

# PIER CAP RETROFIT - CONSTRUCTION SEQUENCE

1. IMPLEMENT TRAFFIC CONTROL MEASURES AS NOTED FOR RESPECTIVE PIER.
2. INSTALL SCAFFOLDING INCLUDING CONTAINMENT MEASURES TO PROTECT SURROUNDING AREAS, TRAVELING PUBLIC AND/OR PEDESTRIANS IN THE VICINITY OF THE WORK
3. INSTALL SHEAR STUDS TO UNDERSIDE OF STEEL BOX GIRDERS.
  - I. MEDIA BLAST THE UNDERSIDE OF THE EXISTING STEEL PIER CAP TO NEAR-WHITE (SSPC-SP 10/NACE NO. 2) IN THE VICINITY OF THE GROUT PADS PRIOR TO INSTALLATION OF STUDS. PROVIDE CONTAINMENT TO PREVENT BLASTING MEDIA AND DEBRIS FROM IMPACTING THE SURROUNDING AREAS, TRAVELING PUBLIC, OR PEDESTRIANS. REMOVE BLASTING MEDIA AND DEBRIS FROM THE UNDERSIDE OF THE EXISTING PIER CAP PRIOR TO INSTALLATION OF THE STUDS.
  - II. INSTALL SHEAR STUDS USING ELECTRIC ARC STUD WELDING ONLY. SUBMIT A SHEAR STUD DETAIL FOR REVIEW AND ACCEPTANCE. HOT WELDING OR BOLTED STUDS ARE NOT ACCEPTABLE.
4. REMOVE UNSOUND CONCRETE AT SELECTED PIERS, AS NOTED. ROUGHEN EXISTING COLUMN AROUND ITS PERIPHERY WITHIN THE LIMITS OF RETROFIT.
5. INSTALL FORMWORK, REINFORCEMENT CAGE, DUCTS FOR TENDONS AND TRANSVERSE PT RODS.
6. CAST SELF-CONSOLIDATING CONCRETE AS FOLLOWS:
  - A. IN COORDINATION WITH AUTHORITY OPERATIONS, IMPLEMENT SLOW ORDER TO LIMIT TRAIN TRAFFIC ON THE STRUCTURE TO 15 MPH.
  - B. PLACE SELF-CONSOLIDATING CONCRETE IMMEDIATELY PRIOR TO MINIMUM 4 HOUR FULL LINE SHUTDOWN, SCHEDULED SUCH THAT PLACEMENT ACTIVITIES ARE COMPLETED IN TIME TO ALLOW FOR 4 HOURS OF CONCRETE CURING BEFORE LIVE LOAD IS ALLOWED ON THE STRUCTURE.
  - C. AFTER 4 HOURS OF CURING LIVE LOAD MAY BE ALLOWED ON THE STRUCTURE UNDER THE SLOW ORDER.
  - D. LIFT SLOW ORDER AND ALLOW NORMAL OPERATION OF TRAIN TRAFFIC AFTER SUFFICIENT TIME TO ALLOW THE SELF-CONSOLIDATING CONCRETE TO ACHIEVE A COMPRESSIVE STRENGTH OF 2000 PSI.
7. AFTER CONCRETE HAS ACHIEVED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH TENSION THE TRANSVERSE PT RODS IN THE SEQUENCE INDICATED.
8. INSTALL LONGITUDINAL PT TENDONS.
9. AFTER CONCRETE HAS ACHIEVED THE SPECIFIED COMPRESSIVE VALUE INDICATED IN NOTE D.7, TENSION LONGITUDINAL PT TENDONS.
10. GROUT TENDONS.
11. INSTALL TENDON CAP AND GROUT CAP.
12. INSTALL REINFORCEMENT FOR THE CLOSURE POURS.
13. CAST SELF-CONSOLIDATING CONCRETE FOR THE CLOSURE POURS AS FOLLOWS:
  - A. IN COORDINATION WITH AUTHORITY OPERATIONS, IMPLEMENT SLOW ORDER TO LIMIT TRAIN TRAFFIC ON THE STRUCTURE TO 15 MPH.
  - B. PLACE SELF-CONSOLIDATING CONCRETE IMMEDIATELY PRIOR TO MINIMUM 4 HOUR FULL LINE SHUTDOWN, SCHEDULED SUCH THAT PLACEMENT ACTIVITIES ARE COMPLETED IN TIME TO ALLOW FOR 4 HOURS OF CONCRETE CURING BEFORE LIVE LOAD IS ALLOWED ON THE STRUCTURE.
- C. AFTER 4 HOURS OF CURING LIVE LOAD MAY BE ALLOWED ON THE STRUCTURE UNDER THE SLOW ORDER.
- D. LIFT SLOW ORDER AND ALLOW NORMAL OPERATION OF TRAIN TRAFFIC AFTER SUFFICIENT TIME TO ALLOW THE SELF-CONSOLIDATING CONCRETE TO ACHIEVE A COMPRESSIVE STRENGTH OF 2000 PSI.

# PIER CAP RETROFIT - SUPPLEMENTAL NOTES

1. ALL PIERS: PRIOR TO PREPARATION OF SHOP AND/OR FALSEWORK DRAWINGS:
  - viii. PERFORM FIELD SURVEY SUFFICIENT TO ESTABLISH THE LOCATION OF WP A. AFTER THE LOCATION OF WP A HAS BEEN ESTABLISHED, VERIFY DIMENSIONS A THRU G AND ADJUST AS NECESSARY BASED ON CONTROL DIMENSION 1 AND CONTROL DIMENSION 2. SEE SHEETS A13-S-103 AND A13-S-104.
  - ii. SUBMIT RESULTS OF SURVEY IN TABULAR FORM.
  - iii. WITH SUBMISSION, EITHER CONFIRM DIMENSIONS E, G AND V OR INDICATE REVISED DIMENSIONS CONSISTENT WITH SURVEY.
  - iv. BASE LONGITUDINAL TENDON AND REBAR DIMENSIONS ON RESULTS OF SURVEY.
  - v. WITH SUBMISSION, LIST THE ACTUAL VERTICAL CLEARANCES THAT WILL BE CONSTRUCTED FOR PIERS A5447, A5435 AND A5403. NOTE IF ANY OF THESE CLEARANCES WILL BE LESS THAN 16'-9", AND IF SO, REQUEST DIRECTION FROM THE A.R. BEFORE PROCEEDING WITH SHOP/OR ERECTION DRAWINGS FOR THE RESPECTIVE PIERS.
  - vi. WITH SUBMISSION, LIST THE ACTUAL HORIZONTAL CLEARANCES THAT WILL BE CONSTRUCTED FROM THE EDGE OF ALL APPLICABLE CORNERS OF THE RETROFIT TO THE EDGE OF THE CURB LINES FOR PIERS A5403, A5392 AND A5376. NOTE IF ANY OF THESE CLEARANCES WILL BE LESS THAN 6" AND IF SO, REQUEST DIRECTION FROM THE A.R. BEFORE PROCEEDING WITH SHOP/OR ERECTION DRAWINGS FOR THIS PIER.
  - vii. DO NOT PREPARE SHOP AND/OR FALSEWORK DRAWINGS UNTIL OWNER REVIEWS AND ACCEPTS ANY REVISIONS TO DIMENSIONS INDICATED ON THE DRAWINGS.
2. ALL PIERS: PRIOR TO PREPARATION OF FALSEWORK DRAWINGS:
  - a. CONTACT UTILITIES AND LOCATE ALL UTILITIES IN IMMEDIATE VICINITY OF PIER CAP RETROFITS.
  - b. WHERE UTILITIES MAY BE IN CONFLICT WITH FALSEWORK OR CONSTRUCTION OPERATIONS, SUBMIT PLAN INFORMATION WITH UTILITIES APPROPRIATELY MARKED.
  - c. BASE FALSEWORK DESIGN ON LOCATION OF EXISTING UTILITIES.
3. MAINTAIN 16'-0" VERTICAL CLEARANCE FROM THE BOTTOM OF ALL FORMWORK, FALSEWORK, WORK PLATFORMS, CONSTRUCTION EQUIPMENT AND ALL OTHER TEMPORARY CONSTRUCTION APPURTENANCES DURING CONSTRUCTION. PROTECT ALL FORMWORK, FALSEWORK, WORK PLATFORMS, CONSTRUCTION EQUIPMENT AND ALL OTHER TEMPORARY CONSTRUCTION APPURTENANCES ADJACENT TO MD SHA ROADWAYS AND SHOULDERS WITH < 16'-0" OF VERTICAL CLEARANCE WITH A CRASHWORTHY BARRIER.
4. PIER A5447: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING DECORATIVE WALL AND ADJACENT PLANTINGS.
5. PIER A5435: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING CURB, GUARD RAIL, AND SIDEWALK AND TO MINIMIZE DISTURBANCE TO ADJACENT PLANTINGS. PROTECT CONSTRUCTION WORK ZONE FROM PEDESTRIANS. PROVIDE AN ALTERNATIVE WALKWAY FOR PEDESTRIANS DURING RETROFIT OPERATIONS. REPAIR, TO SATISFACTION OF OWNER, ANY CURB, GUARD RAIL AND/OR SIDEWALK ELEMENTS DAMAGED IN THE COURSE OF OPERATIONS. REPLACE PORTIONS OF GUARD RAIL AS INDICATED IN ROADWAY PLANS.
6. PIERS A5403, A5392 A5376, A5366: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING CURB, GUARD RAIL, SIGNAGE, POLES (SUPPORTING PEDESTRIAN LIGHTS AND CAMERAS), AND IMPACT ATTENUATORS. REPAIR, TO SATISFACTION OF OWNER, ANY CURB, GUARD RAIL, SIGNAGE, POLES AND/OR IMPACT ATTENUATOR ELEMENTS DAMAGED IN THE COURSE OF OPERATIONS. REPLACE PORTIONS OF GUARD RAIL AS INDICATED IN ROADWAY PLANS.
7. PIERS A5376, A5366, A5356, A5345, A5335, A5324, A5313, A5302, A5290: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF THE EXISTING MAINTENANCE ROADWAY LOCATED BETWEEN GROSVENOR AVENUE AND PIER A5290 IN THE MEDIAN OF ROCKVILLE PIKE (MD 355). REPAIR, TO SATISFACTION OF OWNER, ANY MAINTENANCE ROADWAY ELEMENTS DAMAGED IN THE COURSE OF OPERATIONS.
8. PIER A5392: RELOCATE CONDUIT, JUNCTION BOX AND WIRING THAT ENERGIZES THE TRAFFIC SIGNAL HEADS SUPPORTED BY THE SUPERSTRUCTURE PRIOR TO INSTALLATION OF FORMWORK.
9. PIER A5376: RECONSTRUCT PORTION OF EAST CURB, ROCKVILLE PIKE SB, CONCURRENT WITH PIER CAP RETROFIT.
10. PIERS A5356, A5324: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING ROCKVILLE PIKE SB LATERAL DRAINAGE SYSTEM (PIPES, ENCASEMENT AND SLOPE DRAINAGE). REPAIR, TO SATISFACTION OF OWNER, ANY ELEMENTS OF THE DRAINAGE SYSTEM DAMAGED IN THE COURSE OF OPERATIONS.
11. ALL PIERS: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING DRAINAGE OUTLET SYSTEM. REPAIR, TO SATISFACTION OF OWNER, ANY ELEMENTS OF THE OUTLET SYSTEM DAMAGED IN THE COURSE OF OPERATIONS. REMOVAL OF ANY PORTION OF THE OUTLET SYSTEM IS PROHIBITED.
12. PIERS A5279, A5238, A5212, A5186: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF EXISTING GUARD RAIL. IMMEDIATELY REPAIR, TO SATISFACTION OF OWNER, ANY GUARD RAIL ELEMENTS DAMAGED IN THE COURSE OF OPERATIONS.
13. PIERS A5238, A5212: CONSTRUCT FALSEWORK AND EXECUTE WORK IN A MANNER TO AVOID DISTURBANCE OF OR IMPOSITION OF LOAD ON EXISTING DRAINAGE SYSTEM (INCLUDING PIPING, CHANNELS AND PROTECTIVE FENCING). IMMEDIATELY REPAIR, TO SATISFACTION OF OWNER, ANY DRAINAGE ELEMENTS DAMAGED IN THE COURSE OF OPERATIONS.
14. PIERS A5238, A5212, A5186: CONSTRUCT FALSEWORK WITH ADEQUATE CLEARANCE TO ANY GUARD RAIL AND SUPPORT BARRIERS ADJACENT TO INTERSTATE HIGHWAY TO THE EXTENT THAT FALSEWORK IMPOSES NO LOADING ON THESE ELEMENTS.
15. PIERS A5366, A5324, A5240: REMOVE UNSOUND CONCRETE PRIOR TO SURFACE ROUGHENING. (SEE DETAIL SHEET A13-S-104.) ROUGHEN REMAINING SURFACES WITHIN LIMIT OF RETROFIT THAT HAVE NOT HAD UNSOUND CONCRETE REMOVED.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

REFERENCE DRAWINGS			REVISIONS		
DESIGNED	DATE	NUMBER	DATE	BY	DESCRIPTION
LMK	1-31-14				
CJP	1-31-14				
TGL	3-3-14				
TGL	4-10-14				



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE  
AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED BRAD MASON  
PROJECT MANAGER

## RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE PIER CAP RETROFIT CONSTRUCTION SEQUENCE

SCALE  
NO SCALE

DRAWING NO.  
A13-S-002

M1272-119



**APPROXIMATE QUANTITIES - PIER CAP RETROFIT AND DECK JOINT REPLACEMENT**

ITEM	UNIT	LOCATION													
		A5460	A5447	A5435	A5419	A5403	A5392	A5376	A5366	A5356	A5345	A5335	A5324	A5313	A5302
SELF CONSOLIDATING CONCRETE	CY	--	30	33	--	35	35	38	30	30	30	30	30	30	30
CONCRETE REINFORCEMENT	LB	--	5800	6200	--	6600	6600	7000	5600	5600	5800	5800	5800	5800	5800
CONCRETE POST TENSIONING <sup>(1)</sup>	EA	--	1	1	--	1	1	1	1	1	1	1	1	1	1
NON-METALLIC NON-SHRINK GROUTING	CY	--	4	4	--	5	5	5	3	3	3	3	4	4	4
FABRICATED STRUCTURAL STEEL <sup>(2)</sup>	LB	--	4800	5000	--	5200	5400	5000	4800	4800	4800	5000	5000	5000	5000
COMPRESSION SEAL WITH JOINT SEALER	LF	42	68	60	60	60	70	64	64	64	64	64	64	64	64
BEARING REPLACEMENT	EA	4	8	--	--	--	--	--	--	--	--	--	8	--	--
EPOXY RESIN CONCRETE SEALER	SY	62	35	35	--	35	35	35	35	35	35	35	35	35	35
DRAINAGE RETROFIT	EA	--	1	1	1	1	1	1	1	1	1	1	1	1	1

**APPROXIMATE QUANTITIES - PIER CAP RETROFIT AND DECK JOINT REPLACEMENT**

ITEM	UNIT	LOCATION												TOTAL
		A5290 <sup>(3)</sup>	A5279	A5268	A5258	A5248	A5238	A5225	A5212	A5199	A5186	A5225	A5162	
SELF CONSOLIDATING CONCRETE	CY	--	30	30	30	30	34	--	30	30	30	--	--	625
CONCRETE REINFORCEMENT	LB	--	5800	5800	5800	5800	6400	--	5800	5800	5800	--	--	119400
CONCRETE POST TENSIONING <sup>(1)</sup>	EA	--	1	1	1	1	1	--	1	1	1	--	--	20
NON-METALLIC NON-SHRINK GROUTING	CY	--	4	4	4	4	5	--	4	4	4	--	--	80
FABRICATED STRUCTURAL STEEL <sup>(2)</sup>	LB	--	5000	5000	5000	5000	5400	--	5000	5000	5000	--	--	100200
COMPRESSION SEAL WITH JOINT SEALER	LF	--	62	60	60	62	62	64	62	62	60	62	32	1520
BEARING REPLACEMENT	EA	--	--	--	--	--	--	--	8	--	--	--	--	28
EPOXY RESIN CONCRETE SEALER	SY	--	35	35	35	35	35	--	35	35	35	--	--	762
DRAINAGE RETROFIT	EA	1	1	1	1	1	1	1	1	1	1	1	--	24

<sup>(1)</sup> INCLUDES 4 LONGITUDINAL POST-TENSIONING TENDONS, ALL RELATED HARDWARE, 12 TRANSVERSE POST-TENSIONING BARS, SLEEVES AND RELATED HARDWARE. SEE PROJECT SPECIFICATIONS FOR POST-TENSIONING TENDON MOCKUP.

<sup>(2)</sup> INCLUDES CLAMPING PLATE ASSEMBLY AND SHEAR STUDS.

<sup>(3)</sup> CONSTRUCTION OF PIER CAP RETROFIT (INCLUDING ALL COMPONENTS) AND JOINT REPLACEMENT COMPLETED UNDER J.O.C CONTRACT. DRAINAGE RETROFIT NOT COMPLETED UNDER J.O.C CONTRACT.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

REFERENCE DRAWINGS		REVISIONS		
DESIGNED	NUMBER	DESCRIPTION	DATE	BY
JBR	1-30-14			
CJP	1-30-14			
ESN	11-14-14			
ESN	11-14-14			



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE  
AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED BRAD MASON  
PROJECT MANAGER

**RED LINE REHABILITATION  
GROSVENOR AERIAL STRUCTURE**

QUANTITIES

SCALE  
NO SCALE

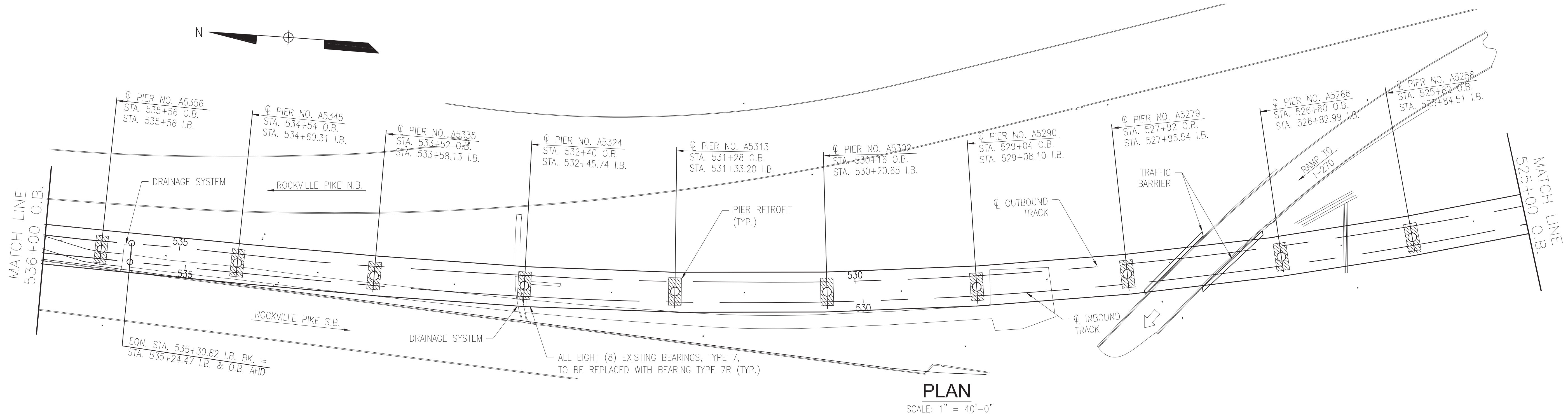
DRAWING NO.  
A13-S-003

M1272-120

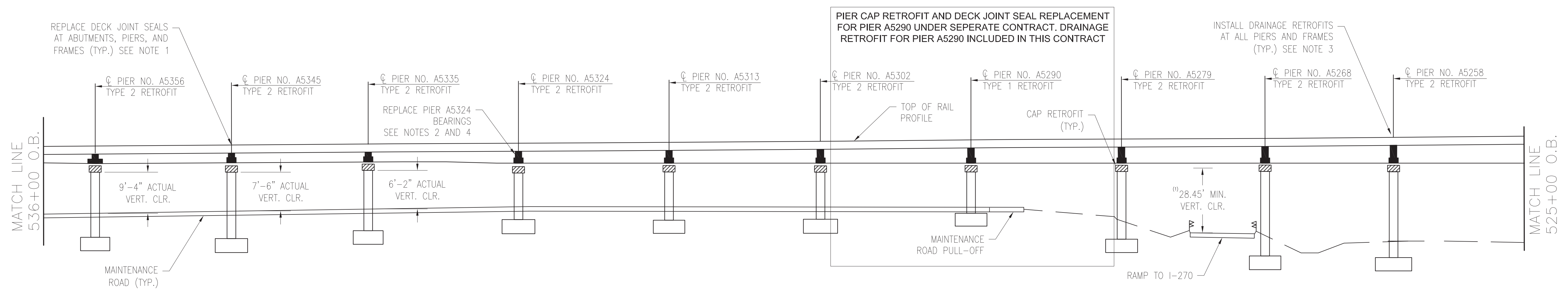








**PLAN**  
SCALE: 1" = 40'-0"



**LONGITUDINAL SECTION**  
HORIZ. SCALE: 1" = 40'-0"  
VERTICAL SCALE: 1" = 20'-0"

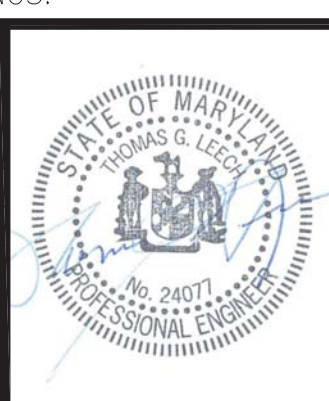
- NOTES:
- SEE DRAWING NO. A13-S-108 FOR REPLACEMENT OF DECK JOINTS.
  - FOR BEARING REPLACEMENT GENERAL NOTES, SEE DRAWING NO. A13-S-109.
  - SEE DRAWING NO. A13-M-112 THRU A13-M-117 AND A13-M-500 FOR DRAINAGE RETROFIT PLANS.
  - FOR BEARING DETAILS, SEE DRAWING NO. A13-S-110 THRU A13-S-111.
  - FOR TEMPORARY DIAPHRAGM DETAILS, SEE DRAWING NO. A13-S-112.
- (1) MINIMUM VERTICAL CLEARANCE OVER RAMP TO I-270 IS BASED ON THE AS-BUILT STRUCTURE DRAWINGS.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

CONTRACT NO. **FQ15093**

NOVEMBER 14, 2014

DESIGNED		DATE		NUMBER		DESCRIPTION		DATE		BY		REVISIONS		DESCRIPTION	
LMK	1-31-14	1-31-14													
CJP	1-31-14	1-31-14													
IGL	3-3-14	3-3-14													
IGL	4-10-14	4-10-14													



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

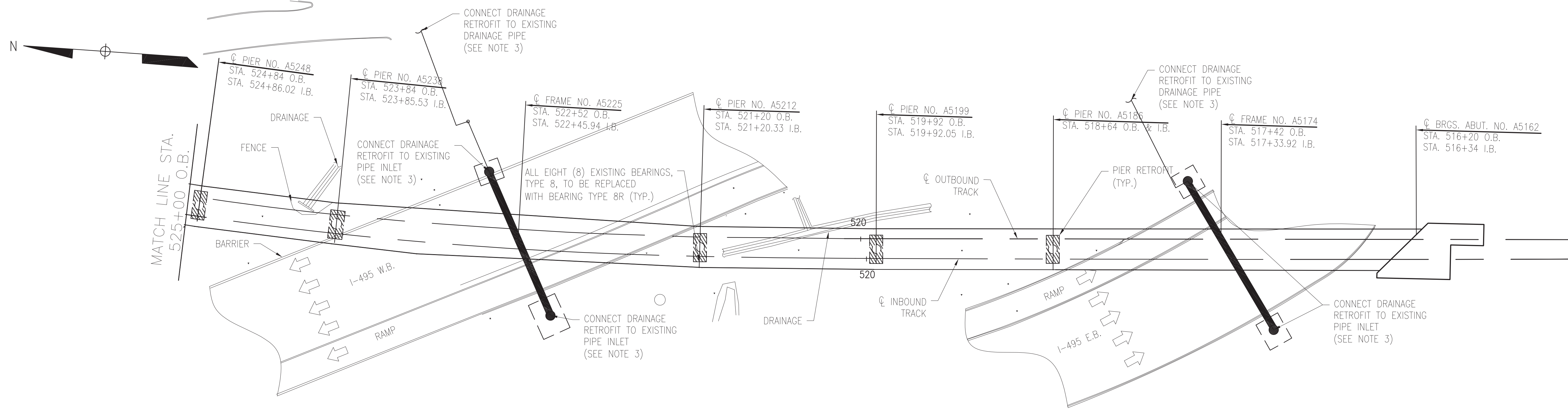
**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

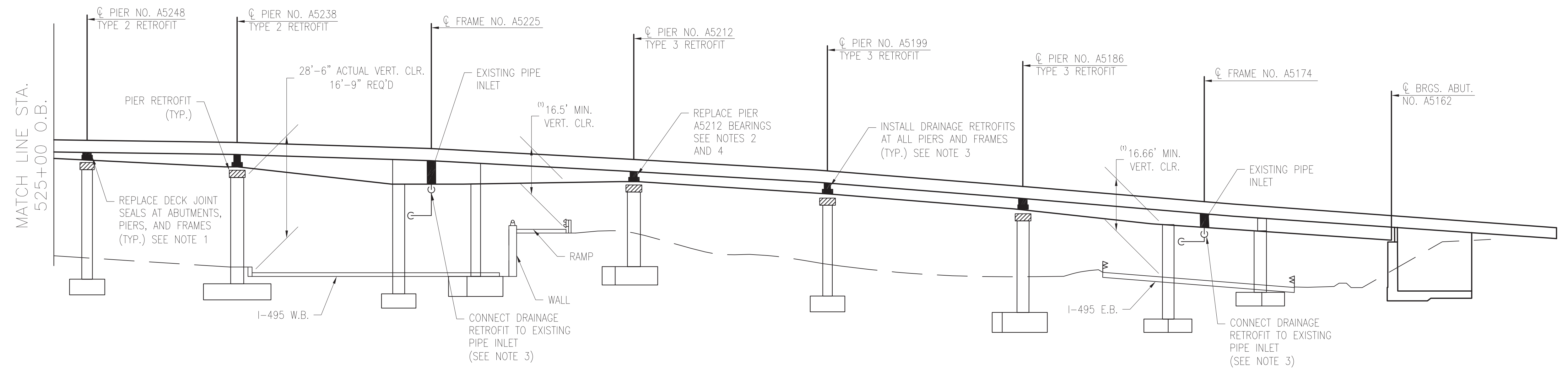
**RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE**  
GENERAL PLAN & ELEVATION 2

SCALE AS SHOWN DRAWING NO. A13-S-101 CONTRACT NO. FQ15093 M1272-122





**PLAN**  
SCALE: 1" = 40'-0"



**LONGITUDINAL SECTION**

HORIZ. SCALE: 1" = 40'-0"  
VERTICAL SCALE: 1" = 20'-0"

- NOTES:
- SEE DRAWING NO. A13-S-108 FOR REPLACEMENT OF DECK JOINTS.
  - FOR BEARING REPLACEMENT GENERAL NOTES, SEE DRAWING NO. A13-S-109.
  - SEE DRAWING NO. A13-M-112 THRU A13-M-117 AND A13-M-500 FOR DRAINAGE RETROFIT PLANS.
  - FOR BEARING DETAILS, SEE DRAWING NO. A13-S-110 THRU A13-S-111.
  - FOR TEMPORARY DIAPHRAGM DETAILS, SEE DRAWING NO. A13-S-112.
- (1) MINIMUM VERTICAL CLEARANCE OVER I-495 E.B., W.B., AND RAMP ARE BASED ON THE AS-BUILT STRUCTURE DRAWINGS.

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CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

DESIGNED LMK 1-31-14  
DATE  
DRAWN CJP 1-31-14  
DATE  
CHECKED TGL 3-3-14  
DATE  
APPROVED TGL 4-10-14  
DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

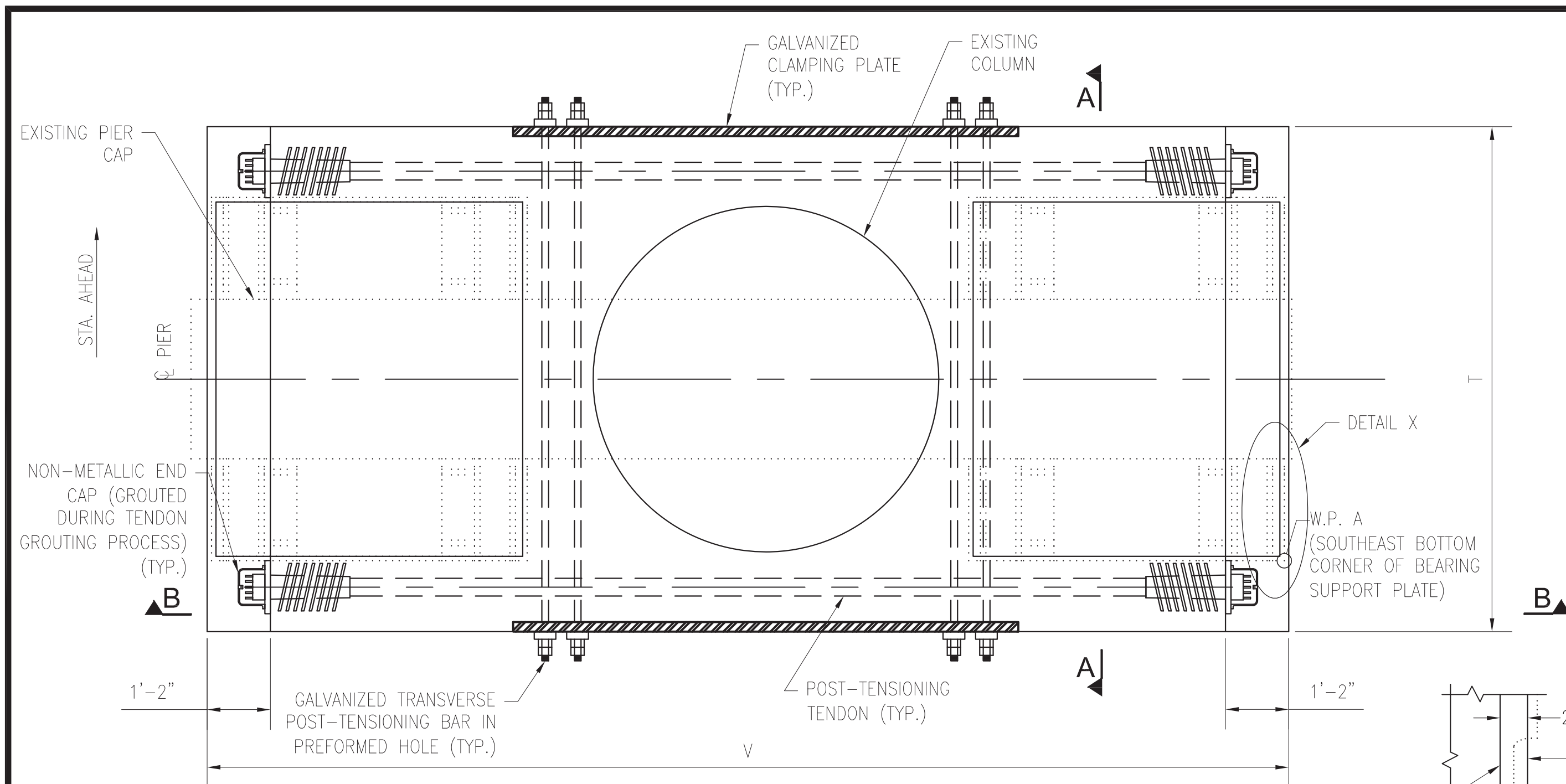
**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON  
PROJECT MANAGER

**RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE**  
GENERAL PLAN & ELEVATION 3

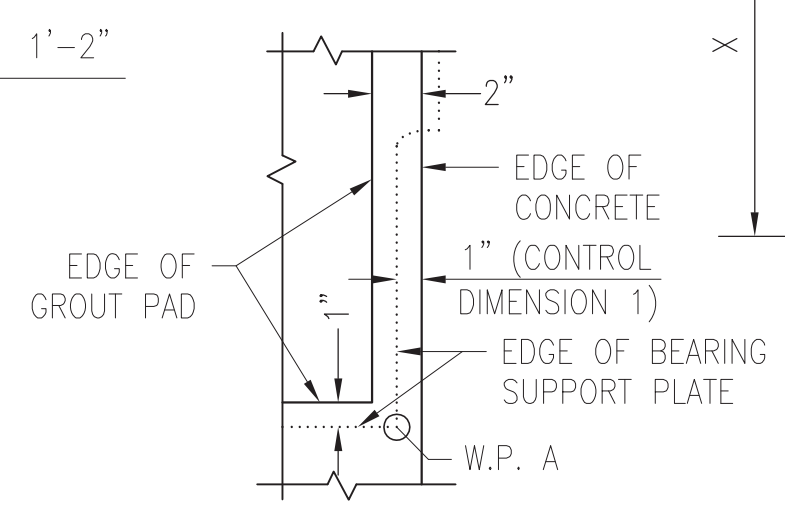
SCALE AS SHOWN DRAWING NO. A13-S-102 M1272-123



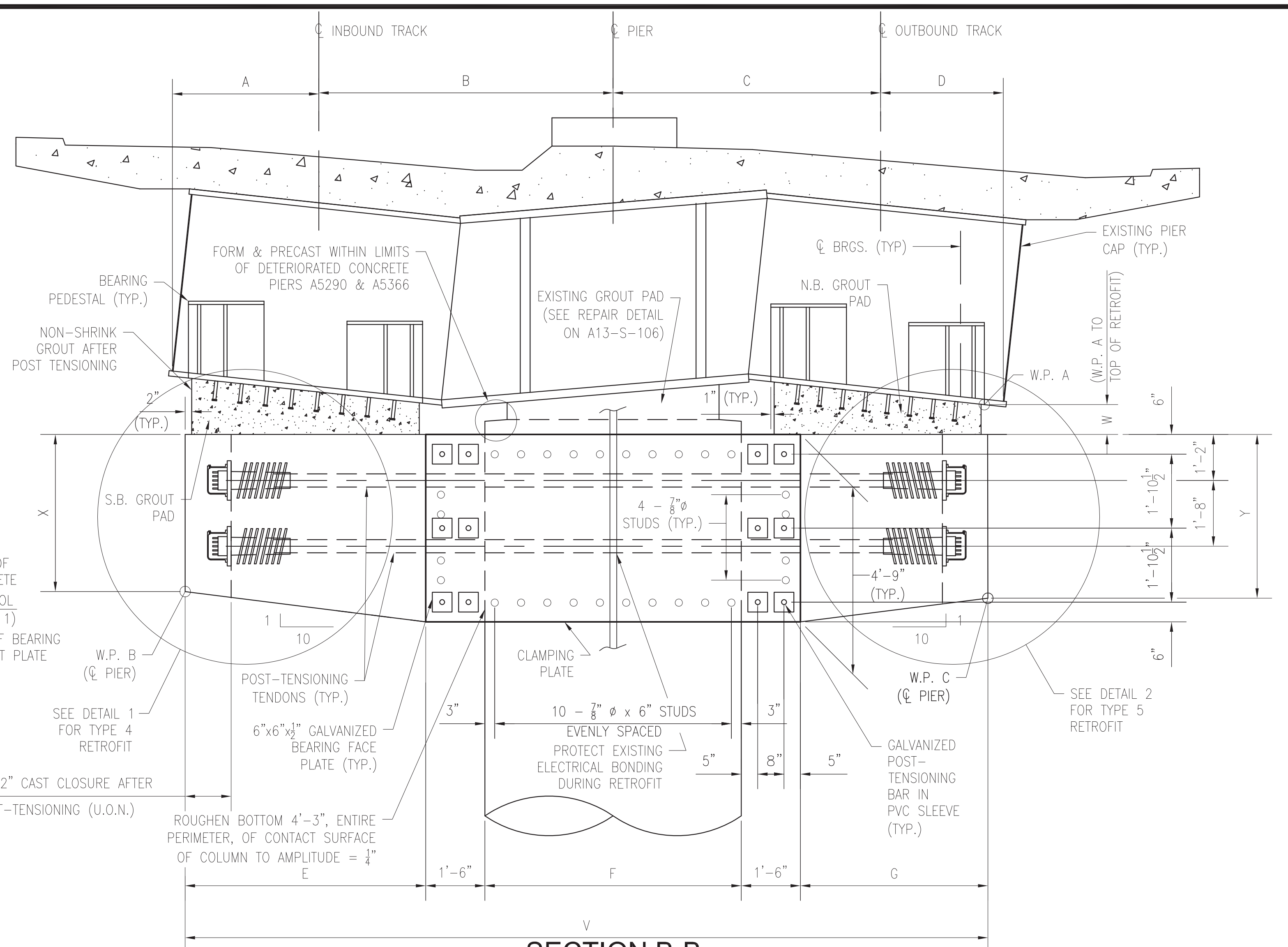


**SECTIONAL PLAN AT TOP OF COLUMN**

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

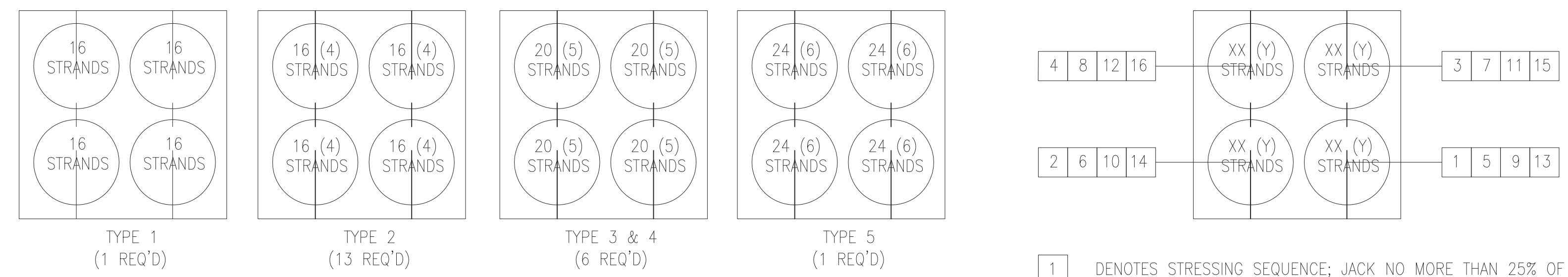


**DETAIL X**  
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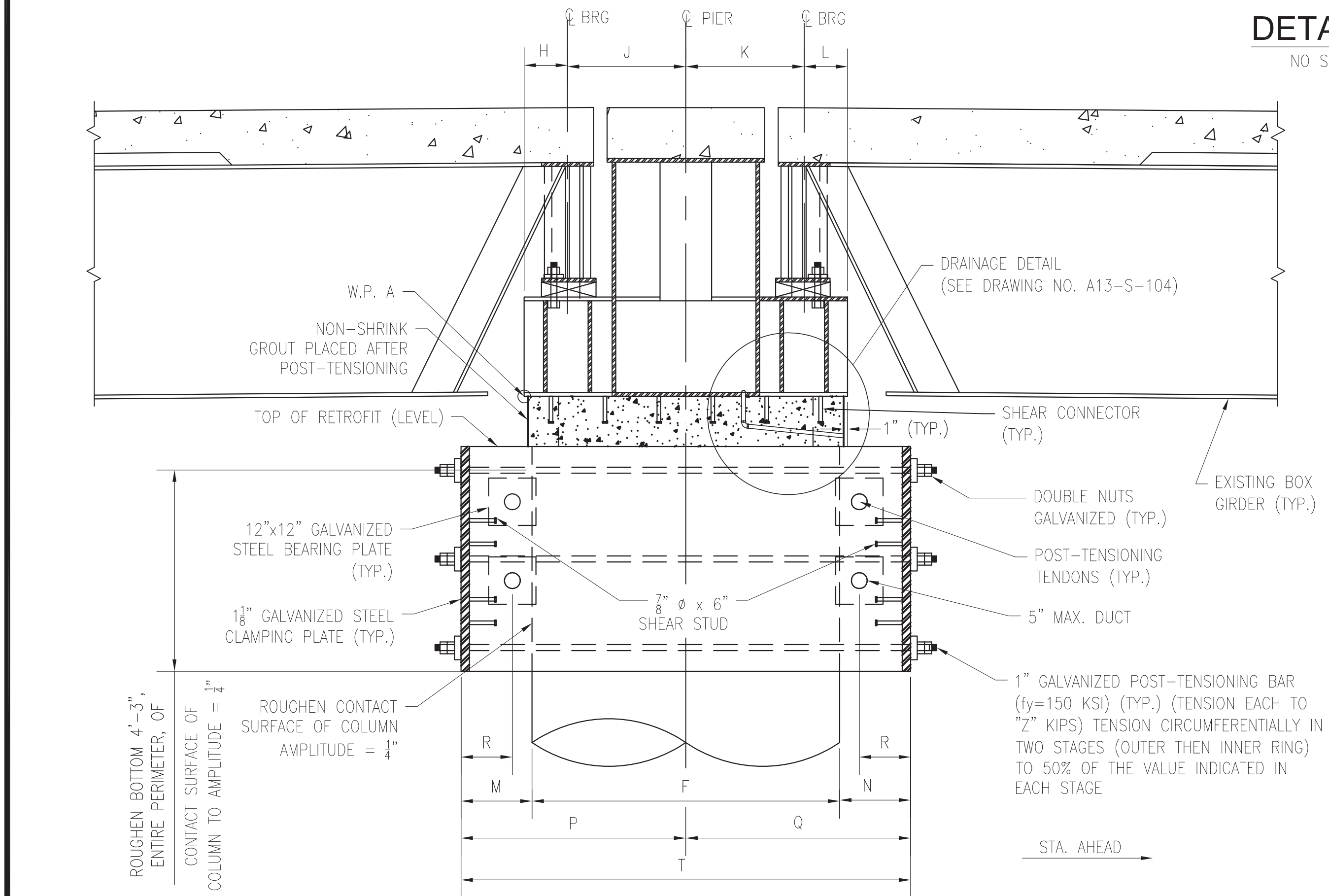
**SECTION B-B**

LOOKING STA. AHEAD



TYPE	P-JACK (KIPS) PER TENDON AFTER SEATING LOSSES	$\mu\alpha + KL$	INITIAL STRESSES @ DEAD END	PRESTRESS LOSSES (KSI)	"Z" PT BAR
1	657	0.004	188	34	67
2	657	0.004	188	34	67
3	739	0.004	188	34	75
4	739	0.004	188	34	75
5	903	0.004	188	34	89

1 DENOTES STRESSING SEQUENCE; JACK NO MORE THAN 25% OF THE PRIMARY STRANDS WITHIN EACH TENDON WITH EACH INCREMENT  
 XX DENOTES NUMBER OF PRIMARY STRANDS  
 (Y) DENOTES NUMBER OF RESERVE STRANDS REQUIRED IF USING THE STRESSING SEQUENCE SHOWN ABOVE (NOT REQUIRED IF ALL 4 PT TENDONS ARE STRESSED SIMULTANEOUSLY)  
 ALL 4 PT TENDONS MAY BE STRESSED SIMULTANEOUSLY (USING 4 MULTI-STRAND JACKS PLUMBED TOGETHER) TO 100% OF THE JACKING LOAD. SEE SPECIFICATIONS AND NOTE D6 ON A13-S-001.

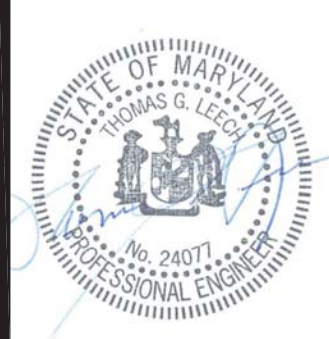


**SECTION A-A**

NOTE: SEE DRAWING NO. A13-S-104 FOR RETROFIT DIMENSIONS

CONTRACT NO. **FQ15093**

DESIGNED		DATE		NUMBER		DESCRIPTION		DATE		BY		REVISIONS		DESCRIPTION	
LMK	1-31-14	1-31-14													
CJP	1-31-14	1-31-14													
ESN	3-3-14	3-3-14													
TGL	4-10-14	4-10-14													



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 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

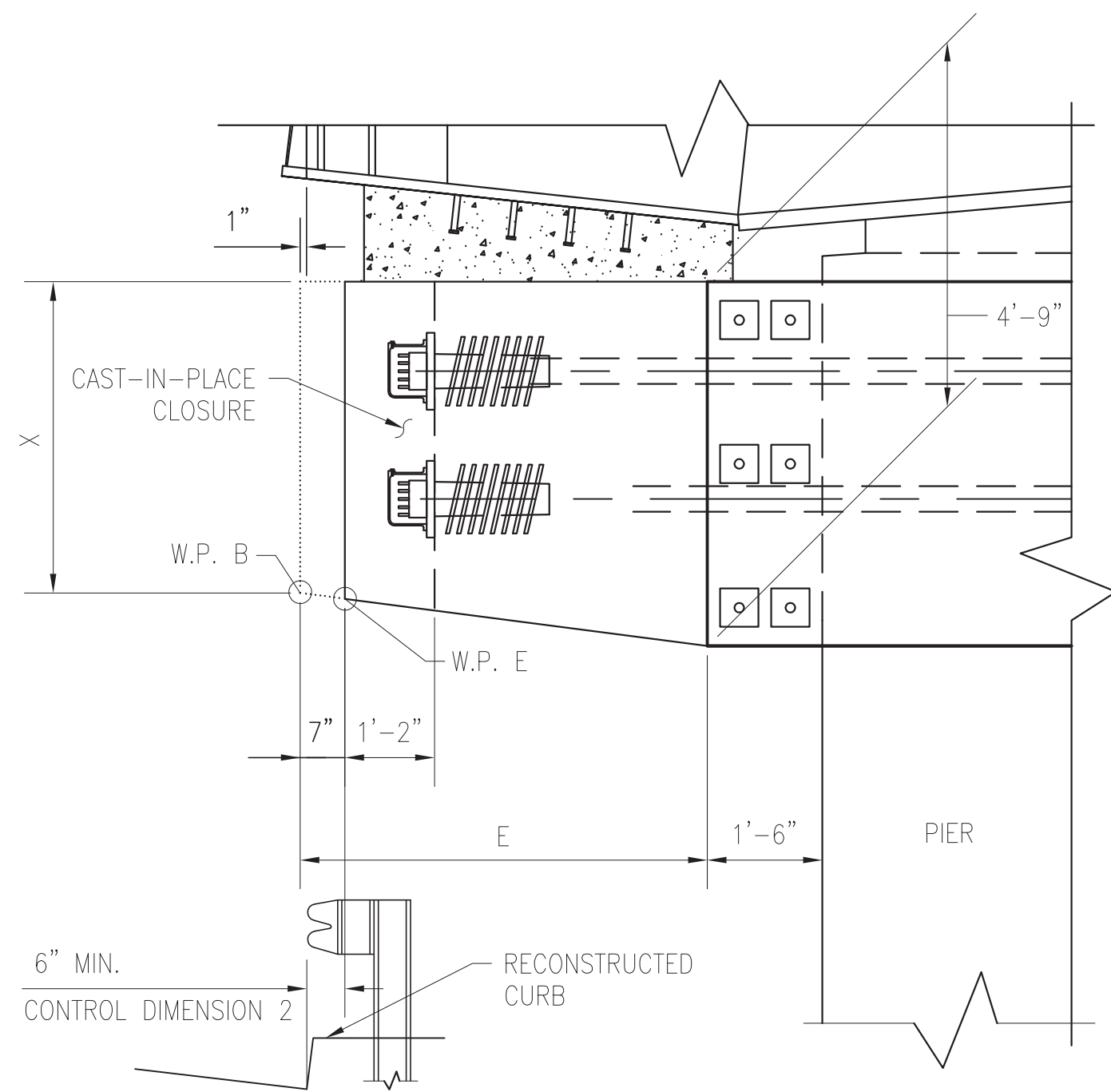
APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

**RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE**  
 PIER CAP RETROFIT SCHEMATIC

SCALE 1/2" = 1'-0" DRAWING NO. A13-S-103 M1272-124

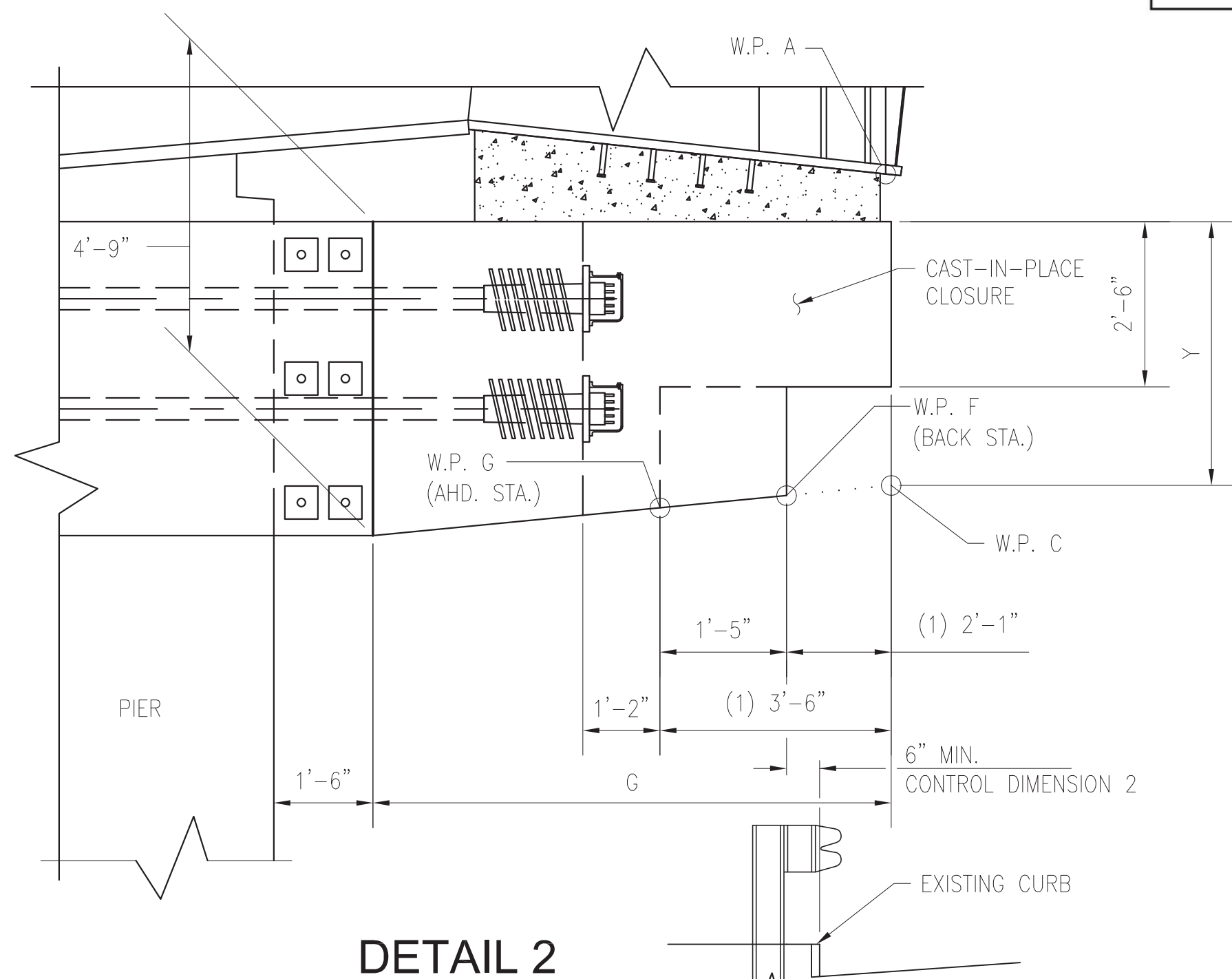
NOVEMBER 14, 2014





**DETAIL 1  
(RETROFIT TYPE 4)**

SCALE: 3/8" = 1'-0"  
LOOKING STA. AHEAD



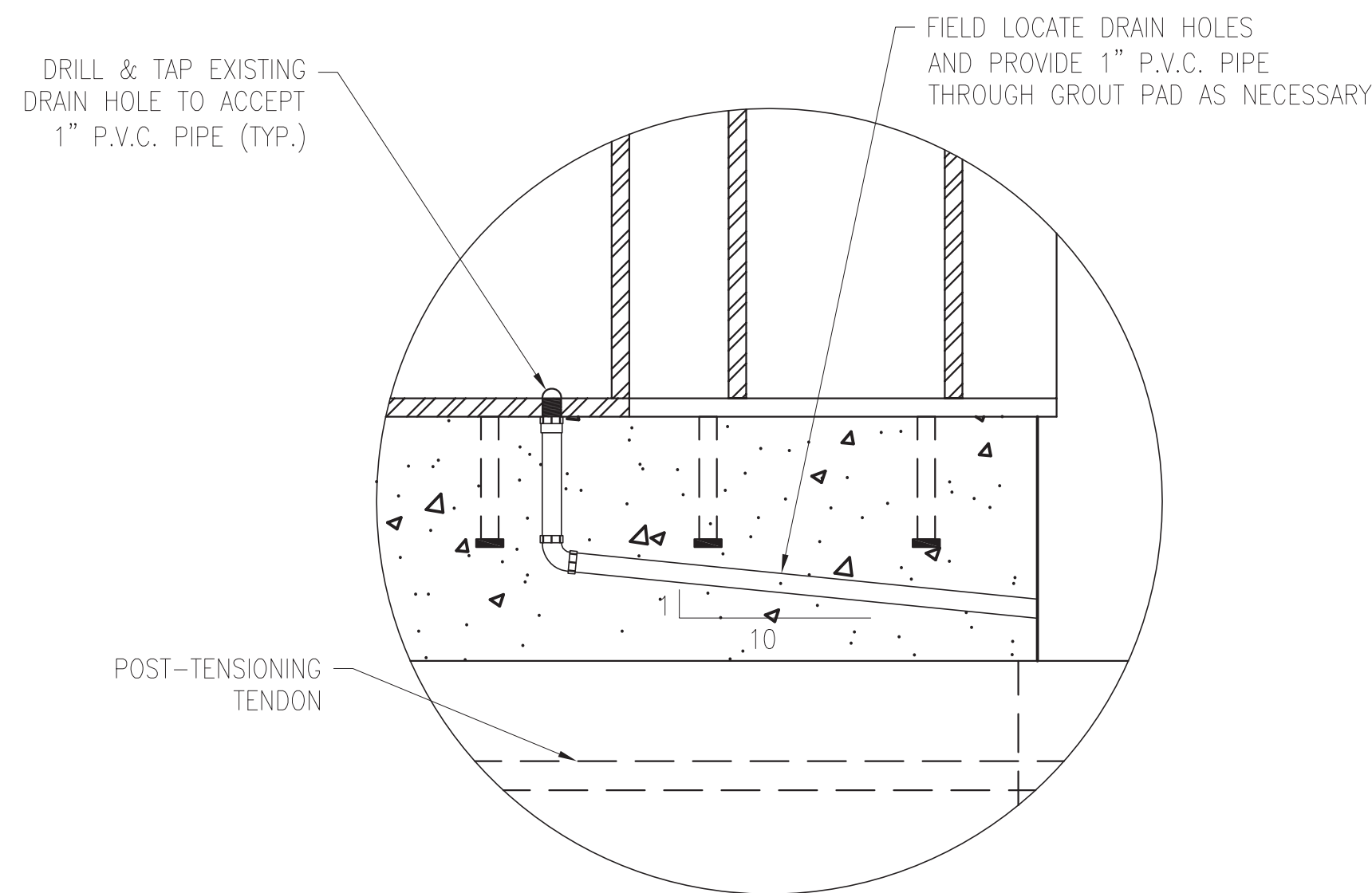
**DETAIL 2  
(RETROFIT TYPE 5)**

SCALE: 3/8" = 1'-0"  
LOOKING STA. AHEAD

PIER #	TYPE	TRAFFIC CONTROL LOCATION(S)	RETROFIT TYPE, DIMENSIONS & OTHER COMMENTS																						
			A	B	C	D	E <sup>(1)</sup>	F	G <sup>(1)</sup>	H	J	K	L	M	N	P	Q	R	T	V <sup>(1)</sup>	W	X	Y	AA <sup>(2)</sup>	BB <sup>(2)</sup>
A5447	2	ROCKVILLE PIKE N.B.	3.05	7.05	7.05	3.22	5.43	6.50	5.59	1.00	3.00	3.00	1.00	1.67	1.67	4.92	4.92	1.25	9.83	20.52	1.01	4.21	4.19	7.83	5.92
A5435	3	ROCKVILLE PIKE N.B.	3.19	7.00	7.00	3.19	5.52	6.50	5.52	1.17	3.50	4.50	1.00	1.67	2.33	4.92	5.58	1.25	10.50	20.54	0.79	4.20	4.20	10.00	6.04
A5403	5	ROCKVILLE PIKE N.B.	3.40	4.59	9.61	2.71	3.07	7.00	7.40	1.00	5.00	3.50	1.17	2.58	1.67	6.08	5.17	1.33	11.25	20.47	0.79	4.44	4.01	10.50	5.77
A5392	3	ROCKVILLE PIKE N.B. & ROCKVILLE PIKE S.B.	3.41	7.10	7.10	2.66	5.34	7.50	4.60	1.17	3.50	5.00	1.00	1.67	2.33	5.42	6.08	1.25	11.50	20.44	0.79	4.22	4.29	10.50	5.74
A5376	4	ROCKVILLE PIKE S.B.	3.28	7.06	7.06	2.94	5.67	6.50	5.33	0.92	5.50	3.50	1.17	3.25	1.75	6.50	5.00	1.25	11.50	20.50	0.79	4.18	4.22	10.92	5.88
A5366	2	ROCKVILLE PIKE S.B.	3.21	7.01	7.01	3.14	5.80	6.00	5.72	0.92	2.50	2.50	0.92	1.67	1.67	4.67	4.67	1.25	9.33	20.52	0.77	4.17	4.18	6.67	6.02
A5356	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.19	7.00	7.00	3.19	5.77	6.00	5.77	0.92	2.50	2.50	0.92	1.67	1.67	4.67	4.67	1.25	9.33	20.54	0.77	4.17	4.17	6.67	6.04
A5345	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.22	7.01	7.01	3.11	5.82	6.00	5.70	0.92	2.50	2.50	0.92	1.67	1.67	4.67	4.67	1.25	9.33	20.52	0.77	4.17	4.18	6.67	5.99
A5335	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.27	7.07	7.07	2.98	5.67	6.50	5.38	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.55	0.77	4.18	4.21	6.67	5.90
A5324	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.74	5.84	6.50	5.19	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.53	0.77	4.17	4.23	6.67	5.80
A5313	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.77	4.17	4.23	6.67	5.77
A5302	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.77	4.17	4.23	6.67	5.77
A5290	1	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.77	4.17	4.23	6.67	5.77
A5279	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.77	4.17	4.23	6.67	5.77
A5268	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.76	4.17	4.23	6.67	5.77
A5258	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.75	4.17	4.23	6.67	5.77
A5248	2	NONE REQ'D BASED ON THE CRITERIA BELOW	3.39	7.12	7.12	2.71	5.84	6.50	5.17	0.92	2.50	2.50	0.92	1.67	1.67	4.92	4.92	1.25	9.83	20.51	0.75	4.17	4.23	6.67	5.77
A5238	2	I-495 W.B. SHOULDER	3.42	7.12	7.12	2.61	5.37	7.50	4.56	1.00	3.00	3.75	1.00	1.67	1.67	5.42	5.42	1.25	10.83	20.43	0.75	4.21	4.29	8.58	5.69
A5212	3	NONE REQ'D BASED ON THE CRITERIA BELOW	3.40	7.09	7.09	2.76	5.82	6.50	5.18	1.00	3.00	3.00	1.00	1.67	1.67	4.92	4.92	1.25	9.83	20.49	0.75	4.17	4.23	7.83	5.82
A5199	3	NONE REQ'D BASED ON THE CRITERIA BELOW	3.22	7.02	7.02	3.08	5.57	6.50	5.43	1.00	3.00	3.00	1.00	1.67	1.67	4.92	4.92	1.25	9.83	20.50	0.75	4.19	4.21	7.83	5.96
A5186	3	NONE REQ'D BASED ON THE CRITERIA BELOW	3.19	7.00	7.00	3.19	5.52	6.50	5.52	1.00	3.00	3.00	1.00	1.67	1.67	4.92	4.92	1.25	9.83	20.54	0.75	4.20	4.20	7.83	6.04

TRAFFIC CONTROL IS BASED ON AN ASSUMED CONSTRUCTION WORK AREA OF 5'-0" AROUND PERIMETER FOR PLACEMENT OF SHORING AND FORMING. ADDITIONAL LOCATIONS OF TRAFFIC CONTROL MAY BE REQUIRED FOR PLACEMENT AND DELIVERY OF CONCRETE, GROUT AND OTHER CONSTRUCTION MATERIALS.

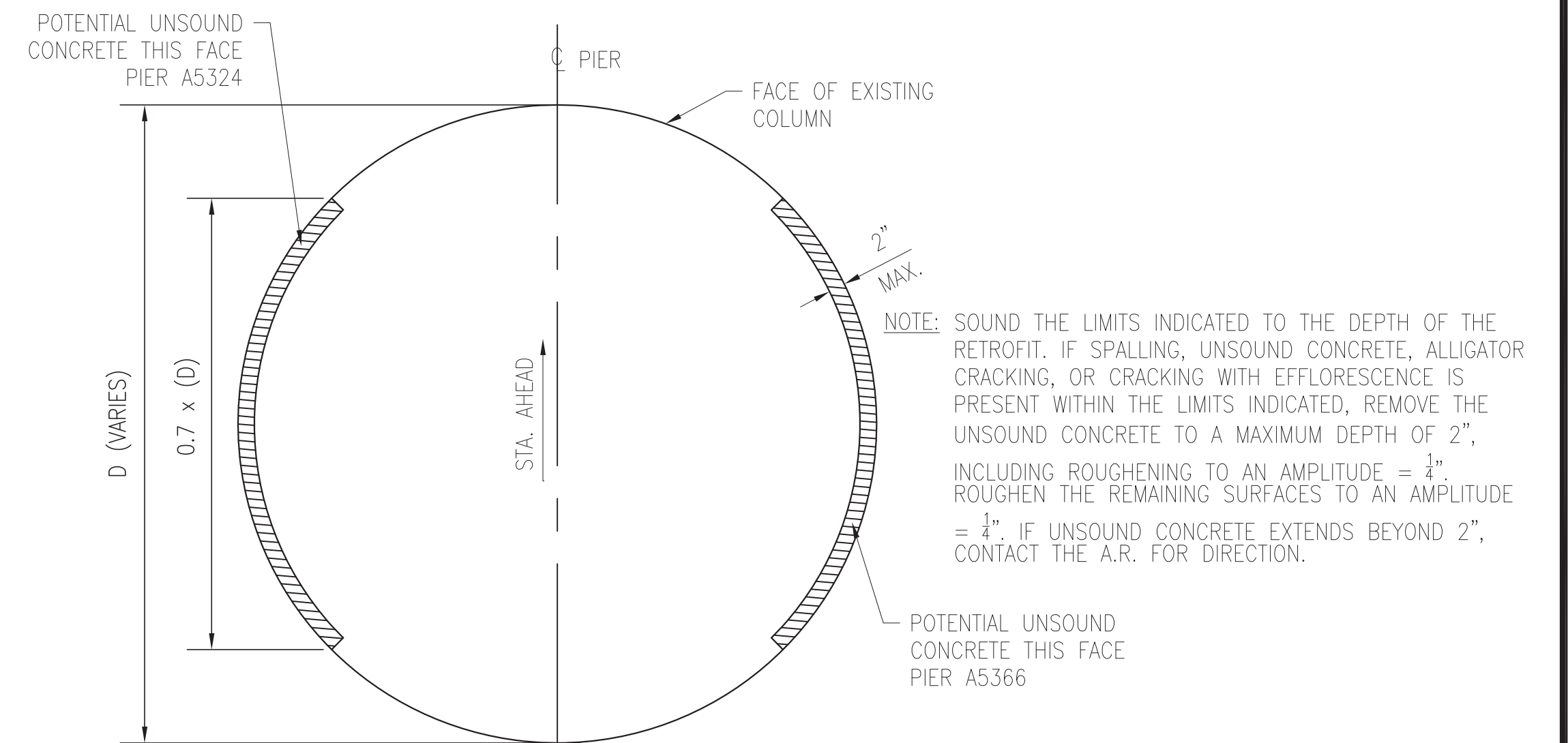
(1) DIMENSIONS ARE BASED ON ORIGINAL PIERS; ADJUST DIMENSIONS AS NECESSARY SUCH THAT CONTROL DIMENSIONS 1 & 2 ARE MAINTAINED.  
 (2) SEE DRAWING NO. A13-S-107 FOR DEFINITION OF DIMENSIONS "AA" AND "BB".  
 • RETROFIT TYPES 1, 2, AND 3 ARE OF SIMILAR CONFIGURATION WITH DIFFERENT POST-TENSIONING AND CONCRETE REINFORCEMENT LAYOUTS.  
 • RETROFIT TYPES 4 AND 5 ARE UNIQUE DUE TO CLEARANCE CONCERNS TO MD SHA ROADWAYS.



**DRAINAGE DETAIL**

SCALE: 1/2" = 1'-0"

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015



**REMOVAL OF  
DETERIORATED CONCRETE**

SCALE: 3/8" = 1'-0"

NOTE: SEE DRAWING NO. A13-S-103 FOR ILLUSTRATION OF RETROFIT DIMENSIONS

CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

DESIGNED	LMK	1-31-14
DRAWN	CJP	1-31-14
CHECKED	ESN	2-11-14
APPROVED	TGL	4-10-14

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

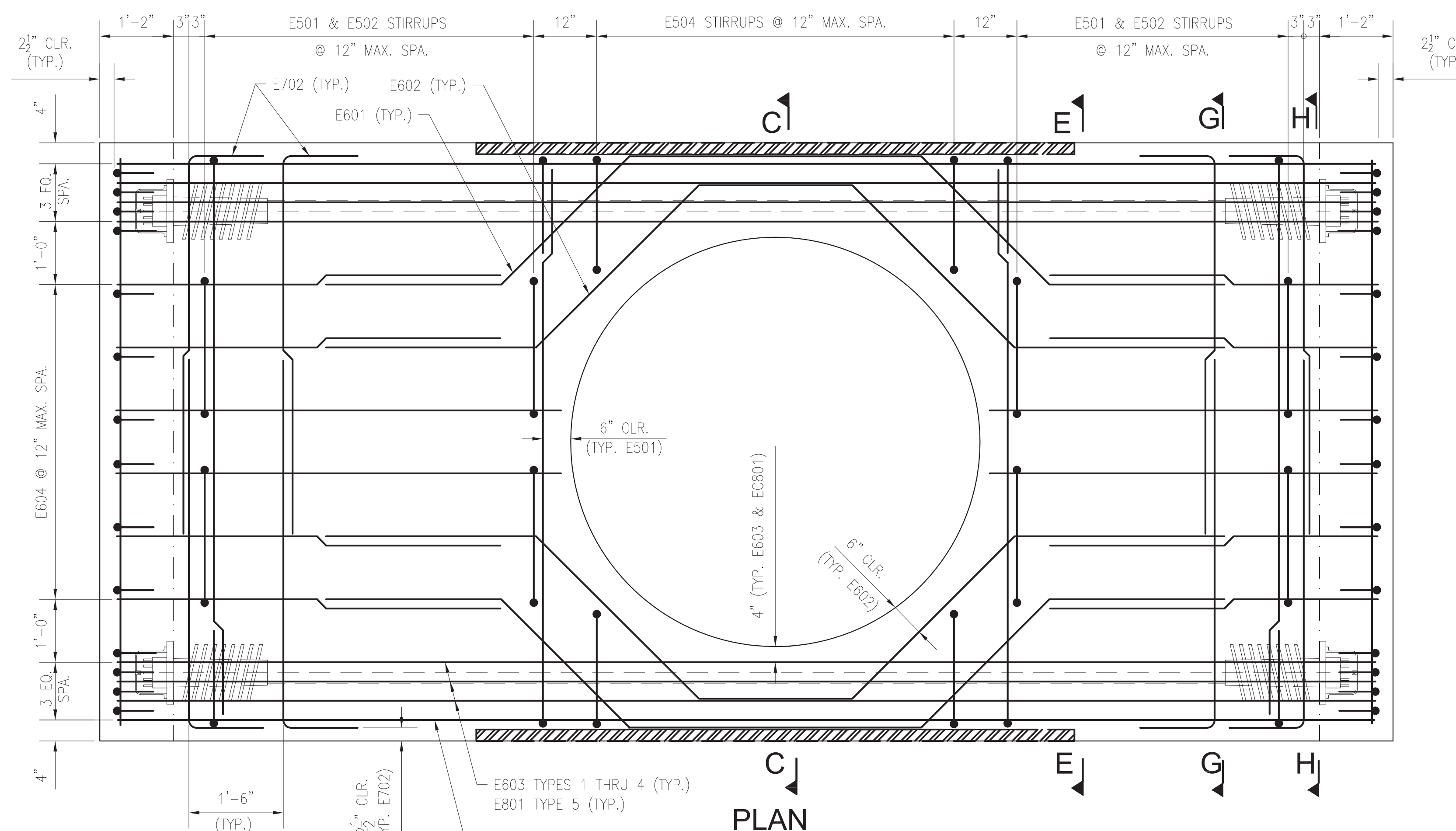
**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

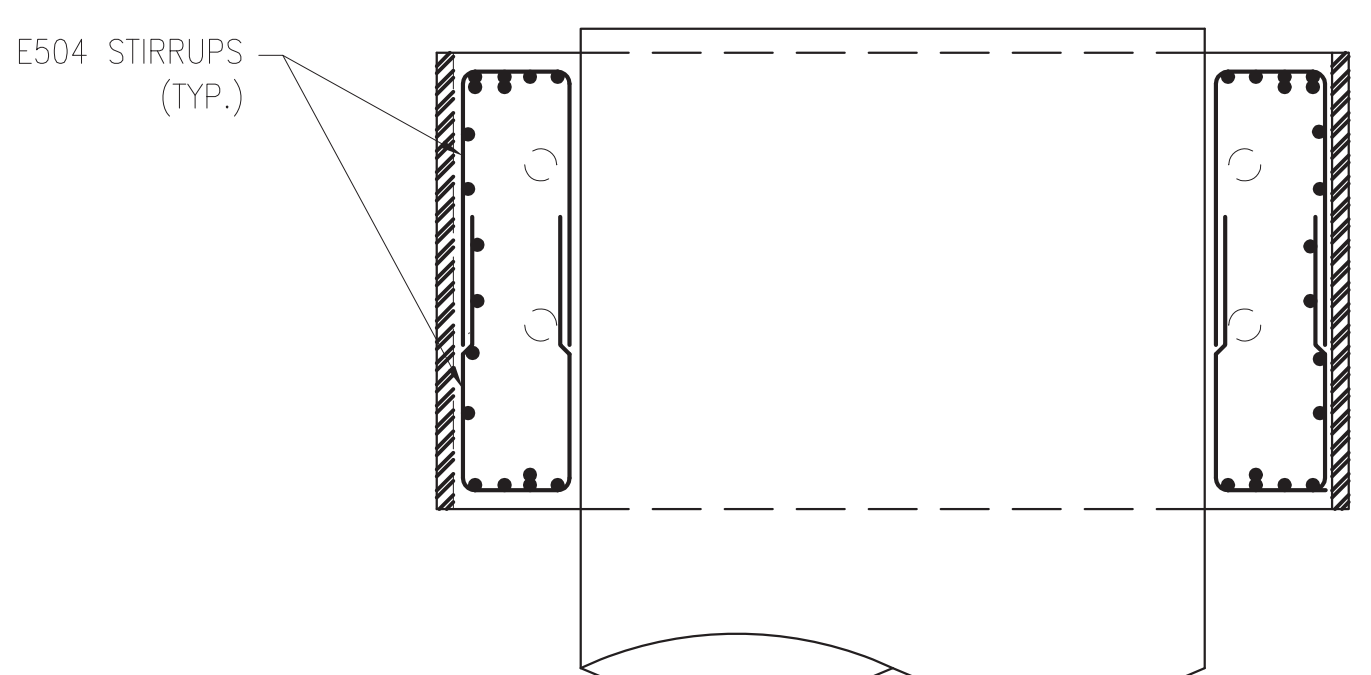
**RED LINE REHABILITATION  
GROSVENOR AERIAL STRUCTURE**  
PIER CAP RETROFIT DIMENSIONS

SCALE AS SHOWN DRAWING NO. A13-S-104 M1272-125

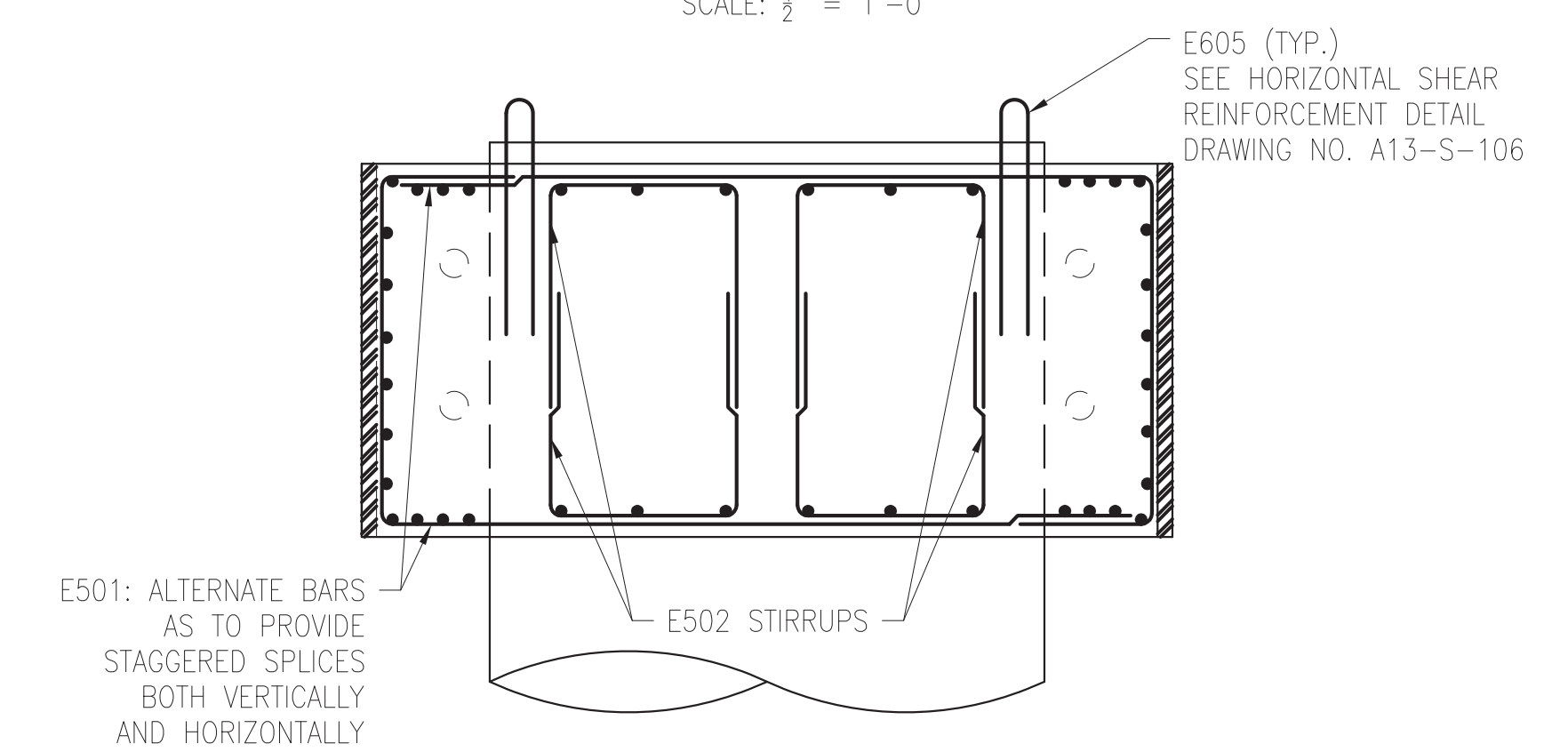




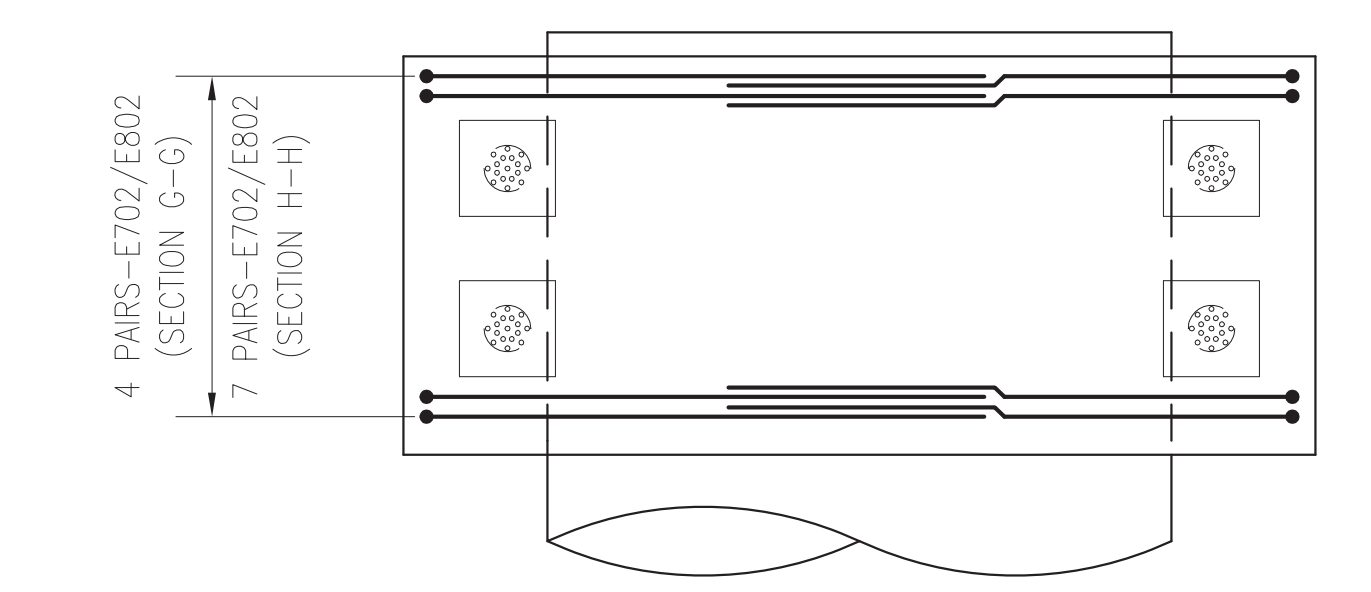
**PLAN**  
(TOP VIEW SCALE:  $\frac{3}{4}$ " = 1'-0")



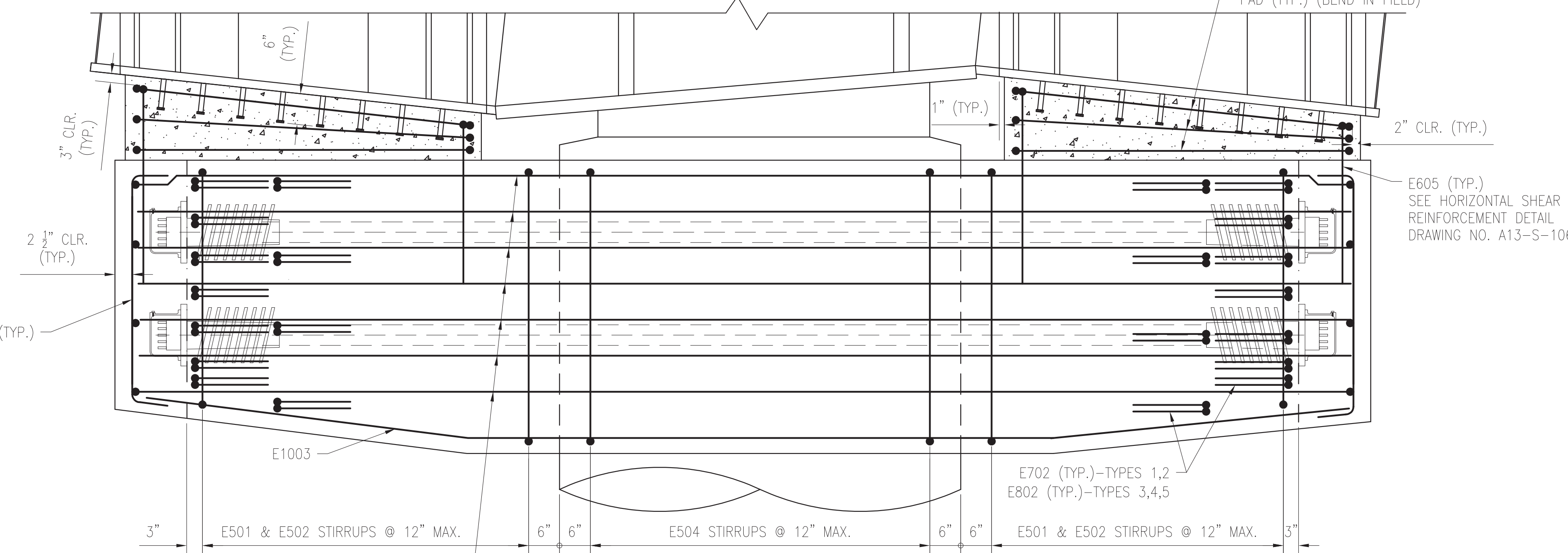
**SECTION C-C**  
SCALE:  $\frac{1}{2}$ " = 1'-0"



**SECTION E-E**  
SCALE:  $\frac{1}{2}$ " = 1'-0"



**SECTION G-G & H-H**  
NOTE: LONGITUDINAL REINFORCEMENT NOT SHOWN FOR CLARITY  
SCALE:  $\frac{1}{2}$ " = 1'-0"



**ELEVATION**  
(LOOKING STA. AHEAD)  
SCALE:  $\frac{3}{4}$ " = 1'-0"

E1002: 7 BARS EVENLY SPACED FOR RETROFIT TYPES 1 THRU 4. 9 BARS EVENLY SPACED FOR RETROFIT TYPE 5.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

- NOTES: 1. SEE DRAWING NO. A13-S-103 & A13-S-104 FOR RETROFIT DIMENSIONS.  
2. REINFORCEMENT LAYOUT IS SYMMETRICAL ABOUT COLUMN CENTERLINE.

