



# CIVIL CONSTRUCTION

## VOLUME 6 RETAINING WALLS

PLAN PACKAGE INDEX / DESCRIPTION	
CIVIL CONSTRUCTION	BID ALTERNATES
VOLUME 1 - EXISTING CONDITIONS & REMOVALS	VOLUME A - NOT USED
VOLUME 2A - CIVIL	VOLUME B - NOT USED
VOLUME 2B - CIVIL	VOLUME C - BID ALTERNATE 3 (LRCI 5) ▲
VOLUME 3A - TRACKWORK	VOLUME D - BID ALTERNATE 4 (LRCI 6) ▲
VOLUME 3B - TRACKWORK	VOLUME E - BID ALTERNATE 5 (LRCI 7) ▲
VOLUME 3C - TRACKWORK DETAILS	VOLUME F - BID ALTERNATE 6 (LRCI 8) ▲
VOLUME 4A - BRIDGES	VOLUME G - BID ALTERNATE 7 (LRCI 4) ▲
VOLUME 4B - BRIDGES	VOLUME H - BID ALTERNATE 8 (LRCI 10) ▲
VOLUME 4C - BRIDGES	VOLUME I - BID ALTERNATE 9 (LRCI 11) ▲
VOLUME 4D - BRIDGES	VOLUME J - BID ALTERNATE 10 (LRCI 12)
VOLUME 4E - BRIDGES	VOLUME K - BID ALTERNATE 11 (LRCI 13)
VOLUME 4F - BRIDGES	VOLUME L - BID ALTERNATE 12 (LRCI 14)
VOLUME 4G - BRIDGES	VOLUME M - BID ALTERNATE 13 (LRCI 26)
VOLUME 5 - TUNNELS	VOLUME N - BID ALTERNATE 14 (LRCI 27)
VOLUME 6 - RETAINING WALLS	VOLUME O - BID ALTERNATE 15 (LRCI 17)
VOLUME 7 - UTILITIES	VOLUME P - BID ALTERNATE 20 (LRCI 32)
VOLUME 8 - DRAINAGE	VOLUME Q - BID ALTERNATE 21 (LRCI 33)
VOLUME 9 - URBAN DESIGN / LANDSCAPE	
VOLUME 10A - TRAFFIC	
VOLUME 10B - LIGHTING *	
VOLUME 11A - STATIONS ▲	
VOLUME 11B - STATIONS	
VOLUME 11C - STATIONS	
VOLUME 11D - STATIONS	
VOLUME 11E - STATIONS	
VOLUME 12 - SYSTEMS	

\* TO BE SUBMITTED AT A LATER DATE  
▲ SUBMITTED AT 75%, NOT INCLUDED IN 90%

THE PROPOSED SOUTHWEST LRT PROJECT IS NOT FINAL BUT IS STILL UNDER ENVIRONMENTAL REVIEW AND THE PROJECT IS SUBJECT TO CHANGE. THESE PLANS ARE NOT FINAL.

THE COUNCIL, THROUGH THE DEVELOPMENT OF THESE PLANS, DOES NOT INTEND THAT THEY WILL PREJUDICE OR COMPROMISE ANY STATE OR FEDERAL ENVIRONMENTAL REVIEW OR OTHER LEGAL REQUIREMENTS. THESE PLANS DO NOT LIMIT THE PROJECT DESIGN ALTERNATIVES OR MITIGATIVE MEASURES THAT THE COUNCIL MAY UNDERTAKE IF THE PROPOSED SWLRT PROJECT PROCEEDS TO CONSTRUCTION.

THE COUNCIL WILL NOT TAKE FINAL ACTION ON THIS MATTER UNLESS THE COUNCIL PROCEEDS WITH THE PROJECT AFTER THE FTA'S RECORD OF DECISION AND THE COUNCIL'S DETERMINATION OF ADEQUACY.

WARNING: THIS RECORD MAY CONTAIN SENSITIVE SECURITY INFORMATION THAT IS CONTROLLED UNDER 49 CFR PARTS 15 AND 1520. NO PART OF THIS RECORD MAY BE DISCLOSED TO PERSONS WITHOUT A "NEED TO KNOW", AS DEFINED IN 49 CFR PARTS 15 AND 1520, EXCEPT WITH THE WRITTEN PERMISSION OF THE ADMINISTRATOR OF THE TRANSPORTATION SECURITY ADMINISTRATION OR THE SECRETARY OF TRANSPORTATION. UNAUTHORIZED RELEASE MAY RESULT IN CIVIL PENALTY OR OTHER ACTION. FOR U.S. GOVERNMENT AGENCIES, PUBLIC DISCLOSURE IS GOVERNED BY 5 U.S.C. 552 AND 49 CFR PARTS 15 AND 1520.

90% SUBMISSION  
DATE : 01/22/16





Jan. 21 2016 07:05 pm v:\3400\_ADC\CAD\CAD MANAGEMENT\DRAWING LIST\COVER SHEETS 90%\90% GEN-IDX\_VOL\_05-07.dwg By: v-kriewant

CIVIL CONSTRUCTION						CIVIL CONSTRUCTION						CIVIL CONSTRUCTION					
SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV	SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV	SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
<b>VOLUME 6 - RETAINING WALLS (cont'd)</b>																	
217	RTW-W206A-PLE	RTW-W206A PLAN AND ELEVATION															
218	RTW-W206A-DTL	RTW-W206A GEOMETRY															
219	RTW-W207A-PLE	RTW-W207A PLAN AND ELEVATION															
220	RTW-W207A-DTL	RTW-W207A GEOMETRY															
221	RTW-W108-PLE	RTW-W108 PLAN AND ELEVATION															
222	RTW-W108-DTL	RTW-W108 GEOMETRY															
223	RTW-W122-PLE	RTW-W122 PLAN AND ELEVATION															
224	RTW-W122-DTL	RTW-W122 GEOMETRY															
225	RTW-W215-PLE	RTW-W215 PLAN AND ELEVATION															
226	RTW-W215-DTL	RTW-W215 GEOMETRY															
227	RTW-W206D-PLE	RTW-W206D PLAN AND ELEVATION															
228	RTW-W206D-DTL	RTW-W206D GEOMETRY															
229	RTW-W207C-PLE	RTW-W207C PLAN AND ELEVATION															
230	RTW-W207C-DTL	RTW-W207C GEOMETRY															
231	RTW-W208-PLE	RTW-W208 PLAN AND ELEVATION															
232	RTW-W208-DTL	RTW-W208 GEOMETRY															
233	RTW-W303-PLE-001	RTW-W303 PLAN AND ELEVATION	0+50	8+00													
234	RTW-W303-PLE-002	RTW-W303 PLAN AND ELEVATION	8+00	15+00													
235	RTW-W303-PLE-003	RTW-W303 PLAN AND ELEVATION	15+00	18+25													
236	RTW-W303-DTL	RTW-W303 GEOMETRY															
237	RTW-E312 - PLE	RTW-E312 PLAN AND ELEVATION															
238	RTW-E312 - DTL	RTW-E312 GEOMETRY															
239	RTW-E313 - PLE	RTW-E313 PLAN AND ELEVATION															
240	RTW-E313 - DTL	RTW-E313 GEOMETRY															
241	RTW-W125-PLE	RTW-W125 PLAN AND ELEVATION															
242	RTW-W125-DTL	RTW-W125 GEOMETRY															
243	RTW-W212-PLE	RTW-W212 PLAN AND ELEVATION															
244	RTW-W212-DTL	RTW-W212 GEOMETRY															
245	RTW-E107-PLE	RTW-E107 PLAN AND ELEVATION															
246	RTW-E107-DTL - 001	RTW-E107 GEOMETRY															
247	NSW-E201-PLE	NSW-E201 PLAN AND ELEVATION															
248	NSW-E201-DTL - 001	NSW-E201 GEOMETRY															
249	RTW-E303 - PLE	RTW-E303 PLAN AND ELEVATION															
250	RTW-E303 - DTL	RTW-E303 GEOMETRY															
251	RTW-E311 - PLE	RTW-E311 PLAN AND ELEVATION															
252	RTW-E311 - DTL	RTW-E311 GEOMETRY															
253	RTW-E421-PLE	RTW-E421 PLAN AND ELEVATION															
254	RTW-E421-DTL - 001	RTW-E421 GEOMETRY															
255	NSW-W3-DTL-001	MnDOT STD PLAN 5-297.661 (1 OF 3)															
256	NSW-W3-DTL-002	MnDOT STD PLAN 5-297.661 (2 OF 3)															
257	NSW-W3-DTL-003	MnDOT STD PLAN 5-297.661 (3 OF 3)															
258	NSW-W301-PLE	NSW-W301 PLAN AND ELEVATION	0+00	2+01													
259	NSW-W302-PLE-001	NSW-W302 PLAN AND ELEVATION 1	0+00	8+00													
260	NSW-W302-PLE-002	NSW-W302 PLAN AND ELEVATION 2	8+00	13+82													
261	NSW-W3-TAB	NOISEWALL ALIGNMENT TABULATIONS															
262	XE2-STU-APPR-FILL-PILE-STAK-001	LOAD TRANSFER PLATFORM DETAILS 1															
263	XE2-STU-APPR-FILL-PILE-STAK-002	LOAD TRANSFER PLATFORM DETAILS 2															
264	XE2-STU-APPR-FILL-PILE-STAK-003	LOAD TRANSFER PLATFORM DETAILS 3															
265	CBR-27J61-BRG-DTL-004	BRIDGE 27J61 GENERAL PLAN AND ELEVATION															
266	CBR-27J61-BRG-DTL-005	BRIDGE 27J61 REINFORCEMENT AND QUANTITIES															
267	CBR-27J61-BRG-DTL-006	BRIDGE 27J61 FOOTING DETAILS AND REINFORCEMENT															
268	CBR-27J61-BRG-DTL-007	BRIDGE 27J61 WALL DETAILS															
269	CBR-27J61-BRG-DTL-008	BRIDGE 27J61 WALL REINFORCEMENT															
270	CBR-27J61-BRG-DTL-009	BRIDGE 27J61 STAIR DETAILS 1															
271	CBR-27J61-BRG-DTL-010	BRIDGE 27J61 STAIR DETAILS 2															

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



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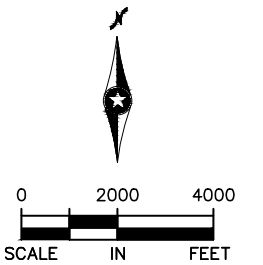
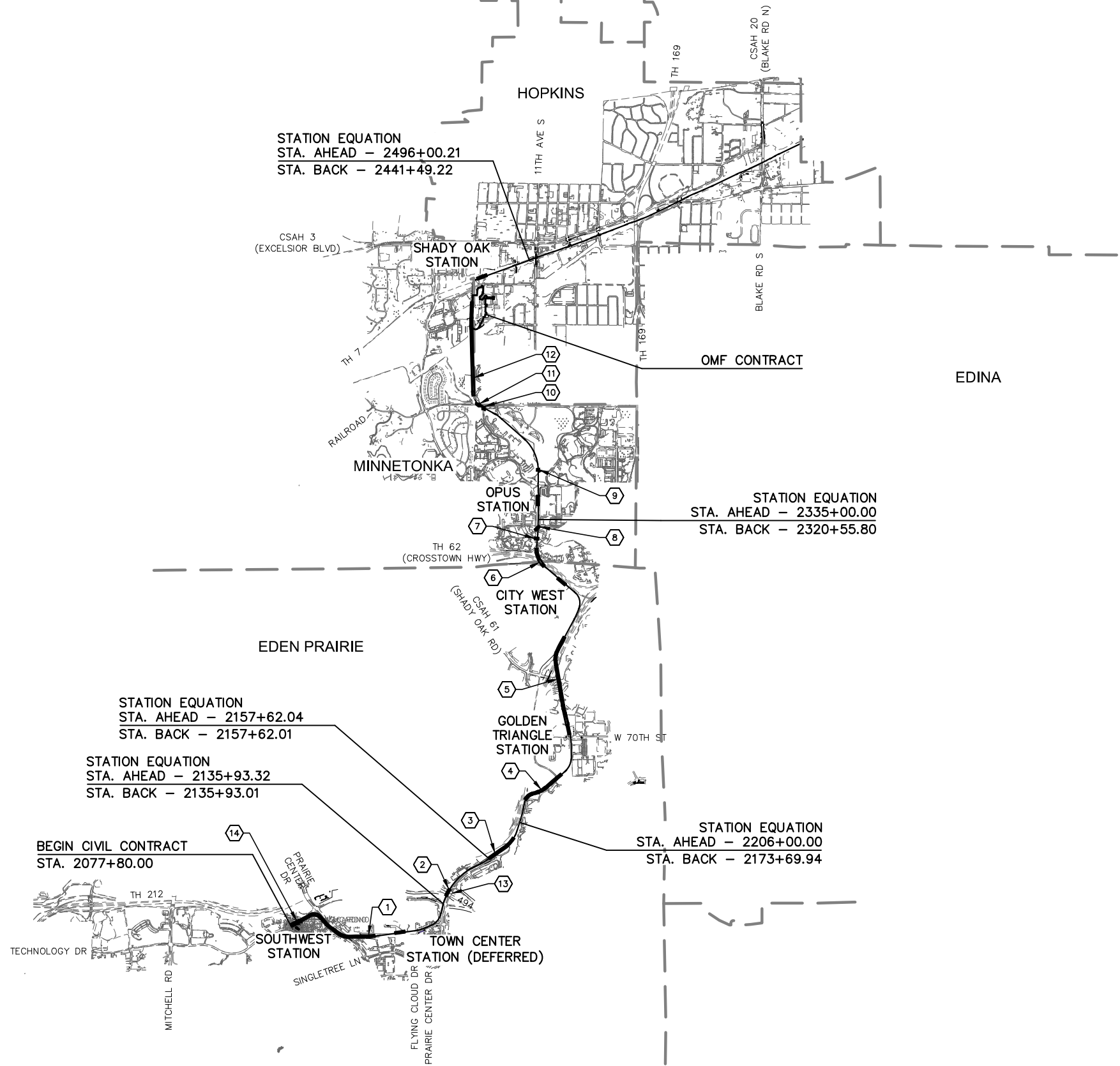


**CIVIL - VOLUME 6  
GENERAL  
VOLUME INDEX OF PLAN SHEETS  
SHEET 2**

DISCIPLINE: **GENERAL**      SHEET NAME: **00-GEN-IDX-002**

**SHEET  
3  
OF  
271**

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REF	BRIDGE DESCRIPTION	BRIDGE NUMBER
①	PRAIRIE CENTER DRIVE BRIDGE	27C06
②	BRIDGE OVER I-494	27W32
③	VALLEY VIEW RD BRIDGE	27R33
④	NINE MILE CREEK BRIDGE	27C07
⑤	TH 212 / SHADY OAK ROAD BRIDGE	27R34
⑥	TH 62 TUNNEL	27W33
⑦	PEDESTRIAN UNDERPASS #2	27J63
⑧	PEDESTRIAN UNDERPASS #1	27J62
⑨	PEDESTRIAN UNDERPASS #5	R0715
⑩	FELTL ROAD BRIDGE	27C08
⑪	SMETANA ROAD BRIDGE	27C09
⑫	MINNETONKA / HOPKINS LRT BRIDGE	R0686
⑬	FLYING CLOUD DRIVE BRIDGE MODIFICATIONS	27762 BA
⑭	SOUTHWEST STATION BUS LOOP BRIDGE	XXXXX

BA - BID ALTERNATE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

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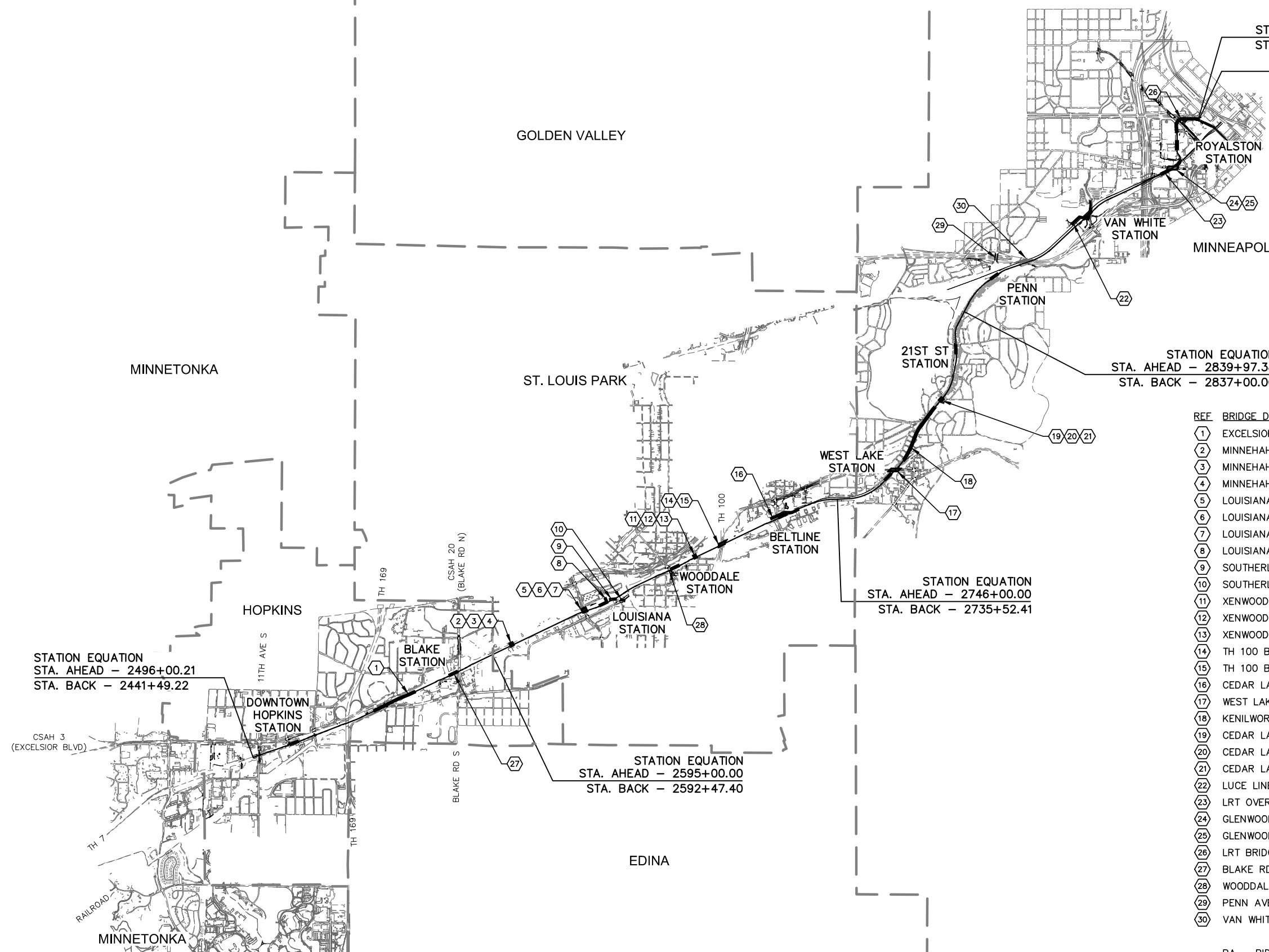



**CIVIL - VOLUME 6**  
**GENERAL KEY MAP SHEET 1**

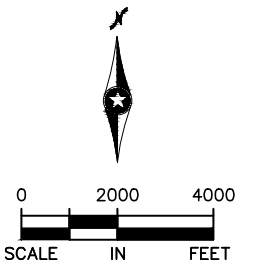
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SHEET  
**4**  
OF  
**271**

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STATION EQUATION  
 STA. AHEAD - 207+24.69  
 STA. BACK - 2962+34.54  
 END CIVIL CONTRACT  
 STA. 201+57.16



REF	BRIDGE DESCRIPTION	BRIDGE NUMBER
1	EXCELSIOR BLVD BRIDGE	27C10
2	MINNEHAHA CREEK BRIDGE - FREIGHT	R0688
3	MINNEHAHA CREEK BRIDGE - TRAIL	R0687
4	MINNEHAHA CREEK BRIDGE - LRT	R0689
5	LOUISIANA AVE BRIDGE - FREIGHT	27C12
6	LOUISIANA AVE BRIDGE - TRAIL	27C11
7	LOUISIANA AVE BRIDGE - LRT	27C13
8	LOUISIANA STATION UNDERPASS	R0690
9	SOUTHERLY CONNECTOR BRIDGE OVER LRT	R0691
10	SOUTHERLY CONNECTOR BRIDGE OVER OXFORD ST	27C14
11	XENWOOD AVE - FREIGHT	XXXXX BA
12	XENWOOD AVE - TRAIL	XXXXX BA
13	XENWOOD AVE - LRT	XXXXX BA
14	TH 100 BRIDGE RELOCATION - FREIGHT	27W34
15	TH 100 BRIDGE - LRT	27303
16	CEDAR LAKE BRIDGE - TRAIL	R0692
17	WEST LAKE ST BRIDGE MODIFICATIONS	27037
18	KENILWORTH TUNNEL	27C15
19	CEDAR LAKE CHANNEL BRIDGE - FREIGHT	R0694
20	CEDAR LAKE CHANNEL BRIDGE - LRT	R0693
21	CEDAR LAKE CHANNEL BRIDGE - TRAIL	R06xx
22	LUCE LINE BRIDGE - TRAIL	R0696
23	LRT OVER BNSF BRIDGE	R0697
24	GLENWOOD AVE BRIDGE - WEST	27C16
25	GLENWOOD AVE BRIDGE - EAST	27C17
26	LRT BRIDGE OVER 5TH AVE & 7TH ST	27C18
27	BLAKE RD PEDESTRIAN UNDERPASS	27J60
28	WOODDALE AVE PEDESTRIAN UNDERPASS	27J61
29	PENN AVE BRIDGE MODIFICATIONS	27758
30	VAN WHITE BLVD BRIDGE MODIFICATIONS	27B01

BA - BID ALTERNATE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 <b>AECOM</b>	 <b>METROPOLITAN COUNCIL</b>	 <b>SOUTHWEST</b> <small>Green Line LRT Extension</small>	<b>CIVIL - VOLUME 6</b> <b>GENERAL KEY MAP</b> <b>SHEET 2</b>		<b>SHEET</b> <b>5</b> <b>OF</b> <b>271</b>
			90% SUBMISSION - 01/22/16	DISCIPLINE: <b>GENERAL</b>	

# SYMBOLS

	PROPOSED DIRECTIONAL LANE USE
	EXISTING DIRECTIONAL LANE USE
	FLASHER (FREIGHT & PEDESTRIAN)
	CROSSING GATE (FREIGHT & LRT)
	CANTILEVER SIGNAL
	RAIL TURNOUT
	RAIL CROSSOVER (DOUBLE)
	RAIL CROSSOVER (SINGLE)
	POINT OF SWITCH (PS)
	OCS POLE FOUNDATION
	RAIL LUBRICATOR
	POINT OF INTERSECTION (PI)
	RAILROAD CURVE NUMBER
	ACCESSIBLE PEDESTRIAN CURB RAMP (DESIGN VARIES)
	HANDICAP PARKING STALL
	TACTILE WARNING STRIP
	TPSS BUILDING (TPSS-SW###) - NIC
	TUNNEL SYSTEMS HOUSE (TSY-SW###) - NIC
	SIGNAL / COMMUNICATION HOUSE - NIC
	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN
	STORM SEWER FLARED END SECTION
	STORM SEWER CLEAN-OUT
	STORM SEWER PUMP STATION
	DRAINTILE ID
	STORM SEWER STRUCTURE ID
	BUS SHELTER
	ROADWAY / PEDESTRIAN LIGHT

# LINETYPES

	ROADWAY CL
	TRACK CL (LRT)
	TRACK CL (FRT)
	RETAINING WALL
	BALLAST CURB
	TUNNEL WALL
	FENCE
	EX ROW
	PROP ROW
	PROP TCE
	PROP PE
	FENCE / RAILING
	FREIGHT INTRUSION DETECTION
	CONCRETE CURB AND GUTTER
	TRAIL (WIDTH VARIES)
	SIDEWALK
	DRIVEWAY
	BRIDGE
	SAWCUT
	DELINEATED WETLAND
	BMP (NWL) WATER EDGE
	PROPOSED FLOODPLAIN MITIGATION AREA
	SILT FENCE
	BALE BARRIER
	STORM SEWER
	CASING PIPE
	PIPE REMOVAL
	STRUCTURE REMOVAL
	FLOATING SILT FENCE
	SUPER DUTY SILT FENCE
	CONSTRUCTION LIMITS
	ROCK WEEPER
	DIVERSION DITCH
	OVERLAND FLOW
	CROSSWALK
	STOP BAR
	MEDIAN NOSE
	WETLAND ID

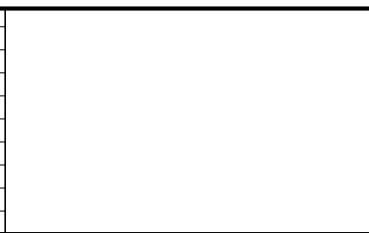
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# CONSTRUCTION PACKAGE NOTE

NOTE: THE SWLRT CONSTRUCTION IS BEING IMPLEMENTED THROUGH THREE MAIN CONSTRUCTION PACKAGES; CIVIL, SYSTEMS & TUNNEL FACILITIES (SYS), AND OPERATIONS & MAINTENANCE FACILITY (OMF). CERTAIN SYS AND OMF SYMBOLS ARE SHOWN ON THE CIVIL CONTRACT PLANS FOR INFORMATION ONLY AND CERTAIN FACILITIES ARE NOT PART OF THE CIVIL CONTRACT.

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90% SUBMISSION - 01/22/16



CIVIL - VOLUME 6  
 GENERAL  
 NOTES, ABBREVIATIONS, AND SYMBOLS  
 SHEET 1

DISCIPLINE: GENERAL SHEET NAME: 00-GEN-NTS-001

SHEET  
 6  
 OF  
 271

# ABBREVIATIONS

3-2 (EG) SIGNAL HEAD NUMBER (PHASE 3, NO. 2)  
 AD ALGEBRAIC DIFFERENCE  
 AVE AVENUE  
 AWF ADVANCE WARNING FLASHER  
 BA BID ALTERNATE  
 BGN BEGIN  
 BP BEGINNING POINT  
 BVCE BEGINNING VERTICAL CURVE ELEVATION  
 BVCS BEGINNING VERTICAL CURVE STATION  
 BLVD BOULEVARD  
 BMP BEST MANAGEMENT PRACTICE  
 BNSF BURLINGTON NORTHERN SANTA FE RAILWAY  
 C&G CURB AND GUTTER  
 C CENTERLINE  
 CB CATCH BASIN  
 CE CLEARANCE ENVELOPE  
 CIR CIRCLE  
 CO DRAINTILE CLEANOUT STRUCTURE  
 CP CANADIAN PACIFIC  
 CPRAIL CANADIAN PACIFIC RAILWAY  
 CS CURVE TO SPIRAL  
 CSAH COUNTY STATE AID HIGHWAY  
 D&U DRAINAGE AND UTILITY  
 DF DIRECT FIXATION  
 DR DRIVE  
 DT DRAINTILE  
 DTL DETAIL  
 DWY DRIVEWAY  
 E EAST  
 Ea ACTUAL SUPERELEVATION (INCHES)  
 EB EAST BOUND  
 EL or ELEV ELEVATION  
 EP ENDING POINT  
 ESMT EASEMENT  
 Eu UNBALANCED SUPERELEVATION (INCHES)  
 EVCE ENDING VERTICAL CURVE ELEVATION  
 EVCS ENDING VERTICAL CURVE STATION  
 EVP EMERGENCY VEHICLE PRE-EMPTION  
 EX EXISTING  
 FES FLARED END SECTION  
 FYA FLASHING YELLOW ARROW  
 GR RD GROUND ROD  
 GRN GREEN INDICATION  
 HCRRA HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY  
 INL BRIDGE DRAIN INLET  
 INS GR INSULATED GROUND  
 IP INPLACE  
 LED LIGHT EMITTING DIODE  
 LH LEFT HAND  
 LN LANE  
 LRCI LOCALLY REQUESTED CAPITAL INVESTMENT  
 LRT LIGHT RAIL TRANSIT  
 LRV LIGHT RAIL VEHICLE  
 LT LEFT  
 LUM LUMINAIRE  
 Lc CURVE LENGTH (FEET)  
 Ls SPIRAL LENGTH (FEET)  
 MIN MINIMUM  
 MPH MILES PER HOUR  
 MPLS CITY OF MINNEAPOLIS  
 MPRB MINNEAPOLIS PARK AND RECREATION BOARD  
 N NORTH  
 NB NORTH BOUND  
 NIC NOT IN CONTRACT  
 NO NUMBER  
 NWL NORMAL WATER LINE  
 OCS OUTLET CONTROL SYSTEM  
 OCS OVERHEAD CONTACT SYSTEM  
 OMF OPERATIONS AND MAINTENANCE FACILITY  
 OH OVERHEAD  
 P1-1 (EG) PEDESTRIAN HEAD (PHASE 1, NO. 1)  
 PB2-1 (EG) PUSHBUTTON (PHASE 2, NO. 1)  
 PC POINT OF CURVE  
 PE PERMANENT EASEMENT  
 PED PEDESTRIAN  
 PITO POINT OF INTERSECTION OF TURNOUT  
 PKWY PARKWAY  
 POB POINT OF BEGINNING  
 POE POINT OF ENDING  
 POT POINT ON TANGENT  
 PROP PROPOSED  
 PS POINT OF SWITCH

PT POINT OF TANGENT  
 PVI POINT OF VERTICAL INTERSECTION  
 R RADIUS (FEET)  
 RCP REINFORCED CONCRETE PIPE  
 RD ROAD  
 RL RAIL LUBRICATOR  
 r RATE OF CHANGE VERTICAL CURVE  
 RH RIGHT HAND  
 ROW RIGHT OF WAY  
 RT RIGHT  
 S SOUTH  
 SB SOUTH BOUND  
 SC SPIRAL TO CURVE  
 SIG-COMM SIGNAL COMMUNICATION  
 SOP SOURCE OF POWER  
 ST STREET  
 ST SPIRAL TO TANGENT  
 ST STORM MANHOLE STRUCTURE  
 STA STATION  
 TCE TEMPORARY CONSTRUCTION EASEMENT  
 TH TRUNK HIGHWAY  
 THRU THROUGH  
 TOR TOP OF RAIL  
 TPSS TRACTION POWER SUBSTATION  
 TRK TRACK  
 TS TANGENT TO SPIRAL  
 TYP TYPICAL  
 UG UNDERGROUND  
 V DESIGN VELOCITY (MPH)  
 VC VERTICAL CURVE  
 VDE VEHICLE DYNAMIC ENVELOPE  
 W WEST  
 WB WEST BOUND  
 WLK WALK INDICATION

# TRAIL INDEX

ABBREVIATED NAME	FULL NAME / LOCATION
TRAIL 1	UNDER RED CIRCLE DR, LRT, AND YELLOW CIRCLE DR
TRAIL 2	FROM TRAIL 1 TO GREEN CIRCLE DR
TRAIL 3	OPUS STATION ACCESS FROM BREN RD E
TRAIL 4	FROM BREN RD W TO TRAIL 5
TRAIL 5	FROM OPUS STATION TO GREEN CIRCLE DR
TRAIL 6	FROM TRAIL 5 TO SMETANA RD
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/FROM SHADY OAK STATION TO 11TH AVE
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/WEST OF EXCELSIOR
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL LRT TRAIL/BETWEEN EXCELSIOR AND KENILWORTH TRAIL CONNECTION
MIDTOWN GREENWAY	MIDTOWN GREENWAY/EAST OF KENILWORTH TRAIL CONNECTION
TRAIL A	KENILWORTH TRAIL (SECONDARY)/BETWEEN CEDAR-ISLES CHANNEL AND 21ST STREET STATION
TRAIL B	KENILWORTH TRAIL (SECONDARY)/BETWEEN 21ST STREET STATION AND PENN STATION
TRAIL B	CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL C	10' CONNECTOR TRAIL FROM CEDAR LAKE LRT REGIONAL TRAIL TO TYLER AVE.
TRAIL D	10' CONNECTOR TRAIL/BELTLINE STATION TO CEDAR LAKE LRT REGIONAL TRAIL
KENILWORTH TRAIL	KENILWORTH TRAIL (MAIN)/W LAKE ST TO PENN STATION
CEDAR LAKE TRAIL	CEDAR LAKE TRAIL (MAIN)/PENN STATION TO TH 394
TRAIL E	KENILWORTH TRAIL (SECONDARY)/EAST OF W LAKE ST
TRAIL F	KENILWORTH TRAIL (SECONDARY)/WEST OF CEDAR LAKE PKWY
TRAIL G	NOT USED
TRAIL H	10' CONNECTOR TRAIL/EAST OF PENN STATION TO KENWOOD PKWY
TRAIL I	10' CONNECTOR TRAIL FROM CEDAR LAKE REGIONAL TRAIL TO CSAH 20 (BLAKE RD)
CEDAR LAKE TRAIL	CEDAR LAKE TRAIL (MAIN)/AT-GRADE CROSSING AT PENN STATION
TRAIL J	CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL K	CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL L	CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL M	10' CONNECTOR TRAIL FROM CEDAR LAKE REGIONAL TRAIL TO CSAH 20 (BLAKE RD)
TRAIL N	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO EDGEBROOK DRIVE
TRAIL O	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO W LAKE STREET
TRAIL P	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO LOUISIANA AVE
TRAIL Q	10' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO TH 7 SERVICE ROAD
TRAIL R	20' CONNECTOR TRAIL FROM VAN WHITE STATION TO CEDAR LAKE TRAIL
TRAIL S	10' CONNECTOR TRAIL FROM CEDAR LAKE REGIONAL TRAIL TO BELTLINE BLVD
TRAIL T	8' CONNECTOR TRAIL FROM VAN WHITE STATION TO VAN WHITE MEMORIAL BLVD
TRAIL U	10' TRAIL PARALLEL TO CEDAR LAKE PKWY
LUCE LINE TRAIL	LUCE LINE REGIONAL TRAIL/ON BRIDGE OVER LIGHT RAIL
TRAIL V	CONNECTOR TRAIL TO LUCE LINE REGIONAL TRAIL WEST OF LIGHT RAIL
TRAIL W	CONNECTOR TRAIL TO LUCE LINE REGIONAL TRAIL WEST OF LIGHT RAIL
TRAIL X	NOT USED
TRAIL Y	12' CONNECTOR TRAIL FROM CEDAR LAKE REGIONAL TRAIL TO WOODDALE AVE S
TRAIL Z	12' CONNECTOR TRAIL FROM CEDAR LAKE REGIONAL TRAIL TO WOODDALE AVE S
TRAIL AA	8' PEDESTRIAN CONNECTOR TRAIL FROM TRAIL B TO PENN STATION
TRAIL BB	8' PEDESTRIAN CONNECTOR TRAIL FROM TRAIL B TO PENN STATION
TRAIL CC	10' CONNECTOR TRAIL FROM KENILWORTH TRAIL (MAIN) TO PENN STATION

Jan, 16 2016 04:13 pm V:\3400\_ADC\CAD\CAD MANAGEMENT\DRAWING LIST\COVER SHEETS 90%\CIV-GEN-NTS.dwg By: V-KriewaldMR

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90% SUBMISSION - 01/22/16




**CIVIL - VOLUME 6**  
**GENERAL**  
**NOTES, ABBREVIATIONS, AND SYMBOLS**  
**SHEET 2**

DISCIPLINE: **GENERAL** SHEET NAME: **00-GEN-NTS-002**

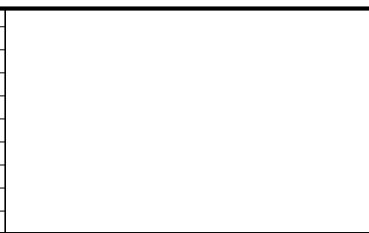
SHEET  
 7  
 OF  
 271

ABBREVIATION LIST:

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	N	NORTH
ABT	ABOUT	NB	NORTH BOUND
ABUT	ABUTMENT	NBL	NORTH BOUND LANE(S)
ADT	AVERAGE DAILY TRAFFIC	NO	NUMBER
APPROX	APPROXIMATE (OR APPROXIMATELY)	OC	ON CENTER
ASSY	ASSEMBLY	OFF	OFFSET
AVE	AVENUE	PC	POINT OF CURVATURE
AZ	AZIMUTH	PCC	POINT OF COMPOUND CURVE
@	AT	PG	PROFILE GRADE
BF	BACK FACE	PI	POINT OF INTERSECTION
BIT	BITUMINOUS	PL	PLATE
BM	BENCH MARK	POC	POINT OF CURVE
BM	BEAM	POT	POINT OF TANGENT
BOT	BOTTOM	PSI	POUNDS PER SQUARE INCH
BR	BRIDGE	PT	POINT OF TANGENCY
BRG	BEARING	PKWY	PARKWAY
BTWN	BETWEEN	PED	PEDESTRIAN
C-I-P	CAST-IN-PLACE	PERF	PERFORATED
☉	CENTERLINE	PT	POINT
CJ	CONSTRUCTION JOINT	R	RADIUS
CLR	CLEAR	ROW	RIGHT OF WAY
COL	COLUMN	RDWY	ROADWAY
CONC	CONCRETE	REINF	REINFORCED (OR REINFORCING/MENT)
CONST	CONSTRUCTION	REQ'D	REQUIRED
CSAH	COUNTY STATE AID HIGHWAY	RT	RIGHT
DIA	DIAMETER	S	SOUTH
DIAPH	DIAPHRAGM	SB	SOUTH BOUND
DL	DEADLOAD	SBL	SOUTH BOUND LANE(S)
DWL	DOWEL	SDWK	SIDEWALK
E	EAST	SER	SERIES
EB	EAST BOUND	SHLDR	SHOULDER
EBL	EAST BOUND LANE(S)	SP	SPACES
EA	EACH	SPA	SPACED
EF	EACH FACE	SPG	SPACING
EJ	EXPANSION JOINT	ST	STREET
EL	ELEVATION	STA	STATION
EMBED	EMBEDMENT	STD	STANDARD
ENGR	ENGINEER	STRUCT	STRUCTURAL
EQ	EQUAL	SYM	SYMMETRICAL
EXP	EXPANSION	TH	TRUNK HIGHWAY
FF	FRONT FACE	TOR	TOP OF RAIL
FIN	FINISHED	TTC	TANGENT TO CURVE
FIX	FIXED	TYP	TYPICAL
FTG	FOOTING	VC	VERTICAL CURVE
GALV	GALVANIZED	VPC	VERTICAL POINT OF CURVATURE
HORIZ	HORIZONTAL	VPI	VERTICAL POINT OF INTERSECTION
HS	HIGH STRENGTH	VPT	VERTICAL POINT OF TANGENCY
JCT	JUNCTION	VAR	VARIES
JT	JOINT	VERT	VERTICAL
LT	LEFT	W	WEST
MAX	MAXIMUM	WB	WEST BOUND
MIN	MINIMUM	WBL	WEST BOUND LANE(S)
MISC	MISCELLANEOUS	WC	WEARING COURSE
		WP	WORKING POINT
		WW	WINGWALL

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**AECOM**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL** **SOUTHWEST**

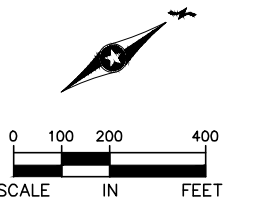
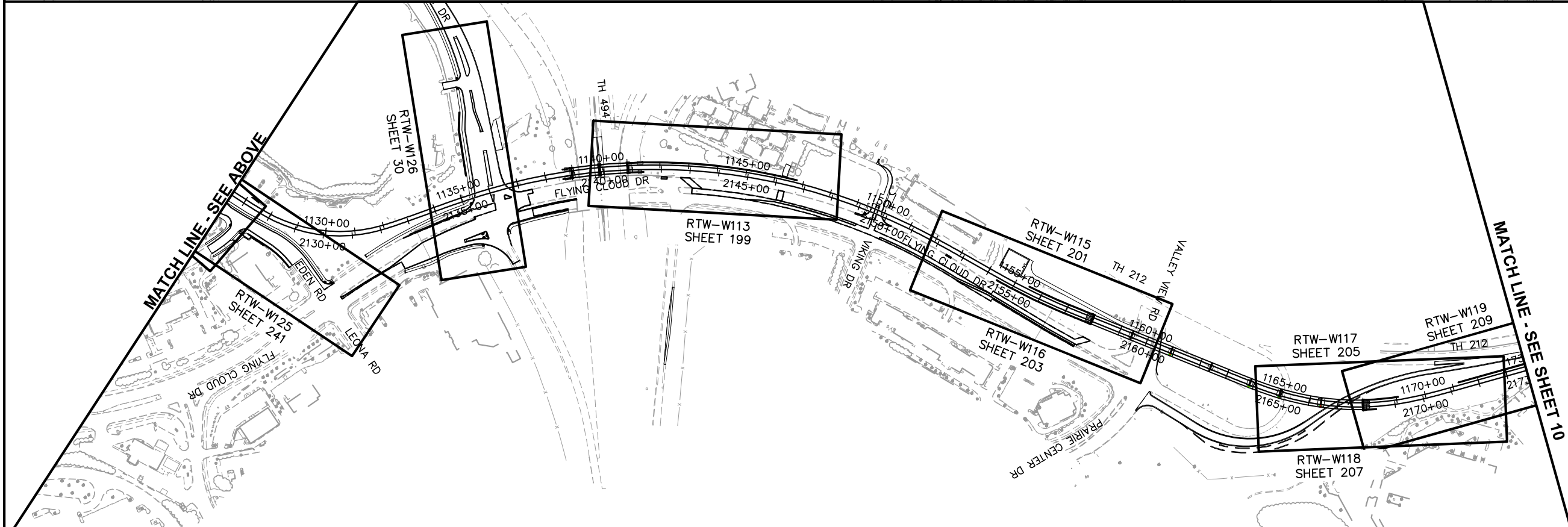
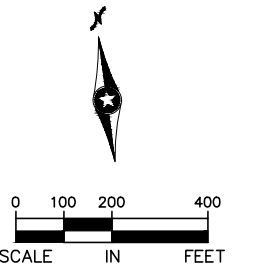
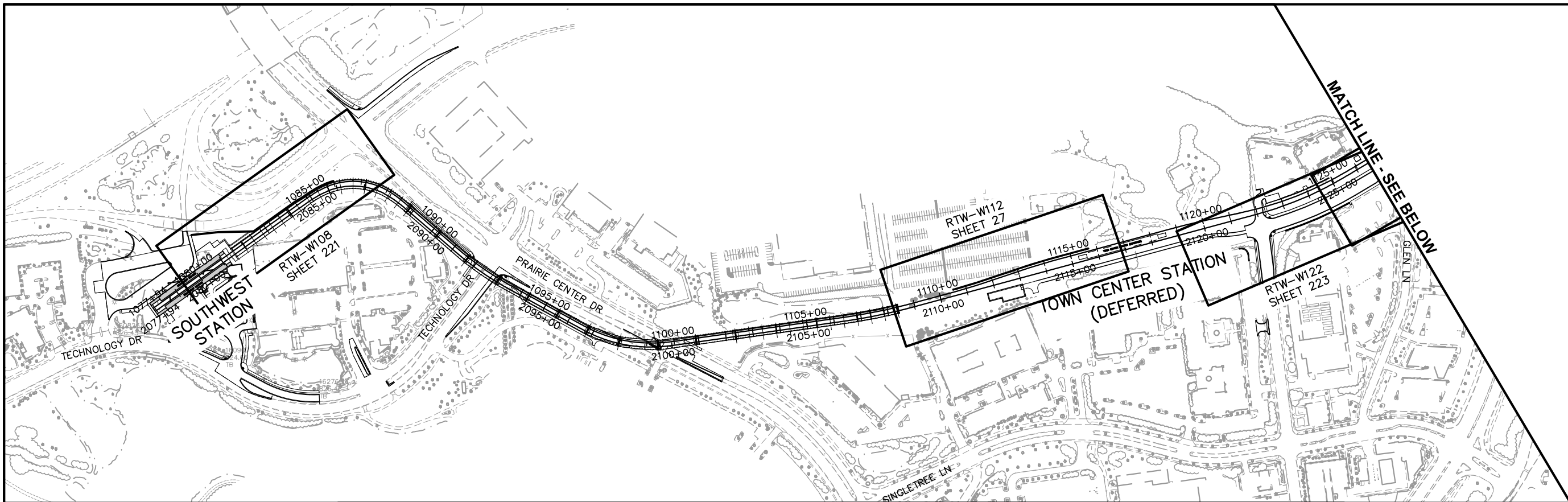
**CIVIL - VOLUME 6  
RETAINING WALLS  
STRUCTURAL NOTES, ABBREVIATIONS  
& SYMBOLS**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-NTS - 001**

SHEET  
8  
OF  
271



Jan, 18 2016 05:35 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW\RTW-LAY-001.dwg By: V-NutzmaML



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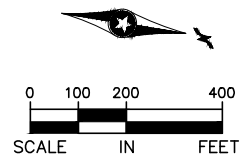
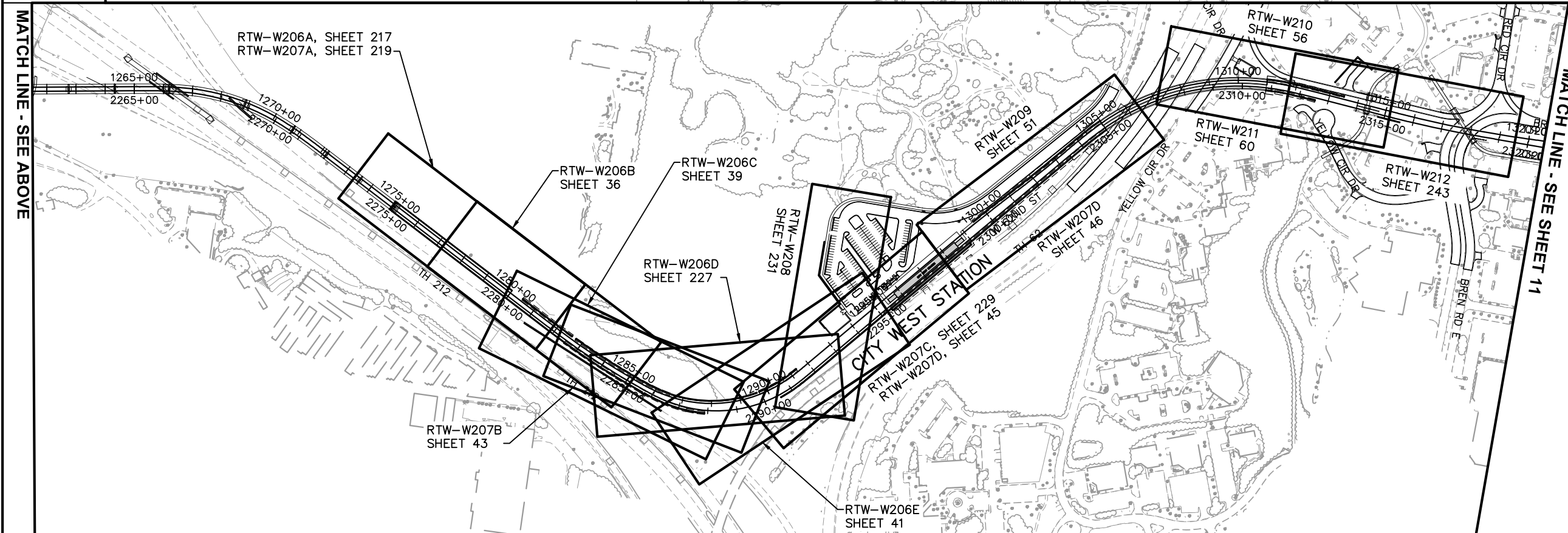
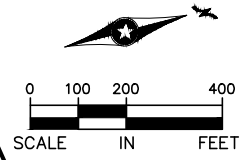
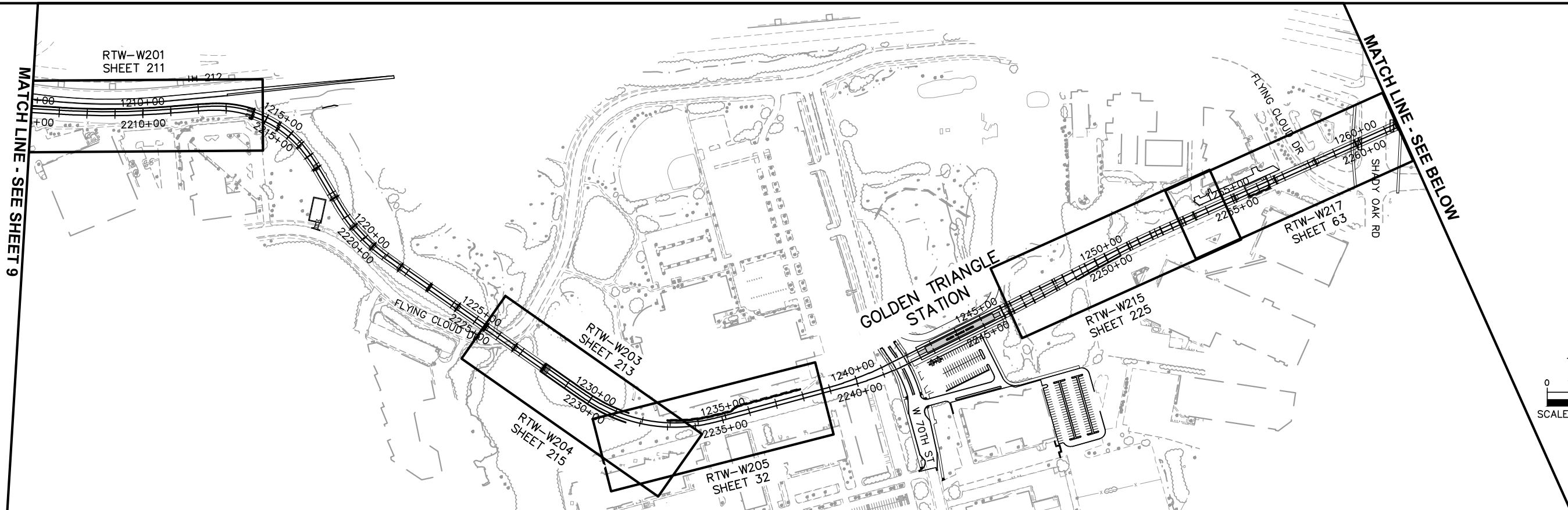
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**CIVIL - VOLUME 6  
RETAINING WALLS  
PLAN SHEET LAYOUT  
SHEET 1**




DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-LAY - 001**

SHEET  
9  
OF  
271

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

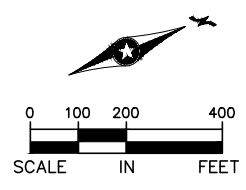
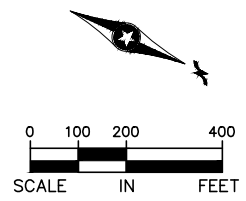
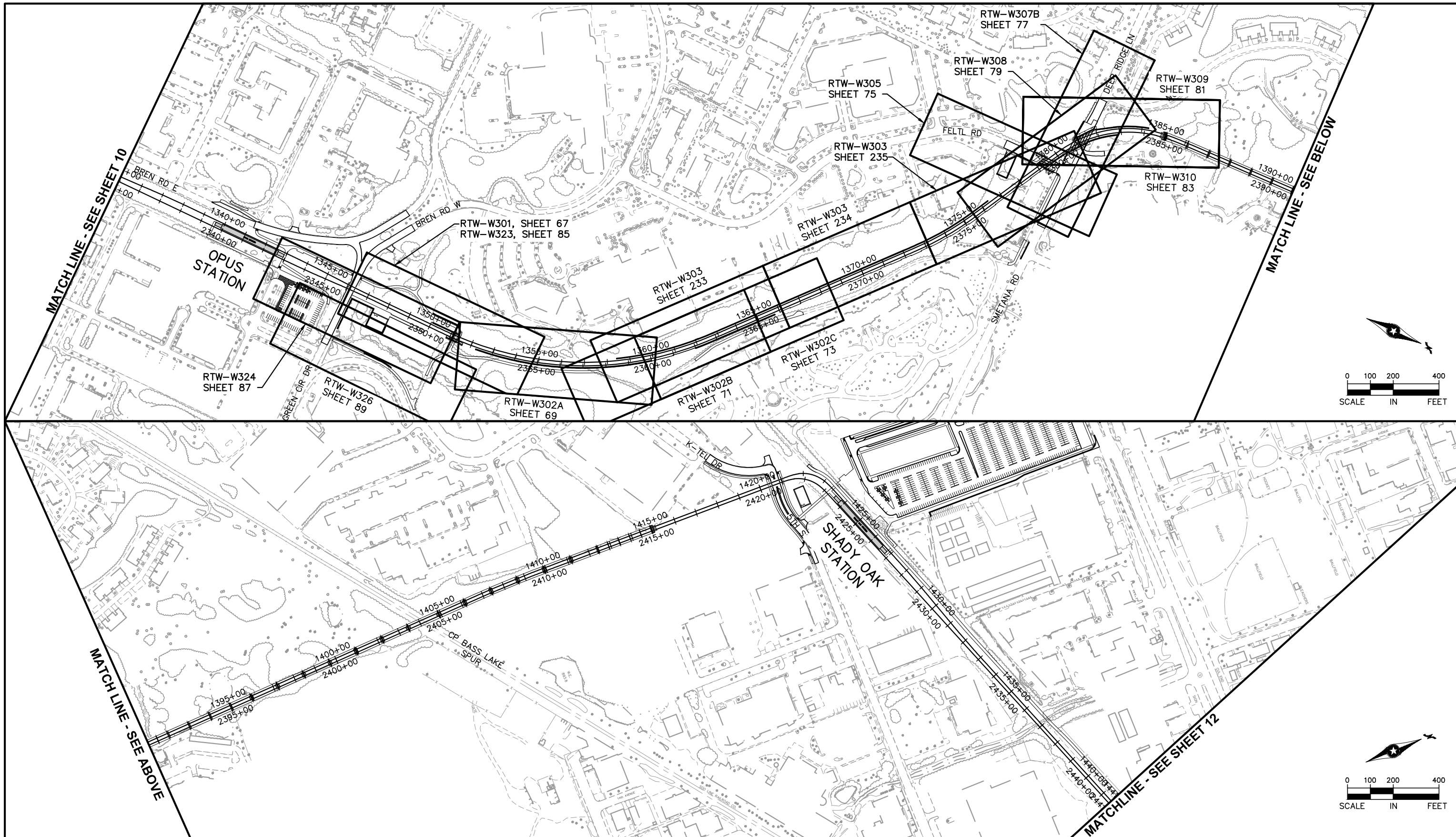
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**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**PLAN SHEET LAYOUT**  
**SHEET 2**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-LAY - 002</b>
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SHEET **10**  
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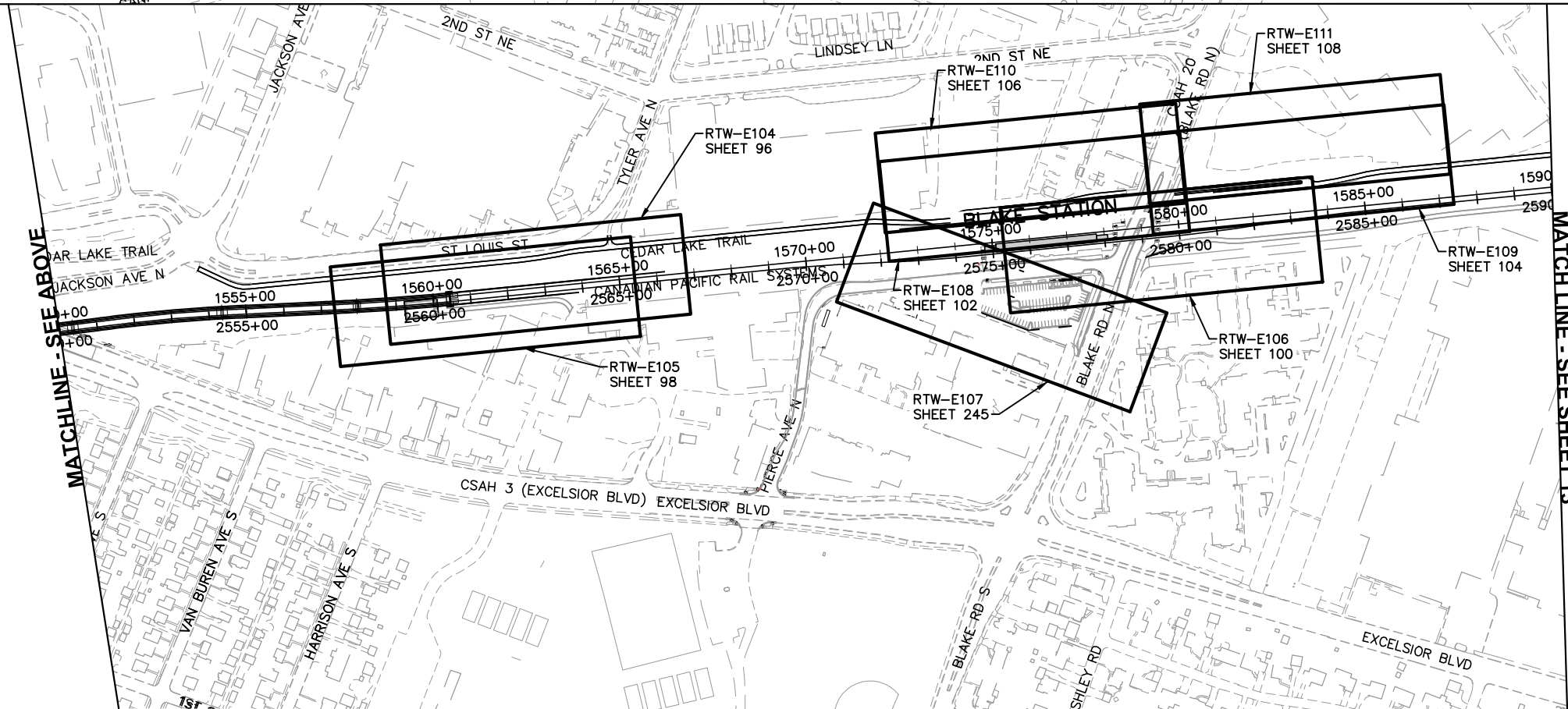
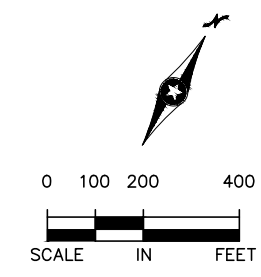
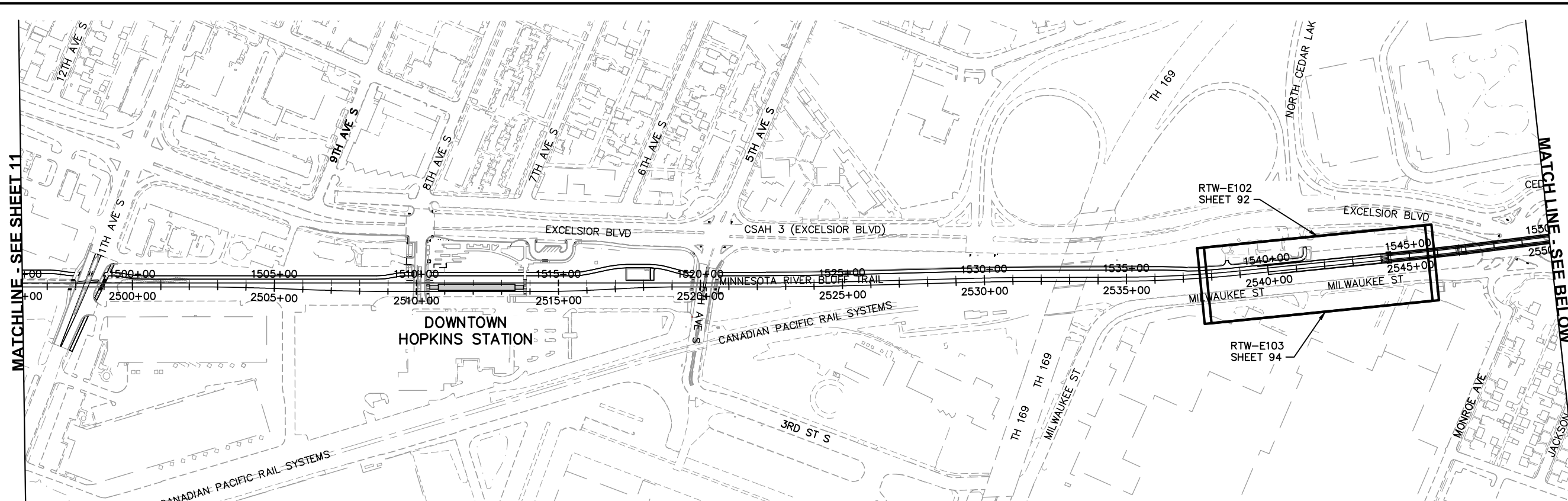



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**PLAN SHEET LAYOUT**  
**SHEET 3**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-LAY - 003**

SHEET **11**  
OF  
**271**

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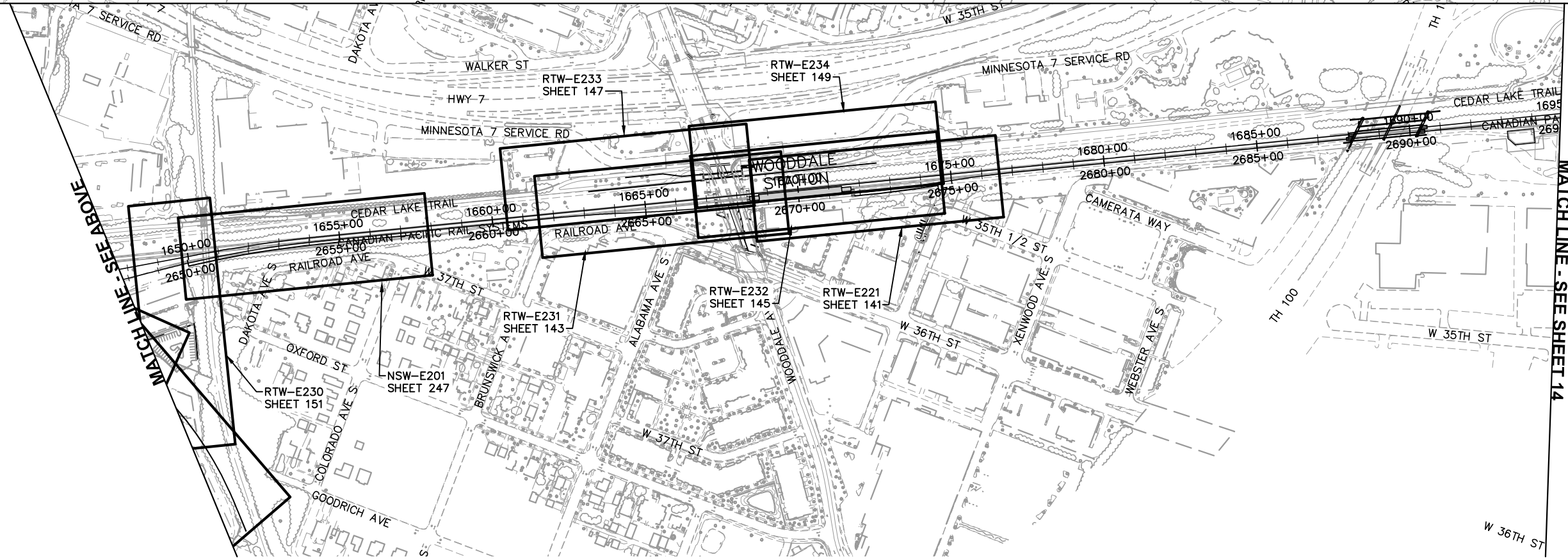
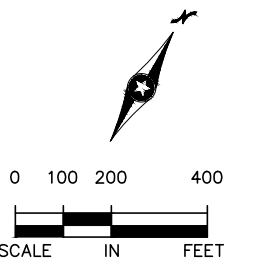
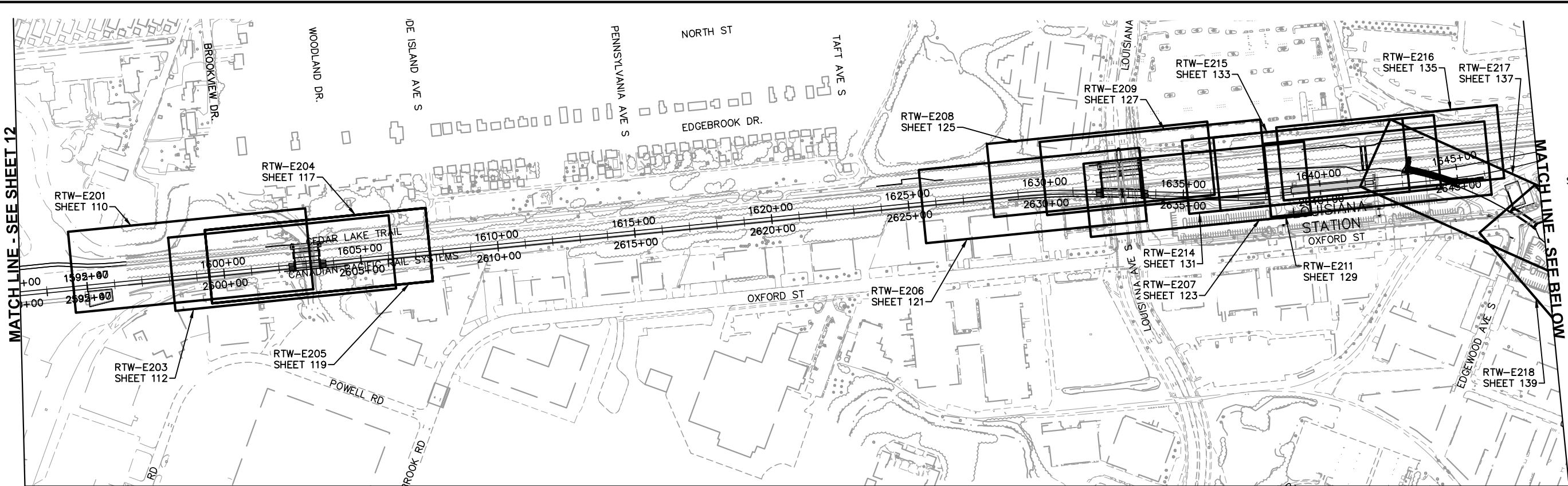
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**CIVIL - VOLUME 6  
RETAINING WALLS  
PLAN SHEET LAYOUT  
SHEET 4**

DISCIPLINE: STRUCTURES      SHEET NAME: RTW-LAY - 004

SHEET  
12  
OF  
271

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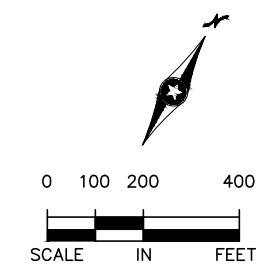
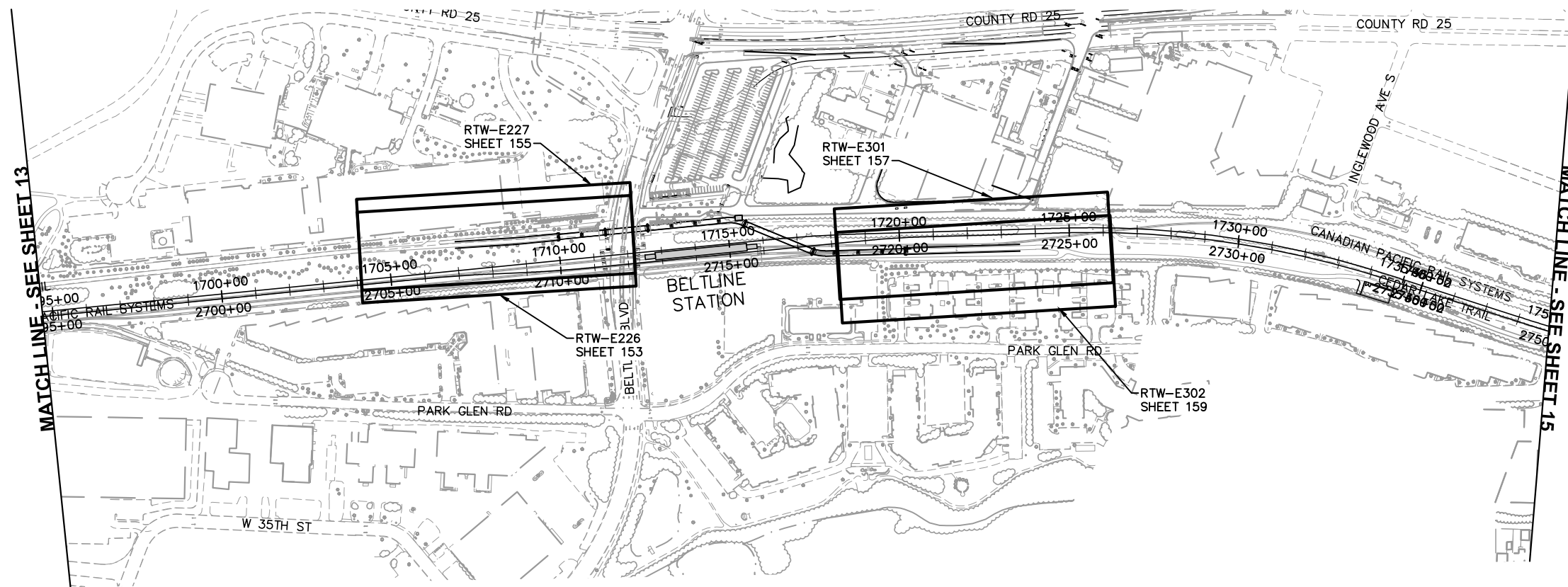
90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL  
SOUTHWEST Green Line Light Extension

**CIVIL - VOLUME 6  
RETAINING WALLS  
PLAN SHEET LAYOUT  
SHEET 5**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-LAY - 005**

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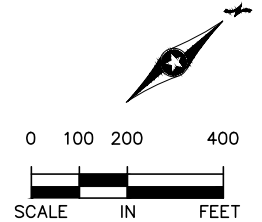
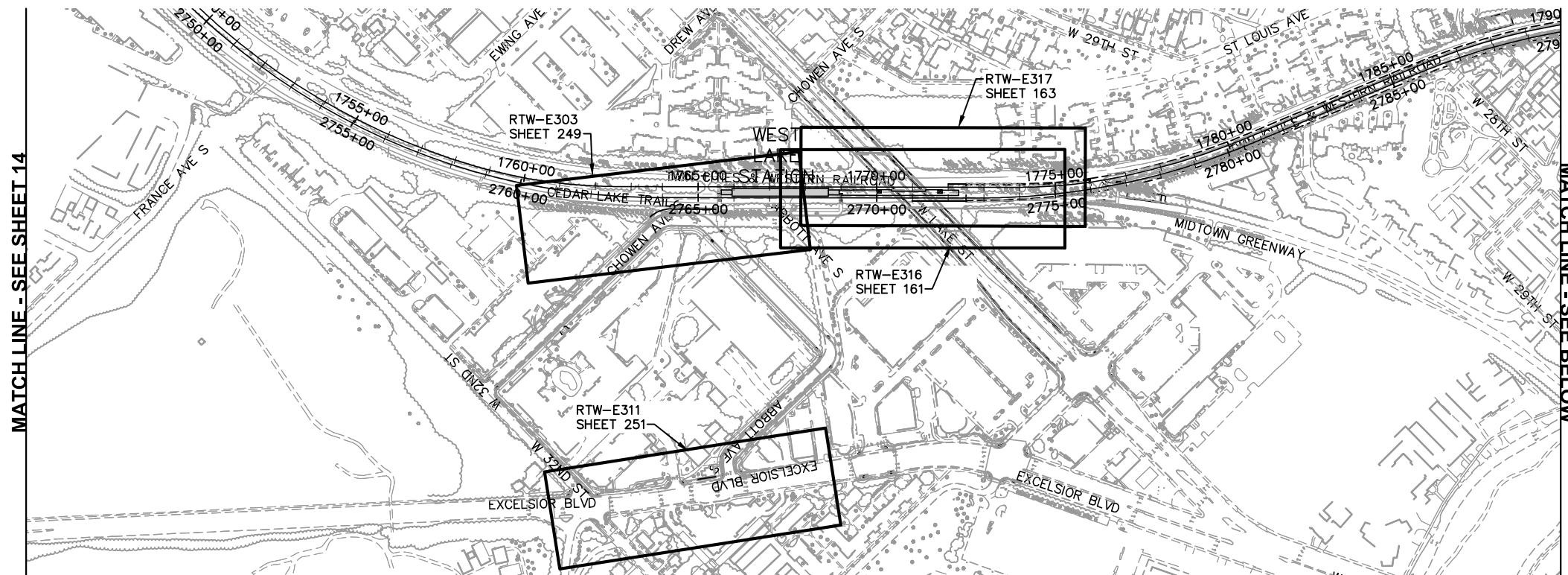



**CIVIL - VOLUME 6  
RETAINING WALLS  
PLAN SHEET LAYOUT  
SHEET 6**

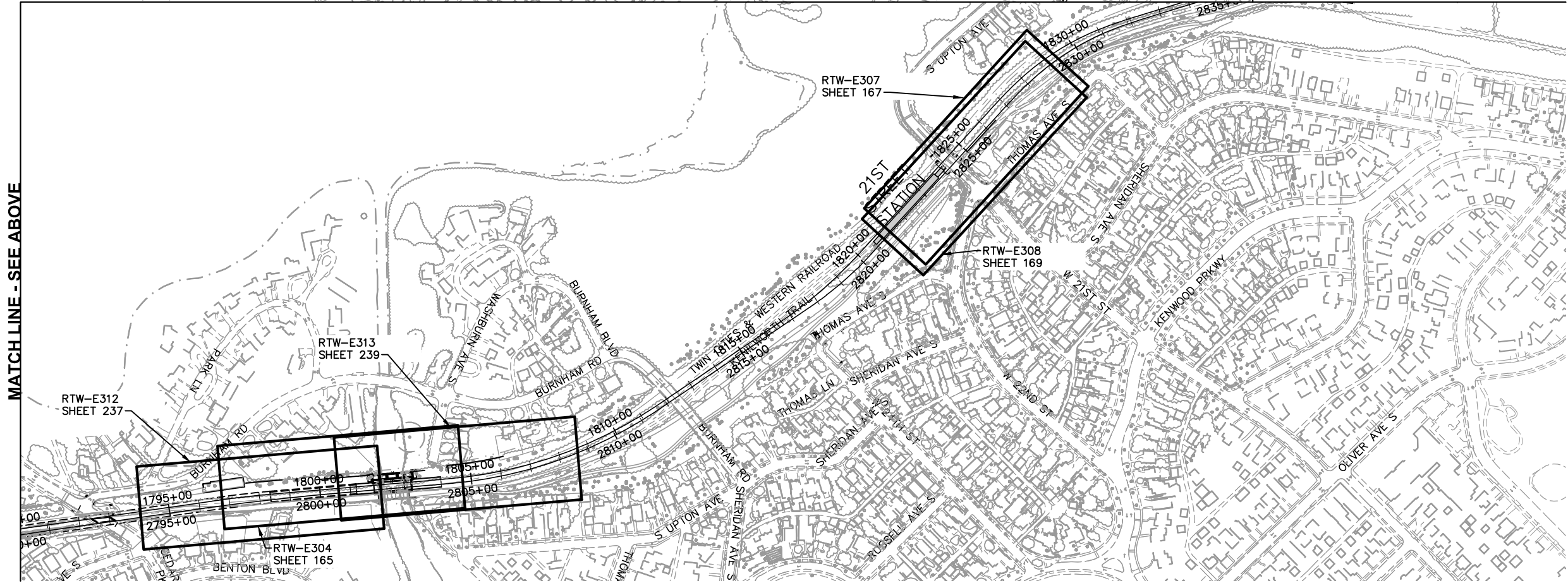
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SHEET  
14  
OF  
271

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MATCH LINE - SEE SHEET 15



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

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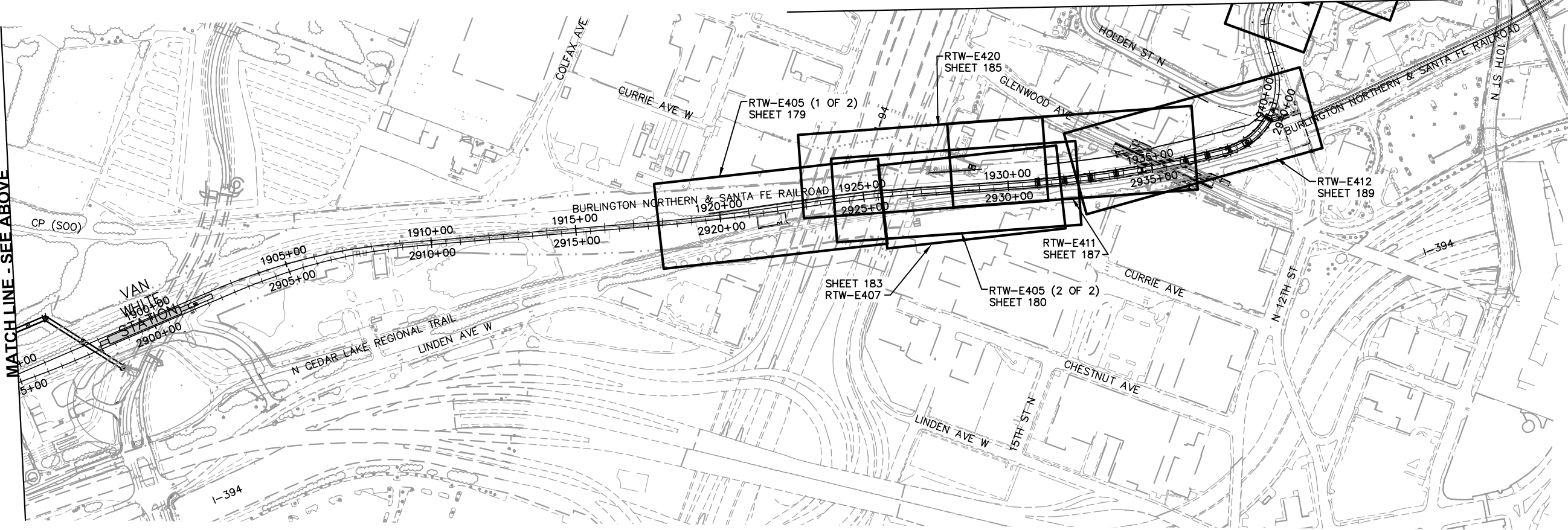
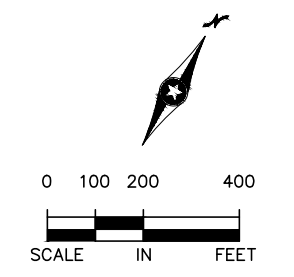
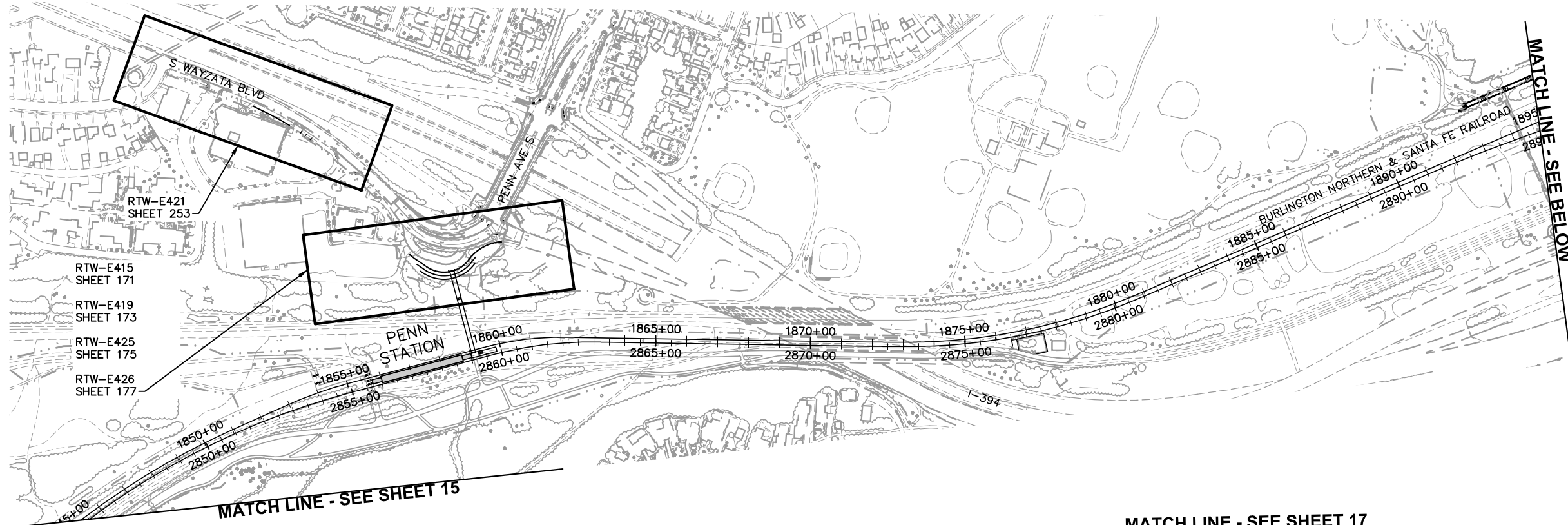
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
PLAN SHEET LAYOUT  
SHEET 7**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-LAY - 007**

