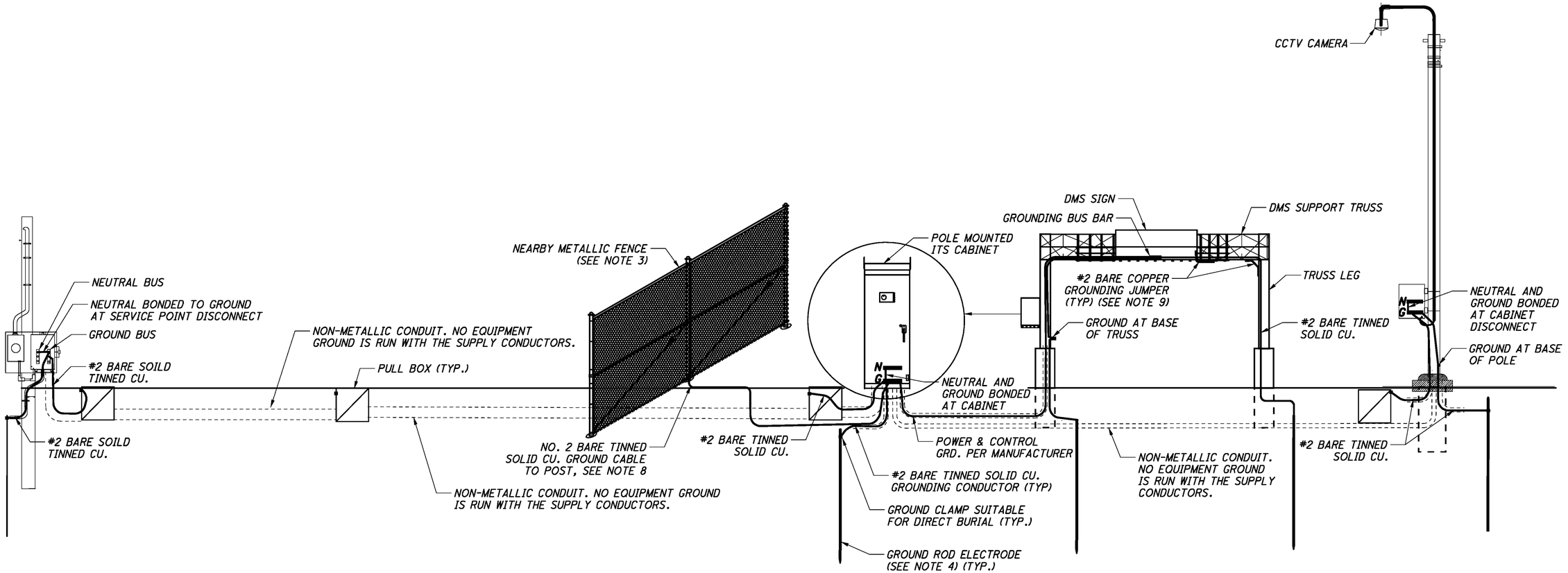


DMS SITE GROUND RING

ITS CABINET SHALL BE POLE MOUNTED
THIS DIAGRAM IS TO SHOW THE ROUTING AND PLACEMENT OF CONDUIT, CABLES, AND GROUND RODS.

NOTES:

1. ADDITIONAL GROUND ROD ELECTRODES SHALL BE ADDED TO GROUNDING CONDUCTOR AS REQUIRED UNTIL RESISTANCE TO GROUND IS 5 OHMS OR LESS FOR DEVICE LOCATIONS AND 25 OHMS OR LESS AT POWER SERVICE AND PULL BOX. IF ADDITIONAL GROUND ROD ELECTRODES ARE REQUIRED IN ORDER TO ACHIEVE REQUIRED RESISTANCE THEY SHALL RADIATE OUT FROM EXISTING GROUND ROD ELECTRODES, SHALL BE CONNECTED WITH #2 BARE TINNED SOLID CONDUCTOR, AND SHALL BE 30' FROM CONNECTED GROUND ROD. ALL COMMUNICATION EQUIPMENT GROUNDING SITES SHALL BE TESTED FOR RESISTANCE TO GROUND USING THE THREE- POINT/FALL-OF-POTENTIAL TEST PER ANSI/I/EEE STD 81. SEE GROUNDING SPECIFICATIONS.
2. GROUND ROD ELECTRODES SHALL NOT BE ROUTED THROUGH FOUNDATIONS.
3. FENCES AND OTHER METALLIC STRUCTURES WITH PATHS TO GROUND SHALL BE CONNECTED TO THE GROUNDING CONDUCTOR IF THEY ARE LOCATED WITHIN 10' OF THE GROUNDING ELECTRODE SYSTEM OR ANY OBJECT GROUNDED TO THE GROUNDING ELECTRODE SYSTEM. SEE STANDARD CONSTRUCTION DRAWING HL-50.11.
4. GROUND ROD ELECTRODES SHALL BE BURIED TO A MINIMUM DEPTH OF 36 INCHES BELOW FINISHED GRADE, WHERE POSSIBLE.
5. CCTV CAMERA AND ASSOCIATED PULL BOX SHALL BE CONNECTED TO THE DMS SITE GROUND RING ONLY WHEN EITHER THE DMS TRUSS OR THE DMS CONTROL CABINET IS LOCATED CLOSER TO THE BASE OF THE CCTV POLE THAN THE LENGTH OF THE CCTV POLE.
6. ALL EQUIPMENT GROUNDS SHALL BE PROPERLY CONNECTED TO A CHASSIS; ALL PAINT AND OTHER COATINGS, INCLUDING GALVANIZATION, SHALL BE REMOVED PRIOR TO TERMINATION OF A GROUND. AFTER THE GROUND IS TERMINATED A NON-OXIDIZING COATING SHALL BE PAINTED OVER THE EXPOSED METAL SURFACES.
7. GROUNDING ELECTRODE SYSTEM CONNECTIONS TO FENCING SHALL BE MADE USING HEAVY DUTY TINNED LISTED PIPE CLAMPS DESIGNED FOR GROUNDING AND STAINLESS STEEL HARDWARE. SEE STANDARD CONSTRUCTION DRAWING HL- 50.11.
8. ALL GROUNDING DIAGRAMS ARE SCHEMATIC ONLY.
9. ALL METALLIC MEMBERS OF THE DMS TRUSS AND THE DMS SIGN WITHIN 6 FEET OF EACH OTHER SHALL BE BONDED TOGETHER. WELDS SHALL BE CONSIDERED AN ACCEPTABLE BONDING METHOD. U-BOLT CONNECTIONS SHALL NOT BE CONSIDERED AN ACCEPTABLE BONDING METHOD.
10. AT LEAST AN 8 INCH MINIMUM BENDING RADIUS SHALL BE MAINTAINED ON ALL GROUNDING ELECTRODE CONDUCTORS. THE ANGLE OF ANY BEND SHALL NOT BE LESS THEN 90°.
11. GROUNDING CONDUCTORS SHALL ALWAYS ROUTE AS STRAIGHT AS POSSIBLE. "U" FORM JUMPERS SHALL BE ACCEPTABLE ONLY FOR GATES AND DOORS.
12. THE QUANTITY OF GROUNDING ELECTRODE CONDUCTORS CONNECTED TO A GROUND ROD ELECTRODE SHALL BE LIMITED TO FOUR.
13. WHENEVER POSSIBLE, GROUND ROD ELECTRODES SHALL BE INSTALLED NO CLOSER THAN 16.5' FROM A FOUNDATION.
14. SEE SHEET 16 FOR DETAILED NEUTRAL AND EQUIPMENT GROUND CONDUCTOR INSTALLATION REQUIREMENTS.
15. GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH. SPLICING SHALL BE PERMITTED ONLY BY IRREVERSIBLE COMPRESSION-TYPE CONNECTORS LISTED AS GROUNDING AND BONDING EQUIPMENT OR BY EXOTHERMIC WELDING PROCESS.