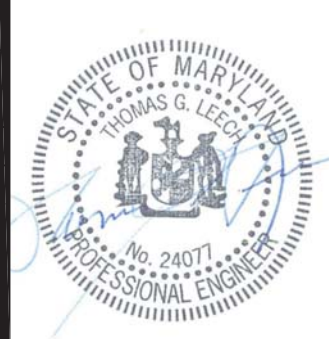
CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

DESIGNED	LMK	1-31-14
DRAWN	CJP	1-31-14
CHECKED	ESN	2-11-14
APPROVED	TGL	4-10-14

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

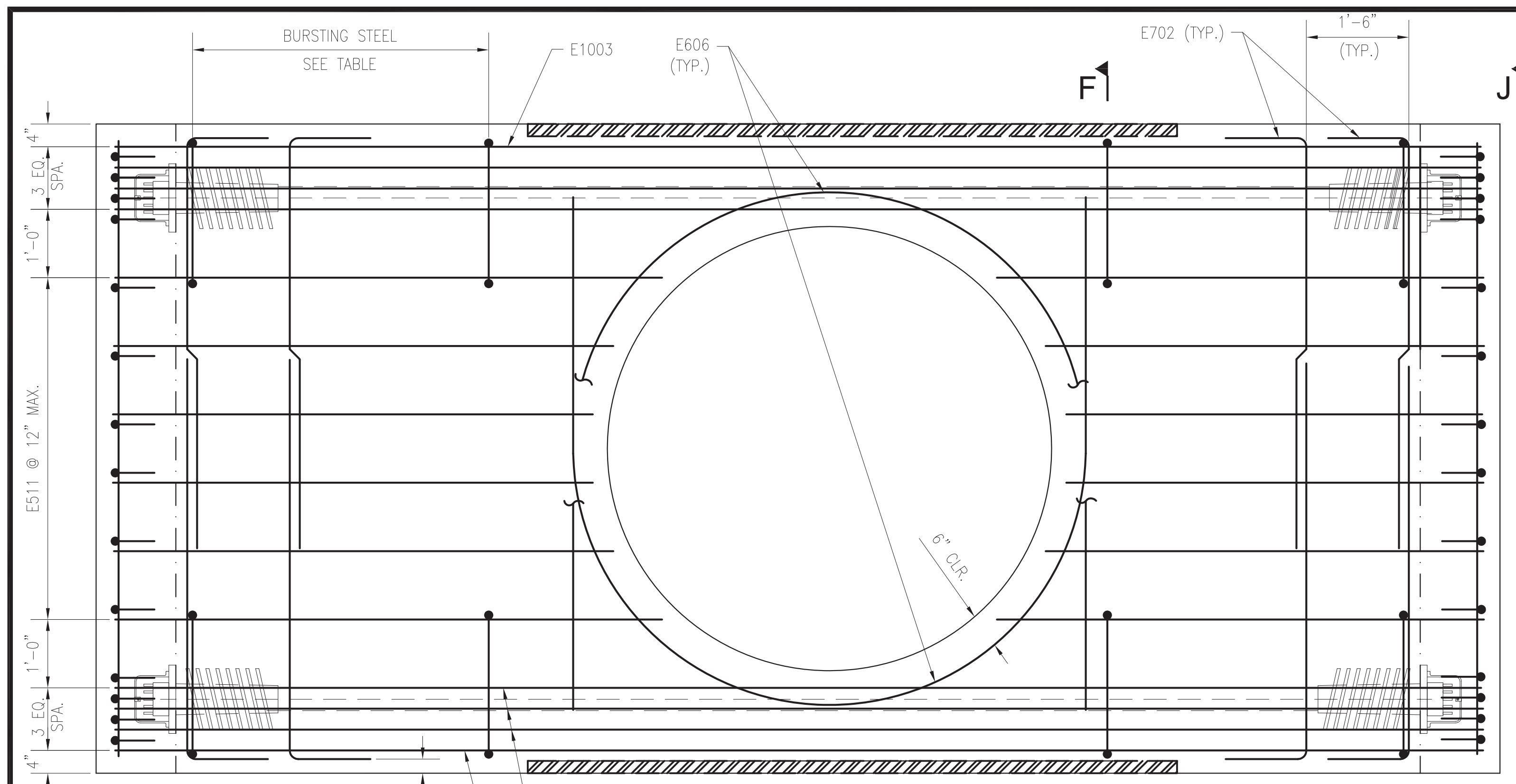
**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

**RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE**  
RETROFIT REINFORCEMENT 1

SCALE AS SHOWN DRAWING NO. A13-S-105 M1272-126

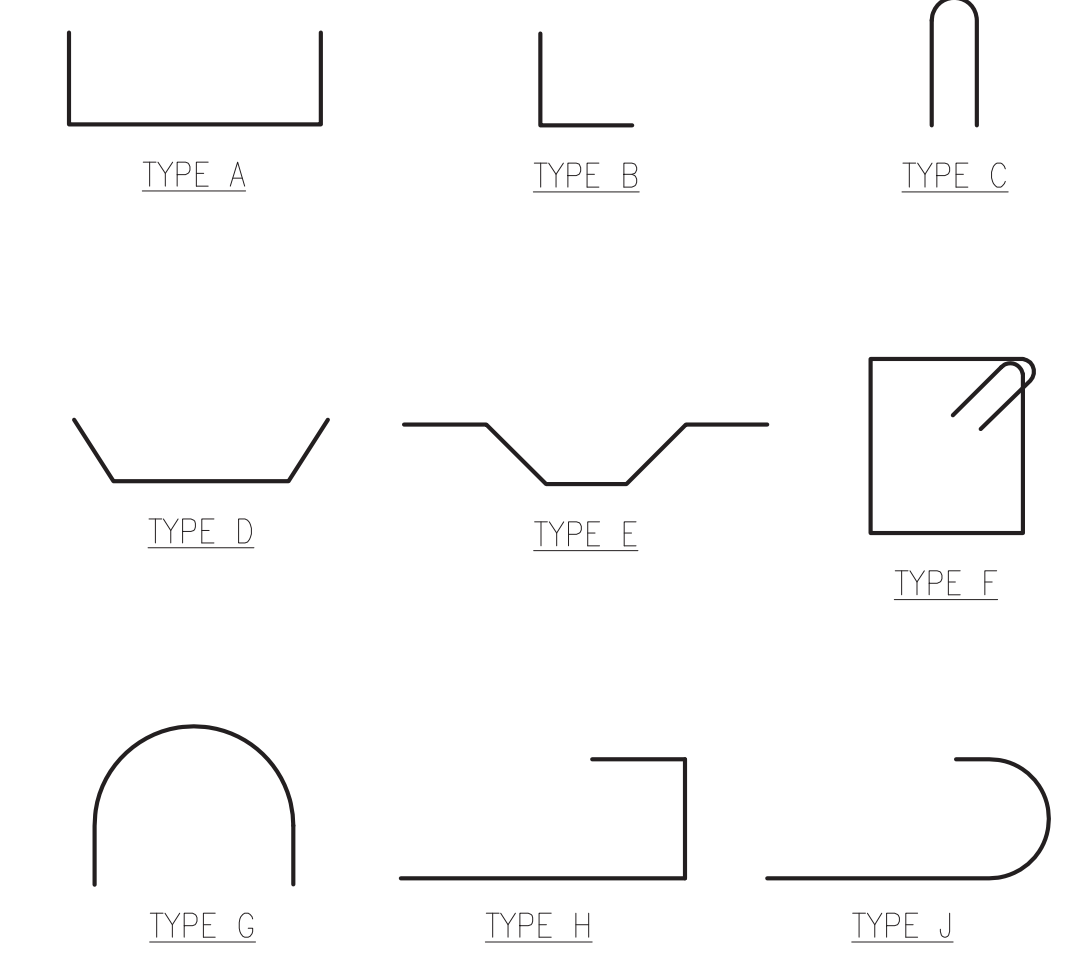




**PLAN**

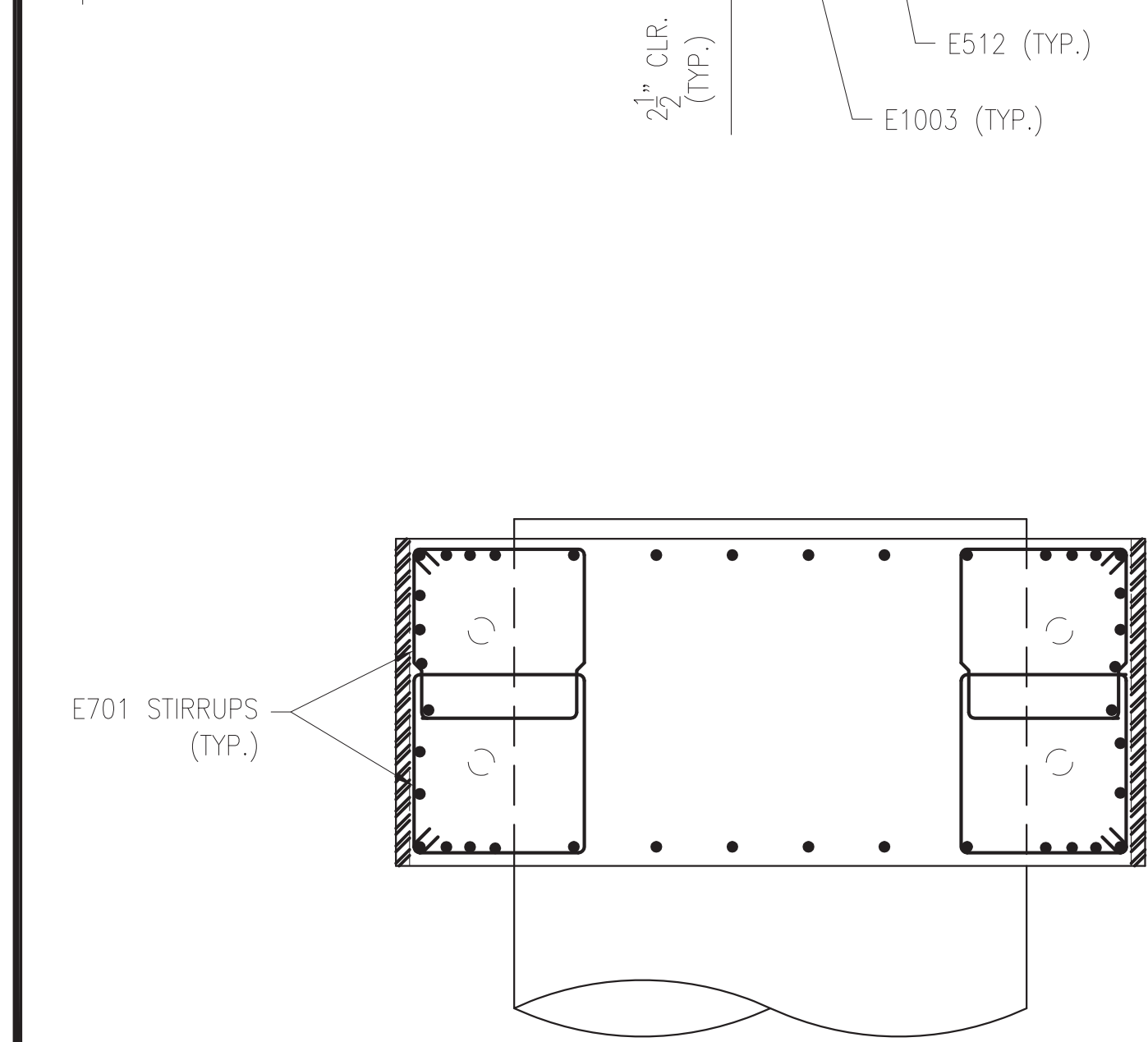
(BOTTOM VIEW-BOTTOM MAT REINF. ONLY)  
SCALE: 3/4" = 1'-0"

BAR TYPES			
BAR NAME	BAR SIZE	BAR TYPE	MIN. SPLICE / EMBED.
E301	#3	A	24" SPLICE
E401	#4	STR.	N/A
E402	#4	A/B	18" SPLICE
E403	#4	A	N/A
E501	#5	H	26" SPLICE
E502	#5	A	26" SPLICE
E504	#5	A	26" SPLICE
E511	#5	STR.	N/A
E512	#5	D	N/A
E513	#5	A	N/A
E514	#5	A	N/A
E601	#6	E	32" SPLICE
E602	#6	E	32" SPLICE
E603	#6	STR.	N/A
E604	#6	STR.	32" SPLICE
E605	#6	C	24" EMBEDMENT
E606	#6	G	N/A
E701	#7	F	N/A
E702	#7	A	44" (63") SPLICE
E801	#8	J	N/A
E802	#8	A	57" (80") SPLICE
E1002	#10	STR. (TYPE 1-4) J (TYPE 5)	N/A
E1003	#10	D	N/A



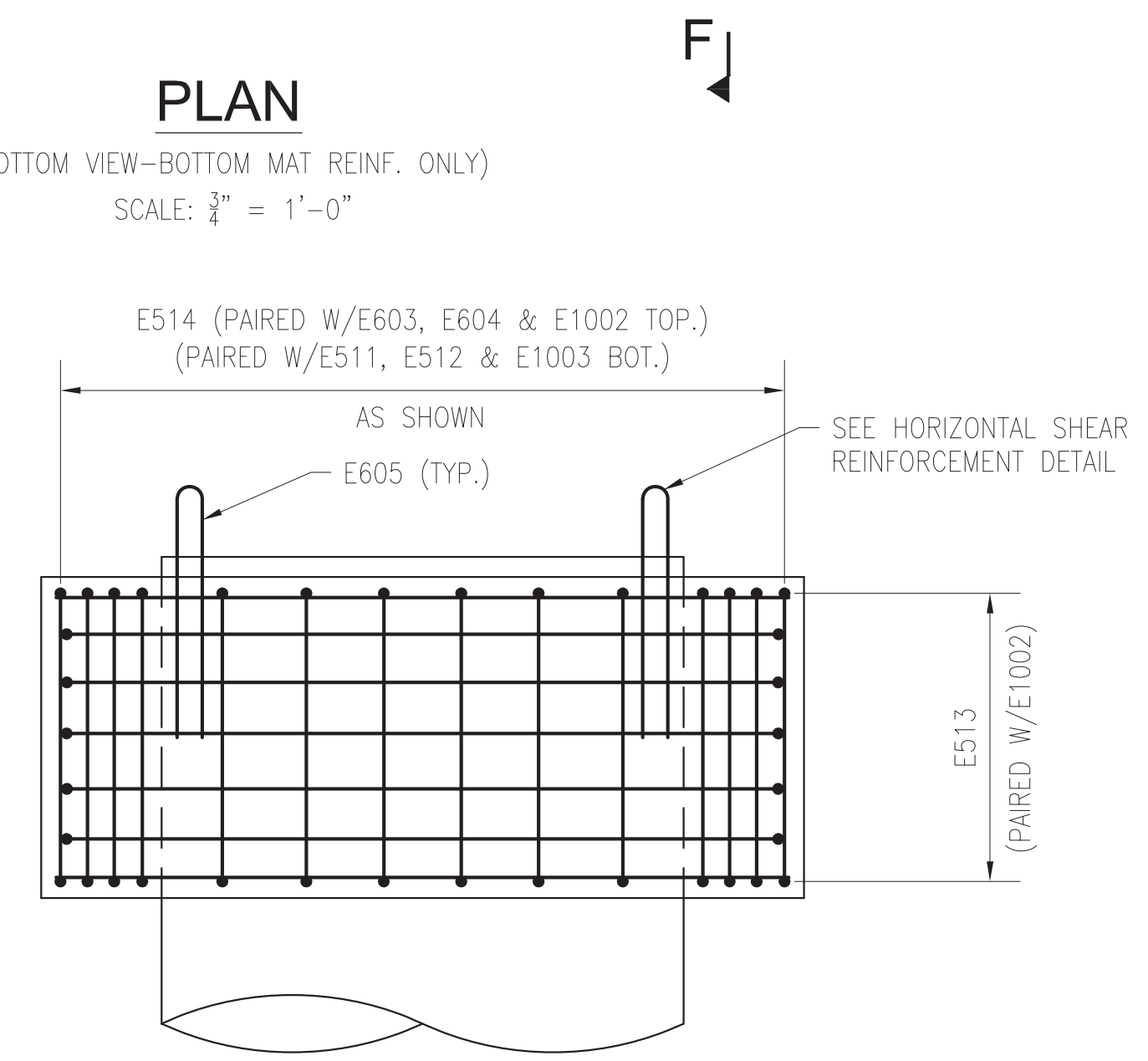
(I) THE SPLICE LENGTHS IN PARENTHESIS INDICATE THE LAP SPLICE LENGTH REQUIRED FOR TOP HORIZONTAL OR NEARLY HORIZONTAL REINFORCEMENT, SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE REINFORCEMENT.

BURSTING STEEL	
RETROFIT TYPE	REINFORCEMENT
1,2	7 PAIRS E701 STIRRUPS AROUND TENDONS @ 9"
3,4	8 PAIRS E701 STIRRUPS AROUND TENDONS @ 8"
5	10 PAIRS E701 STIRRUPS AROUND TENDONS @ 6.5"



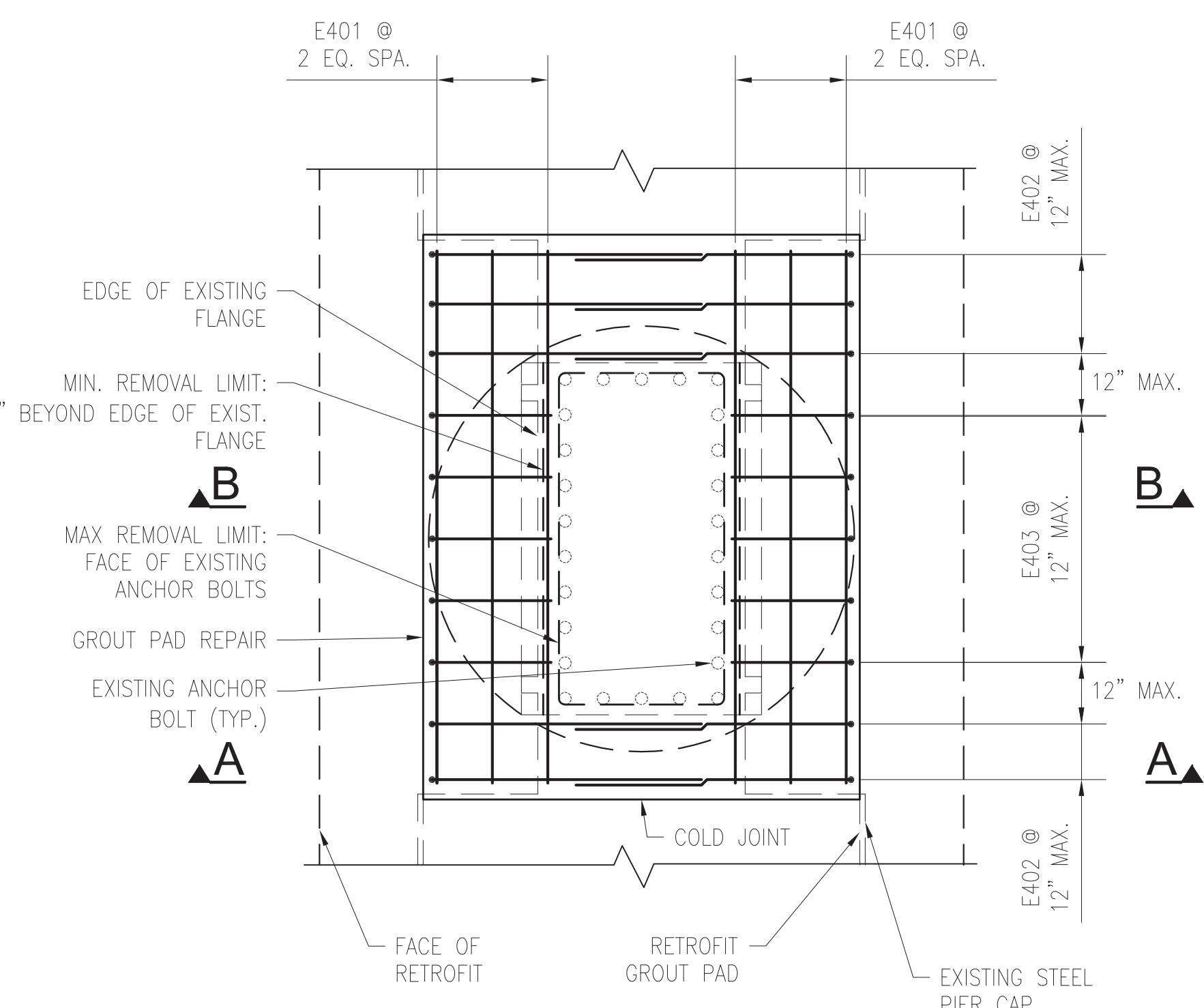
**SECTION F-F**

SCALE: 1/2" = 1'-0"



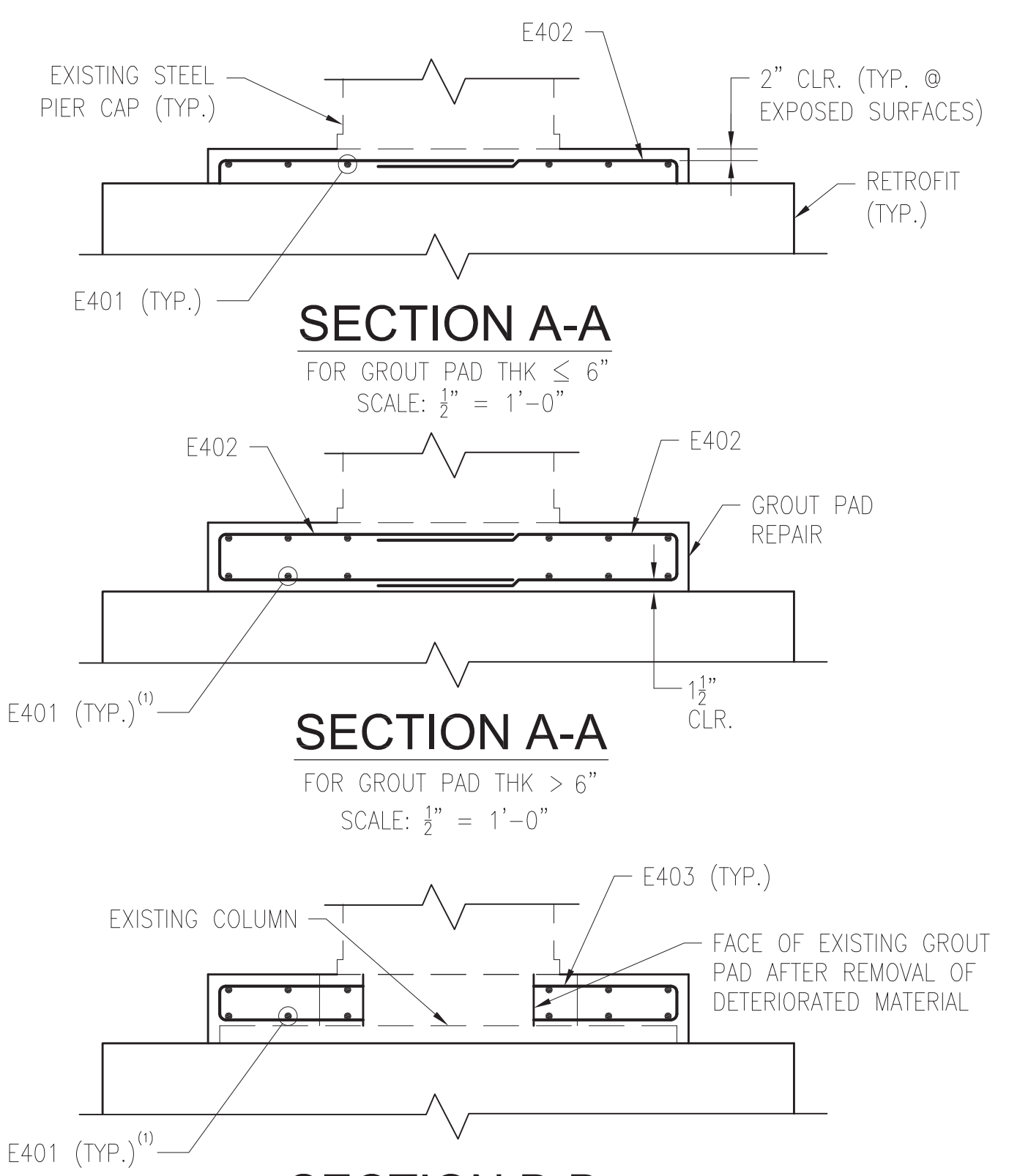
**SECTION J-J**

SCALE: 1/2" = 1'-0"



**EXISTING GROUT PAD REPAIR DETAIL**

SCALE: 1/2" = 1'-0"  
NOTE (1): FIELD BEND E401 BARS IN BOTTOM MAT FOR CLEARANCE FROM TOP OF EXISTING COLUMN.



**SECTION B-B**

SCALE: 1/2" = 1'-0"

NOTES: 1. SEE DRAWING NO. A13-S-103 & A13-S-104 FOR RETROFIT DIMENSIONS.  
2. REINFORCEMENT LAYOUT IS SYMMETRICAL ABOUT COLUMN CENTERLINE.

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CONTRACT NO. FQ15093

DESIGNED LMK 1-31-14 DATE  
DRAWN CJP 1-31-14 DATE  
CHECKED ESN 3-3-14 DATE  
APPROVED TGL 4-10-14 DATE

REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	DESCRIPTION



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

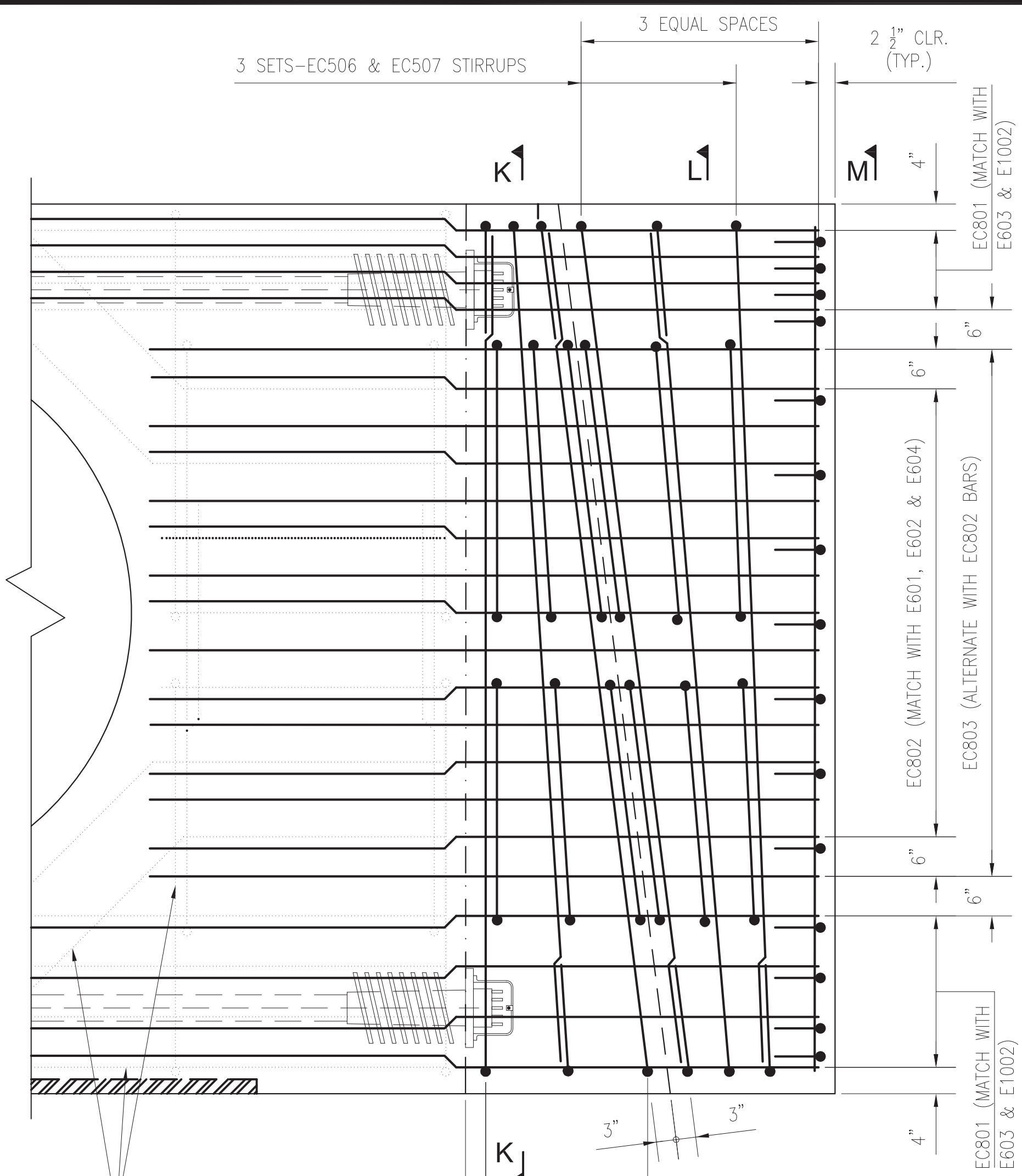
APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

RED LINE REHABILITATION  
GROSVENOR AERIAL STRUCTURE  
RETROFIT REINFORCEMENT 2

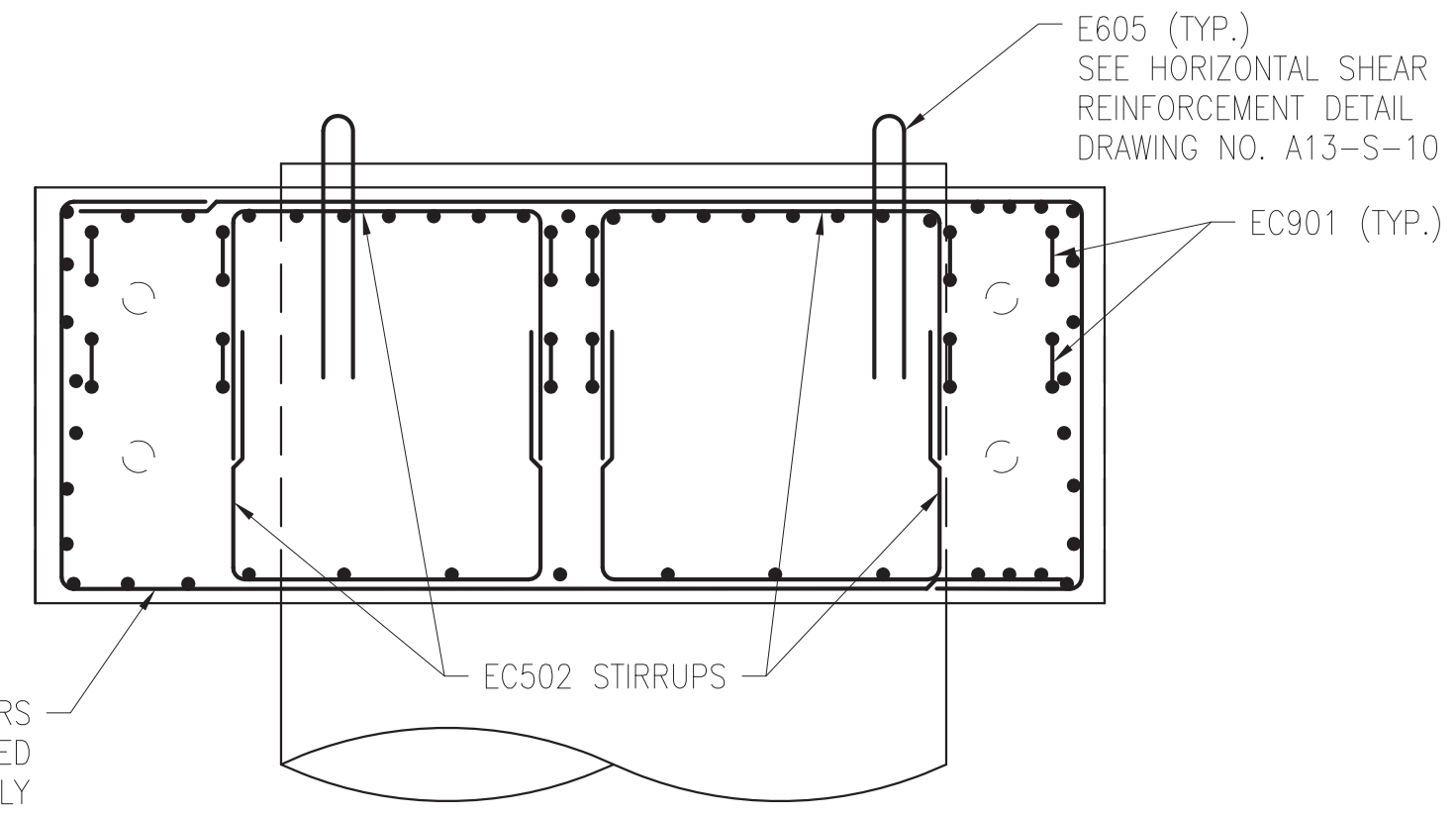
SCALE AS SHOWN DRAWING NO. A13-S-106 M1272-127

NOVEMBER 14, 2014

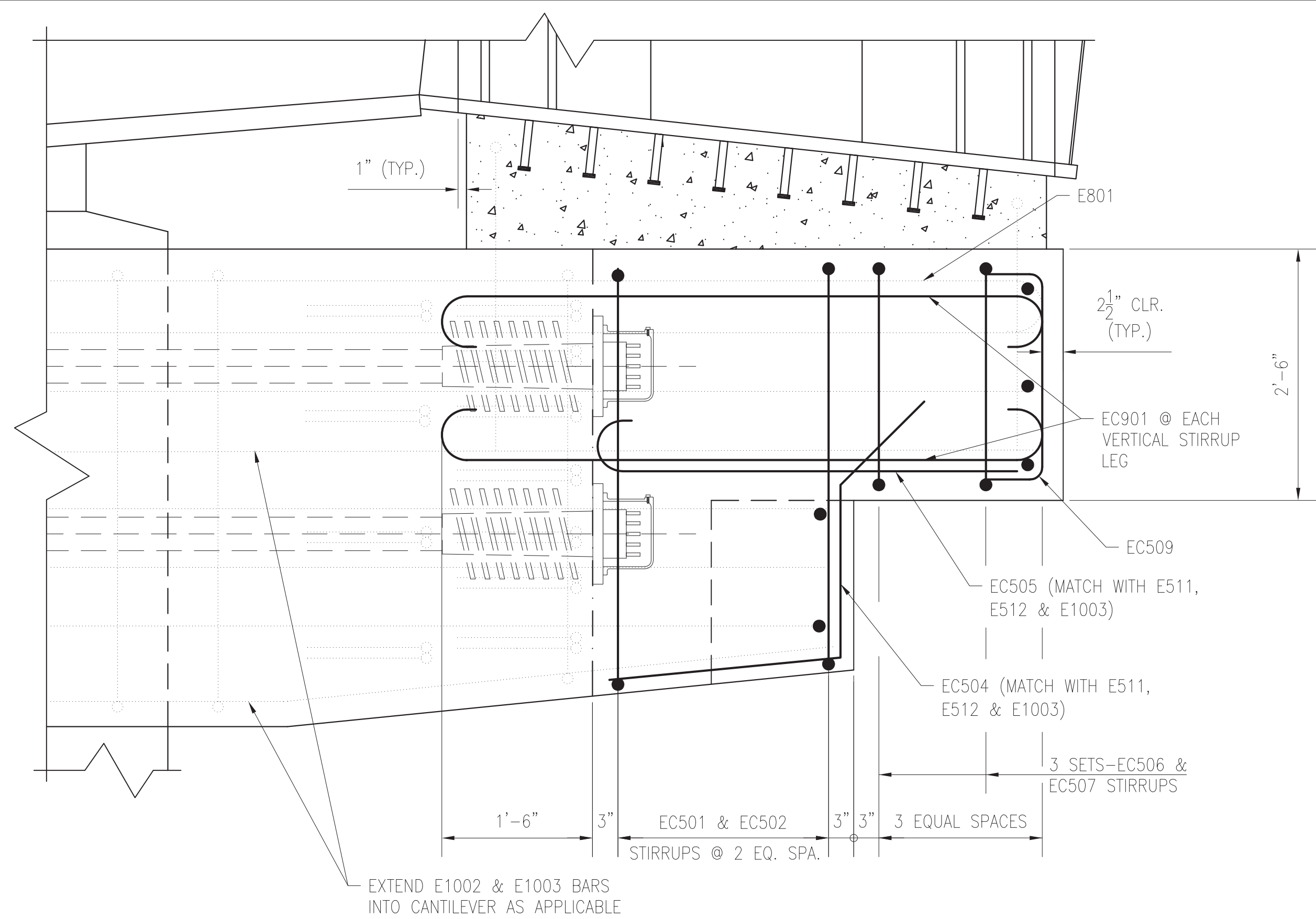




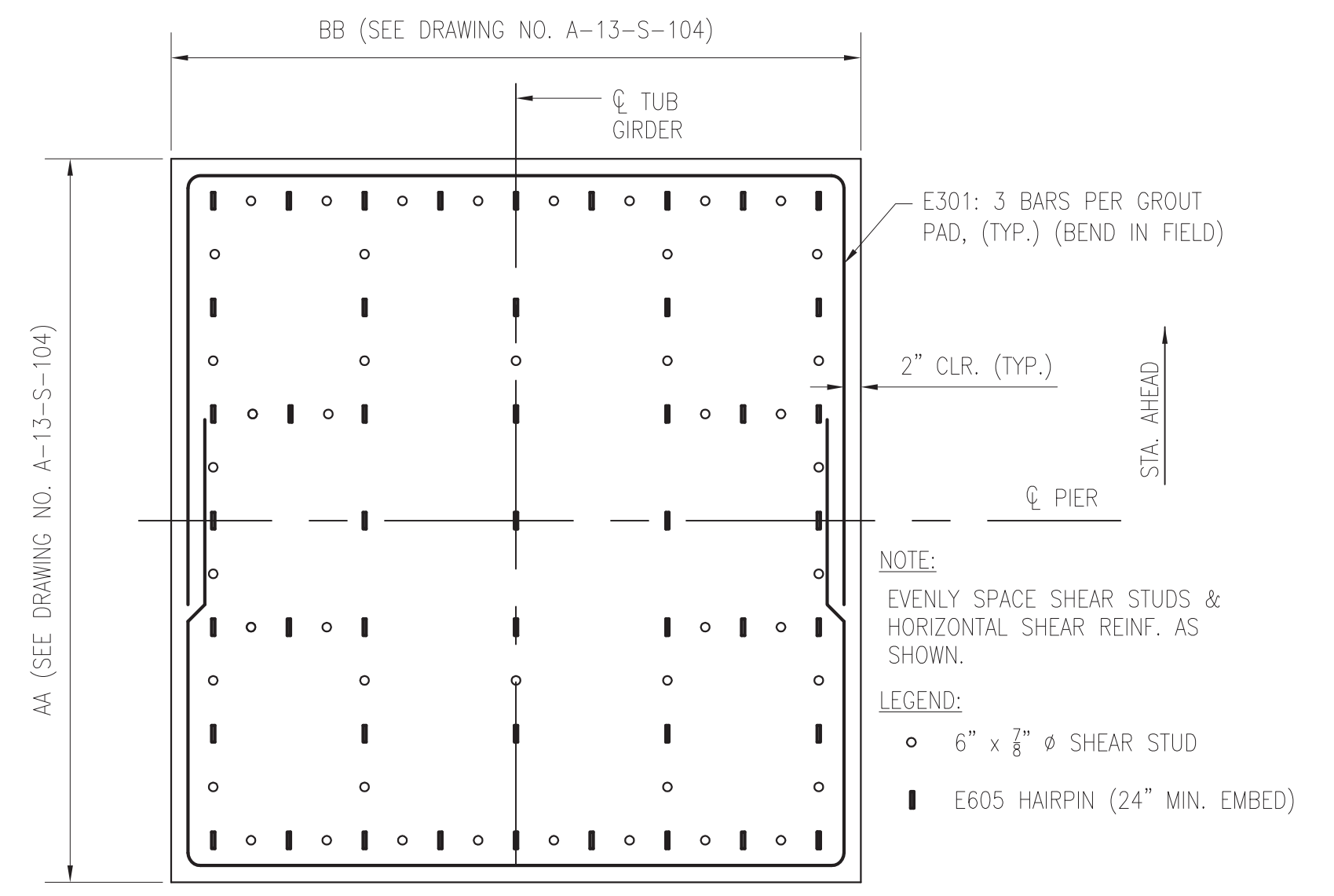
**PLAN**  
(TOP VIEW SCALE: 3/4" = 1'-0")



**SECTION K-K**  
SCALE: 1/2" = 1'-0"



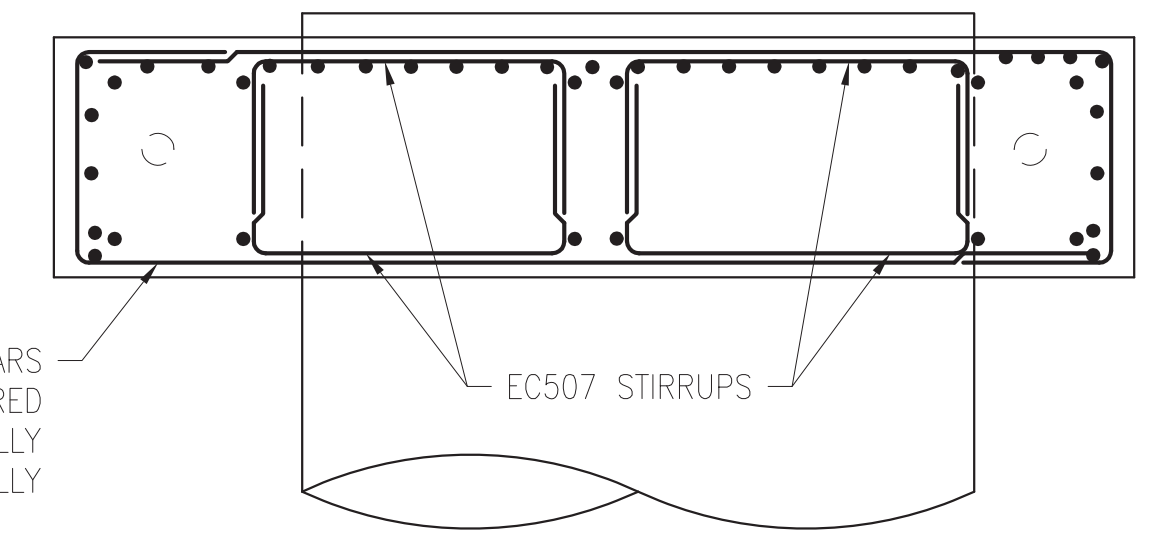
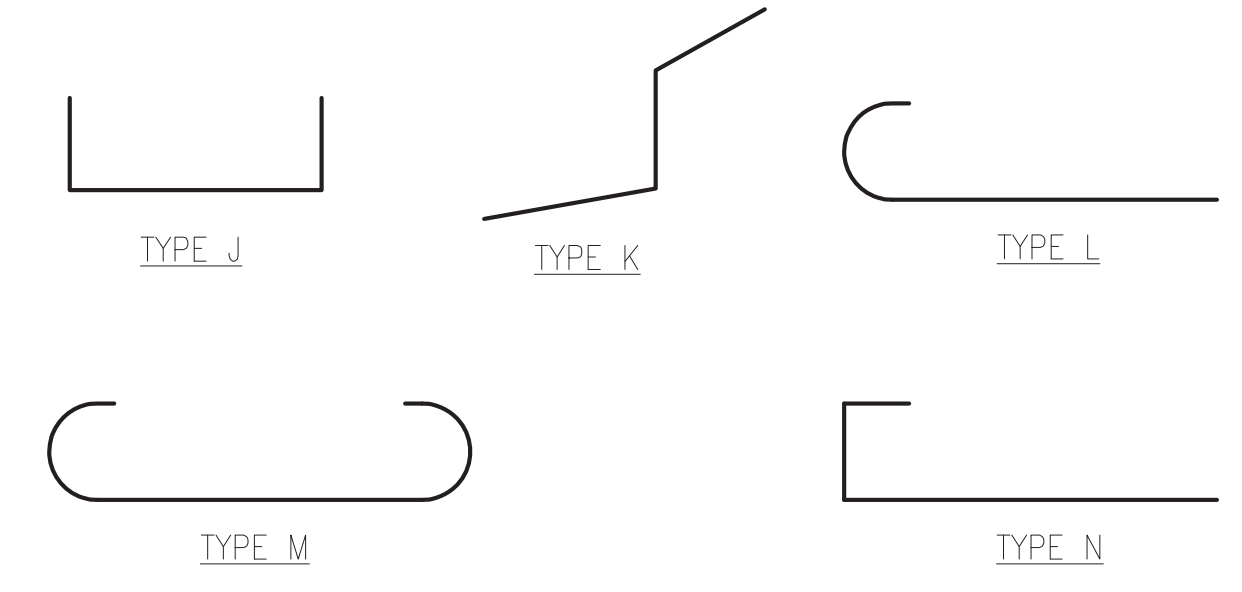
**ELEVATION**  
(LOOKING STA. AHEAD)  
SCALE: 1" = 1'-0"



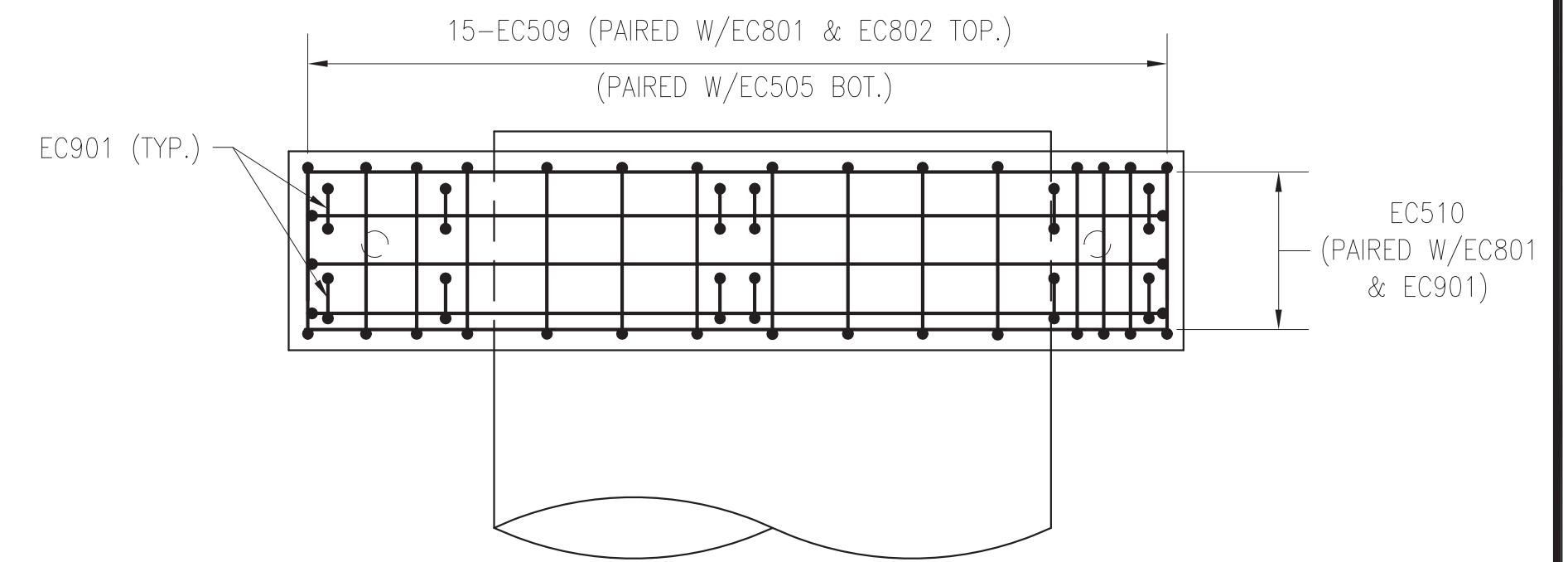
**RETROFIT GROUT PAD DETAIL**  
NO SCALE

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BAR TYPES			
BAR NAME	BAR SIZE	BAR TYPE	MIN. SPLICE / EMBEDMENT
EC501	#5	N	26" SPLICE
EC502	#5	J	26" SPLICE
EC503	#5	J	26" SPLICE
EC504	#5	K	N/A
EC505	#5	L	N/A
EC506	#5	N	26" SPLICE
EC507	#5	J	26" SPLICE
EC509	#5	J	N/A
EC510	#5	J	N/A
EC802	#8	M	N/A
EC803	#8	M	N/A
EC901	#9	M	N/A



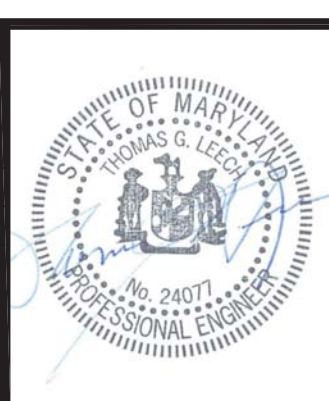
**SECTION L-L**  
SCALE: 1/2" = 1'-0"



**SECTION M-M**  
SCALE: 1/2" = 1'-0"

NOVEMBER 14, 2014

DESIGNED		DATE		NUMBER		DESCRIPTION		DATE		BY		REVISIONS		DESCRIPTION	
ESN	2-25-14	1-31-14	1-31-14												
CJP	1-31-14	3-3-14	3-3-14												
ESN	3-3-14	4-10-14	4-10-14												
TGL	4-10-14														



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED BRAD MASON PROJECT MANAGER

**RED LINE REHABILITATION GROSVENOR AERIAL STRUCTURE**  
RETROFIT TYPE 5 - EAST CANTILEVER REINF.

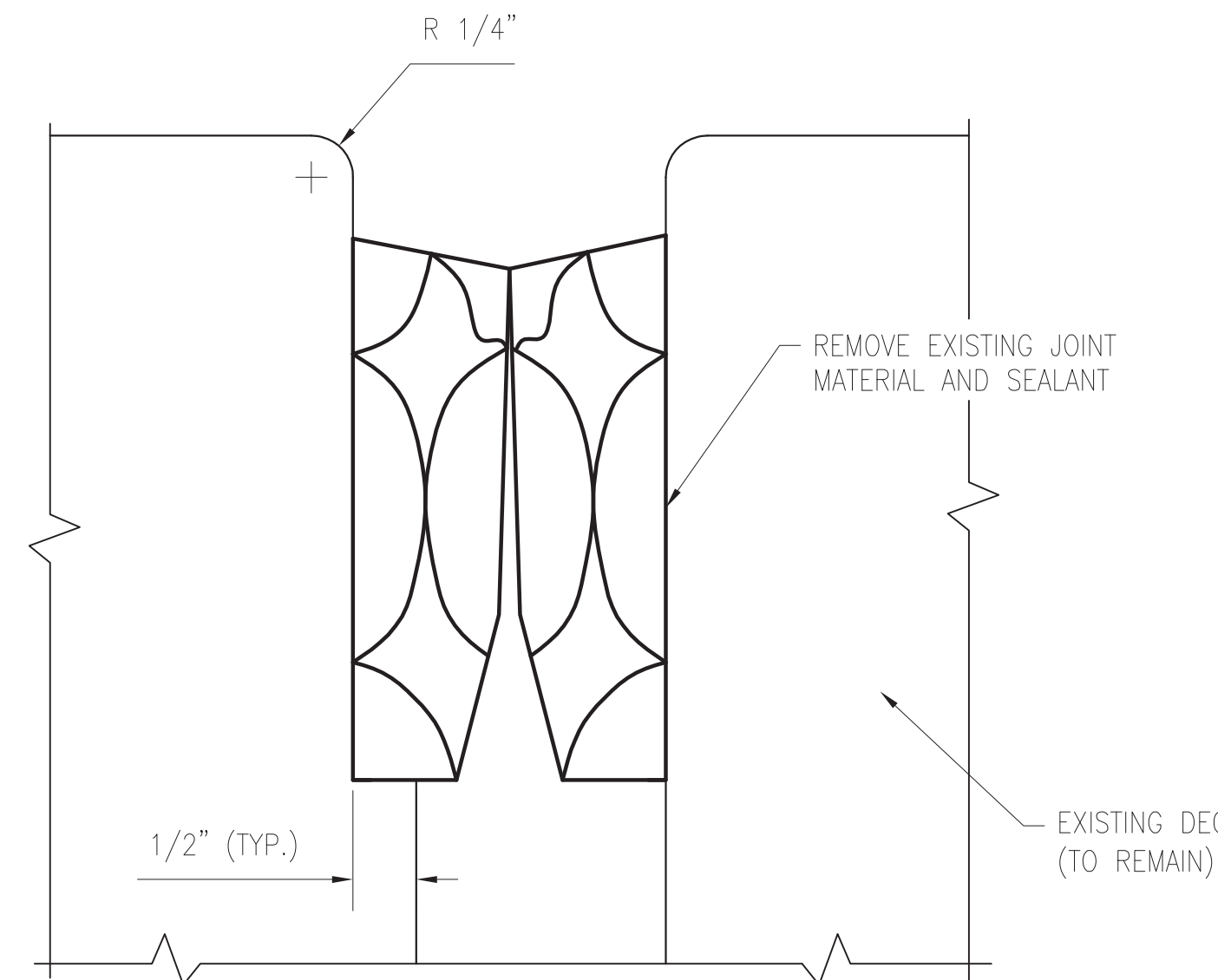
CONTRACT NO. **FQ15093**

SCALE AS SHOWN DRAWING NO. **A13-S-107** M1272-128



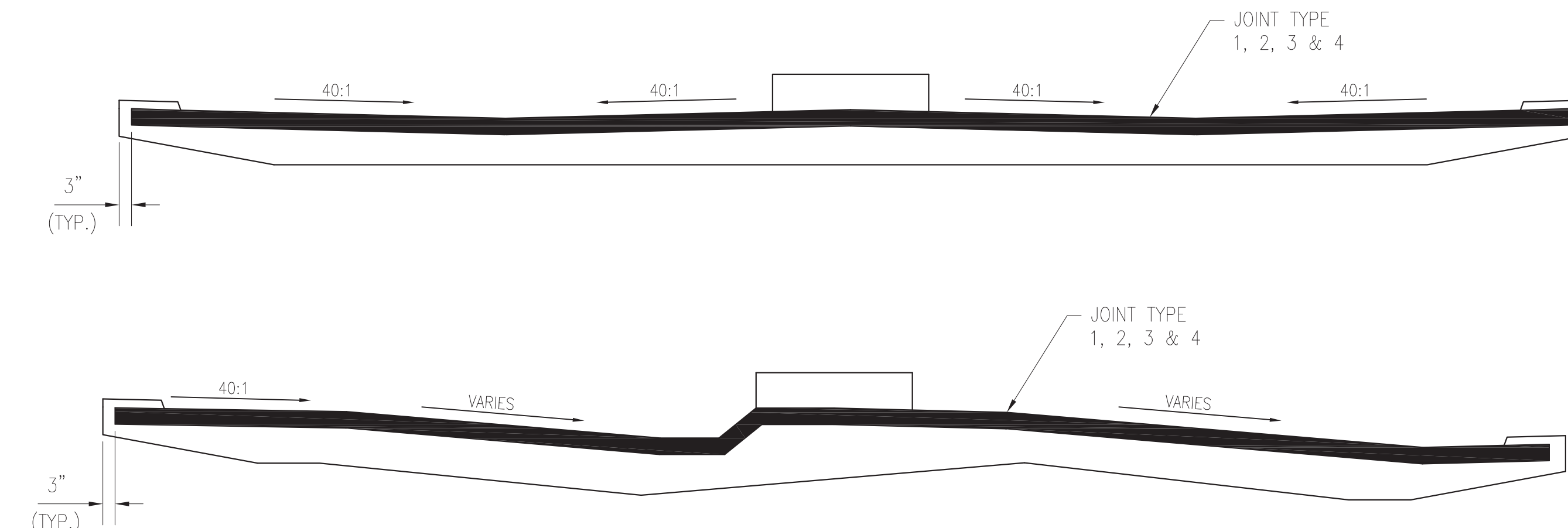
## EXPANSION JOINT INSTALLATION AND NOTES

1. THE WORK TO BE COMPLETED INCLUDES THE COMPLETE REMOVAL OF ALL EXISTING COMPRESSION SEALS AND INSTALLATION OF NEW FOAM JOINT SEALS.
2. REPLACEMENT OF THE JOINTS SHALL BE DONE DURING WEEKEND SHUTDOWNS AT THE DIRECTION OF THE A.R.
3. ALL CIRCUITS ON THE STRUCTURE SHALL BE DE-ENERGIZED DURING REPLACEMENT OF THE JOINT SEALS.
4. THE EXISTING JOINT MATERIAL SHALL BE COMPLETELY REMOVED FOR THE ENTIRE LENGTH OF THE JOINT. ALL JOINT ADHESIVE AND DEBRIS SHALL BE CLEANED FROM THE VERTICAL CONCRETE JOINT FACE. MEANS AND METHODS OF CLEANING THE JOINT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ANY WORK TAKING PLACE. DAMAGE TO ANY EXISTING STRUCTURAL ELEMENTS OR TRACK EQUIPMENT ADJACENT TO THE JOINT ARE TO BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
5. IMMEDIATELY PRIOR TO INSTALLING THE ADHESIVE, THE JOINT SIDES SHALL BE AIR BLASTED TO REMOVE ALL DEBRIS AND REMAINING MATERIAL WHICH MAY INHIBIT PROPER BONDING OF THE JOINT.
6. AN APPROPRIATE ADHESIVE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. INSTALL FOAM JOINT SEAL IN ACCORDANCE WITH THE DETAILS AND MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE JOINTS THAT ALLOW FOR ADEQUATE MOVEMENT BASED ON THE EXISTING STRUCTURE DRAWINGS AND THE MANUFACTURER'S RECOMMENDATIONS.
9. SEE REFERENCE DRAWING NO. A13-S-87 FOR EXISTING JOINT DETAILS.
10. DECK APPURTENANCES NOT SHOWN FOR CLARITY. FOR DETAILS OF THE EXISTING DECK, SEE REFERENCE DRAWINGS; WMATA, SECTION A013, ROCKVILLE ROUTE, JANUARY 1976, APPROVED FOR CONSTRUCTION DECEMBER 23, 1975, SHEETS M220-318 TO M220-326.



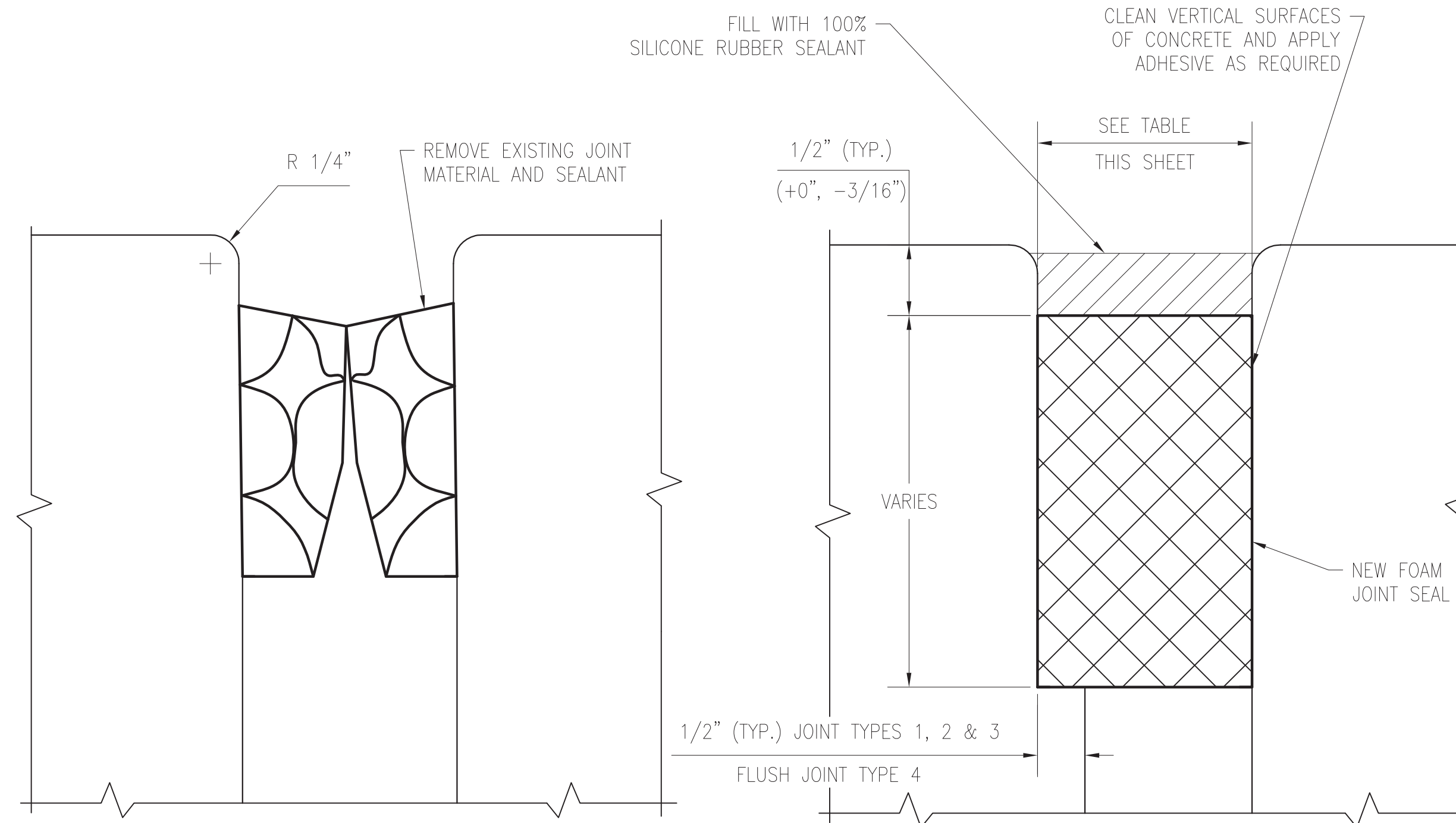
**EXISTING COMPRESSION JOINT  
(TYPES 1, 2 & 3)**

NO SCALE



**TYPICAL DECK SECTIONS AT PIER CAPS**

NO SCALE



**EXISTING COMPRESSION JOINT  
(TYPE 4)**

NO SCALE

**TYPICAL DECK JOINT SEAL  
REPLACEMENT**

FOR EXISTING JOINT TYPES 1, 2, 3 & 4  
NO SCALE

JOINT SCHEDULE			
JOINT LOCATION	(1) EXISTING JOINT TYPE	(2) JOINT OPENING	(3) JOINT LENGTH
ABUT. NO A5460	2	3"	41' - 3"
PIER NO. A5447 AHEAD	4	2"	34' - 0"
PIER NO. A5447 BACK	4	2"	34' - 0"
PIER NO. A5435 AHEAD	2	3"	29' - 9"
PIER NO. A5435 BACK	3	3 3/4"	29' - 9"
FRAME NO. A5419 AHEAD	4	2"	30' - 0"
FRAME NO. A5419 BACK	4	2"	30' - 0"
PIER NO. A5403 AHEAD	3	3 3/4"	29' - 9"
PIER NO. A5403 BACK	1	2 3/4"	29' - 9"
PIER NO. A5392 AHEAD	4	2"	34' - 9"
PIER NO. A5392 BACK	4	2"	34' - 9"
PIER NO. A5376 AHEAD	3	3 3/4"	31' - 6"
PIER NO. A5376 BACK	1	2 3/4"	31' - 6"
PIER NO. A5366 AHEAD	4	2"	31' - 6"
PIER NO. A5366 BACK	4	2"	31' - 6"
PIER NO. A5356 AHEAD	1	2 3/4"	31' - 6"
PIER NO. A5356 BACK	1	2 3/4"	31' - 6"
PIER NO. A5345 AHEAD	4	2"	31' - 6"
PIER NO. A5345 BACK	4	2"	31' - 6"
PIER NO. A5335 AHEAD	1	2 3/4"	31' - 6"
PIER NO. A5335 BACK	1	2 3/4"	31' - 6"
PIER NO. A5324 AHEAD	4	2"	31' - 6"
PIER NO. A5324 BACK	4	2"	31' - 6"
PIER NO. A5313 AHEAD	2	3"	31' - 6"
PIER NO. A5313 BACK	2	3"	31' - 6"

JOINT SCHEDULE			
JOINT LOCATION	(1) EXISTING JOINT TYPE	(2) JOINT OPENING	(3) JOINT LENGTH
PIER NO. A5302 AHEAD	4	2"	31' - 6"
PIER NO. A5302 BACK	4	2"	31' - 6"
(4) PIER NO. A5290 AHEAD	2	3"	30' - 9"
(4) PIER NO. A5290 BACK	2	3"	30' - 9"
PIER NO. A5279 AHEAD	4	2"	30' - 3"
PIER NO. A5279 BACK	4	2"	30' - 3"
PIER NO. A5268 AHEAD	2	3"	30' - 0"
PIER NO. A5268 BACK	1	2 3/4"	30' - 0"
PIER NO. A5258 AHEAD	4	2"	29' - 9"
PIER NO. A5258 BACK	4	2"	29' - 9"
PIER NO. A5248 AHEAD	1	2 3/4"	30' - 9"
PIER NO. A5248 BACK	1	2 3/4"	30' - 9"
PIER NO. A5238 AHEAD	4	2"	30' - 9"
PIER NO. A5238 BACK	4	2"	30' - 9"
FRAME NO. A5225 AHEAD	3	3 3/4"	31' - 3"
FRAME NO. A5225 BACK	3	3 3/4"	31' - 3"
PIER NO. A5212 AHEAD	4	2"	31' - 0"
PIER NO. A5212 BACK	4	2"	31' - 0"
PIER NO. A5199 AHEAD	2	3"	30' - 9"
PIER NO. A5199 BACK	2	3"	30' - 9"
PIER NO. A5186 AHEAD	4	2"	29' - 9"
PIER NO. A5186 BACK	4	2"	29' - 9"
FRAME NO. A5174 AHEAD	3	3 3/4"	30' - 9"
FRAME NO. A5174 BACK	3	3 3/4"	30' - 9"
ABUT. NO A5162	4	2"	31' - 3"

**NOTES**

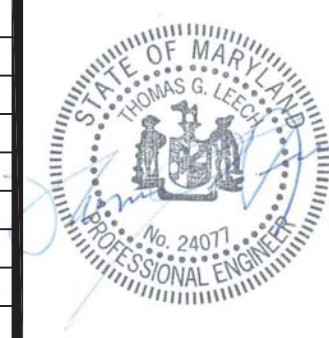
- (1) EXISTING JOINT TYPES ARE GIVEN FOR INFORMATION PURPOSES ONLY.
- (2) JOINT OPENINGS GIVEN ARE @ 60°F AND ARE BASED ON THE ORIGINAL DESIGN DRAWINGS.
- (3) JOINT LENGTHS ARE GIVEN TO THE NEAREST 3" INCREMENT.
- (4) REPLACEMENT OF THE JOINTS AT PIER A5290 IS TO BE COMPLETED UNDER THE J.O.C. CONTRACT.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24077, EXPIRATION DATE 02-24-2015

CONTRACT NO.  
**FQ15093**

NOVEMBER 14, 2014

DESIGNED		DATE		REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY	NUMBER	DESCRIPTION	DATE	BY
ESN	2-25-14						
CJP	2-27-14						
ESN	3-3-14						
TGL	4-10-14						



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE  
AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM



APPROVED \_\_\_\_\_

SUBMITTED BRAD MASON  
PROJECT MANAGER

**RED LINE REHABILITATION  
GROSVENOR AERIAL STRUCTURE**

DECK JOINT DETAILS

SCALE  
NO SCALE

DRAWING NO.  
A13-S-108

M1272-129




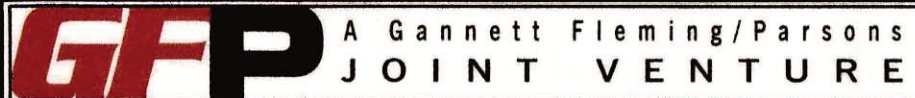
**GENERAL NOTES – BEARING REPLACEMENT**

1. FOR DESCRIPTION OF WORK, APPLICABLE REFERENCES, REQUIRED SUBMITTALS, QUALITY ASSURANCE, MATERIALS, EXECUTION, METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE PROJECT SPECIFICATIONS IN ADDITION TO THESE NOTES.
2. ALL STATIONS SHOWN ON THE DRAWINGS ARE IN FEET AND REFER TO THE PROJECT COORDINATE SYSTEM USED IN THE REFERENCE DRAWINGS.
3. ALL ELEVATIONS SHOWN ON THE DRAWINGS ARE IN FEET AND REFER TO U.S.C & G.S. MEAN SEA LEVEL DATUM, 1929 GENERAL ADJUSTMENT.
4. ALL PLAN DIMENSIONS SHALL BE MEASURED IN A TRUE HORIZONTAL PLANE, UNLESS NOTED OTHERWISE.
5. ALL VERTICAL DIMENSIONS SHALL BE MEASURED IN A TRUE VERTICAL PLANE, UNLESS NOTED OTHERWISE.
6. DESIGN CRITERIA:
  - A. DESIGN CODES AND STANDARDS, CURRENT EDITIONS:
    1. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AS MODIFIED BY THE WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA).
    2. MANUAL FOR RAILWAY ENGINEERING, OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA).
    3. WMATA MANUAL OF DESIGN CRITERIA RELEASE 9 REV.1, 2014.
    4. BRIDGE WELDING CODE.ANSI/AASHTO/AWS D1.5, BY THE AMERICAN WELDING SOCIETY, AASHTO AND ANSI.
    5. AISC STEEL CONSTRUCTION MANUAL, THIRTEENTH EDITION.
  - B. DESIGN LOADS:
    1. IN ACCORDANCE WITH THE MANUAL OF DESIGN CRITERIA FOR RAPID TRANSIT SYSTEM, BY WMATA.
7. ALL STEEL SHALL BE NEW AND IN ACCORDANCE WITH SPECIFICATIONS.
8. ALL PERMANENT STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION A709 GRADE 50W. UNPAINTED WEATHERING STEEL UNLESS OTHERWISE NOTED. STRUCTURAL STEEL FOR TEMPORARY EXTERNAL FRAMES AT ALL PIERS SHALL CONFORM TO ASTM A709 GRADE 50.
9. ALL BOLTS USED SHALL HAVE THREADS EXCLUDED FROM PLANE OF SHEAR. BOLTS SHALL BE TIGHTENED USING THE TURN-OF-NUT METHOD.
10. HIGH STRENGTH BOLTS USED SHALL BE 7/8" DIAMETER, SLIP-CRITICAL CONFORMING TO ASTM DESIGNATION A325, TYPE 3, UNLESS OTHERWISE NOTED. All 7/8" BOLTS SHALL HAVE A MINIMUM OF 3" CENTER TO CENTER AND 1 1/2" EDGE DISTANCE UNLESS OTHERWISE NOTED.
11. SUBMERGED ARC WELDING ELECTRODES AND RODS SHALL BE E70XX.
12. ALL DIMENSIONS, LOCATIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO PREPARATION OF SHOP DRAWINGS AND COMMENCEMENT OF ANY WORK. IF DISCREPANCIES ARE DISCOVERED BETWEEN EXISTING CONDITIONS AND THE CONTRACT WORK, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE AUTHORITY REPRESENTATIVE.
13. FOR DETAILS OF EXISTING STRUCTURES, SEE REFERENCE DRAWINGS.
14. PRIOR TO FABRICATION OF NEW BEARINGS, CONTRACTOR SHALL VERIFY THAT OPENINGS ARE LARGE ENOUGH TO ACCESS THE BEARING AREAS FOR REMOVAL OF EXISTING AND INSTALLATION OF THE NEW BEARINGS. SEE AS-BUILT REFERENCE DRAWINGS FOR EXISTING ACCESS HATCH/OPENING LOCATIONS, ONE IN EACH SPAN AND DIRECTION, ON BOX GIRDERS TO REPLACE BEARINGS FOR THE CONTRACTOR'S BENEFIT, CONTRACTOR CAN PROVIDE ANY NEW ACCESS OPENINGS BASED ON FIELD CONDITIONS TO COMPLETE THE WORK. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED NEW ACCESS LOCATIONS AND PROCEDURE TO CUT THE OPENINGS AND METHOD OF CLOSURE ONCE COMPLETED PRIOR TO COMMENCEMENT OF THE WORK FOR APPROVAL BY THE AUTHORITY REPRESENTATIVE.
15. TEMPLATES SHALL BE PREPARED, BEFORE FABRICATION, FOR TIGHT SPACES TO VERIFY DIMENSIONS OF NEW ELEMENTS BEING INSTALLED INTO THE EXISTING STRUCTURE.
16. DURING ENTIRE PERIOD OF WORKING WITH THE SHEAR BLOCK BOLTS, LIVE LOAD IS NOT PERMITTED ON THE AERIAL STRUCTURE. BOLTS SHALL BE REPLACED, IF NOTED, ONE AT A TIME DURING THE REPLACEMENT OF THE BEARINGS.
17. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF JACKS, EXTERNAL JACK SUPPORT FRAMES/SYSTEM, JACKING OPERATIONS AND ALL REQUIRED OPERATIONS TO COMPLETE THE REPLACEMENT OF THE BEARINGS AT ABUTMENT NO. A5460, PIER NO. A5447, PIER NO. A5324 AND PIER NO. A5212.