SHEET  
15  
OF  
271

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**METROPOLITAN COUNCIL**  
**SOUTHWEST Green Line Light Extension**

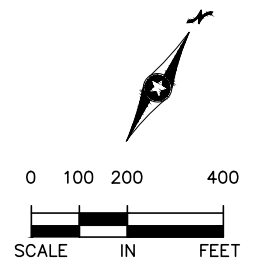
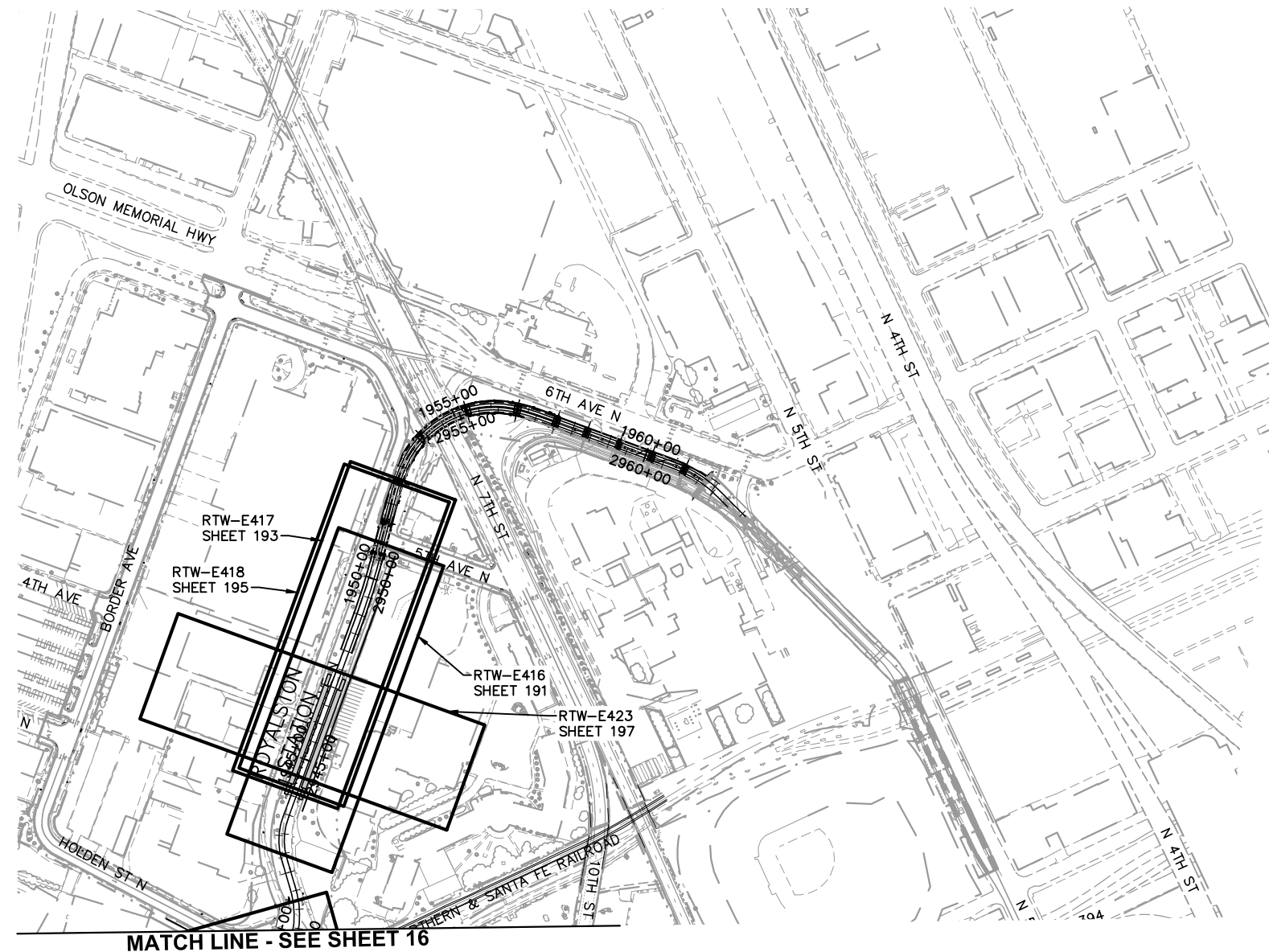
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**PLAN SHEET LAYOUT**  
**SHEET 8**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-LAY - 008**

SHEET **16** OF **271**



Jan, 18 2016 01:46 pm V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\STRUCTURES\RETAINING WALLS\RTW-LAY.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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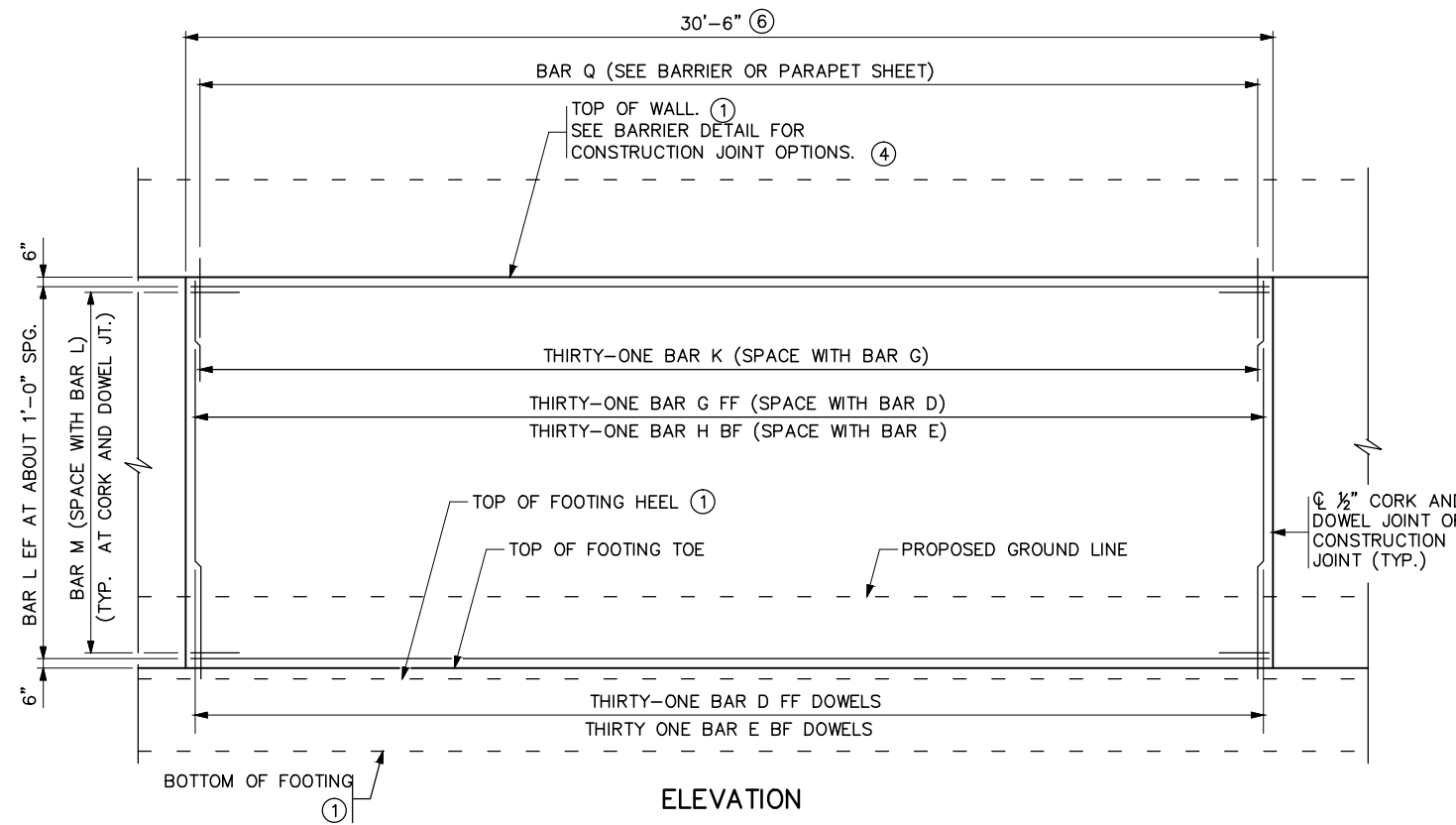
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

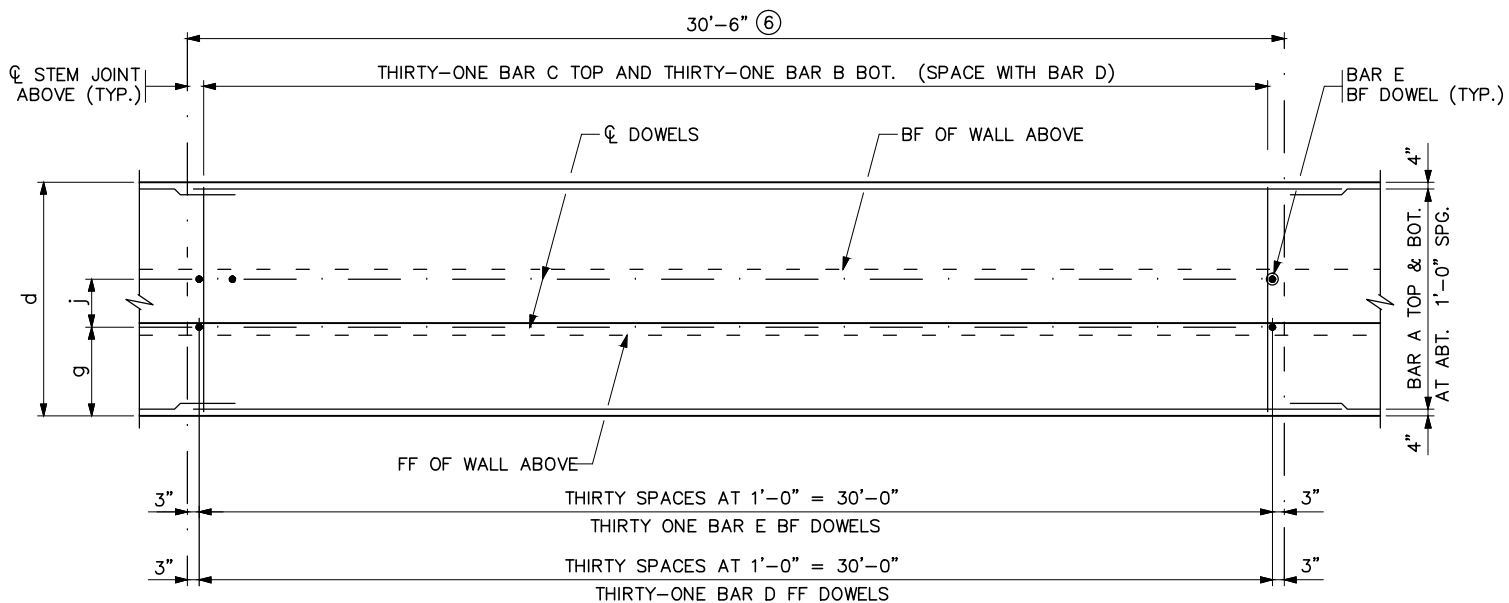
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 PLAN SHEET LAYOUT  
 SHEET 9**

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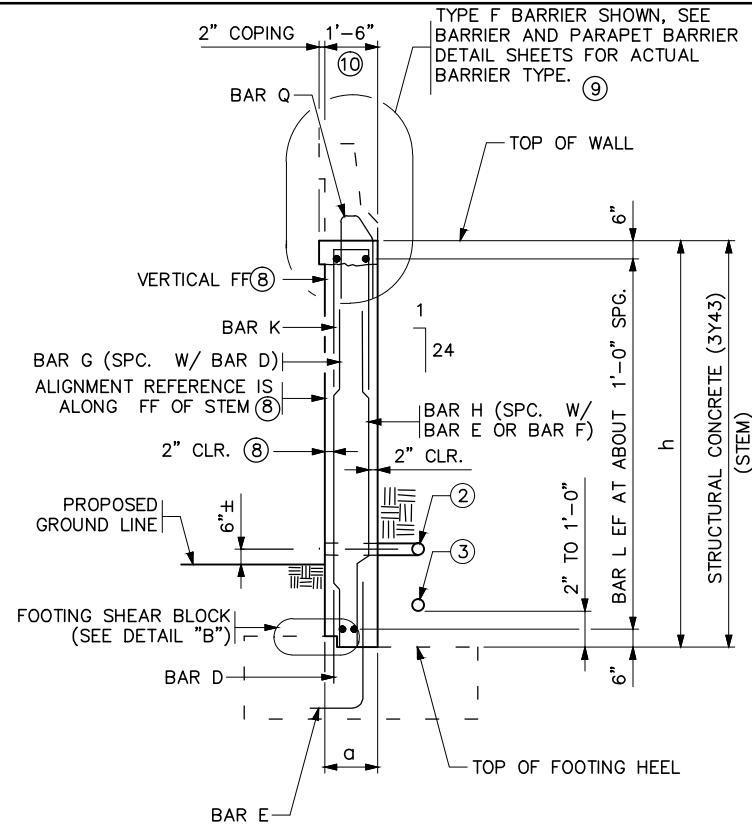
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ELEVATION

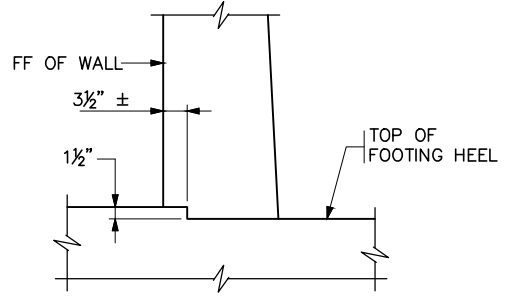


FOOTING PLAN ~ REINFORCEMENT

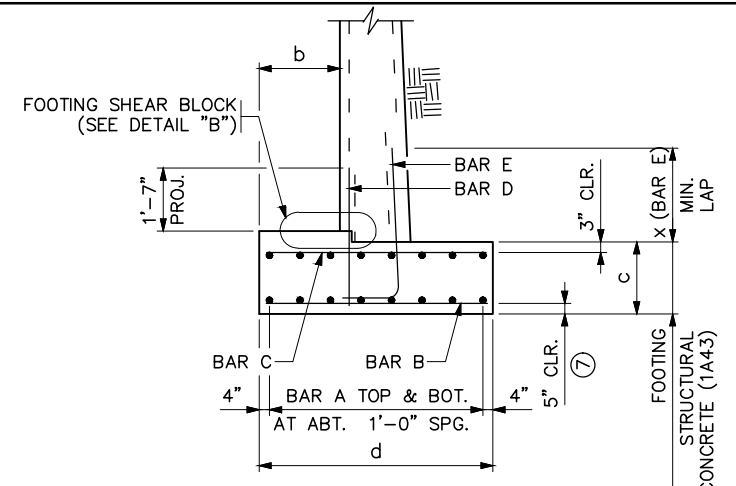


WALL SECTION

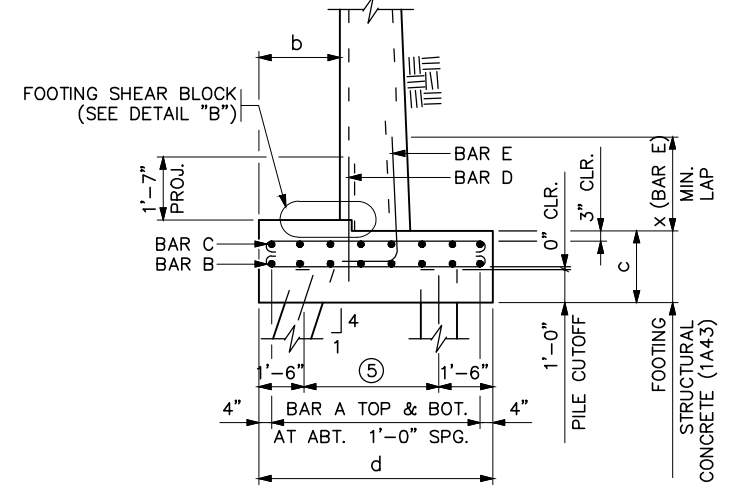
(F BARRIER AND 2" COPING OPTION SHOWN)



DETAIL "B"



TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

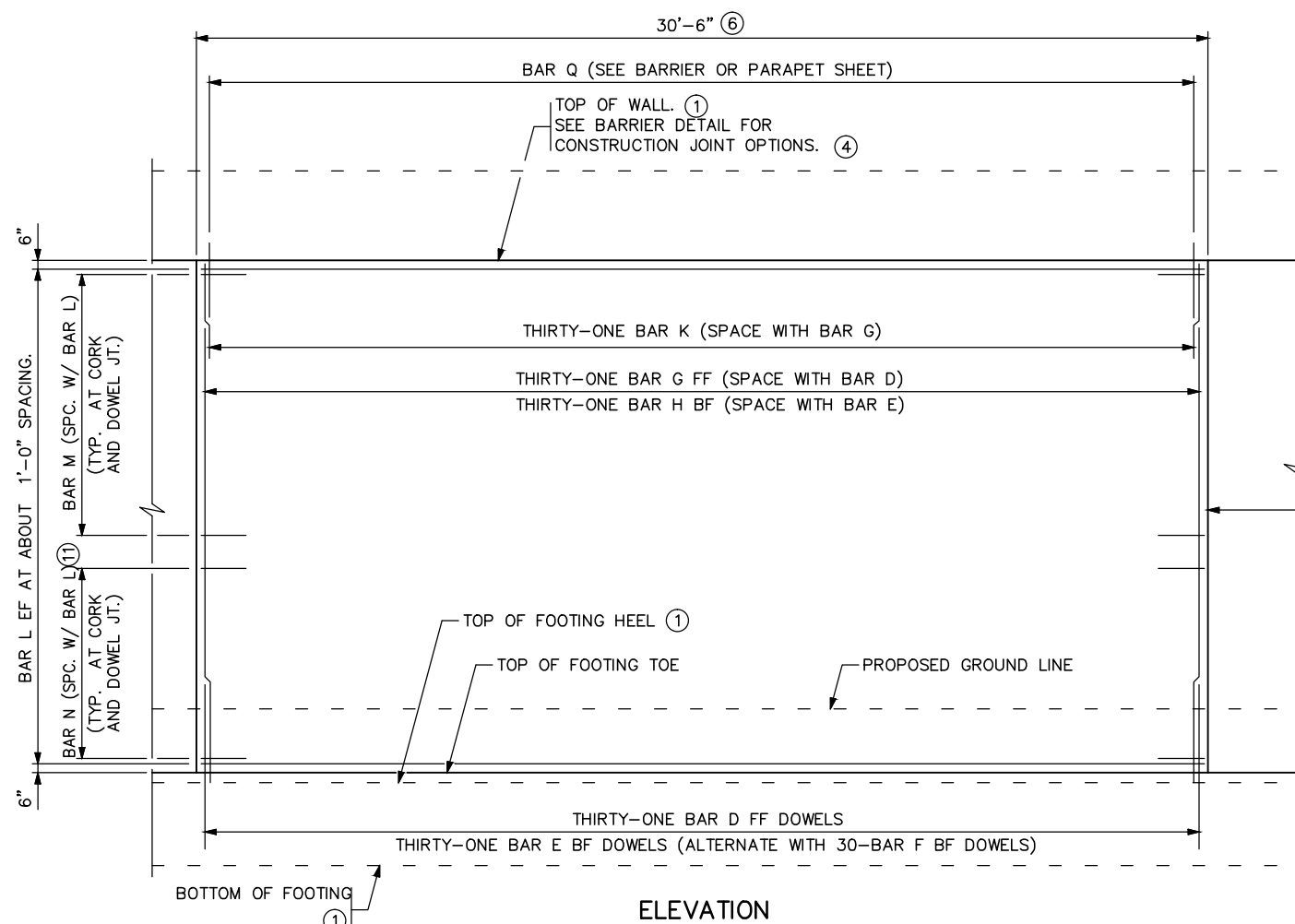
NOTES:

- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE.
- FF DENOTES FRONT FACE.
- EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ' 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ⑦ 5" BOTTOM OF FOOTING CLEARANCE FOR ALL BARS EXCEPT BAR D. BAR D BOTTOM OF FOOTING CLEARANCE VARIES.
- ⑧ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
- ⑩ WALL THICKNESS AT TOP OF STEM, NOT INCLUDING COPING.

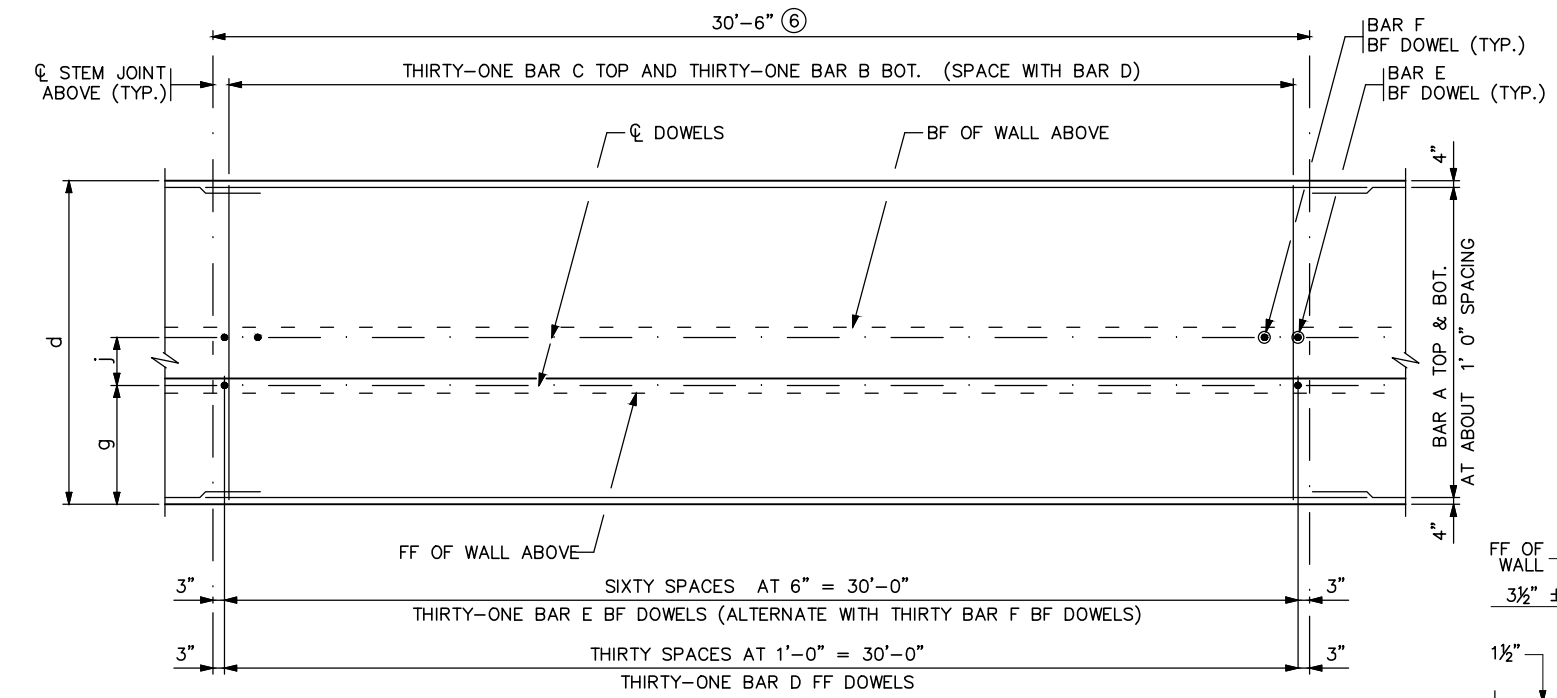
REVISION:  
 APPROVED: AUGUST 27, 2014  
*Nancy Dubenberger*  
 STATE BRIDGE ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
 REVISIONS:  
 APPROVED: 8-27-2014  
*Christopher Ky*  
 STATE DESIGN ENGINEER

RETAINING WALL REINFORCEMENT DETAILS (SHORT WALLS)  
 STANDARD PLAN 5-297.621 1 OF 1

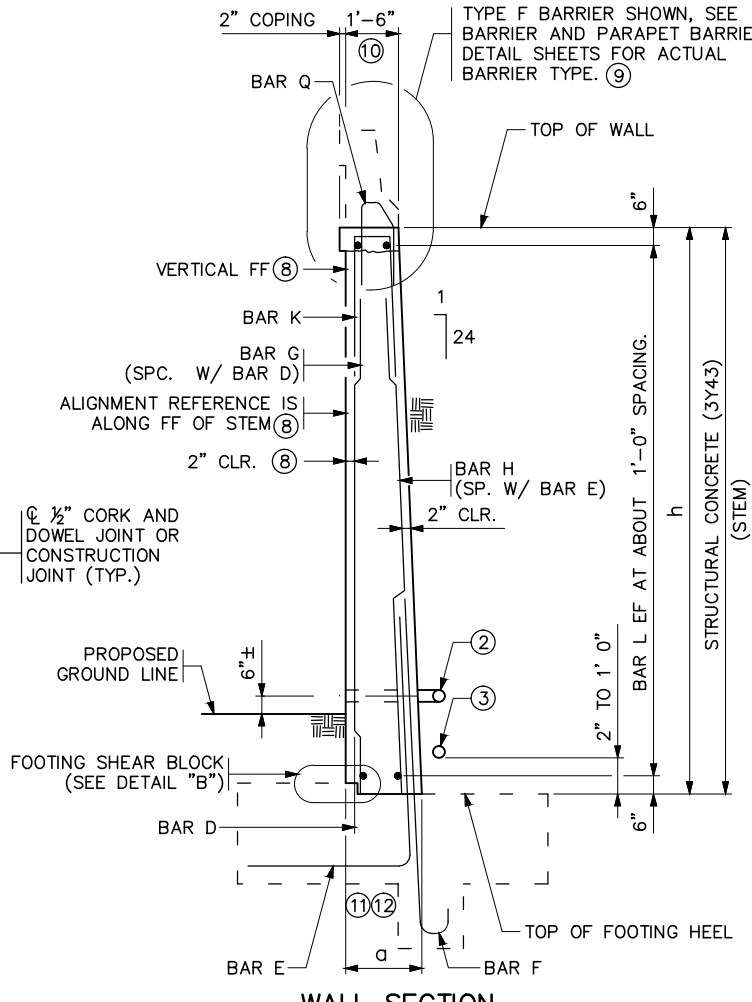


ELEVATION



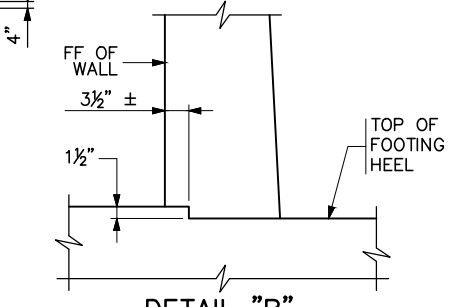
FOOTING PLAN ~ REINFORCEMENT

REVISION:  
 APPROVED: AUGUST 27, 2014  
*Nancy Dubenberger*  
 STATE BRIDGE ENGINEER

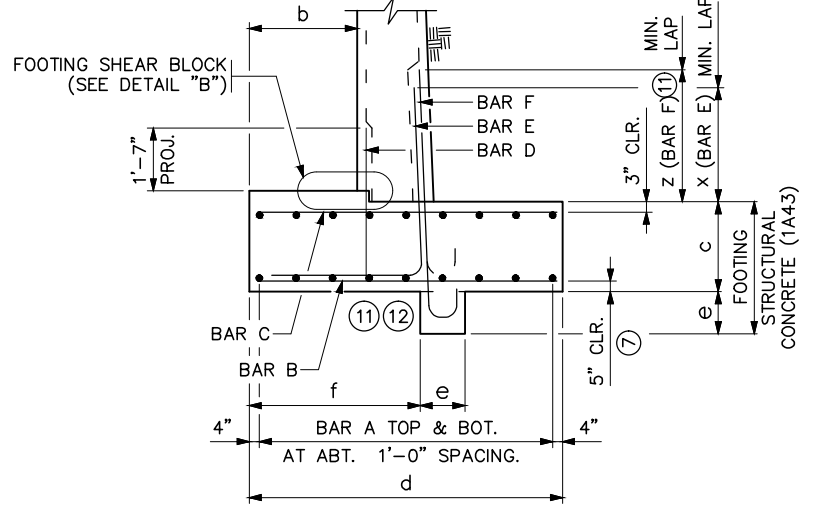


WALL SECTION

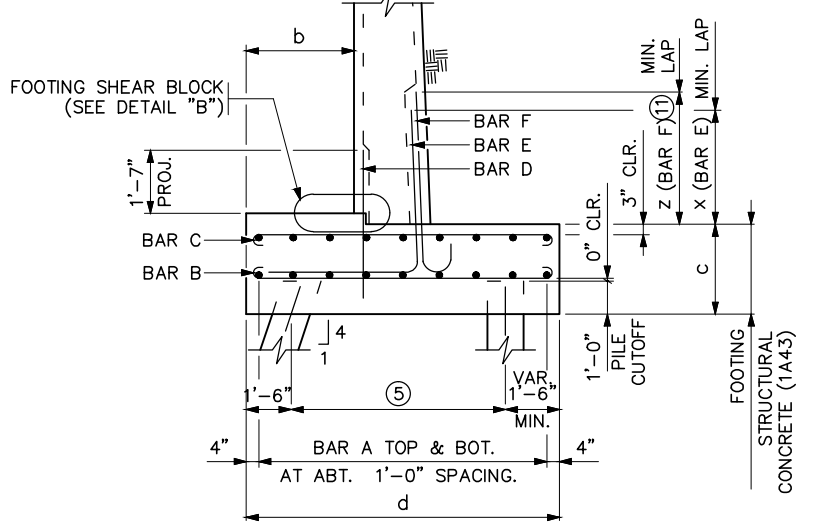
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DETAIL "B"



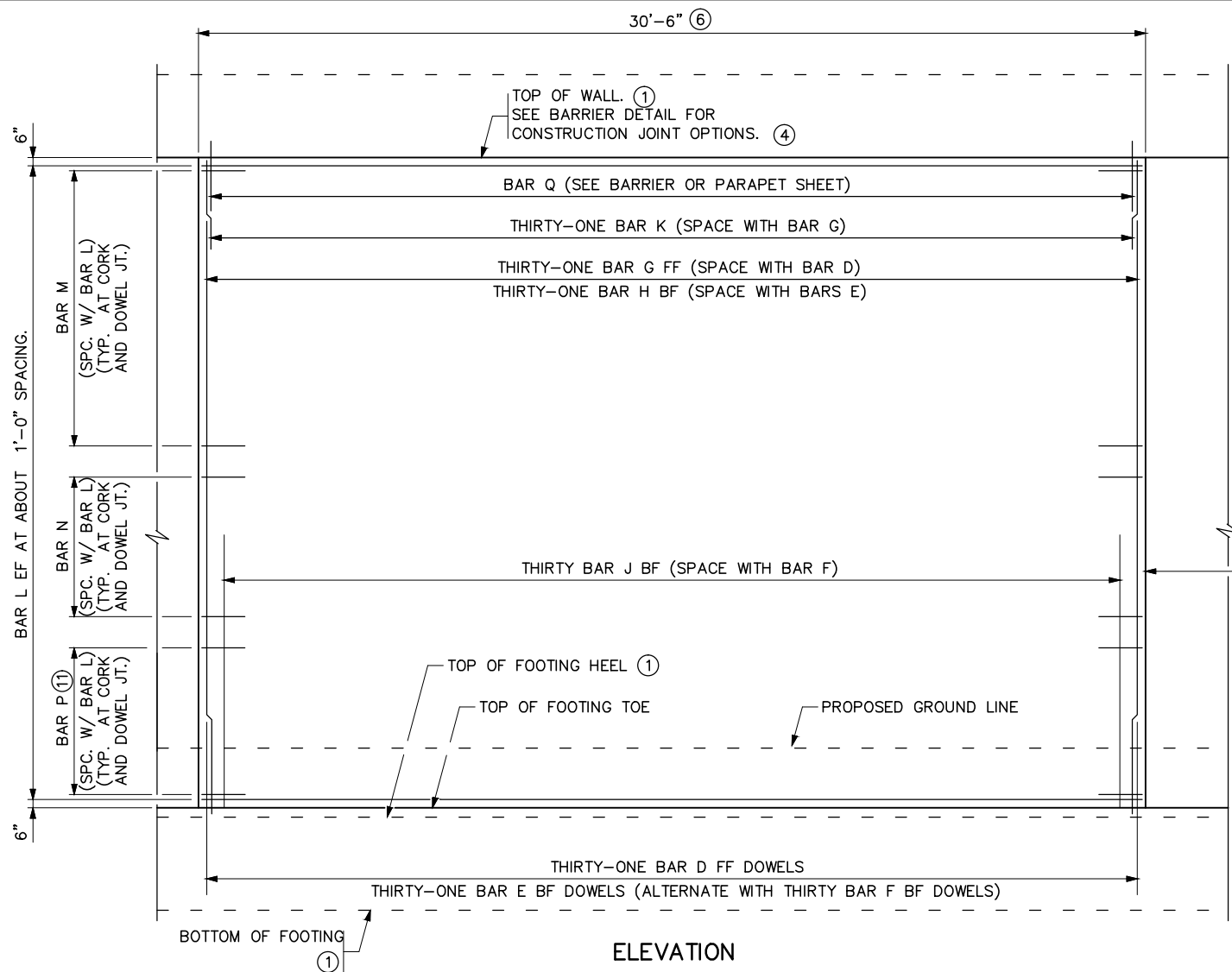
TYPICAL SECTION THROUGH SPREAD FOOTING



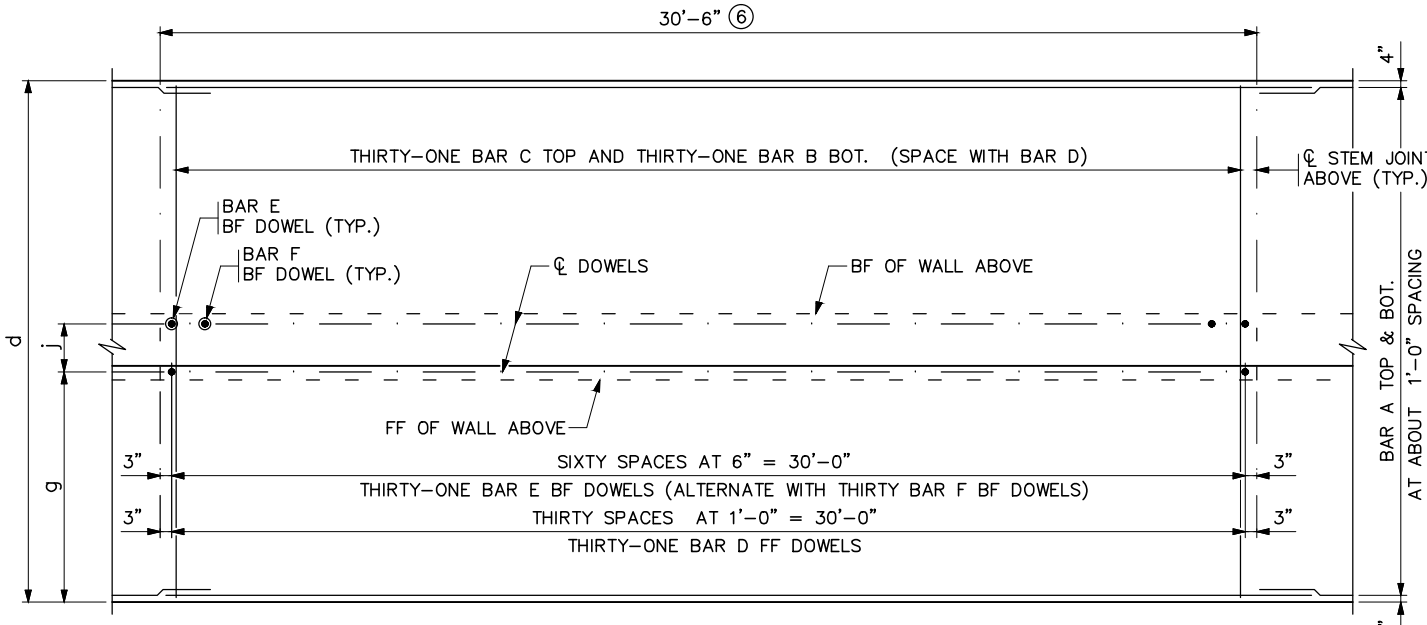
TYPICAL SECTION THROUGH PILE FOOTING

- NOTES:**
- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
  - STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
  - FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
  - BF DENOTES BACK FACE.
  - FF DENOTES FRONT FACE.
  - EF DENOTES EACH FACE.
  - ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
  - ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
  - ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
  - ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
  - ⑤ SEE GENERAL PLAN FOR PILE SPACING.
  - ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
  - ⑦ 5" BOTTOM OF FOOTING CLEARANCE FOR ALL BARS EXCEPT BAR D. BAR D BOTTOM OF FOOTING CLEARANCE VARIES.
  - ⑧ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
  - ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
  - ⑩ WALL THICKNESS AT TOP OF STEM, NOT INCLUDING COPING.
  - ⑪ THIS FEATURE MAY NOT BE PRESENT ON ALL MEDIUM HEIGHT WALLS.
  - ⑫ CONTRACTOR MAY CONSTRUCT KEYWAY WITHOUT FORMS, AS APPROVED BY THE ENGINEER.

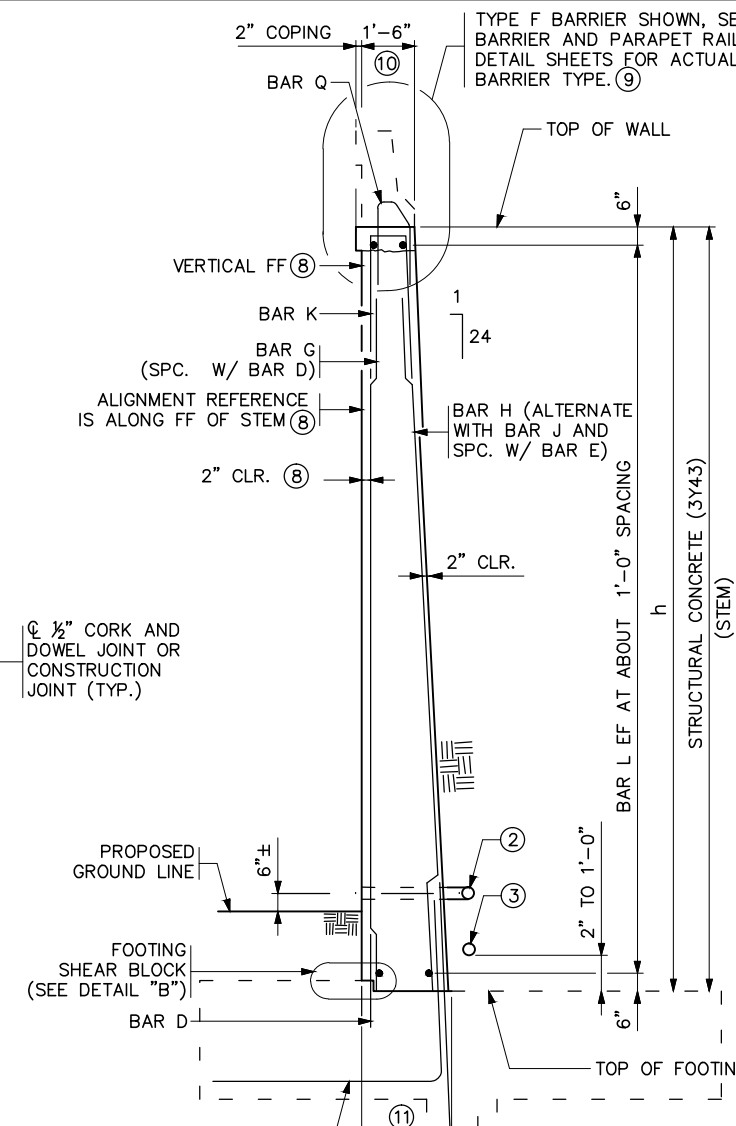
	REVISION: APPROVED: <i>Christopher Ky</i> STATE DESIGN ENGINEER	8-27-2014	<b>RETAINING WALL REINFORCEMENT DETAILS (MEDIUM WALLS)</b> STANDARD PLAN 5-297.622
			1 OF 1



ELEVATION

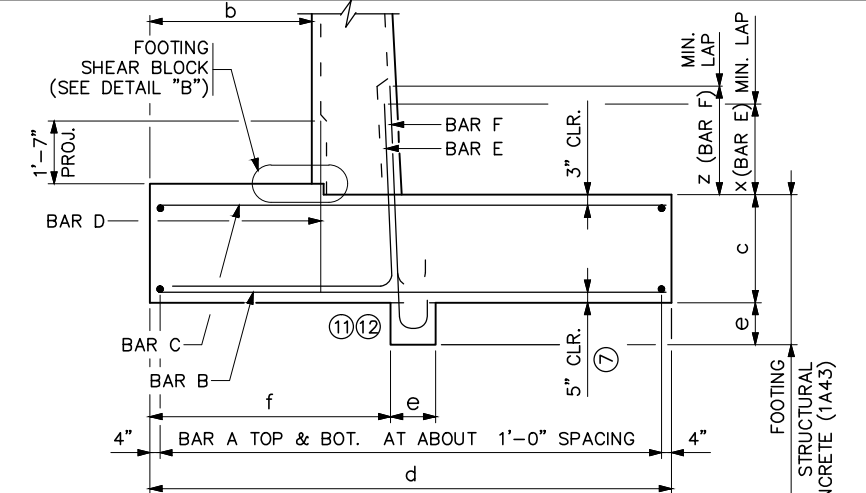


FOOTING PLAN ~ REINFORCEMENT

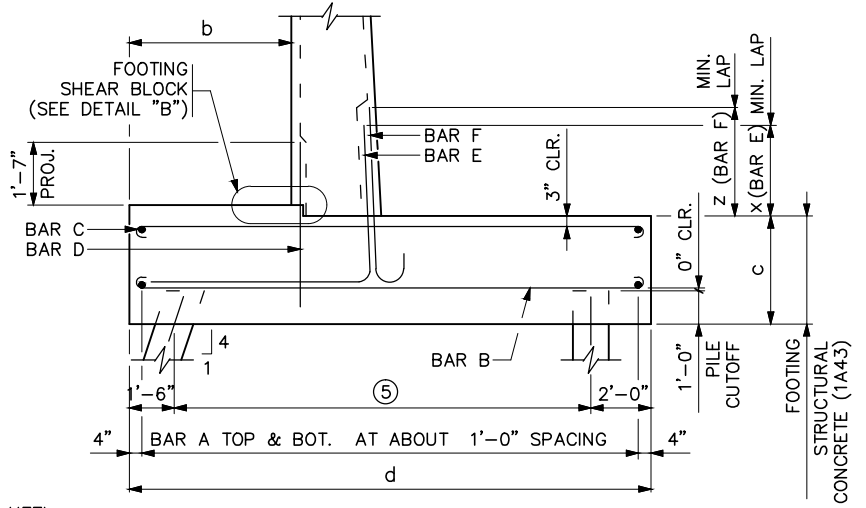


WALL SECTION

(F BARRIER AND 2" COPING OPTION SHOWN)



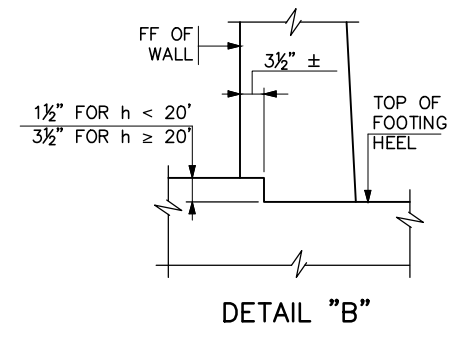
TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

NOTES:

- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE.  
FF DENOTES FRONT FACE.  
EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ⑦ 5" BOTTOM OF FOOTING CLEARANCE FOR ALL BARS EXCEPT BAR D. BAR D BOTTOM OF FOOTING CLEARANCE VARIES.
- ⑧ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
- ⑩ WALL THICKNESS AT TOP OF STEM, NOT INCLUDING COPING.
- ⑪ THIS FEATURE MAY NOT BE PRESENT ON ALL TALL HEIGHT WALLS.
- ⑫ CONTRACTOR MAY CONSTRUCT KEYWAY WITHOUT FORMS, AS APPROVED BY THE ENGINEER.

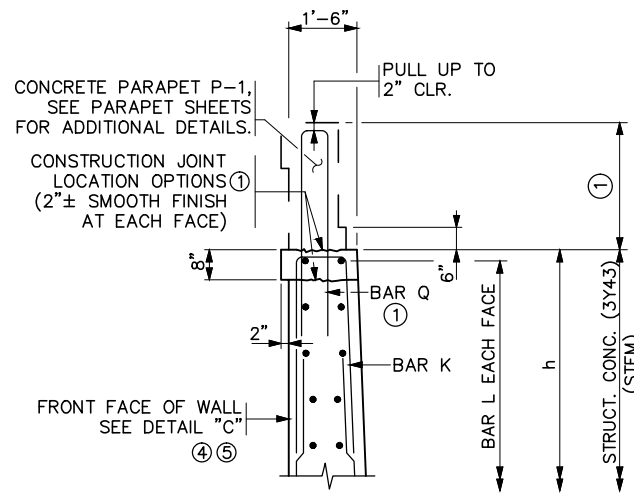


DETAIL "B"

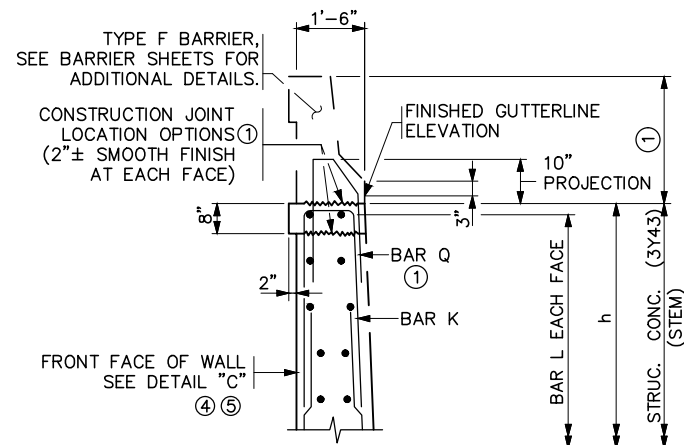
REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy S. Wambacher*  
STATE BRIDGE ENGINEER

MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
APPROVED: 8-27-2014  
*Christopher Ry*  
STATE DESIGN ENGINEER

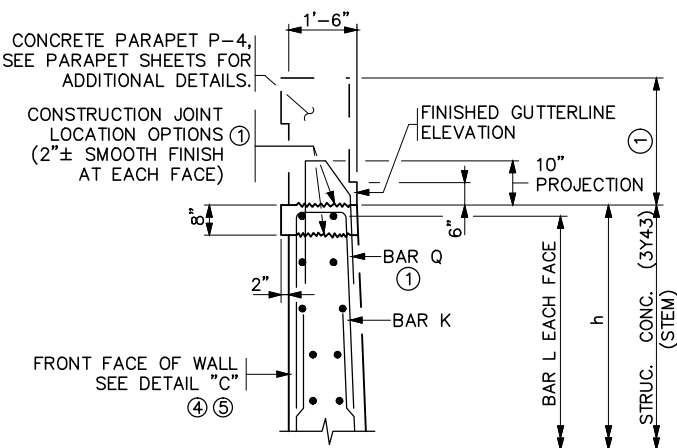
REVISED:  
RETAINING WALL REINFORCEMENT DETAILS (TALL WALLS)  
STANDARD PLAN 5-297.623 1 OF 1



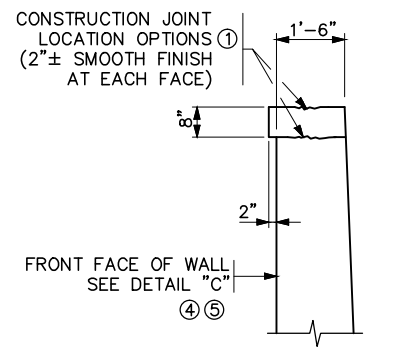
**CONCRETE PARAPET P-1 DETAIL**  
2" COPING OPTION SHOWN



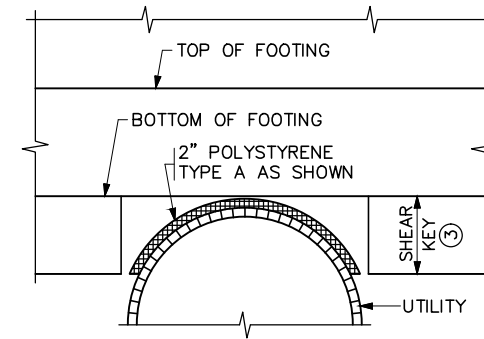
**TYPE F BARRIER DETAIL**  
2" COPING OPTION SHOWN



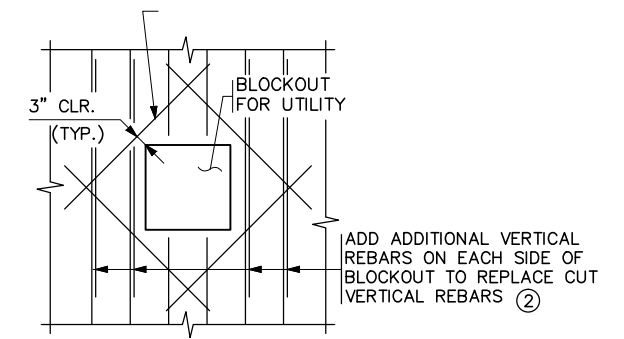
**CONCRETE PARAPET P-4 DETAIL**  
2" COPING OPTION SHOWN



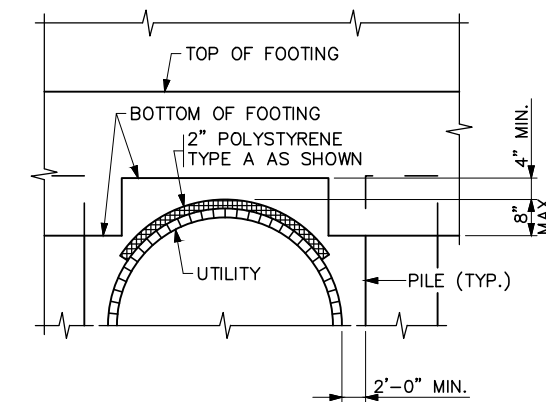
**COPING DETAIL**



**PIPE UNDER SPREAD FOOTING (THROUGH SHEAR KEY)**



**UTILITY BLOCKOUT DETAIL**

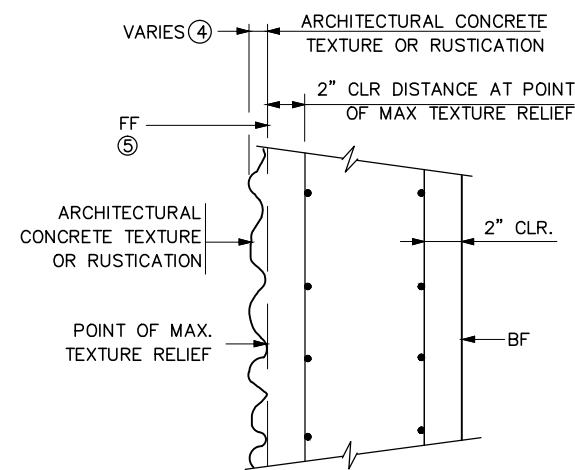


**PIPE THROUGH PILE FOOTING**

**NOTES:**

ARCHITECTURAL TREATMENT OPTION ON FRONT FACE OF RETAINING WALL, INCLUDING COPING OR HORIZONTAL REVEL OPTION TO BE DETERMINED BY MnDOT.

- ① REFER TO PARAPET OR BARRIER SHEETS FOR ADDITIONAL INFORMATION INCLUDING Q BAR PLACEMENT DETAILS, AND PAYMENT.
- ② FIELD CUT/ADJUST VERTICAL AND HORIZONTAL REINFORCEMENT AS NECESSARY TO CLEAR BLOCKOUT. PLACE REINFORCEMENT AS SHOWN.
- ③ MODIFY AS NEEDED FOR INTERRUPTION.
- ④ THE THICKNESS OF THE ARCHITECTURAL CONCRETE TEXTURE VARIES WITH THE TEXTURE RELIEF. THE STRUCTURAL CONCRETE 3Y43 QUANTITIES DO NOT INCLUDE THE MATERIAL WITHIN THE ARCHITECTURAL CONCRETE TEXTURE. MATERIAL NEEDED FOR THE TEXTURING SHALL BE INCIDENTAL. SEE SPECIAL PROVISIONS 2411. TEXTURE RELIEF TO ADHERE TO FHWA CRASH BARRIER GUIDANCE WHENEVER THE WALL FACE IS INSIDE OR NEAR THE CLEAR ZONE.
- ⑤ FOR RETAINING WALLS THAT ABUT A BRIDGE OR BRIDGE WING WALL, NOTE THAT THE DESIGNATION OF "FRONT FACE" MAY VARY FROM THE BRIDGE PLANS TO THE RETAINING WALL PLANS.



**DETAIL "C"**

REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy Dubenberger*  
STATE BRIDGE ENGINEER

STANDARD SHEET NO.  
5-297.624 (1 OF 6)  
STANDARD APPROVED:  
AUGUST 27, 2014

TITLE:  
**RETAINING WALL MISCELLANEOUS DETAILS**

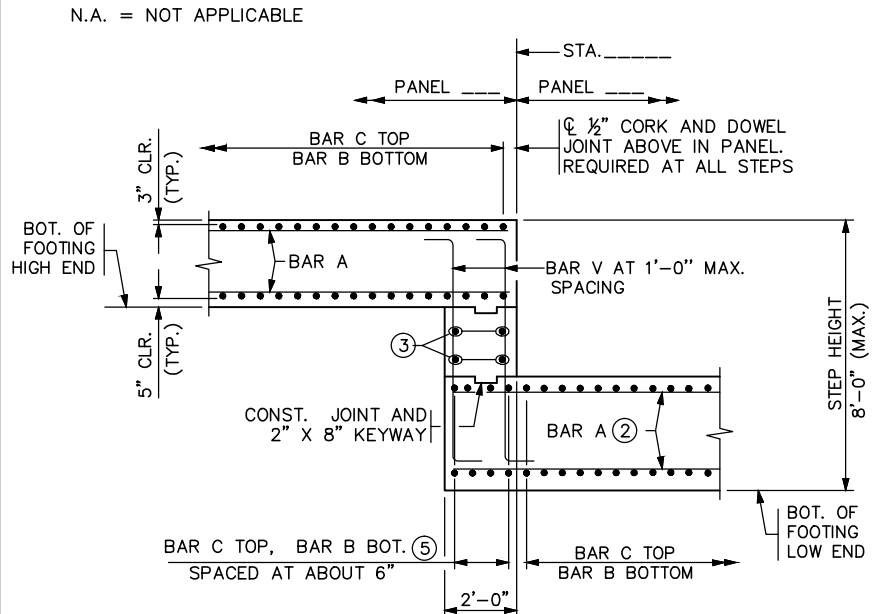
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

BILL OF REINFORCEMENT FOR STEPPED FOOTING DETAILS ①②										
STATION	STEP TYPE (VAR. OF MIN.)	JOINT	BOT. OF FOOTING EL. LOW END	BOT. OF FOOTING EL. HIGH END	BAR (B, V, C)	MARK	NO.	LENGTH	A-- DIMENSION	
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					
					B (8)				N.A.	
					C (8)		4		N.A.	
					V (7)					

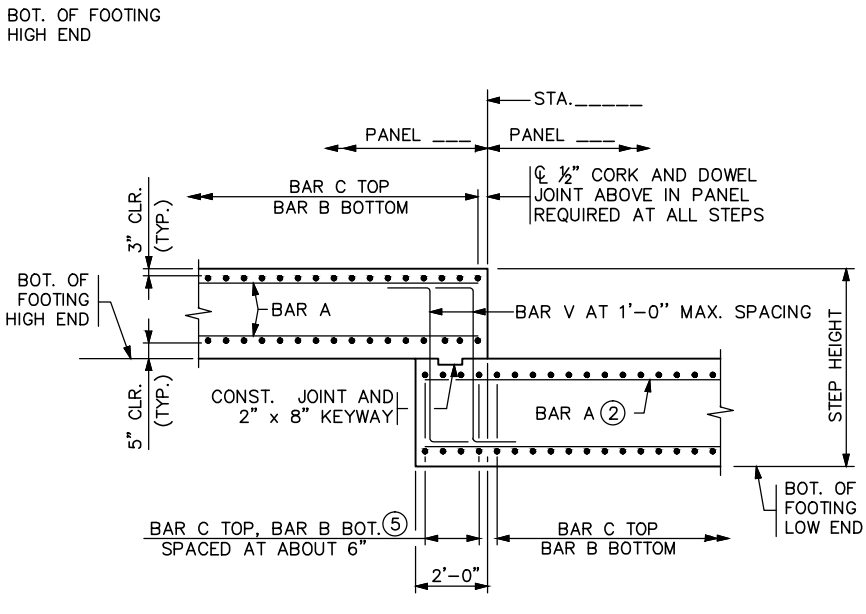
N.A. = NOT APPLICABLE

BILL OF REINFORCEMENT FOR CORNER DETAILS ①									
STATION	JOINT	INSIDE OR OUTSIDE CORNER	BAR	MARK	NO.	LENGTH	SHAPE	A-- DIMENSION	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	┌	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	┌	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	┌	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	┌	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	

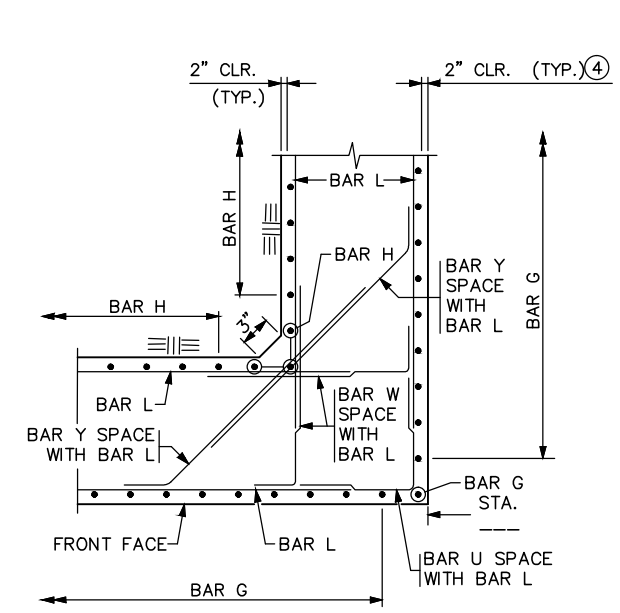
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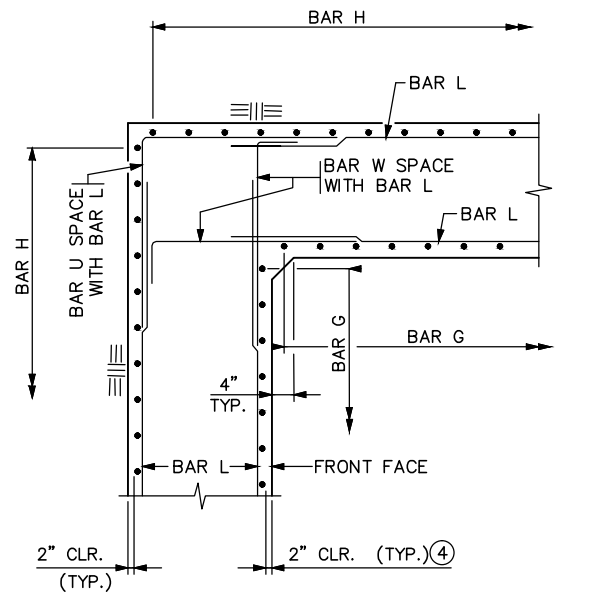
STEPPED FOOTING DETAIL - LONGIT. SECTION ①②  
(SPREAD FOOTING SHOWN)



STEPPED FOOTING DETAIL - LONGIT. SECTION ①②  
TYPE 2 - MINIMUM STEP HEIGHT  
(SPREAD FOOTING SHOWN)



OUTSIDE CORNER DETAIL - PLAN VIEW ①

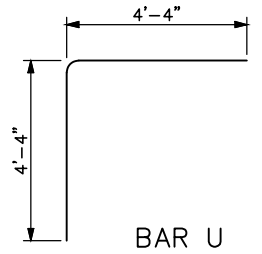


INSIDE CORNER DETAIL - PLAN VIEW ①

**NOTES:**

ADDITIONAL REINFORCING BARS, STRUCTURAL CONCRETE, AND OTHER COMPONENTS REQUIRED TO CONSTRUCT CORNERS AND STEPPED FOOTINGS ARE INCIDENTAL.

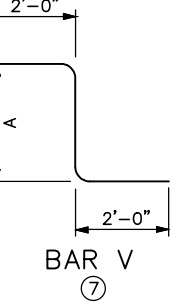
- ① CONTRACTOR IS REQUIRED TO COMPLETE THE BILL OF REINFORCEMENT TABLE AND SUBMIT TO PROJECT ENGINEER AT LEAST 3 WEEKS PRIOR TO REBAR FABRICATION.
- ② FOR THE LOWER OF THE TWO FOOTINGS AT A STEP, THE CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE LENGTH OF BAR A TO EXTEND BENEATH THE STEP OR USE SPLICED BARS.
- ③ 6 INCH MAX. SPACING. BARS TO BE SAME TYPE AS BAR B OF THE LOWER FOOTING.
- ④ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ REFER TO TABLE LABELED "BILL OF REINFORCEMENT FOR STEPPED FOOTING DETAILS" FOR ADDITIONAL B AND C BARS IN LOWER FOOTING.
- ⑥ USE THE BAR Y LEG DIMENSION FOR THE PORTION OF STEM LOCATION INDICATED IN THE BAR BEND IN DETAIL. (0'-0" REPRESENTS TOP OF THE STEM).
- ⑦ BAR V SIZE TO MATCH BAR B. SEE PANEL TABULATIONS FOR SIZE.
- ⑧ SEE PANEL TABULATIONS FOR BAR SIZE AND LENGTH.



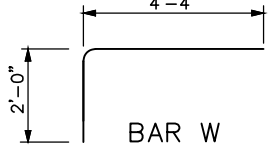
BAR U

REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy Saubenberg*  
STATE BRIDGE ENGINEER

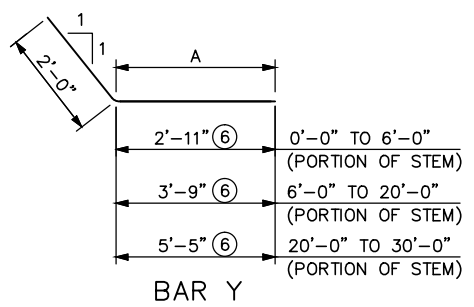
BAR V LENGTH FORMULA =  
STEP HEIGHT MINUS 10"  
(A-DIMENSION)



BAR V ⑦



BAR W

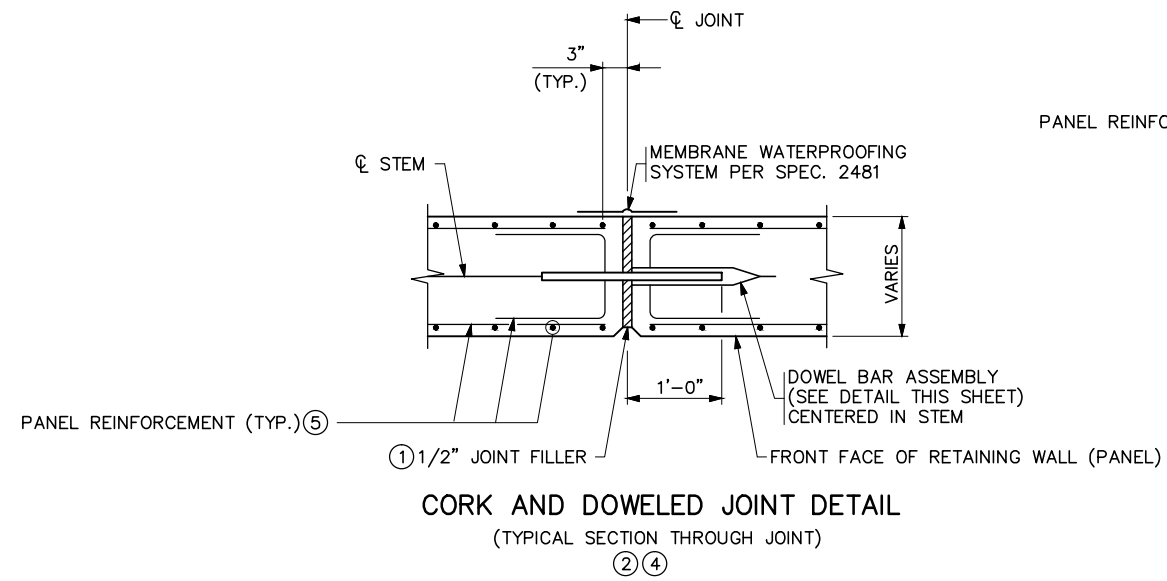


BAR Y

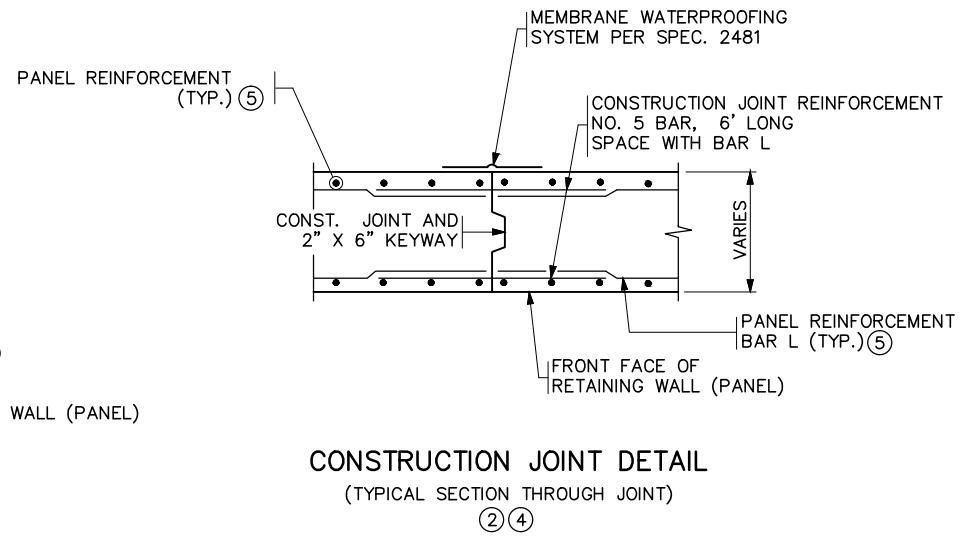
STANDARD SHEET NO.  
5-297.624 (2 OF 6)  
STANDARD APPROVED:  
AUGUST 27, 2014

TITLE:  
**RETAINING WALL MISCELLANEOUS DETAILS**

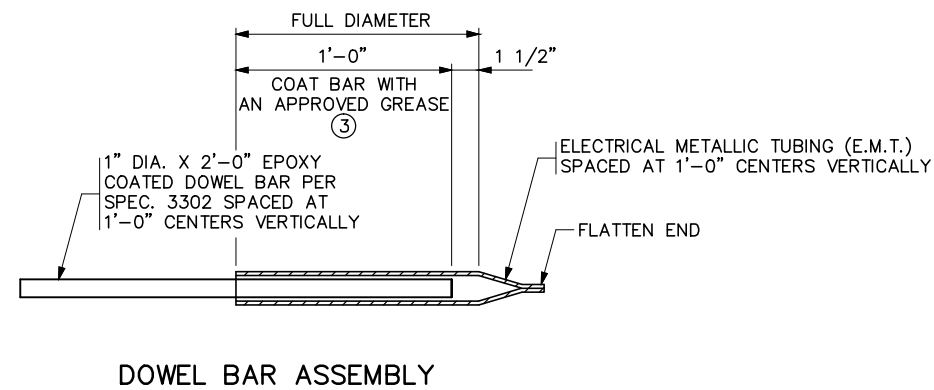
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS



**CORK AND DOWELED JOINT DETAIL**  
(TYPICAL SECTION THROUGH JOINT)  
② ④



**CONSTRUCTION JOINT DETAIL**  
(TYPICAL SECTION THROUGH JOINT)  
② ④



**DOWEL BAR ASSEMBLY**

**NOTES:**

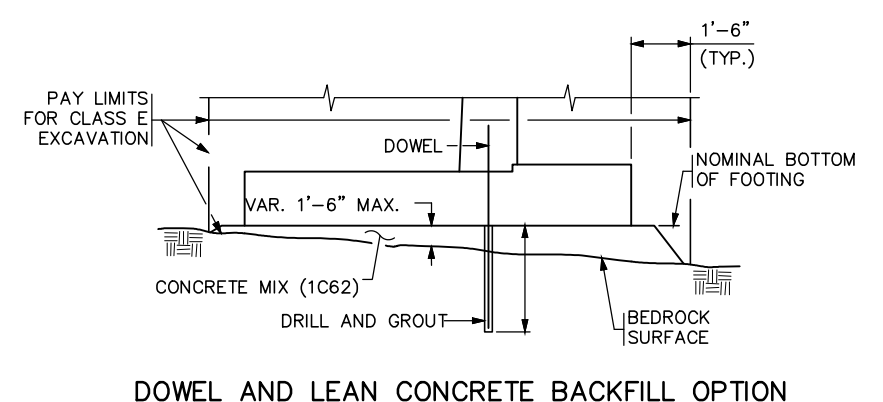
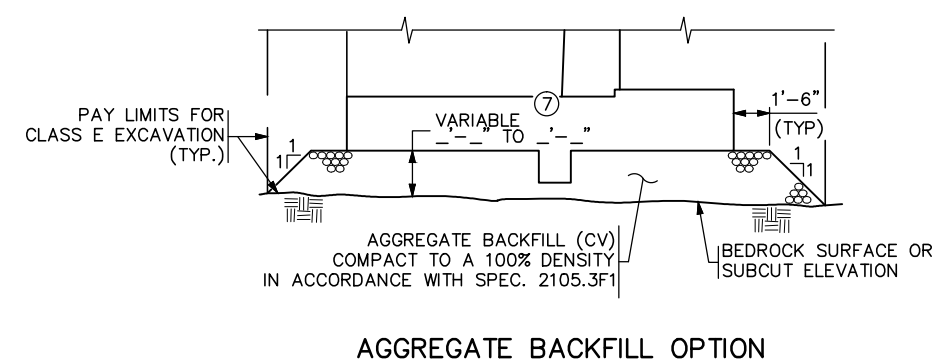
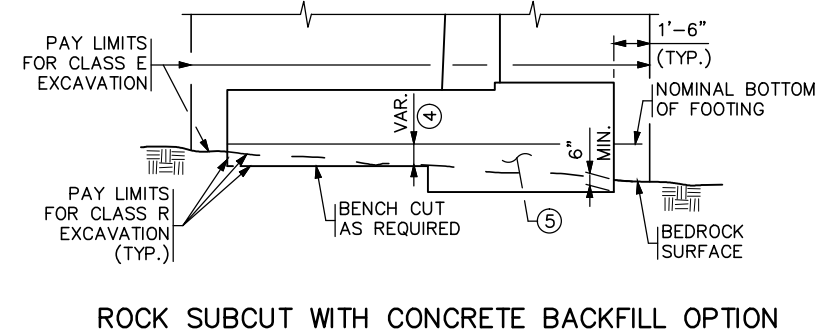
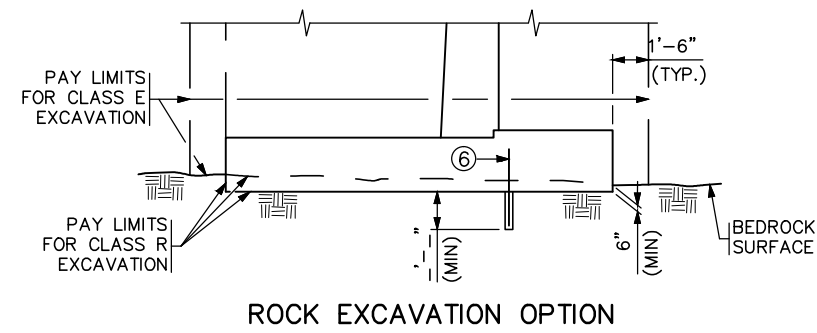
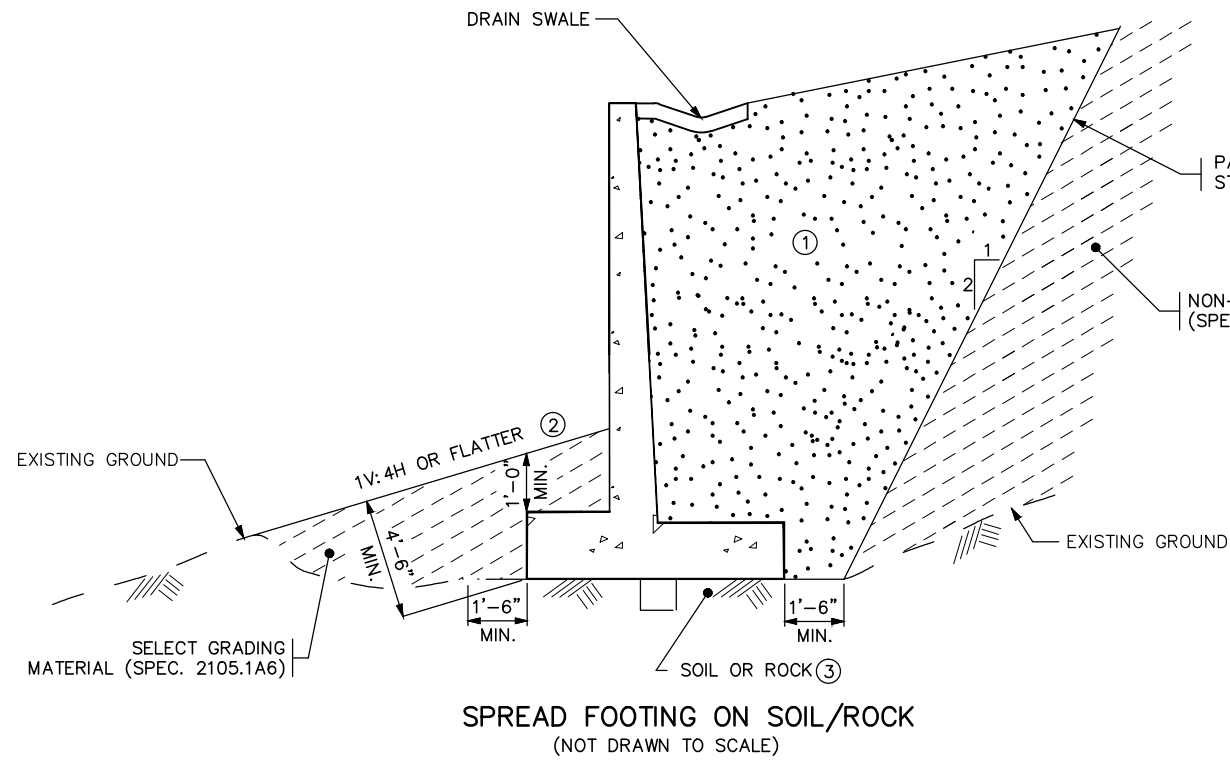
THE MATERIALS AND PLACEMENT OF THE CORK AND DOWEL JOINT/ CONSTRUCTION JOINT (DOWEL BAR ASSEMBLIES, NO. 5 REINFORCING BARS, JOINT FILLER, AND JOINT WATERPROOFING) ARE INCIDENTAL.

THE CONTRACTOR SHALL ASSIGN TO THE REINFORCING BAR SUPPLIER THE RESPONSIBILITY OF SUPPLYING THE NECESSARY MATERIALS ASSOCIATED WITH THE DETAILS SHOWN ON THIS SHEET.

- ① JOINT FILLER SHALL BE CORK SPEC. 2401.3E3.
- ② AT THE CONTRACTOR'S OPTION, CONSTRUCTION JOINTS MAY BE SUBSTITUTED IN LIEU OF CORK AND DOWEL JOINTS. REINFORCEMENT QUANTITIES WERE COMPUTED ASSUMING A CORK AND DOWEL JOINT BETWEEN EVERY PANEL. CHANGES IN THE BILL OF REINFORCEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL PAYMENT WILL BE MADE. AT A MINIMUM, PLACE CORK AND DOWEL JOINTS EVERY 91'-6". A CORK AND DOWEL JOINT IS REQUIRED AT ALL VERTICAL FOOTING STEPS.
- ③ GREASE SHALL BE AN APPROVED HIGH PRESSURE TYPE THAT IS EFFECTIVE OVER THE FULL RANGE OF EXPECTED TEMPERATURES AND RESISTANT TO CHEMICAL ACTION.
- ④ DOWEL BAR ASSEMBLY MUST BE PLACED PERPENDICULAR TO JOINT AND PARALLEL TO THE WALL FACE, AND TO EACH OTHER.
- ⑤ SEE PANEL SHEETS FOR REINFORCING DETAILS.

REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy Dambenberger*  
STATE BRIDGE ENGINEER

STANDARD SHEET NO. 5-297.624 (3 OF 6)	TITLE: RETAINING WALL MISCELLANEOUS DETAILS
STANDARD APPROVED: AUGUST 27, 2014	
STATE PROJ. NO.	( TH ) SHEET NO. OF SHEETS



- ① STRUCTURAL BACKFILL (SPEC. 3149.2D2) COMPACT BACKFILL TO SPECIFIED DENSITY METHOD SPEC. 2105.3F1
- ② PROVIDE SLOPE OF 1V:24H TO 1V:4H FOR PROPER DRAINAGE.
- ③ LEVEL FOUNDATION SURFACE AND CLEAR SURFACE OF LOOSE DEBRIS BEFORE PLACING FOUNDATION DIRECTLY ON SOIL OR ROCK.
- ④ SEE SPECIAL PROVISIONS FOR PAYMENT OF ADDITIONAL CONCRETE.
- ⑤ STRUCTURAL CONCRETE (1A43) OR LEAN CONCRETE BACKFILL (1C62), AS APPROVED BY ENGINEER.
- ⑥ DRILL HOLES FOR ANCHORS TO KEY FOOTING IN ROCK.
- ⑦ MINIMUM DEPTH 1 FT. 6 INCH OR SHEAR KEY DEPTH.

