



## GENERAL CONSTRUCTION NOTES:

- PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING TO ADDRESS ANY ISSUES. THIS MEETING SHALL INCLUDE THE PROJECT MANAGER, CONSTRUCTION SITE FOREMAN, CITY PROJECT MANAGER, ENGINEER AND IMPACTED UTILITY COMPANIES.
- THE CONTRACTOR SHALL THOROUGHLY REVIEW AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND SPECIAL CONDITIONS OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING CONSTRUCTION ON THIS PROJECT.
- CONTRACTOR SHALL, AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE, SUBMIT A DETAILED PLAN FOR HANDLING TRAFFIC DURING CONSTRUCTION AND NON-WORKING HOURS FOR REVIEW AND APPROVAL BY THE CITY BEFORE COMMENCING ANY WORK. AN ATSSA CERTIFIED WORKSITE TRAFFIC SUPERVISOR SHALL CERTIFY THE TRAFFIC CONTROL PLAN.
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", 2009 EDITION AND ITS MOST CURRENT REVISIONS.
- LOCAL TRAFFIC ON ALL STREETS SHALL BE CARRIED THROUGH CONSTRUCTION, TO THE EXTENT PRACTICABLE. DETOURS SHALL ONLY BE USED WITH PRIOR APPROVAL FROM THE CITY.
- MINIMUM 24HR. NOTICE TO COUNTY, CITY POLICE, PARAMEDIC UNITS, FIRE DISTRICTS, POST OFFICE AND SCHOOL DISTRICT SHALL BE GIVEN BY THE CONTRACTOR BEFORE CLOSING A PUBLIC THOROUGHFARE.
- CONTRACTOR SHALL REMOVE AND REPLACE ALL STREET SIGNS LOCATED WITHIN THE LIMITS OF GRADING. (NO DIRECT PAY).
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING EROSION AND SEDIMENT CONTROL BMPs (BEST MANAGEMENT PRACTICES) TO PREVENT SEDIMENT FROM REACHING PAVED AREAS, STORM SEWER SYSTEMS, DRAINAGE COURSES AND ADJACENT PROPERTIES. IN THE EVENT THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ANY DEBRIS, SILT, OR MUD AND RESTORE THE RIGHT-OF-WAY, OR ADJACENT PROPERTIES TO ORIGINAL OR BETTER CONDITION.
- EXCEPT WHERE NECESSARY TO INSTALL EROSION AND SEDIMENT CONTROL DEVICES, CLEARING ACTIVITIES SHALL NOT BEGIN UNTIL ALL PROPER EROSION AND SEDIMENT CONTROL DEVICES HAVE BEEN INSTALLED AND THE SOIL STABILIZED.
- ALL CLEARING AND GRUBBING SHALL INCLUDE CLEARING OF TREES, STUMPS, BRUSH, FENCES, POSTS, MAILBOXES, SIGNS, EXISTING ASPHALT, CONCRETE, CURB, OTHER EXISTING SURFACE FEATURES, STORM SEWER PIPE, STORM SEWER STRUCTURES, OTHER STORM SEWER FEATURES AS NECESSARY BY CONTRACTOR, TO PERFORM THE WORK AS SHOWN ON PLANS. ALL DEBRIS, UNSUITABLE WASTE MATERIAL FROM THE STREET/YARDS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE. DISPOSAL OF DEBRIS AND UNSUITABLE WASTE MATERIAL SHALL BE SUBSIDIARY TO CLEARING AND DEMOLITION.
- ALL WORK SHALL BE CONFINED WITHIN THE EASEMENTS AND/OR CONSTRUCTION LIMITS AS DIRECTED BY THE ENGINEER. ALL GRADING LIMITS SHOWN ARE APPROXIMATE AND MAY BE EXTENDED OR REDUCED AT THE DIRECTION OF THE ENGINEER.
- CONTRACTOR TO REVIEW AND ADHERE TO ALL PROVISIONS ON EASEMENTS, IF ANY, PROVIDED TO CONTRACTOR BY OWNER
- THE CONTRACTOR SHALL AT NO TIME LEAVE EQUIPMENT, MATERIALS OR DEBRIS AT LOCATIONS THAT COULD OBSTRUCT INTERSECTION SIGHT DISTANCE, IMPEDE PEDESTRIAN TRAFFIC, OBSTRUCT ANY EXISTING CAPACITY OF STORM SEWER SYSTEM, IMPEDE TRAFFIC, OR CAUSE FLOODING OR EROSION TO RESIDENCES.
- DRIVeways, SIDEWALKS, AND OTHER AREAS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING BEFORE DAMAGE OCCURRED.
- WHEN CONSTRUCTION OPERATIONS REQUIRE THE CLOSING OF PRIVATE DRIVEWAYS, WHETHER PERMANENT OR TEMPORARY, THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE HOMEOWNER (BY DOOR HANGER) AND THE CITY. WHERE NECESSARY, CONTRACTOR SHALL CONSTRUCT TEMPORARY ACCESSIBILITY MEASURES (SUCH AS WHEEL CHAIR RAMPS) TO MEET THE NEEDS OF THE HOMEOWNER.
- CONTRACTOR SHALL MINIMIZE THE TIME BETWEEN DRIVEWAY REMOVAL AND REPLACEMENT. CONTRACTOR SHALL PROVIDE ROCK FOR VEHICULAR ACCESS ON SAME DAY DRIVEWAY IS REMOVED UNLESS APPROVED BY CITY.
- DRIVEWAYS SHALL BE REMOVED AND REPLACED TO EXISTING JOINTS, UNLESS OTHERWISE NOTED.
- SAW CUTS FOR MATERIAL REMOVAL SHALL BE FULL DEPTH.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LOCATIONS. CONTACT KANSAS ONE-CALL AT 811 OR KANSAS1CALL.COM AT LEAST 2 FULL BUSINESS DAYS PRIOR TO EXCAVATION.
- THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCEMENT OF WORK AND FOR MAKING HIS OWN VERIFICATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL NOTIFY ALL THOSE UTILITY COMPANIES WHICH HAVE FACILITIES IN THE VICINITY 72 HOURS PRIOR TO CONSTRUCTION. THE REMOVAL OF EXISTING OR ABANDONED UTILITIES IS SUBSIDIARY TO "CLEARING AND GRUBBING".
- THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AT ALL TIMES. RELOCATION OF EXISTING UTILITIES BY CONTRACTOR MUST BE COORDINATED WITH AND APPROVED BY THE UTILITY OWNER, CITY, AND ENGINEER. (NO DIRECT PAY).
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR REPLACEMENT OR TEMPORARY BRACING OF ALL UTILITY AND STREET LIGHTING POLES LOCATED WITHIN THE LIMITS OF GRADING. (NO DIRECT PAY).
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR RELOCATION OF ALL TELEPHONE, GAS, CABLE, AND OTHER FACILITIES LOCATED WITHIN THE LIMITS OF GRADING. (NO DIRECT PAY).
- CONTRACTOR SHALL COORDINATE WITH WATERONE FOR ALL WATER LINE ADJUSTMENTS AND RELOCATION OF WATER MAINS AND SERVICE LINES, RELOCATION OF FIRE HYDRANTS AND RESETTING OF METER VAULTS, WATER VALVES, AND COVERS TO MATCH FINISHED GRADE. ALL WORK IS SUBSIDIARY TO OTHER BID ITEMS. (NO DIRECT PAY).
- CONTRACTOR SHALL ADJUST SANITARY SEWER MANHOLE FRAMES AND COVERS, AS REQUIRED TO MATCH NEW GRADE. FRAMES AND COVERS SHALL BE ENCASED IN CONCRETE UP TO SURFACE ELEVATION AS SHOWN IN THE DETAIL HEREIN. ALL SANITARY SEWER WORK MUST CONFORM TO JOHNSON COUNTY WASTEWATER DETAILS AND SPECIFICATIONS. COORDINATE ALL SANITARY SEWER WORK WITH JCW INSPECTOR. ALL WORK IS SUBSIDIARY TO OTHER BID ITEMS. (NO DIRECT PAY).
- SPRINKLER SYSTEMS, WHERE ENCOUNTERED AND IN CONFLICT WITH GRADING, SHALL BE REMOVED TO THE LIMITS OF GRADING AND REPLACED AT NEW GRADE. CONTRACTOR SHALL REPLACE THE SPRINKLER SYSTEM WITH NEW MATERIALS MATCHING THE EXISTING SYSTEM AND SHALL INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SPRINKLER SYSTEMS IN CONFLICT WITH NEW SIDEWALK SHALL BE REMOVED AND PIPES CAPPED BEHIND SIDEWALK. CONTRACTOR SHALL CONTACT THE HOMEOWNER PRIOR TO ADJUSTING SPRINKLER SYSTEM. SPRINKLER SYSTEMS SHOWN ON PLANS WHERE KNOWN.
- RESTORATION OF ANY AREAS OUTSIDE OF THE GRADING LIMITS THAT ARE DISTURBED DURING UTILITY RELOCATION, SHALL BE REPAIRED BY THE UTILITY. CONTRACTOR SHALL COORDINATE SAID WORK.
- CONTRACTOR SHALL PROVIDE TEMPORARY FENCING WHERE EXISTING FENCE IS TO BE REMOVED AND REPLACED, IF REQUIRED BY HOMEOWNER. TEMPORARY FENCE SHALL BE CHAIN LINK. PROVIDE GATES, AS REQUIRED TO MATCH EXISTING.

- CONTRACTOR SHALL REMOVE AND REPLACE EXISTING FENCES TO EQUAL OR BETTER CONDITION AS NECESSARY WHERE CALLED OUT IN THE PLANS.
- TREES NOT MARKED WITH AN "X" BUT FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK MAY BE REMOVED ONLY WITH PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- CONTRACTOR SHALL NOTIFY ENGINEER IF A TREE MARKED WITH AN "X" IS FOUND TO BE SALVAGEABLE. ENGINEER WILL MAKE THE FINAL DETERMINATION REGARDING SAID TREE.
- CONTRACTOR SHALL REMOVE SHRUBS AND OTHER LANDSCAPING, AS REQUIRED, WITHIN THE GRADING LIMITS.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 WEEKS WRITTEN NOTICE TO HOMEOWNERS PRIOR TO COMMENCEMENT OF CLEARING, GRUBBING AND GRADING ACTIVITIES. TRANSPLANTING WILL BE THE RESPONSIBILITY OF THE HOMEOWNER.
- CONTRACTOR SHALL SOD AND FERTILIZE ALL DISTURBED AREAS. RESTORATION OF ANY AREAS OUTSIDE OF THE GRADING LIMITS THAT ARE DISTURBED DURING UTILITY RELOCATION, SHALL BE REPAIRED BY THE UTILITY. CONTRACTOR SHALL COORDINATE SAID WORK. CONTRACTOR SHALL EXERCISE EFFORT TO MINIMIZE DISTURBANCE TO ONLY WHAT IS NECESSARY FOR CONSTRUCTION.
- TREE ROOTS 18" BELOW GROUND SHALL BE CLEAN CUT PRIOR TO TRENCH EXCAVATION.
- CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION. DEWATERING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNERS/MONUMENTS AND SECTION CORNERS. ANY PROPERTY CORNER AND/OR SECTION CORNERS DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF KANSAS AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED
- OPEN PITS SHALL NOT BE LEFT AT THE END OF A WORK DAY. ALL EXCAVATIONS SHALL BE BACKFILLED OR COMPLETELY ENCLOSED WITH TEMPORARY FENCING
- CONTRACTOR TO STAKE RIGHT OF WAY AND EASEMENTS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL EXCAVATE AHEAD OF STORM SEWER CONSTRUCTION TO POSITIVELY ESTABLISH UTILITY CONFLICTS. THE ENGINEER RESERVES THE ABILITY TO ADJUST PIPE ELEVATIONS AT STRUCTURES UP TO 12" UP OR DOWN TO CLEAR UTILITIES. (NO DIRECT PAY)
- RESIDENTS MUST BE GIVEN AT LEAST 3 DAYS NOTICE FOR DRIVEWAY CLOSURES. UPON 75% DESIGN STRENGTH ON A 3 DAY CONCRETE BREAK DRIVEWAYS CAN BE REOPENED.

## QUANTITIES

Item No.	Item Description	Unit	Estimated Quantity
1	Mobilization	L.S.	1
2	Traffic Control	L.S.	1
3	Erosion Control	L.S.	1
4	Contractor Construction Staking	L.S.	1
5	Clearing, Grubbing, Demolition	L.S.	1
6	Sidewalk (4") (KCMMB4K)	S.F.	1838
7	Sidewalk (4") (Remove and Replace) (KCMMB4K)	S.F.	2850
8	Sidewalk (6") (Remove and Replace) (KCMMB4K)	S.F.	559
9	Sidewalk Ramps (6") (KCMMB4K)	S.F.	3141
10	Detectable Warning Surface (Paver Brick) (Roeland Park)	S.F.	112
11	Detectable Warning Surface (Cast Iron) (Westwood)	S.F.	262
12	Commercial Drive Approach (Concrete) (8") (Remove and Replace)	S.Y.	196
13	Curb and Gutter (Combined) (Remove and Replace)	L.F.	2077
14	Curb and Gutter (Combined) (Install)	L.F.	120
15	Curb (Type C-1 Strait) (Install)	L.F.	72
16	Stamped Concrete Median (6") (KCMMB4K)	S.Y.	11
17	Concrete Median Nose (KCMMB4K)	E.A.	2
18	Concrete Base Widening (8") (KCMMB4K)	S.Y.	26
19	Concrete Blockout (Manhole)	E.A.	31
20	Concrete Blockout (Water Valve)	E.A.	11
21	Milling (Full Width Cut) (2")	S.Y.	14911
22	Milling (Deep Cut) (6")	S.Y.	263
23	Asphaltic Concrete Surface (2") (APWA Type 5 MOD - 30% FRAP)	TON	1763
24	Asphaltic Concrete Surface (6") (APWA Type 5 MOD - 30% FRAP)	TON	93
25	Base Repair (3") (APWA Type 5 MOD - 30% FRAP)	S.Y.	617
26	Concrete Panel Replacement (8") (Partial) (KCMMB4K)	S.Y.	9
27	Inlet Lid (6'X6') (Remove and Replace)	E.A.	1
28	Grate Inlet (2'x2'3") (Complete)	E.A.	1
29	Curb Inlet (5'X4') (Complete) (Non-Setback 6" Throat w/6" Cantilever Lid)	E.A.	2
30	Curb Inlet (6'X5') (Complete) (Non-Setback 6" Throat)	E.A.	1
31	Junction Box (4'X3') (Complete)	E.A.	1
32	Junction Box (5'X5') (Complete)	E.A.	3
33	Storm Pipe (12") (HDPE)	L.F.	16
34	Storm Pipe (15") (RCP) (Class III Gasket)	L.F.	179
35	Storm Pipe (30") (RCP) (Class III Gasket)	L.F.	457
36	Storm Pipe (30'X19") (RCPHE) (Class III)	L.F.	120
37	Storm Pipe (42") (RCP) (Class III Gasket)	L.F.	51
38	Type 1 Street Repair	S.Y.	148
39	Modified Type 1 Street Repair	S.Y.	103
40	Fence (72') (Chain Link)	L.F.	105
41	Abandonment of Storm Sewers, Grout Fill and Plug	L.S.	1
42	Remove and Reset Gate and Posts (51st Street School Driveways)	L.S.	1
43	Sodding	S.Y.	2816
44	Pavement Marking (4") (White) (Thermoplastic)	L.F.	6487
45	Pavement Marking (4") (White Lane Extension Line) (Thermoplastic)	L.F.	52
46	Pavement Marking (4") (Yellow) (Thermoplastic)	L.F.	6668
47	Pavement Marking (12") (Yellow) (Thermoplastic)	L.F.	62
48	Pavement Marking (24" White) (Piano Keys) (Thermoplastic)	L.F.	438
49	Pavement Marking (24") (White) (Stop Bar) (Thermoplastic)	L.F.	115
50	Pavement Marking (White) (Bike Symbol and Arrow) (Preformed Thermoplastic)	E.A.	18
51	Pavement Marking (White) (Sharrow) (Preformed Thermoplastic)	E.A.	4
52	Pavement Marking (White) (Turn Arrow) (Preformed Thermoplastic)	E.A.	8
53	Retrofit RRFBs on Pedestal Pole and Light Pole	L.S.	1
54	Permanent Signage	L.S.	1
55	CARS Sign	E.A.	2
56	Street Lighting	L.S.	1
57	Force Account	SET	1

## LEGEND:

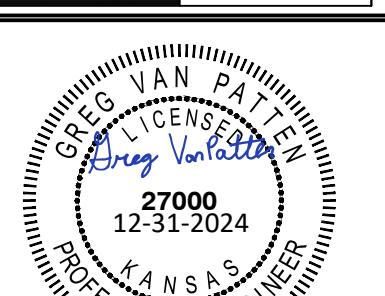
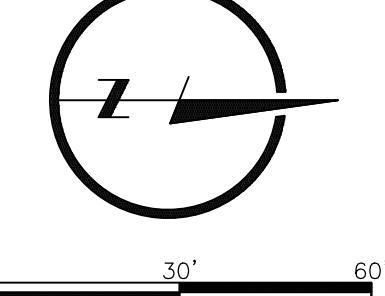
SS	SANITARY SEWER	SECTION CORNER
ST	STORM SEWER	SIGN
CA	CA	STOP SIGN
FO	CABLE	STORM MANHOLE
G	FIBER OPTICS	STORM PIPE END
T	GAS	TELEPHONE PEDESTAL
W	WATER	TELEPHONE PULLBOX
	AC UNIT	TREE DECIDUOUS
	BENCH	WATER METER
	BENCHMARK	WATER VALVE
*	BUSH	WELL
	CONIFEROUS TREE	X 1020.12 SPOT ELEVATION
	CONTINUE SYMBOL	FL FLOWLINE
	CONTROL POINT	I.E. INVERT ELEVATION
	DECIDUOUS TREE	MH MANHOLE
	DOWN SPOUT	FES FLARED END SECTION
	ELECTRIC METER	PVC POLYVINYL CHLORIDE
	ELECTRIC PULLBOX	VCP VITRIFIED CLAY PIPE
	ELECTRIC TRANSFORMER	CPP CORRUGATED PLASTIC PIPE
	FES 36	
	FIBER OPTIC PULLBOX	X—X CHAIN LINK FENCE
	FIRE HYDRANT	..VEGETATION LINE
	FLAGPOLE	— PERMANENT EASEMENT BOUNDARY
	GAS CURB STOP	— TEMPORARY CONSTRUCTION EASEMENT BOUNDARY
	GAS METER	
	GAS WARNING SIGN	
	GRATE INLET	
	HANDICAP SIGN	
	HANDICAP SYMBOL	
	LIGHT POLE	
	LIGHT YARD	
	MONUMENT FOUND	
	POWER POLE	
	SAN CLEANOUT	
	SANITARY MANHOLE	

## ABBREVIATIONS

C.I.P.	CAST IRON PIPE	\$	SURVEY LINE
C.S.P.A.	CORRUGATED STEEL PIPE ARCH	C.B.	BASE LINE
C.S.P.	CORRUGATED STEEL PIPE	C.P.	CENTERLINE
D.I.P.	DUCTILE IRON PIPE	E.S.M.T.	EASEMENT
M.T.D.	MULTIPLE TILE DUCT	T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
P.V.C.	POLY VINYL CHLORIDE PIPE	P.D.E.	PERMANENT DRAINAGE EASEMENT
R.C.P.	REINFORCED CONCRETE PIPE	P.G.E.	PERMANENT GRADING EASEMENT
R.C.B.	REINFORCED CONCRETE BOX	CLF	CHAIN FENCE
V.C.P.	VITRIFIED CLAY PIPE	WWF	WOVEN WIRE FENCE
A.C.	ASPHALTIC CONCRETE	BWF	BARBED WIRE FENCE
P.C.C.	PORTLAND CEMENT CONCRETE	MH	MANHOLE
CR. STN.	CRUSHED STONE	CI	CURB INLET
H.B. C&G	HIGH BACKED CURB & GUTTER	DI	DITCH INLET
L.B. C&G	LOW BACKED CURB & GUTTER	BC	BURIED CABLE
(R) REM.	REMOVE	BK CB	BACK OF CURB
L.I.P.	LEAVE IN PLACE	V.C.P.	VITRIFIED CLAY PIPE
U.I.P.	USE IN PLACE		

## GENERAL NOTES, LEGEND AND QUANTITIES

## MISSION ROAD IMPROVEMENTS - 2025 CARS



GREG VAN PATTEN  
2700

2700

**PAVEMENT PLAN SHEET (1 OF 3)**



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE OWNER. THERE IS NO GUARANTEE THAT THE LOCATION, DEPTH, AND SIZE OF THESE UTILITIES IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING THESE UTILITIES AND NOTIFYING THE OWNER PRIOR TO CONSTRUCTION.

81

Know what's below.

Call before you dig.

REVISIONS

DESIGNER / DRAFTER

GVP / JEA

DATE

DECEMBER 2024

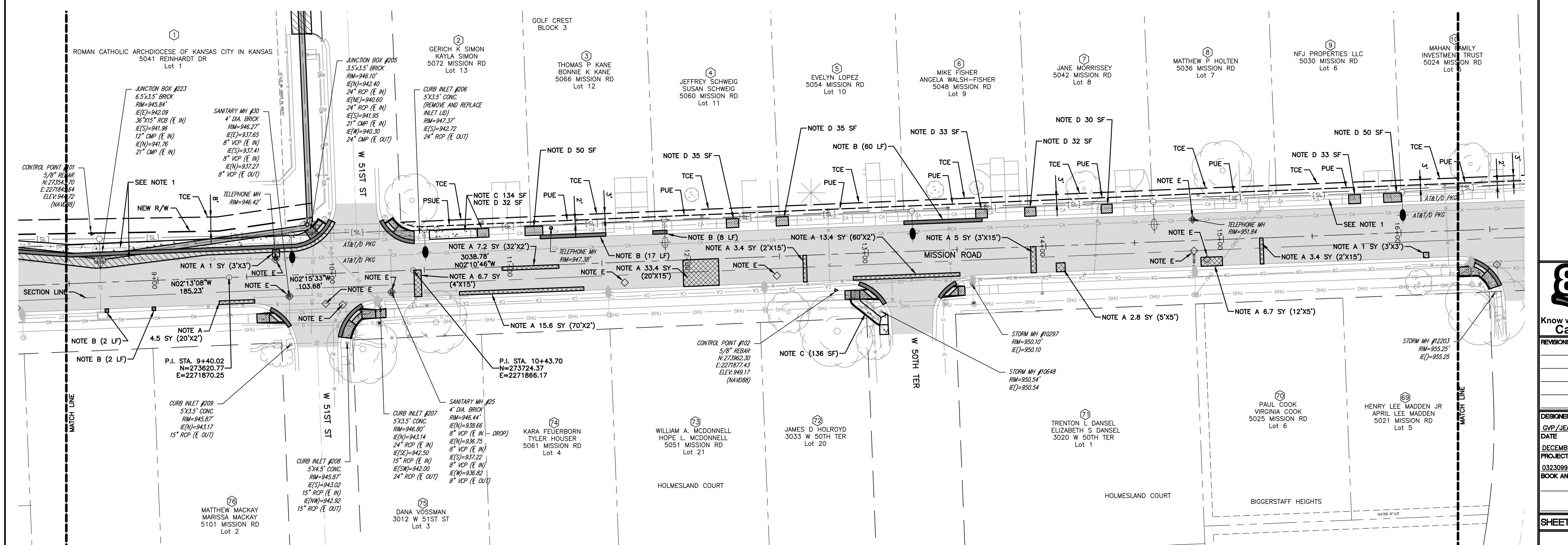
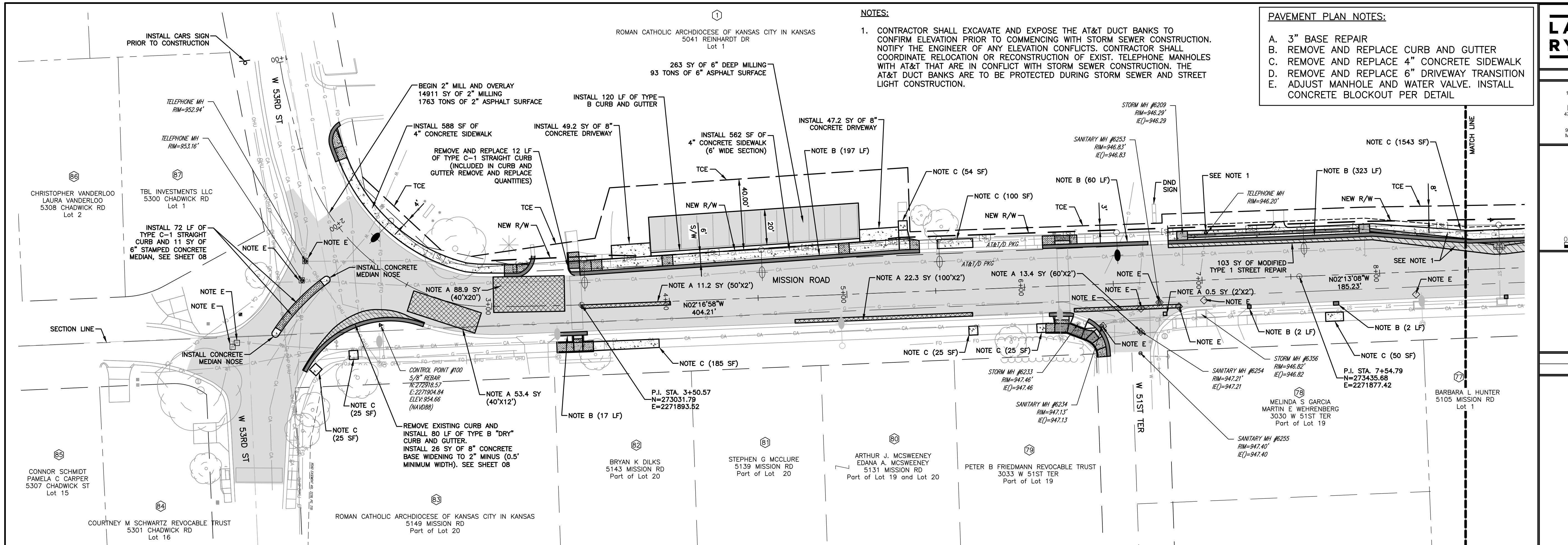
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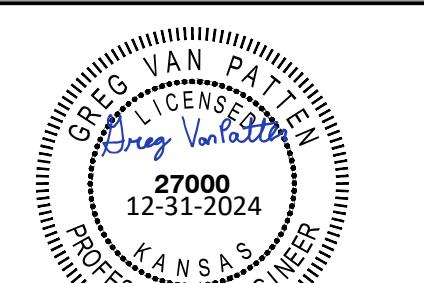
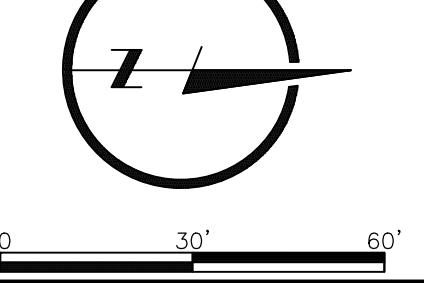
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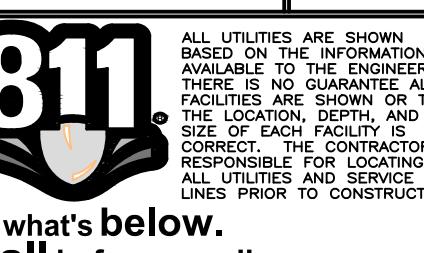


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**PAVEMENT PLAN SHEET (2 OF 3)**

**MISSION ROAD IMPROVEMENTS – 2025 CARS**

**CITY OF ROELAND PARK AND WESTWOOD, KANSAS**



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811

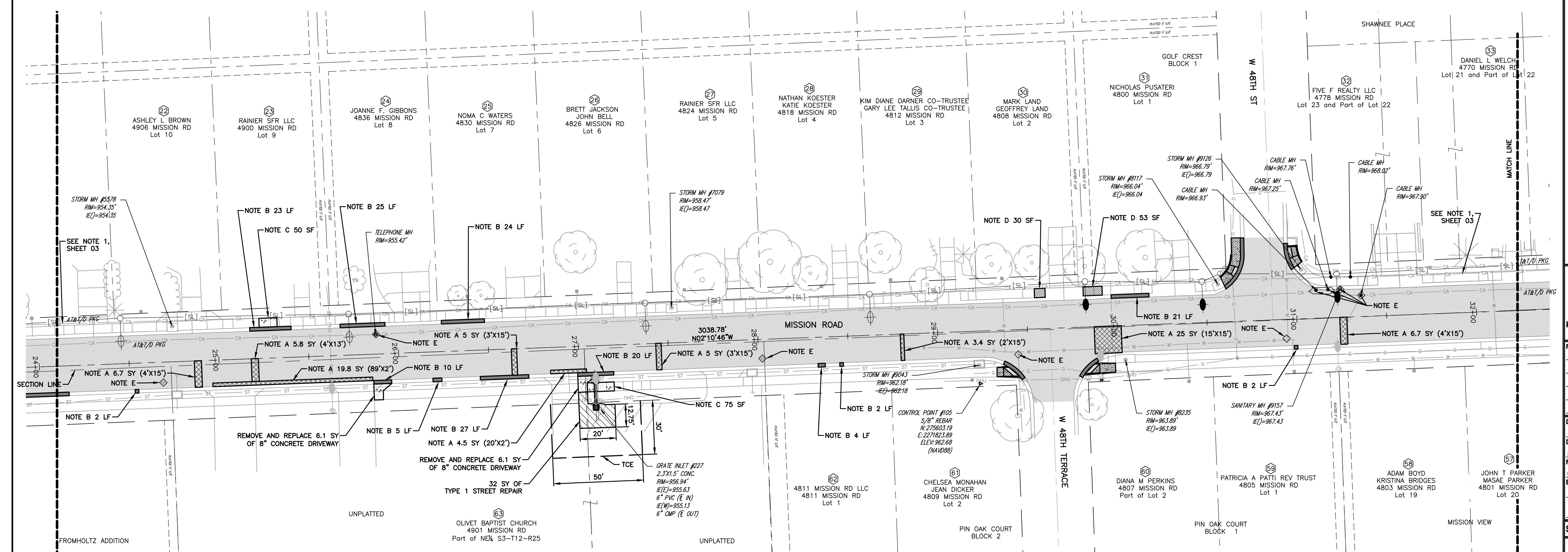
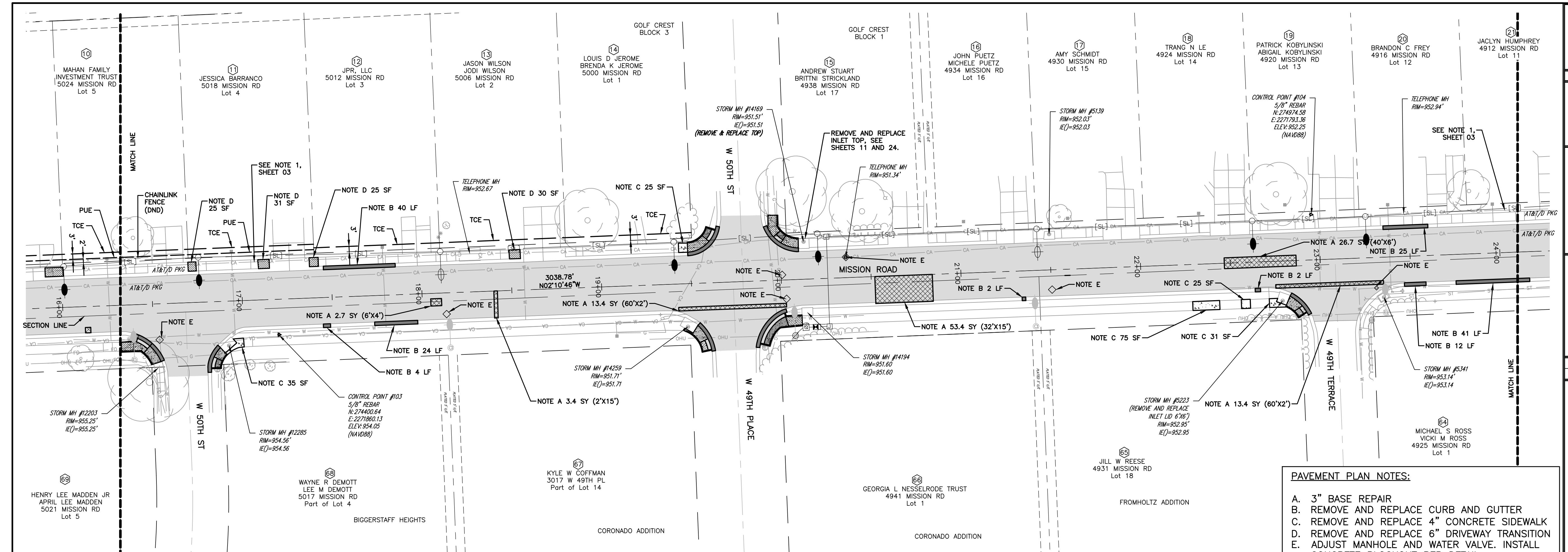
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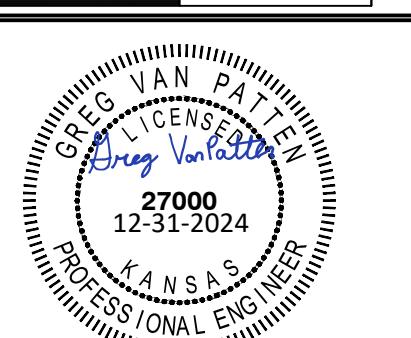
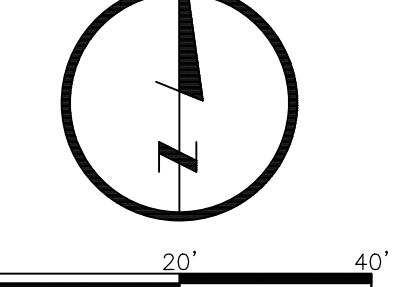
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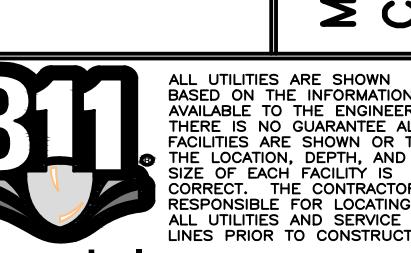




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**STM LINE 100 PLAN AND PROFILE  
STATION 1+20 – 6+10**

**MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS**

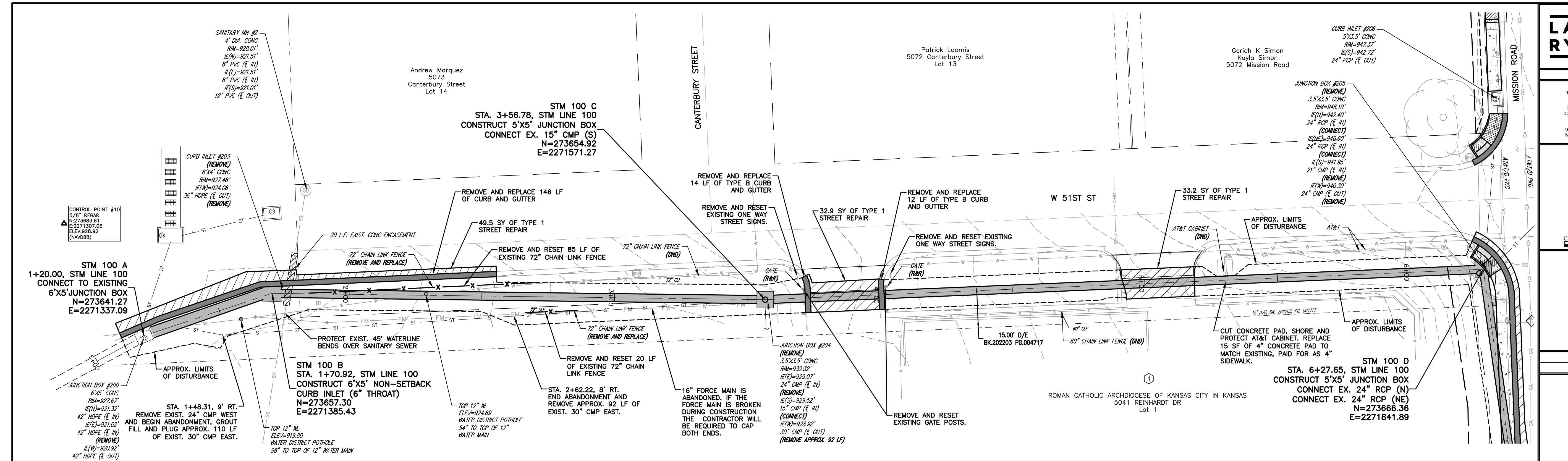


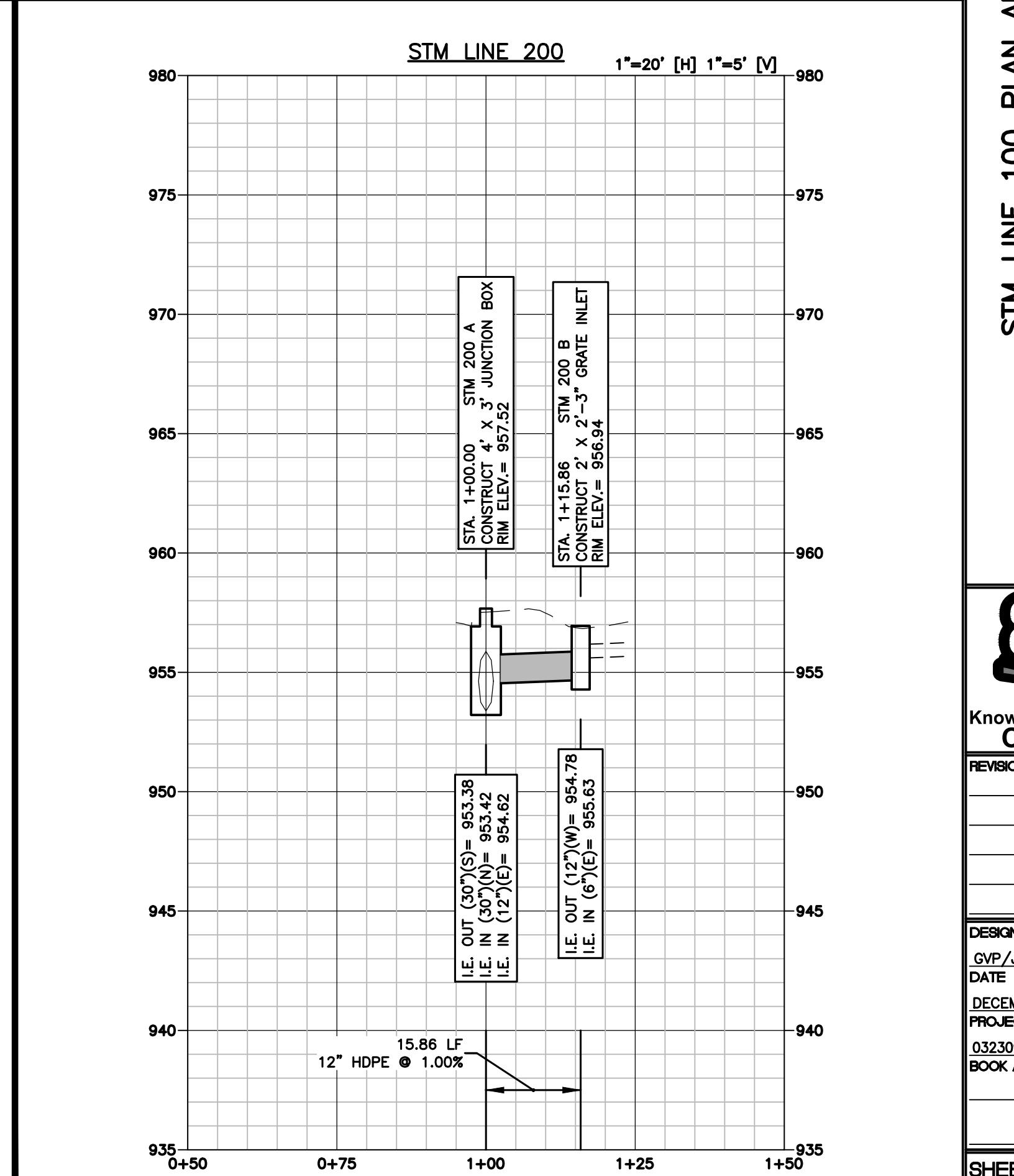
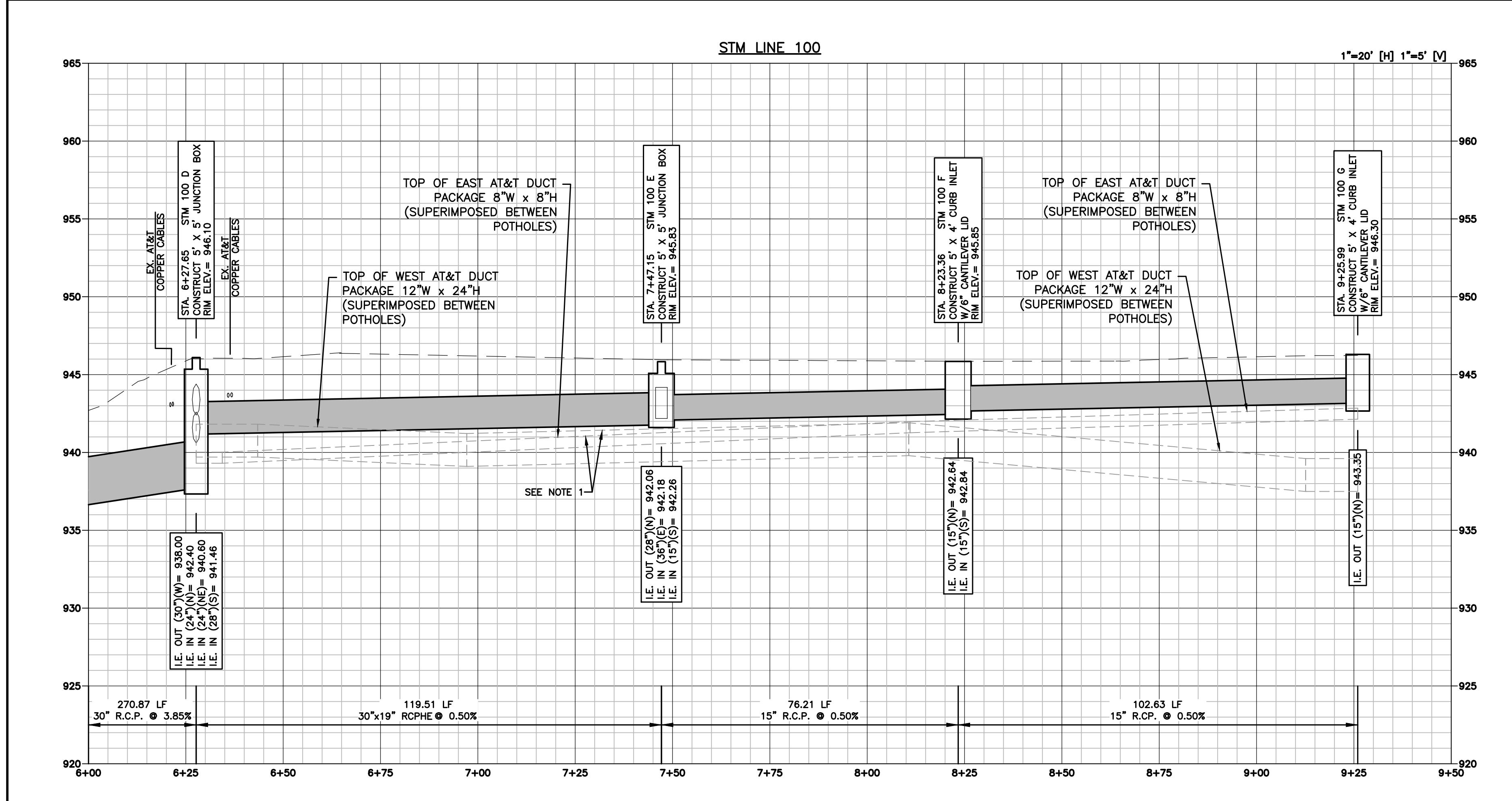
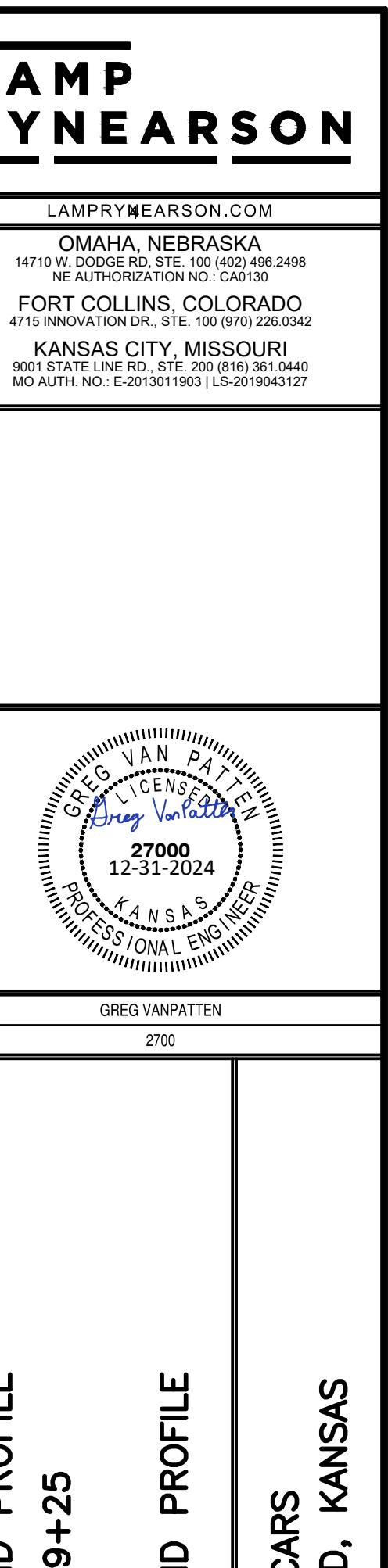
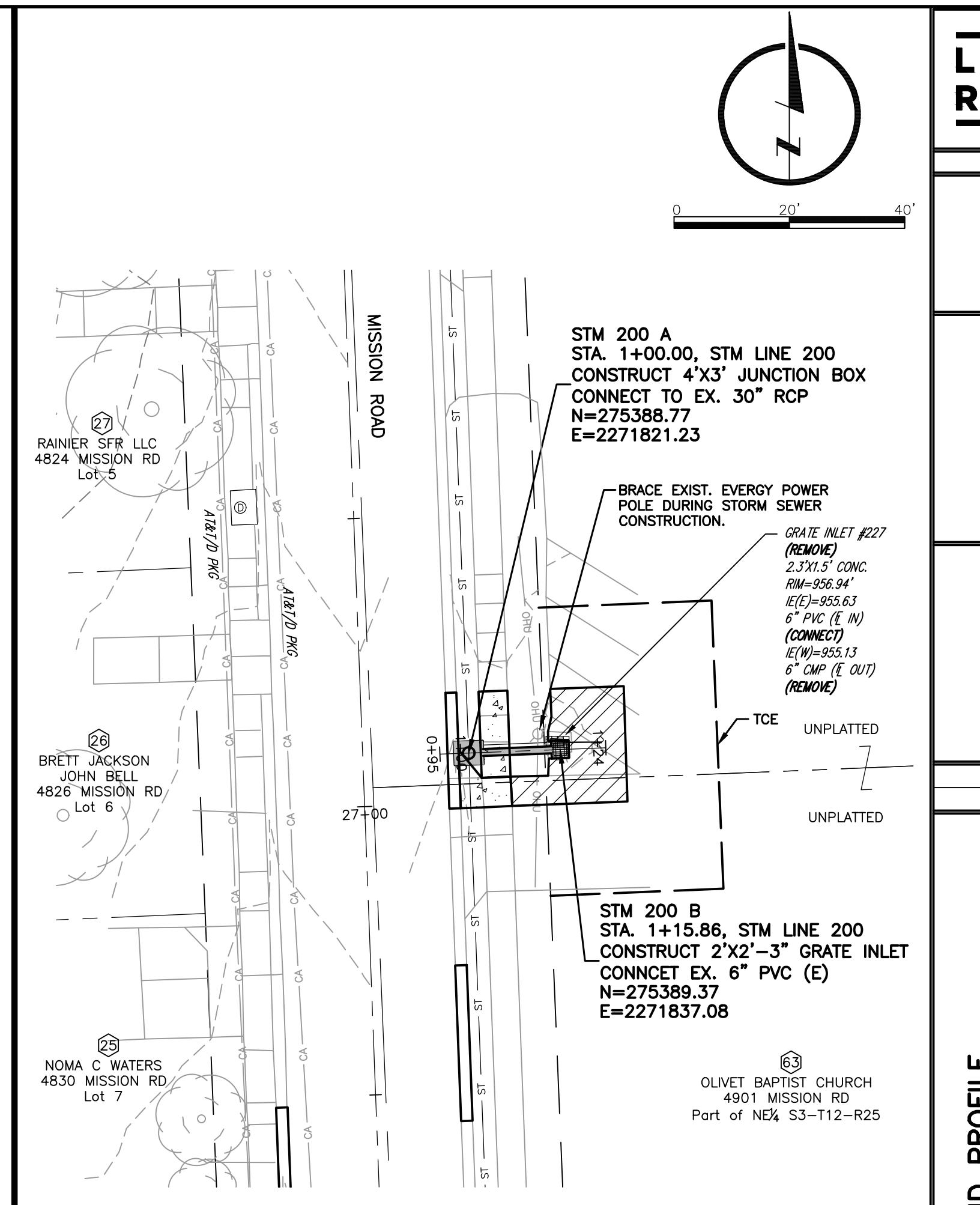
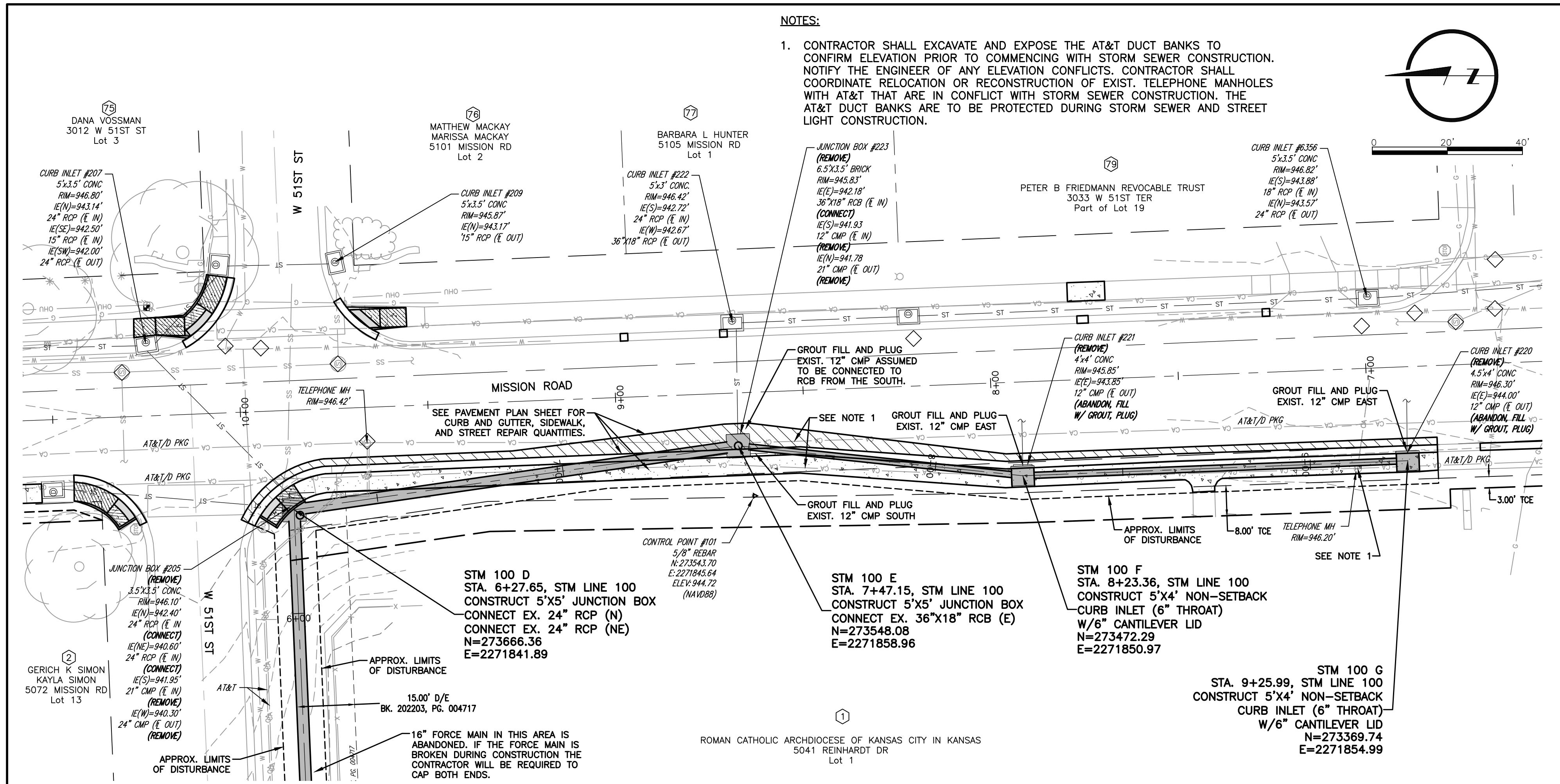
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A large, bold, black-outlined number '811' is positioned at the top left. The '1' contains a white icon of a shovel digging into the ground. Below the number, the words 'Call 811' are written in a bold, sans-serif font. Underneath that, the slogan 'what's below.' is written in a smaller, italicized, sans-serif font.

what's below.  
**Call** before you dig.