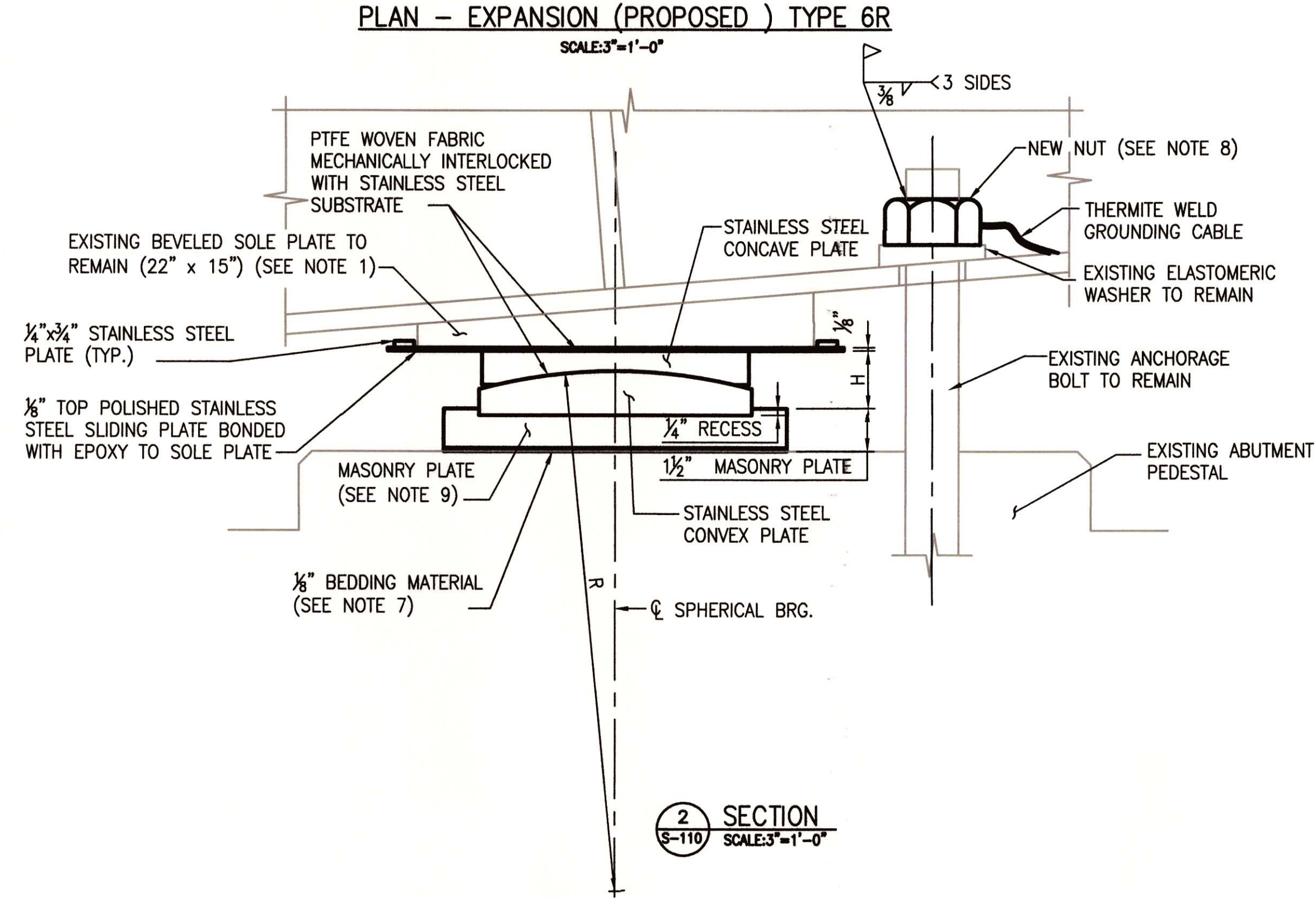
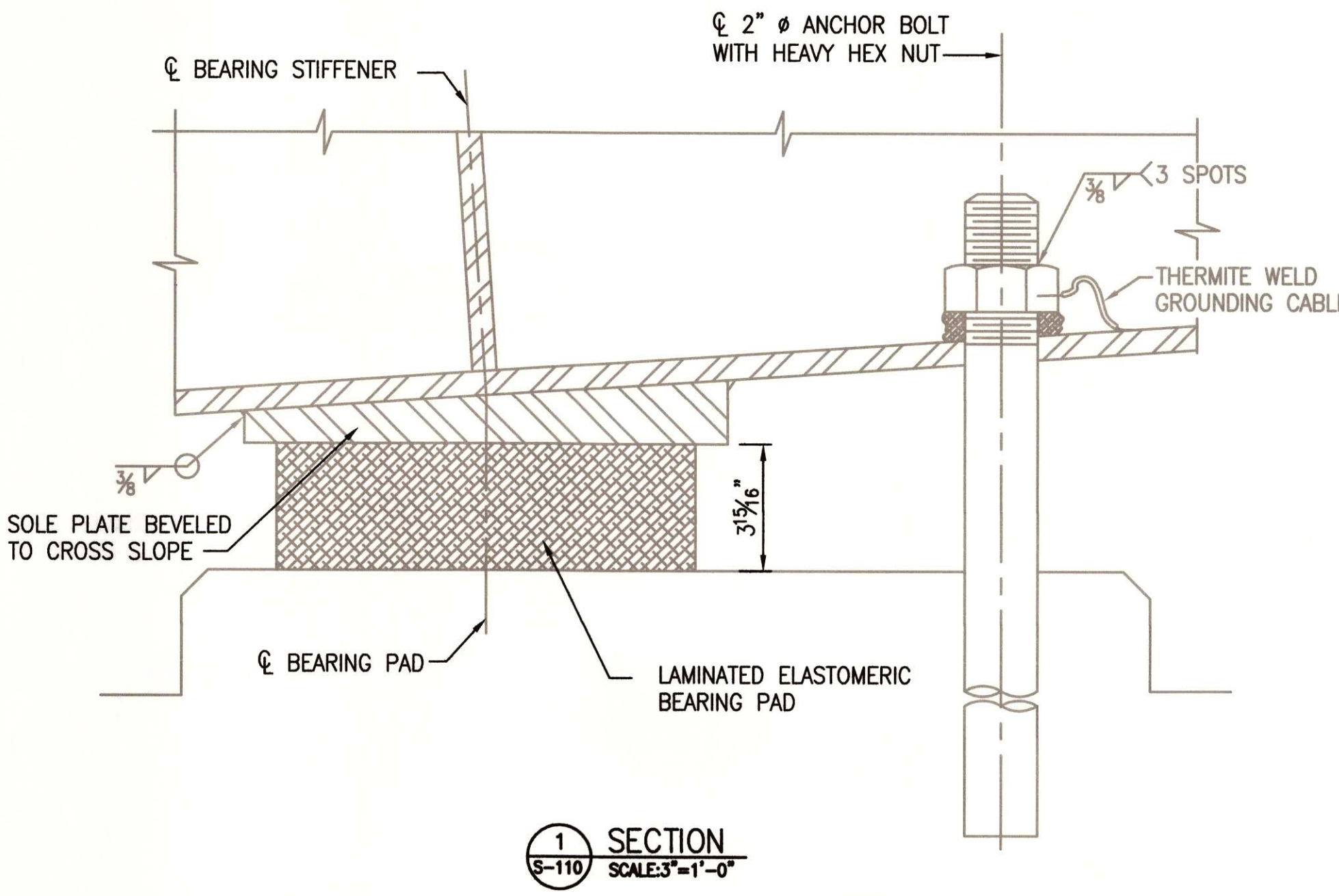
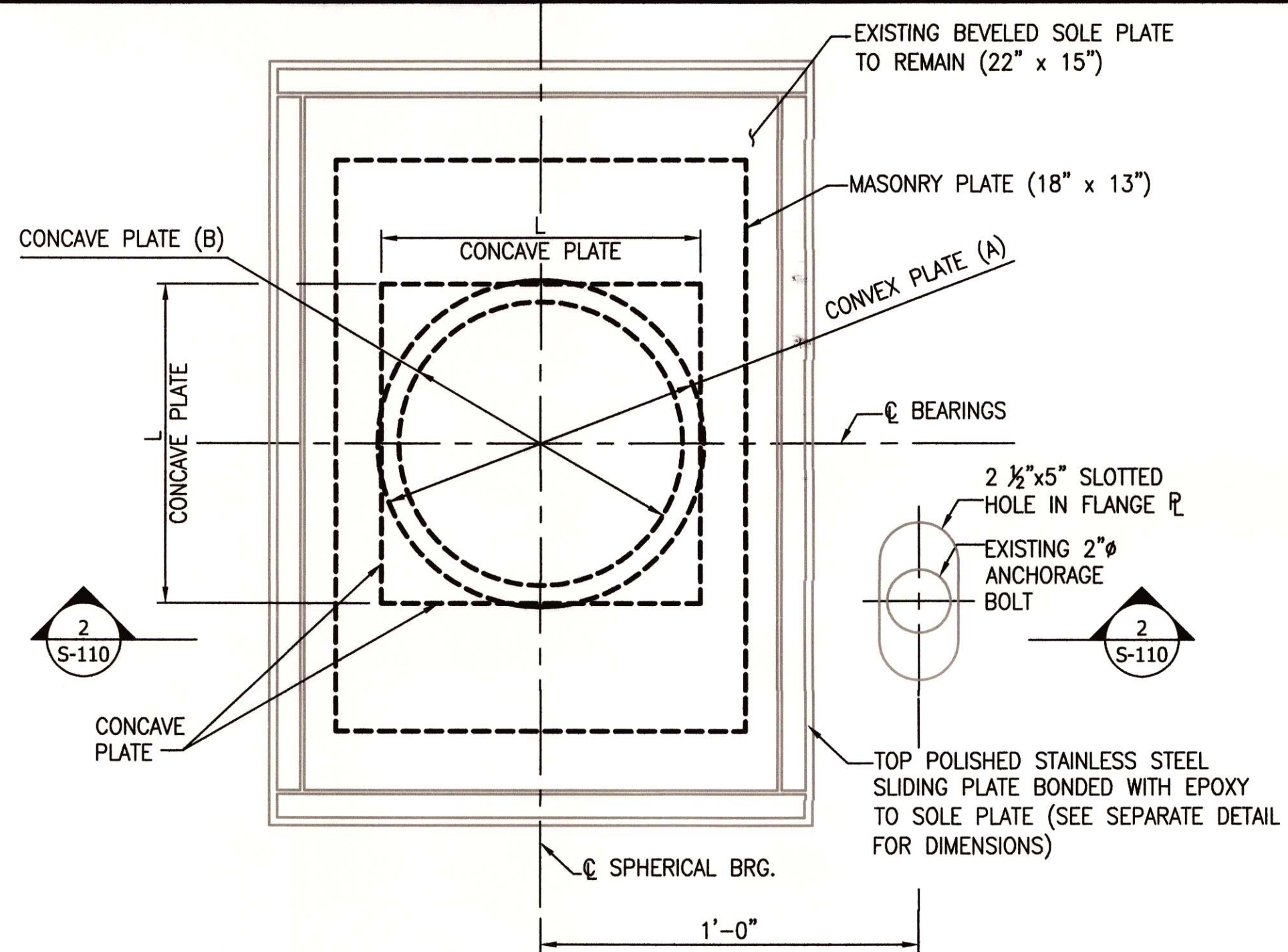
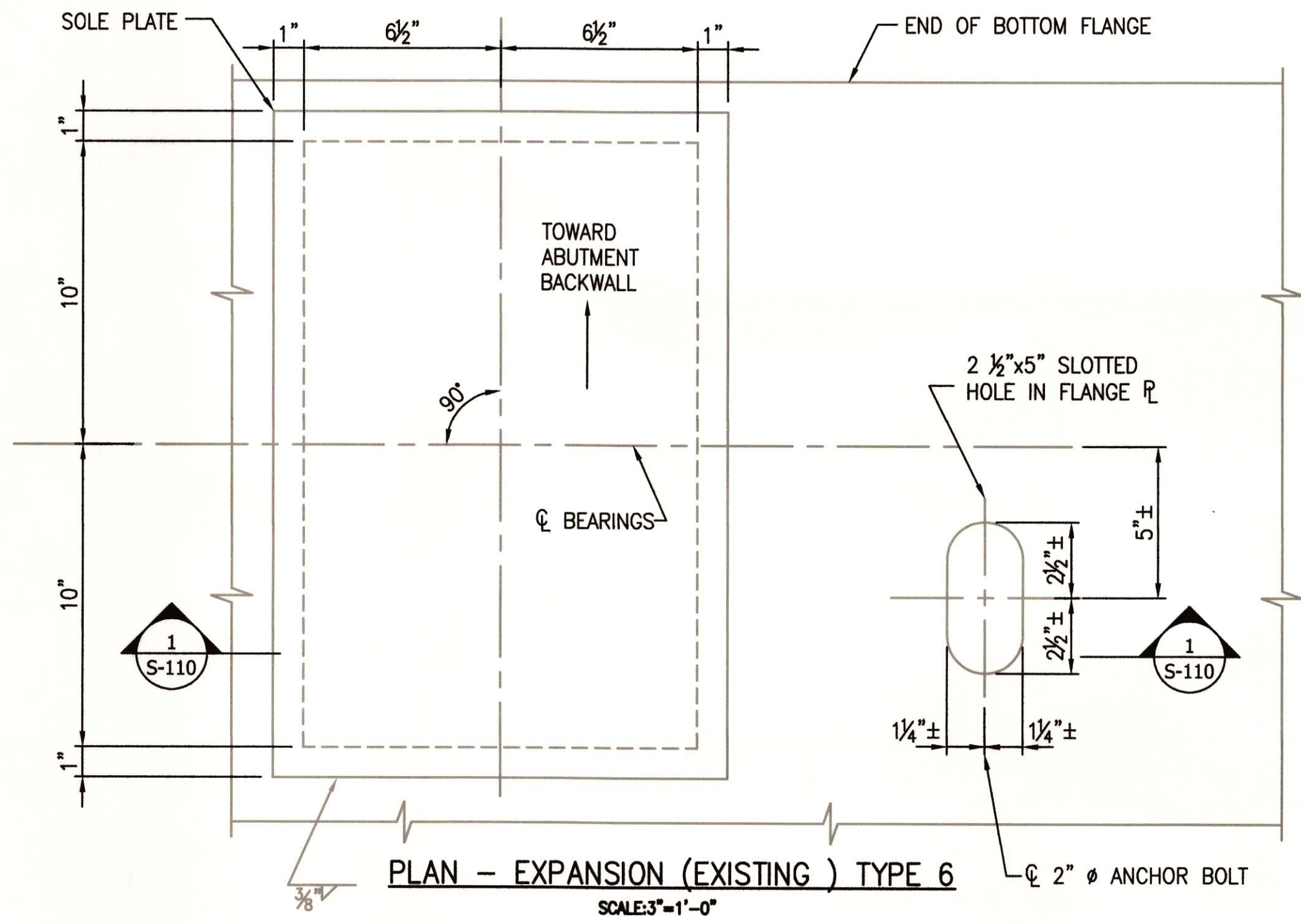
18. CONTRACTOR SHALL SUBMIT HIS PROPOSED BEARING REPLACEMENT PROCEDURES AND PLANS INCLUDING JACKING PROCEDURES, JACK CALIBRATION AND CERTIFIED CALIBRATION CHARTS, AND HIS PROPOSED HYDRAULIC CONFIGURATION, FOR APPROVAL BY THE AUTHORITY REPRESENTATIVE.
19. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL RESTORE ALL THE WORK AREAS USED IN THE VICINITY INCLUDING, BUT NOT LIMITED TO AREAS OF TEMPORARY SUPPORT, STAGING AREAS, BACKFILLING AND RESTORING THE GRADE(S) ETC. TO IT'S ORIGINAL CONDITION PRIOR TO THE START OF THE BEARING REPLACEMENT WORK AND/OR CONTRACT.
20. THE EXISTING BRIDGE SUPERSTRUCTURE, COLUMNS, FOOTINGS AND TEMPORARY FRAMES SHALL BE MAINTAINED, PROTECTED AND MONITORED CONTINUOUSLY DURING JACKING AND BEARING REPLACEMENT IN ACCORDANCE WITH THE SPECIFICATIONS. IF ANY SIGN OF DISTRESS IN THE SUPERSTRUCTURE OR SUBSTRUCTURE IS NOTED, JACKING AND BEARING REPLACEMENT OPERATIONS SHALL BE IMMEDIATELY HALTED AND THE AUTHORITY REPRESENTATIVE NOTIFIED.
21. CONTRACTOR SHALL NOT DRILL OR CUT ANY HOLES OR PROVIDE ANY PERMANENT ATTACHMENTS TO THE AERIAL STRUCTURE EXCEPT AS NOTED ON THE PLANS OR AS APPROVED BY THE AUTHORITY REPRESENTATIVE.
22. THE AERIAL STRUCTURE SHALL NOT BE JACKED FOR BEARING REPLACEMENT IN ADVERSE WEATHER CONDITIONS OR WHEN WINDS EXCEED 15 MILES PER HOUR.
23. THE CONTRACTOR SHALL MAINTAIN, PROTECT AND MONITOR EXISTING DRAIN PIPES AND UTILITIES DURING THE EXECUTION OF THE WORK.
24. IF REQUIRED, THE CONTRACTOR SHALL DISCONNECT AND SUPPORT UTILITIES DURING ENTIRE BEARING REPLACEMENT PROCESS. THE CONTRACTOR SHALL RESTORE UTILITIES IMMEDIATELY AFTER THE NEW BEARINGS ARE INSTALLED. HAND RAILS, RUNNING RAILS AND CONTACT RAIL FASTENERS WILL BE RELEASED AND RESTORED BY WMATA.
25. SEE SPECIFICATION SECTION 01140 ACCESS TO WORKSITE FOR HOURS OF WORK.
26. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF EXISTING CONDUITS.
27. DURING FLAME CUTTING, THE CONTRACTOR SHALL PROVIDE PROTECTIVE BLANKETS TO SHIELD EXISTING BEARINGS, CONDUITS, STEEL AND OTHER BRIDGE ELEMENTS FROM HIGH TEMPERATURES AND MOLTEN STEEL.
28. VENTILATION AND LIGHTING SHALL BE MAINTAINED INSIDE THE BOX GIRDERS DURING ENTIRE PERIOD OF THE BEARINGS REPLACEMENT.
29. EDGES OF ALL FLAME CUT AND NEW HOLES SHALL BE GROUND SMOOTH, FREE OF BURRS AND SHARP EDGES IMMEDIATELY AFTER OPENINGS ARE CUT.
30. DUE TO TIGHT CLEARANCES, THE CONTRACTOR MAY BE REQUIRED TO CUT THE EXISTING BEARINGS IN ORDER TO REMOVE THEM.
31. DURING JACKING LIVE LOAD IS NOT PERMITTED ON THE BRIDGE UNTIL THE NEW BEARINGS ARE PROPERLY SEATED AND THE JACKS HAVE BEEN REMOVED.
32. FOR ABUTMENT (A5460) ELEVATION AND SECTION, SEE AS-BUILT PLAN SHEET NO. M220-248 AND M220-249.<sup>testing</sup>

PROFESSIONAL CERTIFICATION:  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15211, EXPIRATION DATE 12/23/16

FINAL CONTRACT NO. FQ15093

DESIGNED <u>VTD</u> 06-14 DATE DRAWN <u>GMJ</u> 06-14 DATE CHECKED <u>RVR</u> 06-14 DATE APPROVED <u>CAM</u> 06-14 DATE	REFERENCE DRAWINGS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NUMBER</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	NUMBER	DESCRIPTION											REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY	DESCRIPTION																	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM APPROVED _____	 SUBMITTED <u>Brad Mason, P.E.</u> PROJECT MANAGER	RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3 BEARING REPLACEMENT GENERAL NOTES SCALE NO SCALE DRAWING NO. A13-S-109 SHEET NO. M1272-130
NUMBER	DESCRIPTION																																			
DATE	BY	DESCRIPTION																																		





- NOTES:
1. PRIOR TO INSTALLATION OF NEW BEARINGS, THE EXISTING BOTTOM SURFACE OF THE SOLE PLATE SHALL BE CLEANED AND WASHED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
  2. THE CONVEX AND CONCAVE SPHERICAL ELEMENTS SHALL BE MADE OF SOLID STAINLESS STEEL STOCK CONFORMING TO ASTM A240 TYPE 316 WITH A MINIMUM YIELD STRENGTH OF 30 KSI.
  3. THE POLISHED STAINLESS STEEL PLATE AND KEEPER PLATES SHALL CONFORM TO ASTM A240 TYPE 316 WITH A MINIMUM YIELD STRENGTH OF 30 KSI.
  4. POLISHED STAINLESS STEEL SLIDING PLATE SHALL BE BONDED WITH EPOXY TO EXISTING SOLE PLATE.
  5. ALL STAINLESS STEEL IN CONTACT WITH STRUCTURAL STEEL SHALL BE COATED WITH EPOXY ISOLATING MATERIAL.
  6. THE CENTERLINE OF THE NEW BEARING SHALL COINCIDE WITH THE CENTERLINE OF THE EXISTING BEARING.
  7. BEDDING MATERIAL: MANUFACTURE MATERIAL FROM ELASTOMERIC MATERIAL REINFORCED WITH ORGANIC FIBER AS FILLER MATERIAL. THE FIBER SHALL BE IN THE FORM OF FABRIC (SINGLE OR MULTIPLE LAMINATIONS, TYPE II).
  8. THE EXISTING ANCHOR BOLT IS TACK WELDED TO THE EXISTING ANCHOR BOLT. THE CONTRACTOR SHALL BREAK THE EXISTING WELD IN ORDER TO REMOVE/REPLACE THE EXISTING BEARING.
  9. THE MASONRY PLATE SHALL BE MADE OF STRUCTURAL STEEL CONFORMING TO ASTM A709 / A709M WITH A MINIMUM YIELD STRENGTH OF 50 KSI.
  10. TACK WELD NUT BACK TO THE ANCHOR BOLT AT THE COMPLETION OF WORK.
  11. REFER TO DRAWING S-112 FOR TEMPORARY DIAPHRAGM DETAILS.
  12. REFER TO GENERAL PLAN & ELEVATION DRAWINGS (S-100 TO S-102) FOR SPAN/UNIT LOCATIONS.
  13. FOR SPAN/UNIT NUMBERS AND DETAILS, SEE REFERENCE DRAWINGS; WMATA, SECTION A013, ROCKVILLE ROUTE, JANUARY 1976, APPROVED FOR CONSTRUCTION DECEMBER 23, 1975, SHEET M220-262.

ABUT. JACKING DEAD LOADS		SPAN/UNIT	DEAD LOAD [kips]
A5460	BACK	O.B. A5454	204
		I.B. A5454	204

LOCATION	EXISTING BEARING TYPE	NUMBER REQUIRED	EACH BEARING		BEARING DIMENSIONS (INCHES)					MOVEMENT	
			MAXIMUM VERTICAL (KIPS)	LATERAL (KIPS)	H (INCH)	A CONVEX (INCH)	B CONCAVE (INCH)	L CONCAVE (INCH)	R (INCH)	MAXIMUM EXPANSION (INCHES)	MAXIMUM ROTATION (DEGREES)
A5460	6	4	190.0	19.0	2.188	10.34	9	10 1/8	19.75	0.88	±2.0

PROFESSIONAL CERTIFICATION:  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15211, EXPIRATION DATE 12/23/16

DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	BY
GTF	06-14				
DRAWN	06-14				
CHECKED	06-14				
APPROVED	06-14				

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_

PROJECT MANAGER: Brad Mason, P.E.

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
 EXPANSION BEARING REPLACEMENT - ABUTMENT A5460

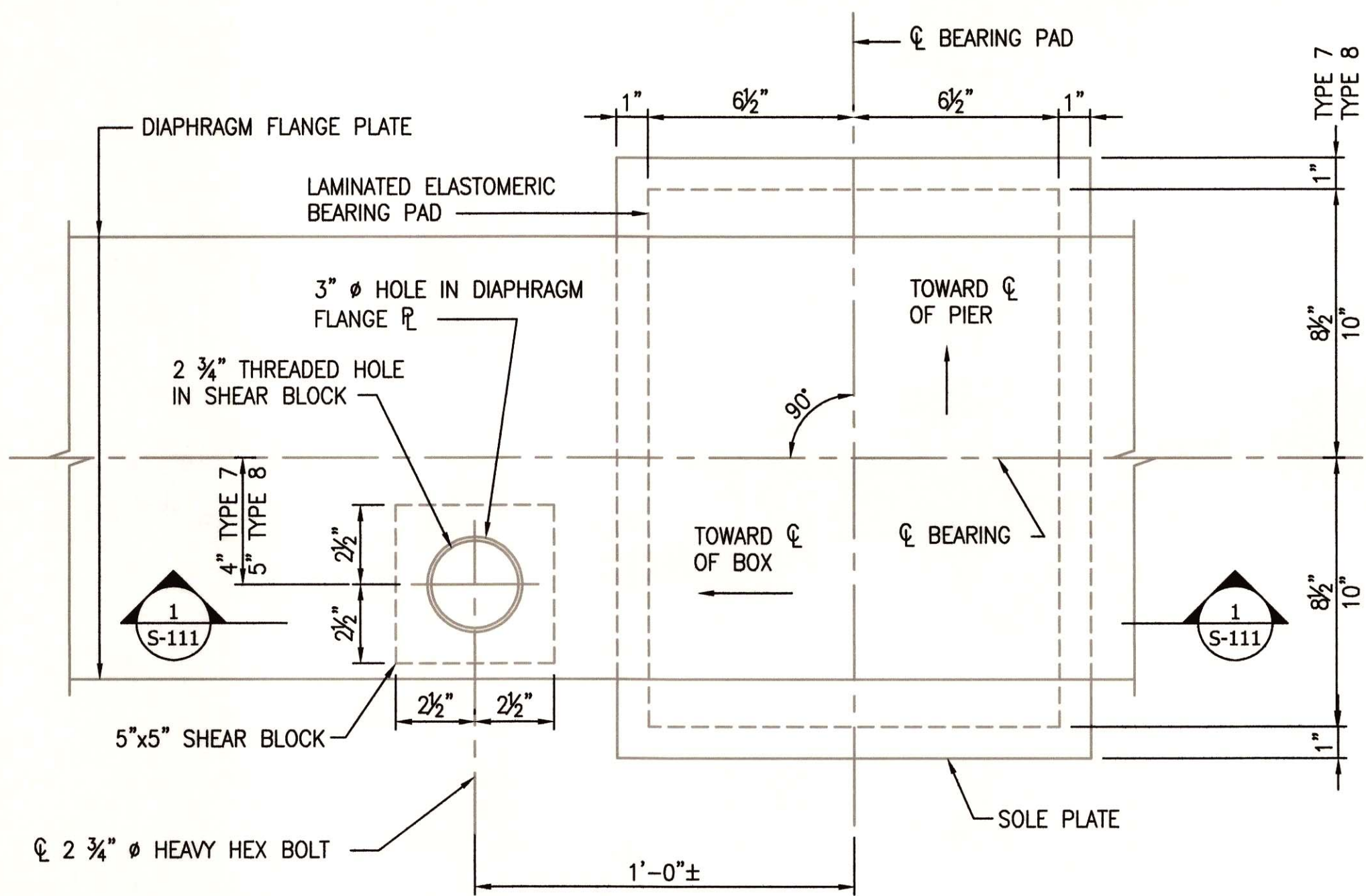
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DRAWING NO. A13-S-110

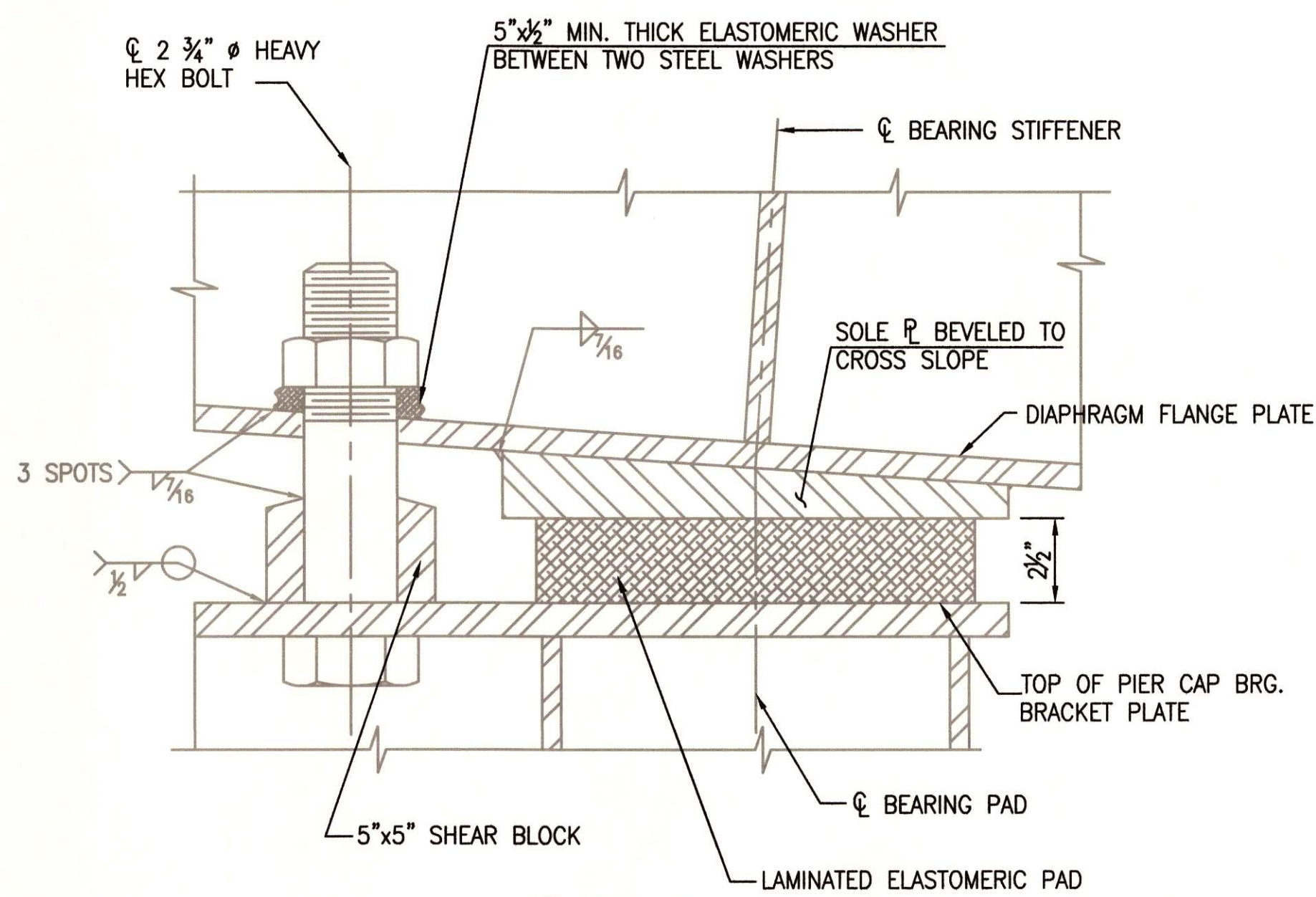
SHEET NO. M1272-131

FINAL CONTRACT NO. FQ15093

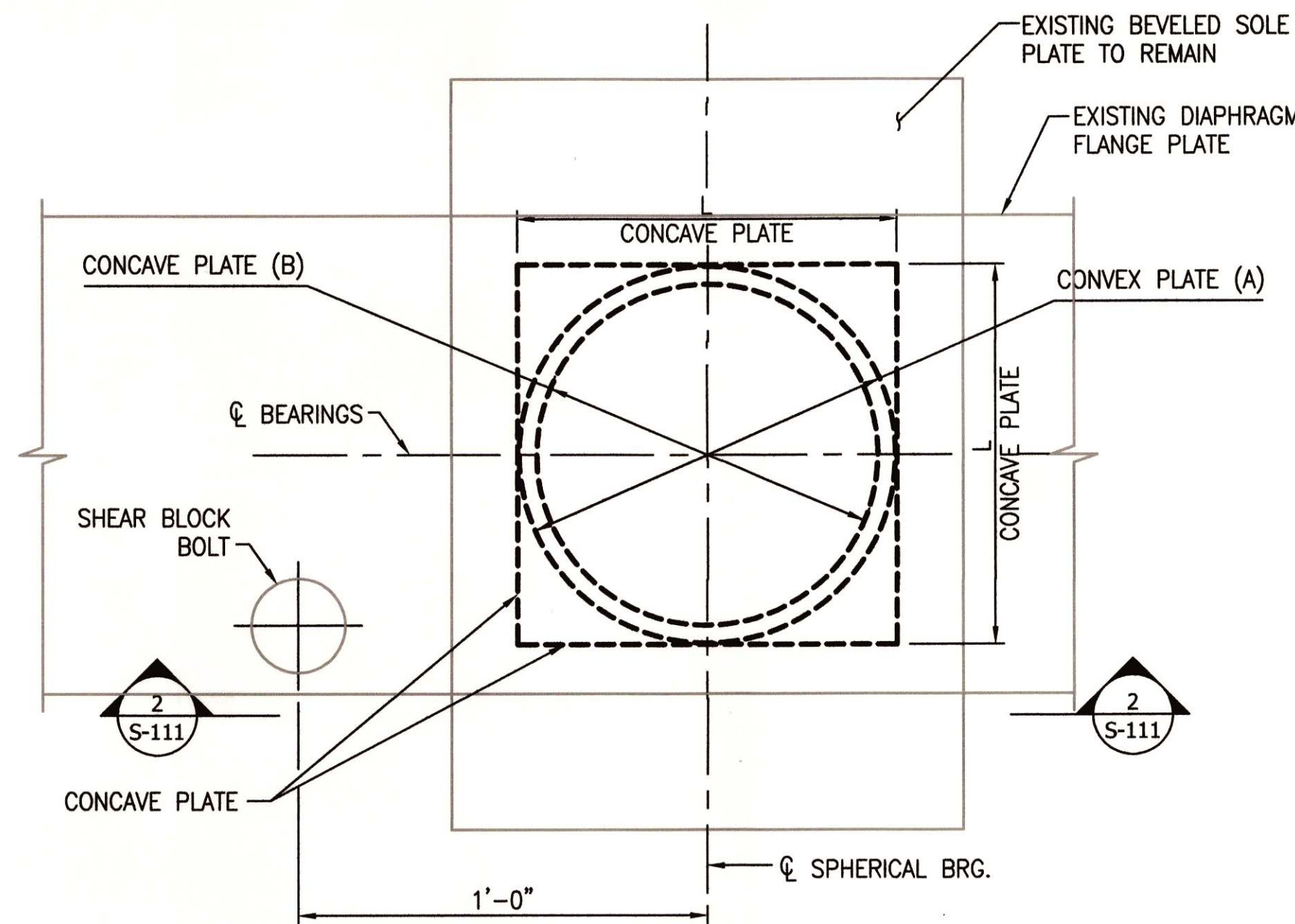




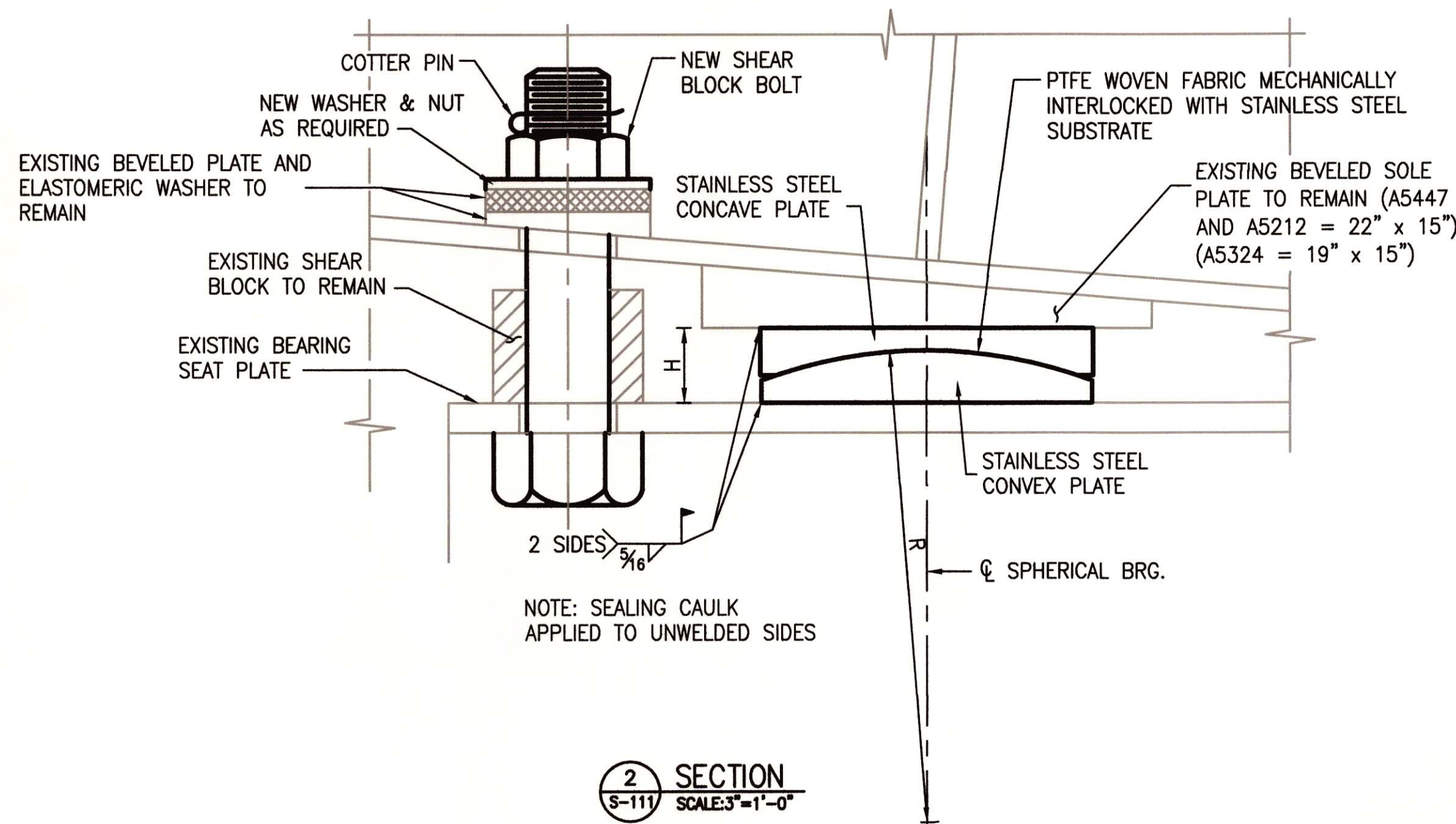
PLAN - FIXED (EXISTING) TYPE 7 & 8  
SCALE: 3"=1'-0"



SECTION 1  
SCALE: 3"=1'-0"



PLAN - FIXED (PROPOSED) TYPE 7R & 8R  
SCALE: 3"=1'-0"



SECTION 2  
SCALE: 3"=1'-0"

PIER JACKING: DEAD LOADS	SPAN/UNIT			DEAD LOAD [kips]
	AHEAD	O.B.	I.B.	
A5447	AHEAD	O.B.	A5454	204
		I.B.	A5454	204
	BACK	O.B.	A5441	199
		I.B.	A5441	199
A5324	AHEAD	O.B.	A5330	178
		I.B.	A5330	178
	BACK	O.B.	A5318	179
		I.B.	A5318	179
A5212	AHEAD	O.B.	A5219	215
		I.B.	A5219	205
	BACK	O.B.	A5206	210
		I.B.	A5206	210

NOTES:

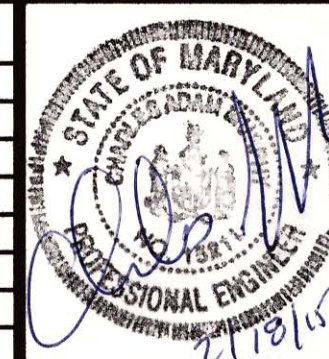
- PRIOR TO INSTALLATION OF NEW BEARINGS, THE EXISTING BOTTOM SURFACE OF THE SOLE PLATE SHALL BE CLEANED AND WASHED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS
- THE CONVEX AND CONCAVE SPHERICAL ELEMENTS SHALL BE MADE OF SOLID STAINLESS STEEL STOCK CONFORMING TO ASTM A240 TYPE 316 WITH A MINIMUM YIELD STRENGTH OF 30 KSI
- SHEAR BLOCK BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A588. BOLTS, NUTS AND WASHERS SHALL BE COATED WITH ZINC.
- 1/4" HOLE SHALL BE SHOP DRILLED FOR 1/8" DIAMETER COTTER PIN.
- THE EXISTING SHEAR BLOCK BOLT IS TACK WELDED TO THE EXISTING SHEAR BLOCK. THE CONTRACTOR SHALL BREAK EXISTING WELD BETWEEN BOLT AND SHEAR BLOCK IN ORDER TO REMOVE BOLT WITHOUT DAMAGING EXISTING SHEAR BLOCK.
- ALL STAINLESS STEEL IN CONTACT WITH STRUCTURAL STEEL SHALL BE COATED WITH EPOXY ISOLATING MATERIAL.
- THE CENTERLINE OF THE NEW BEARING SHALL COINCIDE WITH THE CENTERLINE OF THE EXISTING BEARING.
- TACK WELD NUT BACK TO THE ANCHOR BOLT AT THE COMPLETION OF WORK.
- REFER TO DRAWING S-112 FOR TEMPORARY DIAPHRAGM DETAILS.
- REFER TO GENERAL PLAN & ELEVATION DRAWINGS (S-100 TO S-102) FOR SPAN/UNIT LOCATIONS.
- FOR SPAN/UNIT NUMBERS AND DETAILS, SEE REFERENCE DRAWINGS; WMATA, SECTION A013, ROCKVILLE ROUTE, JANUARY 1976, APPROVED FOR CONSTRUCTION DECEMBER 23, 1975, SHEETS M220-262 THRU M22-281.

LOCATION	EXISTING BEARING TYPE	NUMBER REQUIRED	EACH BEARING		BEARING DIMENSIONS (INCHES)					MOVEMENT	
			MAXIMUM VERTICAL (KIPS)	LATERAL (KIPS)	H (INCH)	A CONVEX (INCH)	B CONCAVE (INCH)	L CONCAVE (INCH)	R (INCH)	MAXIMUM EXPANSION (INCHES)	MAXIMUM ROTATION (DEGREES)
A5447	8	8	188.75	28.31	2.498	11.04	10	11.125	15.75	N/A	±2.0
A5324	7	8	177.50	26.63	2.498	11.04	10	11.125	15.75	N/A	±2.0
A5212	8	8	192.50	28.88	2.498	11.04	10	11.125	15.75	N/A	±2.0

PROFESSIONAL CERTIFICATION:  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15211, EXPIRATION DATE 12/23/16

FINAL CONTRACT NO. FQ15093

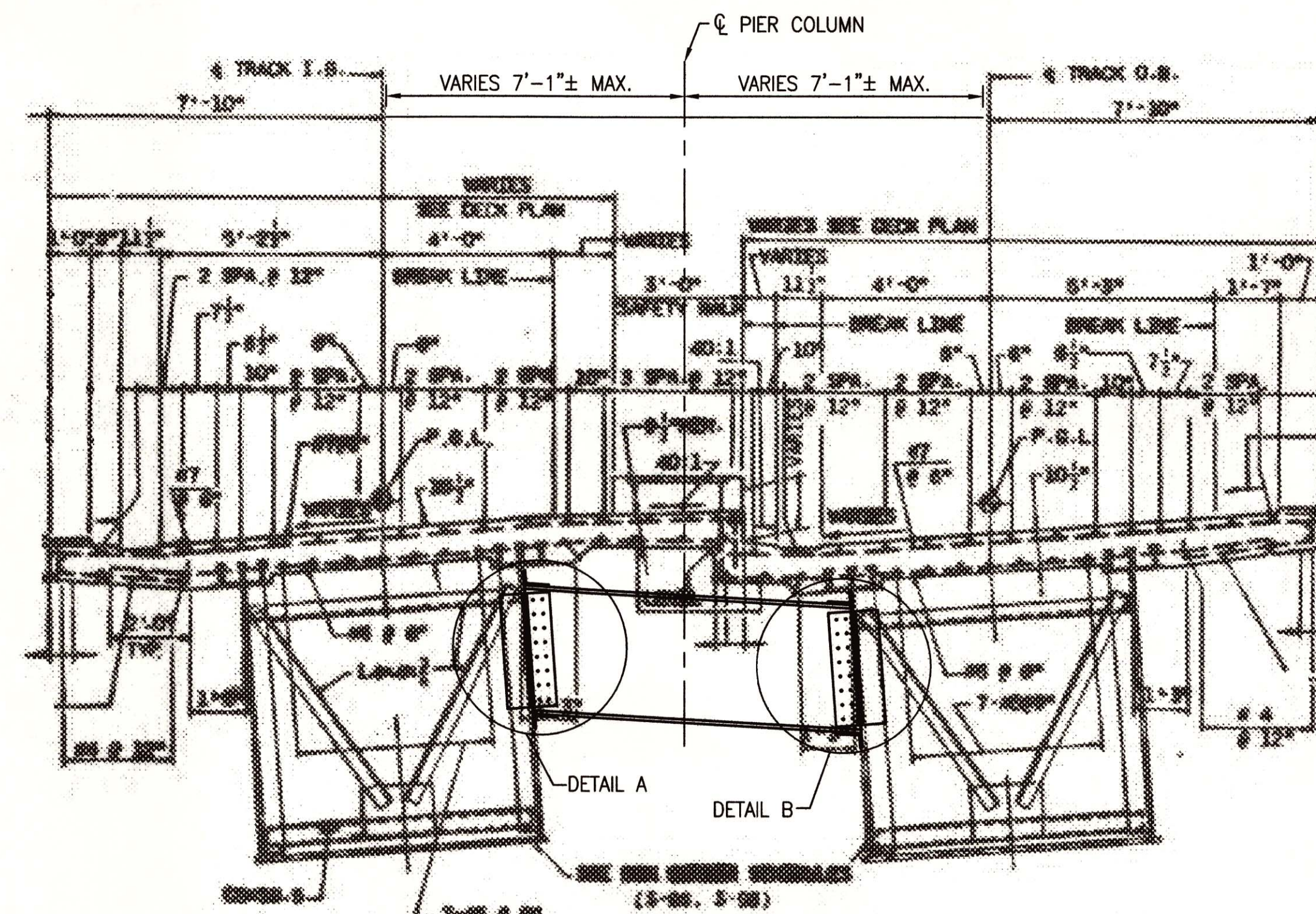
DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	BY
VTD	06-14				
GMJ	06-14				
RVR	06-14				
CAM	06-14				



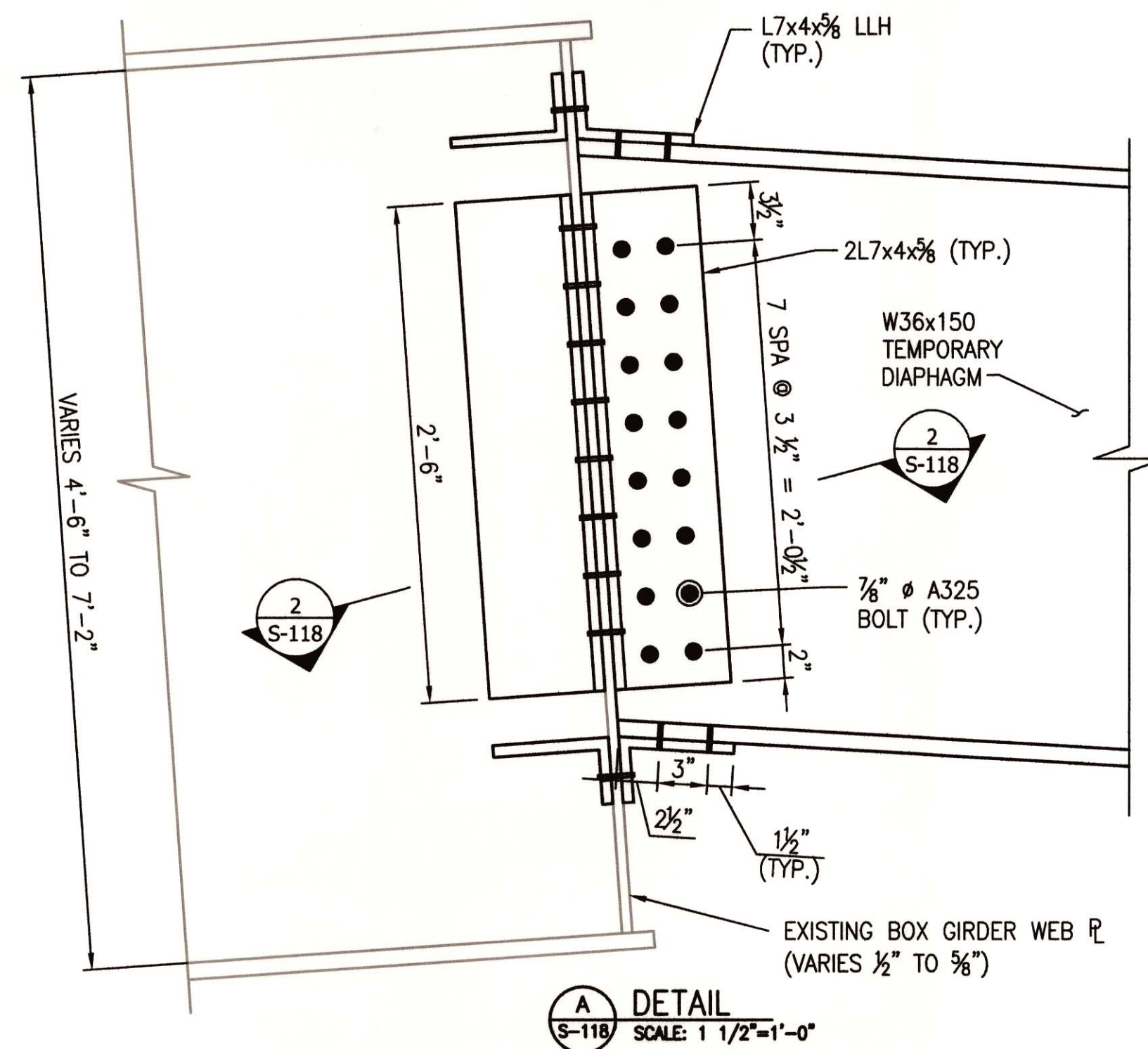
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
SUBMITTED Brad Mason, P.E. PROJECT MANAGER  
APPROVED \_\_\_\_\_

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
FIXED BEARING REPLACEMENT - PIER A5447, A5324 AND A5212  
SCALE AS SHOWN DRAWING NO. A13-S-111 SHEET NO. M1272-132

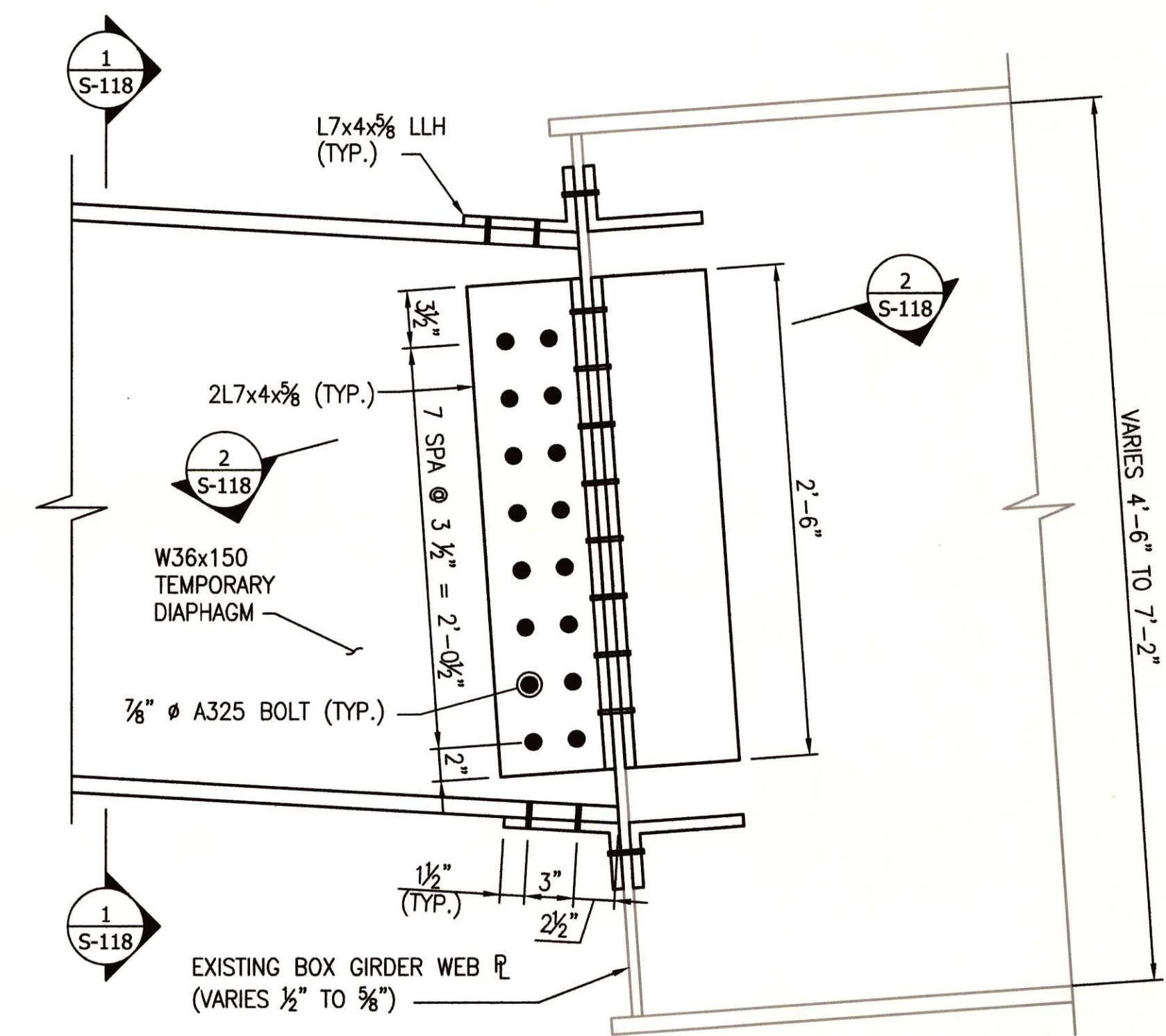




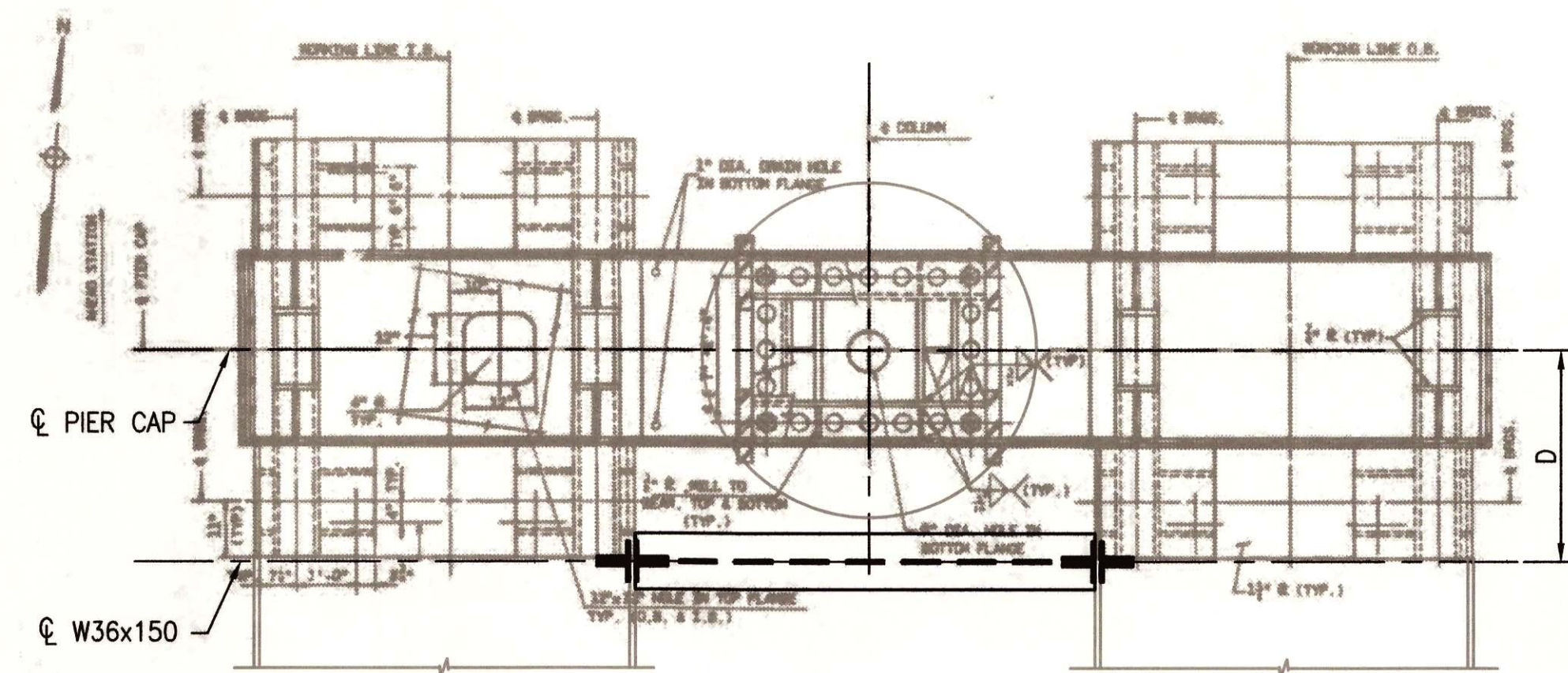
TYPICAL ELEVATION  
SCALE: AS SHOWN



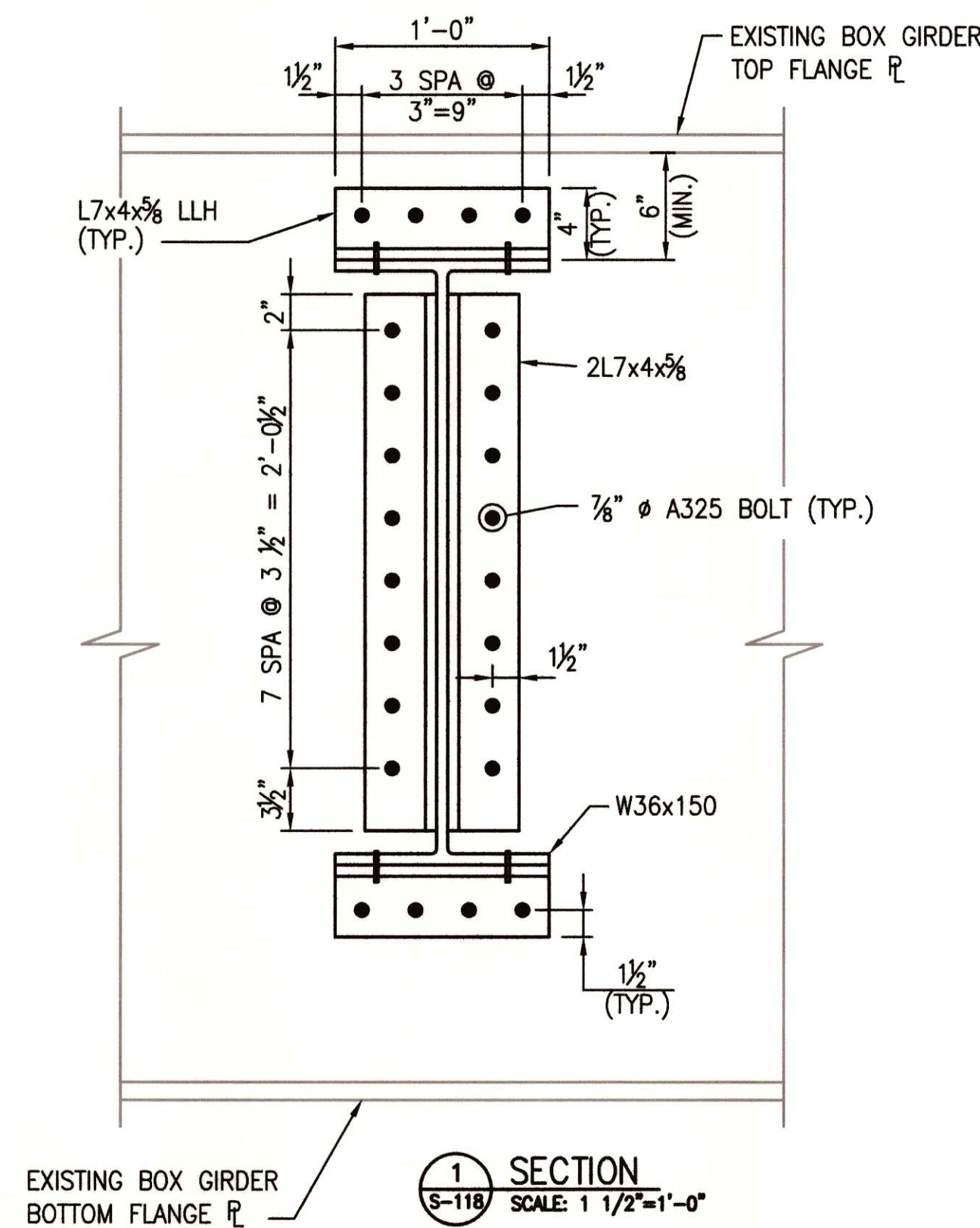
A DETAIL  
SCALE: 1 1/2"=1'-0"



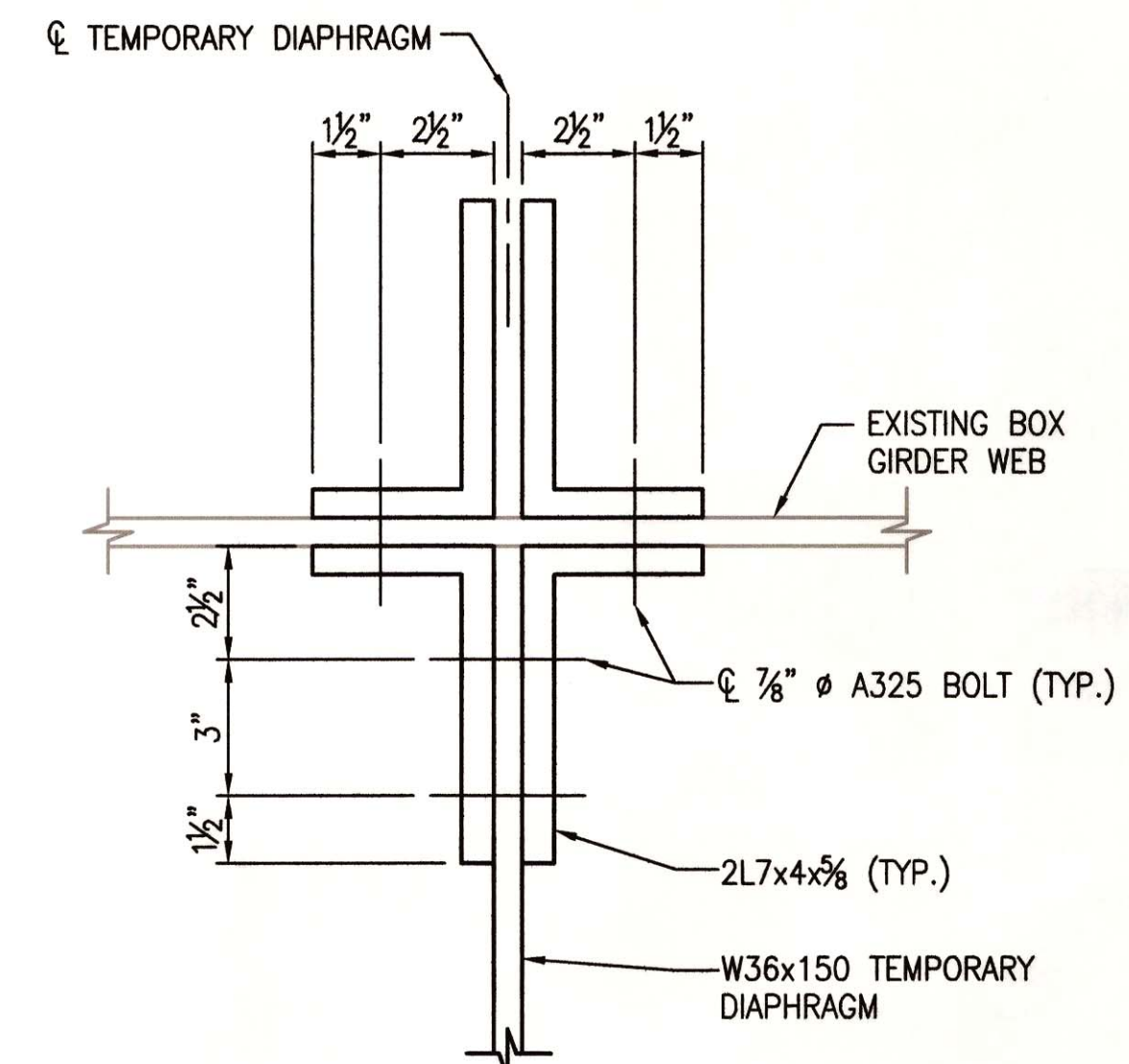
B DETAIL  
SCALE: 1 1/2"=1'-0"



TEMPORARY DIAPHRAGM PLAN  
SCALE: AS SHOWN



1 SECTION  
SCALE: 1 1/2"=1'-0"



2 SECTION  
SCALE: 3"=1'-0"

LOCATION	D (FT)
A5460	1'-6"±*
A5447	5'-9"±
A5324	5'-0"±
A5212	5'-9"±

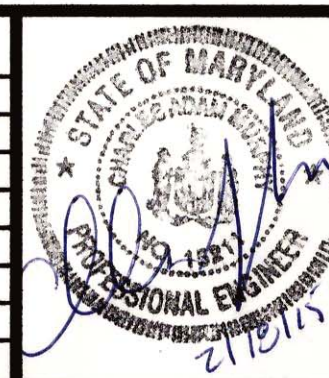
NOTE:  
JACKING DIAPHRAGMS SHALL BE LOCATED TO AVOID ALL INTERIOR EXISTING STRUCTURAL COMPONENTS

PROFESSIONAL CERTIFICATION:  
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NOTE:  
\* THIS DIMENSION MEASURED FROM C OF BEARING AT ABUTMENT

FINAL CONTRACT NO. FQ15093

DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	DESCRIPTION
VTD	06-14				
GMJ	06-14				
RVR	06-14				
CAM	06-14				



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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
APPROVED \_\_\_\_\_  
SUBMITTED Brad Mason, P.E. PROJECT MANAGER

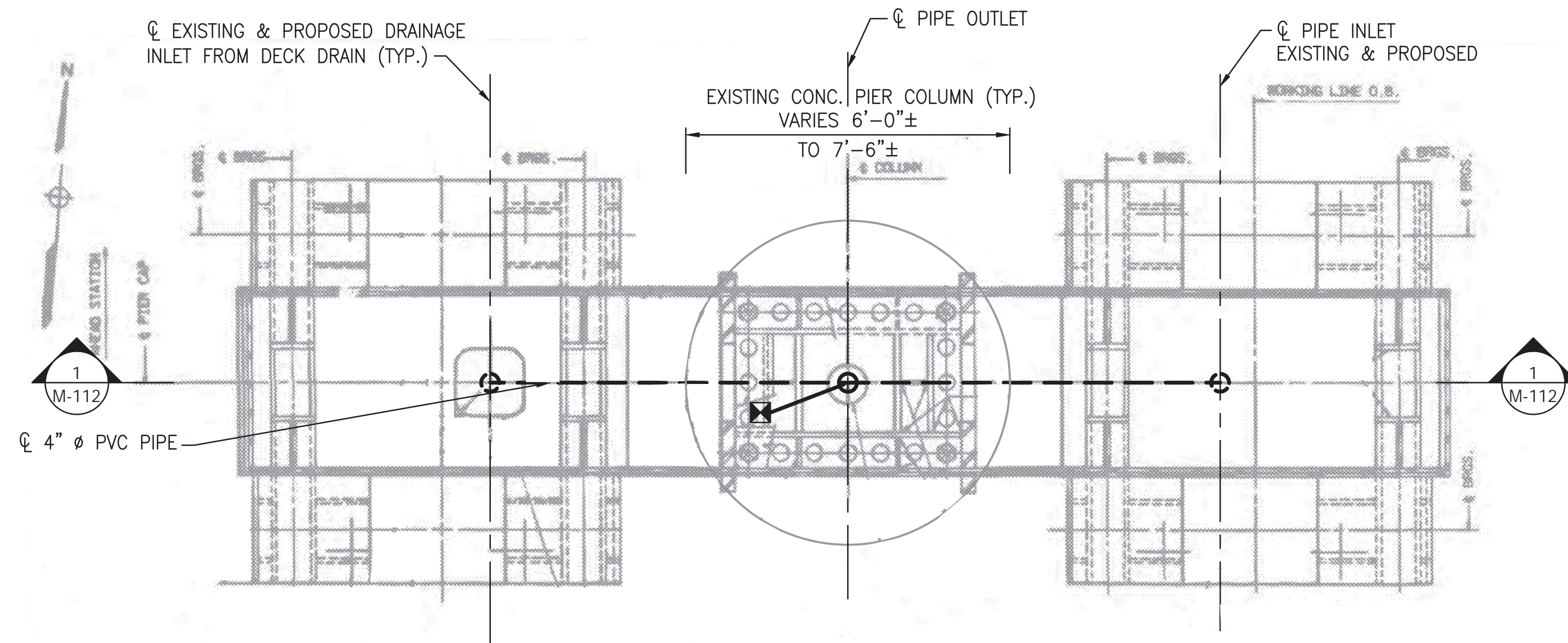


RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
TEMPORARY DIAPHRAGM DETAILS  
SCALE AS SHOWN  
DRAWING NO. A13-S-112  
SHEET NO. M1272-133

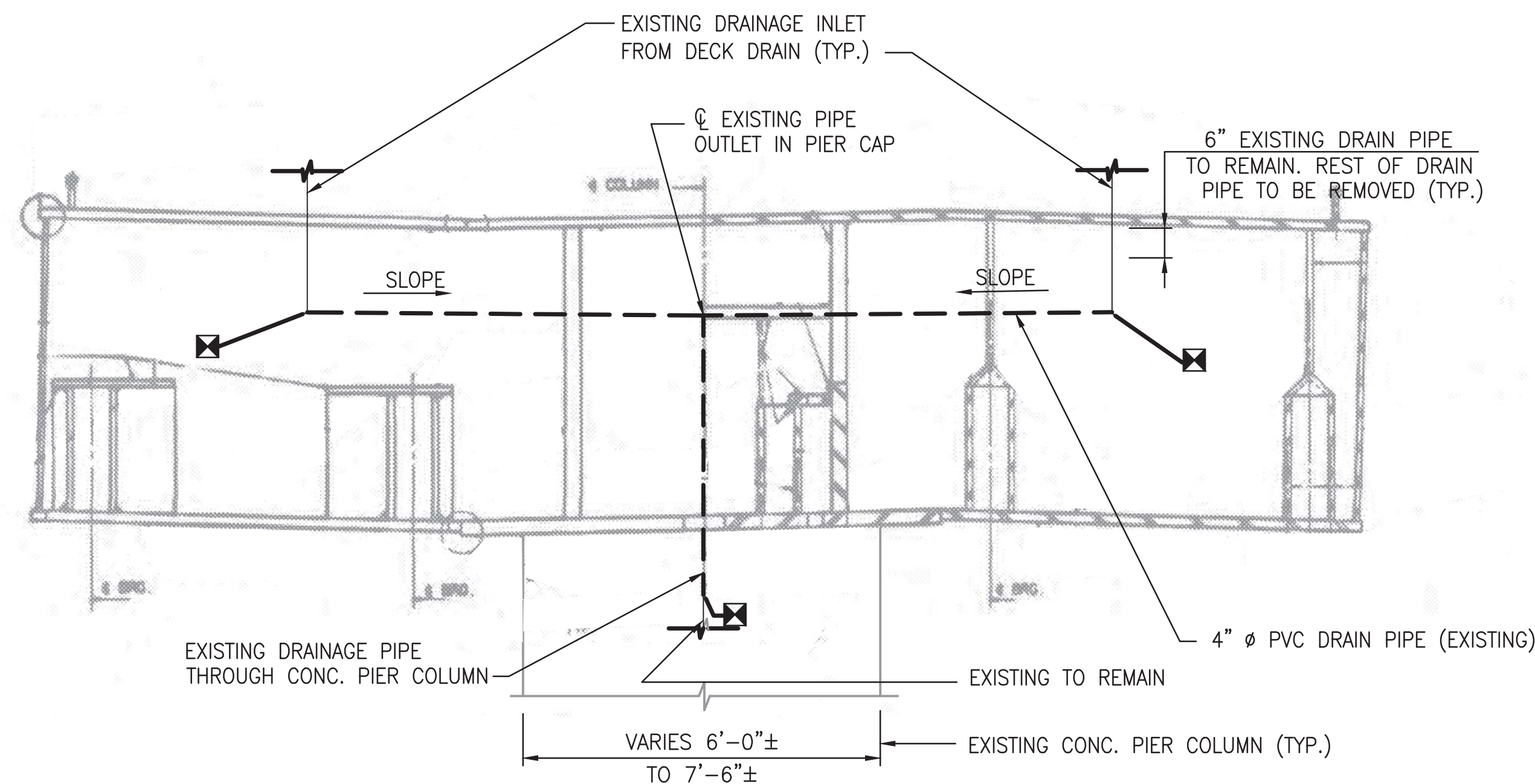


**MECHANICAL GENERAL NOTES**

1. ALL NEW WORK SHALL COMPLY WITH NATIONAL, STATE, AND LOCAL CODE REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING (SEE SPECIFICATIONS FOR LISTING OF APPLICABLE CODES AND STANDARDS):
  - 1.a. 2012 INTERNATIONAL BUILDING CODE
  - 1.b. 2012 INTERNATIONAL PLUMBING CODE



**TYPICAL PIER CAP DRAINAGE PLAN (EXISTING)**  
SCALE: N.T.S.



**ELEVATION - SECTION (EXISTING)**  
SCALE: N.T.S.

**NOTES:**

1. REFER TO AS-BUILT PLAN SHEET NOS. M220-214 THRU M220-348 FOR PIER CAP & OTHER STRUCTURAL DETAILS.
2. REFER TO AS-BUILT PLAN SHEET NOS. M220-77 THRU M220-82 FOR EXISTING DRAINAGE DETAILS.
3. REMOVE ALL EXISTING 4" DIA. PVC DRAIN PIPES INSIDE PIER CAP BOXES BEGINNING FROM THE BOTTOM OF THE DECK DRAIN DOWNSPOUTS ALL THE WAY TO THE EXISTING DRAINAGE DOWNSPOUT THROUGH THE CENTER OF THE CONCRETE PIER COLUMN.
4. REMOVE AND REPLACE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

FINAL

CONTRACT NO. FQ15093

DESIGNED	DPR	11/2014
DATE		
DRAWN	DPR	11/2014
DATE		
CHECKED	CMR	11/2014
DATE		
APPROVED	JP	11/2014
DATE		

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

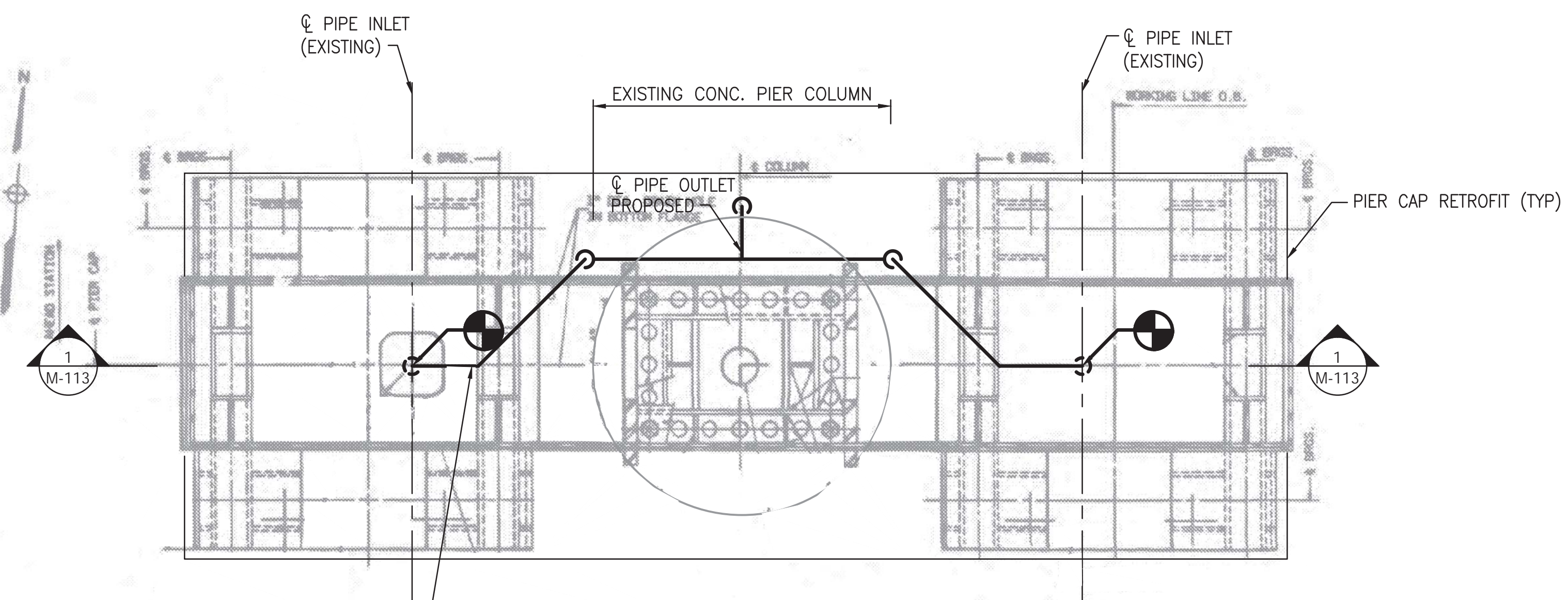
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

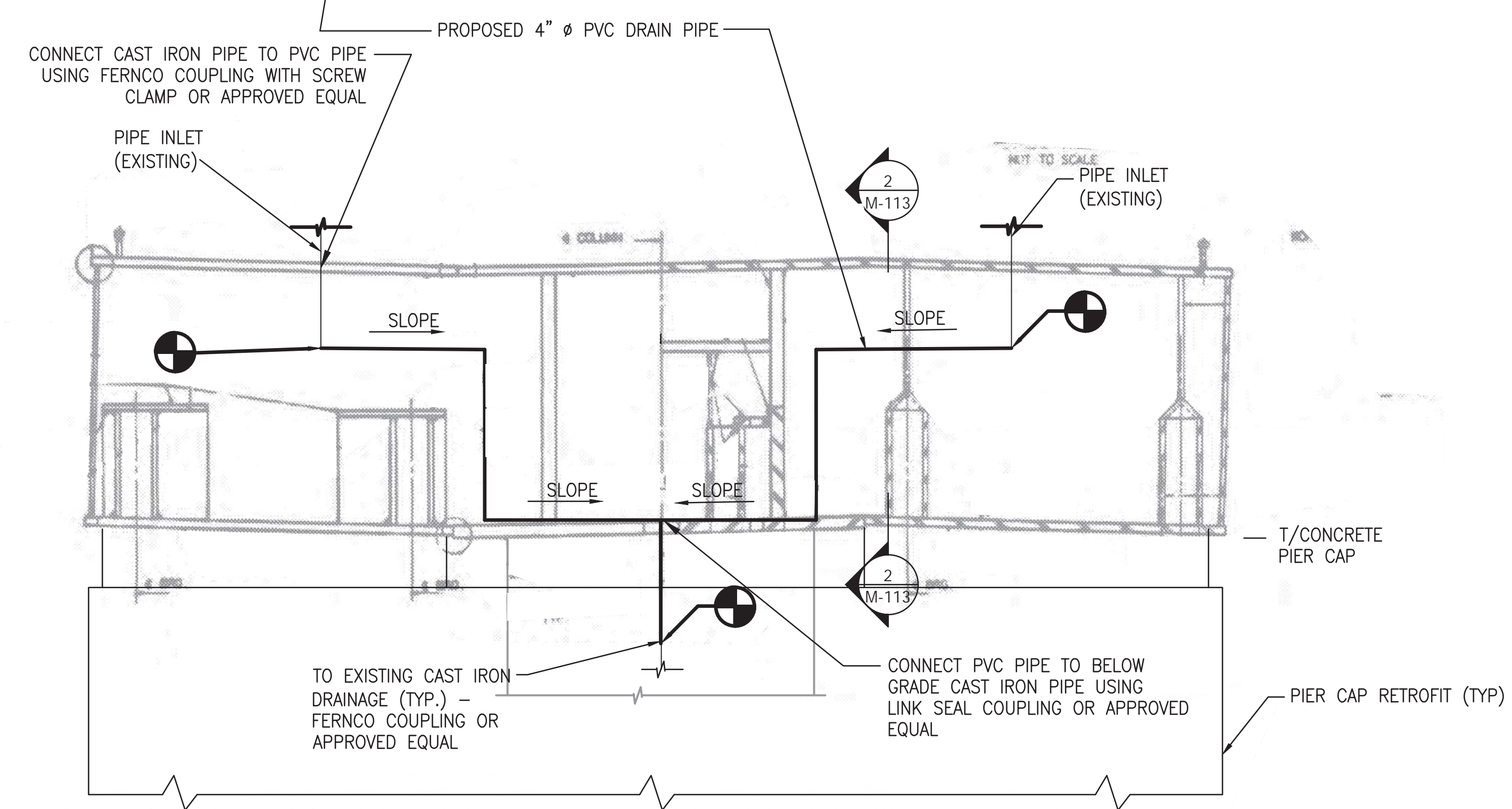
**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3**  
EXISTING DRAINAGE REMOVAL DETAILS, TYPE I - AT TYPICAL CANTILEVER STEEL CAP AND SINGLE COLUMN PIER

SCALE: NOT TO SCALE  
DRAWING NO. A13-M-112  
SHEET NO. M1272-134

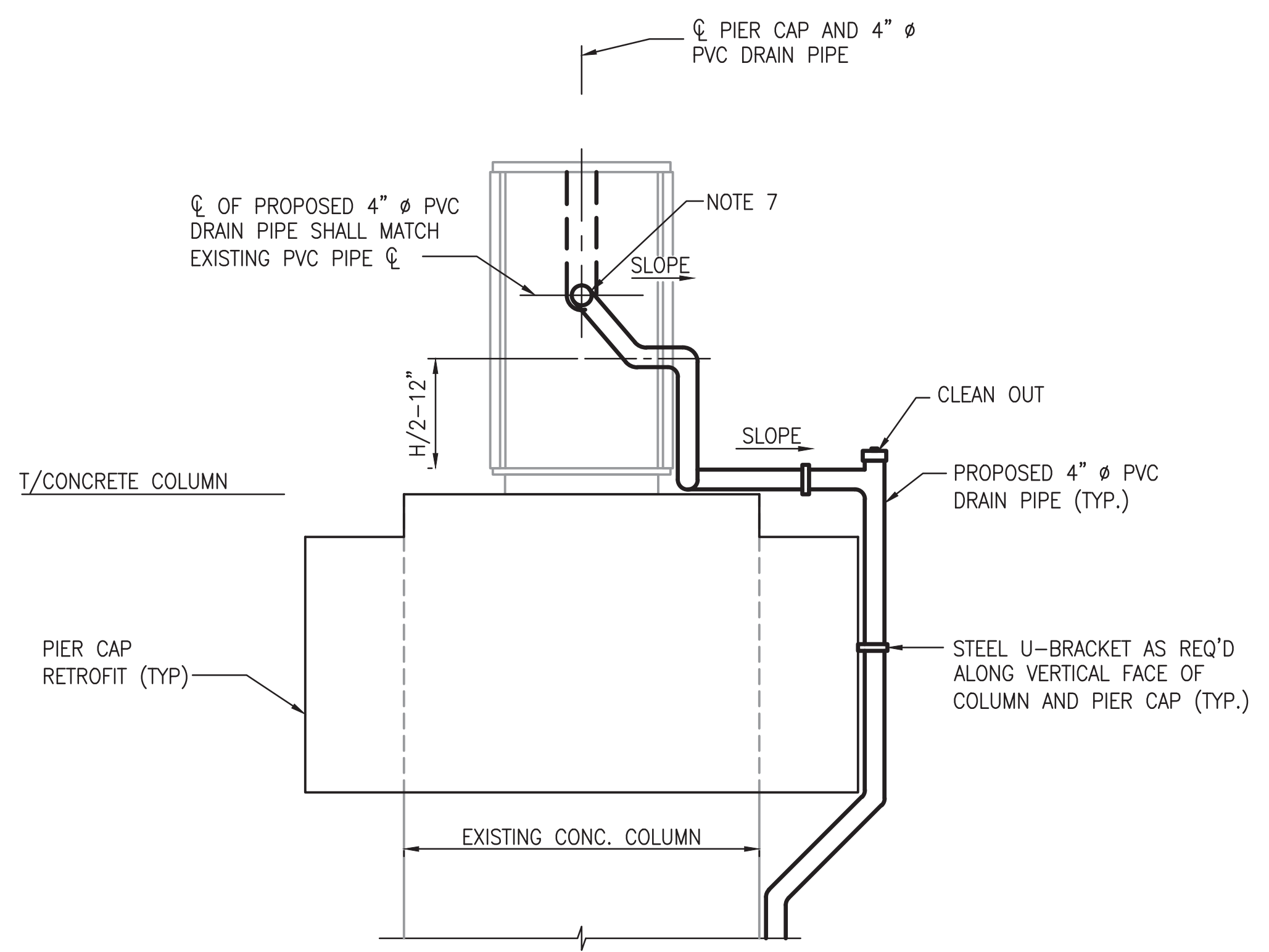




1 TYPICAL PIER CAP DRAINAGE PLAN (PROPOSED)  
SCALE: N.T.S.



1 ELEVATION - SECTION (PROPOSED)  
SCALE: N.T.S.



2 ELEVATION - SECTION (PROPOSED)  
SCALE: N.T.S.

NOTES:

1. REPLACE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.
2. PLUG AND SEAL EXISTING DRAIN PIPE IN CENTER OF CONCRETE PIER COLUMN A MINIMUM OF 1 FT. WITH GROUT. SEE SPECIFICATION SECTION 036213 FOR NON-METALLIC, NON-SHRINK GROUT.
3. TO EXIT THE PROPOSED DRAIN PIPE OUT OF STEEL PIER CAP, CUT TWO (2) - 6" DIA. HOLES IN THE WEB OF THE STEEL PIER CAP BOX AS SHOWN IN THE PLANS. THE CENTERLINE OF NEW HOLES IN THE WEB SHALL BE ALIGNED HORIZONTALLY MIDWAY BETWEEN THE INSIDE FACE OF THE STEEL BOX BEAM WEB AND ADJACENT TRANSVERSE WEB STIFFENER NEAR THE CENTER OF THE STEEL PIER CAP. CENTERLINE OF CUT HOLES IN THE WEB SHALL BE VERTICALLY LOCATED SUCH THAT IT WILL ALLOW POSITIVE DRAINAGE INTO THE DOWNSPOUT PIPE.
4. INSTALL PROPOSED 4" DIA. PVC DRAIN PIPE INSIDE STEEL PIER CAP. PROPOSED DRAIN PIPE SHALL EXIT PIER CAP THROUGH NEWLY MADE HOLES IN THE WEB. AFTER EXITING THE PIER CAP, THE PROPOSED DRAIN PIPE SHALL CONTINUE DOWN ALONG THE FACE OF PROPOSED PIER CAP RETROFIT AND CONCRETE PIER COLUMN AND CONNECT TO THE EXISTING AT GRADE OR BELOW GRADE DRAINAGE SYSTEM.
5. MINIMUM SLOPE OF PIPES SHALL BE 1/4" PER FOOT.
6. ALL UNDERGROUND PIPING SHALL MATCH EXISTING PIPE SYSTEMS. FOR EXISTING DRAINAGE DETAILS SEE AS-BUILT PLANS M220-77 THRU M220-82.
7. ALL PVC PIPE SHALL BE SCHEDULE 80.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

FINAL CONTRACT NO. FQ15093

DESIGNED	DPR	11/2014
DRAWN	DPR	11/2014
CHECKED	CMR	11/2014
APPROVED	JP	11/2014

NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

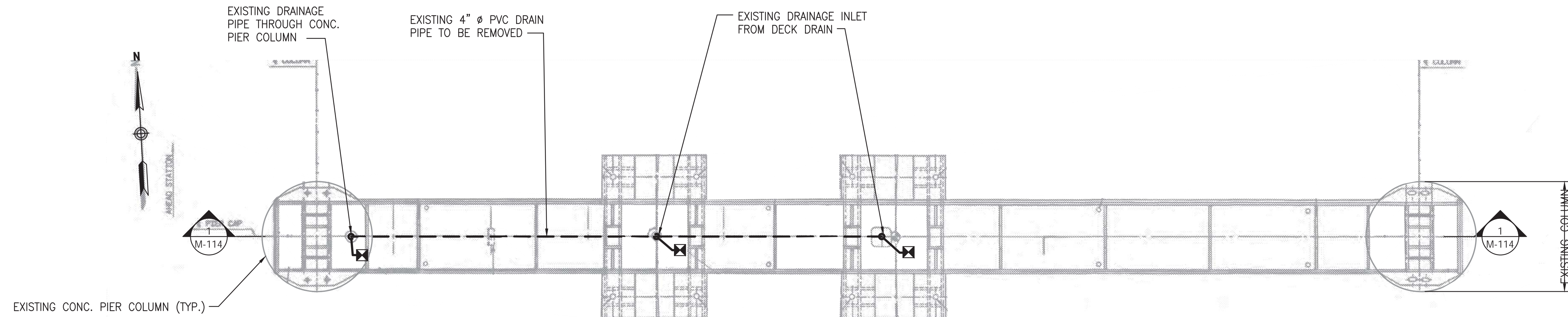


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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.  
SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
PROPOSED DRAINAGE DETAILS, TYPE I R - AT TYPICAL CANTILEVER CAP AND SINGLE COLUMN PIER  
SCALE: NOT TO SCALE  
DRAWING NO. A13-M-113  
SHEET NO. M1272-135

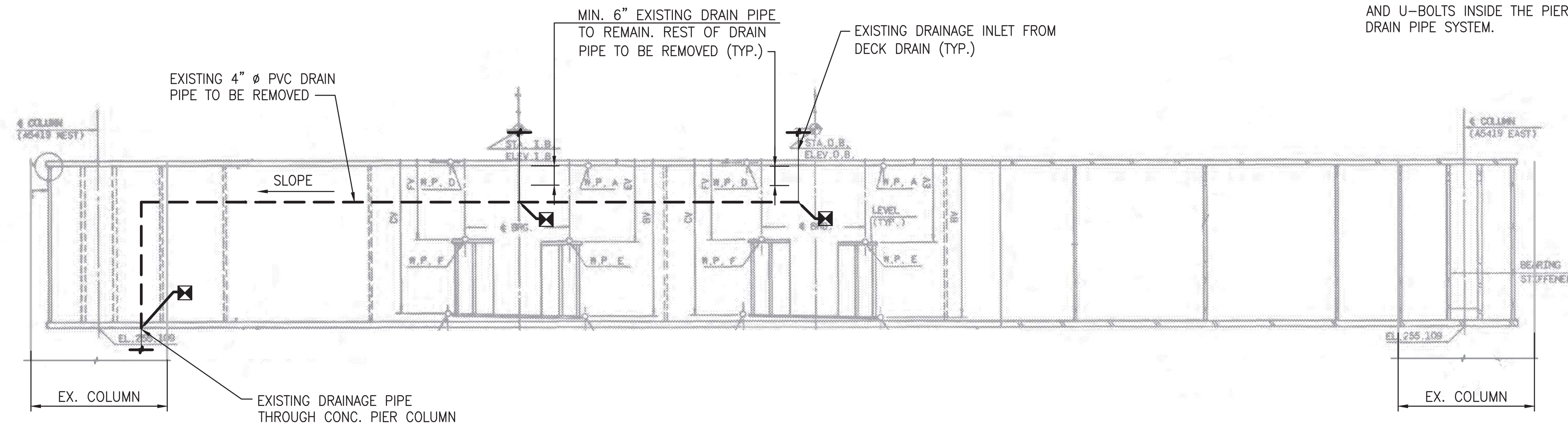




A5419 PIER CAP FRAME DRAINAGE PLAN (EXISTING)  
SCALE:N.T.S.