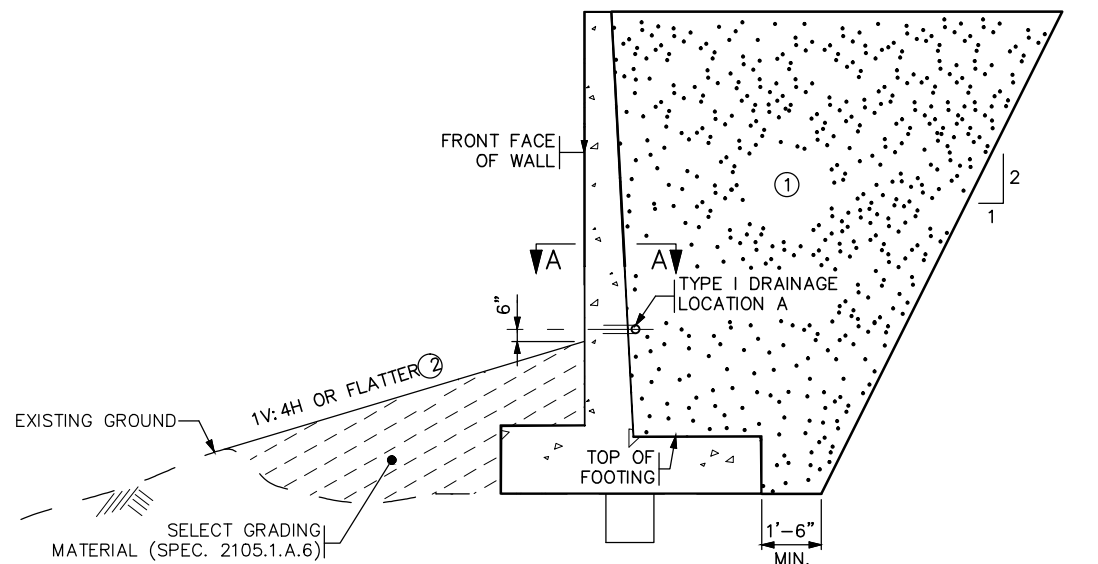
AGGREGATE BACKFILL OPTION

DOWEL AND LEAN CONCRETE BACKFILL OPTION

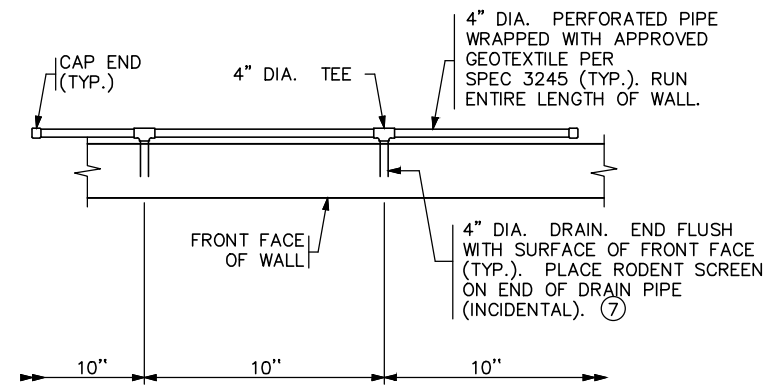
ROCK FOUNDATION OPTIONS

REVISION:	MODIFIED		STANDARD SHEET NO. 5-297.624 (4 OF 6)	TITLE: RETAINING WALL MISCELLANEOUS DETAILS (GEOTECHNICAL DETAILS)
APPROVED: AUGUST 27, 2014 <i>Nancy Dambenberger</i> STATE BRIDGE ENGINEER	DATE	DESCRIPTION	CERTIFIED BY _____ DATE _____ LICENSED PROFESSIONAL ENGINEER	STANDARD APPROVED: AUGUST 27, 2014
			NAME: _____ LIC. NO. _____	STATE PROJ. NO. _____ (TH) SHEET NO. _____ OF SHEETS

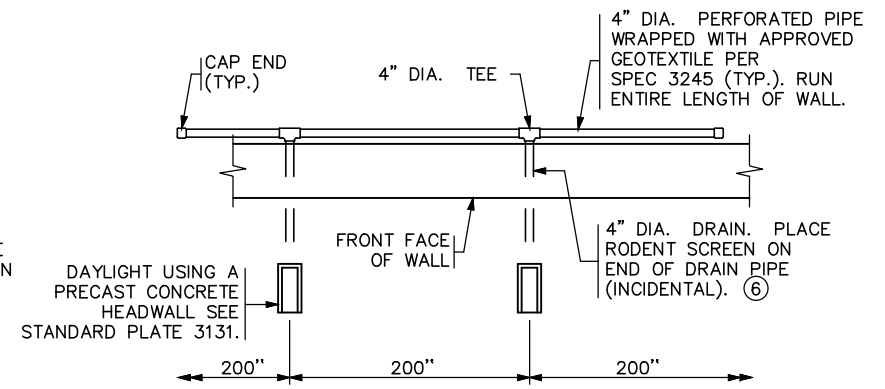




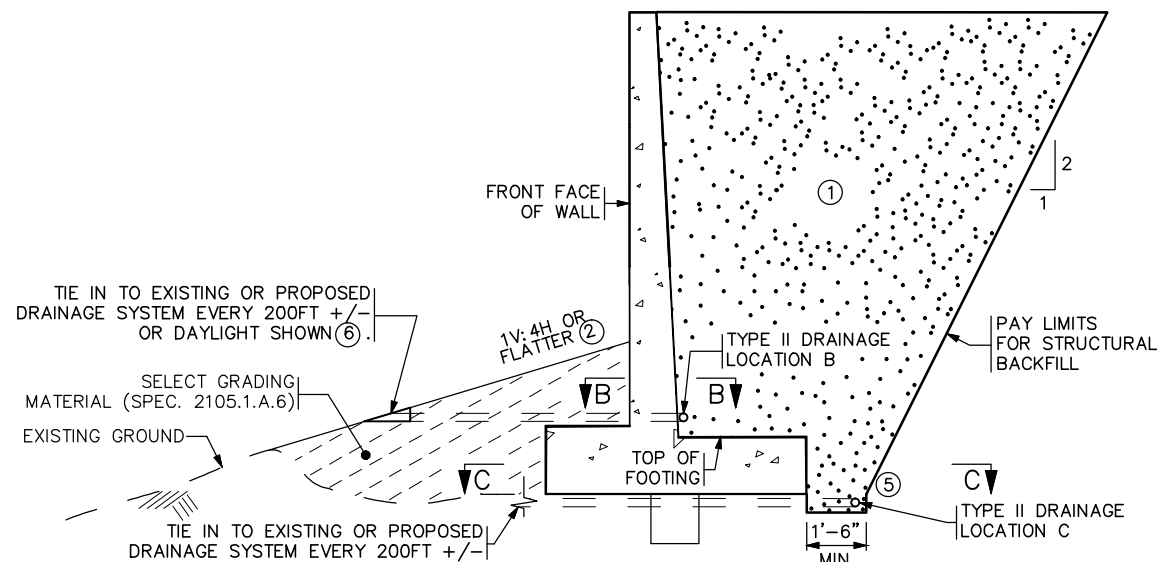
**TYPICAL DRAINAGE SYSTEM DETAILS (TYPE I DRAINAGE) ④**  
(REFER TO SECTION A-A)



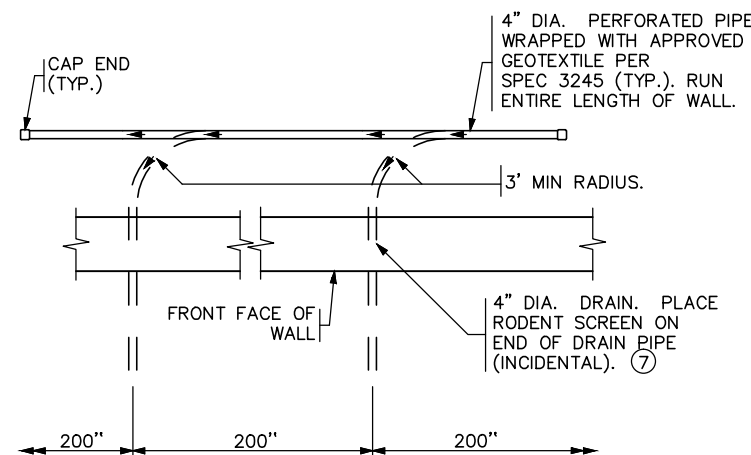
**SECTION A-A**  
TYPE I DRAINAGE DETAIL, LOCATION A



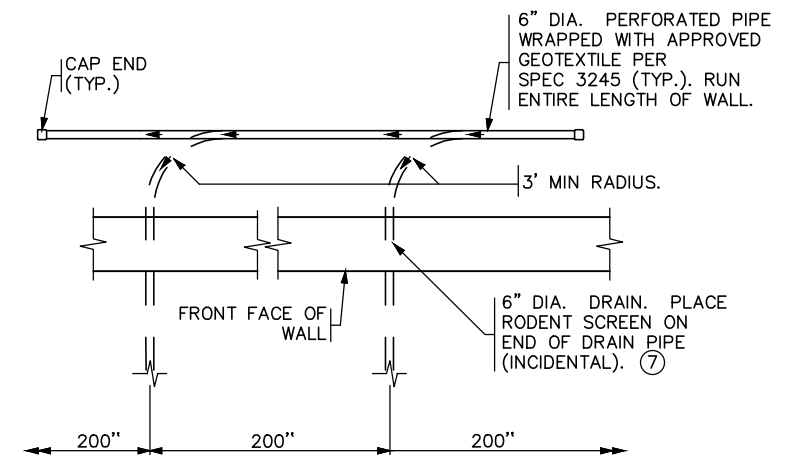
**SECTION B-B**  
TYPE II DRAINAGE DETAIL, LOCATION B



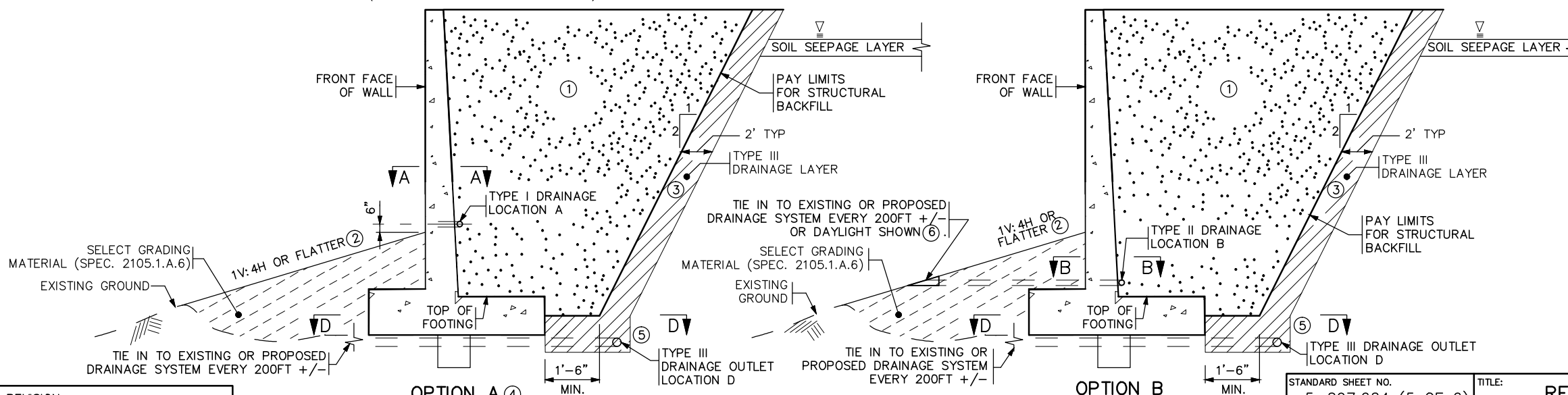
**TYPICAL DRAINAGE SYSTEM DETAILS (TYPE II DRAINAGE)**  
(REFER TO SECTION B-B AND C-C)



**SECTION C-C**  
TYPE II DRAINAGE DETAIL, LOCATION C



**SECTION D-D**  
TYPE III DRAINAGE DETAIL, LOCATION D



**OPTION A ④**  
(REFER TO SECTION A-A AND D-D)

**OPTION B**  
(REFER TO SECTION B-B AND D-D)

**TYPICAL DRAINAGE SYSTEM DETAILS (TYPE III DRAINAGE)**

**NOTES:**

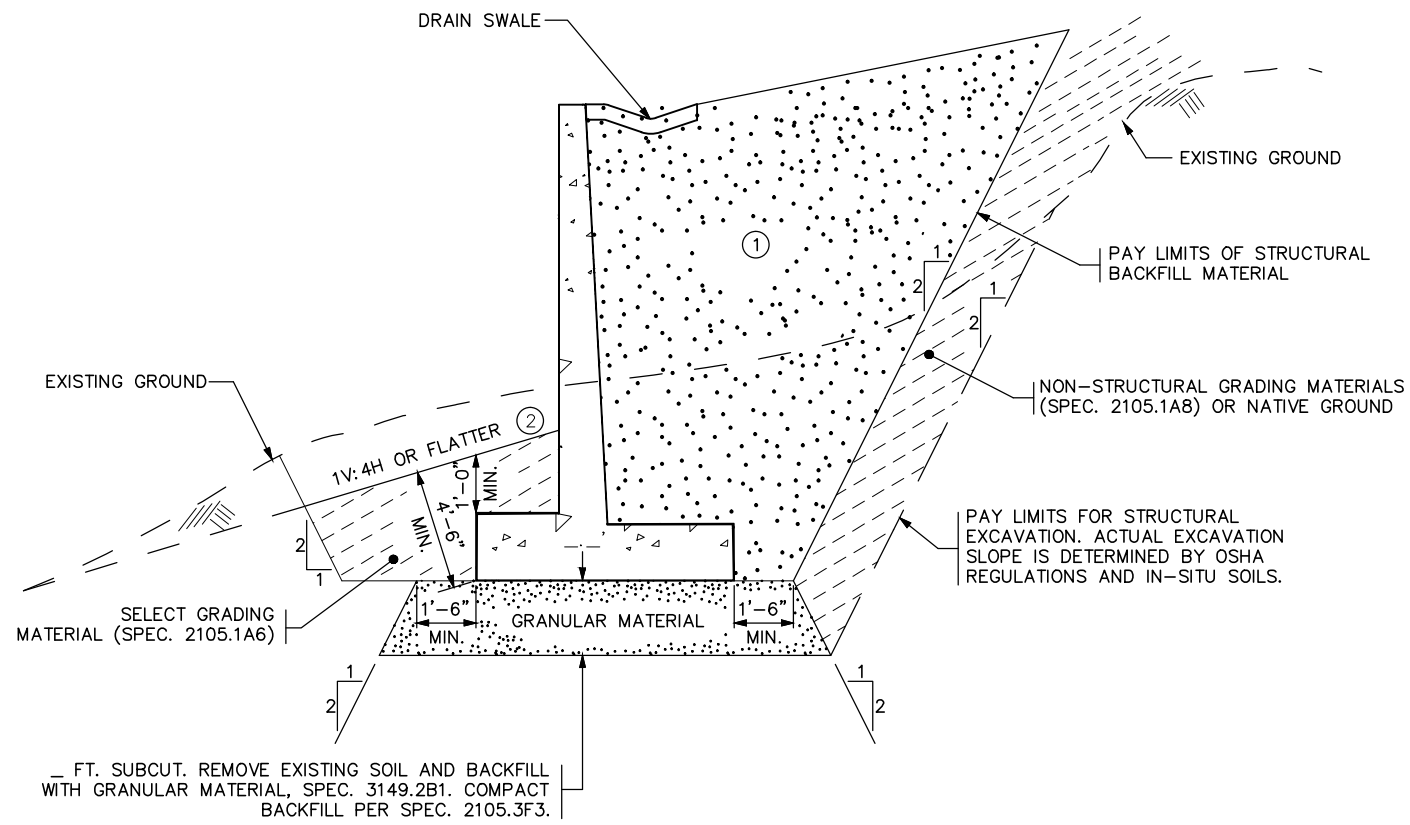
- BACKFILL MATERIAL SHALL COMPLETELY SURROUND PIPE AT ALL TIMES.
- SLOPE PIPE TO ENSURE PROPER DRAINAGE AT ALL TIMES.
- DRAINAGE SYSTEM PAID BY LUMP SUM PER SPEC. 2502.
- ① STRUCTURAL BACKFILL. SEE SHEET 5-297.620. COMPACT BACKFILL TO SPECIFIED DENSITY METHOD SPEC. 2105.3.F.1.
- ② PROVIDE SLOPE OF 1V:24H TO 1V:4H FOR PROPER DRAINAGE.
- ③ TYPE III DRAINAGE LAYER TO BE FINE FILTER AGGREGATE PER SPEC. 3149.2.J.2. FINE FILTER AGGREGATE MAY BE REPLACED WITH TYPE VI DRAINAGE GEOCOMPOSITE MATERIAL.
- ④ DRAINAGE SYSTEMS INSTALLED AT LOCATION A SHALL NOT BE USED WHEN A SIDEWALK, TRAIL, OR ROADWAY IS LOCATED ADJACENT TO THE FRONT FACE OF THE WALL TO PREVENT PONDING OR ICE ACCUMULATION.
- ⑤ EXTEND STRUCTURAL BACKFILL OR FINE FILTER AGGREGATE 8" BELOW BOTTOM OF FOOTING.
- ⑥ TYPE II LOCATION B DRAINAGE MAY DAYLIGHT DIRECTLY USING PRECAST CONCRETE HEADWALLS OR BE TIED INTO DRAINAGE SYSTEM.
- ⑦ THE RODENT SCREEN SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 1/2" NO. 4F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy Subenberger*  
STATE BRIDGE ENGINEER

STANDARD SHEET NO.  
5-297.624 (5 OF 6)  
STANDARD APPROVED:  
AUGUST 27, 2014

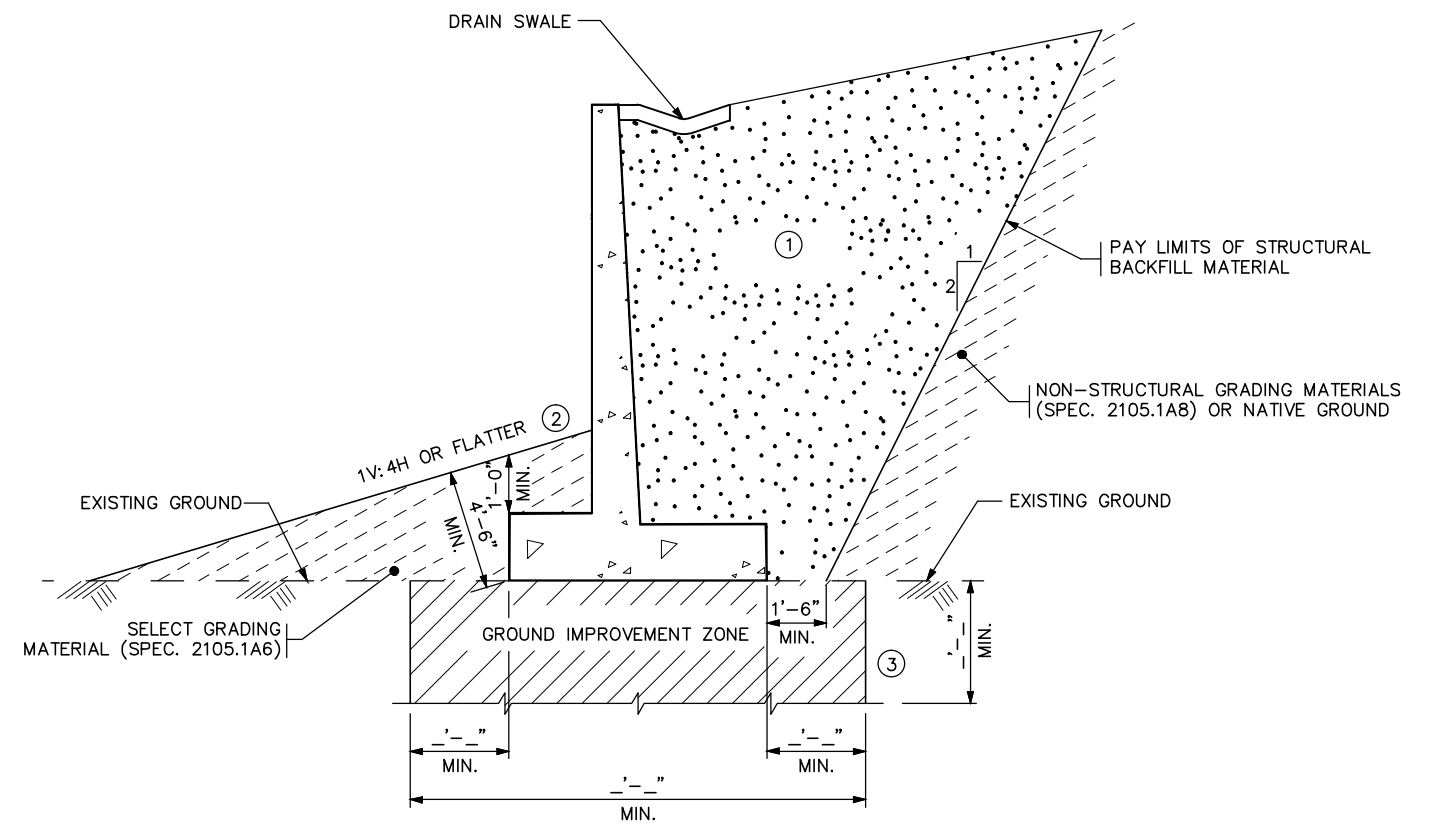
TITLE:  
**RETAINING WALL MISCELLANEOUS DETAILS  
(GEOTECHNICAL DETAILS)**

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

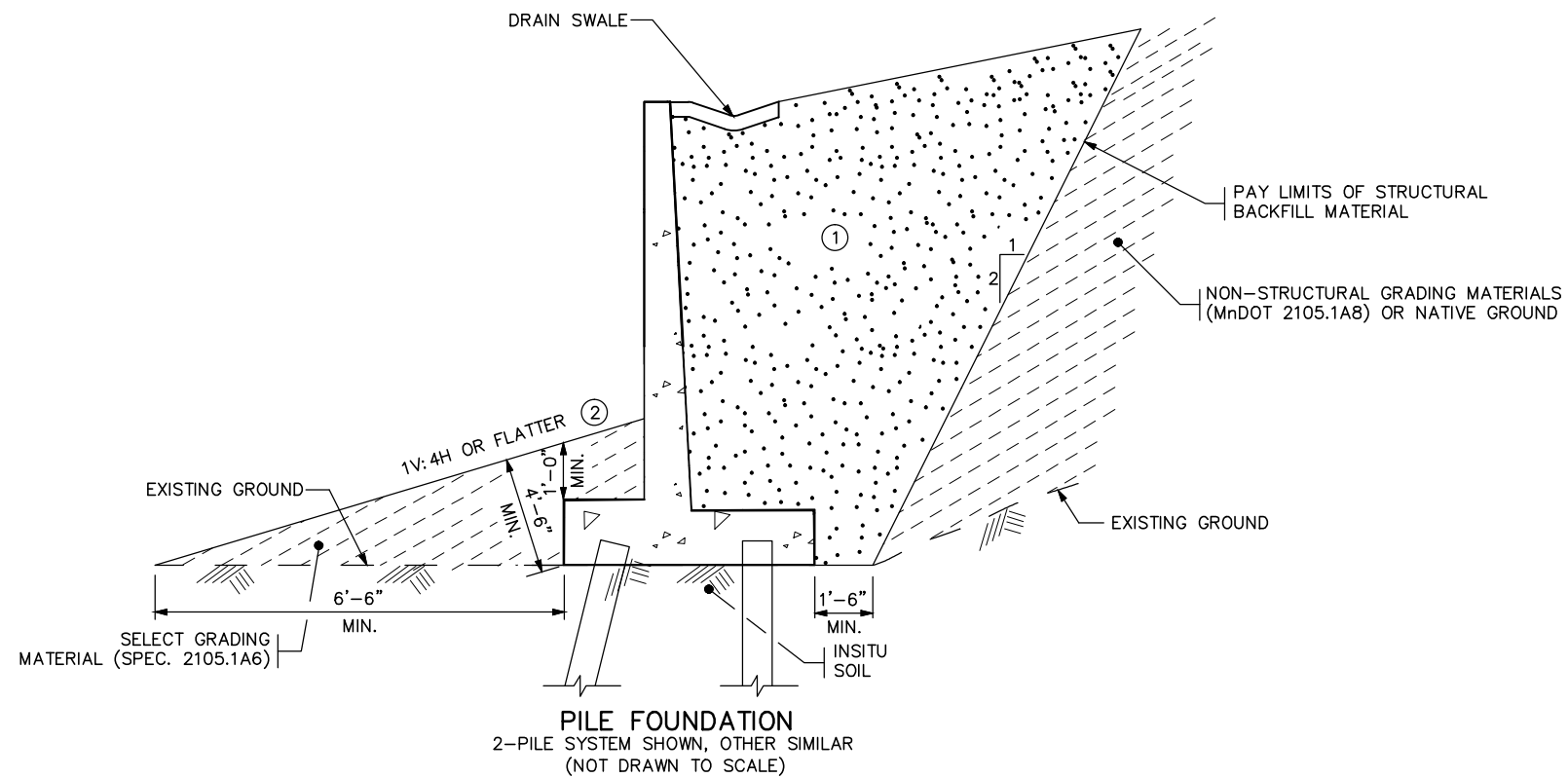


1/2 FT. SUBCUT. REMOVE EXISTING SOIL AND BACKFILL WITH GRANULAR MATERIAL, SPEC. 3149.2B1. COMPACT BACKFILL PER SPEC. 2105.3F3.

**SPREAD FOOTING WITH SOIL SUBCUT**  
(NOT DRAWN TO SCALE)



**SPREAD FOOTING PLACED OVER GROUND IMPROVEMENT**  
(NOT DRAWN TO SCALE)



**PILE FOUNDATION**  
2-PILE SYSTEM SHOWN, OTHER SIMILAR  
(NOT DRAWN TO SCALE)

- ① BACKFILL WITH STRUCTURAL BACKFILL SPEC. 3149.2D2 COMPACT BACKFILL PER SPEC. 2105.3F3.
- ② PROVIDE SLOPE OF 1V:24H TO 1V:4H FOR PROPER DRAINAGE.
- ③ PROVIDE SUFFICIENT COVERAGE AREA AND TREATMENT VOLUME TO GIVE GENERALLY UNIFORM SUPPORT TO THE FOUNDATION. IMPROVED GROUND OR SURFACE PREPARATIONS PLACED TO IMPROVE GROUND SUPPORT ARE TO BE IN IMMEDIATE CONTACT WITH THE FOOTING AND FOUNDATION MATERIAL.

REVISION:  
APPROVED: AUGUST 27, 2014  
*Nancy Saubenberg*  
STATE BRIDGE ENGINEER

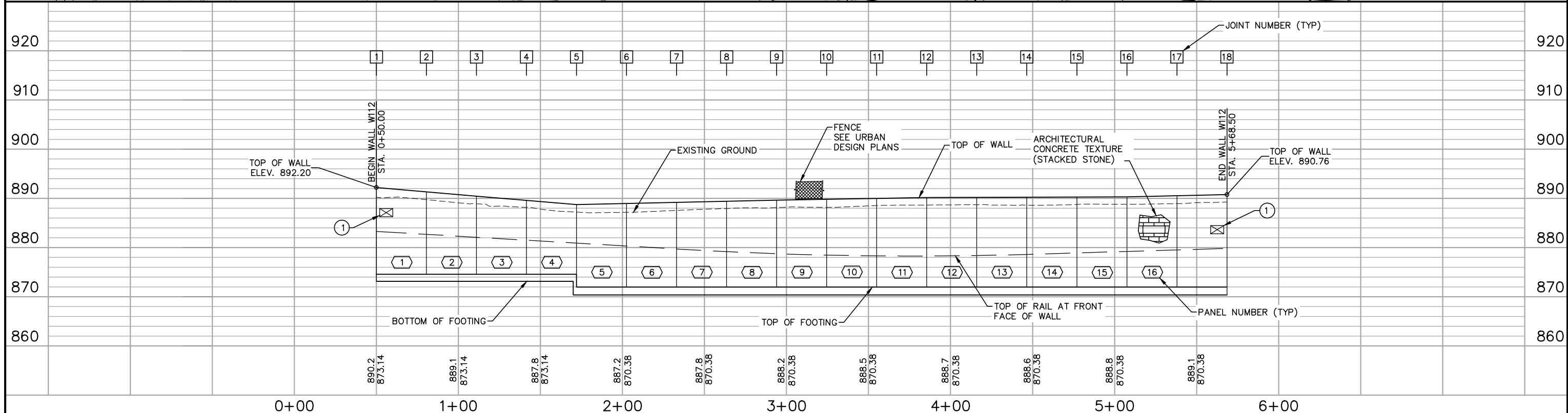
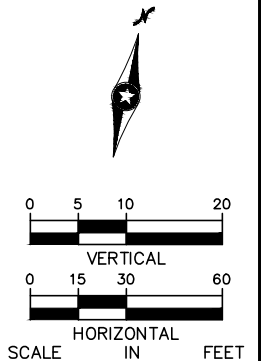
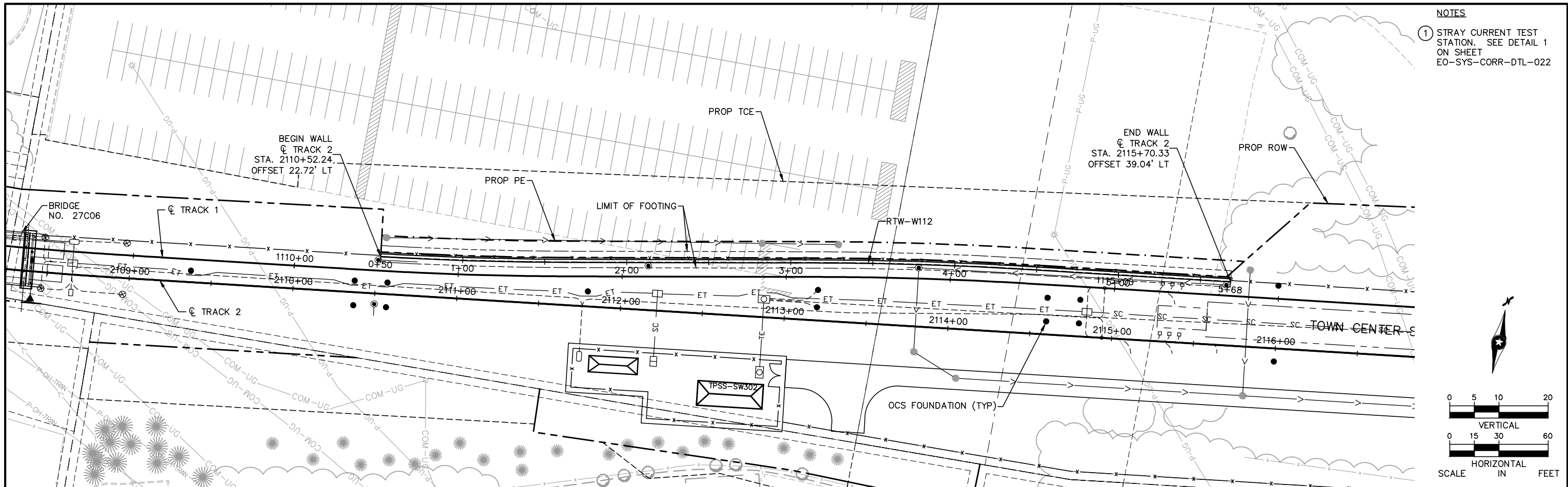
MODIFIED	
DATE	DESCRIPTION

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_  
LICENSED PROFESSIONAL ENGINEER  
NAME: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

STANDARD SHEET NO.  
5-297.624 (6 OF 6)  
STANDARD APPROVED:  
AUGUST 27, 2014

TITLE: **RETAINING WALL MISCELLANEOUS DETAILS**  
**(GEOTECHNICAL DETAILS)**  
STATE PROJ. NO. \_\_\_\_\_ (TH ) SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEETS

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NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL**

Green Line Light Extension

**SOUTHWEST**

Green Line Light Extension

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W112 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W112-PL6**

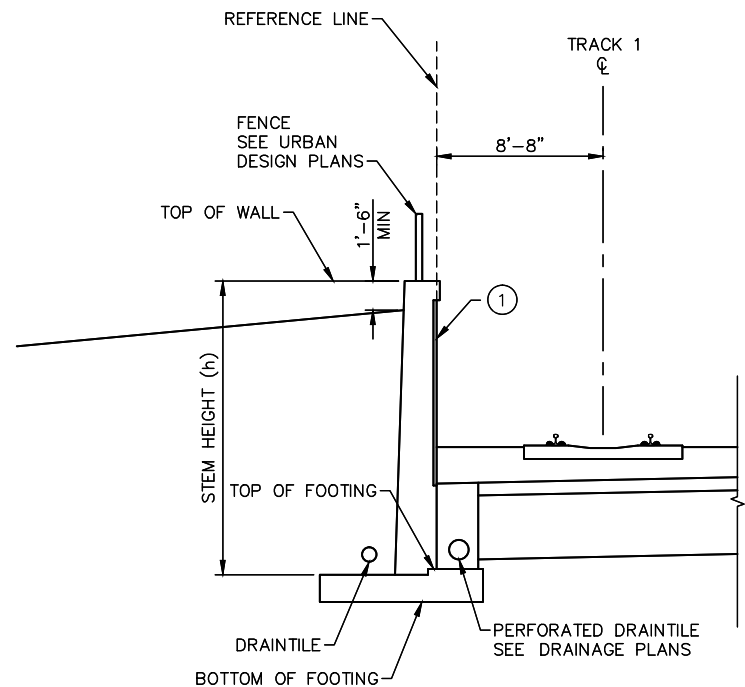
**SHEET**

27

**OF**

271

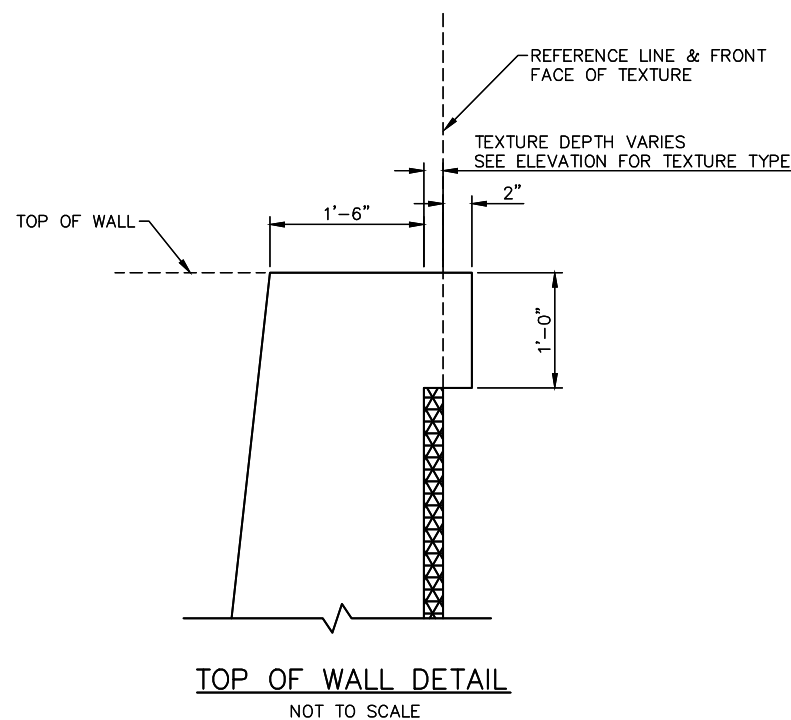
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- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W112
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W112 SECTION**  
NOT TO SCALE

RTW-W112 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	0+50.00	1	-	124714.674	486932.542	-	873.14	-	874.56	-	892.2	-	17'-7 5/8"	18'
2	30'-6"	0+80.50	2	CJ	124719.118	486962.716	873.14	873.14	874.56	874.56	891.32	891.32	16'-9 1/8"	16'-9 1/8"	17'
3	30'-6"	1+11.00	3	EJ	124724.007	486992.822	873.14	873.14	874.56	874.56	890.44	890.44	15'-10 1/2"	15'-10 1/2"	16'
4	30'-6"	1+41.50	4	CJ	124729.354	487022.837	873.14	873.14	874.56	874.56	889.59	889.59	15'-0 3/8"	15'-0 3/8"	16'
5	30'-6"	1+72.00	5	EJ	124735.086	487052.778	873.14	870.38	874.56	871.96	888.74	888.74	14'-2 1/8"	16'-9 3/8"	17'
6	30'-6"	2+02.50	6	CJ	124740.982	487082.73	870.38	870.38	871.96	871.96	888.96	888.96	17'-0"	17'-0"	18'
7	30'-6"	2+33.00	7	CJ	124746.882	487112.654	870.38	870.38	871.96	871.96	889.18	889.18	17'-2 5/8"	17'-2 5/8"	18'
8	30'-6"	2+63.50	8	EJ	124752.781	487142.578	870.38	870.38	871.96	871.96	889.4	889.4	17'-5 1/4"	17'-5 1/4"	18'
9	30'-6"	2+94.00	9	CJ	124758.681	487172.502	870.38	870.38	871.96	871.96	889.62	889.62	17'-7 7/8"	17'-7 7/8"	18'
10	30'-6"	3+24.50	10	CJ	124764.533	487202.405	870.38	870.38	871.96	871.96	889.8	889.8	17'-10 1/8"	17'-10 1/8"	19'
11	30'-6"	3+55.00	11	EJ	124770.145	487232.414	870.38	870.38	871.96	871.96	889.97	889.97	18'-0 1/8"	18'-0 1/8"	19'
12	30'-6"	3+85.50	12	CJ	124775.318	487262.472	870.38	870.38	871.96	871.96	890.15	890.15	18'-2 1/4"	18'-2 1/4"	19'
13	30'-6"	4+16.00	13	CJ	124780.034	487292.612	870.38	870.38	871.96	871.96	890.19	890.19	18'-2 3/4"	18'-2 3/4"	19'
14	30'-6"	4+46.50	14	EJ	124784.352	487322.826	870.38	870.38	871.96	871.96	890.23	890.23	18'-3 1/4"	18'-3 1/4"	19'
15	30'-6"	4+77.00	15	CJ	124788.484	487353.017	870.38	870.38	871.96	871.96	890.27	890.27	18'-3 3/4"	18'-3 3/4"	19'
16	30'-6"	5+07.50	16	CJ	124792.604	487383.237	870.38	870.38	871.96	871.96	890.31	890.31	18'-4 1/4"	18'-4 1/4"	19'
17	30'-6"	5+38.00	17	EJ	124796.725	487413.457	870.38	870.38	871.96	871.96	890.53	890.53	18'-6 7/8"	18'-6 7/8"	19'
18	30'-6"	5+68.50	18	-	124800.846	487443.678	870.38	-	871.96	-	890.76	-	18'-9 5/8"	-	19'



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



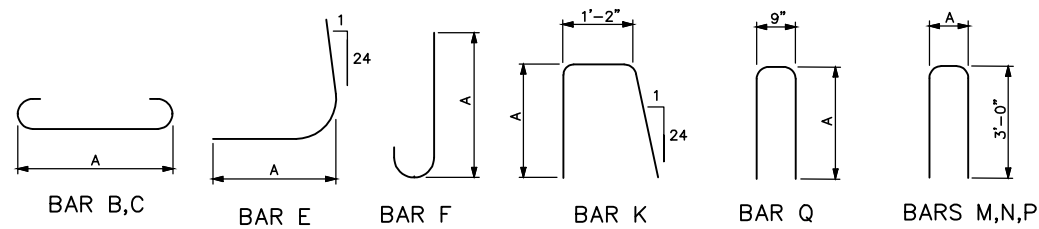
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W112 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W112-DTL-001**


**SHEET  
28  
OF  
271**

Jan. 17 2016 07:49 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W112-DTL.dwg By: V-NutzmaDL

h = 16' PANEL: 3, 4 L=30'-6"										h = 17' PANEL: 2, 5 L=30'-6"										h = 18' PANEL: 1, 6, 7, 8, 9 L=30'-6"										h = 19' PANEL: 10, 11, 12, 13, 14, 15, 16, 17 L=30'-6"													
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										SPREAD FOOTING REINFORCEMENT										SPREAD FOOTING REINFORCEMENT										SPREAD FOOTING REINFORCEMENT													
A	F501	16	32'-11"	STR.	LONG T & B	549	SPREAD FOOTING				A	F501	16	32'-11"	STR.	LONG T & B	549	SPREAD FOOTING				A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING				A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING			
B	F502	31	6'-7"	STR.	TRANS BOT	213	b	2'-7"	e	---	B	F502	31	7'-1"	STR.	TRANS BOT	229	b	2'-9"	e	---	B	F502	31	7'-7"	STR.	TRANS BOT	245	b	2'-11"	e	---	B	F502	31	8'-1"	STR.	TRANS BOT	261	b	3'-1"	e	---
C	F503	31	6'-7"	STR.	TRANS TOP	213	c	1'-7"	f	---	C	F603	31	7'-1"	STR.	TRANS TOP	330	c	1'-7"	f	---	C	F603	31	7'-7"	STR.	TRANS TOP	353	c	1'-9"	f	---	C	F703	31	8'-1"	STR.	TRANS TOP	512	c	1'-9"	f	---
							d	7'-1"	g	2'-9 1/4"								d	7'-7"	g	2'-11 1/4"								d	8'-1"	g	3'-1 1/4"								d	8'-7"	g	3'-3 1/4"
STEM										STEM										STEM										STEM													
							a	2'-2"	x	2'-1"								a	2'-2 1/2"	x	2'-10"								a	2'-3"	x	2'-4"								a	2'-3 1/2"	x	3'-4"
							j	1'-9 3/8"	z	4'-4"								j	1'-9 3/4"	z	5'-4"								j	1'-10 1/4"	z	6'-3"								j	1'-10 7/8"	z	7'-3"
FOOTING DOWELS & STEM REINFORCEMENT										FOOTING DOWELS & STEM REINFORCEMENT										FOOTING DOWELS & STEM REINFORCEMENT										FOOTING DOWELS & STEM REINFORCEMENT													
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	8'-0"	4'-3"	DOWEL BF	259	(FOOTING)				E	F605E	31	8'-0"	4'-4"	DOWEL BF	407	(FOOTING)				E	F605E	31	9'-10"	4'-9"	DOWEL BF	458	(FOOTING)				E	F605E	31	10'-10"	4'-11"	DOWEL BF	504	(FOOTING)			
F	F606E	30	6'-7"	5'-5"	DOWEL BF	297	SPREAD	13.1	CU YD	F	F606E	30	7'-7"	6'-5"	DOWEL BF	342	SPREAD	14.0	CU YD	F	F706E	30	8'-10"	7'-6"	DOWEL BF	542	SPREAD	16.4	CU YD	F	F706E	30	9'-10"	8'-6"	DOWEL BF	603	SPREAD	17.4	CU YD				
G	S401E	31	13'-2"	STR.	VERT FF	273	PILE	19.5	CU YD	G	S401E	31	14'-2"	STR.	VERT FF	293	PILE	19.5	CU YD	G	S401E	31	15'-2"	STR.	VERT FF	314	PILE	28.8	CU YD	G	S401E	31	16'-2"	STR.	VERT FF	335	PILE	28.8	CU YD				
H	S502E	31	13'-2"	STR.	VERT BF	426	STRUCTURAL CONCRETE (3Y43)				H	S502E	31	14'-2"	STR.	VERT BF	458	STRUCTURAL CONCRETE (3Y43)				H	S502E	31	15'-2"	STR.	VERT BF	490	STRUCTURAL CONCRETE (3Y43)				H	S502E	31	16'-2"	STR.	VERT BF	523	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)				J	S503E	---	---	STR.	VERT BF	---	(STEM)				J	S503E	---	---	STR.	VERT BF	---	(STEM)				J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	33.1			CU YD	K	S504E	31	10'-8"	4'-9"	TIE	345	35.6			CU YD	K	S504E	31	10'-8"	4'-9"	TIE	345	38.1			CU YD	K	S504E	31	10'-8"	4'-9"	TIE	345	40.6			CU YD
L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)				L	S405E	34	30'-0"	STR.	HORIZ EF	681	REINFORCEMENT (PLAIN)				L	S405E	36	30'-0"	STR.	HORIZ EF	721	REINFORCEMENT (PLAIN)				L	S405E	38	30'-0"	STR.	HORIZ EF	762	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	975	LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1108	LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1216	LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1391	LB				
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	PILE	2518	LB	N	S507E	14	7'-9"	1'-9"	EXP JT TIE	113	PILE	2518	LB	N	S507E	16	7'-9"	1'-9"	EXP JT TIE	129	PILE	3745	LB	N	S507E	18	7'-9"	1'-9"	EXP JT TIE	145	PILE	3745	LB				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)				P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)				P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)				P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
							2587		LB								2890		LB								3250		LB								3467		LB				



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

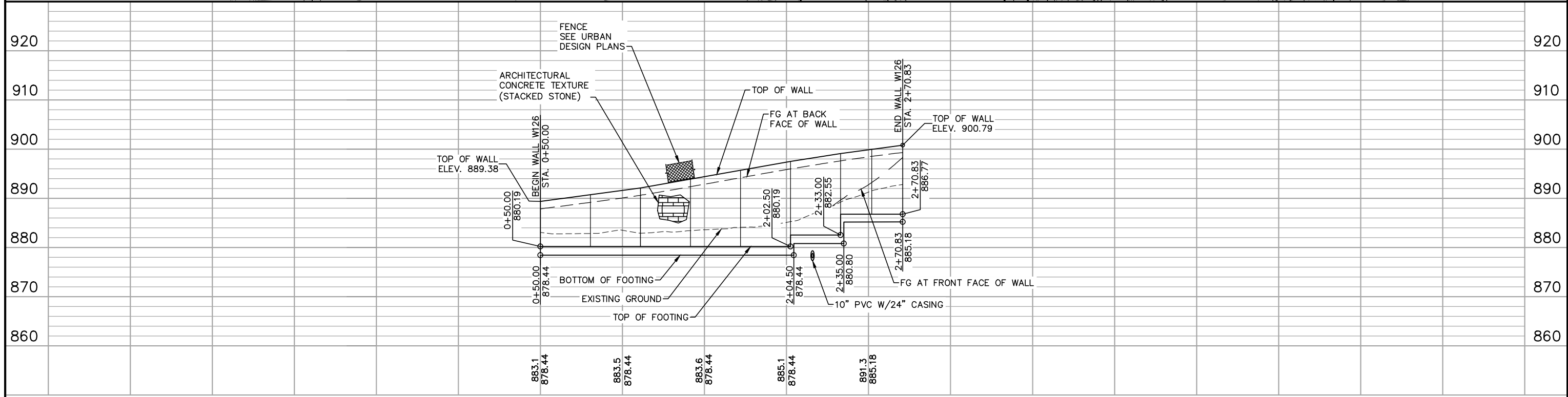
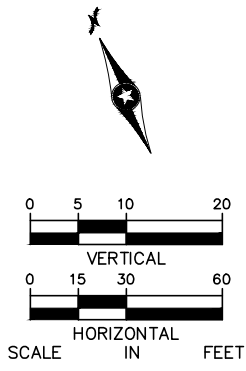
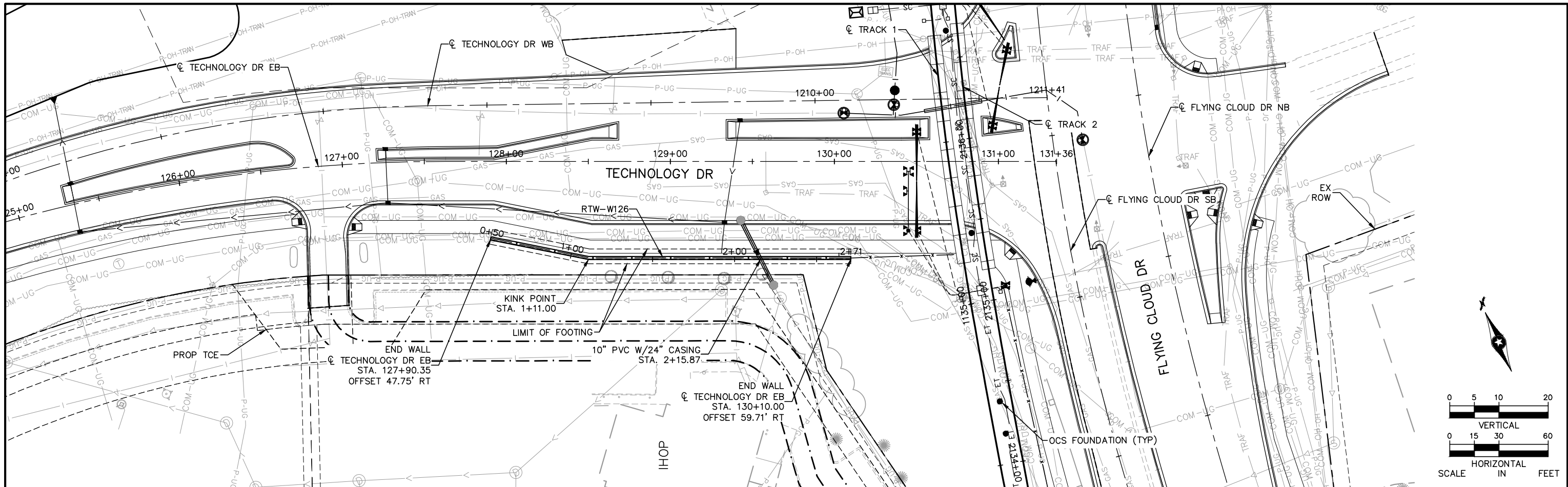



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W112 REINFORCEMENT**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W112-DTL-002**

SHEET **29**  
OF  
**271**

Jan. 17 2016 07:54 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W126.dwg By: V-NutzmaM



0+00                      1+00                      2+00                      3+00

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

AECOM

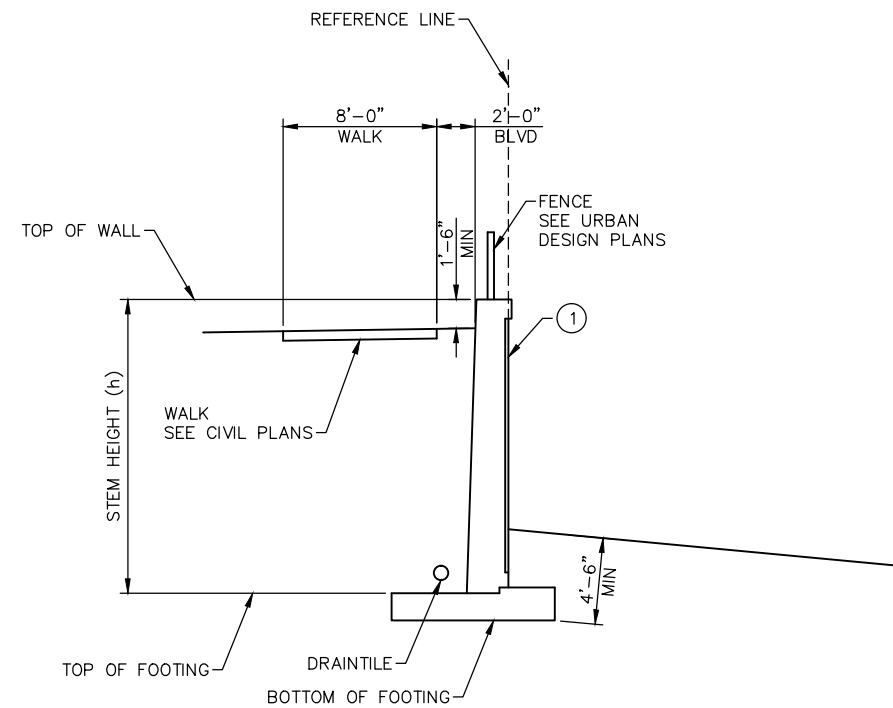
90% SUBMISSION - 01/22/16

CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W126 PLAN AND ELEVATION

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W126-PL6**

SHEET **30**  
OF  
**271**

Jan, 17 2016 07:54 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W126-DTL.dwg By: V-NutzmaML

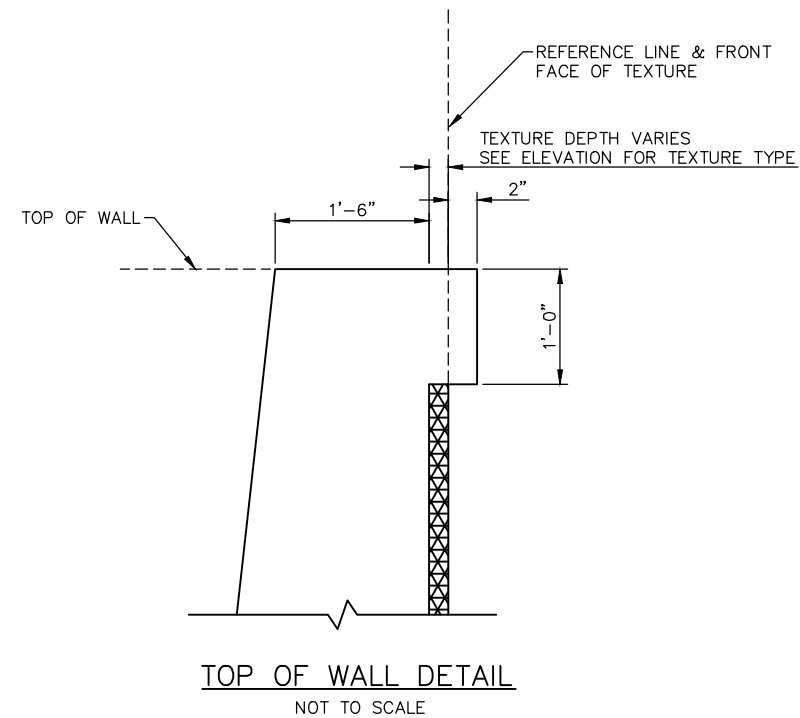


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W126 SECTION**

NOT TO SCALE



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

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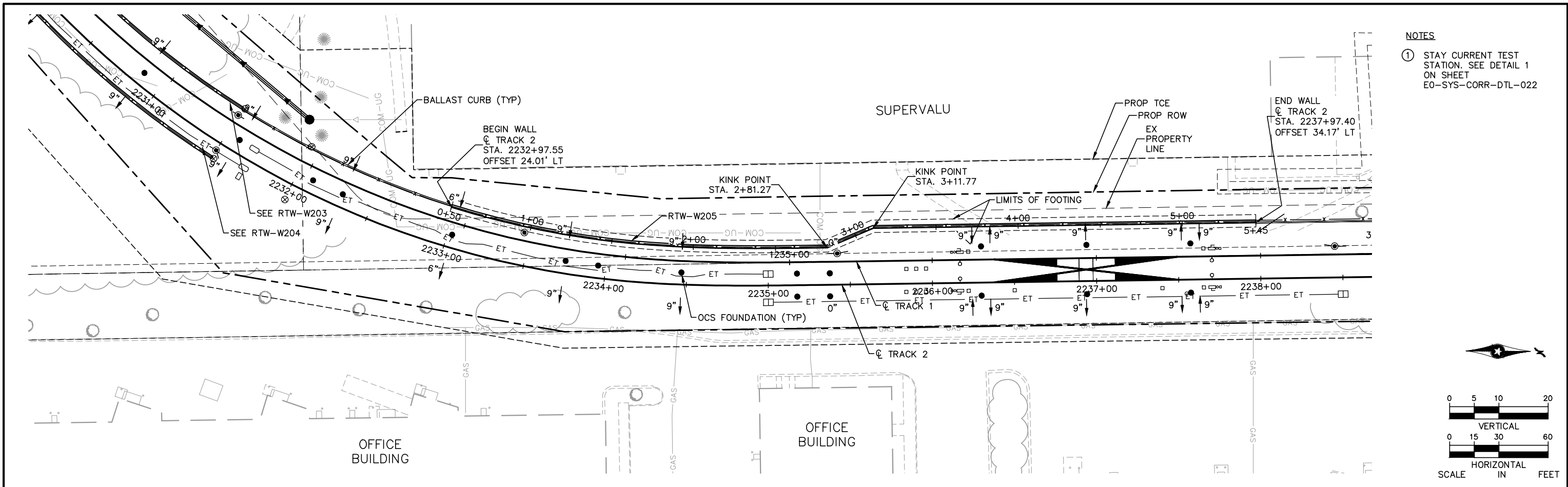



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W126 GEOMETRY**

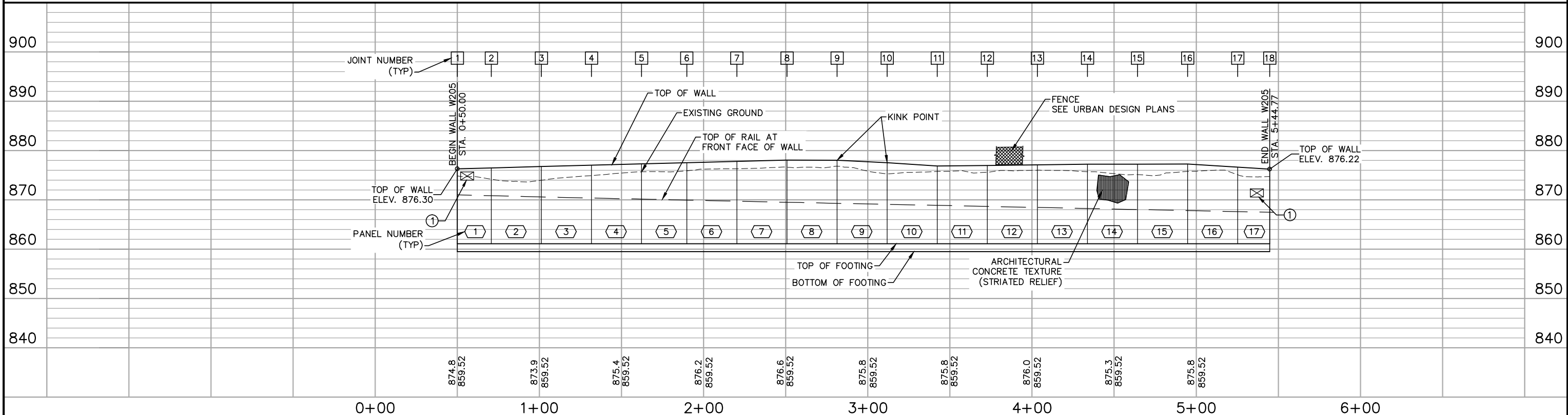
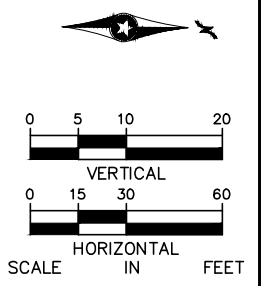
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W126-DTL**

SHEET  
31  
OF  
271

Jan. 17 2016 07:57 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W205.dwg By: V-NutzmaML



**NOTES**  
 ① STAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022

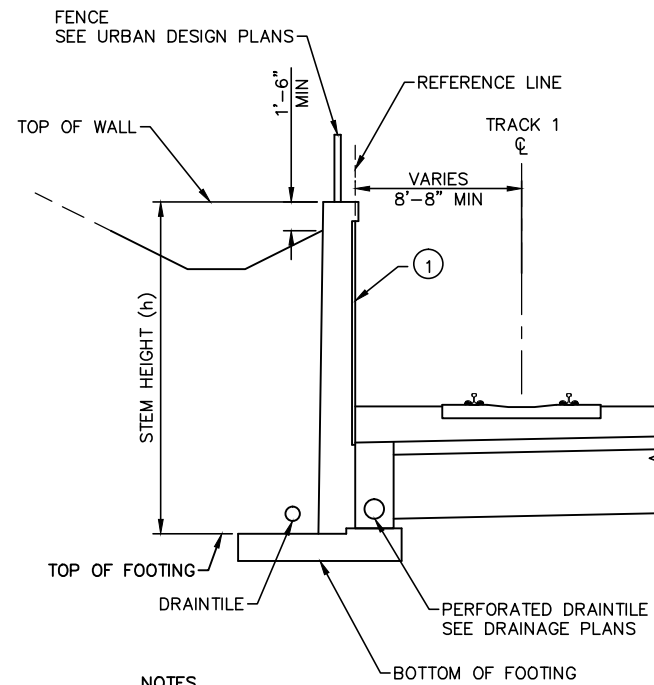


NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

				<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W205 PLAN AND ELEVATION</b>	<b>SHEET</b> <b>32</b> <b>OF</b> <b>271</b>
<b>90% SUBMISSION - 01/22/16</b>				DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W205-PL</b>

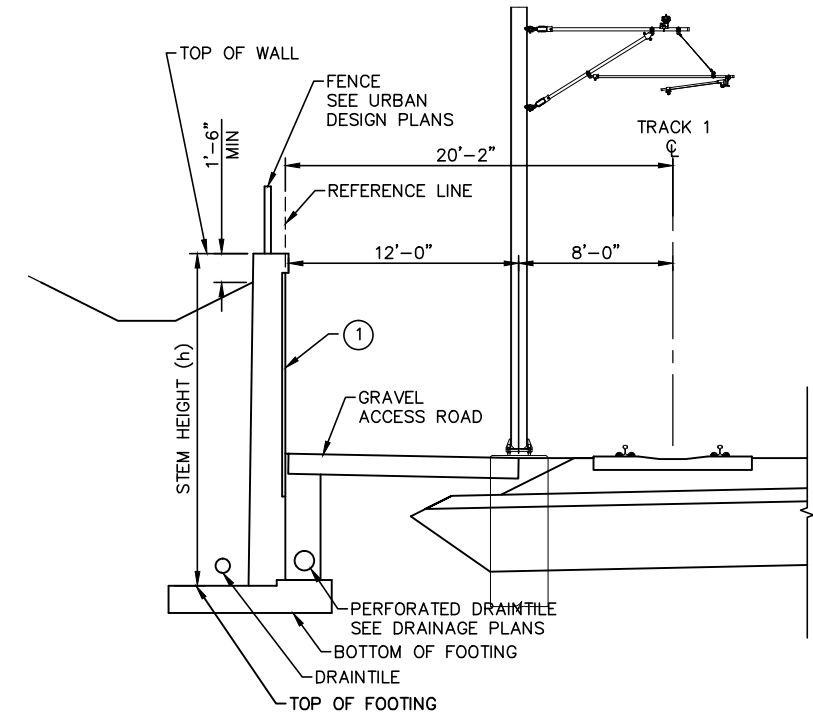


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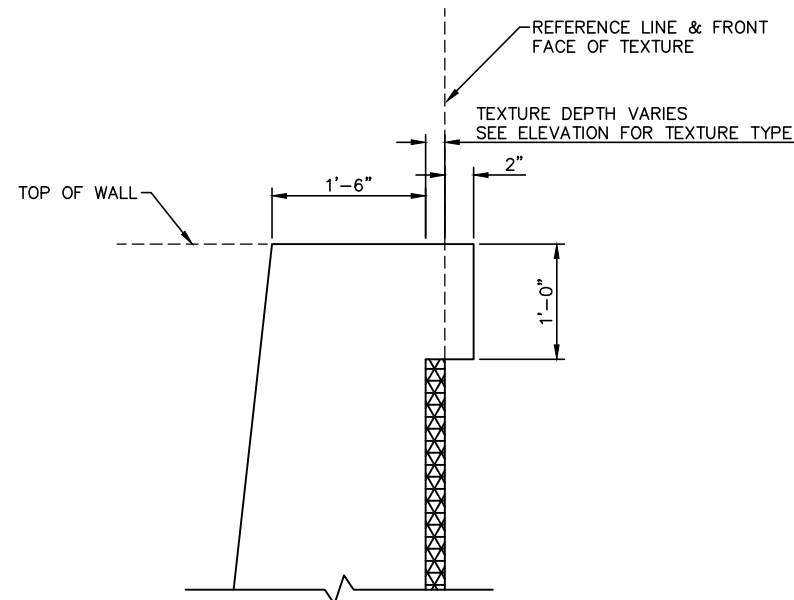
- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-205
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W205 SECTION**  
STA. 0+50 TO STA. 3+12  
NOT TO SCALE



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-205
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W205 SECTION**  
STA. 3+12 TO STA. 5+48  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

 	 	<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W205 GEOMETRY 1</b></p>	<p><b>SHEET</b> 33 <b>OF</b> 271</p>
<p>90% SUBMISSION - 01/22/16</p>		<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W205-DTL-001</b></p>

Jan, 17 2016 07:58 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\CAD\STRUCTURES\W2-STU-RTW-W205-DTL.dwg By: V-NutzmaML

RTW-W205 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	20'-8 5/8"	0+50.00	1	-	130318.01	493109.62	-	859.52	-	861.10	-	876.30	-	15'-2 3/8"	16'
2	30'-6"	0+70.72	2	CJ	130337.90	493115.40	859.52	859.52	861.10	861.10	876.48	876.48	15'-4 1/2"	15'-4 1/2"	16'
		1+01.22	3	CJ	130367.55	493122.52	859.52	859.52	861.10	861.10	876.75	876.75	15'-7 3/4"	15'-7 3/4"	16'
3	30'-6"	1+31.72	4	EJ	130397.56	493127.95	859.52	859.52	861.10	861.10	877.02	877.02	15'-11"	15'-11"	17'
4	30'-6"	1+62.22	5	CJ	130427.83	493131.69	859.52	859.52	861.10	861.10	877.29	877.29	16'-2 1/4"	16'-2 1/4"	17'
5	27'-6 5/8"	1+89.77	6	CJ	130455.14	493133.65	859.52	859.52	861.10	861.10	877.53	877.53	16'-5 1/8"	16'-5 1/8"	17'
6	30'-6"	2+20.27	7	EJ	130485.56	493134.59	859.52	859.52	861.10	861.10	877.80	877.80	16'-8 3/8"	16'-8 3/8"	17'
7	30'-6"	2+50.77	8	CJ	130516.11	493134.66	859.52	859.52	861.10	861.10	878.07	878.07	16'-11 5/8"	16'-11 5/8"	17'
8	30'-6"	2+81.27	9	CJ	130546.79	493134.30	859.52	859.52	861.10	861.10	878.04	878.04	16'-11 1/4"	16'-11 1/4"	17'
9	30'-6"	3+11.77	10	EJ	130574.87	493122.39	859.52	859.52	861.10	861.10	877.53	877.53	16'-5 1/8"	16'-5 1/8"	17'
10	30'-6"	3+42.27	11	CJ	130605.37	493121.96	859.52	859.52	861.10	861.10	876.86	876.86	15'-9 1/8"	15'-9 1/8"	16'
11	30'-6"	3+72.77	12	CJ	130635.87	493121.52	859.52	859.52	861.10	861.10	876.98	876.98	15'-10 1/2"	15'-10 1/2"	16'
12	30'-6"	4+03.27	13	EJ	130666.36	493121.08	859.52	859.52	861.10	861.10	877.10	877.10	16'-0"	16'-0"	17'
13	30'-6"	4+33.77	14	CJ	130696.86	493120.64	859.52	859.52	861.10	861.10	877.21	877.21	16'-1 3/8"	16'-1 3/8"	17'
14	30'-6"	4+64.27	15	CJ	130727.36	493120.21	859.52	859.52	861.10	861.10	877.24	877.24	16'-1 5/8"	16'-1 5/8"	17'
15	30'-6"	4+94.77	16	EJ	130757.85	493119.77	859.52	859.52	861.10	861.10	877.26	877.26	16'-1 7/8"	16'-1 7/8"	17'
16	30'-6"	5+25.27	17	CJ	130788.35	493119.33	859.52	859.52	861.10	861.10	876.62	876.62	15'-6 1/4"	15'-6 1/4"	17'
17	19'-6"	5+44.77	18	-	130807.85	493119.05	859.52	-	861.10	-	876.22	-	15'-1 1/2"	-	16'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

**WSB**  
& ASSOCIATES INC.

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

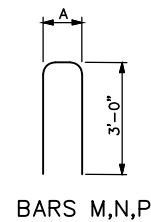
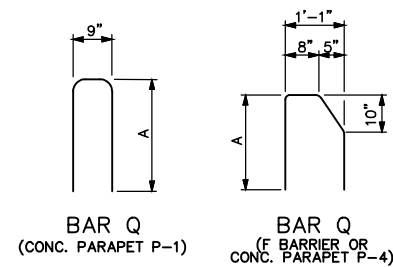
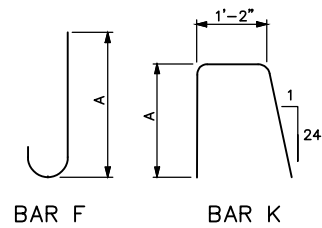
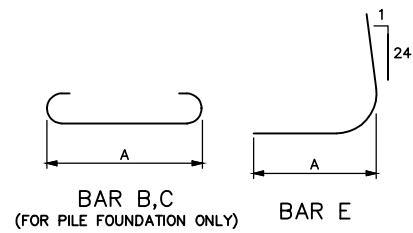
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W205 GEOMETRY 2**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W205-DTL-002**

Jan. 19 2016 06:02 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W205-DTL.dwg By: V-NutzmaML



h = 16'		PANEL: 1		L=20'-8 5/8"			
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES
SPREAD FOOTING REINFORCEMENT							
A	F501	16	23'-2"	STR.	LONG T & B	387	SPREAD FOOTING
B	F502	21	6'-7"	STR.	TRANS BOT	145	b 2'-7" e ---
C	F503	21	6'-7"	STR.	TRANS TOP	145	c 1'-7" f ---
							d 7'-1" g 2'-9 1/4"
STEM							
							a 2'-2" x 2'-1"
							j 1'-9 3/8" z 4'-4"
FOOTING DOWELS & STEM REINFORCEMENT							
D	F504E	21	3'-0"	STR.	DOWEL FF	66	STRUCTURAL CONCRETE (1A43)
E	F505E	21	8'-0"	4'-3"	DOWEL BF	176	(FOOTING)
F	F606E	20	8'-7"	5'-5"	DOWEL BF	198	SPREAD 8.9 CU YD
G	S401E	21	13'-2"	STR.	VERT FF	185	
H	S502E	21	13'-2"	STR.	VERT BF	289	STRUCTURAL CONCRETE (3Y43)
J	S503E	---	---	STR.	VERT BF	---	(STEM)
K	S504E	21	10'-8"	4'-9"	TIE	234	22.5 CU YD
L	S405E	32	20'-3"	STR.	HORIZ EF	433	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 677 LB
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)
							1831 LB

h = 16'		PANEL: 2,3,11,12		L=30'-6"			
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES
SPREAD FOOTING REINFORCEMENT							
A	F501	16	32'-11"	STR.	LONG T & B	549	SPREAD FOOTING
B	F502	31	6'-7"	STR.	TRANS BOT	213	b 2'-7" e ---
C	F503	31	6'-7"	STR.	TRANS TOP	213	c 1'-7" f ---
							d 7'-1" g 2'-9 1/4"
STEM							
							a 2'-2" x 2'-1"
							j 1'-9 3/8" z 4'-4"
FOOTING DOWELS & STEM REINFORCEMENT							
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)
E	F505E	31	8'-0"	4'-3"	DOWEL BF	259	(FOOTING)
F	F606E	30	6'-7"	5'-5"	DOWEL BF	297	SPREAD 13.1 CU YD
G	S401E	31	13'-2"	STR.	VERT FF	273	
H	S502E	31	13'-2"	STR.	VERT BF	426	STRUCTURAL CONCRETE (3Y43)
J	S503E	---	---	STR.	VERT BF	---	(STEM)
K	S504E	31	10'-8"	4'-9"	TIE	345	33.1 CU YD
L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 975 LB
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)
							2587 LB

h = 17'		PANEL: 5		L=27'-6 5/8"			
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES
SPREAD FOOTING REINFORCEMENT							
A	F501	16	30'-0"	STR.	LONG T & B	501	SPREAD FOOTING
B	F502	28	7'-1"	STR.	TRANS BOT	207	b 2'-9" e ---
C	F603	28	7'-1"	STR.	TRANS TOP	298	c 1'-7" f ---
							d 7'-7" g 2'-11 1/4"
STEM							
							a 2'-2 1/2" x 2'-10"
							j 1'-9 3/4" z 5'-4"
FOOTING DOWELS & STEM REINFORCEMENT							
D	F504E	28	3'-0"	STR.	DOWEL FF	88	STRUCTURAL CONCRETE (1A43)
E	F605E	28	8'-9"	4'-4"	DOWEL BF	368	(FOOTING)
F	F606E	27	7'-7"	6'-5"	DOWEL BF	308	SPREAD 12.6 CU YD
G	S401E	28	14'-2"	STR.	VERT FF	265	
H	S502E	28	14'-2"	STR.	VERT BF	414	STRUCTURAL CONCRETE (3Y43)
J	S503E	---	---	STR.	VERT BF	---	(STEM)
K	S504E	28	10'-8"	4'-9"	TIE	312	32.1 CU YD
L	S405E	34	27'-1"	STR.	HORIZ EF	615	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1006 LB
N	S507E	14	7'-9"	1'-9"	EXP JT TIE	113	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)
							2636 LB

h = 17'		PANEL: 4,6,7,8,9,10,13,14,15,16		L=30'-6"			
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES
SPREAD FOOTING REINFORCEMENT							
A	F501	16	32'-11"	STR.	LONG T & B	549	SPREAD FOOTING
B	F502	31	7'-1"	STR.	TRANS BOT	229	b 2'-9" e ---
C	F603	31	7'-1"	STR.	TRANS TOP	330	c 1'-7" f ---
							d 7'-7" g 2'-11 1/4"
STEM							
							a 2'-2 1/2" x 2'-10"
							j 1'-9 3/4" z 5'-4"
FOOTING DOWELS & STEM REINFORCEMENT							
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)
E	F605E	31	8'-9"	4'-4"	DOWEL BF	407	(FOOTING)
F	F606E	30	7'-7"	6'-5"	DOWEL BF	342	SPREAD 14.0 CU YD
G	S401E	31	14'-2"	STR.	VERT FF	293	
H	S502E	31	14'-2"	STR.	VERT BF	458	STRUCTURAL CONCRETE (3Y43)
J	S503E	---	---	STR.	VERT BF	---	(STEM)
K	S504E	31	10'-8"	4'-9"	TIE	345	35.6 CU YD
L	S405E	34	30'-0"	STR.	HORIZ EF	681	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1108 LB
N	S507E	14	7'-9"	1'-9"	EXP JT TIE	113	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)
							2890 LB

h = 16'		PANEL: 17		L=19'-6"			
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES
SPREAD FOOTING REINFORCEMENT							
A	F501	16	21'-11"	STR.	LONG T & B	366	SPREAD FOOTING
B	F502	20	6'-7"	STR.	TRANS BOT	138	b 2'-7" e ---
C	F503	20	6'-7"	STR.	TRANS TOP	138	c 1'-7" f ---
							d 7'-1" g 2'-9 1/4"
STEM							
							a 2'-2" x 2'-1"
							j 1'-9 3/8" z 4'-4"
FOOTING DOWELS & STEM REINFORCEMENT							
D	F504E	20	3'-0"	STR.	DOWEL FF	63	STRUCTURAL CONCRETE (1A43)
E	F505E	20	8'-0"	4'-3"	DOWEL BF	167	(FOOTING)
F	F606E	19	6'-7"	5'-5"	DOWEL BF	188	SPREAD 8.4 CU YD
G	S401E	20	13'-2"	STR.	VERT FF	176	
H	S502E	20	13'-2"	STR.	VERT BF	275	STRUCTURAL CONCRETE (3Y43)
J	S503E	---	---	STR.	VERT BF	---	(STEM)
K	S504E	20	10'-8"	4'-9"	TIE	223	21.2 CU YD
L	S405E	32	19'-0"	STR.	HORIZ EF	407	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 642 LB
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)
							1749 LB

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

## CIVIL - VOLUME 6

### RETAINING WALLS

### RTW-W205 REINFORCEMENT

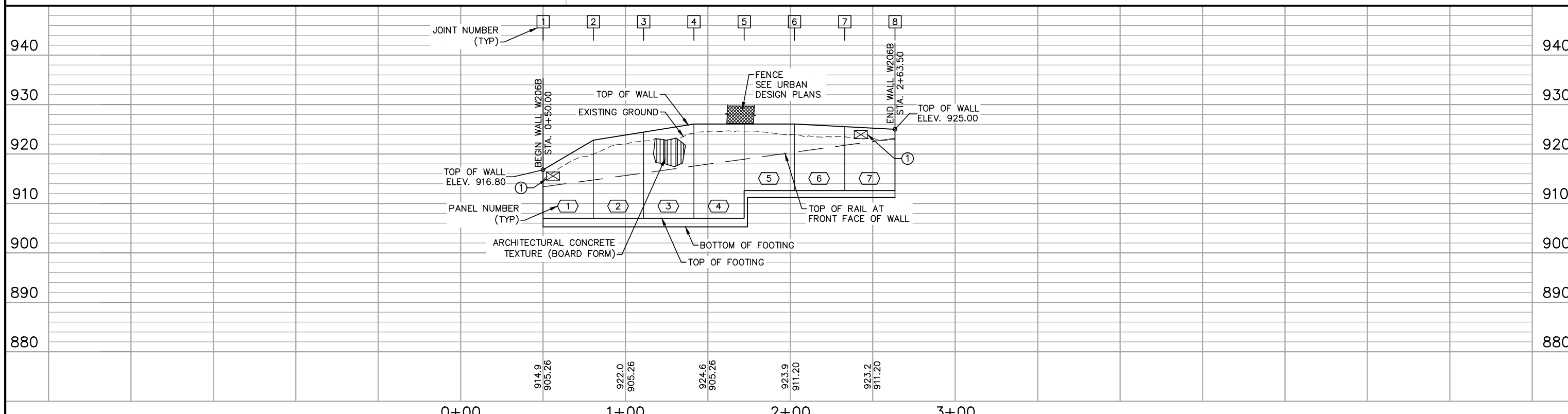
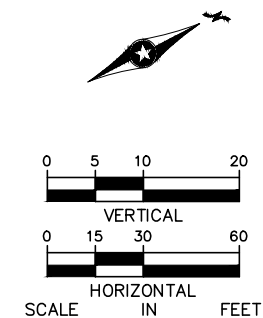
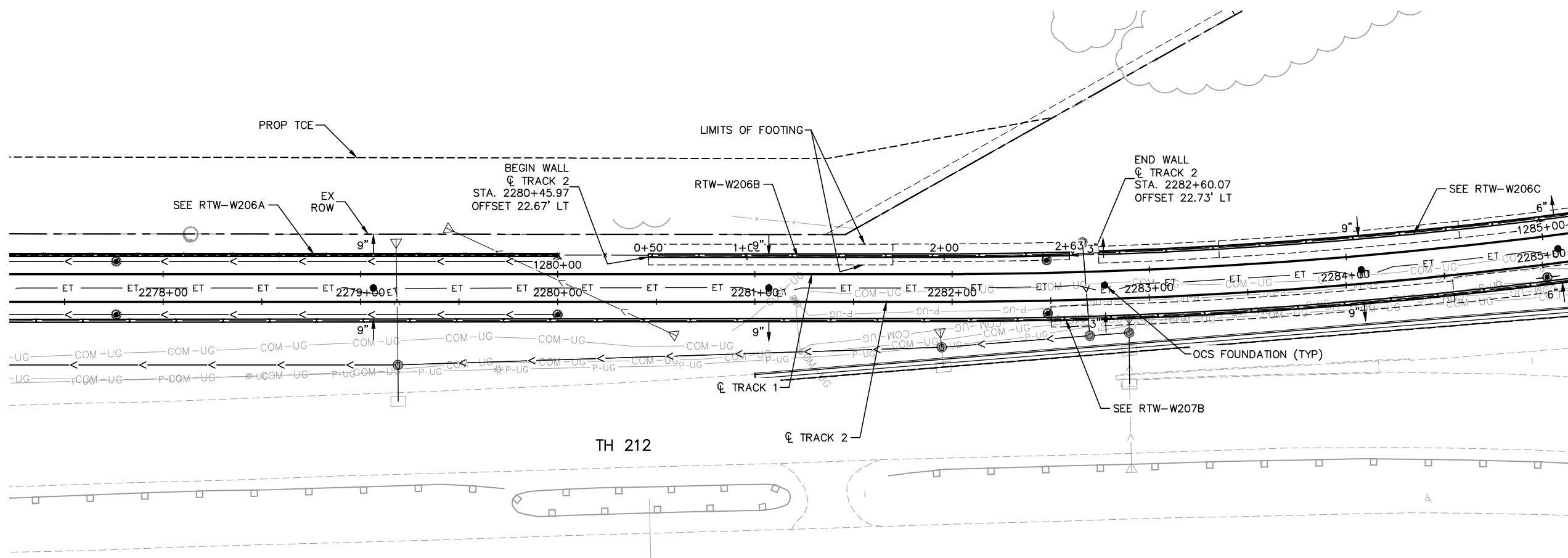
DISCIPLINE: STRUCTURES

SHEET NAME: RTW-W205-DTL-003

SHEET 35 OF 271

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- NOTES**
- ① STRAY CURRENT TEST STATION, SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

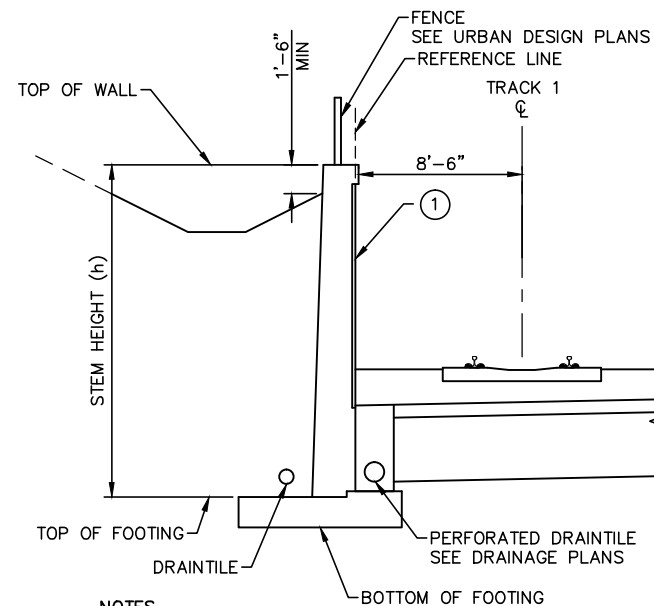
**RETAINING WALLS**

**RTW-W206B PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W206B-PL</b>
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SHEET 36 OF 271