ONS

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GREG VANPATTEN  
2700

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# INTERSECTION PLAN

# MISSION ROAD IMPROVEMENTS – 2025 CARS CITY OF ROELAND PARK AND WESTWOOD, KANSAS



ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION  
**what's below.**  
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1/2" Expansion Joint

6" STAMPED CONCRETE MEDIAN BETWEEN STRAIGHT CURB

5'-0" Conc. Taper Monolithic Pour

R=3" Surface Course Milled Surface

1'-0"

Knockout Pipe For Breakaway Traffic Sign

This cross-section diagram illustrates a concrete median design. It features a 6" stamped concrete median between straight curbs. A 1/2" expansion joint is located at the top of the median. The median is separated from the main concrete pour by a 1'-0" gap. The main concrete pour is a 5'-0" monolithic pour with a concave taper. The surface of the main pour is milled, with a radius of 3" (R=3") at the edge. A knockout pipe is provided for a breakaway traffic sign. The entire structure is supported by a base layer with a hatched pattern.

## MEDIAN NOSE DETAIL

## INTERSECTION NOTES:

NE CURB RETURN SHALL BE TYPE B "DRY" CURB AND GUTTER.

SEE PAVEMENT PLAN SHEET 03 FOR QUANTITIES.

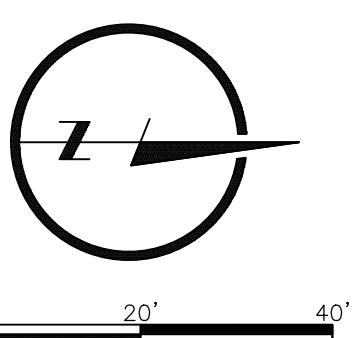
ALL CONCRETE SHALL BE KCMMB4K.

ALL ELEVATIONS ARE TO TOP OF PAVEMENT (TP)

ROMAN CATHOLIC ARCHDIOCESE OF KANSAS CITY IN KANSAS  
5041 REINHARDT DR

TBL INVESTMENTS LLC  
5300 CHADWICK RD

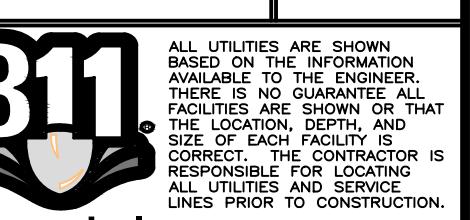
COURTNEY M SCHWARTZ REVOCABLE TRUST  
5301 CHADWICK RD  
Lot 16



GREG VAN PATTEN  
PROFESSIONAL ENGINEER  
1231-2024

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GRADING PLAN  
ST. AGNES CATHOLIC SCHOOL PARKING LOT  
MISSION ROAD IMPROVEMENTS - 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

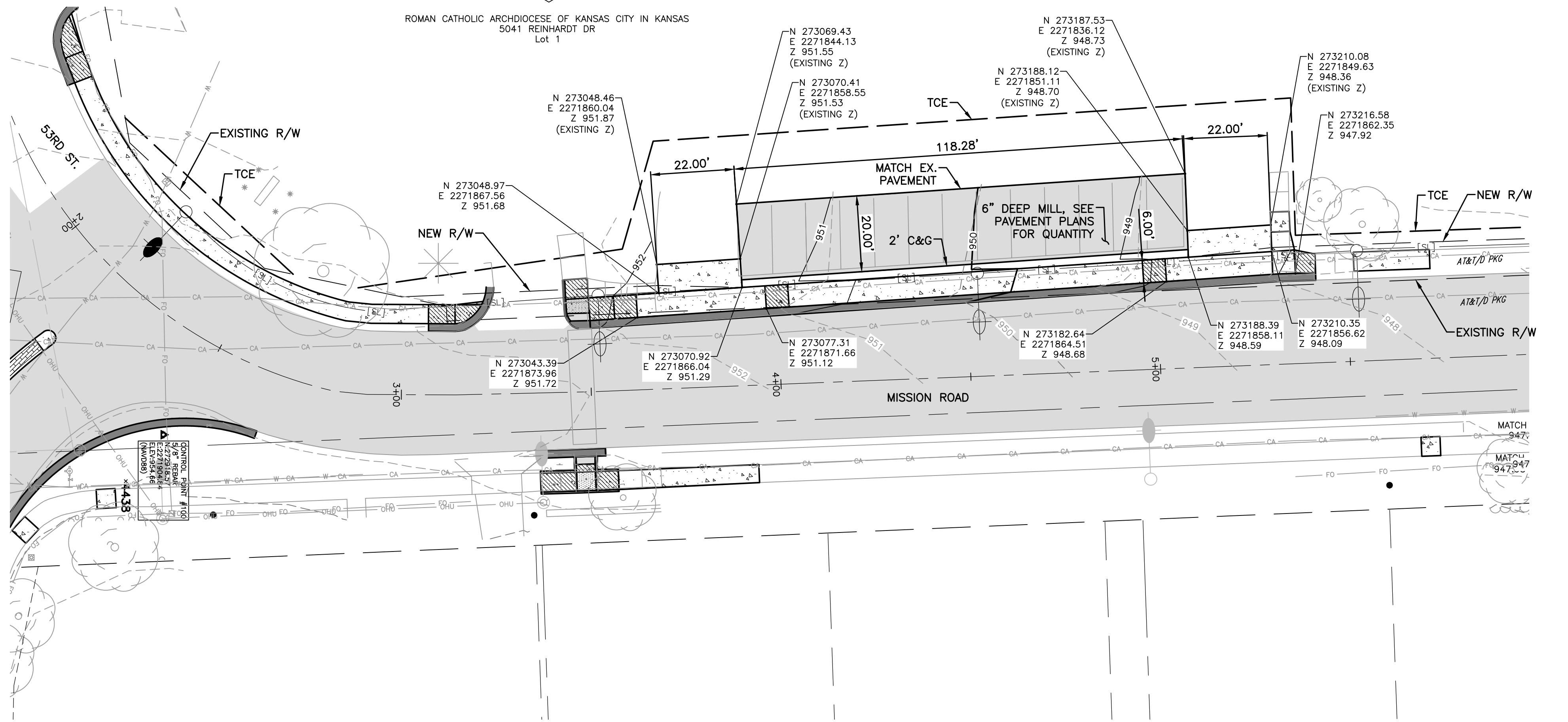


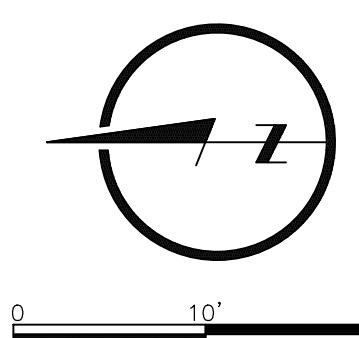
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**ADA RAMP PLAN SHEET (1 OF 5)**

**MISSION ROAD IMPROVEMENTS – 2025 CARS**  
**CITY OF ROELAND PARK AND WESTWOOD, KANSAS**

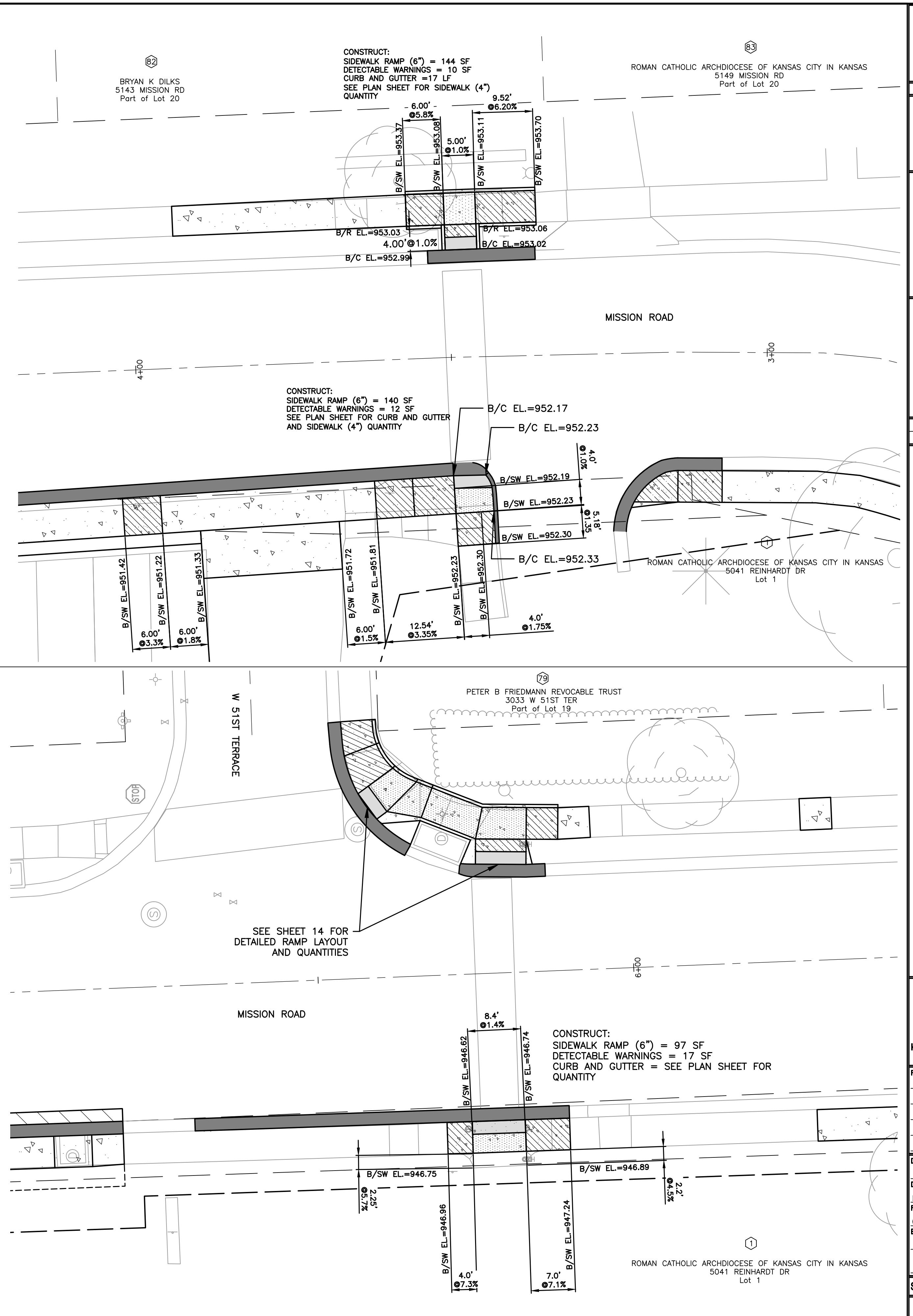
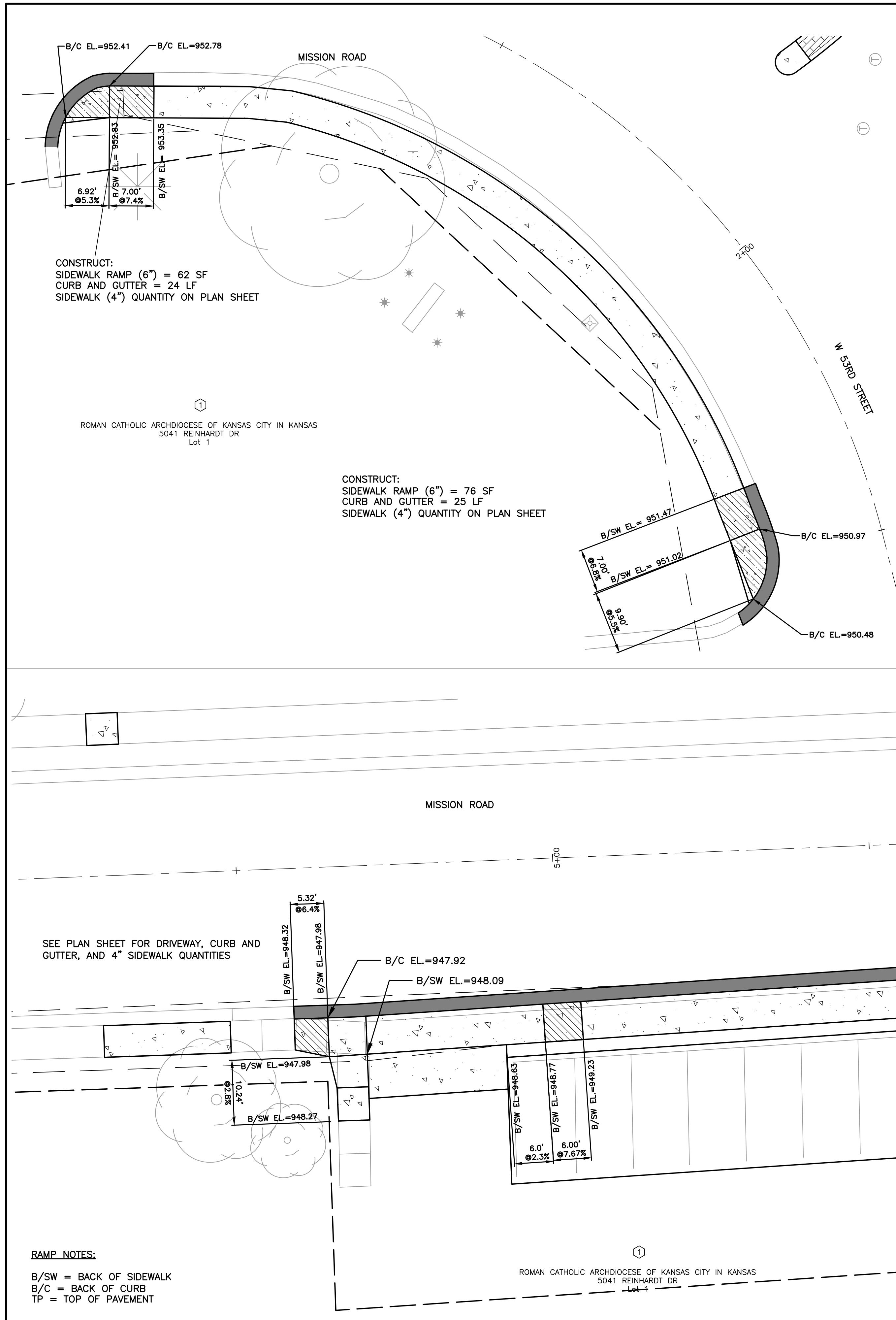


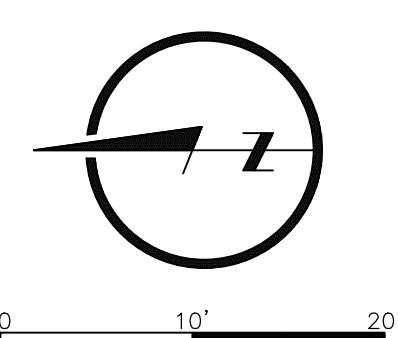
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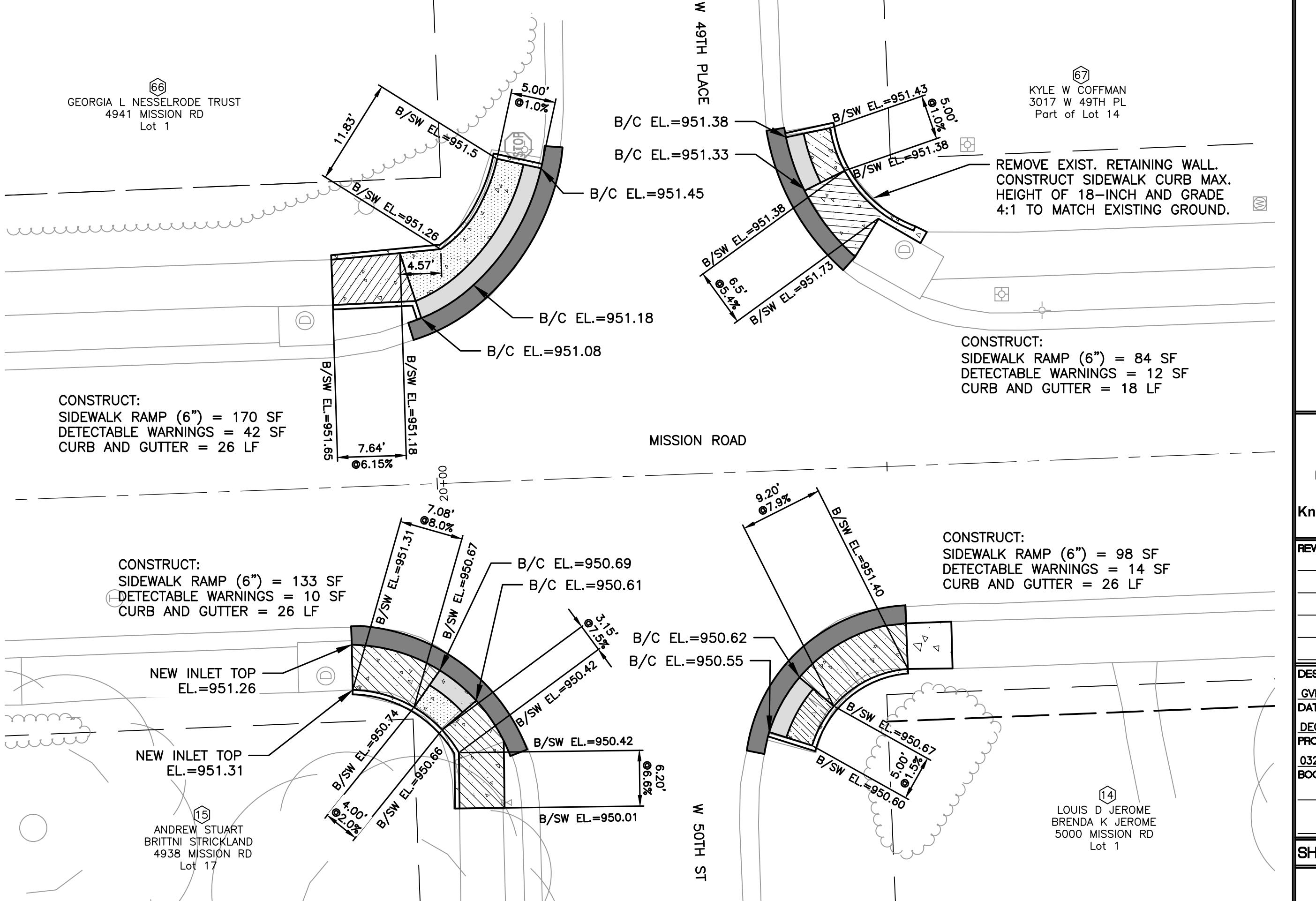
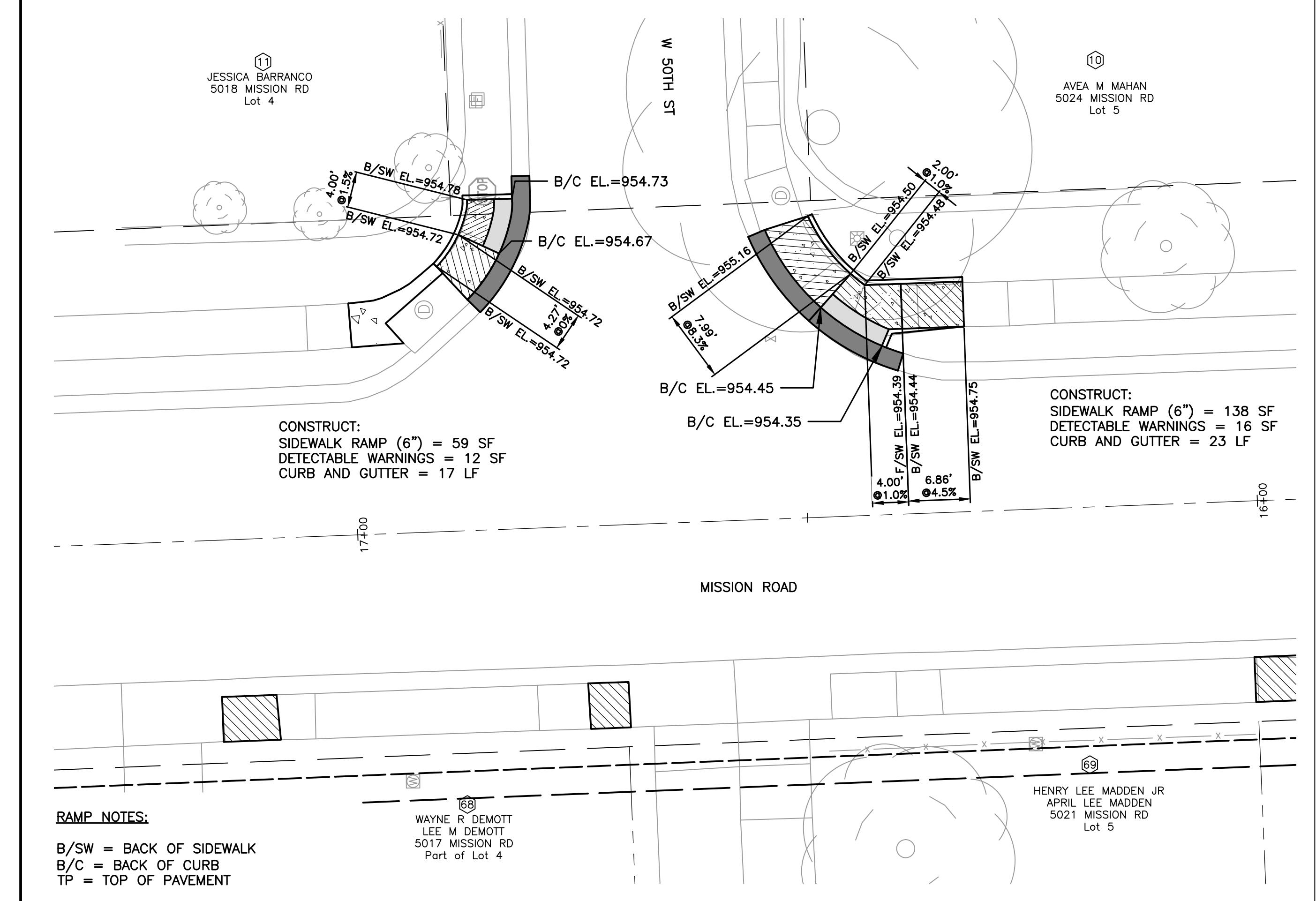
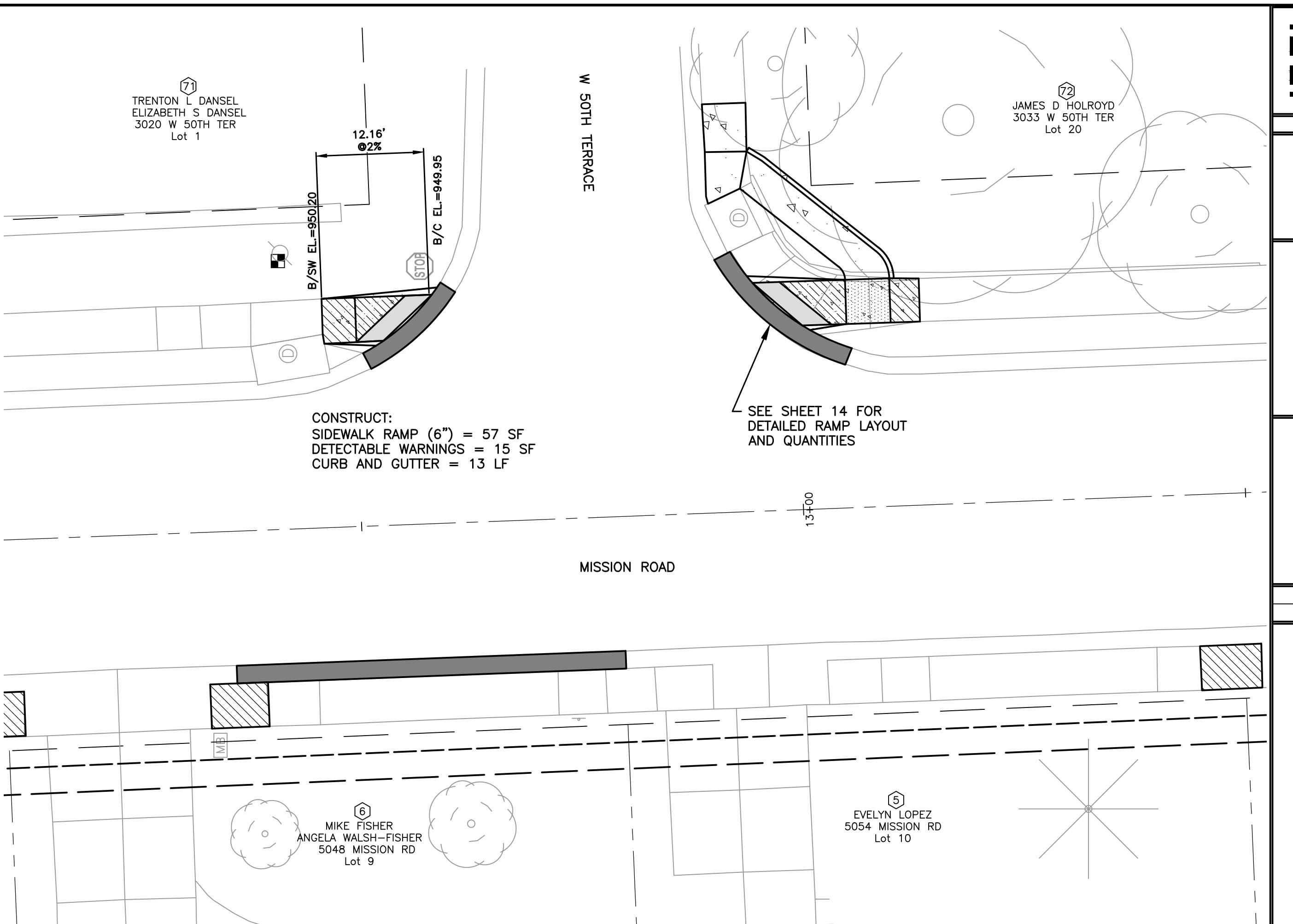
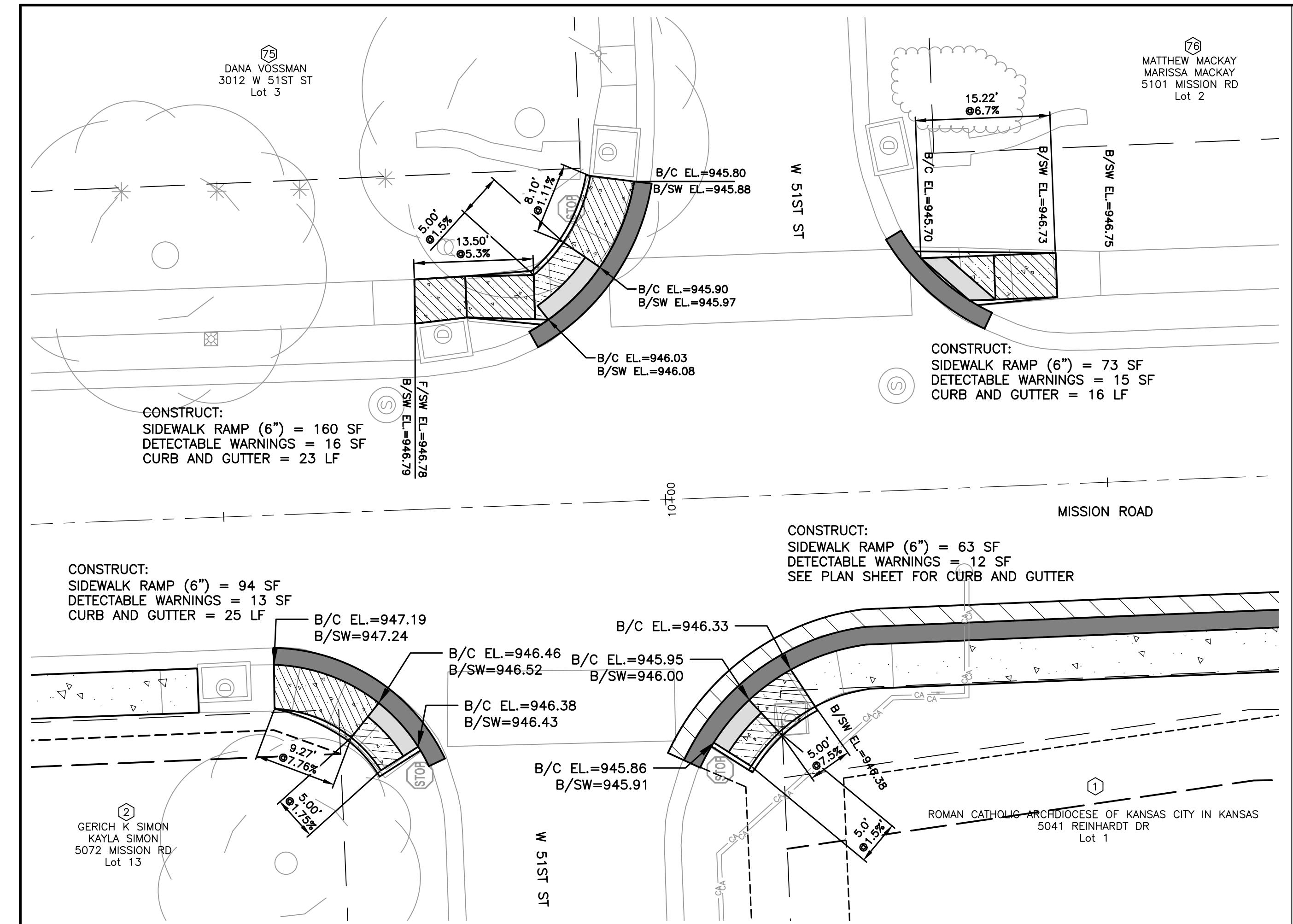


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**ADA RAMP PLAN SHEET (2 OF 5)**

**MISSION ROAD IMPROVEMENTS – 2025 CARS**

**CITY OF ROELAND PARK AND WESTWOOD, KANSAS**

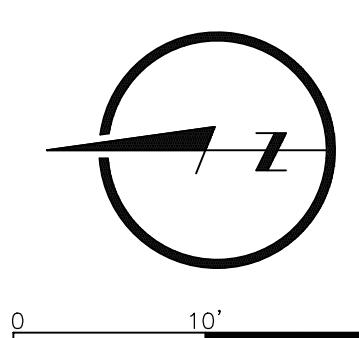


**811**  
ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE CALLER. THERE IS NO GUARANTEE THAT THE LOCATION, DEPTH, AND DIRECTION OF EACH LINE IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES AND CALLING 811 BEFORE LINES PRIOR TO CONSTRUCTION.

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**ADA RAMP PLAN SHEET (3 OF 5)**

**MISSION ROAD IMPROVEMENTS – 2025 CARS**  
**CITY OF ROELAND PARK AND WESTWOOD, KANSAS**



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE OWNER. THERE IS NO GUARANTEE THAT THE LOCATION, DEPTH, AND DIRECTION OF THESE UTILITIES IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING THESE UTILITIES AND NOTIFYING THE OWNER PRIOR TO CONSTRUCTION.

**REVISIONS**

**DESIGNER / DRAFTER**

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DATE

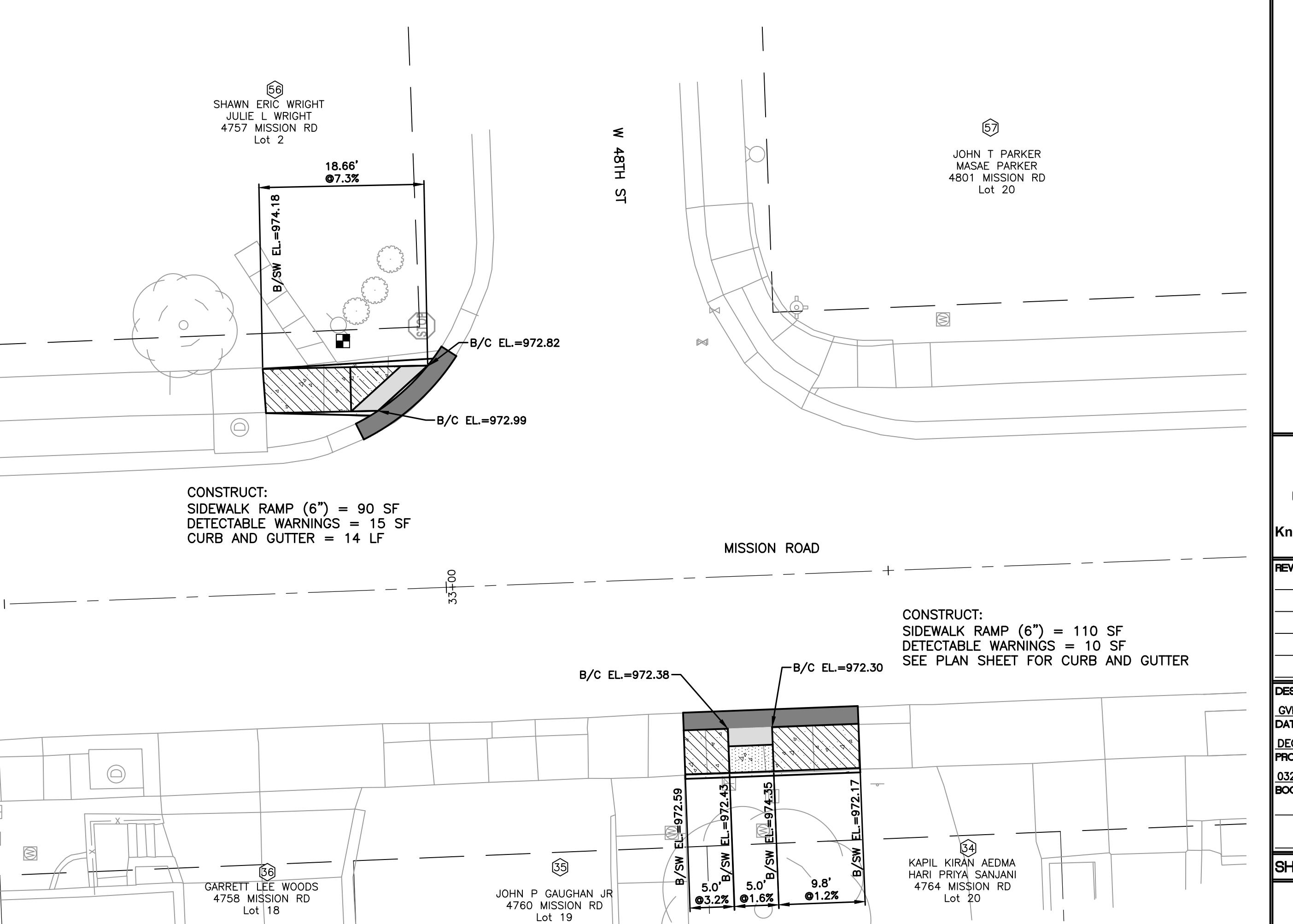
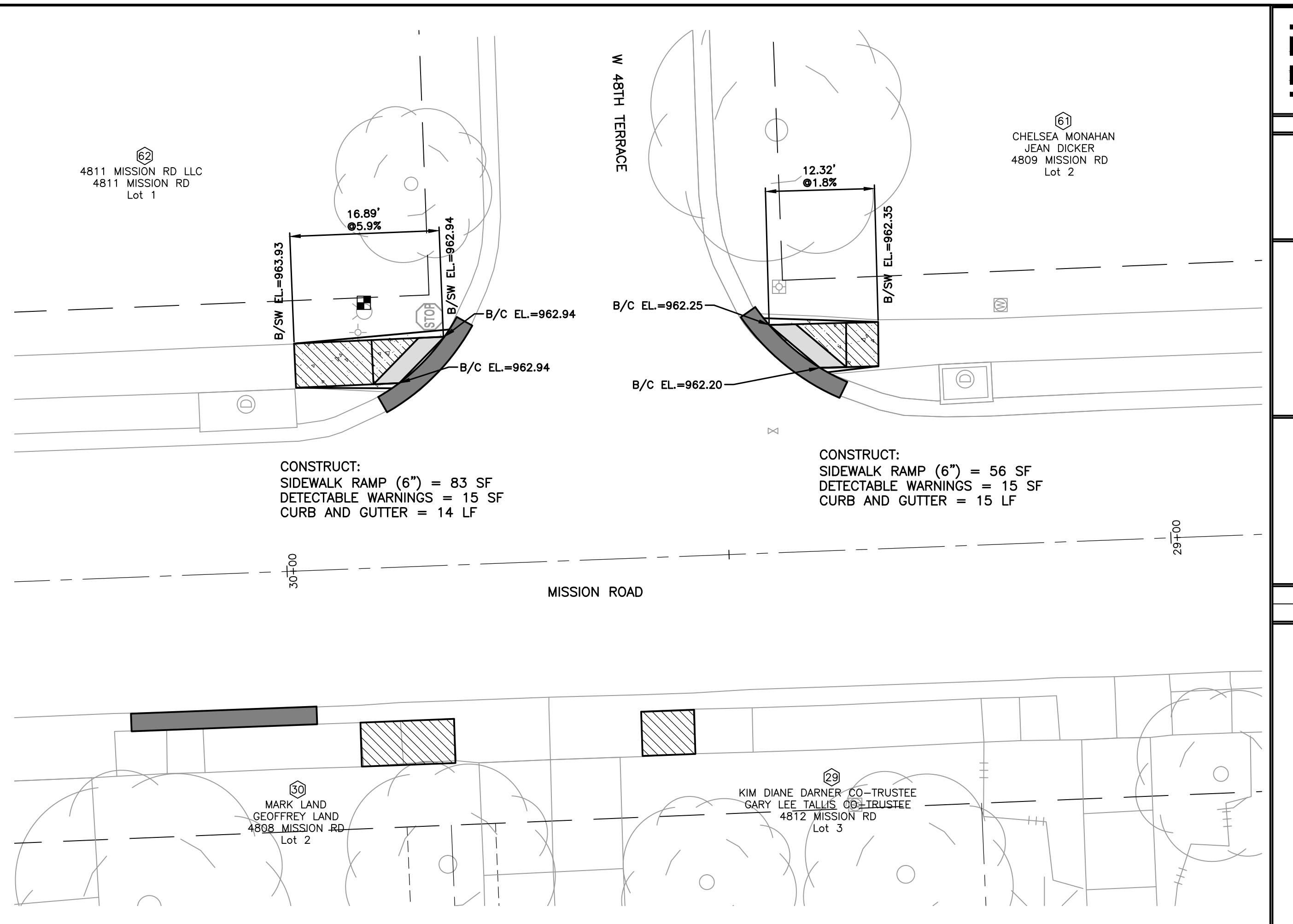
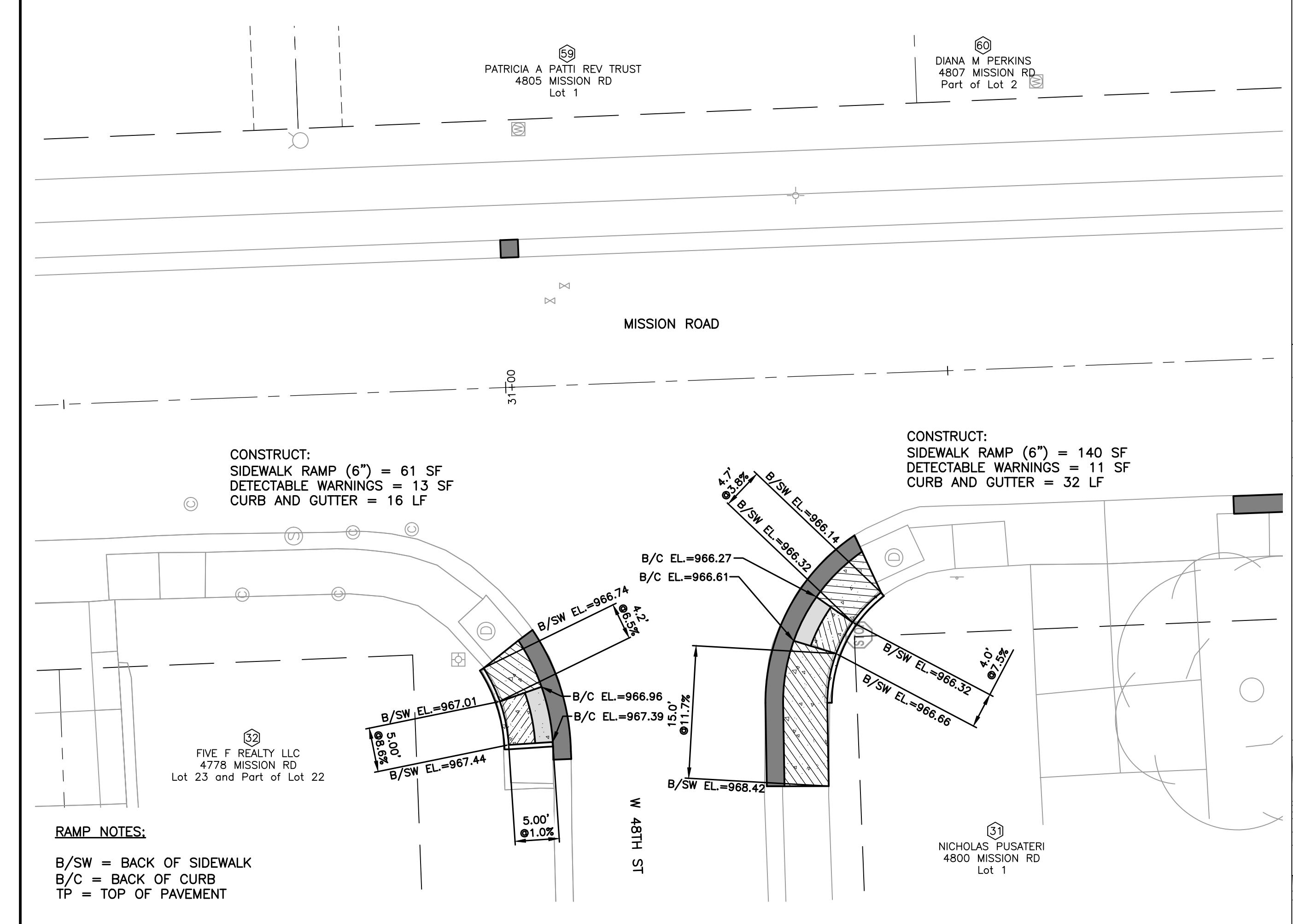
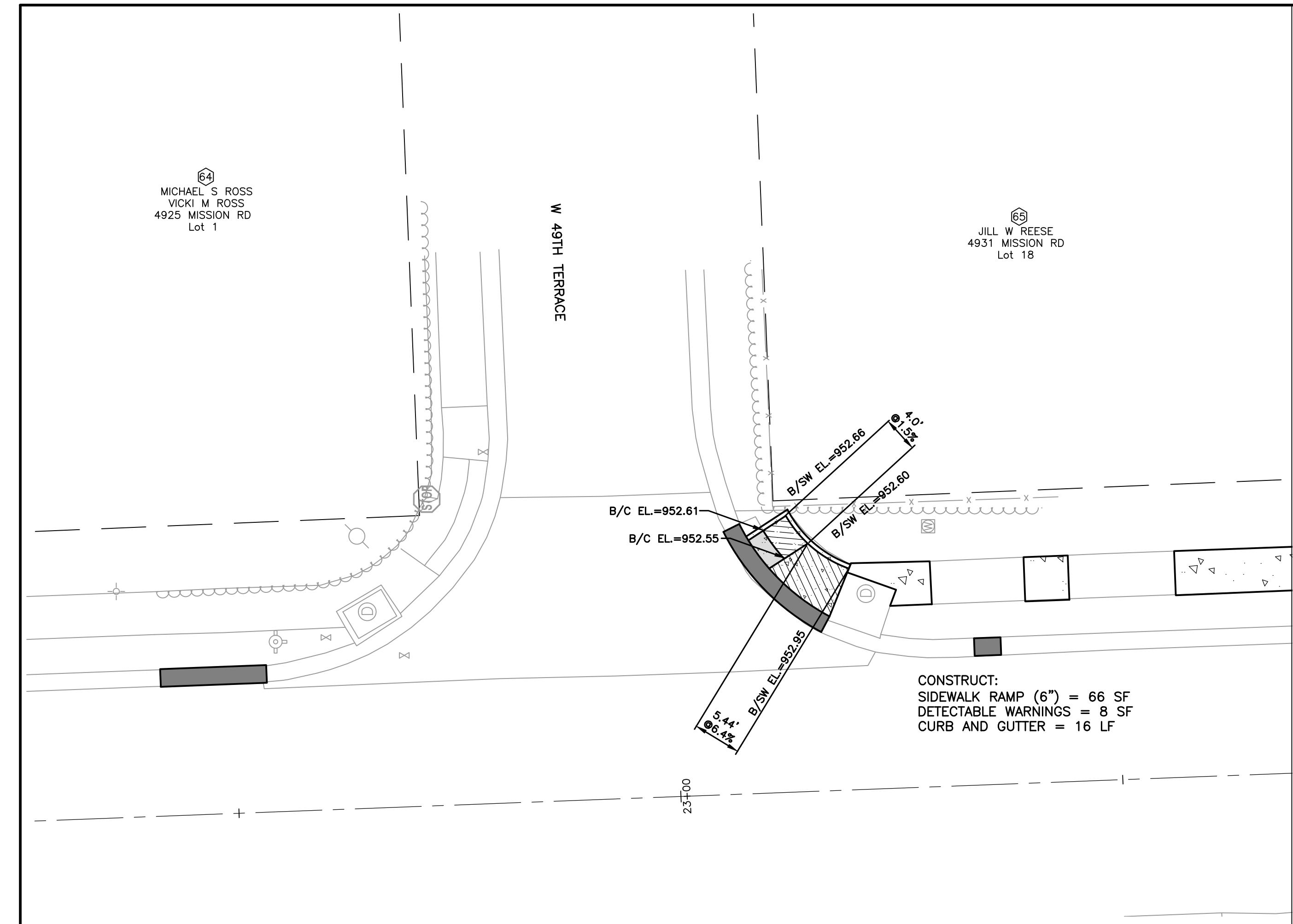
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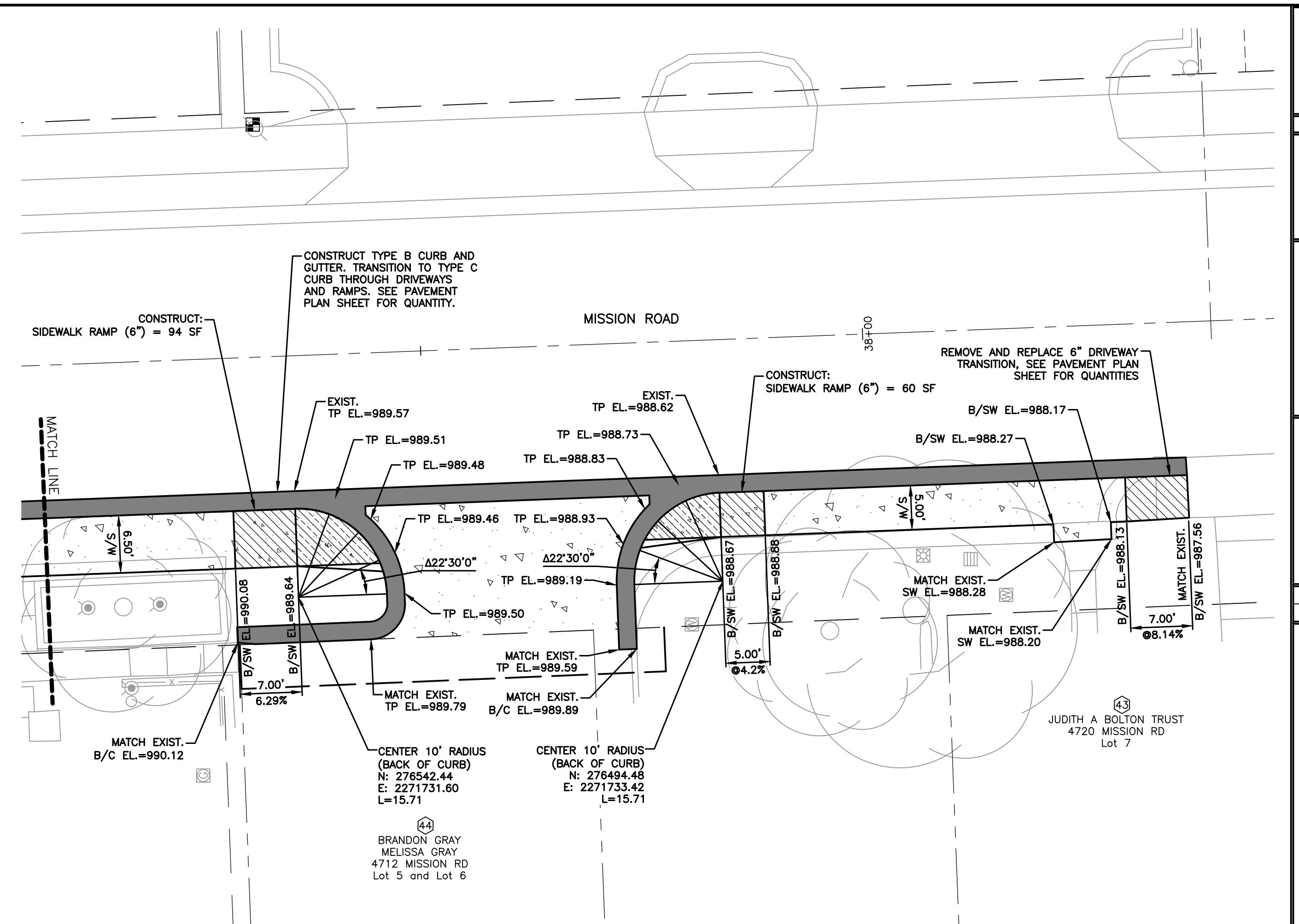
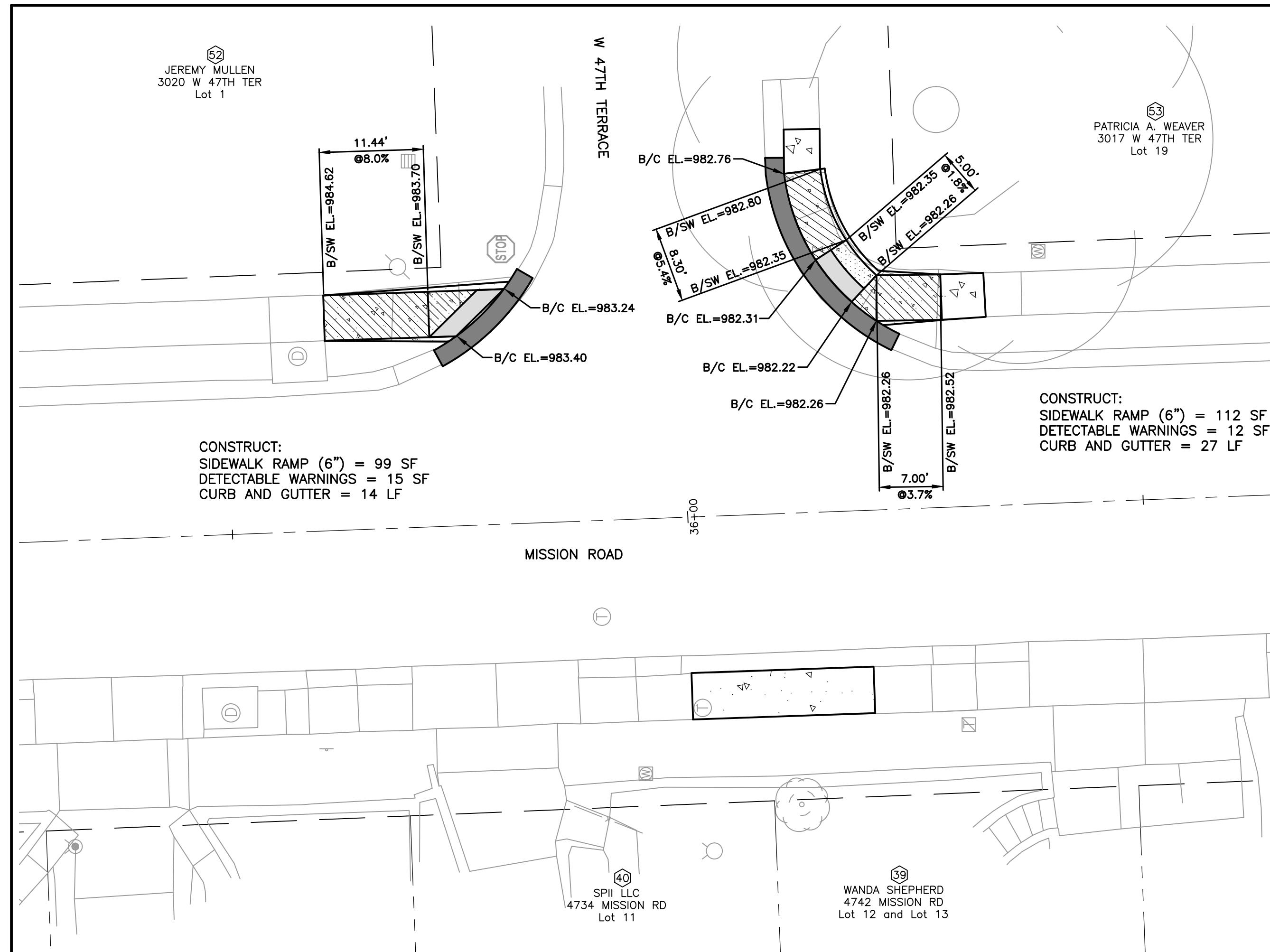
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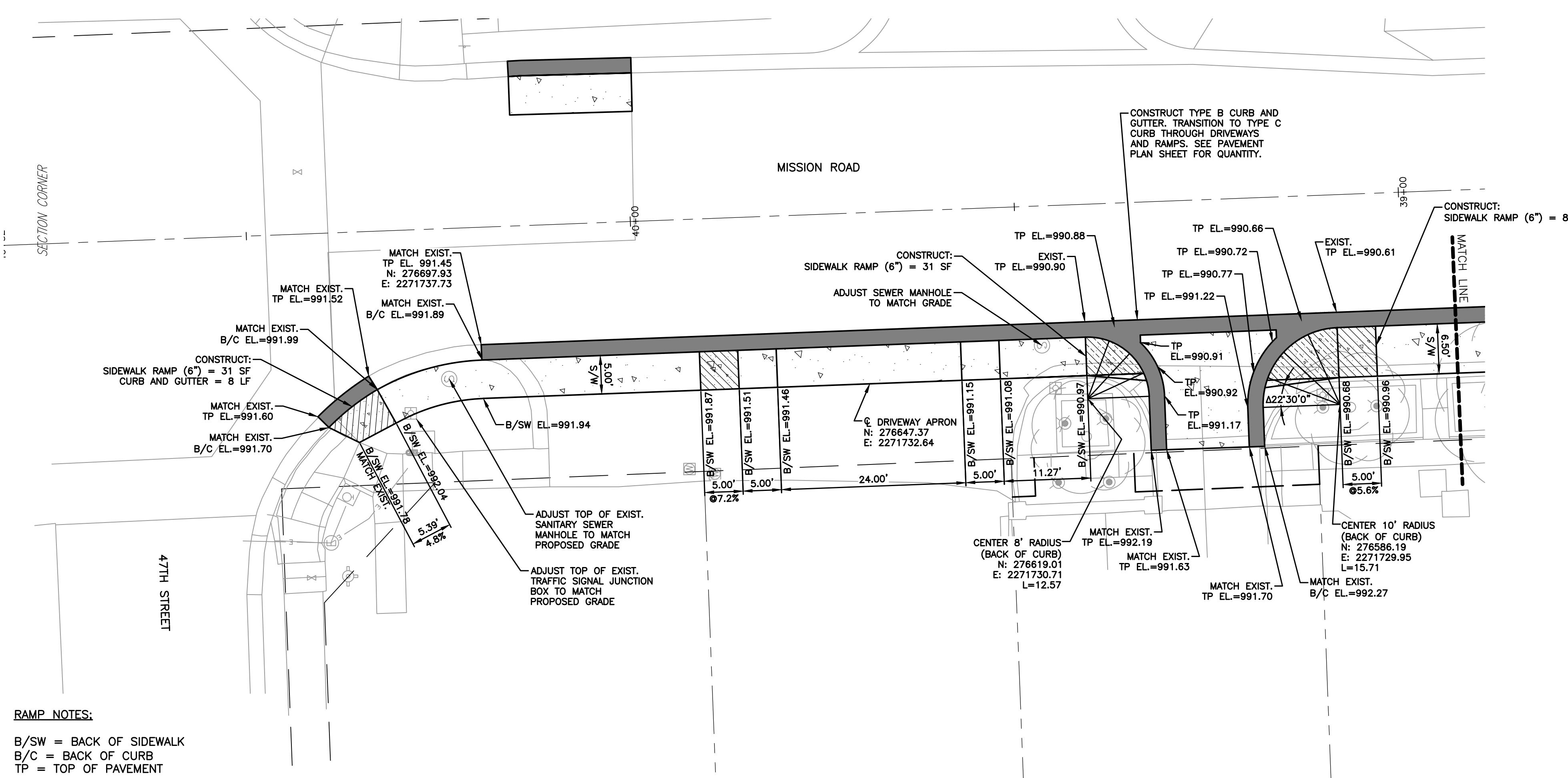
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# ADA RAMP PLAN SHEET (4 OF 5)

# MISSION ROAD IMPROVEMENTS – 2025 CARS CITY OF ROELAND PARK AND WESTWOOD, KANSAS



**NOTES:**

1. CURB FOR COMMERCIAL ENTRANCES  
SHALL BE CONSIDERED SUBSIDIARY TO  
THE COMMERCIAL DRIVE APPROACH  
CONCRETE PAVEMENT BID ITEM.