**NOTES:**

1. REFER TO AS-BUILT PLAN SHEET NO M220-77, M220-293 & 294 FOR MORE DETAILS ABOUT EXISTING DRAINAGE AND STEEL PIER CAP.
2. REMOVE ALL EXISTING 4" DIA. PVC DRAIN PIPES INSIDE PIER CAP BOXES BEGINNING FROM THE BOTTOM OF THE DECK DRAIN DOWNSPOUTS ALL THE WAY TO THE EXISTING DRAINAGE DOWNSPOUT THROUGH THE CENTER OF THE CONCRETE PIER FRAME COLUMN.
3. REMOVE AND REPLACE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.



1 ELEVATION SECTION (EXISTING)  
SCALE:N.T.S.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

FINAL CONTRACT NO. FQ15093

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			NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
DRAWN	DPR	11/2014					
CHECKED	CMR	11/2014					
APPROVED	JP	11/2014					



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



Brad Mason, P.E.

SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3

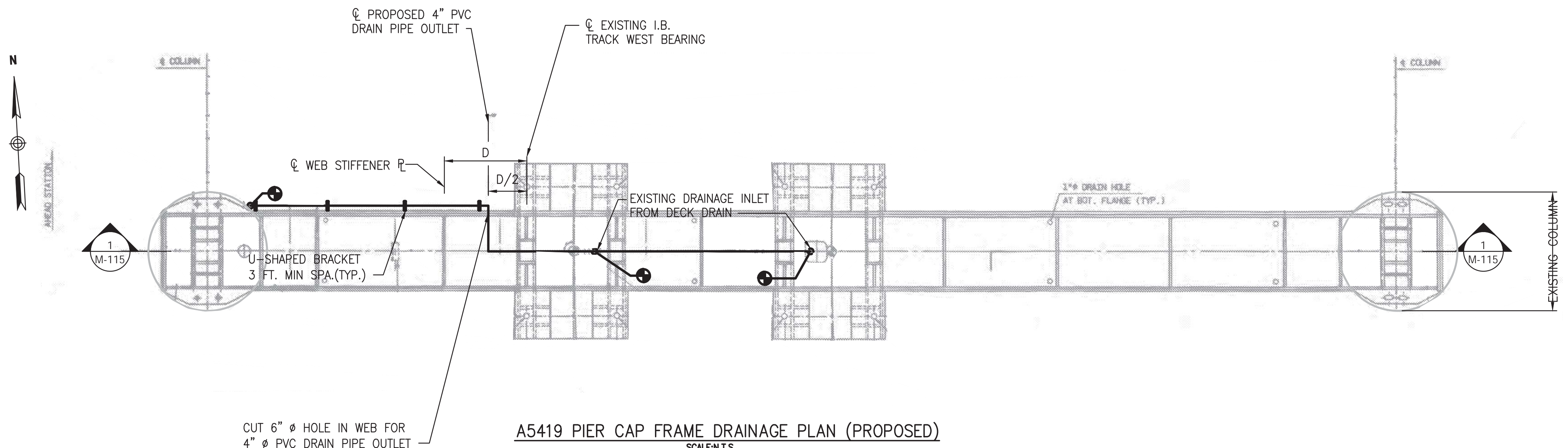
EXISTING DRAINAGE REMOVAL DETAILS  
TYPE II - PIER A5419

SCALE  
NOT TO SCALE

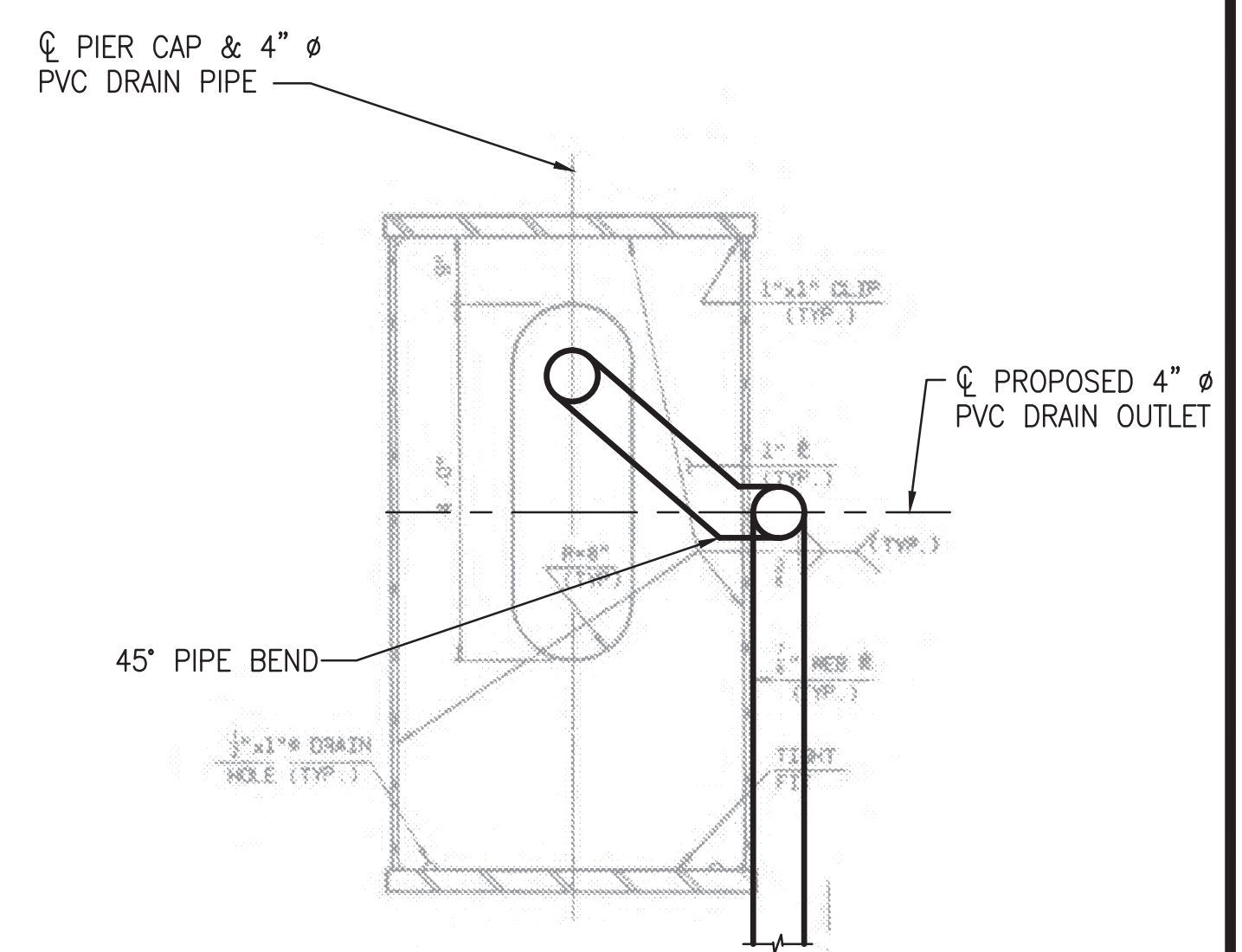
DRAWING NO.  
A13-M-114

SHEET NO.  
M1272-136

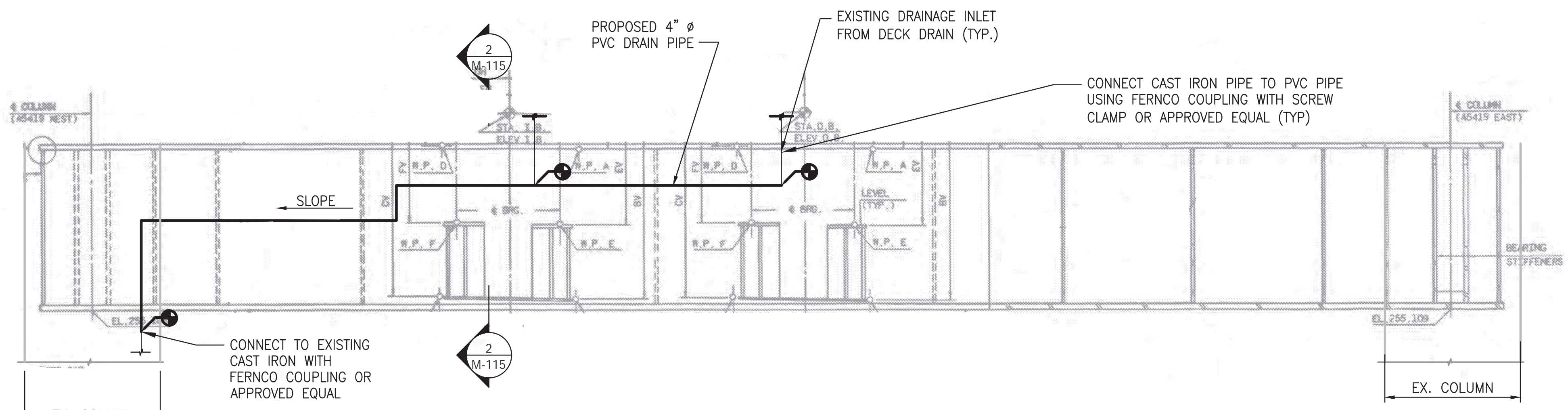




A5419 PIER CAP FRAME DRAINAGE PLAN (PROPOSED)  
SCALE: N.T.S.



SECTION 2-M-115  
SCALE: N.T.S.



ELEVATION SECTION (PROPOSED)  
SCALE: N.T.S.

NOTES:

1. REMOVE OR REUSE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.
2. PLUG AND SEAL EXISTING DRAIN PIPE IN CENTER OF CONCRETE COLUMN A MIN. OF 1 FT WITH GROUT. SEE SPECIFICATION SECTION 036213 FOR NON-METALLIC, NON-SHRINK GROUT.
3. TO EXIT THE PROPOSED DRAIN PIPE OUT OF STEEL PIER CAP, CUT ONE (1) - 6" DIA. HOLE IN THE WEB OF THE STEEL PIER CAP BOX AS SHOWN IN THE PLANS. THE CENTERLINE OF NEW HOLE IN THE WEB SHALL BE ALIGNED AS SHOWN IN THE PLANS.
4. INSTALL PROPOSED 4" DIA. PVC DRAIN PIPE INSIDE STEEL PIER CAP. PROPOSED DRAIN PIPE SHALL EXIT PIER CAP THROUGH NEWLY MADE HOLE IN THE WEB. AFTER EXITING THE PIER CAP, THE PROPOSED DRAIN PIPE SHALL CONTINUE ALONG THE FACE OF THE STEEL PIER CAP. AT THE CONCRETE COLUMN TURN PIPE DOWN ALONG THE FACE OF CONCRETE PIER COLUMN AND CONNECT TO THE EXISTING BELOW GRADE DRAINAGE SYSTEM.
5. MINIMUM SLOPE OF PIPES SHALL BE 1/4" PER FOOT.
6. ALL UNDERGROUND PIPING SHALL MATCH EXISTING PIPE SYSTEMS. FOR EXISTING DRAINAGE DETAILS SEE AS-BUILT PLANS M220-77 THRU M220-82.
7. ALL PVC PIPE SHALL BE SCHEDULE 80.

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APPROVED	JP	11/2014

NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

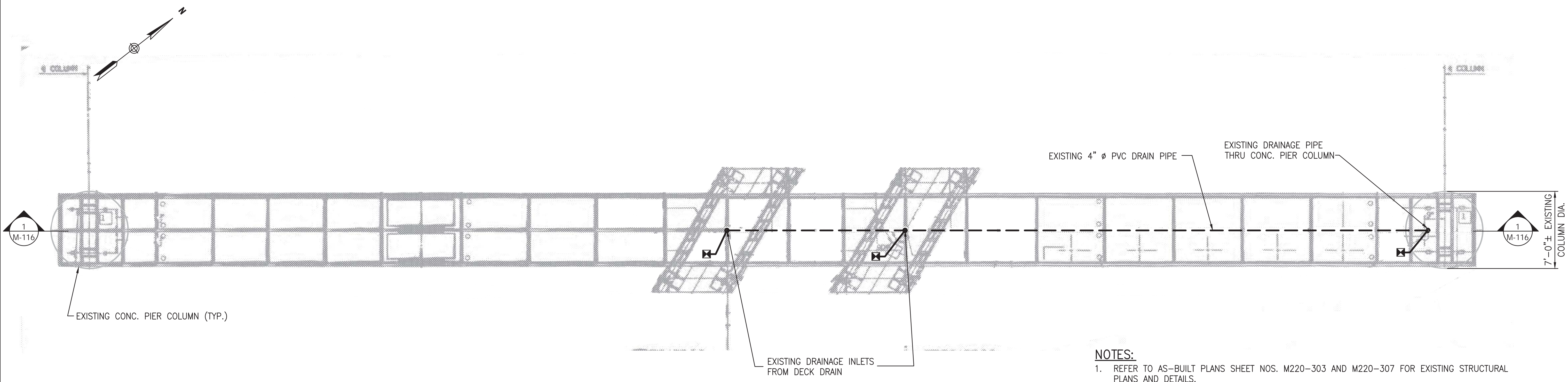
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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
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APPROVED \_\_\_\_\_  
GFP A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.  
SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
PROPOSED DRAINAGE DETAILS  
TYPE II R - PIER A5419  
SCALE: NOT TO SCALE  
DRAWING NO. A13-M-115  
SHEET NO. M1272-137

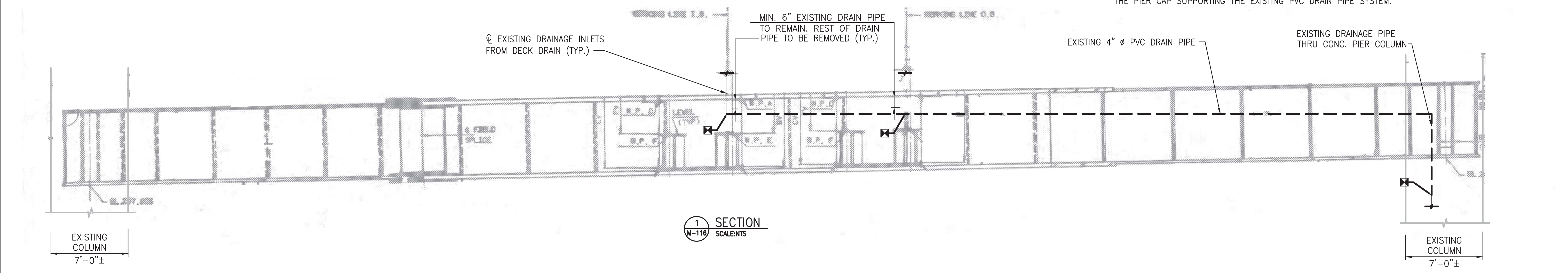




EXISTING PIER A5174 & A5225 DRAINAGE PLAN  
SCALENTS

**NOTES:**

1. REFER TO AS-BUILT PLANS SHEET NOS. M220-303 AND M220-307 FOR EXISTING STRUCTURAL PLANS AND DETAILS.
2. REMOVE ALL EXISTING 4" DIA. PVC DRAIN PIPES INSIDE STEEL PIER CAP BOXES BEGINNING FROM THE BOTTOM OF THE DECK DRAIN DOWNSPOUTS ALL THE WAY TO THE EXISTING DRAINAGE DOWNSPOUT THROUGH THE CENTER OF ONE OF THE CONCRETE PIER FRAME COLUMNS.
3. REMOVE AND REPLACE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.



SECTION  
SCALENTS

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

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**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.  
SUBMITTED PROJECT MANAGER

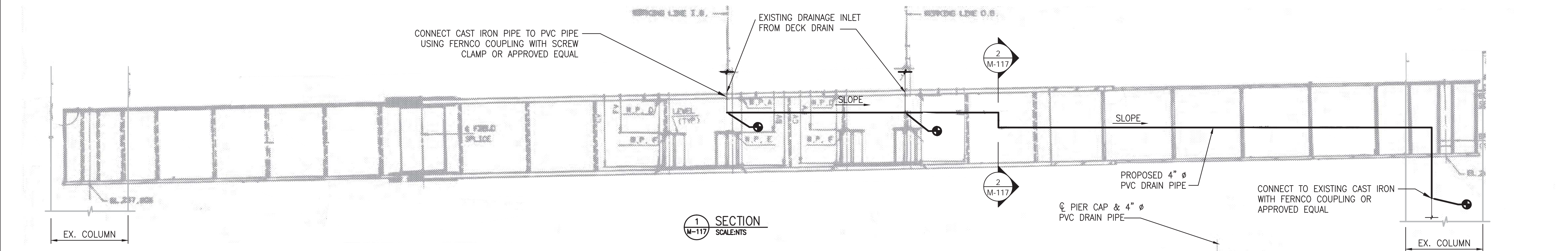
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
EXISTING DRAINAGE REMOVAL DETAILS  
TYPE III - PIER A5225 AND A5174

SCALE: NOT TO SCALE  
DRAWING NO. A13-M-116  
SHEET NO. M1272-138





PROPOSED PIER A5174 & A5225 DRAINAGE PLAN  
SCALE: NTS



1 SECTION  
SCALE: NTS

2 SECTION  
SCALE: NTS

NOTES:

1. REMOVE AND REPLACE ALL EXISTING PIPE SUPPORT BRACKETS/HANGERS AND U-BOLTS INSIDE THE PIER CAP SUPPORTING THE EXISTING PVC DRAIN PIPE SYSTEM.
2. PLUG AND SEAL EXISTING DRAIN PIPE IN CENTER OF CONCRETE FRAME COLUMN A MINIMUM OF 1 FT. WITH GROUT. SEE SPECIFICATION SECTION 036213 FOR NON-METALLIC, NON-SHRINK GROUT.
3. TO EXIT THE PROPOSED DRAIN PIPE OUT OF PIER CAP, CUT ONE (1) - 6" DIA. HOLE IN THE WEB OF THE STEEL PIER CAP BOX AS SHOWN IN THE PLANS. THE CENTERLINE OF NEW HOLE IN THE WEB SHALL BE ALIGNED AS SHOWN IN THE PLANS.
4. INSTALL PROPOSED 4" DIA. PVC DRAIN PIPE INSIDE STEEL PIER CAP. PROPOSED DRAIN PIPE SHALL EXIT PIER CAP THROUGH NEWLY MADE HOLE IN THE WEB. AFTER EXITING THE PIER CAP, THE PROPOSED DRAIN PIPE SHALL CONTINUE ALONG FACE OF STEEL PIER CAP TO CONCRETE COLUMN. TURN PIPE DOWN ALONG FACE OF CONCRETE PIER COLUMN AND CONNECT TO THE EXISTING AT GRADE DRAINAGE SYSTEM.
5. MINIMUM SLOPE OF PIPES SHALL BE 1/4" PER FOOT.
6. ALL UNDERGROUND PIPING SHALL MATCH EXISTING PIPE SYSTEMS. FOR EXISTING DRAINAGE DETAILS SEE AS-BUILT PLANS M220-77 THRU M220-82.
7. ALL PVC PIPE SHALL BE SCHEDULE 80.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

FINAL CONTRACT NO. FQ15093

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DRAWN	DPR	11/2014
CHECKED	CMR	11/2014
APPROVED	JP	11/2014

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION

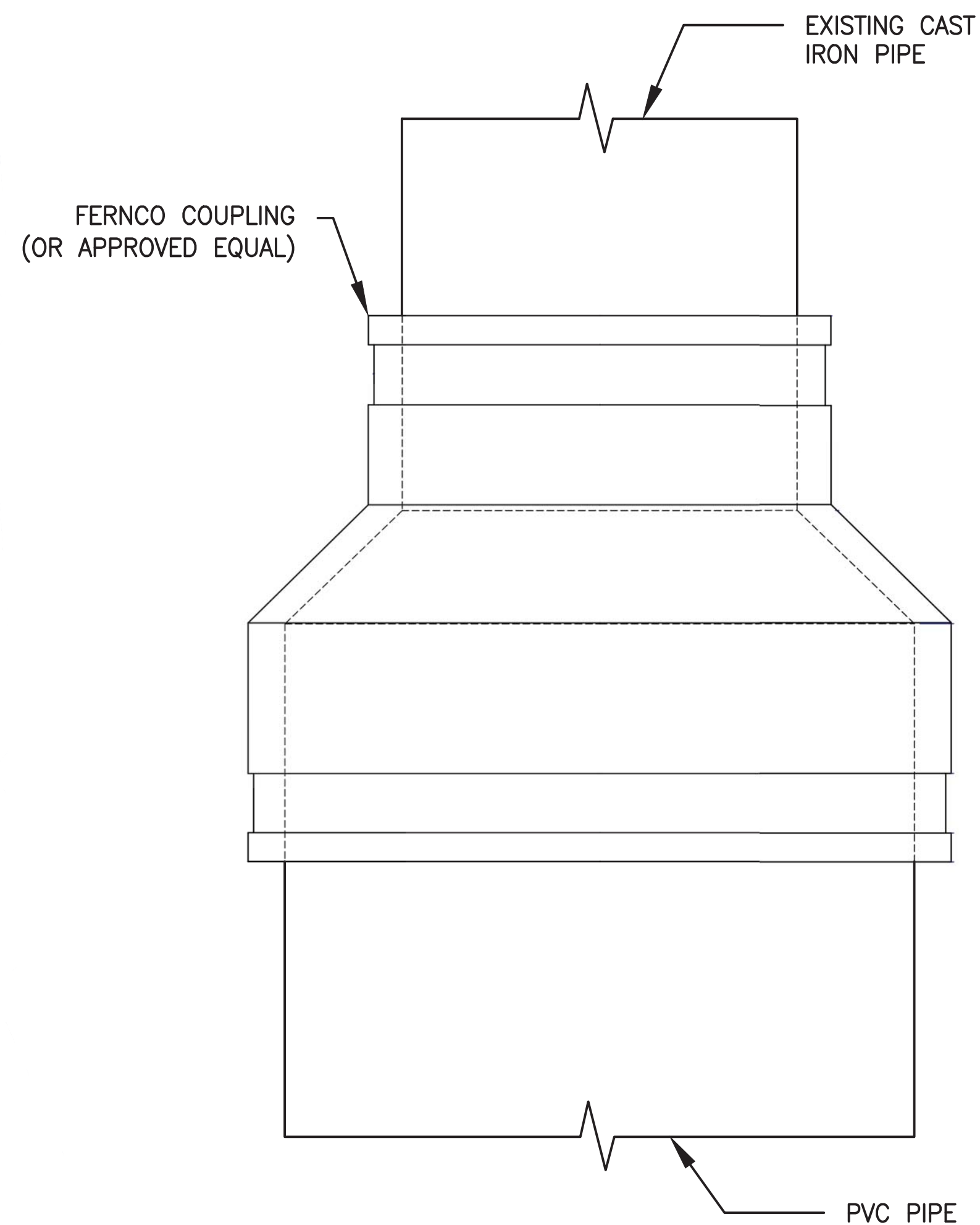


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APPROVED \_\_\_\_\_

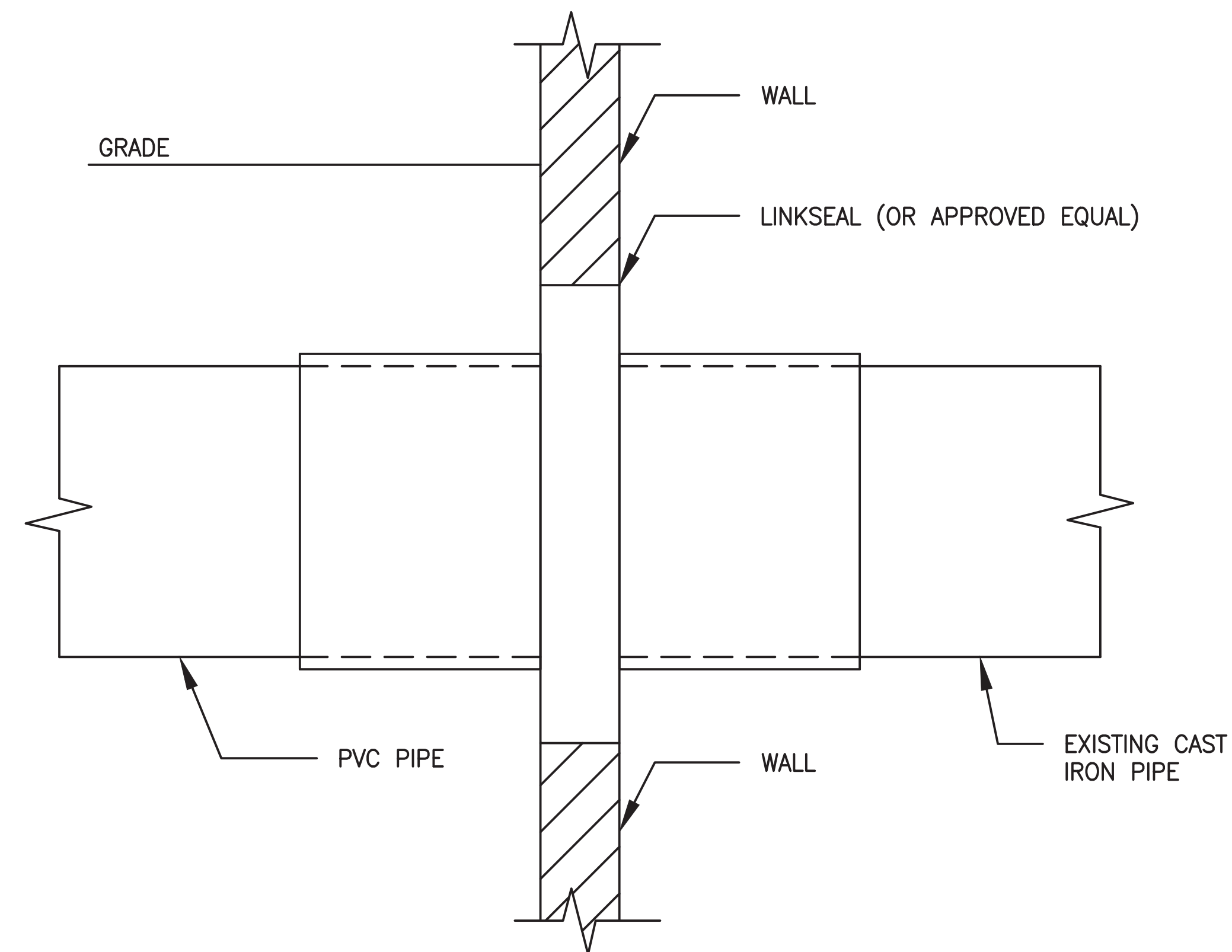
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.  
SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
PROPOSED DRAINAGE DETAILS  
TYPE III R - PIER A5225 AND A5174  
SCALE: NOT TO SCALE  
DRAWING NO. A13-M-117  
SHEET NO. M1272-139

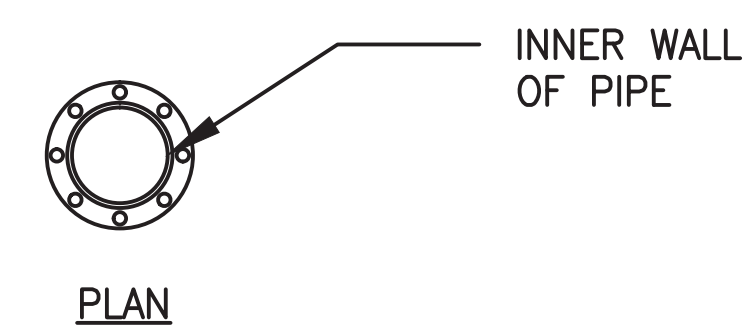
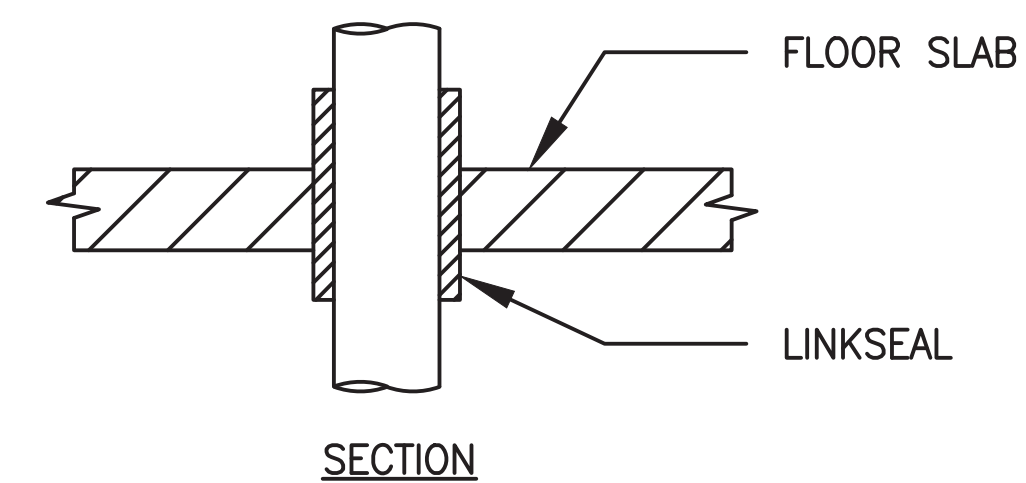




VERTICAL CONNECTION OF PVC PIPE TO EXISTING DRAINAGE SYSTEM – FOR FERNCO COUPLING OR APPROVED EQUAL  
SCALE:NTS



HORIZONTAL CONNECTION OF PVC PIPE TO EXISTING DRAINAGE SYSTEM – FOR LINKSEAL OR APPROVED EQUAL  
SCALE:NTS



VERTICAL CONNECTION OF PVC PIPE TO EXISTING DRAINAGE SYSTEM – FOR LINKSEAL OR APPROVED EQUAL  
SCALE:NTS

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23210, EXPIRATION DATE 06-30-2016.

FINAL

CONTRACT NO. FQ15093

DESIGNED	DRAWN	CHECKED	APPROVED	DATE	REFERENCE DRAWINGS		REVISIONS		
					NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
DPR	DPR	CMR	JP	11/2014					



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



Brad Mason, P.E.

SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

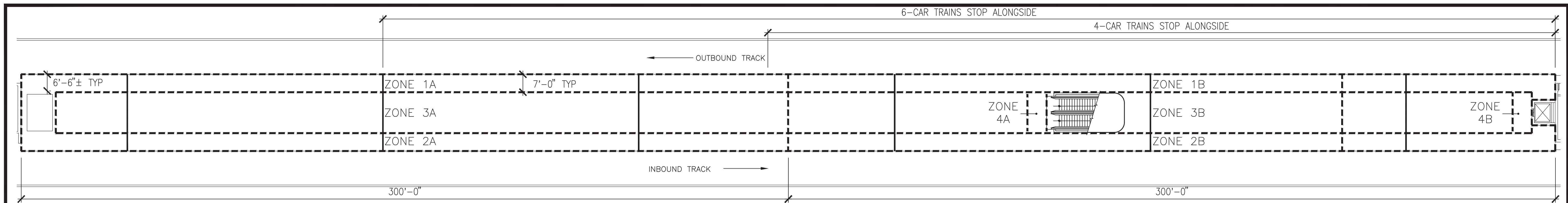
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 3  
PROPOSED TYPICAL DRAINAGE DETAILS

SCALE  
NOT TO SCALE

DRAWING NO.  
A13-M-500

SHEET NO.  
M1272-140





**1 PLATFORM - STAGING PLAN WORK ZONES SCALE: NTS**

**GENERAL PHASING NOTES**

- THE PHASING OUTLINE INDICATED IN THE DRAWING ABOVE IS FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A PHASING PLAN FOR REVIEW AND APPROVAL BY THE AR.
- ALL WORK IN EACH PHASE MUST BE COMPLETE BEFORE THE CONTRACTOR IS PERMITTED TO PROCEED TO THE NEXT PHASE UNLESS AGREED TO BY WMATA.
- WORK PHASES WILL BE SEPARATED FROM REVENUE SPACES BY WOOD FRAME PARTITIONS WITH PLYWOOD FACES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN, INSTALL, AND MAINTAIN THIS WOODEN PARTITION WALL SYSTEM. PLYWOOD SURFACES THAT MAY BE IN CONTACT WITH THE PUBLIC SHOULD BE SMOOTH AND FREE OF SHARP EDGES.
- THE STATION WILL REMAIN IN OPERATION THROUGHOUT THE CONSTRUCTION PERIOD. SAFETY OF THE PUBLIC AND EMPLOYEES OF WMATA AND THE CONTRACTOR WILL BE OF THE GREATEST IMPORTANCE DURING THE CONSTRUCTION PERIOD.
- ALL SYSTEMS INCLUDING BUT NOT LIMITED TO LIGHTING, POWER, COMMUNICATIONS, TRAIN CONTROLS, AND SECURITY SHALL REMAIN OPERATIONAL DURING REVENUE SERVICE HOURS.
- ALL PHASING IS EXTREMELY TIME SENSITIVE. THE CONTRACTOR WILL VERIFY THAT HE HAS COORDINATED WITH ALL SUBS AND HAS ALL MATERIALS ON SITE TO COMPLETE THE WORK. DETAILED CRITICAL PATH METHOD (CPM) SCHEDULES ARE REQUIRED, AS WELL AS COORDINATION DRAWINGS. IF ALL OF THESE REQUIREMENTS HAVE NOT BEEN MET, PHASE WORKS WILL NOT BE PERMITTED TO PROCEED.
- CRANE OPERATION OVER THE TRACKS REQUIRES ADVANCE CLEARANCE WITH WMATA OBTAINED THROUGH THE ENGINEER.
- REMOVE DEBRIS FROM DEMOLITION DAILY KEEP TRACK AREA CLEAR OF DEBRIS AT ALL TIMES. THE CONTRACTOR SHALL TAKE NECESSARY STEPS TO PREVENT THE REMOVED MATERIAL FROM ENTERING THE EXISTING DRAINAGE FACILITIES. THE CONTRACTOR SHALL REMOVE THE DEBRIS RESULTING FROM DEMOLITION WORK TO A LOCATION OUTSIDE THE AUTHORITY'S RIGHT-OF-WAY PRIOR TO RESUMING FULL RAIL OPERATION OR TO PRE-APPROVED STAGING AREAS. ALL REMOVED MATERIALS AND DEBRIS TO BE DISPOSED OF PROPERLY AT NO ADDITIONAL COST TO THE OWNER

**STAGING NOTES**

- THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION SEQUENCE TO THE AUTHORITY'S REPRESENTATIVE (A.R.) FOR REVIEW PRIOR TO COMMENCING ANY DEMOLITION OR CONSTRUCTION ACTIVITIES. SUBMITTAL SHALL INCLUDE, BUT IS NOT LIMITED TO THE SEQUENCE OF SLAB REMOVAL AND INSTALLATION INCLUDING DETAILED DESIGN OF TEMPORARY SHORING.
- TEMPORARY BARRICADES FOR THE PROTECTION OF PASSENGERS SHALL BE PROVIDED AT ALL TIMES WHEN THE STATION IS OPEN TO PUBLIC.
- CONSTRUCT TEMPORARY PARTITIONS SEPARATING PHASES AT A MIN OF 2x4s @ 24" O.C. AND 5/8" PLYWOOD. ALL LUMBER IS TO BE FIRE-RATED.
- EXTEND ALL PARTITIONS TO UNDERSIDE OF CEILING ON PLATFORM LEVEL. BRACE PARTITIONS TO FLOORS WITH ANGLED 2x4s-ANCHOR TO FLOOR SECURELY.
- CONSTRUCT PARTITIONS 8'-0" HIGH ON PLATFORM LEVEL, ANCHOR TO FLOOR AS INDICATED IN NOTE 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN, INSTALL AND MAINTAIN THIS WOODEN PARTITION WALL SYSTEM. PLYWOOD SURFACES THAT MAY BE IN CONTACT WITH THE PUBLIC SHOULD BE SMOOTH AND FREE OF SHARP EDGES.
- LOCATE ACCESS DOORS WHERE NEEDED FOR CONSTRUCTION ACTIVITIES. CONTRACTOR TO DETERMINE LOCATIONS. A.R. TO APPROVE.
- THE CONTRACTOR MAY EXTEND THE LENGTH OF THE WORK ZONE WITH WMATA'S APPROVAL, BUT MUST MAINTAIN MIN. 7'-0" FROM EDGE OF PLATFORM.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY DECKING IF PAVER WORK IS NOT COMPLETED IN ORDER TO MAINTAIN PEDESTRIAN TRAFFIC AS DIRECTED DURING REVENUE SERVICE.

**STAGING NOTES (Cont.)**

- PROVIDE TEMPORARY WARNING SIGNAGE IN ACCORDANCE WITH WMATA REQUIREMENTS.
- PROVIDE TEMPORARY LIGHTING IN WORK ZONES INCLUDING STORAGE AREAS IN ACCORDANCE WITH WMATA DESIGN CRITERIA, VERSION 9. INSTALL TEMPORARY EDGE LIGHTING DURING REPLACEMENT OF THE CANTILEVER SLAB.
- CONSTRUCTION WORK AND STORAGE AREAS MUST BE APPROVED BY WMATA.
- CONTRACTOR MAY USE AN AREA OF UP TO 15' BY 75' AS A STAGING AREA ON THE PLATFORM THAT IS SECURED IN AN EIGHT-FOOT HIGH ENCLOSURE. LOCATION AND ENCLOSURE STRUCTURE SUBJECT TO REVIEW AND APPROVAL BY THE AR.

**SEQUENCE OF CONSTRUCTION**

**ZONES 1A, 1B, 2A, 2B**

- SET-UP STAGING AREA AND CRANE, INCLUDING UTILITY PROTECTION, GRADING, AND FENCING.
- RELOCATE UNDER PLATFORM UTILITIES AS REQUIRED.
- DEMOLISH EXISTING GRANITE EDGES AND GLASS LENSES. DEMOLISH TILE, SETTING BED, AND WATERPROOFING DOWN TO STRUCTURAL SLAB. STORE GRANITE FOR REUSE AT LOCATION AS DIRECTED BY AR
- SAWCUT EDGE OF CONCRETE PLATFORM IN ACCORDANCE WITH STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- INSTALL TEMPORARY PROTECTION AS REQUIRED.
- INSTALL TOPPING SLAB, WATERPROOFING, GRANITE, AND PAVERS.

**ZONES 3A, 3B, 4A, 4B**

- SAME AS ITEM 1 ABOVE
- DEMOLISH PAVERS, SETTING BED, AND WATERPROOFING DOWN TO STRUCTURAL SLAB.
- INSTALL WATERPROOF TOPPING SLAB, MEMBRANE, AND PAVERS. SET ELEVATIONS FOR TOP OF PAVERS IN ACCORDANCE WITH INFORMATION PROVIDED ON PLATFORM PLANS.

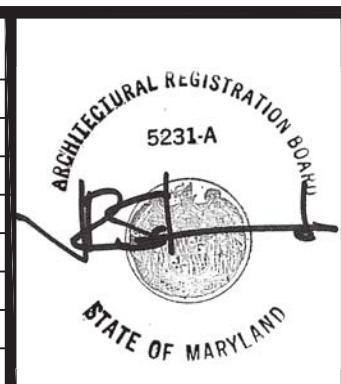
**GENERAL NOTES:**

- ALL DIMENSIONS ARE NOMINAL UNLESS OTHERWISE NOTED. VERIFY ALL DIMENSIONS IN THE FIELD.
- VERIFY AND PROPERLY DOCUMENT ALL EXISTING FIELD CONDITIONS.
- ALL WORK IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH WMATA DESIGN CRITERIA, VERSION 9.
- DO NOT SCALE DRAWINGS FOR PURPOSES OF CONSTRUCTION.
- ANY DEVIATION FROM, OR IN FIELD ALTERATION TO THESE DRAWINGS, AND SPECIFICATIONS IS STRICTLY PROHIBITED WITHOUT PRIOR APPROVAL OF AUTHORITY'S REPRESENTATIVE (A.R.). ANY SUCH ALTERATIONS SHALL BE CORRECTED AT ONCE, WITH NO EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES REGARDLESS OF DISCREPANCIES IN THE CONTRACT DOCUMENTS. NO ADDITIONAL COSTS WILL BE PAID BY THE OWNER TO RECTIFY WORK TO BE RELOCATED DUE TO LACK OF JOBSITE COORDINATION.
- DEMOLITION, CUTTING, AND PATCHING OF ANY MATERIALS OR FIXTURES REQUIRED TO CONSTRUCT THE PROJECT IS HEREIN MADE A PART OF THESE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS.
- ALL WORK INDICATED OR SHOWN GRAPHICALLY AS "EXISTING TO REMAIN" WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND WORK AROUND WITHOUT DISTURBING. IF DAMAGED, THE CONTRACTOR WILL REPLACE OR REPAIR AT THE AUTHORITY'S DIRECTION AT NO ADDITIONAL COST TO THE OWNER.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 5231-A, EXPIRATION DATE: 05-18-2015."

FINAL CONTRACT NO. FQ15093

DESIGNED PROJECT TEAM			REFERENCE DRAWINGS		REVISIONS		
DATE	DESCRIPTION	DATE	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
4/30/14	PROJECT TEAM	7/16/14					
7/16/14	CLR	7/22/14					
7/22/14	RES, DO	7/28/14					
7/28/14	JP						



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

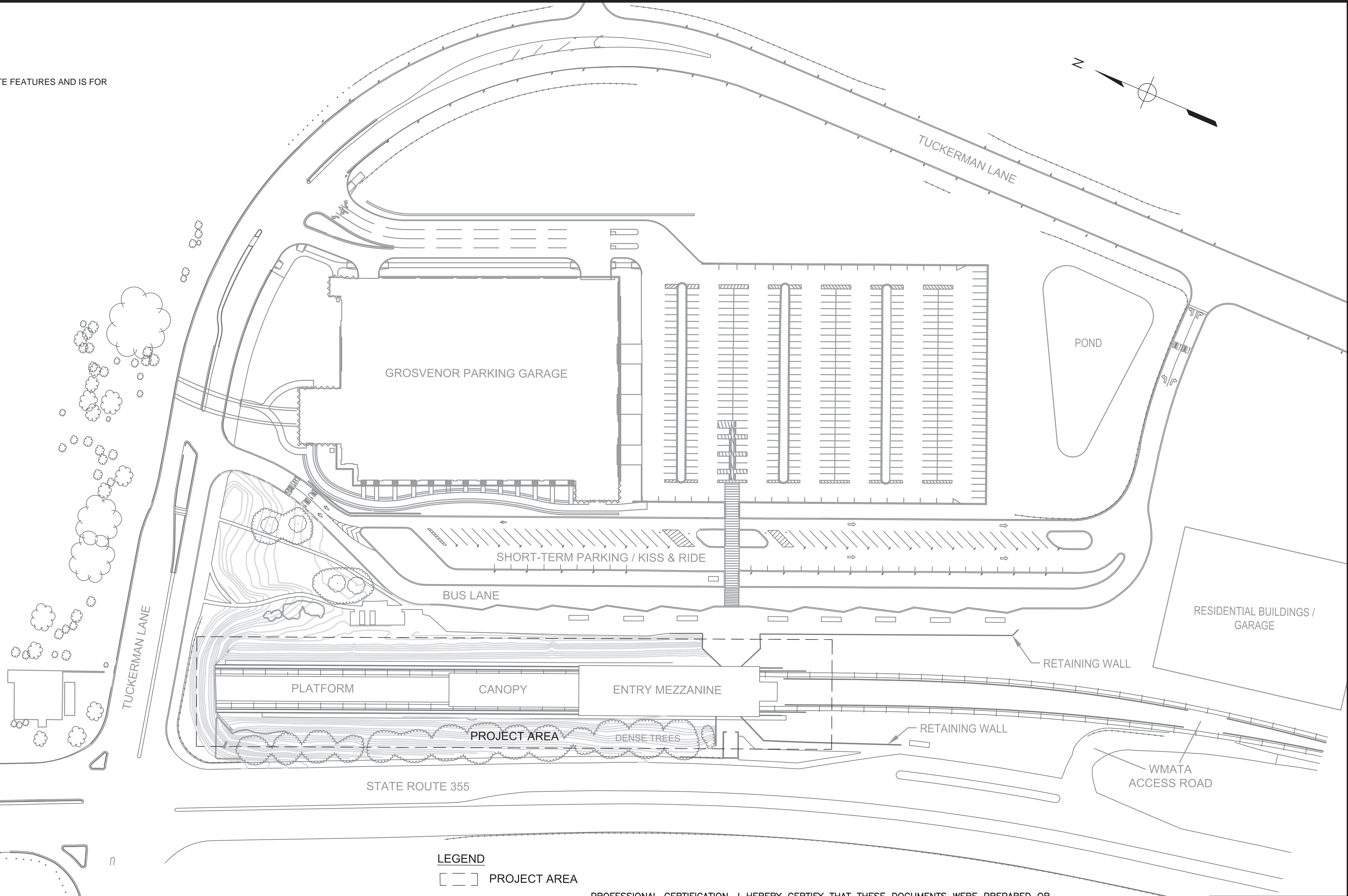
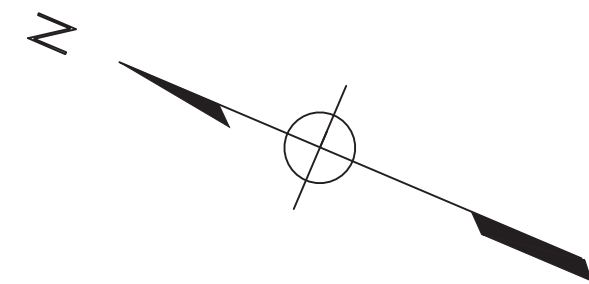
STAGING PLAN

SCALE AS SHOWN DRAWING NO. A11-G-001 SHEET NO. M1272-141



**NOTES:**

1. THIS DRAWING SHOWS THE EXISTING SITE FEATURES AND IS FOR INFORMATION ONLY.



**LEGEND**

[Red Outline] PROJECT AREA

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40736, EXPIRATION DATE 06-06-2015.

FINAL CONTRACT NO. FQ15093

DESIGNED		DRAWN		CHECKED		APPROVED	
R. PLEBUCH	07/31/14	R. PLEBUCH	07/31/14	D. KORZYM	07/31/14	D. KORZYM	07/31/14
	DATE		DATE		DATE		DATE

REFERENCE DRAWINGS		REVISIONS			
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 SUBMITTED Brad Mason, P.E.  
 PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
**GROSVENOR STATION - CIVIL EXISTING SITE PLAN**

SCALE 1" = 60'

DRAWING NO. A11-C-100 SHEET NO. M1272-142



# ARCHITECTURAL ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AL	ALUMINUM
A.R.	AUTHORITY REPRESENTATIVE
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BP	BASE PLATE
CJ	CONTROL JOINT
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COMM	COMMUNICATION
D	DEPTH
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
E	EAST
EA	EACH
EL/ELEV	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EJ	EXPANSION JOINT
EX	EXISTING
EXIST	EXISTING
EXT	EXTERIOR
FIN	FINISH
FL	FLASHING
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FT	FOOT
GOVT	GOVERNMENT
GR	GRADE
GRD	GROUND
H	HIGH
HT	HEIGHT
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
IE	THAT IS
INSUL	INSULATION
INTR	INTERIOR
JST	JOIST
JT	JOINT
L	LENGTH
LT	LIGHT
MAINT	MAINTENANCE
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MGR	MANAGER
MH	MANHOLE
MIN	MINIMUM
MIN	MINUTES
MISC	MISCELLANEOUS
MET	METAL
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER

NTS	NOT TO SCALE
OC	ON CENTER
OFF	OFFICE
P/L	PROPERTY LINE
PASS	PASSENGER
PEB	PRE-ENGINEERED BUILDING
PL	PLATE
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
PORC	PORCELAIN
PREFAB	PREFABRICATED
PROJ	PROJECT
PTN	PARTITION
R	RADIUS
RD	ROOF DRAIN
REINF	REINFORCE
REQD	REQUIRED
REV	REVISION
REG	REGISTER
RFG	ROOFING
RM	ROOM
S	SOUTH
SCHED	SCHEDULE
SEC	SECTION
SF	SQUARE FOOT
SHT	SHEET
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE/STRUCTURAL
SYS	SYSTEM
TEL	TELEPHONE
TOP	TOP OF PLATFORM
TOTS	TOP OF TOPPING SLAB
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W	WEST
W	WIDE
W/	WITH
W/O	WITHOUT
WTRPRF	WATERPROOFING

## BUILDING MATERIALS

	CMU
	CONCRETE
	STEEL
	ALUMINUM
	PLYWOOD
	EARTH
	CONCRETE PAVERS
	SETTING BED
	TOPPING SLAB
	GRANITE

## LEGEND

### SYMBOLS

	KEY NOTE
	SPOT ELEVATION
	COLUMN LINE INDICATOR
	DETAIL INDICATOR
	ELEVATION-VIEW INDICATOR
	DRAWING TITLE
	SECTION INDICATOR
	HEXAGON PATTERN PRECAST PAVER CUSTOM COLOR TO MATCH WMATA APPROVED SAMPLE
	DAMAGED GRANITE EDGE
	PYLONS
	EXISTING DOORS
	CONTROL JOINT
	EXPANSION JOINT

### GENERAL NOTES:

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FINAL CONTRACT NO. FQ15093

DESIGNED	JRS	4/30/14
		DATE
DRAWN	AD/CLR	7/16/14
		DATE
CHECKED	RES	7/22/14
		DATE
APPROVED	JP	7/28/14
		DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

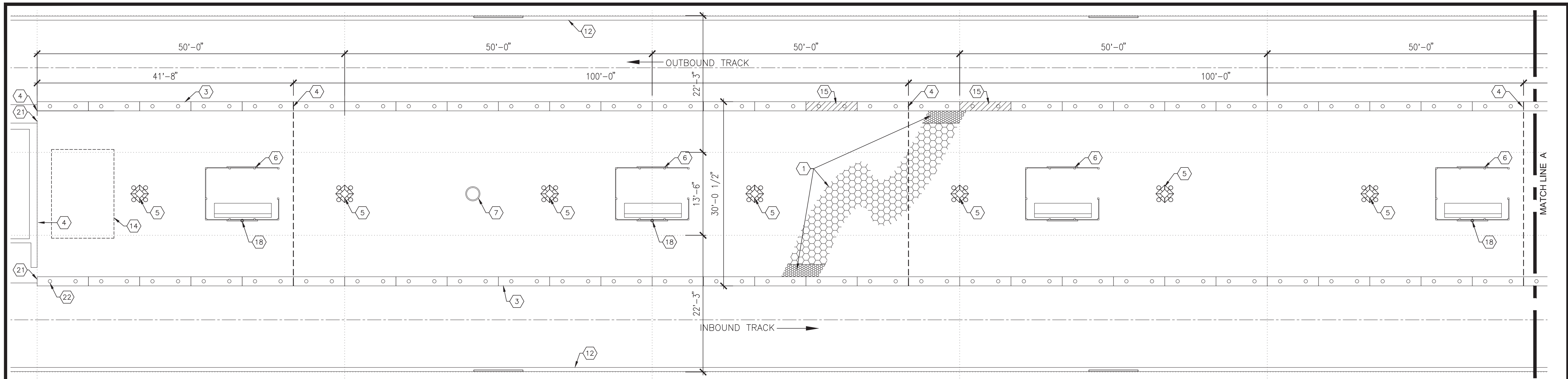
APPROVED \_\_\_\_\_ SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

ABBREVIATIONS, LEGENDS, AND SYMBOLS

SCALE AS SHOWN	DRAWING NO. A11-A-001	SHEET NO. M1272-143
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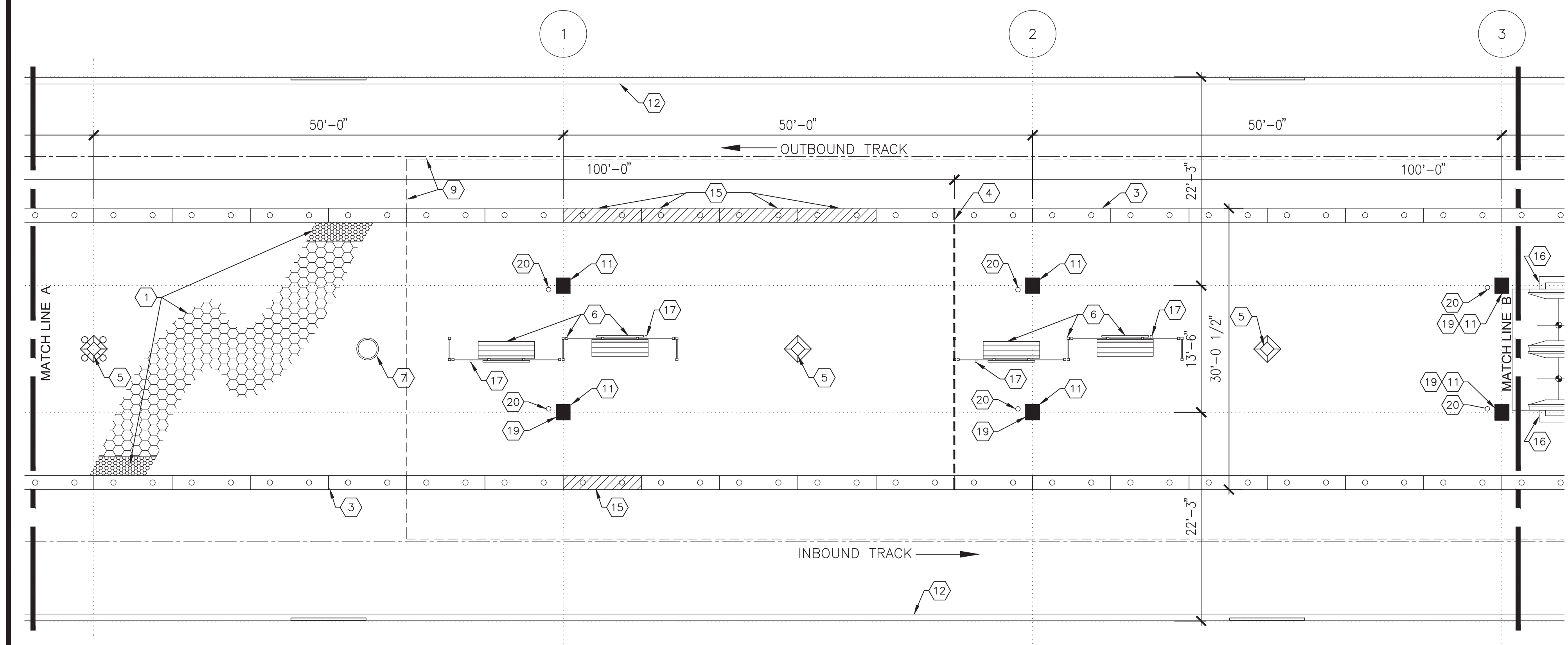




**1 PARTIAL PLATFORM DEMOLITION PLAN**  
 A-100 SCALE: 1/8"=1'-0"

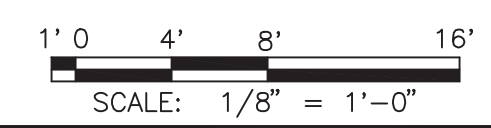
**DEMOLITION SHEET NOTES**

- ① REMOVE ALL HEXAGON PAVER TILES, TRUNCATED DOME PAVER TILES, SETTING BED AND TOPPING SLAB TO STRUCTURAL SLAB (TYP).
- ② EXISTING BRONZE HANDRAIL TO BE CAREFULLY REMOVED, STORED & RE-INSTALLED.
- ③ CAREFULLY REMOVE EXISTING GRANITE EDGES AND GLASS LENSES ON BOTH DEMOLITION SHEETS AND TAG WITH A SEQUENTIAL NUMBER, BEFORE STORING. ANY DAMAGED PIECE NOT TO BE RE-USED SHALL BE MEASURED AND REPLACED WITH IDENTICAL PIECE OF NEW MOUNT AIRY WHITE GRANITE. CONTRACTOR SHALL NOT ASSUME THAT ALL EXISTING GRANITE EDGES ARE IDENTICAL (TYP).
- ④ REMOVE ALL EXPANSION JOINTS FOR THE FULL WIDTH OF PLATFORM (TYP).
- ⑤ CAREFULLY REMOVE PYLONS TO BE REUSED. STORE AT OFFSITE STORAGE FACILITY.
- ⑥ CAREFULLY REMOVE ALL EXIST BENCHES, WINDSCREENS AND THEIR COMPONENTS TO BE REUSED AND STORE AT OFF SITE STORAGE FACILITY (TYP).
- ⑦ CAREFULLY REMOVE EXISTING FIRE LINE MANHOLES. FRAME TO REMAIN IN PLACE. REMOVE EXISTING PAVER TILES FROM THE MANHOLE LID AND RETURN IT TO WMATA.
- ⑧ NOT USED
- ⑨ EXIST CANOPY ABOVE TO REMAIN.
- ⑩ PROTECT EXISTING ELEVATOR AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- ⑪ EXIST COLUMN WITH BUILT IN RAINWATER LEADER FROM ROOF. PROTECT AS REQUIRED DURING DEMOLITION.
- ⑫ EXIST RETAINING WALL. PROTECT AS REQUIRED DURING DEMOLITION.
- ⑬ EXIST CONC COLUMN. PROTECT AS REQUIRED DURING DEMOLITION.
- ⑭ TEMPORARILY RELOCATE (MOVE OR RAISE NO MORE THAN 10') DISPATCH OFFICE AS REQUIRED TO ALLOW INSTALLATION OF NEW PAVERS BELOW. COORD W/ STRUCT. COORD W/ ELECT FOR TEMPORARY COMM AND ELECT HOOK UPS.
- ⑮ DAMAGED GRANITE EDGE TO BE REMOVED AND REPLACED INCLUDING LENS. SEE NOTE 3 FOR REPLACEMENT PROCEDURE.
- ⑯ PROTECT ESCALATOR AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- ⑰ REMOVE EXIST CONDUITS TO DIORAMAS AND REROUTE LOCATIONS OF NEW CONDUITS TO CENTER UNDER DIORAMAS. SEE ELECTRICAL DRAWINGS.
- ⑱ REMOVE EXISTING FLOOR MOUNTED RECEPTACLES. SEE ELECT WORK
- ⑲ EXISTING COLUMN MOUNTED ELECTRICAL RECEPTACLES TO REMAIN.
- ⑳ PROTECT EXISTING CLEANOUTS TO REMAIN.
- ㉑ PROTECT EXISTING PLATFORM END GATES TO REMAIN.
- ㉒ DAMAGED GLASS LENSES TO BE REMOVED AND REPLACED. SEE NOTE 3 FOR REPLACEMENT PROCEDURE



**2 PARTIAL PLATFORM DEMOLITION PLAN**  
 A-100 SCALE: 1/8"=1'-0"

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**KEY PLAN**  
 NOT TO SCALE  
 FINAL CONTRACT NO. **FQ15093**

DESIGNED	JRS	4/30/14
DATE		7/16/14
DRAWN	AD	7/16/14
DATE		7/22/14
CHECKED	RES	7/22/14
DATE		7/28/14
APPROVED	JP	7/28/14
DATE		

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION

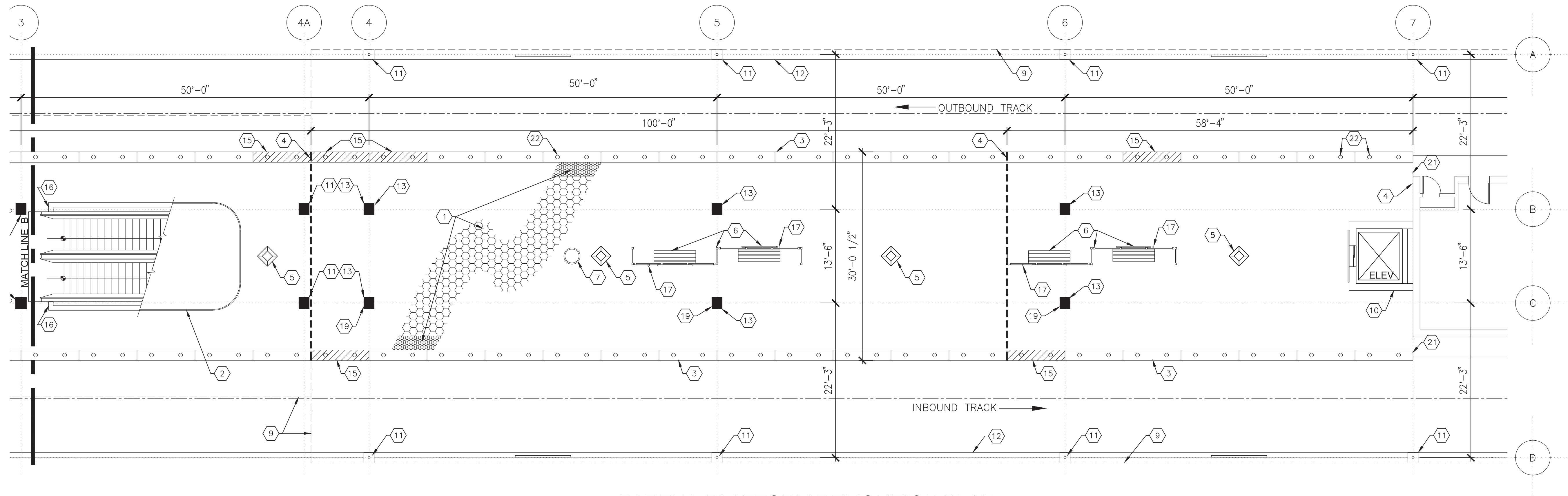


**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 SUBMITTED **Brad Mason, P.E.**  
 PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
 PARTIAL PLATFORM PLAN (DEMOLITION)  
 SCALE AS SHOWN DRAWING NO. **A11-A-100** SHEET NO. **M1272-144**





**1 PARTIAL PLATFORM DEMOLITION PLAN**  
 SCALE: 1/8"=1'-0"

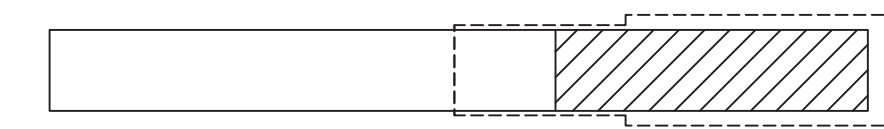
**GENERAL DEMOLITION NOTES**

1. VERIFY EXISTING FIELD CONDITIONS.
2. PRIOR TO DEMOLITION, VERIFY MATERIALS AND EQUIPMENT TO BE SALVAGED. STORE WHERE DIRECTED BY A.R.
3. VERIFY AND MARK ALL UNDER SLAB UTILITIES PRIOR TO THE START OF WORK. CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL UTILITIES IN PLENUM AREA BELOW PLATFORM AND VERIFY THAT ALL WORK IS COORDINATED.
4. REMOVE ALL RUBBISH AND DEMOLITION DEBRIS FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER.
5. COORDINATE GENERAL CONSTRUCTION DEMOLITION WITH THE STRUCTURAL AND ELECTRICAL DEMOLITION WORK.
6. REPAIR ALL EXISTING STRUCTURES, UTILITIES, AND EQUIPMENT, SCHEDULED TO REMAIN, WHICH ARE DAMAGED DURING DEMOLITION OPERATIONS. ALL WORK SCHEDULED TO BE DEMOLISHED, SHALL BE REMOVED COMPLETELY INCLUDING ALL FASTENERS, ATTACHMENTS, ACCESSORIES, AND ANY RELATED WORK.
7. DEMOLITION INCLUDES ALL ITEMS WHETHER OR NOT SHOWN ON THE DRAWINGS, THAT ARE REQUIRED TO BE REMOVED IN ORDER TO INSTALL THE NEW WORK SHOWN ON DRAWINGS A-102 - A-507 AND OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
8. ALL SURFACES TO REMAIN SHALL BE REFINISHED TO REPAIR ALL HOLES, SCRATCHES, DENTS, MARS, PITTING, ADHESIVE, BAD JOINTS, DEFECTIVE CMU, ETC, AS CAUSED BY DEMOLITION AND CONSTRUCTION ACTIVITY. TO BE ACCEPTABLE IN EVERY WAY TO RECEIVE NEW FINISHES.

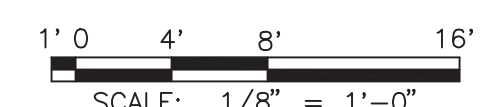
**DEMOLITION SHEET NOTES**

- 1 REMOVE ALL HEXAGON PAVER TILES, TRUNCATED DOME PAVER TILES, SETTING BED AND TOPPING SLAB TO STRUCTURAL SLAB (TYP).
- 2 EXISTING BRONZE HANDRAIL TO BE CAREFULLY REMOVED, STORED & RE-INSTALLED.
- 3 CAREFULLY REMOVE EXISTING GRANITE EDGES AND GLASS LENSES ON BOTH DEMOLITION SHEETS AND TAG WITH A SEQUENTIAL NUMBER, BEFORE STORING. ANY DAMAGED PIECE NOT TO BE RE-USED SHALL BE MEASURED AND REPLACED WITH IDENTICAL PIECE OF NEW MOUNT AIRY WHITE GRANITE. CONTRACTOR SHALL NOT ASSUME THAT ALL EXISTING GRANITE EDGES ARE IDENTICAL (TYP).
- 4 REMOVE ALL EXPANSION JOINTS FOR THE FULL WIDTH OF PLATFORM (TYP).
- 5 CAREFULLY REMOVE PYLONS TO BE REUSED. STORE AT OFFSITE STORAGE FACILITY.
- 6 CAREFULLY REMOVE ALL EXIST BENCHES, WINDSCREENS AND THEIR COMPONENTS TO BE REUSED AND STORE AT OFF SITE STORAGE FACILITY (TYP).
- 7 CAREFULLY REMOVE EXISTING FIRE LINE MANHOLES. FRAME TO REMAIN IN PLACE. REMOVE EXISTING PAVER TILES FROM THE MANHOLE LID AND RETURN IT TO WMATA.
- 8 NOT USED
- 9 EXIST CANOPY ABOVE TO REMAIN.
- 10 PROTECT EXISTING ELEVATOR AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- 11 EXIST COLUMN WITH BUILT IN RAINWATER LEADER FROM ROOF. PROTECT AS REQUIRED DURING DEMOLITION.
- 12 EXIST RETAINING WALL. PROTECT AS REQUIRED DURING DEMOLITION.
- 13 EXIST CONC COLUMN. PROTECT AS REQUIRED DURING DEMOLITION.
- 14 TEMPORARILY RELOCATE (MOVE OR RAISE NO MORE THAN 10') DISPATCH OFFICE AS REQUIRED TO ALLOW INSTALLATION OF NEW PAVERS BELOW. COORD W/ STRUCT. COORD W/ ELECT FOR TEMPORARY COMM AND ELECT HOOK UPS.
- 15 DAMAGED GRANITE EDGE TO BE REMOVED AND REPLACED INCLUDING LENS. SEE NOTE 3 FOR REPLACEMENT PROCEDURE.
- 16 PROTECT ESCALATOR AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- 17 REMOVE EXIST CONDUITS TO DIORAMAS AND REROUTE LOCATIONS OF NEW CONDUITS TO CENTER UNDER DIORAMAS. SEE ELECTRICAL DRAWINGS.
- 18 REMOVE EXISTING FLOOR MOUNTED RECEPTACLES. SEE ELECT WORK
- 19 EXISTING COLUMN MOUNTED ELECTRICAL RECEPTACLES TO REMAIN.
- 20 PROTECT EXISTING CLEANOUTS TO REMAIN.
- 21 PROTECT EXISTING PLATFORM END GATES TO REMAIN.
- 22 DAMAGED GLASS LENSES TO BE REMOVED AND REPLACED. SEE NOTE 3 FOR REPLACEMENT PROCEDURE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 5231-A, EXPIRATION DATE: 05-18-2015."



**KEY PLAN**  
 NOT TO SCALE  
**FINAL** CONTRACT NO. **FQ15093**

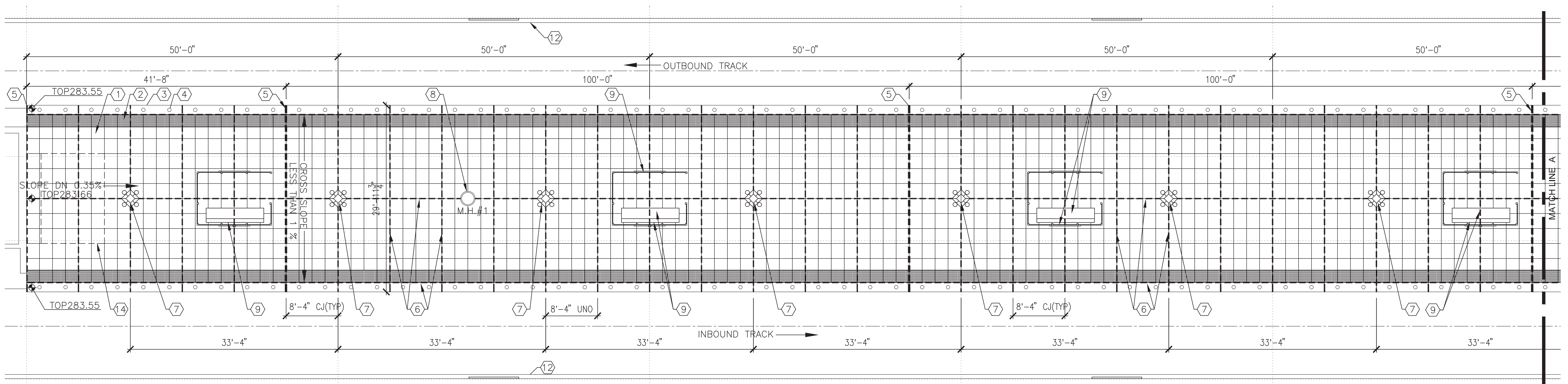


**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 SUBMITTED Brad Mason, P.E. PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
 PARTIAL PLATFORM PLAN (DEMOLITION)  
 SCALE AS SHOWN DRAWING NO. A11-A-101 SHEET NO. M1272-145

DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	DESCRIPTION
JRS	4/30/14				
AD	7/16/14				
RES	7/22/14				
JP	7/28/14				

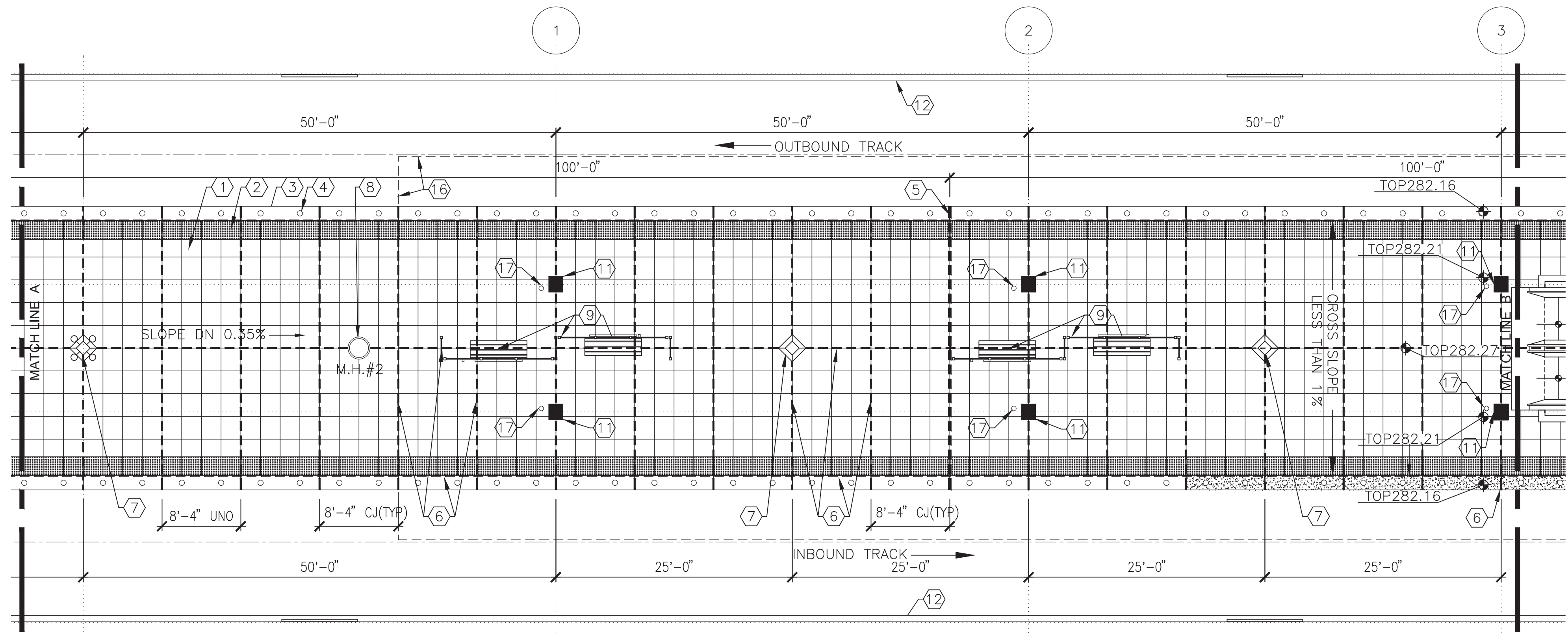




**1 PARTIAL PLATFORM PLAN**  
SCALE: 1/8"=1'-0"

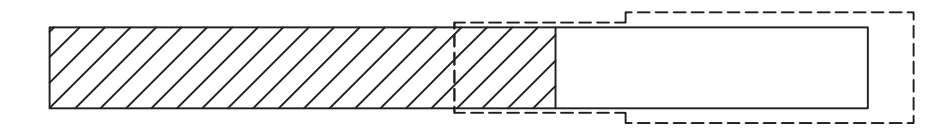
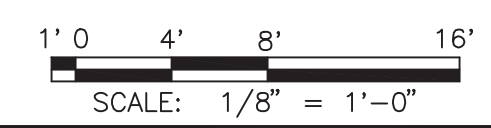
**NEW WORK SHEET NOTES**

- ① NEW PRECAST PAVERS 25"x28<sup>7</sup>/<sub>8</sub>" (TYP).
- ② NEW TRUNCATED DOME PRECAST PAVERS 25" x 24" (TYP).
- ③ INSTALL RECONDITIONED SALVAGED OR NEW REPLACEMENT GRANITE EDGES AT THEIR ORIGINAL LOCATIONS, FOLLOWING THE NUMBERING SYSTEM, ESTABLISHED DURING DEMOLITION.
- ④ REPLACE AND/OR INSTALL GLASS LENSES AT NEW AND REINSTALLED GRANITE EDGES (TYP).
- ⑤ REPLACE EXPANSION JOINT AT EXISTING LOCATIONS (TYP). SEE SHEET A-502 FOR DETAILS.
- ⑥ NEW 1/2" CONTROL JOINT (TYP). SEE FLOOR PLAN FOR LOCATIONS.
- ⑦ REINSTALL PYLON AT EXISTING LOCATIONS. INSTALL NEW LIDS WITH EMBOSSED METRO LOGO IN EXISTING FRAME. REFER TO WMATA STANDARD DETAIL.
- ⑧ EXISTING BENCHES & WINDSCREEN TO BE REINSTALLED AT THE EXISTING LOCATIONS. SEE DETAILS 3-4/A-501.
- ⑩ NOT USED
- ⑪ EXIST COLUMN WITH BUILT IN RAINWATER LEADER FROM ROOF. PROTECT AS REQUIRED DURING CONSTRUCTION.
- ⑫ EXIST RETAINING WALL. PROTECT AS REQUIRED DURING CONSTRUCTION.
- ⑬ EXIST CONC. COLUMN. PROTECT AS REQUIRED DURING CONSTRUCTION.
- ⑭ RE-INSTALL DISPATCH OFFICE OVER NEW PAVERS. SEE STRUCT FOR ANCHORAGE DETAILS.
- ⑮ NOT USED
- ⑯ EXIST CANOPY ABOVE.
- ⑰ EXIST DRAIN CLEANOUT TO REMAIN.