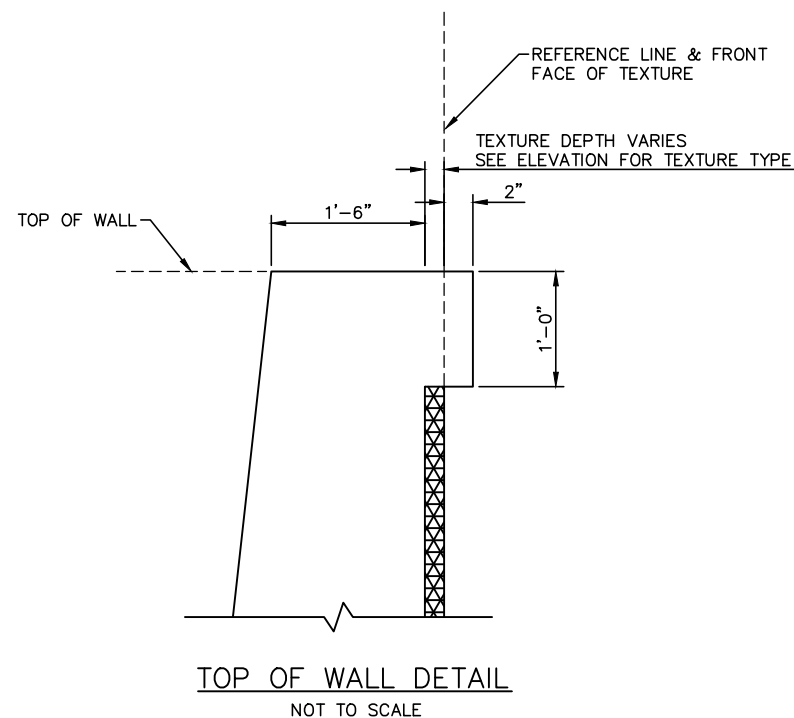
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**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. EPOXY COATED REBAR IN STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W206B SECTION**  
NOT TO SCALE

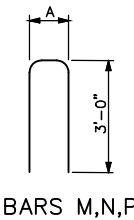
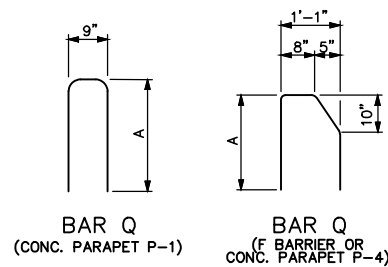
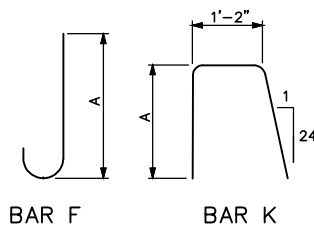
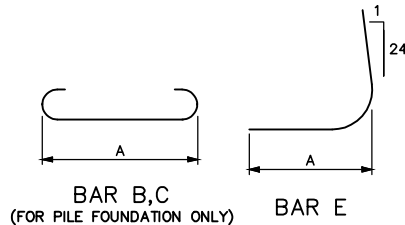


RTW-W206B GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	0+50.00	1	-	134894.77	493164.56	-	905.26	-	907.01	-	916.80	-	9-9 1/2"	16'
2	30'-6"	0+80.50	2	CJ	134921.71	493178.85	905.26	905.26	907.01	907.01	922.78	922.78	15-9 1/4"	15-9 1/4"	18'
3	30'-6"	1+11.00	3	EJ	134948.65	493193.15	905.26	905.26	907.01	907.01	924.42	924.42	17-4 7/8"	17-4 7/8"	20'
4	30'-6"	1+41.50	4	CJ	134975.60	493207.45	905.26	905.26	907.01	907.01	926.05	926.05	19-0 1/2"	19-0 1/2"	20'
5	30'-6"	1+72.00	5	EJ	135002.54	493221.74	905.26	905.26	907.01	907.01	926.05	926.05	19-0 1/2"	19-0 1/2"	20'
6	30'-6"	2+02.50	6	EJ	135029.51	493236.02	911.20	911.20	912.61	912.61	926.05	926.05	13-5 1/4"	13-5 1/4"	14'
7	30'-6"	2+33.00	7	CJ	135056.56	493250.06	911.20	911.20	912.61	912.61	925.53	925.53	12-11"	12-11"	13'
		2+63.50	8	-	135083.80	493263.79	911.20	-	912.61	-	925.00	-	12-4 5/8"	-	

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

 	 	<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W206B GEOMETRY</b></p>	<p><b>SHEET</b> 37 <b>OF</b> 271</p>
<p>90% SUBMISSION - 01/22/16</p>		<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W206B-DTL-001</b></p>

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h = 16' PANEL: 1 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	20	32'-11"	STR.	LONG T & B	687	SPREAD FOOTING			
B	F502	31	8'-5"	STR.	TRANS BOT	272	b	2'-9"	e	1'-4"
C	F803	31	8'-5"	STR.	TRANS TOP	697	c	1'-5"	f	4'-2 1/2"
STEM										
d 8'-11" g 2'-11 1/4"										
a 2'-2" x 2'-1"										
j 1'-9 3/8" z 5'-3"										
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	10'-6"	4'-6"	DOWEL BF	339	(FOOTING)			
F	F708E	30	9'-0"	7'-7"	DOWEL BF	552	SPREAD	16.7	CU YD	
G	S401E	31	13'-2"	STR.	VERT FF	273	PILE	34.6	CU YD	
H	S502E	31	13'-2"	STR.	VERT BF	426	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	33.1	CU YD		
L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1655	LB	
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	PILE	4391	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
2923 LB										

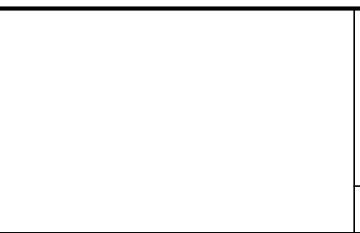
h = 18' PANEL: 2 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	20	32'-11"	STR.	LONG T & B	687	SPREAD FOOTING			
B	F602	31	9'-0"	STR.	TRANS BOT	419	b	3'-6"	e	2'-0"
C	F803	31	9'-0"	STR.	TRANS TOP	949	c	1'-7"	f	5'-0 1/2"
STEM										
d 9'-6" g 3'-8 1/4"										
a 2'-3" x 3'-4"										
j 1'-10 3/8" z 8'-9"										
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F605E	31	11'-10"	5'-4"	DOWEL BF	551	(FOOTING)			
F	F706E	30	13'-4"	11'-11"	DOWEL BF	818	SPREAD	22.0	CU YD	
G	S401E	31	15'-2"	STR.	VERT FF	314	PILE	34.6	CU YD	
H	S502E	31	15'-2"	STR.	VERT BF	490	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	38.1	CU YD		
L	S405E	36	30'-0"	STR.	HORIZ EF	721	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	2054	LB	
N	S507E	16	7'-9"	1'-9"	EXP JT TIE	129	PILE	4391	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
3619 LB										

h = 20' PANEL: 3, 4, 5 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING			
B	F602	31	10'-1"	STR.	TRANS BOT	470	b	4'-0"	e	2'-6"
C	F803	31	10'-1"	STR.	TRANS TOP	1063	c	1'-9"	f	5'-7 1/2"
STEM										
d 10'-7" g 4'-2 3/8"										
a 2'-4" x 3'-1"										
j 1'-11 3/8" z 6'-0"										
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F605E	31	11'-8"	5'-11"	DOWEL BF	543	(FOOTING)			
F	F806E	30	11'-4"	9'-10"	DOWEL BF	908	SPREAD	29.4	CU YD	
G	S401E	31	17'-2"	STR.	VERT FF	355	PILE	35.5	CU YD	
H	S602E	31	17'-2"	STR.	VERT BF	799	STRUCTURAL CONCRETE (3Y43)			
J	S603E	30	10'-4"	STR.	VERT BF	466	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	43.2	CU YD		
L	S405E	40	30'-0"	STR.	HORIZ EF	802	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	2288	LB	
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	PILE	2831	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
4630 LB										

h = 14' PANEL: 6 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	20	32'-11"	STR.	LONG T & B	687	SPREAD FOOTING			
B	F502	31	8'-5"	STR.	TRANS BOT	272	b	2'-3"	e	1'-4"
C	F803	31	8'-5"	STR.	TRANS TOP	697	c	1'-5"	f	3'-7 1/2"
STEM										
d 8'-11" g 2'-5 1/4"										
a 2'-1" x 2'-1"										
j 1'-8 3/8" z 3'-9"										
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	8'-5"	3'-11"	DOWEL BF	272	(FOOTING)			
F	F506E	30	7'-3"	6'-1"	DOWEL BF	227	SPREAD	16.6	CU YD	
G	S401E	31	11'-2"	STR.	VERT FF	231	PILE	22.1	CU YD	
H	S502E	31	11'-2"	STR.	VERT BF	361	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	28.3	CU YD		
L	S405E	28	30'-0"	STR.	HORIZ EF	561	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1655	LB	
N	S507E	8	7'-9"	1'-9"	EXP JT TIE	65	PILE	2429	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
2312 LB										

h = 13' PANEL: 7 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	20	32'-11"	STR.	LONG T & B	687	SPREAD FOOTING			
B	F502	31	8'-5"	STR.	TRANS BOT	272	b	2'-1"	e	---
C	F803	31	8'-5"	STR.	TRANS TOP	697	c	1'-5"	f	---
STEM										
d 8'-11" g 2'-3 1/4"										
a 2'-0 1/2" x 2'-1"										
j 1'-7 7/8" z 2'-9"										
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	8'-4"	3'-8"	DOWEL BF	269	(FOOTING)			
F	F606E	30	4'-9"	3'-8"	DOWEL BF	149	SPREAD	14.6	CU YD	
G	S401E	31	10'-2"	STR.	VERT FF	211	PILE	22.1	CU YD	
H	S502E	31	10'-2"	STR.	VERT BF	329	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	26.0	CU YD		
L	S405E	26	30'-0"	STR.	HORIZ EF	521	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1655	LB	
N	S507E	6	7'-9"	1'-9"	EXP JT TIE	48	PILE	2429	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
2122 LB										

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

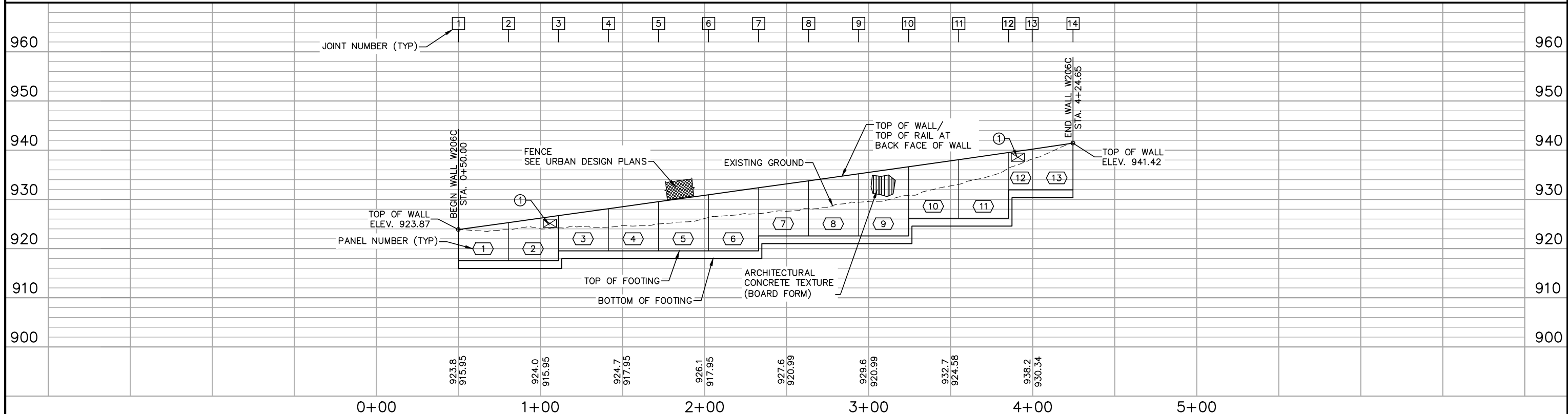
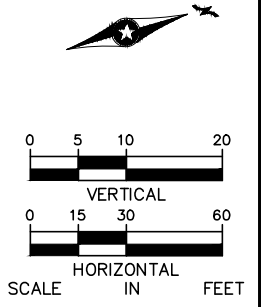
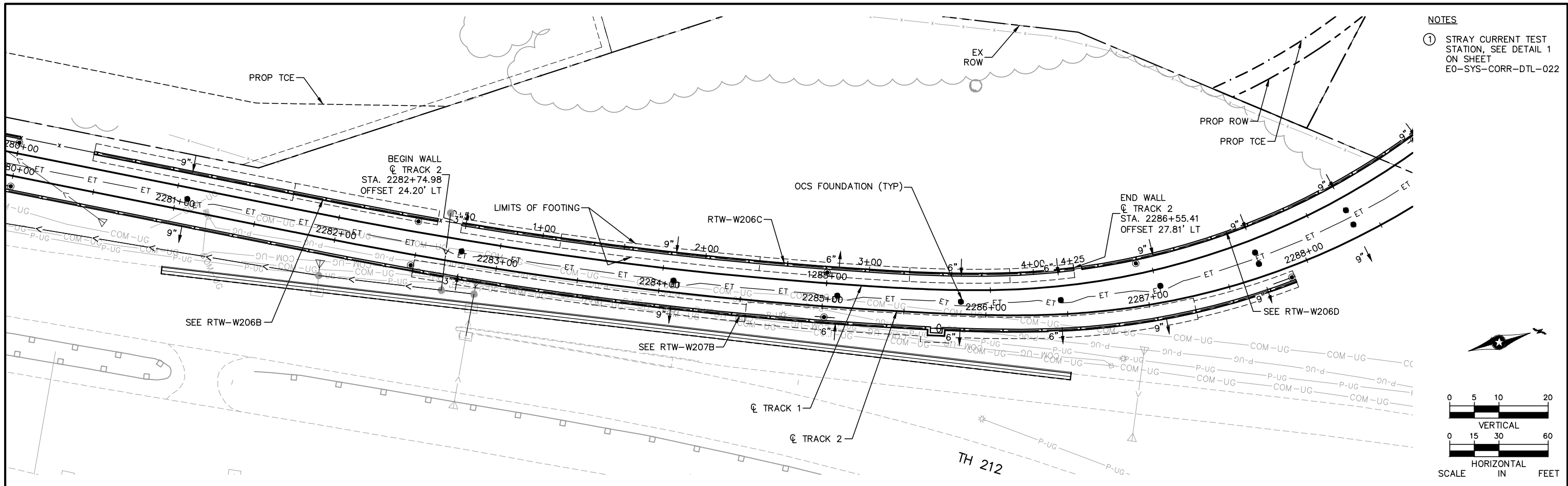
**RETAINING WALLS**

**RTW-W206B REINFORCEMENT**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W206B-DTL-002</b>
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SHEET 38 OF 271

Jan. 17 2016 08:05 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W206C.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

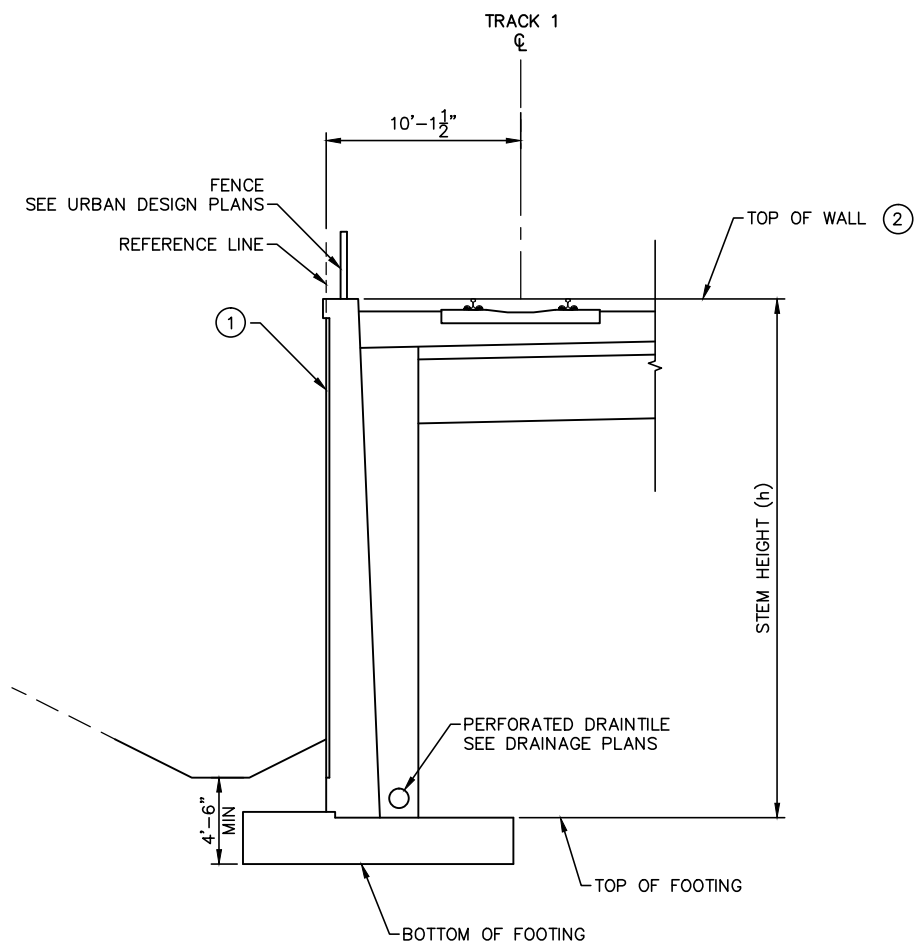
**RETAINING WALLS**

**RTW-W206C PLAN AND ELEVATION**

DISCIPLINE: STRUCTURES	SHEET NAME: RTW-W206C-PL
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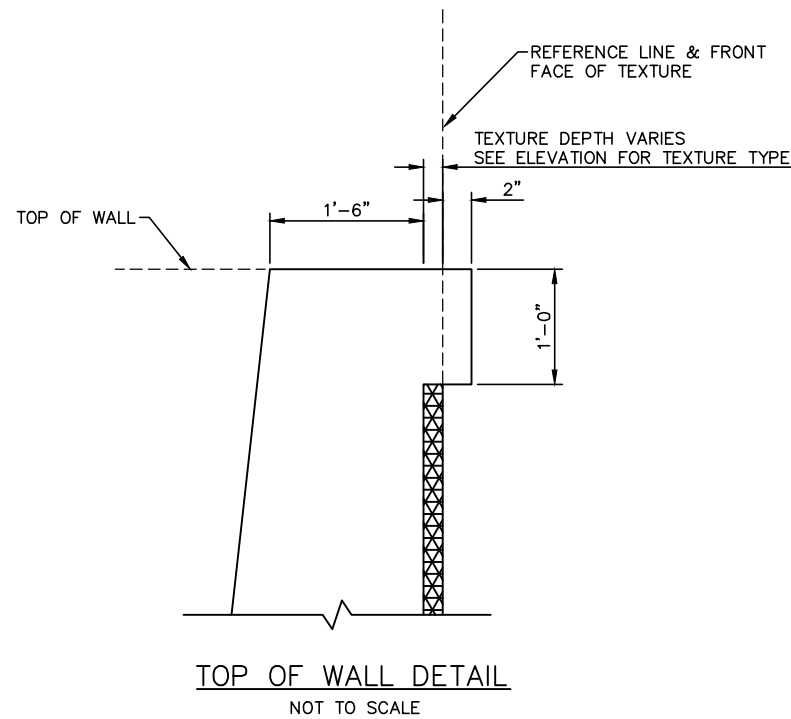
SHEET  
39  
OF  
271

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- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL
  3. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  4. EPOXY COATED REBAR IN STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING.
  5. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

RTW-W206C SECTION  
NOT TO SCALE



RTW-W206C GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	00+50.00	1	-	135097.70	493269.01	-	917.53	-	917.53	-	923.87	-	6'-4 1/8"	8'
		00+80.50	2	CJ	135125.18	493282.24	917.53	917.53	917.53	917.53	925.28	925.28	7'-9"	7'-9"	10'
2	30'-6"	01+11.00	3	EJ	135152.82	493295.13	917.53	917.53	917.53	917.53	926.70	926.70	9'-2"	9'-2"	10'
		01+41.50	4	CJ	135180.62	493307.68	919.54	919.54	919.54	919.54	928.11	928.11	8'-6 7/8"	8'-6 7/8"	10'
3	30'-6"	01+72.00	5	CJ	135208.57	493319.88	919.54	919.54	919.54	919.54	929.53	929.53	9'-11 7/8"	9'-11 7/8"	12'
		02+02.50	6	EJ	135236.67	493331.75	919.54	919.54	919.54	919.54	930.94	930.94	11'-4 3/4"	11'-4 3/4"	12'
4	30'-6"	02+33.00	7	EJ	135264.91	493343.27	920.55	920.55	920.55	920.55	932.36	932.36	11'-9 3/4"	11'-9 3/4"	12'
		02+63.50	8	CJ	135293.29	493354.44	922.57	922.57	922.57	922.57	933.77	933.77	11'-2 3/8"	11'-2 3/8"	13'
5	30'-6"	02+94.00	9	EJ	135321.80	493365.27	922.57	922.57	922.57	922.57	935.19	935.19	12'-7 1/2"	12'-7 1/2"	13'
		03+24.50	10	EJ	135350.62	493375.76	924.06	924.06	924.06	924.06	936.62	936.62	12'-6 3/4"	12'-6 3/4"	13'
6	30'-6"	03+55.00	11	CJ	135379.59	493385.48	926.16	926.16	926.16	926.16	938.06	938.06	11'-10 3/4"	11'-10 3/4"	13'
		03+85.50	12	EJ	135408.79	493393.88	927.59	927.59	927.59	927.59	939.51	939.51	11'-11"	11'-11"	12'
7	30'-6"	03+99.75	13	CJ	135422.52	493397.22	931.92	931.92	931.92	931.92	940.21	940.21	8'-3 1/2"	8'-3 1/2"	12'
		04+24.65	14	-	135446.95	493402.03	931.92	-	931.92	-	941.42	-	9'-6"	-	10'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL







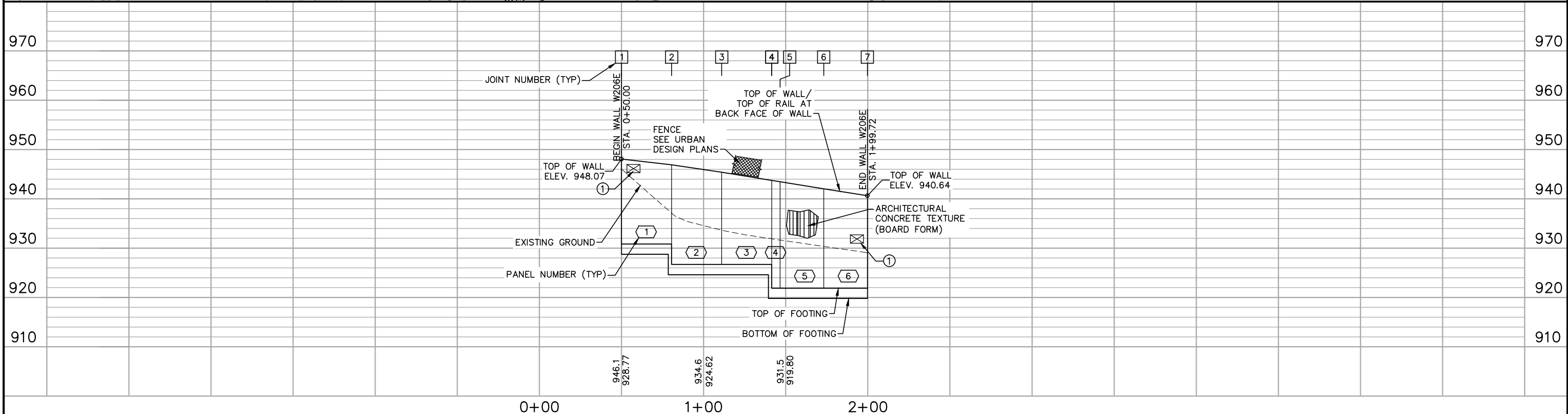
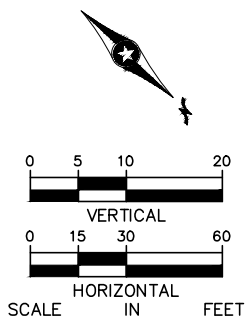
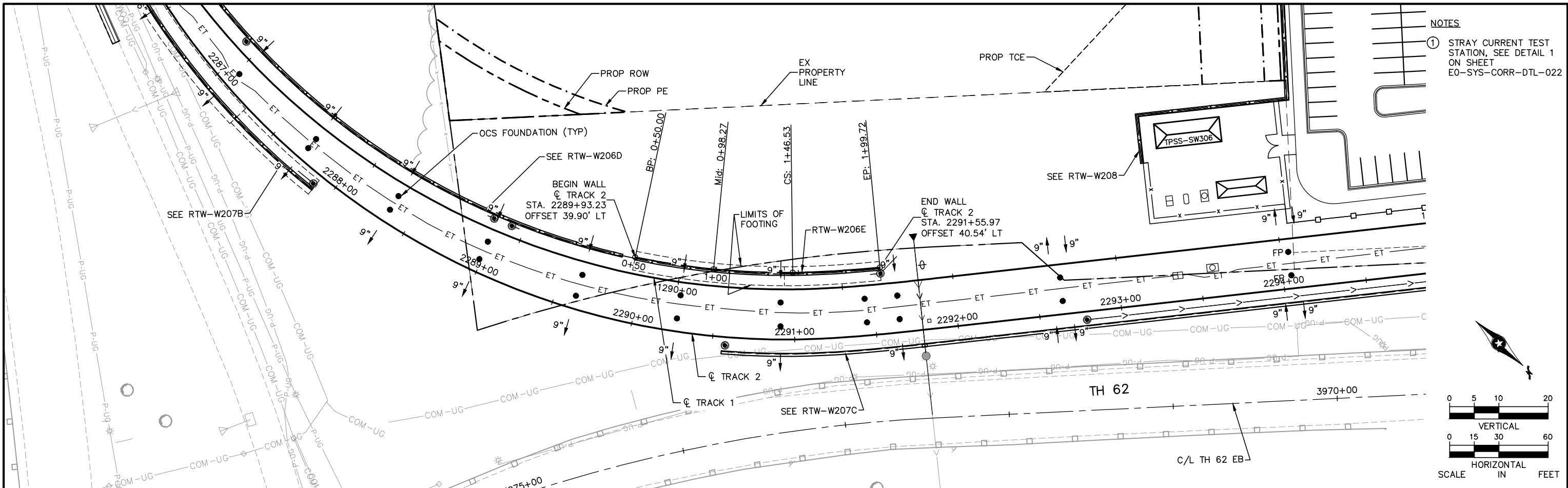
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W206C GEOMETRY**

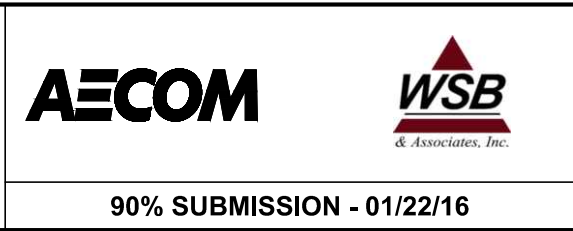
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W206C-DTL**



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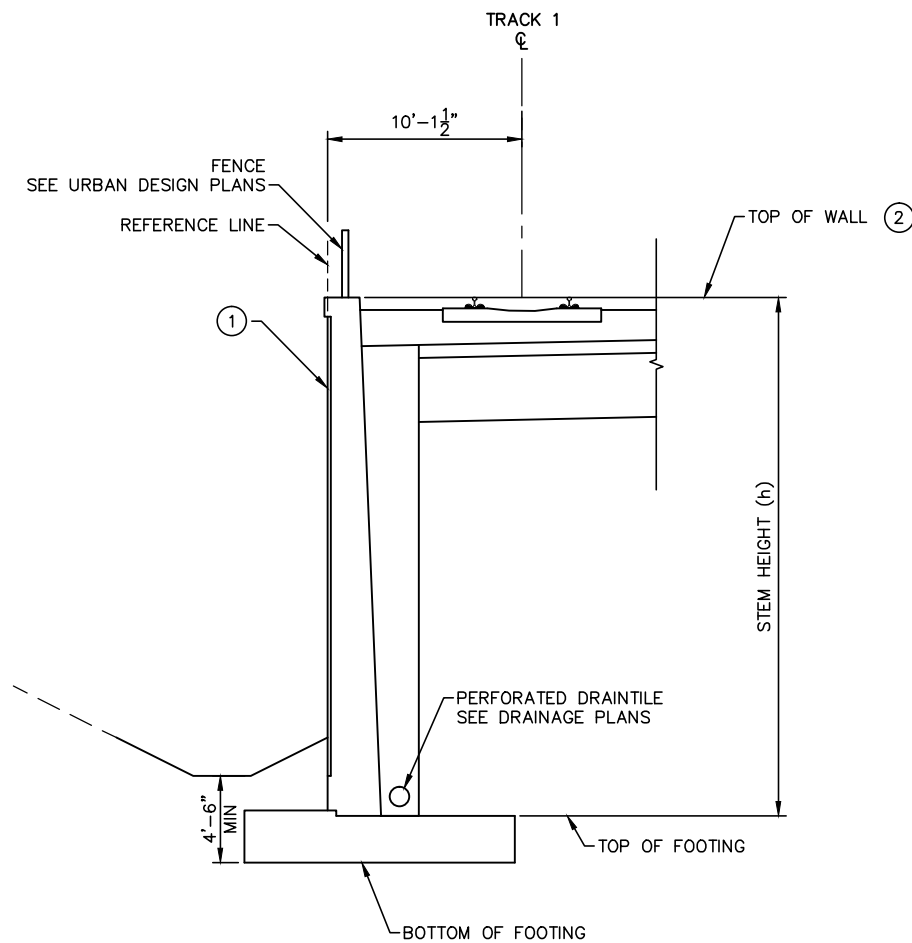
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W206E PLAN AND ELEVATION**

DISCIPLINE: STRUCTURES      SHEET NAME: RTW-W206E-PL1

SHEET 41 OF 271

90% SUBMISSION - 01/22/16

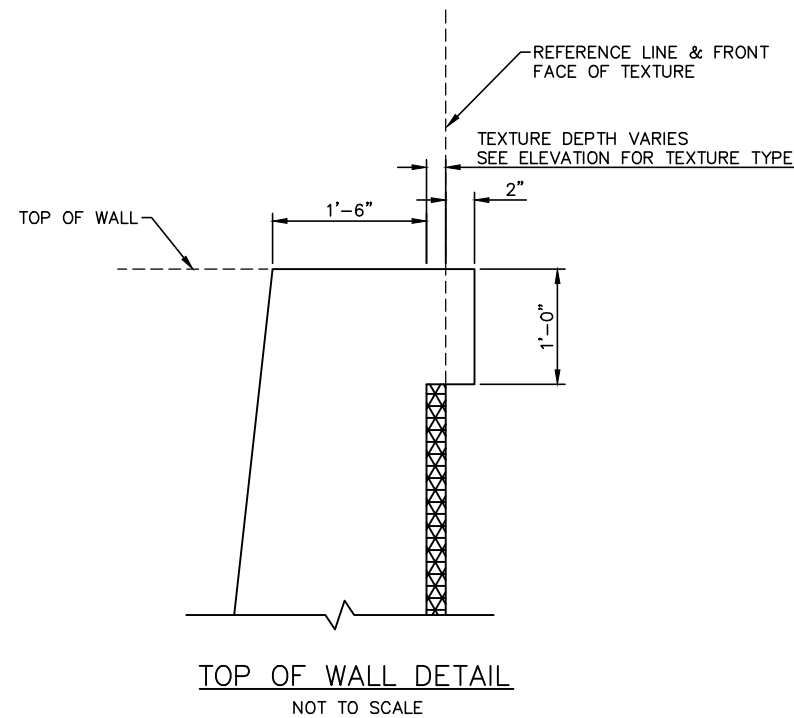
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- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL
  3. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  4. EPOXY COATED REBAR IN STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING
  5. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

RTW-W206E SECTION  
NOT TO SCALE

RTW-W206E GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30-5 7/8"	50	1	CJ	135746.89	493344.88	-	928.77	-	930.85	-	948.07	-	17-2 5/8"	17.3'
		80.493858	2	CJ	135772.44	493328.23	924.62	924.62	930.85	930.85	946.91	946.91	16-0 3/4"	16-0 3/4"	
2	30-5 7/8"	110.98768	3	EJ	135796.77	493309.86	924.62	924.62	926.70	926.70	945.41	945.41	18-8 1/2"	18-8 1/2"	18.8'
		141.48163	4	CJ	135819.78	493289.84	919.80	919.80	926.70	926.70	943.74	943.74	17-0 1/2"	17-0 1/2"	
3	30-5 7/8"	146.51197	5	CJ	135823.44	493286.39	919.80	919.80	921.88	921.88	943.47	943.47	21-7 1/8"	21-7 1/8"	21.6'
		173.03136	6	EJ	135842.12	493267.56	919.80	919.80	921.88	921.88	942.04	942.04	20-1 7/8"	20-1 7/8"	
4	5-0 3/8"	199.69702	7	CJ	135860.09	493247.86	919.80	919.80	921.88	921.88	940.64	940.64	18-9 1/8"	18-9 1/8"	20.2'

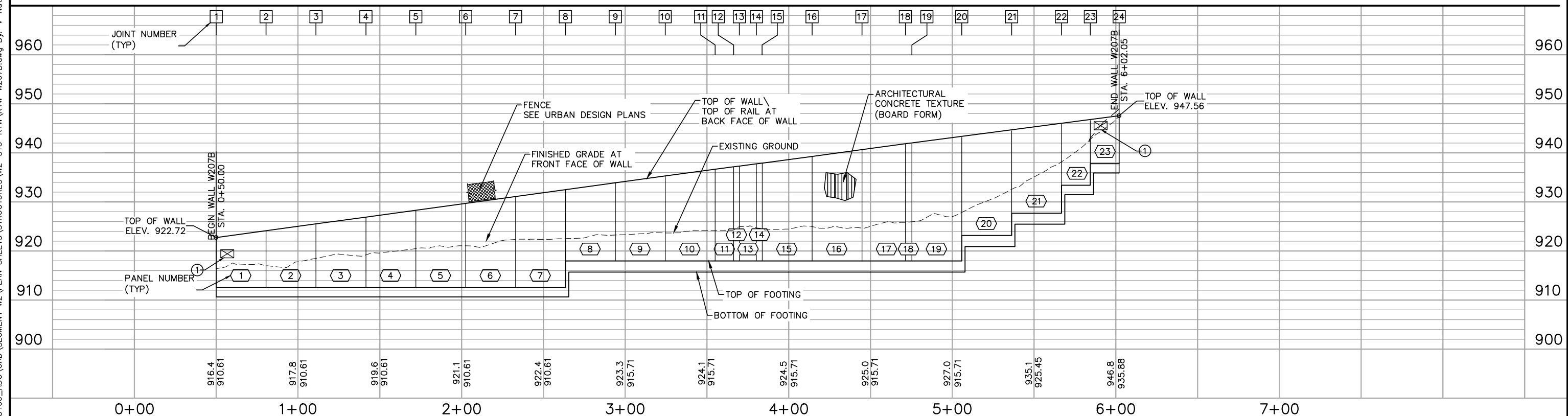
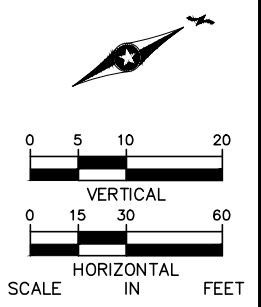
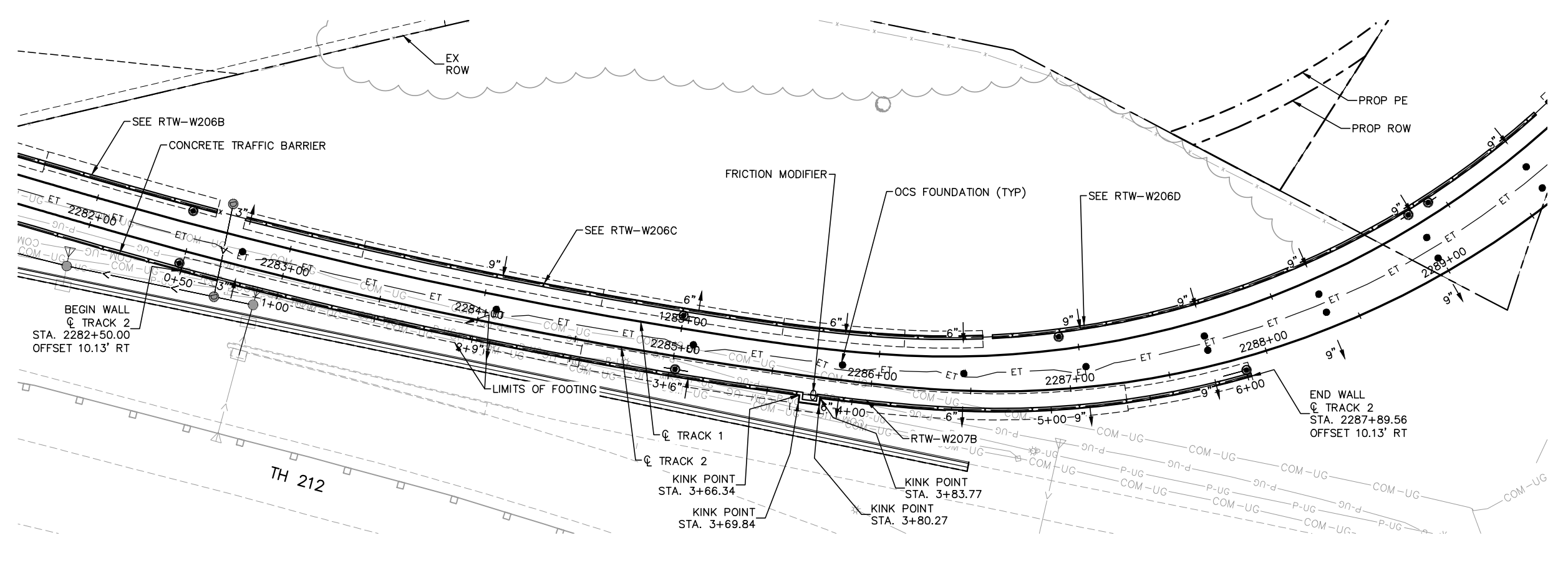


NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

				<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W206E GEOMETRY</b></p>	<p>SHEET 42 OF 271</p>
<p>90% SUBMISSION - 01/22/16</p>				<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W206E-DTL</b></p>

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**NOTES**  
 ① STRAY CURRENT TEST STATION, SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

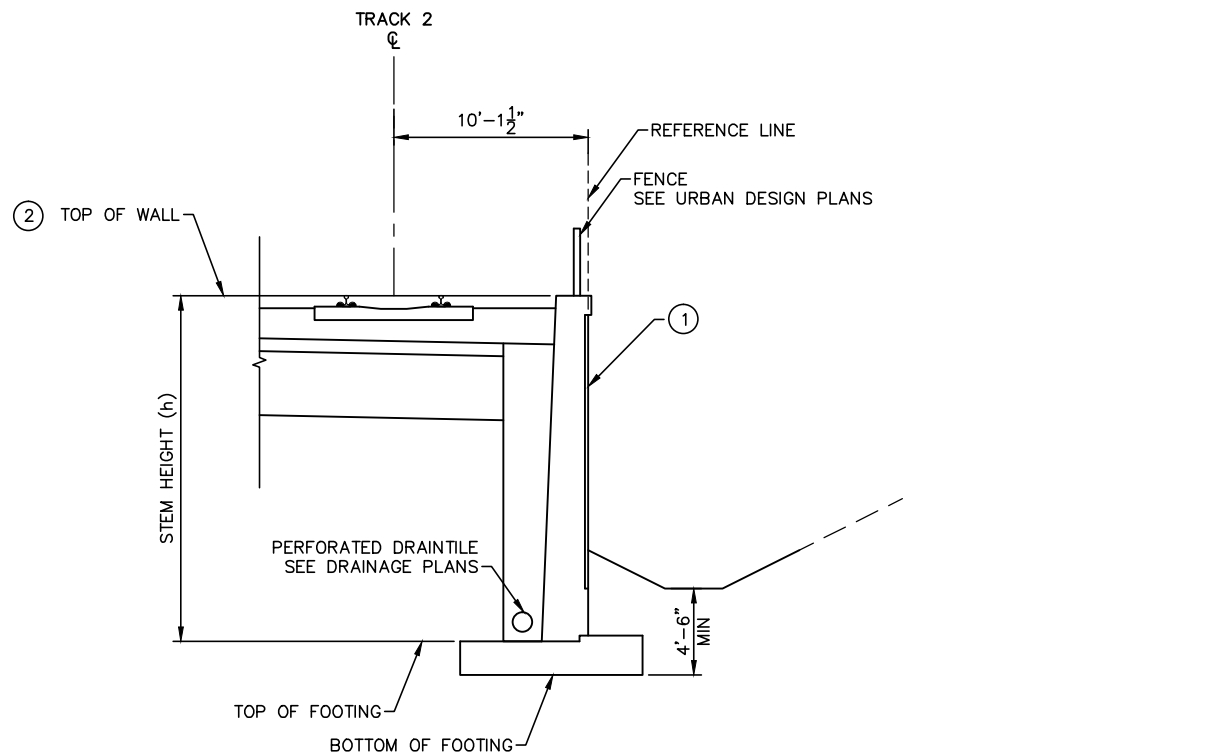
**RETAINING WALLS**

**RTW-W207B PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W207B-PL</b>
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SHEET  
43  
OF  
271

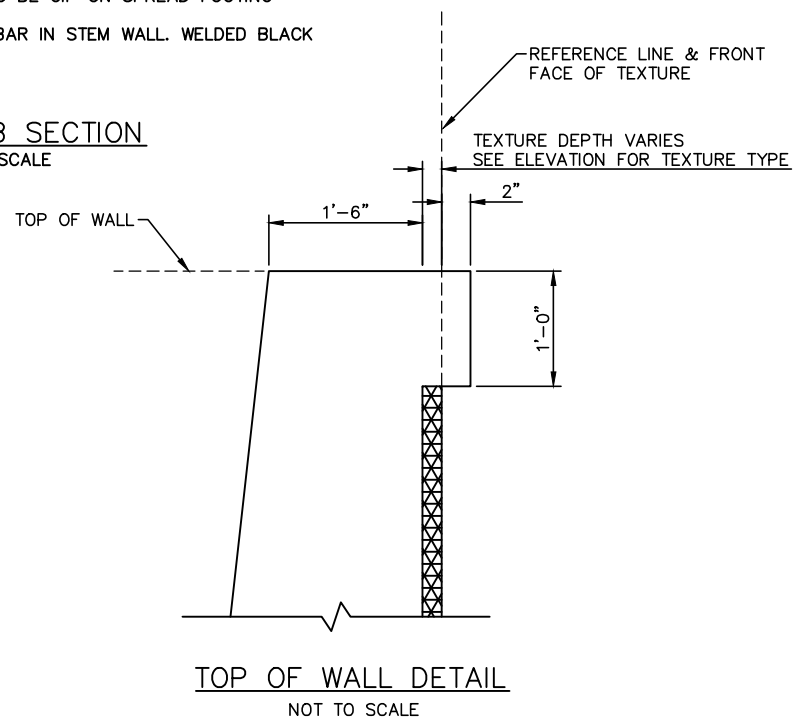
Jan. 17 2016 08:13 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW\RTW-W207B-DTL.dwg By: V-NutzmaML



**NOTES**

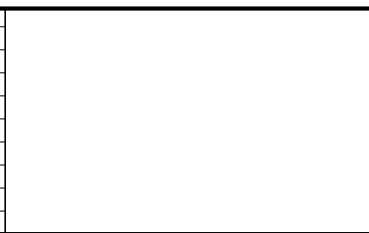
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (EA) THROUGH OUTSIDE CURVES AND SPIRALS
- 3. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 4. EPOXY COATED REBAR IN STEM WALL. WELDED BLACK REBAR IN FOOTING.

**RTW-W207B SECTION**  
NOT TO SCALE



RTW-W207B GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	00+50.00	1	-	135060.13	493288.69	-	910.61	-	912.53	-	922.72	-	10'-2 1/4"	12'
2	30'-6"	00+80.50	2	CJ	135087.46	493302.21	910.61	910.61	912.53	912.53	922.72	924.12	10'-2 1/4"	11'-7 1/8"	13'
3	30'-6"	01+11.00	3	EJ	135114.96	493315.41	910.61	910.61	912.53	912.53	924.12	925.51	11'-7 1/8"	12'-11 3/4"	15'
4	30'-6"	01+41.50	4	CJ	135142.62	493328.27	910.61	910.61	912.53	912.53	925.51	926.91	12'-11 3/4"	14'-4 1/2"	16'
5	30'-6"	01+72.00	5	CJ	135170.43	493340.79	910.61	910.61	912.53	912.53	926.91	928.30	14'-4 1/2"	15'-9 1/4"	18'
6	30'-6"	02+02.50	6	EJ	135198.39	493352.97	910.61	910.61	912.53	912.53	928.30	929.70	15'-9 1/4"	17'-2"	19'
7	30'-6"	02+33.00	7	CJ	135226.50	493364.81	910.61	910.61	912.53	912.53	929.70	931.09	17'-2"	18'-6 3/4"	19'
8	30'-6"	02+63.50	8	EJ	135254.75	493376.31	910.61	910.61	912.53	917.96	931.09	932.49	18'-6 3/4"	14'-6 3/8"	19'
9	30'-6"	02+94.00	9	EJ	135283.13	493387.47	910.61	915.71	917.96	917.96	932.49	933.88	14'-6 3/8"	15'-11"	18'
10	30'-6"	03+24.50	10	CJ	135311.65	493398.28	915.71	915.71	917.96	917.96	933.88	935.28	15'-11"	17'-3 7/8"	19'
11	11'-4"	03+55.00	11	CJ	135340.30	493408.74	915.71	915.71	917.96	917.96	935.28	936.67	17'-3 7/8"	18'-8 1/2"	20'
12	3'-6"	03+66.34	12	EJ	135350.98	493412.54	915.71	915.71	917.96	917.96	936.67	937.16	18'-8 1/2"	19'-2 3/8"	20'
13	13'-11 1/8"	03+69.84	13	CJ	135349.82	493415.84	915.71	915.71	917.96	917.96	937.16	937.28	19'-2 3/8"	19'-3 7/8"	20'
14	0'-0"	03+83.77	14	CJ	135359.67	493419.29	915.71	915.71	917.96	917.96	937.28	937.75	19'-3 7/8"	19'-9 1/2"	20'
15	30'-6"	03+83.77	15	EJ	135360.81	493415.98	915.71	915.71	917.96	917.96	937.75	937.90	19'-9 1/2"	19'-11 1/4"	22'
16	30'-6"	04+14.27	16	CJ	135389.61	493425.56	915.71	915.71	917.96	917.96	937.90	939.27	19'-11 1/4"	21'-3 3/4"	23'
17	26'-7 1/2"	04+44.77	17	CJ	135418.88	493434.14	915.71	915.71	917.96	917.96	939.27	940.65	21'-3 3/4"	22'-8 1/4"	24'
18	3'-10 1/2"	04+71.40	18	EJ	135444.90	493440.42	915.71	915.71	917.96	917.96	940.65	941.84	22'-8 1/4"	23'-10 1/2"	25'
19	30'-6"	04+75.27	19	CJ	135448.70	493441.21	915.71	915.71	917.96	917.96	941.84	942.02	23'-10 1/2"	24'-0 3/4"	26'
20	30'-6"	05+05.77	20	EJ	135478.76	493446.32	915.71	915.71	917.96	917.96	942.02	943.35	24'-0 3/4"	25'-4 5/8"	26'
21	30'-6"	05+36.27	21	EJ	135509.10	493449.42	915.71	920.90	917.96	923.15	943.35	944.69	25'-4 5/8"	21'-6 1/2"	26'
22	17'-7 5/8"	05+66.77	22	EJ	135539.57	493450.51	920.90	925.45	923.15	927.70	944.69	946.02	21'-6 1/2"	18'-3 7/8"	22'
23	17'-7 5/8"	05+84.41	23	EJ	135557.20	493450.21	925.45	931.47	927.70	933.39	946.02	946.79	18'-3 7/8"	13'-4 3/4"	19'
		06+02.05	24	-	135574.81	493449.24	931.47	-	933.39	-	946.79	-	13'-4 3/4"	-	19'

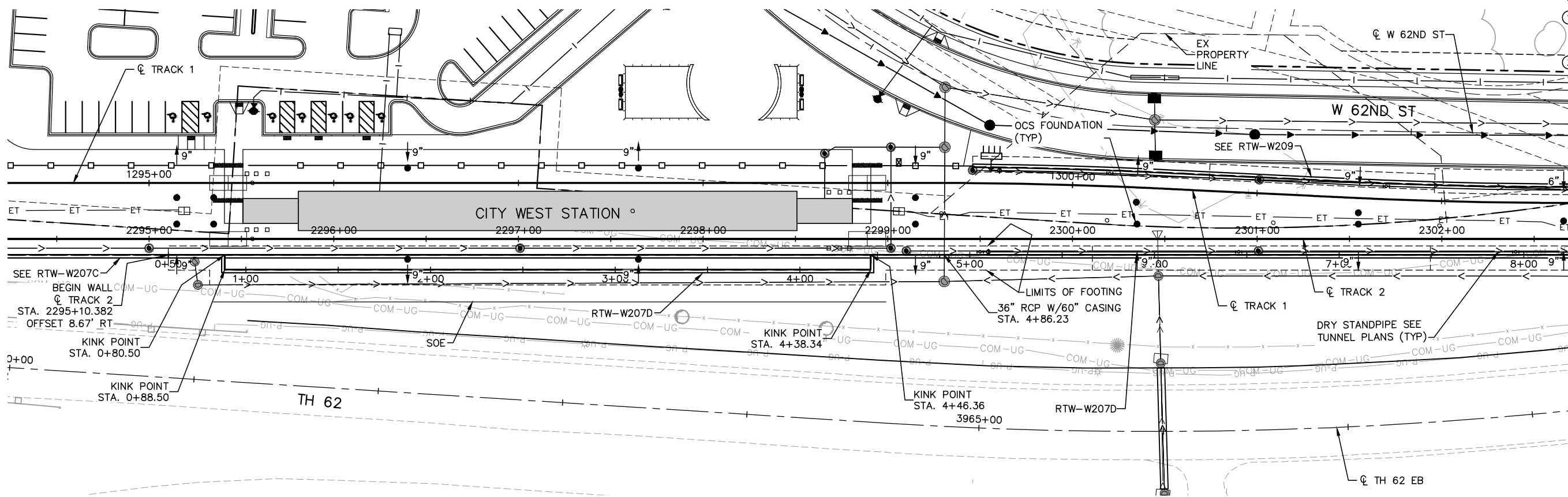
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**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W207B GEOMETRY**

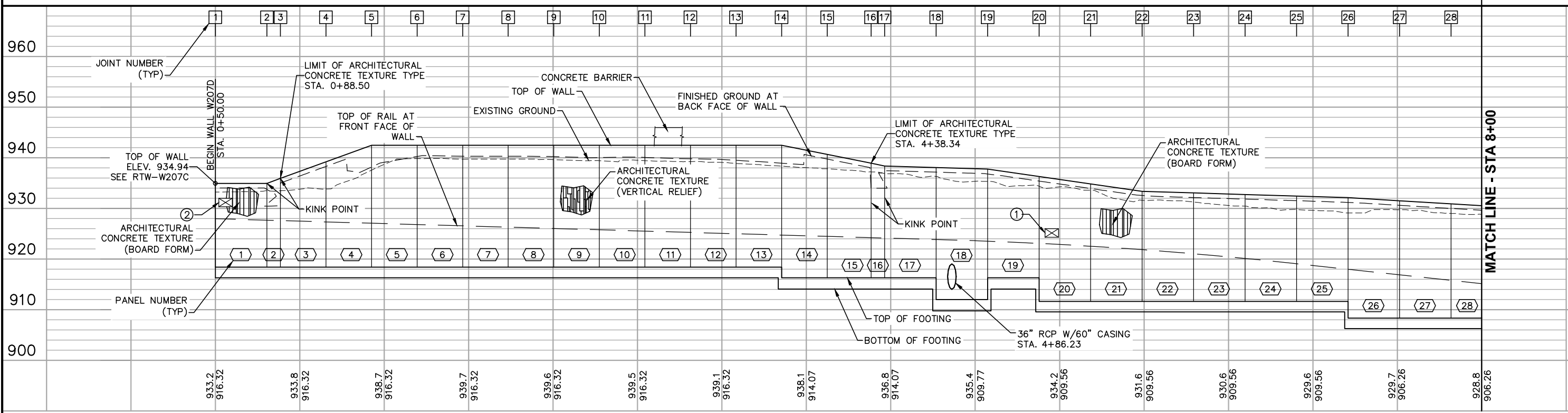
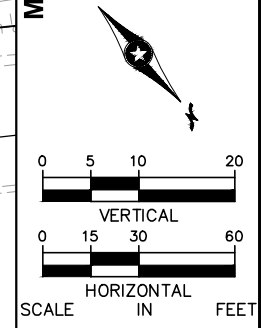
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- NOTES**
- ① STRAY CURRENT TEST STATION, SEE SHEET E0-SYS-CORR-DTL-009
  - ② SOLDIER PILE RETAINING WALL TO CAST IN PLACE WALL STRAY CURRENT BOND TEST STATION. SEE SHEET E0-SYS-CORR-DTL-009 AND DETAIL 4 ON E0-SYS-CORR-DTL-018

MATCH LINE - STA 8+00



MATCH LINE - STA 8+00

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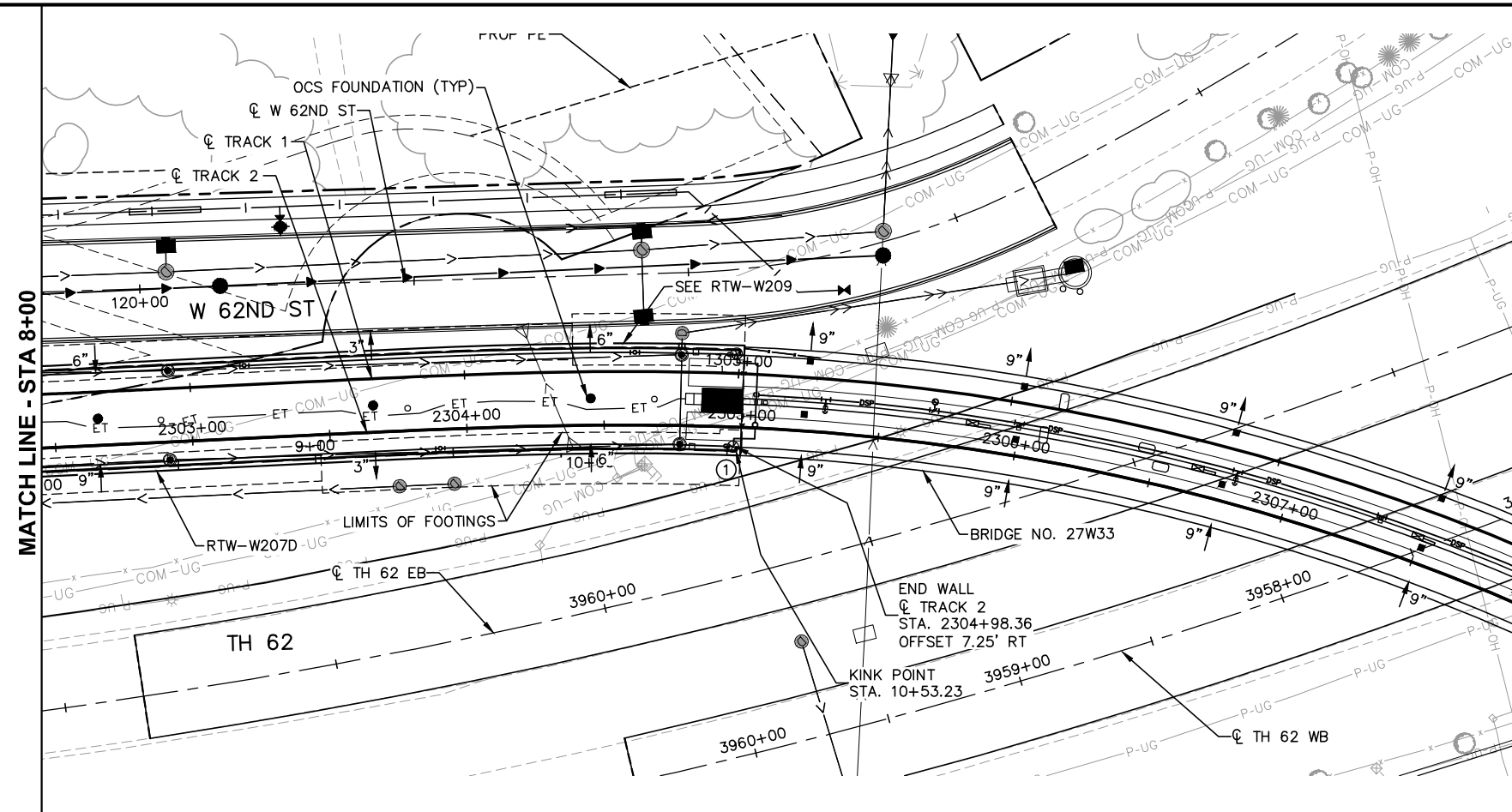
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W207D PLAN AND ELEVATION**  
**STA 0+50 TO STA 8+00**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W207D-PL-001**

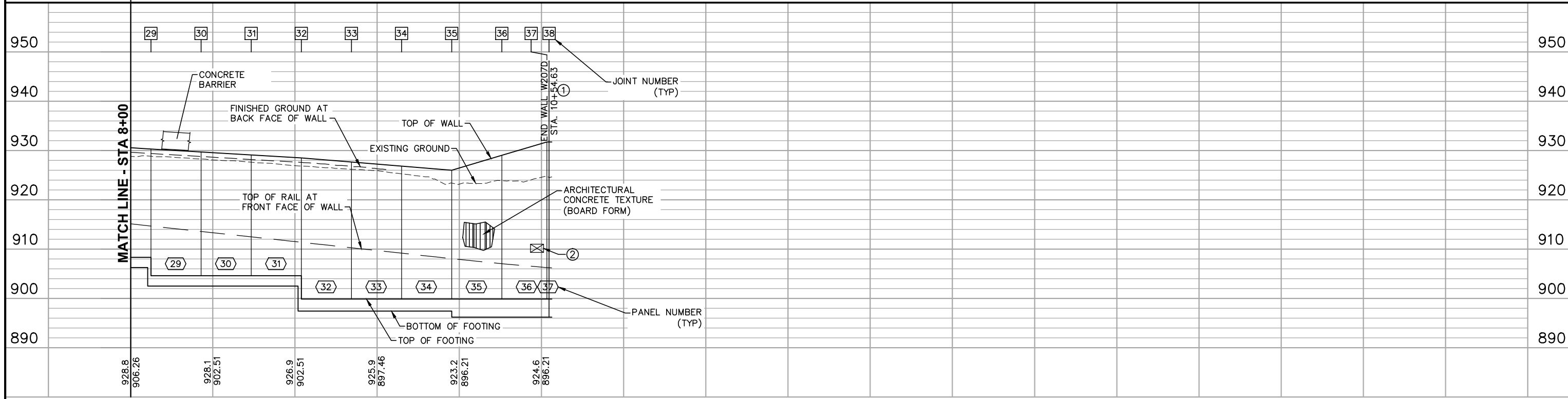
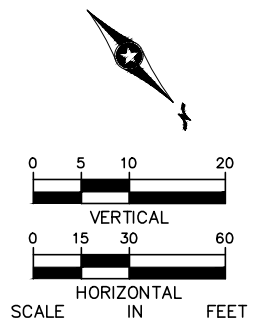
SHEET  
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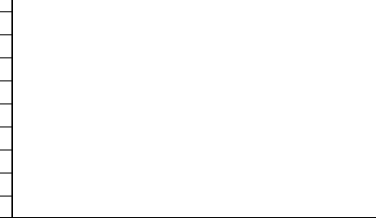
**NOTES**

- ① JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL MAINTAIN ELECTRICAL ISOLATION OF REBAR IN TUNNEL WALL AND REBAR IN ADJACENT RTW.
- ② STRAY CURRENT BOND TEST STATION AT END OF RETAINING WALL, SEE SHEET E0-SYS-CORR-DTL-019



8+00                      9+00                      10+00                      11+00

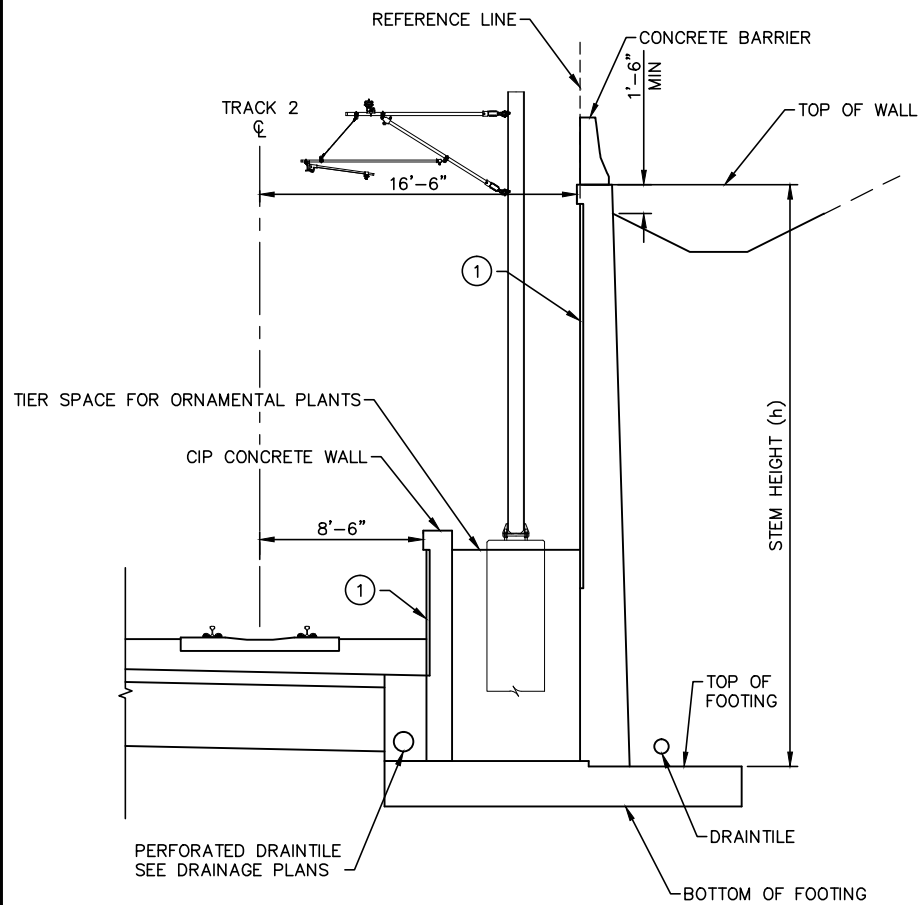
NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



<b>CIVIL - VOLUME 6</b>		<b>SHEET</b> 46 OF 271
<b>RETAINING WALLS</b>		
<b>RTW-W207D PLAN AND ELEVATION</b>		
<b>STA 8+00 TO STA 10+55</b>		
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W207D-PL-002</b>	

90% SUBMISSION - 01/22/16

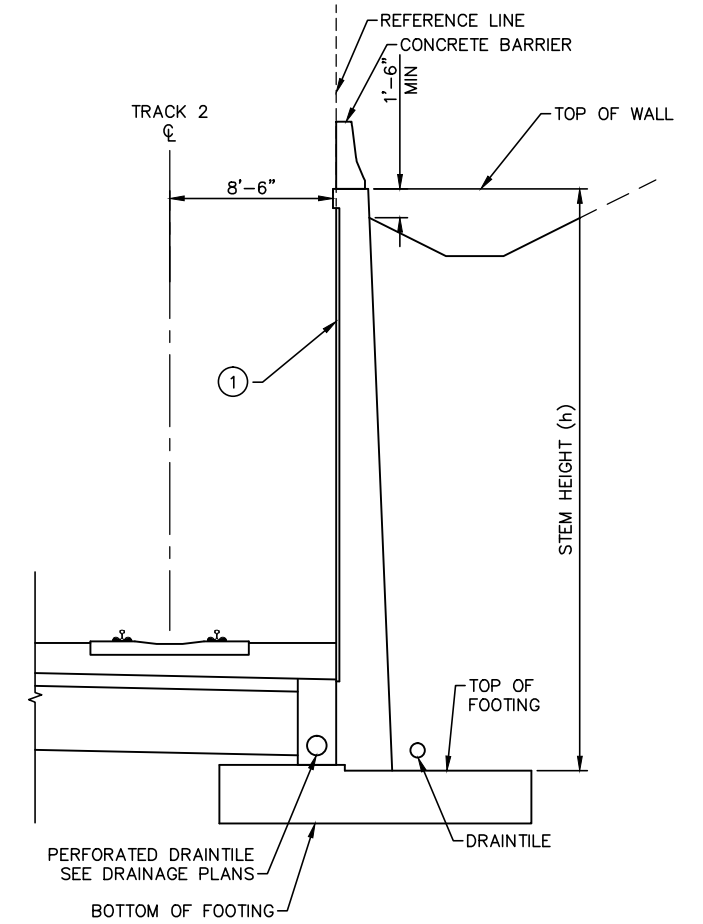
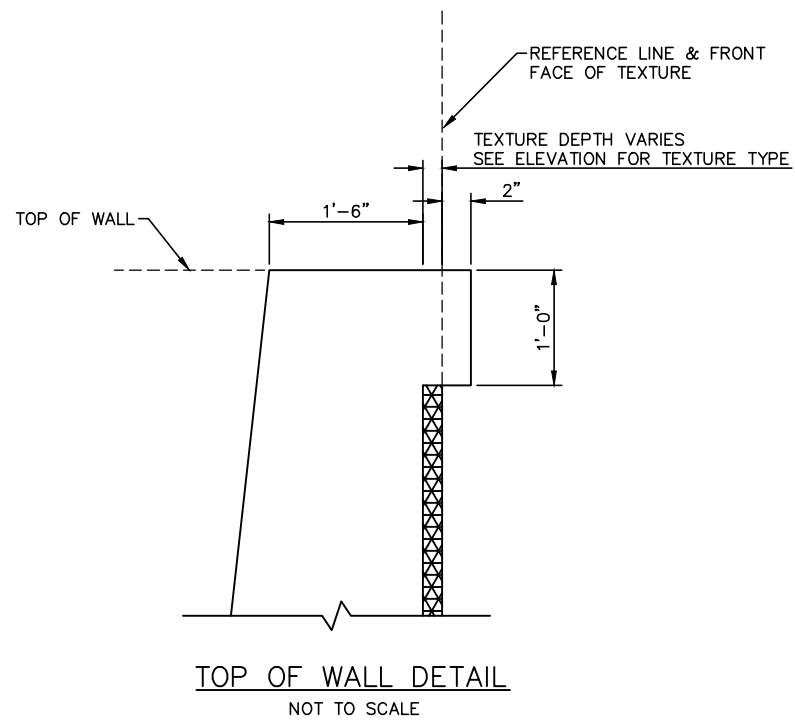
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**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. EPOXY COATED REBAR IN STEM WALL. BLACK REBAR IN FOOTING.

**RTW-W207D SECTION**  
STA. 0+81 TO STA. 4+46  
NOT TO SCALE



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. EPOXY COATED REBAR IN STEM WALL. BLACK REBAR IN FOOTING.

**RTW-W207D SECTION**  
STA. 0+50 TO STA. 0+81 AND STA. 4+46 TO 10+55  
NOT TO SCALE



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 	 	<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W207D GEOMETRY 1</b></p>	<p>SHEET 47 OF 271</p>
<p>90% SUBMISSION - 01/22/16</p>		<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W207D-DTL-001</b></p>

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RTW-RTW-W207D GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	00+50.00	1	-	136127.85	493011.31	-	916.32	-	918.40	-	934.94	-	16'-6 1/2"	17'
2	8'-0"	00+80.50	2	CJ	136147.70	492988.15	916.32	916.32	918.40	918.40	934.94	934.94	16'-6 1/2"	16'-6 1/2"	18'
3	26'-11 7/8"	00+88.50	3	EJ	136153.77	492993.36	916.32	916.32	918.40	918.40	934.94	935.91	16'-6 1/2"	17'-6 1/8"	21'
4	26'-11 3/4"	01+15.49	4	CJ	136171.33	492972.87	916.32	916.32	918.40	918.40	935.91	939.19	17'-6 1/8"	20'-9 1/2"	25'
5	26'-11 7/8"	01+42.47	5	EJ	136188.89	492952.38	916.32	916.32	918.40	918.40	939.19	942.47	20'-9 1/2"	24'-0 7/8"	25'
6	26'-11 3/4"	01+69.46	6	CJ	136206.46	492931.89	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
7	26'-11 7/8"	01+96.44	7	CJ	136224.02	492911.40	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
8	26'-11 3/4"	02+23.43	8	EJ	136241.58	492890.91	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
9	26'-11 7/8"	02+50.41	9	CJ	136259.14	492870.42	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
10	26'-11 3/4"	02+77.40	10	CJ	136276.70	492849.93	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
11	26'-11 7/8"	03+04.38	11	EJ	136294.26	492829.44	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
12	26'-11 3/4"	03+31.37	12	CJ	136311.82	492808.95	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
13	26'-11 7/8"	03+58.35	13	CJ	136329.38	492788.47	916.32	916.32	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
14	26'-11 3/4"	03+85.34	14	EJ	136346.94	492767.98	916.32	914.07	918.40	918.40	942.47	942.47	24'-0 7/8"	24'-0 7/8"	25'
15	26'-0 1/4"	04+12.32	15	CJ	136364.51	492747.49	914.07	914.07	918.40	916.32	942.47	940.66	24'-0 7/8"	24'-4 1/8"	25'
16	8'-0 1/4"	04+38.34	16	CJ	136381.43	492727.74	914.07	914.07	916.32	916.32	940.66	938.91	24'-4 1/8"	22'-7 1/8"	25'
17	30'-6"	04+46.36	17	EJ	136375.34	492722.52	914.07	914.07	916.32	916.32	938.91	938.38	22'-7 1/8"	22'-0 3/4"	23'
18	30'-6"	04+76.86	18	CJ	136395.19	492699.36	914.07	909.77	916.32	916.32	938.38	938.07	22'-0 3/4"	21'-9"	26'
19	30'-6"	05+07.36	19	CJ	136415.04	492676.20	909.77	909.77	916.32	912.02	938.07	937.76	21'-9"	25'-8 7/8"	26'
20	30'-6"	05+37.86	20	EJ	136434.89	492653.04	909.77	909.56	912.02	916.32	937.76	936.30	25'-8 7/8"	19'-11 3/4"	26'
21	30'-6"	05+68.36	21	CJ	136454.74	492629.88	909.56	909.56	916.32	911.64	936.30	934.84	19'-11 3/4"	23'-2 3/8"	24'
22	30'-6"	05+98.86	22	CJ	136474.59	492606.73	909.56	909.56	911.64	911.64	934.84	933.37	23'-2 3/8"	21'-8 3/4"	24'
23	30'-6"	06+29.36	23	EJ	136494.44	492583.57	909.56	909.56	911.64	911.64	933.37	933.06	21'-8 3/4"	21'-5"	22'
24	30'-6"	06+59.86	24	CJ	136514.28	492560.41	909.56	909.56	911.64	911.64	933.06	932.75	21'-5"	21'-1 3/8"	22'
25	30'-6"	06+90.36	25	CJ	136534.13	492537.25	909.56	909.56	911.64	911.64	932.75	932.43	21'-1 3/8"	20'-9 1/2"	22'
26	30'-6"	07+20.86	26	EJ	136553.98	492514.09	909.56	906.26	911.64	911.64	932.43	932.12	20'-9 1/2"	20'-5 3/4"	24'
27	30'-6"	07+51.36	27	CJ	136573.83	492490.94	906.26	906.26	911.64	908.35	932.12	931.51	20'-5 3/4"	23'-1 7/8"	24'
28	30'-6"	07+81.86	28	CJ	136593.68	492467.78	906.26	906.26	908.35	908.35	931.51	930.91	23'-1 7/8"	22'-6 3/4"	24'
29	30'-6"	08+12.36	29	EJ	136613.53	492444.62	906.26	902.51	908.35	908.35	930.91	930.30	22'-6 3/4"	21'-11 3/8"	26'
30	30'-6"	08+42.86	30	EJ	136633.38	492421.46	902.51	902.51	908.35	904.60	930.30	929.69	21'-11 3/8"	25'-1 1/8"	26'
31	30'-6"	08+42.86	31	EJ	136653.23	492398.31	902.51	902.51	904.60	904.60	929.69	929.09	25'-1 1/8"	24'-5 7/8"	26'
32	30'-6"	08+73.36	32	CJ	136673.09	492375.13	902.51	897.46	904.60	904.60	929.09	928.48	24'-5 7/8"	23'-10 1/2"	28'
33	30'-6"	09+03.86	33	EJ	136693.06	492351.92	897.46	897.46	904.60	899.87	928.48	927.65	23'-10 1/2"	27'-9 3/8"	28'
34	30'-6"	09+34.36	34	CJ	136713.17	492328.93	897.46	897.46	899.87	899.87	927.65	926.83	27'-9 3/8"	26'-11 1/2"	28'
35	30'-6"	09+64.86	35	CJ	136733.58	492306.28	897.46	897.44	899.87	899.87	926.83	926.00	26'-11 1/2"	26'-1 1/2"	30'
36	27'-4 3/4"	09+95.36	36	EJ	136754.45	492284.12	897.44	896.21	899.87	899.87	926.00	929.01	26'-1 1/2"	29'-1 5/8"	32'
37	1'-4 1/2"	10+25.86	37	CJ	136773.65	492264.78	896.21	896.21	899.87	899.87	929.01	931.72	29'-1 5/8"	31'-10 1/4"	32'
		10+53.26	38	EJ	136772.69	492263.80	896.21	-	899.87	-	931.72	-	31'-10 1/4"	-	32'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL


**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W207D GEOMETRY 2**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W207D-DTL-002**

SHEET  
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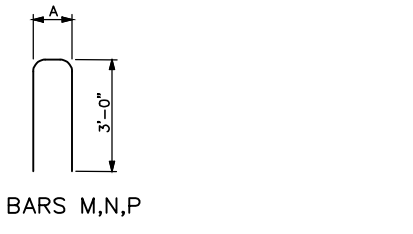
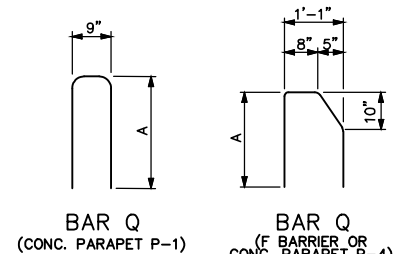
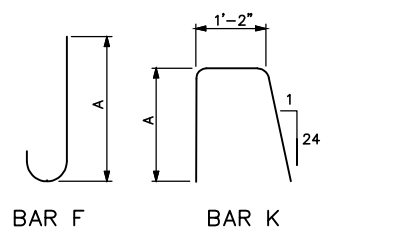
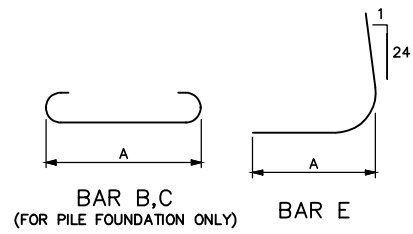


Table for Panel 1 (h=17', L=30'-6") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 2 (h=18', L=8'-0") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 3 (h=21', L=26'-11 7/8") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 4 (h=25', L=26'-11 3/4") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 5 (h=25', L=26'-11 7/8") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 15 (h=25', L=26'-0 1/4") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 16 (h=23', L=8'-0 1/4") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 17 (h=23', L=30'-6") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

Table for Panel 18 (h=26', L=30'-6") showing reinforcement details for spread footing, stem, and footing dowels & stem reinforcement. Includes columns for BAR, MARK, NO., LENGTH, A, LOCATION, WT, and DIMENSIONS AND QUANTITIES.

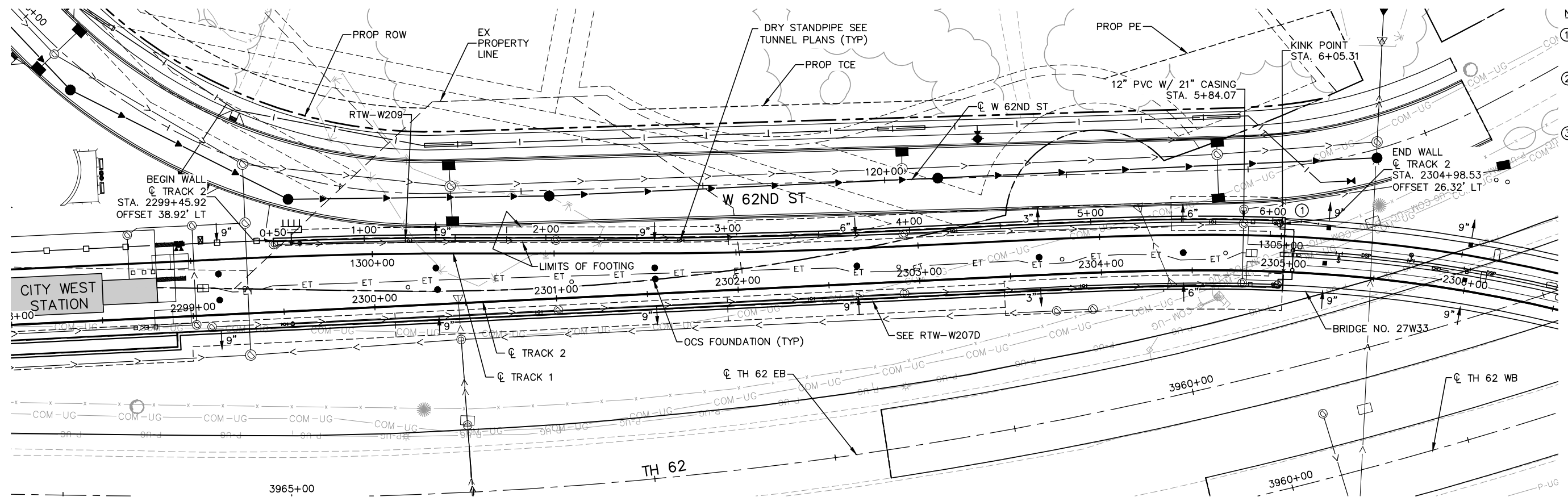
Revision table with columns: NO., DATE, BY, CHECK, DESIGN, REVISION / SUBMITTAL.

Logos for AECOM, WSB & ASSOCIATES INC., and METROPOLITAN COUNCIL. Text: 90% SUBMISSION - 01/22/16.

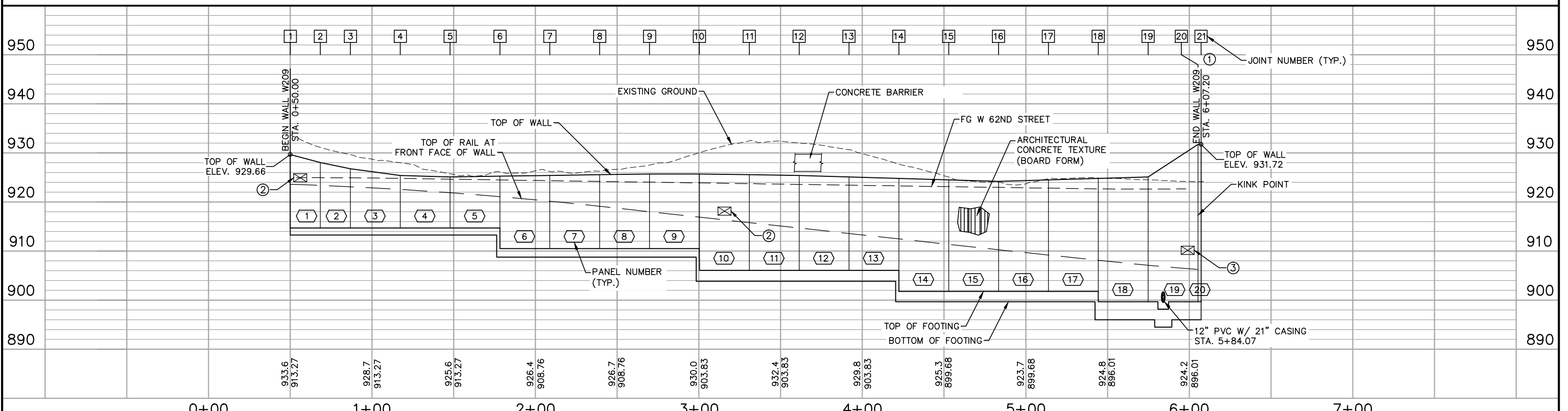
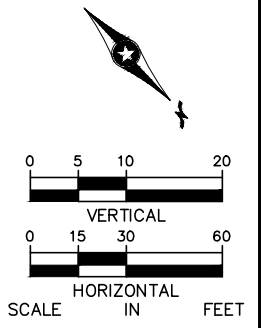
CIVIL - VOLUME 6 RETAINING WALLS RTW-W207D REINFORCEMENT 1. SHEET 49 OF 271. DISCIPLINE: STRUCTURES. SHEET NAME: RTW-W207D-DTL-003.