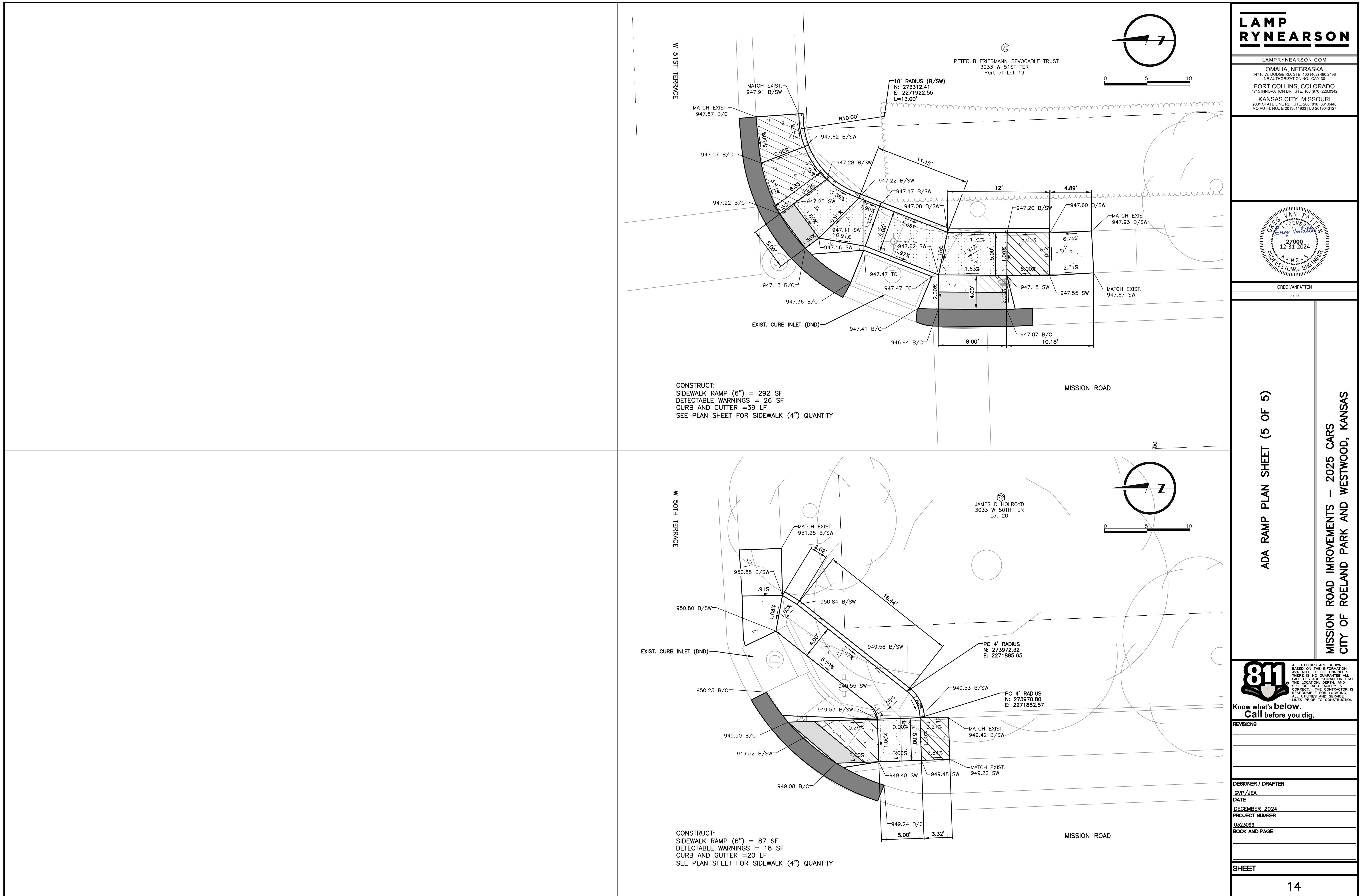
ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION

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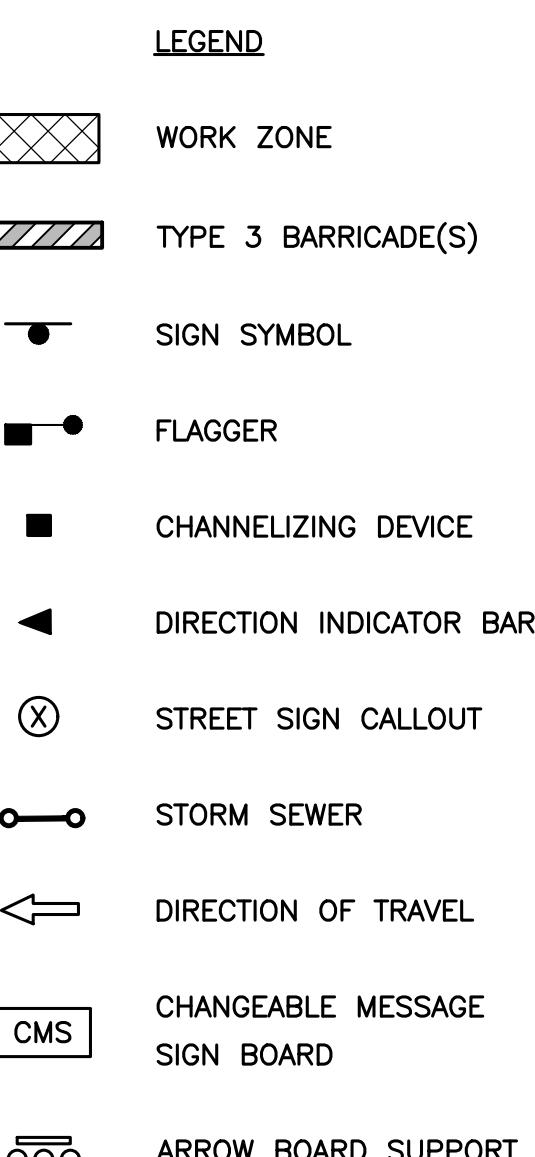
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#### TRAFFIC CONTROL NOTES:

- SEE PROJECT MANUAL FOR ROAD CLOSURE RESTRICTIONS.
- CONTRACTOR SHALL INSTALL TYPE A WARNING LIGHTS ON ALL TYPE 3 BARRICADES USED AT NIGHT.
- THE CONTRACTOR IS RESPONSIBLE FOR SIDEWALK CLOSURE AND DETOUR SIGNING.
- CONTRACTOR SHALL USE FLAGGERS AND TRAFFIC CONTROL SIGNING AS NECESSARY FOR INTERSECTION WORK AND ONE LANE CLOSURES.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS. THE CONTRACTOR MAY NOT MOVE OR CHANGE THE APPROXIMATE LOCATION OF ANY DEVICE WITHOUT THE APPROVAL OF THE ENGINEER.
- WHENEVER A LANE CLOSURE IS REQUIRED ON AN EXISTING STREET, THE CONTRACTOR IS TO NOTIFY THE CITY AT LEAST ONE WEEK PRIOR TO CLOSING THE LANE(S).
- CONTRACTOR SHALL MAINTAIN RESIDENT ACCESS TO RESIDENCES AT ALL TIMES.
- EACH PHASE SHALL BE COMPLETED, AS APPROVED BY THE ENGINEER, PRIOR TO BEGINNING THE NEXT PHASE.
- REMOVAL OF EXISTING PAVEMENT MARKINGS IN CONFLICT WITH TRAFFIC CONTROL AND INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND REMOVAL THEREOF SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "TRAFFIC CONTROL".
- CMS BOARDS SHALL BE POSTED AT LEAST 1 WEEK PRIOR TO ROAD CLOSURE TO THE END OF CLOSURE. 3 TOTAL CMS BOARDS ON SITE DURING CLOSURES. SUPPLYING, MAINTAINING AND MOVING THE CMS EQUIPMENT SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "TRAFFIC CONTROL".



#### CONSTRUCTION SEQUENCING PHASE 1A

- CONSTRUCT STORM SEWER ALONG THE WEST SIDE OF MISSION ROAD AND THE SOUTH SIDE OF 51ST STREET.
- INSTALL STREET LIGHTS, CONSTRUCT SIDEWALK, CURB AND GUTTER, AND BASE REPAIR ALONG THE WEST SIDE OF MISSION ROAD FROM 51ST STREET TO APPROXIMATELY 300-FT SOUTH OF 47TH STREET. WORK ZONE LENGTH AND LOCATION MAY BE ADJUSTED FOR A ROLLING WORK ZONE. TAPER AND ARROW BOARD SHALL BE PROVIDED AT BEGINNING OF ROLLING WORK ZONES.
- MISSION ROAD AND 51ST STREET SHALL REMAIN OPEN TO TRAFFIC DURING THIS PHASE. A MINIMUM LANE WIDTH OF 10-FT SHALL BE MAINTAINED. CONFLICTING PAVEMENT MARKING SHALL BE REMOVED AND TEMPORARY DOUBLE YELLOW CENTERLINE INSTALLED WHERE NECESSARY TO DELINEATE AND DIVIDE TRAFFIC.
- ACCESS TO PROPERTIES WILL BE MAINTAINED THROUGHOUT CONSTRUCTION BY ENSURING ONE DRIVE REMAINS OPEN AT ALL TIMES.
- ANY WORK SUCH AS BASE BASE REPAIR BEYOND THE WORK ZONE THAT ENCROACHES INTO A TRAVEL LANE SHALL BE DONE WITH FLAGGERS, SEE DETAIL ON SHEET 19.

#### CONSTRUCTION SEQUENCING PHASE 1C

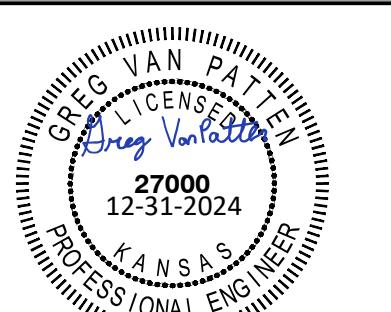
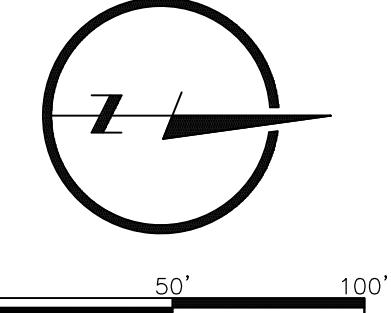
- INSTALL STREET LIGHTS, CONSTRUCT SIDEWALK, CURB AND GUTTER, AND BASE REPAIR ALONG THE WEST SIDE OF MISSION ROAD FROM 51ST STREET TO APPROXIMATELY 300-FT SOUTH OF 47TH STREET. WORK ZONE LENGTH AND LOCATION MAY BE ADJUSTED FOR A ROLLING WORK ZONE. TAPER AND ARROW BOARD SHALL BE PROVIDED AT BEGINNING OF ROLLING WORK ZONES.
- MISSION ROAD SHALL REMAIN OPEN TO TRAFFIC DURING THIS PHASE. A MINIMUM LANE WITH OF 10-FT SHALL BE MAINTAINED. EXISTING DOUBLE YELLOW CENTERLINE SHALL BE USED IN PLACE (U.I.P.).
- ACCESS TO RESIDENTIAL DRIVEWAYS SHALL BE MAINTAINED TO RESIDENTS THROUGHOUT CONSTRUCTION, EXCEPT DURING CURB OR DRIVEWAY CURE TIME. TEMPORARY AGGREGATE OR STEEL PLATES SHALL BE USED TO PROVIDE RAMPS TO DRIVES. (NO DIRECT PAY)
- ANY WORK SUCH AS BASE BASE REPAIR BEYOND THE WORK ZONE THAT ENCROACHES INTO A TRAVEL LANE SHALL BE DONE WITH FLAGGERS, SEE DETAIL ON SHEET 19.

#### TRAFFIC CONTROL PLAN SHEET PHASE 1

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

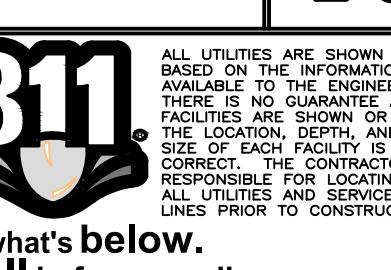
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KANSAS CITY, MISSOURI  
9901 STATE LINE RD, STE 200 (816) 361-0440  
MO AUTH NO.: E-2013011903 | LS-2019043127



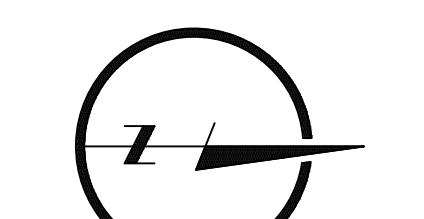
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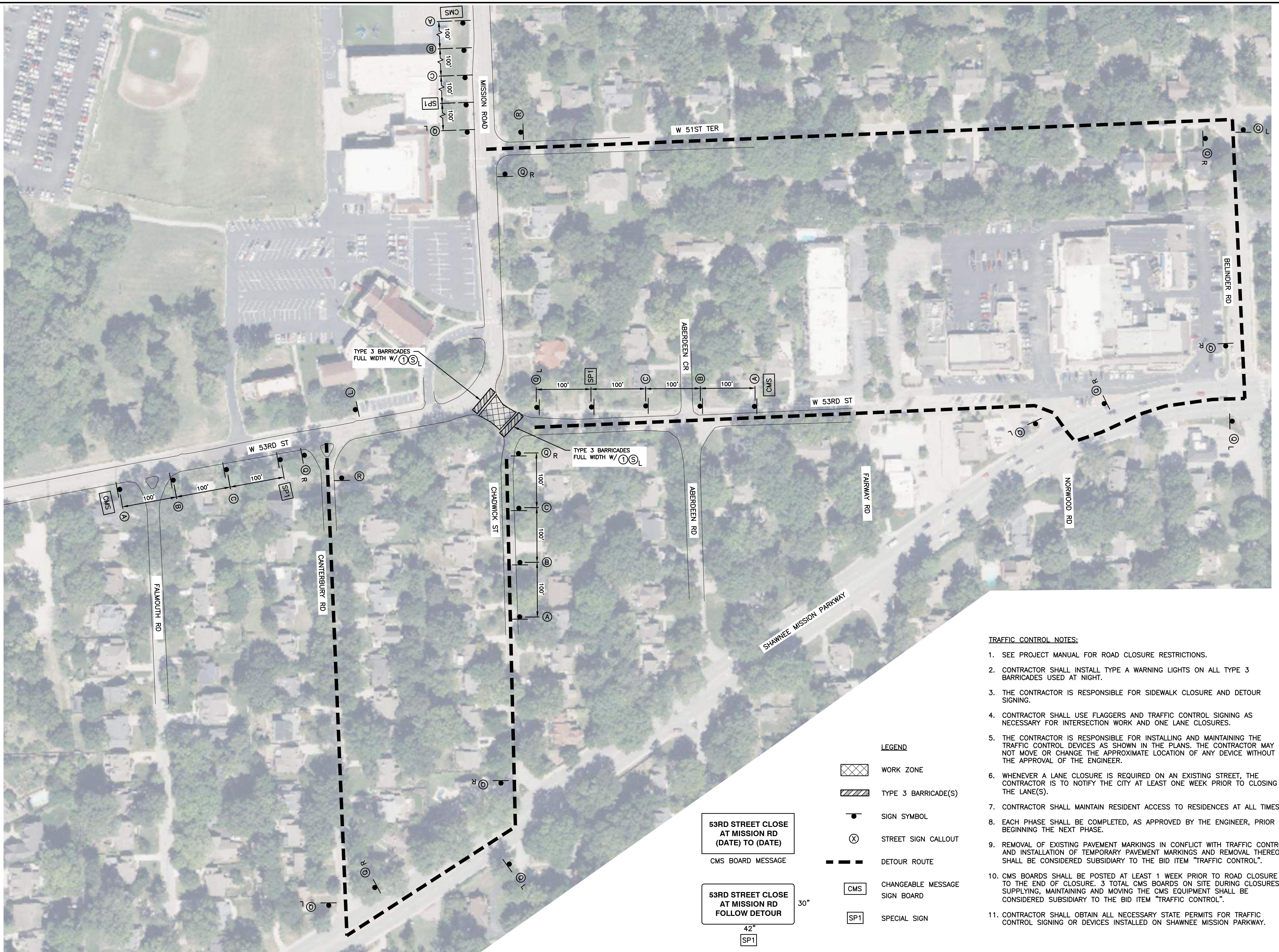
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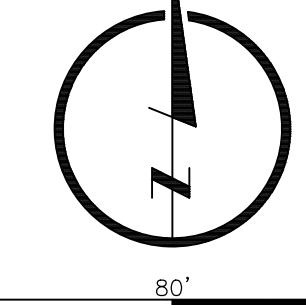
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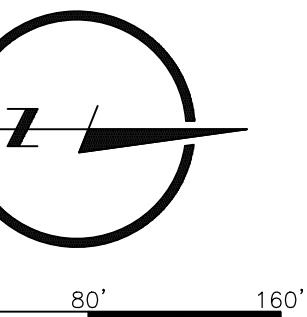
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TRAFFIC CONTROL PLAN SHEET  
PHASE 2A DETOUR PLAN – 53RD STREET

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS



0 80' 160'



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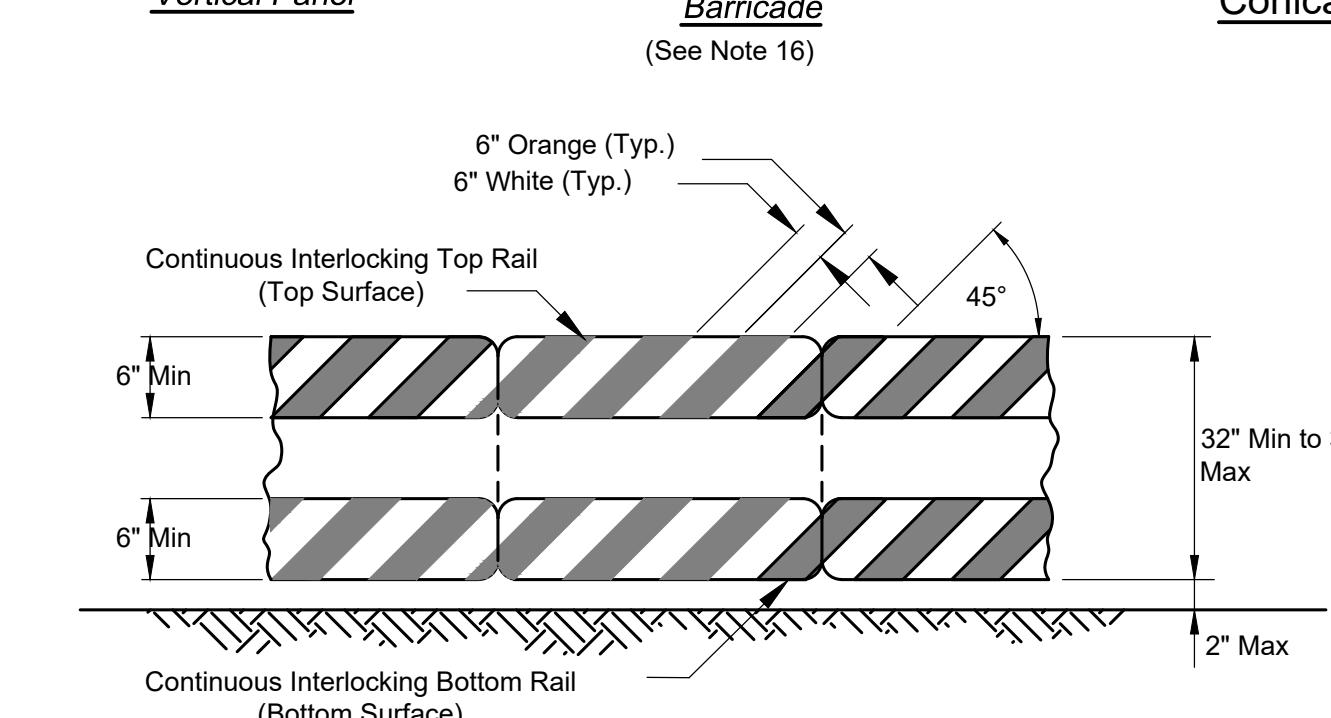
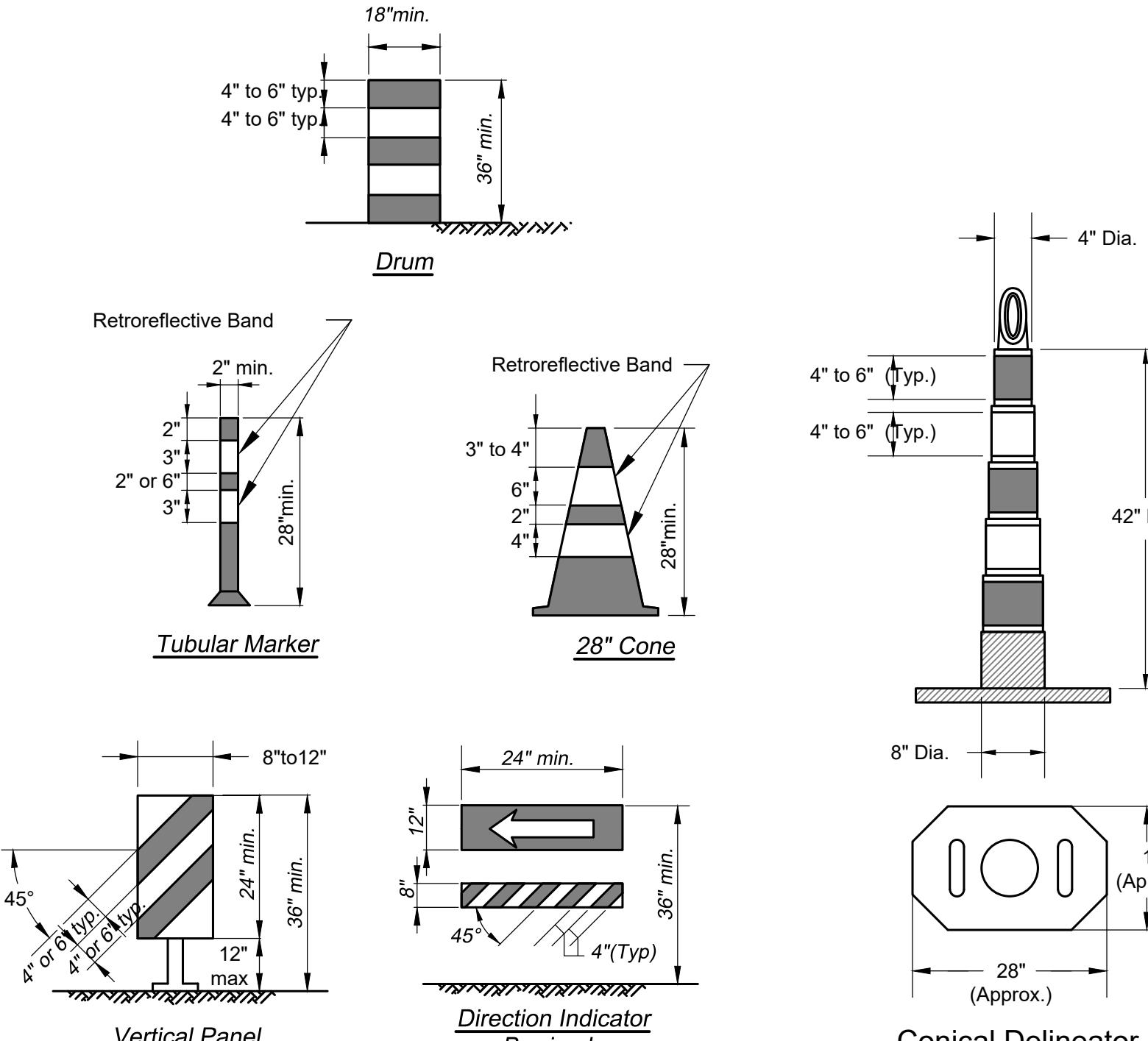
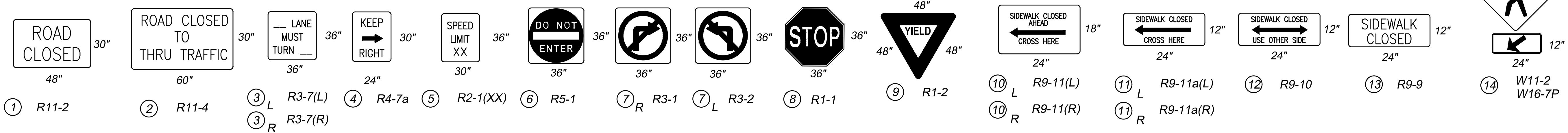
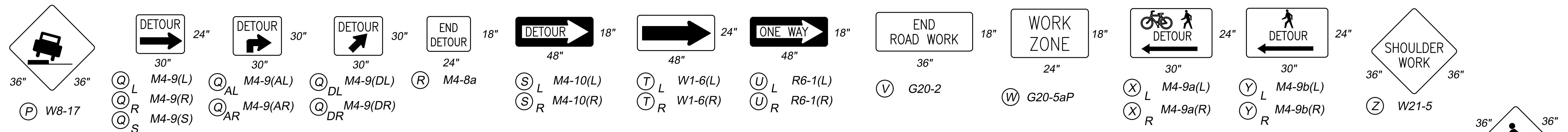
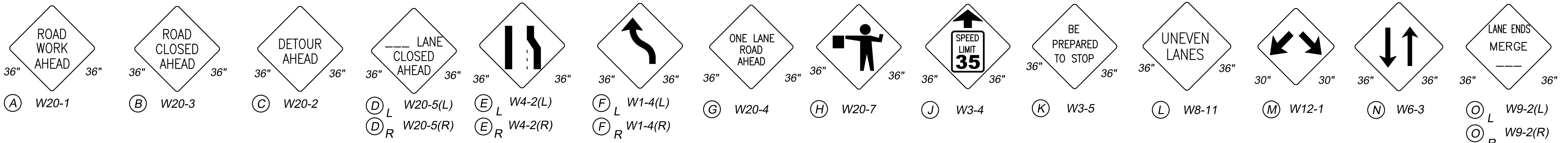


GREG VAN PATTEN  
27000

12/23/2024 4:54:29 PM / JOE ARCHER, LAMP RYNEARSON

**TRAFFIC CONTROL DETAIL SHEET**

**MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS**



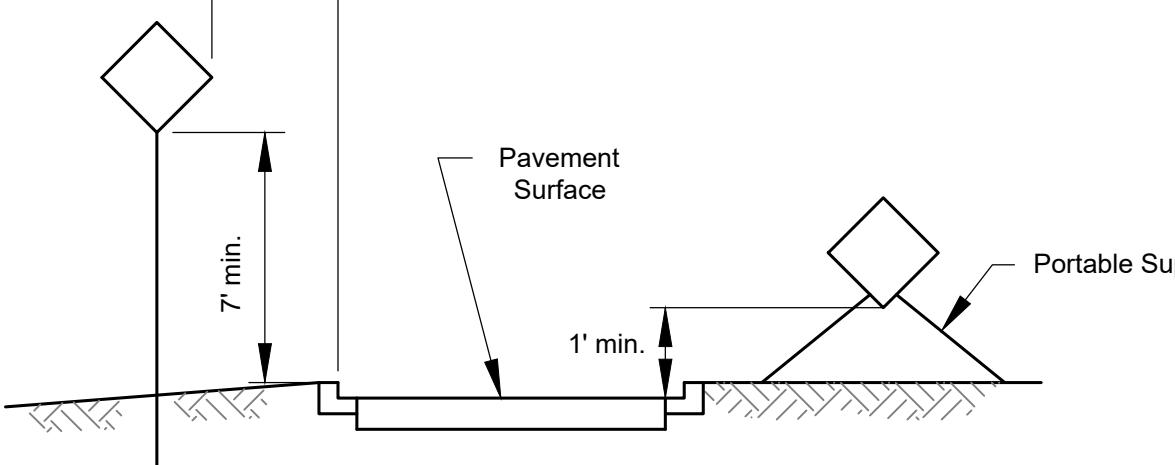
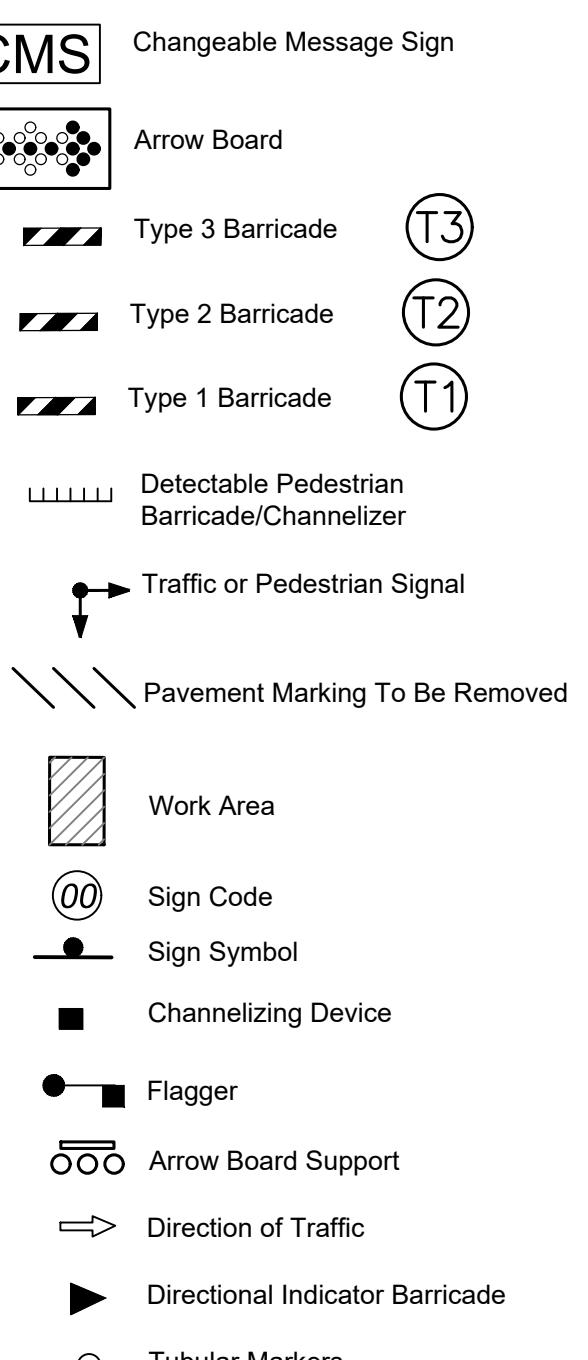
Notes:

1. Adjacent sections shall have the same base color (orange, white, or yellow).
2. Adjacent sections shall be interlocked together.
3. Stripes are optional.

**Detectable Pedestrian  
Barricade/Channelizer**

\*Optional during daylight hours (See general note #15)

**LEGEND**



**Typical Sign Placement**

Length and Device Spacing for Lane Closure					
Speed Limit M.P.H.	Minimum Taper Length (L)			Min. No. of Devices for Taper (12FT. Lane)	Maximum Device Spacing In Feet
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	495	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55

L = SxW

S ≥ 45 MPH

L = SxW/60

S ≤ 40 MPH

L = Minimum Taper Length (Feet)

W = Width of Offset (Feet)

S = Posted Speed Limits Prior to Construction (MPH)

Note: Length of downstream taper to be between 50' and 100' with device spacing of 20'.

Type	Min. Size	Min. # of Elements	Usage
A	48" x 24"	12	Speed Limit ≤ 30 MPH
B	60" x 30"	13	Speed Limit = 35, 40, 45 MPH
C	96" x 48"	15	Speed Limit ≥ 50 MPH

Arrow board shall be set in the sequential chevron or flashing arrow mode for lane closures.

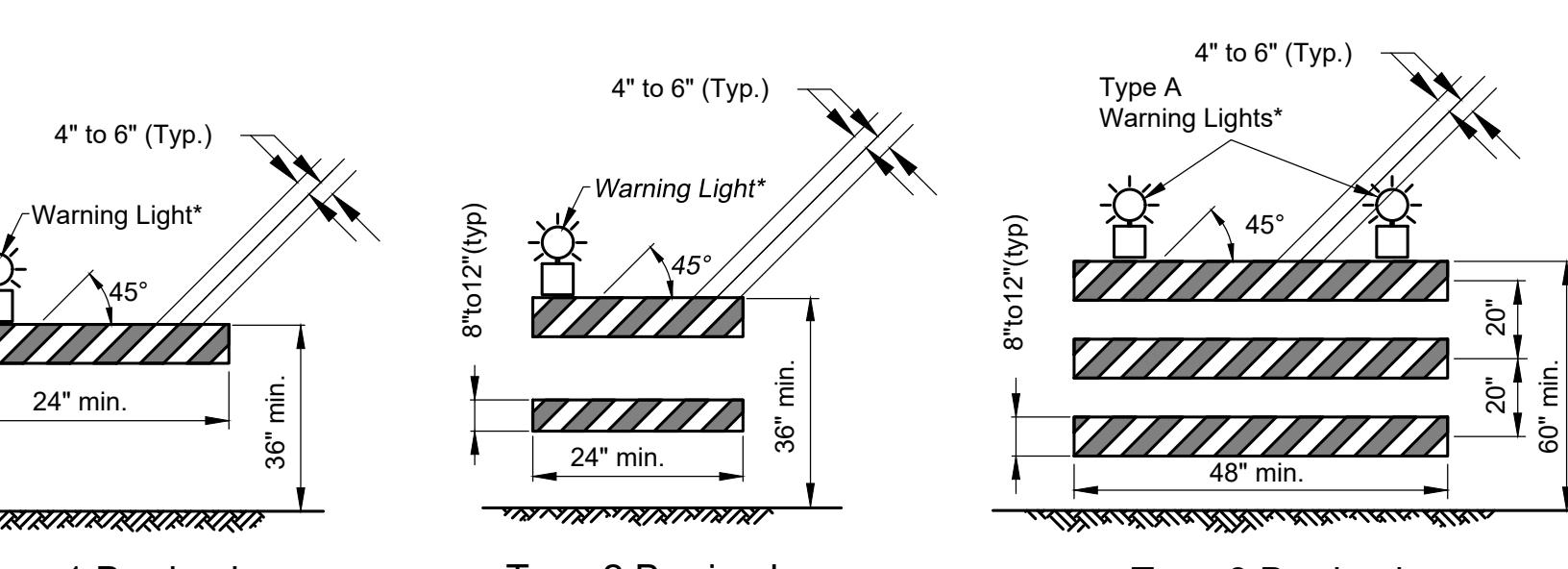
Arrow board shall be set in the flashing caution mode for shoulder work, roadside work near the shoulder, or temporary closing of one lane on a two-lane, two-way roadway.

**Arrow Board**

Signs *	
* sizes shown are for conventional roadways.	

**Subscript Codes**

L - Left  
R - Right  
S - Straight  
AL - Advance Left  
AR - Advance Right  
DL - Diagonal Left  
DR - Diagonal Right

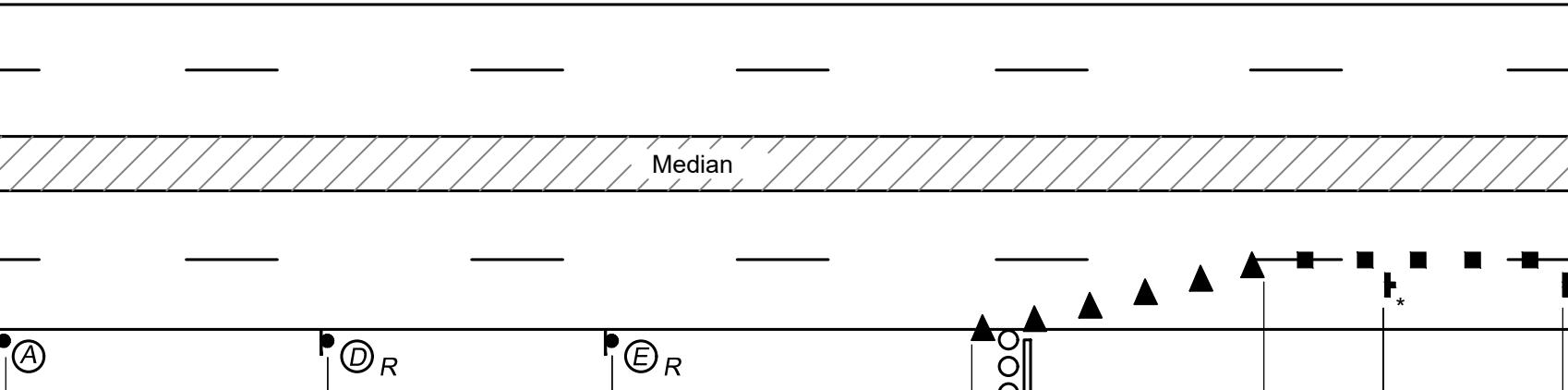


**Type 1 Barricade**

**Type 2 Barricade**

**Type 3 Barricade**

Road Type	Minimum Distance Between Signs			
	A	B	C	D
Urban (Speed Limit ≤ 30 MPH)	100'	100'	100'	100'
Urban (Speed Limit ≥ 35 MPH)	350'	350'	350'	150'
Rural (Speed Limit ≤ 40 MPH)	350'	350'	350'	200'
	500'	500'	500'	200'



**Typical Sign Spacing**

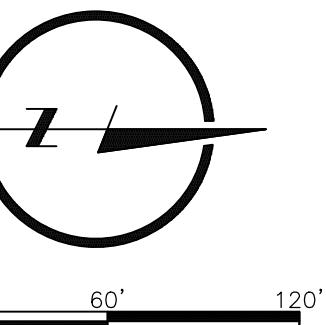
Note: \* Applies to any subsequent sign in the work zone.



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE CONTRACTOR. THERE IS NO GUARANTEE THAT THE UTILITIES ARE LOCATED, DEPTH, AND DIRECTION IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES AND NOTIFYING LINES PRIOR TO CONSTRUCTION.

REVISIONS

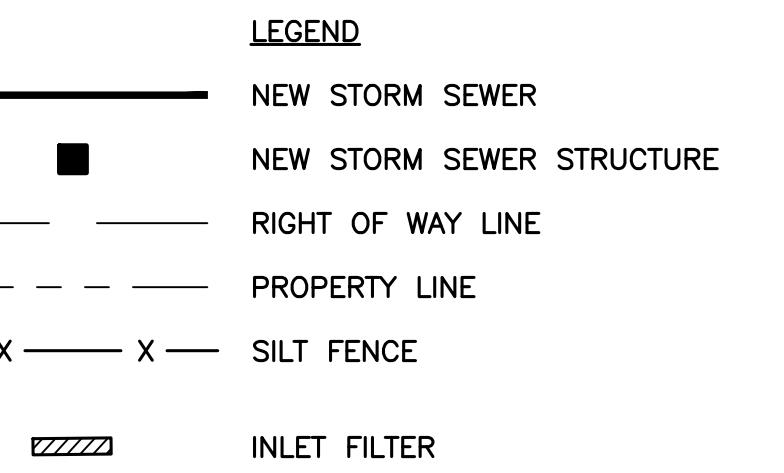
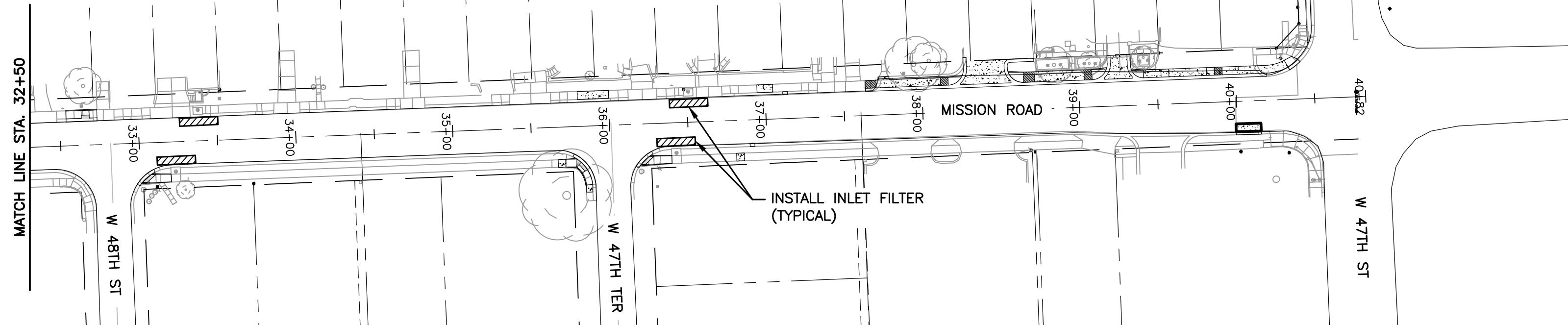
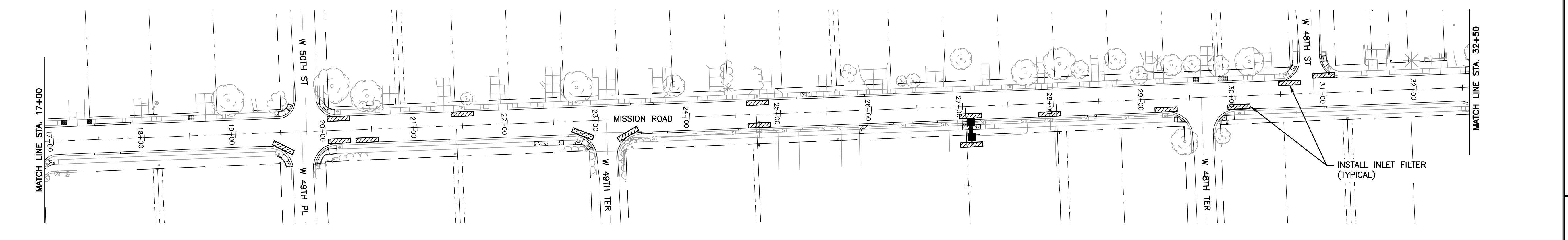
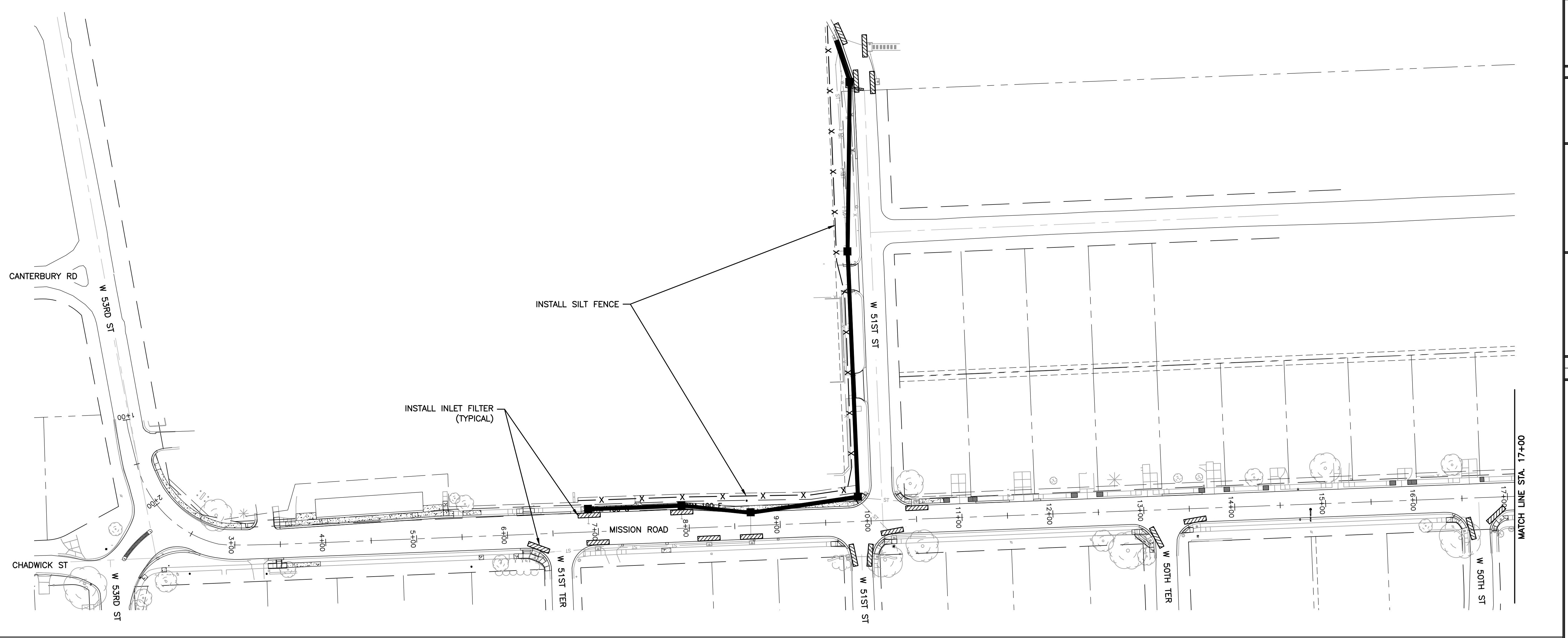
DESIGNER / DRAFTER  
GVP / JEA  
DATE  
DECEMBER 2024  
PROJECT NUMBER  
0323099  
BOOK AND PAGE  
SHEET



GREG VAN PATTEN  
2700

**EROSION CONTROL PLAN SHEET**

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS



**NOTES:**

1. INSPECT SITE AT LEAST ONCE EVERY 14 DAYS AND AFTER EACH 1/2" OR GREATER RAIN EVENT.
2. LAND DISTURBANCE IS TO STAY BELOW 1 ACRE. IF CONTRACTOR DISTURBS MORE THAN 1 ACRE THEN A KDHE NOI PERMIT AND SWPPP WILL BE REQUIRED.
3. INSTALL SILT FENCE DOWNSTREAM OF DISTURBED AREAS TO KEEP EROSION AND SEDIMENT ON SITE.
4. CONCRETE WASHOUT REQUIRED. LOCATION TO BE APPROVED BY THE ENGINEER.
5. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC ROADWAYS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM THE FLOW AREAS AND MAKE ALL NECESSARY REPAIRS TO MAINTAIN THE INTEGRITY OF THE SEDIMENT CONTROL MEASURES. SEDIMENT SHALL BE REMOVED ONCE IT REACHES  $\frac{1}{2}$  THE INSTALLED HEIGHT OF MEASURE.



Call before you dig.