**2 PARTIAL PLATFORM PLAN**  
SCALE: 1/8"=1'-0"

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**KEY PLAN**  
NOT TO SCALE

FINAL CONTRACT NO. **FQ15093**

DESIGNED	JRS	4/30/14
DRAWN	AD	7/16/14
CHECKED	RES	7/22/14
APPROVED	JP	7/28/14

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
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**GFP** A Gannett Fleming/Parsons JOINT VENTURE

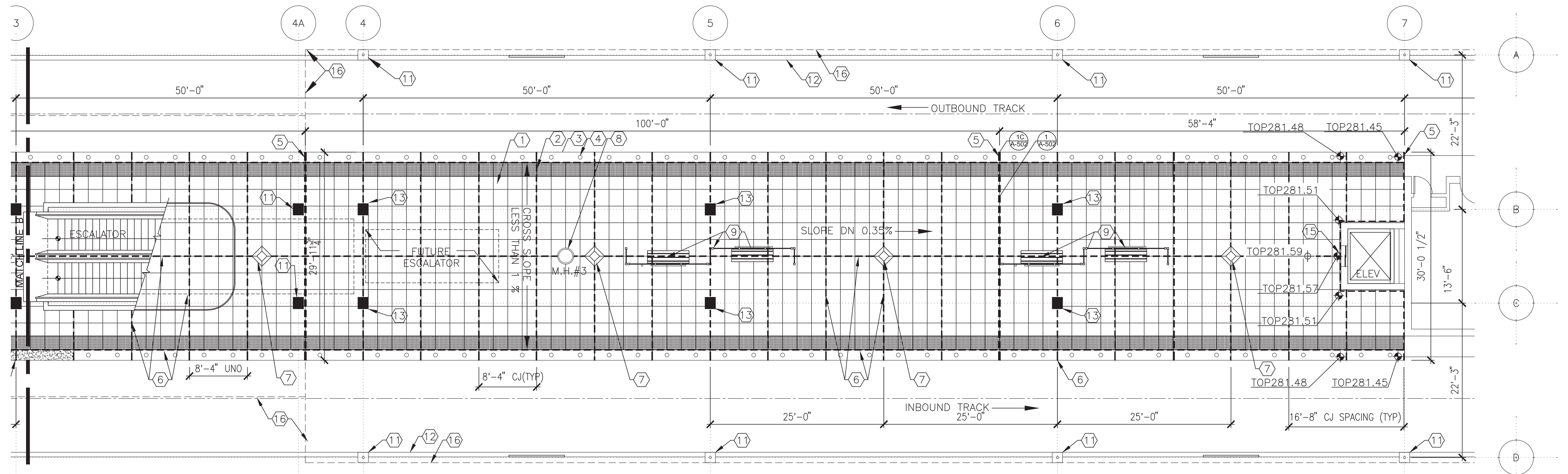
APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

PARTIAL PLATFORM PLAN (NEW WORK)

SCALE AS SHOWN DRAWING NO. **A11-A-102** SHEET NO. **M1272-146**





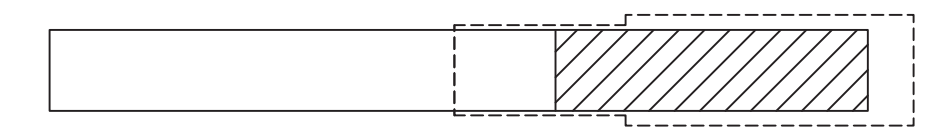
**1**  
A-103 **PARTIAL PLATFORM PLAN**  
SCALE: 1/8"=1'-0"

**GENERAL NOTES**

1. VERIFY ALL DIMENSIONS IN THE FIELD.
2. VERIFY ALL FIELD CONDITIONS.
3. ALL DIMENSIONS ARE NOMINAL UNLESS NOTED OTHERWISE.
4. ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE LATEST VERSIONS OF I.B.C. AND LIFE SAFETY CODES. ALL WORK IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH WMATA DESIGN CRITERIA, VERSION 9.
5. DO NOT SCALE DRAWINGS FOR PURPOSES OF CONSTRUCTION.
6. ANY DEVIATION FROM, OR IN FIELD ALTERATION TO THESE DRAWINGS, AND SPECIFICATIONS IS STRICTLY PROHIBITED WITHOUT PRIOR APPROVAL OF A.R. ANY SUCH ALTERATIONS SHALL BE CORRECTED AT ONCE, WITH NO EXPENSE TO THE OWNER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES REGARDLESS OF DISCREPANCIES IN THE CONTRACT DOCUMENTS. NO ADDITIONAL COSTS WILL BE PAID BY THE OWNER TO RECTIFY WORK TO BE RELOCATED DUE TO LACK OF JOBSITE COORDINATION.
8. DEMOLITION, CUTTING, AND PATCHING OF ANY MATERIALS OR FIXTURES REQUIRED TO CONSTRUCT THE PROJECT IS HEREIN MADE A PART OF THESE DOCUMENTS.
9. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AS REQUIRED.
10. THE IMAGES ON THE CONSTRUCTION DOCUMENT FLOOR PLANS REFLECT THE INFORMATION FROM THE ORIGINAL CONSTRUCTION DOCUMENTS FOR THE PROJECT, IT IS NOT AN INDICATION OF NEW WORK, IT IS SHOWN IN GRAY LINE COLOR. THE NEW WORK AND REQUIRED DEMOLITION OR REMOVALS ARE SHOWN IN BLACK LINE COLOR. IF THE DIFFERENCE IS NOT OBVIOUS, REPORT TO THE A.R. IMMEDIATELY.
11. ALL WORK INDICATED OR SHOWN GRAPHICALLY AS "EXISTING TO REMAIN" WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND WORK AROUND WITHOUT DISTURBING. IF DAMAGED, THE CONTRACTOR WILL REPLACE AT NO ADDITIONAL COST TO THE OWNER.
12. FIREPROOF ALL NEW STRUCTURAL STEEL, INCLUDING, BUT NOT LIMITED TO COLUMNS, BEAMS, METAL DECK, AND MISCELLANEOUS METALS - SEE SPECIFICATION SECTION 07.81.00.
13. CUTTING AND REMOVING OF GRANITE TILE EDGES WILL BE UNDERTAKEN CAREFULLY.

**NEW WORK SHEET NOTES**

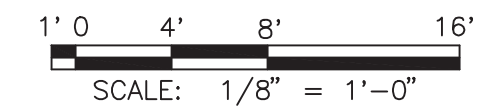
- ① NEW PRECAST PAVERS 25" x 28 7/8" (TYP).
- ② NEW TRUNCATED DOME PRECAST PAVERS 25" x 24" (TYP).
- ③ INSTALL RECONDITIONED SALVAGED OR NEW REPLACEMENT GRANITE EDGES AT THEIR ORIGINAL LOCATIONS, FOLLOWING THE NUMBERING SYSTEM, ESTABLISHED DURING DEMOLITION.
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- ⑥ NEW 1/2" CONTROL JOINT (TYP). SEE FLOOR PLAN FOR LOCATIONS.
- ⑦ REINSTALL PYLON AT EXISTING LOCATIONS. INSTALL NEW LIDS WITH EMBOSSED METRO LOGO IN EXISTING FRAME. REFER TO WMATA STANDARD DETAIL.
- ⑧ EXISTING BENCHES & WINDSCREEN TO BE REINSTALLED AT THE EXISTING LOCATIONS. SEE DETAILS 3-4/A-501.
- ⑩ NOT USED
- ⑪ EXIST COLUMN WITH BUILT IN RAINWATER LEADER FROM ROOF. PROTECT AS REQUIRED DURING CONSTRUCTION.
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- ⑭ RE-INSTALL DISPATCH OFFICE OVER NEW PAVERS. SEE STRUCT FOR ANCHORAGE DETAILS.
- ⑮ NOT USED
- ⑯ EXIST CANOPY ABOVE.
- ⑰ EXIST DRAIN CLEANOUT TO REMAIN.



**KEY PLAN**  
NOT TO SCALE

FINAL CONTRACT NO. **FQ15093**

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RES	7/22/14						
JP	7/28/14						



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM



APPROVED \_\_\_\_\_

SUBMITTED **Brad Mason, P.E.**  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

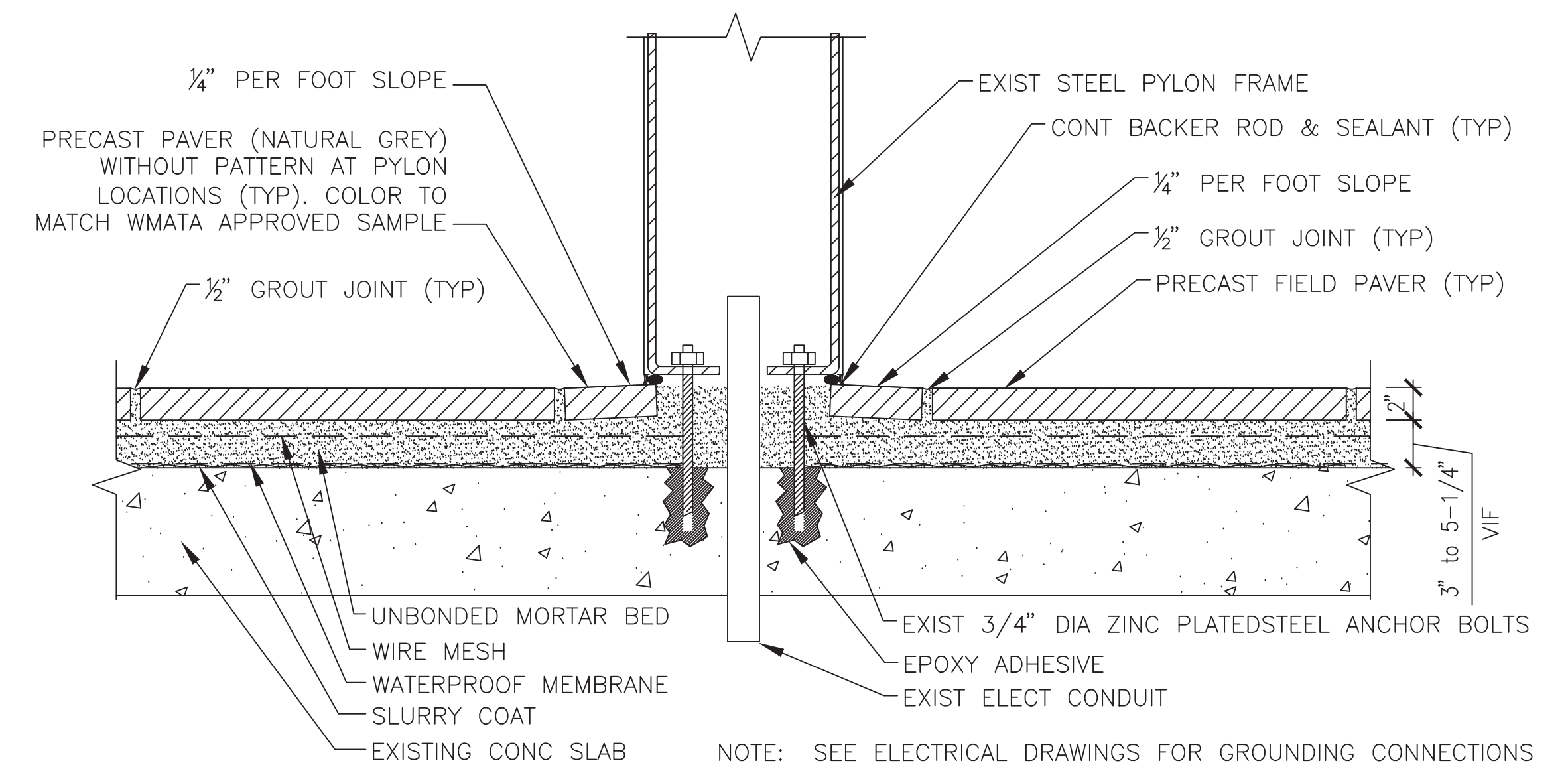
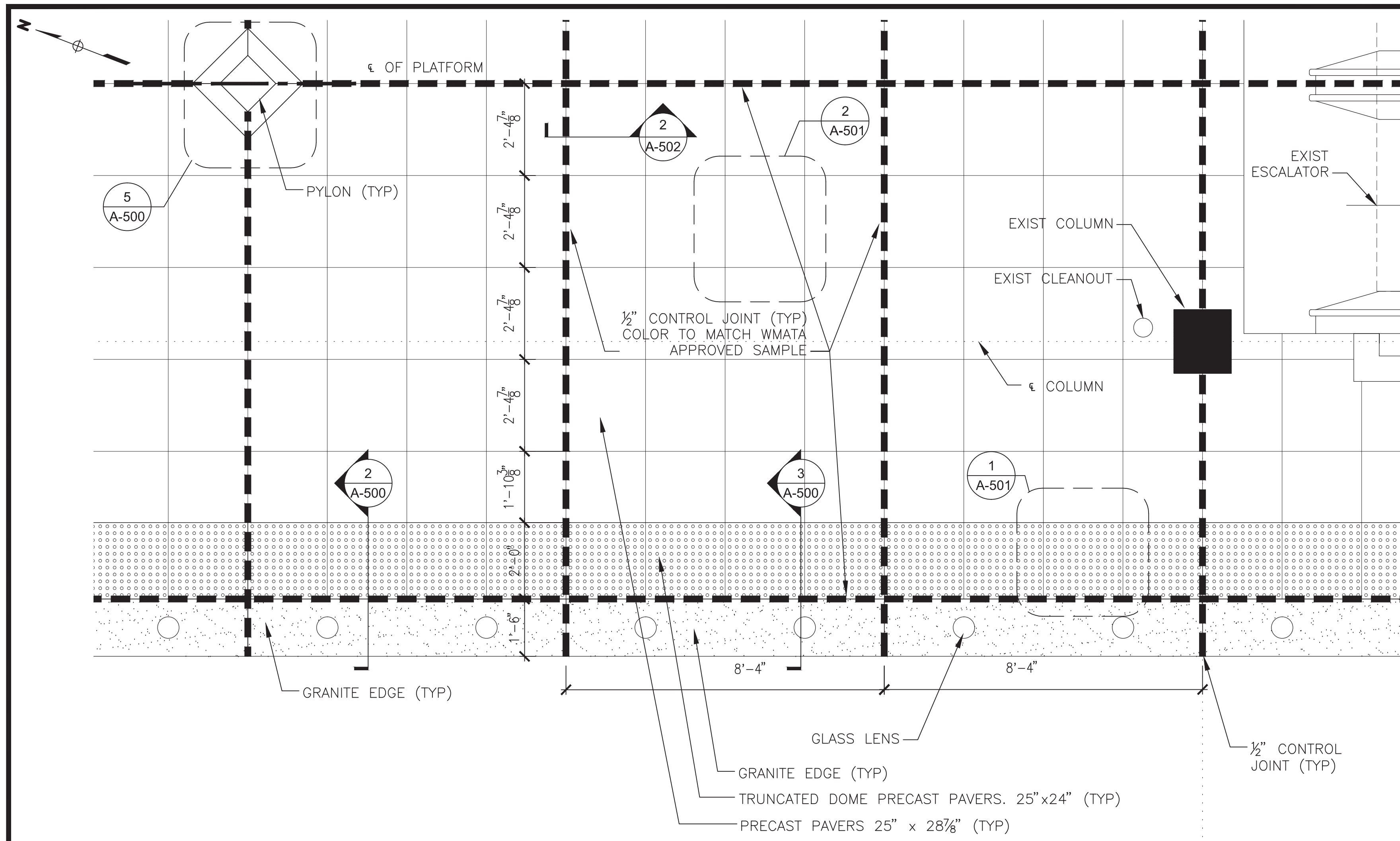
**PARTIAL PLATFORM PLAN (NEW WORK)**

SCALE AS SHOWN

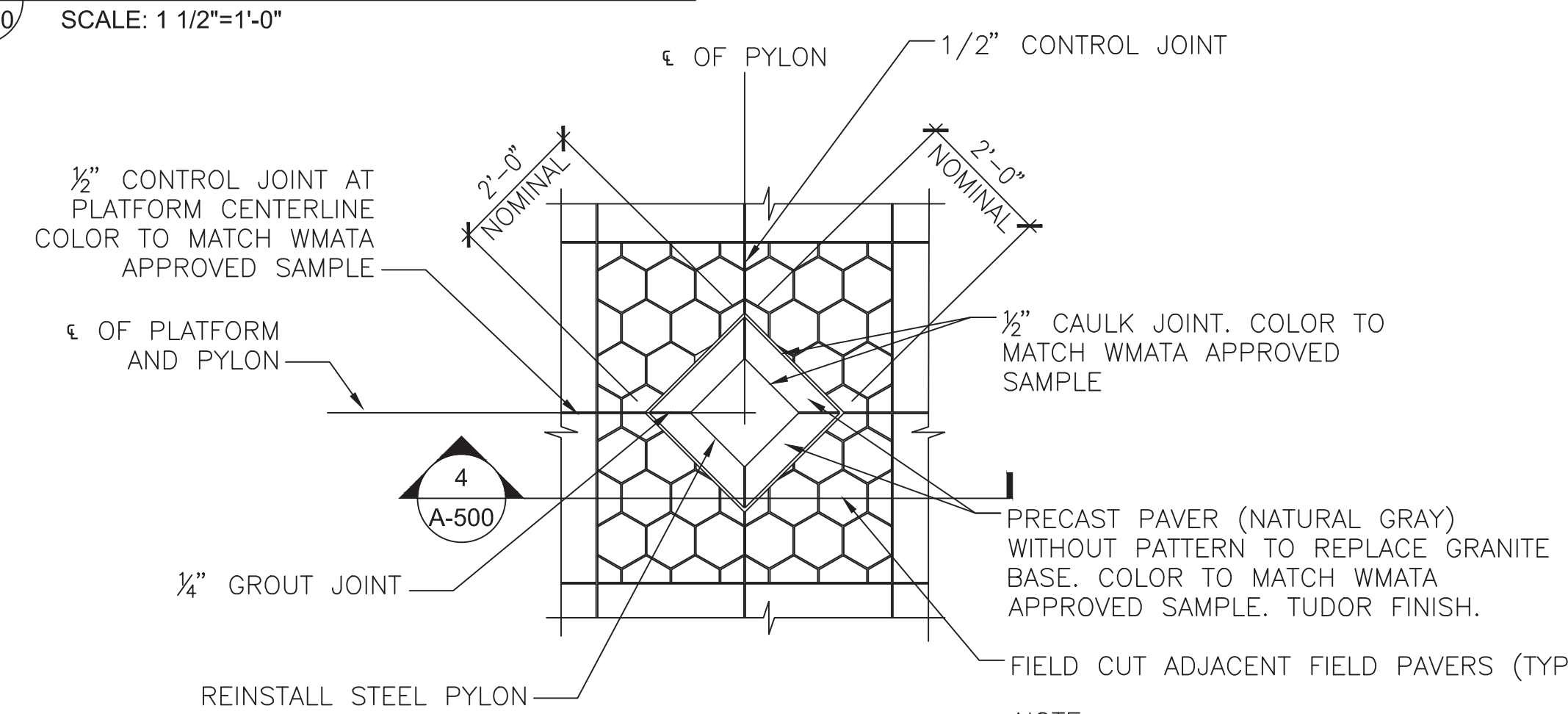
DRAWING NO. **A11-A-103**

SHEET NO. **M1272-147**

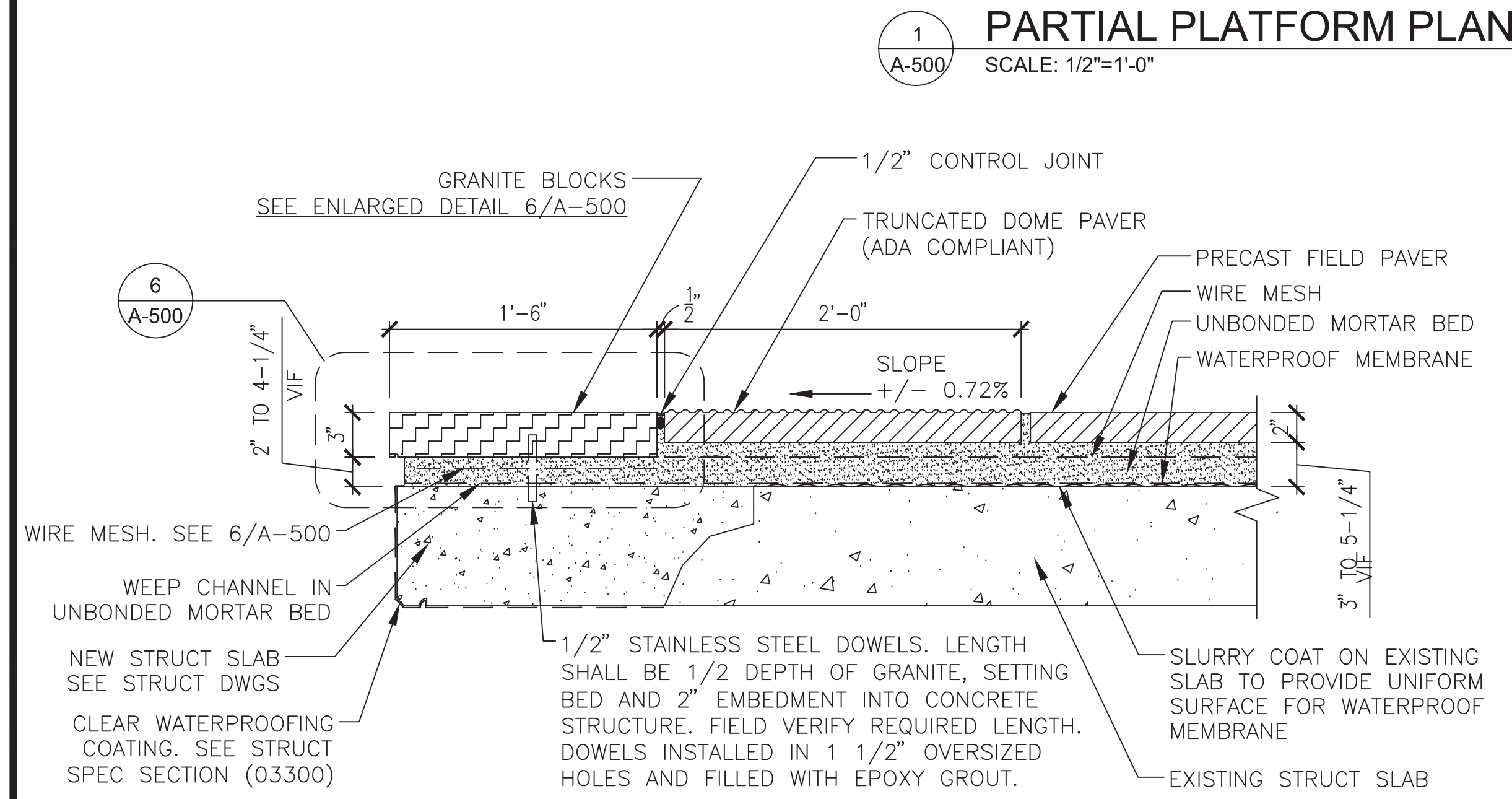




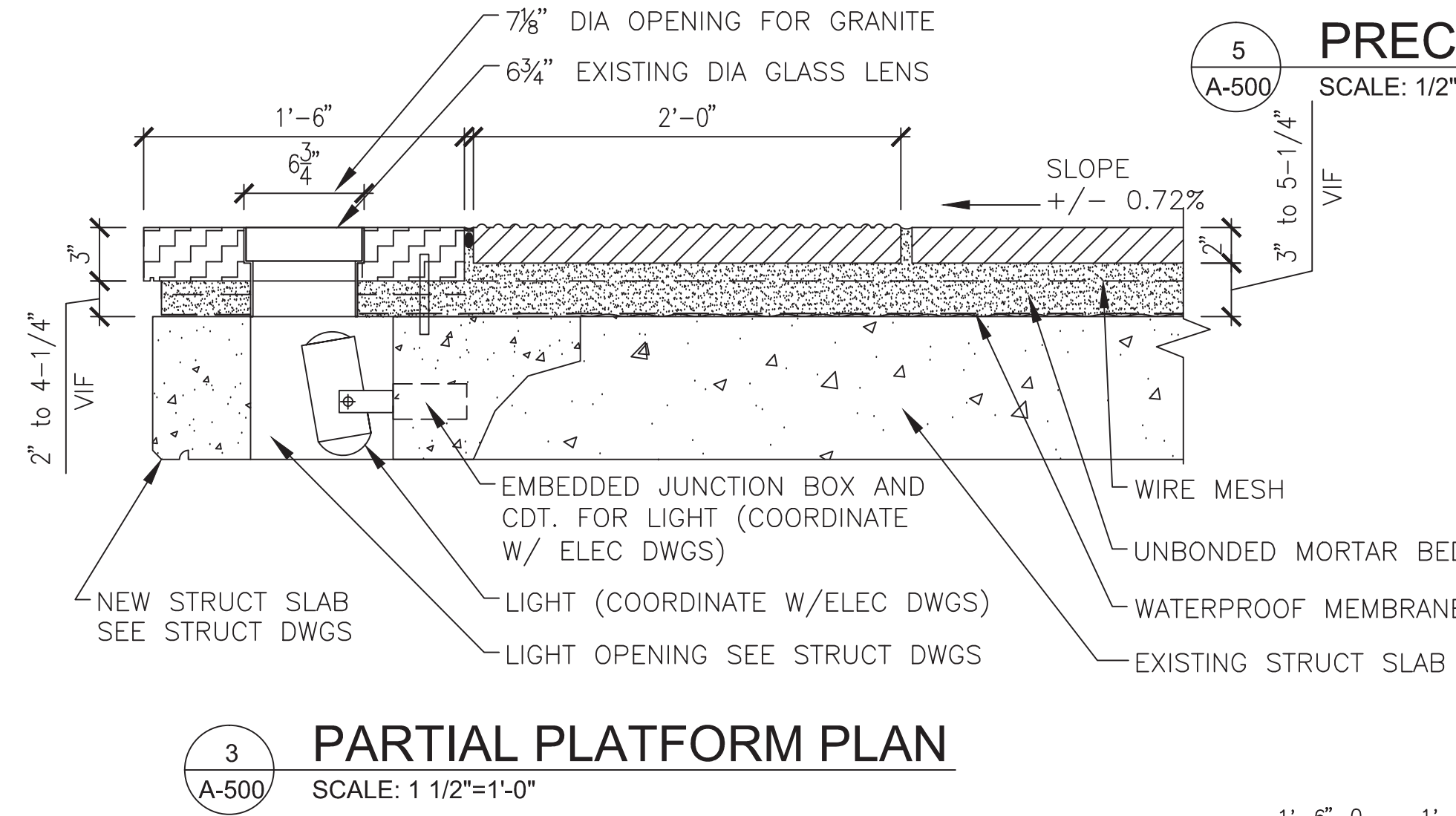
4  
A-500  
SCALE: 1 1/2"=1'-0"



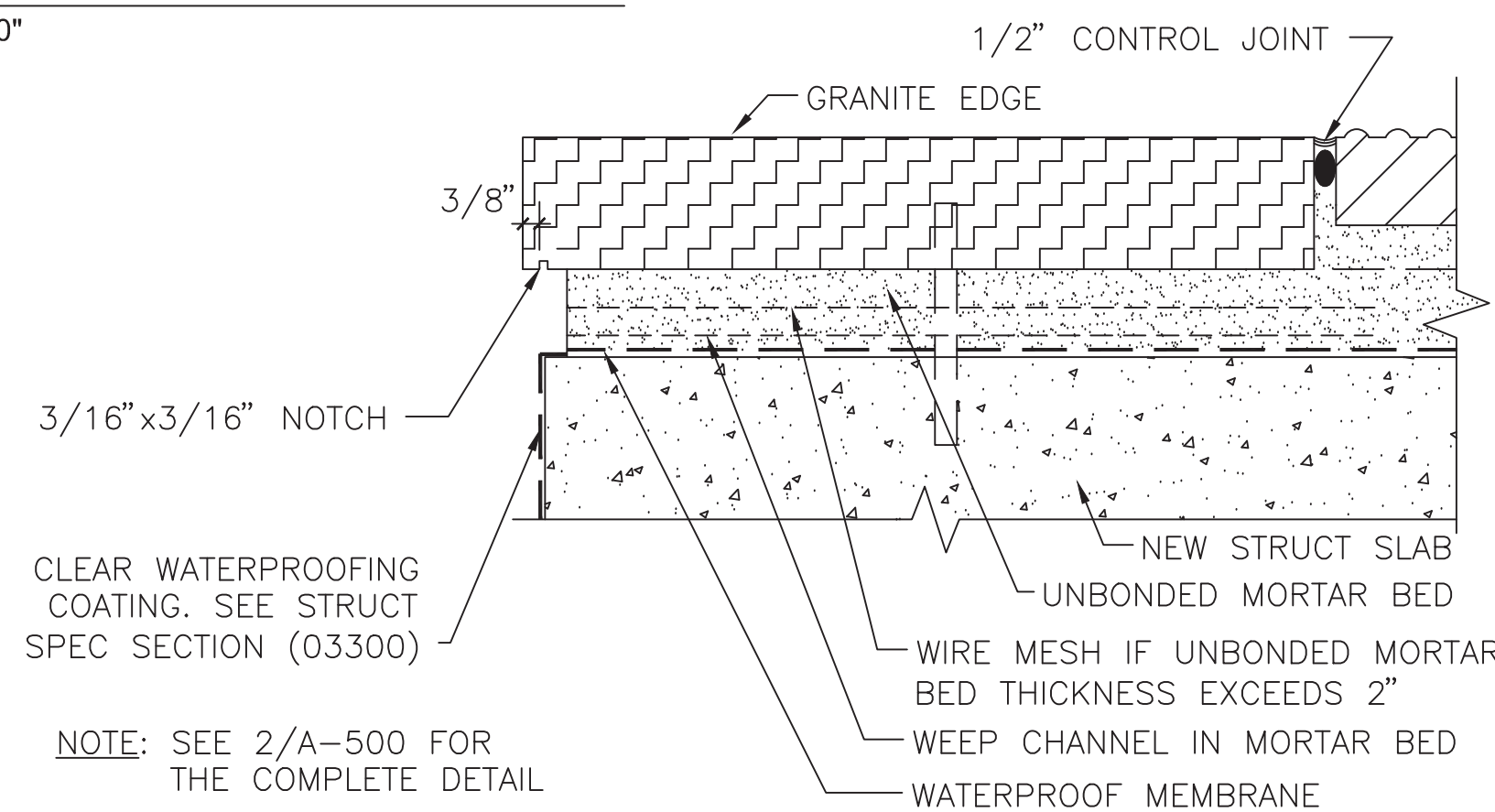
5  
A-500  
SCALE: 1/2"=1'-0"



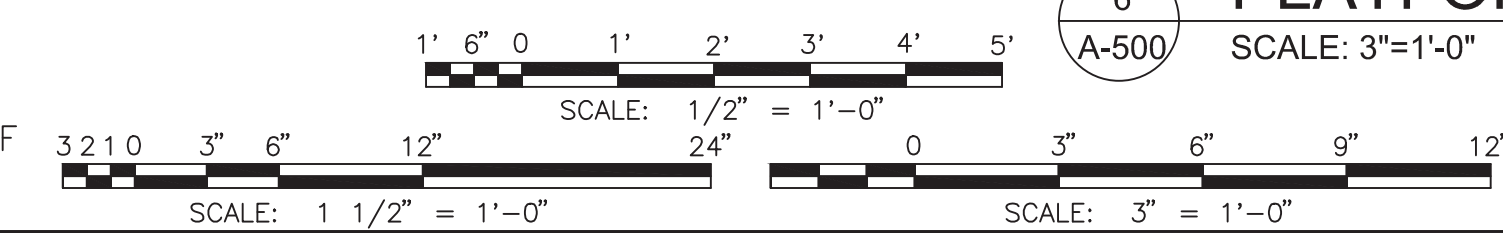
2  
A-500  
SCALE: 1 1/2"=1'-0"



3  
A-500  
SCALE: 1 1/2"=1'-0"



6  
A-500  
SCALE: 3"=1'-0"



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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_

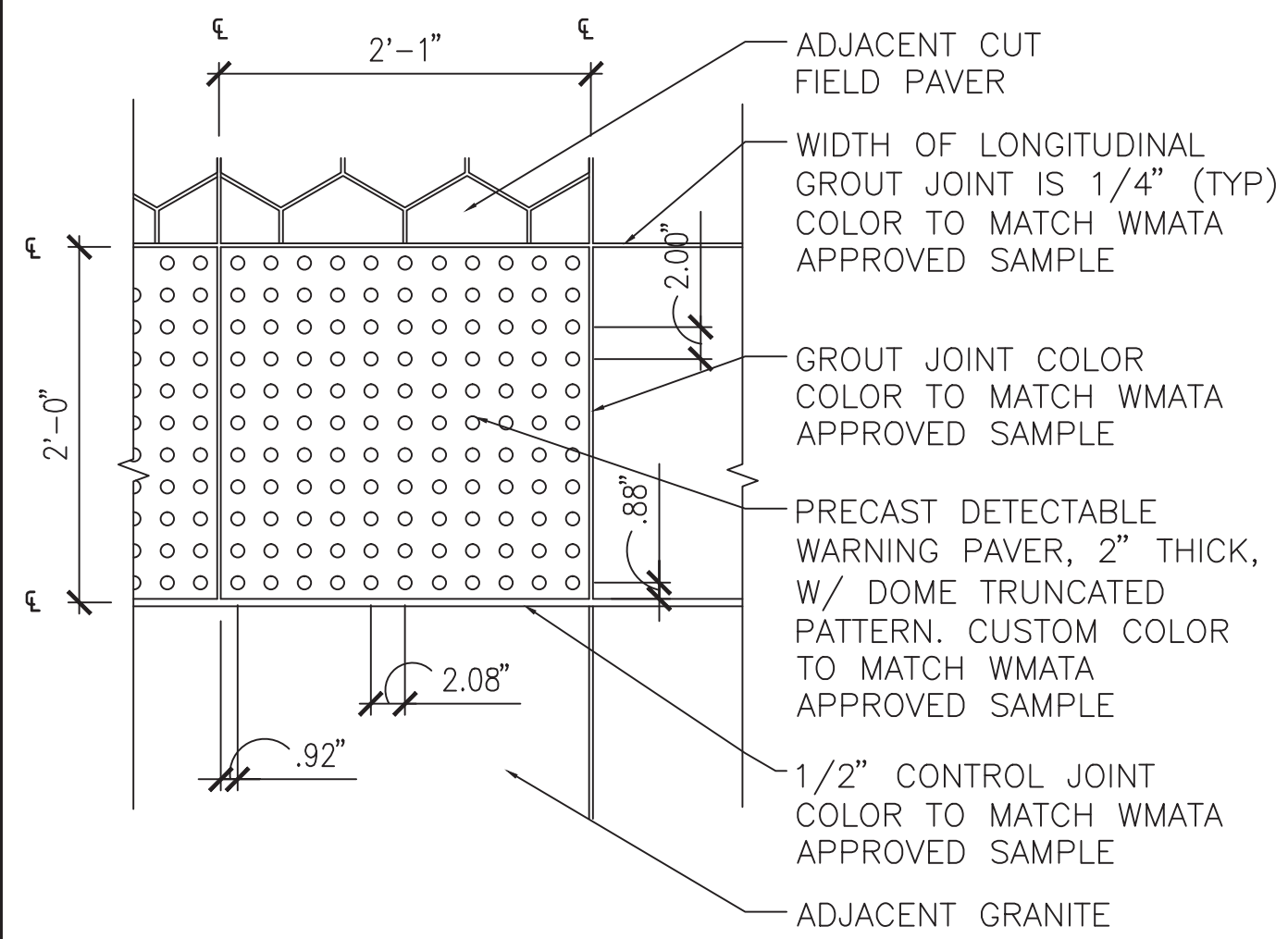
CONTRACT NO. FQ15093

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

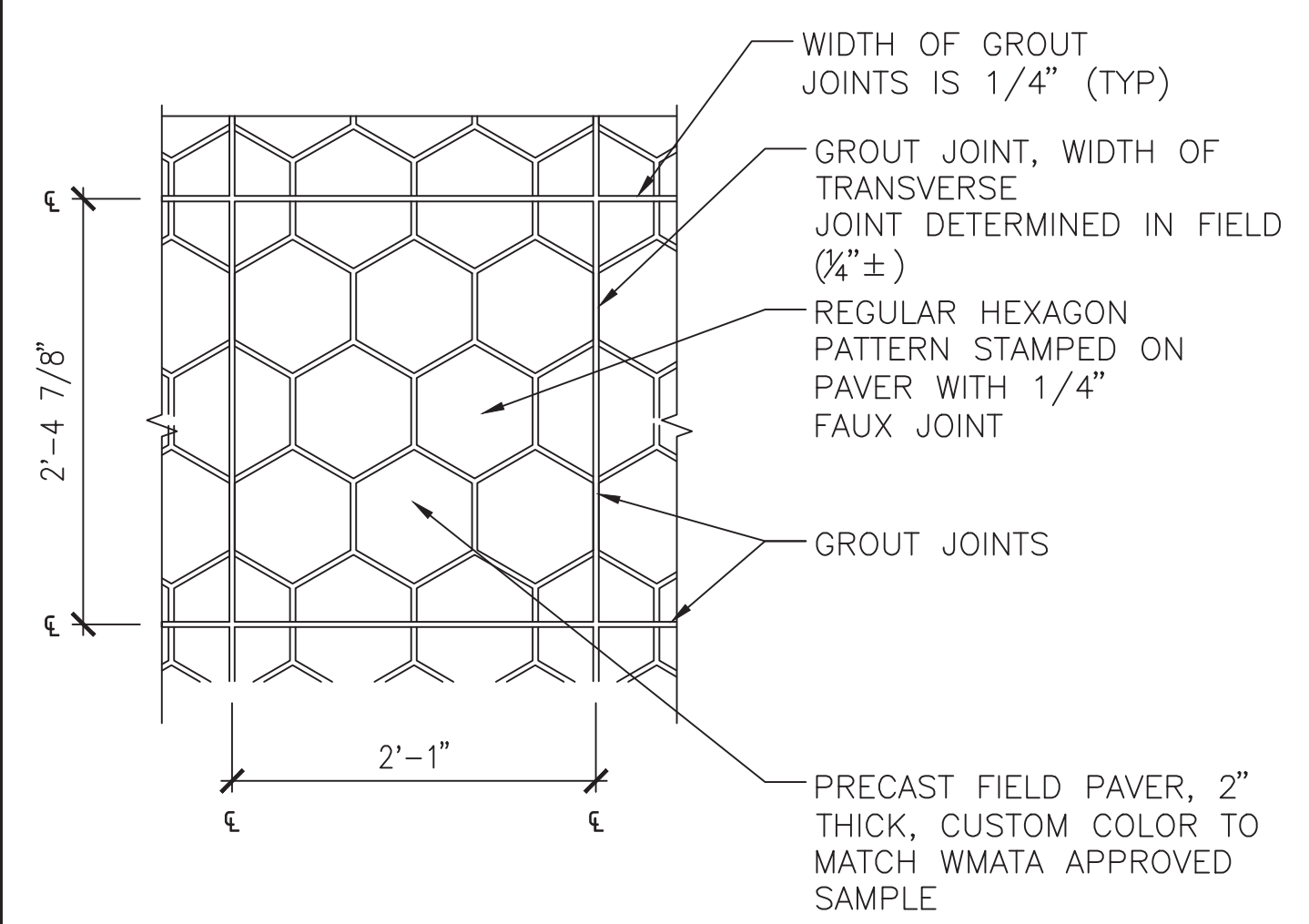
ENLARGED PARTIAL PLATFORM PLAN, DETAILS

SCALE AS SHOWN DRAWING NO. A11-A-500 SHEET NO. M1272-148

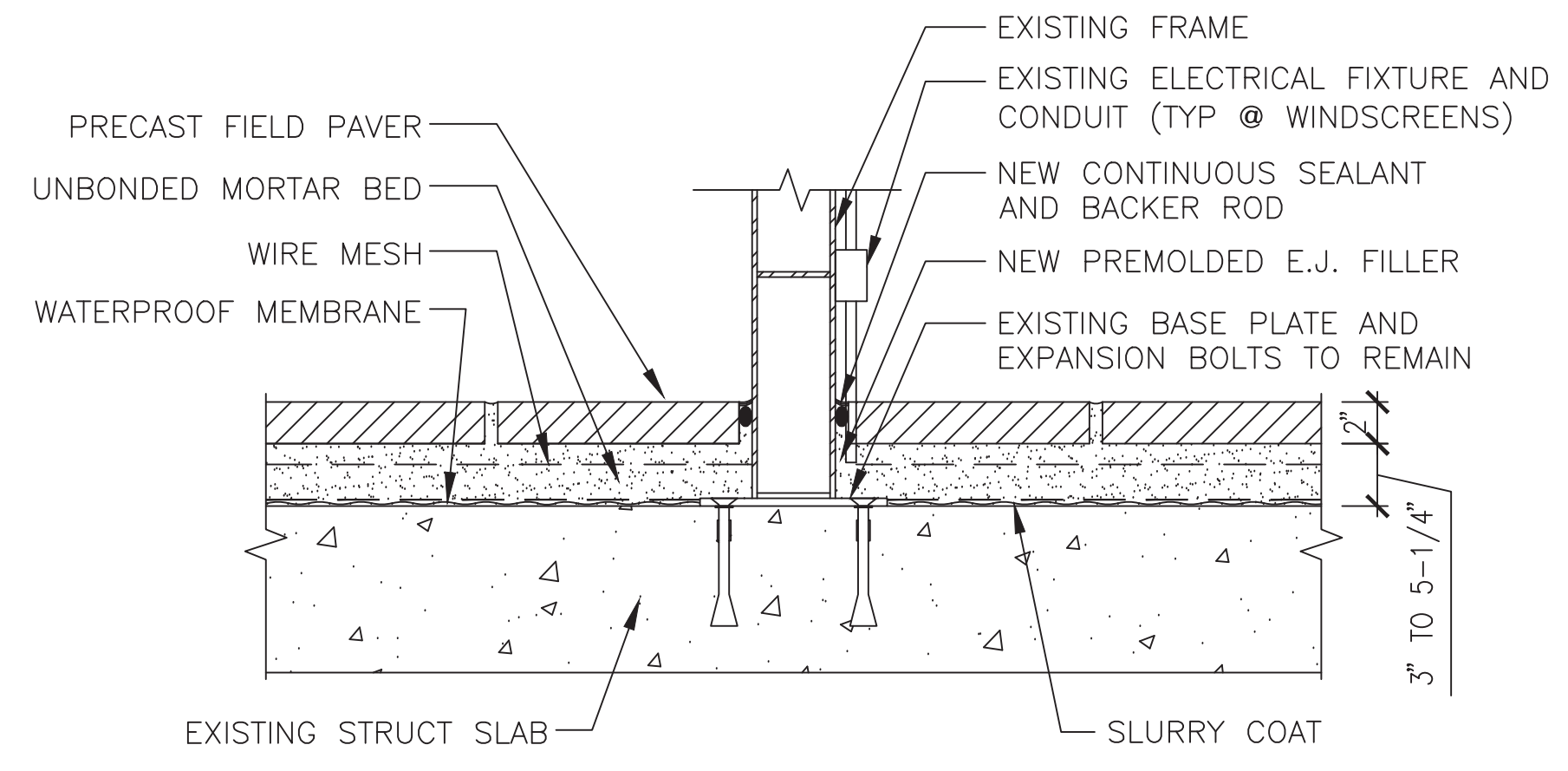




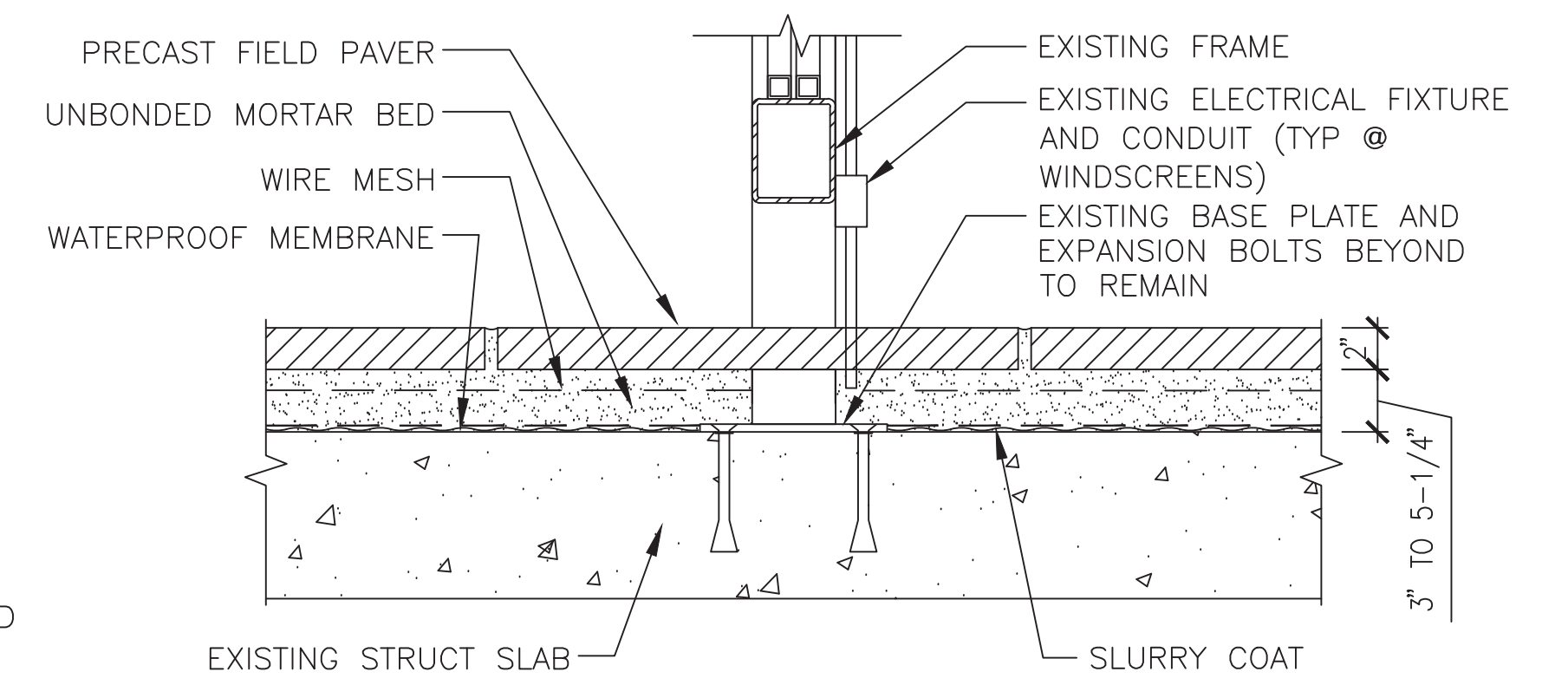
**1 TRUNCATED PAVER DETAIL (TYP)**  
 A-501 SCALE: 1"=1'-0"



**2 TYPICAL PAVER DETAIL**  
 A-501 SCALE: 1"=1'-0"

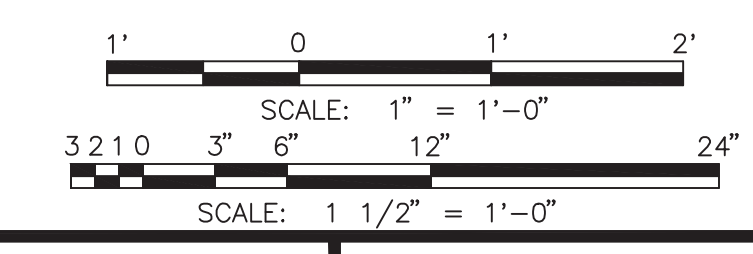


**3 WINDSCREEN AND PLATFORM SHELTER POST CONNECTION**  
 A-501 SCALE: 1 1/2"=1'-0"



**4 WINDSCREEN AND PLATFORM SHELTER POST CONNECTION**  
 A-501 SCALE: 1 1/2"=1'-0"

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RES	7/22/14				
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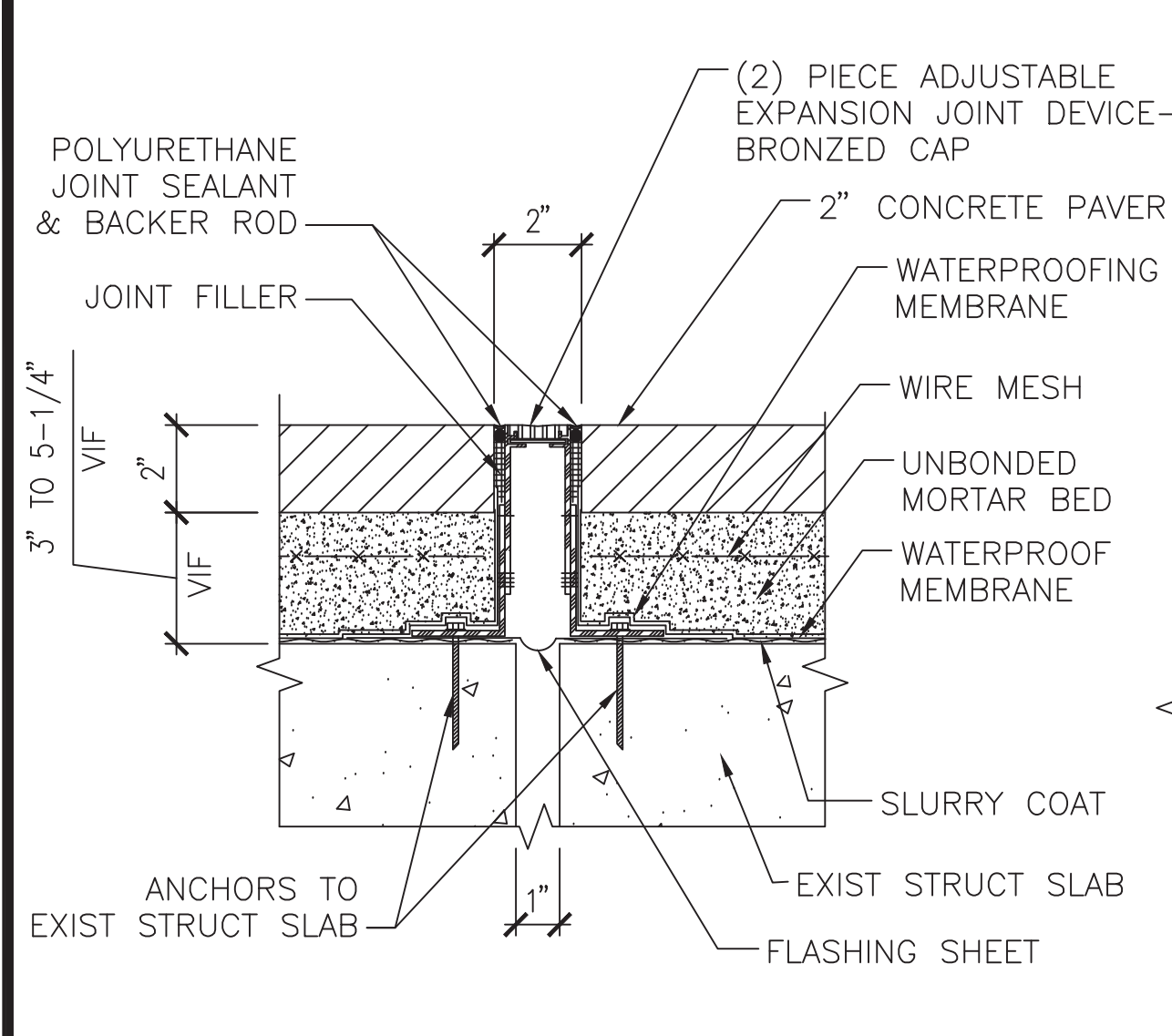
**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 SUBMITTED Brad Mason, P.E.  
 PROJECT MANAGER

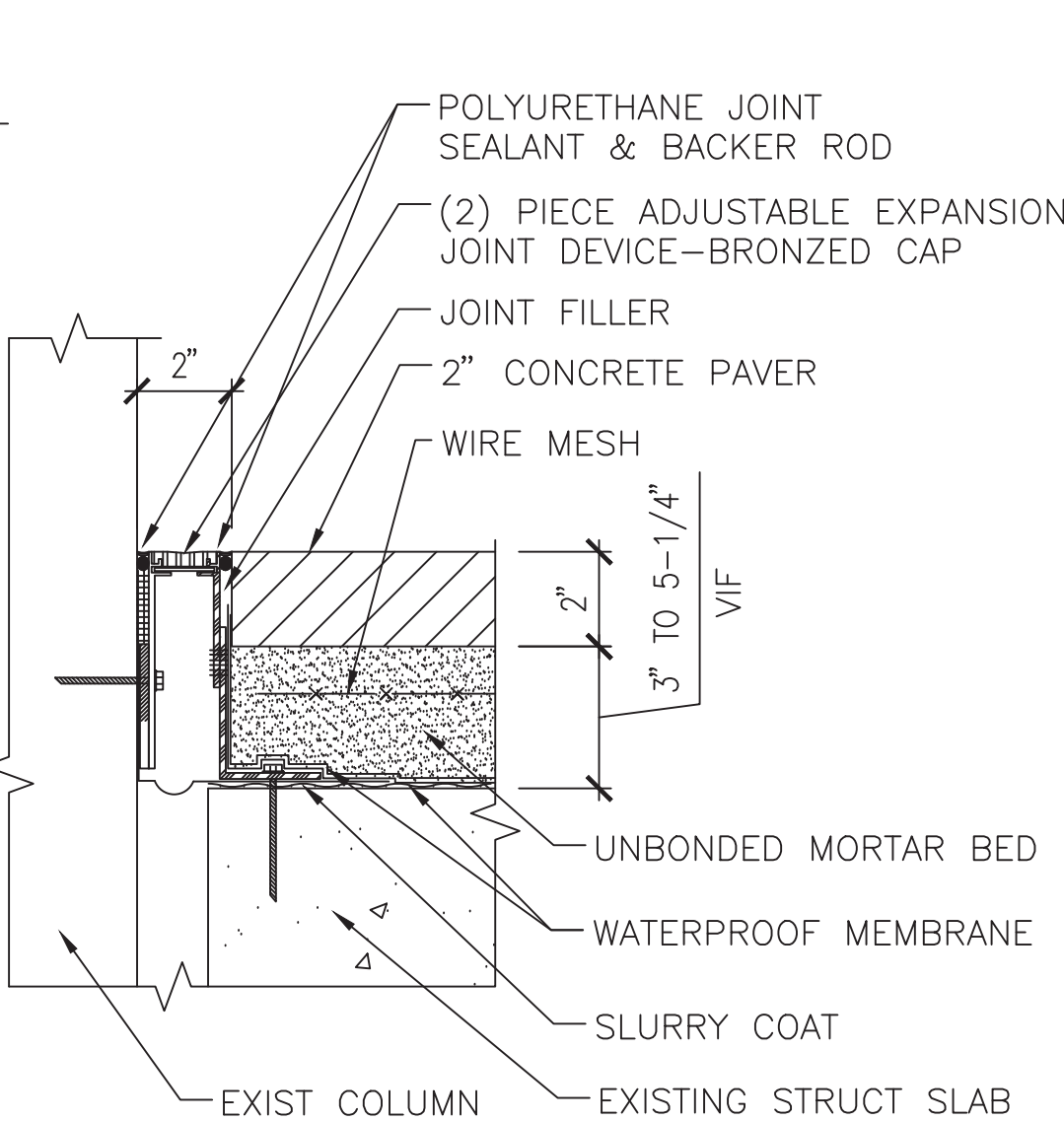
**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
 ENLARGED PARTIAL PLATFORM PLAN, DETAILS

SCALE AS SHOWN  
 DRAWING NO. A11-A-501  
 SHEET NO. M1272-149

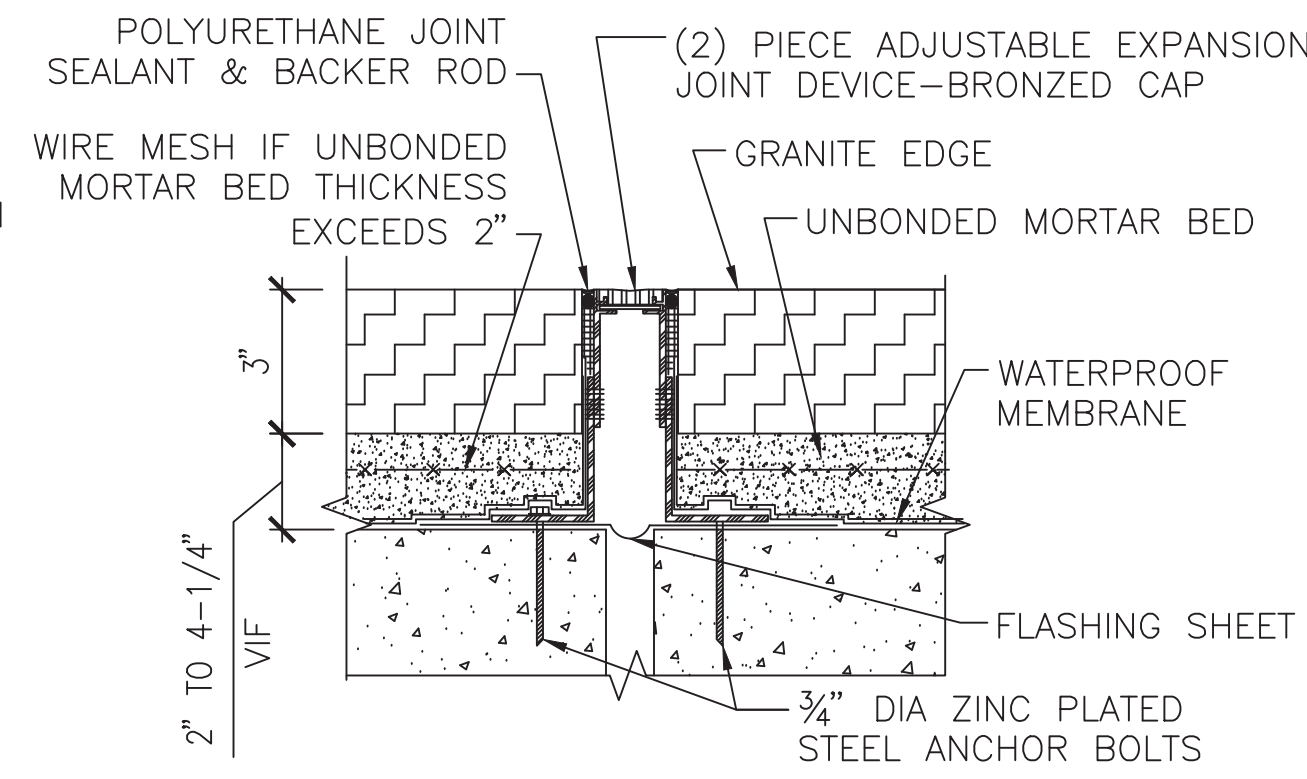




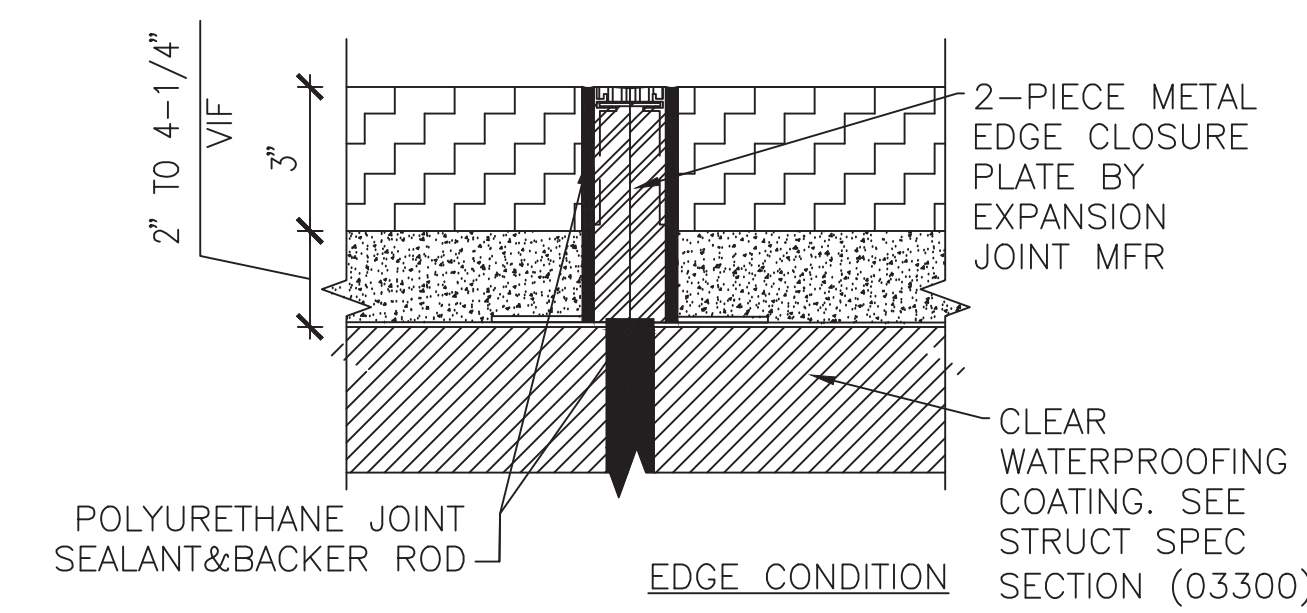
**1 EXPANSION JOINT DET**  
A-502 SCALE: 3"=1'-0"



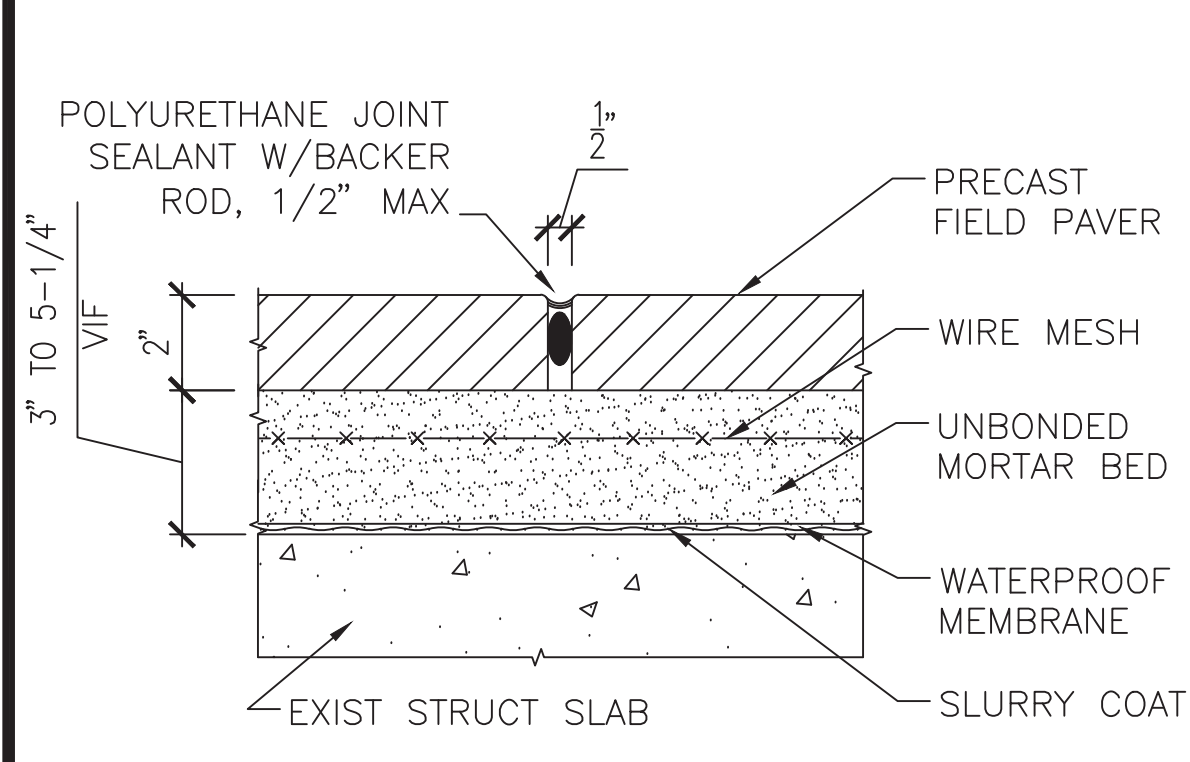
**1A EXPANSION JOINT @ COLUMN DET**  
A-502 SCALE: 3"=1'-0"



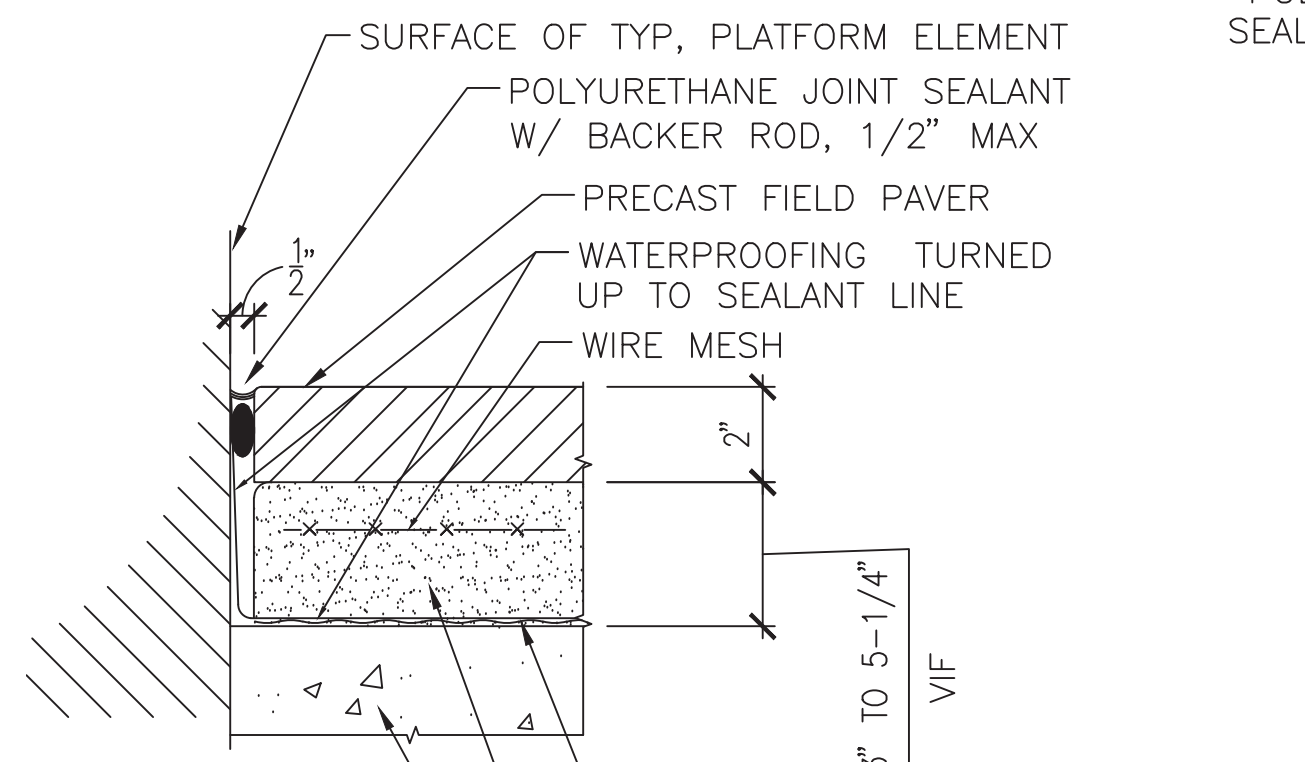
**1B EXPANSION JOINT @ GRANITE**  
A-502 SCALE: 3"=1'-0"



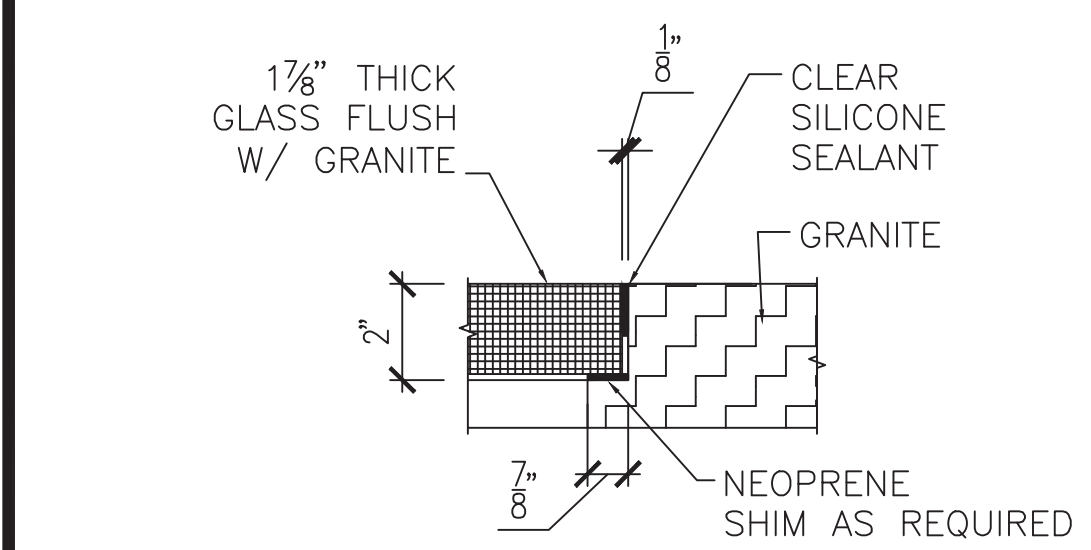
**1C ELEVATION EXPANSION JOINT @ GRANITE EDGE**  
A-502 SCALE: 3"=1'-0"



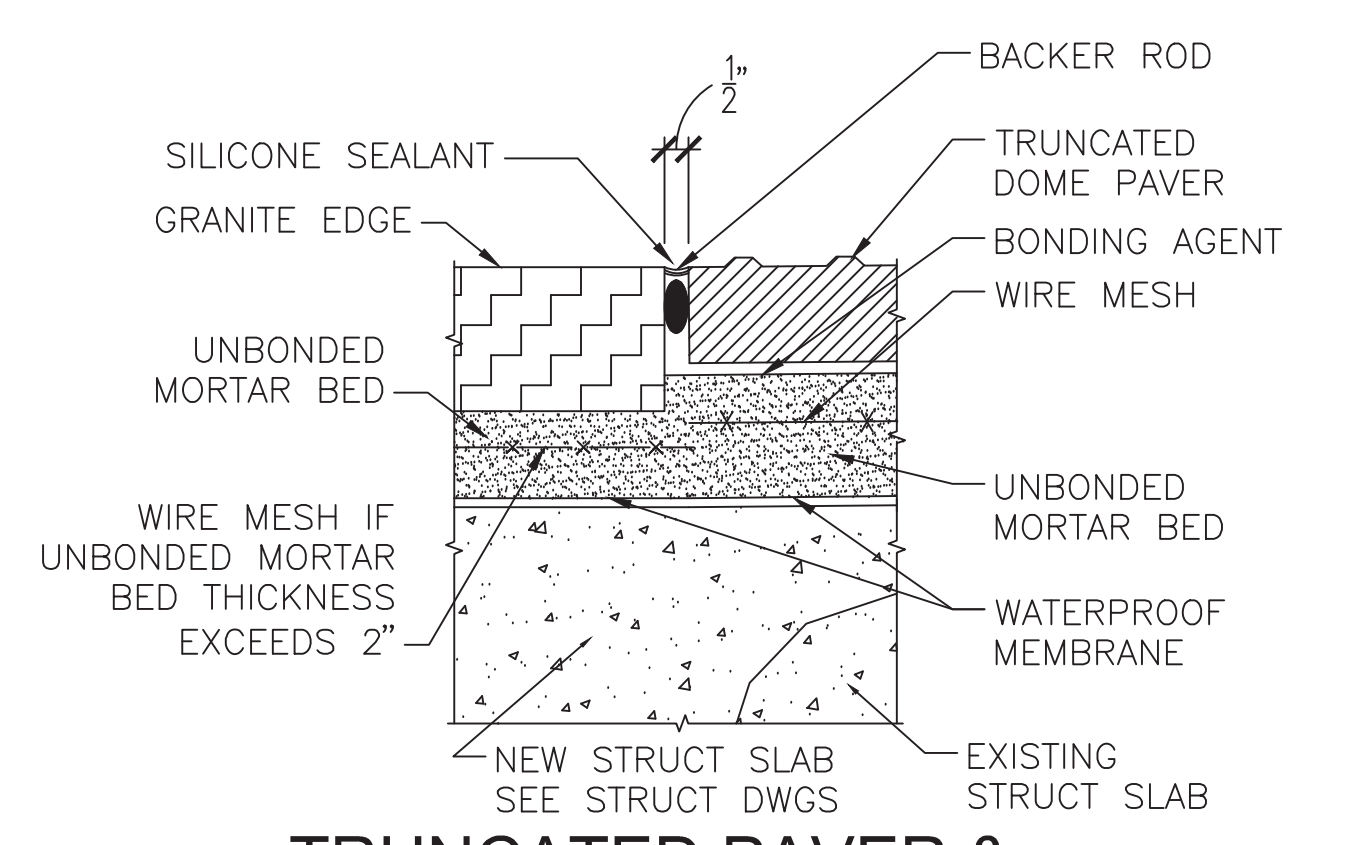
**2 1/2" CONTROL JOINT DET**  
A-502 SCALE: 3"=1'-0"



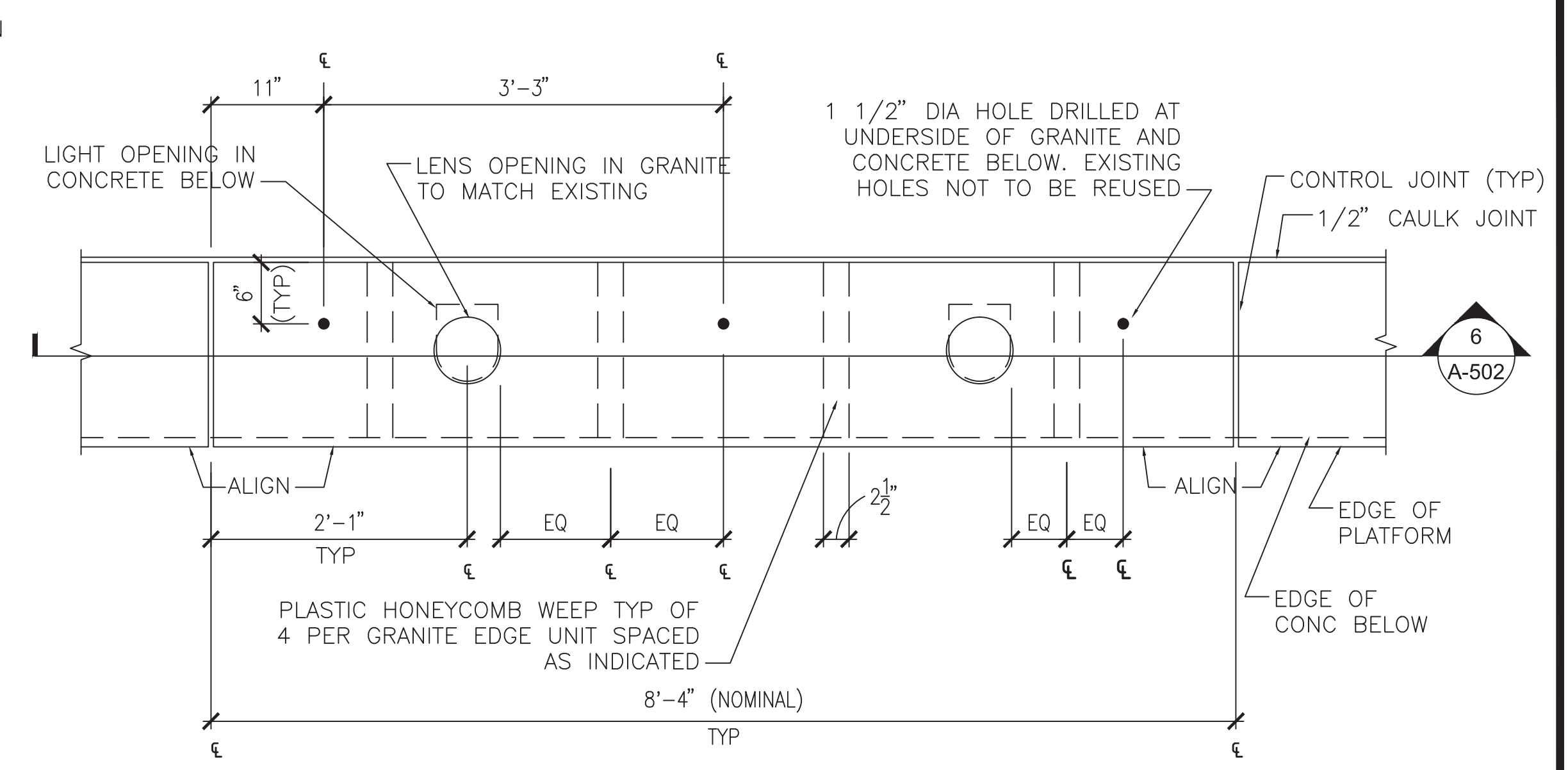
**2A 1/2" CONTROL JOINT DET @ WALL**  
A-502 SCALE: 3"=1'-0"



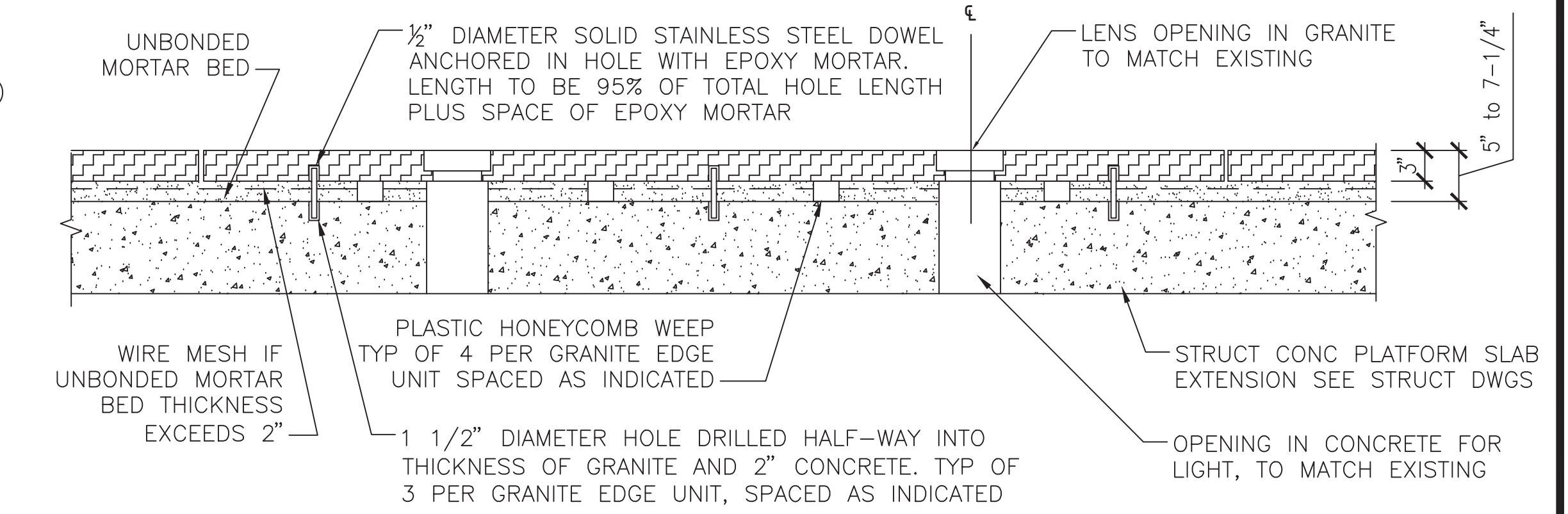
**3 GRANITE EDGE GLASS DET (TYP)**  
A-502 SCALE: 3"=1'-0"



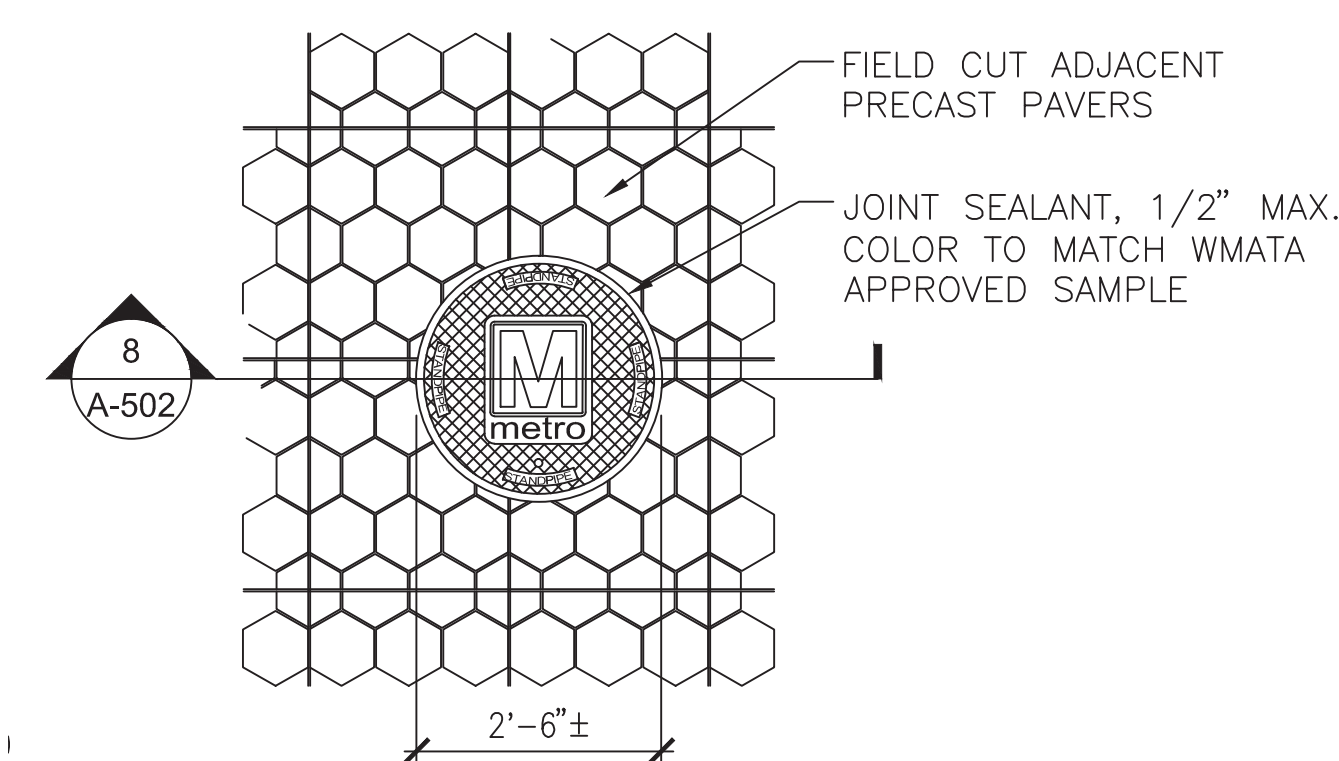
**4 TRUNCATED PAVER & GRANITE JOINT DET (TYP)**  
A-502 SCALE: 3"=1'-0"



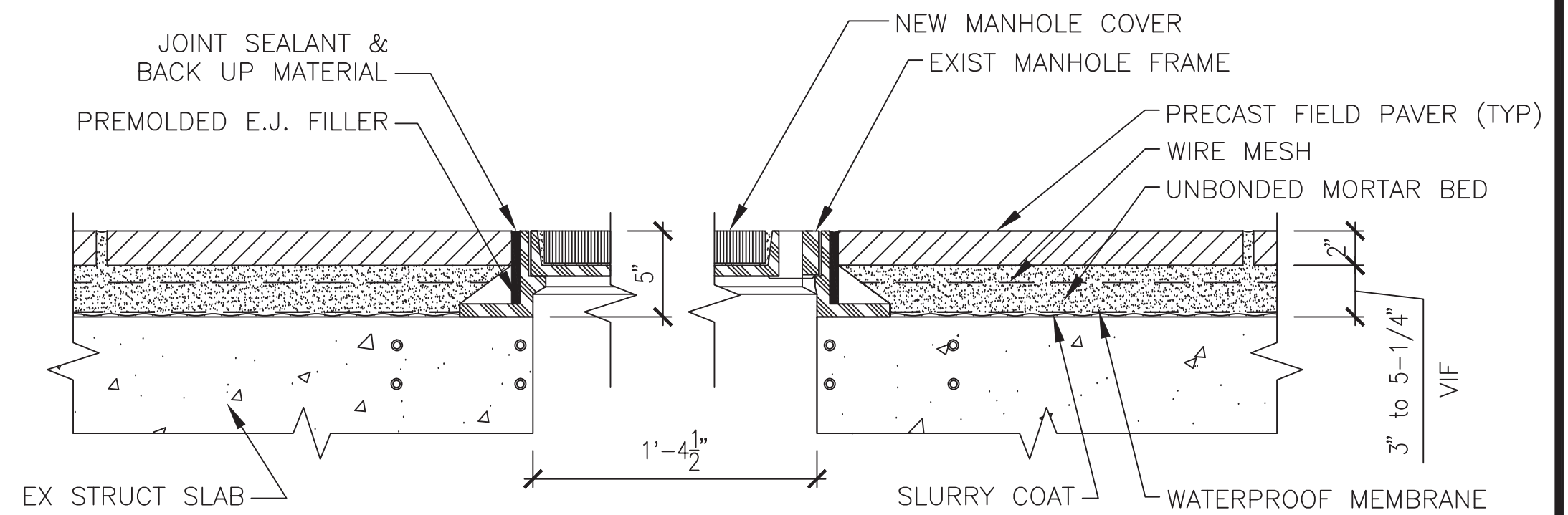
**5 GRANITE EDGE PLAN (TYP)**  
A-502 SCALE: 1"=1'-0"



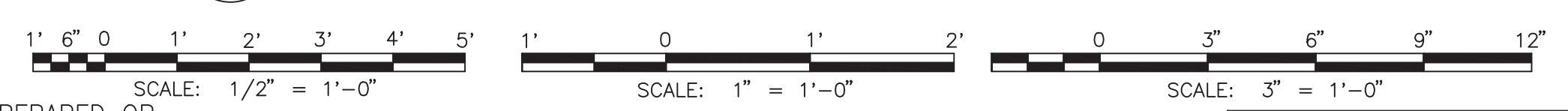
**6 GRANITE EDGE LONGITUDINAL SECTION (TYP)**  
A-502 SCALE: 1"=1'-0"



**7 MANHOLE COVER DETAIL**  
A-502 SCALE: 1/2"=1'-0"



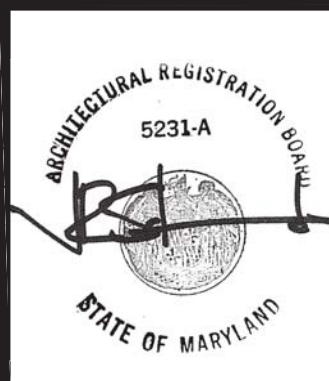
**8 NEW ACCESS MANHOLE SUPPORT**  
A-502 SCALE: 1/2"=1'-0"



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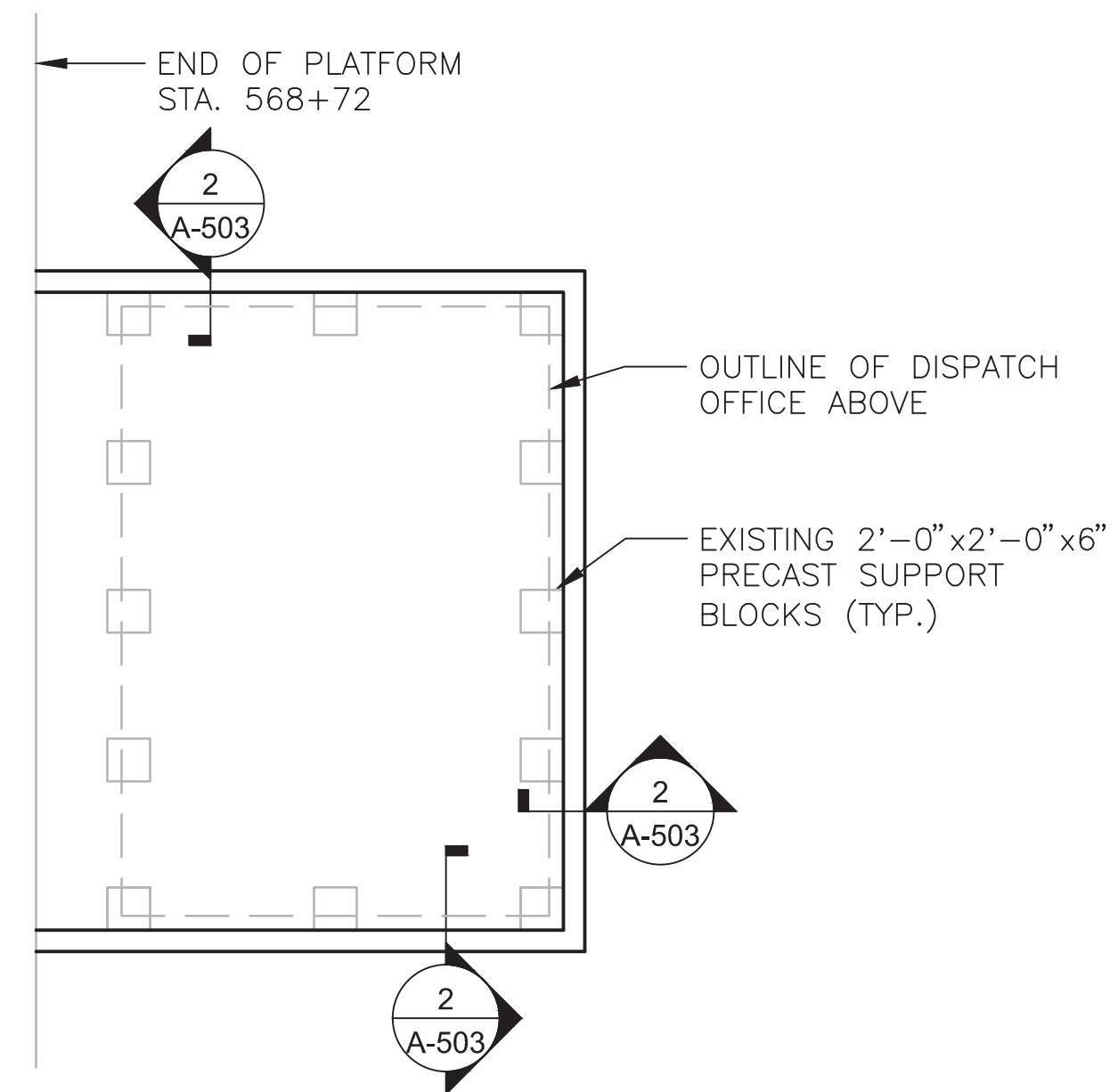
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SUBMITTED Brad Mason, P.E. PROJECT MANAGER

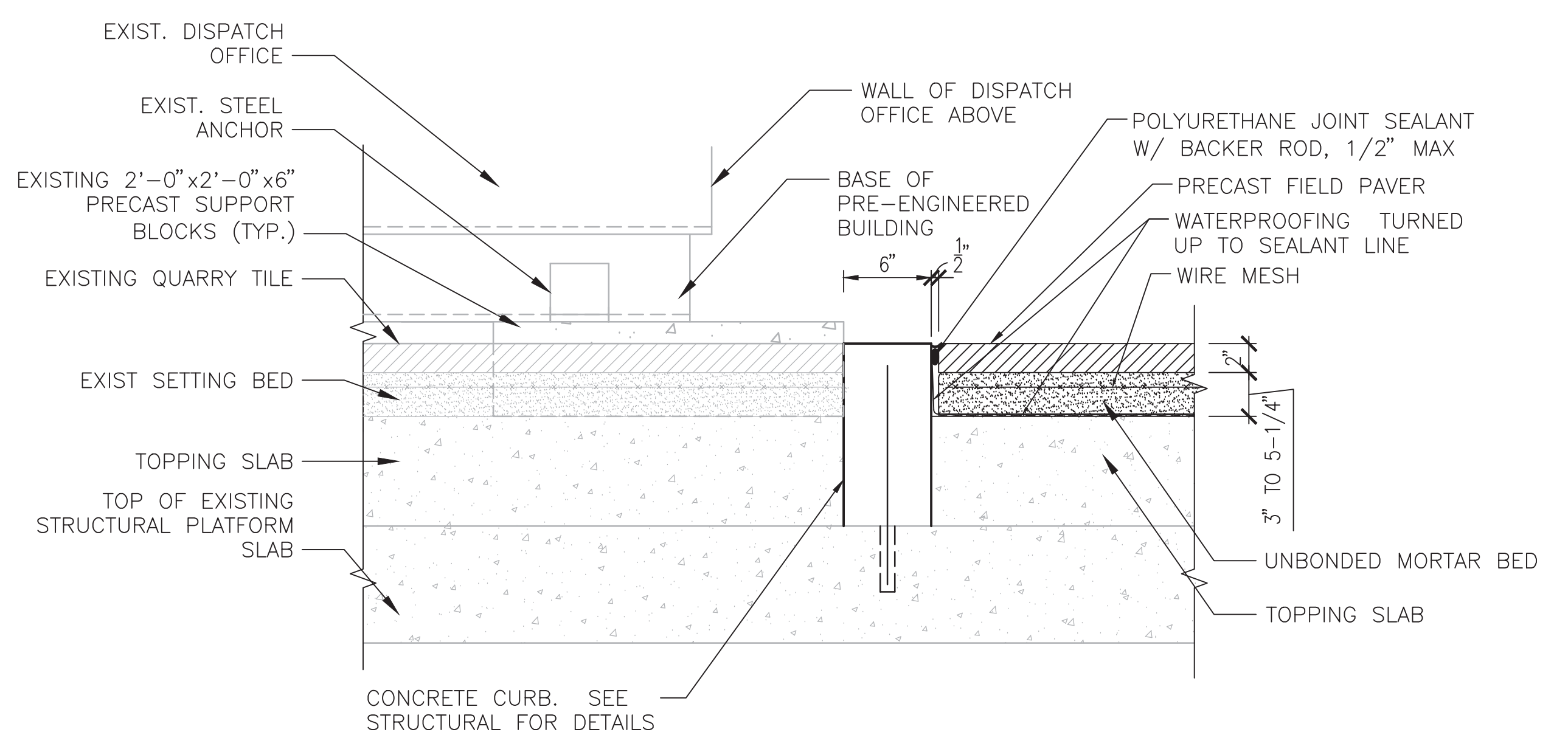
**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
ENLARGED PARTIAL PLATFORM PLAN, DETAILS

SCALE AS SHOWN DRAWING NO. A11-A-502 SHEET NO. M1272-150





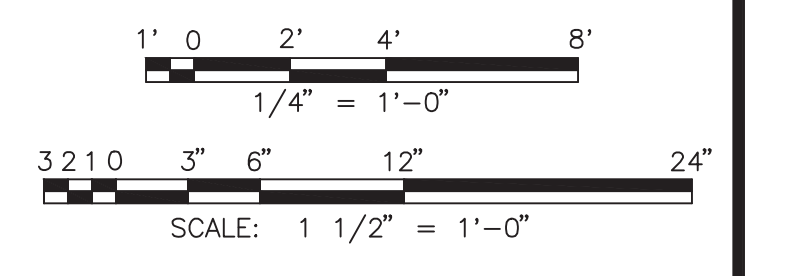
1 PLAN @ DISPATCHER'S OFFICE  
A-503 SCALE: 1-1/2"=1'-0"



2 SECTION  
A-503 SCALE: 1/4"=1'-0"

**NOTES:**

1. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS IN THE PLATFORM PRIOR TO DRILLING HOLES TO INSTALL NEW CURB.
2. DISPATCH OFFICE TO REMAIN IN PLACE DURING WORK.
3. TOP OF CURB TO MATCH ELEVATION OF TOP OF NEW PAVERS.