Jan. 17 2016 08:23 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W209.dwg By: V-NutzmaML



- NOTES**
- JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL
  - STRAY CURRENT TEST STATION, SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022
  - STRAY CURRENT BOND TEST STATION. SEE SHEET E0-SYS-CORR-DTL-019



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W209 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W209-PL6**

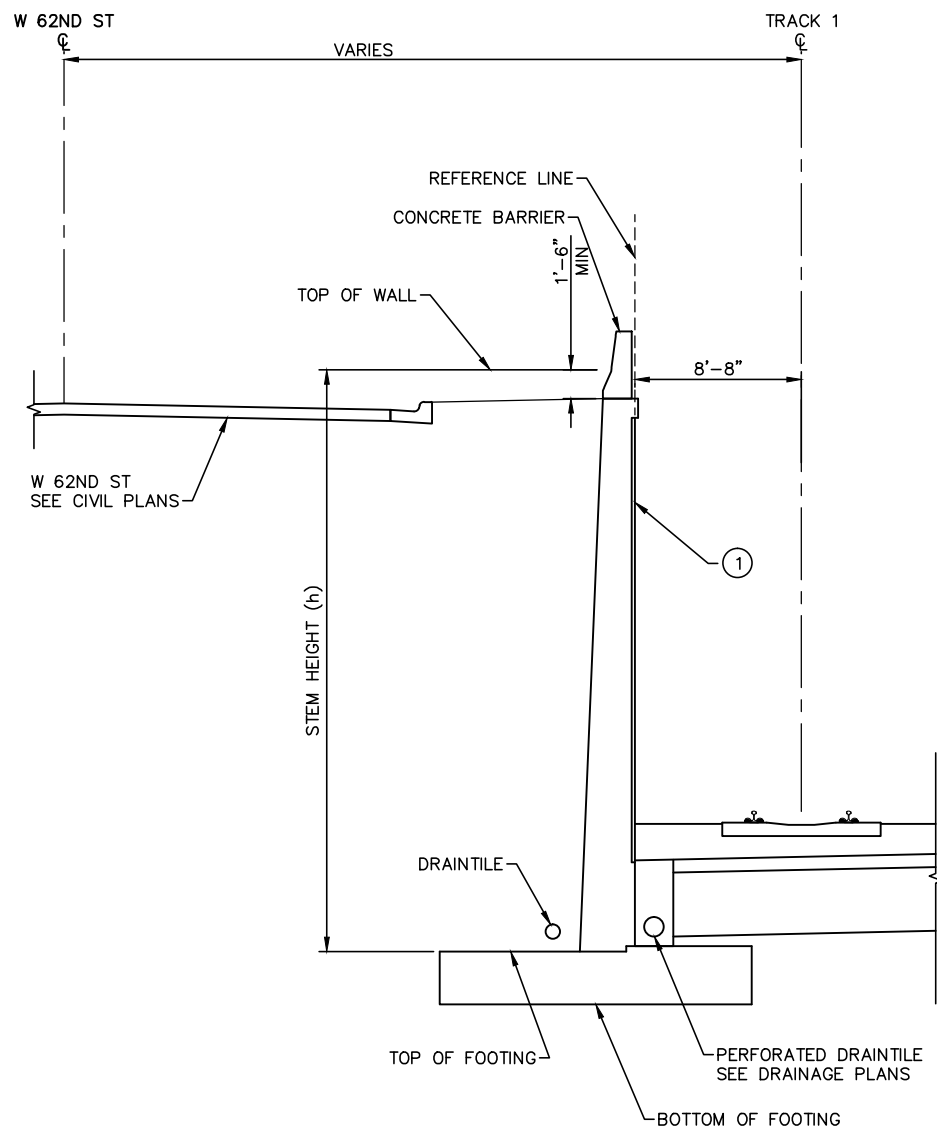
**SHEET**

51

**OF**

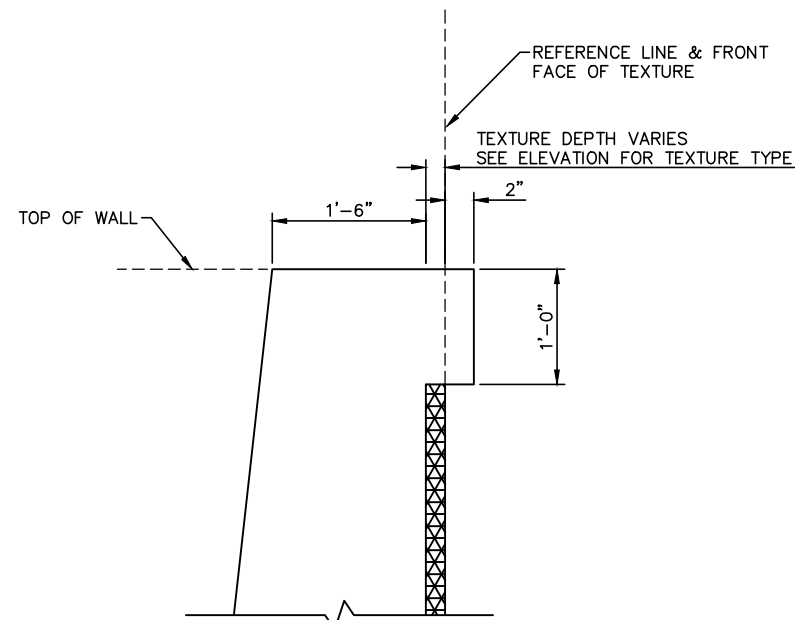
271

Jan, 17 2016 08:23 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W209-DTL.dwg By: V-NutzmaML



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. EPOXY COATED REBAR IN STEM WALL. ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING.

**RTW-W209 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 	 	<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W209 GEOMETRY 1</b></p>	<p><b>SHEET</b> 52 <b>OF</b> 271</p>
<p>90% SUBMISSION - 01/22/16</p>		<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W209-DTL-001</b></p>

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RTW-W209 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	18'-4 7/8"	00+50.00	1	-	136375.15	492649.65	-	913.27	-	914.68	-	929.66	-	14'-11 3/4"	15
2	18'-4 7/8"	00+68.41	2	CJ	136387.31	492635.82	913.27	913.27	914.68	914.68	929.66	928.04	14'-11 3/4"	13'-4 3/8"	15'
		00+86.82	3	EJ	136399.56	492622.08	913.27	913.27	914.68	914.68	928.04	926.75	13'-4 3/8"	12'-0 7/8"	14'
3	30'-6"	01+17.32	4	CJ	136420.08	492599.51	913.27	913.27	914.68	914.68	926.75	925.4	12'-0 7/8"	10'-8 5/8"	13'
		01+47.82	5	CJ	136440.88	492577.18	913.27	913.27	914.68	914.68	925.4	925.1	10'-8 5/8"	10'-5"	11'
4	30'-6"	01+78.32	6	EJ	136461.81	492555.01	913.27	908.76	914.68	914.68	925.1	925.25	10'-5"	10'-6 7/8"	15'
		02+08.82	7	CJ	136482.75	492532.84	908.76	908.76	914.68	910.51	925.25	925.4	10'-6 7/8"	14'-10 5/8"	16'
5	30'-6"	02+39.32	8	EJ	136503.7	492510.67	908.76	908.76	910.51	910.51	925.4	925.56	14'-10 5/8"	15'-0 5/8"	16'
		02+69.82	9	CJ	136524.59	492488.44	908.76	908.76	910.51	910.51	925.56	925.71	15'-0 5/8"	15'-2 3/8"	17'
6	30'-6"	03+00.32	10	EJ	136545.25	492466.01	908.76	903.83	910.51	908.95	925.71	925.71	15'-2 3/8"	16'-9 1/8"	20'
		03+30.82	11	CJ	136565.63	492443.33	903.83	903.83	908.95	906.08	925.71	925.56	16'-9 1/8"	19'-5 3/4"	20'
7	30'-6"	03+61.32	12	EJ	136585.73	492420.4	903.83	903.83	906.08	906.08	925.56	925.4	19'-5 3/4"	19'-3 7/8"	20'
		03+91.82	13	CJ	136605.63	492397.28	903.83	903.83	906.08	906.08	925.4	925.1	19'-3 7/8"	19'-0 1/4"	20'
8	30'-6"	04+22.32	14	EJ	136625.48	492374.12	903.83	899.68	906.08	906.08	925.1	924.79	19'-0 1/4"	18'-8 1/2"	23'
		04+52.82	15	CJ	136645.31	492350.98	899.68	899.68	906.08	901.76	924.79	924.49	18'-8 1/2"	22'-8 3/4"	23'
9	30'-6"	04+83.32	16	EJ	136665.13	492327.94	899.68	899.68	901.76	901.76	924.49	924.18	22'-8 3/4"	22'-5"	23'
		05+13.82	17	CJ	136685.17	492305.01	899.68	899.68	901.76	901.76	924.18	924.49	22'-5"	22'-8 3/4"	24'
10	30'-6"	05+44.32	18	EJ	136705.57	492282.33	899.68	896.01	901.76	901.76	924.49	924.79	22'-8 3/4"	23'-0 3/8"	26'
		05+74.82	19	CJ	136726.48	492260.05	896.01	896.01	901.76	899.68	924.79	925.1	23'-0 3/8"	25'-5"	33'
11	30'-6"	06+05.32	20	CJ	136748.04	492238.32	896.01	896.01	899.68	899.68	925.1	931.72	25'-5"	32'-0 1/2"	33'
		06+07.20	21	EJ	136749.37	492239.66	896.01	-	899.68	-	931.72	-	32'-0 1/2"	-	33'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

**WSB & ASSOCIATES INC.**

**METROPOLITAN COUNCIL**

**SOUTHWEST Green Line LRT Extension**

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W209 GEOMETRY 2**

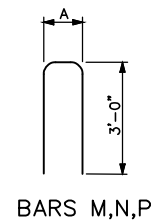
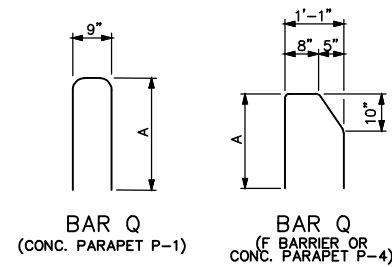
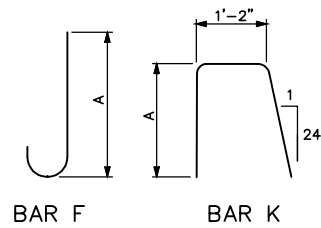
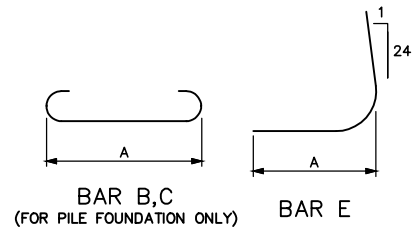
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W209-DTL-002**

**SHEET 53 OF 271**



Jan, 19 2016 09:02 am V:\3400\_ADCY\CAD\SEGMENT W2-RTW\RTW-W209-DTL.dwg By: V-NutzmaML



		h = 24'		PANEL: 17		L=30'-6"				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	26	32'-11"	STR.	LONG T & B	893	SPREAD FOOTING			
B	F502	31	12'-1"	STR.	TRANS BOT	391	b	4'-0"	e	---
C	F1003	31	12'-1"	STR.	TRANS TOP	1612	c	2'-3"	f	---
STEM										
							d	12'-7"	g	4'-2 3/8"
							a	2'-6"	x	6'-3"
							j	2'-1 1/8"	z	5'-10"
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F905E	31	16'-1"	6'-1"	DOWEL BF	1695	(FOOTING)			
F	F1006E	30	9'-6"	7'-7"	DOWEL BF	1226	SPREAD	33.4	CU YD	
G	S401E	31	21'-2"	STR.	VERT FF	438	STRUCTURAL CONCRETE (3Y43)			
H	S702E	31	21'-2"	STR.	VERT BF	1341	(STEM)			
J	S803E	30	12'-0"	STR.	VERT BF	961	REINFORCEMENT (PLAIN)			
K	S504E	31	10'-8"	4'-9"	TIE	345	54.1	CU YD		
L	S405E	48	30'-0"	STR.	HORIZ EF	962	REINFORCEMENT (EPOXY)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	2895	LB	
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT (EPOXY)			
P	S508E	8	8'-2"	2'-2"	EXP JT TIE	68	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	7449	LB		
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245	REINFORCEMENT (EPOXY)			

		h = 26'		PANEL: 18		L=30'-6"				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	28	32'-11"	STR.	LONG T & B	961	SPREAD FOOTING			
B	F502	31	13'-1"	STR.	TRANS BOT	423	b	4'-4"	e	---
C	F1003	31	13'-1"	STR.	TRANS TOP	1745	c	2'-3"	f	---
STEM										
							d	13'-7"	g	4'-6 1/4"
							a	2'-7"	x	7'-10"
							j	2'-2"	z	5'-10"
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F1005E	31	17'-9"	6'-6"	DOWEL BF	2368	(FOOTING)			
F	F1006E	30	9'-6"	7'-7"	DOWEL BF	1226	SPREAD	36.0	CU YD	
G	S401E	31	23'-2"	STR.	VERT FF	480	STRUCTURAL CONCRETE (3Y43)			
H	S802E	31	23'-2"	STR.	VERT BF	1917	(STEM)			
J	S803E	30	12'-6"	STR.	VERT BF	1001	REINFORCEMENT (PLAIN)			
K	S504E	31	10'-8"	4'-9"	TIE	345	59.9	CU YD		
L	S405E	52	30'-0"	STR.	HORIZ EF	1042	REINFORCEMENT (EPOXY)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	3129	LB	
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT (EPOXY)			
P	S508E	12	8'-2"	2'-2"	EXP JT TIE	102	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	8893	LB		
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245	REINFORCEMENT (EPOXY)			

		h = 33'		PANEL: 19		L=30'-6"				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A					STR.	LONG T & B	SPREAD FOOTING			
B					STR.	TRANS BOT	b		e	
C					STR.	TRANS TOP	c		f	
STEM										
							d		g	
							a		x	
							j		z	
FOOTING DOWELS & STEM REINFORCEMENT										
D							STRUCTURAL CONCRETE (1A43)			
E							(FOOTING)			
F							SPREAD		CU YD	
G							PILE		CU YD	
H							STRUCTURAL CONCRETE (3Y43)			
J							(STEM)			
K							REINFORCEMENT (PLAIN)			
L							SPREAD		LB	
M							PILE		LB	
N							REINFORCEMENT (EPOXY)			
P							REINFORCEMENT (EPOXY)			
Q							REINFORCEMENT (EPOXY)			
Q							REINFORCEMENT (EPOXY)			

		h = 33'		PANEL: 20		L=1'-10 1/2"				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A					STR.	LONG T & B	SPREAD FOOTING			
B					STR.	TRANS BOT	b		e	
C					STR.	TRANS TOP	c		f	
STEM										
							d		g	
							a		x	
							j		z	
FOOTING DOWELS & STEM REINFORCEMENT										
D							STRUCTURAL CONCRETE (1A43)			
E							(FOOTING)			
F							SPREAD		CU YD	
G							PILE		CU YD	
H							STRUCTURAL CONCRETE (3Y43)			
J							(STEM)			
K							REINFORCEMENT (PLAIN)			
L							SPREAD		LB	
M							PILE		LB	
N							REINFORCEMENT (EPOXY)			
P							REINFORCEMENT (EPOXY)			
Q							REINFORCEMENT (EPOXY)			
Q							REINFORCEMENT (EPOXY)			

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





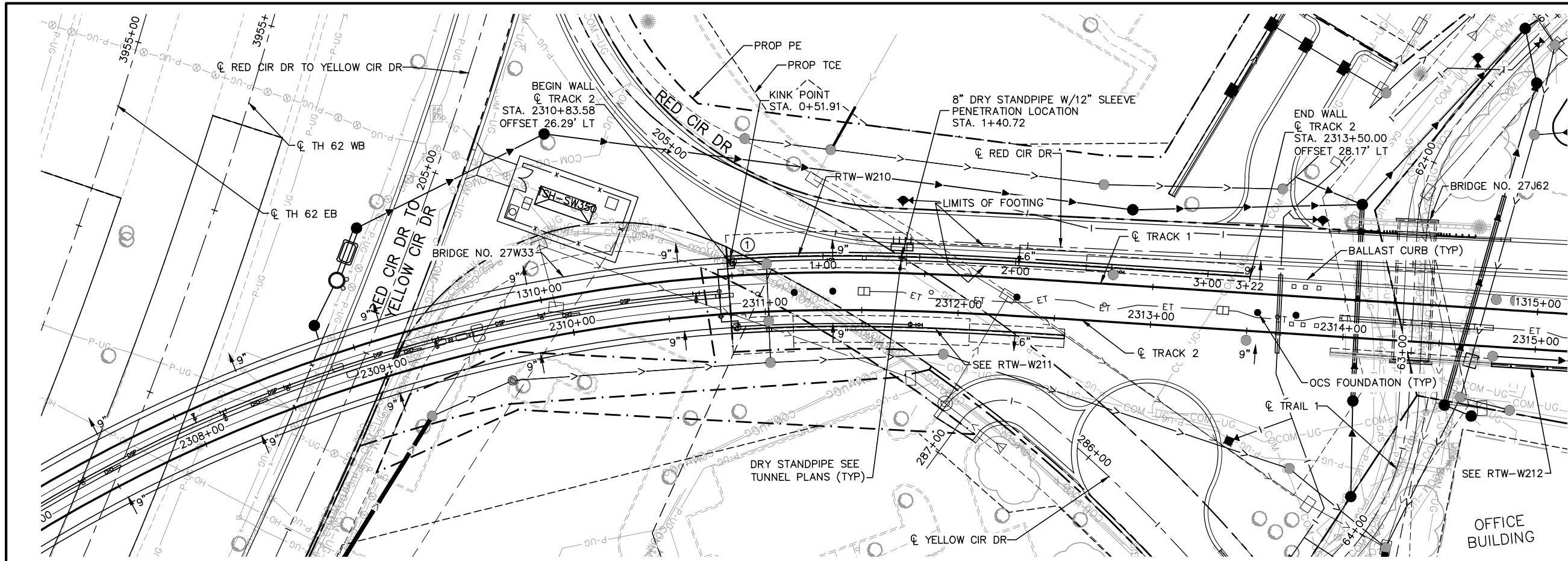

**90% SUBMISSION - 01/22/16**



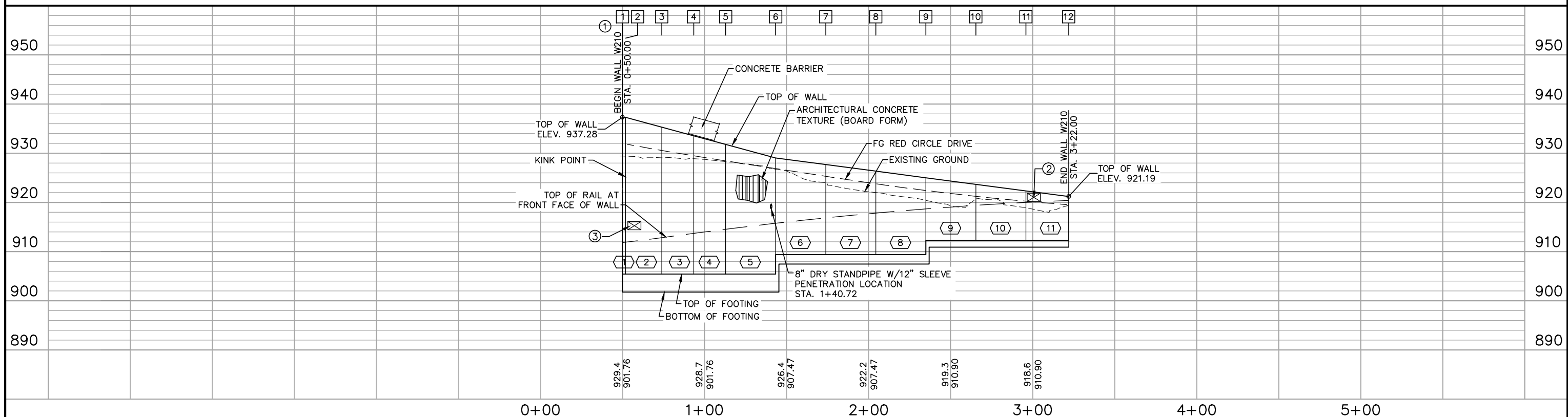
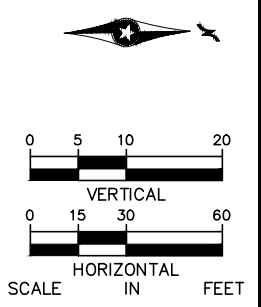

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W209 REINFORCEMENT 2**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W209-DTL-004**

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- NOTES**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL
  - ② STRAY CURRENT TEST STATION, SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022
  - ③ STRAY CURRENT BOND TEST STATION, SEE SHEET E0-SYS-CORR-DTL-019



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W210 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W210-PL**

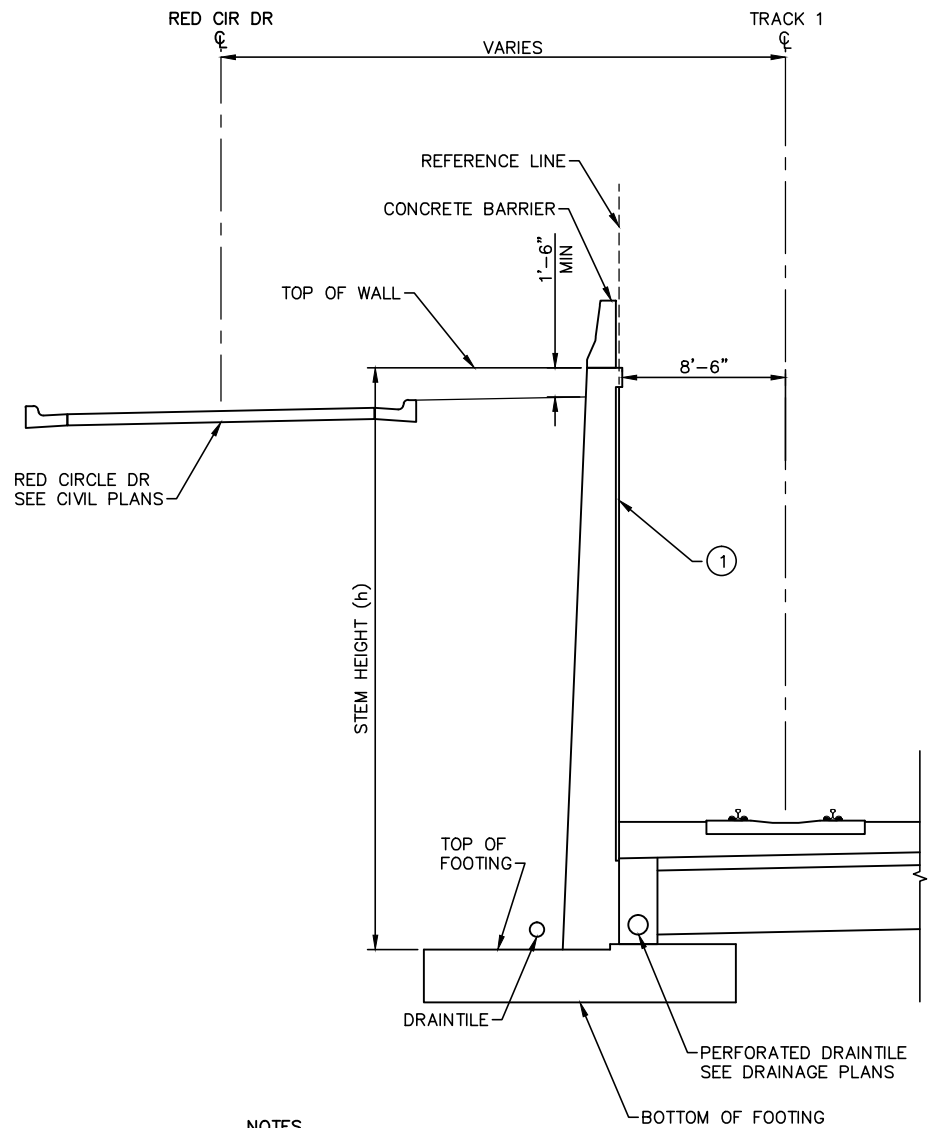
SHEET **56**

OF

**271**



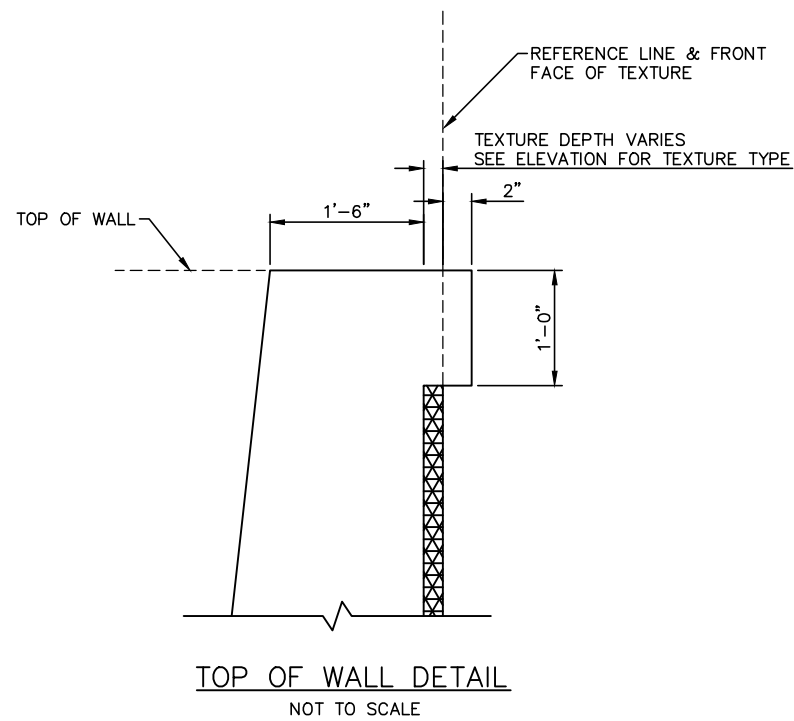
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- NOTES**
1. ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. EPOXY COATED REBAR IN STEM WALL. ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING.

**RTW-W210 SECTION**  
NOT TO SCALE

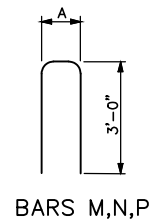
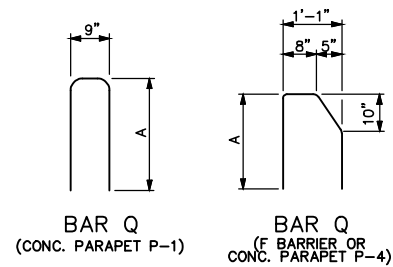
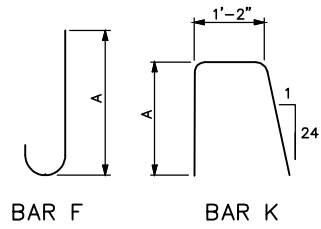
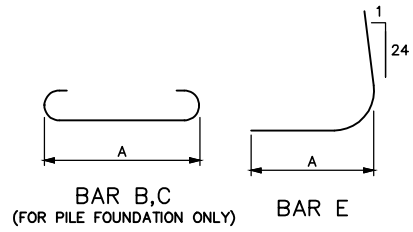
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	RTW-W210 GEOMETRICS (CIPC)								DESIGN HEIGHT		
					COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION			STEM HEIGHT (h)	
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA		DOWN STA	UP STA
1	1-10 7/8"	0+50.00	1	EJ	137291.682	492005.022	-	905.43	-	905.43	-	937.28	-	31-10 1/4"	32'
2	22-0 1/4"	0+51.91	2	CJ	137291.601	492003.112	905.43	905.43	905.43	905.43	937.28	937.28	31-10 1/4"	31-10 1/4"	32'
		0+73.93	3	CJ	137313.608	492002.464	905.43	905.43	905.43	905.43	937.28	935.30	31-10 1/4"	29-10 1/2"	32'
3	8-5 3/4"	0+82.41	4	EJ	137333.190	492002.371	905.43	905.43	905.43	905.43	935.30	933.54	29-10 1/2"	28-1 3/8"	30'
		1+12.91	5	CJ	137352.745	492002.688	905.43	905.43	905.43	905.43	933.54	931.79	28-1 3/8"	26-4 3/8"	29'
4	30-6"	1+43.41	6	EJ	137383.280	492003.878	905.43	905.43	905.43	905.43	931.79	929.04	26-4 3/8"	23-7 3/8"	27'
		1+73.91	7	CJ	137413.724	492005.736	905.43	909.39	905.43	909.39	929.04	927.70	23-7 3/8"	18-3 3/4"	24'
5	30-6"	2+04.41	8	CJ	137444.079	492008.057	909.39	909.39	909.39	909.39	927.70	926.36	18-3 3/4"	16-11 5/8"	19'
		2+34.91	9	EJ	137474.356	492010.639	909.39	909.39	909.39	909.39	926.36	925.00	16-11 5/8"	15-7 3/8"	17'
6	30-6"	2+65.41	10	CJ	137504.691	492013.302	909.39	912.31	909.39	912.31	925.00	923.68	15-7 3/8"	11-4 1/2"	16'
		2+95.91	11	CJ	137535.074	492015.970	912.31	912.31	912.31	912.31	923.68	922.34	11-4 1/2"	10-0 3/8"	12'
7	26-1 1/8"	3+22.00	12	-	137561.063	492018.252	912.31	-	912.31	-	922.34	-	10-0 3/8"	-	12'



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W210 GEOMETRY</b>		<b>SHEET</b> <b>57</b> <b>OF</b> <b>271</b>
	<b>90% SUBMISSION - 01/22/16</b>	<b>STRUCTURES</b>	<b>RTW-W210-DTL-001</b>

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h = 32'		PANEL: 1		L=1'-10 7/8"		DIMENSIONS					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS				
PILE FOUNDATION REINFORCEMENT											
A					STR.	LONG T & B	PILE FOUNDATION				
B				7'-6"	TRANS BOT		b		d		
C	F503	31	8'-8"	7'-6"	TRANS TOP		c		g		
STEM											
							a		x		
							j		z		
FOOTING DOWELS & STEM REINFORCEMENT											
D											
E											
F											
G											
H											
J											
K											
L											
M											
N											
P											
Q											

h = 32'		PANEL: 18,19,20,21		L=22'-0 1/4"		DIMENSIONS					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS				
PILE FOUNDATION REINFORCEMENT											
A					STR.	LONG T & B	PILE FOUNDATION				
B				7'-6"	TRANS BOT		b		d		
C	F503	31	8'-8"	7'-6"	TRANS TOP		c		g		
STEM											
							a		x		
							j		z		
FOOTING DOWELS & STEM REINFORCEMENT											
D											
E											
F											
G											
H											
J											
K											
L											
M											
N											
P											
Q											

h = 30'		PANEL: 3		L=8'-5 3/4"		DIMENSIONS AND QUANTITIES					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
PILE FOUNDATION REINFORCEMENT											
A					STR.	LONG T & B	PILE FOUNDATION				
B				7'-6"	TRANS BOT		b		d		
C	F503	31	8'-8"	7'-6"	TRANS TOP		c		g		
STEM											
							a		x		
							j		z		
FOOTING DOWELS & STEM REINFORCEMENT											
D											
E											
F											
G											
H											
J											
K											
L											
M											
N											
P											
Q											

h = 29'		PANEL: 4		L=30'-6"		DIMENSIONS AND QUANTITIES					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
PILE FOUNDATION REINFORCEMENT											
A					STR.	LONG T & B	PILE FOUNDATION				
B				7'-6"	TRANS BOT		b		d		
C	F503	31	8'-8"	7'-6"	TRANS TOP		c		g		
STEM											
							a		x		
							j		z		
FOOTING DOWELS & STEM REINFORCEMENT											
D											
E											
F											
G											
H											
J											
K											
L											
M											
N											
P											
Q											

h = 27'		PANEL: 5		L=30'-6"		DIMENSIONS AND QUANTITIES					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	30	32'-11"		STR.	LONG T & B	1030	SPREAD FOOTING			
B	F502	31	13'-7"		STR.	TRANS BOT	439	b	4'-6"	e	---
C	F1103	31	13'-7"		STR.	TRANS TOP	2237	c	2'-5"	f	---
STEM											
							d	14'-1"	g	4'-8 3/8"	
							a	2'-7 1/2"	x	7'-10"	
							j	2'-2 1/2"	z	6'-11"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"		STR.	DOWEL FF	97	QUANTITIES			
E	F1005E	31	18'-0"		6'-8"	DOWEL BF	2401	STRUCTURAL CONCRETE (1A43)			
F	F1106E	30	10'-11"		8'-10"	DOWEL BF	1740	(FOOTING)			
G	S401E	31	24'-2"		STR.	VERT FF	500	SPREAD 40.0 CU YD			
H	S802E	31	24'-2"		STR.	VERT BF	2000	VERT FF 500			
J	S903E	30	12'-9"		STR.	VERT BF	1301	STRUCTURAL CONCRETE (3Y43)			
K	S504E	31	10'-8"		4'-9"	TIE	345	(STEM)			
L	S405E	54	30'-0"		STR.	HORIZ EF	1082	TIE 62.8 CU YD			
M	S506E	20	7'-4"		1'-4"	EXP JT TIE	153	REINFORCEMENT (PLAIN)			
N	S507E	20	7'-9"		1'-9"	EXP JT TIE	162	SPREAD 3706 LB			
P	S508E	14	8'-2"		2'-2"	EXP JT TIE	119	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"		4'-5"	PARAPET DWL	340	9900 LB			
Q	S509E	34	6'-11"		3'-1"	F/P4 BAR, DWL	245	245			

h = 24'		PANEL: 6		L=30'-6"		DIMENSIONS AND QUANTITIES					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	26	32'-11"		STR.	LONG T & B	893	SPREAD FOOTING			
B	F502	31	12'-1"		STR.	TRANS BOT	391	b	4'-0"	e	---
C	F1003	31	12'-1"		STR.	TRANS TOP	1612	c	2'-3"	f	---
STEM											
							d	12'-7"	g	4'-2 3/8"	
							a	2'-6"	x	6'-3"	
							j	2'-1 1/8"	z	5'-10"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"		STR.	DOWEL FF	97	QUANTITIES			
E	F905E	31	16'-1"		6'-1"	DOWEL BF	1695	STRUCTURAL CONCRETE (1A43)			
F	F1006E	30	9'-6"		7'-7"	DOWEL BF	1226	(FOOTING)			
G	S401E	31	21'-2"		STR.	VERT FF	438	SPREAD 33.4 CU YD			
H	S702E	31	21'-2"		STR.	VERT BF	1341	VERT FF 438			
J	S803E	30	12'-0"		STR.	VERT BF	961	STRUCTURAL CONCRETE (3Y43)			
K	S504E	31	10'-8"		4'-9"	TIE	345	(STEM)			
L	S405E	48	30'-0"		STR.	HORIZ EF	962	TIE 54.1 CU YD			
M	S506E	20	7'-4"		1'-4"	EXP JT TIE	153	REINFORCEMENT (PLAIN)			
N	S507E	20	7'-9"		1'-9"	EXP JT TIE	162	SPREAD 2895 LB			
P	S508E	8	8'-2"		2'-2"	EXP JT TIE	68	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"		4'-5"	PARAPET DWL	340	7449 LB			
Q	S509E	34	6'-11"		3'-1"	F/P4 BAR, DWL	245	245			

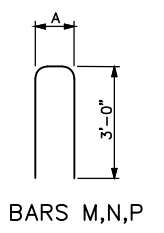
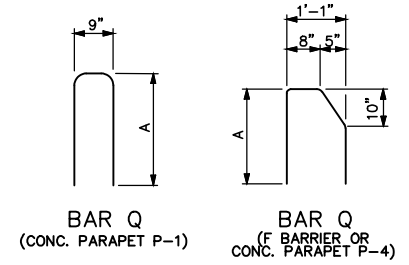
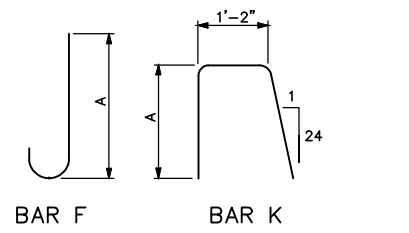
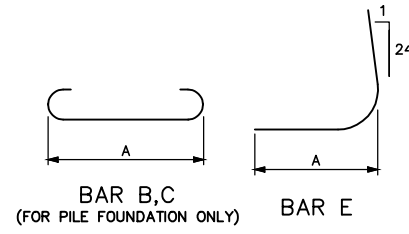
NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W210 REINFORCEMENT 1

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W210-DTL-002**

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h = 19'		PANEL: 7				L=30'-6"					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING				
B	F502	31	9'-6"	STR.	TRANS BOT	307	b	3'-2"	e	---	
C	F903	31	9'-6"	STR.	TRANS TOP	1001	c	1'-9"	f	---	
							d	10'-0"	g	3'-4 1/4"	
STEM											
							a	2'-3 1/2"	x	6'-9"	
							j	1'-10 3/4"	z	3'-3"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				
E	F705E	31	14'-6"	5'-0"	DOWEL BF	919	(FOOTING)				
F	F706E	30	5'-10"	4'-6"	DOWEL BF	358	SPREAD	20.3	CU YD		
G	S401E	31	16'-2"	STR.	VERT FF	335	STRUCTURAL CONCRETE (3Y43)				
H	S502E	31	16'-2"	STR.	VERT BF	523	(STEM)				
J	S603E	30	9'-3"	STR.	VERT BF	417					
K	S504E	31	10'-8"	4'-9"	TIE	345	40.6	CU YD			
L	S405E	38	30'-0"	STR.	HORIZ EF	762	REINFORCEMENT (PLAIN)				
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	2064	LB		
N	S507E	18	7'-9"	1'-9"	EXP JT TIE	145	REINFORCEMENT (EPOXY)				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---					
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	4053	LB			
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245					

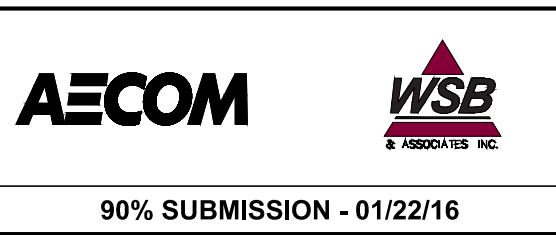
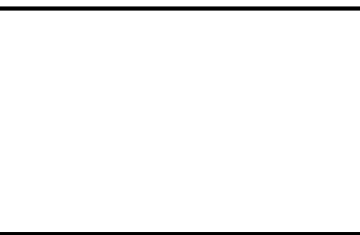
h = 17'		PANEL: 8				L=30'-6"					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	20	32'-11"	STR.	LONG T & B	687	SPREAD FOOTING				
B	F502	31	8'-6"	STR.	TRANS BOT	275	b	2'-9"	e	---	
C	F803	31	8'-6"	STR.	TRANS TOP	704	c	1'-9"	f	---	
							d	9'-0"	g	2'-11 1/4"	
STEM											
							a	2'-2 1/2"	x	3'-1"	
							j	1'-9 7/8"	z	5'-2"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				
E	F605E	31	10'-9"	4'-6"	DOWEL BF	501	(FOOTING)				
F	F706E	30	7'-9"	6'-5"	DOWEL BF	475	SPREAD	18.2	CU YD		
G	S401E	31	14'-2"	STR.	VERT FF	293	STRUCTURAL CONCRETE (3Y43)				
H	S502E	31	14'-2"	STR.	VERT BF	458	(STEM)				
J	S503E	30	8'-9"	STR.	VERT BF	274					
K	S504E	31	10'-8"	4'-9"	TIE	345	35.6	CU YD			
L	S405E	34	30'-0"	STR.	HORIZ EF	681	REINFORCEMENT (PLAIN)				
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1665	LB		
N	S507E	14	7'-9"	1'-9"	EXP JT TIE	113	REINFORCEMENT (EPOXY)				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---					
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	3390	LB			
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245					

h = 16'		PANEL: 9				L=30'-6"					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING				
B	F502	31	8'-0"	STR.	TRANS BOT	259	b	2'-7"	e	---	
C	F703	31	8'-0"	STR.	TRANS TOP	507	c	1'-9"	f	---	
							d	8'-6"	g	2'-9 1/4"	
STEM											
							a	2'-2"	x	2'-1"	
							j	1'-9 1/4"	z	6'-9"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				
E	F605E	31	9'-9"	4'-4"	DOWEL BF	454	(FOOTING)				
F	F706E	30	9'-4"	8'-0"	DOWEL BF	572	SPREAD	17.2	CU YD		
G	S401E	31	13'-2"	STR.	VERT FF	273	STRUCTURAL CONCRETE (3Y43)				
H	S502E	31	13'-2"	STR.	VERT BF	426	(STEM)				
J	S503E	---	---	---	---	---					
K	S504E	31	10'-8"	4'-9"	TIE	345	33.1	CU YD			
L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)				
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1384	LB		
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	REINFORCEMENT (EPOXY)				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---					
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	3058	LB			
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245					

h = 12'		PANEL: 10				L=30'-6"					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING				
B	F502	31	8'-0"	STR.	TRANS BOT	259	b	2'-7"	e	---	
C	F603	31	8'-0"	STR.	TRANS TOP	372	c	1'-5"	f	---	
							d	8'-6"	g	2'-9 1/4"	
STEM											
							a	2'-0"	x	2'-1"	
							j	1'-7 3/8"	z	2'-3"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)				
E	F505E	31	8'-1"	4'-2"	DOWEL BF	261	(FOOTING)				
F	F506E	30	4'-3"	3'-2"	DOWEL BF	133	SPREAD	14.0	CU YD		
G	S401E	31	9'-2"	STR.	VERT FF	190	STRUCTURAL CONCRETE (3Y43)				
H	S502E	31	9'-2"	STR.	VERT BF	296	(STEM)				
J	S503E	---	---	---	---	---					
K	S504E	31	10'-8"	4'-9"	TIE	345	23.7	CU YD			
L	S405E	24	30'-0"	STR.	HORIZ EF	481	REINFORCEMENT (PLAIN)				
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1249	LB		
N	S507E	4	7'-9"	1'-9"	EXP JT TIE	32	REINFORCEMENT (EPOXY)				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---					
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	1989	LB			
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245					

h = 11'		PANEL: 11				L=26'-1 1/8"					
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES				
SPREAD FOOTING REINFORCEMENT											
A	F501	18	28'-7"	STR.	LONG T & B	537	SPREAD FOOTING				
B	F502	27	8'-0"	STR.	TRANS BOT	226	b	2'-7"	e	---	
C	F503	27	8'-0"	STR.	TRANS TOP	226	c	1'-5"	f	---	
							d	8'-6"	g	2'-9 1/4"	
STEM											
							a	1'-11 1/2"	x	2'-1"	
							j	1'-6 7/8"	z	2'-3"	
FOOTING DOWELS & STEM REINFORCEMENT											
D	F504E	27	3'-0"	STR.	DOWEL FF	85	STRUCTURAL CONCRETE (1A43)				
E	F505E	27	7'-10"	4'-1"	DOWEL BF	221	(FOOTING)				
F	F506E	26	4'-3"	3'-2"	DOWEL BF	116	SPREAD	12.0	CU YD		
G	S401E	27	8'-2"	STR.	VERT FF	148	STRUCTURAL CONCRETE (3Y43)				
H	S502E	27	8'-2"	STR.	VERT BF	230	(STEM)				
J	S503E	---	---	---	---	---					
K	S504E	27	10'-8"	4'-9"	TIE	301	18.3	CU YD			
L	S405E	22	25'-8"	STR.	HORIZ EF	418	REINFORCEMENT (PLAIN)				
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	989	LB		
N	S507E	2	7'-9"	1'-9"	EXP JT TIE	16	REINFORCEMENT (EPOXY)				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---					
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	1688	LB			
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245					

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



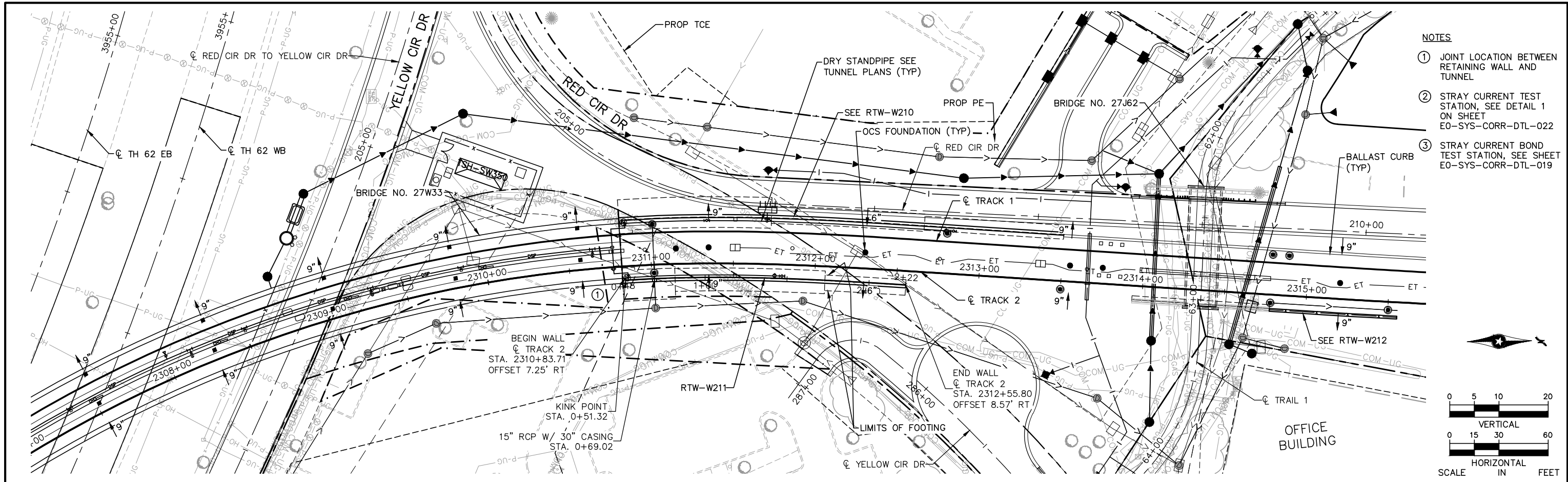
## CIVIL - VOLUME 6 RETAINING WALLS RTW-W210 REINFORCEMENT 2

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W210-DTL-003**

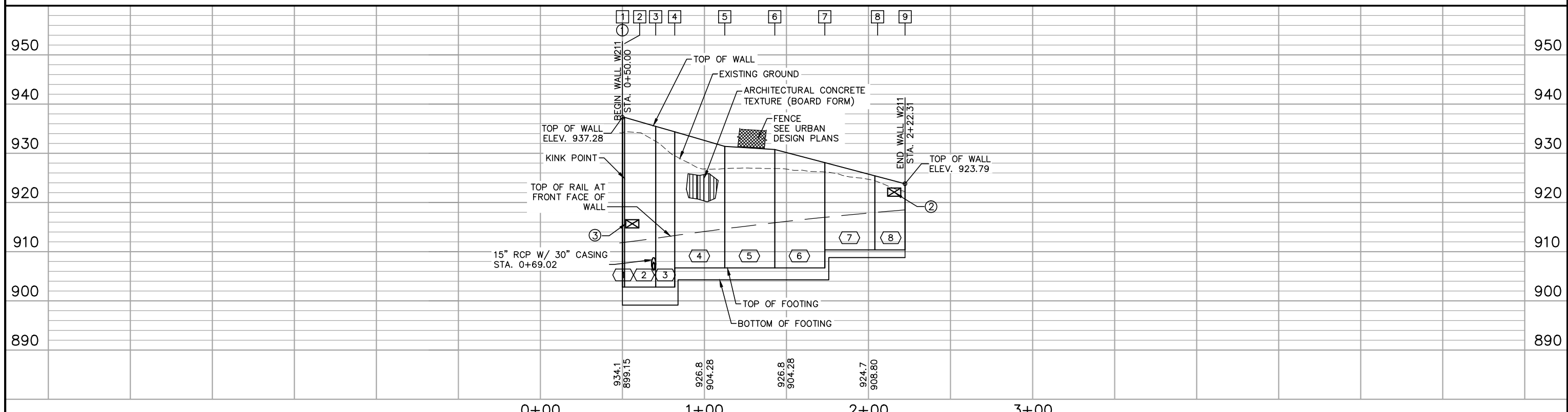
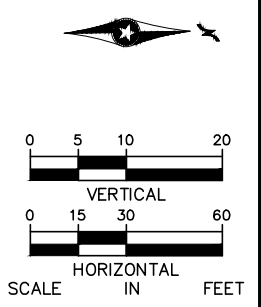
SHEET  
59  
OF  
271

90% SUBMISSION - 01/22/16

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- NOTES**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL
  - ② STRAY CURRENT TEST STATION, SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022
  - ③ STRAY CURRENT BOND TEST STATION, SEE SHEET EO-SYS-CORR-DTL-019



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

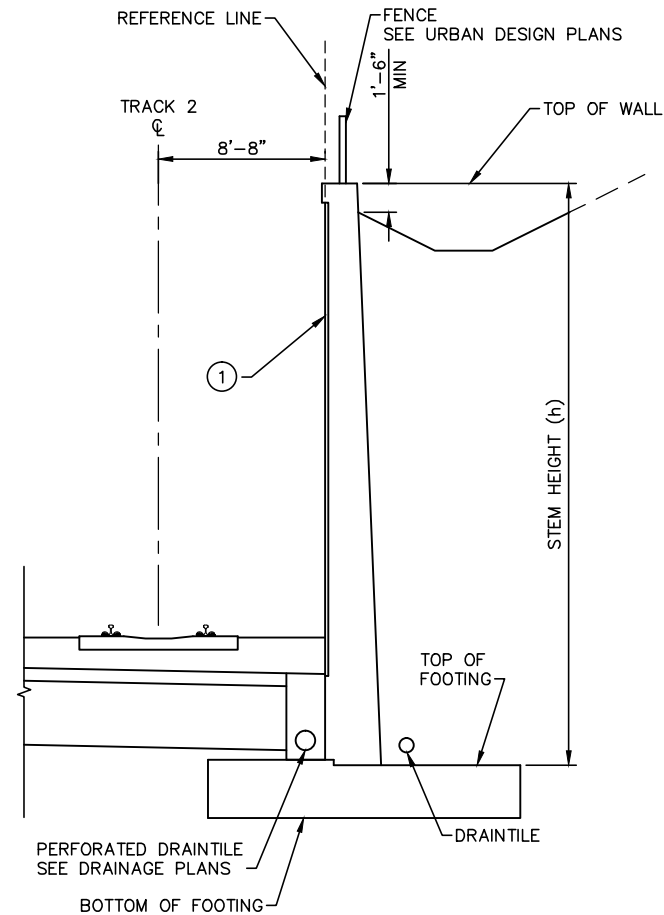
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**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W211 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W211-PL**

SHEET **60**  
OF  
**271**

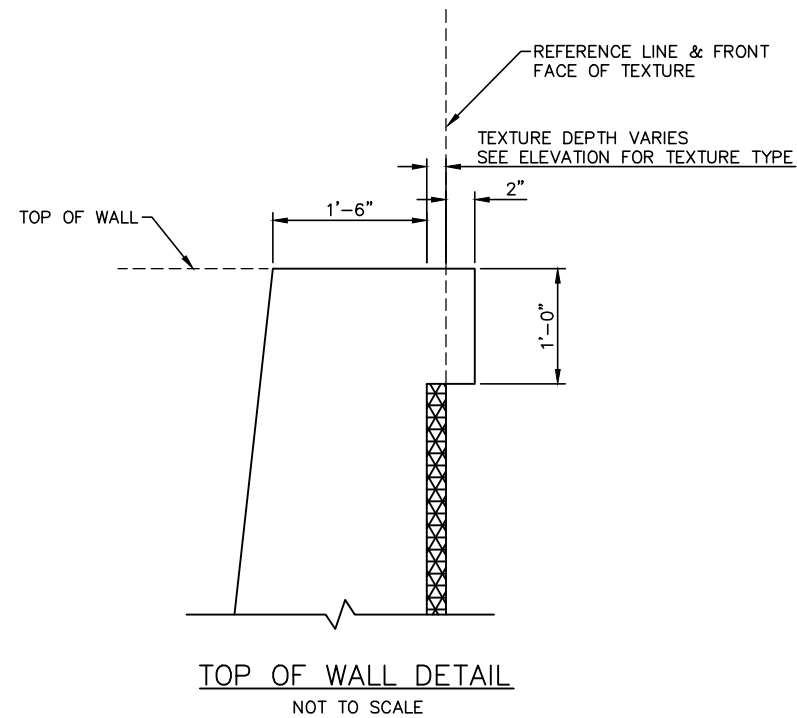
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- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. EPOXY COATED REBAR IN STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W211 SECTION**  
NOT TO SCALE

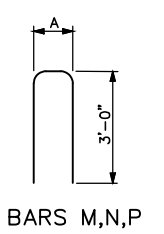
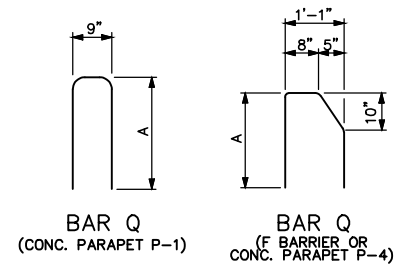
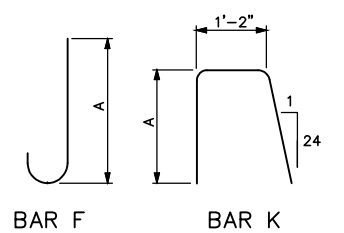
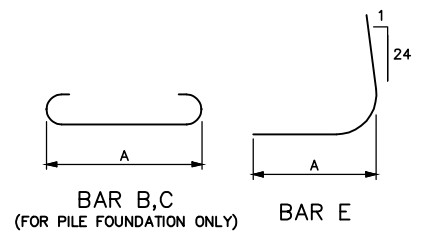
RTW-W211 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	1-3 7/8"	00+50.00	1	EJ	137293.238	492038.528	-	899.15	-	902.82	-	937.28	-	34-5 1/2"	35'
		00+51.32	2	CJ	137293.295	492039.850	899.15	899.15	902.82	902.82	937.28	937.29	34-5 1/2"	34-5 5/8"	
2	18-11 1/8"	00+70.25	3	CJ	137312.216	492039.271	899.15	899.15	902.82	902.82	937.29	935.46	34-5 5/8"	32-7 5/8"	35'
		00+81.82	4	EJ	137323.733	492039.138	899.15	899.15	902.82	902.82	935.46	934.35	32-7 5/8"	31-6 3/8"	
3	30-6"	01+12.32	5	CJ	137354.133	492039.506	899.15	904.28	902.82	906.70	934.35	931.41	31-6 3/8"	24-8 1/2"	32'
		01+42.82	6	CJ	137384.571	492040.751	904.28	904.28	906.70	906.70	931.41	930.76	24-8 1/2"	24-0 3/4"	
4	30-6"	01+73.32	7	EJ	137415.033	492042.667	904.28	904.28	906.70	906.70	930.76	928.09	24-0 3/4"	21-4 5/8"	25'
		02+05.52	8	CJ	137447.218	492045.183	904.28	908.80	906.70	910.38	928.09	925.26	21-4 5/8"	14-10 1/2"	
5	32-2 3/8"	02+22.31	9	-	137464.019	492046.617	908.80	-	910.38	-	925.26	-	14-10 1/2"	-	22'



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

				<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W211 GEOMETRY</b></p>	<p><b>SHEET</b> 61 <b>OF</b> 271</p>
<p><b>90% SUBMISSION - 01/22/16</b></p>				<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W211-DTL-001</b></p>

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PANEL 1: h=35' L=1'-3 7/8". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 2: h=35' L=18'-11 1/8". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 3: h=35' L=11'-6 7/8". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 4: h=32' L=30'-6". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 5, 6: h=25' L=30'-6". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 7: h=22' L=32'-3 3/8". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

PANEL 8: h=15' L=16'-9 1/2". Table with columns: BAR, MARK, NO., LENGTH, A, LOCATION, WT, DIMENSIONS AND QUANTITIES. Rows include SPREAD FOOTING REINFORCEMENT (STR. LONG T & B, STR. TRANS BOT, STR. TRANS TOP), STEM (a, x, j, z), FOOTING DOWELS & STEM REINFORCEMENT, QUANTITIES (STRUCTURAL CONCRETE (1A43), (FOOTING), SPREAD, PILE, STRUCTURAL CONCRETE (3Y43), (STEM), REINFORCEMENT (PLAIN), SPREAD, PILE, REINFORCEMENT (EPOXY)).

Revision table with columns: NO., DATE, BY, CHECK, DESIGN, REVISION / SUBMITTAL. Contains a grid for tracking design changes.



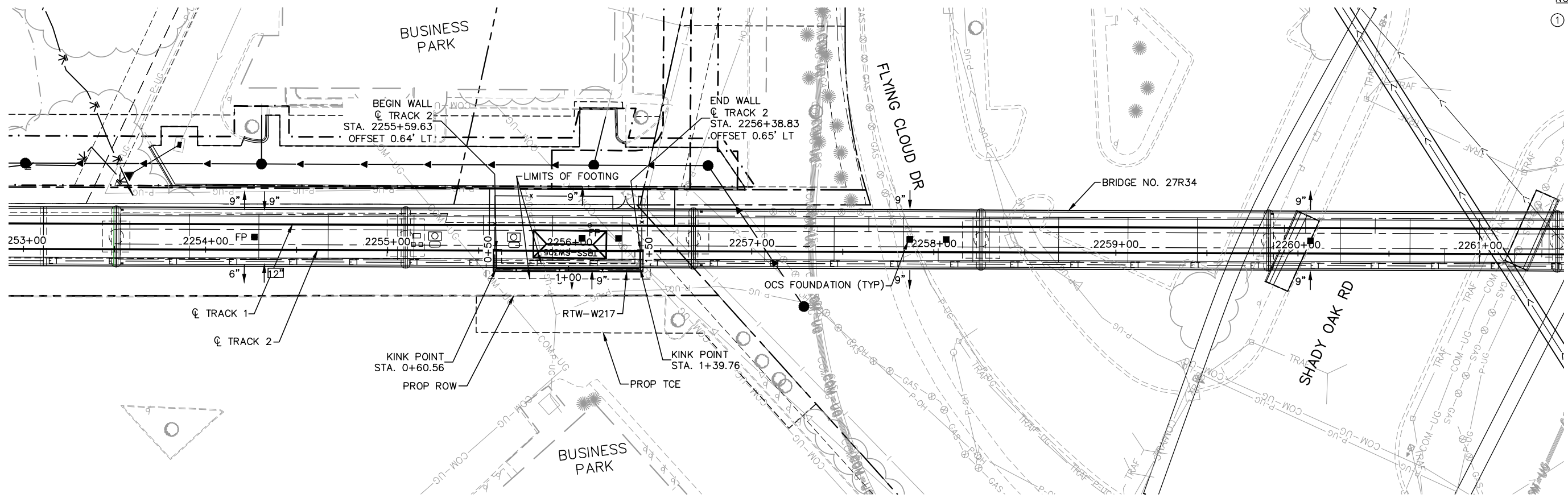
CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W211 REINFORCEMENT

90% SUBMISSION - 01/22/16

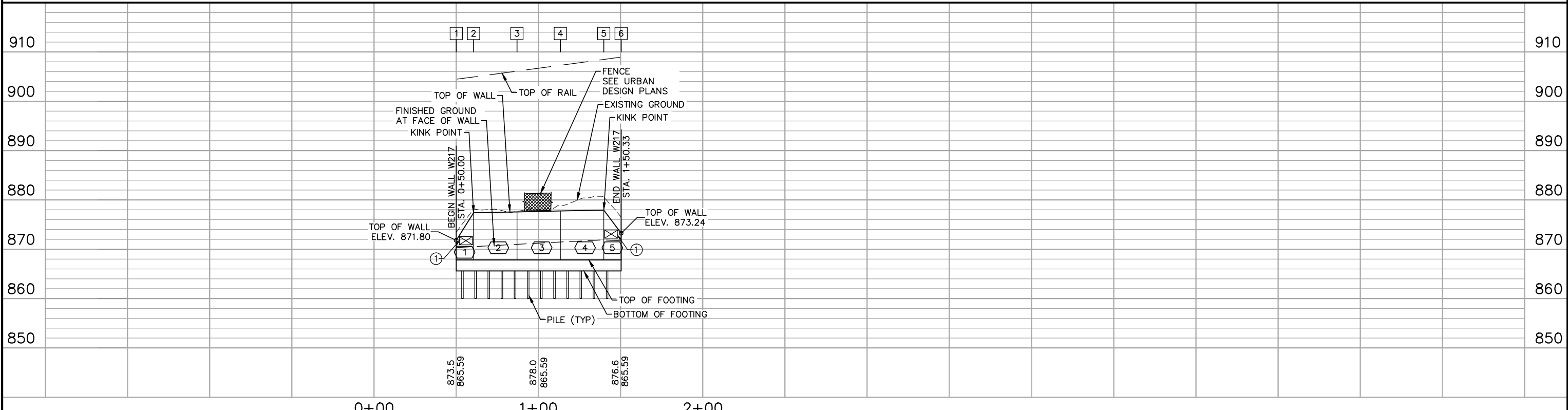
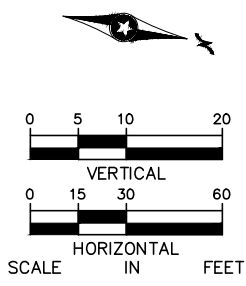
DISCIPLINE: STRUCTURES SHEET NAME: RTW-W211-DTL-002

SHEET  
62  
OF  
271

Jan. 17 2016 08:35 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W217.dwg By: V-NutzmaML



**NOTES**  
 ① STRAY CURRENT TEST STATION, SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W217 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W217-PL**

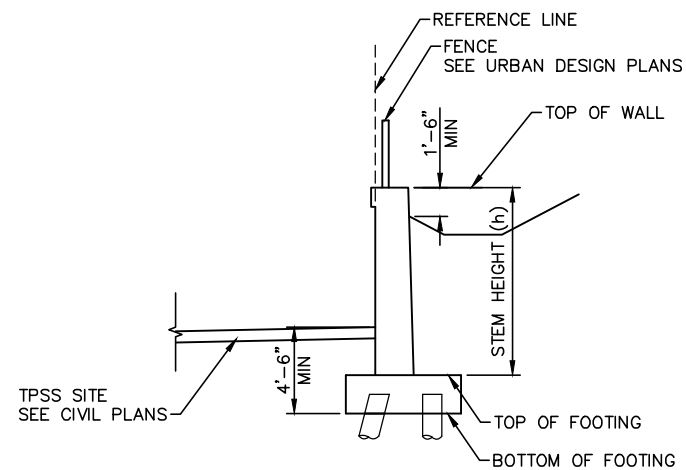
**SHEET**

63

OF

271

Jan. 17 2016 08:35 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W217-DTL.dwg By: V-NutzmaML

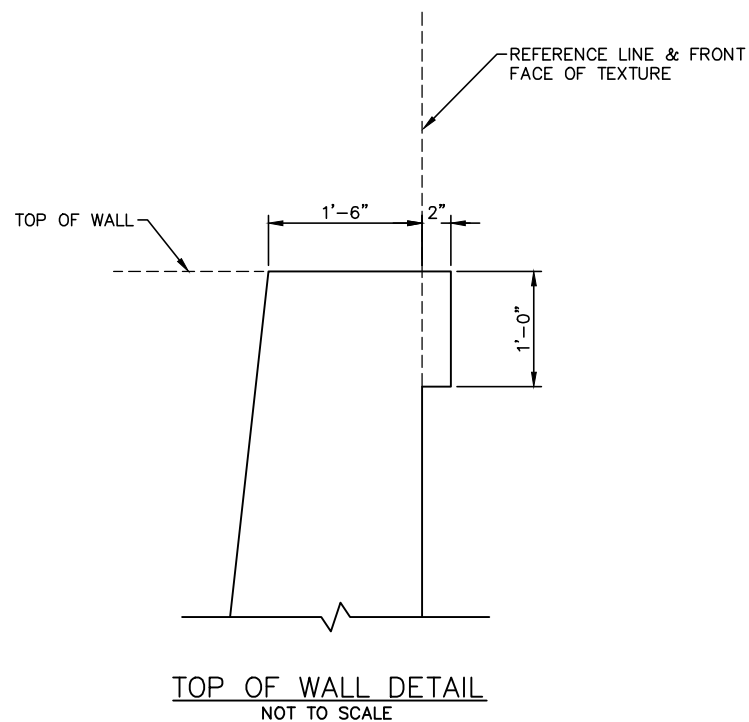


**NOTES**

1. RETAINING WALL TO BE CIP CONCRETE ON 12" PIPE PILES
2. PILE ROWS AND PILE SPACING VARIES
3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W217
4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W217 SECTION**  
NOT TO SCALE


RTW-W217 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	10'-6 3/4"	00+50.00	1	EJ	132537.22	492837.52	-	865.59	-	867.84	-	871.80	-	3'-11 1/2"	10'
		00+60.56	2	CJ	132539.01	492847.93	865.59	865.59	867.84	867.84	871.80	877.39	3'-11 1/2"	9'-6 5/8"	
2	26'-4 3/4"	00+86.96	3	EJ	132565.02	492843.45	865.59	865.59	867.84	867.84	877.39	877.57	9'-6 5/8"	9'-8 3/4"	10'
		01+13.36	4	CJ	132591.04	492838.97	865.59	865.59	867.84	867.84	877.57	877.76	9'-8 3/4"	9'-11"	
3	26'-4 3/4"	01+39.76	5	CJ	132617.06	492834.49	865.59	865.59	867.84	867.84	877.76	877.94	9'-11"	10'-1 1/4"	11'
		01+50.33	6	EJ	132615.28	492824.07	865.59	-	867.84	-	877.94	-	10'-1 1/4"	-	



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL









**90% SUBMISSION - 01/22/16**

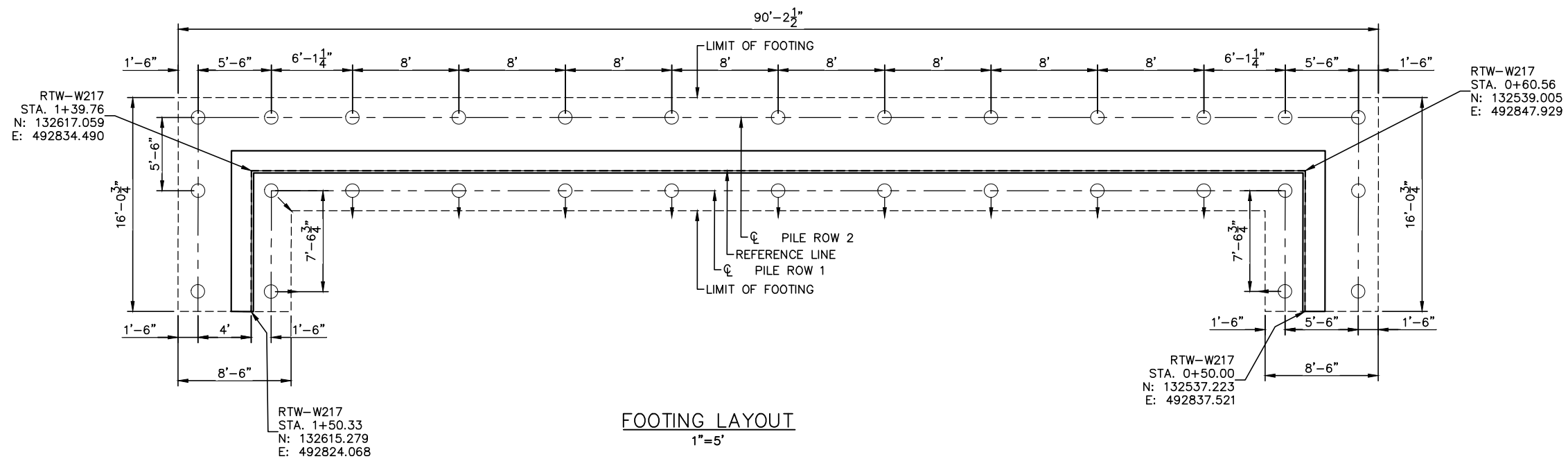
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W217 GEOMETRY**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W217-DTL-001</b>
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**SHEET**  
64  
**OF**  
271




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**GENERAL PILE NOTES:**


1. 14 HP 12X53 STEEL PILES XX FT. LENGTH
2. ALL PILES TO BE HP 12X53 WITH PILE TIP PROTECTION
3. PILE SPACING IS SHOWN AT BOTTOM OF FOOTING
4. PILES MARKED WITH AN ARROW ARE TO BE BATTERED 3" PER FOOT IN DIRECTION SHOWN
5. FOR PILE SPLICE DETAILS SEE SHEET XXX

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL









**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

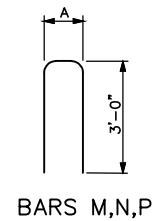
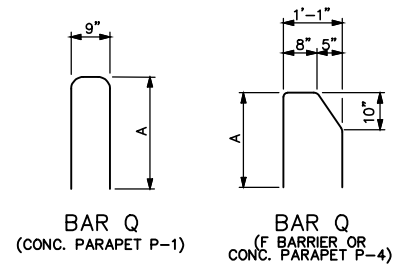
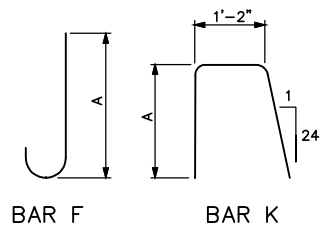
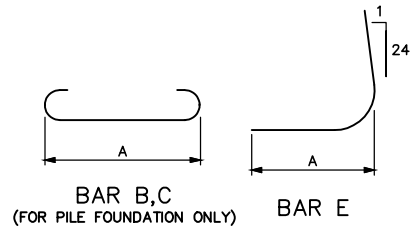
**RETAINING WALLS**

**RTW-W217 PILE DETAILS**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W217-DTL-002</b>
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SHEET  
65  
OF  
271

Jan, 18 2016 08:31 pm V:\3400\_ADC\CAD\SEGMENT W2-STU-RTW\RTW-W217-DTL.dwg By: V-NutzmaML



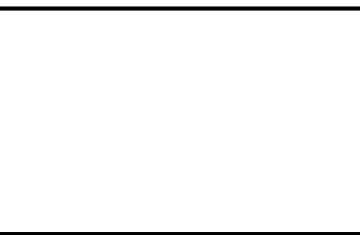
		h = 10'		L = 10'-6 3/4"		PANEL: 1				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
PILE FOUNDATION REINFORCEMENT										
A	F801	14	15'-5"	STR.	LONG T & B	577	PILE FOUNDATION			
B	F502	11	6'-8"	5'-6"	TRANS BOT	77	b	1'-9"	d	6'-0"
C	F503	11	6'-8"	5'-6"	TRANS TOP	77	c	2'-0"	g	1'-11 1/4"
STEM										
							a	1'-11"	x	2'-1"
							j	1'-6 3/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	11	3'-0"	STR.	DOWEL FF	35	QUANTITIES			
E	F505E	11	4'-4"	10"	DOWEL BF	50	STRUCTURAL CONCRETE (1A43)			
F	F506E	---	---	---	DOWEL BF	---	(FOOTING)			
G	S401E	11	7'-2"	STR.	VERT FF	53	PILE	4.8	CU YD	
H	S502E	11	7'-2"	STR.	VERT BF	83	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	---	VERT BF	---	(STEM)			
K	S504E	11	10'-8"	4'-9"	TIE	123	6.7	CU YD		
L	S405E	20	10'-1"	STR.	HORIZ EF	135	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153				
N	S507E	---	7'-9"	1'-9"	EXP JT TIE	---	PILE	731	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
							632	LB		

		h = 11'		L = 10'-6 7/8"		PANEL: 5				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
PILE FOUNDATION REINFORCEMENT										
A	F801	14	15'-5"	STR.	LONG T & B	577	PILE FOUNDATION			
B	F502	11	6'-8"	5'-6"	TRANS BOT	77	b	1'-9"	d	6'-0"
C	F503	11	6'-8"	5'-6"	TRANS TOP	77	c	2'-0"	g	1'-11 1/4"
STEM										
							a	1'-11 1/2"	x	2'-1"
							j	1'-6 7/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	11	3'-0"	STR.	DOWEL FF	35	QUANTITIES			
E	F505E	11	6'-10"	3'-4"	DOWEL BF	79	STRUCTURAL CONCRETE (1A43)			
F	F506E	---	---	---	DOWEL BF	---	(FOOTING)			
G	S401E	11	8'-2"	STR.	VERT FF	61	PILE	4.8	CU YD	
H	S502E	11	8'-2"	STR.	VERT BF	94	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	---	VERT BF	---	(STEM)			
K	S504E	11	10'-8"	4'-9"	TIE	123	7.4	CU YD		
L	S405E	22	10'-1"	STR.	HORIZ EF	149	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153				
N	S507E	2	7'-9"	1'-9"	EXP JT TIE	16	PILE	731	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
							710	LB		


		h = 10'		L = 26'-4 3/4"		PANEL: 2, 3				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
PILE FOUNDATION REINFORCEMENT										
A	F801	14	31'-3"	STR.	LONG T & B	1169	PILE FOUNDATION			
B	F502	27	6'-8"	5'-6"	TRANS BOT	188	b	1'-9"	d	6'-0"
C	F503	27	6'-8"	5'-6"	TRANS TOP	188	c	2'-0"	g	1'-11 1/4"
STEM										
							a	1'-11"	x	2'-1"
							j	1'-6 3/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	27	3'-0"	STR.	DOWEL FF	85	QUANTITIES			
E	F505E	27	4'-4"	10"	DOWEL BF	123	STRUCTURAL CONCRETE (1A43)			
F	F506E	---	---	---	DOWEL BF	---	(FOOTING)			
G	S401E	27	7'-2"	STR.	VERT FF	130	PILE	12.0	CU YD	
H	S502E	27	7'-2"	STR.	VERT BF	202	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	---	VERT BF	---	(STEM)			
K	S504E	27	10'-8"	4'-9"	TIE	301	16.7	CU YD		
L	S405E	20	25'-11"	STR.	HORIZ EF	135	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153				
N	S507E	---	7'-9"	1'-9"	EXP JT TIE	---	PILE	1545	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
							1129	LB		

		h = 11'		L = 26'-4 3/4"		PANEL: 4				
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
PILE FOUNDATION REINFORCEMENT										
A	F801	14	31'-3"	STR.	LONG T & B	1169	PILE FOUNDATION			
B	F502	27	6'-8"	5'-6"	TRANS BOT	188	b	1'-9"	d	6'-0"
C	F503	27	6'-8"	5'-6"	TRANS TOP	188	c	2'-0"	g	1'-11 1/4"
STEM										
							a	1'-11 1/2"	x	2'-1"
							j	1'-6 7/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	27	3'-0"	STR.	DOWEL FF	85	QUANTITIES			
E	F505E	27	6'-10"	3'-4"	DOWEL BF	193	STRUCTURAL CONCRETE (1A43)			
F	F506E	---	---	---	DOWEL BF	---	(FOOTING)			
G	S401E	27	8'-2"	STR.	VERT FF	148	PILE	12.0	CU YD	
H	S502E	27	8'-2"	STR.	VERT BF	230	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	---	VERT BF	---	(STEM)			
K	S504E	27	10'-8"	4'-9"	TIE	301	18.6	CU YD		
L	S405E	22	25'-11"	STR.	HORIZ EF	381	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153				
N	S507E	2	7'-9"	1'-9"	EXP JT TIE	16	PILE	1545	LB	
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
							1507	LB		

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL








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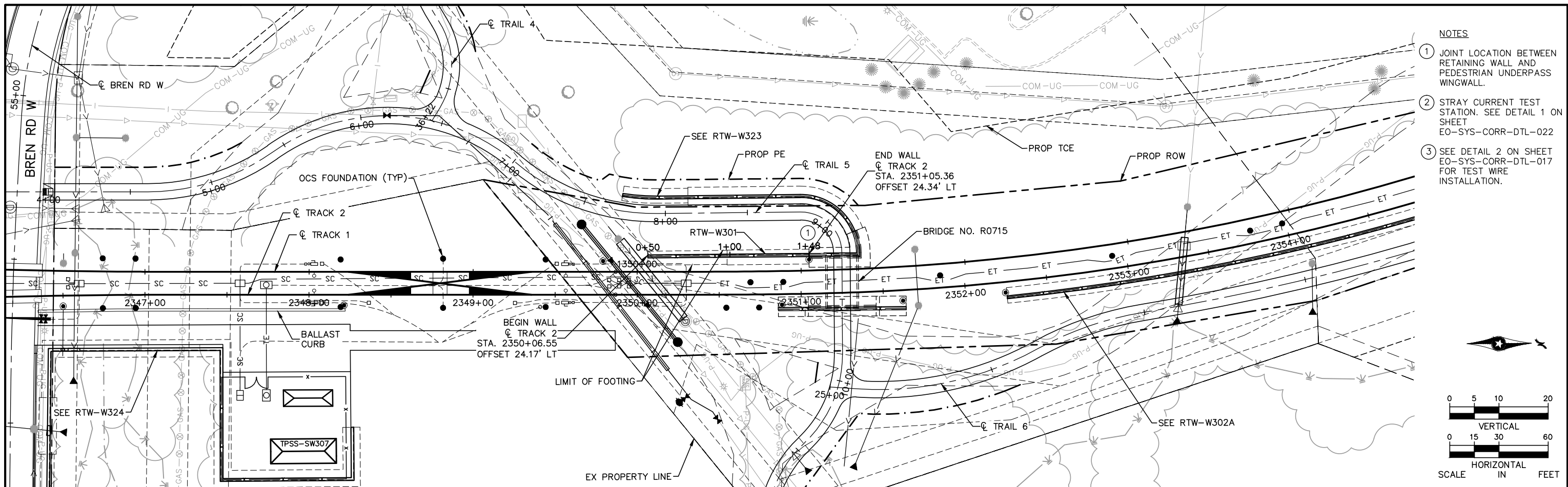
**CIVIL - VOLUME 6**

**RETAINING WALLS**

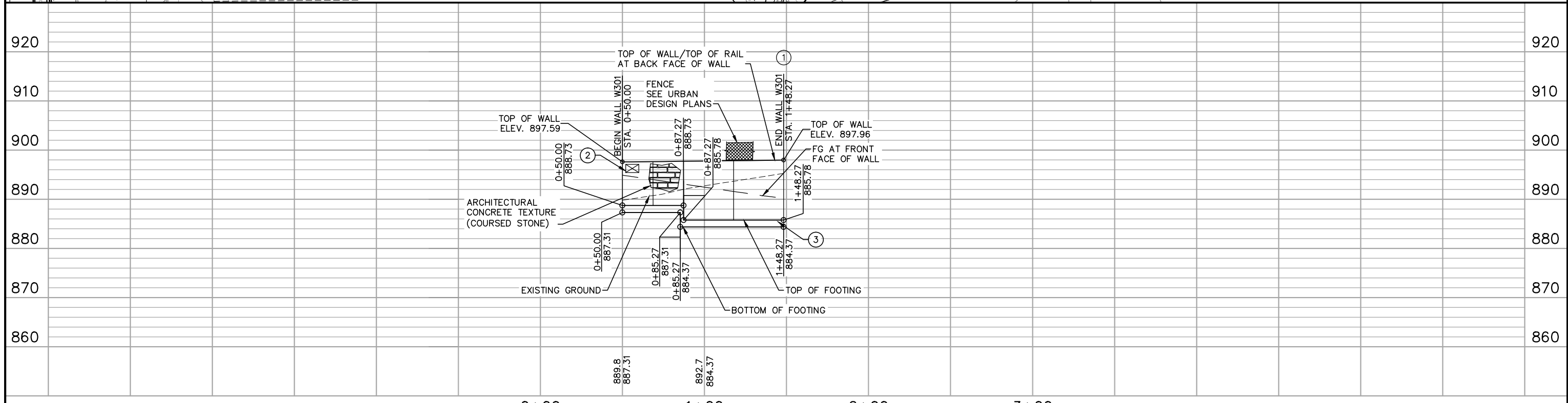
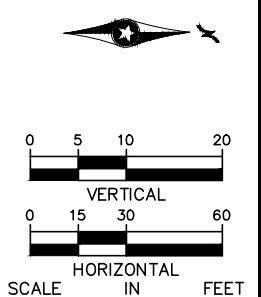
**RTW-W217 REINFORCEMENT**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W217-DTL-003</b>
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Jan, 18 2016 08:58 am V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W301.dwg By: V-NutzmaML