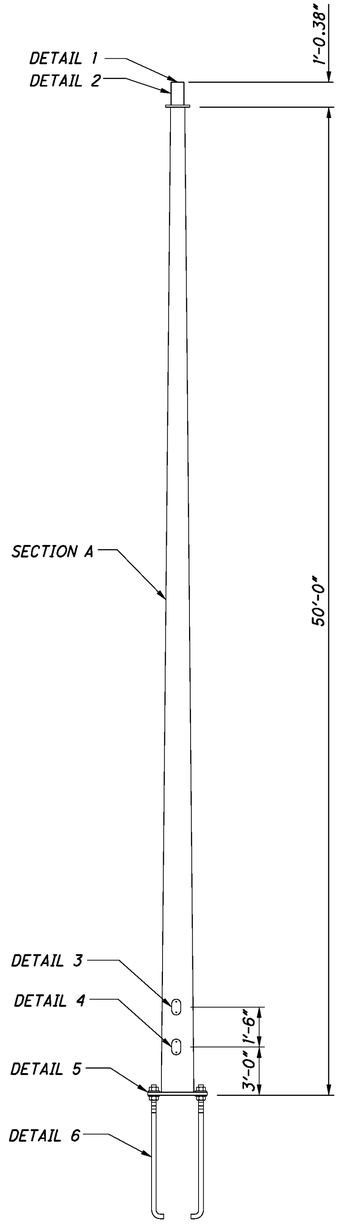
CALCULATED STS
CHECKED JDG

SITE GROUNDING

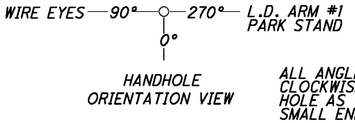
STA-SUM ITS

NOTES:

1. CONTRACTOR SHALL PROVIDE THE DETAILS OF A (2 PIECE) 70' CCTV POLE AND FOUNDATION FOR REVIEW AND APPROVAL BY THE ENGINEER.
2. POLE ORIENTATION TO BE DETERMINED BY THE ENGINEER.
3. THIS SHEET IS INCLUDED TO SHOW TYPICAL INFORMATION TO BE PROVIDED BY THE CONTRACTOR FOR A 70' CAMERA POLE DETAIL



CCTV CAMERA POLE (50 FT.)