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 5231-A, EXPIRATION DATE: 05-18-2015."

FINAL CONTRACT NO. FQ15093

	REFERENCE DRAWINGS		REVISIONS	
	NUMBER	DESCRIPTION	DATE	DESCRIPTION
DESIGNED <u>JRS</u>	4/30/14			
	DATE			
DRAWN <u>AD</u>	7/16/14			
	DATE			
CHECKED <u>RES</u>	7/22/14			
	DATE			
APPROVED <u>JP</u>	7/28/14			
	DATE			



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

CONCRETE CURB DETAIL AT DISPATCHER'S OFFICE

SCALE AS SHOWN DRAWING NO. A11-A-503 SHEET NO. M1272-151



## STRUCTURAL GENERAL NOTES

### I - GENERAL

1. GENERAL NOTES ARE TO BE READ IN CONJUNCTION WITH THE TECHNICAL PROVISIONS, SPECIAL PROVISIONS AND THESE DRAWINGS.
2. ALL DIMENSIONS OF EXISTING STRUCTURES ARE NOMINAL UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LOCATIONS, DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES, UTILITIES, ETC. ANY DISCREPANCIES ARISING BETWEEN EXISTING CONDITIONS AND DETAILS SHOWN ON CONTRACT PLANS SHALL BE REPORTED TO THE AUTHORITY'S REPRESENTATIVE (A.R.) FOR RESOLUTION.
3. VERIFY AND PROPERLY DOCUMENT ALL EXISTING FIELD CONDITIONS.
4. ALL WORK IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH WMATA MANUAL OF DESIGN CRITERIA FOR MAINTENANCE AND CONTINUED OPERATION OF FACILITIES AND SYSTEMS, RELEASE 9, MAY 2008.
5. ALL PLAN DIMENSIONS SHALL BE MEASURED IN TRUE HORIZONTAL PLANE AND ALL VERTICAL DIMENSIONS SHALL BE MEASURED IN TRUE VERTICAL PLANE EXCEPT AS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE LOCATIONS AND SIZES OF ALL REQUIRED OPENINGS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS AND/OR OF ALL ELECTRICAL AND MECHANICAL UTILITIES TO BE DETACHED FROM AND ATTACHED TO THE STRUCTURE.
7. ANY DEVIATION FROM, OR IN FIELD ALTERATION TO THESE DRAWINGS, AND SPECIFICATIONS IS STRICTLY PROHIBITED WITHOUT PRIOR APPROVAL OF AUTHORITY'S REPRESENTATIVE (A.R.). ANY SUCH ALTERATIONS SHALL BE CORRECTED AT ONCE, WITH NO EXPENSE TO THE OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES REGARDLESS OF DISCREPANCIES IN THE CONTRACT DOCUMENTS. NO ADDITIONAL COSTS WILL BE PAID BY THE OWNER TO RECTIFY WORK TO BE RELOCATED DUE TO LACK OF JOBSITE COORDINATION.
9. EMBEDDED ITEMS REQUIRED FOR WORK OF THE VARIOUS TRADES ARE NOT SHOWN IN THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL REFER TO DRAWINGS OF VARIOUS TRADES FOR ALL INSERT, ANCHOR BOLTS, CONDUITS, PIPES AND ANY OTHER NON-STRUCTURAL ITEMS. WORK SHALL BE COORDINATED WITH THE VARIOUS TRADES TO AVOID CONFLICT OR INTERFERENCE WITH REINFORCING STEEL OR STRUCTURAL STEEL MEMBERS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE A.R. PRIOR TO PERFORMING WORK.
10. NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL STRUCTURAL WORK UNLESS OTHERWISE NOTED. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF A SIMILAR NATURE, VERIFY APPLICABILITY BY SUBMITTING SHOP DRAWINGS FOR REVIEW.
11. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONAL INFORMATION.
12. DO NOT CUT OR ALTER ANY EXISTING STRUCTURAL MEMBER WITHOUT WRITTEN AUTHORIZATION OF THE A.R. UNLESS OTHERWISE SHOWN IN DRAWINGS.
13. AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOBSITE INCLUDING SAFETY OF PERSONS AND PROPERTY. THE A.R. PRESENCE OR REVIEW OF WORK DOES NOT INCLUDE THE ADEQUACY OF THE CONTRACTOR'S MEANS OR METHODS OF CONSTRUCTION.
14. SHORING, BRACING AND PROTECTION OF EXISTING AND ADJACENT STRUCTURES DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PROTECT AND MAINTAIN THE INTEGRITY OF ADJACENT STRUCTURES.
15. DRAWINGS HAVE BEEN PREPARED BASED ON AVAILABLE KNOWLEDGE OF EXISTING CONDITIONS. PRIOR TO PREPARATION OF SHOP DRAWINGS. CONTRACTOR SHALL VERIFY AND/OR DETERMINE SIZE, LOCATION, CONFIGURATION, ETC. OF EXISTING STRUCTURE AT EVERY LOCATION WHERE NEW WORK IS TO ABUT, ATTACH, CLEAR, ETC. WITH EXISTING WORKS. NOTIFY A.R. IN WRITING OF ANY AND ALL CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON DRAWINGS.
16. DIMENSIONS INDICATED THROUGHOUT THE DRAWING SET ARE BASED ON WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA) ISSUED RECORD DRAWINGS. THOSE DIMENSIONS TO BE VERIFIED IN FIELD. ANY VARIATION TO DIMENSIONS INDICATED SHOULD BE PROVIDED TO THE A.R.

17. DEMOLITION, CUTTING, AND PATCHING OF ANY MATERIALS OR FIXTURES REQUIRED TO CONSTRUCT THE PROJECT IS HEREIN MADE A PART OF THESE CONTRACT DOCUMENTS.
18. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS.
19. ALL WORK INDICATED OR SHOWN GRAPHICALLY AS "EXISTING TO REMAIN" WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND WORK AROUND WITHOUT DISTURBING. IF DAMAGED, THE CONTRACTOR WILL REPLACE OR REPAIR AT THE AUTHORITY'S DIRECTION AT NO ADDITIONAL COST TO THE OWNER.
20. WHEN ANCHORING, SHOOTING, DRILLING, CHIPPING, OR CORING INTO CONCRETE, THE AREA SHALL BE X-RAYED, FERRO SCANNED, OR SCANNED USING GROUND PENETRATION RADAR (GPR) PRIOR TO START OF WORK. DO NOT CUT OR NICK EXISTING REINFORCING.

### II - DESIGN CRITERIA

#### A. DESIGN CODES AND SPECIFICATIONS:

1. WMATA MANUAL OF DESIGN CRITERIA RELEASE 9, 2008.
2. 2012 INTERNATIONAL BUILDING CODE.
3. REINFORCED CONCRETE SLABS: ACI 318-11, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
4. STRUCTURAL STEEL: AISC. STEEL CONSTRUCTION MANUAL, NINTH EDITION.

#### B. DESIGN LOADS

1. DEAD LOADS, SHALL BE ACTUAL CALCULATED WEIGHT OF MATERIAL AND PERMANENTLY AFFIXED ITEMS.
2. LIVE LOADS FOR PLATFORM: UNIFORM 150 PSF

#### C. MATERIALS

1. CONCRETE: CAST-IN-PLACE,  $f'c=5000$  PSI
2. REINFORCING STEEL: ASTM A615, GRADE 60,  $f_y=60$  KSI

### III - REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. REINFORCEMENT DETAILS SHALL CONFORM TO THE REQUIREMENTS OF ACI DETAILING MANUAL 2004.
3. ALL DIMENSIONS TO REINFORCING ARE TO CENTERLINE OF BAR UNLESS OTHERWISE NOTED.
4. CONCRETE PROTECTION FOR MAIN REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:  
  
 TOP BARS: 1" CLEAR TO MATCH W/ EXISTING REBAR  
 SIDE BARS: 2" CLEAR COVER  
 BOTTOM BARS: 1½" CLEAR COVER

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44217, EXPIRATION DATE 07-11-2015."

### IV - CONSTRUCTION

1. ALL SURFACES SHOWN VERTICAL ARE TO BE CONSTRUCTED TRULY VERTICAL, EXCEPT AS NOTED OTHERWISE.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾" x ¾", UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION SEQUENCE TO THE A.R. FOR REVIEW PRIOR TO COMMENCING ANY DEMOLITION OR CONSTRUCTION ACTIVITIES. SUBMITTAL SHALL INCLUDE, BUT NOT LIMITED TO THE SEQUENCE OF SLAB REMOVAL AND INSTALLATION INCLUDING DETAILED DESIGN OF TEMPORARY SHORING.
4. ALL NON-KEYED CONSTRUCTION JOINTS SHALL BE ROUGHENED IN ACCORDANCE WITH ACI 318-11, AND BONDED WITH AN APPROVED BONDING AGENT.
5. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS IN THE PLATFORM PRIOR TO DRILLING HOLES TO GROUT IN NEW REINFORCING.
6. TYPICAL REPAIR DETAILS FOR CRACKS AND SPALLING IN STRUCTURAL PLATFORM SLAB ARE PROVIDED. CONTRACTOR SHALL COORDINATE THE EXTENT AND REPAIR REQUIRED WITH THE A.R. PRIOR TO STARTING REPAIR WORK.
7. ALL UTILITIES SUCH AS PIPING, CABLES, CONDUITS AND ARCHITECTURAL ELEMENTS SHALL BE TEMPORARILY RELOCATED OR PROTECTED TO PREVENT THE NEED FOR REMEDIAL WORK PRIOR TO RESUMING RAIL OPERATIONS.
8. THE CONTRACTOR SHALL TAKE NECESSARY STEPS TO PREVENT THE REMOVED MATERIAL FROM ENTERING THE EXISTING DRAINAGE FACILITIES.
9. THE CONTRACTOR SHALL REMOVE THE DEBRIS RESULTING FROM DEMOLITION WORK TO A LOCATION OUTSIDE THE AUTHORITY'S RIGHT-OF-WAY PRIOR TO RESUMING FULL RAIL OPERATION OR TO PRE-APPROVED STAGING AREAS. ALL REMOVED MATERIALS AND DEBRIS TO BE DISPOSED OF PROPERLY AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL PROVIDE TEMPORARY DECKING IF PAVER WORK WILL NOT BE COMPLETED PRIOR TO PEDESTRIAN TRAFFIC ACCESS TO THE PLATFORM. CONTRACTOR SHALL SUBMIT DETAILS AND MATERIALS OF THE TEMPORARY DECKING TO A.R. PRIOR TO USE FOR REVIEW AND APPROVAL.

### ABBREVIATIONS

A.R.	AUTHORITY'S REPRESENTATIVE
ARCH.	ARCHITECTURAL
BOTT.	BOTTOM
℄	CENTERLINE
C/C	CENTER TO CENTER
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
DET.	DETAIL
DWG.	DRAWING
EXIST.	EXISTING
EXP.	EXPANSION
FIN.	FINISH
FLR.	FLOOR
GALV.	GALVANIZED
JT.	JOINT
MAX.	MAXIMUM
MEZZ.	MEZZANINE
MIN.	MINIMUM
OPP.	OPPOSITE
PROP.	PROPOSED
REINF.	REINFORCING
SIM.	SIMILAR
STA.	STATION
STRUC.	STRUCTURAL
T/R	TOP OF RAIL
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED

FINAL

CONTRACT NO. **FQ15093**

DESIGNED	MP	1/23/15 DATE	REFERENCE DRAWINGS		REVISIONS		
			NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
DRAWN	LN	1/23/15 DATE					
CHECKED	DB	1/23/15 DATE					
APPROVED	DB	1/23/15 DATE					



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE  
AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER

## RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

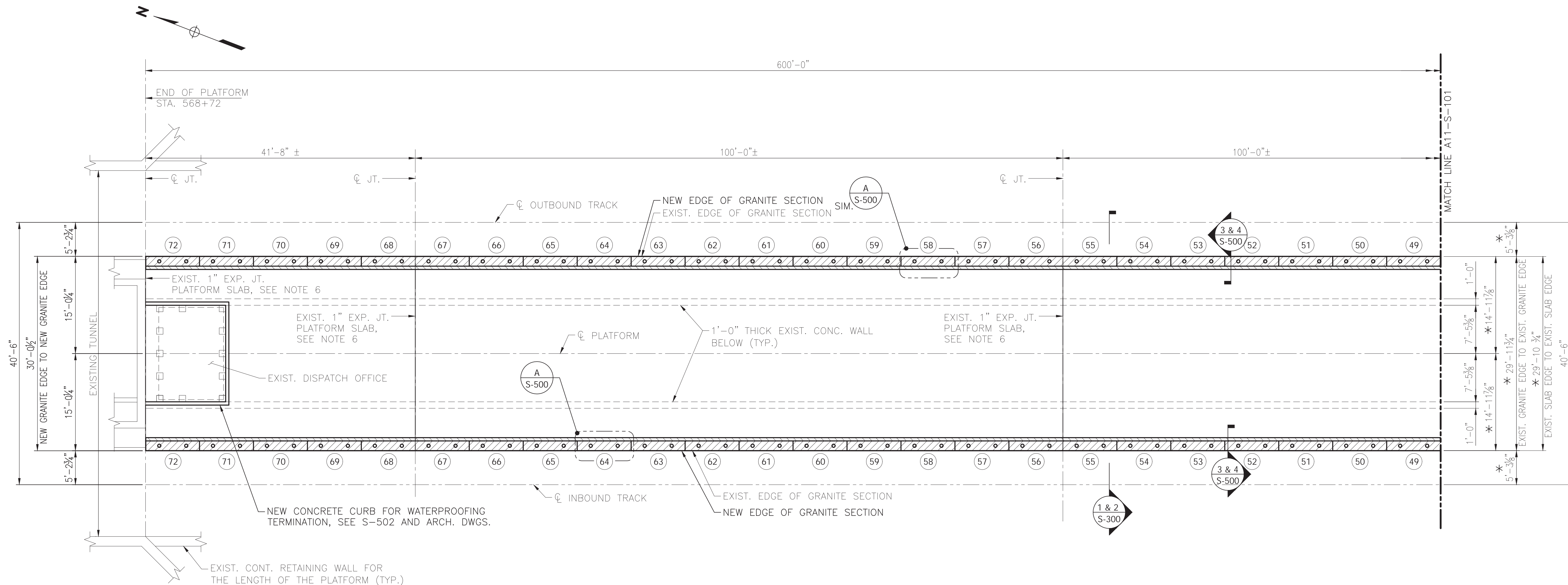
GROSVENOR STATION - STRUCTURAL  
GENERAL NOTES AND ABBREVIATIONS

SCALE  
AS SHOWN

DRAWING NO.  
A11-S-001

SHEET NO.  
M1272-152



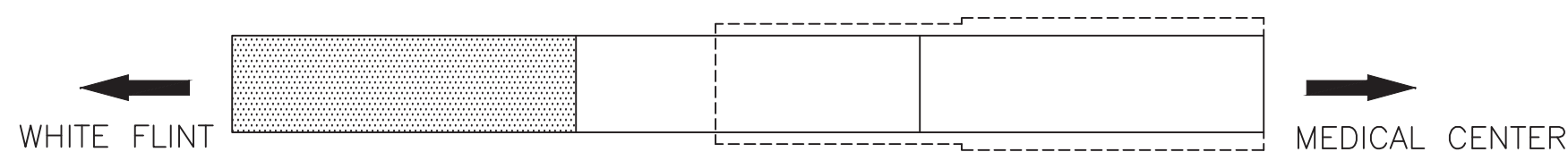


**1**  
S-100  
**PARTIAL PLATFORM PLAN - SLAB REMOVAL & REPLACEMENT LIMITS**  
SCALE: 1/8" = 1'-0"  
2' 0" 2' 4" 6" 10" 14"  
1/8" = 1'-0"

\* EXISTING DIMENSIONS PER WMATA RECORD DRAWINGS ARE PROVIDED TO REPRESENT EXISTING CONDITIONS ONLY. RECONSTRUCTION TO MEET WMATA PCAR REQUIREMENTS. SEE ARCHITECTURAL AND CIVIL DRAWINGS.

**LEGEND**

- OVERHANG SLAB SAWCUT REMOVAL AND REPLACEMENT LIMIT
- OVERHANG SLAB HAND CHIPPING SLAB REMOVAL AND REPLACEMENT LIMIT



**KEY PLAN**  
NOT TO SCALE

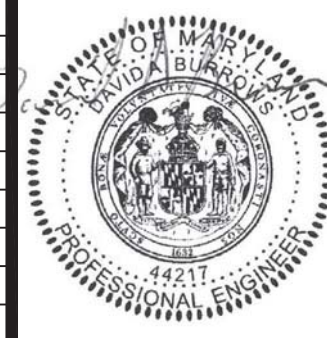
**NOTES:**

1. FOR GENERAL NOTES, REFER TO DRAWING S-001.
2. HATCHED AREAS DENOTE CANTILEVER SLAB SEGMENTS TO BE REMOVED AND REPLACED, SEE LEGEND.
3. FOR PLATFORM SECTIONS, REFER TO S-300 SERIES DRAWINGS.
4. FOR DETAILS, REFER TO S-500 SERIES DRAWINGS.
5. SLAB REMOVAL LIMITS HAVE BEEN DETERMINED BASED ON LIMITED VISUAL INSPECTION AND CONCRETE MATERIAL TESTING. CONTRACTOR SHALL VERIFY COMPETENCY OF THE REMAINING OVERHANG SLAB CONCRETE IN THE FIELD AND SHALL ADJUST REMOVAL LIMIT AS DIRECTED BY AUTHORITY'S REPRESENTATIVE.
6. FOR RECONSTRUCTION OF EXP. JT., REFER TO ARCHITECTURAL DRAWINGS.
7. SOME GRANITE SECTIONS ARE DAMAGED AND REQUIRE REPLACEMENT. SEE ARCH. DWGS.
8. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS IN THE PLATFORM PRIOR TO DRILLING HOLES FOR ELECTRICAL CONDUITS TO BE CENTERED AT DIORAMAS. SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44217, EXPIRATION DATE 07-11-2015."

FINAL CONTRACT NO. **FQ15093**

DESIGNED	MP	1/23/15 DATE	REFERENCE DRAWINGS		REVISIONS		
			NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
DRAWN	LN	1/23/15 DATE					
CHECKED	DB	1/23/15 DATE					
APPROVED	DB	1/23/15 DATE					



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE  
AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



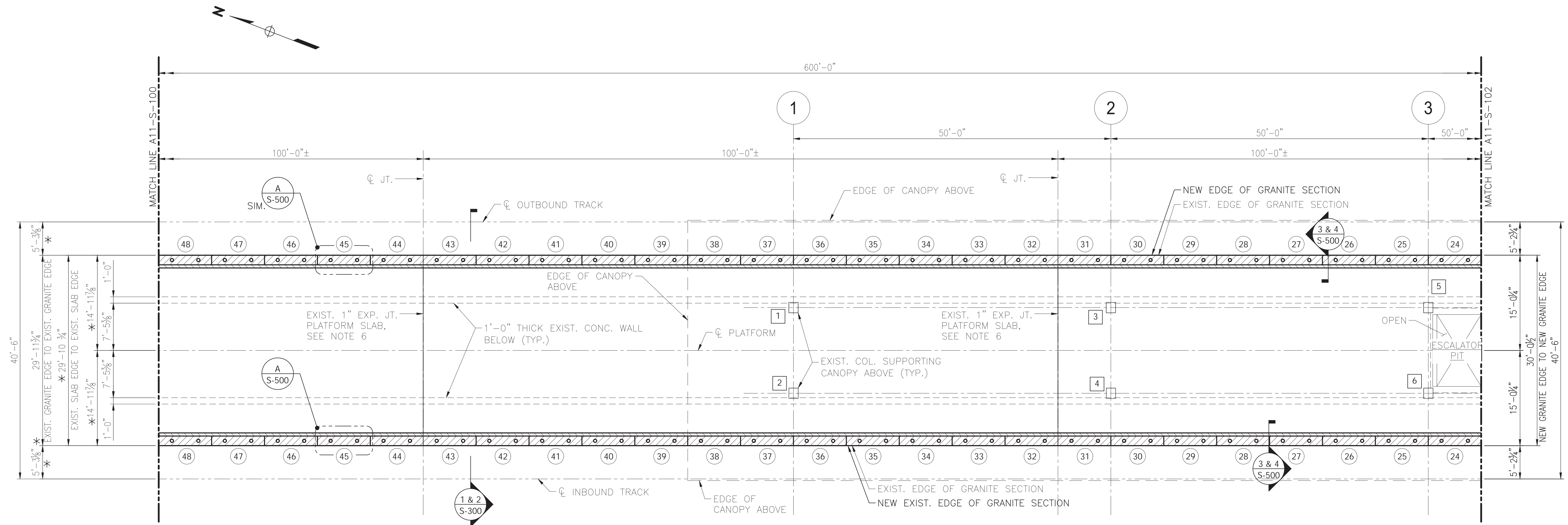
SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

GROSVENOR STATION - STRUCTURAL  
SLAB REMOVAL & REPLACEMENT PLAN 1 OF 3

SCALE AS SHOWN DRAWING NO. **A11-S-100** SHEET NO. **M1272-153**



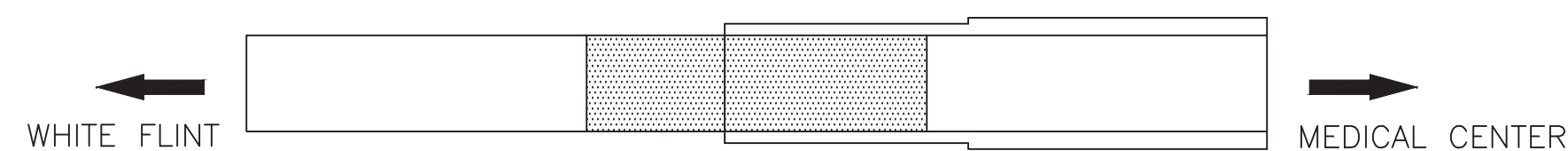


1 PARTIAL PLATFORM PLAN - SLAB REMOVAL & REPLACEMENT LIMITS  
 SCALE: 1/8" = 1'-0"

\* EXISTING DIMENSIONS PER WMATA RECORD DRAWINGS ARE PROVIDED TO REPRESENT EXISTING CONDITIONS ONLY. RECONSTRUCTION TO MEET WMATA PCAR REQUIREMENTS. SEE ARCHITECTURAL AND CIVIL DRAWINGS.

LEGEND

- OVERHANG SLAB SAWCUT REMOVAL AND REPLACEMENT LIMIT
- OVERHANG SLAB HAND CHIPPING SLAB REMOVAL AND REPLACEMENT LIMIT
- DENOTES CONCRETE CANOPY OR MEZZANINE COLUMN NUMBER



KEY PLAN  
 NOT TO SCALE

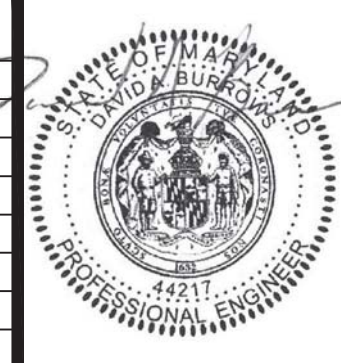
NOTES:

1. SEE NOTES ON DRAWING S-100.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44217, EXPIRATION DATE 07-11-2015."

FINAL CONTRACT NO. FQ15093

DESIGNED	MP	1/23/15	REFERENCE DRAWINGS		REVISIONS	
			NUMBER	DESCRIPTION	DATE	BY
DRAWN	LN	1/23/15				
CHECKED	DB	1/23/15				
APPROVED	DB	1/23/15				



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED \_\_\_\_\_  
 PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

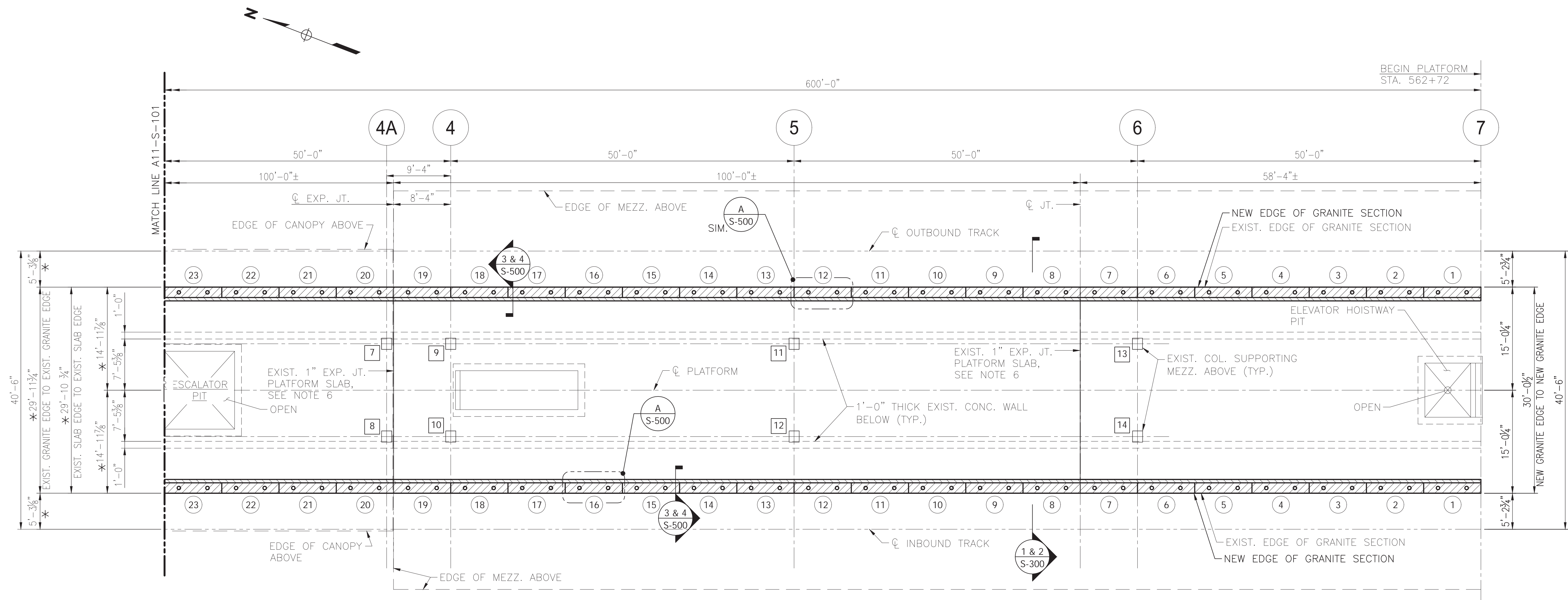
GROSVENOR STATION - STRUCTURAL  
 SLAB REMOVAL & REPLACEMENT PLAN 2 OF 3

SCALE AS SHOWN

DRAWING NO. A11-S-101

SHEET NO. M1272-154





**1 PARTIAL PLATFORM PLAN - SLAB REMOVAL & REPLACEMENT LIMITS**

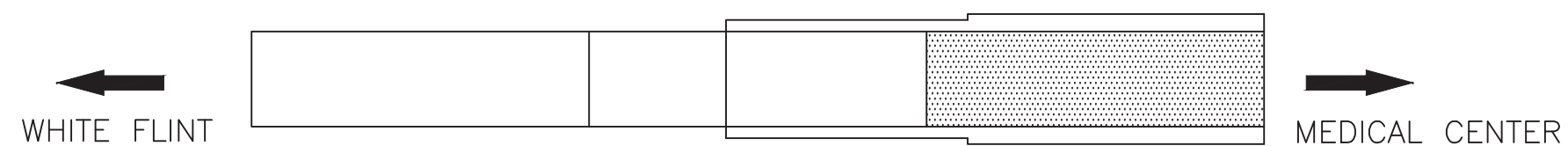
SCALE: 1/8" = 1'-0"

\* EXISTING DIMENSIONS PER WMATA RECORD DRAWINGS ARE PROVIDED TO REPRESENT EXISTING CONDITIONS ONLY. RECONSTRUCTION TO MEET WMATA PCAR REQUIREMENTS. SEE ARCHITECTURAL AND CIVIL DRAWINGS.

**LEGEND**

- OVERHANG SLAB SAWCUT REMOVAL AND REPLACEMENT LIMIT
- OVERHANG SLAB HAND CHIPPING SLAB REMOVAL AND REPLACEMENT LIMIT

DENOTES CONCRETE CANOPY OR MEZZANINE COLUMN NUMBER



**KEY PLAN**  
NOT TO SCALE

**NOTES:**

1. SEE NOTES ON DRAWING S-100.

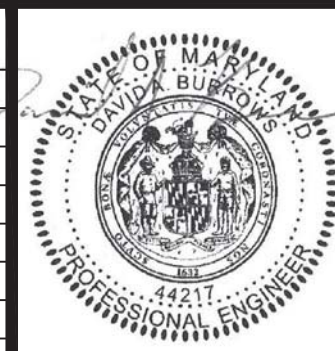
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44217, EXPIRATION DATE 07-11-2015."

FINAL CONTRACT NO. FQ15093

DESIGNED	MP	1/23/15
DRAWN	LN	1/23/15
CHECKED	DB	1/23/15
APPROVED	DB	1/23/15

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS	
NUMBER	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

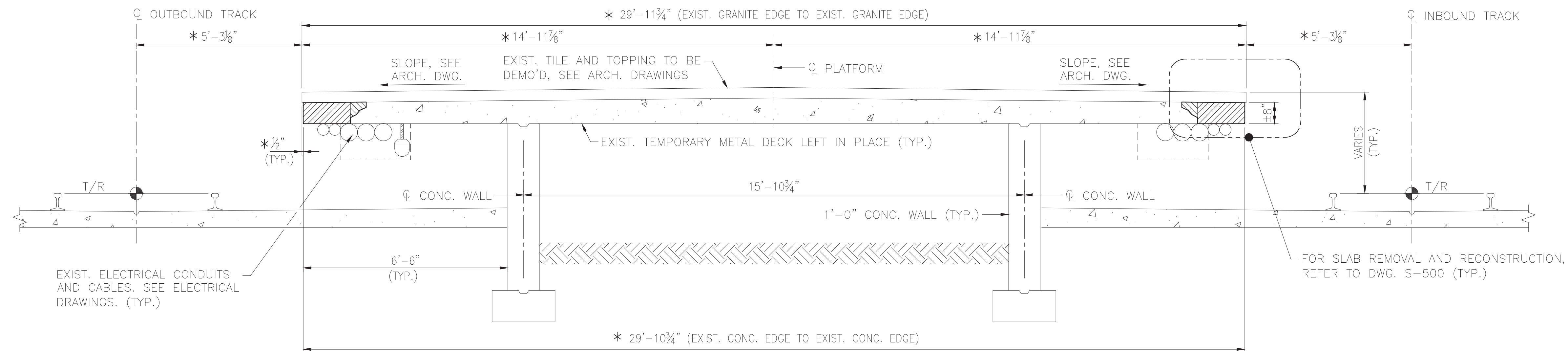
GROSVENOR STATION - STRUCTURAL  
SLAB REMOVAL & REPLACEMENT PLAN 3 OF 3

SCALE AS SHOWN

DRAWING NO. A11-S-102

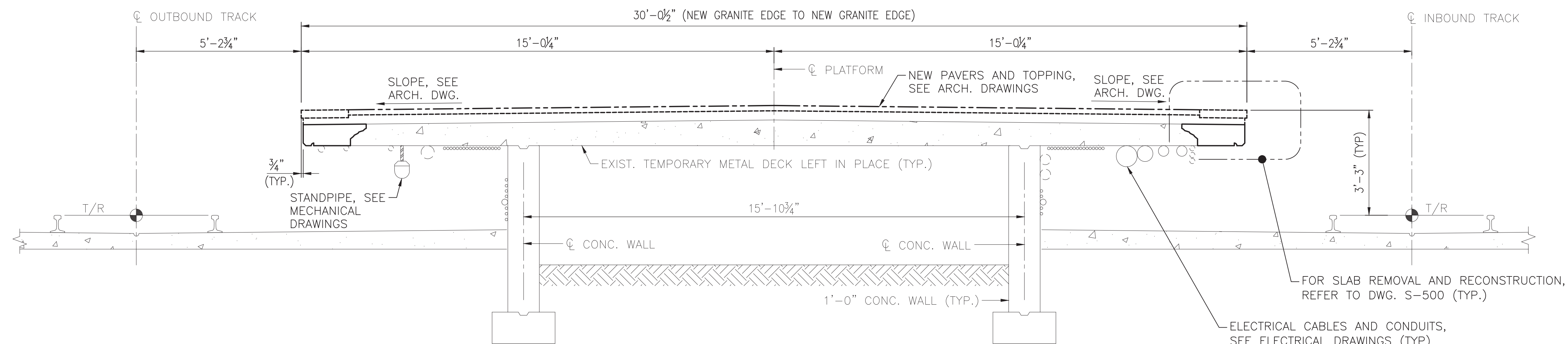
SHEET NO. M1272-155





1  
S-100  
**EXISTING PLATFORM SECTION**  
SCALE: 1/2" = 1'-0"

\* EXISTING DIMENSIONS PER WMATA RECORD DRAWINGS ARE PROVIDED TO REPRESENT EXISTING CONDITIONS ONLY. RECONSTRUCTION TO MEET WMATA PCAR REQUIREMENTS. SEE ARCHITECTURAL AND CIVIL DRAWINGS.



2  
S-100  
**NEW PLATFORM SECTION**  
SCALE: 1/2" = 1'-0"

**NOTES:**

1. FOR GENERAL NOTES, REFER TO DRAWING S-001.
2. FOR DETAILS, REFER TO S-500 SERIES DRAWINGS.

**LEGEND**

- OVERHANG SLAB SAWCUT REMOVAL AND REPLACEMENT LIMIT
- OVERHANG SLAB HAND CHIPPING SLAB REMOVAL AND REPLACEMENT LIMIT

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44217, EXPIRATION DATE 07-11-2015."

FINAL

CONTRACT NO. FQ15093

DESIGNED	MP	1/23/15
DRAWN	LN	1/23/15
CHECKED	DB	1/23/15
APPROVED	DB	1/23/15

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

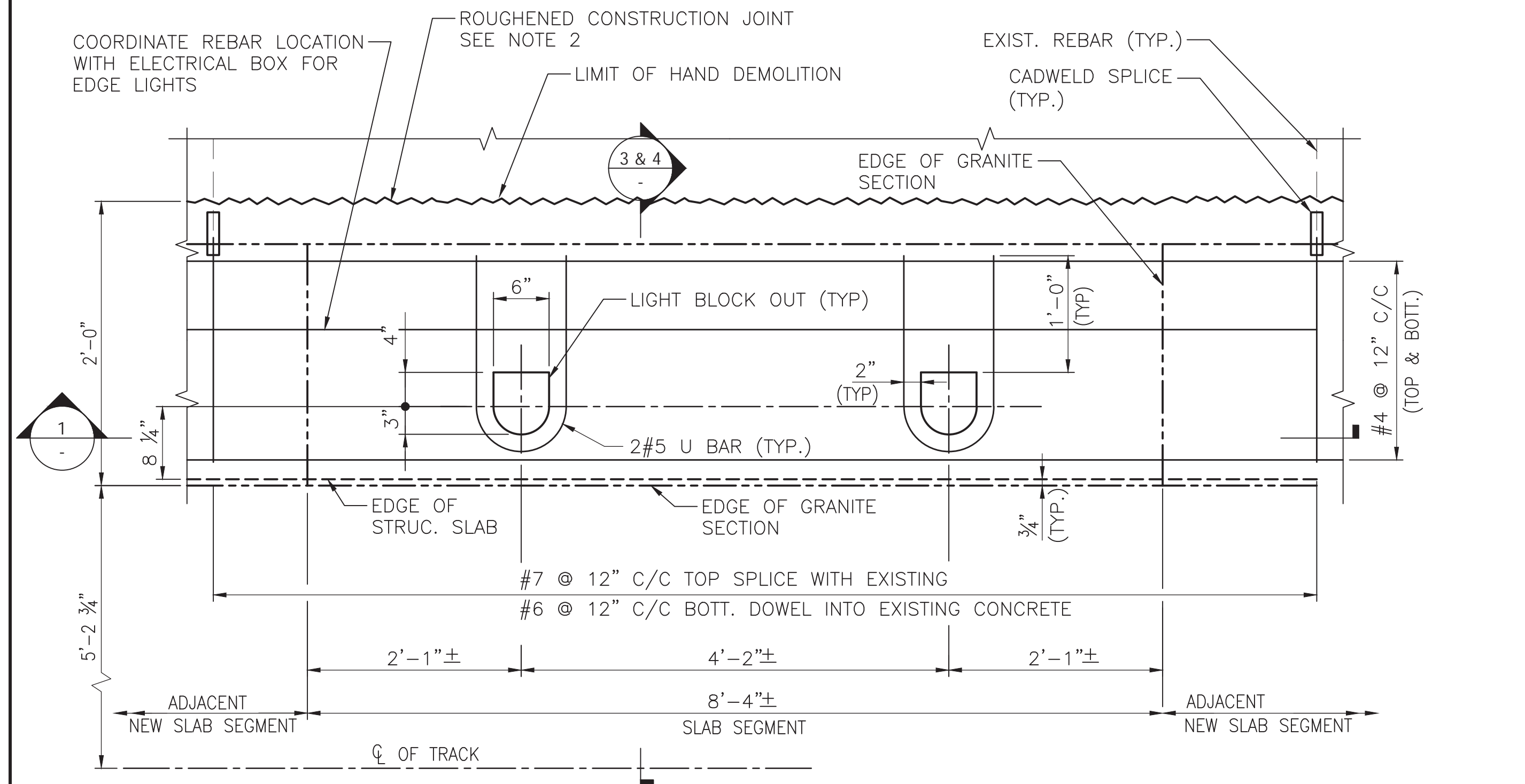
**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION - STRUCTURAL PLATFORM SECTIONS**

SCALE AS SHOWN

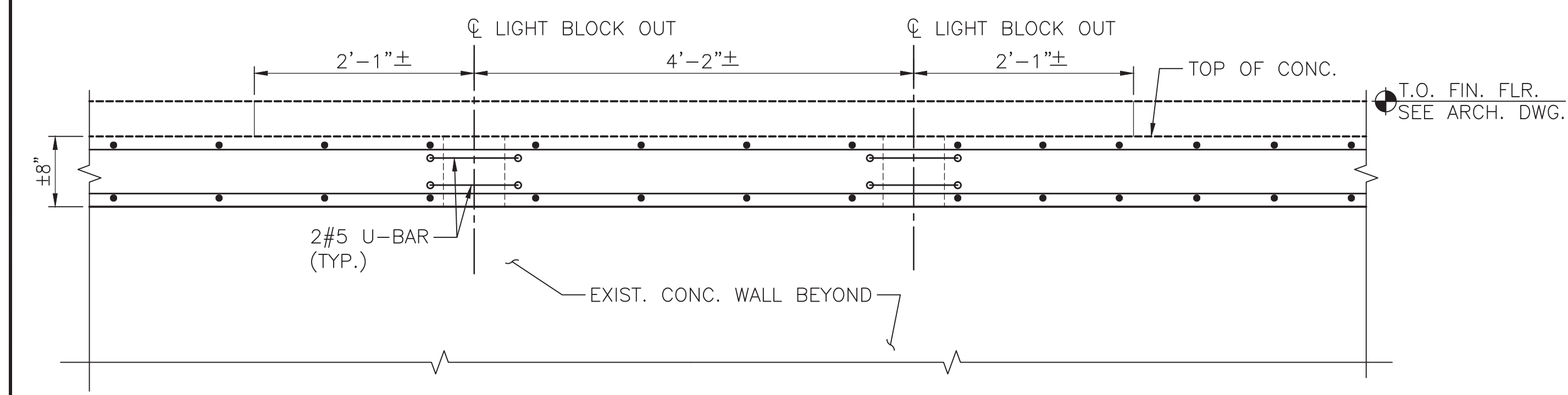
DRAWING NO. A11-S-300

SHEET NO. M1272-156

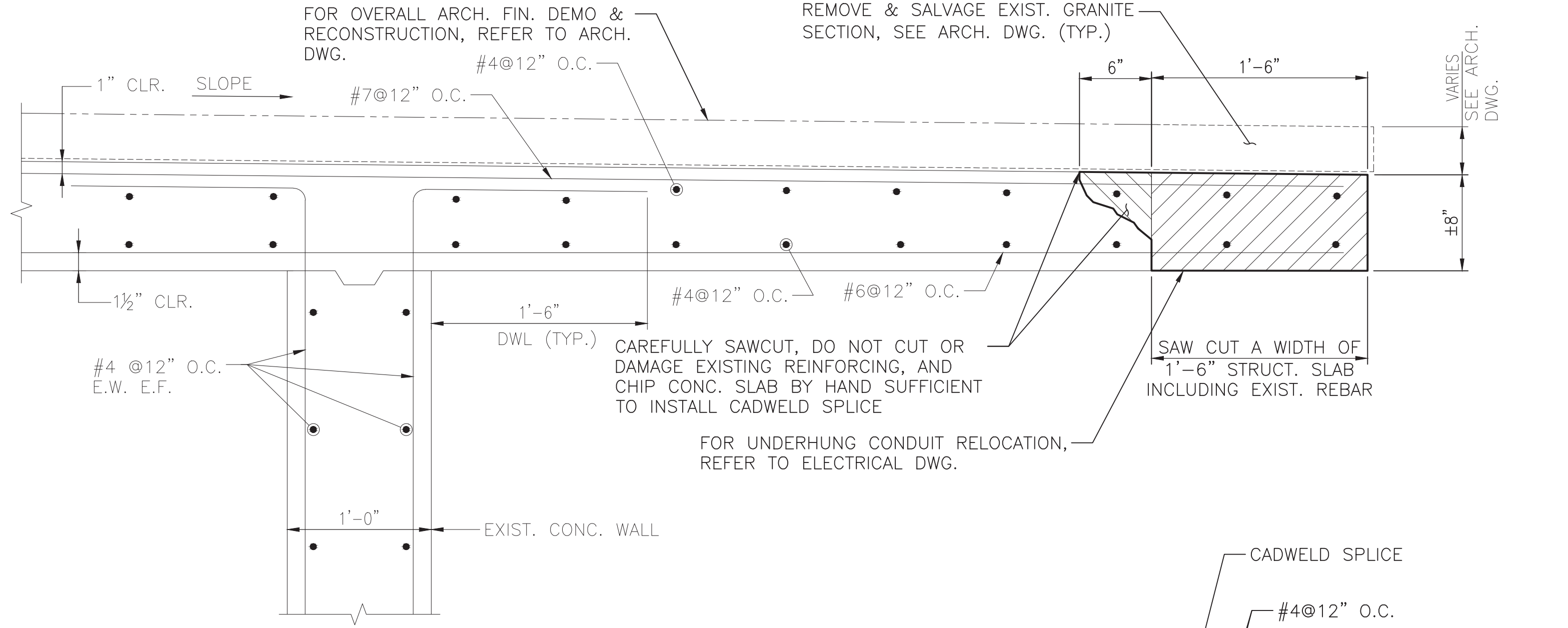




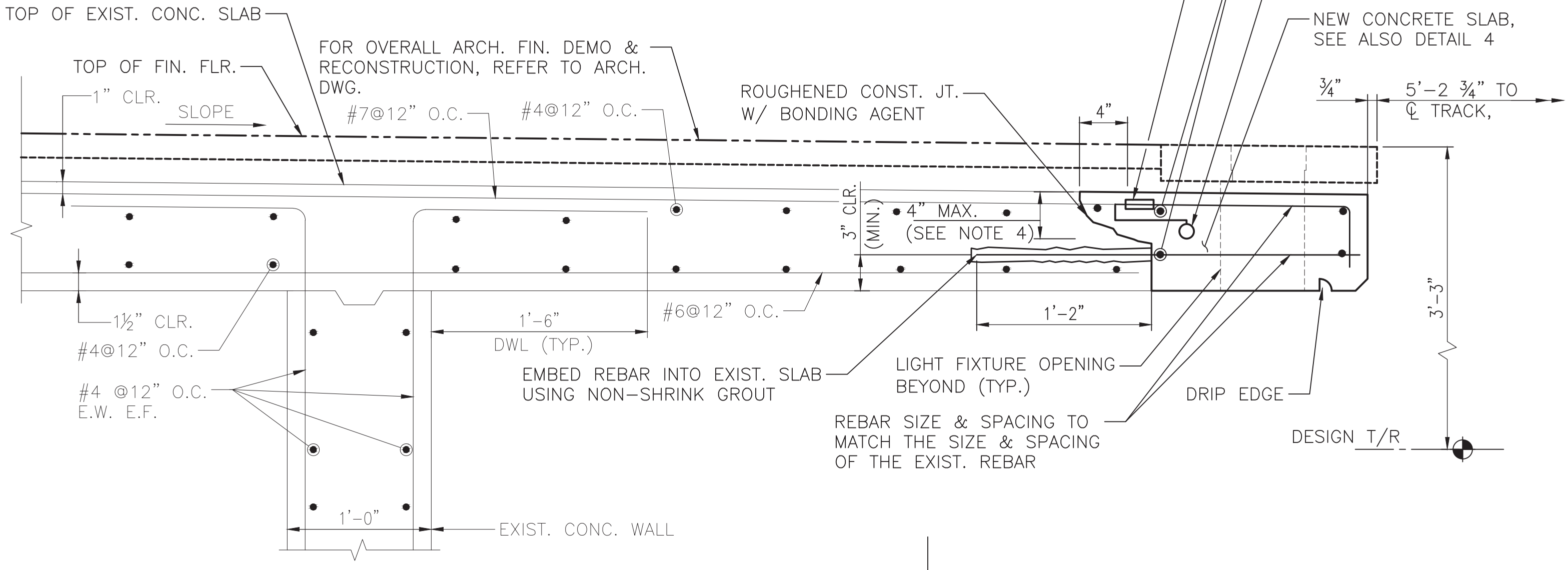
**A**  
PARTIAL PLAN - SLAB SEGMENT  
SCALE: 1" = 1'-0"



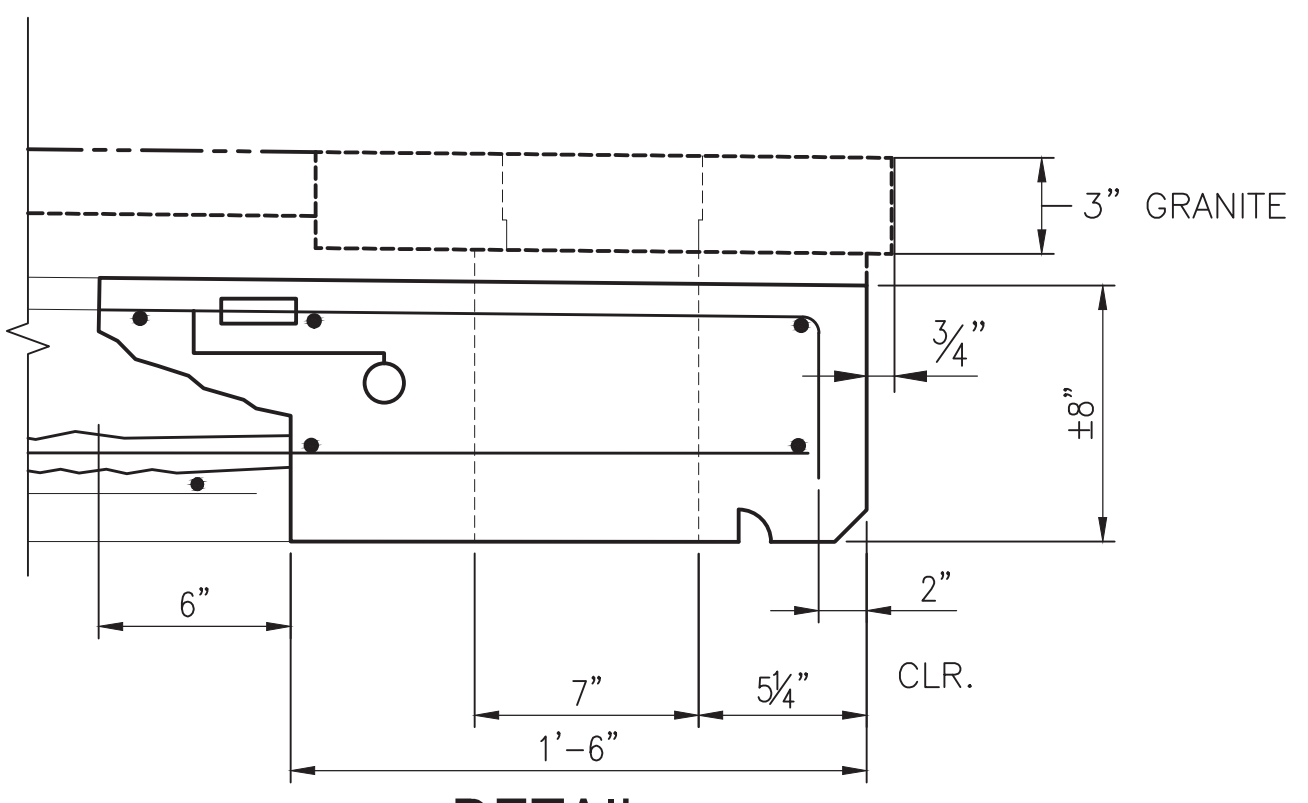
**1**  
LONGITUDINAL SECTION  
SCALE: 1" = 1'-0"



**3**  
SLAB REMOVAL  
SCALE: 1 1/2" = 1'-0"



**4**  
SLAB RECONSTRUCTION  
SCALE: 1 1/2" = 1'-0"



**4**  
DETAIL  
SCALE: 2" = 1'-0"

**PLAN NOTES:**

- LONGITUDINAL REBAR SHALL BE CONTINUOUS THROUGH ADJACENT SLAB SEGMENTS. LAP REBAR AS REQUIRED WITH A MINIMUM 1'-8" LAP LENGTH, UNLESS OTHERWISE NOTED.
- THE INTERFACE BETWEEN CONSTRUCTION JOINTS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" AS PER ACI 318-11 AND SHALL BE BONDED WITH APPROVED BONDING AGENT. REFER ALSO TO CONC. SPECIFICATIONS.
- VERIFY LOCATIONS OF EXISTING LIGHT BLOCK-OUTS IN FIELD PRIOR TO DEMOLITION. SPACING OF LIGHT BLOCK OUTS MAY BE ADJUSTED IN FIELD IF REQUIRED.

**SECTION NOTES:**

- TOP & BOTTOM OF NEW SLAB SECTION SHALL MATCH EXISTING.
- ADJUST LOCATIONS OF THE LIGHT OPENINGS AS REQUIRED TO MATCH HOLES IN SALVAGED GRANITE SECTIONS.
- PROVIDE 3/4" MIN. COVER TO CADWELD SPLICE. FIELD BEND EXIST. REBARS AS REQUIRED TO MAINTAIN MIN. 3/4" CLEAR COVER.
- THE EXTENT OF HAND DEMOLITION SHALL BE DETERMINED IN THE FIELD BUT SHALL NOT BE LESS THAN 3" BELOW TOP OF EXISTING CONCRETE SLAB.
- FOR CROSS SLOPE AND LONGITUDINAL SLOPES OF THE ARCH. FINISH, REFER TO ARCH. DWG.
- CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS IN THE PLATFORM PRIOR TO DRILLING HOLES TO GROUT IN NEW REINFORCING STEEL. DO NOT DAMAGE EXISTING REINFORCEMENT.

**DRAWING NOTES:**

- FOR LIMIT OF PLATFORM SLAB REPLACEMENT, SEE PLANS IN S-100 TO S-102.
- FOR GENERAL NOTES, REFER DWG. S-001.
- ALL REBAR IN PROPOSED SLAB RECONSTRUCTION AREA SHALL BE EPOXY COATED, U.O.N.

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FINAL CONTRACT NO. FQ15093

DESIGNED	MP	1/23/15
DRAWN	LN	1/23/15
CHECKED	DB	1/23/15
APPROVED	DB	1/23/15

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

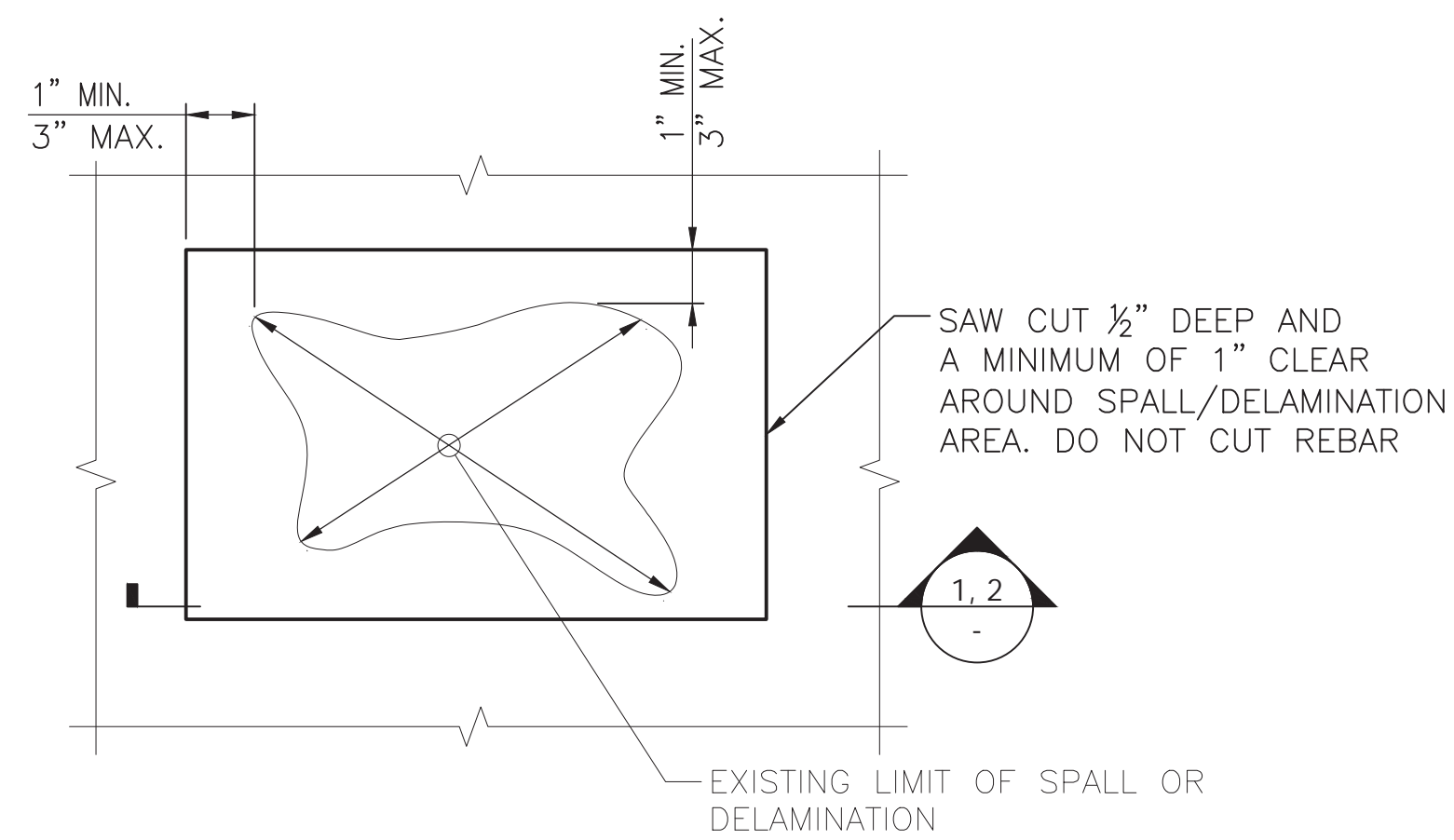
GROSVENOR STATION - STRUCTURAL SLAB REPAIR DETAILS

SCALE AS SHOWN

DRAWING NO. A11-S-500

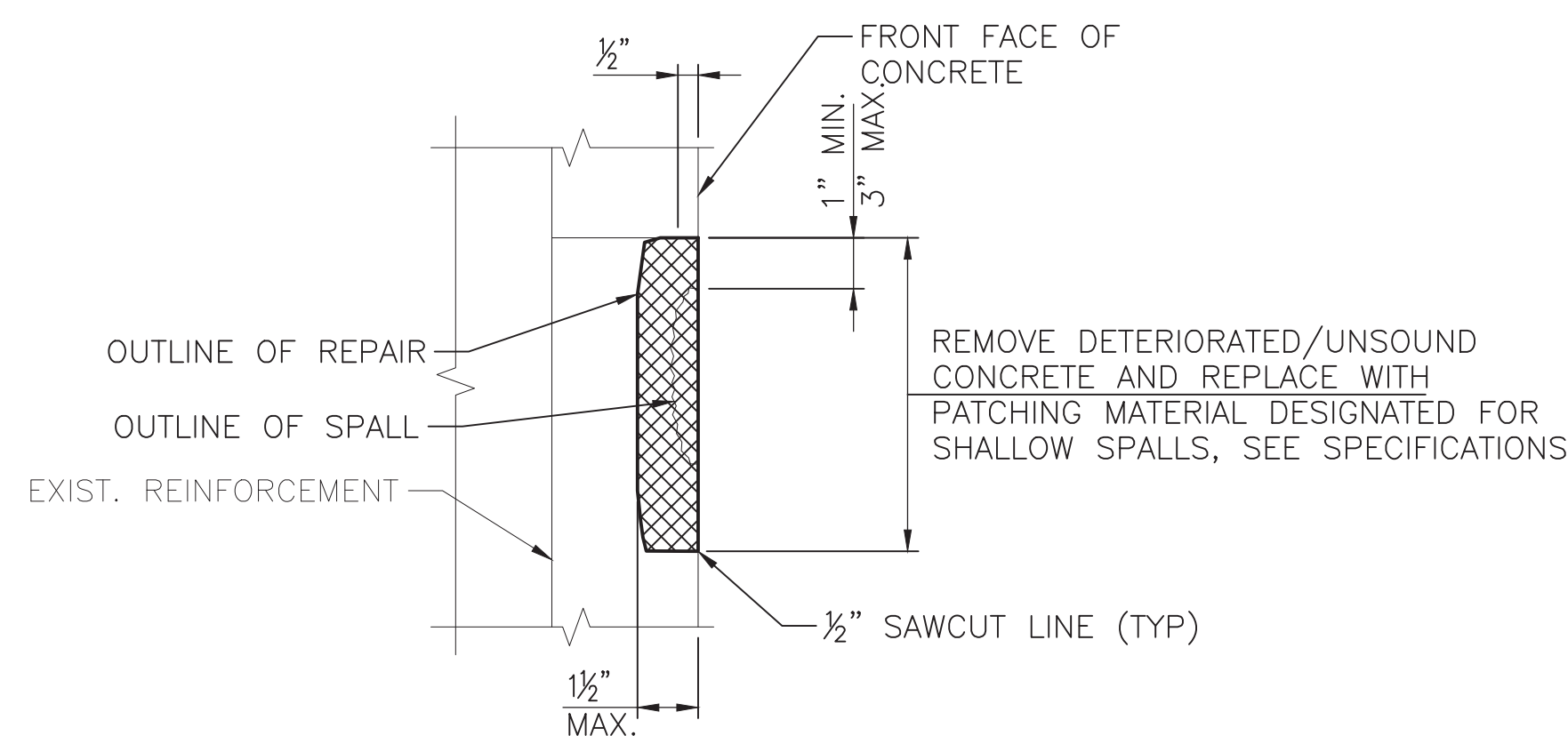
SHEET NO. M1272-157



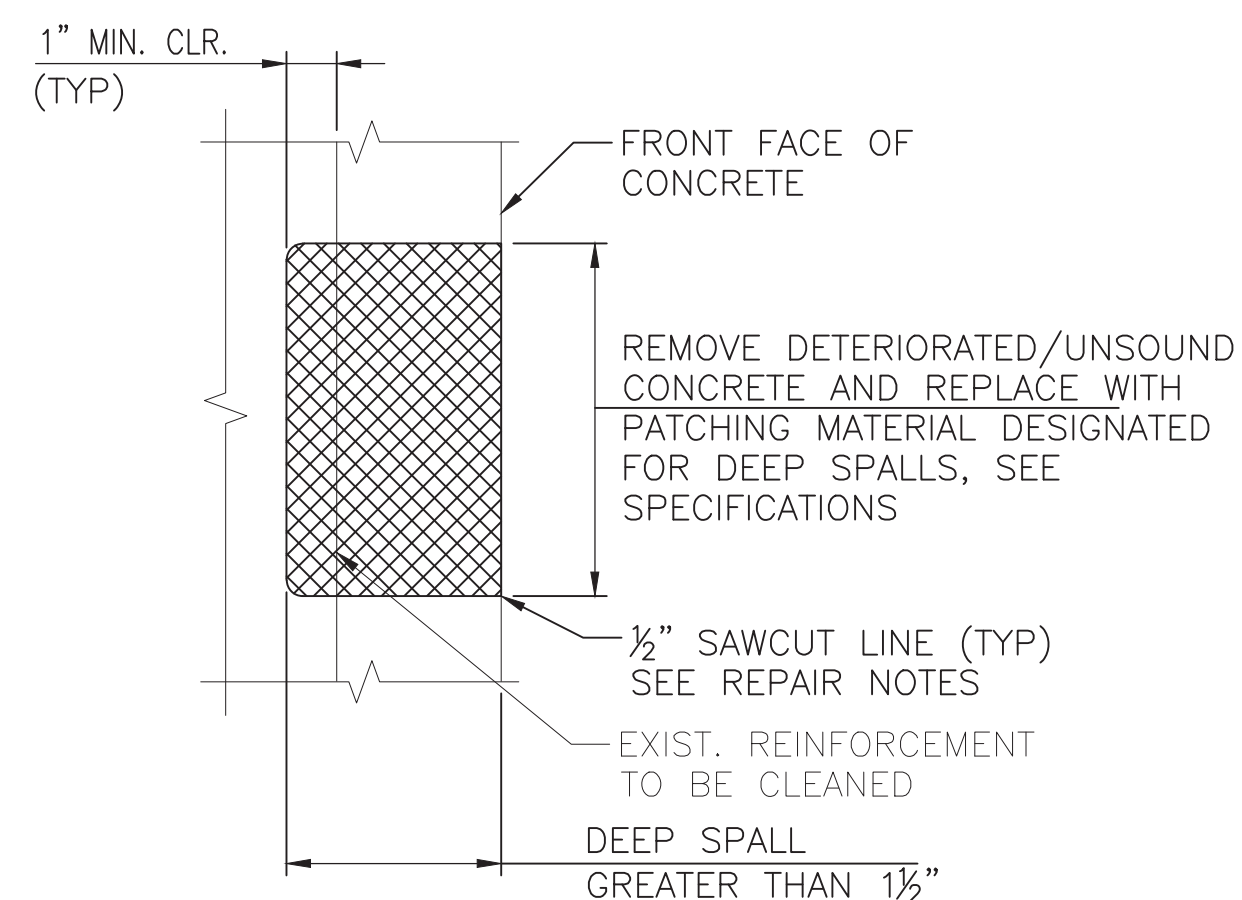


**TYPE 3 & TYPE 4 SPALL REPAIR - PLAN OR ELEVATION**  
**(HORIZONTAL, VERTICAL, OR OVERHEAD SURFACE OF CONCRETE)**

NOT TO SCALE



**1 SECTION - TYPE 3 SHALLOW SPALL REPAIR**  
 NOT TO SCALE

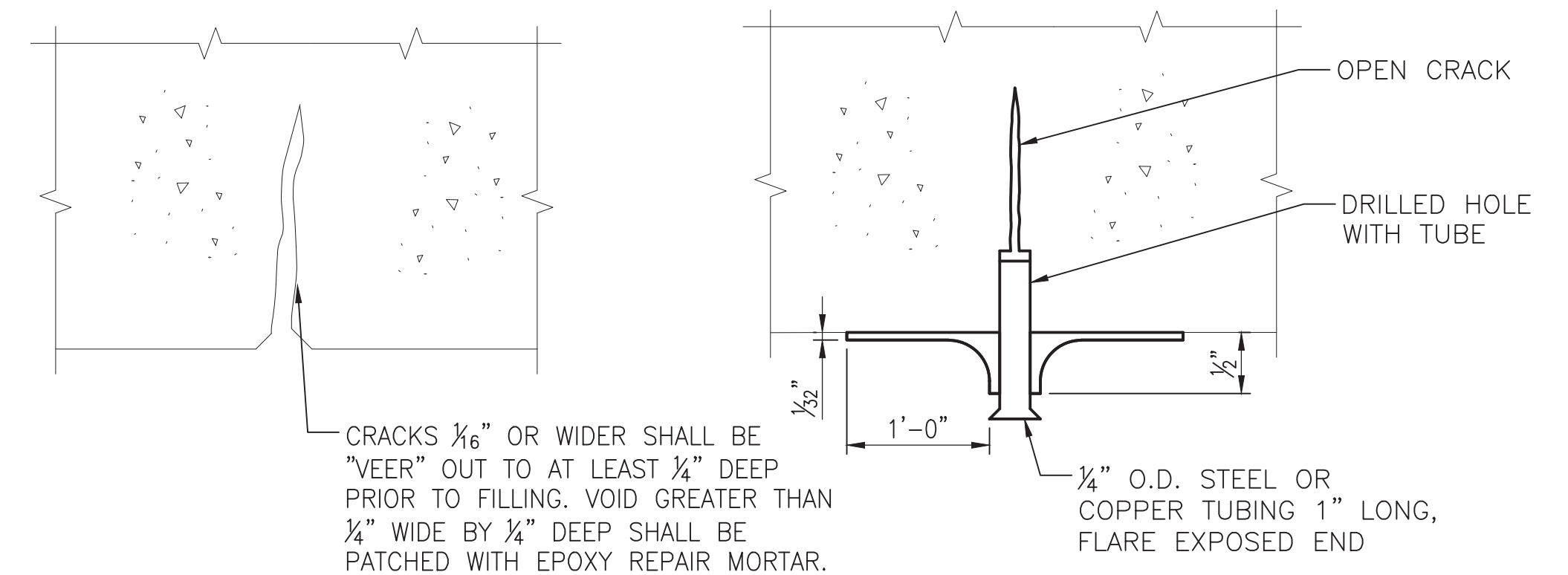


**2 SECTION - TYPE 4 DEEP SPALL REPAIR**  
 NOT TO SCALE

**A CONCRETE SPALL REPAIR DETAIL**

**CONCRETE REPAIR NOTES:**

1. THE A.R. AND THE CONTRACTOR SHALL JOINTLY INSPECT EACH ITEM TO BE REPAIRED. THE LOCATION AND EXTENT OF EACH TYPE OF REPAIR SHALL BE DETERMINED BY THE A.R. PRIOR TO THE START OF REPAIR WORK.
2. CONCRETE REPAIRS SHALL BE COMPLETED IN THE FOLLOWING ORDER: SPALL REPAIRS, CRACK REPAIR BY EPOXY INJECTION, CRACK SURFACE ROUT AND SEAL.
3. ALL EXISTING DIMENSIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF GROUT MATERIAL.
5. SEE SPECIFICATION SECTION 03720 REPAIR OF EXISTING CONCRETE.

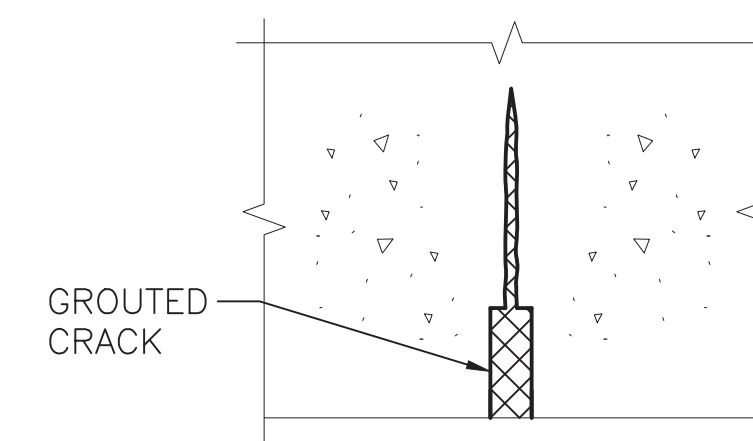


**CRACK**  
**STEP A**

CLEAN OUT CRACK WITH HAND TOOLS. HIGH PRESSURE AIR BLAST AND VACUUM CLEAN SURFACE.

**STEP B**

DRILL HOLES FOR PORTS TO A WIDTH AND DEPTH SUFFICIENT TO ASSURE A SNUG FIT OF THE PORT. VACUUM OUT DEBRIS. INSERT PORT AND SEAL SURFACE OF CRACK WITH EPOXY SURFACE SEALANT. SEAL SHALL EXTEND ABOVE CONCRETE SURFACE A MINIMUM OF 1/2" AND EXTEND A MINIMUM OF 1" TO EITHER SIDE OF CRACK. ALLOW A MINIMUM OF 6 HOURS CURING TIME BEFORE INITIATING INJECTION PROCESS.