- NOTES**
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND PEDESTRIAN UNDERPASS WINGWALL.
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022
  - 3 SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST Green Line Light Extension**

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

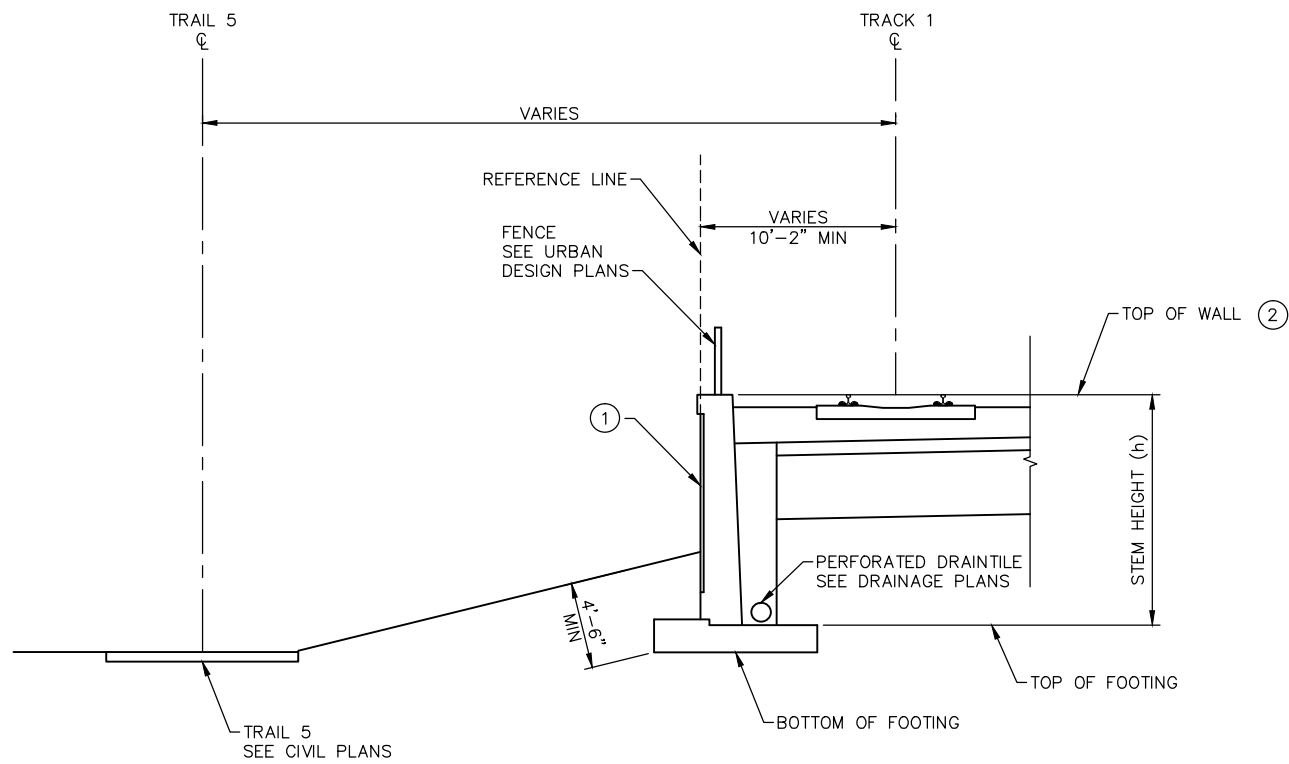
**RTW-W301 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W301-PL**

**SHEET 67 OF 271**

Jan, 17 2016 08:42 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW\RTW-W301-DTL.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>s</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
- 3. RETAINING WALL TO BE CIP WALL ON SPREAD FOOTING
- 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W301
- 5. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W301 SECTION**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

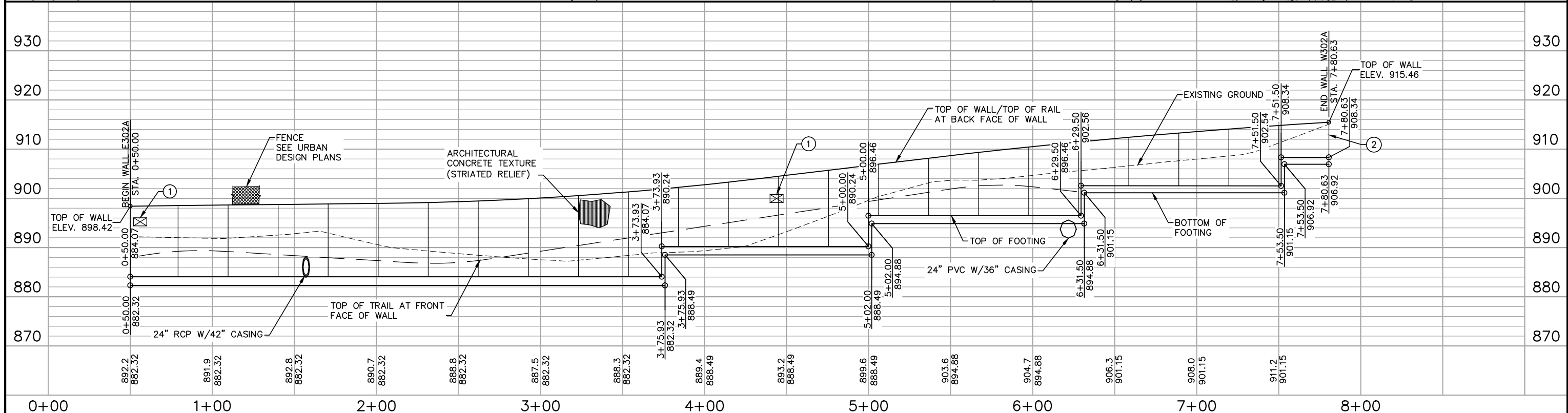
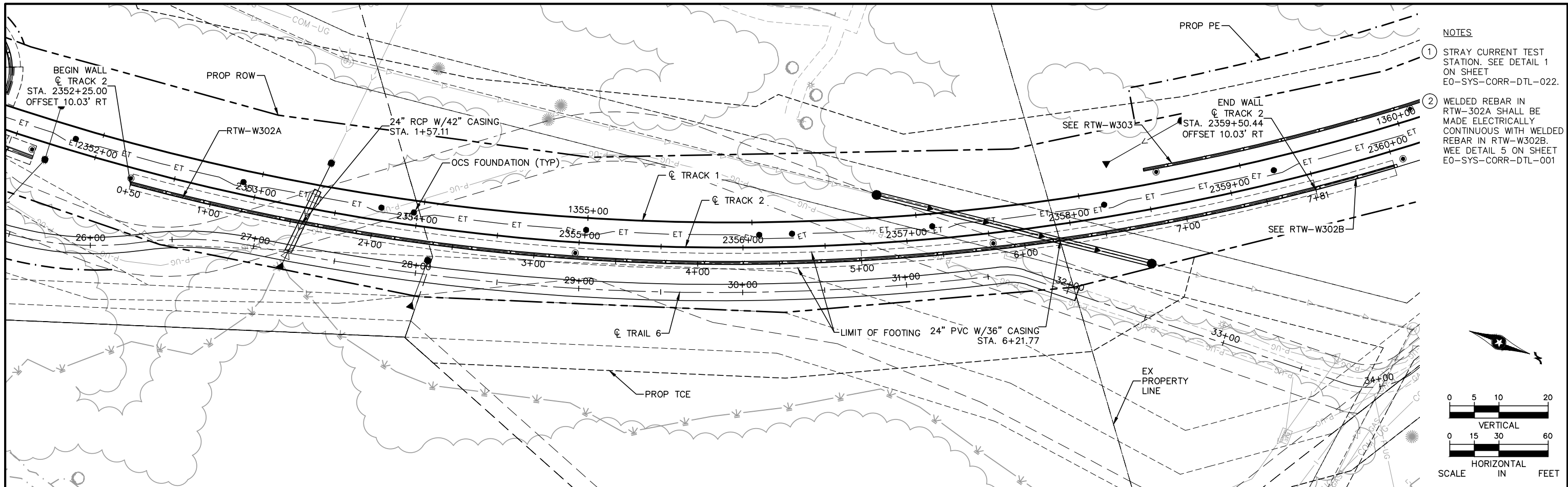



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W301 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W301-DTL**

SHEET  
68  
OF  
271

Jan. 17 2016 08:46 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W302A.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



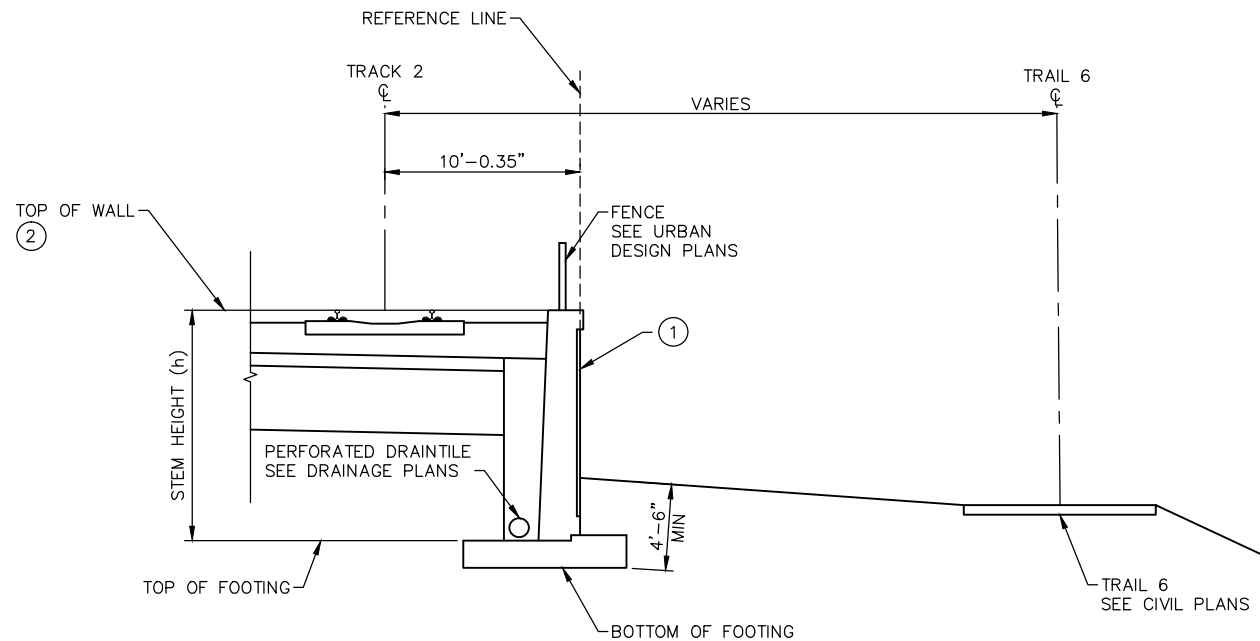
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**RETAINING WALLS**  
**RTW-W302A PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W302A-PL**

90% SUBMISSION - 01/22/16

**SHEET**  
 69  
 OF  
 271

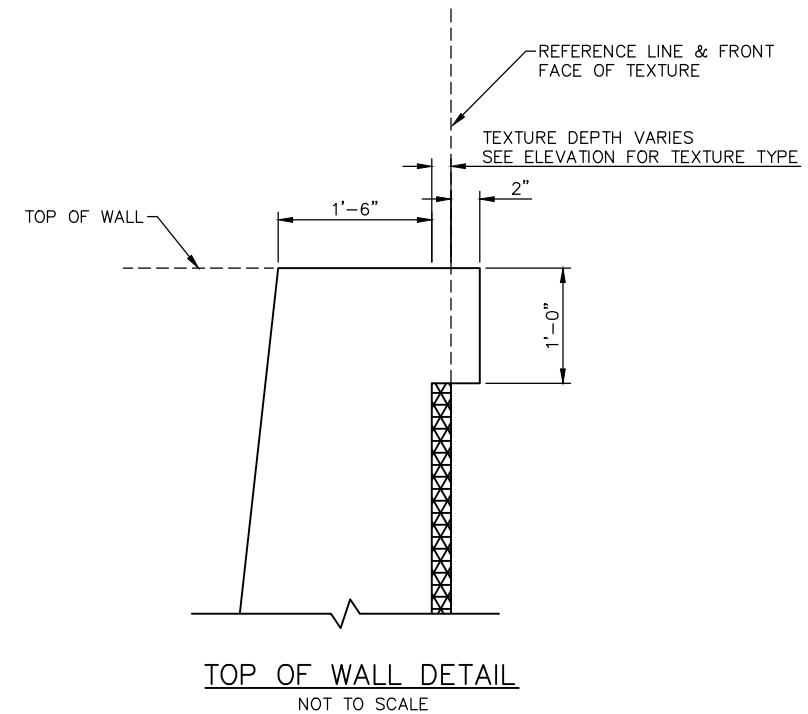
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**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL
- 3. RETAINING WALL TO BE CIP WALL ON SPREAD FOOTING
- 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W302A
- 5. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W302A SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

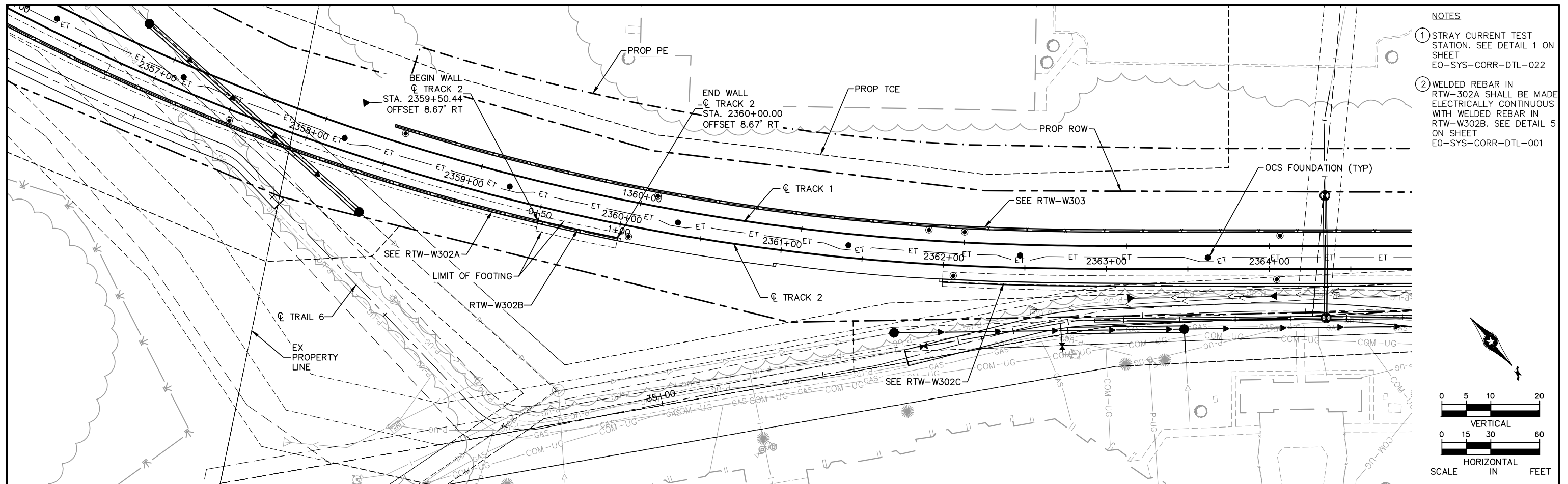



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W302A GEOMETRY**

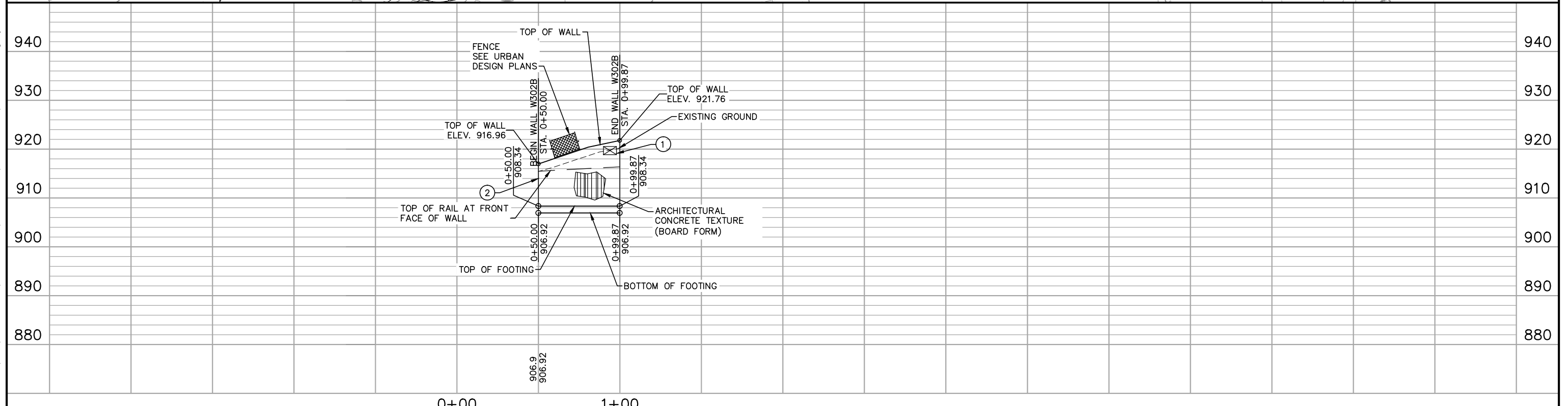
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W302A-DTL**

SHEET  
70  
OF  
271

Jan 17 2016 08:52 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W302B.dwg By: V-NutzmaML



- NOTES**
- ① STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022
  - ② WELDED REBAR IN RTW-302A SHALL BE MADE ELECTRICALLY CONTINUOUS WITH WELDED REBAR IN RTW-W302B. SEE DETAIL 5 ON SHEET E0-SYS-CORR-DTL-001



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

0+00                      1+00

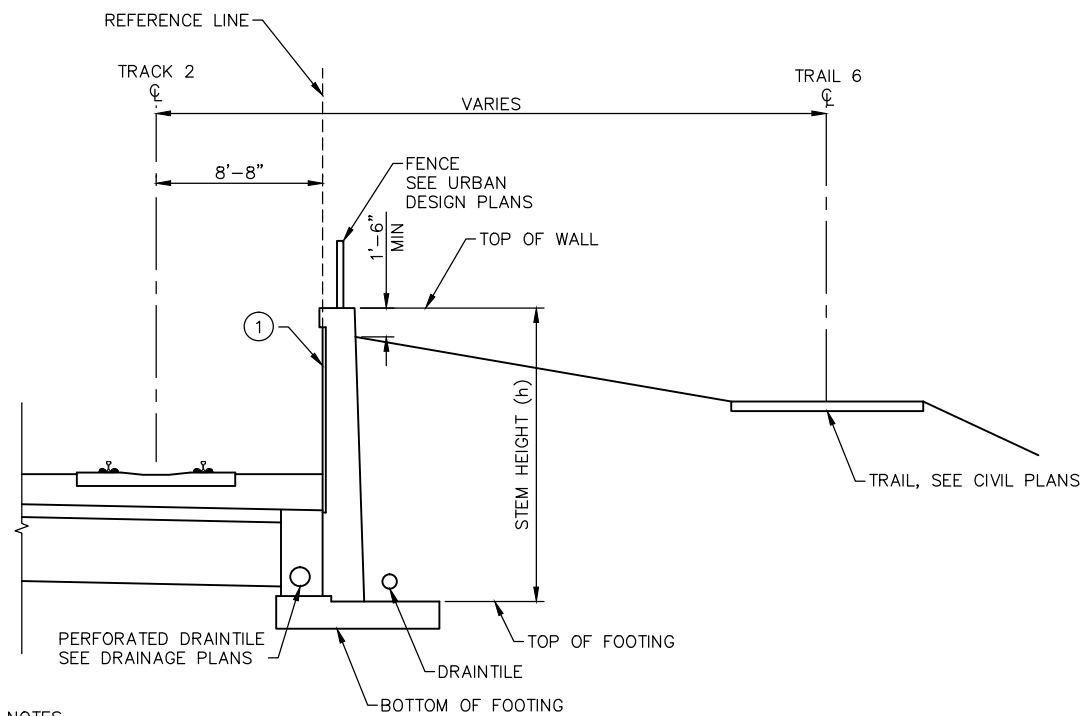
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W302B PLAN AND ELEVATION**

DISCIPLINE: STRUCTURES      SHEET NAME: RTW-W302B-PL

SHEET 71 OF 271

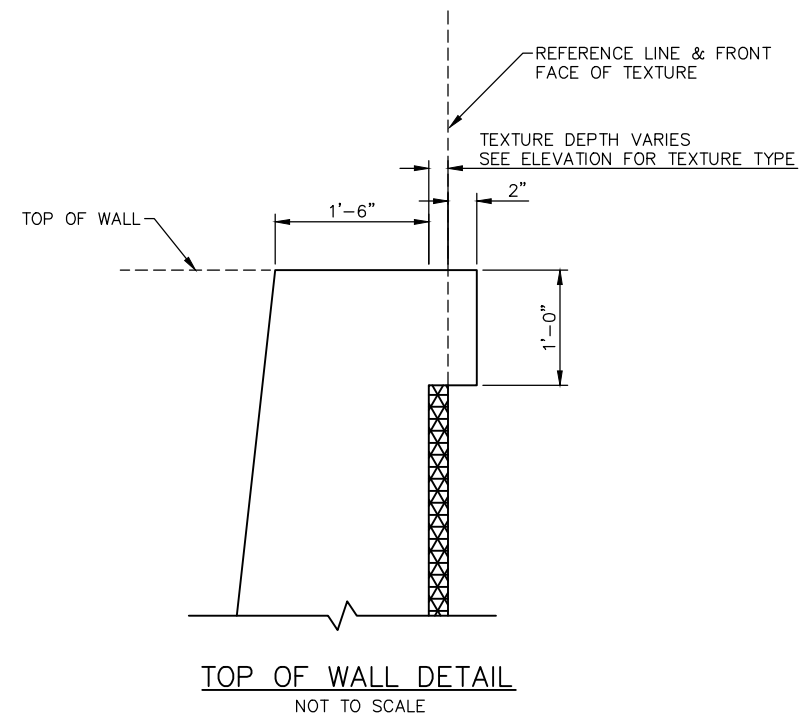
Jan, 17 2016 08:53 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W302-DTL.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W302B
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W302B SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16



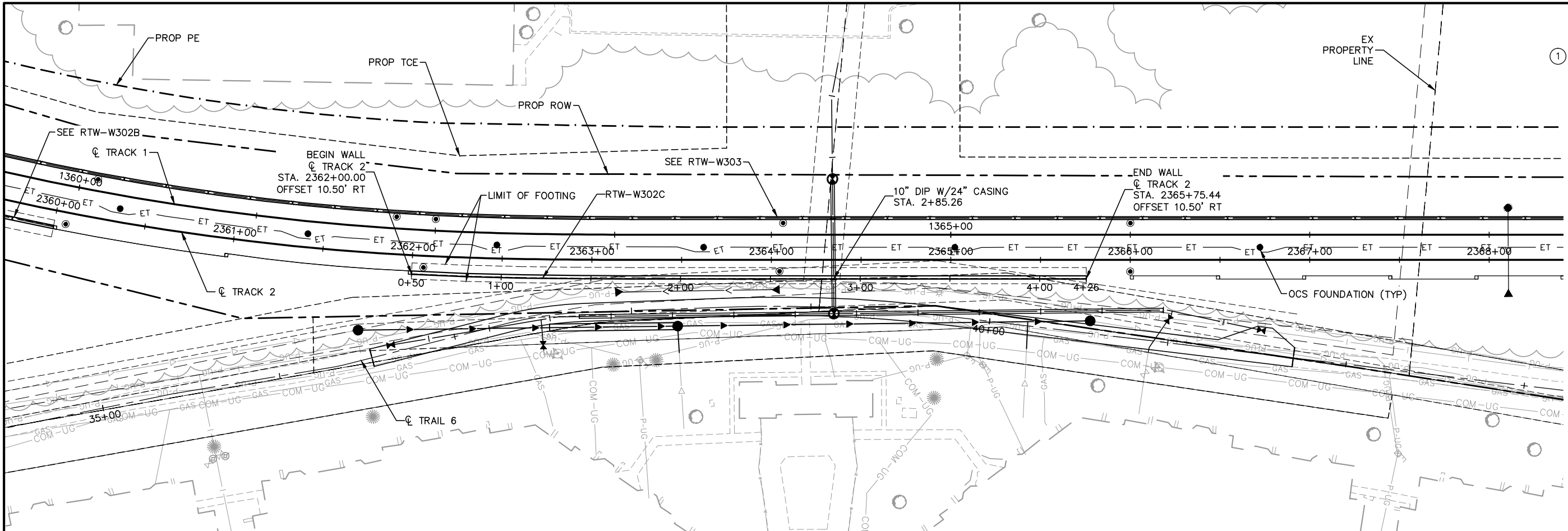

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W302B GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W302B-DTL**

**SHEET**  
72  
**OF**  
271

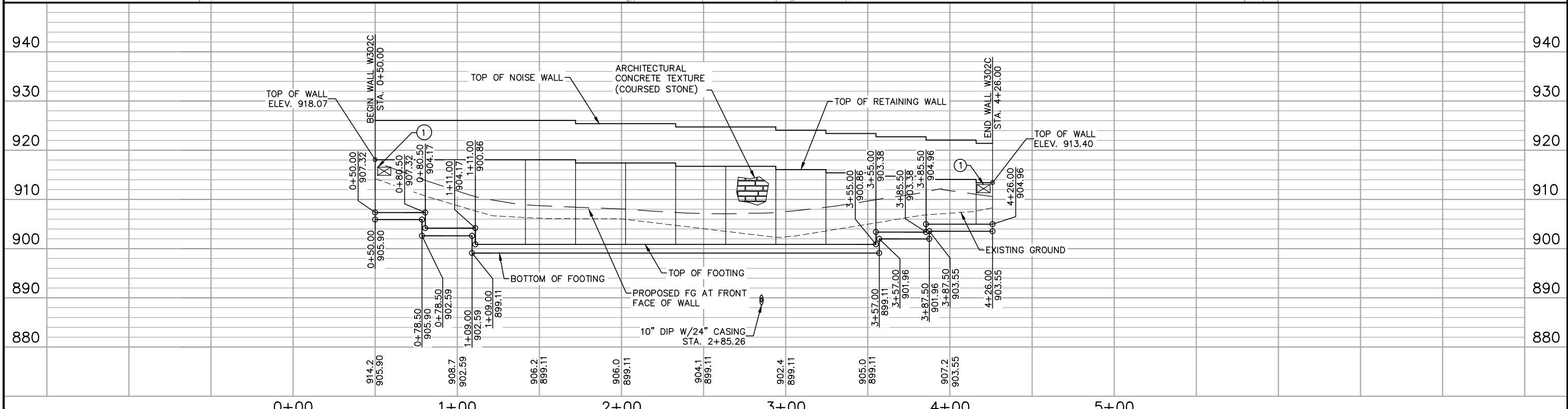
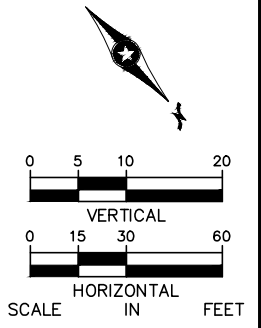


Jan 18 2016 09:13 am V:\3400\_ADC\CAD\SEGMENT W3\PLN SHEETS\STRUCTURES\W3-STU-RTW-W302C.dwg By: V-NutzmaML

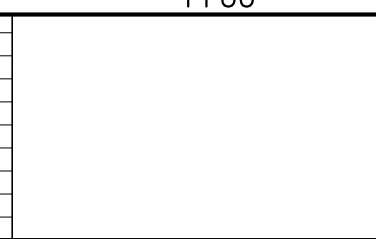


NOTES

① STRAY CURRENT TEST STATION. SEE DETAILS 1 ON SHEET E0-SYS-CORR-DTL-022



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

90% SUBMISSION - 01/22/16

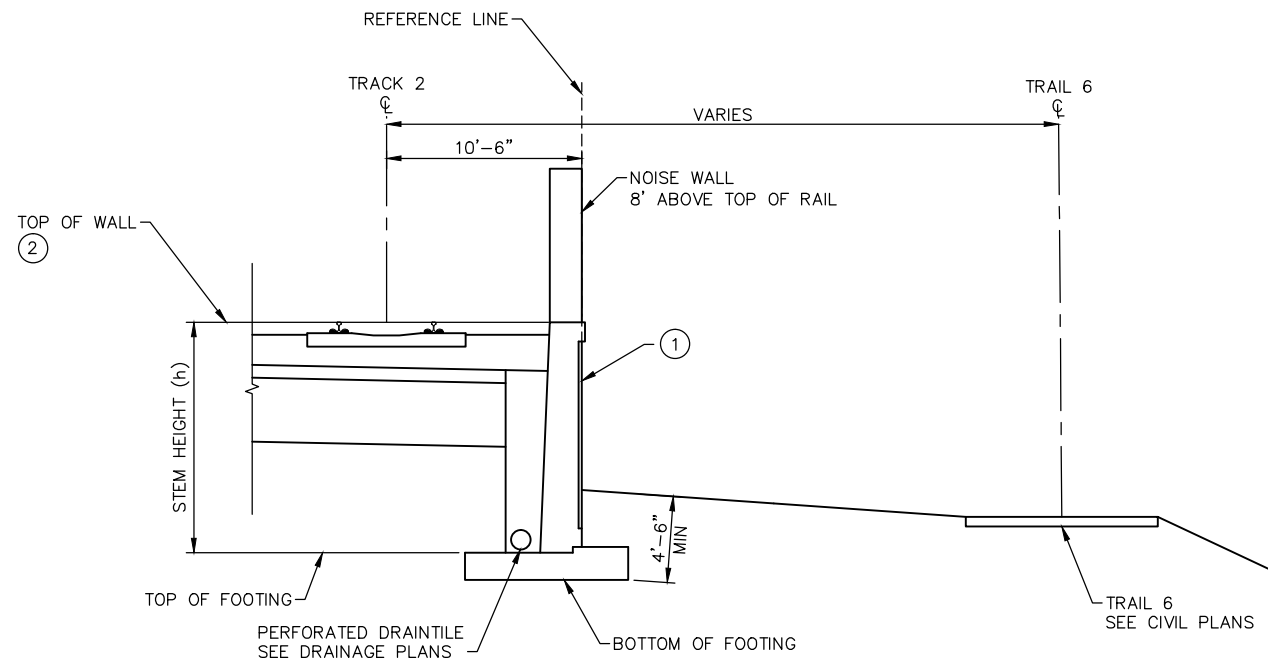
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W302C PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W302C-PLE**

SHEET  
73  
OF  
271

Jan, 18 2016 09:52 am V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-RTW-W302-DTL.dwg By: V-NutzmaML

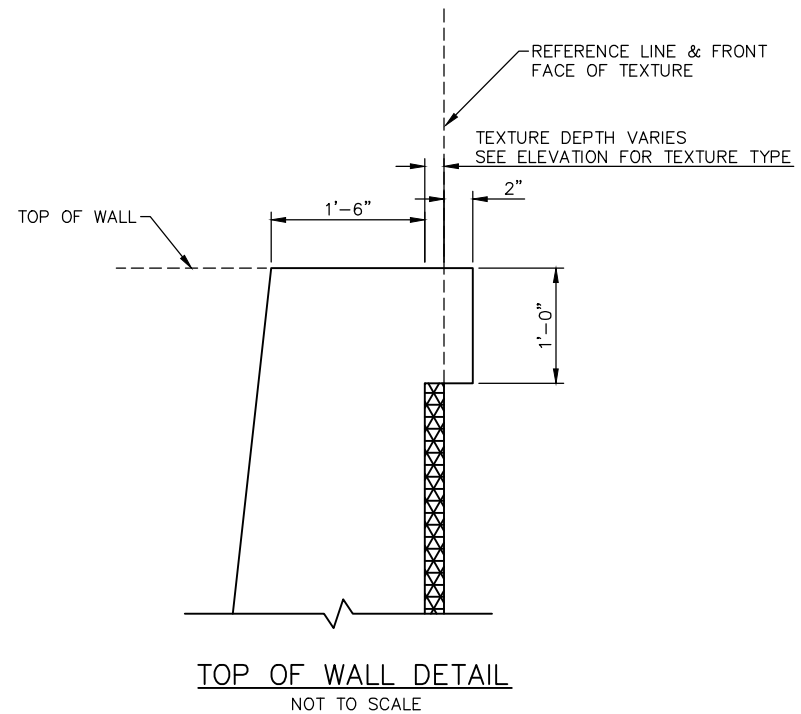


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>)
- 3. RETAINING WALL TO BE CIP WALL ON SPREAD FOOTING
- 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W302C
- 5. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W302C SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

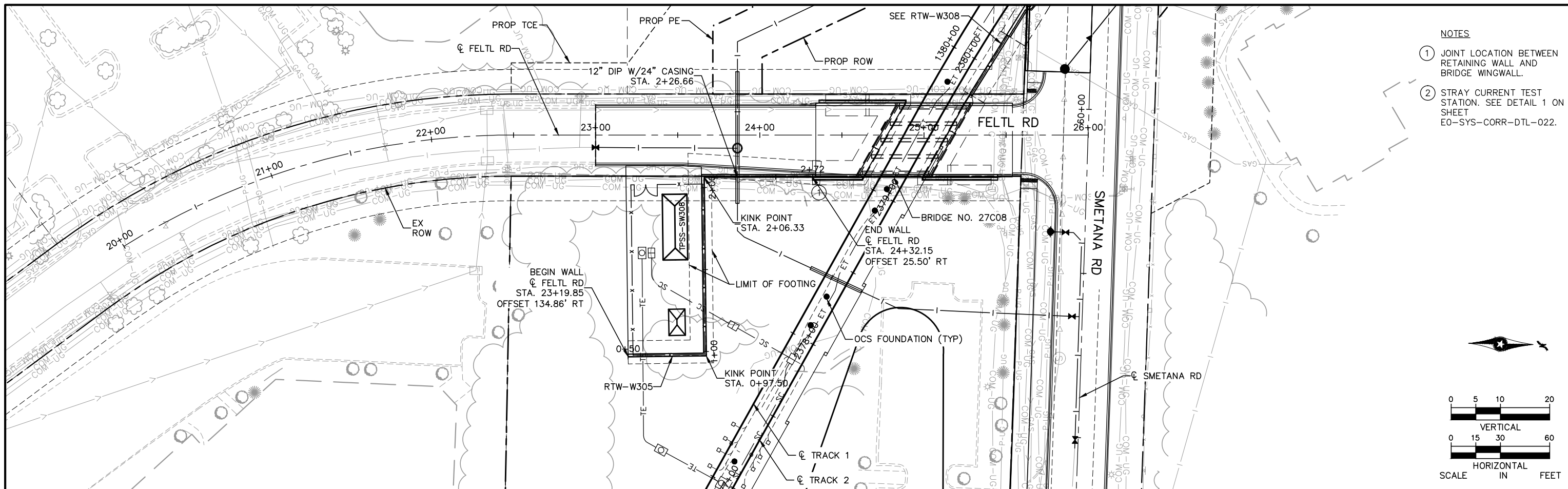



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W302C GEOMETRY**

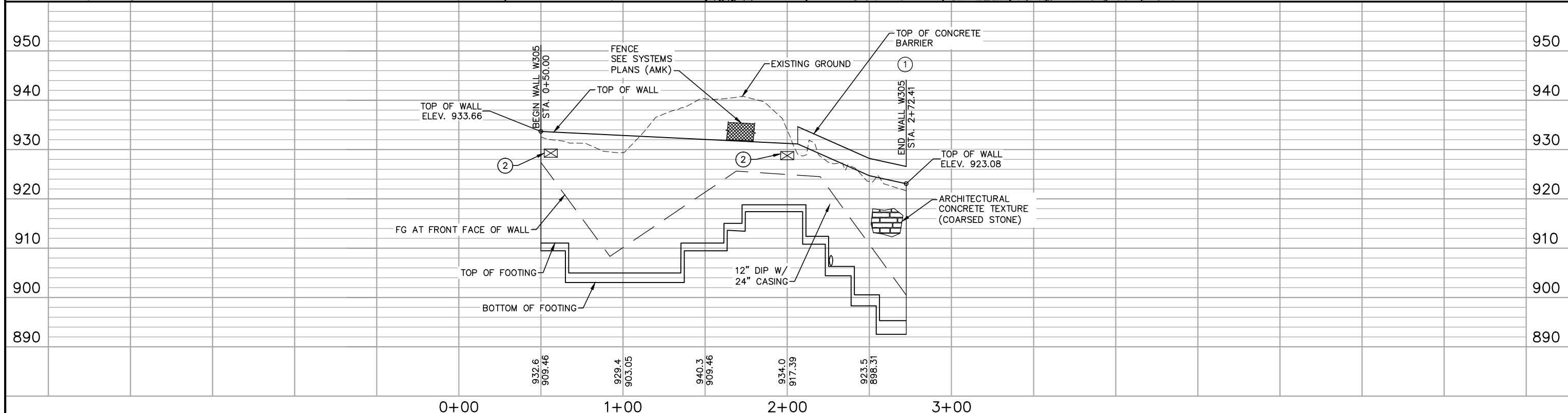
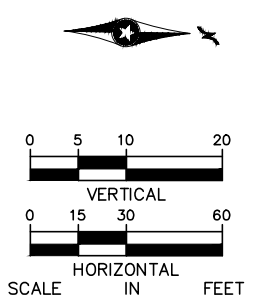
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W302C-DTL**

SHEET  
74  
OF  
271




Jan, 18 2016 09:24 am V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W305.dwg By: V-NutzmaML



- NOTES**
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL.
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

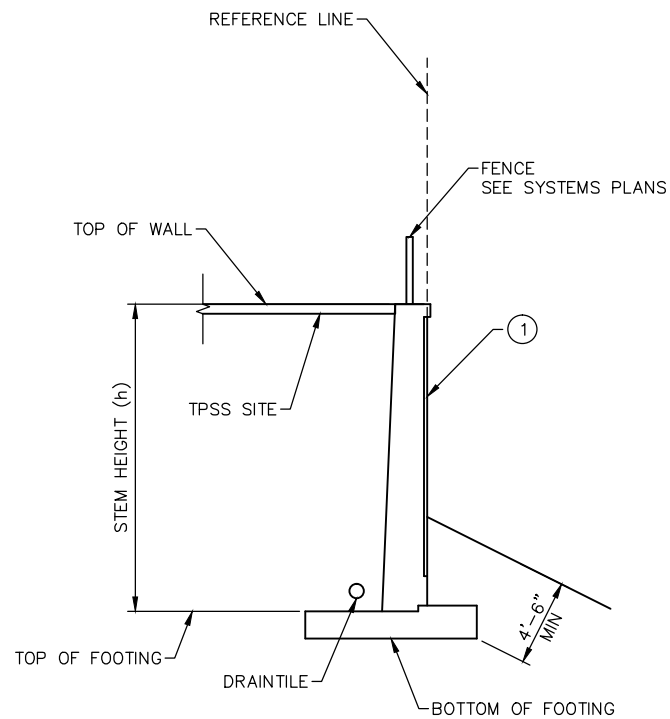
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W305 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W305-PL</b>
----------------------------------	-----------------------------------

**SHEET**  
75  
**OF**  
271

Jan, 17 2016 09:03 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W305-DTL.dwg By: V-NutzmaML

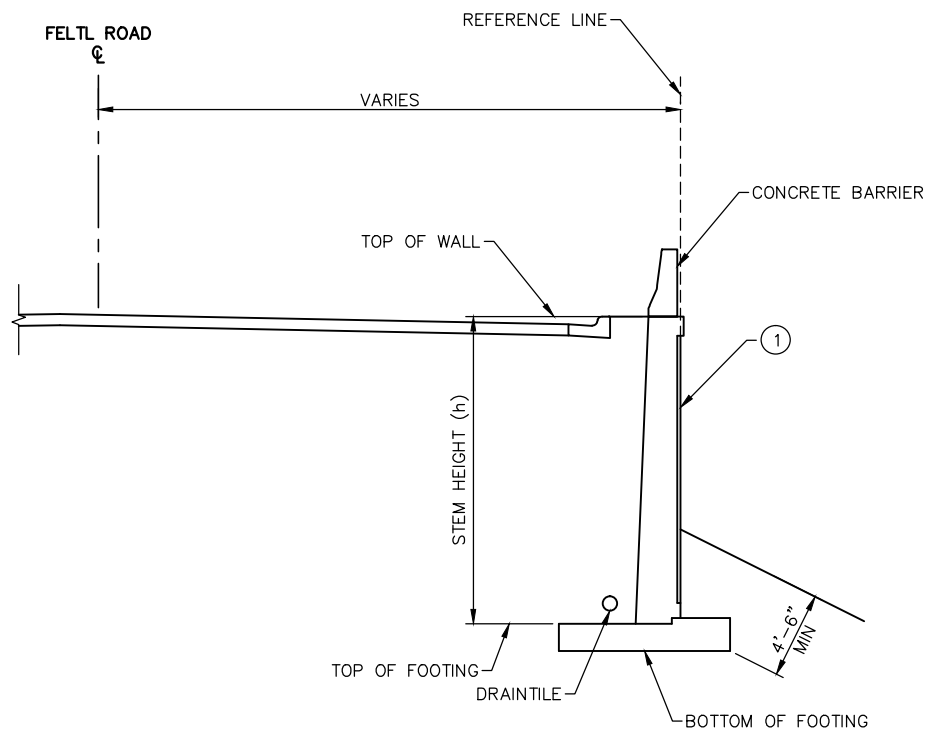


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. ELECTRICALLY CONTINUOUS BLACK REBAR IN WALL STEM AND FOOTING
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W305 SECTION**

STA. 0+50 TO STA. 2+06  
NOT TO SCALE

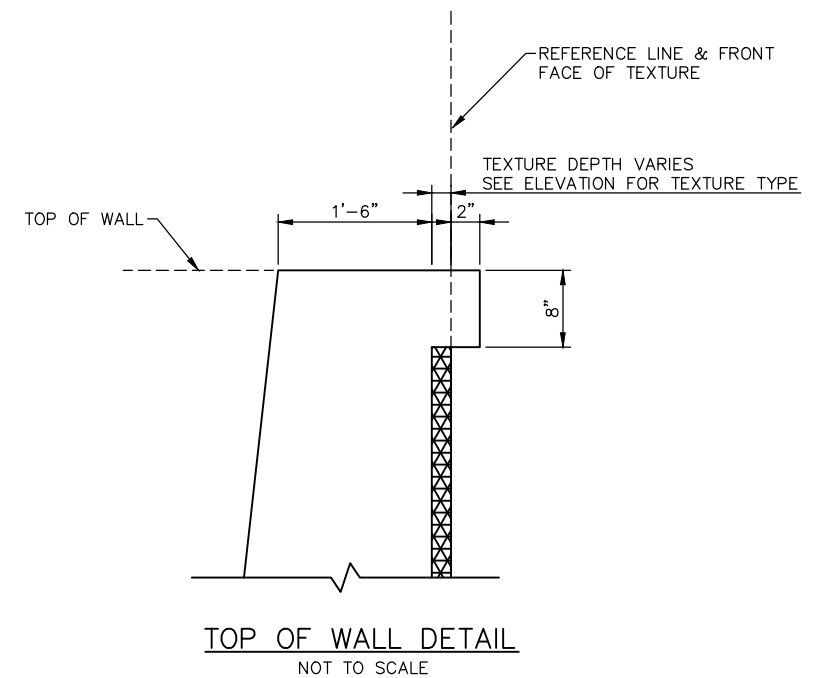


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. SEE ELECTRICAL PLANS FOR GROUNDING DETAIL

**RTW-W305 SECTION**

STA. 2+06 TO STA. 2+72  
NOT TO SCALE



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

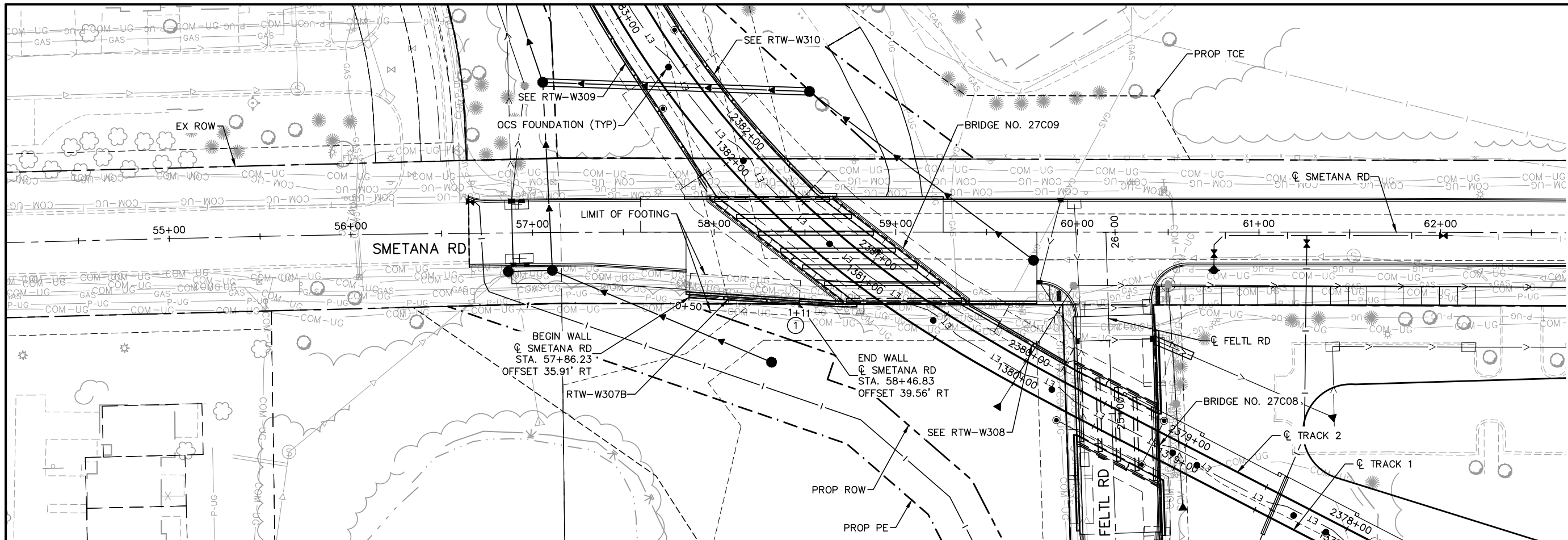



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W305 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W305-DTL**

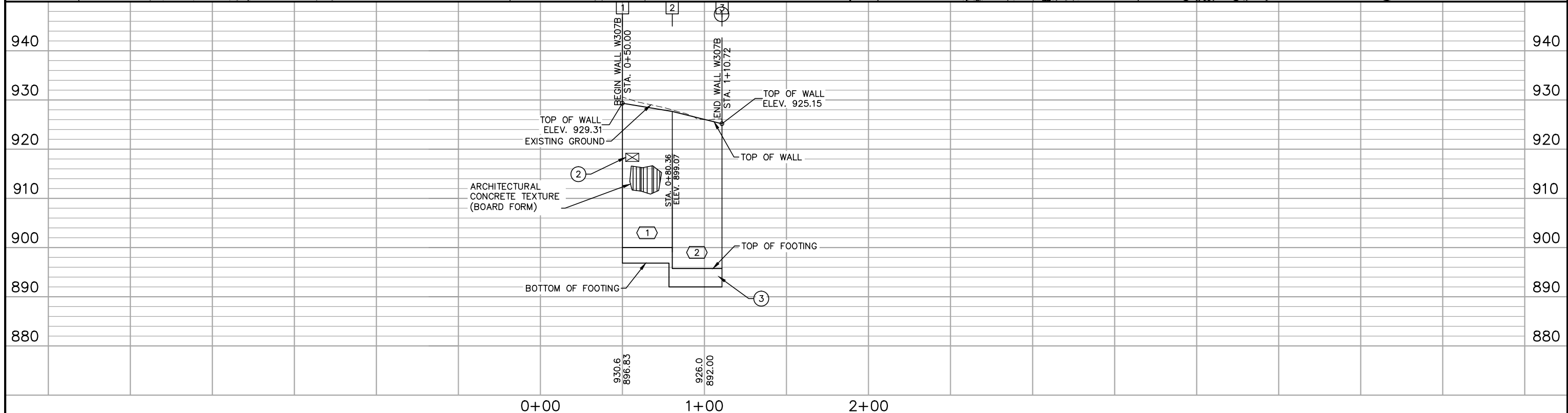
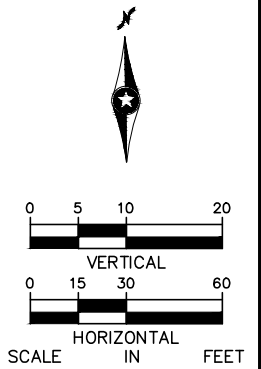
SHEET  
76  
OF  
271

Jan. 17 2016 09:07 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W307B.dwg By: V-NutzmaML



**NOTES**

- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL. MAINTAIN ELECTRICAL ISOLATION OF REBAR IN WINGWALL AND REBAR IN RETAINING WALL.
- ② STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022.
- ③ SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

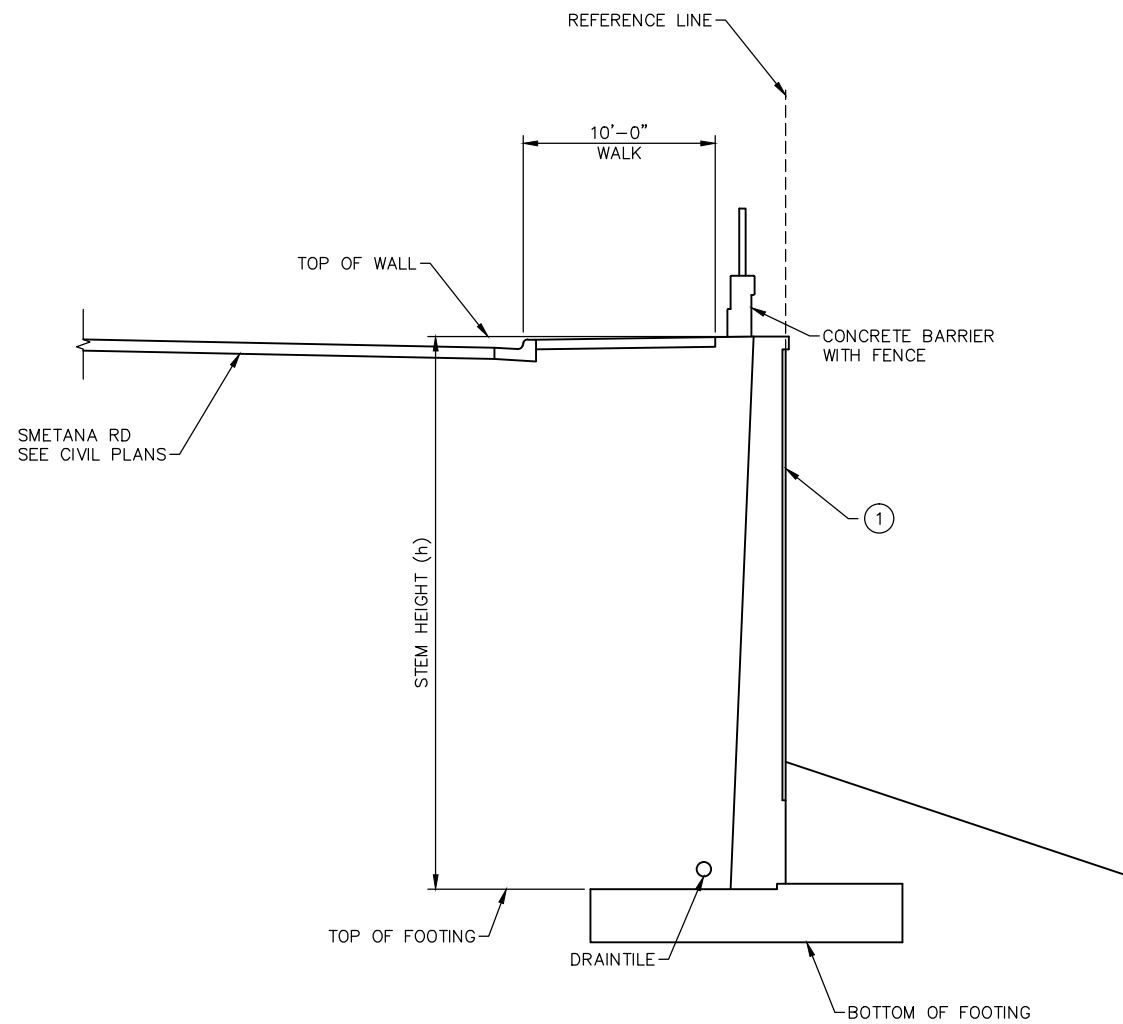


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W307B PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W307B-PL**

SHEET **77**  
OF  
**271**

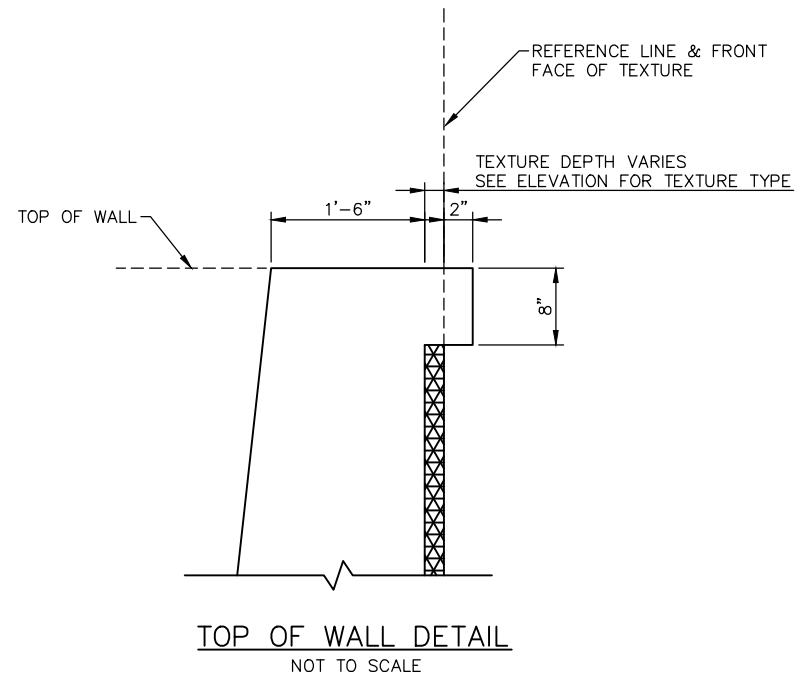
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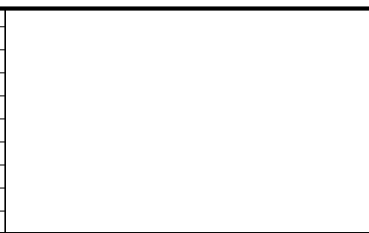
- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. EPOXY COATED REBAR IN STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR IN FOOTING
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W307B SECTION**  
NOT TO SCALE

RTW-W307B GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-4 3/8"	0+50.00	1	-	141978.543	490059.741	-	896.83	-	900.00	-	929.31	-	29'-3 3/4"	30'
		0+80.36	2	EJ	141976.092	490090.000	896.83	892.00	900.00	895.75	927.66	927.66	27'-7 7/8"	27'-7 7/8"	
2	30'-4 3/8"	1+10.72	3	-	141973.641	490120.259	892.00	-	895.75	-	925.15	-	29'-4 3/4"	30'	



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

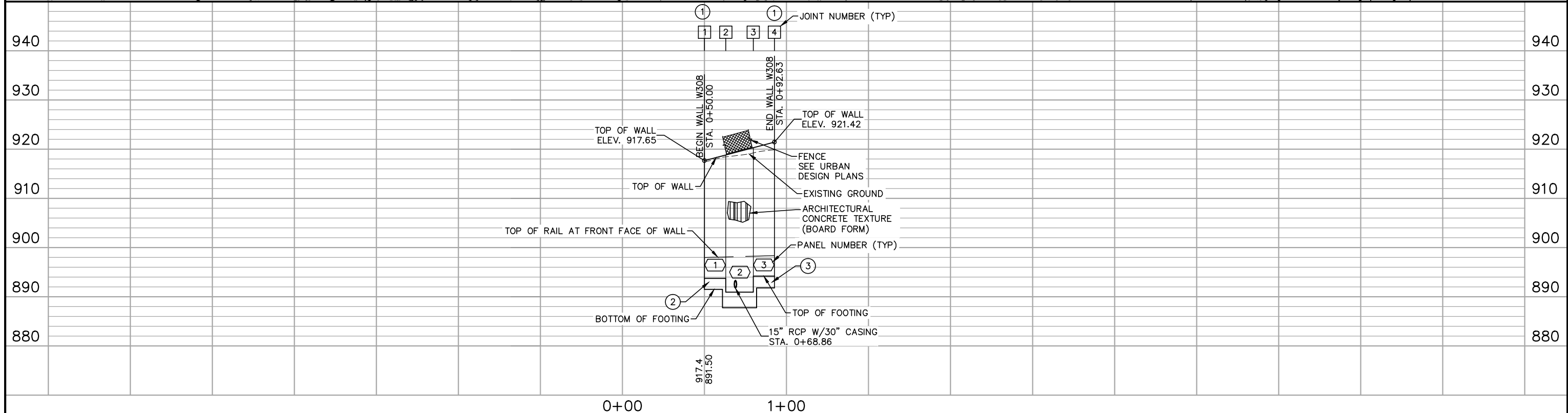
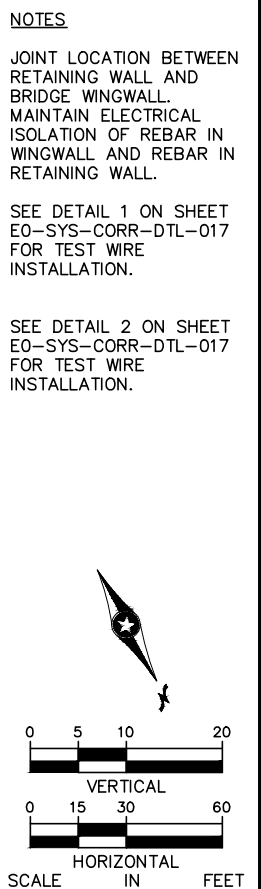
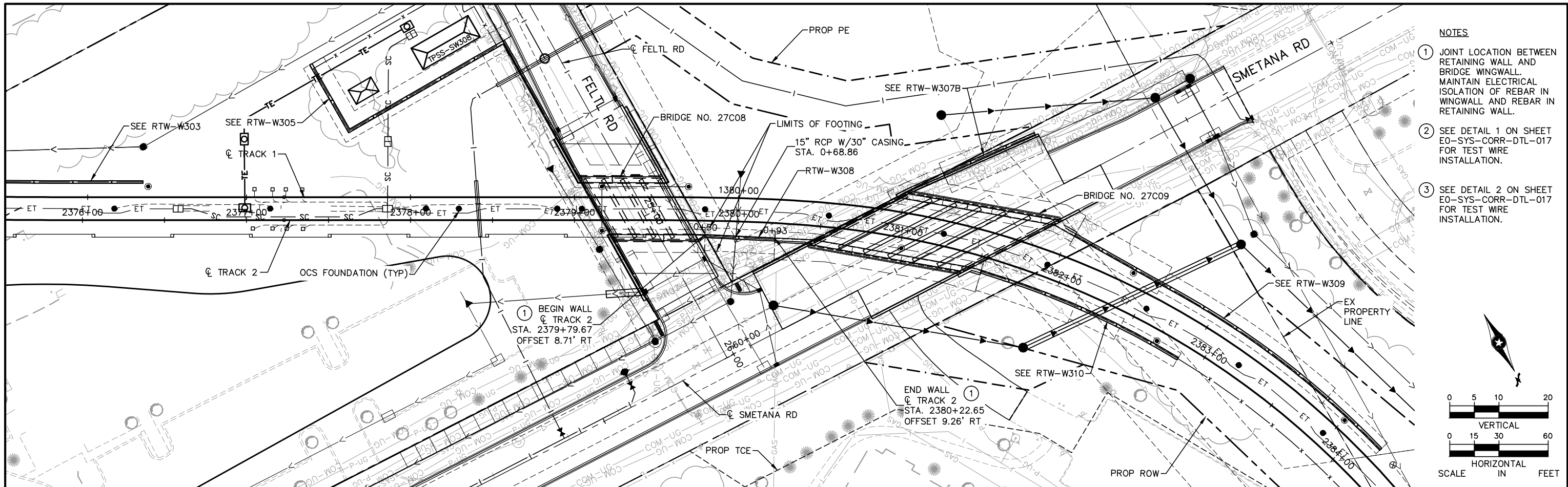


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W307B GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W307B-DTL**

**SHEET  
78  
OF  
271**

Jan. 17 2016 09:13 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W308.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

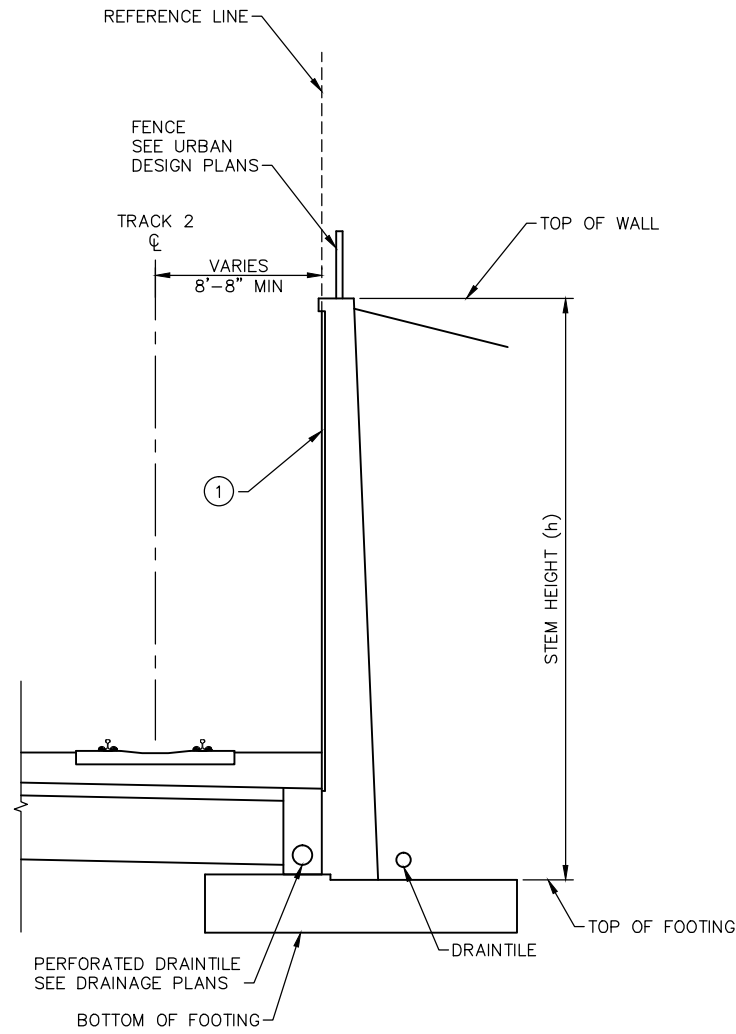


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W308 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W308-PL**

SHEET **79**  
OF  
**271**

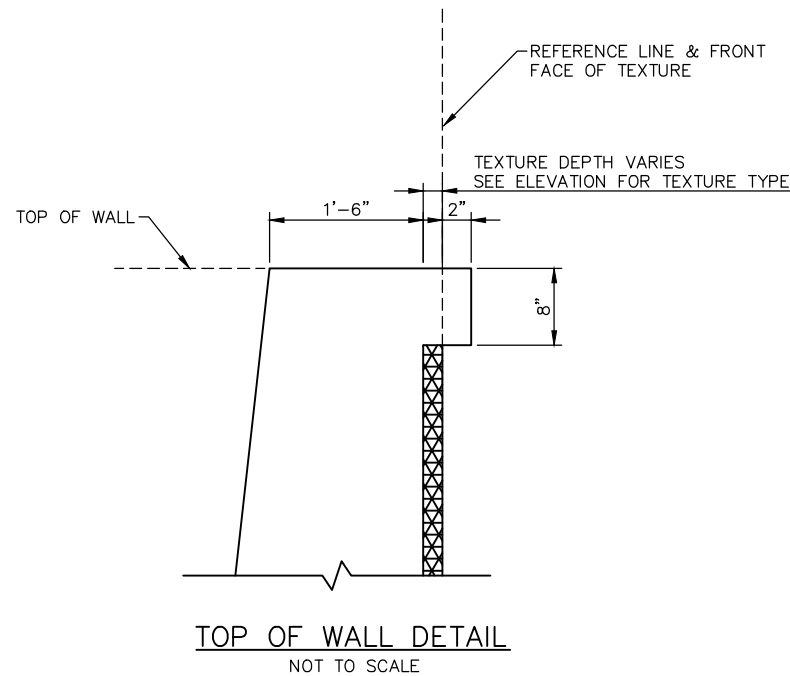
Jan. 17 2016 09:13 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W308-DTL.dwg By: V-NutzmaML



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W308
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

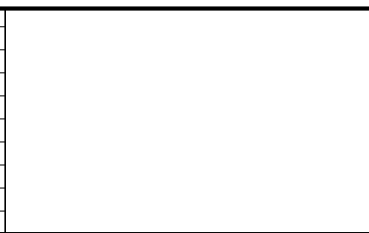
**RTW-W308 SECTION**  
NOT TO SCALE

RTW-W308 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	13'-0"	0+50.00	1	CJ	141937.356	490265.929	-	891.50	-	893.75	-	917.65	-	23'-10 3/4"	28'
2	16'-8 3/4"	0+63.00	2	CJ	141944.109	490254.82	891.50	887.79	893.75	890.96	918.80	918.80	27'-10 1/8"	27'-10 1/8"	28'
		0+79.73	3	EJ	141952.799	490240.524	887.79	891.80	890.96	894.22	920.28	920.28	26'-0 3/4"	26'-0 3/4"	28'
3	12'-10 3/4"	0+92.63	4	CJ	141959.499	490229.502	891.80	-	894.22	-	921.42	-	27'-2 3/8"	-	28'



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



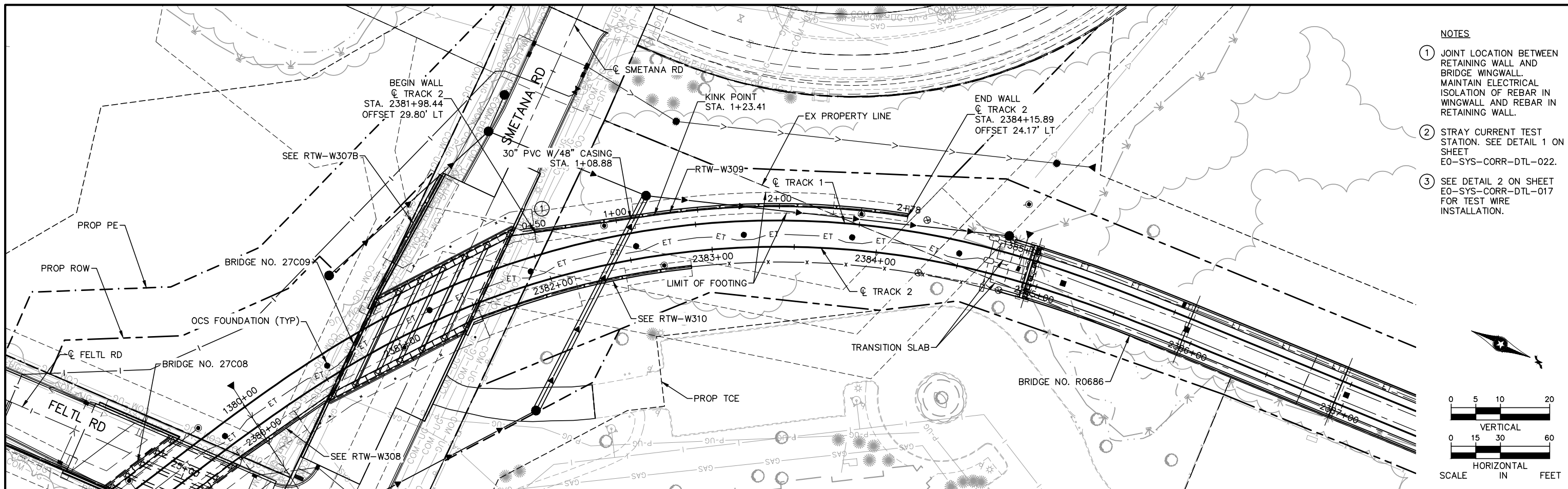
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W308 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W308-DTL**

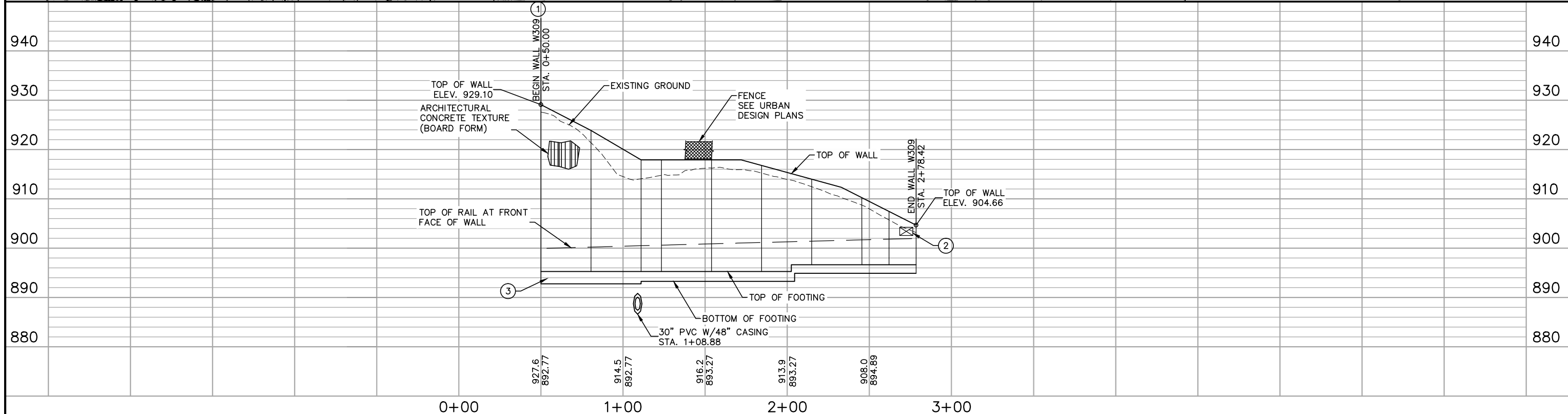
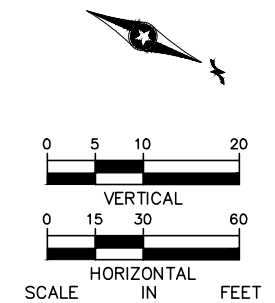
**SHEET  
80  
OF  
271**



Jan, 18 2016 09:35 am V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W309.dwg By: V-NutzmaML



- NOTES**
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL. MAINTAIN ELECTRICAL ISOLATION OF REBAR IN WINGWALL AND REBAR IN RETAINING WALL.
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022.
  - 3 SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

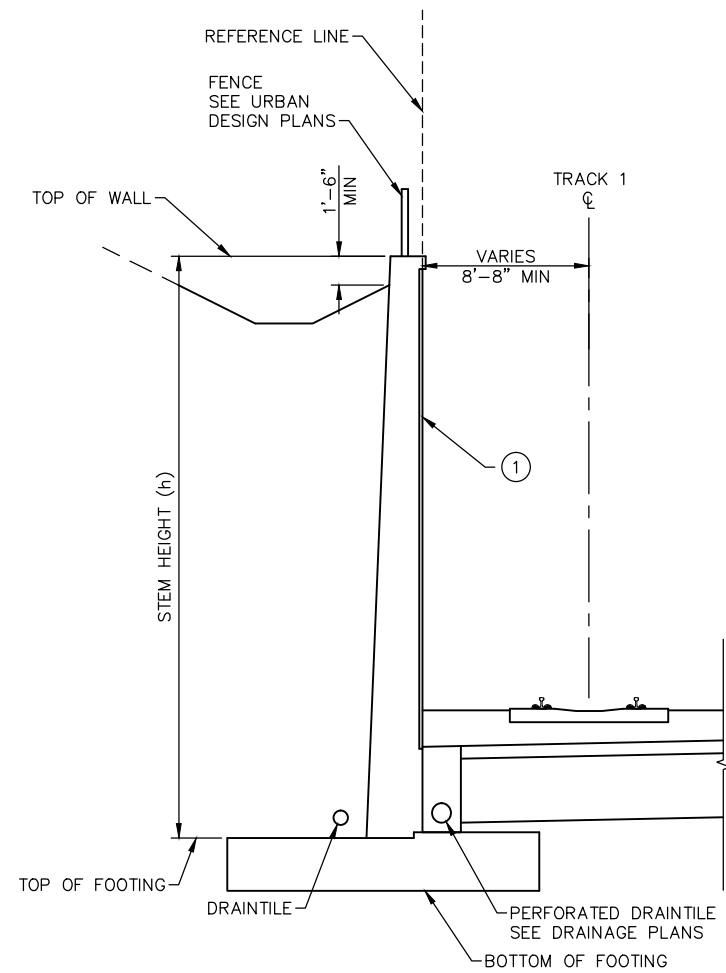


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W309 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W309-PL**

SHEET **81**  
OF  
**271**

Jan, 17 2016 09:18 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W309-DTL.dwg By: V-NutzmaML

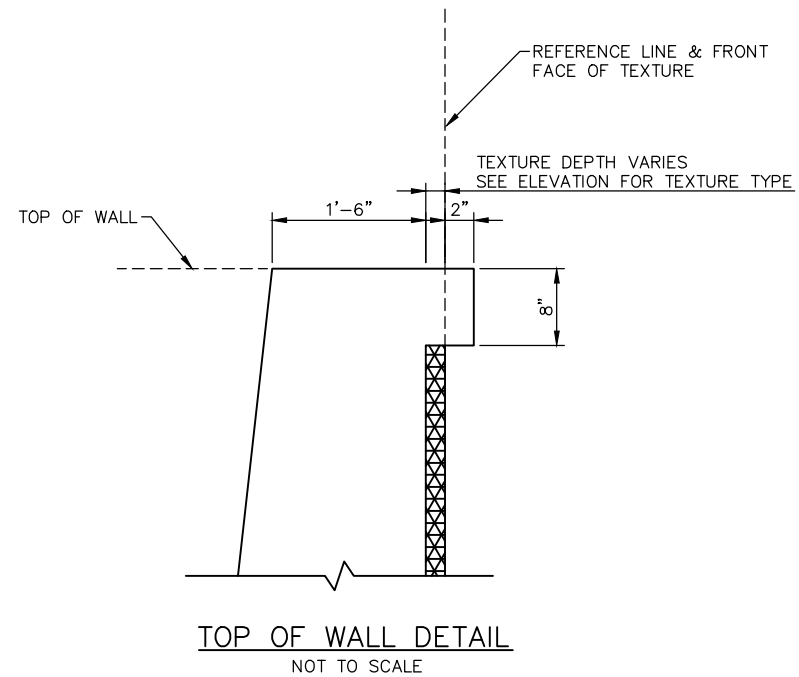


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
- 3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W309
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W309 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W309 GEOMETRY**

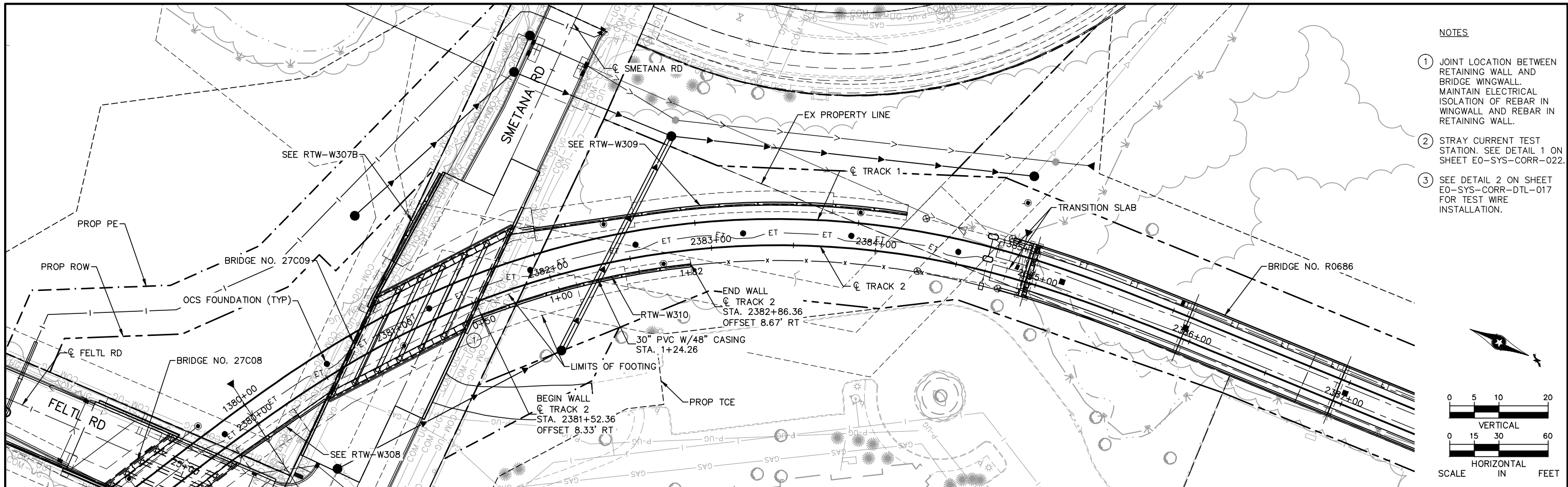
**SHEET  
82  
OF  
271**

90% SUBMISSION - 01/22/16

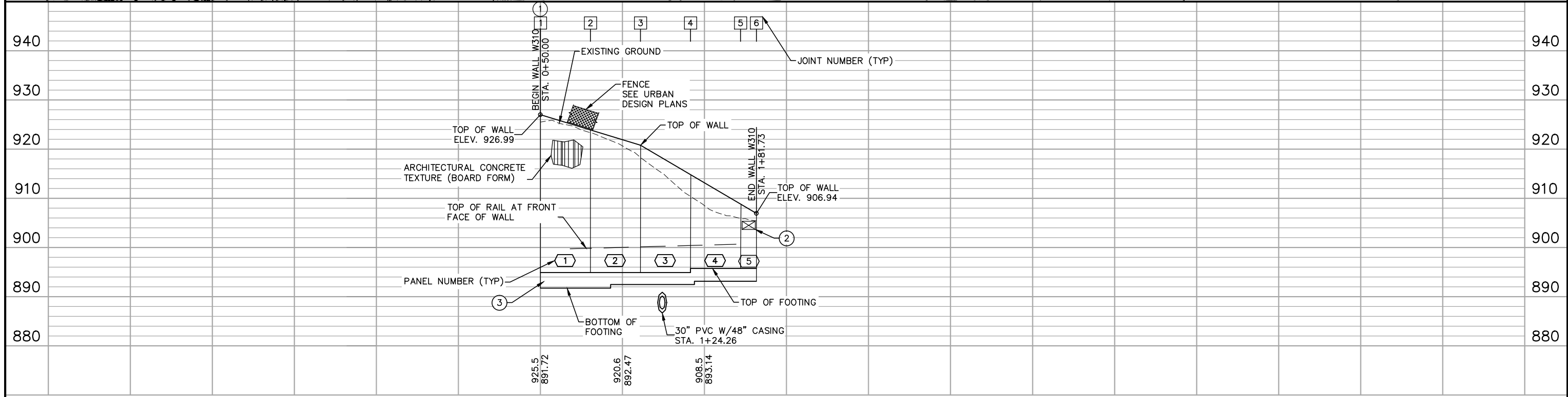
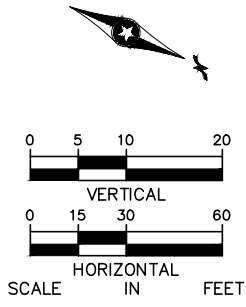
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W309-DTL**


Jan. 17 2016 09:23 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W310.dwg By: V-NutzmaML




- NOTES**
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL. MAINTAIN ELECTRICAL ISOLATION OF REBAR IN WINGWALL AND REBAR IN RETAINING WALL.
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-022.
  - 3 SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION.