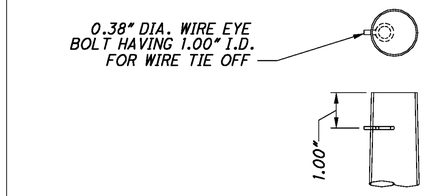


HANDHOLE ORIENTATION VIEW

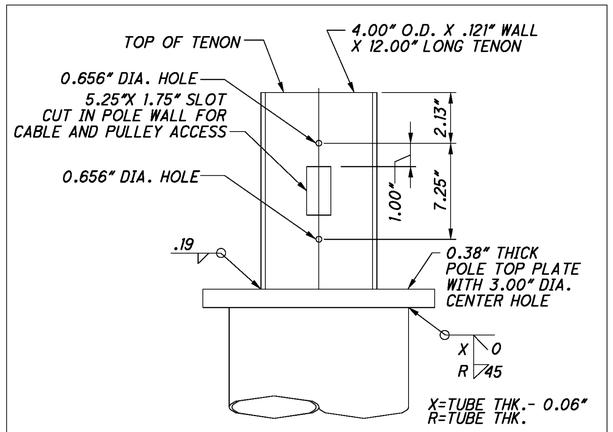
ALL ANGLES MEASURED CLOCKWISE FROM HAND-HOLE AS VIEWED FROM SMALL END OF POLE

MAXIMUM HORIZONTAL DEFLECTION IS 1" FOR A SUSTAINED 30 MPH WIND VELICITY W/NO GUST

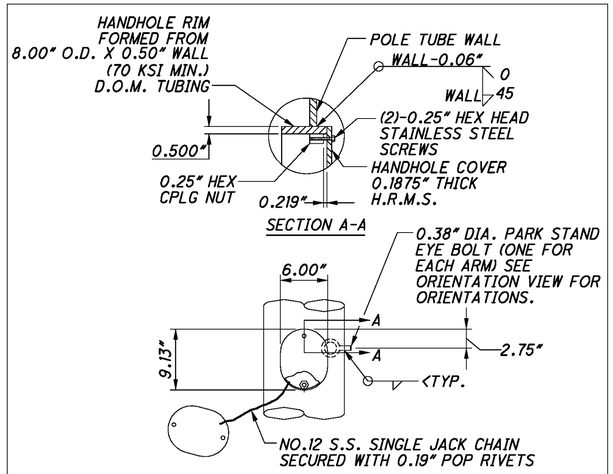
LOADING AND ALLOWING STRESS CRITERIA: 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."



DETAIL 1 — TENON TOP

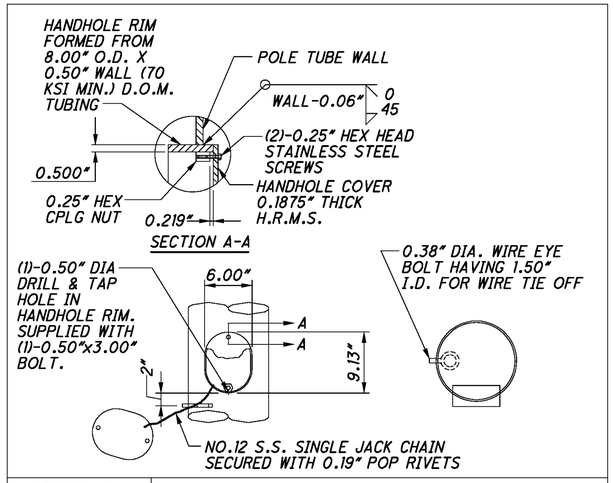


DETAIL 2 — POLE TENON

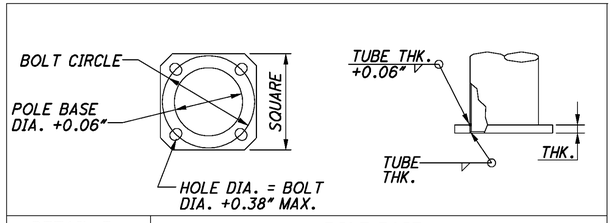


DETAIL 3 — HANDHOLE & EYE BOLT

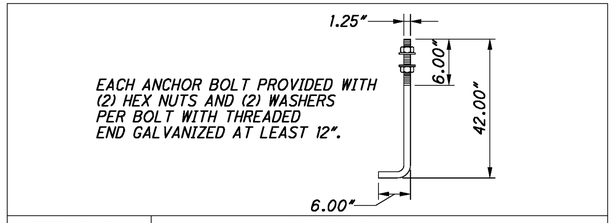
MATERIAL DATA		
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFTS	A595 GR.A	55
BASE PLATES	A36	36
POLE TOP PLATE	A36	36
TENON - C.D.S. TUBING	----	42
ANCHOR BOLTS	F1554 GR.55	55
GALVANIZING - STRUCTURE	A123	--
GALVANIZING - HARDWARE	A153	--