REVISIONS

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DATE

DECEMBER 2024

PROJECT NUMBER

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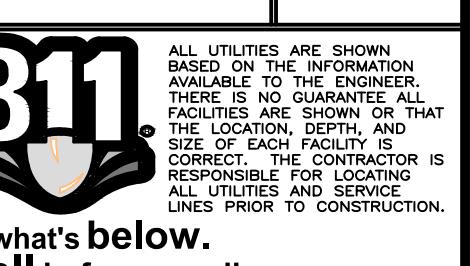
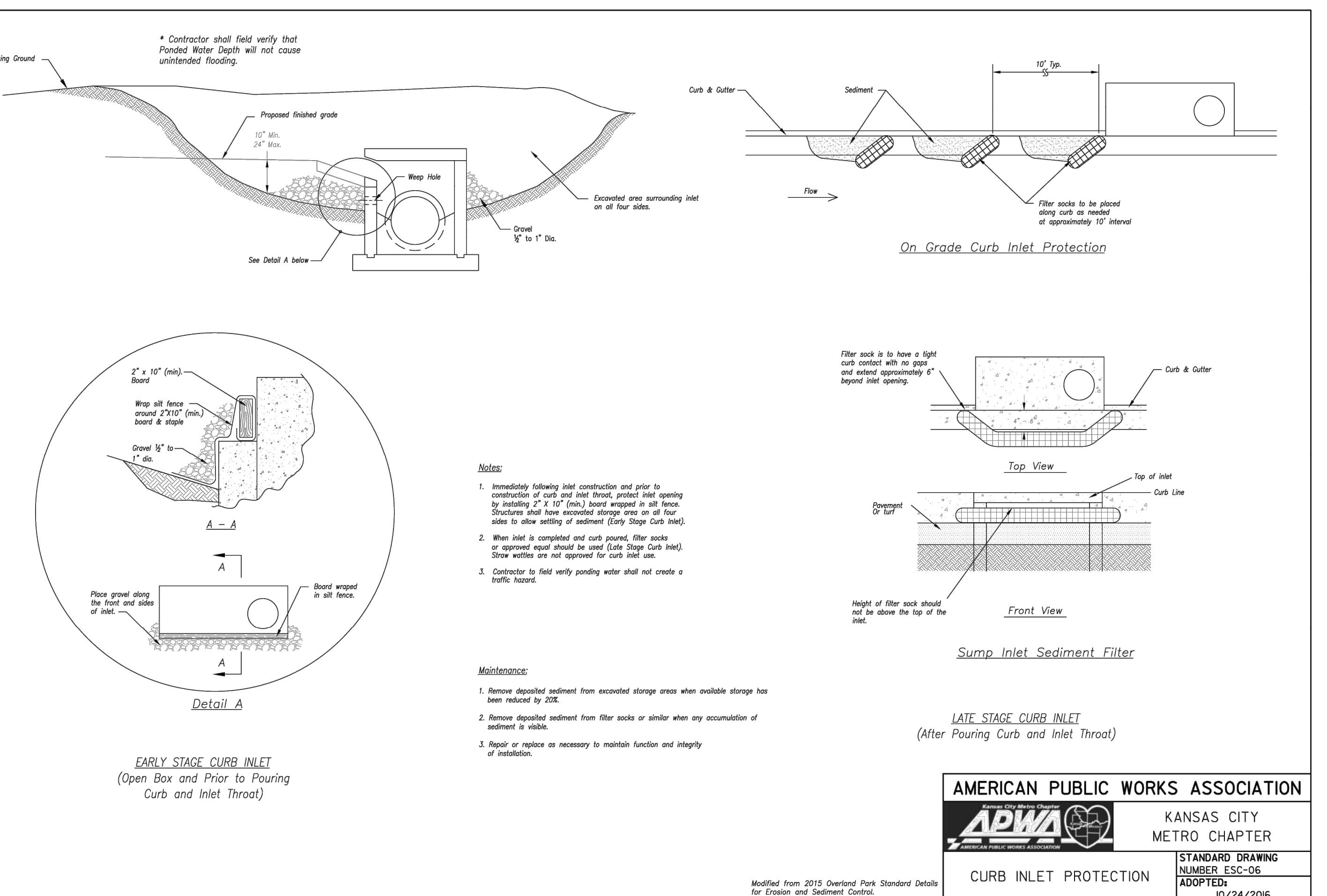
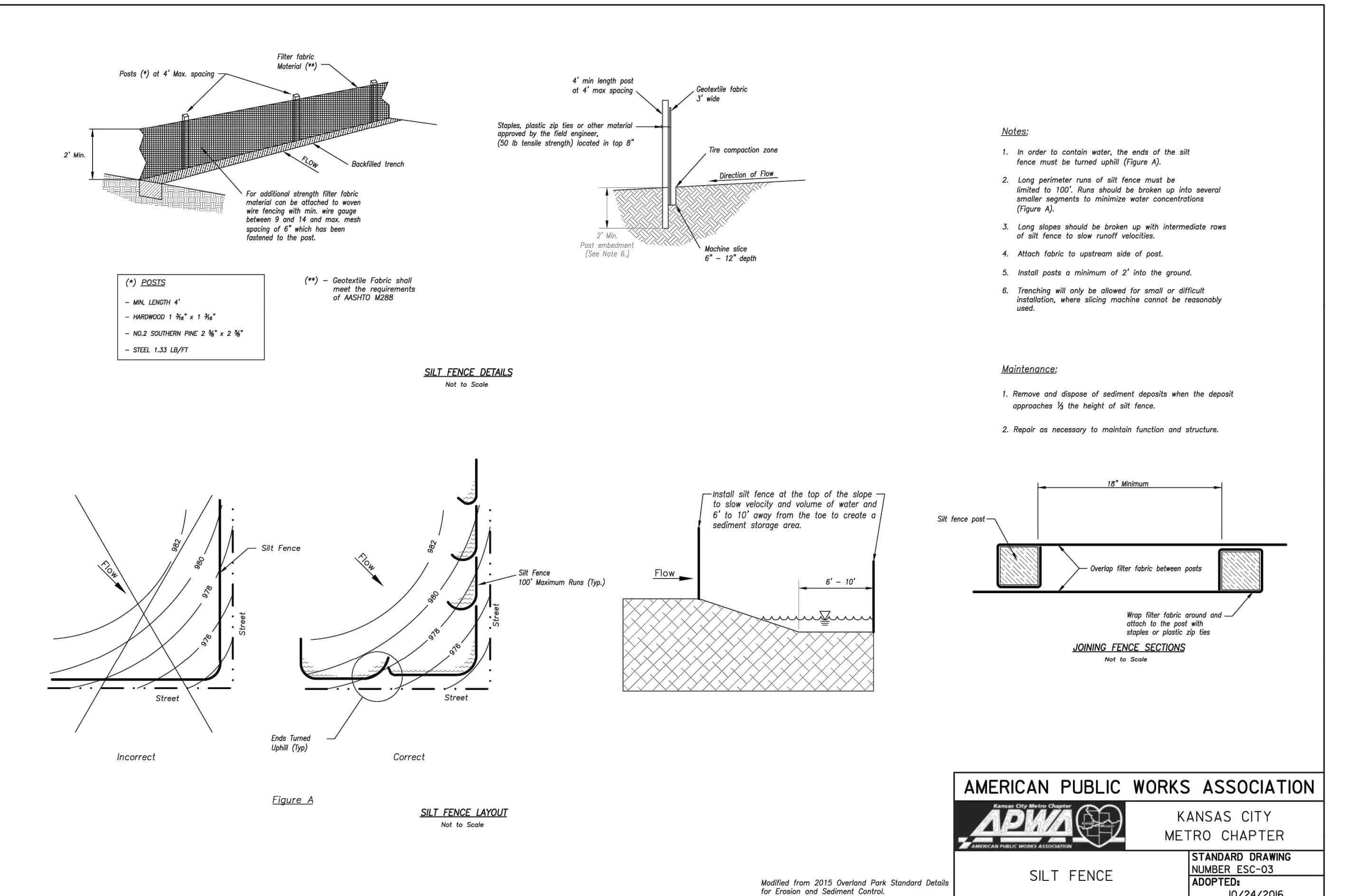
BOOK AND PAGE

SHEET



**EROSION CONTROL DETAIL SHEET**

**MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS**



**REVISIONS**

**DESIGNER / DRAFTER**

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DATE

DECEMBER 2024

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**SHEET**

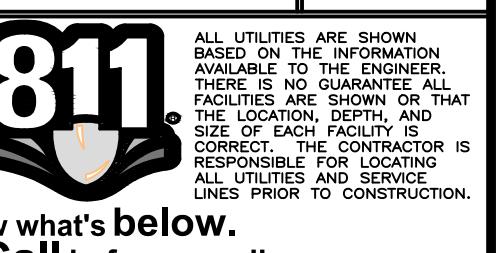






DETAIL SHEET (3 OF 7)

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

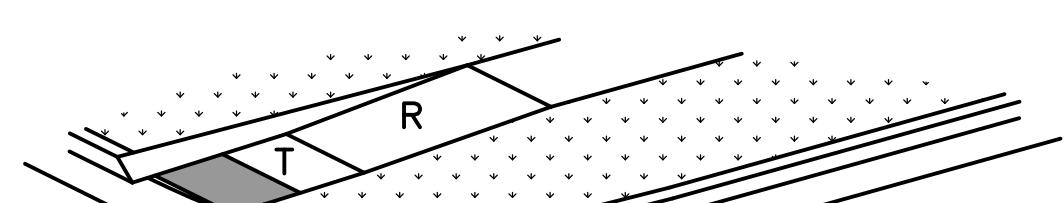


ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE CALLER. THERE IS NO GUARANTEE THAT THE LOCATION, DEPTH, AND DIRECTION OF THESE UTILITIES IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING THESE UTILITIES AND NOTIFYING THE CALLER PRIOR TO CONSTRUCTION.

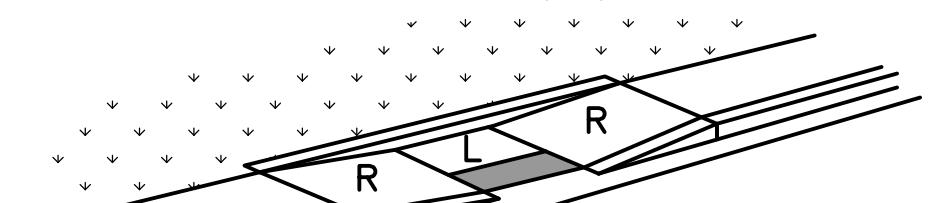
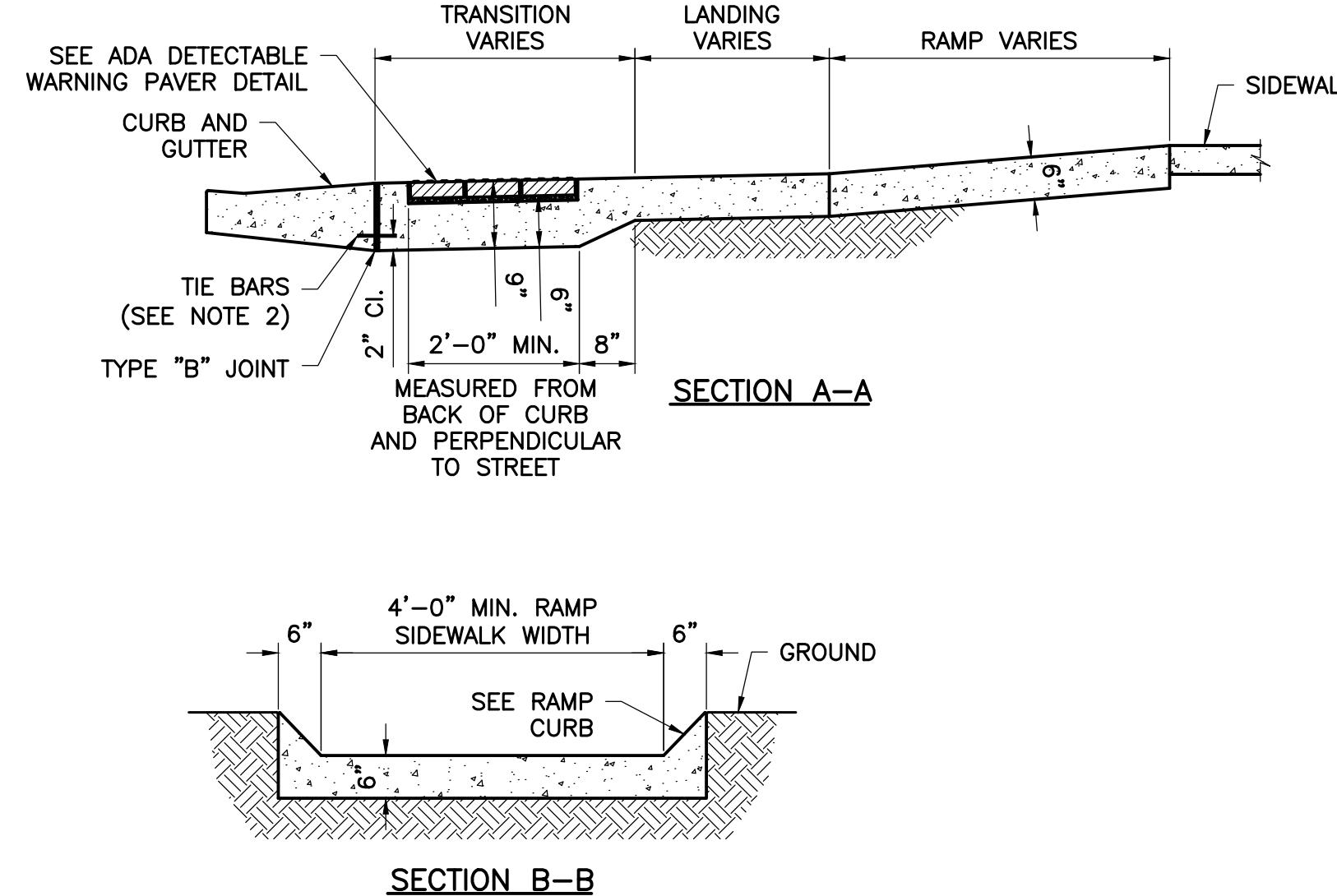
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GVP/JEA  
DATE  
DECEMBER 2024  
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0323099  
BOOK AND PAGE

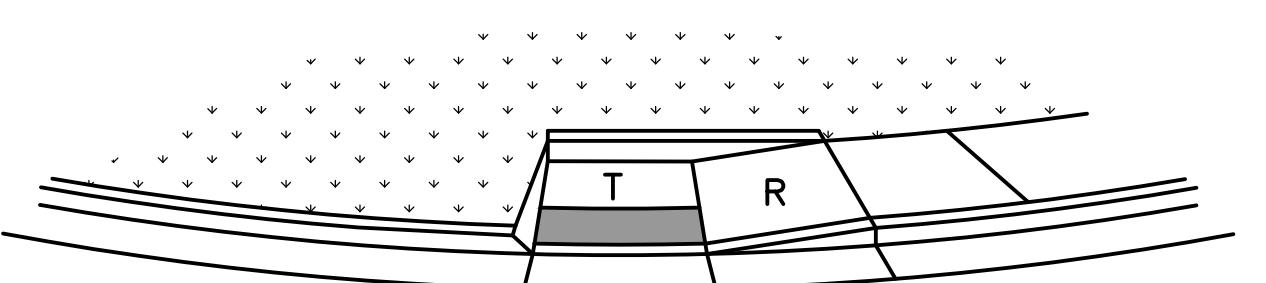
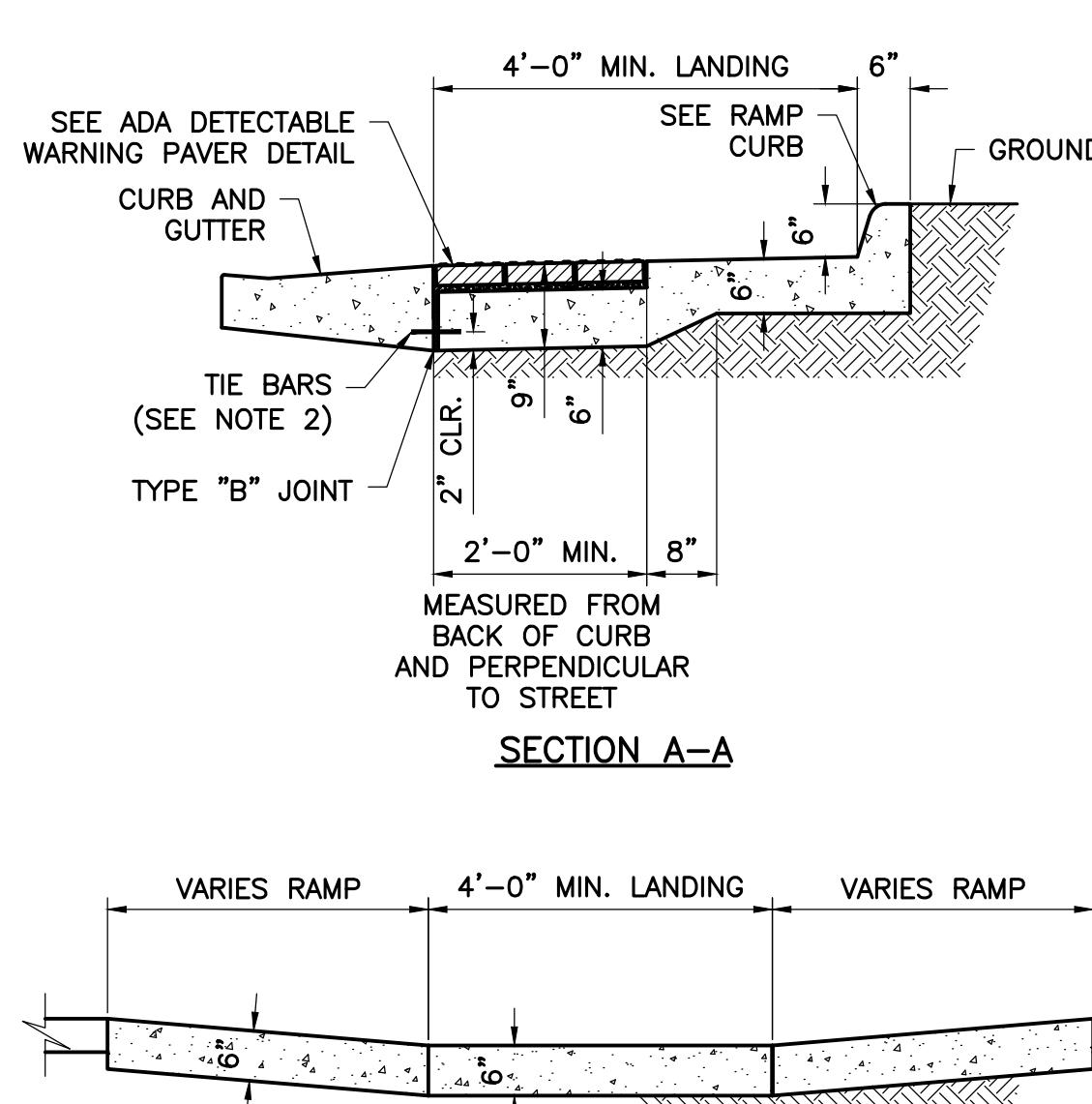
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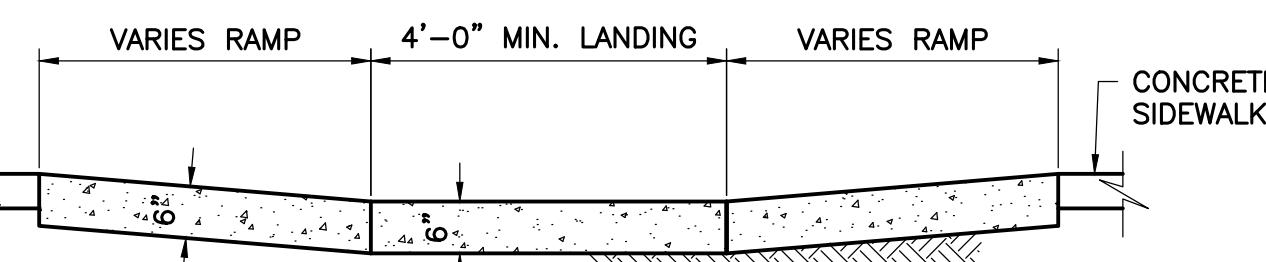
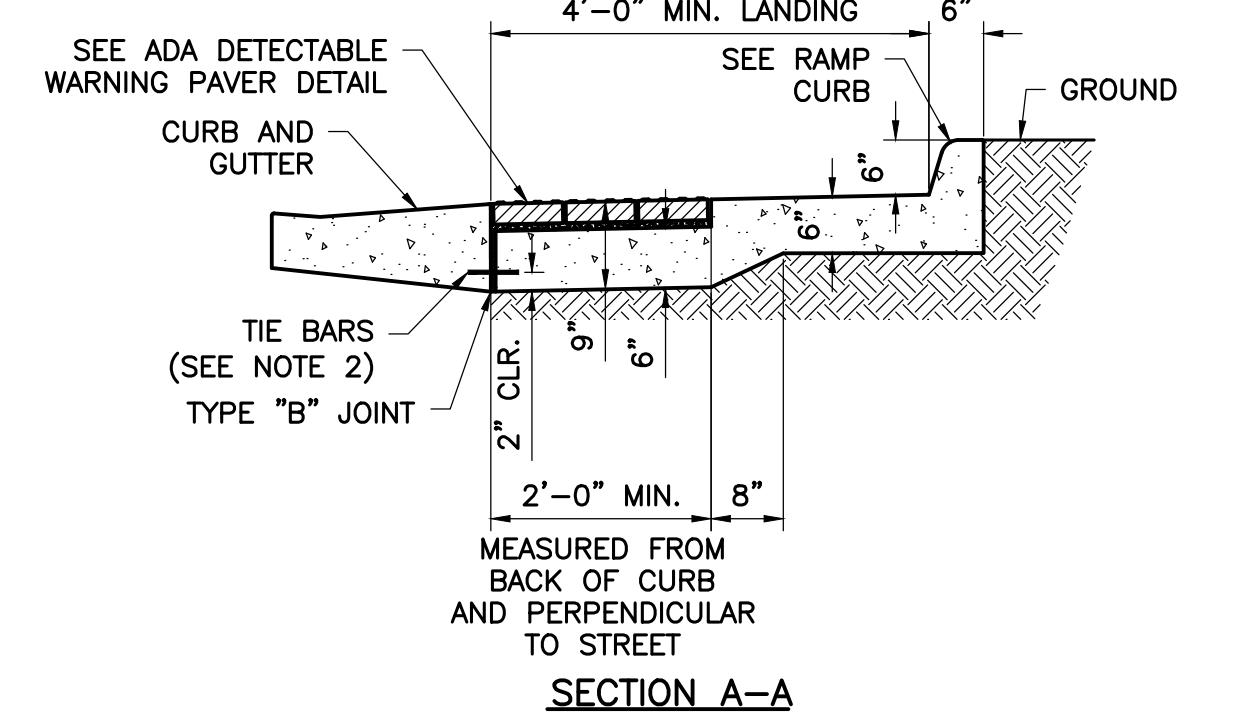
3-D VIEW  
TYPE "A" SIDEWALK RAMP



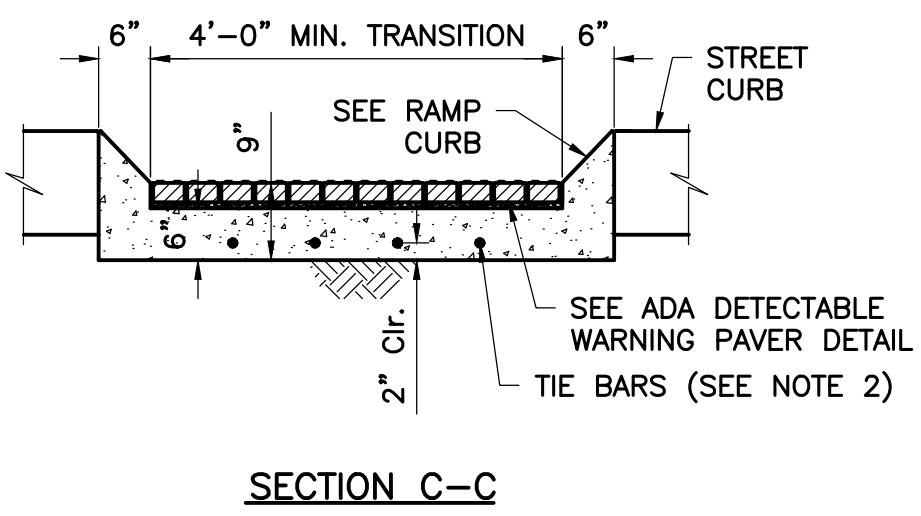
3-D VIEW  
TYPE "B" SIDEWALK RAMP



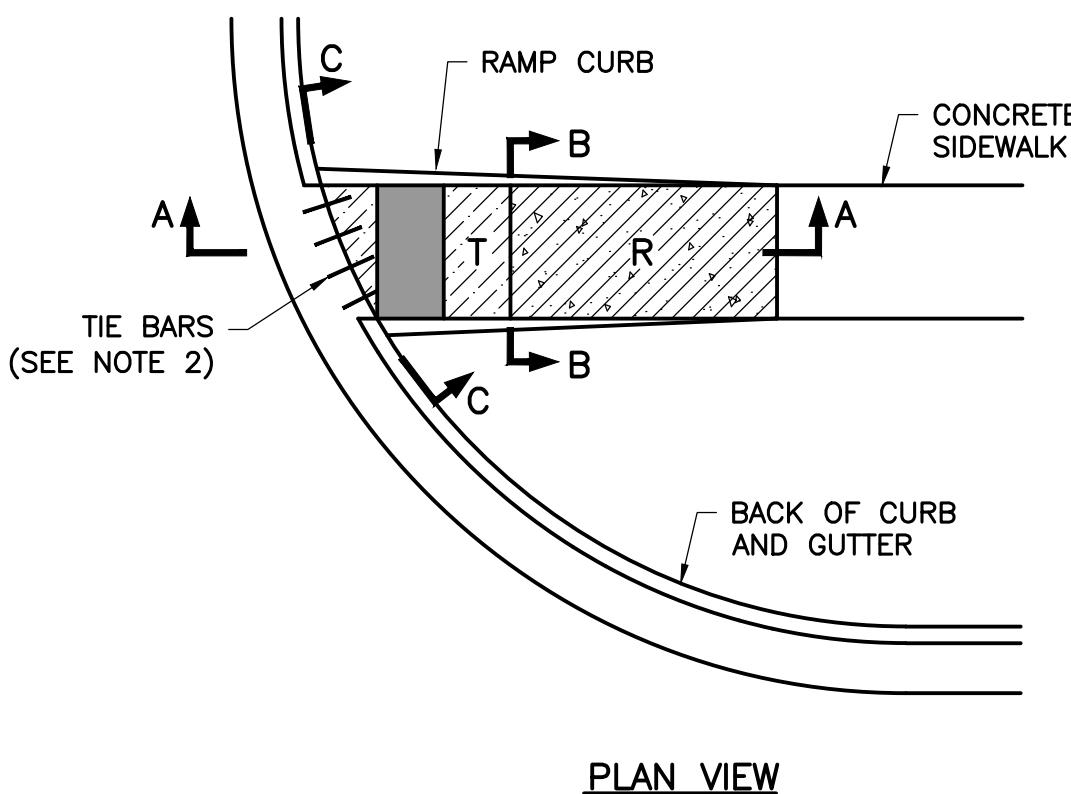
3-D VIEW  
TYPE "D" SIDEWALK RAMP



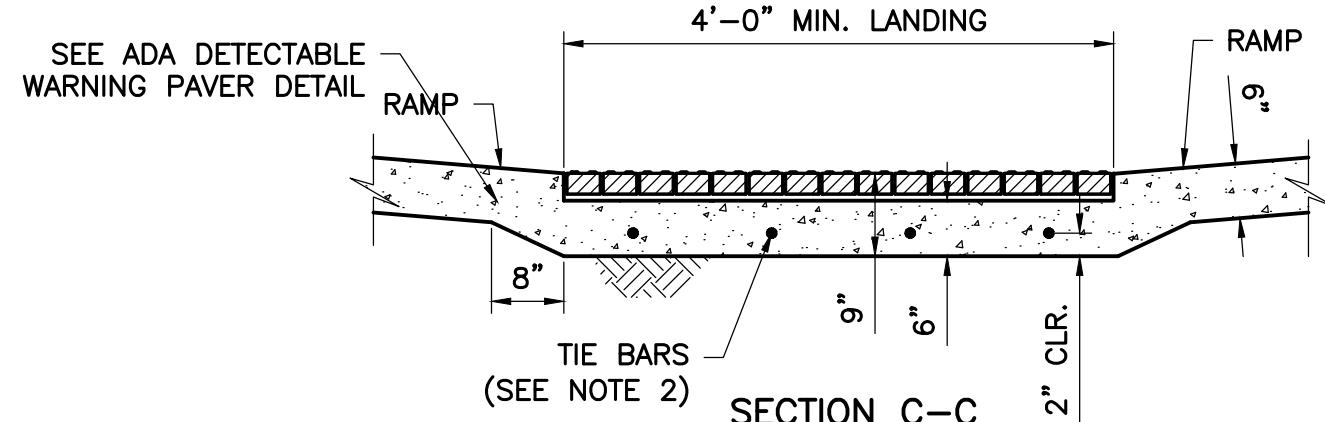
SECTION B-B



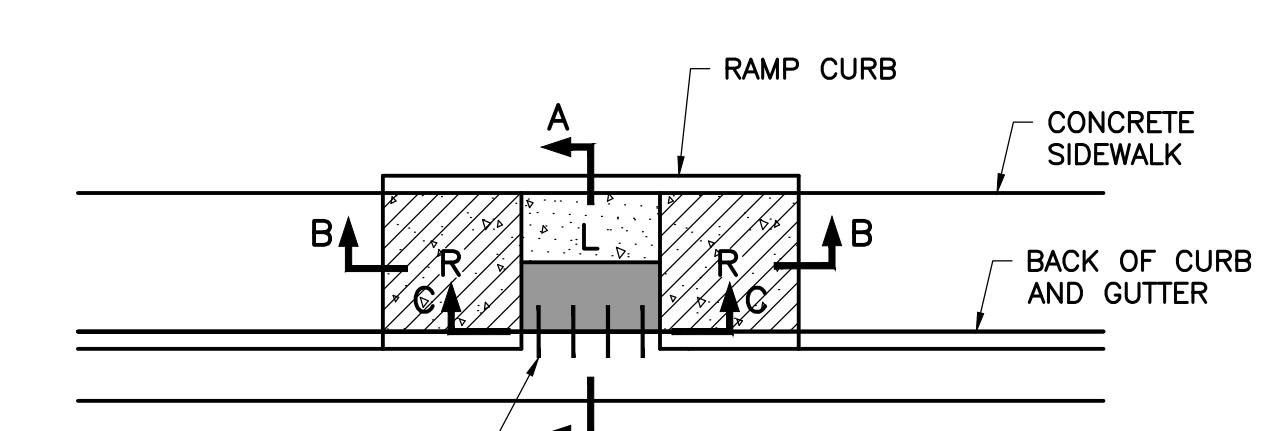
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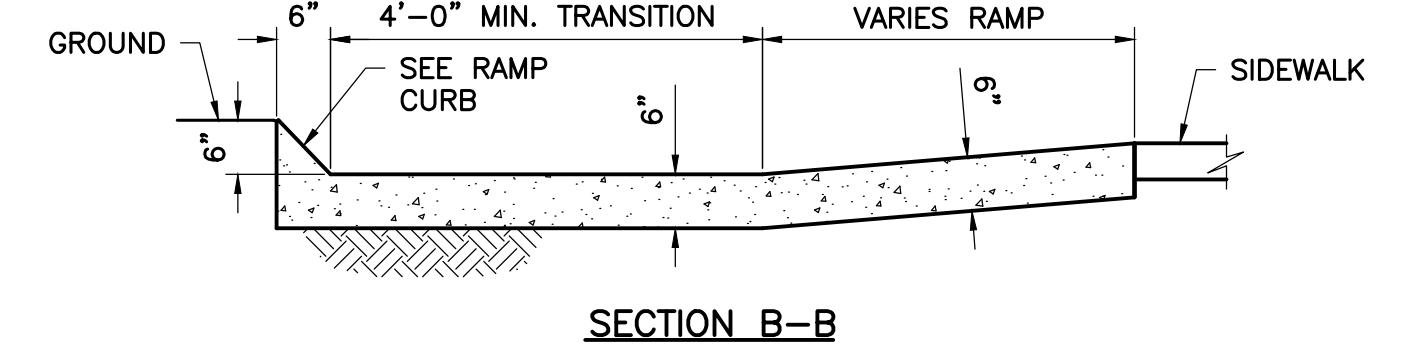
PLAN VIEW



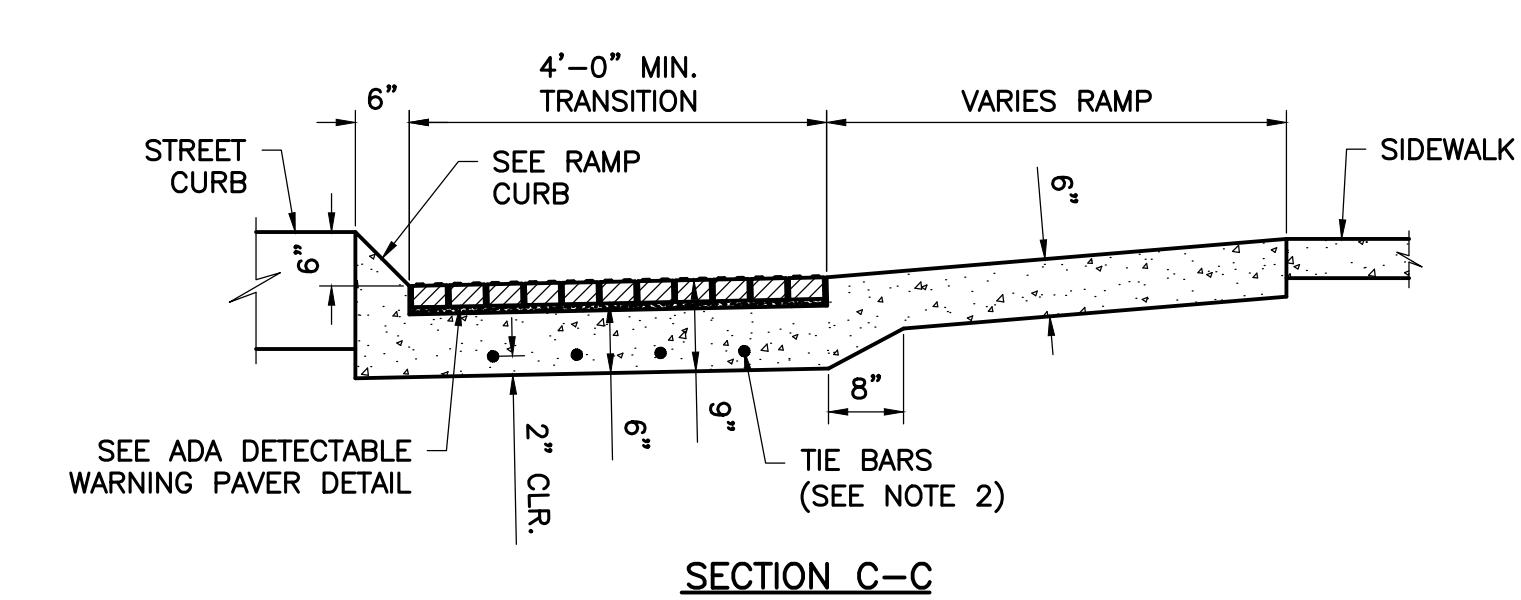
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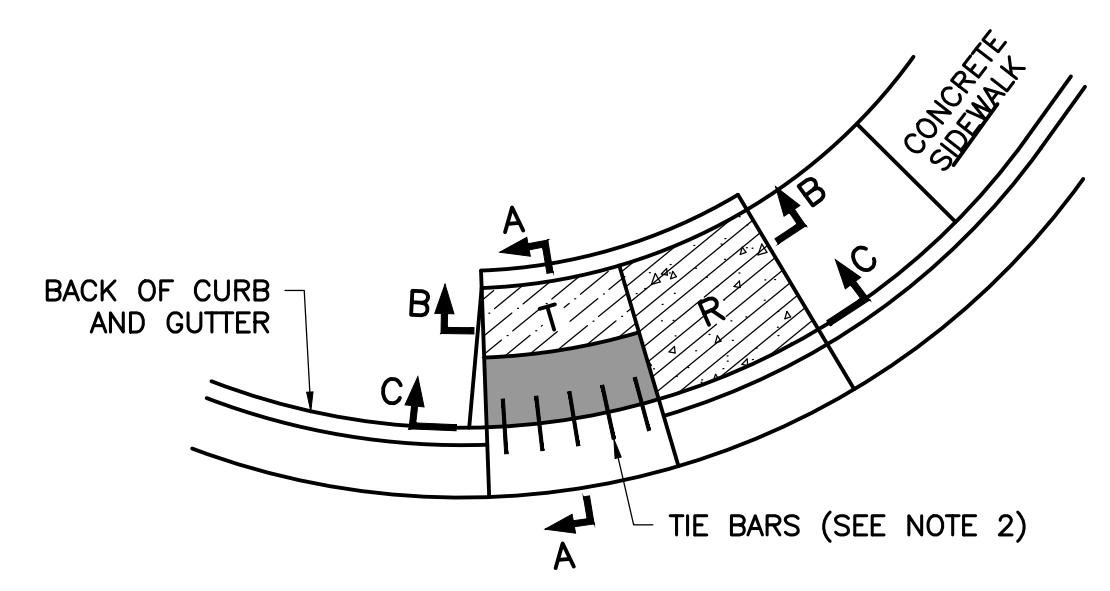
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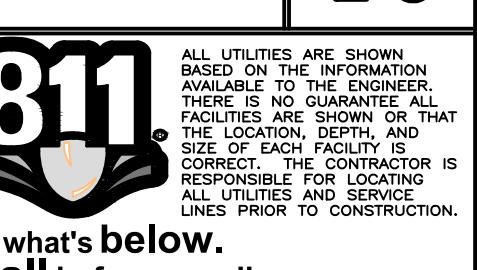
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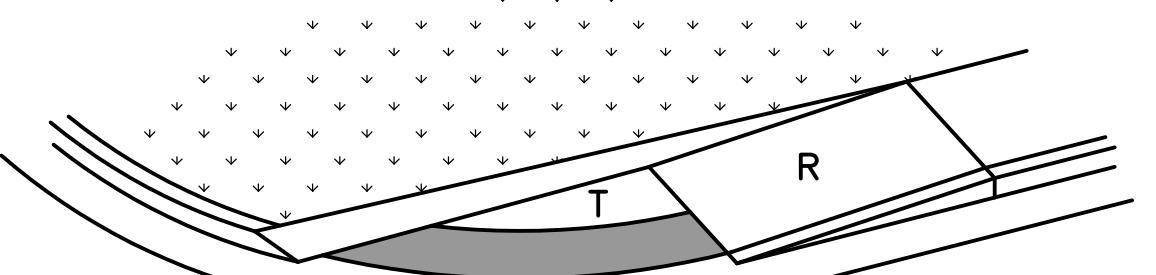
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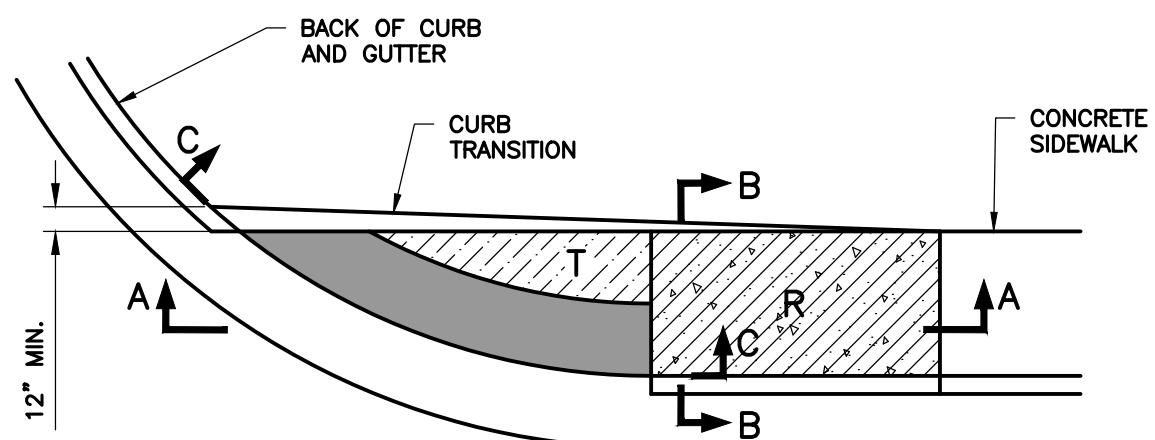
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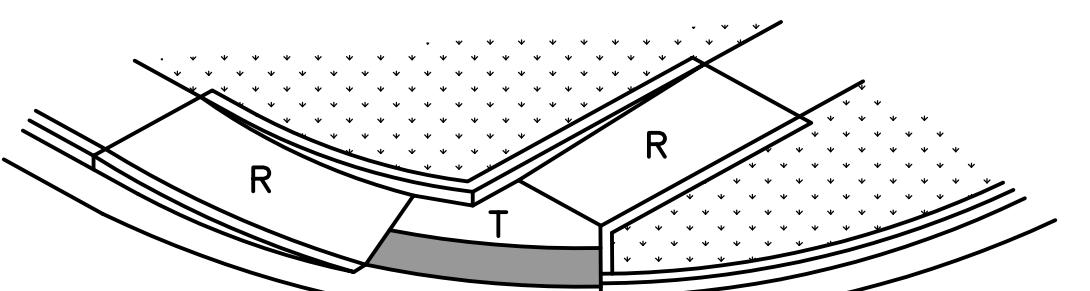
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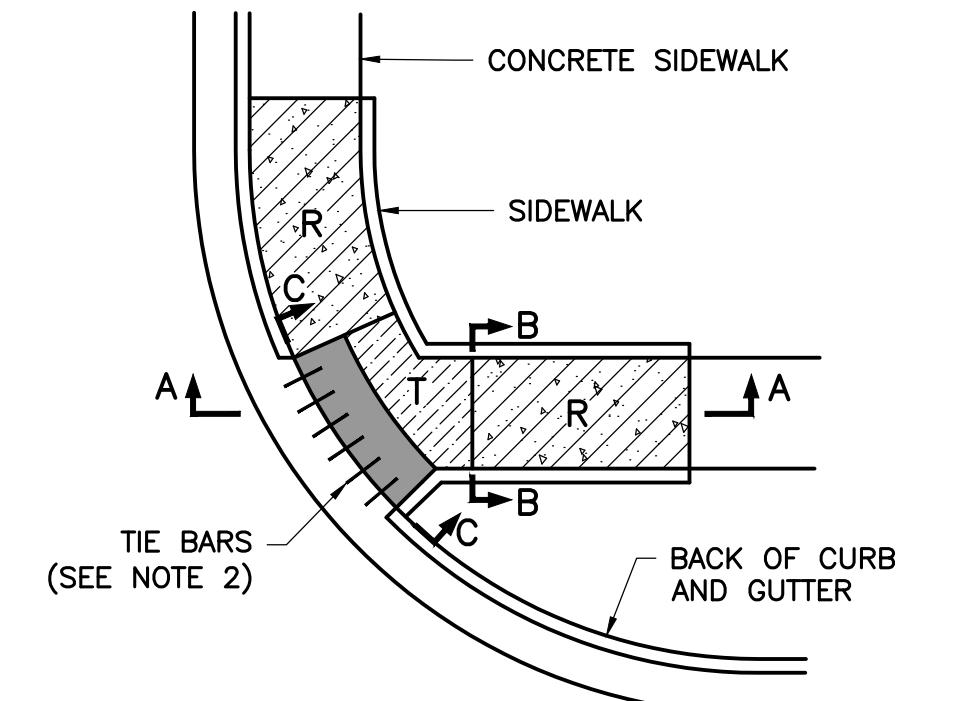
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TYPE "E" SIDEWALK RAMP



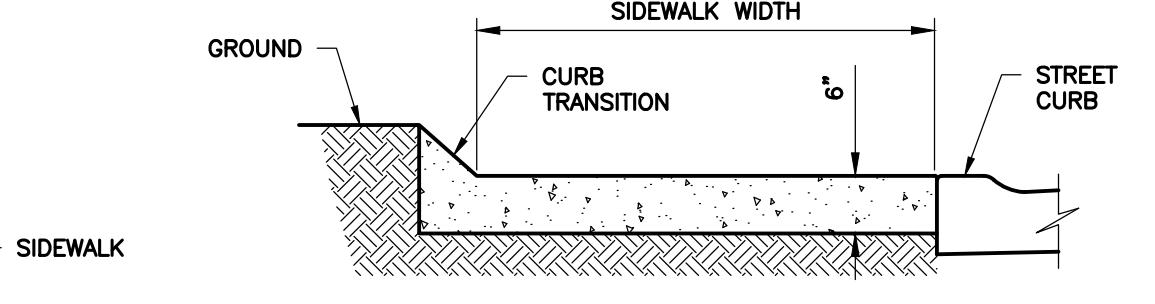
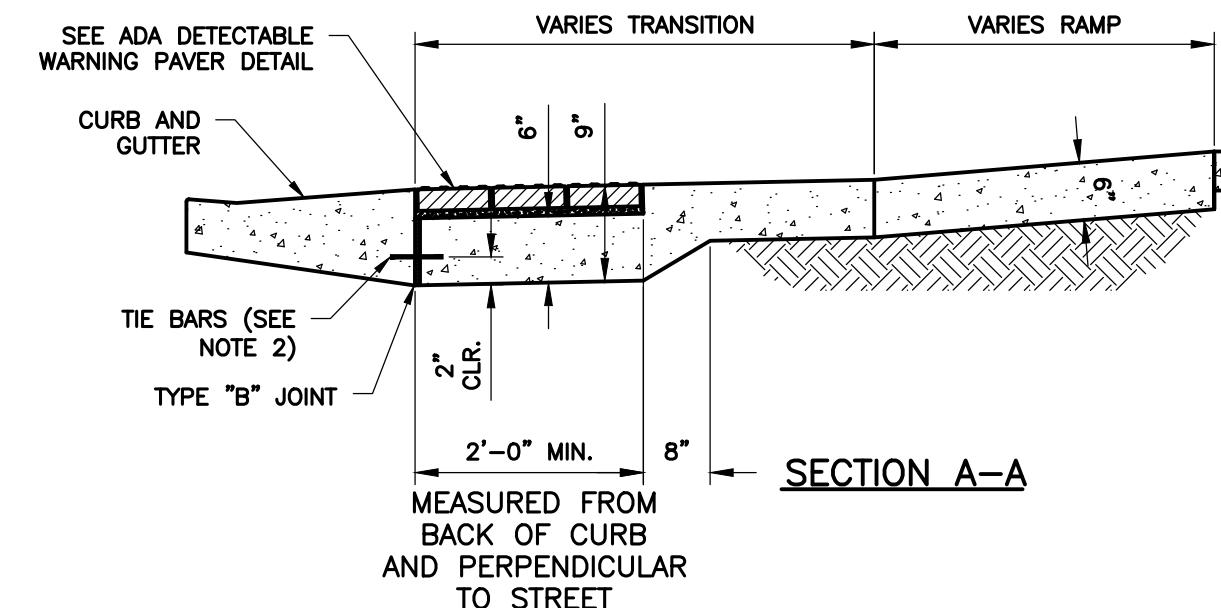
PLAN VIEW



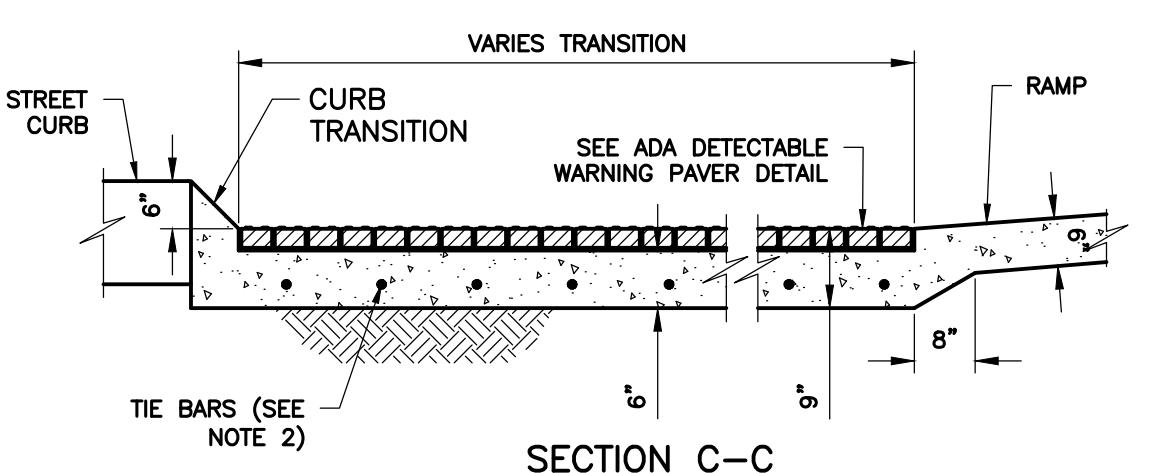
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TYPE "F" SIDEWALK RAMP



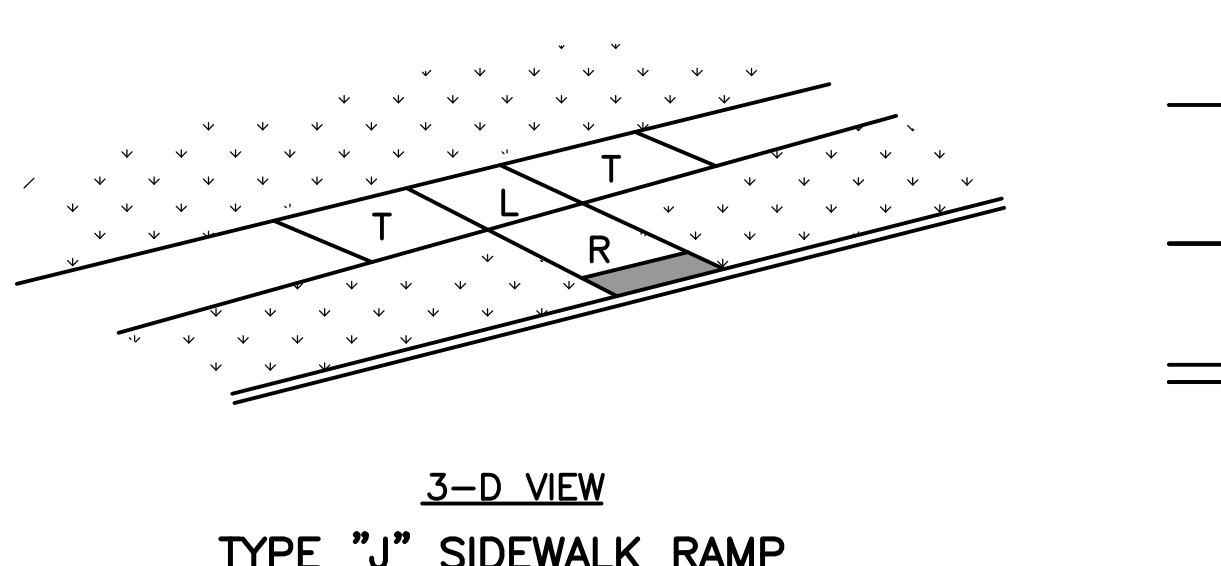
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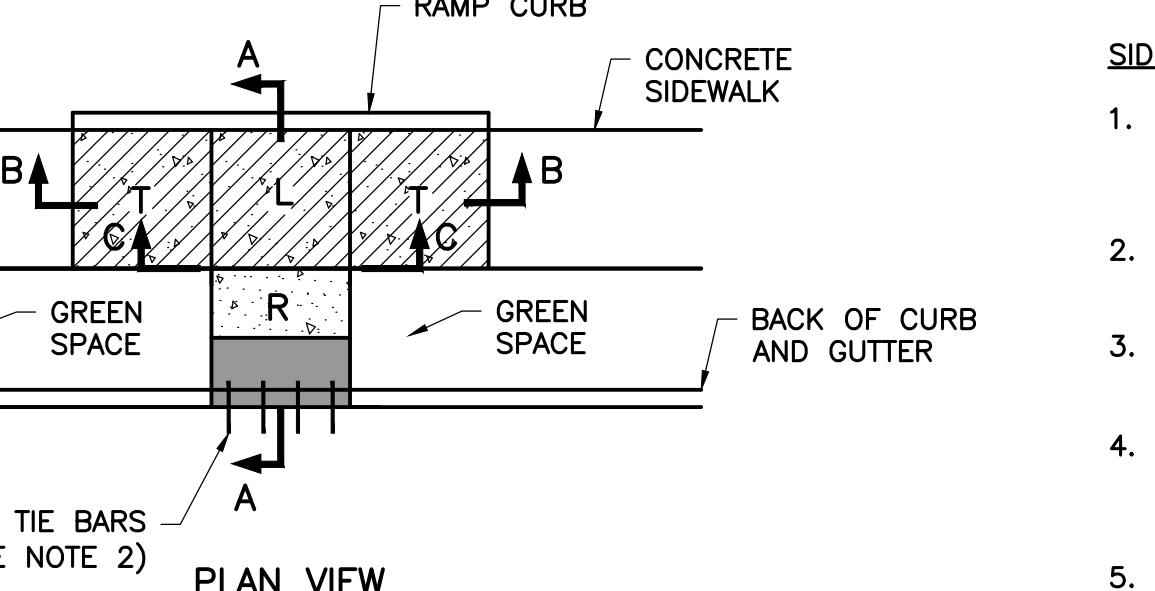
SECTION B-B