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**





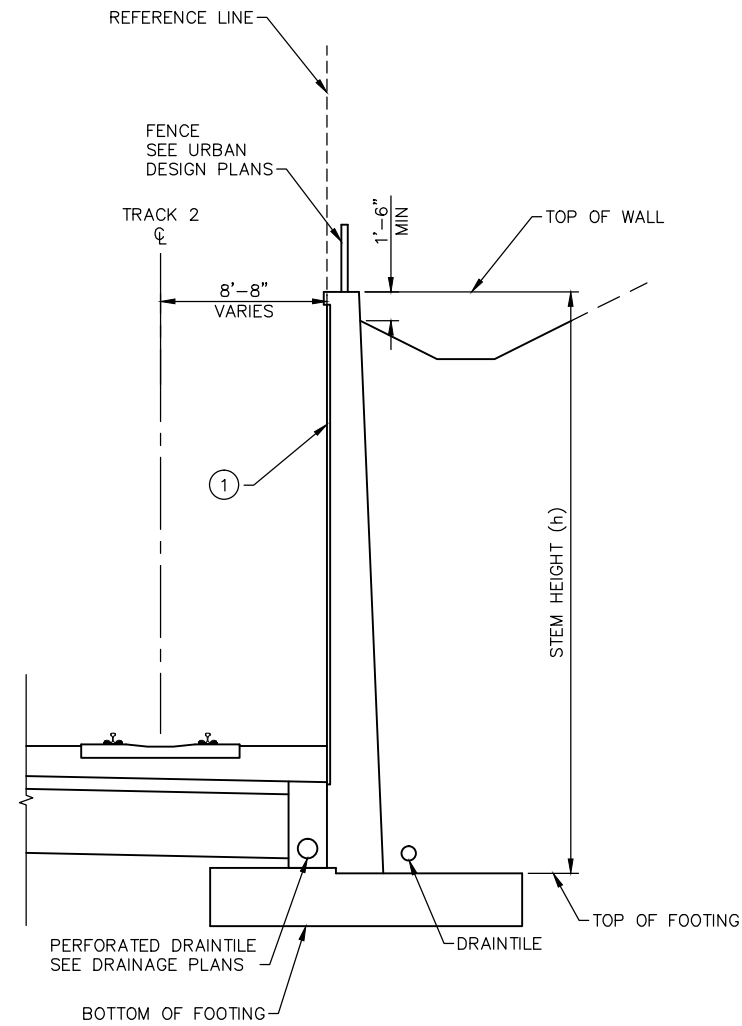
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W310 PLAN AND ELEVATION**

**SHEET**  
83  
**OF**  
271

DISCIPLINE: **STRUCTURES**

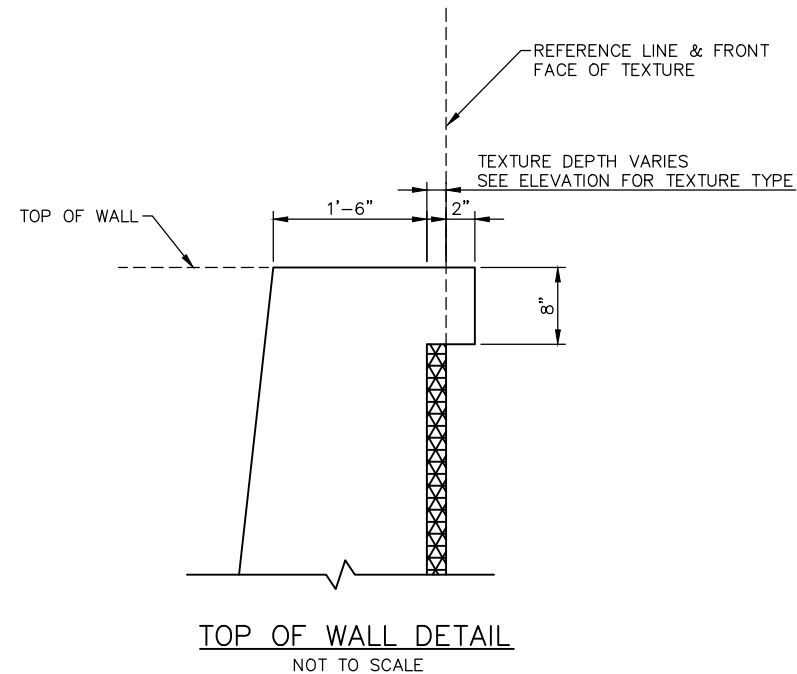
SHEET NAME: **RTW-W310-PL**

Jan, 18 2016 05:55 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W310-DTL.dwg By: V-NutzmaML



- NOTES
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-W310
  4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W310 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

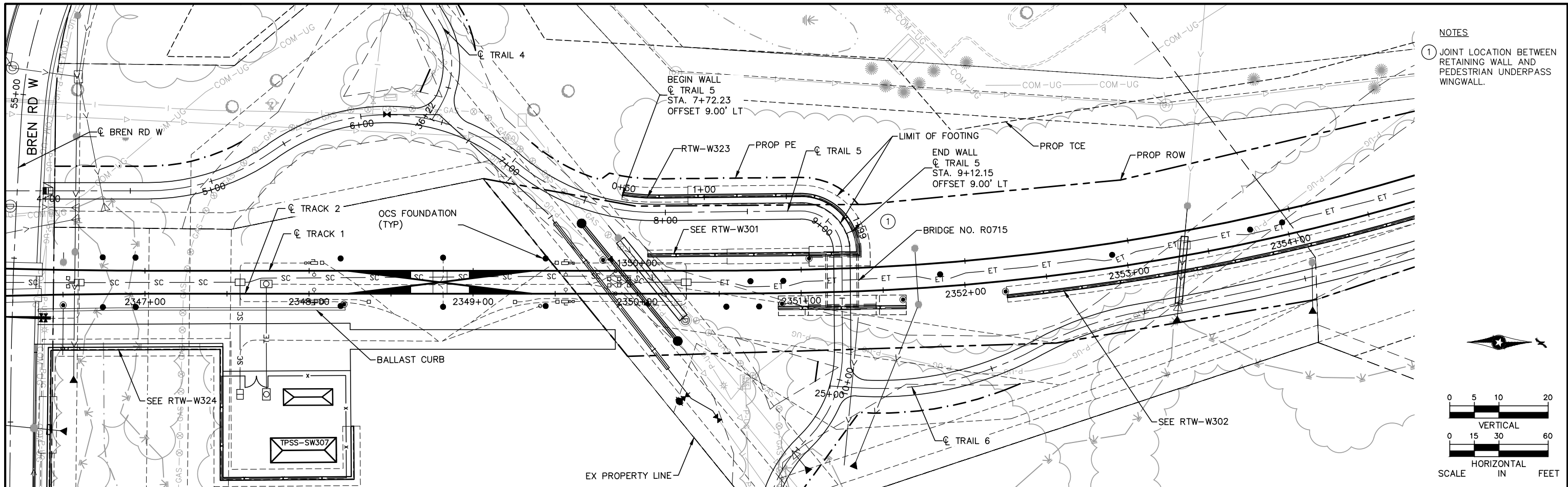



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W310 GEOMETRY**

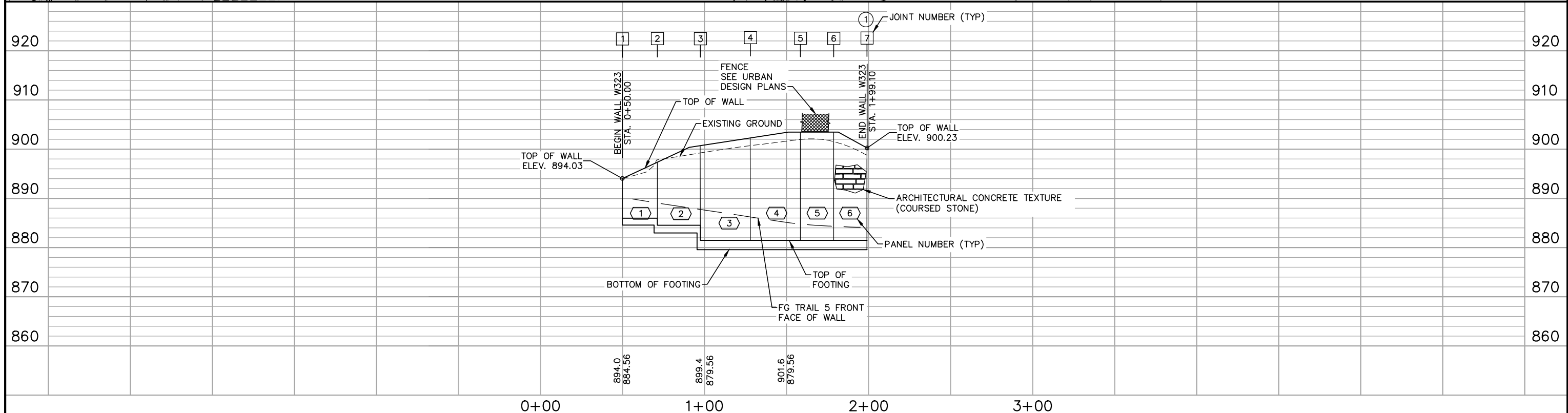
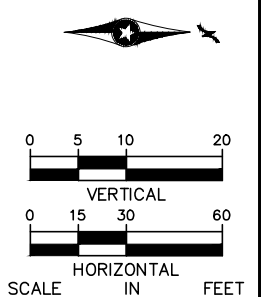
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W310-DTL**

SHEET  
84  
OF  
271

Jan. 17 2016 09:28 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W323.dwg By: V-NutzmaML



**NOTES**  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND PEDESTRIAN UNDERPASS WINGWALL.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL**

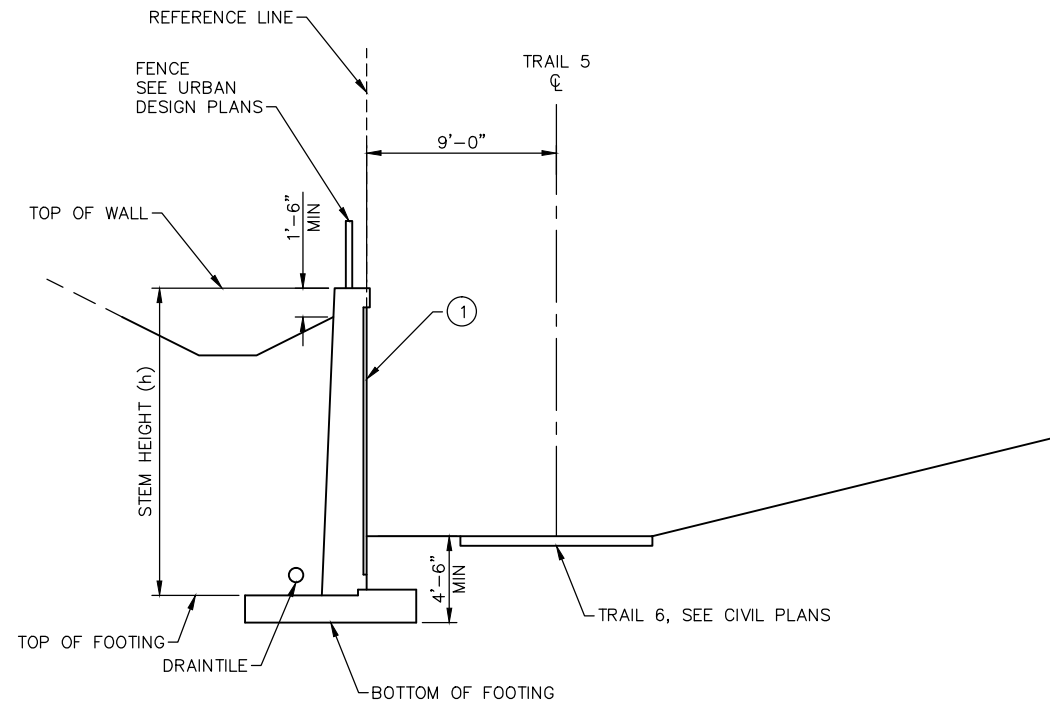
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W323 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W323-PL**

**SHEET**  
85  
**OF**  
271

Jan. 17 2016 09:29 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W323-DTL.dwg By: V-NutzmaML

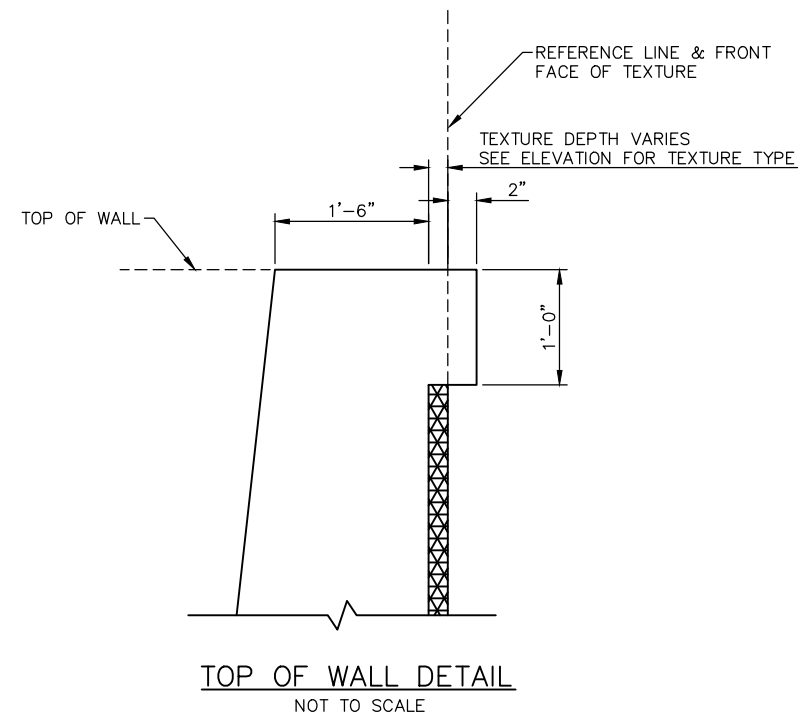


- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

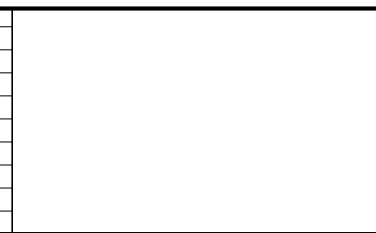
**RTW-W323 SECTION**  
NOT TO SCALE

RTW-W323 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	21'-3 5/8"	0+50.00	1	CJ	139754.77	492020.58	-	884.56	-	885.97	-	894.03	-	8'-0 3/4"	12'
2	26'-2 3/8"	0+71.30	2	CJ	139775.95	492022.37	884.56	882.97	885.97	884.55	897.81	897.81	11'-10 1/8"	11'-10 1/8"	15'
3	30'-6"	0+97.50	3	EJ	139802.15	492022.29	882.97	879.56	884.55	881.47	899.24	899.24	14'-8 1/4"	14'-8 1/4"	20'
4	30'-6"	1+28.00	4	CJ	139832.65	492022.2	879.56	879.56	881.47	881.47	900.71	900.71	19'-2 7/8"	19'-2 7/8"	21'
5	20'-3 5/8"	1+58.50	5	CJ	139863.15	492022.11	879.56	879.56	881.47	881.47	901.97	901.97	20'-6"	20'-6"	21'
6	20'-3 5/8"	1+78.80	6	EJ	139882.29	492027.94	879.56	879.56	881.47	881.47	901.53	901.53	20'-0 3/4"	20'-0 3/4"	21'
		1+99.10	7	CJ	139894.83	492043.52	879.56	-	881.47	-	898.75	-	17'-3 3/8"	-	

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
1	0+71.29	139775.95	492022.37
4	1+58.49	139863.15	492022.11



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

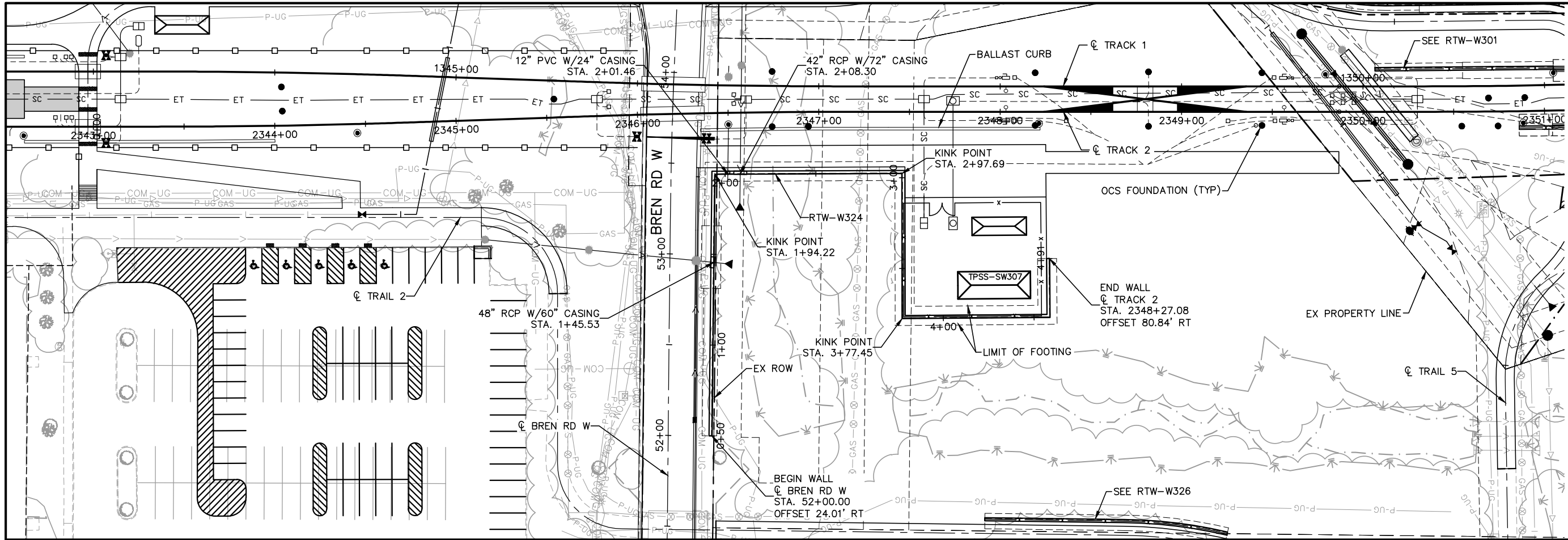


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W323 GEOMETRY**

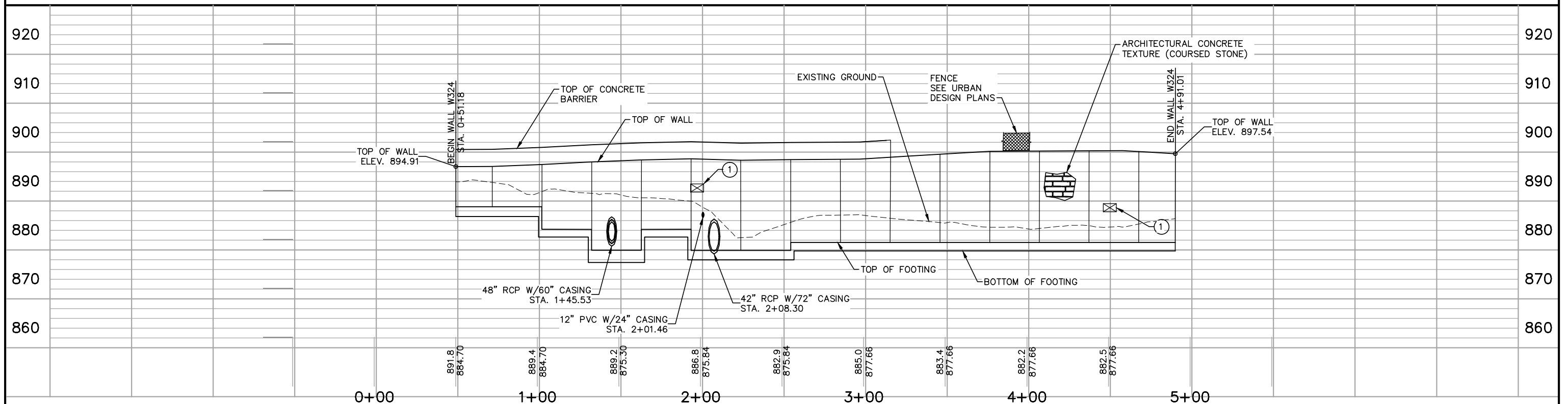
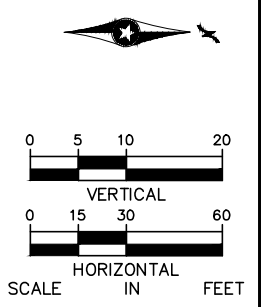
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W323-DTL**

**SHEET  
86  
OF  
271**

Jan, 17 2016 09:33 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W324.dwg By: V-NutzmaML



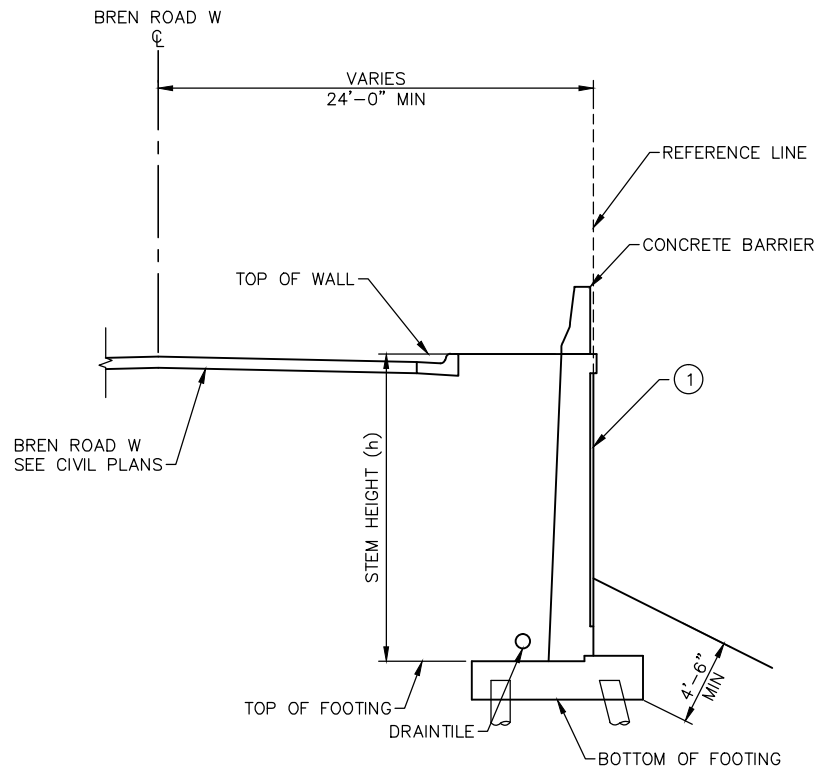
**NOTES**  
 ① STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

			<p><b>CIVIL - VOLUME 6</b>  <b>RETAINING WALLS</b>  <b>RTW-W324 PLAN AND ELEVATION</b></p>	<p>SHEET 87 OF 271</p>
<p>90% SUBMISSION - 01/22/16</p>			<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W324-PLE</b></p>

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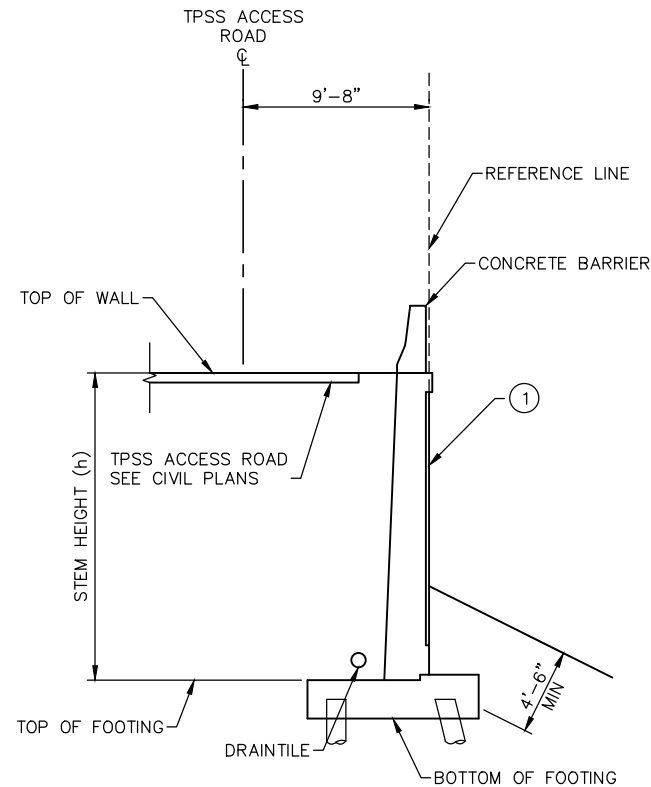


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON PILES
- 3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W324 SECTION**

STA. 0+50 TO STA. 1+94  
NOT TO SCALE

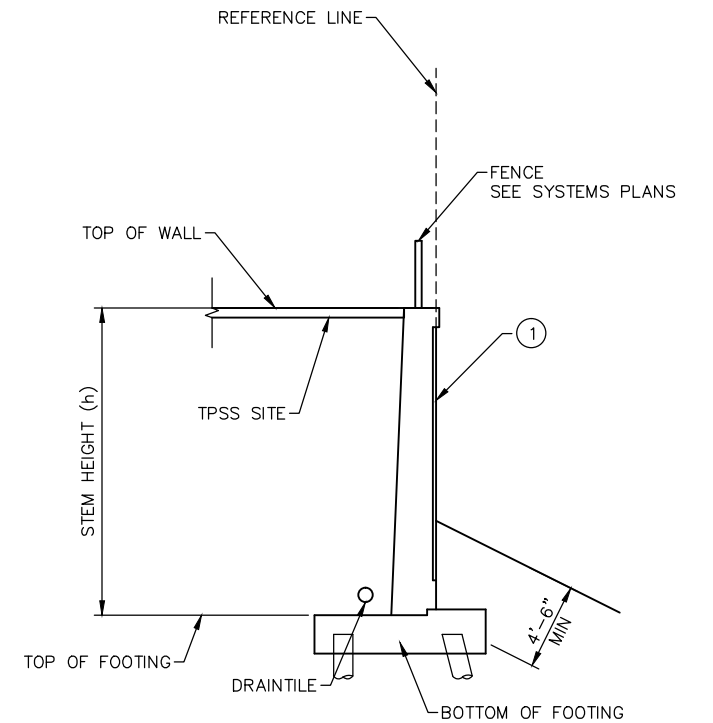


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON PILES
- 3. ELECTRICALLY CONTINUOUS BLACK REBAR
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W324 SECTION**

STA. 1+94 TO STA. 2+97  
NOT TO SCALE

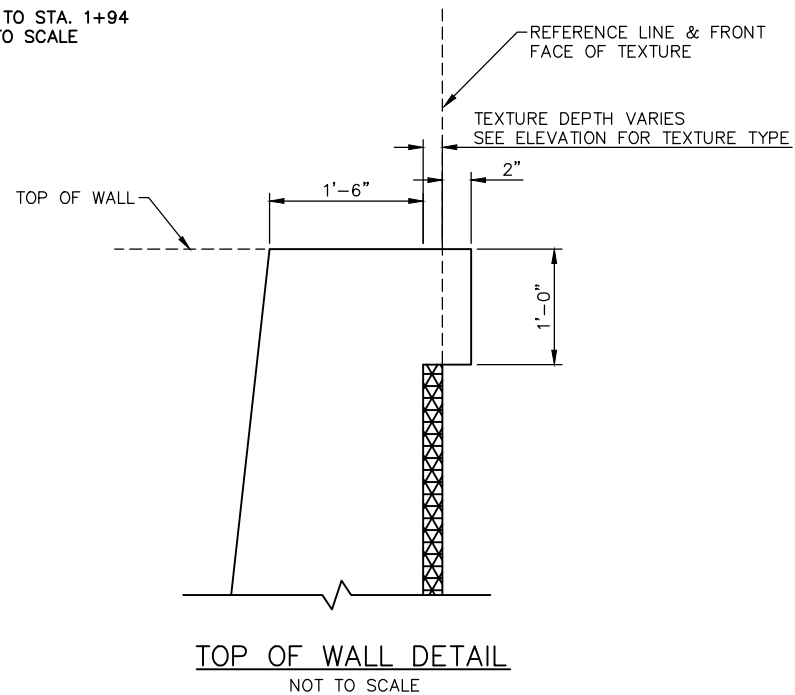


**NOTES**

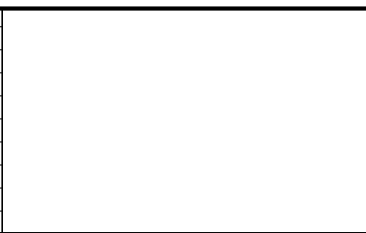
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE CIP ON PILES
- 3. ELECTRICALLY CONTINUOUS BLACK REBAR
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W324 SECTION**

STA. 2+97 TO STA. 4+57  
NOT TO SCALE



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

90% SUBMISSION - 01/22/16

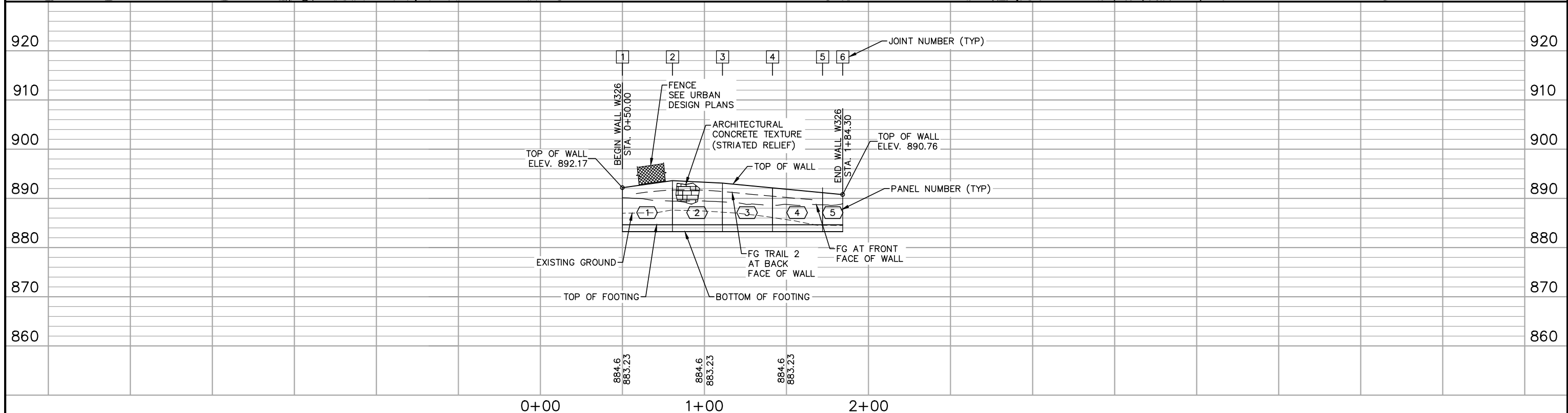
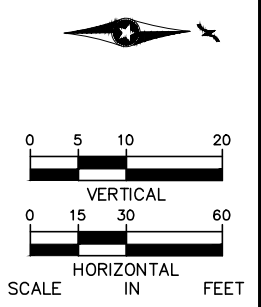
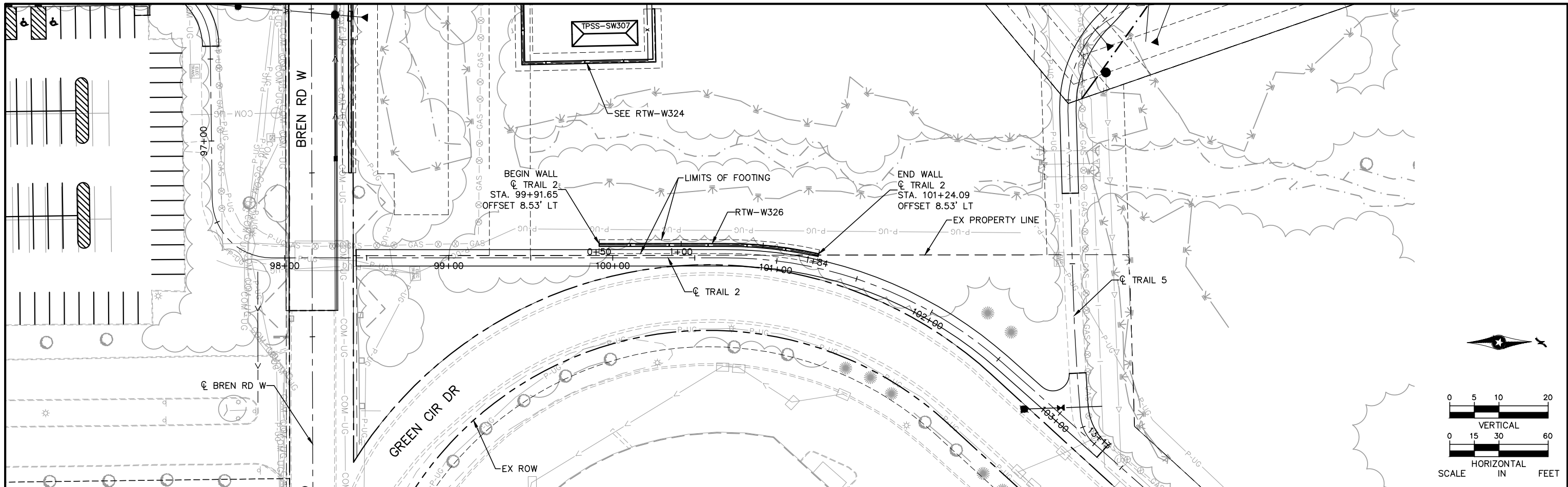
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W324 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W324-DTL**




SHEET  
88  
OF  
271



Jan. 17 2016 09:37 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W326.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

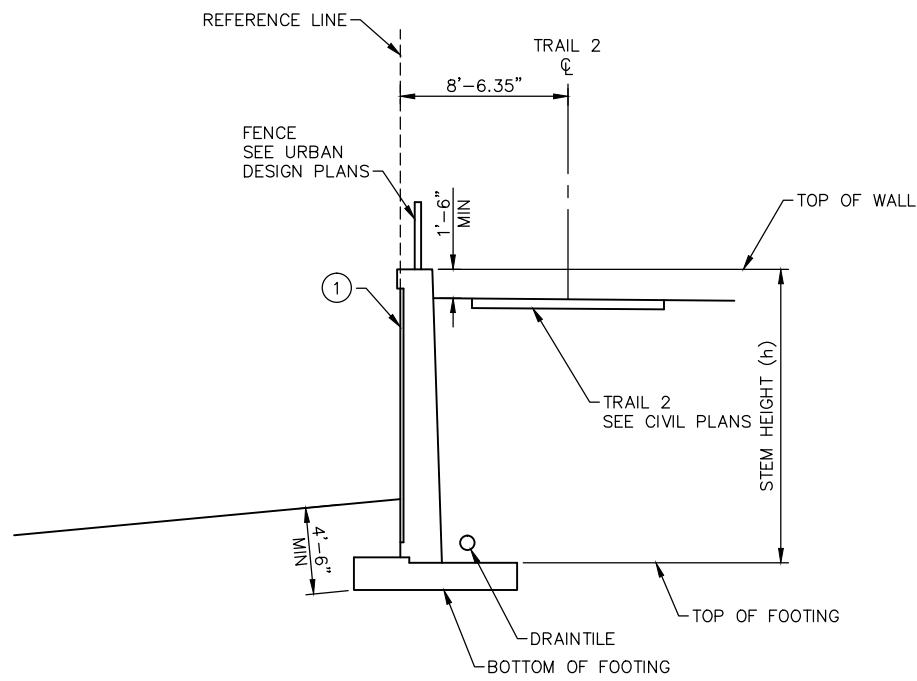
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W326 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W326-PL</b>
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SHEET  
89  
OF  
271

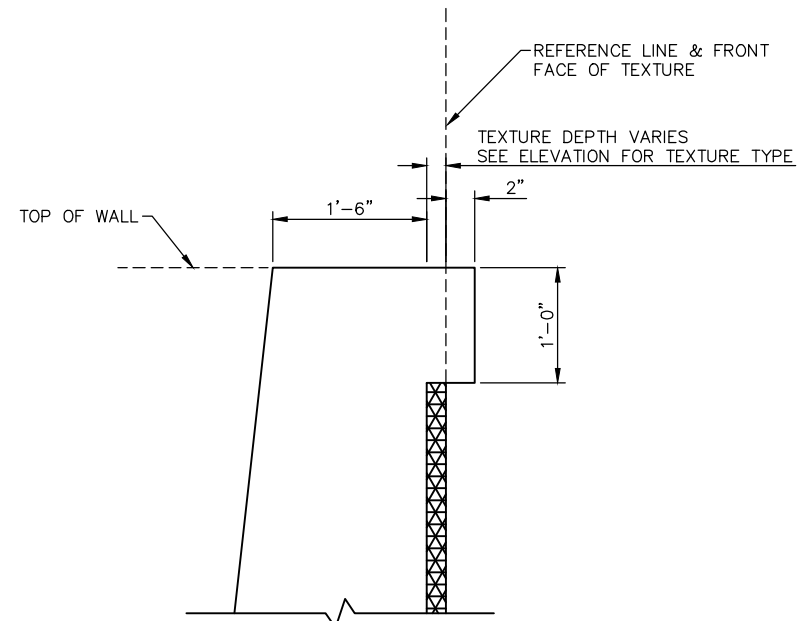
Jan. 17 2016 09:38 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W326-DTL.dwg By: V-NutzmaML



- NOTE:  
 1. ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE  
 2. RETAINING WALL TO BE CIP ON SPREAD FOOTING

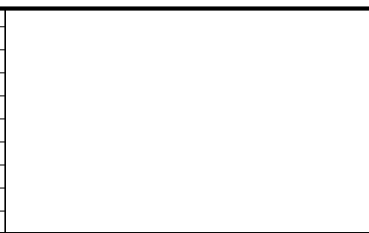
**RTW-W326 SECTION**  
 NOT TO SCALE

RTW-W326 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	0+50.00	1	CJ	139553.027	492303.000	-	883.23	-	884.65	-	892.17	-	7'-6 1/4"	9'
2	30'-6"	0+80.50	2	CJ	139583.521	492303.627	883.23	883.23	884.65	884.65	893.60	893.60	8'-11 3/8"	8'-11 3/8"	9'
3	30'-6"	1+11.00	3	EJ	139614.015	492304.254	883.23	883.23	884.65	884.65	893.08	893.08	8'-5 1/8"	8'-5 1/8"	9'
4	30'-6"	1+41.50	4	CJ	139644.492	492305.285	883.23	883.23	884.65	884.65	892.12	892.12	7'-5 5/8"	7'-5 5/8"	8'
5	12'-3 5/8"	1+72.00	5	CJ	139674.703	492309.352	883.23	883.23	884.65	884.65	891.15	891.15	6'-6"	6'-6"	7'
		1+84.30	6	EJ	139686.714	492311.976	883.23	883.23	884.65	884.65	890.76	890.76	6'-1 3/8"	6'-1 3/8"	



**TOP OF WALL DETAIL**  
 NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



**CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-W326 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W326-DTL-001**

**SHEET  
 90  
 OF  
 271**

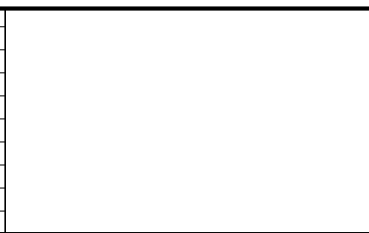
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h = 9' PANEL: 1,2,3 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING			
B	F502	31	8'-0"	STR.	TRANS BOT	259	b	2'-7"	e	---
C	F503	31	8'-0"	STR.	TRANS TOP	259	c	1'-5"	f	---
							d	8'-6"	g	2'-9 1/4"
STEM										
							a	1'-10 1/2"	x	2'-1"
							j	1'-5 7/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	7'-9"	4'-0"	DOWEL BF	251	(FOOTING)			
F	F506E	---	---	---	DOWEL BF	---	SPREAD	14.0	CU YD	
G	S401E	31	6'-2"	STR.	VERT FF	128				
H	S502E	31	6'-2"	STR.	VERT BF	199	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	17.1	CU YD		
L	S405E	18	30'-0"	STR.	HORIZ EF	361	REINFORCEMENT (PLAIN)			
M	S506E	18	7'-4"	1'-4"	EXP JT TIE	138	SPREAD	1135	LB	
N	S507E	---	7'-9"	1'-9"	EXP JT TIE	---				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	1518	LB		
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245				

h = 8' PANEL: 4 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING			
B	F502	31	8'-0"	STR.	TRANS BOT	259	b	2'-7"	e	---
C	F503	31	8'-0"	STR.	TRANS TOP	259	c	1'-5"	f	---
							d	8'-6"	g	2'-9 1/4"
STEM										
							a	1'-10"	x	2'-1"
							j	1'-5 3/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1A43)			
E	F505E	31	4'-4"	10"	DOWEL BF	140	(FOOTING)			
F	F506E	---	---	---	DOWEL BF	---	SPREAD	14.0	CU YD	
G	S401E	31	5'-2"	STR.	VERT FF	107				
H	S502E	31	5'-2"	STR.	VERT BF	167	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	31	10'-8"	4'-9"	TIE	345	15.0	CU YD		
L	S405E	16	30'-0"	STR.	HORIZ EF	321	REINFORCEMENT (PLAIN)			
M	S506E	16	7'-4"	1'-4"	EXP JT TIE	122	SPREAD	1135	LB	
N	S507E	---	7'-9"	1'-9"	EXP JT TIE	---				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	1299	LB		
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245				

h = 7' PANEL: 5 L=12'-3 5/8"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS AND QUANTITIES			
SPREAD FOOTING REINFORCEMENT										
A	F501	18	14'-9"	STR.	LONG T & B	276	SPREAD FOOTING			
B	F502	13	8'-0"	STR.	TRANS BOT	108	b	2'-7"	e	---
C	F503	13	8'-0"	STR.	TRANS TOP	108	c	1'-5"	f	---
							d	8'-6"	g	2'-9 1/4"
STEM										
							a	1'-9 1/2"	x	2'-1"
							j	1'-4 7/8"	z	---
FOOTING DOWELS & STEM REINFORCEMENT										
D	F504E	13	3'-0"	STR.	DOWEL FF	41	STRUCTURAL CONCRETE (1A43)			
E	F505E	13	4'-4"	10"	DOWEL BF	59	(FOOTING)			
F	F506E	---	---	---	DOWEL BF	---	SPREAD	5.6	CU YD	
G	S401E	13	4'-2"	STR.	VERT FF	37				
H	S502E	13	4'-2"	STR.	VERT BF	57	STRUCTURAL CONCRETE (3Y43)			
J	S503E	---	---	STR.	VERT BF	---	(STEM)			
K	S504E	13	10'-8"	4'-9"	TIE	145	5.2	CU YD		
L	S405E	14	11'-10"	STR.	HORIZ EF	111	REINFORCEMENT (PLAIN)			
M	S506E	14	7'-4"	1'-4"	EXP JT TIE	107	SPREAD	492	LB	
N	S507E	---	7'-9"	1'-9"	EXP JT TIE	---				
P	S508E	---	8'-2"	2'-2"	EXP JT TIE	---	REINFORCEMENT (EPOXY)			
Q	S509E	34	9'-7"	4'-5"	PARAPET DWL	340	557	LB		
Q	S509E	34	6'-11"	3'-1"	F/P4 BAR, DWL	245				

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

90% SUBMISSION - 01/22/16

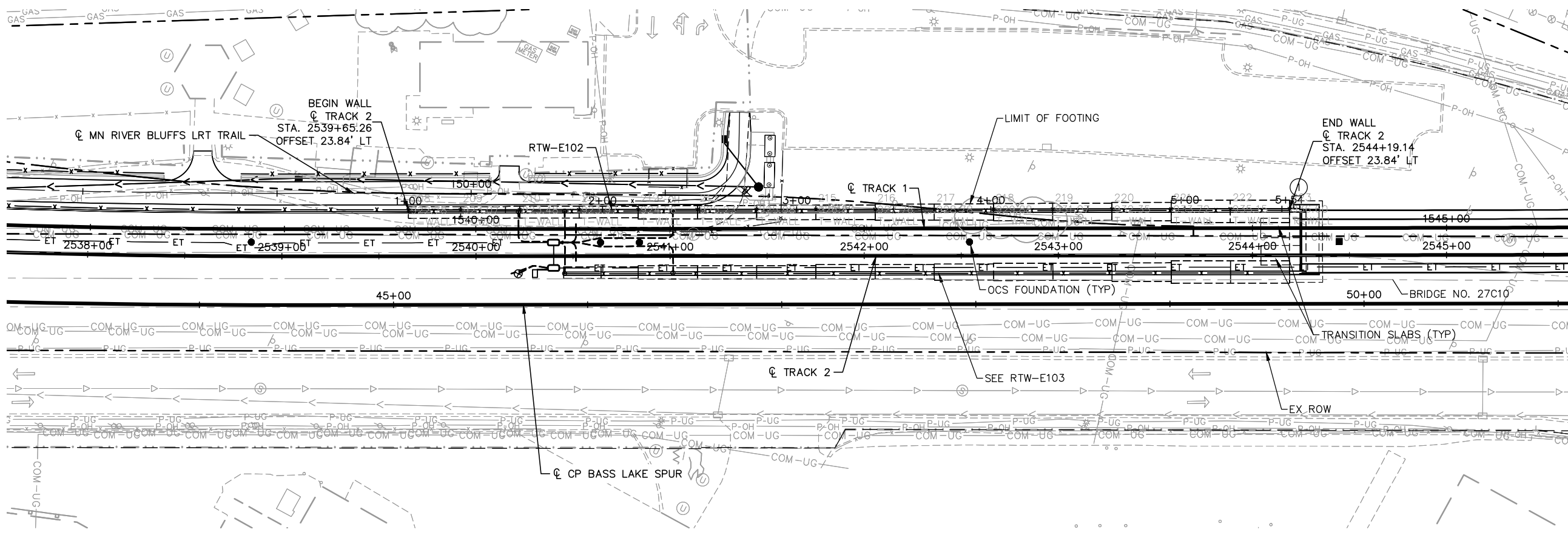
**METROPOLITAN COUNCIL**  
**SOUTHWEST**  
Green Line Light Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W326 REINFORCEMENT**

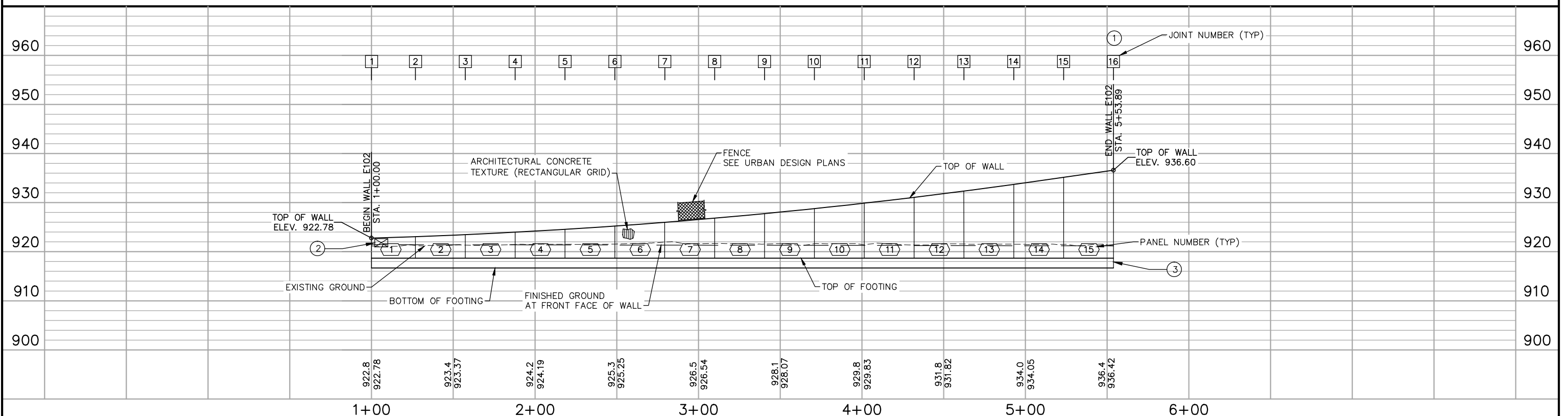
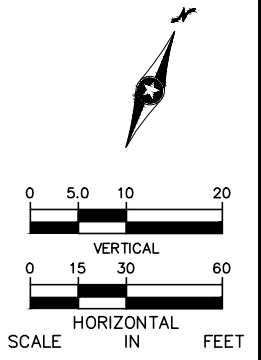
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W326-DTL-002**

SHEET  
91  
OF  
271




Jan, 19 2016 03:15 pm V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E102-PL.E.dwg By: V-BorntrSJ



- NOTE:**
- JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022
  - SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW E102.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

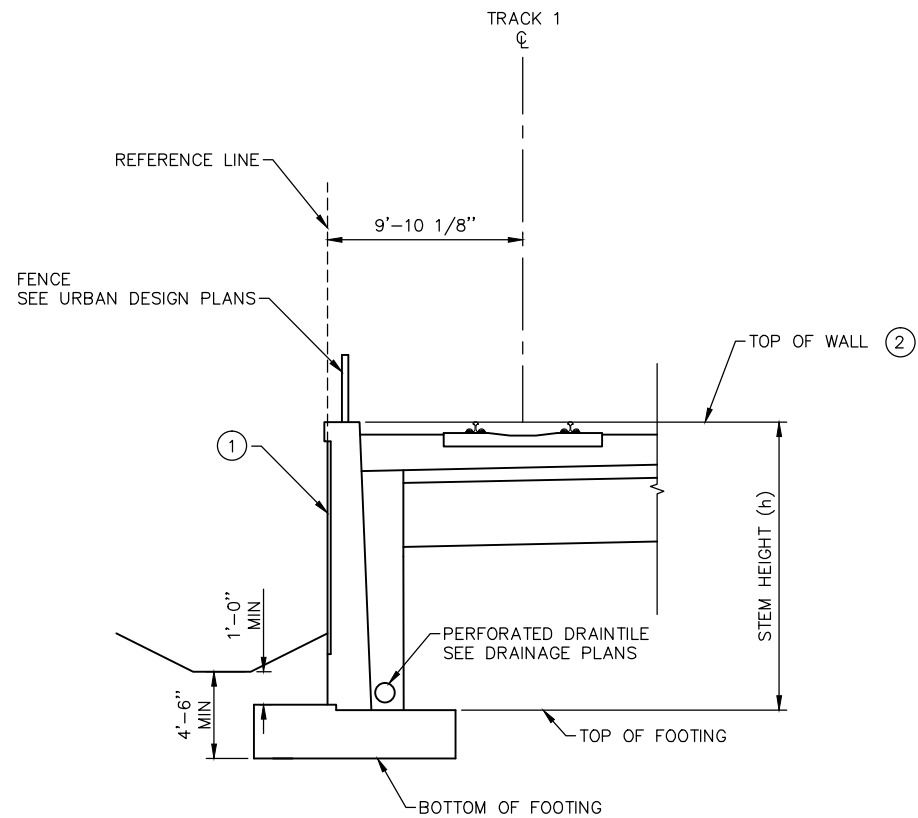
**RETAINING WALLS**

**RTW-E102 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E102 - PLE</b>
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SHEET 92 OF 271

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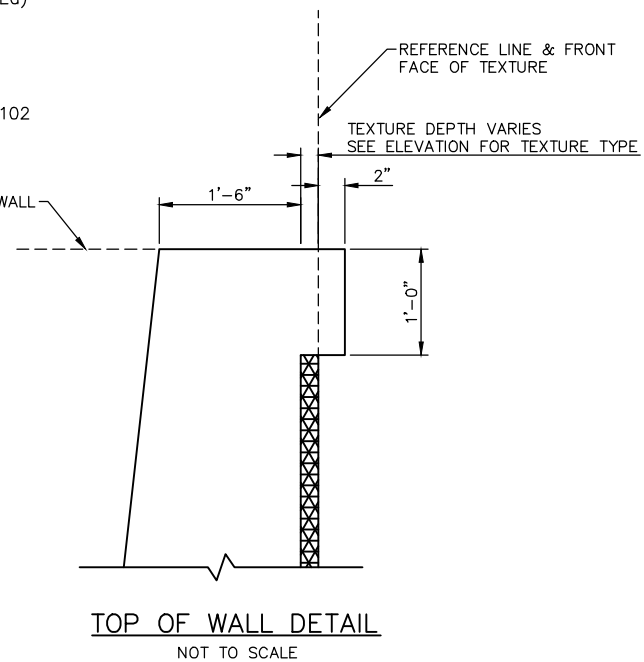


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>σ</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
- 3. RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
- 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E102

**RTW-E102 SECTION**

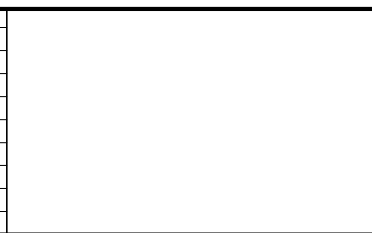
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**TOP OF WALL DETAIL**  
NOT TO SCALE

RTW-102 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	26 -10 5/8"	1+00.00	1	CJ	148278.37	495859.58	-	916.69	-	918.69	-	922.78	-	4 -1 1/8"	5'
2	30 -6"	1+26.89	2	CJ	148290.07	495883.79	916.69	916.69	918.69	918.69	923.07	923.07	4 -4 1/2"	4 -4 1/2"	5'
3	30 -6"	1+57.39	3	EJ	148303.33	495911.26	916.69	916.69	918.69	918.69	923.48	923.48	4 -9 1/2"	4 -9 1/2"	6'
4	30 -6"	1+87.89	4	CJ	148316.6	495938.72	916.69	916.69	918.69	918.69	923.97	923.97	5 -3 3/8"	5 -3 3/8"	6'
5	30 -6"	2+18.39	5	CJ	148329.86	495966.19	916.69	916.69	918.69	918.69	924.56	924.56	5 -10 1/2"	5 -10 1/2"	7'
6	30 -6"	2+48.89	6	EJ	148343.13	495993.65	916.69	916.69	918.69	918.69	925.23	925.23	6 -6 1/2"	6 -6 1/2"	8'
7	30 -6"	2+79.39	7	CJ	148356.39	496021.11	916.69	916.69	918.69	918.69	925.98	925.98	7 -3 1/2"	7 -3 1/2"	9'
8	30 -6"	3+09.89	8	CJ	148369.65	496048.58	916.69	916.69	918.69	918.69	926.83	926.83	8 -1 5/8"	8 -1 5/8"	10'
9	30 -6"	3+40.39	9	EJ	148382.92	496076.04	916.69	916.69	918.69	918.69	927.76	927.76	9 -0 7/8"	9 -0 7/8"	11'
10	30 -6"	3+70.89	10	CJ	148396.18	496103.51	916.69	916.69	918.69	918.69	928.78	928.78	10 -1 1/8"	10 -1 1/8"	12'
11	30 -6"	4+01.39	11	CJ	148409.45	496130.97	916.69	916.69	918.69	918.69	929.88	929.88	11 -2 1/4"	11 -2 1/4"	13'
12	30 -6"	4+31.89	12	EJ	148422.71	496158.44	916.69	916.69	918.69	918.69	931.07	931.07	12 -4 1/2"	12 -4 1/2"	14'
13	30 -6"	4+62.39	13	CJ	148435.98	496185.9	916.69	916.69	918.69	918.69	932.35	932.35	13 -7 7/8"	13 -7 7/8"	16'
14	30 -6"	4+92.89	14	CJ	148449.24	496213.37	916.69	916.69	918.69	918.69	933.72	933.72	15 -0 3/8"	15 -0 3/8"	17'
15	30 -6"	5+23.39	15	EJ	148462.51	496240.83	916.69	916.69	918.69	918.69	935.15	935.15	16 -5 1/2"	16 -5 1/2"	18'
		5+53.89	16	CJ	148475.77	496268.29	916.69	-	918.69	-	936.6	-	17 -10 7/8"	-	18'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

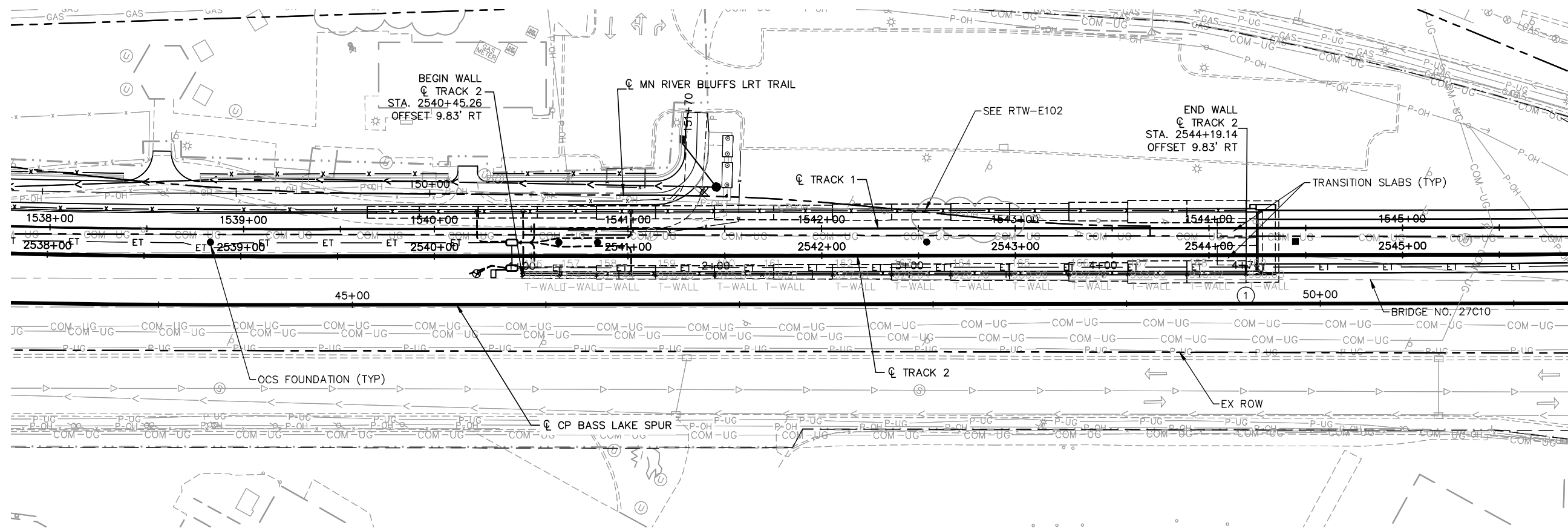


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E102 GEOMETRY**

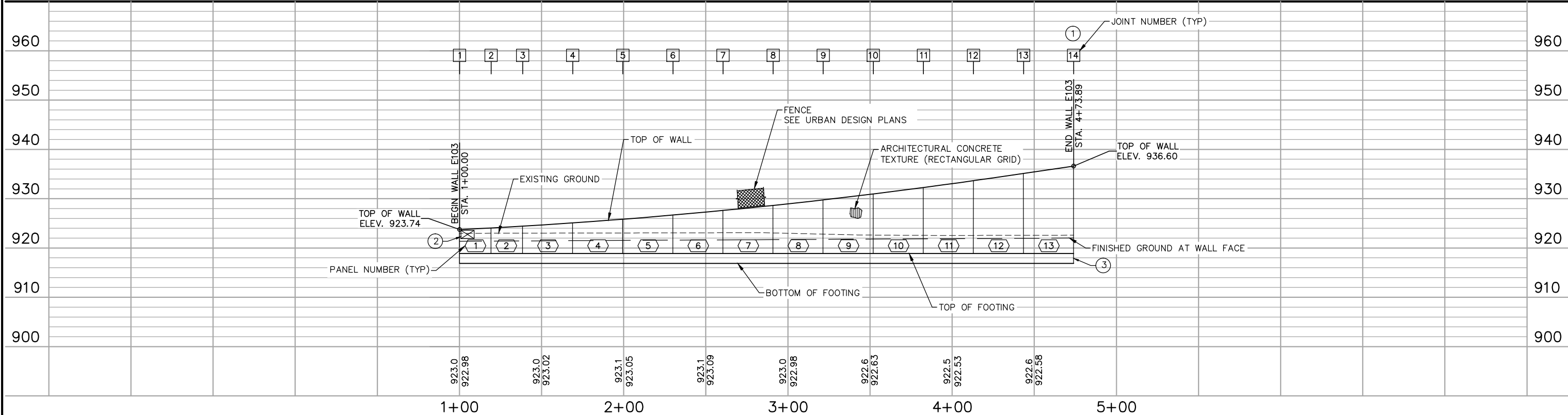
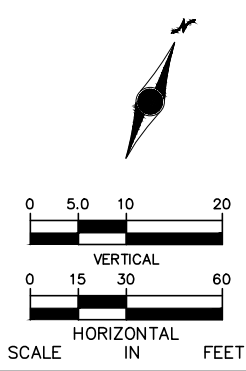
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E102-DTL-001**

**SHEET**  
**93**  
**OF**  
**271**


Jan. 19 2016 02:38 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E103-PL-E.dwg By: V-BorntrSJ



- NOTE:**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW E103.




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**





**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-E103 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E103-PL-E**

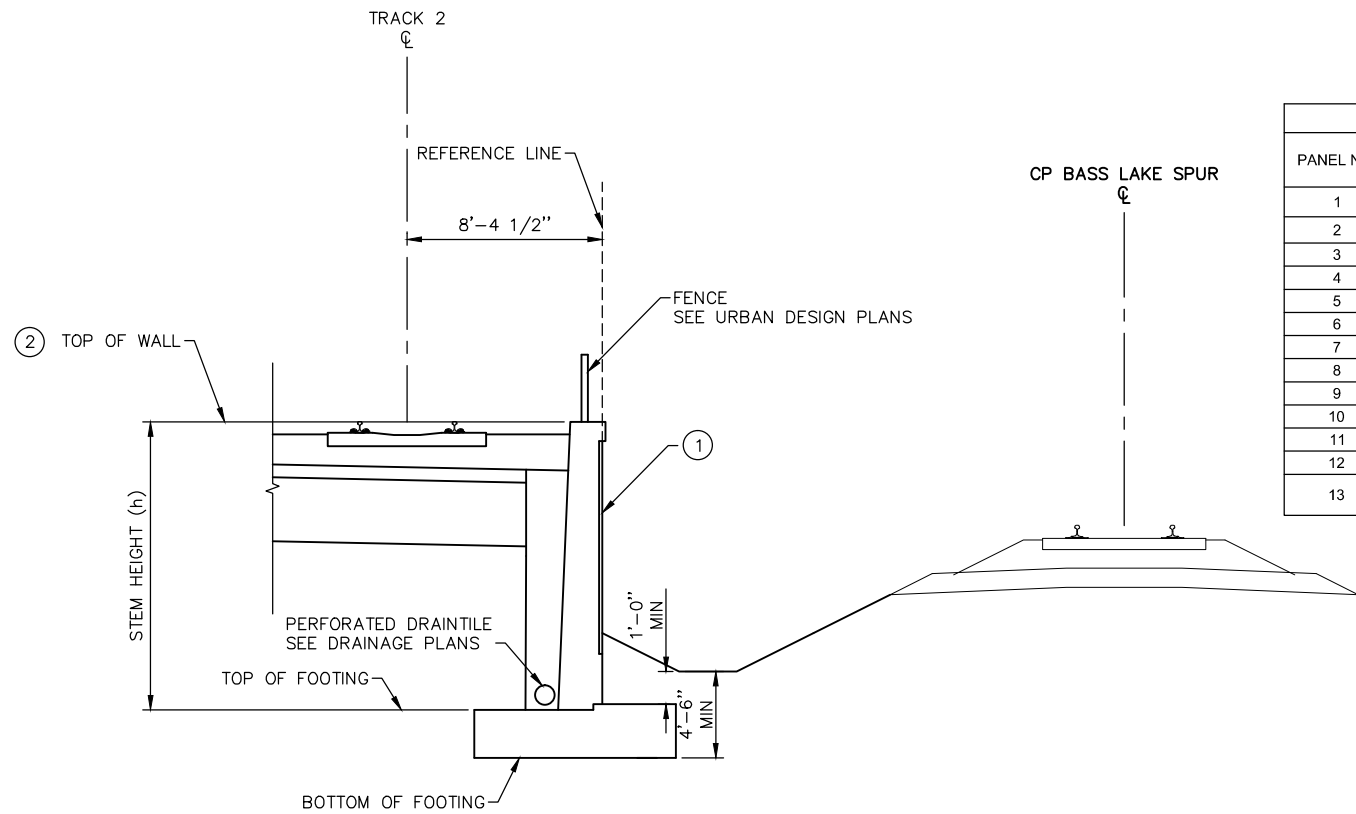
**SHEET**

**94**

**OF**

**271**

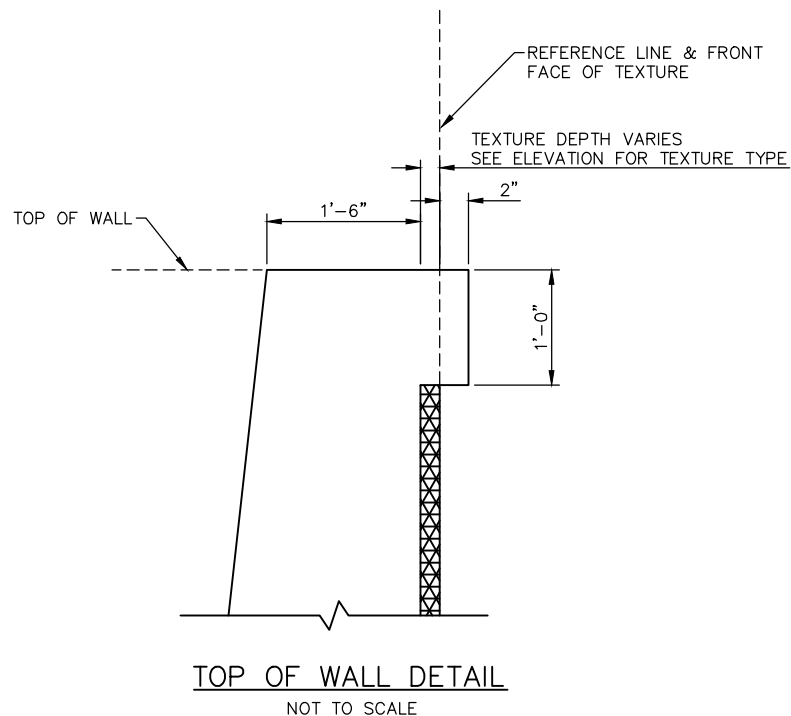
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- NOTE:**
1. ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  3. RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
  4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E103

**RTW-E103 SECTION**

NOT TO SCALE

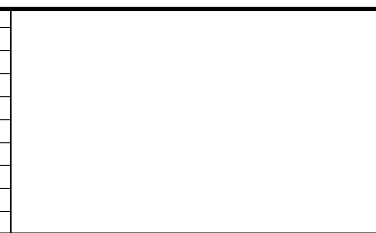


**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E103 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	19'-2 3/8"	1+00.00	1	CJ	148282.845	495946.26	-	916.87	-	918.87	-	923.74	-	4'-10 1/2"	6'
2	19'-2 1/4"	1+19.20	2	CJ	148291.195	495963.549	916.87	916.87	918.87	918.87	924.07	924.07	5'-2 3/8"	5'-2 3/8"	6'
3	30'-6"	1+38.39	3	EJ	148299.541	495980.829	916.87	916.87	918.87	918.87	924.44	924.44	5'-6 7/8"	5'-6 7/8"	7'
4	30'-6"	1+68.89	4	CJ	148312.806	496008.293	916.87	916.87	918.87	918.87	925.09	925.09	6'-2 5/8"	6'-2 5/8"	7'
5	30'-6"	1+99.39	5	CJ	148326.071	496035.758	916.87	916.87	918.87	918.87	925.84	925.84	6'-11 5/8"	6'-11 5/8"	8'
6	30'-6"	2+29.89	6	EJ	148336.727	496057.819	916.87	916.87	918.87	918.87	926.51	926.51	7'-7 5/8"	7'-7 5/8"	9'
7	30'-6"	2+60.39	7	CJ	148352.601	496090.687	916.87	916.87	918.87	918.87	927.61	927.61	8'-8 7/8"	8'-8 7/8"	10'
8	30'-6"	2+90.89	8	CJ	148365.866	496118.151	916.87	916.87	918.87	918.87	928.64	928.64	9'-9 1/4"	9'-9 1/4"	11'
9	30'-6"	3+21.39	9	EJ	148379.131	496145.615	916.87	916.87	918.87	918.87	929.76	929.76	10'-10 5/8"	10'-10 5/8"	13'
10	30'-6"	3+51.89	10	CJ	148392.396	496173.08	916.87	916.87	918.87	918.87	930.96	930.96	12'-1 1/8"	12'-1 1/8"	14'
11	30'-6"	3+82.39	11	CJ	148405.66	496200.544	916.87	916.87	918.87	918.87	932.26	932.26	13'-4 5/8"	13'-4 5/8"	15'
12	30'-6"	4+12.89	12	EJ	148418.925	496228.009	916.87	916.87	918.87	918.87	933.66	933.66	14'-9 1/2"	14'-9 1/2"	17'
13	30'-6"	4+43.39	13	CJ	148432.19	496255.473	916.87	916.87	918.87	918.87	935.12	935.12	16'-3"	16'-3"	17'
		4+73.89	14	CJ	148445.453	496282.933	916.87	-	918.87	-	936.6	-	17'-8 3/4"	-	18'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

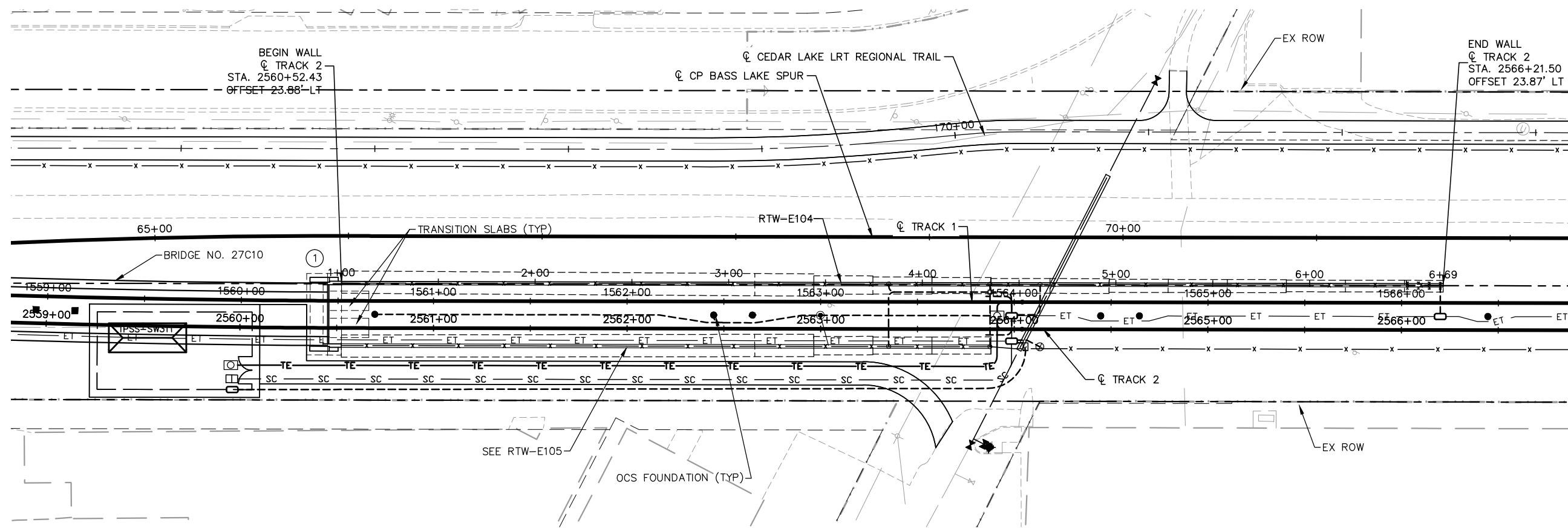


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E103 GEOMETRY**

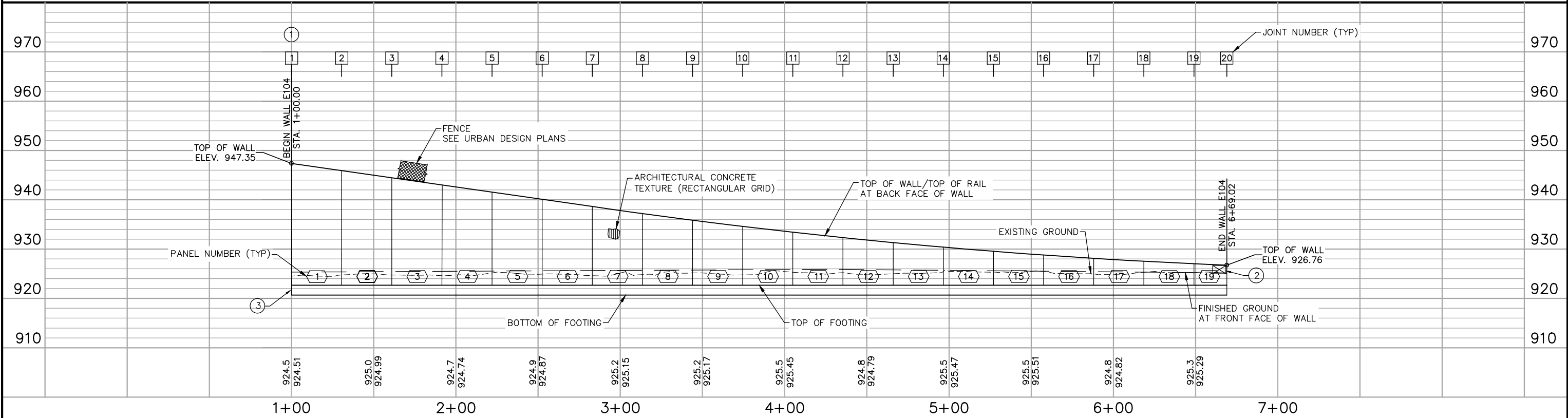
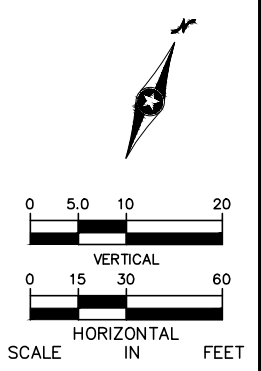
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E103-DTL-001**

**SHEET**  
**95**  
**OF**  
**271**

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- NOTE:**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW E104.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

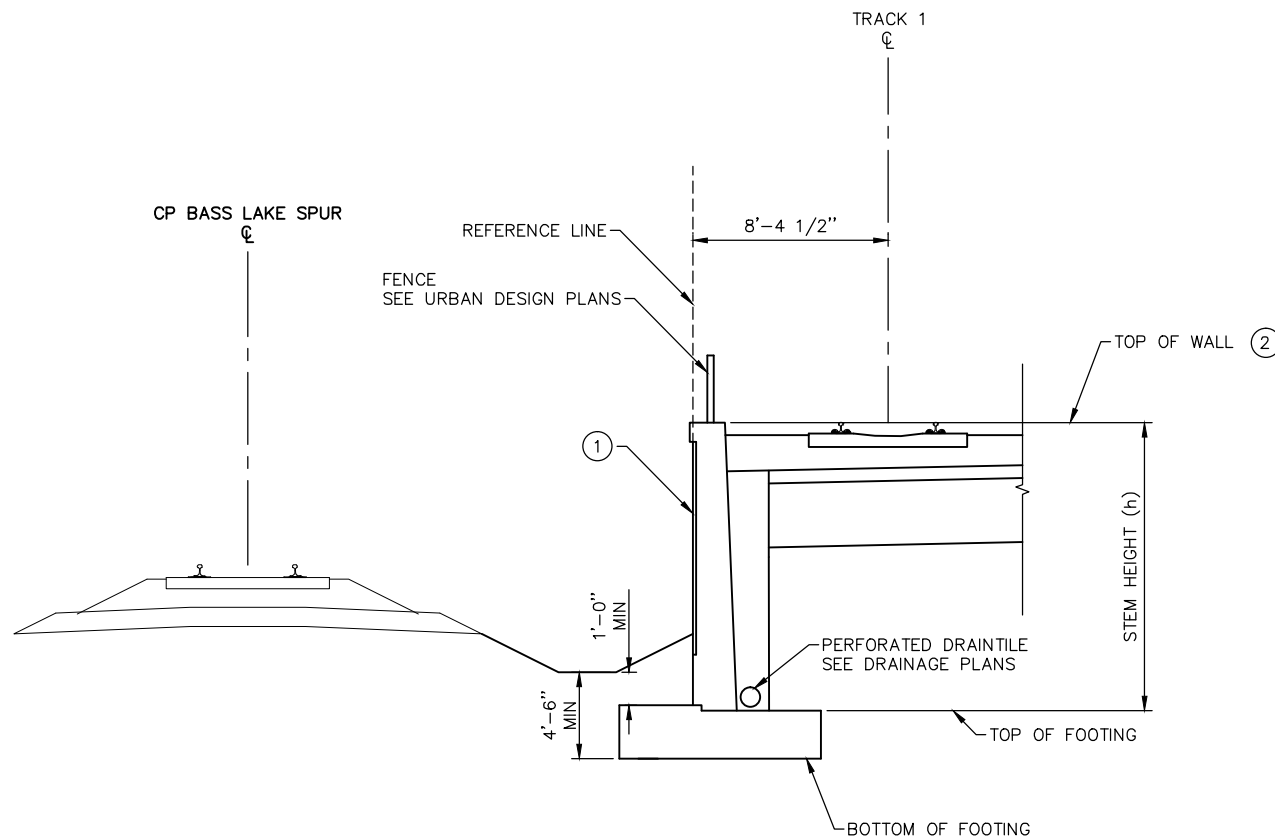
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E104 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E104- PLE**

**SHEET**  
96  
**OF**  
271



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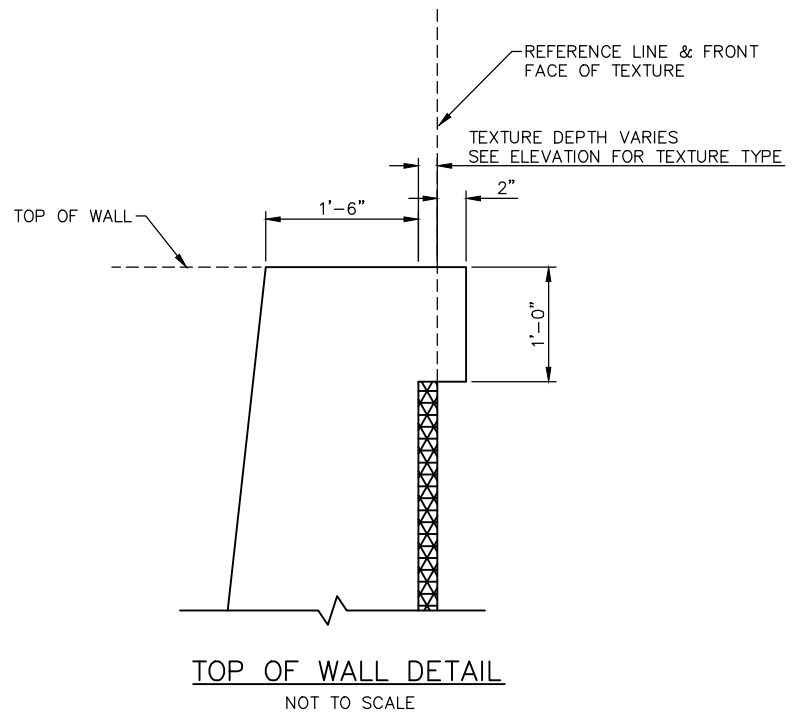


- NOTES**
- ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
  - ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E104

