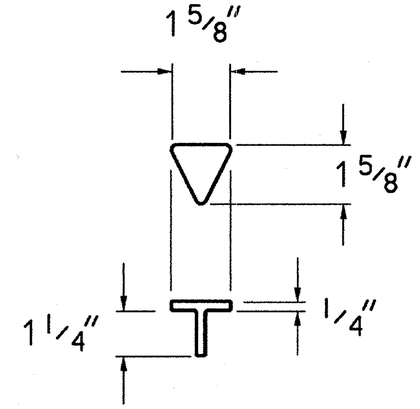


TOP VIEW

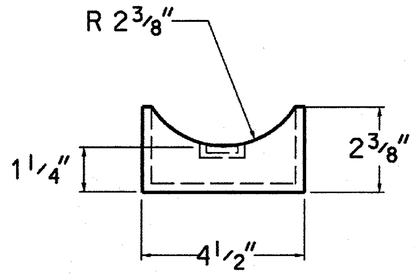


MATERIAL :
GALVANISED STEEL PLATE,
1/8" THICKNESS

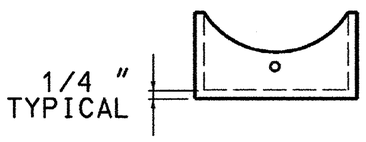
MOUNTING PLATE



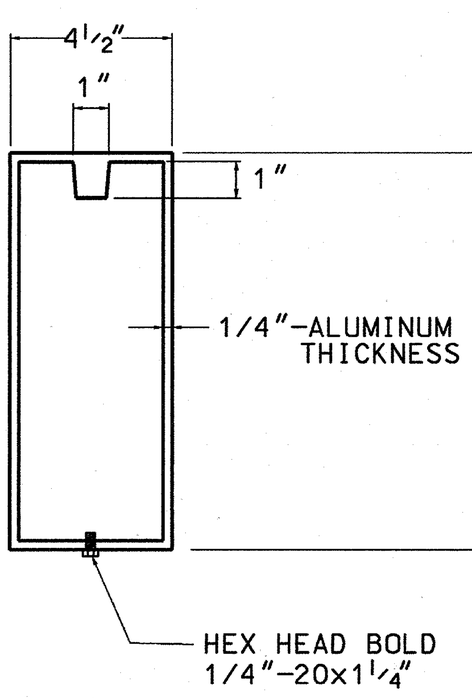
SECTION A–A



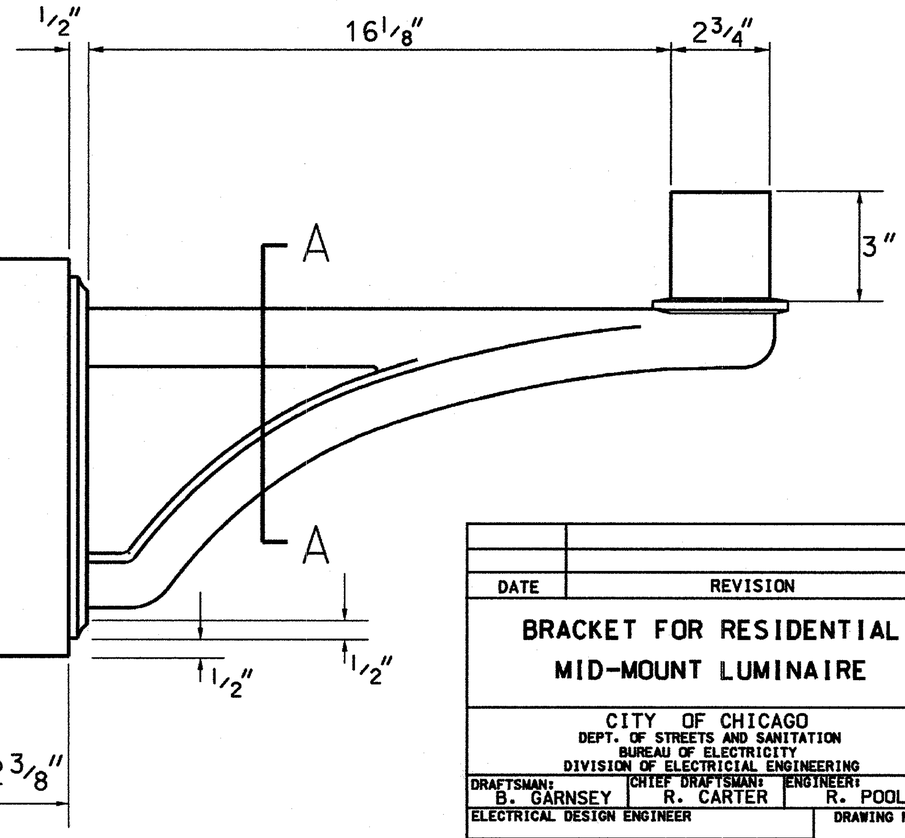
TOP VIEW



BOTTM VIEW



BACK OF ARM BRACKET



ARM BRACKET

DATE	REVISION

BRACKET FOR RESIDENTIAL MID-MOUNT LUMINAIRE

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICIAL ENGINEERING

DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
B. GARNSEY	R. CARTER	R. POOL

ELECTRICAL DESIGN ENGINEER

ENGINEER OF ELECTRICITY
H. Kashed

GENERAL SUPERINTENDENT

DEPUTY COMMISSIONER

DRAWING NO. 959

SIZE: 17" x 22" | SCALE: NONE | DATE: 02/01/06