DETAIL 4 — HANDHOLE



DETAIL 5 — POLE BASE



DETAIL 6 — ANCHOR BOLT

POLE DATA														
					TUBE						POLE BASE			
ITEM	QTY.	DESIGNATION EPA/MASS (FT)/(LB)	HEIGHT (FT)	NO. L.D. ARMS REQ'D	SECTION	BASE DIAMETER (IN)	TOP DIAMETER (IN)	LENGTH (FT)	GAUGE OR THICK	MINIMUM SLIP LENGHT	SQUARE (IN)	BOLT CIRCLE DIA (IN)	THICK (IN)	BOLT HOLE DIA. (IN)
1	2	AHM050-SPCL (GV) 2.8/120(LD+CAMERA) 7.9/150(PANEL BOX)	50.00	1	A	18.00	6.00	50.00	5 GA	N/A				1.563

CALCULATED STS CHECKED JDG

CCTV CAMERA POLE DETAIL (50')

STA-SUM ITS

19
154

M:\JOBS\42430\TECHPROD\13311\traffic\sheets\13311GM007.dgn 18-NOV-2008 2:17PM jrlove

(PB1) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.43, 84' LT.

(PB2) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.43, 84' LT.

(PB3) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.44, 81' LT.

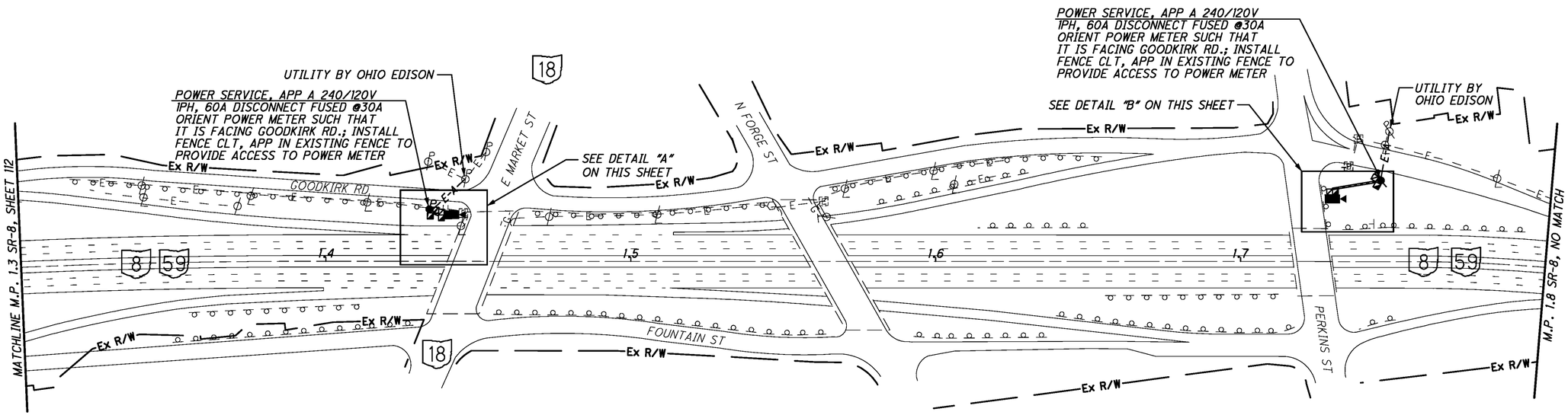
(PB4) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.44, 81' LT.

(PB5) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.73, 114' LT.

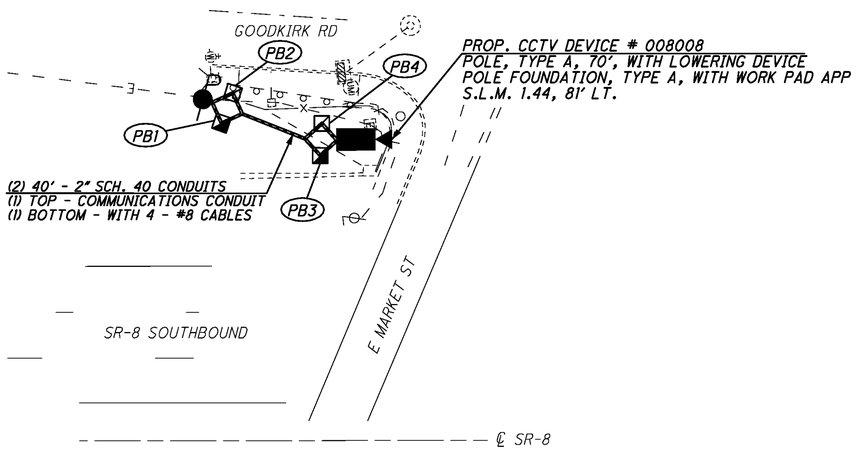
(PB6) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.73, 114' LT.