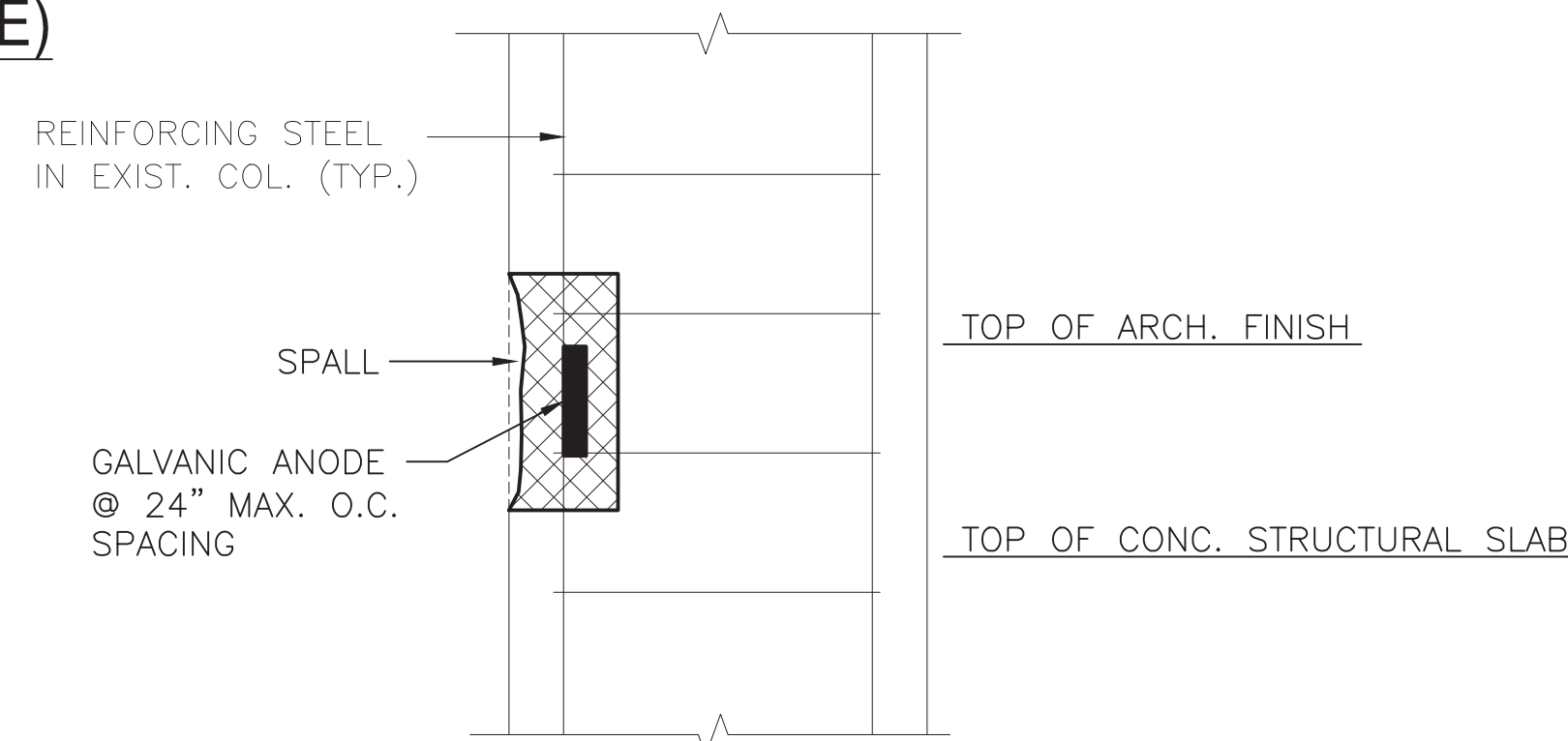


**STEP C**

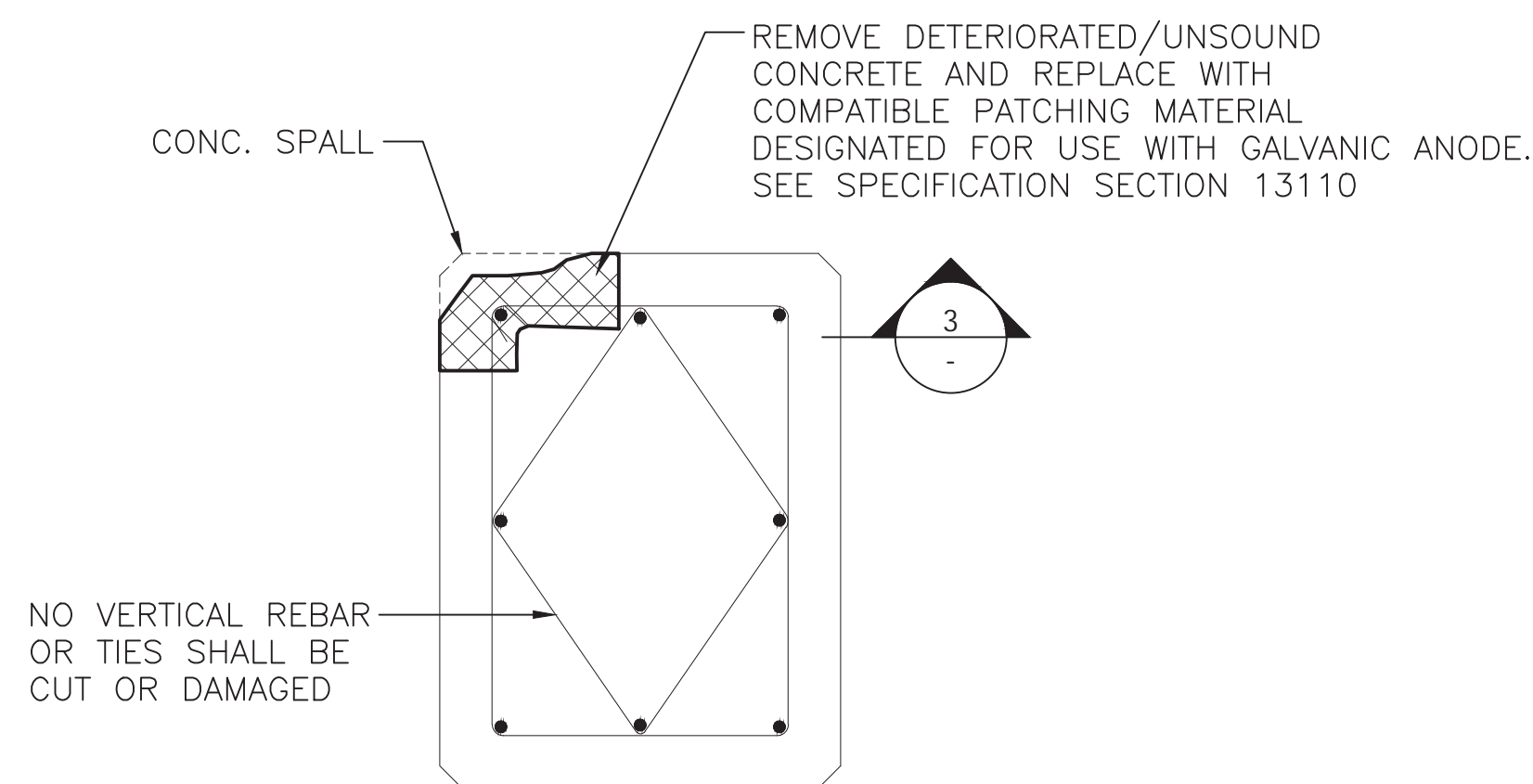
INJECT LOW VISCOSITY INJECTION EPOXY GROUT AS DETAILED IN CONCRETE SPECIFICATION SECTION. ALLOW MINIMUM OF 6 HOURS CURING TIME. REMOVE EPOXY SURFACE SEALANT AND SEALER TO THE SATISFACTION OF THE A.R.

1. PUMP EPOXY INTO FIRST PORT UNTIL EPOXY IS EVIDENT AT THE ADJACENT PORT.
2. ADVANCE HAND PUMP TO THE NEXT LOCATION AND INJECT EPOXY.
3. CONTINUE PROCESS UNTIL CRACK HAS BEEN COMPLETELY FILLED.
4. CUT OFF GROUT TUBE FLUSH WITH CONCRETE FACE.
5. PATCH OVER GROUT TUBE.
6. GRIND EPOXY SURFACE SEALANT SMOOTH TO SURFACE OF SLAB.
7. ROUT AND SEAL CRACK.

**C TYPE 7 REPAIR CRACK EPOXY INJECTION**



**3 SECTION**  
 NOT TO SCALE



**PLAN**  
 NOT TO SCALE

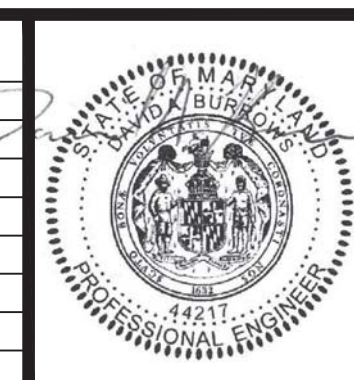
**B COLUMN BASE REPAIR DETAIL**

NOTE: COLUMN BASES TO BE REPAIRED INCLUDE CONCRETE CANOPY COLUMN NUMBERS 2, 5, AND 6. REPAIR LOCATIONS REPRESENT CONDITIONS AT TIME OF NON-DESTRUCTIVE INSPECTION BASED ON LIMITED VISUAL SURVEY OF VISIBLE PORTIONS OF CONCRETE CANOPY BASES. SEE NOTES THIS SHEET.

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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

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APPROVED \_\_\_\_\_



SUBMITTED \_\_\_\_\_  
 PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

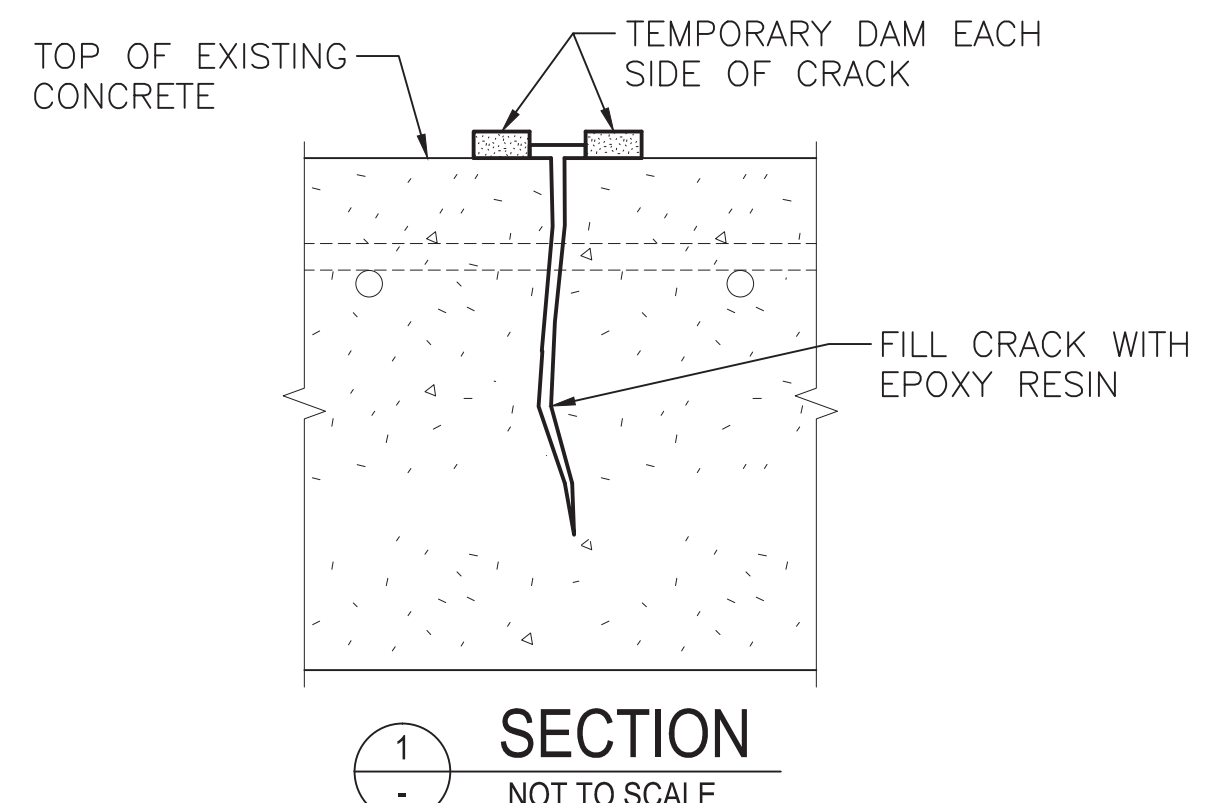
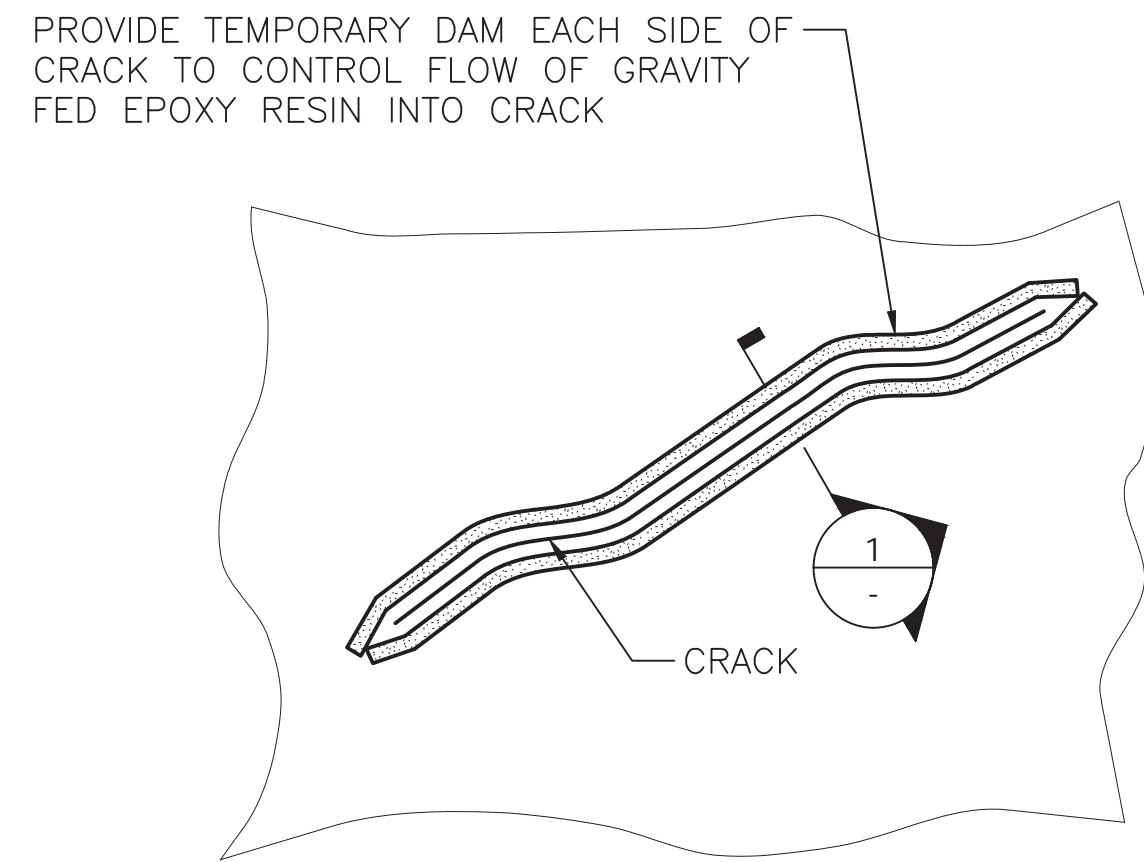
GROSVENOR STATION - STRUCTURAL  
 TYPICAL CONCRETE REPAIR DETAILS 1 OF 2

SCALE AS SHOWN

DRAWING NO. A11-S-501

SHEET NO. M1272-158

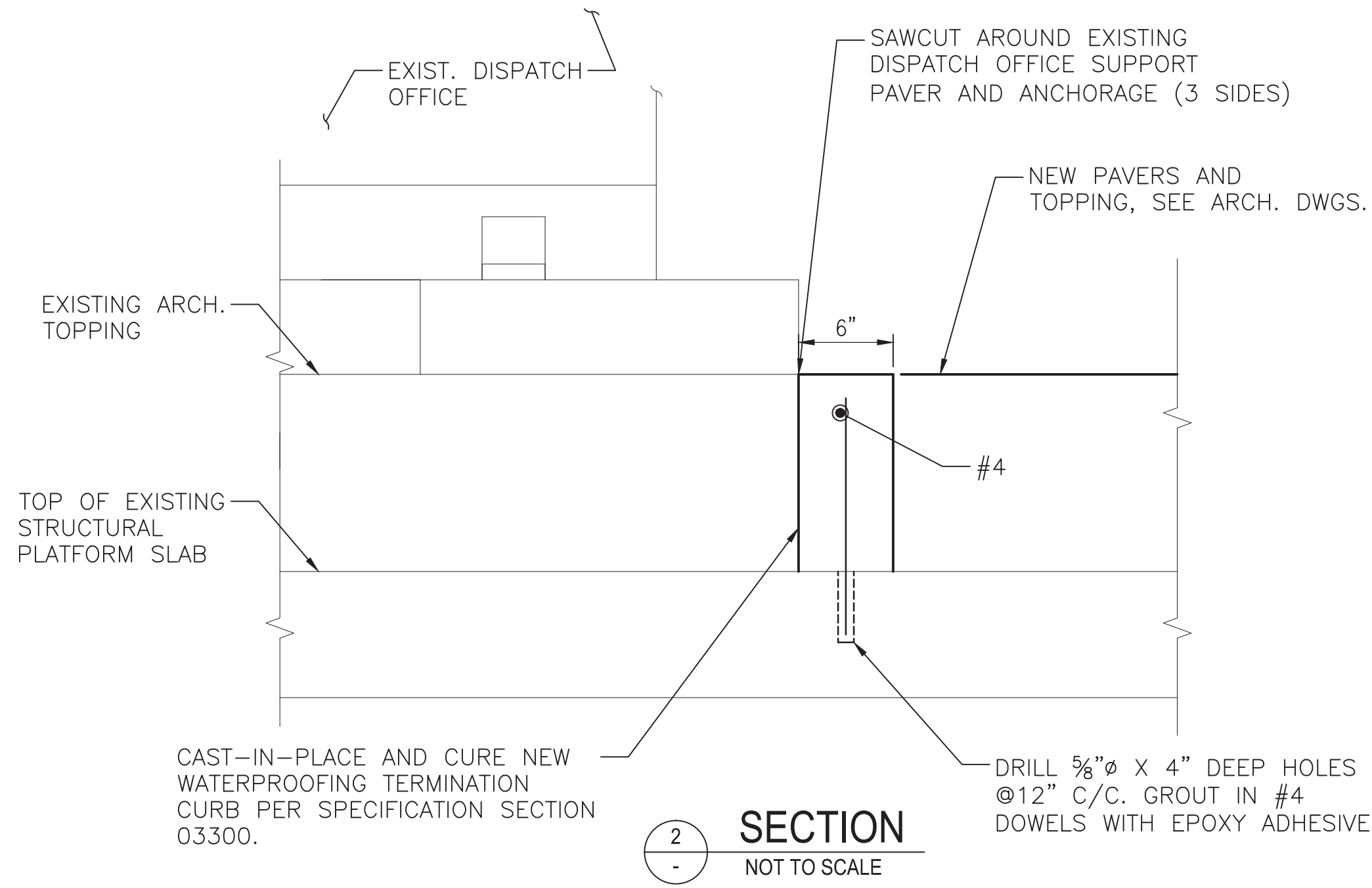
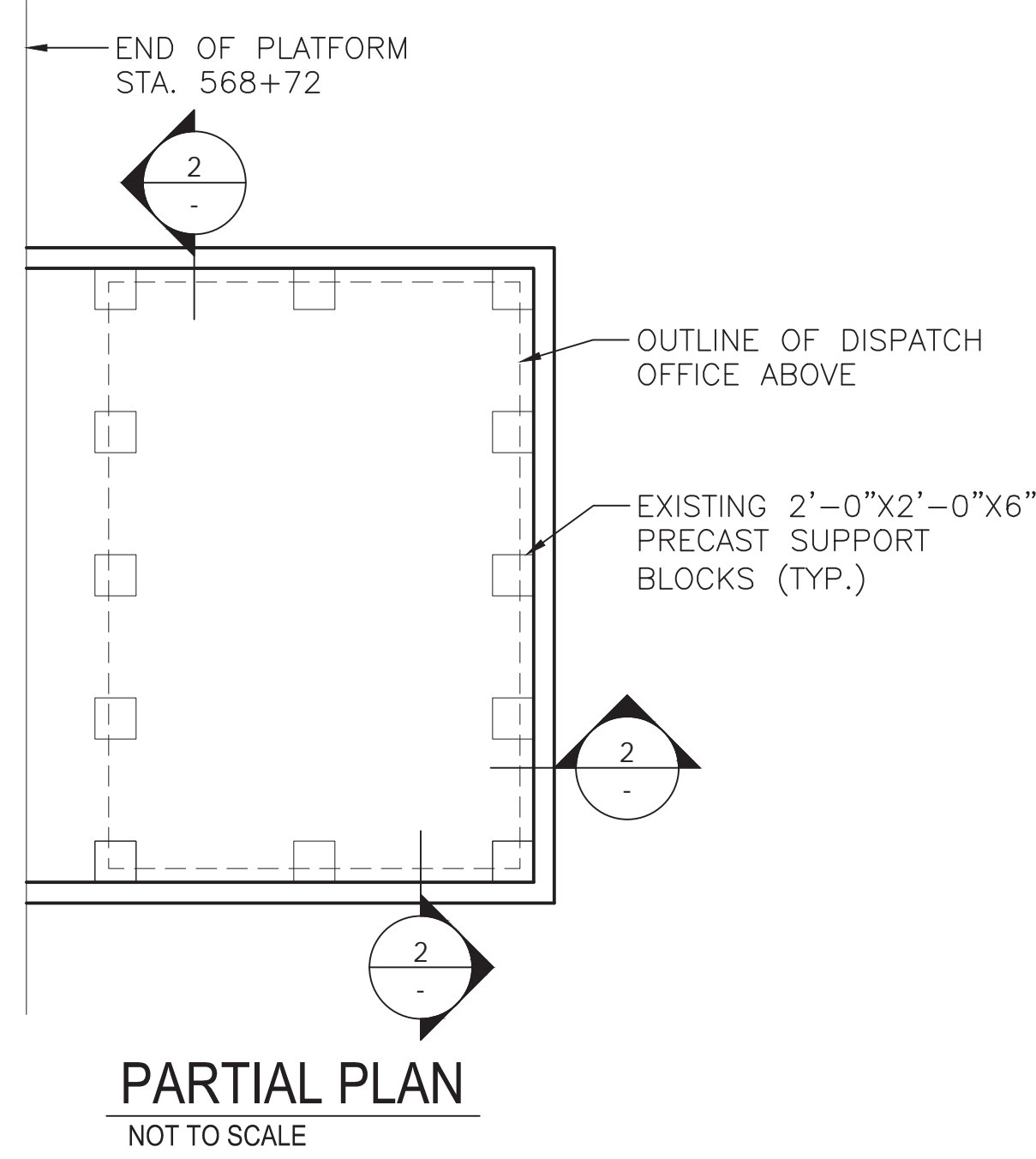




**NOTES:**

1. REFER TO S-501 FOR CONCRETE REPAIR NOTES.
2. SEAL UNDERSIDE OF SLAB PER DETAIL C ON S-501 PRIOR TO FILLING IF CRACKS REFLECT THROUGH STRUCTURAL SLAB.

**TYPE 8 REPAIR GRAVITY FED CRACK**  
NOT TO SCALE



**NOTES:**

1. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS IN THE PLATFORM PRIOR TO DRILLING HOLES TO INSTALL NEW CURB.
2. REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING AND NEW ARCHITECTURAL TOPPING DETAILS.
3. DISPATCH OFFICE TO REMAIN IN PLACE DURING WORK.
4. TOP OF CURB TO MATCH ELEVATION OF TOP OF NEW PAVERS, SEE ARCHITECTURAL DRAWINGS.

**WATERPROOFING TERMINATION CURB-DISPATCH OFFICE**  
NOT TO SCALE

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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER


RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION - STRUCTURAL  
TYPICAL CONCRETE REPAIR DETAILS 2 OF 2 AND CURB  
SCALE AS SHOWN  
DRAWING NO. A11-S-502  
SHEET NO. M1272-159



GENERAL NOTES

1. THE MODIFICATION TO THE EXISTING DRY STANDPIPE SYSTEM SHALL INCLUDE BUT NOT BE LIMITED TO DESIGN, CALCULATION, INSTALLATION, AND TESTING IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 14, NFPA 130, WMATA AND LOCAL FIRE MARSHAL REQUIREMENTS.
2. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL EXISTING & NEW STRUCTURAL MEMBERS AND SERVICES TO ELIMINATE ANY INTERFERENCE IN THE FIELD.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL REPORT ANY DISCREPANCIES TO THE AUTHORITY'S REPRESENTATIVE (AR) FOR CLARIFICATION PRIOR TO STARTING ANY WORK.
4. ALL WORK SHALL BE CARRIED OUT WITHOUT CAUSING ANY DISRUPTION OF TRAIN OPERATIONS, HVAC, ELECTRICAL OR PLUMBING SERVICES AND WITH THE APPROVAL OF WMATA.
5. PROVIDE APPROPRIATE BARRIERS APPROVED BY THE AUTHORITY'S REPRESENTATIVE (AR) TO ISOLATE WORK AREAS FROM THE PUBLIC.

LEGEND AND ABBREVIATIONS

- POINT OF DEMOLITION
-  POINT OF CONNECTION
- DRY STANDPIPE, EXISTING TO REMAIN
- - - DRY STANDPIPE, EXISTING TO BE DEMOLISHED
- DRY STANDPIPE, NEW WORK

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FINAL

CONTRACT NO. FQ15093

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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_



**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.

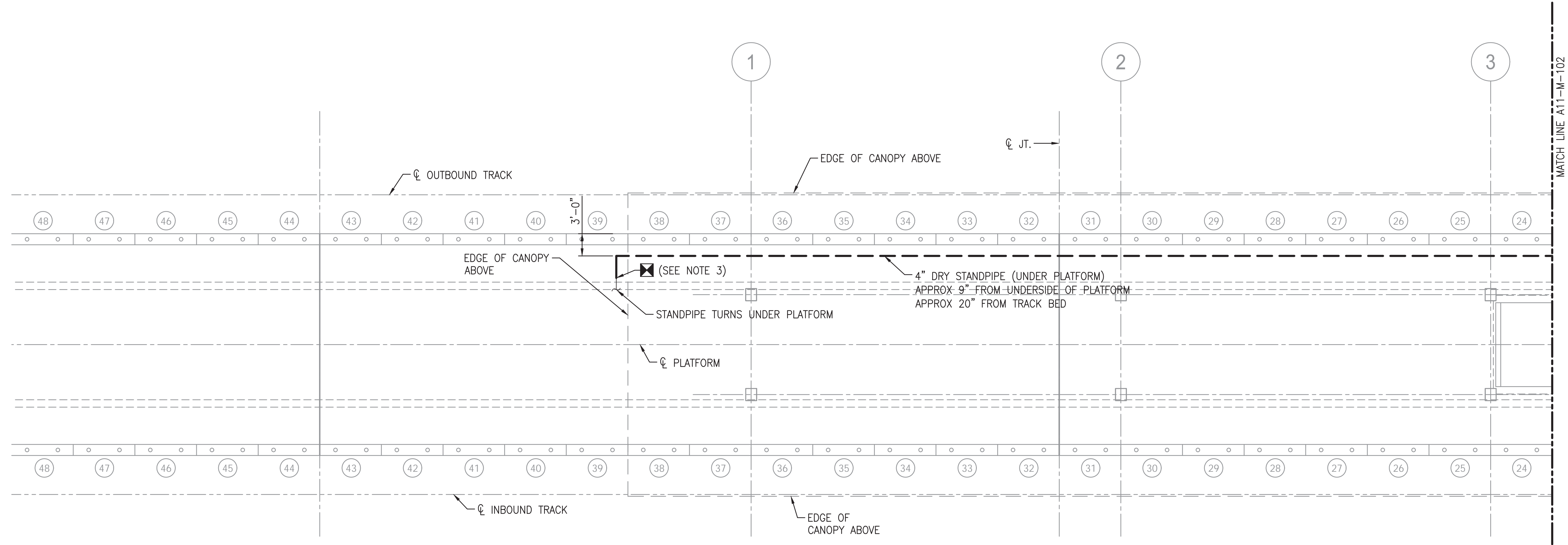
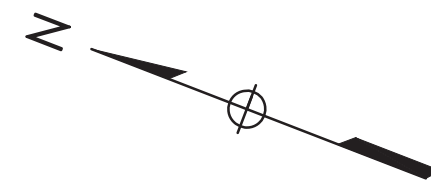
SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

**GROSVENOR STATION – MECHANICAL GENERAL NOTES AND ABBREVIATIONS**

SCALE NONE	DRAWING NO. A11-M-001	SHEET NO. M1272-160
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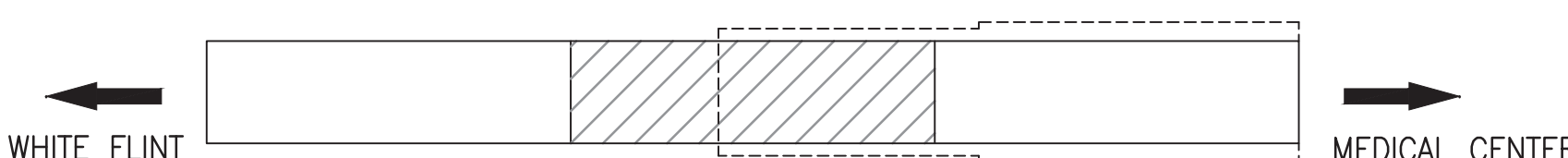




1 PARTIAL PLATFORM PLAN  
SCALE: 1/8" = 1'-0"

**NOTES:**

1. FOR GENERAL NOTES, REFER TO DRAWING M-001.
2. FOR DETAILS, REFER TO M-500 SERIES DRAWINGS.
3. LEAVE 1' OF PIPE REMAINING PRIOR TO PENETRATION TO ALLOW FOR POINT OF RECONNECTION.



KEY PLAN  
NOT TO SCALE

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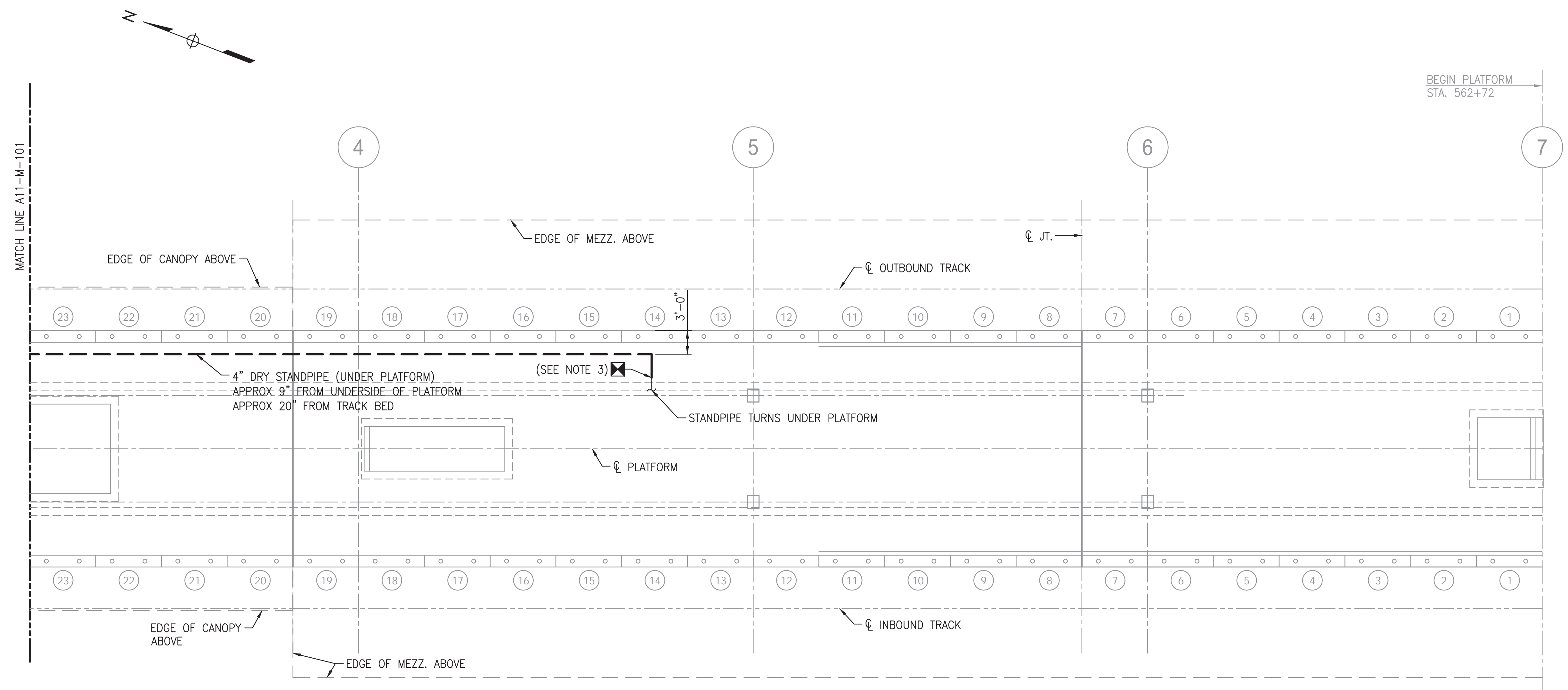
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
**GROSVENOR STATION - MECHANICAL STANDPIPE DEMOLITION PLAN 1 OF 2**

SCALE AS SHOWN DRAWING NO. A11-M-101 SHEET NO. M1272-161

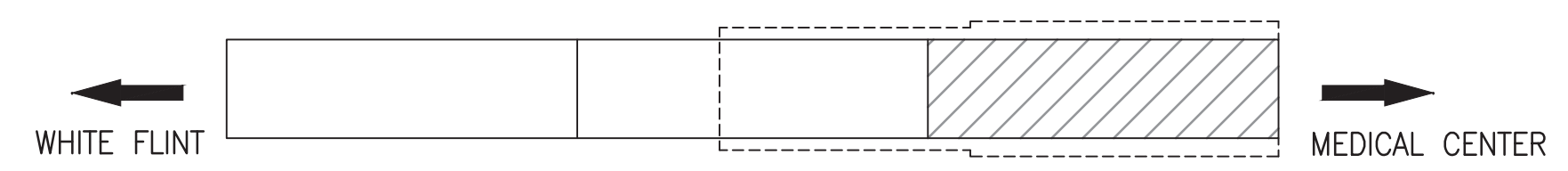




1 PARTIAL PLATFORM PLAN  
SCALE: 1/8" = 1'-0"

NOTES:

- FOR GENERAL NOTES, REFER TO DRAWING M-001.
- FOR DETAILS, REFER TO M-500 SERIES DRAWINGS.
- LEAVE 1' OF PIPE REMAINING PRIOR TO PENETRATION TO ALLOW FOR A POINT OF RECONNECTION.



KEY PLAN  
NOT TO SCALE

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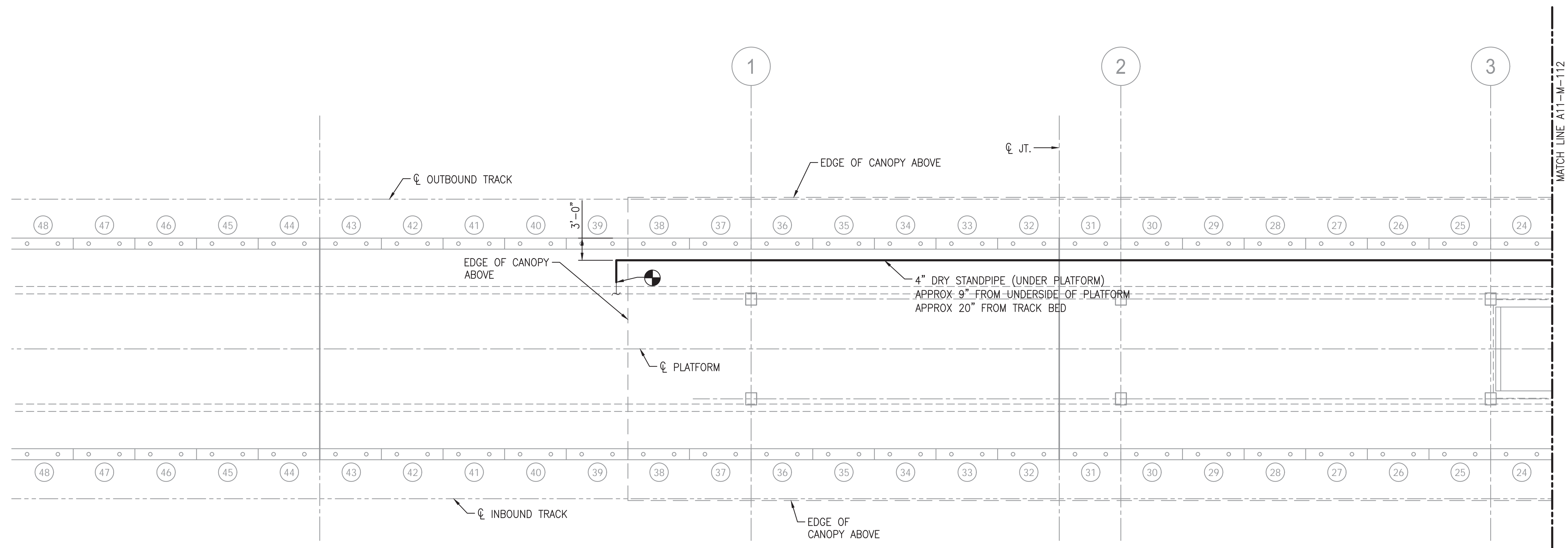
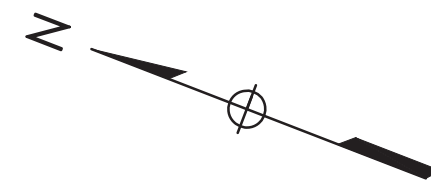
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
Brad Mason, P.E.

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION - MECHANICAL STANDPIPE DEMOLITION PLAN 2 OF 2

SCALE AS SHOWN DRAWING NO. A11-M-102 SHEET NO. M1272-162

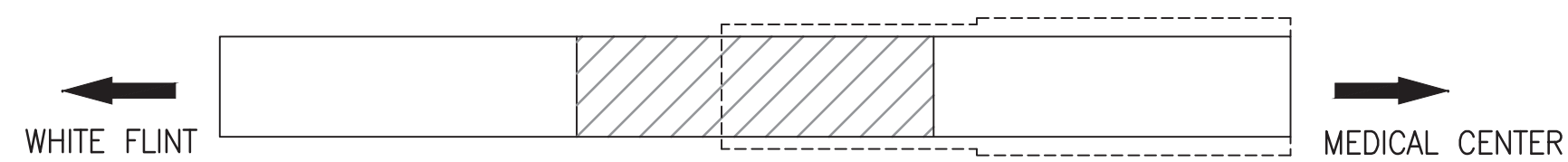




1 PARTIAL PLATFORM PLAN  
SCALE: 1/8" = 1'-0"

**NOTES:**

1. FOR GENERAL NOTES, REFER TO DRAWING M-001.
2. FOR DETAILS, REFER TO M-500 SERIES DRAWINGS.



KEY PLAN  
NOT TO SCALE

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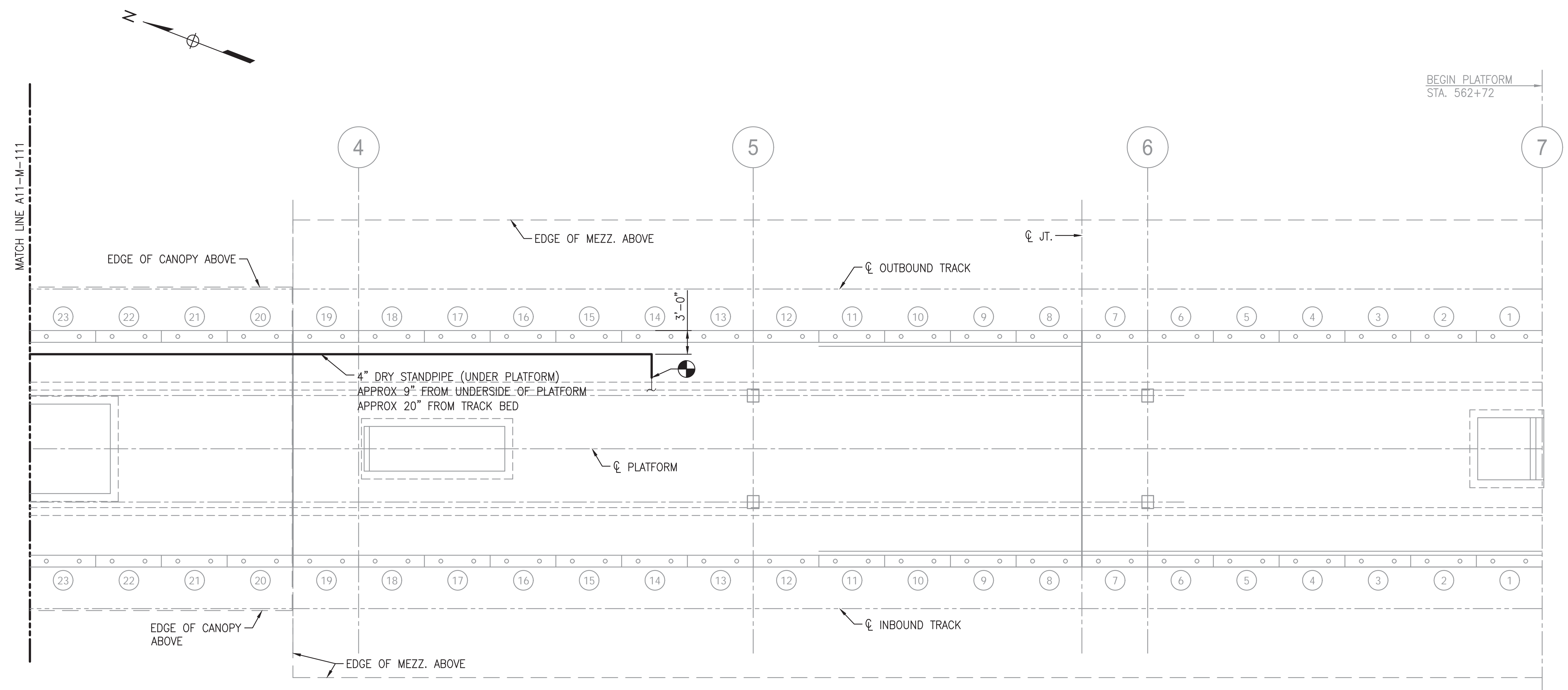
GROSVENOR STATION - MECHANICAL STANDPIPE NEW WORK PLAN 1 OF 2

SCALE AS SHOWN

DRAWING NO. A11-M-111

SHEET NO. M1272-163

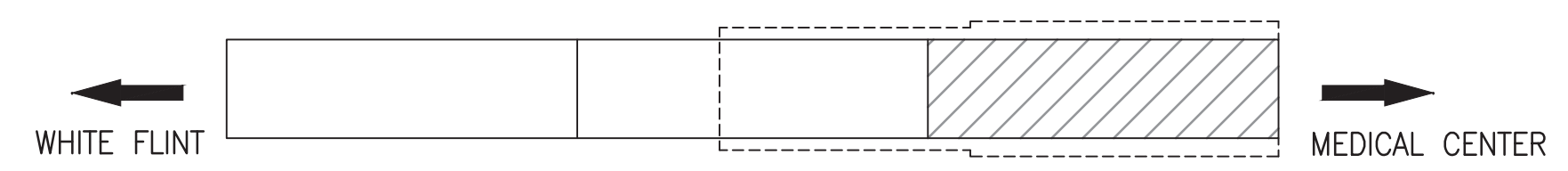




1 PARTIAL PLATFORM PLAN  
 M-112 SCALE: 1/8" = 1'-0"

**NOTES:**

1. FOR GENERAL NOTES, REFER TO DRAWING M-001.
2. FOR DETAILS, REFER TO M-500 SERIES DRAWINGS.



KEY PLAN  
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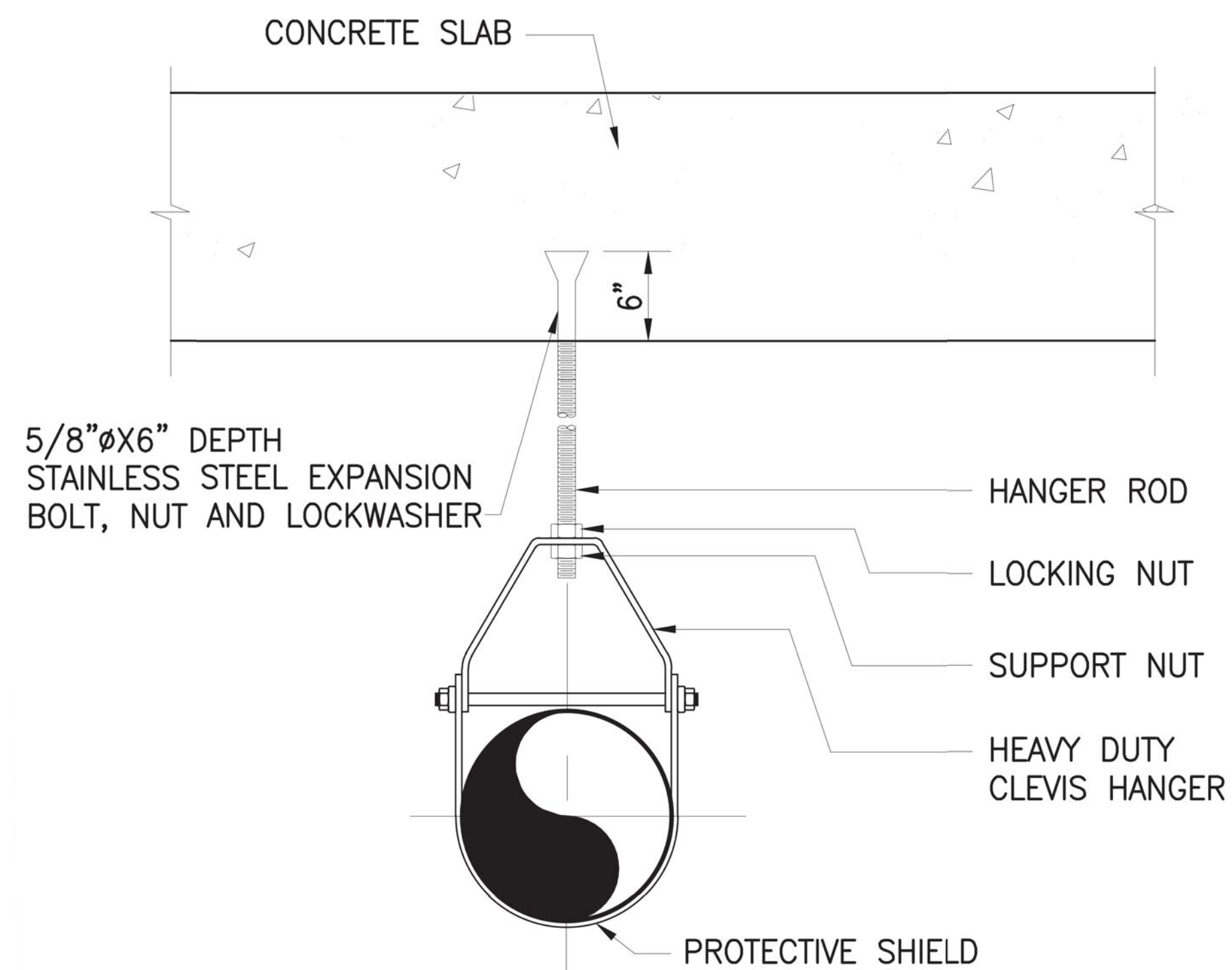
**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 Brad Mason, P.E.

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
 PROJECT MANAGER

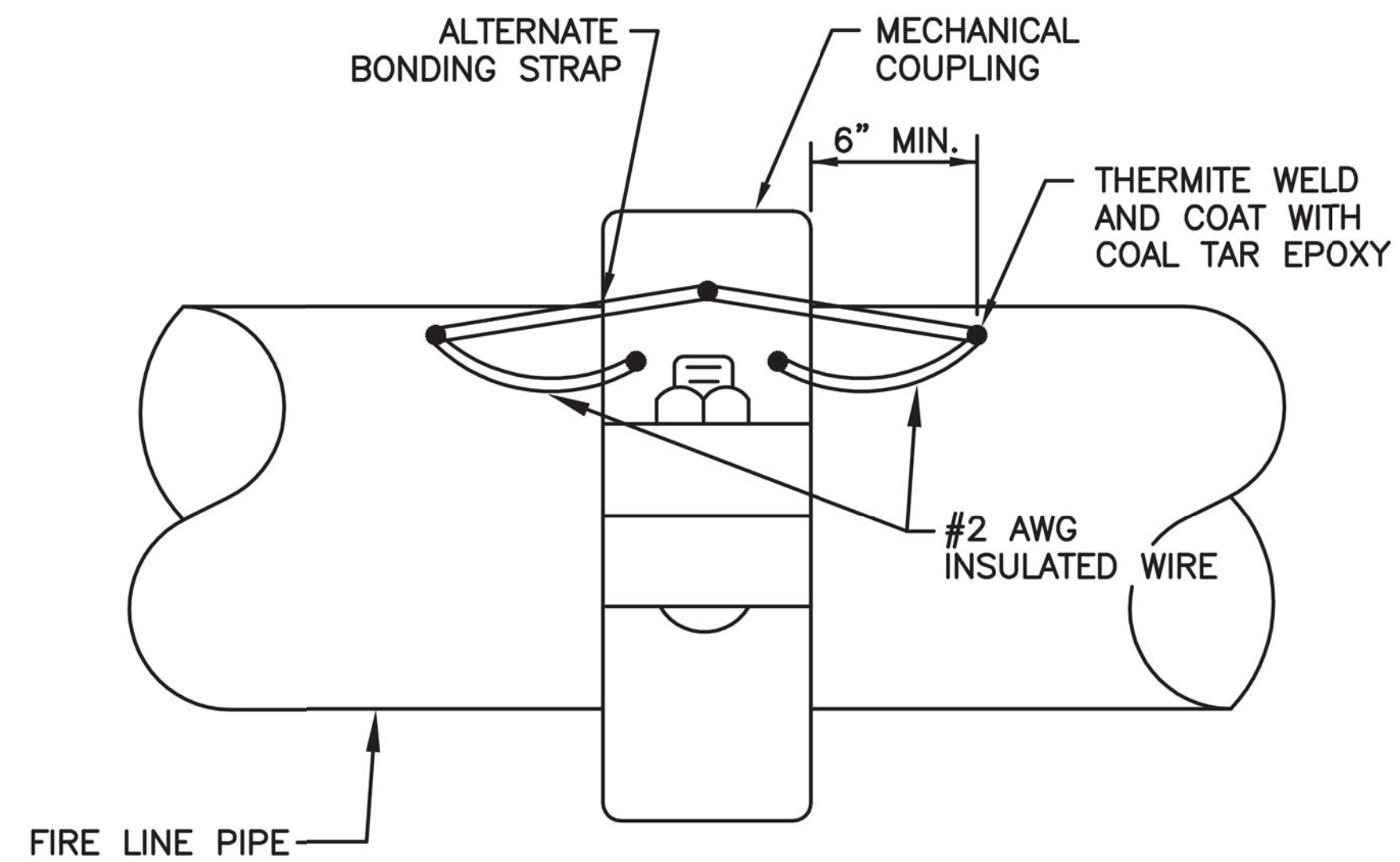
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
**GROSVENOR STATION - MECHANICAL STANDPIPE NEW WORK PLAN 2 OF 2**

SCALE AS SHOWN DRAWING NO. A11-M-112 SHEET NO. M1272-164





**HANGER DETAIL**  
NOT TO SCALE



**PIPE JOINT BOND**  
REQUIRED FOR ALL PIPE JOINTS WITH COUPLINGS  
SCALE: NONE

NOTE: SIMILAR BONDING REQUIRED FOR ALL  
IN-LINE VALVES AND THREADED CONNECTIONS.

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**GFP** A Gannett Fleming/Parsons  
JOINT VENTURE  
Brad Mason, P.E.

APPROVED \_\_\_\_\_ SUBMITTED \_\_\_\_\_  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO  
GROSVENOR - PART 4

GROSVENOR STATION - MECHANICAL  
DETAILS

SCALE  
AS SHOWN

DRAWING NO.  
A11-M-500

SHEET NO.  
M1272-165



**LEGEND**

- EXISTING TO REMAIN EXPOSED CONDUIT
- - - - - EXISTING TO REMAIN CONCEALED CONDUIT

**PLAN KEY NOTES**

- ① DISCONNECT REMOVED PYLONS AND CONNECT THEM BACK AFTER THEY ARE RE-INSTALLED. TEST EXISTING WIRING, REPLACE IT AS REQUIRED.
- ② DISCONNECT REMOVED DIORAMAS AND RECONNECT THEM AFTER THEY ARE RE-INSTALLED. TEST EXISTING WIRING, REPLACE IT AS REQUIRED. WHEN RECONNECTING DIORAMAS, RELOCATE CONDUIT STUB-UP TO A POINT DIRECTLY BELOW DIORAMA.
- ③ REMOVE EXISTING FLASHING LIGHTS. REPLACE EXISTING FLASHER/DIMMER CABINETS IN BOTH AC SWITCHGEAR ROOMS. INSTALL NEW FLASHING LIGHTS. PROVIDE NEW CONDUIT AND WIRING. ADJACENT LIGHTS ARE ALTERNATELY CONNECTED TO DIFFERENT PHASES. VERIFY CIRCUITS SHOWN WITH FIELD CONDITIONS.
- ④ DISCONNECT AND REMOVE FLOOR MOUNTED RECEPTACLES. REMOVE EXISTING POWER SUPPLY WIRING AND CONDUIT BACK TO NEAREST JUNCTION BOX. EXISTING CONDUIT EMBEDDED IN CONCRETE MAY BE ABANDONED.
- ⑤ GROUNDING: RESTORE GROUNDING CONNECTION TO ALL METALLIC EQUIPMENT ON PLATFORM AFTER EQUIPMENT IS RE-INSTALLED. PROVIDE ADDITIONAL NEW GROUNDING CONNECTIONS AS REQUIRED. PROVIDE GROUNDING AND BONDING CONNECTION FOR ALL PLATFORM MANHOLES. COMPLY WITH WMATA STANDARDS AND GROUNDING DETAIL SHOWN IN THESE DOCUMENTS.
- ⑥ REPLACE EXISTING GLOBES WITH NEW GLOBES, DECRA-LITE 14" ROUND POLY CARBONATE GLOBE PART #DL14SPCC-H-14. REPLACE LAMPS WITH ENERGY SAVER SPIRAL FLUORESCENT SELF-BALLASTED LAMP, 120V. SEE DETAIL ON DRAWING A11-E-202.
- ⑦ NOT USED
- ⑧ DISCONNECT COMMUNICATION WIRING TO EMERGENCY COMMUNICATION PYLONS REMOVED DURING FLOOR REPAIRS AND CONNECT BACK AFTER INSTALLATION.
- ⑨ REMOVE AND REPLACE PORTION OF CONDUIT AND WIRING SERVICING PLATFORM LIGHTS AND RECEPTACLES THAT CROSSES PLATFORM OVERHANG REPAIR AREA.
- ⑩ NOT USED.
- ⑪ PROVIDE NEW RECEPTACLES SUPPORTED FROM WIND SHELTERS. REFER TO DETAIL ON DWG. A11-E-500 FOR ADDITIONAL INFORMATION.
- ⑫ EXISTING RELOCATED FIRE WATER STANDPIPE. REFER TO MECHANICAL DWGS. FOR EXACT LOCATION. RESTORE BONDING JUMPERS ACROSS FLANGES.
- ⑬ PROVIDE A GREEN INSULATED #6 AWG BONDING WIRE FROM FIRE WATER STANDPIPE TO EXISTING GROUNDING CONDUCTOR UNDER PLATFORM (REQUIRED TWO PLACES).
- ⑭ CORRODED SECTIONS OF CONDUIT UNDER EXPANSION JOINTS SHALL BE REPLACED. AFTER REPLACEMENT PROTECT FROM RAIN WATER PORTION OF CONDUIT THAT RUNS THROUGH EXPANSION JOINT. TYPICAL FOR ALL EXPANSION JOINTS IN OPEN AREA EXPOSED TO WEATHER (NOT UNDER CANOPY).
- ⑮ NOT USED
- ⑯ PROVIDE GROUNDING CONNECTION TO FIRE WATER MANHOLES USING # 6 AWG GROUNDING CONDUCTOR.

**GENERAL NOTES**

1. CONTRACTOR SHALL CONTACT WMATA AR (AUTHORITY REPRESENTATIVE) TO DEFINE ACCEPTABLE WORKING HOURS, SPACE FOR STORAGE OF MATERIALS, PARKING, ETC.
2. ALL MATERIALS PROVIDED SHALL BE UL LISTED, NEW AND CONFORM TO CONTRACT SPECIFICATIONS, DRAWINGS AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
3. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF ALL LOCAL CODES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORK.
4. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL CONTRACT DRAWINGS/SPECIFICATIONS AND BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIALS AND EQUIPMENT AT EACH LOCATION AS INDICATED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND DO NOT INDICATE ALL PULL BOXES, OFFSETS, FITTINGS AND ACCESSORIES AS MAY BE REQUIRED. FURNISHING SUCH MATERIALS AS REQUIRED TO MEET FIELD CONDITIONS AND NEC REQUIREMENTS SHALL BE AT NO ADDITIONAL COST TO THE AUTHORITY.
5. THE CONTRACTOR SHALL EXAMINE THE SITE AND OBSERVE THE CONDITIONS UNDER WHICH THE WORK SHALL BE DONE OR OTHER CIRCUMSTANCES WHICH WILL AFFECT THE CONTEMPLATED WORK PRIOR TO SUBMITTING A BID. ANY REQUESTED VARIANCE TO THESE CONTRACT DOCUMENTS SHOULD BE SUBMITTED AS PART OF THE BID. ANY VARIANCE REQUIRED FOR FIELD CONDITIONS IDENTIFIED AFTER THE BID PERIOD WILL BE RESPONSIBILITY OF CONTRACTOR.
6. ALL RECEPTACLES ON PLATFORM SHALL BE GROUND FAULT PROTECTED WITH WEATHERPROOF COVER.
7. INDICATED DIMENSIONS OF EQUIPMENT ARE APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE FINAL VERIFICATION OF ALL MEASUREMENTS SO THAT THE NEW EQUIPMENT CAN BE MANUFACTURED TO RETROFIT EXISTING CONDITIONS.
8. THE CONTRACTOR SHALL ONLY WORK ON DE-ENERGIZED EQUIPMENT. ALL OUTAGES SHALL BE COORDINATED THROUGH WITH WMATA AR.
9. CONTRACTOR SHALL TAKE PROPER ACTION TO SECURE AND PROTECT THE OPERATIONAL EQUIPMENT IN THE STATION OR FACILITY DURING CONTRACTOR'S WORK, TO PREVENT DAMAGE OR SHUT DOWN OF EQUIPMENT.
10. CONTRACTOR SHALL PROTECT EXISTING ELECTRICAL EQUIPMENT TO REMAIN FROM DUST AND WATER DURING CONTRACTOR'S WORK.
11. ALL NEW EQUIPMENT TO BE INSTALLED SHALL BE STORED PROPERLY. EQUIPMENT DAMAGED DURING SHIPPING, HANDLING, STORAGE, WATER OR OTHER CAUSES SHOULD BE REPLACED AT CONTRACTOR'S EXPENSE.
12. CONTRACTOR SHALL TEMPORARILY STORE THE EXISTING REMOVED EQUIPMENT UNTIL ITS DISPOSAL. A STAGING AREA INSIDE THE FACILITY SHALL BE ESTABLISHED TO AVOID OBSTRUCTION TO EXISTING ELECTRICAL EQUIPMENT WITH LOCATION APPROVED BY WMATA AR. COORDINATE WITH THE AR TO DETERMINE WHETHER EQUIPMENT SHOULD BE RETURNED TO WMATA OR DISPOSED OF BY CONTRACTOR.
13. INTERRUPTION OF SERVICE TO EQUIPMENT SHALL BE KEPT TO A MINIMUM, SHALL OCCUR ONLY IN METRO NON-REVENUE HOURS AND SHALL BE COORDINATED WITH WMATA AR AT LEAST TWO WEEKS PRIOR TO THE REQUIRED OUTAGE.
14. CONTRACTOR SHALL OBTAIN & BECOME FAMILIAR WITH WMATA'S SAFETY AND OPERATING PROCEDURES & RULES. SAFETY TRAINING & CERTIFICATION FOR ALL CONTRACTOR EMPLOYEES ON THE WORK SITE IS MANDATORY.
15. A CLEAR AND UNOBSTRUCTED PATHWAY FROM TRACK TO STREET SHALL BE MAINTAINED AT ALL TIMES FOR PERSONNEL ACCESS. THIS INCLUDES PROHIBITING SUCH ACTIVITIES AS BLOCKING DOORWAYS, PATHWAYS OR STAIRS WITH EQUIPMENT AND MATERIALS, DISMANTLING STAIRS AND OBSTRUCTING STREET HATCHWAYS.
16. CONTRACTOR MUST INCLUDE UNIT PRICE FOR LABOR DURING WMATA NON-REVENUE HOURS.
17. ALL NEW POWER WIRES SHALL BE WITH RHW-2 INSULATION, LOW SMOKE, ZERO HALOGEN. ALL NEW CONDUITS - GRS TYPE. ALL MATERIALS AND INSTALLATION SHALL COMPLY WITH NFPA-130.
18. TEST ALL EXISTING GLOBE TYPE LIGHTING FIXTURES FOR PROPER OPERATION. FIXTURES FOUND DEFECTIVE SHALL BE REPAIRED OR REPLACED. PROVIDE UNIT COST FOR REPLACEMENT FIXTURES.
19. UNIT COST FOR COMMUNICATION WIRING: CONTRACTOR'S BID SHALL INCLUDE REPLACING ALL WIRING UNDER PLATFORM OVERHANG. PROVIDE UNIT COST FOR EACH TYPE OF CABLE FOUND UNDER PLATFORM OVERHANG. THE WMATA AR MAY DIRECT THE CONTRACTOR TO RE-ROUTE SOME CABLES IN LIEU OF REPLACEMENT. UNIT COST WILL BE USED TO DETERMINE AMOUNT OF DEDUCT FROM CONTRACTOR'S BID PRICE.
20. UNIT COST FOR BRANCH CIRCUIT WIRING: PROVIDE UNIT COST FOR REPLACING LIGHTING AND RECEPTACLE BRANCH CIRCUIT WIRING FOUND DEFECTIVE.
21. WHERE PLATFORM MOUNTED EQUIPMENT IS SUPPLIED FROM BELOW, EXTEND OR REPLACE PORTION OF CONDUIT THAT STUBS-UP THROUGH PLATFORM TO ACCOMMODATE NEW PLATFORM THICKNESS. COORDINATE WITH STRUCTURAL WORK.
22. TEMPORARY LIGHTING
  - A. PROVIDE A TEMPORARY LIGHTING SYSTEM IN PUBLIC AREAS AFFECTED BY THE SCOPE OF WORK INCLUDING BUT NOT LIMITED TO PLATFORMS AND ACCESS PASSAGEWAYS. THE LIGHTING SYSTEM TO BE PROVIDED SHALL INCLUDE LIGHTING FIXTURES, WIRING, RACEWAY, AND SUPPORTS; AND SHALL COMPLY WITH WMATA DESIGN CRITERIA INCLUDING THE FOLLOWING:
    - B. ILLUMINATION LEVELS SHALL BE 10FC (FOOT-CANDLES) AVERAGE AND 3FC MINIMUM.
    - C. LIGHT SOURCE TYPE AND VOLTAGE SHALL BE IN ACCORDANCE WITH WMATA DESIGN CRITERIA.
    - D. A MINIMUM OF 20% OF FIXTURES SHALL BE DESIGNATED AS EMERGENCY FIXTURES AND SHALL BE SUPPLIED FROM AN EMERGENCY SOURCE. EMERGENCY ILLUMINATION LEVELS SHALL COMPLY WITH WMATA DESIGN CRITERIA, INCLUDING THE REQUIREMENT OF 2 FC IN PLATFORMS AND ACCESS PASSAGEWAYS AND 2.5 FC IN EMERGENCY EGRESS PATHS.
    - E. COORDINATE WITH THE WMATA AR FOR USE OF EXISTING NORMAL AND EMERGENCY POWER SOURCE FOR NORMAL AND EMERGENCY TEMPORARY LIGHTING.
    - F. PROVIDE A TEMPORARY LIGHTING SUBMITTAL SHOWING THE FOLLOWING:
      - I PHOTOMETRIC PLANS TO DEMONSTRATE THAT THE PROPOSED LIGHTING PLAN WILL PROVIDE THE REQUIRED ILLUMINATION LEVELS.
      - II PLANS SHOWING PROPOSED LOCATIONS OF LIGHT FIXTURES, MOUNTING HEIGHTS, MOUNTING DETAILS, POWER SOURCE(S), ROUTING AND SUPPORT MEANS OF ALL TEMPORARY SUPPLY WIRING. INCLUDE LOCATION OF PROPOSED POWER SOURCES AND ANY ANCILLARY EQUIPMENT.
      - III CATALOG CUTS OF PROPOSED TEMPORARY LIGHTING FIXTURE TYPES, WATTAGES, VOLTAGES AND LUMEN OUTPUT, AND ALL WIRING, RACEWAY, AND SUPPORT MEANS.
      - IV IF EXISTING PANELS ARE TO BE USED AS THE POWER SOURCE, SHOW ROUTING FROM POWER SOURCE. SHOW NUMBER OF CIRCUITS REQUIRED AND TOTAL LOAD IN KVA. VERIFY EXISTING PANEL HAS SUFFICIENT SPARE CAPACITY TO ACCOMMODATE LIGHTING LOAD BEING ADDED.
23. RESTORE ALL STRAY CURRENT CONDUCTORS AFFECTED BY CONSTRUCTION TO ORIGINAL CONDITION

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 43224, EXPIRATION DATE 04-14-2015.

FINAL

CONTRACT NO. FQ15093

DESIGNED	K. IBRAHIM	01/30/15
		DATE
DRAWN	V. BAHALLA	01/30/15
		DATE
CHECKED	A. FISHEL	01/30/15
		DATE
APPROVED	J. PURDY	01/30/15
		DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

Submitted \_\_\_\_\_  
PROJECT MANAGER

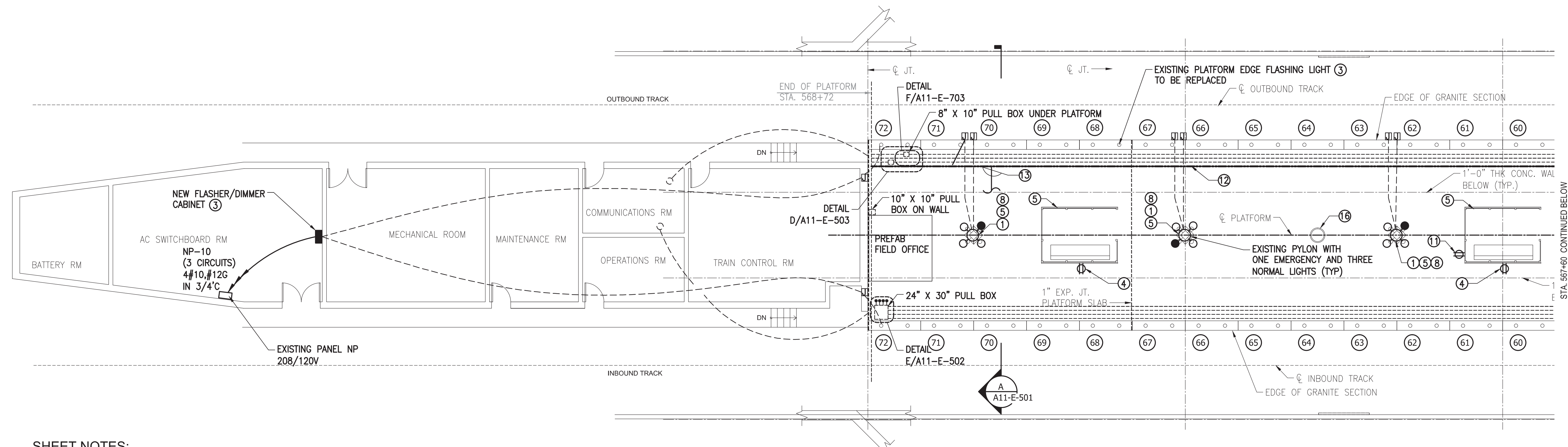
APPROVED \_\_\_\_\_

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

**GROSVENOR STATION**  
**SCOPE OF ELECTRICAL WORK AND GENERAL NOTES**

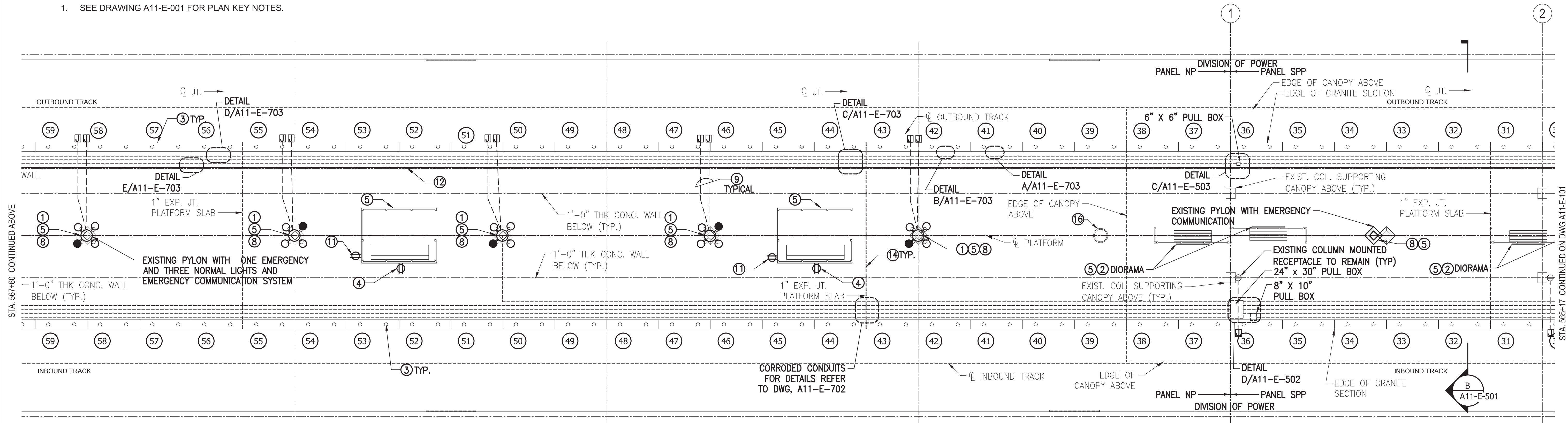
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**SHEET NOTES:**

- SEE DRAWING A11-E-001 FOR PLAN KEY NOTES.



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 43224, EXPIRATION DATE 04-14-2015.

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APPROVED \_\_\_\_\_

SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

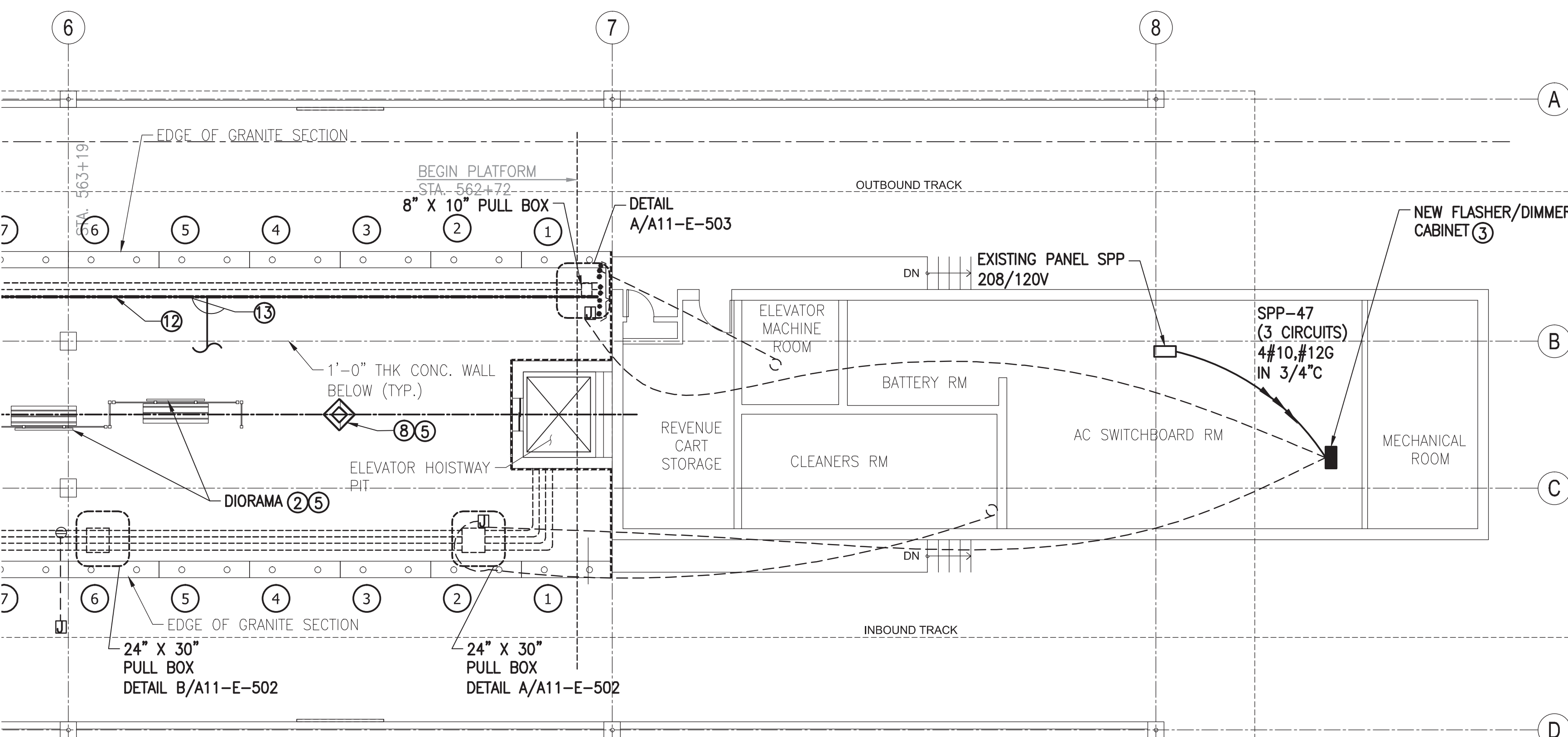
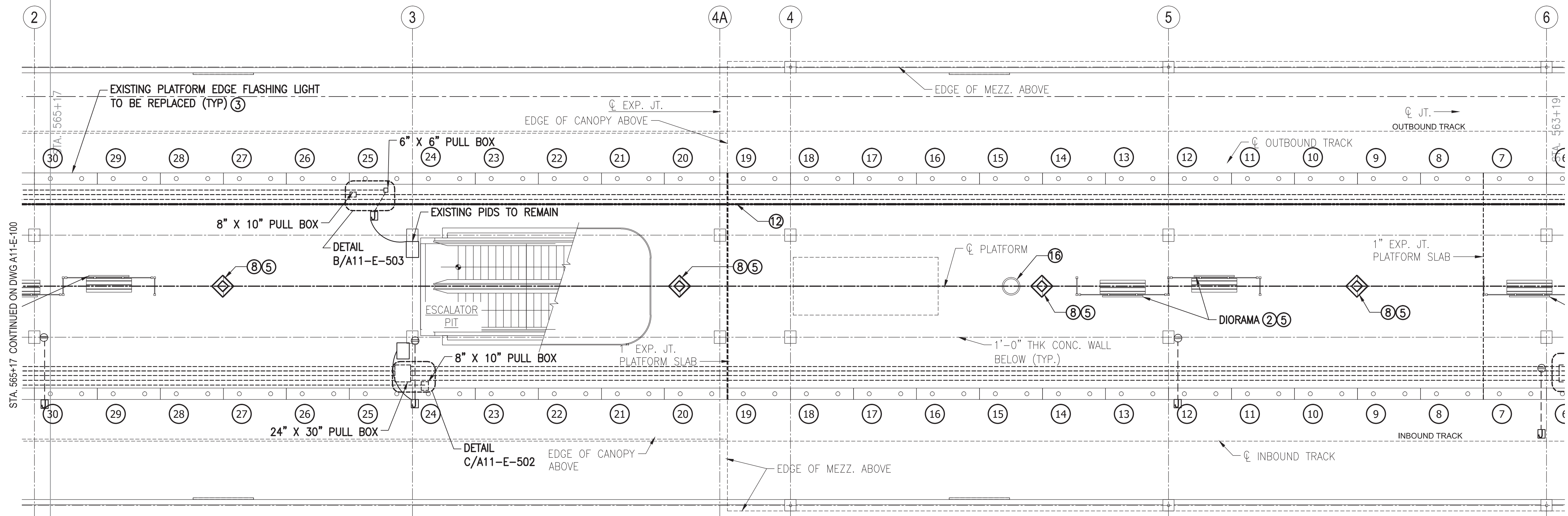
GROSVENOR STATION  
ELECTRICAL PLAN SHEET 1 OF 2

SCALE 1/8"=1'-0" 2 1 0 2 4 6 8 10

DRAWING NO. A11-E-100

SHEET NO. M1272-167





**SHEET NOTES:**

- 1. FOR KEY NOTES, SEE DRAWING A11-E-001.

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REVISIONS	
NUMBER	DESCRIPTION



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES

OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED Brad Mason, P.E. PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

GROSVENOR STATION ELECTRICAL PLAN SHEET 2 OF 2

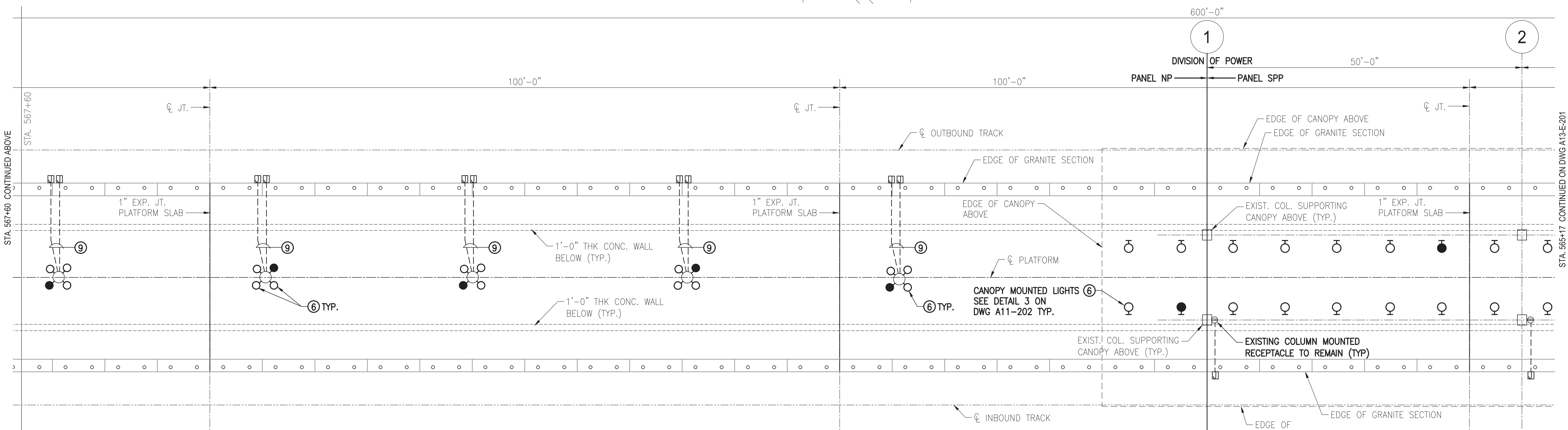
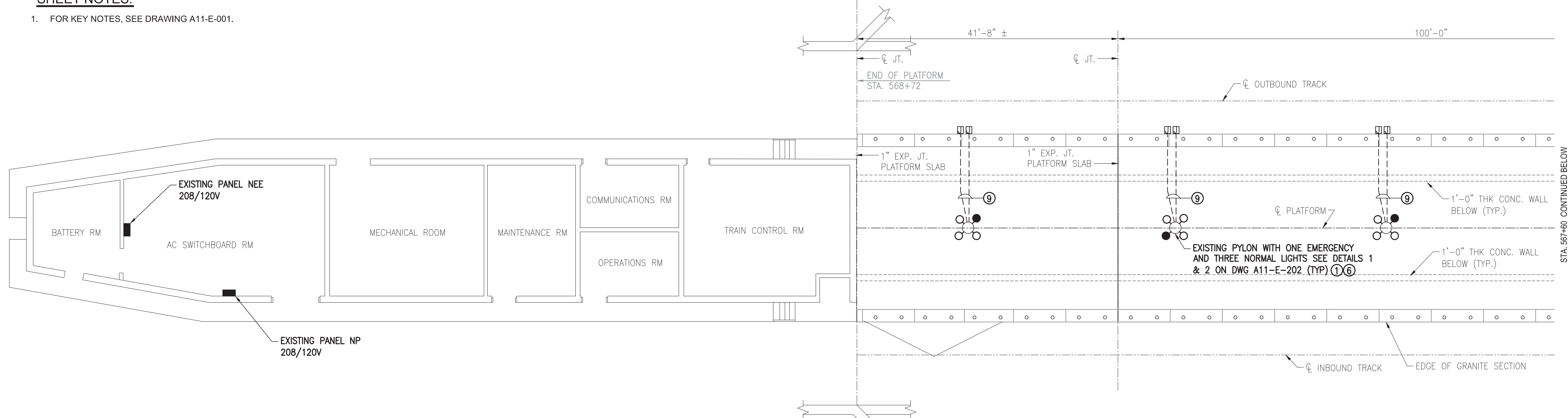
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DRAWING NO. A11-E-101 SHEET NO. M1272-168



**SHEET NOTES:**

1. FOR KEY NOTES, SEE DRAWING A11-E-001.



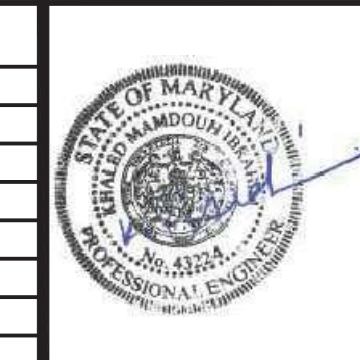
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REVISIONS		
NUMBER	DATE	DESCRIPTION



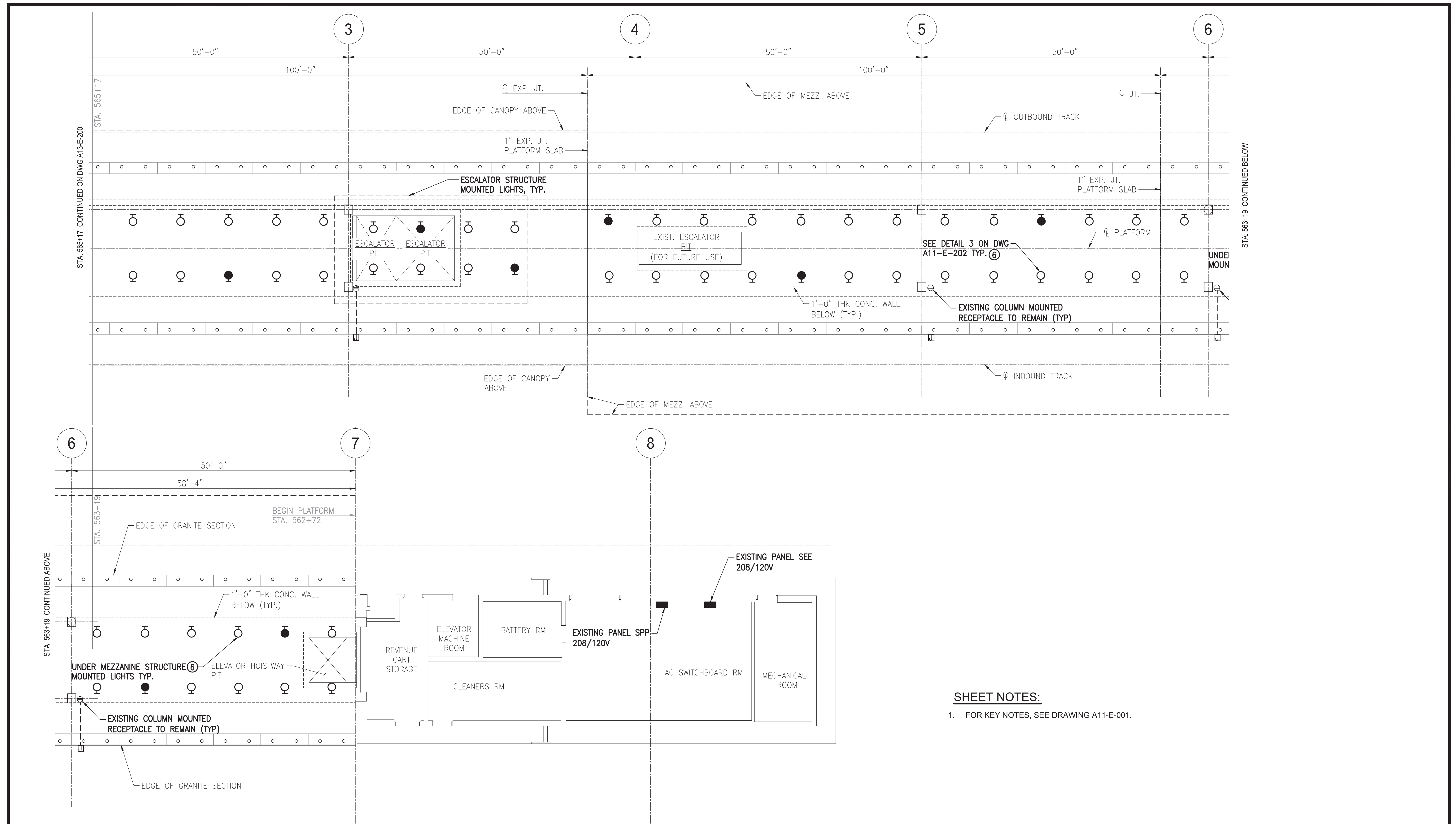
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_

**GFP** A Gannett Fleming/Parsons JOINT VENTURE  
 SUBMITTED Brad Mason, P.E.  
 PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
**GROSVENOR STATION PLATFORM LIGHTING PLAN**

SCALE: 1/8"=1'-0" 2 1 0 2 4 6 8 10  
 DRAWING NO. A11-E-200 SHEET NO. M1272-169





**SHEET NOTES:**

- 1. FOR KEY NOTES, SEE DRAWING A11-E-001.