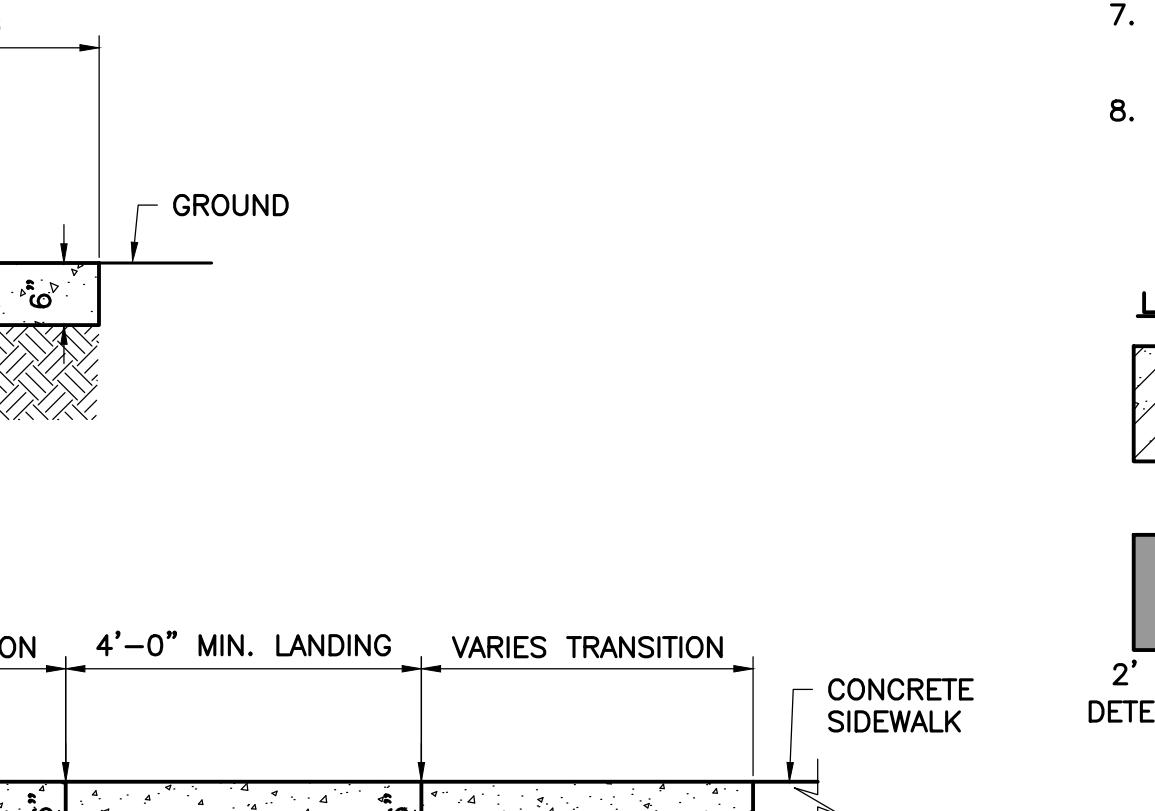
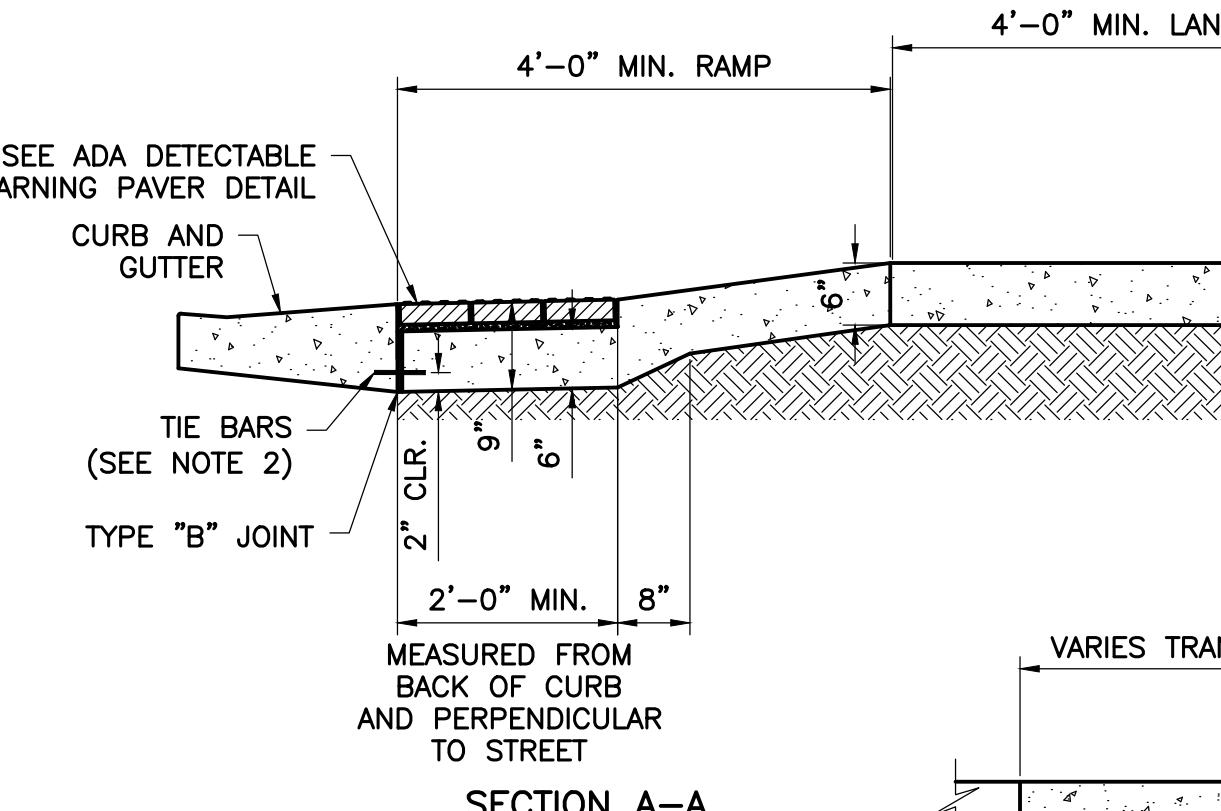
SECTION C-C



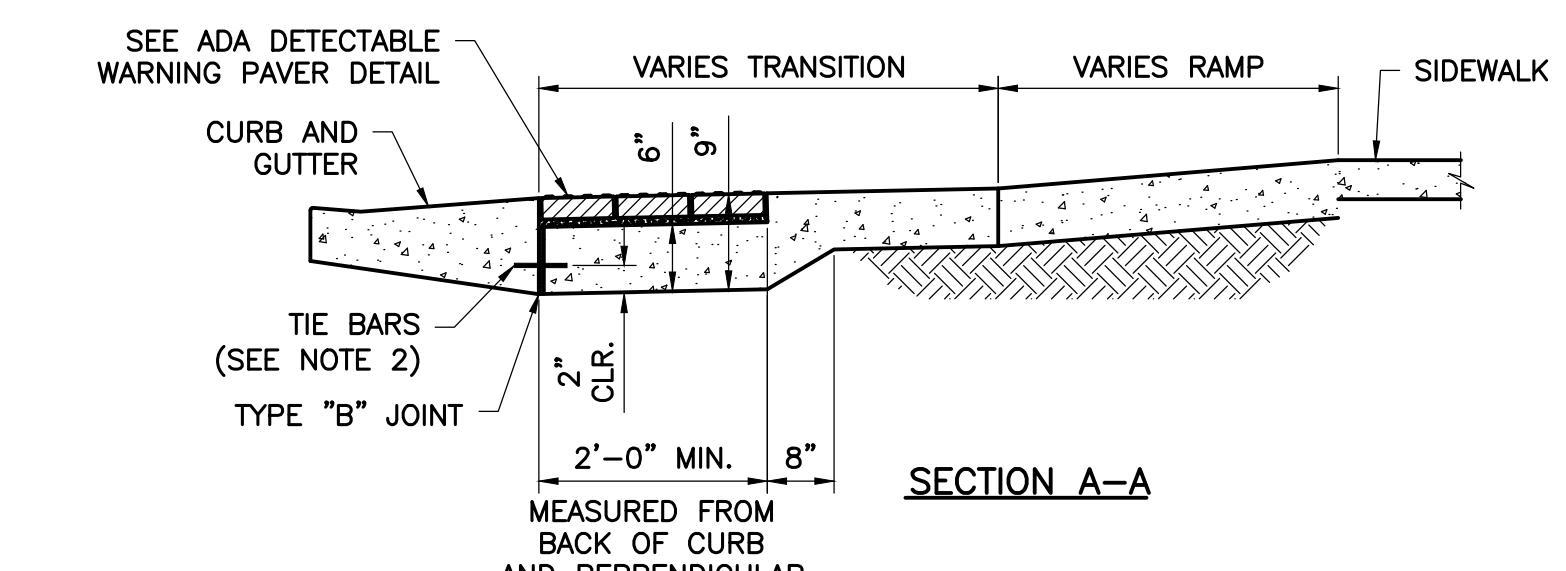
3-D VIEW  
TYPE "J" SIDEWALK RAMP



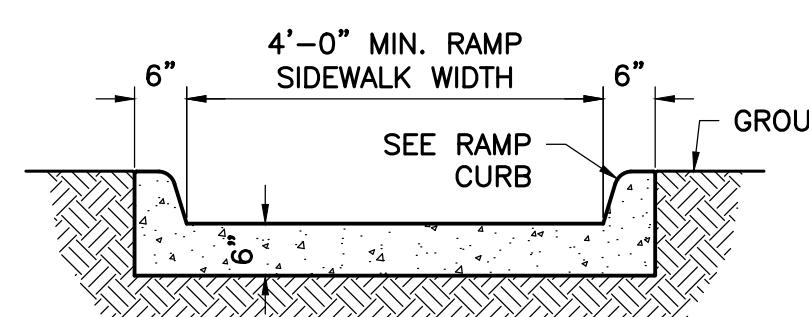
PLAN VIEW



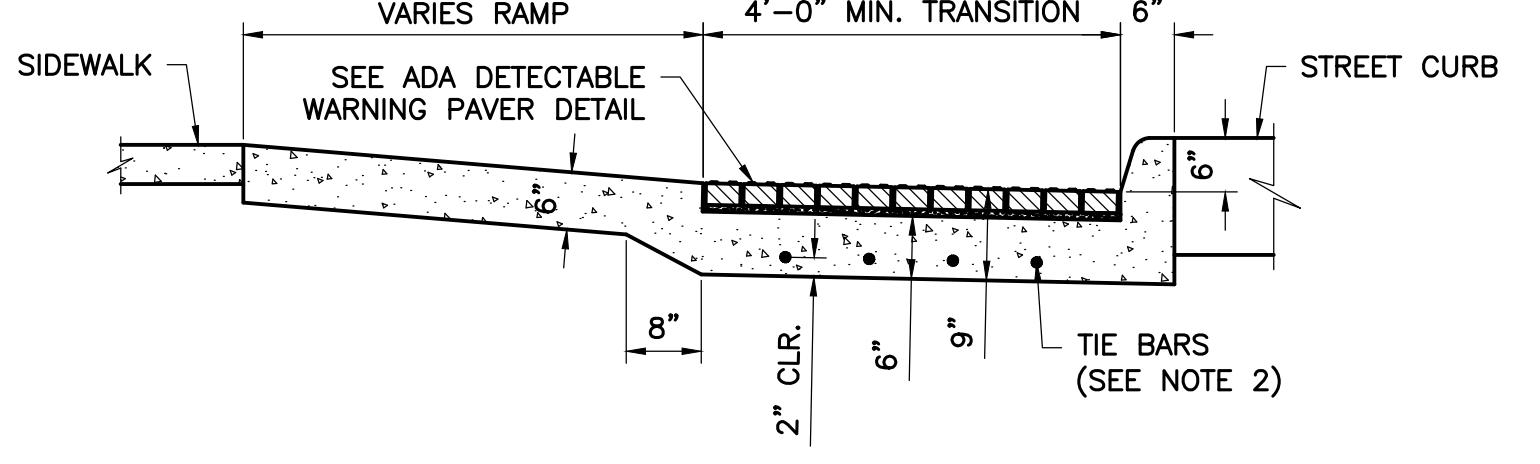
SECTION B-B



SECTION A-A



SECTION B-B

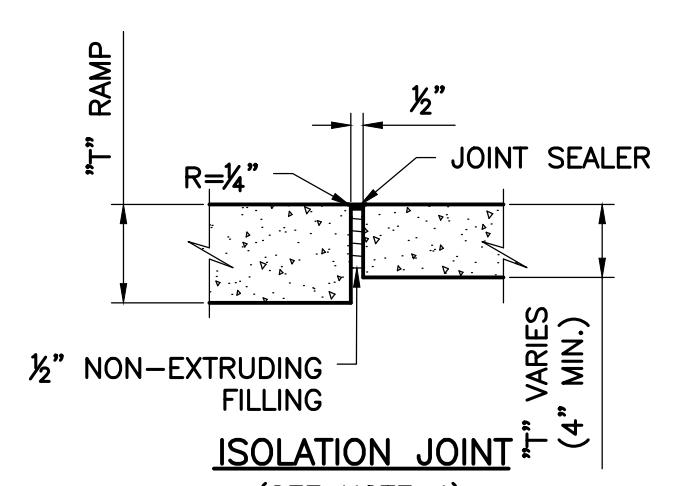
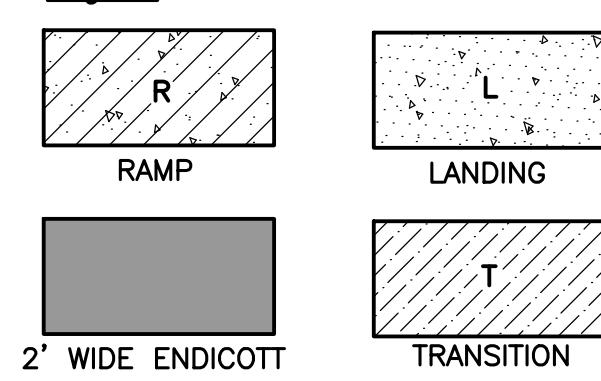


SECTION C-C

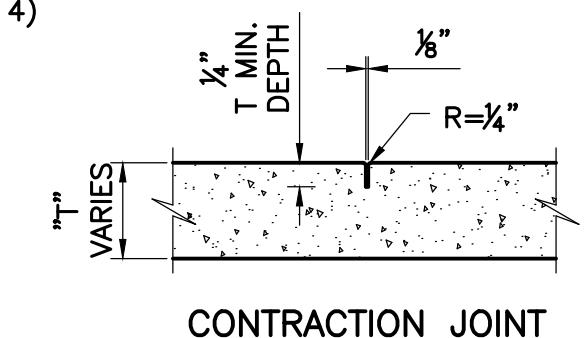
SIDEWALK RAMP NOTES:

1. SIDEWALK RAMP LOCATION DETERMINED FROM THE INTERSECTION OF THE EXTENSION OF BACK OF SIDEWALK AND BACK OF CURB AND GUTTER.
2. INSTALL 18" TIE BARS, #4 EPOXY COATED @ 12" O.C.
3. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK (4' MIN.)
4. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAY AND SIMILAR STRUCTURES, AND 250' CENTERS MAX.
5. SIDEWALK RAMP SHALL BE LENGTHENED TO PROVIDE ADA COMPLIANCE SLOPE BUT NEED NOT EXCEED 15'.
6. ADA MAXIMUM RAMP SLOPE=1"/FT. ADA MAXIMUM CROSS SLOPE=2%
7. DETECTABLE WARNINGS TO COMPLY WITH ADA REQUIREMENTS.
8. LANDING FOR TYPE C RAMP ALONG THE ENTIRE CURB RETURN IS PREFERRED, BUT MAY BE SHORTENED TO MINIMUM ADA COMPLIANT DIMENSION.

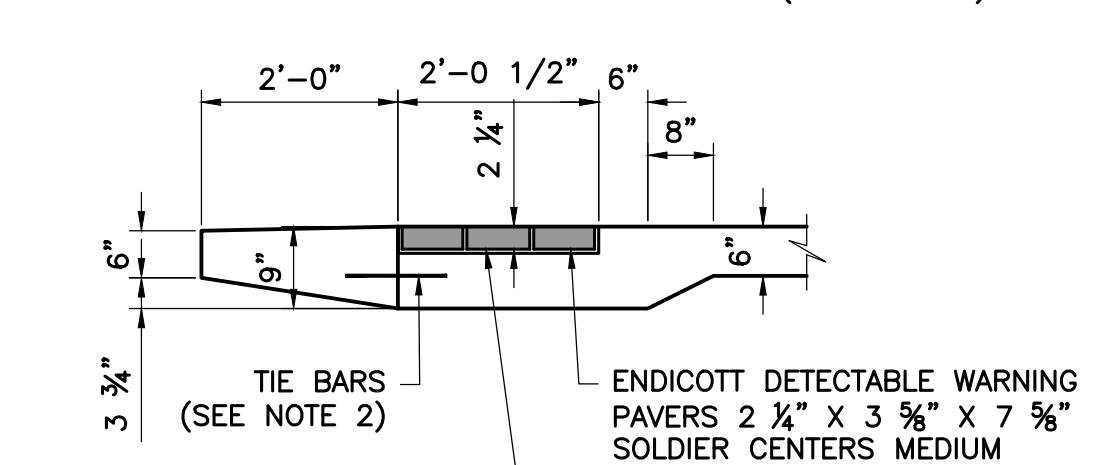
Legend:



ISOLATION JOINT  
(SEE NOTE 4)

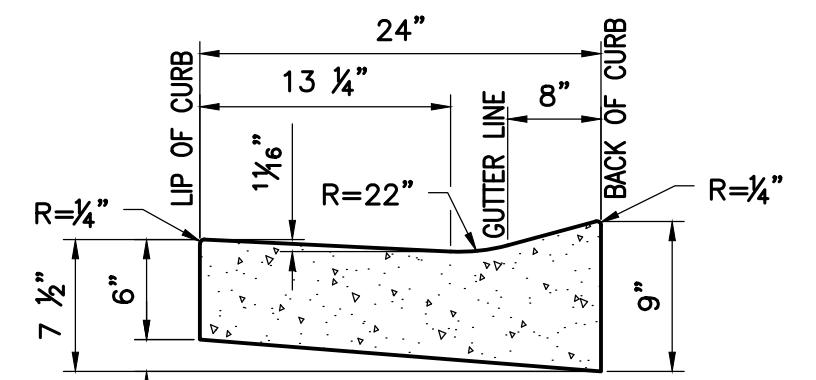


CONTRACTION JOINT  
(SEE NOTE 3)

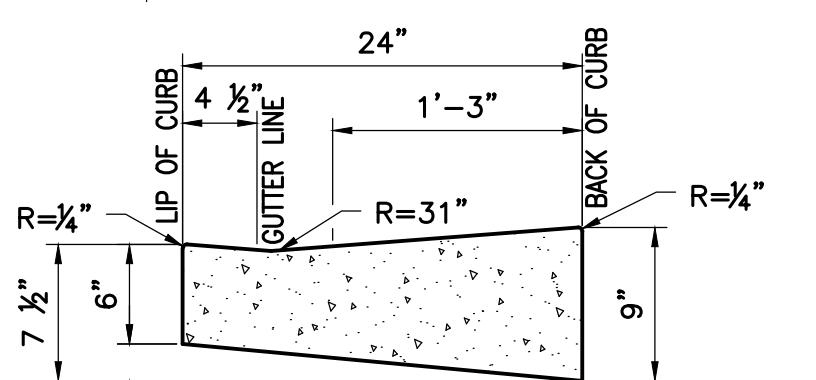


BLOCK OUT DETECTABLE WARNING AREA.  
SET BRICKS WITH TYPE M-MORTAR,  
TYPE S-LIME AND MASONRY SAND. 1  
PART PORTLAND CEMENT, 1 PART LIME,  
3 PARTS SAND, GROUT JOINTS TOOL  
FLUSH MAIN BRICK SURFACE TO BE  
FLUSH WITH CONCRETE WALK.

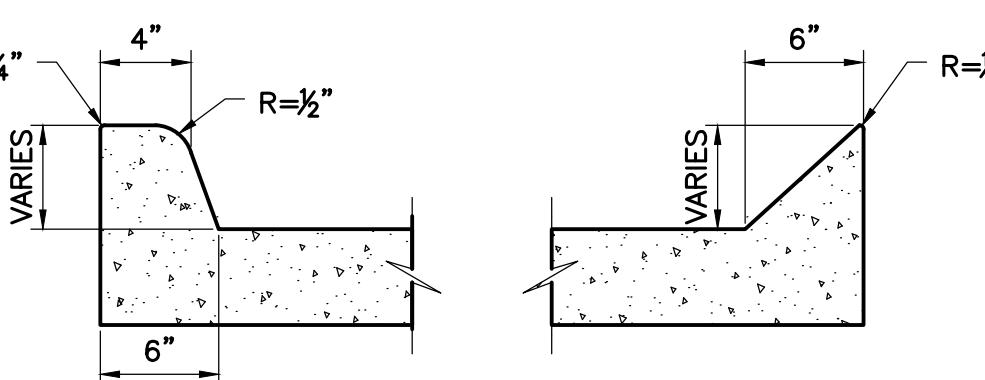
ADA DETECTABLE WARNING PAVER DETAIL



USE WITH TYPE CG-1 CURB



USE WITH TYPE CG-2 CURB



RAMP CURB DETAIL  
(SUBSIDIARY TO RAMP CONSTRUCTION)

REVISIONS

DESIGNER / DRAFTER

GVP/JEA

DATE

DECEMBER 2024

PROJECT NUMBER

0323099

BOOK AND PAGE

SHEET



GREG VAN PATTEN  
2700

PROFESSIONAL ENGINEER

KANSAS

12-31-2024

DETAIL SHEET (5 OF 7)

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

81

ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE OWNER. THERE IS NO GUARANTEE THAT THE LOCATION, DEPTH, AND SIZE OF THESE UTILITIES IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES AND NOTIFYING THE OWNER PRIOR TO CONSTRUCTION.

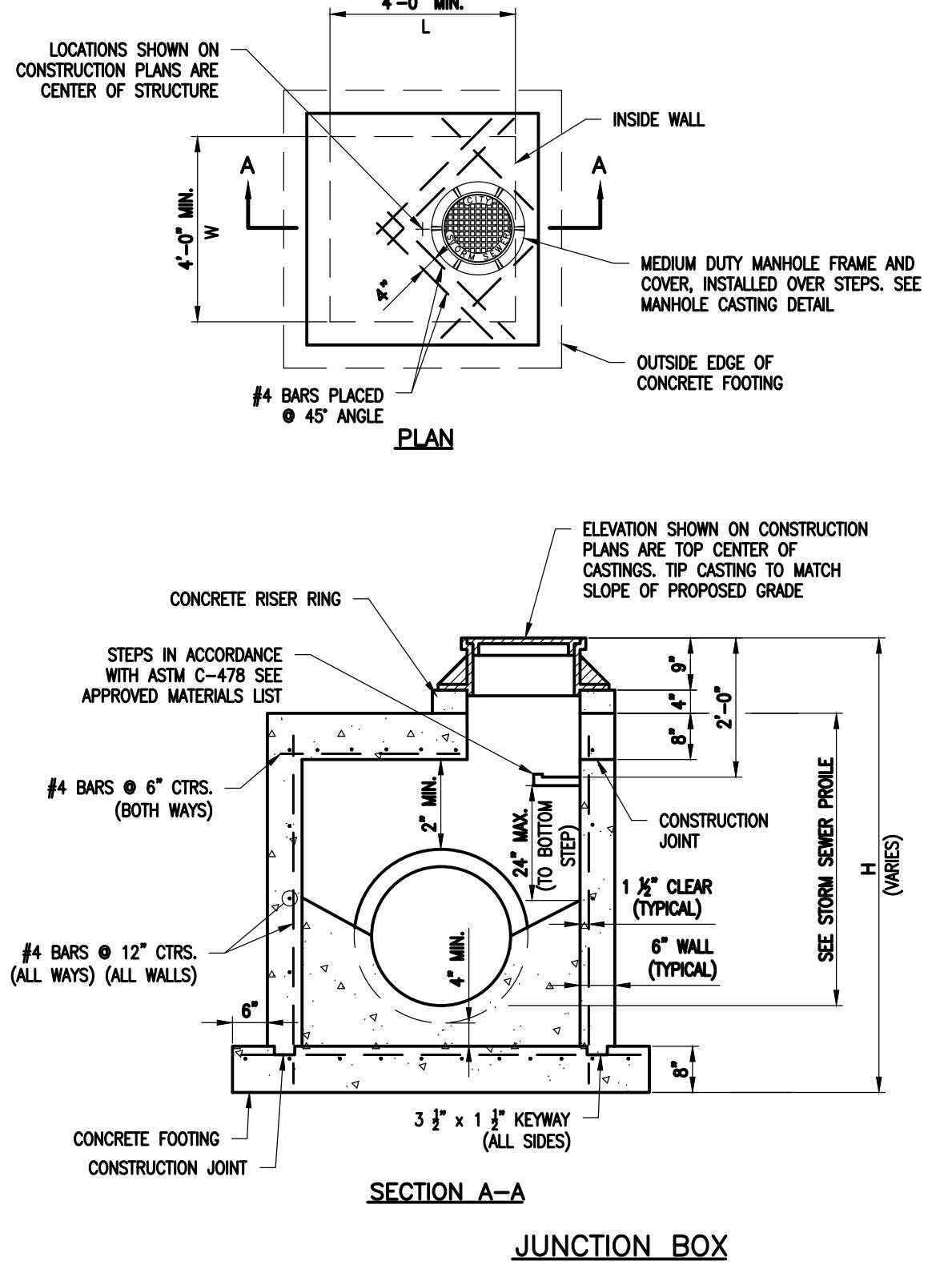
Know what's below.

Call before you dig.

REVISIONS

DESIGNER / DRAFTER  
GVP / JEA  
DATE  
DECEMBER 2024  
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0323099  
BOOK AND PAGE

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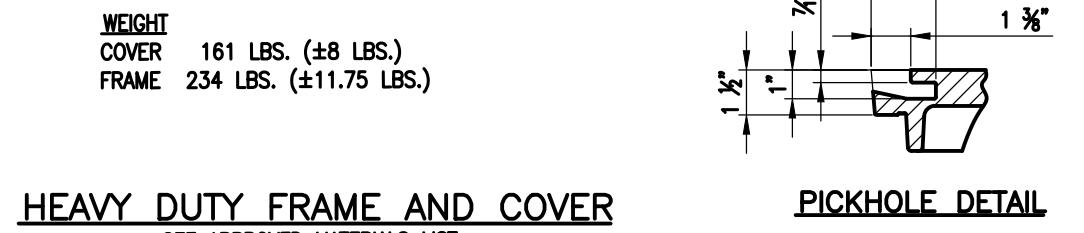
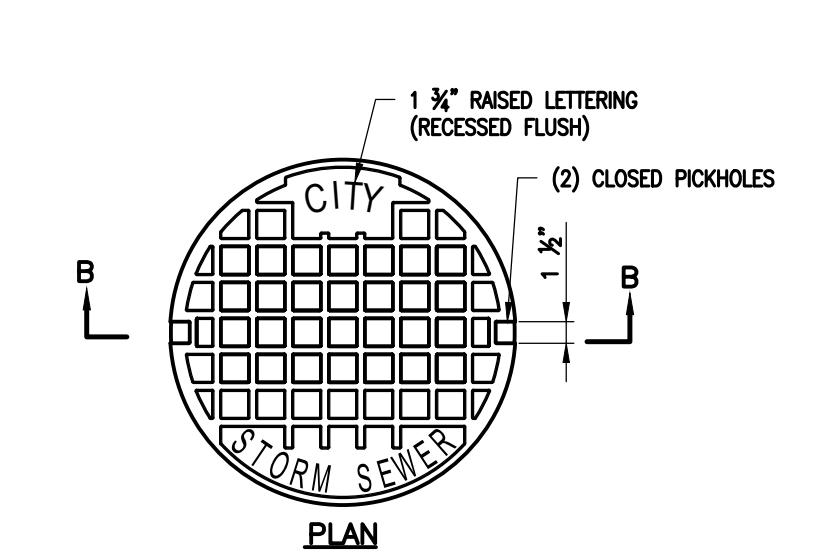
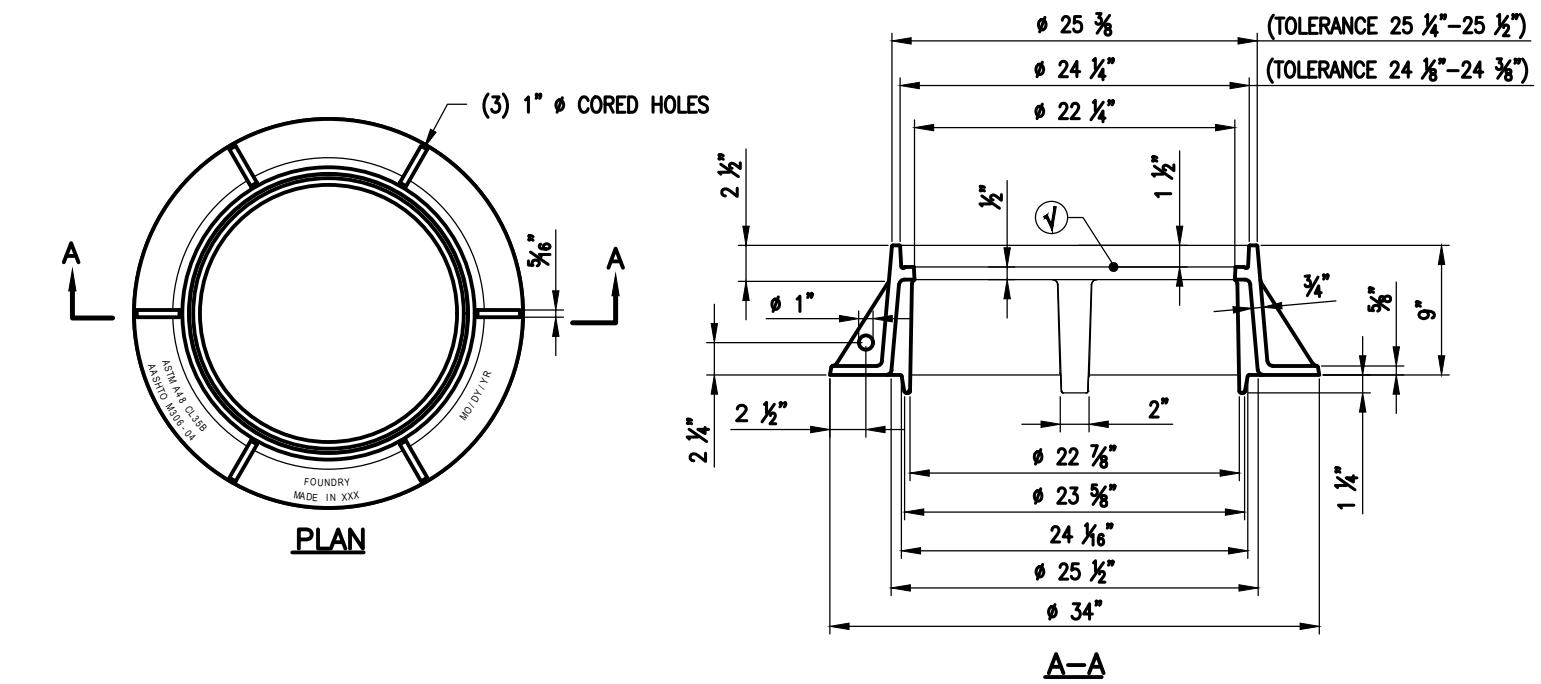


JUNCTION BOX NOTES

GENERAL

CONSTRUCTION

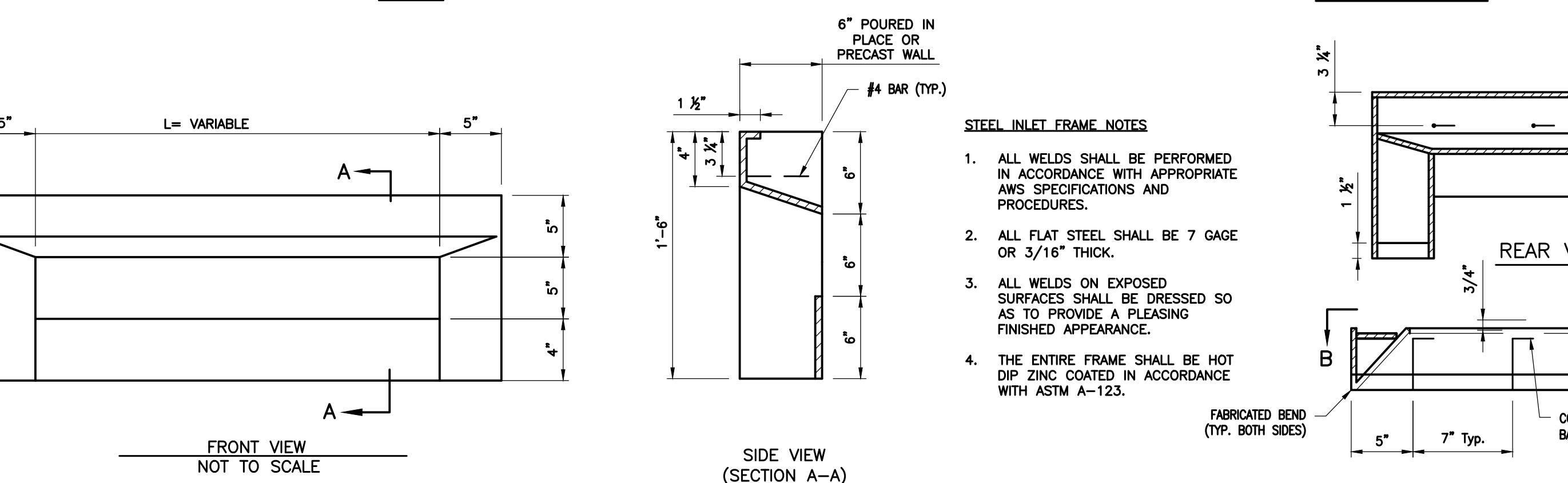
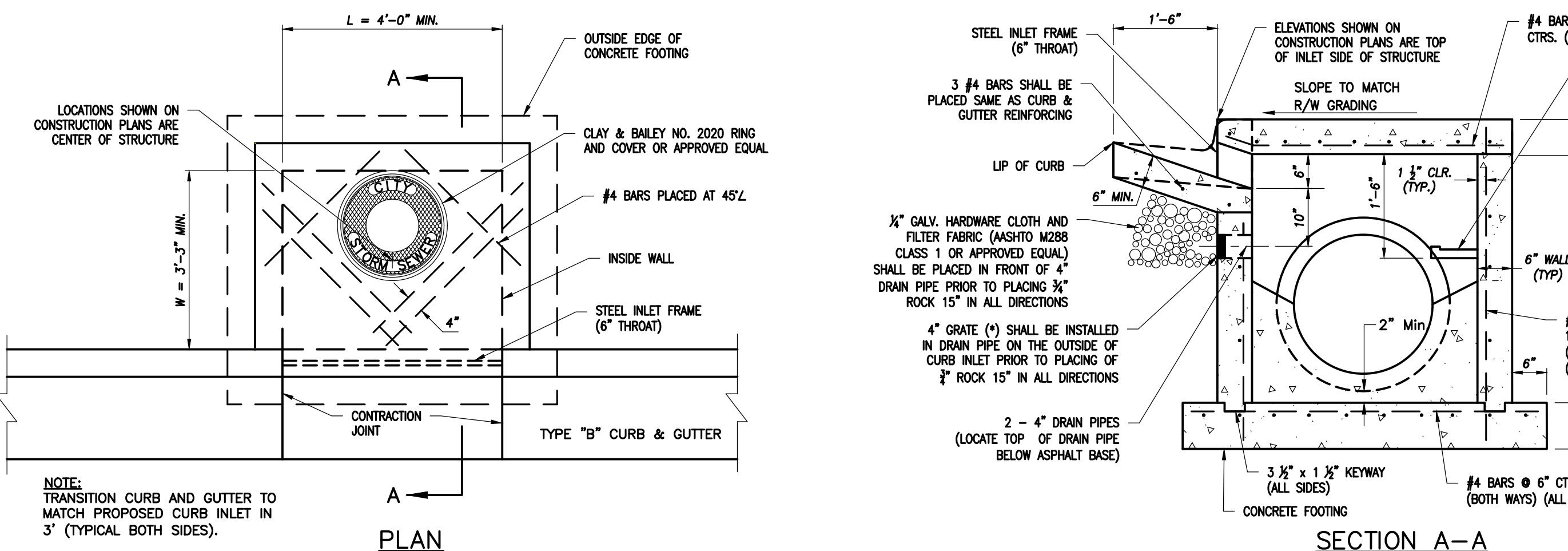
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES.
- ALL STORM SEWER STRUCTURES SHALL BE PRE-CAST OR Poured IN PLACE. IF PRE-CAST STRUCTURES ARE USED, THE TOP SHALL BE Poured IN PLACE AND THE WALL STEEL SHALL BE LEFT EXPOSED TO A HEIGHT 2" BELOW THE FINISH TOP ELEVATION, OR AS DIRECTED BY THE ENGINEER.
- PRE-CAST SHOP DRAWINGS ARE TO BE APPROVED BY THE ENGINEER. PRE-CAST SHOP DRAWINGS ARE TO BE SUBMITTED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER PRIOR TO CONSTRUCTION.
- THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("1/4" H) AND ("W+H") LESS THAN OR EQUAL TO 20, FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
- CONCRETE USED IN THIS WORK SHALL BE KOMADAK, AS APPROVED BY THE KANSAS CITY METROPOLITAN MATERIALS BOARD, AND SHALL MEET THE REQUIREMENTS OF LOCAL JURISDICTION.
- INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
- BEVEL ALL EXPOSED EDGES WITH 1/8" TRIANGULAR MOLDING.
- REINFORCING STEEL
- REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
- ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/- 1/8" SHALL BE PERMITTED.
- ALL LAP SPICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
- ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
- ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.



PICKHOLE DETAIL



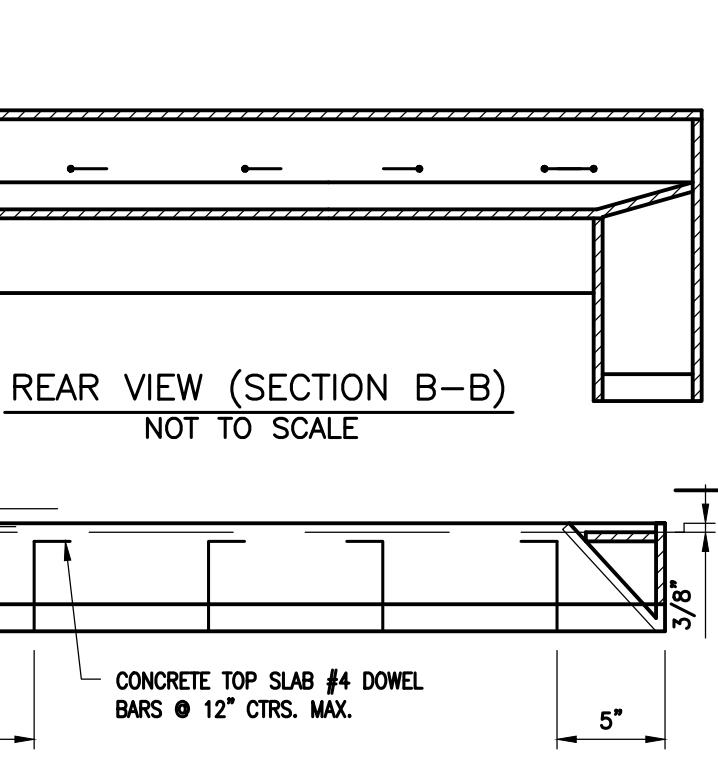
HEAVY DUTY FRAME AND COVER  
SEE APPROVED MATERIALS LIST  
FOR PRE-APPROVED FRAMES AND COVERS



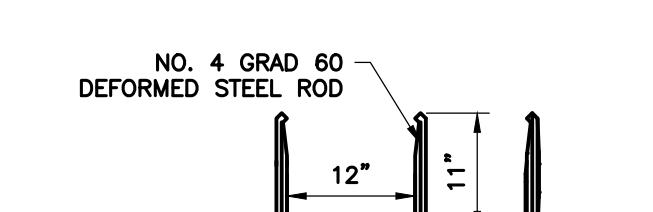
NON-SETBACK CURB INLET DETAIL (6" THROAT)

STEEL INLET FRAME NOTES

- ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
- ALL FLAT STEEL SHALL BE 7 GAGE OR 3/16" THICK.
- ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
- THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.



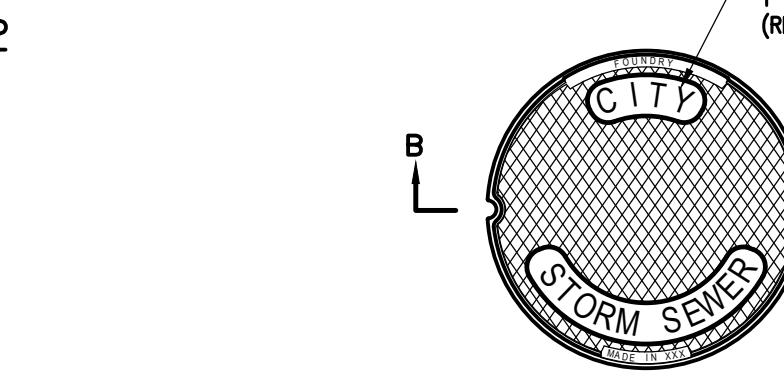
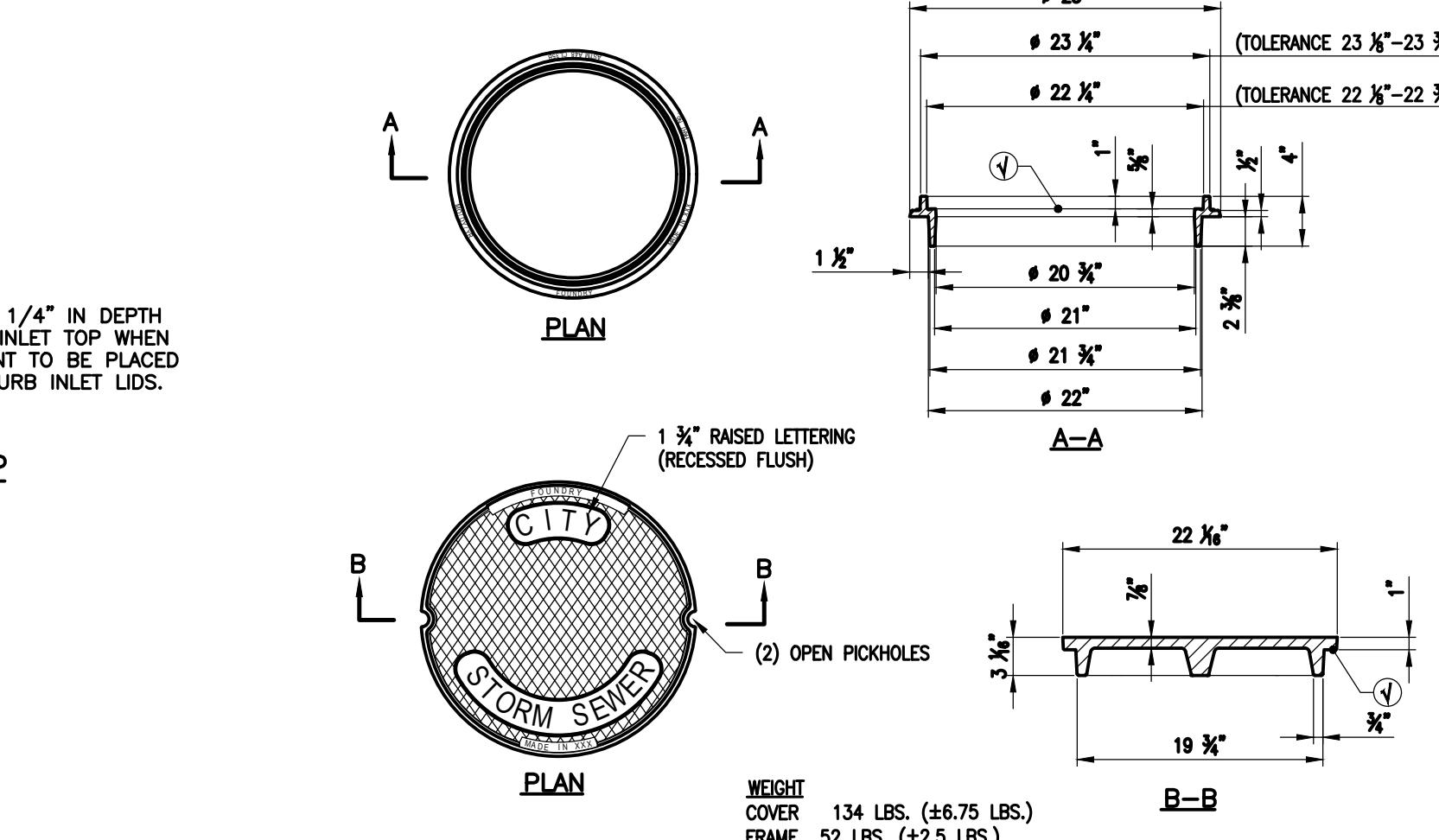
TOP VIEW  
NOT TO SCALE



TOP SIDE

STRUCTURE STEPS

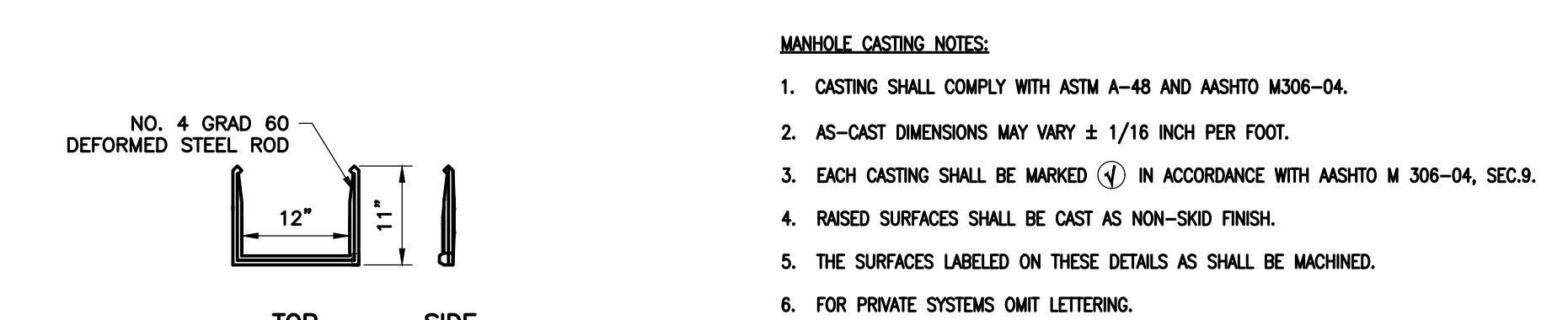
THE STEPS FOR ALL STORM DRAINAGE STRUCTURES SHALL BE REINFORCED POLYPROPYLENE. THEY SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUAL:  
- MA INDUSTRIES PS1-PF OR PS2-PF



PICKHOLE DETAIL



HEAVY DUTY FRAME AND COVER  
SEE APPROVED MATERIALS LIST  
FOR PRE-APPROVED FRAMES AND COVERS



TOP SIDE

STRUCTURE STEPS

THE STEPS FOR ALL STORM DRAINAGE STRUCTURES SHALL BE REINFORCED POLYPROPYLENE. THEY SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUAL:  
- MA INDUSTRIES PS1-PF OR PS2-PF

**FENCE DETAIL**

NOTES:

1. PLACE EXPANSION SLEEVE AT ABOUT 30'-0" CENTERS WITH AT LEAST ONE EXPANSION SLEEVE BETWEEN PULLPOSTS.
2. PULL POST SHALL BE USED AT SHARP BREAKS IN VERTICAL GRADE OR AT 100'-0" CENTERS ON STRAIGHT RUNS.

**DOUBLE GRATE INLET DETAILS**

**REPRESENTATIVE SOIL TYPES**

SID Soil	USCS	AASHTO
Gravelly Sand (Category I)	SW, SP, GW, GP	A1, A3
Sandy Silt (Category II)	GM, SM, ML, Also GC, SC with less than 20% passing #200 sieve	A2, A4
Silty Clay (Category III)	CL, MH, GC, SC CH	A5, A6

**RPC INSTALLATION NOTES:**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES.
2. CATEGORY I MATERIAL SHALL BE CRUSHED STONE OR SILICEOUS GRAVEL MEETING THE REQUIREMENTS OF SECTION 1107 OF THE STANDARD SPECIFICATIONS, AGGREGATE DESIGNATION PB-2.
3. COMPACTION AND SOIL SYMBOLS - I.E. "95% CATEGORY I" - REFERS TO CATEGORY I SOIL MATERIAL WITH MINIMUM STANDARD PROCTOR COMPACTION OF 95%.
4. REMOVABLE FLOWABLE FILL IS REQUIRED FOR THE FULL DEPTH OF THE TRENCH ABOVE THE SPRINGLINE IN ANY PAVED PORTION OF THE RIGHT OF WAY, INCLUDING THE AREA WITHIN EXISTING OR FUTURE PUBLIC STREET PAVEMENT, UNDER EXISTING OR FUTURE CURB AND GUTTER, MEDIAN, ASPHALT PATH, PARKING LOTS, CONCRETE SIDEWALK, ALSO UNDER EXISTING CONCRETE, ASPHALT, OR GRAVEL DRIVEWAY APPROACH AND UNDER ANY FUTURE DRIVEWAY APPROACH, WHEN THE LOCATION IS KNOWN, FLOWABLE FILL SHALL BE CONSIDERED SUBORDINATE TO THE PIPE INSTALLATION.
5. TAMPED BACKFILL SHALL BE USED AT ALL OTHER LOCATIONS UNLESS OTHERWISE NOTED. TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO STANDARD, METHOD T-99.
6. GRANULAR FILL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACKFILL. GRANULAR FILL SHALL BE AB-3, AS SPECIFIED IN THE STANDARD SPECIFICATIONS, COMPACTED TO A MINIMUM OF 95% OF OPTIMUM DENSITY, WITHIN 0 TO MINUS 2 PERCENT OF OPTIMUM MOISTURE, TO THE SURFACE OF THE EXISTING SUBGRADE.
7. SEE STREET REPAIR DETAILS FOR ADDITIONAL BACKFILL REQUIREMENTS UNDER STREETS, ROADWAYS, CURBS, SIDEWALKS AND OTHER STRUCTURES IN RIGHT-OF-WAY.

**EMBANKMENT INSTALLATION**

**EXCAVATION LINE AS REQUIRED**

**SEE TRENCH WIDTH TABLE**

Pipe Size (inches)	Minimum Side Wall Clearance (inches)
12 - 30	6
33 - 42	9
48 - 60	12
66 - 90	18
96 - 108	24

**OVERFILL SOIL CATEGORY I, II, III (CATEGORY I SHALL NOT BE USED ABOVE PIPE)**

**OUTER BEDDING MATERIALS AND COMPACTION EACH SIDE, SAME REQUIREMENTS AS HAUNCH**

**MIDDLE BEDDING LOOSELY PLACED UNCOMPACTED BEDDING**

**LOWER SIDE 90% CATEGORY I 95% CATEGORY II 100% CATEGORY III**

**HAUNCH 95% CATEGORY I**

**Ø/6 MIN.**

**Ø MIN.**

**Ø/3**

**TRENCH INSTALLATION**

**RPC INSTALLATION**

**TYPE 1**

**OVERFILL SOIL CATEGORY I, II, III (CATEGORY I SHALL NOT BE USED ABOVE PIPE)**

**OUTER BEDDING MATERIALS AND COMPACTION EACH SIDE, SAME REQUIREMENTS AS HAUNCH**

**MIDDLE BEDDING LOOSELY PLACED UNCOMPACTED BEDDING**

**LOWER SIDE 90% CATEGORY I 95% CATEGORY II 100% CATEGORY III**

**HAUNCH 95% CATEGORY I**

**Ø MIN.**

**Ø/3**

**TRENCH INSTALLATION NOTES:**

1. THE TRENCH TOP ELEVATION SHALL BE NO LOWER THAN 0.1 H BELOW FINISHED GRADE OR, FOR ROADWAYS, ITS TOP SHALL BE NO LOWER THAN AN ELEVATION OF 1' BELOW THE BOTTOM OF THE PAVEMENT BASE MATERIAL.
2. SOIL IN OUTER BEDDING AND HAUNCH ZONES SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS SPECIFIED FOR THE MAJORITY OF SOIL IN THE BACKFILL ZONE.
3. THE TRENCH WIDTH SHALL BE WIDER THAN SHOWN IF REQUIRED FOR ADEQUATE SPACE TO ATTAIN THE SPECIFIED COMPACTION IN THE HAUNCH AND BEDDING ZONES.
4. FOR TRENCH WALLS THAT ARE WITHIN 10 DEGREES OF VERTICAL, THE COMPACTION OR FIRMNESS OF THE SOIL IN THE TRENCH WALLS AND LOWER SIDE ZONE NEED NOT BE CONSIDERED.
5. FOR TRENCH WALLS WITH GREATER THAN 10 DEGREE SLOPES THAT CONSIST OF EMBANKMENT, THE LOWER SIDE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS SPECIFIED FOR THE SOIL IN THE OVERFILL ZONE.
6. FOR SUBTRENCHES WITHIN THE TRENCH, THE LOWER SIDE ZONE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE MAJORITY OF SOIL IN THE OVERFILL ZONE.
7. THE MINIMUM WIDTH OF A SUBTRENCH SHALL BE 1.33 Ø OR WIDER IF REQUIRED FOR ADEQUATE SPACE TO ATTAIN THE SPECIFIED COMPACTION IN THE HAUNCH AND BEDDING ZONES.
8. FOR SUBTRENCHES WITH WALLS OF NATURAL SOIL, ANY PORTION OF THE LOWER SIDE ZONE IN THE SUBTRENCH WALL SHALL BE AT LEAST AS FIRM AS AN EQUIVALENT SOIL PLACED TO THE COMPACTION REQUIREMENTS SPECIFIED FOR THE LOWER SIDE ZONE, AND AS FIRM AS THE MAJORITY OF SOIL IN THE OVERFILL ZONE, OR SHALL BE REMOVED AND REPLACED WITH SOIL COMPACTED TO THE SPECIFIED LEVEL.