(PB7) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.74, 138' LT.

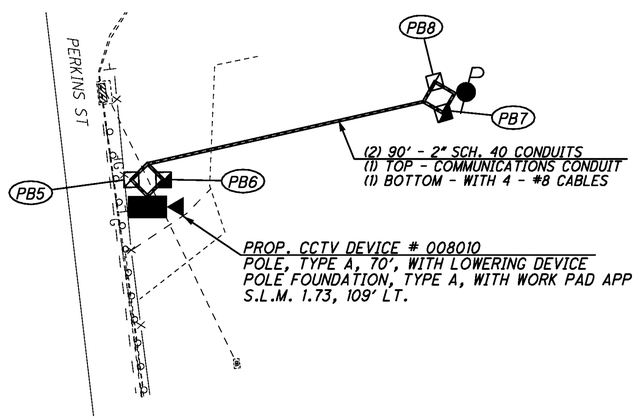
(PB8) - PROP. PULL BOX, 725.08: 18", S.L.M. 1.74, 138' LT.



DETAIL "A" - NOT TO SCALE



DETAIL "B" - NOT TO SCALE



REFER TO SHEET 11 FOR CONDUIT DETAILS

REFER TO SHEET 12 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 13 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 20 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 41 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 140 FOR TYPICAL COMMUNICATIONS PLANS

REFER TO SHEET 145 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 008008
CCTV 008010

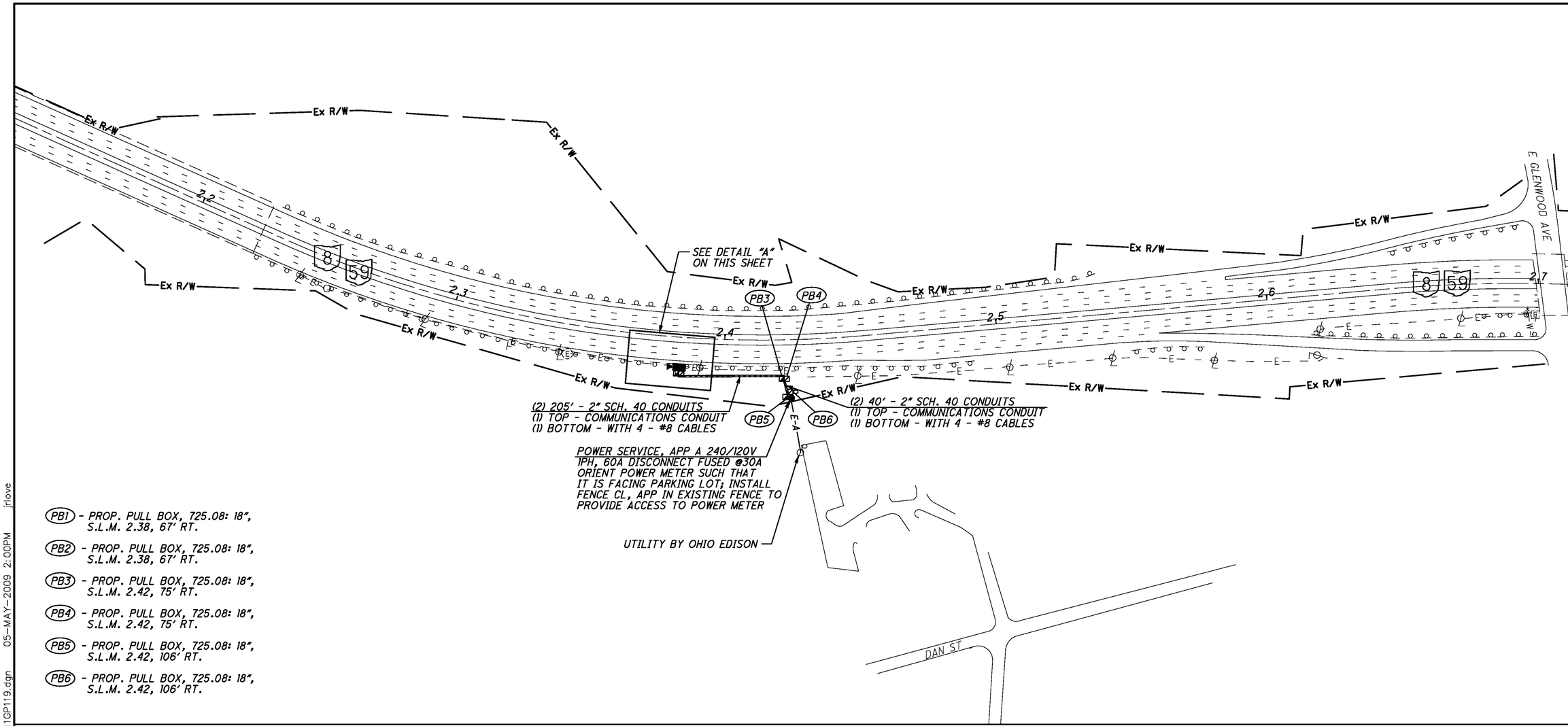
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 AT SR-18 (MP 1.3 TO MP 1.8)
CITY OF AKRON, SUMMIT OCUNTY