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APPROVED \_\_\_\_\_ SUBMITTED Brad Mason, P.E. PROJECT MANAGER

**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**

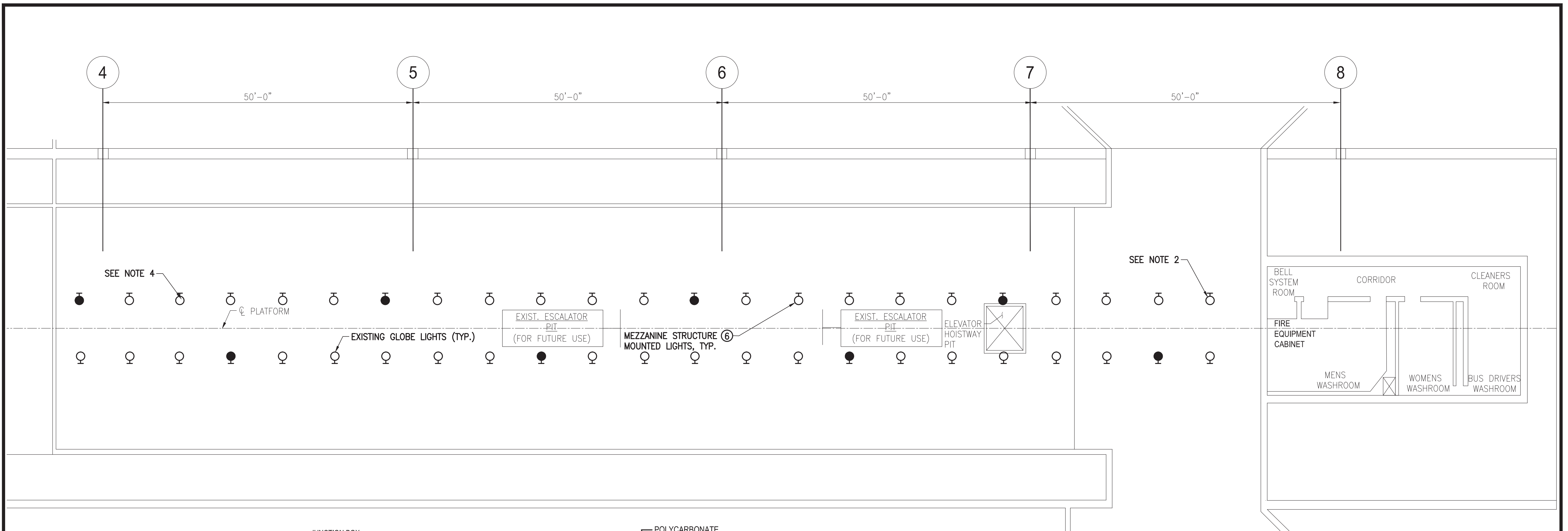
**GROSVENOR STATION PLATFORM LIGHTING PLAN**

SCALE 1/8"=1'-0" 2 1 0 2 4 6 8 10

DRAWING NO. A11-E-201

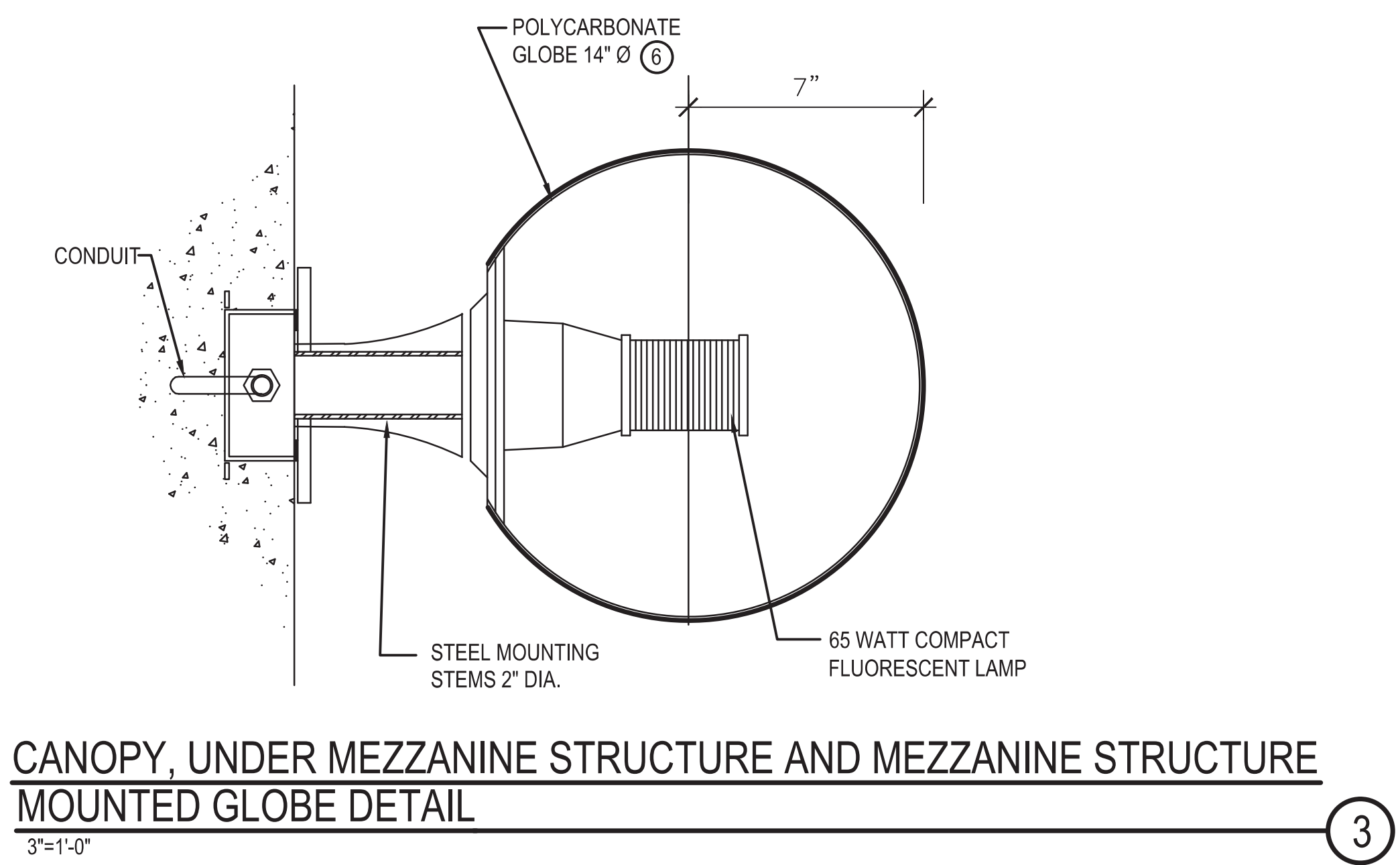
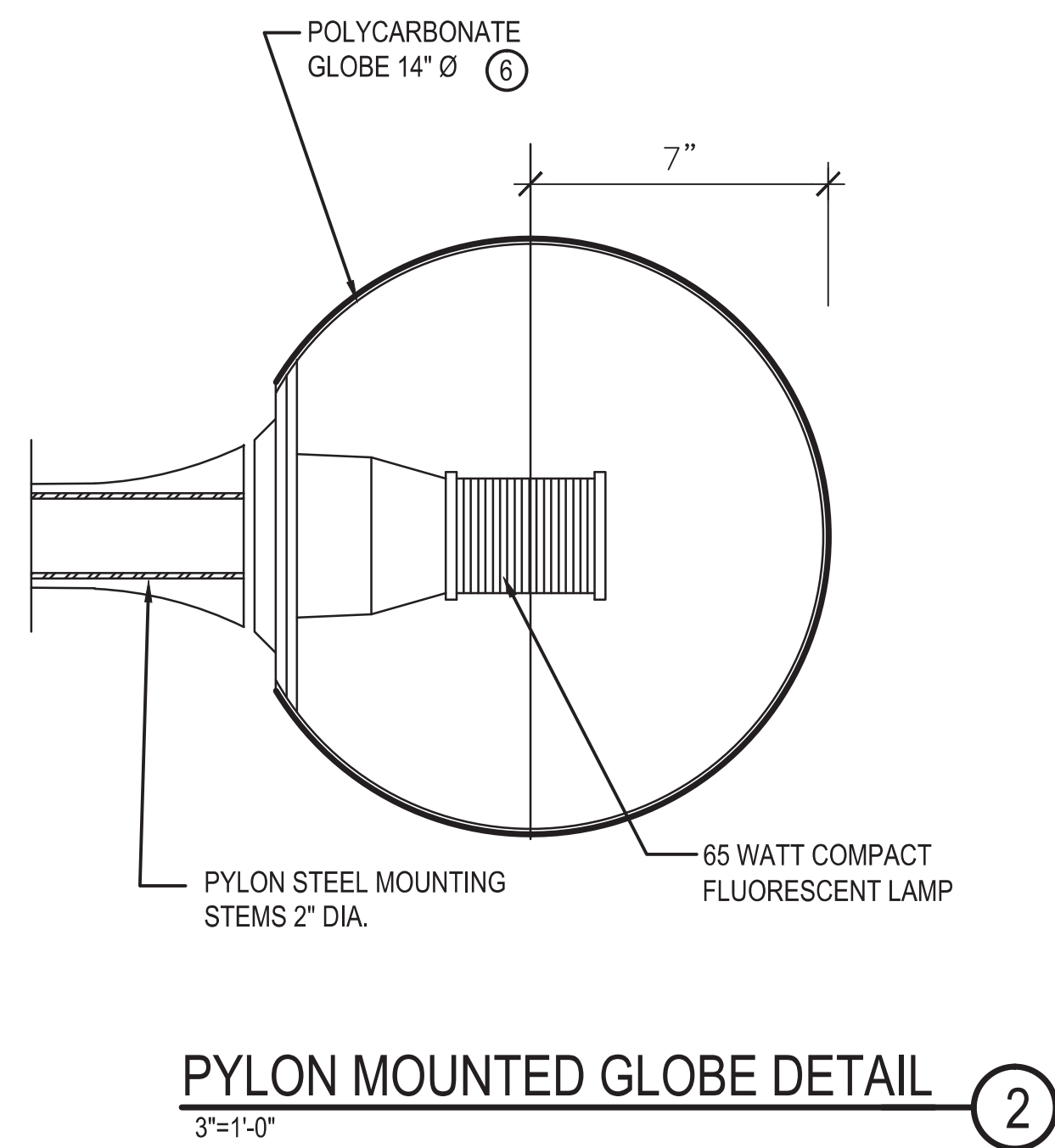
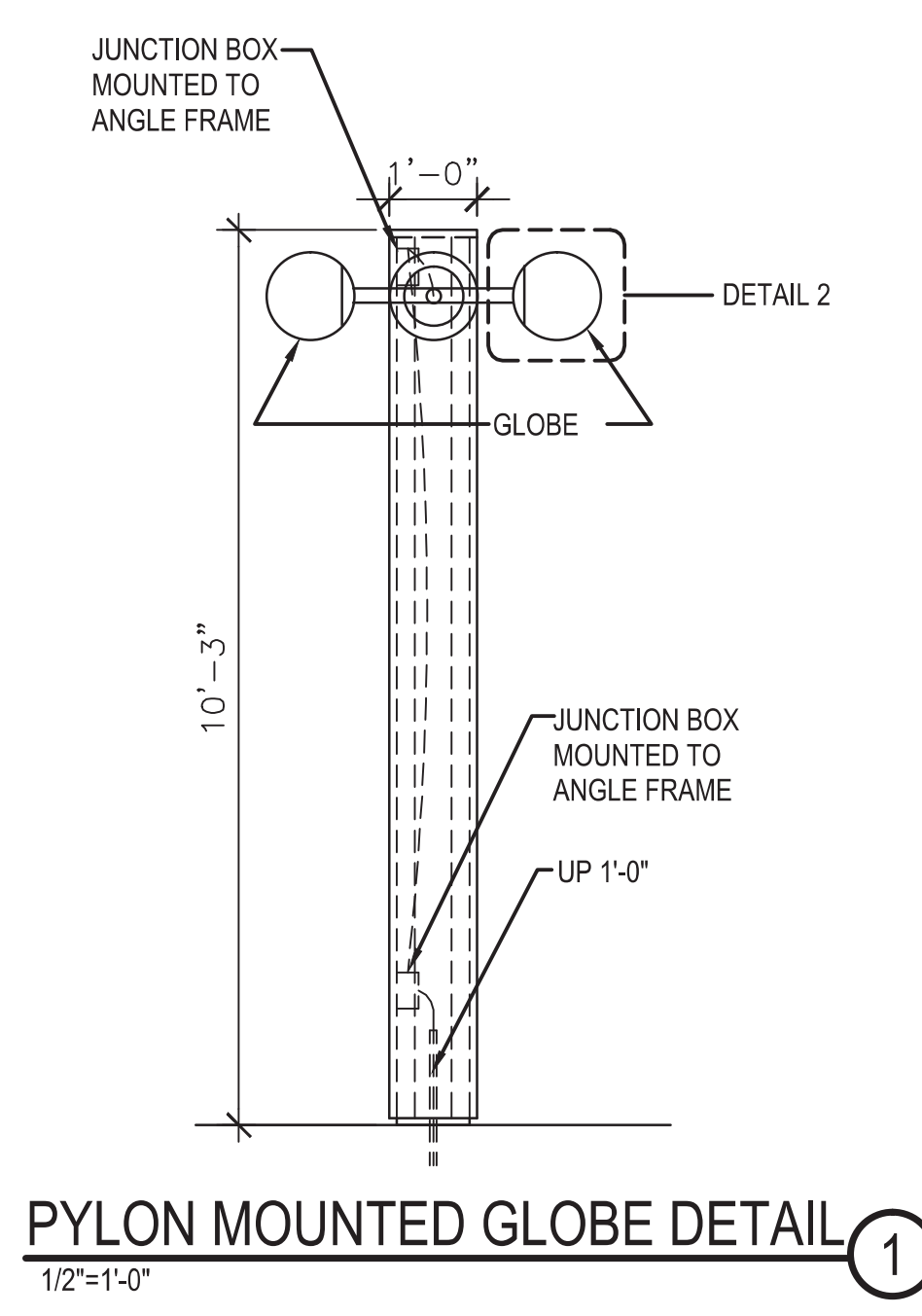
SHEET NO. M1272-170





**SHEET NOTES:**

- 1 FOR ADDITIONAL SHEET NOTES, SEE DRAWING A11-E-001.
- 2 NON-OPERATING FIXTURE AT THIS LOCATION. REPAIR OR REPLACE AS REQUIRED.
- 3 SEE DWG. A11-E-101 FOR LOCATION OF PANELS SPP AND SEE.
- 4 ONE FIXTURE MISSING AT THIS LOCATION. PROVIDE REPLACEMENT FIXTURE TO MATCH EXISTING.



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REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	DESCRIPTION

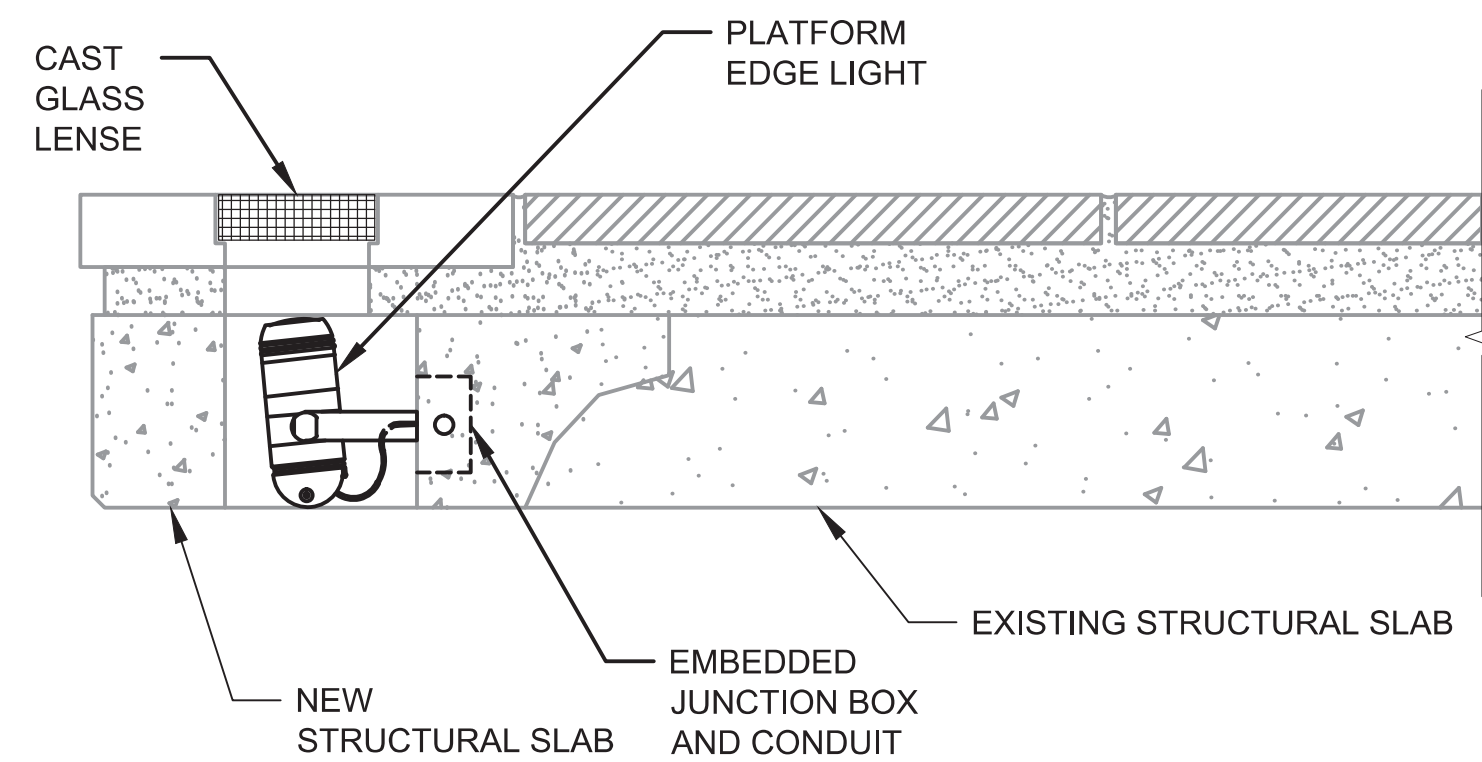


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 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_  
 SUBMITTED \_\_\_\_\_  
 PROJECT MANAGER



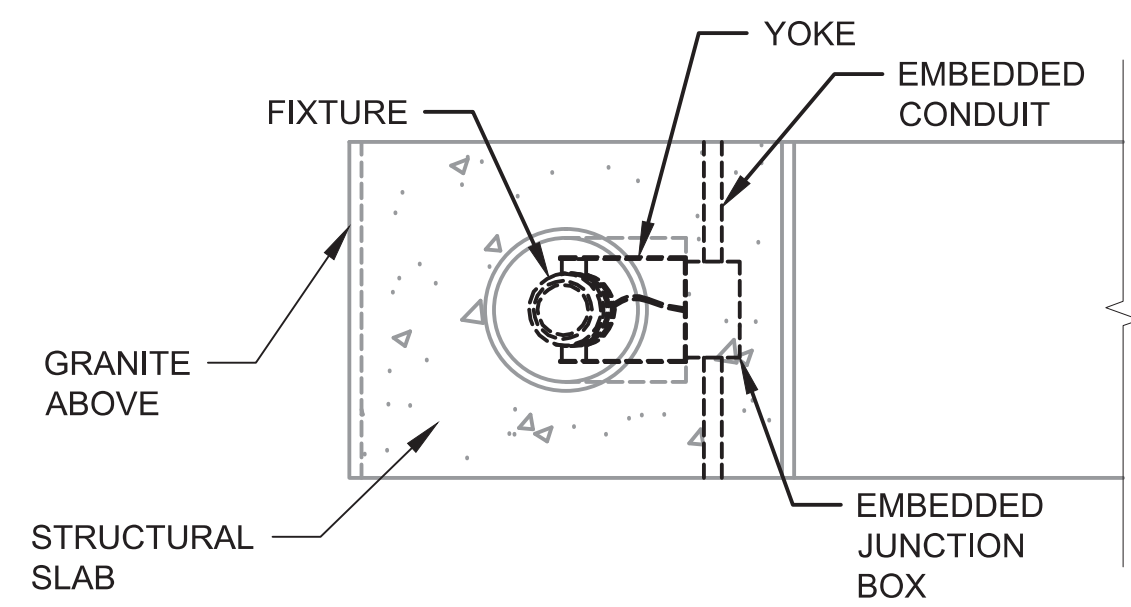
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
**GROSVENOR STATION MEZZANINE LIGHTING PLAN AND DETAILS**  
 SCALE: 1/8"=1'-0" 2 1 0 2 4 6 8 10  
 DRAWING NO. **A11-E-202** SHEET NO. **M1272-171**





NOTES:  
1. MANUFACTURE FIXTURE IN CONFORMANCE WITH THE N.E.C. REQUIREMENTS FOR WET LOCATIONS.

**SECTION @ PLATFORM EDGE**  
NOT TO SCALE



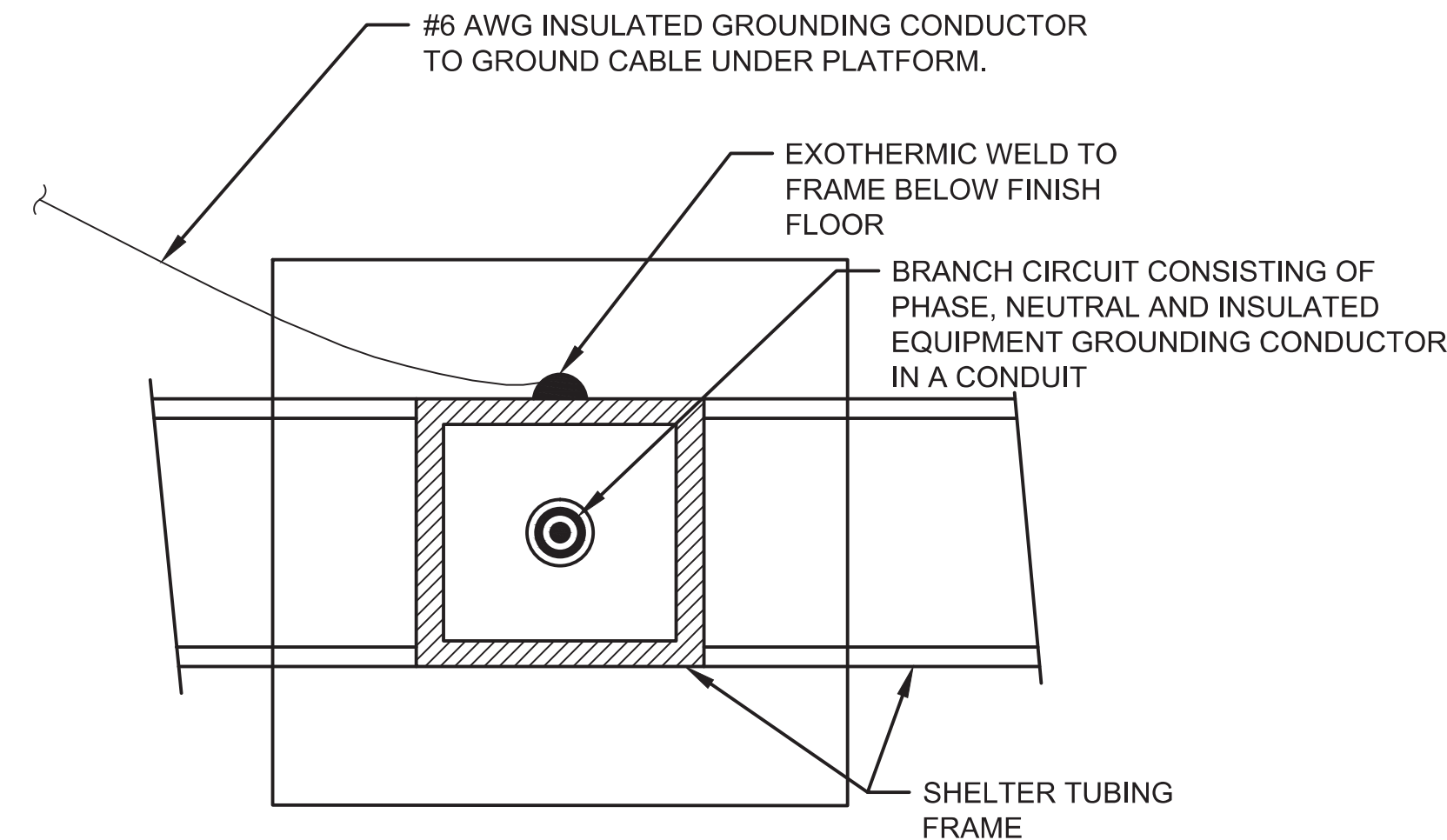
**LIGHT FIXTURE PLAN VIEW**  
NOT TO SCALE

LIGHTING FIXTURE SCHEDULE						
TYPE	DESCRIPTION	LAMPS	VOLTS	MOUNTING	MANUFACTURER MODEL NO.	NOTES
PLATFORM EDGE LIGHT	9W WHITE LED ACCENT LIGHT WITH INTEGRAL TRANSFORMER AND LED DRIVER, WE LOCATION LISTED (IP66), SEALED, DIE-CAST ALUMINUM CONSTRUCTION, MEDIUM FLOOD DISTRIBUTION	9W LED ARRAY (INTEGRAL)	120V	YOKE	HYDREL 4620-LED-WHT30K-120-MFL-YM-LP-BL	BLACK FINISH

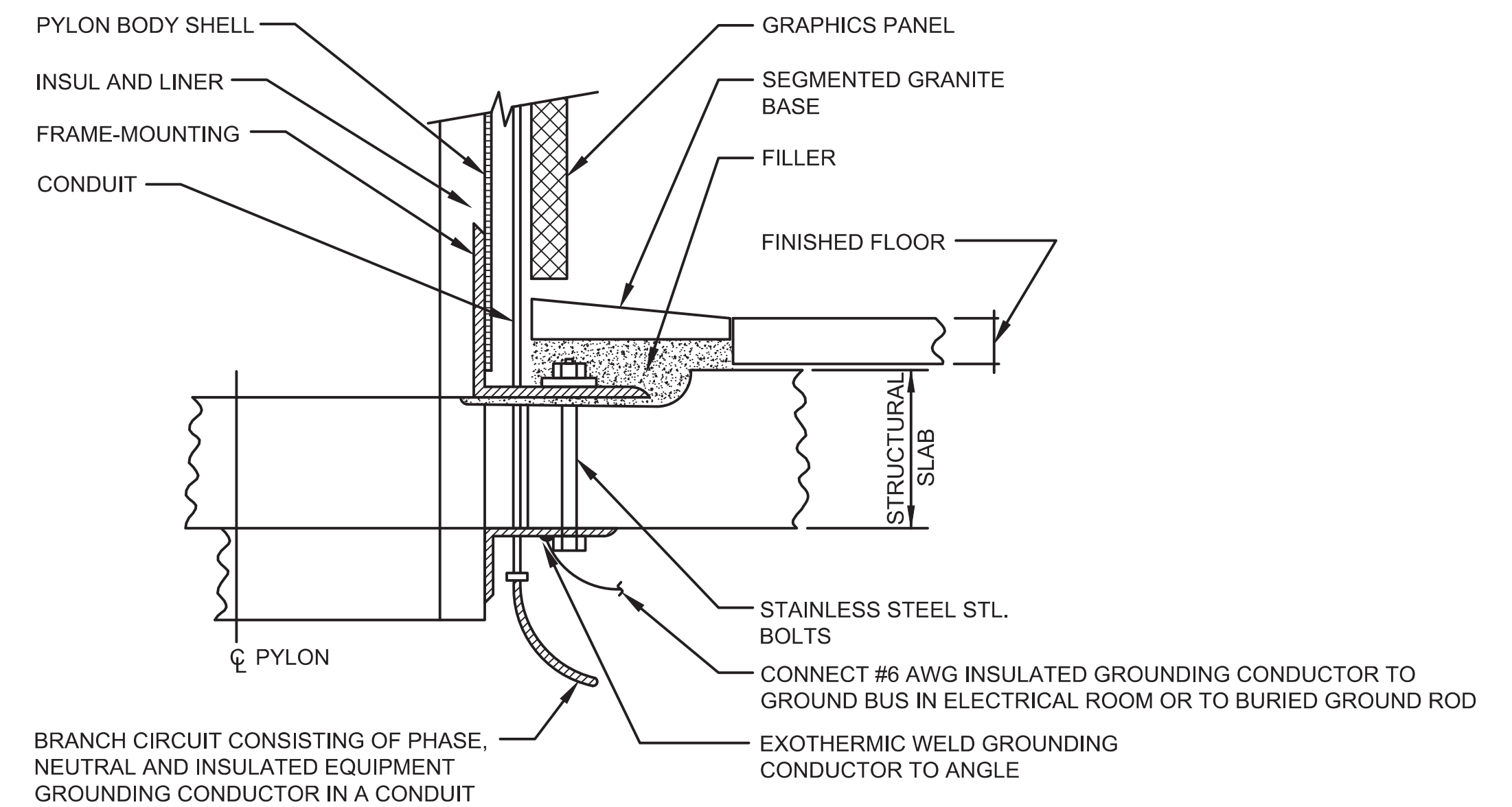
SEE NOTE 1

**NOTES:**

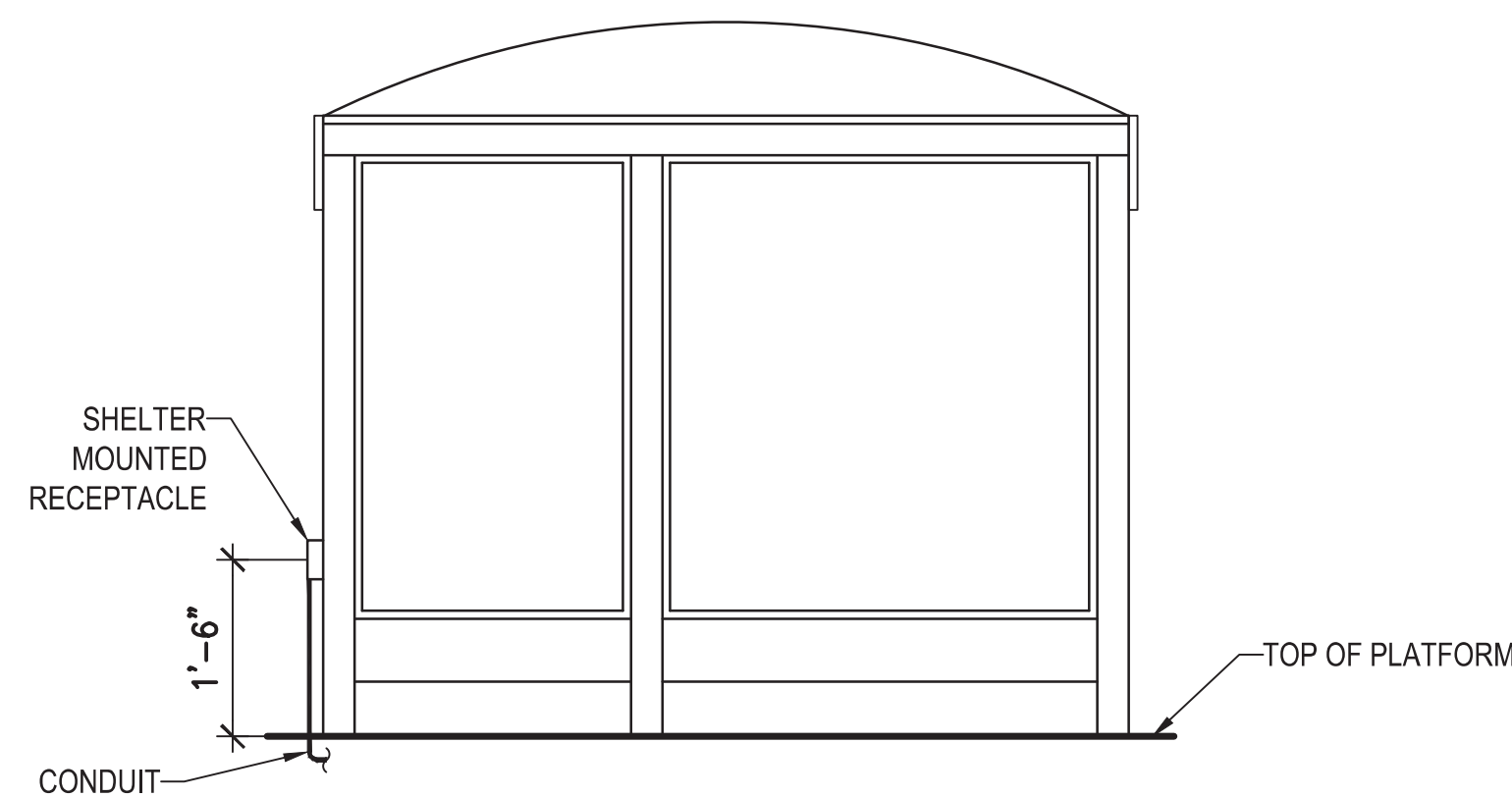
- LED EDGE LIGHTING SHALL BE YOKE MOUNTED AND FASTENED TO THE PLATFORM SLAB OR JUNCTION BOX WITHIN THE DETAILED LIGHT OPENING. MOUNTING YOKE SHALL BE CONSTRUCTED OF ALUMINUM ALLOY 6063 AND AFFIXED USING STAINLESS STEEL FASTENERS. LED LIGHT SHALL BE MOUNTED IN THE EDGE LIGHT OPENING SUCH THAT THE LENS IS CENTERED UNDER THE GLASS LENS IN THE GRANITE EDGE PIECE ABOVE. MANUFACTURER TO SUBMIT DETAILED CUT SHEET INCLUDING YOKE MOUNT, FASTENING, AND CONFIGURATION OF THE LED LIGHT IN THE PROVIDED EDGE LIGHT OPENING TO THE AUTHORITY'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO THE MANUFACTURE OR INSTALLATION OF MATERIALS. DISSIMILAR SURFACE ISOLATION - PAINT ALUMINUM SURFACES AT POINT OF CONTACT WITH CONCRETE CONSTRUCTION WITH ONE COAT (MINIMUM DRY MIL THICKNESS - 5.0 MILS) OF BITUMINOUS PAINT, MYLAR ISOLATORS, OR OTHER APPROVED MATERIAL.



**FRAME GROUNDING FOR PLATFORM PASSENGER SHELTER AT ELECTRICAL POWER ENTRY COLUMN**  
NOT TO SCALE



**PLATFORM PYLON GROUNDING**  
NOT TO SCALE



**NEW WIND SHELTER MOUNTED RECEPTACLES DETAIL**  
NOT TO SCALE

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CHECKED	A. FISHEL	01/30/15				
APPROVED	J. PURDY	01/30/15				



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
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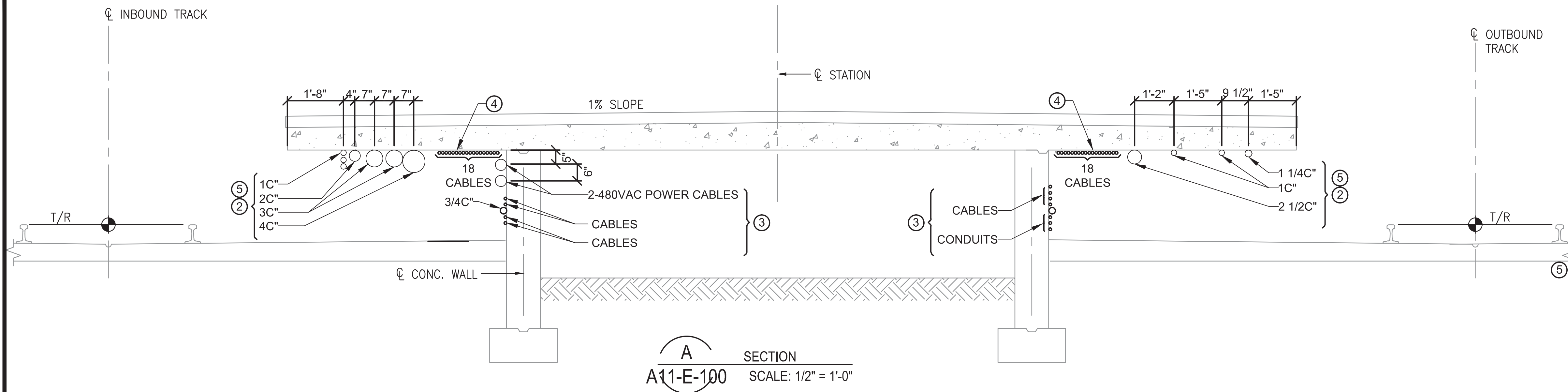


APPROVED \_\_\_\_\_ SUBMITTED Brad Mason, P.E. PROJECT MANAGER

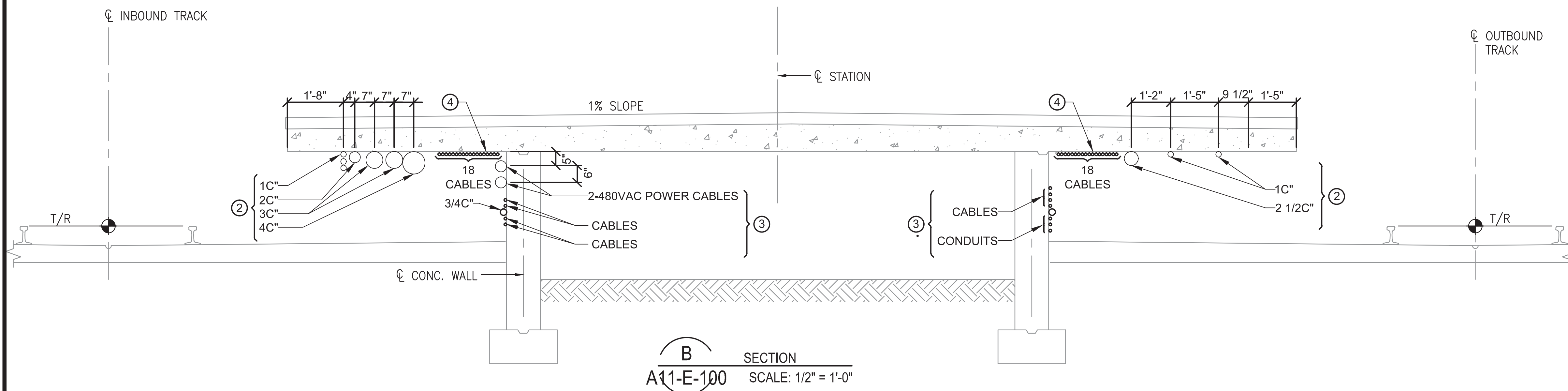
**RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4**  
**GROSVENOR STATION - PLATFORM REMOVAL ELECTRICAL SECTIONS AND DETAILS**

SCALE AS NOTED DRAWING NO. A11-E-500 SHEET NO. M1272-172





**A** SECTION  
A11-E-100 SCALE: 1/2" = 1'-0"



**B** SECTION  
A11-E-100 SCALE: 1/2" = 1'-0"

**SHEET NOTES:**

- ① EXISTING CONDUITS ARE SUPPORTED MOSTLY WITH CLAMPS OFF EMBEDDED CHANNEL INSERTS.
- ② REMOVE AND REPLACE CONDUITS UNDER THE PLATFORM OVERHANG, INCLUDING ALL ASSOCIATED JUNCTION AND PULL BOXES. CONDUITS TO BE REPLACED SHALL INCLUDE:
  - CONDUITS LOCATED DIRECTLY UNDER AREA OF STRUCTURAL REPAIR AND MUST BE TEMPORARILY RELOCATED TO ALLOW STRUCTURAL WORK
  - CORRODED CONDUITS (IF ANY PART OF A CONDUIT IS CORRODED THE LENGTH OF CONDUIT ALONG THE PLATFORM SHALL BE REPLACED)
 CABLES AND WIRING INSTALLED IN CONDUITS TO BE REPLACED SHALL BE REPLACED END-TO-END WITHOUT SPLICES. MATCH EXISTING CABLE TYPE AND CHARACTERISTICS, INCLUDING NUMBER AND SIZE OF CONDUCTORS, INSULATION TYPE, SHIELDING, INTENDED USE, AND APPROPRIATE UL LABELING. TRACE AND IDENTIFY ALL SUCH WIRING BY SYSTEM AND DETERMINE TERMINATION POINTS. CABLES MAY BE PART OF ANY OF THE FOLLOWING SYSTEMS: CCTV, FIA, PIDS, PERS, ELES, AND COMM. PROVIDE TEMPORARY CONDUIT AND WIRING AS REQUIRED DURING CONSTRUCTION TO ENSURE CONTINUITY OF SERVICE OF AFFECTED SYSTEMS. TEMPORARY CONDUIT AND WIRING MAY BE LOCATED ON TRACK BED UNDER THE PLATFORM OVERHANG, AND SHALL BE PROTECTED DURING CONSTRUCTION.
- ③ POWER, COMM AND TRAIN CONTROL CABLES AND CONDUITS ON RETAINING WALL SHALL REMAIN IN PLACE AND SHALL BE PROTECTED WITH PLYWOOD BOARD OR OTHER SUITABLE MEANS DURING PLATFORM STRUCTURAL WORK. CABLES ON THE WALL LOCATED WITHIN 12" OF BOTTOM OF PLATFORM MAY HAVE TO BE TEMPORARILY DROPPED. COORDINATE WITH OTHER TRADES FOR CONDUITS AND CABLES TO REMAIN IN PLACE. REPLACE CORRODED CABLE AND CONDUIT SUPPORTS WITH STAINLESS STEEL OR NON-METALLIC SUPPORTS.
- ④ EXISTING ATC CABLES TO REMAIN. PROTECT DURING CONSTRUCTION.
- ⑤ EXISTING CABLES UNDER THE PLATFORM OVERHANG THAT ARE DIRECTLY BELOW AREA OF STRUCTURAL REPAIR WORK AND NOT INSTALLED IN CONDUIT SHALL BE TEMPORARILY RELOCATED.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 43224, EXPIRATION DATE 04-14-2015.

FINAL CONTRACT NO. FQ15093

DESIGNED	K. IBRAHIM	01/30/15	REFERENCE DRAWINGS		REVISIONS	
			NUMBER	DESCRIPTION	DATE	BY
DRAWN	V. BAHALLA	01/30/15				
CHECKED	A. FISHEL	01/30/15				
APPROVED	J. PURDY	01/30/15				



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

**GFP** A Gannett Fleming/Parsons JOINT VENTURE

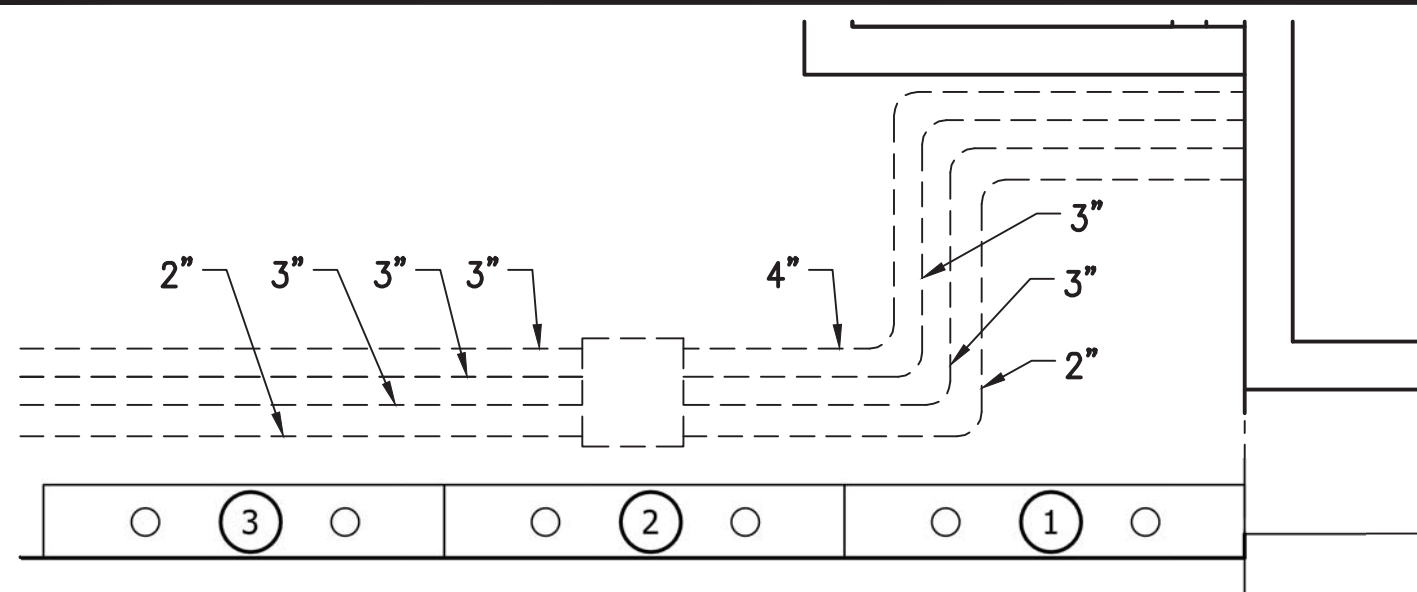
APPROVED \_\_\_\_\_ SUBMITTED Brad Mason, P.E. PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4

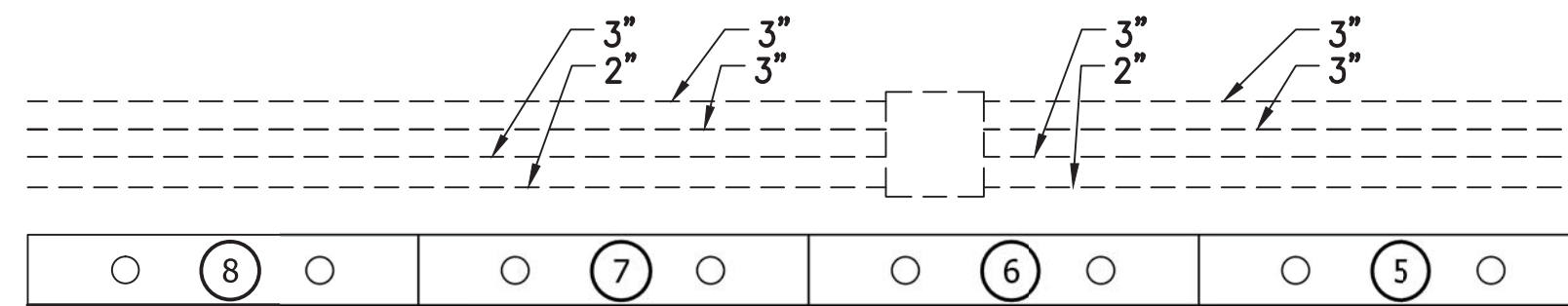
GROSVENOR STATION - PLATFORM REMOVAL ELECTRICAL SECTIONS AND DETAILS

SCALE AS NOTED DRAWING NO. A11-E-501 SHEET NO. M1272-173

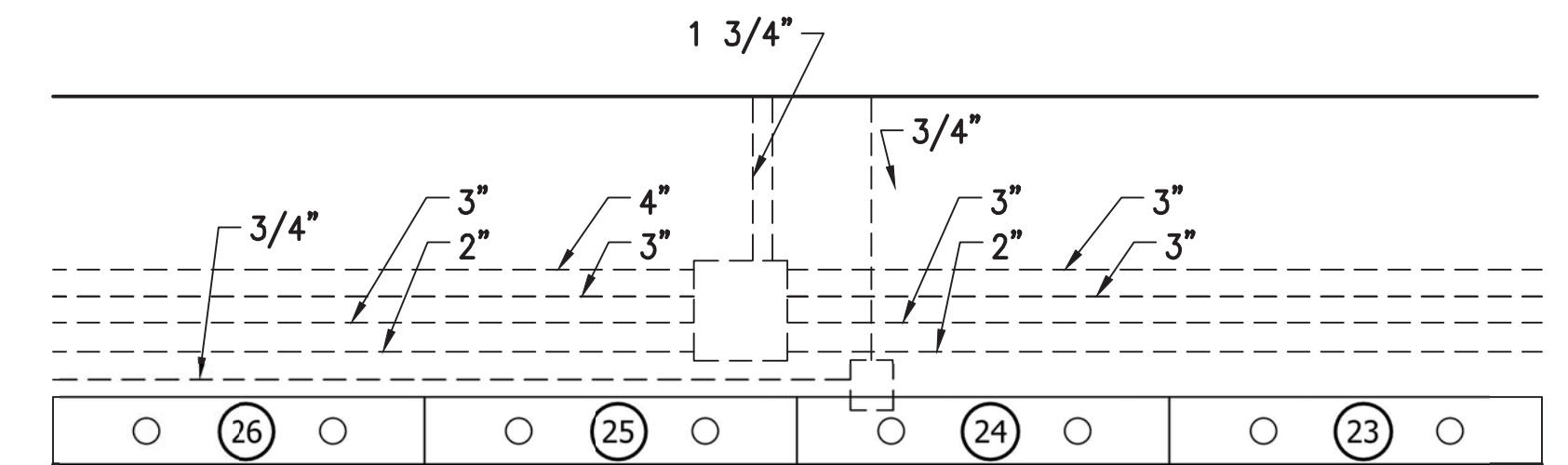




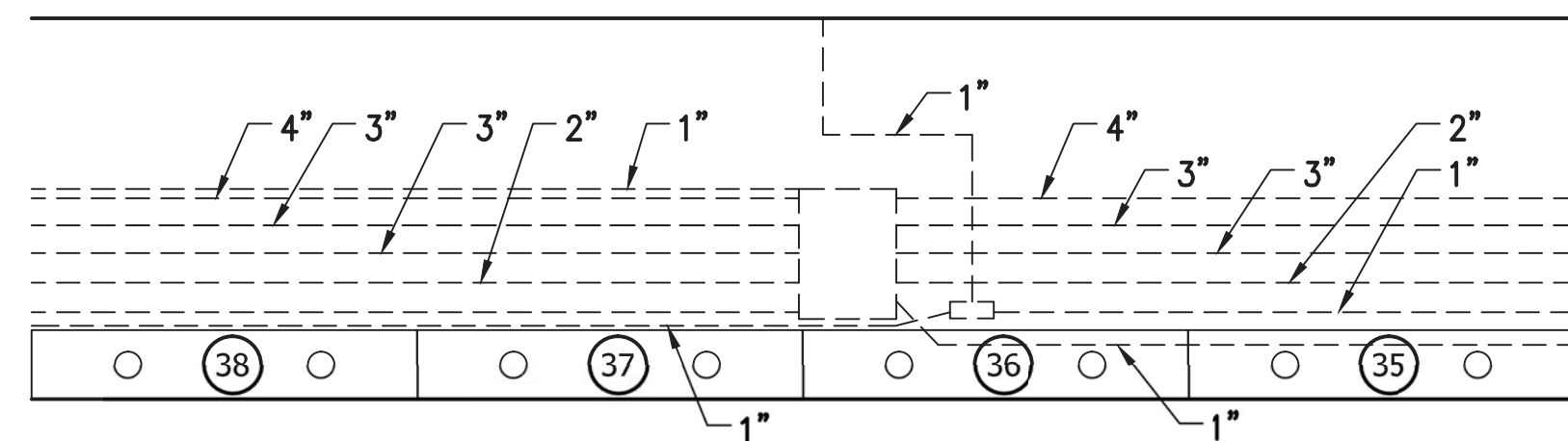
**A** **DETAIL: PLAN & PHOTO**  
A11E-101 SCALE: NOT TO SCALE



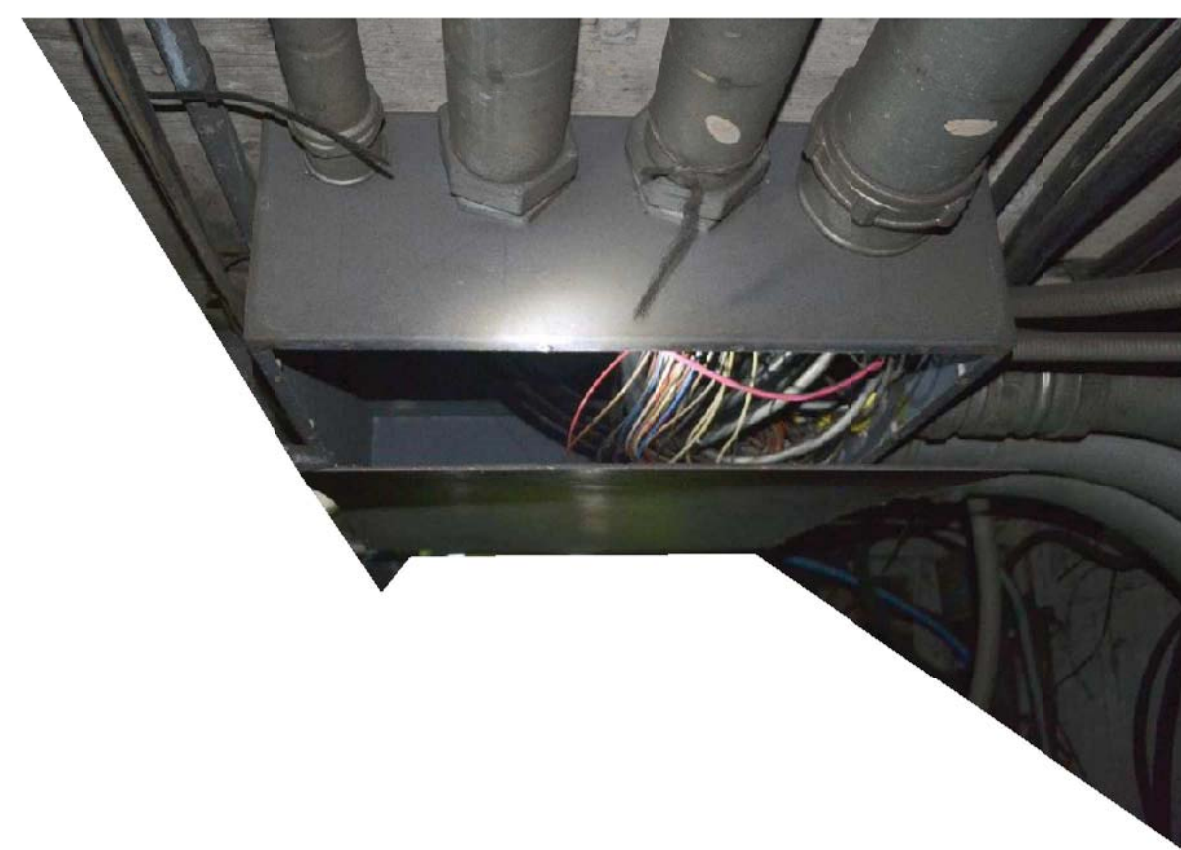
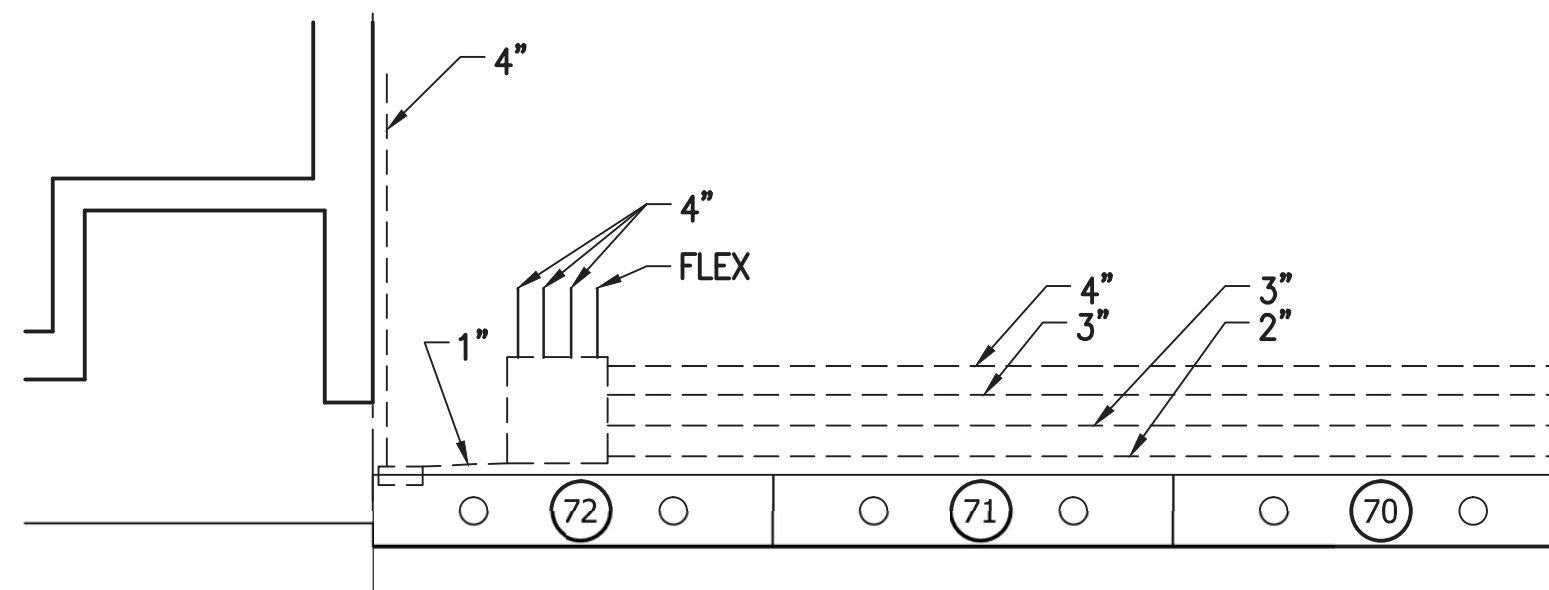
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A11E-101 SCALE: NOT TO SCALE



**C** **DETAIL: PLAN & PHOTO**  
A11E-101 SCALE: NOT TO SCALE



**D** **DETAIL: PLAN & PHOTO**  
A11E-100 SCALE: NOT TO SCALE



**E** **DETAIL: PLAN & PHOTO**  
A11E-100 SCALE: NOT TO SCALE

**SHEET NOTES**

- COORDINATE REPLACEMENT OF CORRODED OR BROKEN CONDUITS AND JUNCTION BOXES WITH WMATA AR.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 43224, EXPIRATION DATE 04-14-2015.

FINAL CONTRACT NO. FQ15093

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DRAWN	V. BAHALLA	01/30/15				
CHECKED	A. FISHEL	01/30/15				
APPROVED	J. PURDY	01/30/15				



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM



APPROVED \_\_\_\_\_

SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER

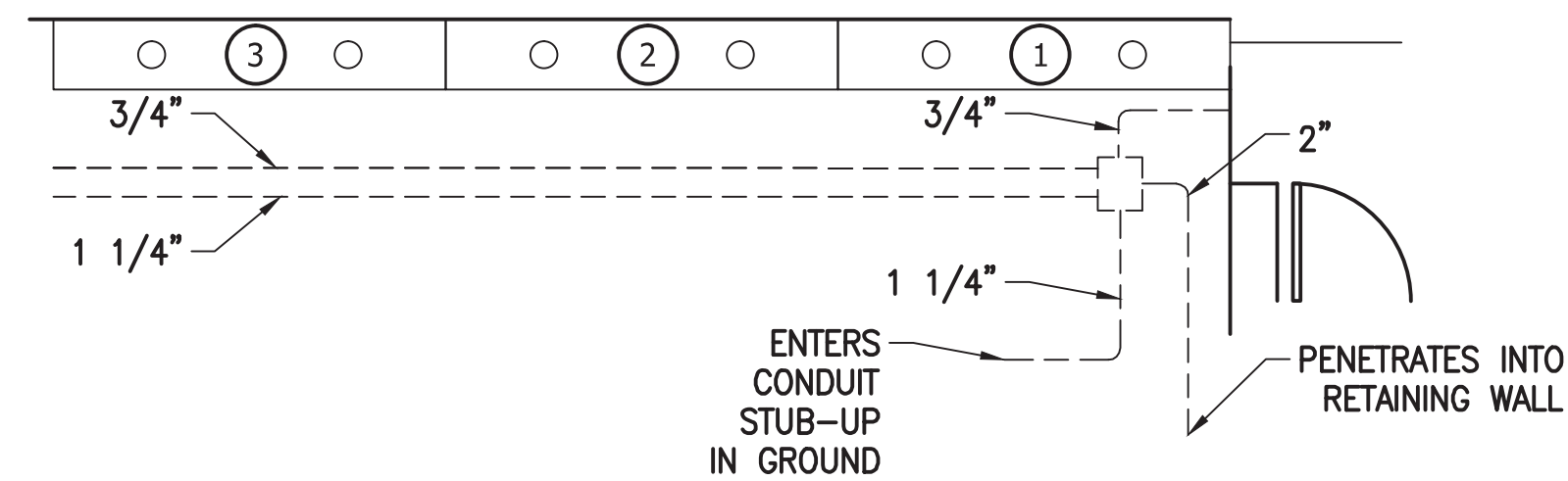
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION  
EXISTING CONDITIONS - ELECTRICAL DETAILS

SCALE AS NOTED

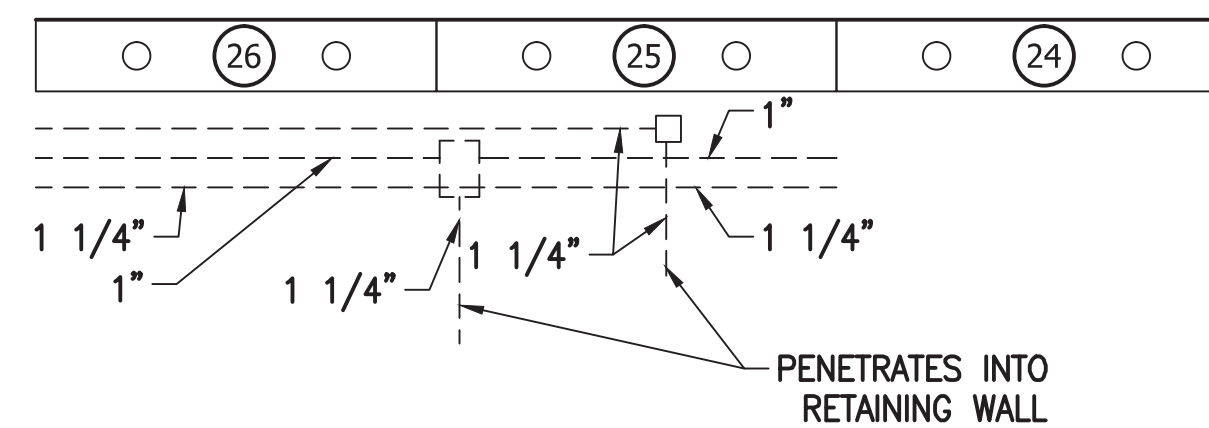
DRAWING NO. A11-E-502

SHEET NO. M1272-174

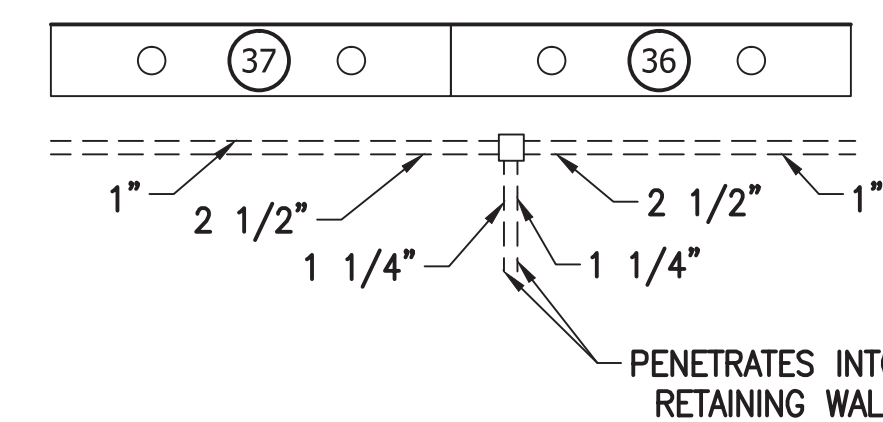




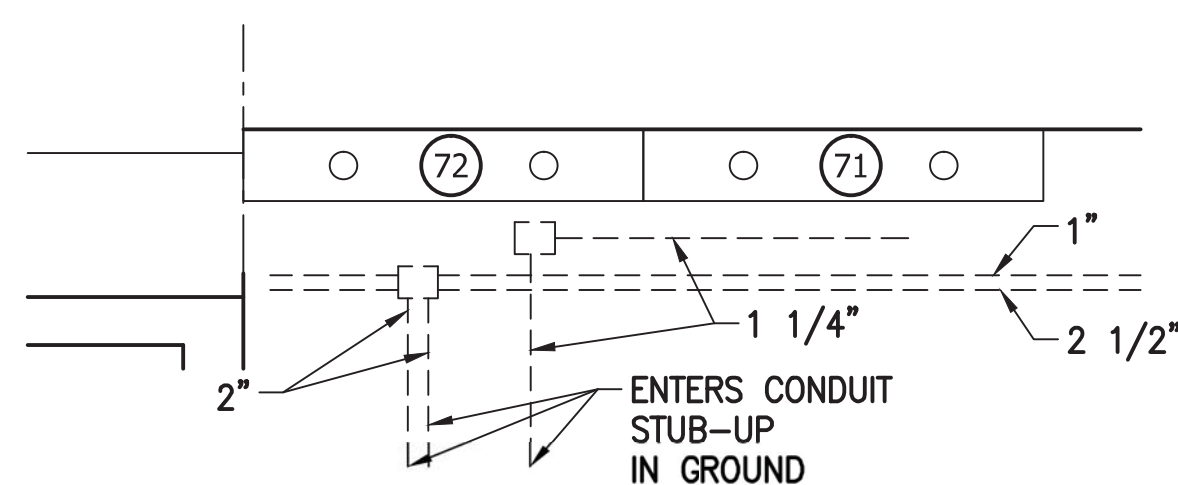
**A** **DETAIL: PLAN & PHOTO**  
A11E-101 SCALE: NOT TO SCALE



**B** **DETAIL: PLAN & PHOTO**  
A11E-101 SCALE: NOT TO SCALE



**C** **DETAIL: PLAN & PHOTO**  
A11E-100 SCALE: NOT TO SCALE



**D** **DETAIL: PLAN & PHOTO**  
A11E-100 SCALE: NOT TO SCALE

**SHEET NOTES**

- COORDINATE REPLACEMENT OF CORRODED OR BROKEN CONDUITS AND JUNCTION BOXES WITH WMATA AR.

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
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APPROVED \_\_\_\_\_

SUBMITTED Brad Mason, P.E.  
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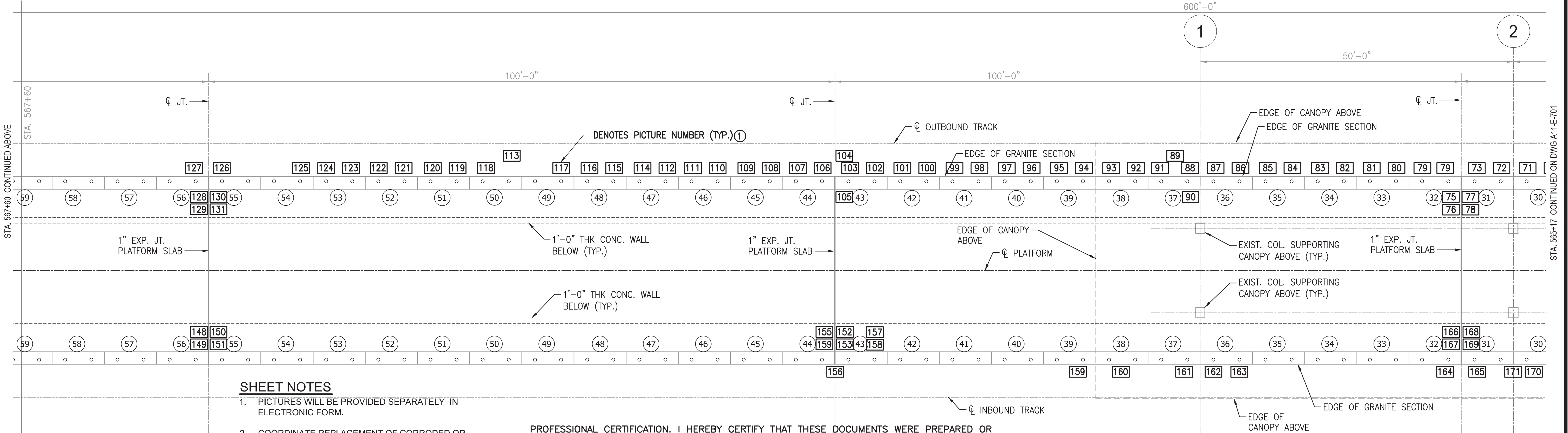
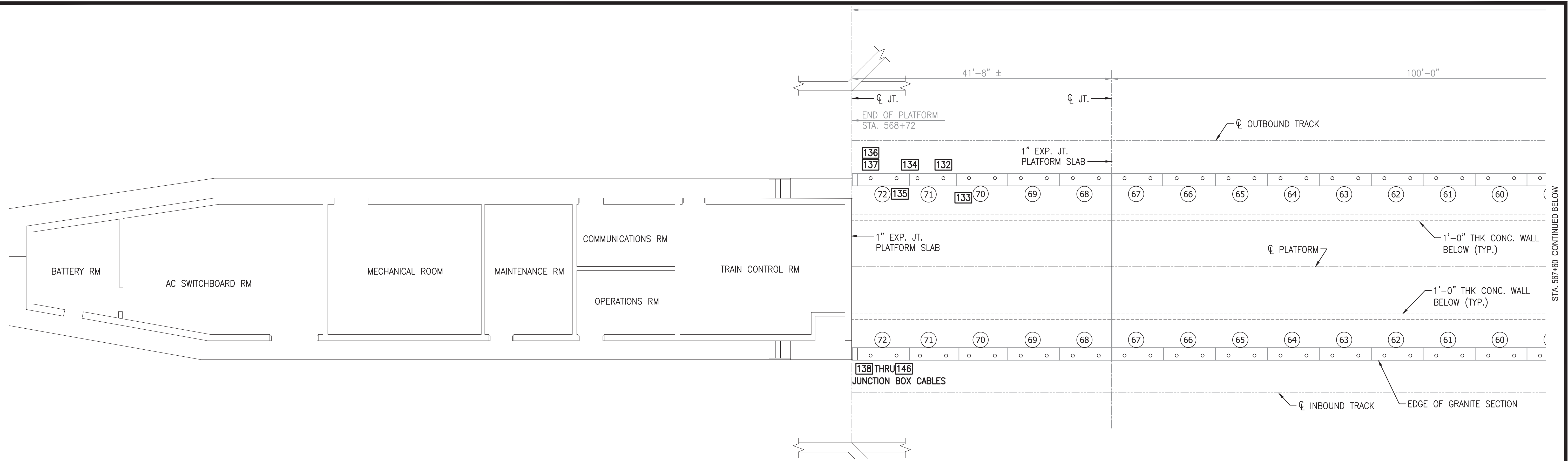
RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION  
EXISTING CONDITIONS - ELECTRICAL DETAILS

SCALE AS NOTED

DRAWING NO. A11-E-503

SHEET NO. M1272-175





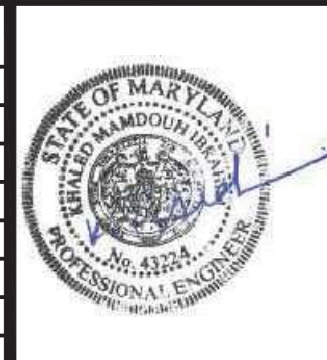
- SHEET NOTES**
1. PICTURES WILL BE PROVIDED SEPARATELY IN ELECTRONIC FORM.
  2. COORDINATE REPLACEMENT OF CORRODED OR BROKEN CONDUITS AND JUNCTION BOXES WITH WMATA AR.

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FINAL CONTRACT NO. FQ15093

DESIGNED K. IBRAHIM 01/30/15  
 DRAWN V. BAHALLA 01/30/15  
 CHECKED A. FISHEL 01/30/15  
 APPROVED J. PURDY 01/30/15

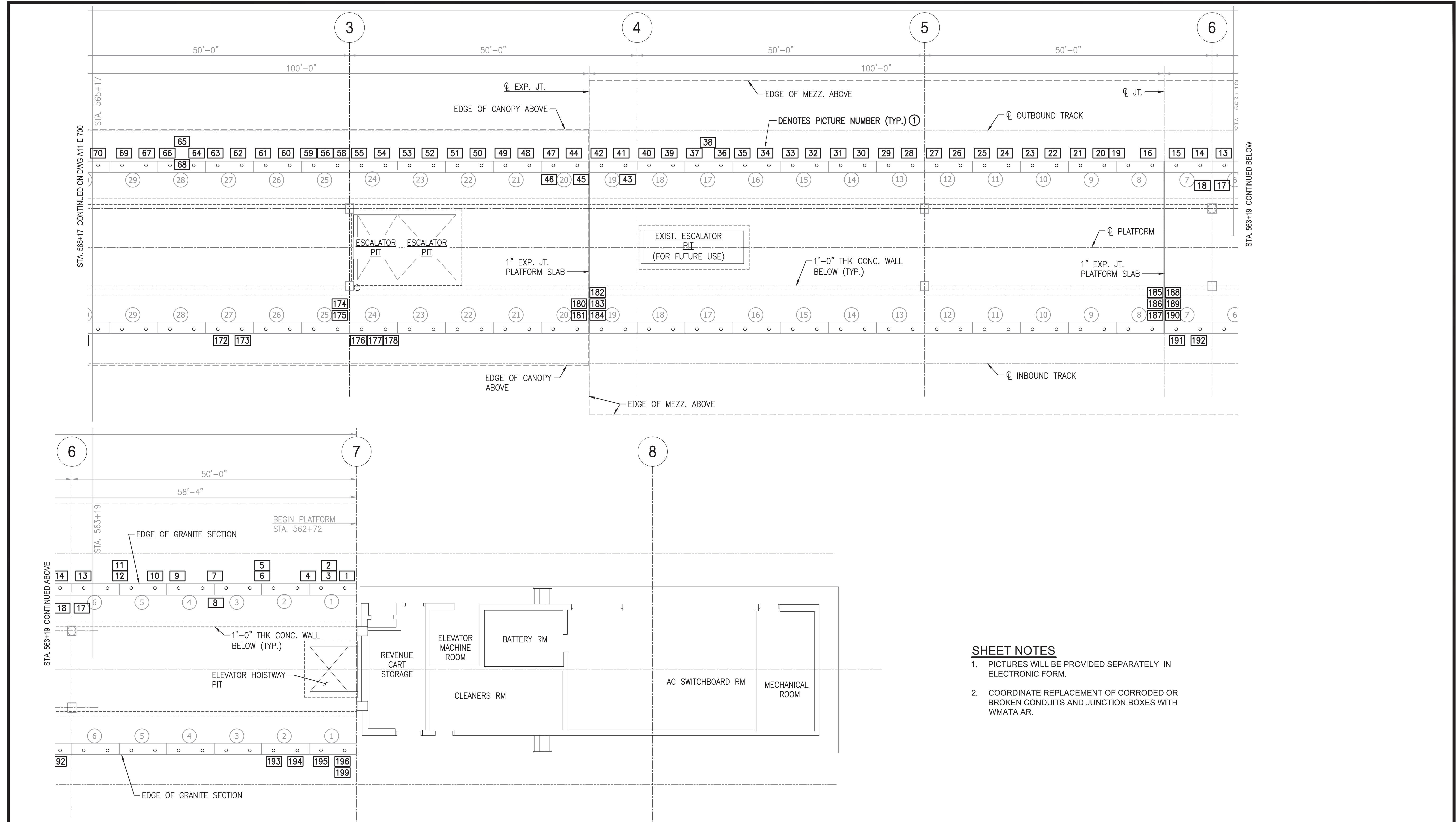
REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_  
 SUBMITTED Brad Mason, P.E. PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
 GROSVENOR STATION  
 EXISTING CONDITIONS - PICTURE KEY PLAN  
 SCALE 1/8"=1'-0" 2 1 0 2 4 6 8 10  
 DRAWING NO. A11-E-700 SHEET NO. M1272-176





**SHEET NOTES**

1. PICTURES WILL BE PROVIDED SEPARATELY IN ELECTRONIC FORM.
2. COORDINATE REPLACEMENT OF CORRODED OR BROKEN CONDUITS AND JUNCTION BOXES WITH WMATA AR.

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 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM  
 APPROVED \_\_\_\_\_  
 SUBMITTED Brad Mason, P.E.  
 PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
 GROSVENOR STATION  
 EXISTING CONDITIONS - PICTURE KEY PLAN  
 SCALE: 1/8"=1'-0" 2 1 0 2 4 6 8 10  
 DRAWING NO. A11-E-701 SHEET NO. M1272-177





CONDUIT STUB UPS AND CABLE ROUTING AT END OF PLATFORM



TYPICAL CONDUIT CONDITION UNDER/NEAR PLATFORM EXPANSION JOINT



CONDUITS/CABLES UNDER PLATFORM OVERHANG



CONDUITS/CABLES UNDER PLATFORM OVERHANG



CONDUITS/CABLES UNDER PLATFORM OVERHANG AND OFF CONCRETE WALL

**SHEET NOTES**

- COORDINATE REPLACEMENT OF CORRODED OR BROKEN CONDUITS AND JUNCTION BOXES WITH WMATA AR.

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FINAL

CONTRACT NO. FQ15093

DESIGNED			REFERENCE DRAWINGS			REVISIONS		
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE
1								
2								
3								
4								
5								



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES  
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APPROVED \_\_\_\_\_

SUBMITTED Brad Mason, P.E.  
PROJECT MANAGER

RED LINE REHAB.-FRIENDSHIP HEIGHTS TO GROSVENOR - PART 4  
GROSVENOR STATION - PLATFORM REMOVAL ELECTRICAL REPRESENTATIVE PICTURES

SCALE: 1/8"=1'-0"

DRAWING NO. A11-E-702 SHEET NO. M1272-178