**EMBANKMENT INSTALLATION NOTES:**

1. SOIL IN THE OUTER BEDDING, HAUNCH AND LOWER SIDE ZONES SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE MAJORITY OF SOIL IN THE OVERFILL ZONE.
2. A SUBTRENCH IS DEFINED AS A TRENCH WITH ITS TOP BELOW FINISHED GRADE BY MORE THAN 0.1 H OR, FOR ROADWAYS, ITS TOP IS AT AN ELEVATION LOWER THAN 1' BELOW THE BOTTOM OF THE PAVEMENT BASE MATERIAL.
3. THE MINIMUM WIDTH OF A SUBTRENCH SHALL BE 1.33 Ø OR WIDER IF REQUIRED FOR ADEQUATE SPACE TO ATTAIN THE SPECIFIED COMPACTION IN THE HAUNCH AND BEDDING ZONES.
4. FOR SUBTRENCHES WITH WALLS OF NATURAL SOIL, ANY PORTION OF THE LOWER SIDE ZONE IN THE SUBTRENCH WALL SHALL BE AT LEAST AS FIRM AS AN EQUIVALENT SOIL PLACED TO THE COMPACTION REQUIREMENTS SPECIFIED FOR THE LOWER SIDE ZONE, AND AS FIRM AS THE MAJORITY OF SOIL IN THE OVERFILL ZONE, OR SHALL BE REMOVED AND REPLACED WITH SOIL COMPACTED TO THE SPECIFIED LEVEL.

**ADD'NL. REINF. AT NEW CONC. STRUCTURE**

**AT EXISTING STRUCTURE**

**PIPE CONNECTION TO CONCRETE STRUCTURE**

(NO DIRECT PAYMENT FOR PIPE CONNECTION TO NEW STRUCTURES)

**811**

ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE CONTRACTOR. THERE IS NO GUARANTEE THAT THE UTILITIES ARE LOCATED EXACTLY AS SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES AND NOTIFY THE CONTRACTOR PRIOR TO CONSTRUCTION.

**Know what's below. Call before you dig.**

**REVISIONS**

**DESIGNER / DRAFTER**  
GVP/JEA  
**DATE**  
DECEMBER 2024  
**PROJECT NUMBER**  
0323099  
**BOOK AND PAGE**

**SHEET**

DETAIL SHEET (6 OF 7)

MISSION ROAD IMPROVEMENTS - 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

**LAMP  
RYNARSON**

LAMPRYNARSON.COM  
OMAHA, NEBRASKA  
14710 DOWNTOWN DR. (402) 249-2498  
NEBRASKA CITY, NE 68340  
FORT COLLINS, COLORADO  
4715 INNOVATION DR. STE. 100 (970) 228-0342  
KANSAS CITY, MISSOURI  
9901 STATE LINE RD. STE. 200 (816) 361-0440  
MO AUTH NO: E-2013011903 LS-2019043127

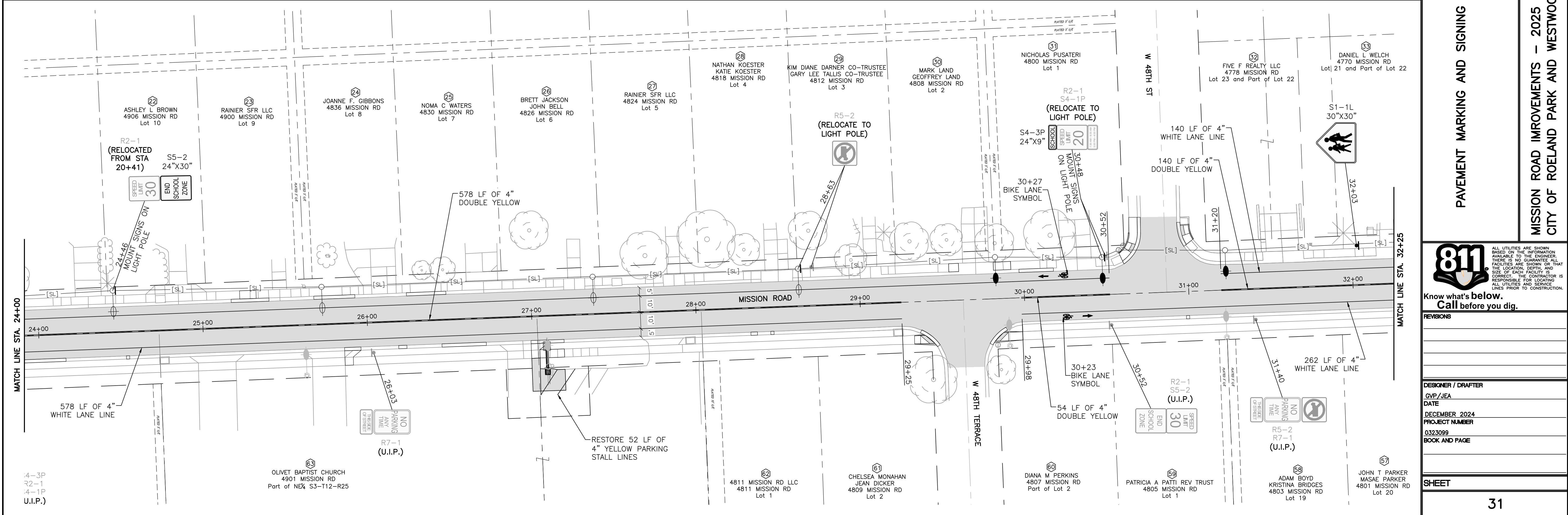
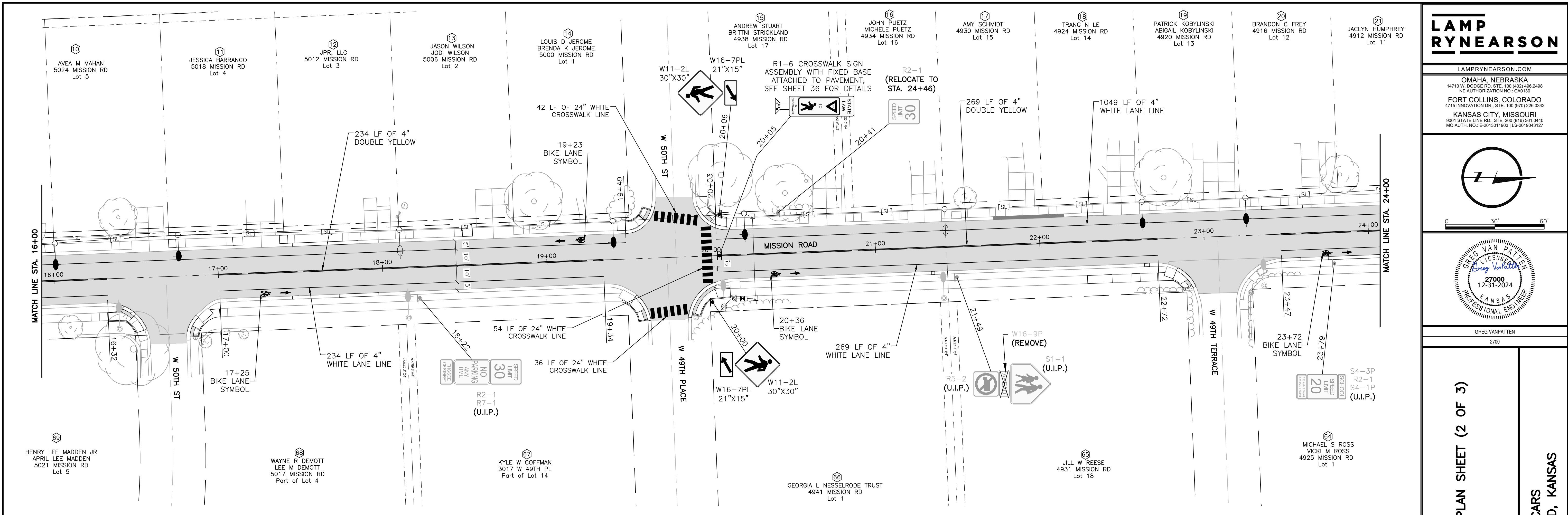
GREG VAN PATTEN  
2700



28







## PAVEMENT MARKING AND SIGNING PLAN SHEET (2 OF 3)

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

A hand holding a shovel with the number 311 on it, with the text "what's below. Call before you dig." below it.

what's below.  
before you dig.

RESPONSIBLE FOR LOCATING  
ALL UTILITIES AND SERVICE  
LINES PRIOR TO CONSTRUCTION.

## before you dig.

R / DRAFTER

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ER 2024

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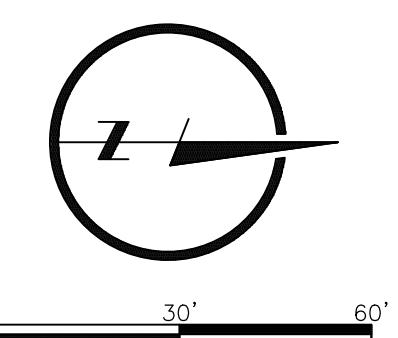
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LAMPRYNEARSON.COM  
**OMAHA, NEBRASKA**  
4710 W. DODGE RD, STE. 100 (402) 496.2498  
NE AUTHORIZATION NO.: CA0130  
**FORT COLLINS, COLORADO**  
715 INNOVATION DR., STE. 100 (970) 226.0342  
**KANSAS CITY, MISSOURI**  
001 STATE LINE RD., STE. 200 (816) 361.0440  
IO AUTH. NO.: E-2013011903 | LS-2019043127



A circular Kansas deer hunting license sticker. The outer ring contains the text "KANSAS" at the top and "HUNTING" at the bottom. The inner circle contains "PROFESS" on the left and "LICENSEE" on the right. The name "GREG VAN PATTEN" is printed along the top inner edge. The license number "27000" is in the center, with the expiration date "12-31-2024" printed below it. A blue signature "Greg Van Patten" is written across the center of the circle.

GREG VANPATTEN  
2700

# PAVEMENT MARKING AND SIGNING PLAN SHEET (3 OF 3)

PAVEMENT MARKING AND SIGNING PLAN SHEET

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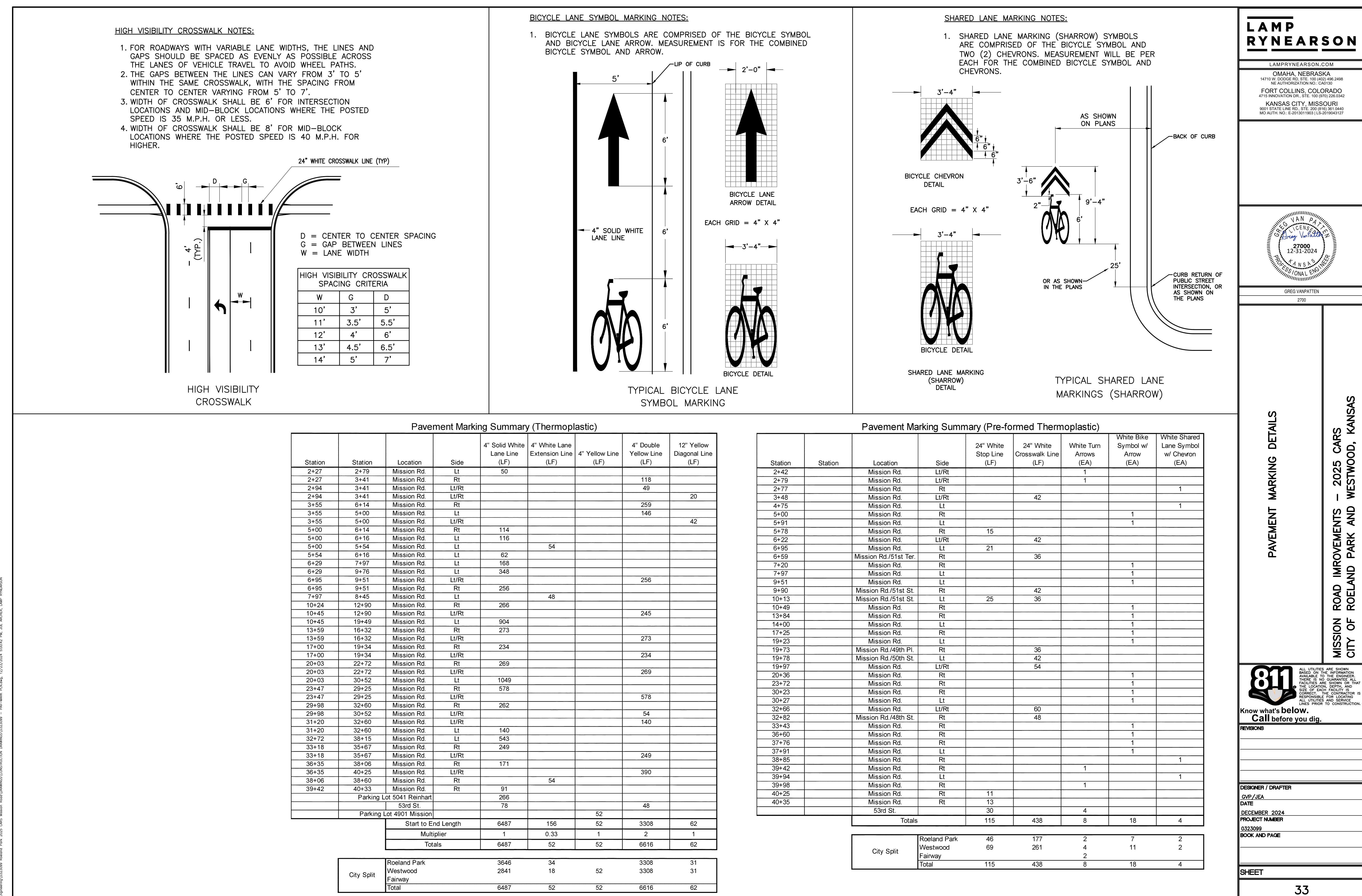
ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION  
**what's below.**  
**call before you dig.**

an before

R / DRAFTER  
A  
ER 2024  
NUMBER  
D PAGE

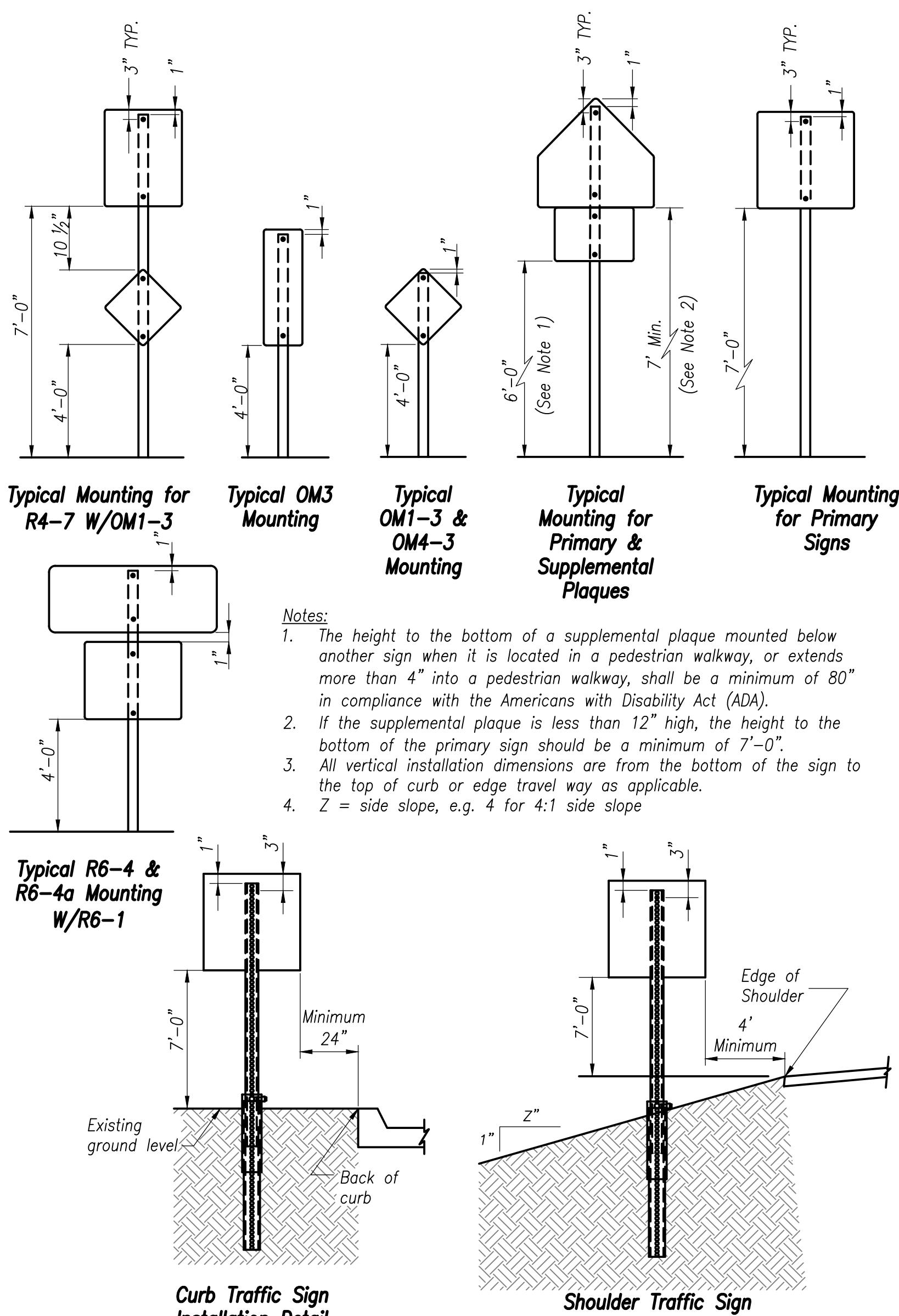
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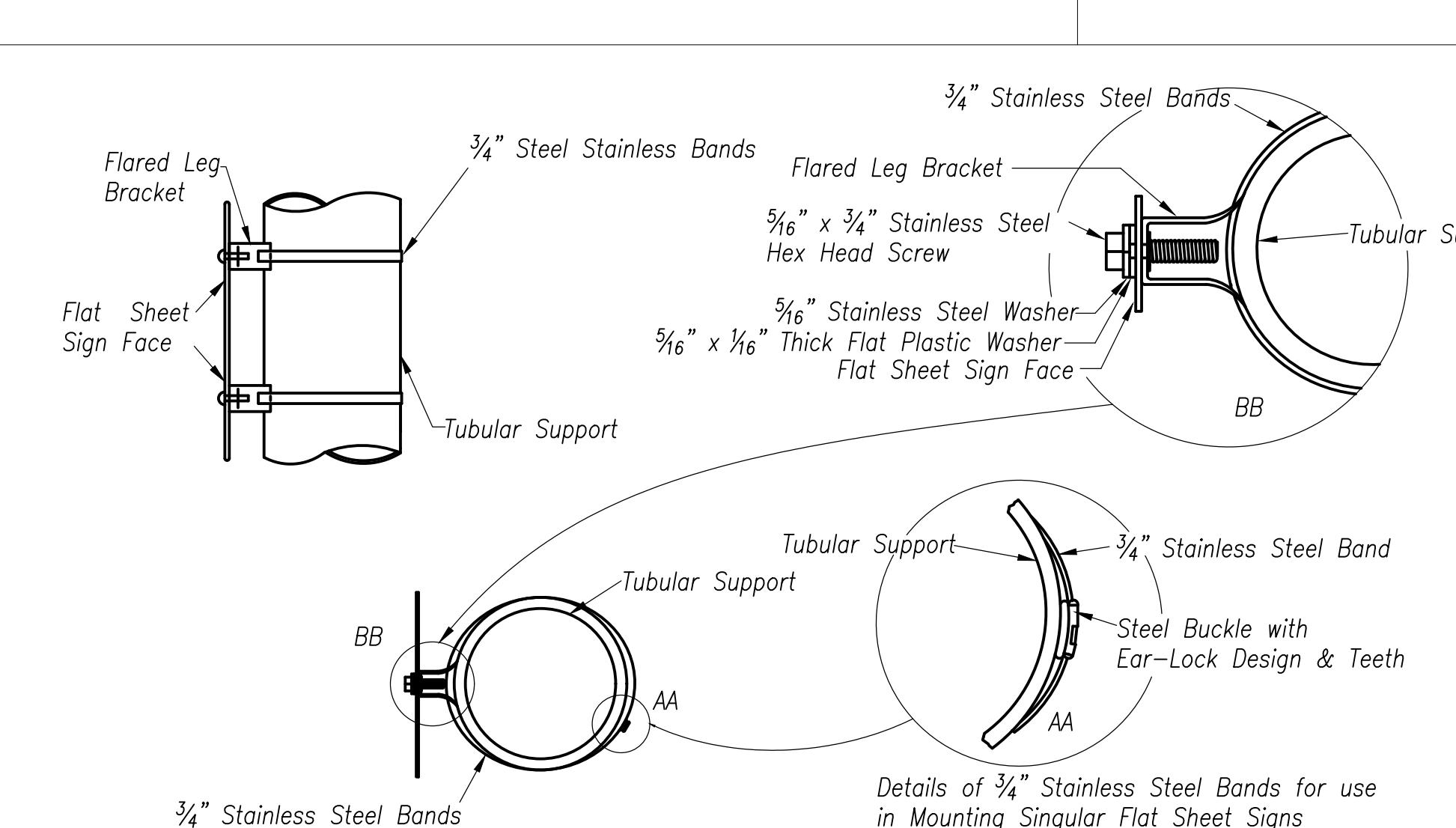


### Permanent Signing General Notes

- All permanent signing shall be provided and installed by the contractor as indicated in the plans and specifications, and according to the details.
- All letter, number and symbol sizes, spacing and sign colors shall conform to the current Manual on Uniform Traffic Control Devices (MUTCD).
- All school signing shall have a fluorescent yellow-green background with a black legend and border. All other warning signs shall have a standard yellow background.
- The locations of existing utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractors failure to exactly locate and preserve any and all underground utilities.
- The Contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
- All new signs shall be located within public right-of-way.
- All retro-reflective micro-encapsulated prismatic sheeting shall be ASTM Type XI. All signs shall be made from a combination retro-reflective sheeting background with electronic cuttable film applied to the surface. (Unless otherwise indicated in the plans or specifications). Process color inks or silk screening signs are not allowed.
- All sign blank material shall be made of 0.08" aluminum except all overhead street name signs shall be made of 0.125" aluminum.
- Existing street name signs in the way of construction: The street name signs shall be relocated out of the way of construction but in a conspicuous location for the driving public and emergency providers. The street name signs shall be reinstalled in their proper location as soon as possible unless otherwise indicated. The removal and re-installation of existing signs will be considered subsidiary to other bid items.
- Signs shown to be installed on the side of poles shall be mounted by stainless steel mounting bands as detailed in the plans. All R10 series signs installed on a traffic signal mast arm shall be mounted with approved mounting brackets as specified.
- All post mounted signs shall be mounted on break-away sign posts according to the standard details.
- All signs and posts shown in the plans shall be new unless otherwise indicated in the plans or by the Traffic Service Inspector.
- All existing regulatory signs, warning signs, and street name signs shall be used in place during construction and protected from damage unless otherwise indicated in the plans. If the contractor damages any existing sign or posts during construction, he shall be required to reinstall new signs and posts of the same type to replace the damaged equipment.
- Any existing permanent signs shown to be removed by the contractor for construction purposes other than stop signs, yield signs or street name signs shall be salvaged. See Instructions for Disassembly and Return of Traffic Sign Equipment.
- All stop, yield, warning signs, and street name signs shall be maintained in a conspicuous location for the driving public. All stop and yield signs removed for construction purposes can be temporarily erected (no less than 7 feet vertical from grade) until they can be permanently re-installed. Any temporary stop or yield sign installation to be left in place overnight will require prior approval from the Traffic Services Inspector.
- All existing signs, other than stop, yield, warning signs, or street name signs, shown to be used in place shall be protected from damage by the contractor. The contractor may temporarily remove the sign and post to prevent damage at the approval of the inspector. Storage of the signs & posts is the responsibility of the contractor.
- All sign posts installed in concrete, asphalt or brick paver islands or medians shall have a 6" PVC sleeve or 6" core drilled hole completely through the full depth of pavement to the top of subgrade. See Median Nose Details.
- The contractor shall be required to install inventory stickers on the back of all signs installed on the project and record each respective bar code number on the plan sheet adjacent to the corresponding sign, for delivery to the project inspector. Inventory stickers will be provided by the City.
- Minor adjustments in the location of sign posts should be made in the field during construction in order to maintain 4'-0" clearance from the centerline of any fire hydrant to the face of the sign post.
- In the event of utility conflicts with sign post locations and the sign post cannot be relocated, the contractor shall be required to hand dig the sign post and backfill with concrete to provide a sturdy post installation. The cost shall be subsidiary to other sign bid items.
- The contractor shall flag sign locations for installation and shall not install signs until final location has been approved by the Engineer or Inspector.
- Slip bases may be required for any sign installation requiring more than one post.



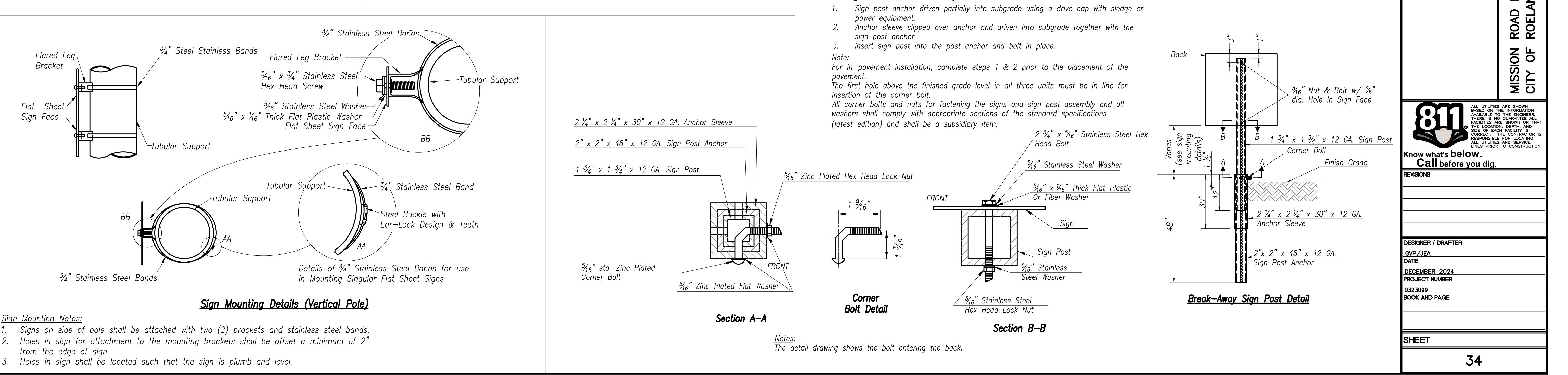
### Sign Mounting Details



### Sign Mounting Details (Vertical Pole)

Sign Mounting Notes:

- Signs on side of pole shall be attached with two (2) brackets and stainless steel bands.
- Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2" from the edge of sign.
- Holes in sign shall be located such that the sign is plumb and level.



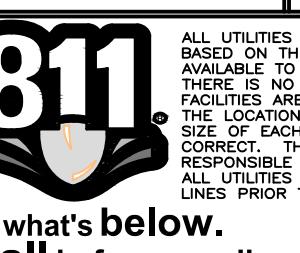
**LAMP  
RYNEARSON**

LAMP RYNEARSON.COM  
OMAHA, NEBRASKA  
14710 DOVER RD, STE 100 (402) 228-0248  
NEB. LICENSE NO. 00000000  
FORT COLLINS, COLORADO  
4715 INNOVATION DR, STE 100 (970) 228-0342  
KANSAS CITY, MISSOURI  
9901 STATELINE RD, STE 200 (816) 361-0440  
MO AUTH NO: E-201301903 LS-2019043127



### SIGNING DETAILS

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS



REVISIONS
DESIGNER / DRAFTER
GVP/JEA
DATE
DECEMBER 2024
PROJECT NUMBER
0323099
BOOK AND PAGE
SHEET





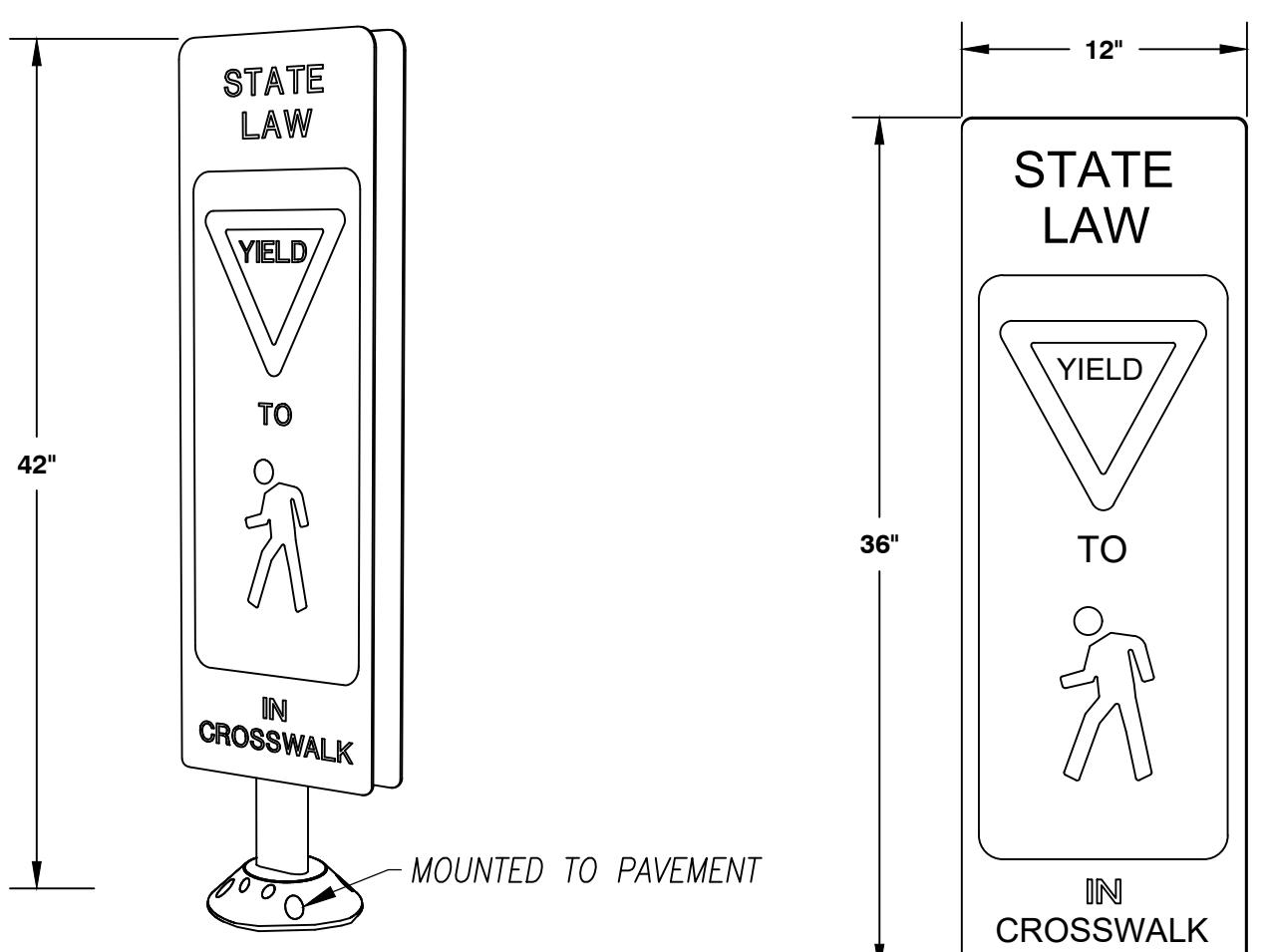
GREG VAN PATTEN  
27000  
12-31-2024  
PROFESSIONAL ENGINEER

GREG VAN PATTEN

2700

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS

**SIGNING DETAILS**



**FRONT ELEVATION  
R1-6 SIGNS  
(PER 2011 MUTCD)**

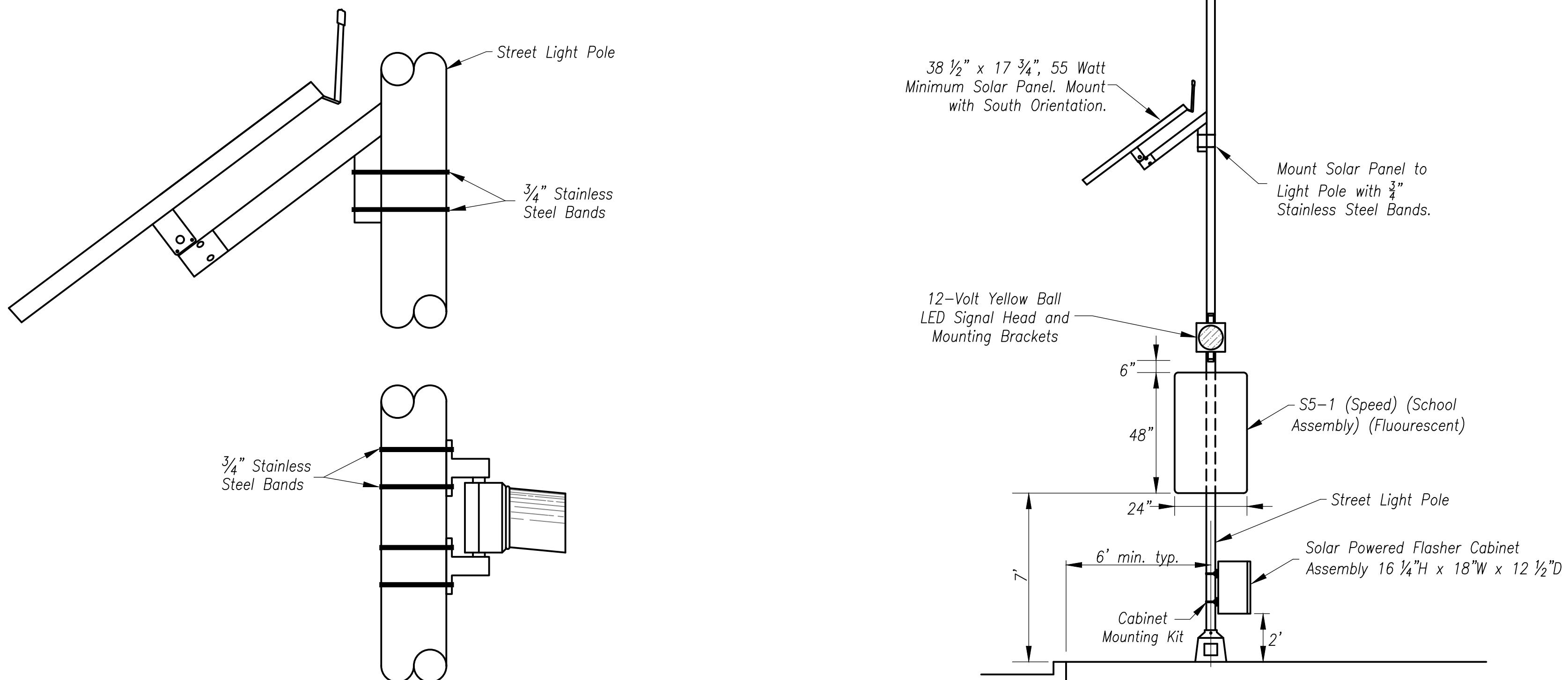


**800BASE145 FYG BASE  
WITH REACTION ROD AND  
QUICK-RELEASE PINS**

**R1-6 CROSSWALK SIGN ASSEMBLY  
DOUBLED SIDED**

**NOTES:**

1. R1-6 CROSSWALK SIGN ASSEMBLY SHALL BE @PEXCO, GREEN CROSS CROSSWALK SAFETY SYSTEM OR APPROVED EQUAL.
2. SIGN ASSEMBLY SHALL BE DOUBLE SIDED AND FLUORESCENT IN COLOR.
3. SIGN ASSEMBLY SHALL BE MOUNTED TO THE PAVEMENT AND INSTALLED PER MANUFACTURES SPECIFICATIONS.



**SOLAR SCHOOL ZONE FLASHER REQUIREMENTS**

- UNBREAKABLE, VANDAL RESISTANT SOLAR PANEL, 55 WATT MINIMUM GEL-CEL TYPE BATTERY (12 VOLT, 100 AMP)
- DCF2 MODULAR 2-CIRCUIT SOLID STATE FLASHER (12VDC) RATED AT 6.0 AMPS PER CIRCUIT
- SURGE PROTECTOR POLY PHASER
- MASTER RADIO ASSEMBLY WITH ETHERNET LAN ASSEMBLY SERIAL PORT SERVER WITH 6DB OMNI ANTENNA
- REMOTE RADIO
- AUTOMATIC SEQUENCING CHARGER (ASC)
- 0.125 INCH ALUMINUM SHEETING W/ NATURAL ALUMINUM FINISH W/ STANDARD NO. 2 KEY LOCK
- TWO CIRCUIT, CALENDAR PROGRAMMABLE 2-WAY RADIO SOLID STATE TIME SWITCH

**NOTES:**

1. THE INSTALLATION OF THE POLE MOUNTED SOLAR SCHOOL ZONE FLASHER ASSEMBLY SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM BID PRICE FOR "SIGNAGE" AND SHALL INCLUDE ALL EQUIPMENT, SIGNS AND APPURTENANCES.



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE OWNER. THERE IS NO GUARANTEE THAT THE INFORMATION IS ACCURATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND IDENTIFY ALL UTILITIES AND CALL 811 TO LOCATE THESE LINES PRIOR TO CONSTRUCTION.

811

Know what's below.  
Call before you dig.

REVISIONS

DESIGNER / DRAFTER  
GVP/JEA  
DATE  
DECEMBER 2024  
PROJECT NUMBER  
0323099  
BOOK AND PAGE

SHEET

Notes:

- (1) MEP - Micro-Encapsulated Prismatic
- (2) Sample Post Length Calculation:  $(H1-S) + \frac{12}{12} + (H2+1) + (H3+1) + \dots + 10.5 + MH + \frac{4}{Z} + 0.02 \times W$  (Round to nearest 0.1 foot)
- Where:  $H$  = Sign Height (inches)
- $H1, H2, H3, \dots$  = Sign Height(s) (inches)
- 9'-7" for posts with street name signs only
- 7'-0" for single mounted signs
- 6'-0" for signs with supplemental plaque < 12"
- 6'-8" for multiple mounted signs located in, or overhanging walking areas
- $Z$  = side slope, e.g. 4 for 4:1 side slope
- $W$  = shoulder width
- $S = 0$  if the top sign is a street name sign, otherwise  $S=1$
- (3) Post anchors shall be 4' long.
- (4) Anchor sleeves shall be 2.5' long.

Add only for a rural cross section with shoulder and side slope

Permanent Signing Summary									
Station	Street Reference	Offset	MUTCD Designation	Sign Size	Area (S.F.) MEP Signs	(1) Post Length 1 3/4" x 1 3/4" (LF)	(2) Post Anchor 2" x 2" (LF)	(3) Anchor Sleeve 2 1/4" x 2 1/4" (LF)	Comments
1+00	W 53RD ST	RT	S1-1L	30"x30"	6.25	10.3	4.0	2.5	
1+57	W 53RD ST	RT	S4-3P	24"x9"	1.50	12.0	4.0	2.5	
			R2-1	24"x30"	5.00				
			S4-1P	24"x12"	2.00				
1+69	W 53RD ST	LT	R2-1	24"x30"	5.00	12.8	4.0	2.5	
			S5-2	24"x30"	5.00				
9+37	W 53RD ST (EAST LEG)	LT	R4-7B	24"x30"	5.00	7.3	4.0	2.5	
9+71	W 53RD ST (EAST LEG)	RT				10.4	4.0	2.5	RELOCATED (4)D3-1, R1-1 ON NEW POST
9+73	W 53RD ST (EAST LEG)	LT	R4-7C	18"x30"	3.75	7.3	4.0	2.5	
2+56	MISSION RD	RT				12.3	4.0	2.5	RELOCATED S1-1L, W16-9P, R5-2 ON NEW POST
3+45	MISSION RD	RT	S1-1L	30"x30"	6.25				RELOCATED RRFB AND SUPPLEMENTAL SIGNS MOUNTED ON NEW PEDESTAL POLE
			S1-1R	30"x30"	6.25				
			W16-7PR	21"x15"	2.19				
			R10-25	9"x12"	0.75				
3+53	MISSION RD	LT	S1-1R	30"x30"	6.25				RELOCATED RRFB AND SUPPLEMENTAL SIGNS MOUNTED ON NEW LIGHT POLE
			W16-7PR	21"x15"	2.19				
			R10-25	9"x12"	0.75				
3+55	MISSION RD	On C.L.	R1-6	12"x36"	6.00				DOUBLE SIDED SIGN ASSEMBLY MOUNTED ON FIXED BASE ATTACHED TO PAVEMENT
4+75	MISSION RD	RT	R3-17	24"x18"	1.50	9.3	4.0	2.5	
6+15	MISSION RD	On C.L.	R1-6	12"x36"	6.00				DOUBLE SIDED SIGN ASSEMBLY MOUNTED ON FIXED BASE ATTACHED TO PAVEMENT
6+30	MISSION RD	LT	S1-1L	30"x30"	6.25				REMOVE OLD SIGNS, MOUNT NEW SIGNS ON EXISTING POST
			W16-7PL	21"x15"	2.19				
9+95	MISSION RD	LT	R5-1	30"x30"	6.25				REMOVE OLD SIGN, MOUNT NEW SIGN ON EXISTING POST
13+25	MISSION RD	LT	S5-1	24"x48"	8.00				SOLAR SCHOOL ZONE FLASHER MOUNTED ON NEW LIGHT POLE
15+33	MISSION RD	LT	S1-1L	30"x30"	6.25	10.3	4.0	2.5	
20+00	MISSION RD	RT	W11-2L	30"x30"	6.25	10.5	4.0	2.5	
			W16-7PL	21"x15"	2.19				
20+05	MISSION RD	On C.L.	R1-6	12"x36"	6.00				DOUBLE SIDED SIGN ASSEMBLY MOUNTED ON FIXED BASE ATTACHED TO PAVEMENT
20+06	MISSION RD	LT	W11-2L	30"x30"	6.25	10.5	4.0	2.5	
			W16-7PL	21"x15"	2.19				
24+46	MISSION RD	LT	S5-2	24"x30"	5.00				MOUNT NEW SIGN AND RELOCATED R2-1 SIGN ON NEW LIGHT POLE
30+48	MISSION RD	LT	S4-3P	24"x9"	1.50				MOUNT NEW SIGN AND RELOCATED R2-1, S4-1P SIGN ON NEW LIGHT POLE
32+03	MISSION RD	LT	S1-1L	30"x30"	6.25	10.3	4.0	2.5	
32+57	MISSION RD	RT	W11-2L	30"x30"	6.25	10.5	4.0	2.5	
			W16-7PL	21"x15"	2.19				
32+59	MISSION RD	On C.L.	R1-6	12"x36"	6.00				DOUBLE SIDED SIGN ASSEMBLY MOUNTED ON FIXED BASE ATTACHED TO PAVEMENT
32+69	MISSION RD	LT	W11-2L	30"x30"	6.25				MOUNT NEW SIGNS ON NEW LIGHT POLE
			W16-7PL	21"x15"	2.19				
35+10	MISSION RD	LT	W11-2L	30"x30"	6.25				MOUNT NEW SIGNS ON NEW LIGHT POLE
			W16-9P	24"x12"	2.00				
38+15	MISSION RD	LT	R3-17	24"x18"	1.50	9.3	4.0	2.5	
				Totals	168.81	143.2	56.0	35.0	

**Signing Notes:**

1. All retro-reflective micro-encapsulated prismatic (MEP) background sheeting shall be ASTM Type XI.
2. All signs shall be made from a combination retroreflective sheeting background with electronic cuttable film applied to the surface.
3. Process color inks or silk screening signs are not allowed.
4. All school warning signs and plaques shall have a fluorescent yellow-green background with a black legend and border.
5. Estimated quantities shown are for information only and shall be verified by the Contractor prior to ordering materials and installation. Unless otherwise noted, all installation, relocation and modification shall be bid "Lump Sum" for all necessary materials and equipment.



**SIGNING DETAILS**

MISSION ROAD IMPROVEMENTS – 2025 CARS  
CITY OF ROELAND PARK AND WESTWOOD, KANSAS



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION PROVIDED BY THE OWNER. THERE IS NO GUARANTEE THAT THE LOCATED UTILITIES ARE EXACTLY WHERE THEY ARE LOCATED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES AND NOTIFYING THE OWNER OF LOCATED UTILITIES PRIOR TO CONSTRUCTION.

REVISIONS

DESIGNER / DRAFTER  
GVP/JEA  
DATE  
DECEMBER 2024  
PROJECT NUMBER  
0323099  
BOOK AND PAGE

SHEET

Date: JLF  
 Design: JLF  
 Drawn: JLF  
 Proj #: 19034.03



## STREETLIGHT DETAIL SHEET

CITY OF ROELAND PARK, KS

MISSION ROAD DESIGN

### Streetlight Legend

#### Proposed

- Class E LED Lamp Post-Top Luminaire w/ 14' Pole
- Class A LED Cobra-Head Luminaire w/ 30' Pole
- Class B LED Cobra-Head Luminaire w/ 30' Pole
- Class C LED Cobra-Head Luminaire w/ 30' Pole
- Class D LED Cobra-Head Luminaire w/ 30' Pole
- Class E LED Cobra-Head Luminaire w/ 30' Pole
- Class A LED Cobra-Head Luminaire w/ 40' Pole
- Class B LED Cobra-Head Luminaire w/ 40' Pole
- Class C LED Cobra-Head Luminaire w/ 40' Pole
- Class D LED Cobra-Head Luminaire w/ 40' Pole
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation) (North or East)
- 2 Inch HDPE Conduit
- 3 Inch HDPE Conduit
- FO HDPE Fiber Optic Conduit w/ Locating Cable
- Construction Note Number
- Electrical Service
- Evergy Service Pedestal

#### Existing

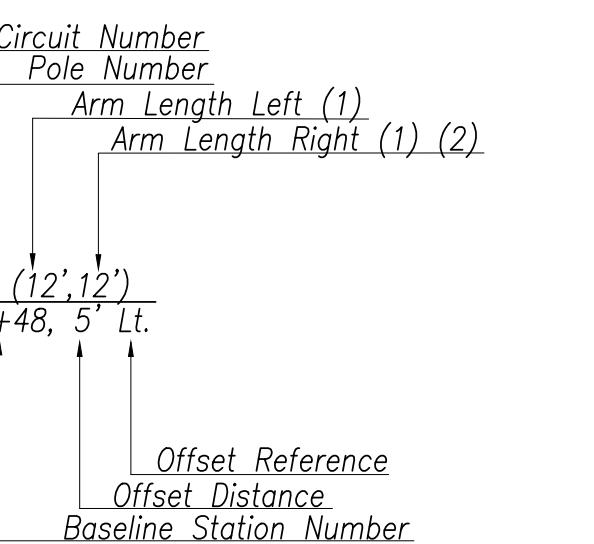
- 150W HPS Lamp Post-Top Luminaire w/ 14' Pole
- Class E Lamp Post-Top Luminaire w/ 14' Pole
- Class A Cobra-Head Luminaire w/ 30' Pole
- Class B Cobra-Head Luminaire w/ 30' Pole
- Class C Cobra-Head Luminaire w/ 30' Pole
- Class D Cobra-Head Luminaire w/ 30' Pole
- Class A Cobra-Head Luminaire w/ 40' Pole
- Class B Cobra-Head Luminaire w/ 40' Pole
- Class C Cobra-Head Luminaire w/ 40' Pole
- Class D Cobra-Head Luminaire w/ 40' Pole
- Former KCPL Owned Street Light
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation)
- 3" HDPE Conduit
- 2" HDPE Conduit
- FO HDPE Fiber Optic Conduit w/ Locating Cable
- Evergy Service Pedestal

### Instructions for Disassembly and Return of Salvaged Streetlighting Equipment

The following is a list of streetlighting equipment which shall be salvaged and returned(1) to the City of Roeland Park, unless otherwise instructed by the inspector. The condition at the time of delivery shall be the same as prior to removal. Disassembly of equipment shall be done prior to returning the equipment. The contractor shall notify the City of Roeland Park Department of Public Works to arrange for the delivery of the salvaged equipment. Provide 48-hours advance notice.

- (1) For Federally Funded Projects salvaged equipment shall be carefully disassembled and stored on site. Contractor to arrange for pickup, by the City of Roeland Park. The City maintains the first right of refusal of any of the equipment listed. The project inspector will make an on-site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.
1. All luminaires must be removed from streetlight arms or poles and be returned.
2. All luminaire arms shall be removed from the streetlight poles without cutting the arms and be returned with the pole. Pole caps shall remain attached to the pole.
3. All cable located in the pole and arms must be disconnected from luminaires, removed from the streetlight pole and arm and discarded.
4. All breakaway couplings shall be removed from the streetlight pole and screw-in base and discarded. Frangible bases with hardware shall be returned.
5. All screw in bases shall be cleaned of dirt and debris and returned with anchor studs or bolts threaded into the base plate.
6. All streetlight control centers must be returned with all circuit breakers, relays and other internal equipment still installed. Any removable entry panels shall be returned with the control center.
7. All streetlight equipment hardware (i.e. arm bolts, multi-tap connectors, fuse holders and other small accessories) shall be discarded.
8. All junction boxes, service boxes and lids shall be removed and returned if in good condition.
9. Disassembly of any traffic signal equipment attached to streetlight equipment shall follow the guidelines as stated in the "Instructions for Disassembly and Removal of Salvaged Traffic Signal Equipment".

### Streetlight Designation



(1) Not applicable for 14' poles  
 (2) Not applicable for a single bracket arm pole

### Streetlighting General Notes

1. All traffic control in conjunction with the streetlighting construction shall be in conformance with the Manual on Uniform Traffic Control Devices.
2. The Contractor shall stake the locations for all poles, controllers and junction boxes to be installed. The stations and offsets provided are to the center of the streetlighting equipment. The contractor shall provide elevations. If obstructions are encountered during installation, the contractor will re-stake those locations affected by the obstruction. The city streetlighting inspector shall inspect the staking prior to any excavation/construction.
3. The locations of existing underground utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
4. The City of Roeland Park is on the KS One Call System. The contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
5. All circuit cables in junction and service boxes and poles shall be identified with color-coded tape around individual cables as follows:

  - North Cable: Tape Color Code Blue
  - East Cable: Tape Color Code Yellow
  - South Cable: Tape Color Code Purple
  - West Cable: Tape Color Code Red
  - Ground Cable: Tape Color Code Green.