STA-SUM ITS

113
154



(PB1) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.38, 67' RT.

(PB2) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.38, 67' RT.

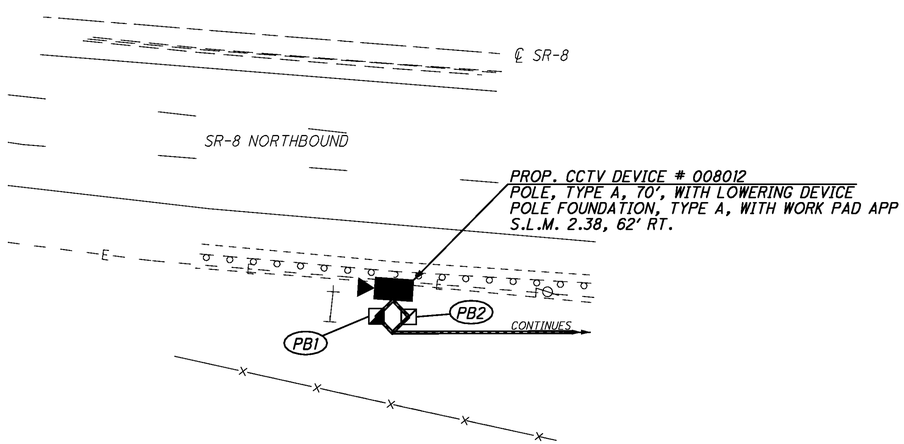
(PB3) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.42, 75' RT.

(PB4) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.42, 75' RT.

(PB5) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.42, 106' RT.

(PB6) - PROP. PULL BOX, 725.08: 18", S.L.M. 2.42, 106' RT.

DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONDUIT DETAILS

REFER TO SHEET 12 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 13 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 22 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 41 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 140 TYPICAL COMMUNICATIONS PLANS

REFER TO SHEET 143 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 008012

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 AT GLENWOOD AVE. (MP 2.12 TO MP 2.72)
CITY OF AKRON, SUMMIT COUNTY

STA-SUM ITS

114
154

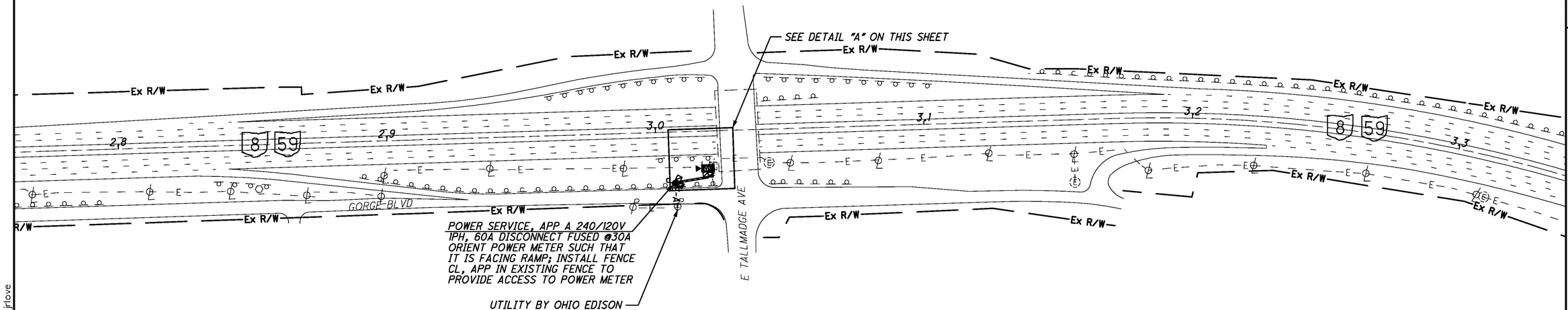
\\Clew00\PWWork\JOBS\42430\TECHPROD\13311\traffic\sheets\13311GP119.dgn 05-MAY-2009 2:00PM jrlove

PB1 - PROP. PULL BOX, 725.08: 18", S.L.M. 3.01, 98' RT.

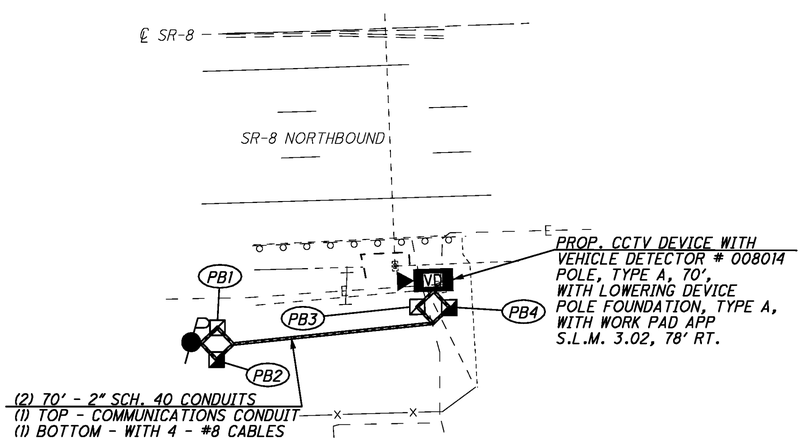
PB2 - PROP. PULL BOX, 725.08: 18", S.L.M. 3.01, 98' RT.

PB3 - PROP. PULL BOX, 725.08: 18", S.L.M. 3.02, 83' RT.

PB4 - PROP. PULL BOX, 725.08: 18", S.L.M. 3.02, 83' RT.



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONDUIT DETAILS

REFER TO SHEET 12 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 13 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 22 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 41 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 140 FOR TYPICAL COMMUNICATIONS PLANS

REFER TO SHEET 144 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 008014

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 AT TALLMADGE AVE. (MP 2.8 TO MP 3.3)
CITY OF AKRON, SUMMIT COUNTY

STA-SUM ITS

115
154