6. The contractor shall be responsible for removing and salvaging existing equipment as noted. See instructions for Disassembly and Return of Salvaged Streetlighting Equipment.
7. Rock and shale may be encountered and thus the bid items shall reflect the extra work necessary to accomplish the installation. No additional payments ("extras") will be made for excavation of rock or shale and suitable backfill materials. The following conditions shall prevail:  
 Screw-in foundations have been assumed for all areas. In the event a screw-in foundation may not be installed, then the contractor may at his option install the screw-in foundation within a pre-drilled hole. All pre-drilled holes within rock/shale shall be backfilled with flowable fill up to the bottom of the conduit slot, in accordance with the specifications.
8. Conduit shall be bored under all street pavements including sidewalks and driveways that are in place at the time of installation. Saw cutting existing street pavement for the purpose of trenching conduit across any existing pavement will not be allowed. Multiple conduits cannot be pulled back through the same bore unless otherwise approved.
9. The conduit placement shall be coordinated with the paving operation, when applicable. Conduit installation and conduit connections shall be inspected and approved by the City streetlighting inspector. The contractor shall pay any and all extra costs of installing conduits by alternate construction methods after pavement has been placed or for any damages to pavement that may occur during conduit installation. All trenches for conduit under proposed paved surfaces (drives, streets and sidewalks) shall be backfilled with diggable flowable fill unless otherwise directed, to below the proposed pavement surface.
10. Continuous 2" HDPE conduit shall be installed between all streetlighting appurtenances prior to paving within the limits of the street improvements. Conduit splices between appurtenances shall not be allowed unless fusion couplings or other fusion methods are used with prior approval from the Engineer.
11. All existing streetlight poles to be relocated shall be reinstalled from their present location to their new location according to the address stenciled on the pole. All existing streetlighting equipment to be relocated shall become the responsibility of the contractor for safe storage. The contractor, at his own expense, shall replace any materials to be reused that have been damaged with approved materials in accordance with the current standard details, specifications, policies and practices.
12. The conduit and cable shall be installed under underdrain pipe crossings and under the underdrain blankets. Refer to the street plans for underdrain pipe and blanket locations and appropriate details, if applicable. Where pole foundations are to be installed through an underdrain blanket, the blanket shall be pre-cut to prevent damage of the blanket. In the event the blanket is damaged, the fabric shall be replaced.
13. All cable connections at junction boxes shall be watertight.
14. All cable re-connections at existing light poles shall require new connector kits (i.e., multi-tap connectors and fused and non-fused connectors).
15. The connections of the new system made at an existing junction box, light pole or control center for the continuation of the existing circuit shall be made in the presence of the streetlighting inspector for approval.
16. The contractor shall take all precautions necessary to minimize the downtime of the existing streetlighting systems to be modified. Any existing streetlighting system shall be maintained during construction as long as possible until the new city-owned streetlighting system is installed and operating.
17. Damage to any existing streetlighting equipment due to the construction shall be the responsibility of the contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
18. All existing streetlighting equipment is to be used in place (U.I.P.) unless otherwise noted in the plans.
19. The contractor shall notify the City of Roeland Park, KS, Department of Public Works Project Manager, of the exact construction schedule so that inspection of the streetlight installation can be made, including conduit installations.
20. The contractor shall be responsible for any damage to existing underground sprinkler systems during construction. All affected pipes or fittings shall be restored to original condition and location with new materials similar to existing. All restoration work shall be acceptable to the engineer and property owner.
21. The contractor shall install service conduit with electrical service cable from the control center to the Evergy power source. (See Streetlighting Service Connection Detail)
22. All areas disturbed by construction shall be sodded as directed by the Engineer. The grass medians shall be seeded and brick pavers restored, unless otherwise noted or directed. Sidewalk damaged by construction or removed due to construction shall be replaced as directed, in accordance with the Roeland Park Municipal Code requirements.
23. The contractor shall be required to apply stick-on street address numerals on the poles and controller cabinet as indicated in the plans. Letters and numerals should be 2 inches high. (See Stencil Detail)
24. Contractor shall use a polymer lubricating agent to facilitate conduit bores under paved streets. Failure to do so will result in a denial to retrieve bore head, in the case of loss, under any paved street by excavation methods.
25. All existing concrete foundations, shown to be removed, shall be removed a minimum of 24" below final grade.
26. The ends of all conduit in service boxes, junction boxes, and controller cabinets shall be plugged with duct seal.
27. If the final streetlight pole is less than ten (10) feet away from the nearest overhead power line, the contractor shall contact KCP&L and request them to sleeve their line prior to pole foundation and/or pole installation. All associated costs shall be the responsibility of the contractor.
28. Forms (including rebar cages, etc.) conduit and anchor bolts shall be installed and in place for review by the inspector a minimum of 24 hours in advance of the proposed concrete placement. No concrete placement shall begin after 3:00 pm.
29. The contractor, or their supplier, shall at the contractor's expense, submit a concrete mix design for approval by the Kansas City Metro Materials Board (KCMMB) prior to placement of any concrete. Additional information regarding KCMMB approved concrete mix designs is available on the following website: [www.kcmm.org](http://www.kcmm.org)

Merge Midwest  
 Engineering, LLC

2668 W Catalpa Street  
 Olathe, KS 66061-6008  
 t913.788.1985

Sheet No. Total Sheets

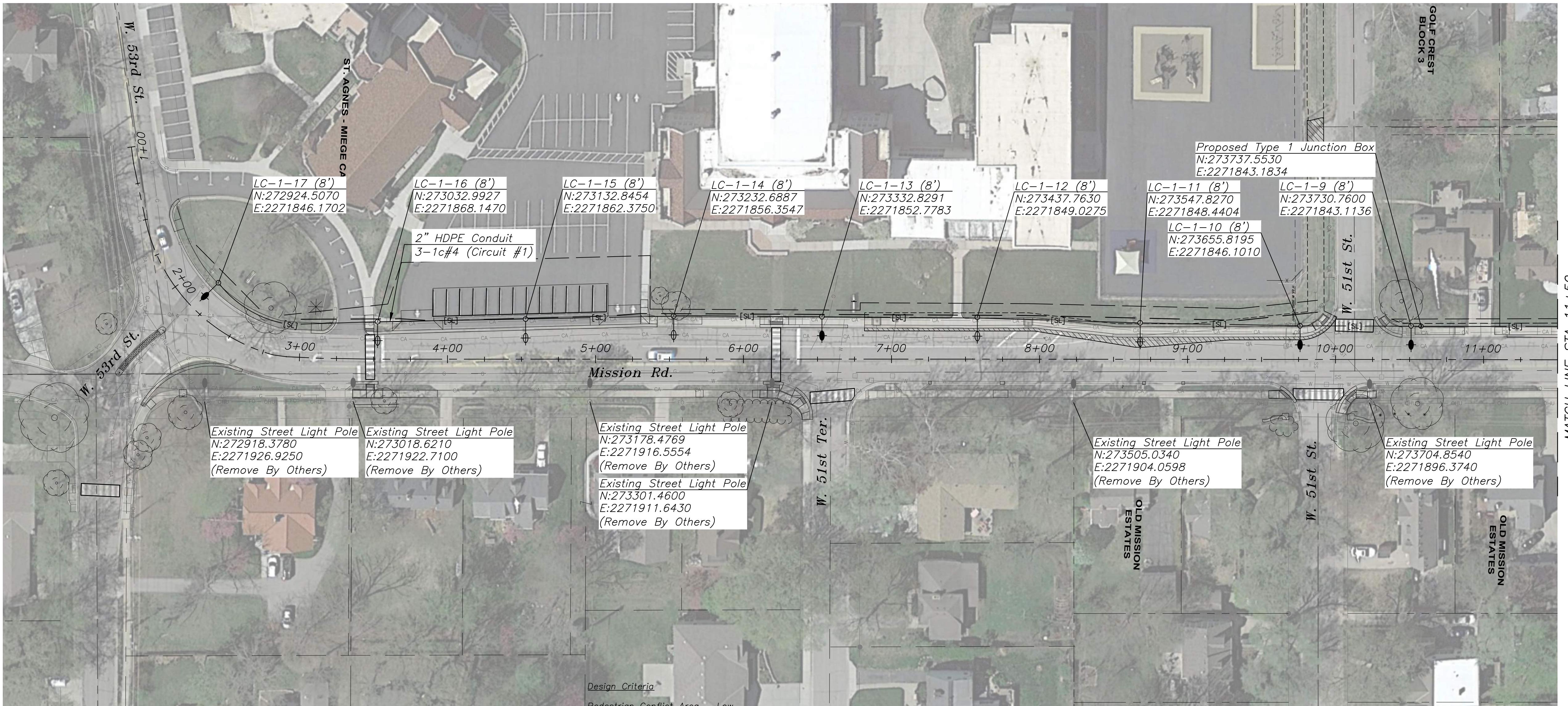
Date: JLF  
Drawn: JLF  
Proj #: 19034.03



**CITY OF ROELOAND PARK, KS  
MISSION ROAD DESIGN**

**STREET LIGHT PLAN SHEET**

MATCH LINE STA 11+50



**Construction Notes:**

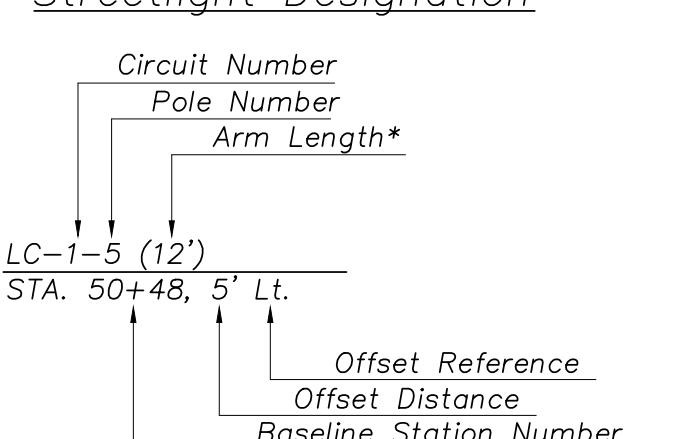
- Contractor is required to positively locate the utilities and adjustments to the pole locations within the ROW or PUE may be required at no additional cost.

Light Loss Factor (LLF) - 0.91  
Mounting Height - 30 Ft.

**Design Calculation Factors**

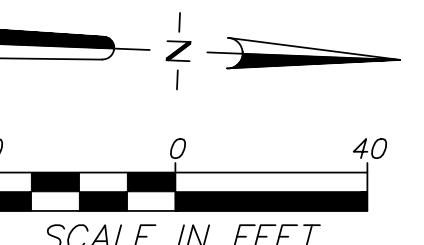
Offset Reference  
Baseline Station Number

**Streetlight Designation**



**Streetlight Legend**

- Type "ATBO P201 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type "ATBO P202 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type 2 Junction Box
- Street Light Controller
- [SL]- 2 Inch HDPE Conduit



SCALE IN FEET

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Merge Midwest Engineering, LLC 2668 W Catalpa Street Olathe, KS 66061-6008 t913.788.1985		

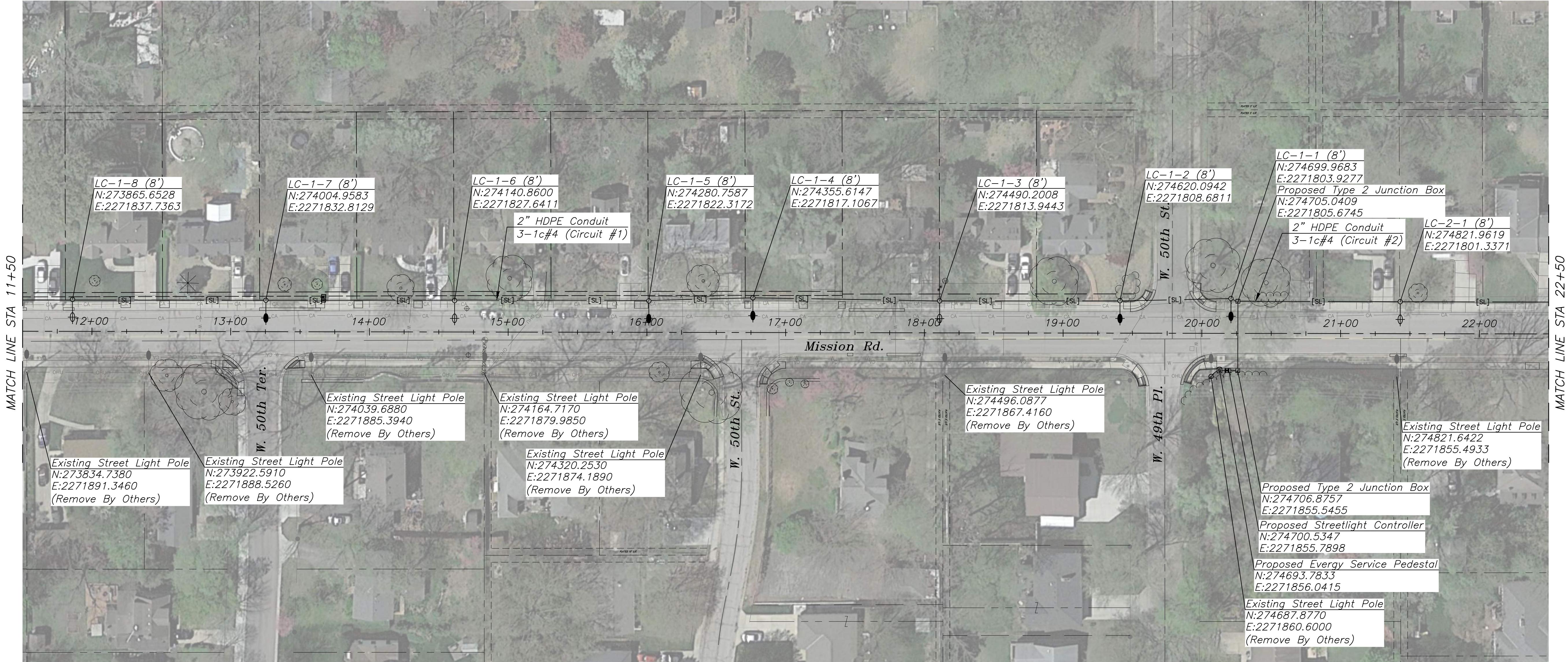
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Design: JLF  
Drawn: JLF  
Proj #: 19034.03

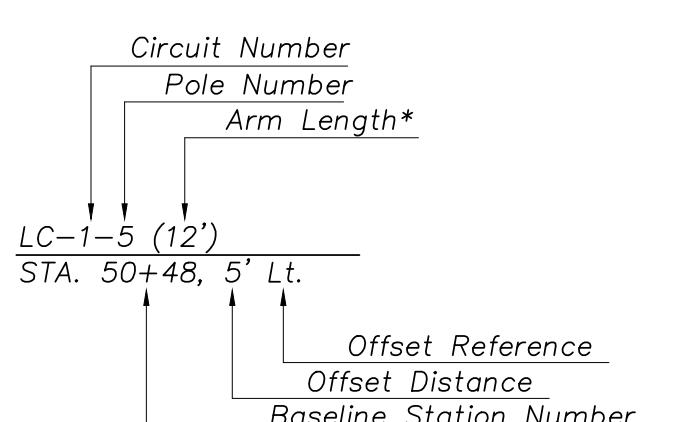
MICHAEL LEE BAER  
LICENSED  
PROFESSIONAL ENGINEER  
12-19-24  
25981

**CITY OF ROELEND PARK, KS  
MISSION ROAD DESIGN**

**STREET LIGHT PLAN SHEET**



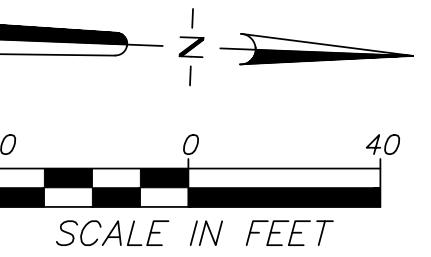
Streetlight Designation



\* Not applicable for 14' poles

Streetlight Legend

- Type "ATBO P201 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type "ATBO P202 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type 2 Junction Box
- Street Light Controller
- [SL]- 2 Inch HDPE Conduit



Merge Midwest  
Engineering, LLC

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t913.788.1985

Sheet No. Total Sheets

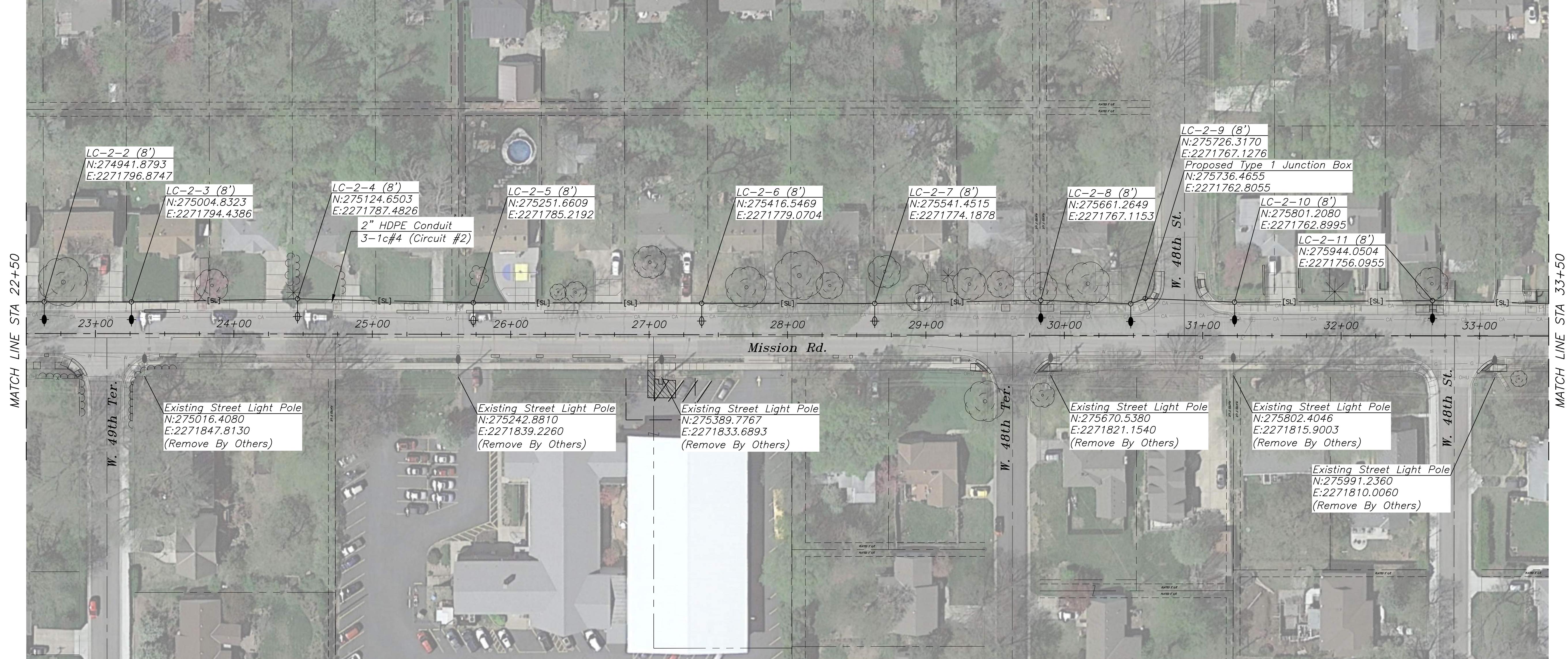
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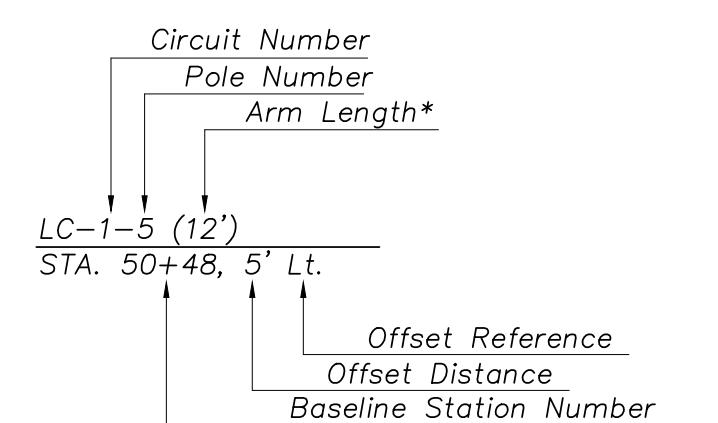


**CITY OF ROELOAND PARK, KS  
MISSION ROAD DESIGN**

**STREET LIGHT PLAN SHEET**



Streetlight Designation



\* Not applicable for 14' poles

Streetlight Legend

- ⊖ Type "ATBO P201 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- ⊖ Type "ATBO P202 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type 2 Junction Box
- Street Light Controller
- [SL]- 2 Inch HDPE Conduit



No. Date Revision  
19034.03 12/19/2024 9:05:34 AM  
Merge Midwest  
Engineering, LLC  
2668 W Catalpa Street  
Olathe, KS 66061-6008  
t913.788.1985

Sheet No. Total Sheets  
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Construction Notes:

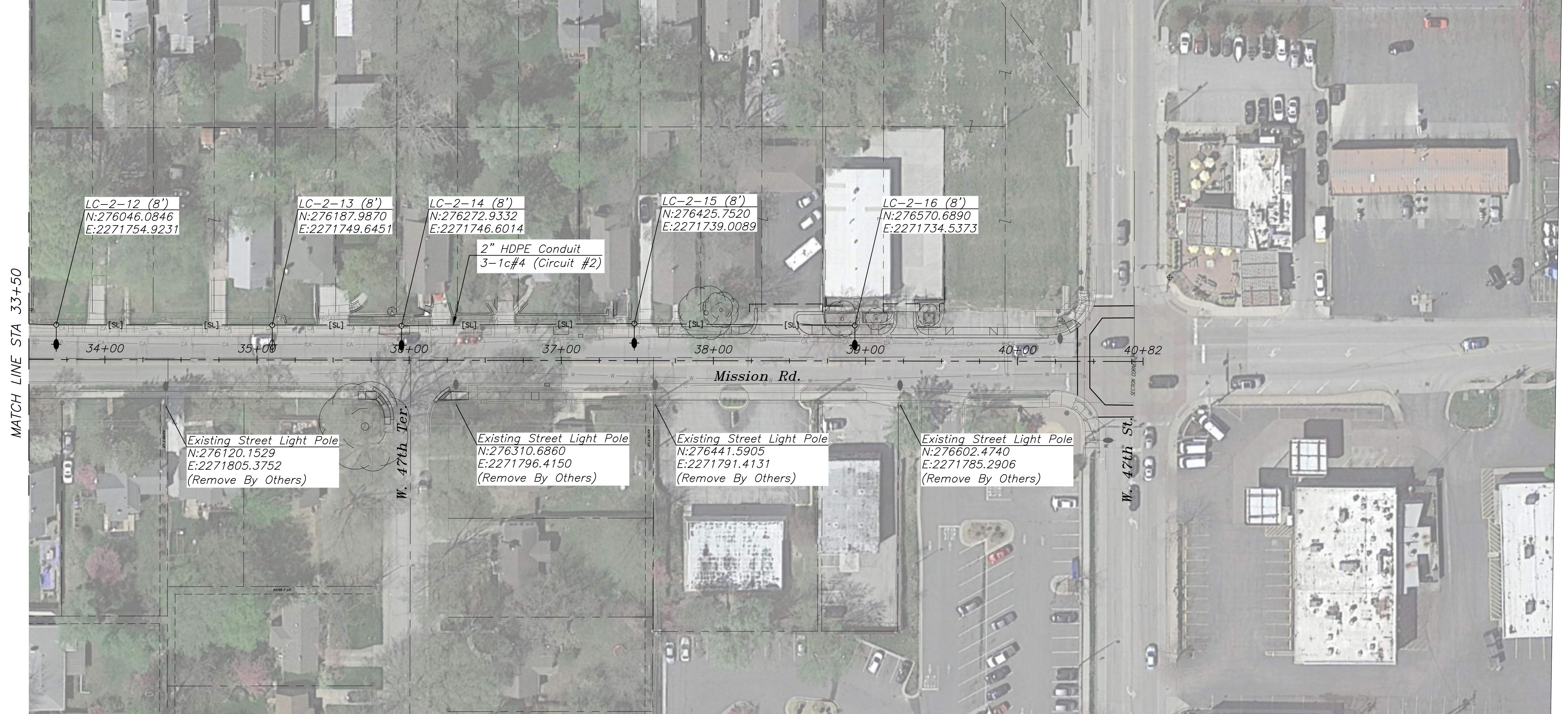
- Contractor is required to positively locate the utilities and adjustments to the pole locations within the ROW or PUE may be required at no additional cost.

Date: JLF  
Design: JLF  
Drawn: JLF  
Proj #: 19034.03



**CITY OF ROELEND PARK, KS  
MISSION ROAD DESIGN**

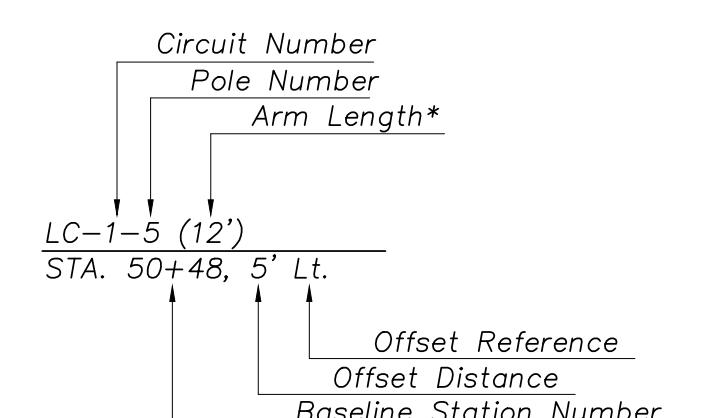
**STREET LIGHT PLAN SHEET**



**Construction Notes:**

- Contractor is required to positively locate the utilities and adjustments to the pole locations within the ROW or PUE may be required at no additional cost.

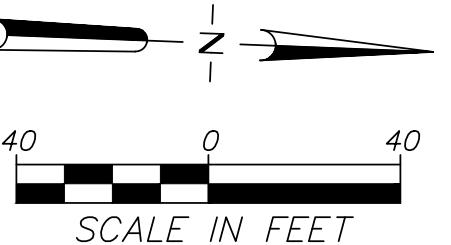
Streetlight Designation



\* Not applicable for 14' poles

Streetlight Legend

- Type "ATBO P201 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type "ATBO P202 R3 4k\_5k HSS" LED "Cobra-Head Type" Luminaire w/ 30' Pole
- Type 2 Junction Box
- Street Light Controller
- [SL]- 2 Inch HDPE Conduit



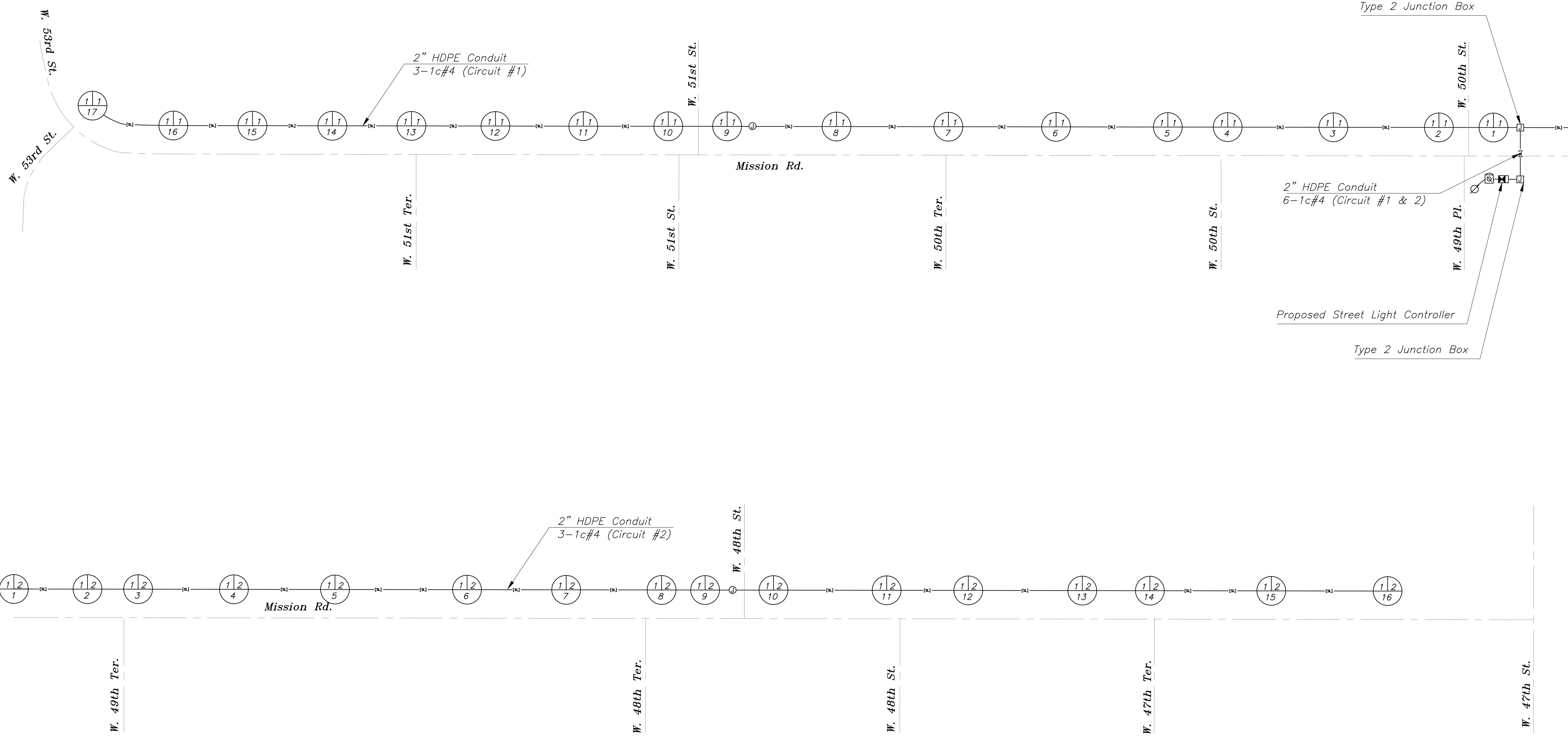
SCALE IN FEET

No.	Date	Revision

Merge Midwest  
Engineering, LLC  
2668 W Catalpa Street  
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t913.788.1985

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42



Merge Midwest  
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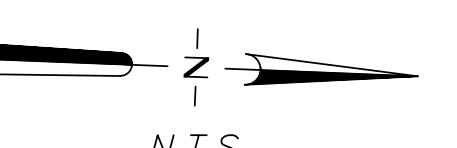
MERGE  
MIDWEST  
ENGINEERING

Date: JLF  
Design: JLF  
Drawn: JLF  
Proj #: 19034.03



CITY OF ROELAND PARK, KS  
MISSION ROAD DESIGN  
STREET LIGHT WIRING DIAGRAM

Controller Number Circuit Number  
Pole Number





**STREET LIGHT DETAIL SHEET**

CITY OF ROELAND PARK, KS

MISSION ROAD DESIGN

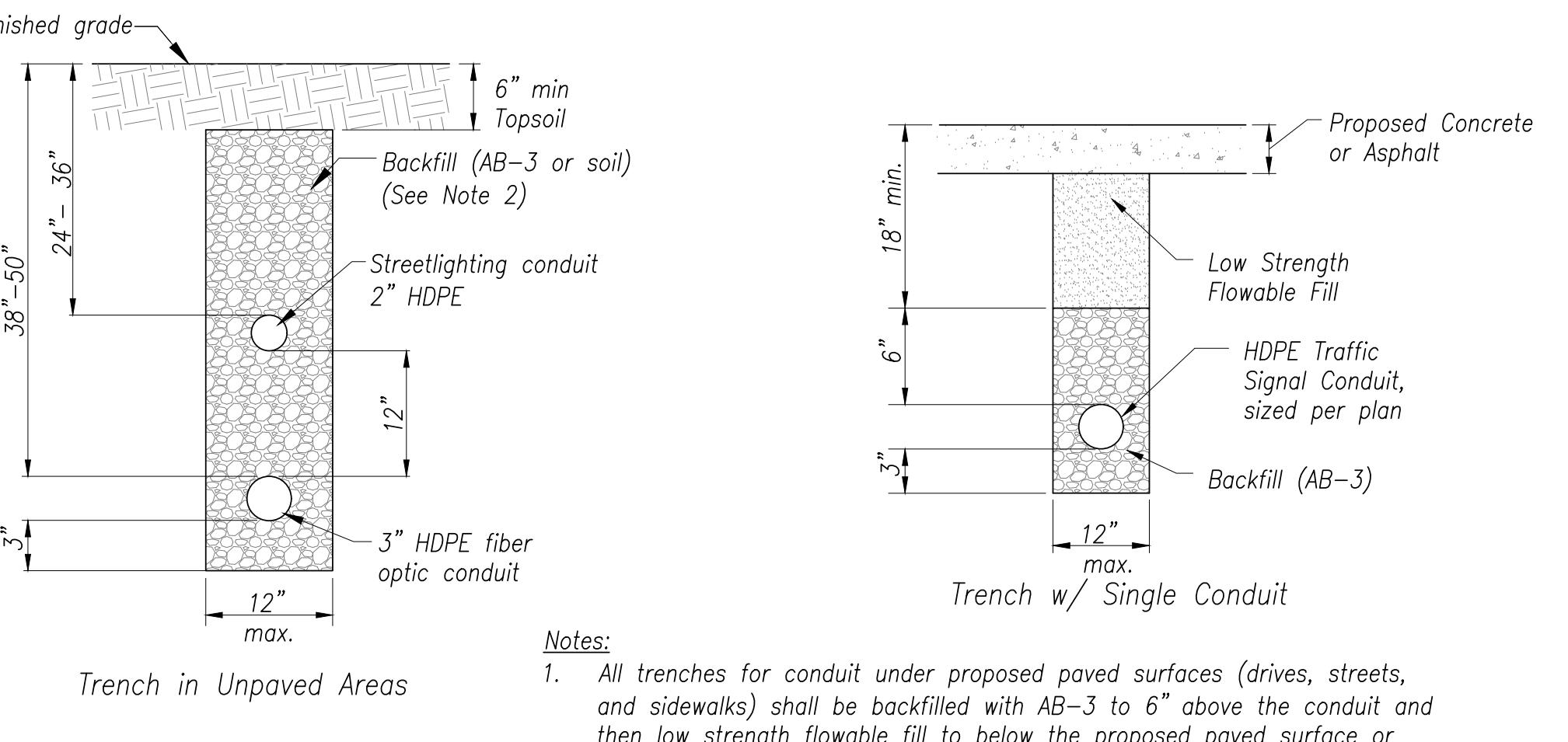
Bill of Materials (1)			
Item	Unit	Quantity	
Steel Combination Lighting/Signal Pole	Each	-	(3)
40' Aluminum Pole w/ ___' Bracket Arm	Each	-	P401
40' Aluminum Pole w/ ___' Bracket Arm	Each	-	P402
40' Aluminum Pole w/ Twin ___' Bracket Arms	Each	-	P403
40' Aluminum Pole w/ ___' and ___' Bracket Arms	Each	-	P403
30' Aluminum Pole w/8' Bracket Arm	Each	35	FL210 A 800E300 D1 -- FP BL AB NC
30' Aluminum Pole w/12' Bracket Arm	Each	-	P302
30' Aluminum Pole w/ Twin 8' Bracket Arms	Each	-	P303
14' Aluminum Pole	Each	-	P14
Concrete Pole Foundation Cap	Each	-	
Concrete Foundation for 40' Pole w/Anchor Bolts	Each	-	
Concrete Foundation for 30' Pole w/Anchor Bolts	Each	-	
Concrete Foundation for 14' Pole w/Anchor Bolts	Each	-	
5/8" x 10' Ground Rod w/ Clamp for Concrete Foundation	Each	-	
Type F1 Screw-in Foundation	Each	-	
Type F2 Screw-in Foundation	Each	-	
Type T1 Screw-in Foundation	Each	33	
Type R Screw-in Foundation	Each	-	
Cable Retainer Device For Type F1 Screw-in Foundations	Each	-	
Cable Retainer Device For Type F2 Screw-in Foundations	Each	-	
Cable Retainer Device For Type T1 Screw-in Foundations	Each	33	
Cable Retainer Device For Type R Screw-in Foundations	Each	-	
Cable Retainer Device For Concrete Foundations	Each	-	
Break-Away Pole Device	Set/Each	33	
Type "ATBO P201 R3 4k_5k HSS" LED "Cobra-Head Type" Luminaire	Each	15	
Type "ATBO P202 R3 4k_5k HSS" LED "Cobra-Head Type" Luminaire	Each	20	
Type 1 Junction Box with Streetlighting Logo	Each	2	
Type 2 Junction Box with Streetlighting Logo	Each	2	
Type 1 Service Box with Streetlighting logo	Each	-	
Control Center - Pad Mounted (1-Circuit) (100 Amp; 240 V)	Each	-	
Control Center - Pad Mounted (4 Circuit) (100 Amp; 240 V)	Each	1	
Concrete Control Center Foundation (1-Circuit Control Center)	Each	-	
Concrete Control Center Foundation (4-Circuit Control Center)	Each	1	
5/8" x 10'-0" Ground Rod with Clamps for Control Center	Each	1	
Photo Cell	Each	1	
SDR 13.5 HDPE (Gray) Conduit, 2"	Ln. Ft.	3,900	
SDR 13.5 HDPE (Gray) Conduit, 3"	Ln. Ft.	-	
SDR 13.5 HDPE (Black w/ Red Stripes) Electrical Service Conduit, 2" or Schedule 40 PVC, 2"	Ln. Ft.	-	
SDR 13.5 HDPE (Black w/ Red Stripes) Electrical Service Conduit, 3" or Schedule 40 PVC, 3"	Ln. Ft.	10	
Schedule 40 PVC Conduit, (Gray) Electrical Service Conduit, 3" (Between Evergy Service Pedestal and Power Pole)	Ln. Ft.	10	
Schedule 40 PVC Conduit, 1" (for Equipment Ground Cable)	Ln. Ft.	10	
Distribution Cable 3-1c #4 AWG	Ln. Ft.	4,200	
Pole and Bracket Cable 1-1c #10 AWG	Ln. Ft.	3,700	
Electrical Service Power Cable 3-1c #2 AWG	Ln. Ft.	30	
Solid Copper Ground Cable (Bare # 6 AWG)	Ln. Ft.	10	
Locating Cable (Red) 1c #10 AWG	Ln. Ft.	-	
8 AMP Fuse	Each	66	
Break-Away Fused Connector Kits	Each	66	
Break-Away Non-Fused Connector Kits	Each	33	
Multipole Streetlight Tap Connector	Each	99	
Remove Existing Equipment	Each	-	
Relocate Existing Equipment	Each	-	
Evergy Service Pedestal (Supplied by Evergy to Contractor)	Each	1	

Notes:

- These approximate quantities were prepared solely for the contractor's convenience. It is not guaranteed that this list of materials constitutes all items required for the completion of the work.
- Approved break-away couplings or frangible bases are acceptable. Frangible bases shall be measured per each and couplings shall be measured as four units per set.
- Refer to Chart B "Traffic Signal Pole Summary" on Traffic Signal Detail Sheet for design parameters.
- All LED Cobra-Head luminaires shall have a minimum 10 year manufacturer's warranty.
- If PVC is used it shall be trenched.
- Quantities show two additional poles and arms, and one of each fixture type. The City of Roeland Park will use these as additional storage stock. These additional items shall be delivered to:

Donnie Scharff

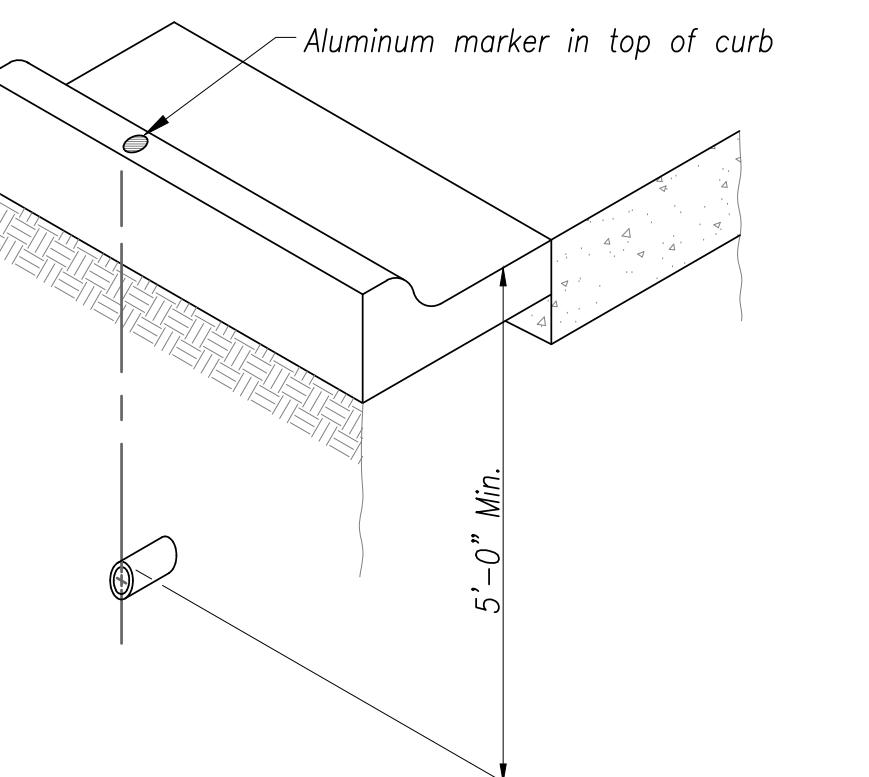
Roeland Park Public Works Department  
 1800 Merriam Lane  
 Kansas City, KS 66106



Notes:

- All trenches for conduit under proposed paved surfaces (drives, streets, and sidewalks) shall be backfilled with AB-3 to 6" above the conduit and then low strength flowable fill to below the proposed paved surface or existing terrain, unless otherwise directed.
- Backfill shall be free of rubble and rock greater than 1.5".
- If multiple conduits are installed, they shall have a minimum of 12" horizontal or vertical clearance between them.
- Details are typical and information for the separation of multiple conduits are applicable whether trenching in unpaved or paved areas.

Trenching Details



Conduit Marking Detail Notes

- Conduit under all roadway surfaces shall be placed a minimum of 5'-0" below the top of pavement and shall extend to signal appurtenances as indicated in the plans. The conduit shall be installed to drain, and all ends shall be capped if not being used. An aluminum marker shall be placed in the top of the curb, or outside edge of the shoulder, directly over the conduit with epoxy. Markers shall be embedded such that the top is flush.
- The contractor shall notify the City of Roeland Park, Department of Public Works for inspection of the conduit installation by the City Inspector. At least 24 hours notice shall be provided. The conduit shall not be covered so as to ensure proper depth, correct conduit material, and proper conduit end treatment as described above.

Conduit Marking Detail

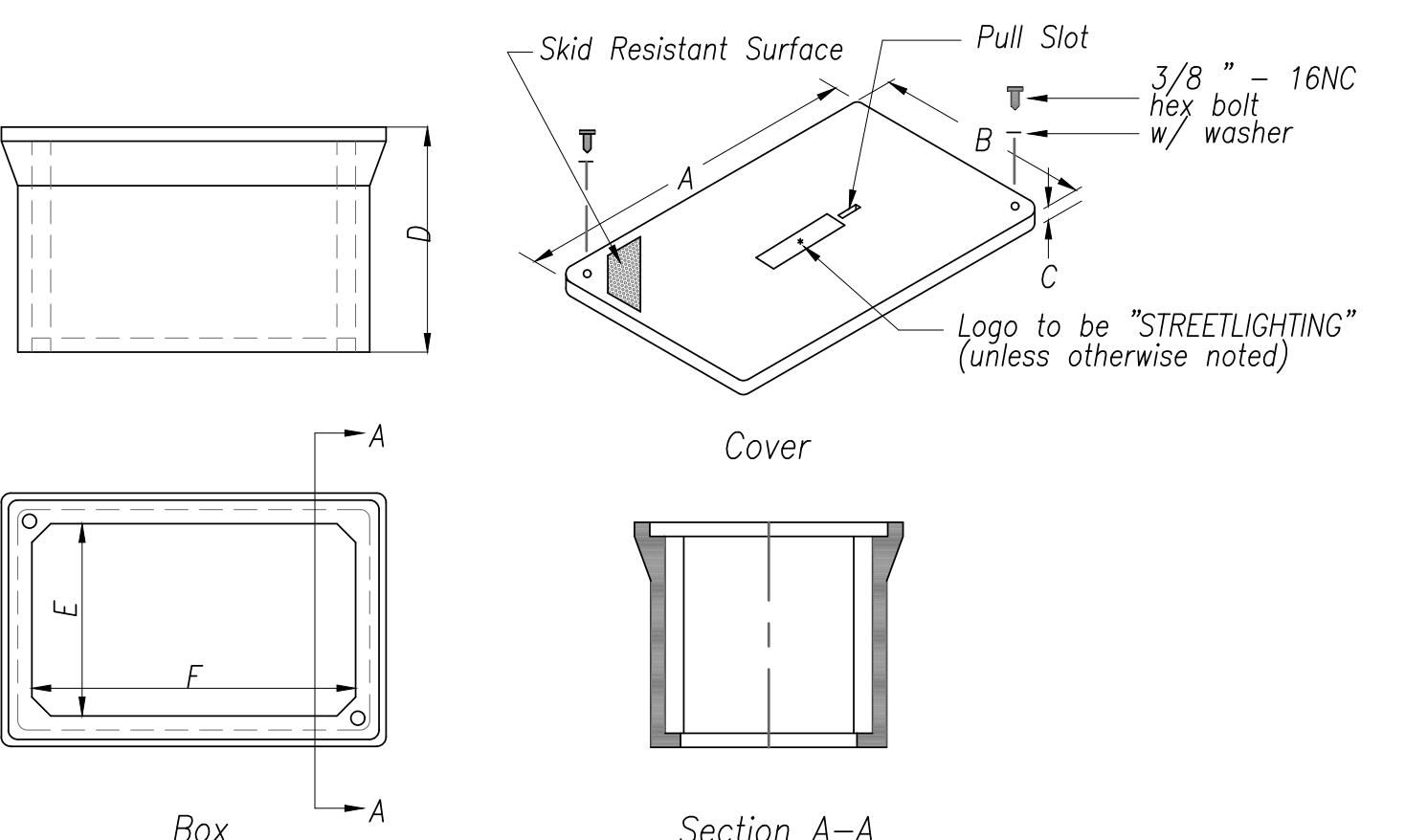
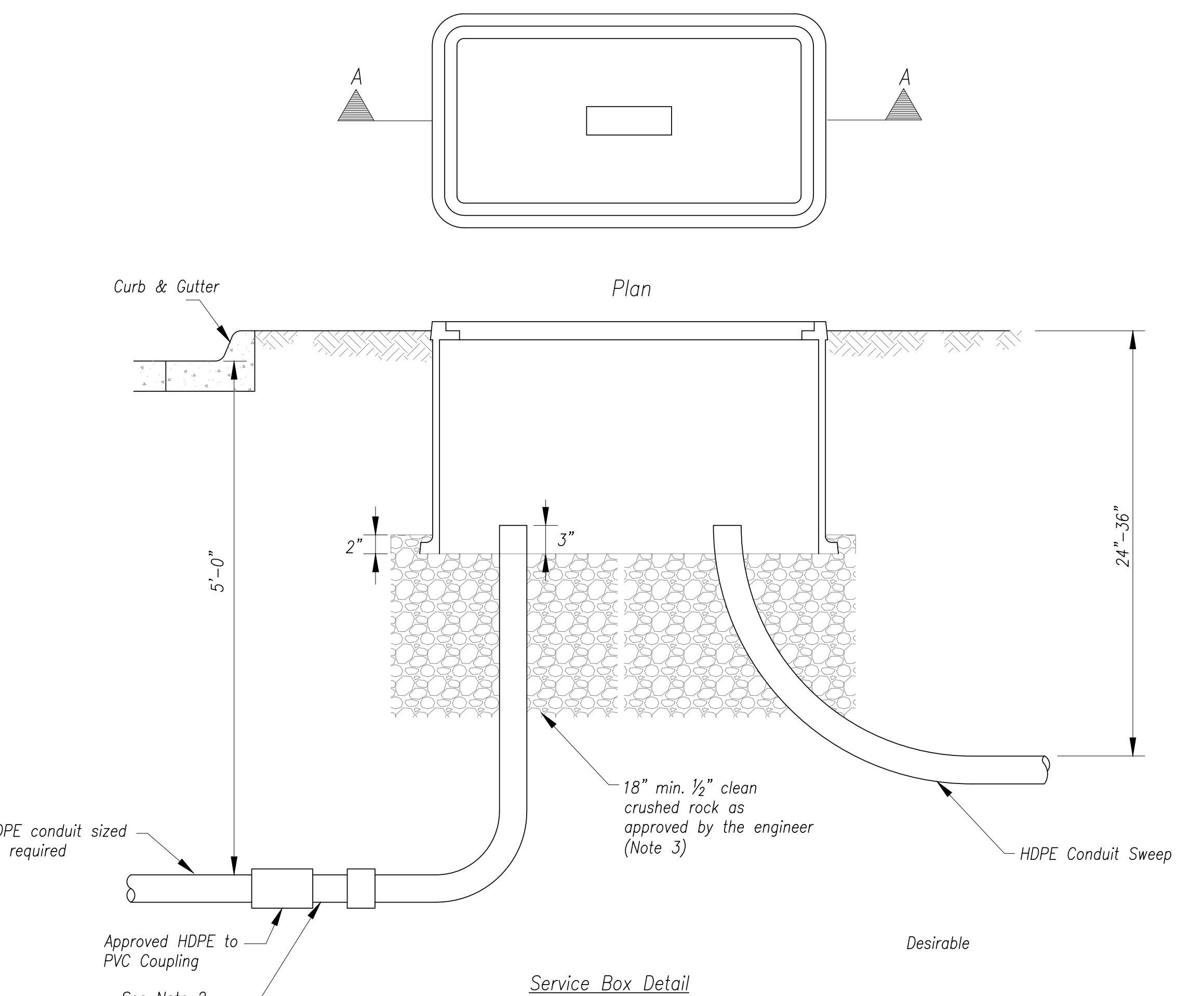
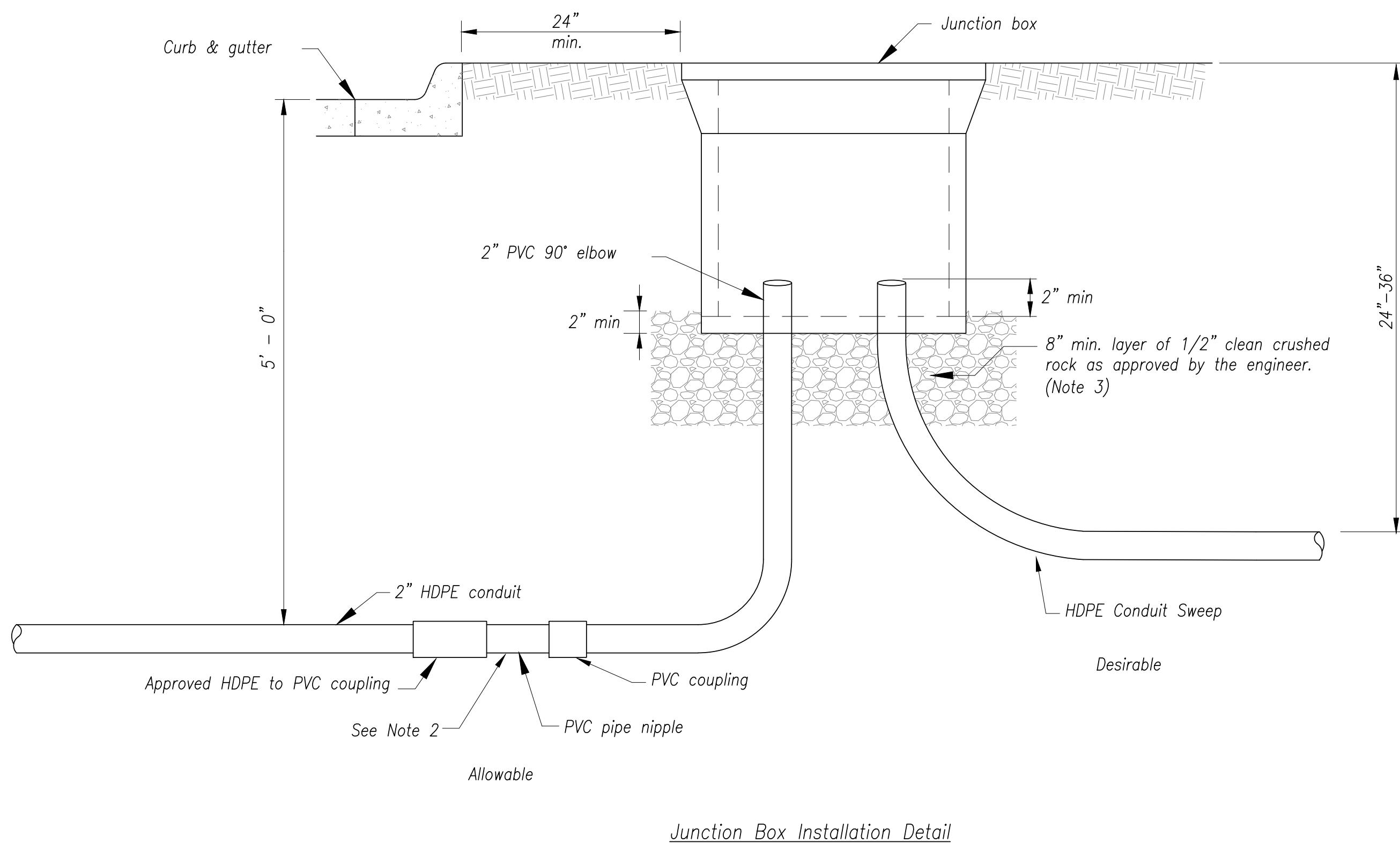
Merge Midwest Engineering, LLC  
 2668 W Catalpa Street  
 Olathe, KS 66061-6008  
 t913.788.1985

Sheet No. Total Sheets



CITY OF ROELAND PARK, KS  
MISSION ROAD DESIGN

STREET LIGHT DETAIL SHEET



Type	Approximate Dimension (Inches)					
	A	B	C	D	E	F
1 - Junction	12 7/8"	12 7/8"	3/4"	12 3/4"	9 3/4"-10 1/2"	9 3/4"-10 1/2"
2 - Junction	18"-18 1/2"	11 1/4"-11 1/2"	2"	12"	9 1/2"-10 1/4"	16 1/2"-17 1/4"
1 - Service	35 5/8"	24"	3"	24"	22 1/4"	33 7/8"
2 - Service (2)	47 5/8"	30 1/8"	3"	24"	28 1/8"	45 5/8"

Fiberglass Reinforced Polymer Concrete  
Junction & Service Box Details

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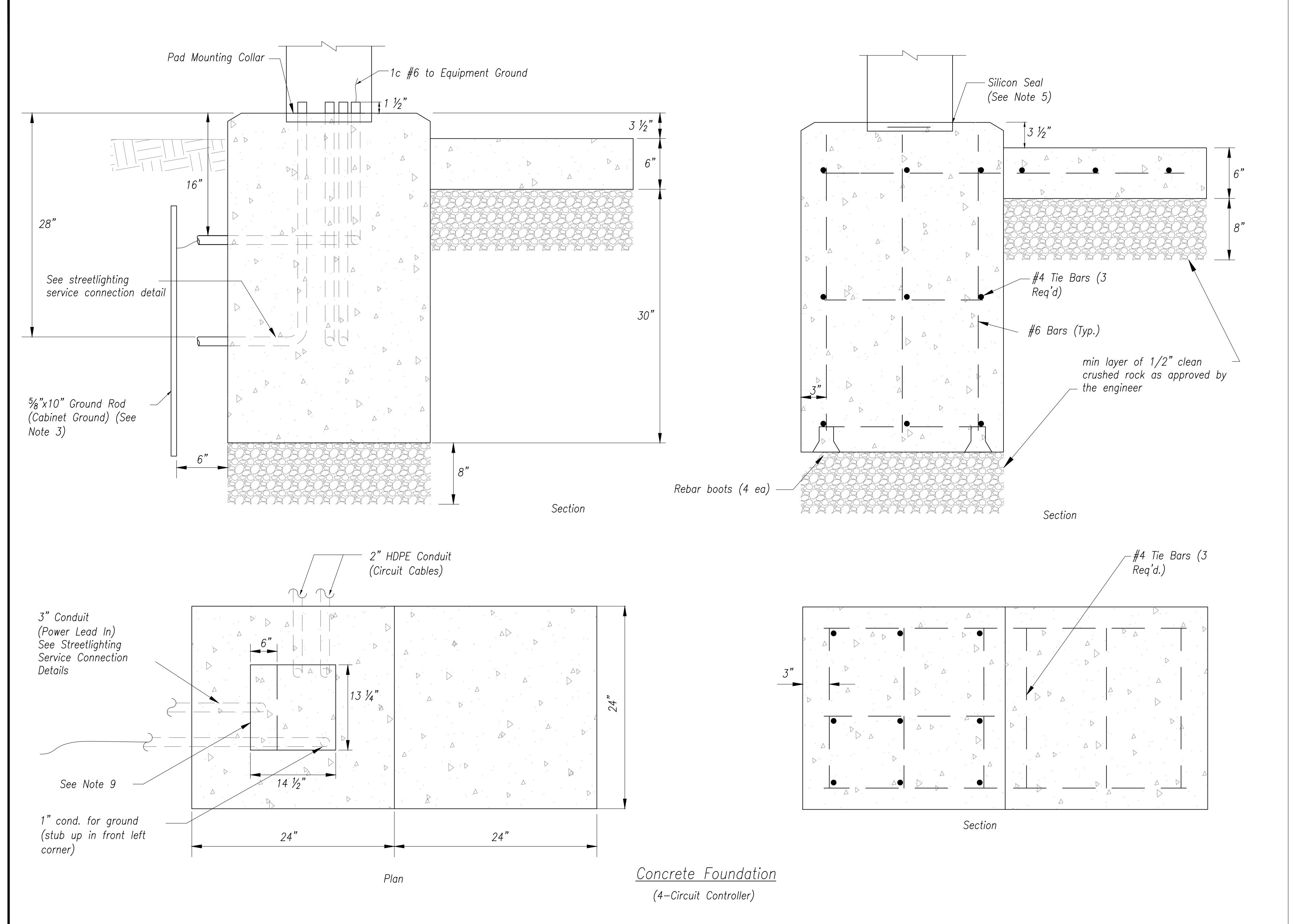
Sheet No.	Total Sheets
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Date: JLF  
Drawn: JLF  
Proj #: 19034.03



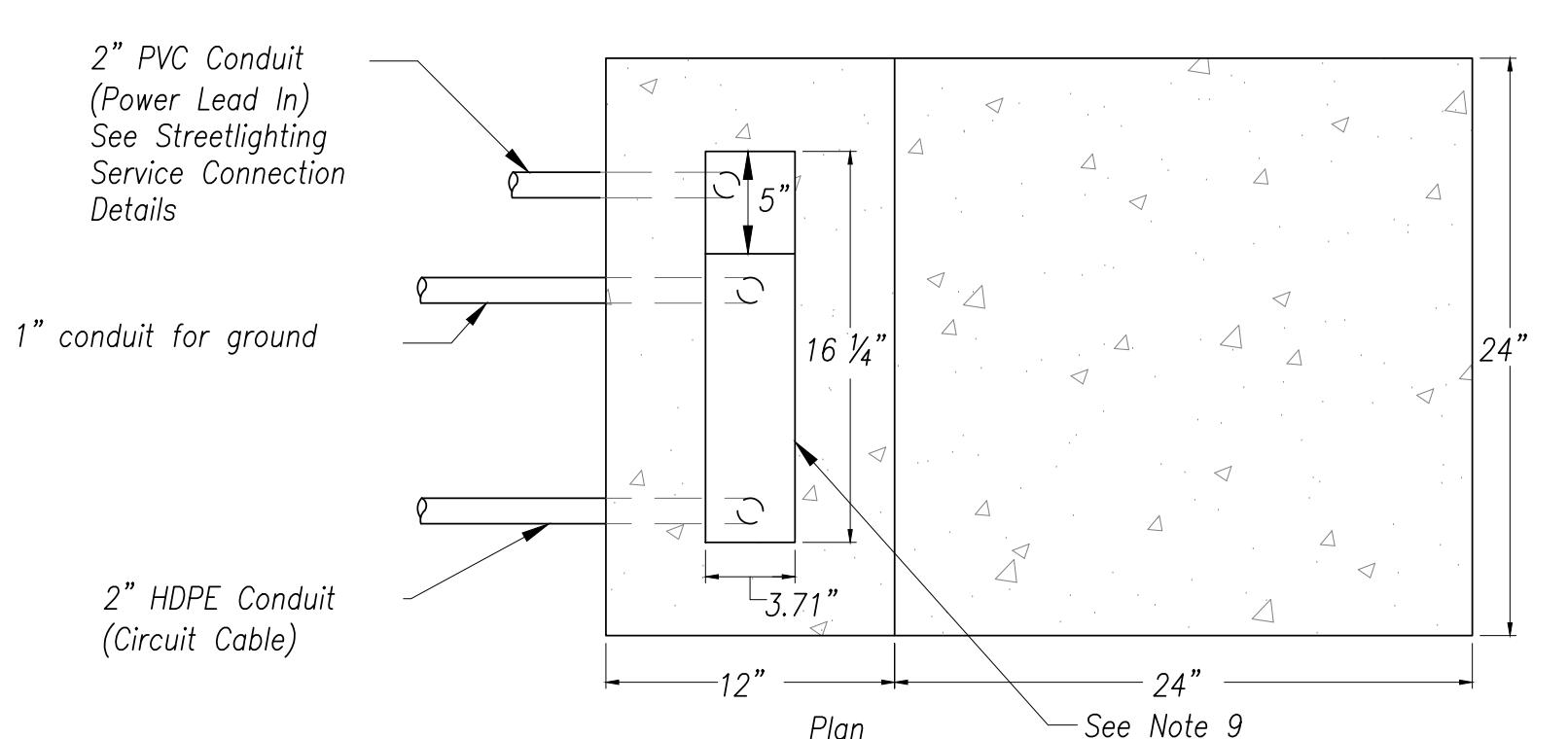
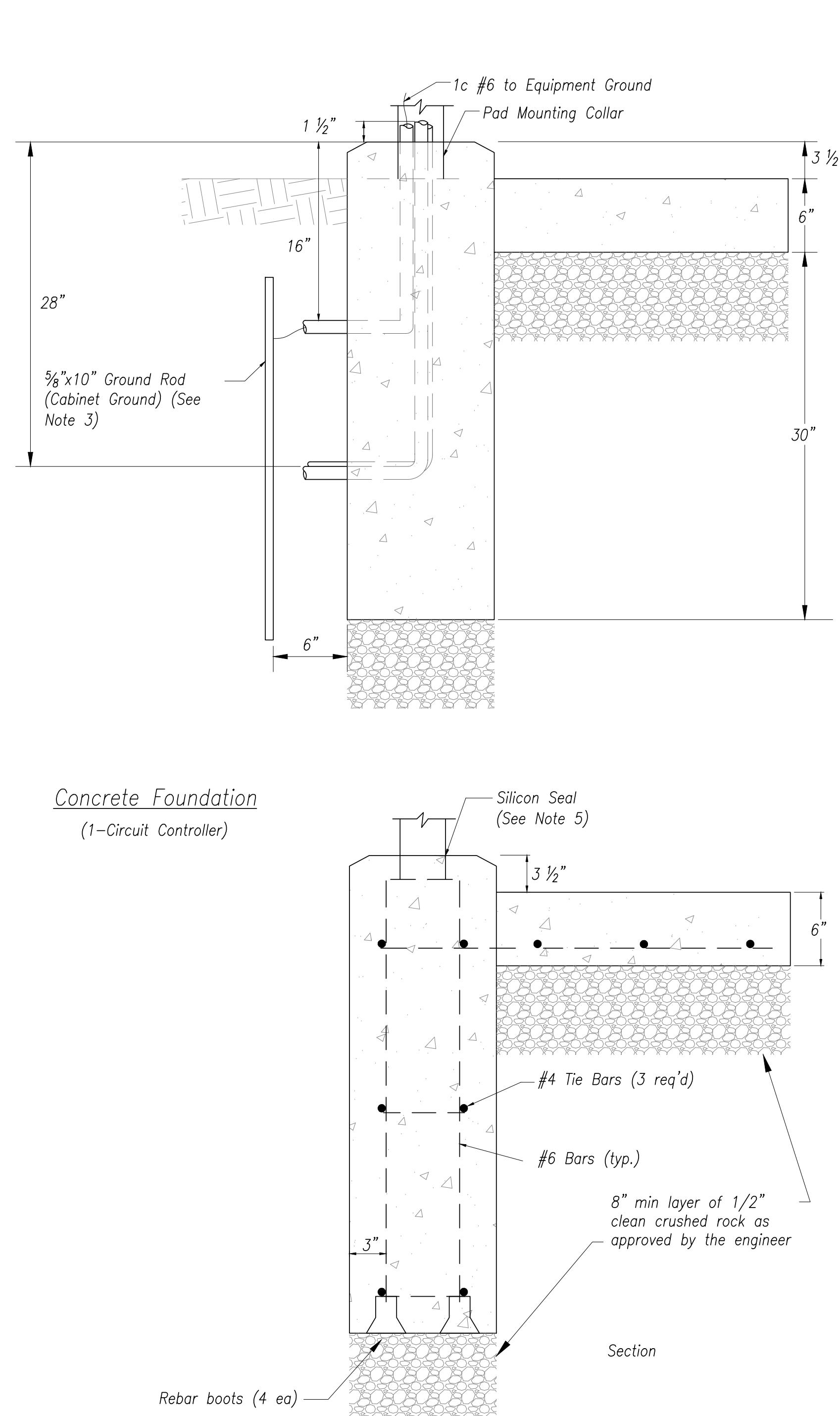
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**STREET LIGHT DETAIL SHEET**



**Concrete Foundation Notes:**

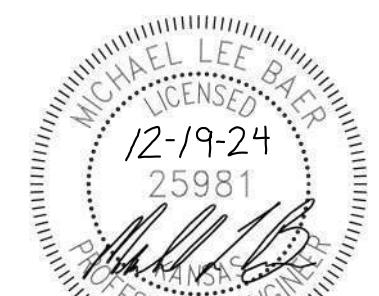
1. See the plan sheets for specific details (i.e. pad size, conduit requirements for circuit cables) for each individual control center.
2. All concrete used in this work shall be KCMMB4K concrete ( $f'_c = 4,000$  psi) with a 4" slump.
3. Contractor to provide ground rod(s) as required for maximum of 25 ohms resistance to ground. Contractor shall be required to test with inspector present.
4. Duct Seal shall be applied at all conduit entrances after cable installation.
5. Seal the bottom edge of the cabinet at the contact point with the concrete pad with silicon sealant.
6. All reinforcing steel shall be ASTM A615 GR40.
7. All concrete surfaces shall be brushed and sealed w/curing compound.
8. All reinforcing steel shall be set 3" clear from all forms and trench walls. Rebar boots shall be used on the vertical steel in each of the four corners to maintain proper clearance.
9. Dimensions of the mounting collar varies between manufacturers, consult actual mounting collar prior to setting any conduits.



No. Date Revision

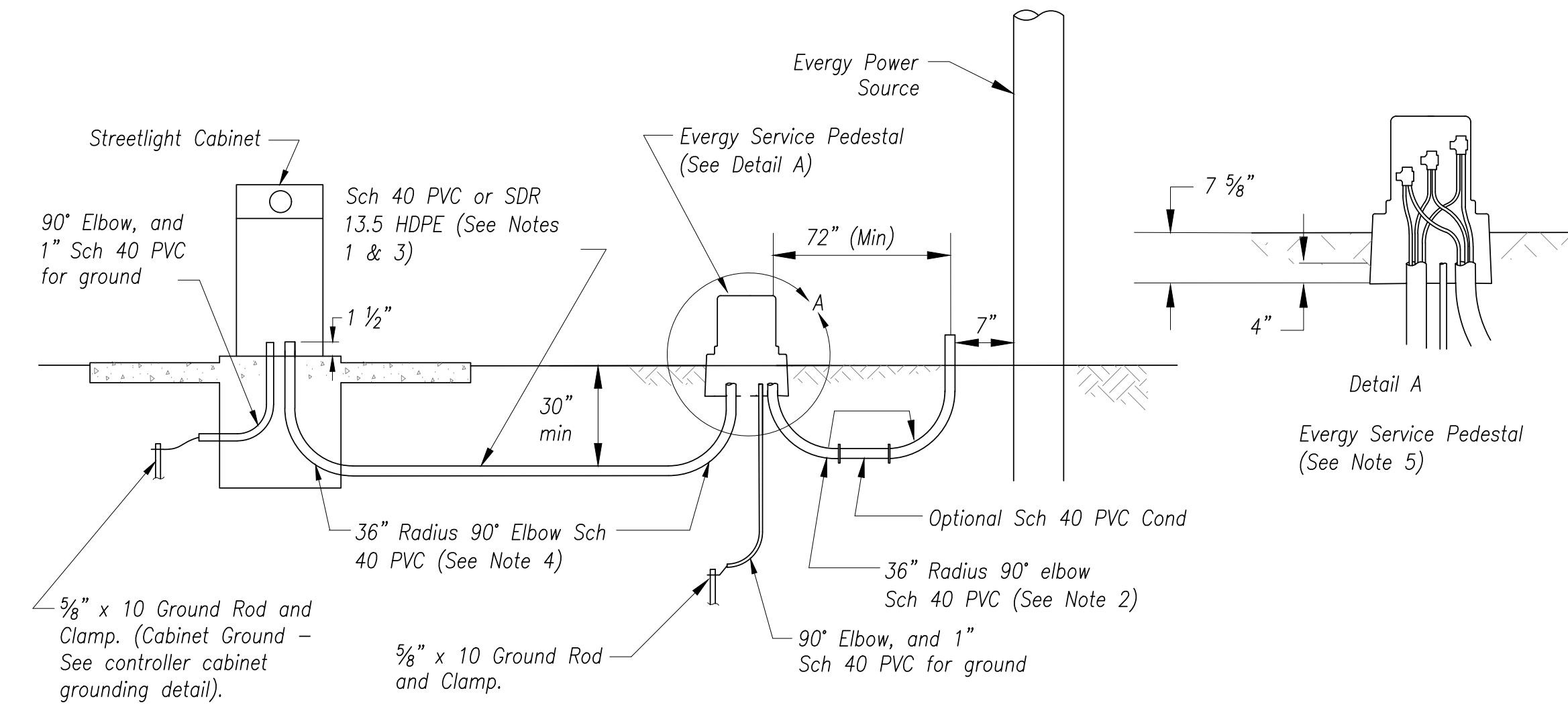
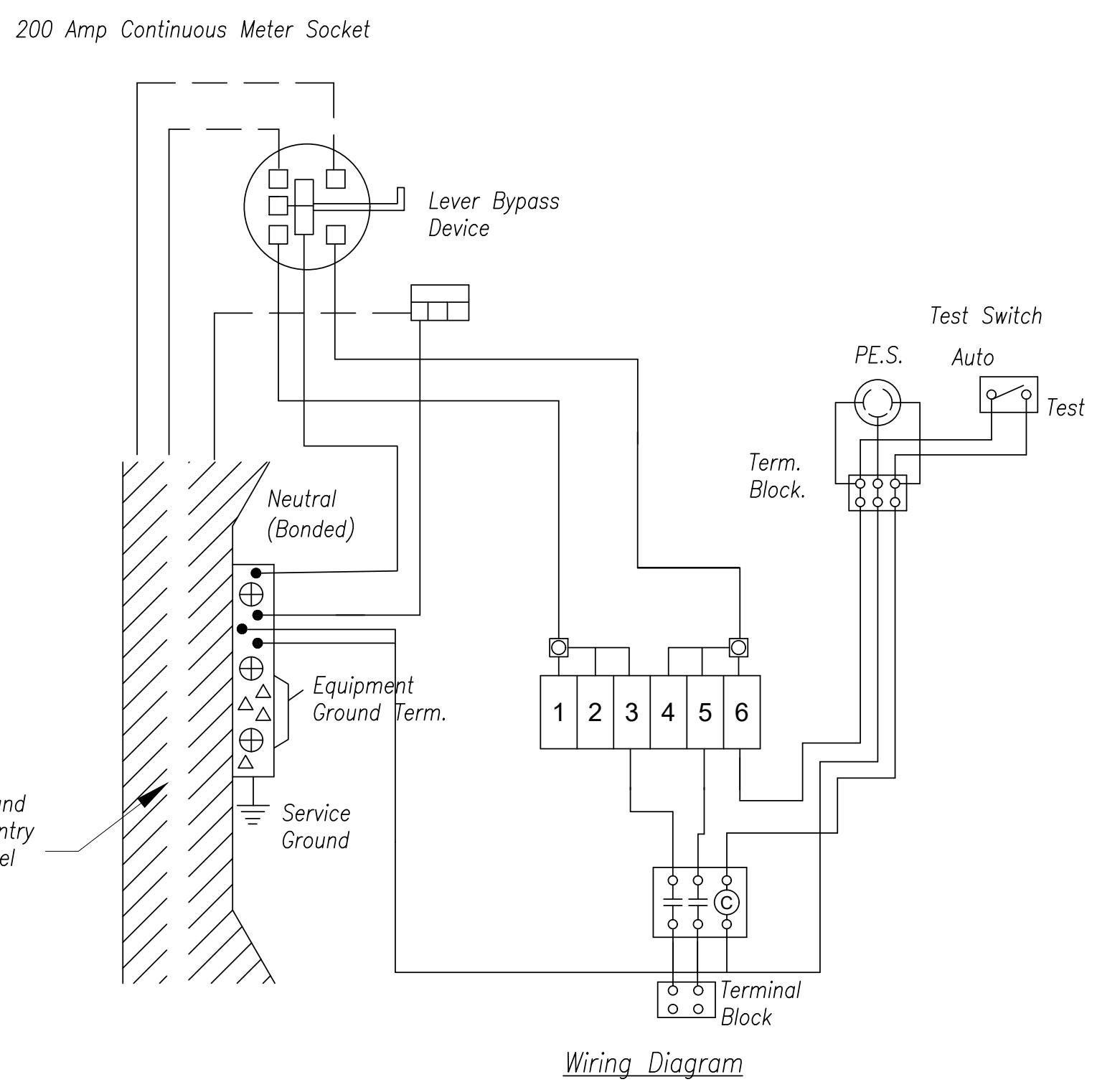
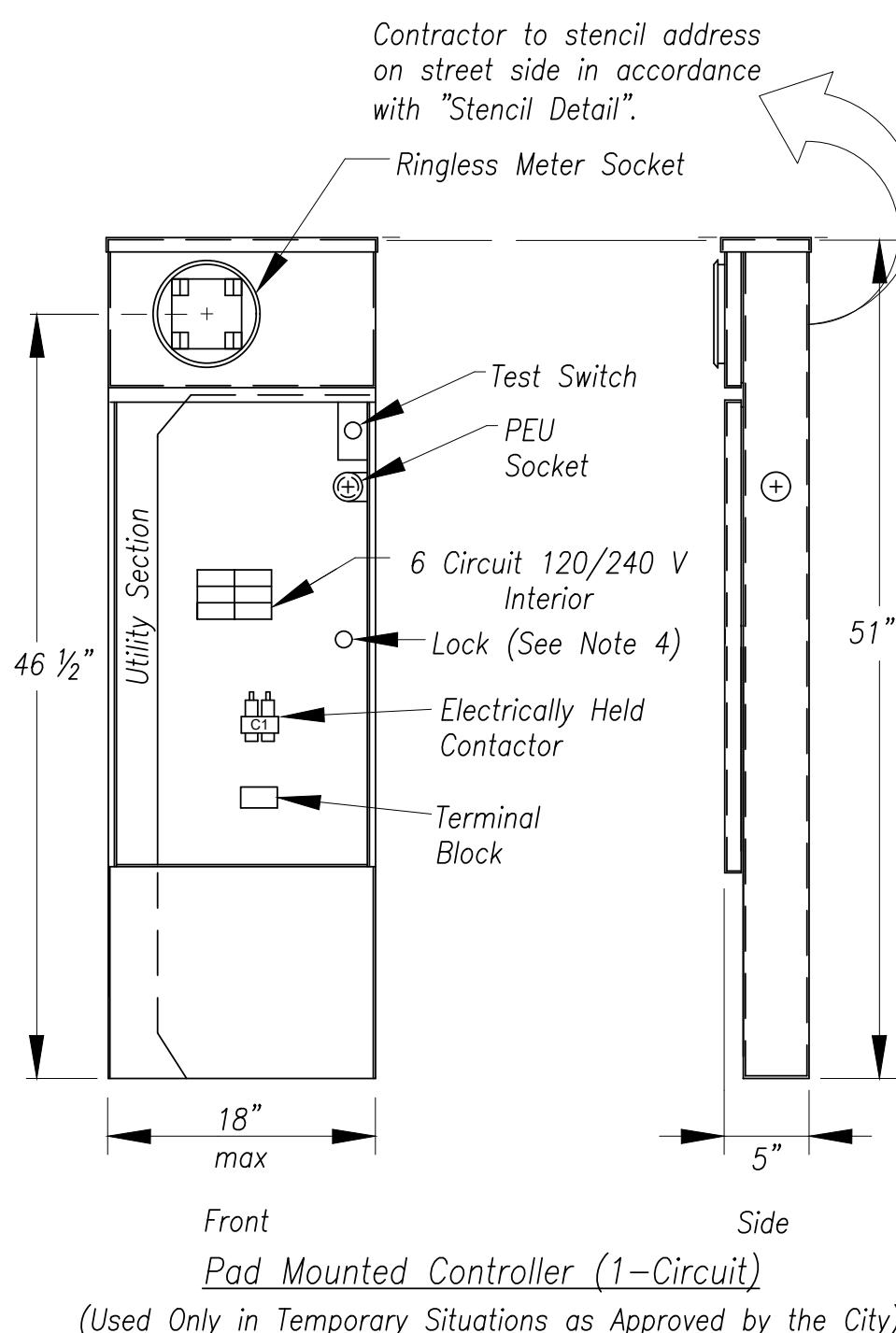
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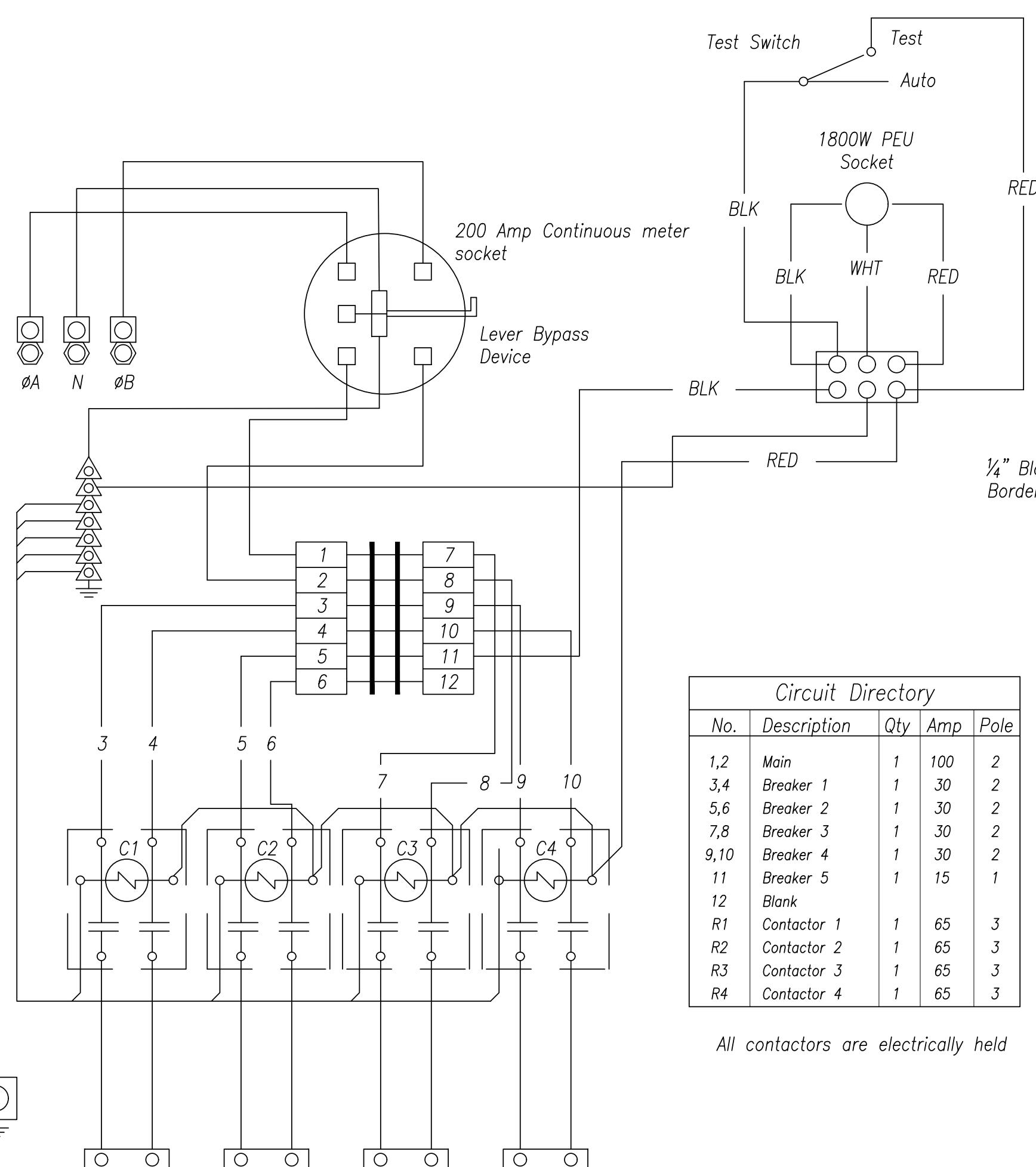
**STREETLIGHT DETAIL SHEET**



**Streetlighting Service Connection Details**

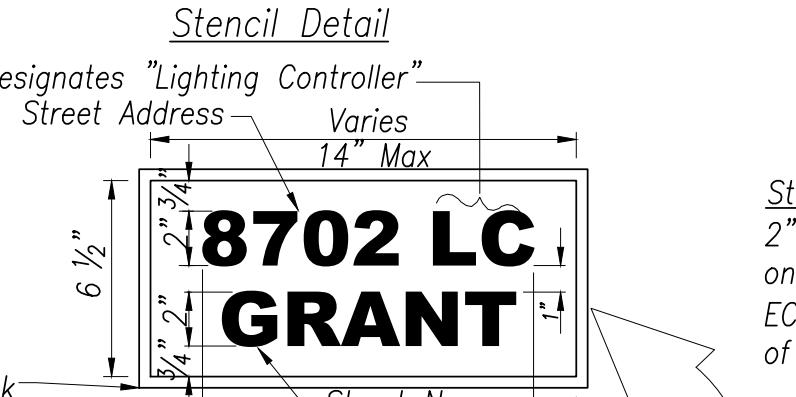
Notes:

1. Contractor shall trench Schedule 40 PVC (gray) or bore/trench SDR 13.5 HDPE (black with red stripe) conduit (2" for single circuit controller or 3" for four circuit controller) from the controller cabinet to the Energy Service Pedestal. The conduit shall be installed 30" deep with a 36" radius 90° PVC elbow where indicated.
2. Sweep 3" Sch 40 PVC conduit elbow up to within 7" from the base of the Energy power pole. If possible:
  - When there are multiple conduits on the power pole, the new conduit should be installed adjacent to, and in contact with, the existing conduits. Verify with Energy.
  - Do not stub the conduit up underneath a pole mounted transformer.
  - Install the conduit on the side of the pole opposite the direction of approaching traffic and the side away from the street.
3. Contractor shall install electrical service power cable from the streetlight controller cabinet to the Energy service pedestal and connect cables to the meter lugs. Coil 24" of extra cable inside of the service pedestal for Energy to make connections.
4. If HDPE conduit is used between the streetlight controller cabinet and the Energy service pedestal, the contractor shall transition to PVC elbows with approved couplings.
5. Contractor shall pick up Energy supplied service pedestal from Energy facility at 19950 Newton Dr., Stillwell, KS 66085. Call 48 hours in advance to coordinate. Install as indicated according to Detail A. (Not required if power is obtained from a ground mounted transformer).

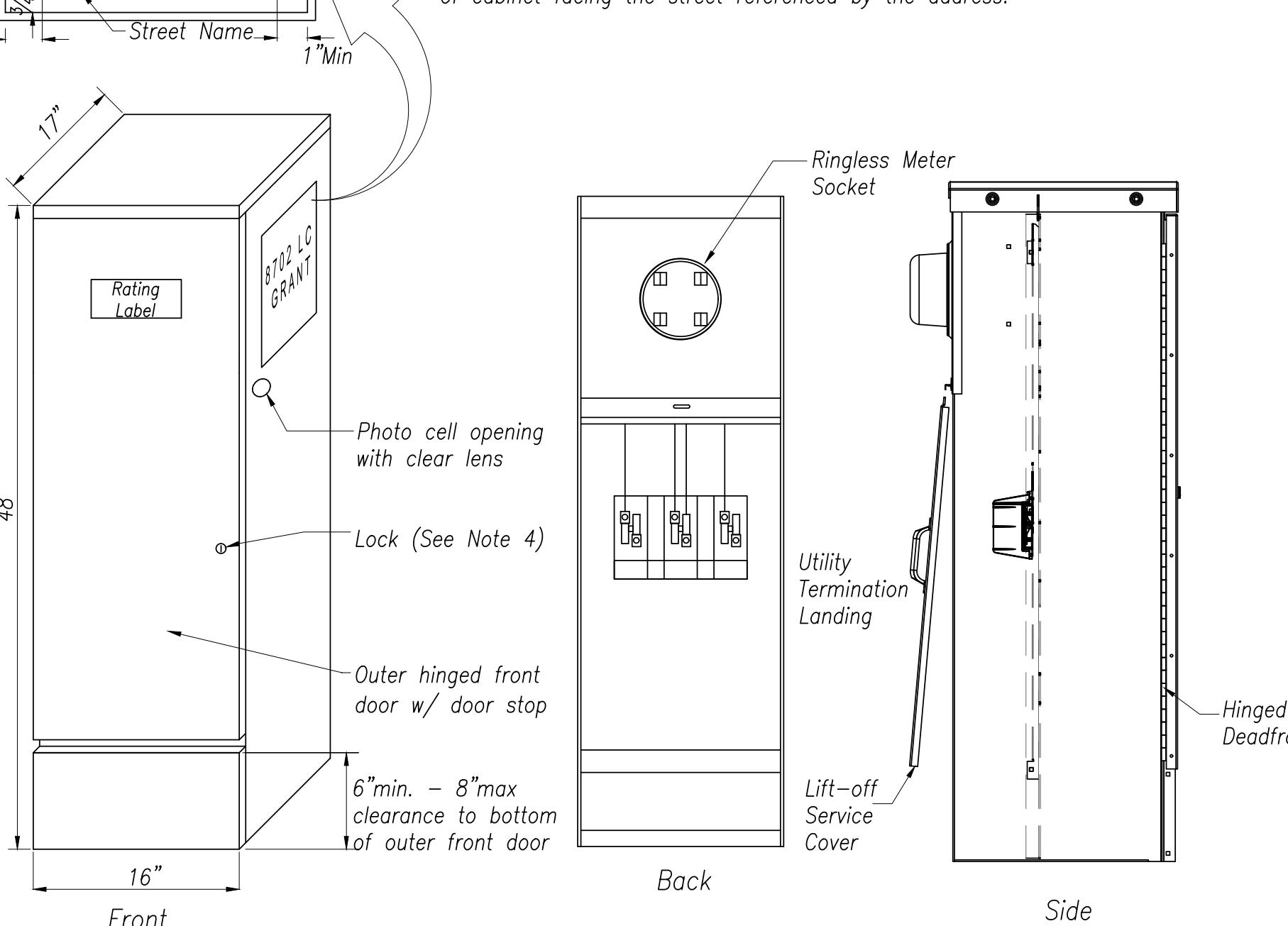


Circuit Directory				
No.	Description	Qty	Amp	Pole
1,2	Main	1	100	2
3,4	Breaker 1	1	30	2
5,6	Breaker 2	1	30	2
7,8	Breaker 3	1	30	2
9,10	Breaker 4	1	30	2
11	Breaker 5	1	15	1
12	Blank			
R1	Contactor 1	1	65	3
R2	Contactor 2	1	65	3
R3	Contactor 3	1	65	3
R4	Contactor 4	1	65	3

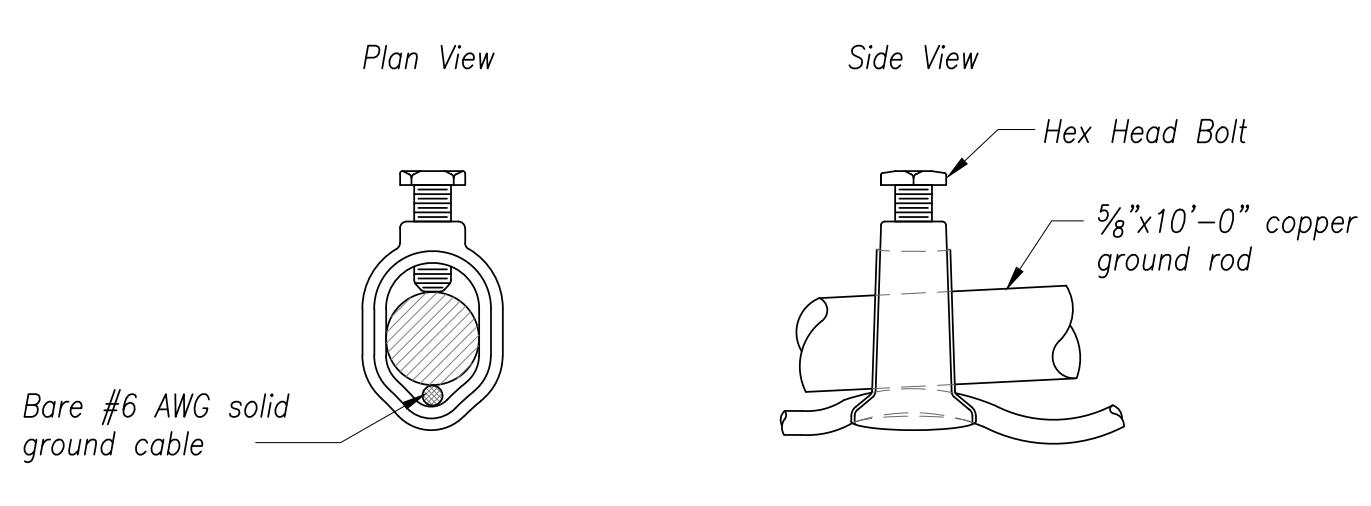
All contactors are electrically held



**Stencil Detail Note:**  
2" high black EC film letters and numerals applied to a one piece Type XI retro-reflective sheeting with a black EC film border by the contractor. Apply on "street side" of cabinet facing the street referenced by the address.



Pad Mounted Controller (4-Circuit)



Ground Rod Clamp Connection Detail

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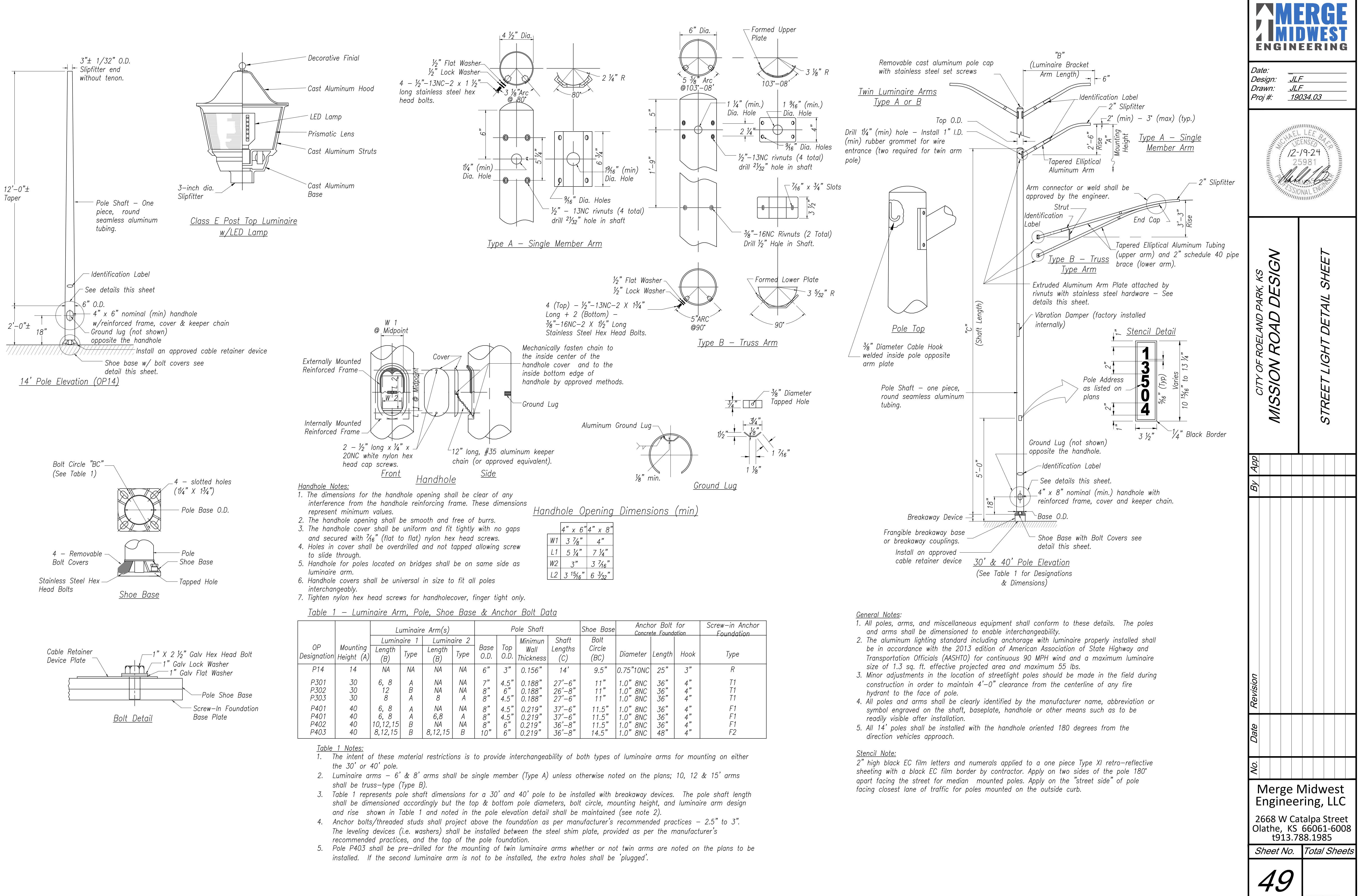
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Proj #: 19034.03



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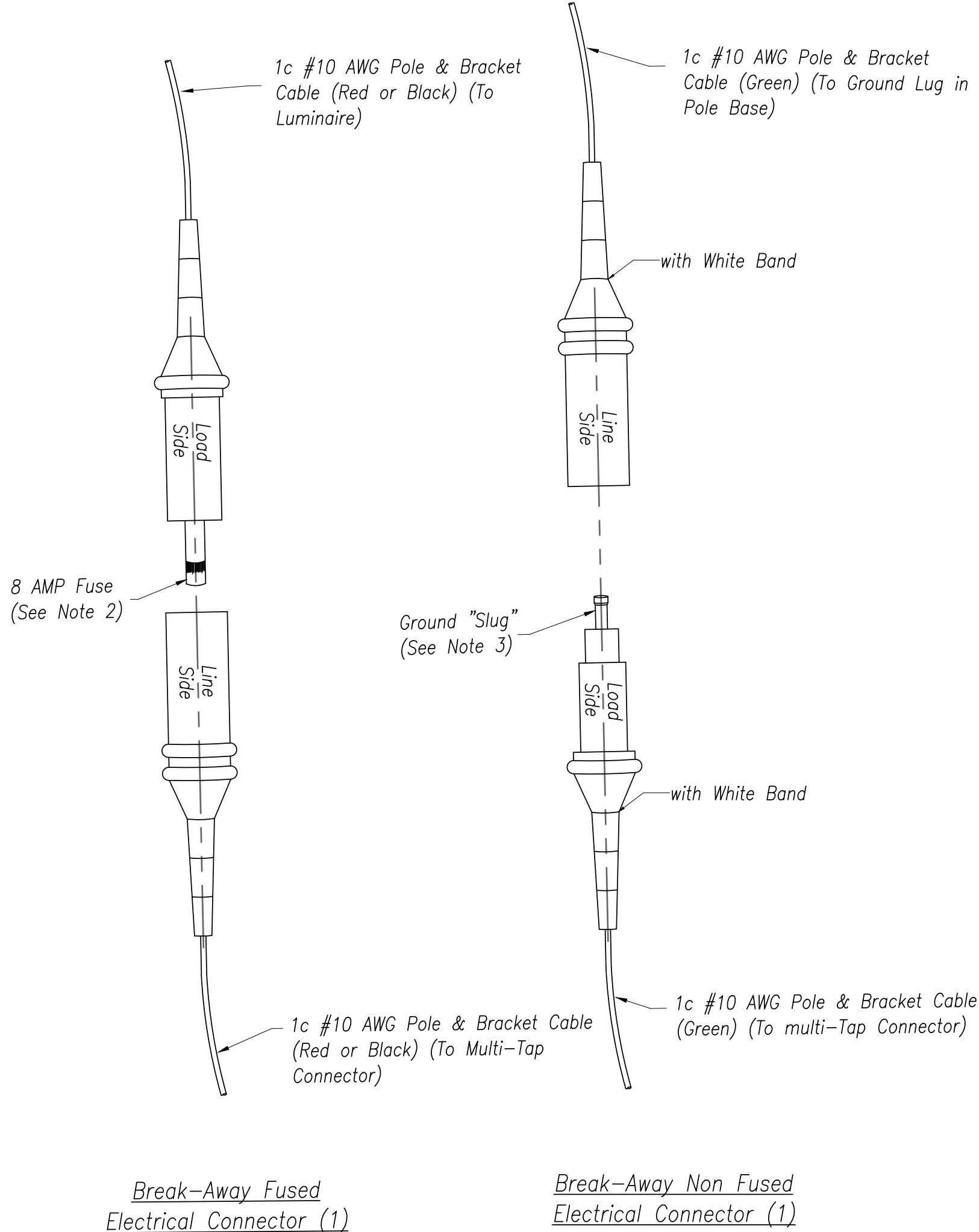
STREET LIGHT DETAIL SHEET

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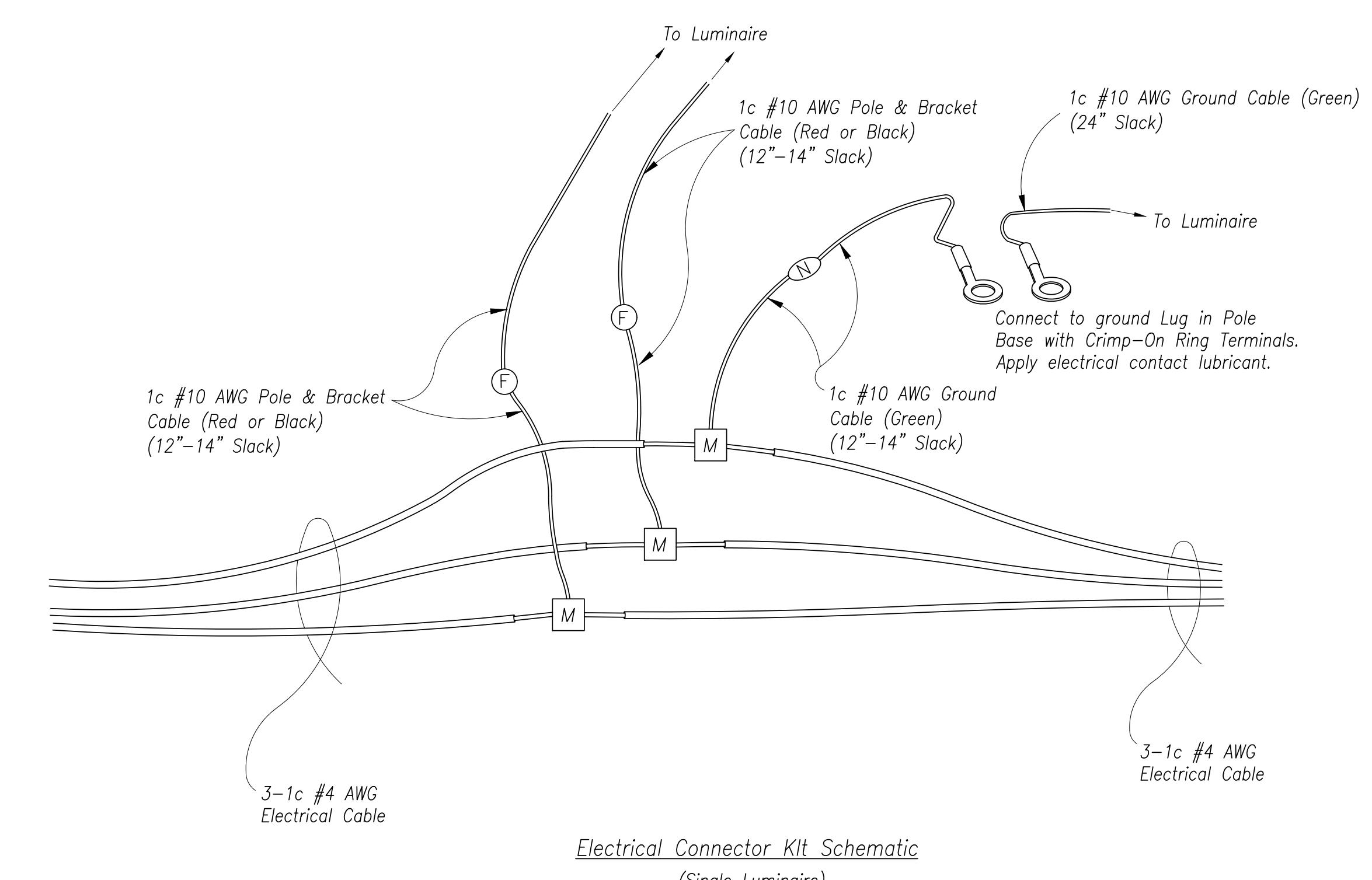
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Notes:

1. "Load" and "Line" refer to the actual marking for identification on the fuse holder.
2. Fuse remains in "Load Side" after break-away.
3. Ground "Slug" remains in "Load Side" after break-away.

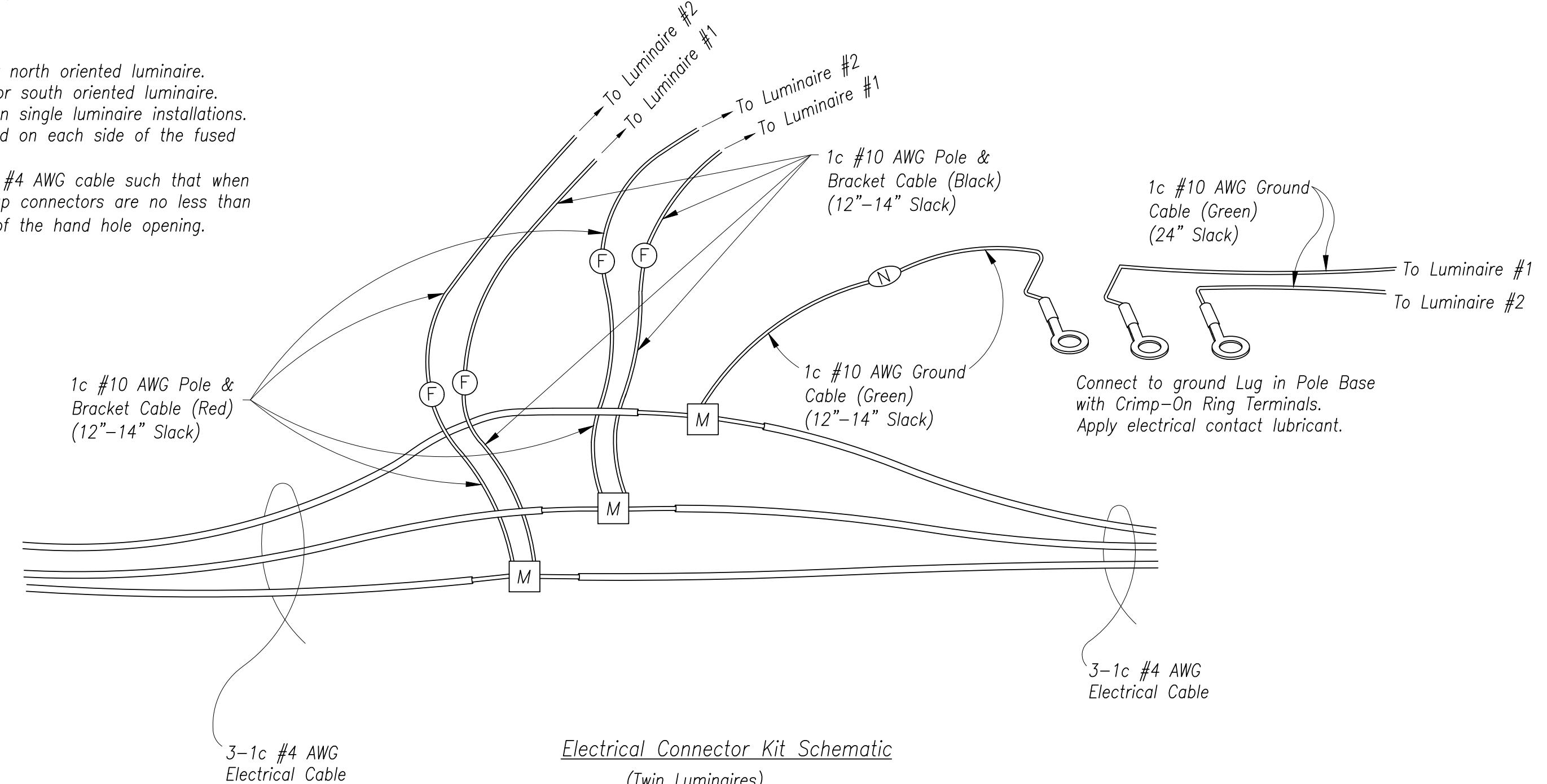


Legend

- [M] Multi-Tap Electrical Connector
- [F] Break-Away Fused Electrical Connector with 8 Amp Fuse
- [N] Break-Away Non-Fused Electrical Connector with Ground "Slug"
- [S] Splice Kit

Notes:

1. Red cables shall be connected to west or north oriented luminaire. Black cables shall be connected to east or south oriented luminaire. Either red or black cables can be used on single luminaire installations.
2. The specified cable slack shall be provided on each side of the fused and un-fused connectors.
3. Additional slack shall be provided for the #4 AWG cable such that when extended upward, the top of the multi-tap connectors are no less than 1" and no more than 3" above the top of the hand hole opening.



Electrical Connector Kit Schematic  
(Twin Luminaires)



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STREET LIGHT DETAIL SHEET