**RTW-E104 SECTION**

NOT TO SCALE

RTW-104 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	149169.80	497746.11	-	920.68	-	922.68	-	947.35	-	24'-8"	25'
2	30'-6"	1+30.50	2	CJ	149182.98	497773.61	920.68	920.68	922.68	922.68	945.9	945.9	23'-2 5/8"	23'-2 5/8"	24'
3	30'-6"	1+61.00	3	EJ	149196.16	497801.12	920.68	920.68	922.68	922.68	944.44	944.44	21'-9 1/8"	21'-9 1/8"	22'
4	30'-6"	1+91.50	4	CJ	149209.33	497828.63	920.68	920.68	922.68	922.68	942.99	942.99	20'-3 3/4"	20'-3 3/4"	21'
5	30'-6"	2+22.00	5	CJ	149222.51	497856.14	920.68	920.68	922.68	922.68	941.54	941.54	18'-10 3/8"	18'-10 3/8"	19'
6	30'-6"	2+52.50	6	EJ	149235.68	497883.64	920.68	920.68	922.68	922.68	940.09	940.09	17'-4 7/8"	17'-4 7/8"	18'
7	30'-6"	2+83.00	7	CJ	149248.86	497911.15	920.68	920.68	922.68	922.68	938.63	938.63	15'-11 3/8"	15'-11 3/8"	16'
8	30'-6"	3+13.50	8	CJ	149262.04	497938.66	920.68	920.68	922.68	922.68	937.21	937.21	14'-6 3/8"	14'-6 3/8"	15'
9	30'-6"	3+44.00	9	EJ	149275.21	497966.16	920.68	920.68	922.68	922.68	935.86	935.86	13'-2 1/8"	13'-2 1/8"	14'
10	30'-6"	3+74.50	10	CJ	149288.39	497993.67	920.68	920.68	922.68	922.68	934.60	934.60	11'-11"	11'-11"	12'
11	30'-6"	4+05.00	11	CJ	149301.57	498021.18	920.68	920.68	922.68	922.68	933.43	933.43	10'-9"	10'-9"	11'
12	30'-6"	4+35.50	12	EJ	149314.74	498048.68	920.68	920.68	922.68	922.68	932.34	932.34	9'-7 7/8"	9'-7 7/8"	10'
13	30'-6"	4+66.00	13	CJ	149327.92	498076.19	920.68	920.68	922.68	922.68	931.33	931.33	8'-7 3/4"	8'-7 3/4"	9'
14	30'-6"	4+96.50	14	CJ	149341.10	498103.70	920.68	920.68	922.68	922.68	930.4	930.4	7'-8 5/8"	7'-8 5/8"	8'
15	30'-6"	5+27.00	15	EJ	149354.27	498131.21	920.68	920.68	922.68	922.68	929.56	929.56	6'-10 1/2"	6'-10 1/2"	7'
16	30'-6"	5+57.50	16	CJ	149367.45	498158.71	920.68	920.68	922.68	922.68	928.81	928.81	6'-1 1/2"	6'-1 1/2"	7'
17	30'-6"	5+88.00	17	CJ	149380.62	498186.22	920.68	920.68	922.68	922.68	928.14	928.14	5'-5 1/2"	5'-5 1/2"	6'
18	30'-6"	6+18.50	18	EJ	149393.80	498213.73	920.68	920.68	922.68	922.68	927.55	927.55	4'-10 1/2"	4'-10 1/2"	5'
19	20'-0 1/4"	6+49.00	19	CJ	149406.98	498241.23	920.68	920.68	922.68	922.68	927.04	927.04	4'-4 3/8"	4'-4 3/8"	5'
		6+69.02	20	CJ	149415.63	498259.29	920.68	-	922.68	-	926.76	-	4'-1"	-	5'



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

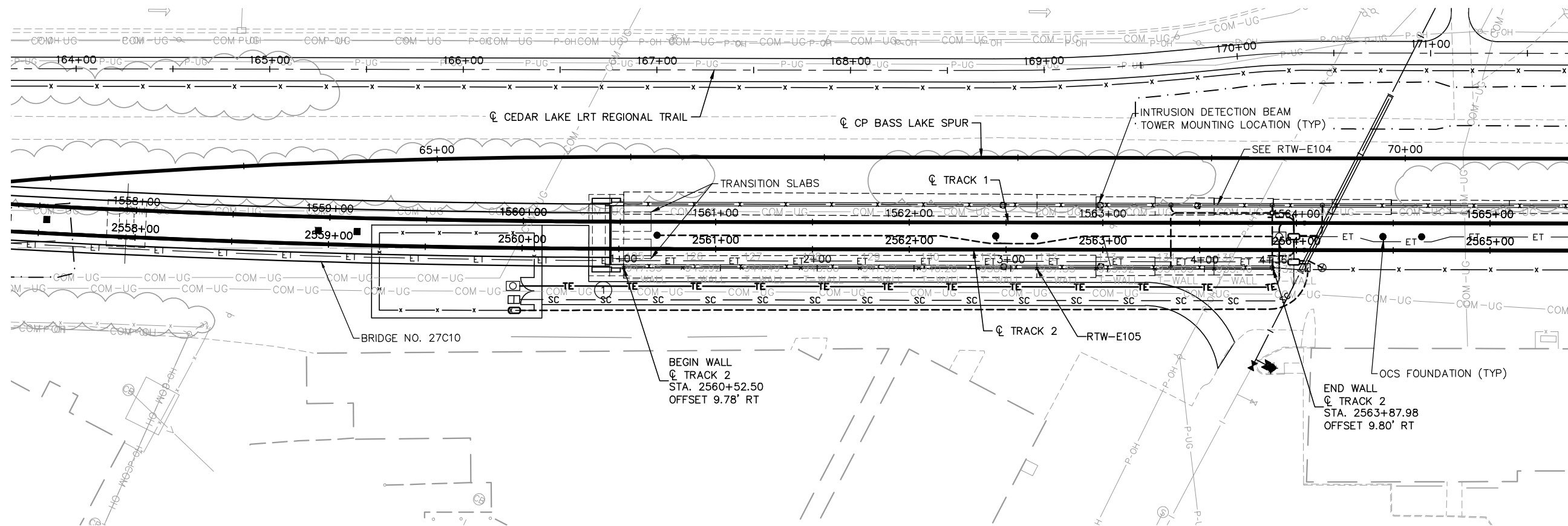


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E104 GEOMETRY**

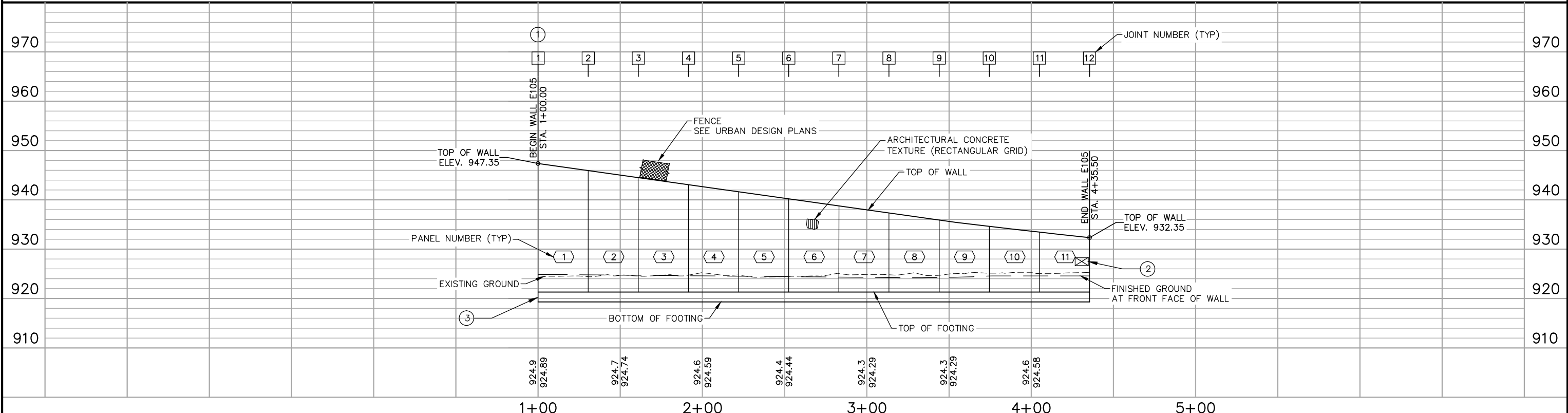
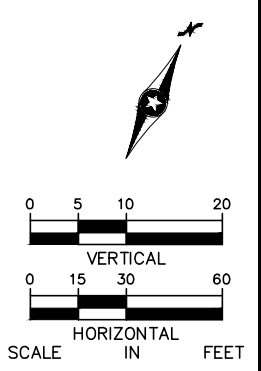
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E104-DTL - 001**

**SHEET**  
97  
**OF**  
271




Jan, 19 2016 06:36 pm V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E105-PL-E.dwg By: V-GudisshD



- NOTE:**
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET EO-SYS-CORR-DTL-022.
  - 3 SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E105.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

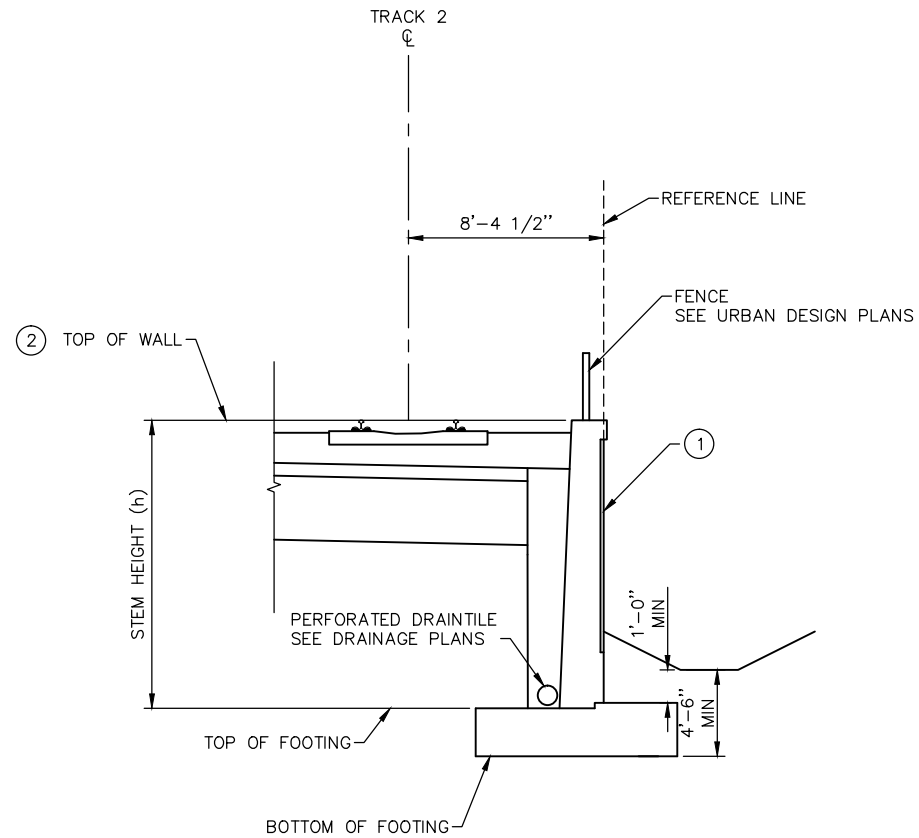
**RETAINING WALLS**

**RTW-E105 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E105- PLE</b>
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SHEET  
98  
OF  
271

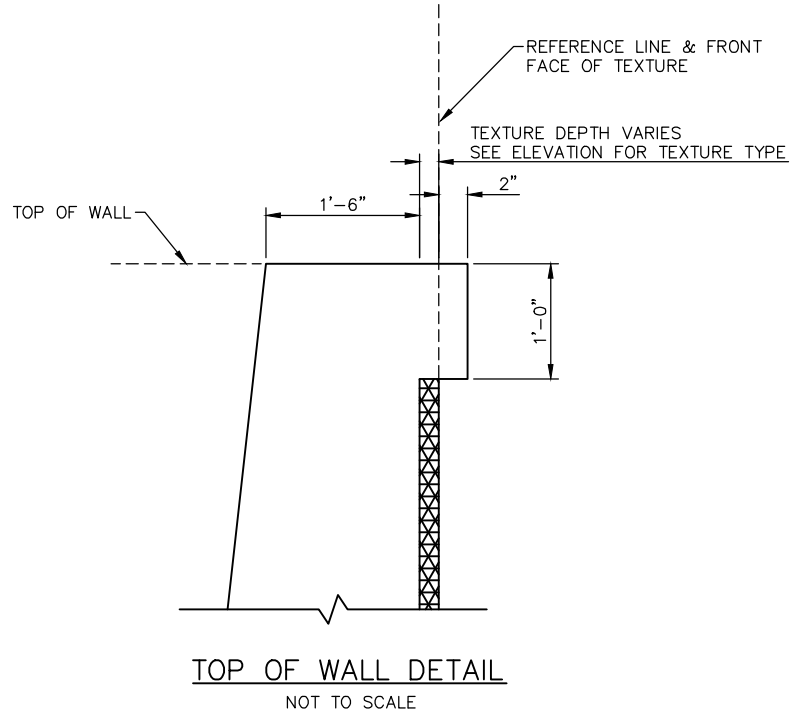
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- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  3. RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
  4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E105

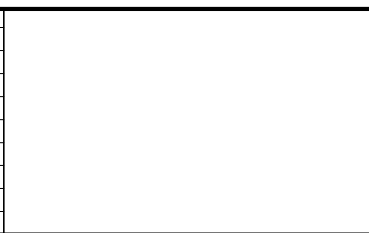
**RTW-E105 SECTION**  
NOT TO SCALE

RTW-105 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	149139.44	497760.65	-	919.3	-	921.3	-	947.35	-	26'-0 5/8"	27'
2	30'-6"	1+30.50	2	CJ	149152.62	497788.16	919.3	919.3	921.3	921.3	945.92	945.92	24'-7 1/2"	24'-7 1/2"	25'
3	30'-6"	1+61.00	3	EJ	149165.79	497815.67	919.3	919.3	921.3	921.3	944.49	944.49	23'-2 1/4"	23'-2 1/4"	24'
4	30'-6"	1+91.50	4	CJ	149178.96	497843.18	919.3	919.3	921.3	921.3	943.06	943.06	21'-9 1/8"	21'-9 1/8"	22'
5	30'-6"	2+22.00	5	CJ	149192.14	497870.68	919.3	919.3	921.3	921.3	941.63	941.63	20'-4"	20'-4"	21'
6	30'-6"	2+52.50	6	EJ	149205.31	497898.19	919.3	919.3	921.3	921.3	940.2	940.2	18'-10 3/4"	18'-10 3/4"	19'
7	30'-6"	2+83.00	7	CJ	149218.49	497925.7	919.3	919.3	921.3	921.3	938.77	938.77	17'-5 5/8"	17'-5 5/8"	18'
8	30'-6"	3+13.50	8	CJ	149231.66	497953.21	919.3	919.3	921.3	921.3	937.35	937.35	16'-0 5/8"	16'-0 5/8"	17'
9	30'-6"	3+44.00	9	EJ	149244.84	497980.72	919.3	919.3	921.3	921.3	935.92	935.92	14'-7 1/2"	14'-7 1/2"	15'
10	30'-6"	3+74.50	10	CJ	149258.01	498008.22	919.3	919.3	921.3	921.3	934.63	934.63	13'-4"	13'-4"	14'
		4+05.00	11	CJ	149271.19	498035.73	919.3	919.3	921.3	921.3	933.46	933.46	12'-1 7/8"	12'-1 7/8"	
11	30'-6"	4+35.50	12	EJ	149284.36	498063.24	919.3	-	921.3	-	932.35	-	11'-0 5/8"	-	13'



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



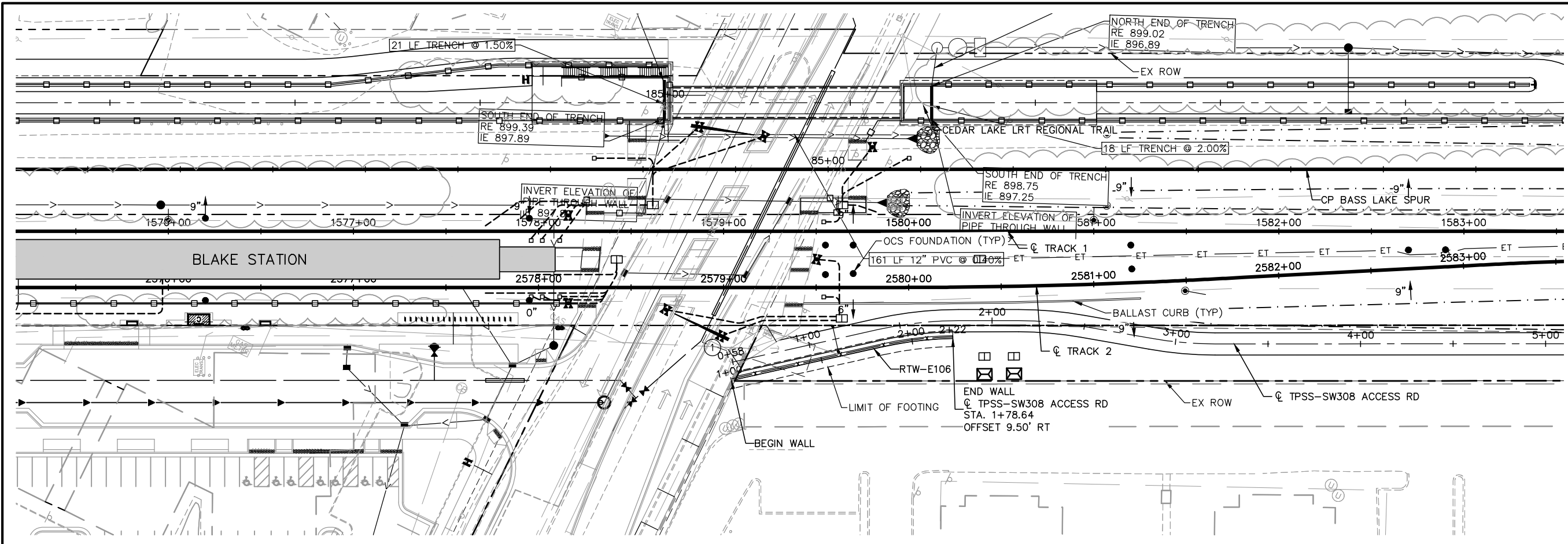
**90% SUBMISSION - 01/22/16**



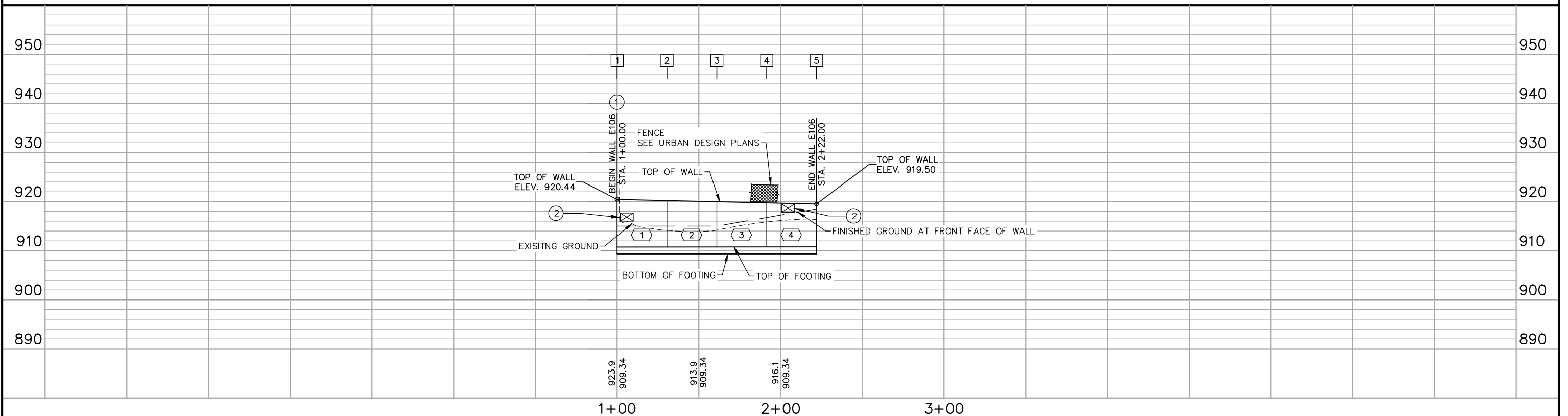
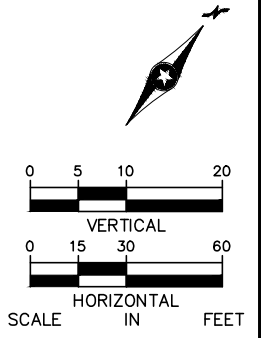
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E105 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E105-DTL - 001**

Jan. 17 2016 05:52 pm V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E106-PLD.dwg By: V-PatelPJ



- NOTE:
- ① TIE INTO EXISTING RETAINING WALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 1 ON SHEET E0-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

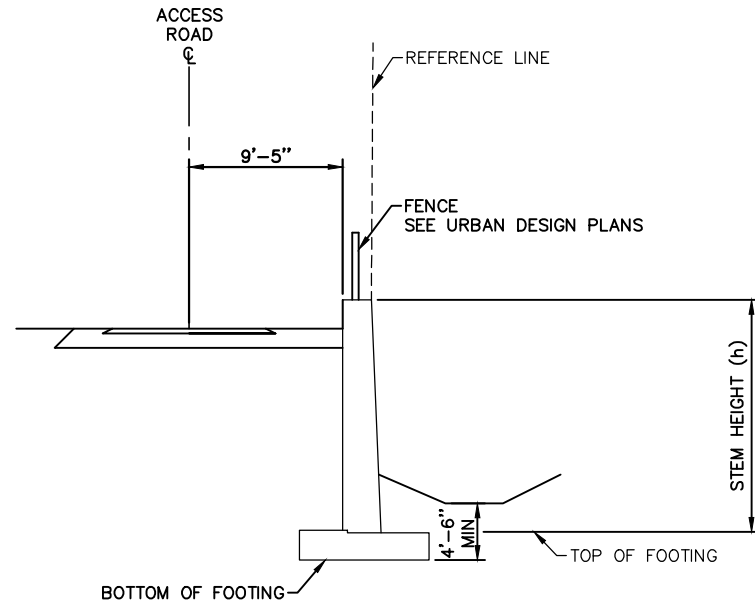


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E106 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E106 - PLE**

SHEET **100** OF **271**

Jan, 18 2016 07:28 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E106-DTL.dwg By: V-PatelPJ

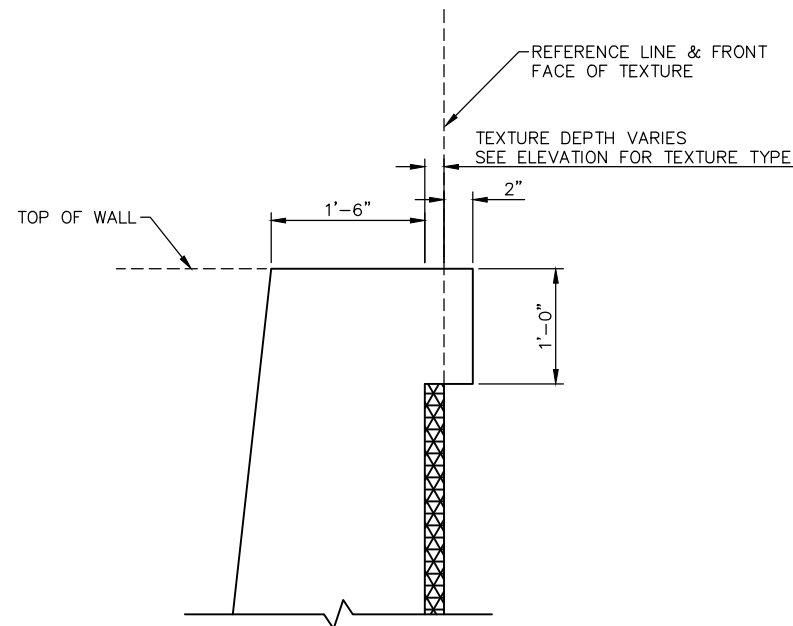


- NOTE:**
1. RETAINING WALL TO BE CIP ON SPREAD FOOTING
  2. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E106

**RTW-E106 SECTION**

NOT TO SCALE

RTW-E106 GEOMETRICS (CIPC)											
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)	
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA
1	30'-6"	1	CJ	149888.169	499454.824	-	909.34	-	920.44	-	9'-8 1/4"
2	30'-6"	2	CJ	149907.021	499478.801	909.34	909.34	920.2	920.2	9'-5 1/4"	9'-5 1/4"
3	30'-6"	3	EJ	149925.872	499502.777	909.34	909.34	919.97	919.97	9'-2 1/2"	9'-2 1/2"
4	30'-5 5/8"	4	CJ	149944.581	499526.862	909.34	909.34	919.74	919.74	8'-11 3/4"	8'-11 3/4"
		5	CJ	149960.325	499552.947	909.34	-	919.5	-	8'-8 7/8"	



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

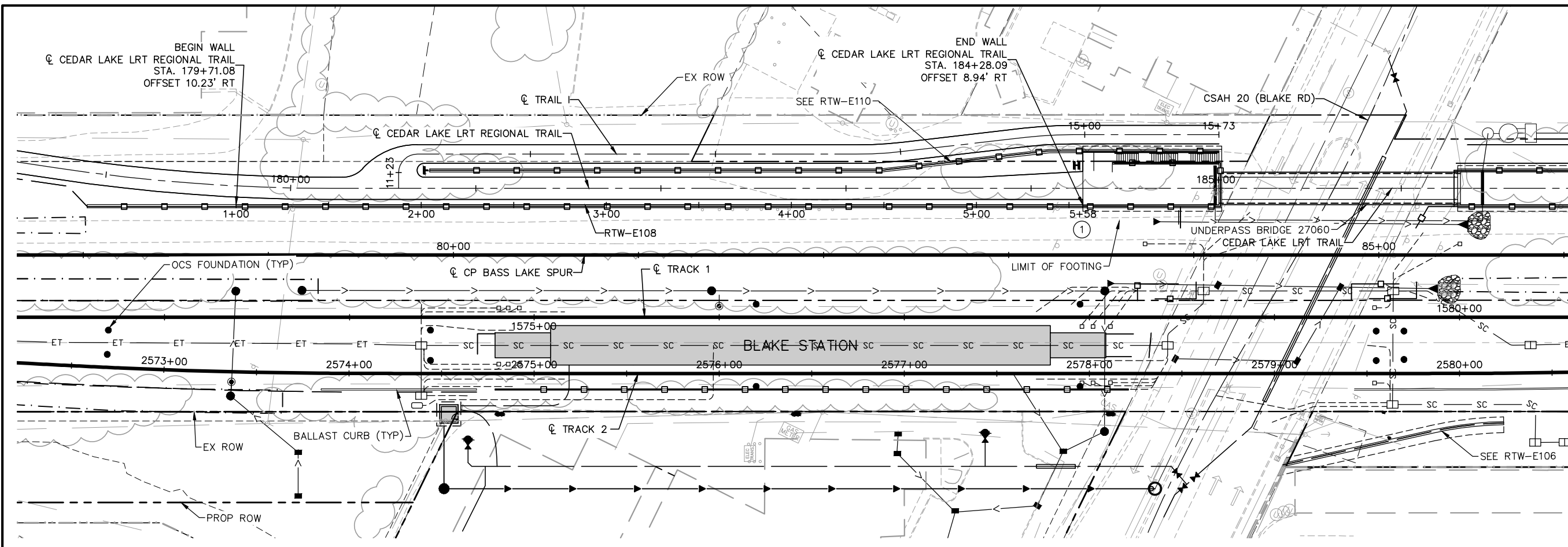



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E106 GEOMETRY**

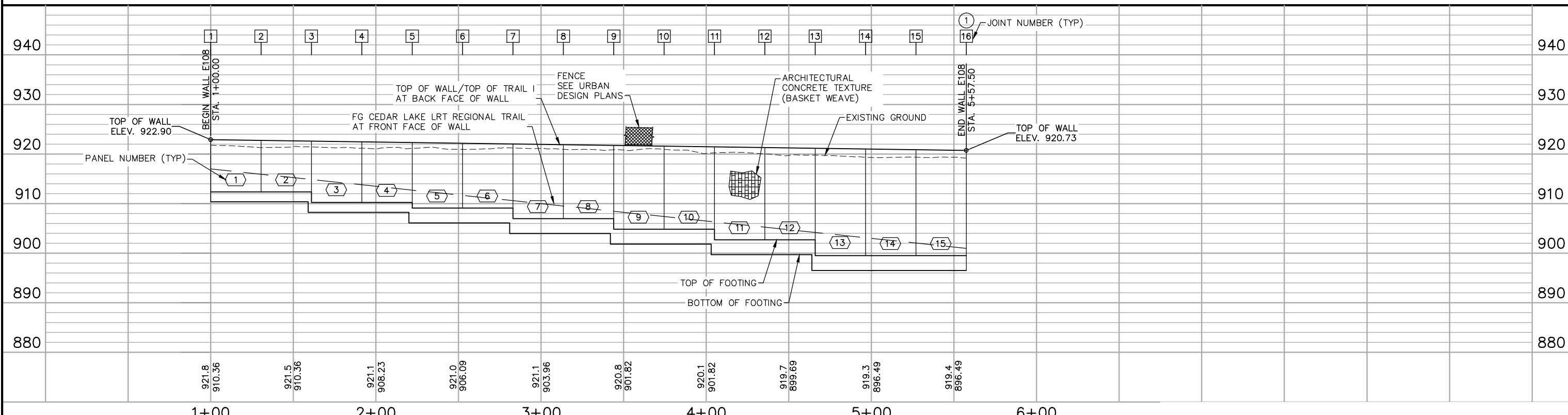
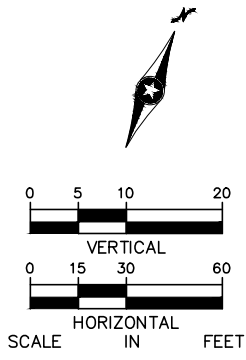
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SHEET  
101  
OF  
271




Jan. 17 2016 05:59 pm V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E108-PL-E.dwg By: V-PateiPJ



**NOTES**  
 ① JOINT LOCATED BETWEEN RETAINING WALL AND UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

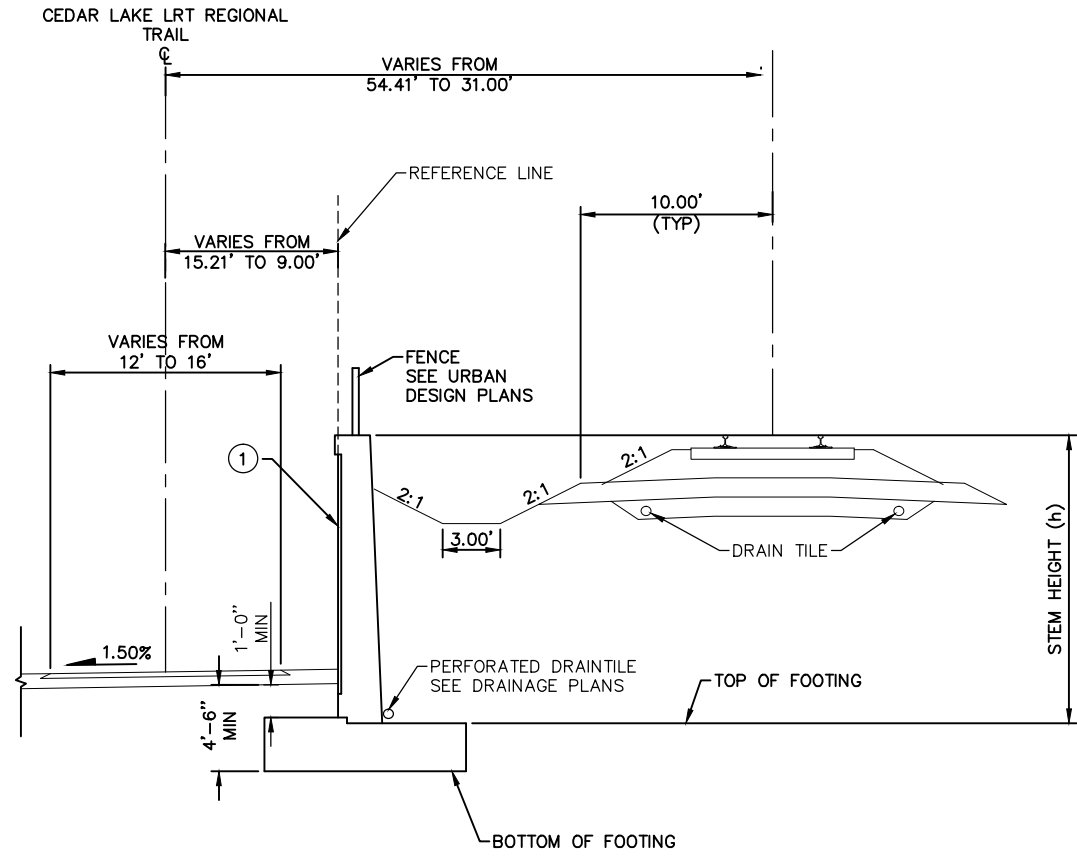
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E108 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E108-PLE</b>
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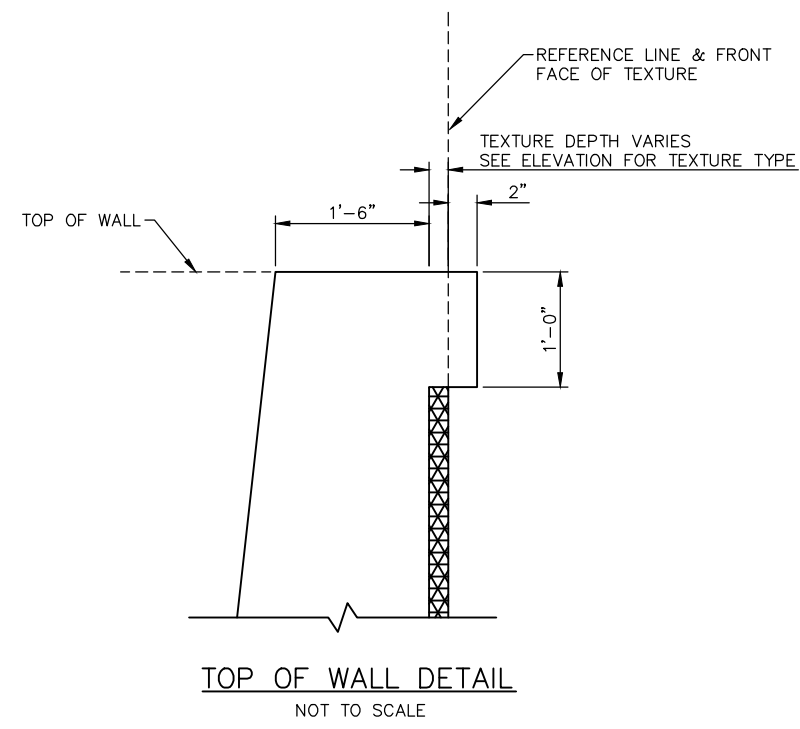
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102  
OF  
271

Jan, 17 2016 05:59 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E108-DTL.dwg By: V-PatelPJ




- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL
  3. RETAINING WALL TO BE CIP ON SPREAD FOOTING

**RTW-E108 SECTION**  
NOT TO SCALE





RTW-E108 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	-	149771.237	498884.189	-	910.36	-	922.9	-	10'-6 1/2"	7'
2	30'-6"	2	CJ	149784.416	498911.694	910.36	910.36	922.75	922.75	10'-4 5/8"	12'-4 5/8"	6'
3	30'-6"	3	EJ	149797.594	498939.2	908.23	908.23	922.61	922.61	12'-3"	12'-4 1/2"	9'
4	30'-6"	4	CJ	149810.773	498966.706	908.23	908.23	922.46	922.46	12'-2 3/4"	13'-4 1/2"	9'
5	30'-6"	5	EJ	149823.951	498994.212	906.09	906.09	922.32	922.32	13'-2 3/4"	13'-2 3/4"	9'
6	30'-6"	6	CJ	149837.13	499021.718	906.09	906.09	922.18	922.18	13'-1 1/8"	15'-2 5/8"	12'
7	30'-6"	7	EJ	149850.309	499049.224	903.96	903.96	922.03	922.03	15'-0 7/8"	15'-0 7/8"	12'
8	30'-6"	8	CJ	149863.487	499076.73	903.96	903.96	921.89	921.89	14'-11 1/8"	17'-0 7/8"	15'
9	30'-6"	9	EJ	149876.666	499104.236	901.82	901.82	921.74	921.74	16'-11"	16'-11"	14'
10	30'-6"	10	CJ	149889.844	499131.742	901.82	901.82	921.6	921.6	16'-9 3/8"	18'-10 7/8"	14'
11	30'-6"	11	EJ	149903.023	499159.247	899.69	899.69	921.45	921.45	18'-9 1/8"	18'-9 1/8"	17'
12	30'-6"	12	CJ	149916.202	499186.753	899.69	899.69	921.31	921.31	18'-7 1/2"	21'-7 1/2"	17'
13	30'-6"	13	EJ	149929.38	499214.259	896.49	896.49	921.16	921.16	21'-5 5/8"	21'-8"	17'
14	30'-6"	14	CJ	149942.559	499241.765	896.49	896.49	921.02	921.02	21'-6 3/8"	21'-6 3/8"	19'
15	30'-6"	15	CJ	149955.738	499269.271	896.49	896.49	920.87	920.87	21'-4 1/2"	21'-4 1/2"	18'
16	30'-6"	16	EJ	149968.916	499296.777	896.49	-	920.73	-	21'-2 7/8"	-	20'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

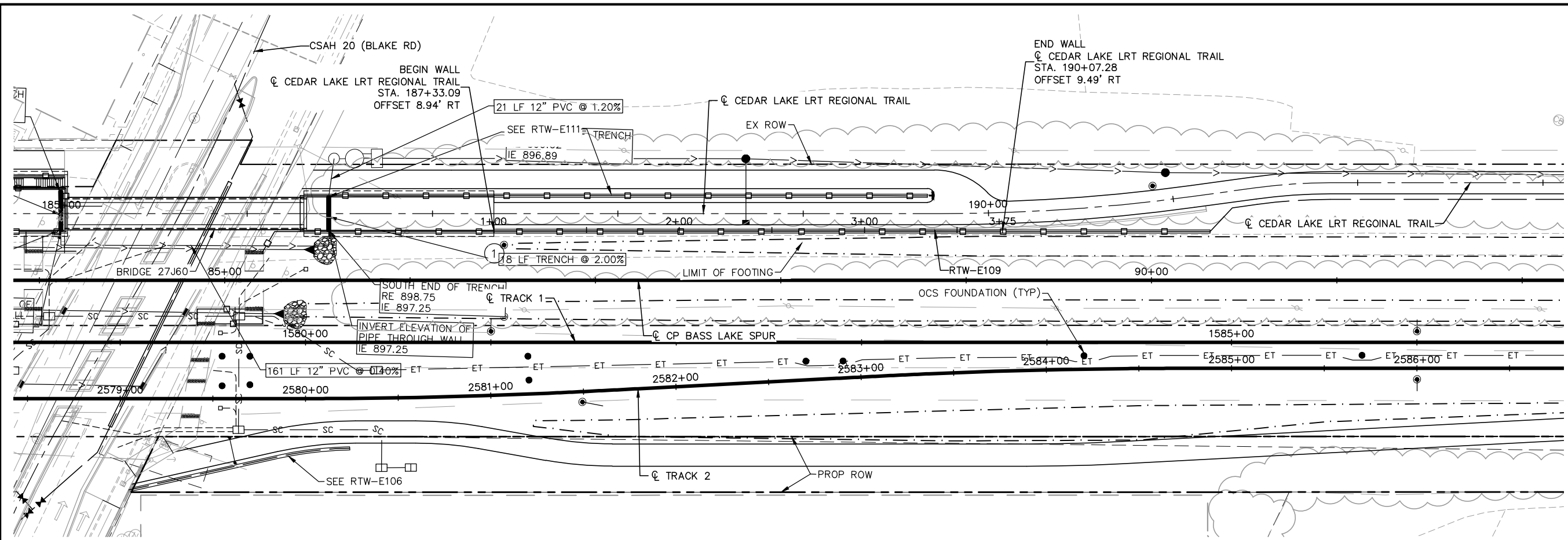



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E108 GEOMETRY**

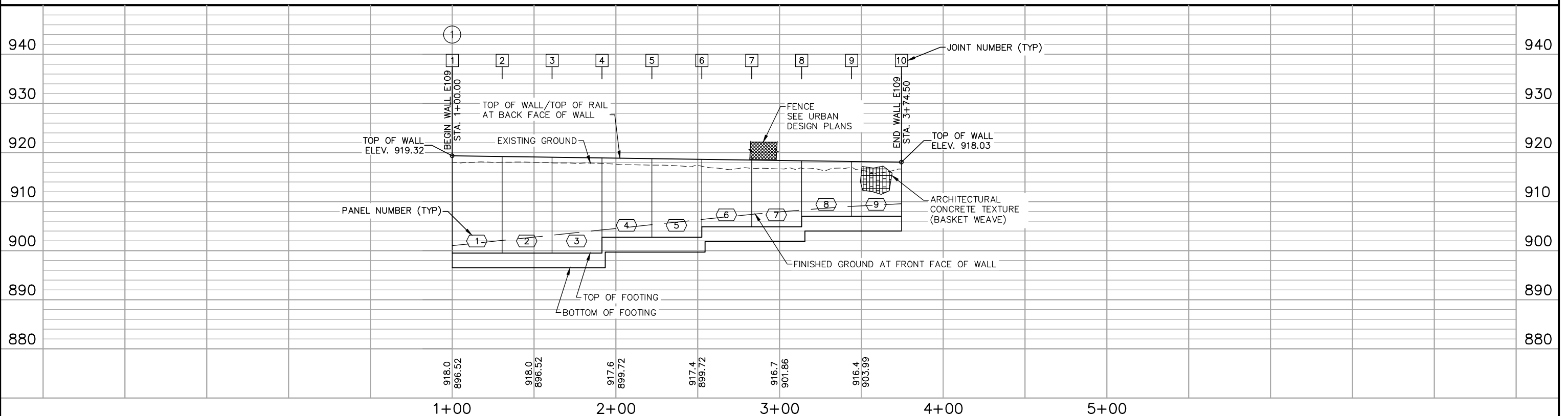
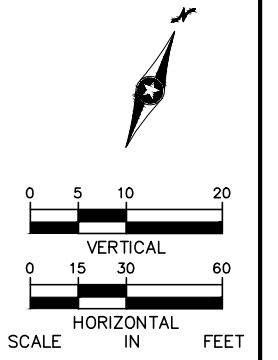
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E108-DTL - 001**

SHEET  
103  
OF  
271

Jan. 17 2016 06:05 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E109-PL-E.dwg By: V-PateIPJ



NOTES  
 ① JOINT LOCATED BETWEEN RETAINING WALL AND UNDERPASS



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

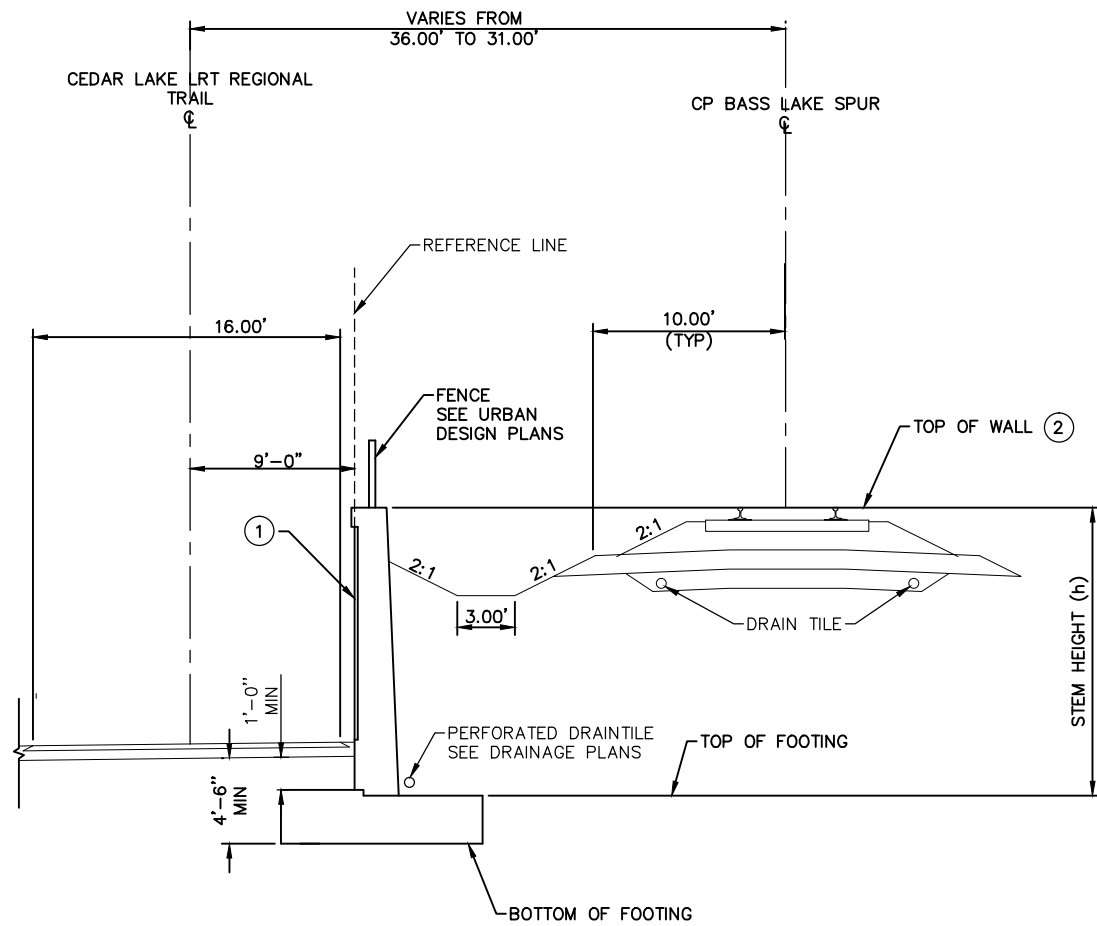
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**RETAINING WALLS**  
**RTW-E109 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E109-PL-E**

SHEET  
104  
OF  
271



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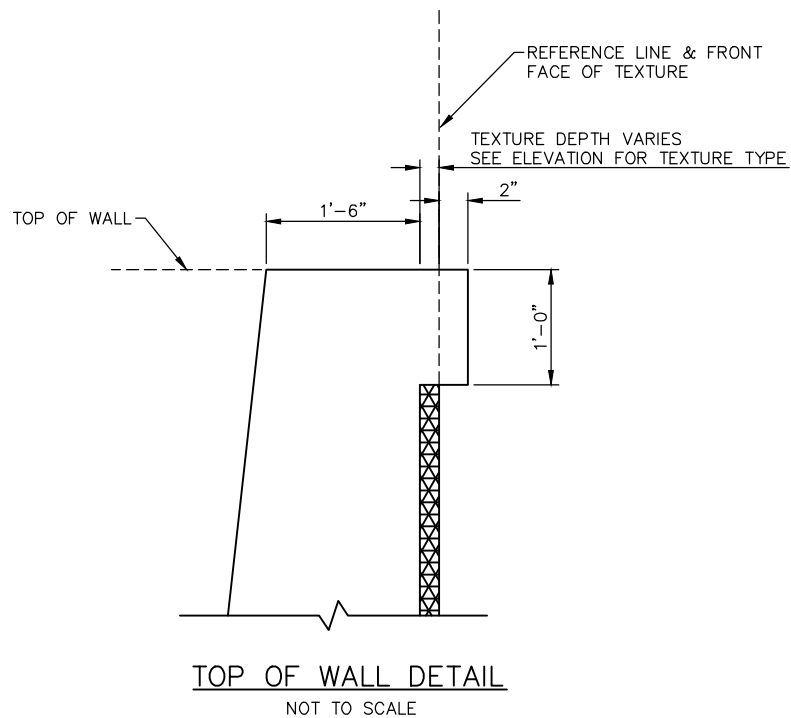


- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL
  - 3. RETAINING WALL TO BE CIP ON SPREAD FOOTING

**RTW-E109 SECTION**

NOT TO SCALE

RTW-E109 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	EJ	150100.705	499571.837	-	896.52	-	919.32	-	19'-9 5/8"	21'
2	30'-6"	2	CJ	150113.884	499599.343	896.52	896.52	919.18	919.18	19'-7 7/8"	19'-7 7/8"	21'
3	30'-6"	3	CJ	150127.062	499626.849	896.52	896.52	919.03	919.03	19'-6 1/8"	19'-6 1/8"	21'
4	30'-6"	4	EJ	150140.241	499654.355	896.52	896.52	918.89	918.89	19'-4 1/2"	16'-2"	21'
5	30'-6"	5	CJ	150153.42	499681.86	899.72	899.72	918.75	918.75	16'-0 3/8"	16'-0 3/8"	21'
6	30'-6"	6	EJ	150166.598	499709.366	899.72	899.72	918.6	918.6	15'-10 1/2"	13'-8 7/8"	17'
7	30'-6"	7	CJ	150179.777	499736.872	901.86	901.86	918.46	918.46	13'-7 1/4"	13'-7 1/4"	17'
8	30'-6"	8	EJ	150192.956	499764.378	901.86	901.86	918.31	918.31	13'-5 3/8"	11'-3 7/8"	16'
9	30'-6"	9	CJ	150206.134	499791.884	903.99	903.99	918.17	918.17	11'-2 1/8"	11'-2 1/8"	16'
10	30'-6"	10	-	150219.313	499819.39	903.99	-	918.03	-	11'-0 1/2"	-	14'



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



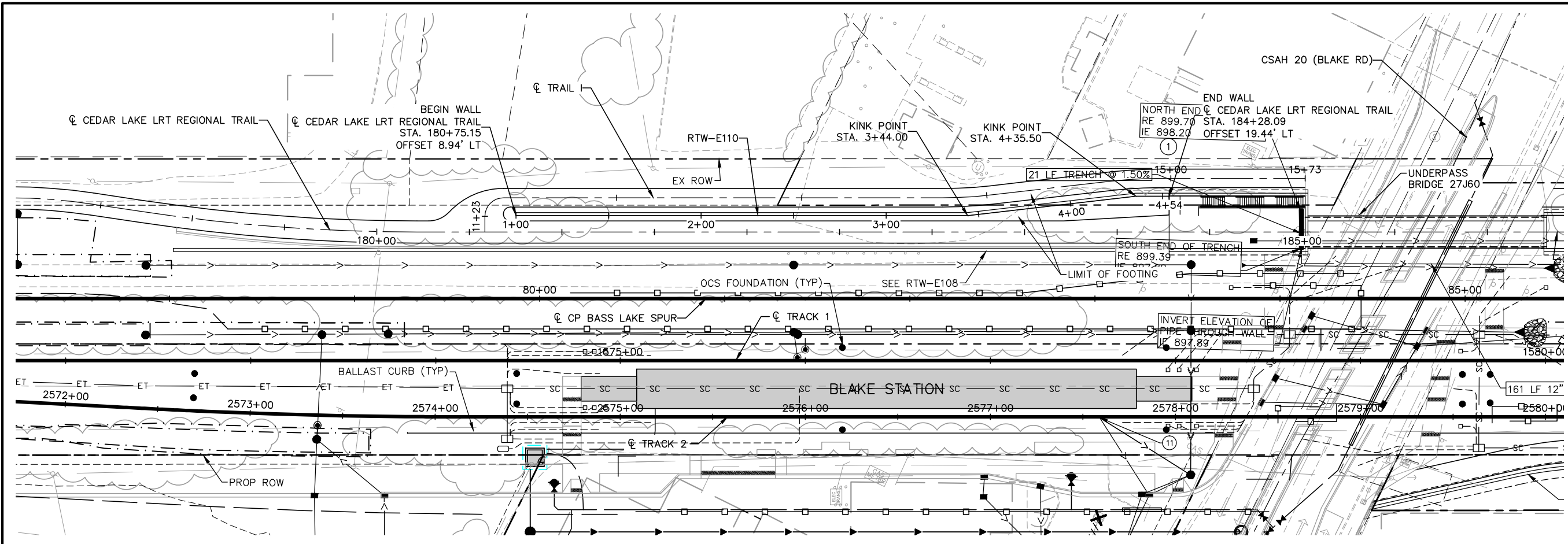
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E109 GEOMETRY**

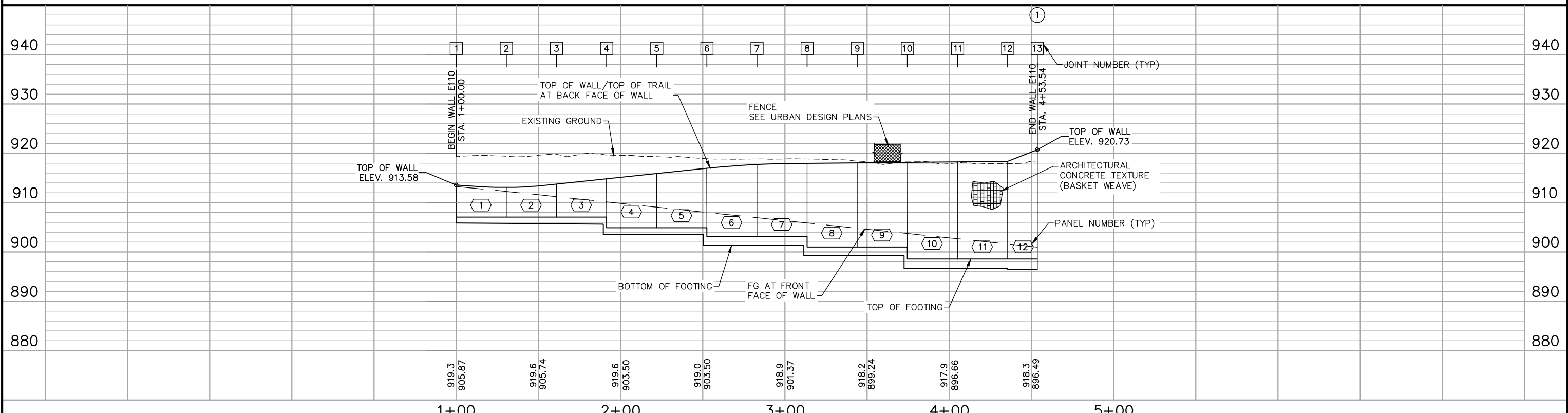
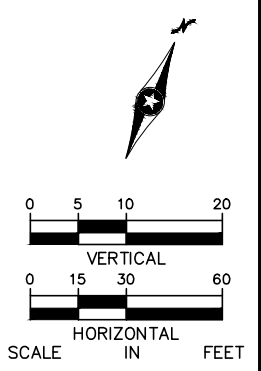
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**SHEET  
105  
OF  
271**

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NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

**90% SUBMISSION - 01/22/16**

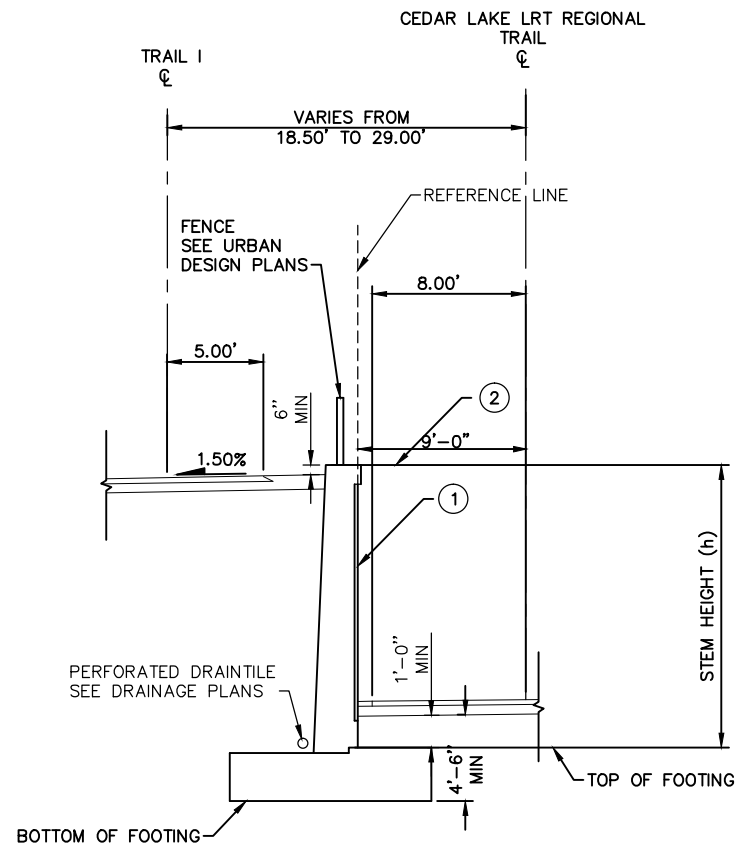
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E110 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E110-PL-E**

**SHEET**  
106  
**OF**  
271

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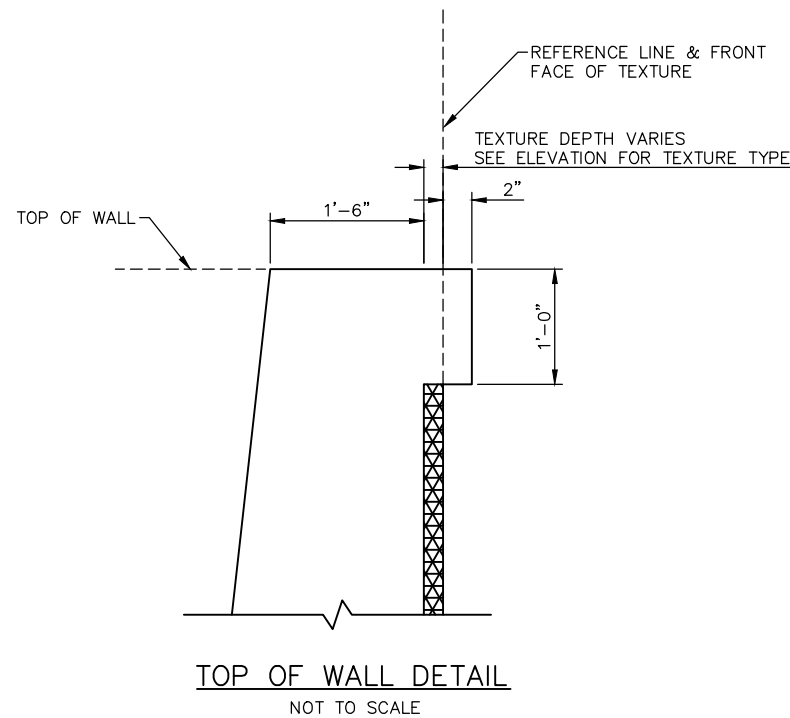


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ②. TOP OF WALL
- 3. RETAINING WALL TO BE CIP ON SPREAD FOOTING

**RTW-E110 SECTION**

NOT TO SCALE



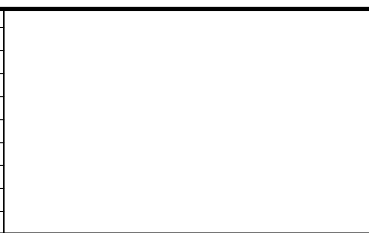
**TOP OF WALL DETAIL**

NOT TO SCALE

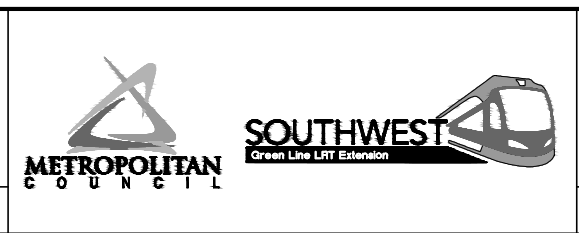
RTW-E110 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	-	149832.545	498970.76	-	905.87	-	913.58	-	6'-6 1/4"	6'
2	30'-6"	2	CJ	149845.723	498998.265	905.79	905.79	913.08	913.08	6'-0 1/4"	6'-0 1/4"	6'
3	30'-6"	3	CJ	149858.902	499025.771	905.71	905.71	913.76	913.76	6'-8 3/8"	8'-1 1/2"	9'
4	30'-6"	4	EJ	149872.081	499053.277	903.5	903.5	914.83	914.83	9'-2 1/4"	9'-10 7/8"	11'
5	30'-6"	5	CJ	149885.259	499080.783	903.5	903.5	915.9	915.9	10'-11 3/4"	12'-4 3/4"	13'
6	30'-6"	6	EJ	149898.438	499108.289	901.37	901.37	916.97	916.97	13'-5 5/8"	13'-10 1/4"	14'
7	30'-6"	7	CJ	149911.616	499135.795	901.37	901.37	917.73	917.73	14'-7 3/8"	16'-4 3/8"	16'
8	30'-6"	8	EJ	149924.795	499163.301	899.24	899.24	917.95	917.95	16'-7"	16'-11 1/2"	19'
9	30'-6"	9	CJ	149937.974	499190.807	899.24	899.24	918.06	918.06	17'-0 7/8"	18'-9 7/8"	20'
10	30'-6"	10	EJ	149954.22	499216.62	896.66	896.66	918.16	918.16	18'-11"	19'-7"	20'
11	30'-6"	11	CJ	149970.466	499242.433	896.66	896.66	918.27	918.27	19'-8 1/4"	19'-8 1/4"	20'
12	18'-0 1/2"	12	CJ	149986.711	499268.246	896.66	896.66	918.37	918.37	19'-9 1/2"	19'-9 1/2"	20'
13	18'-0 1/2"	13	EJ	149994.509	499284.518	896.49	-	920.73	-	22'-1 3/4"	-	22'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
8			
9	3+44.00	149938.024	499190.781
11			
12	4+35.50	149986.761	499268.221

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

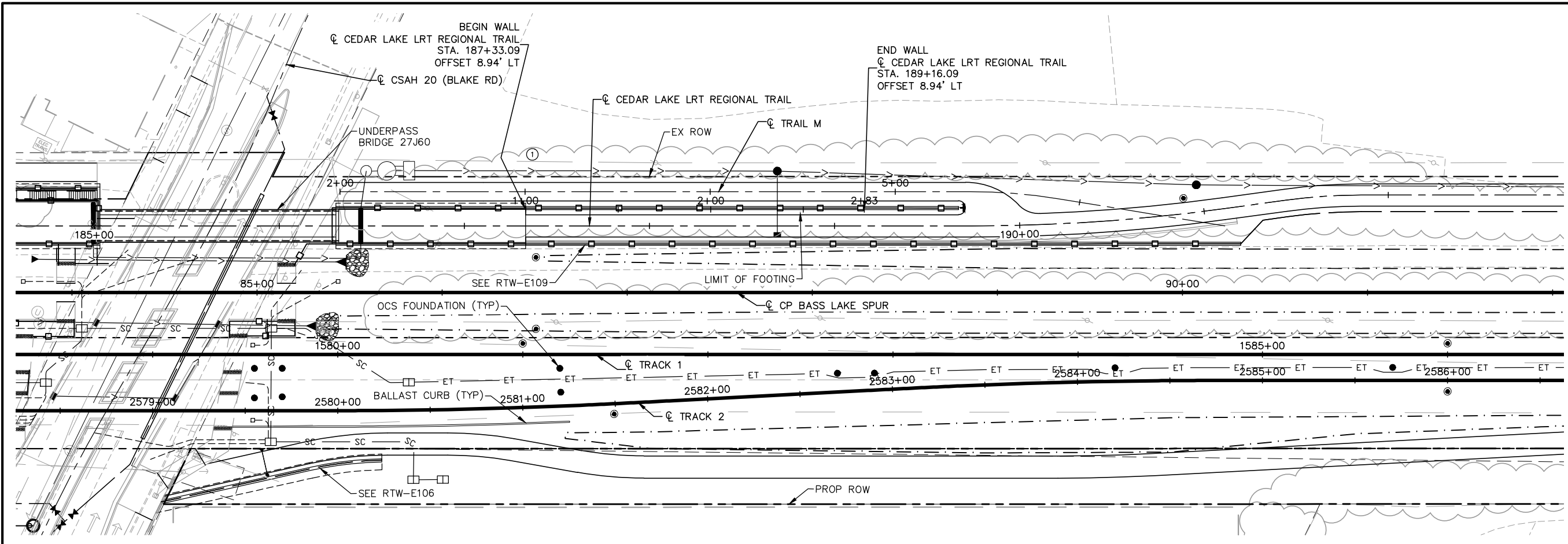


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E110 GEOMETRY**

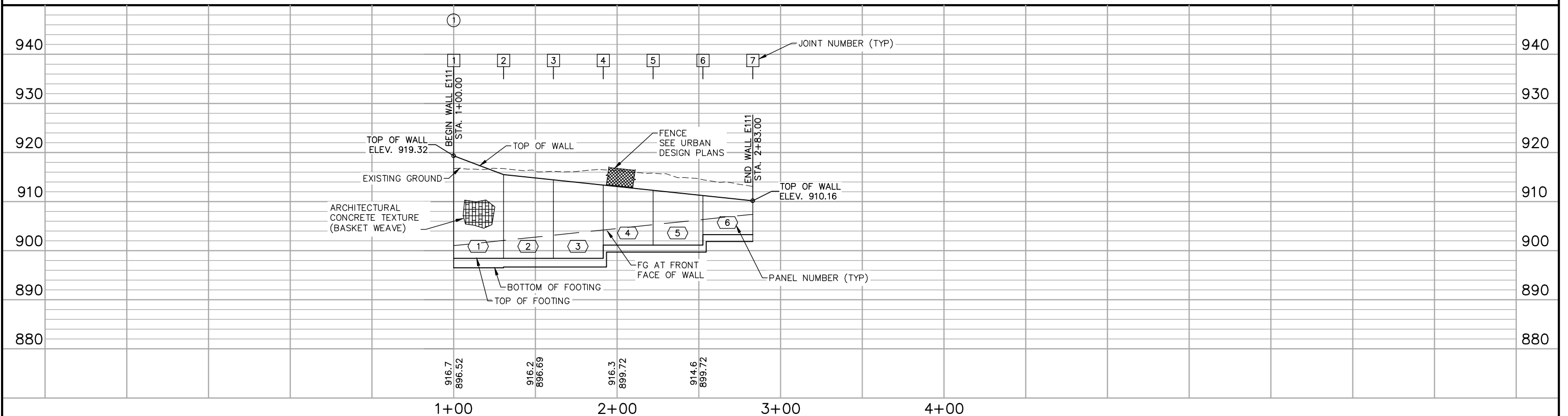
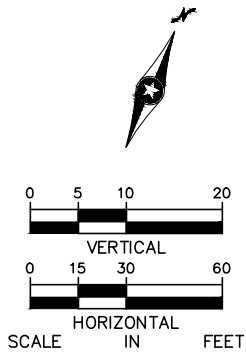
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E110-DTL - 001**

**SHEET  
107  
OF  
271**

Jan. 17 2016 06:19 pm V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E111-PL-E.dwg By: V--PatelPU



**NOTES**  
 ① JOINT LOCATED BETWEEN RETAINING WALL AND UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

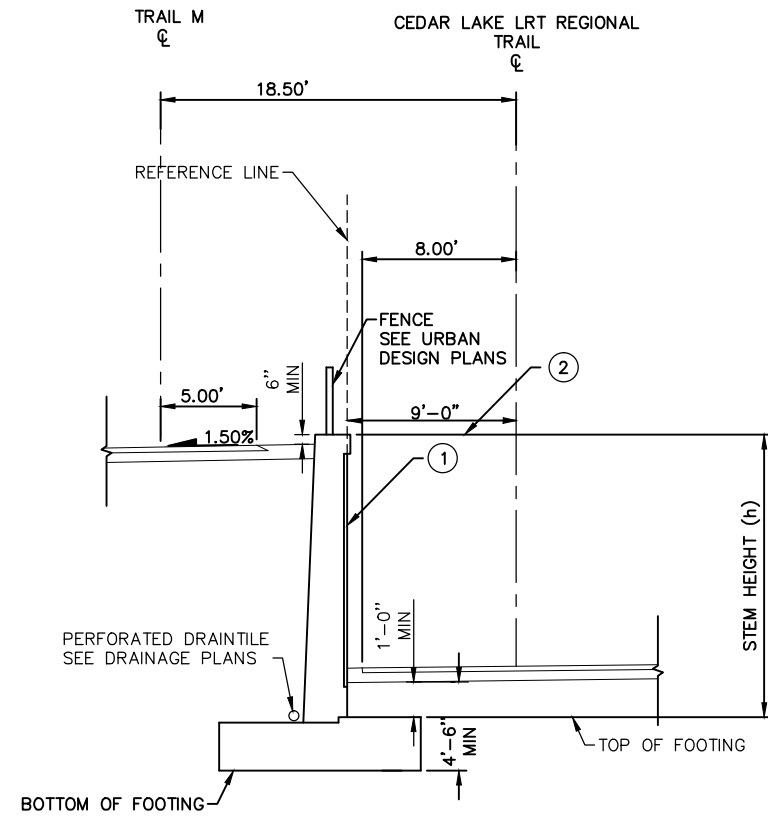
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E111 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E111-PL-E**

SHEET **108**  
OF  
**271**

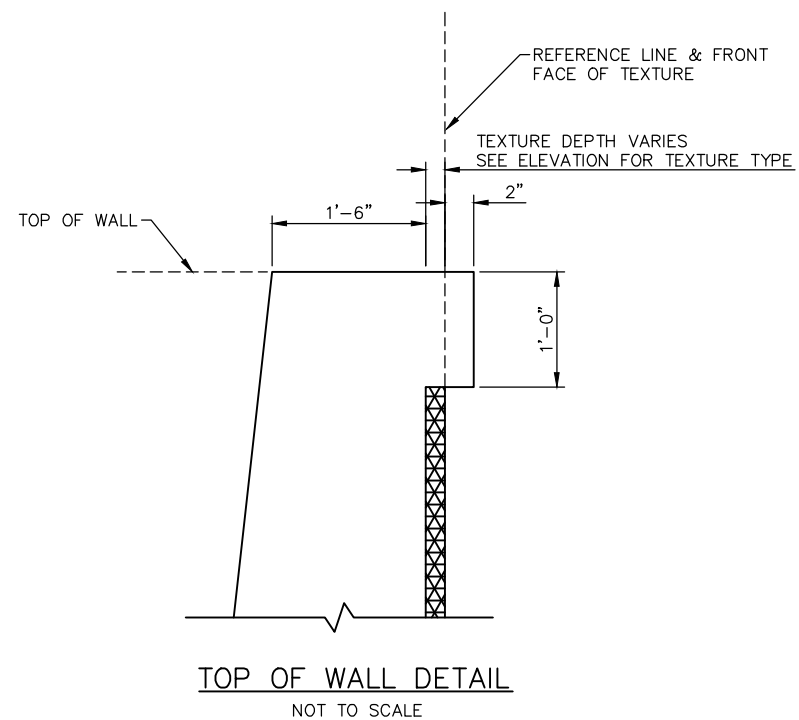
Jan, 17 2016 06:20 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E111-DTL.dwg By: V--PatelPJ



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL
  - 3. RETAINING WALL TO BE CIP ON SPREAD FOOTING

**RTW-E111 SECTION**

NOT TO SCALE



RTW-E111 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	EJ	150116.825	499564.113	-	898.44	-	919.32	-	20'-10 1/2"	23'
2	30'-6"	2	CJ	150130.004	499591.619	898.44	898.44	915.5	915.5	17'-0 3/4"	17'-0 3/4"	22'
3	30'-6"	3	CJ	150143.183	499619.125	898.44	898.44	914.43	914.43	15'-11 7/8"	15'-11 7/8"	22'
4	30'-6"	4	EJ	150156.361	499646.631	898.44	898.44	913.37	913.37	14'-11 1/8"	12'-2 3/4"	21'
5	30'-6"	5	CJ	150169.54	499674.137	901.14	901.14	912.3	912.3	11'-1 7/8"	11'-1 7/8"	20'
6	30'-6"	6	EJ	150182.719	499701.643	901.14	901.14	911.23	911.23	10'-1 1/8"	7'-11 3/8"	18'
6	30'-6"	7	-	150195.897	499729.149	903.28	-	910.16	-	6'-10 1/2"	-	13'



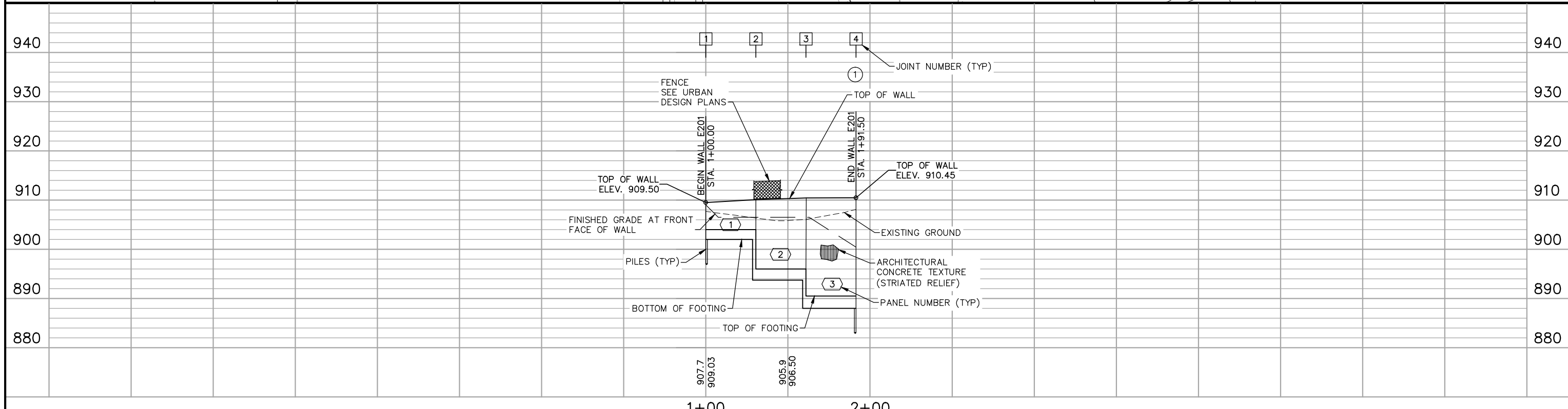
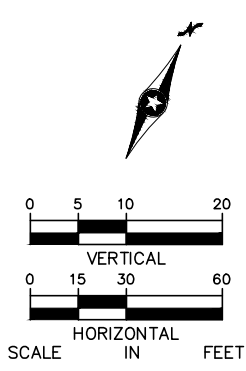
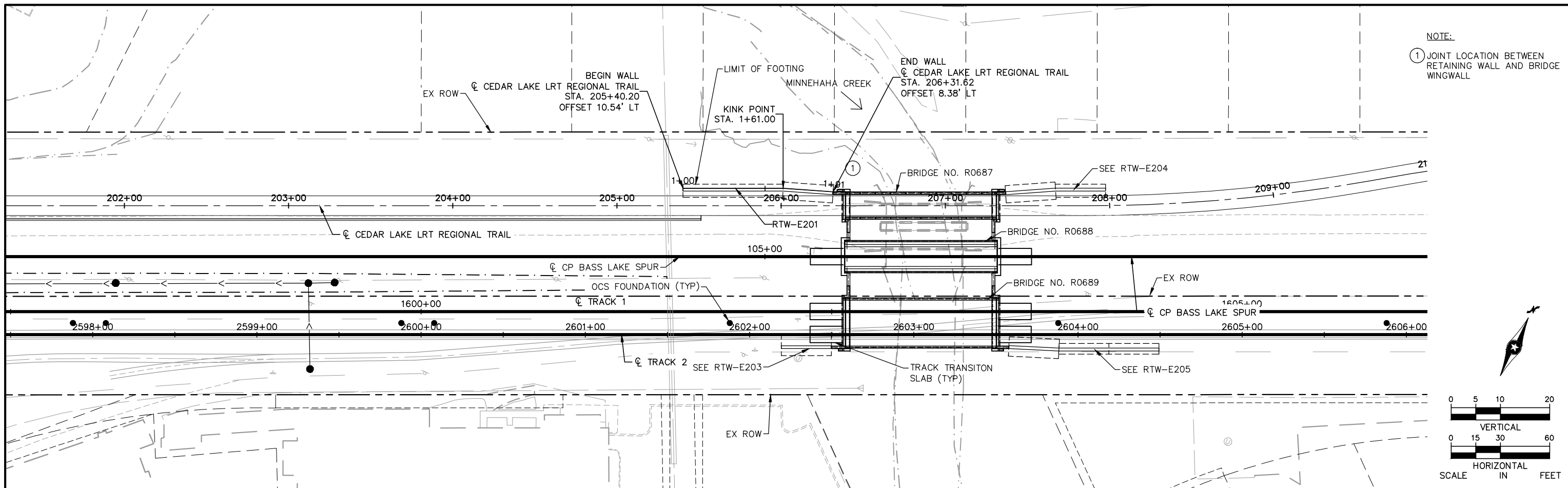
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E111 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E111-DTL - 001**

**SHEET  
109  
OF  
271**

Jan. 19 2016 03:09 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E201-PL-E.dwg By: V-Patel/PJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

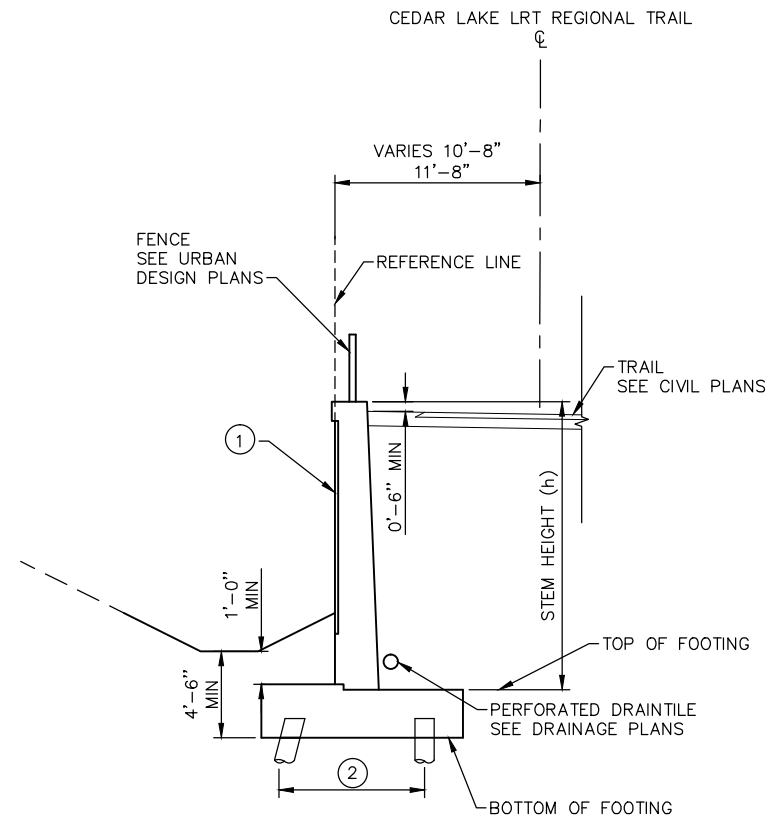
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E201 PLAN AND ELEVATION**

DISCIPLINE:	SHEET NAME:
STRUCTURES	RTW-E201-PL-E

SHEET 110 OF 271

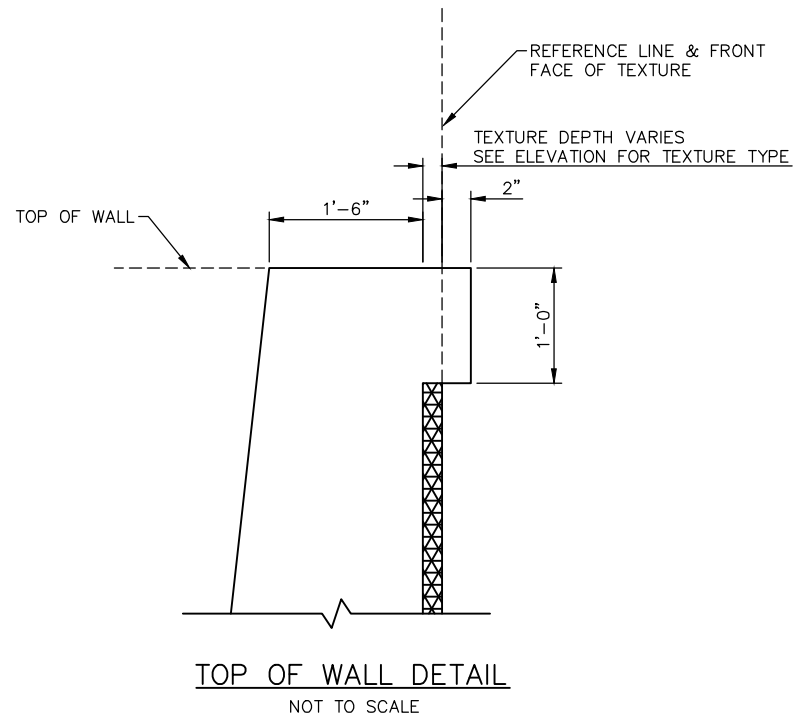
Jan, 19 2016 03:09 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E201-DTL.dwg By: V-PatelPJ



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E201 SECTION**

NOT TO SCALE



RTW-E201 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	150893.655	501193.339	-	902	-	909.5	-	5'-6"	6'
2	30'-6"	2	EJ	150906.834	501220.844	893.75	893.75	910.08	910.08	6'-1"	14'-1"	14'
3	30'-6"	3	EJ	150920.012	501248.35	888	888	910.44	910.44	14'-5 1/4"	19'-11 1/4"	20'
		4	EJ	150931.203	501276.723	888	-	910.45	-	19'-11 3/8"	-	20'



90% SUBMISSION - 01/22/16

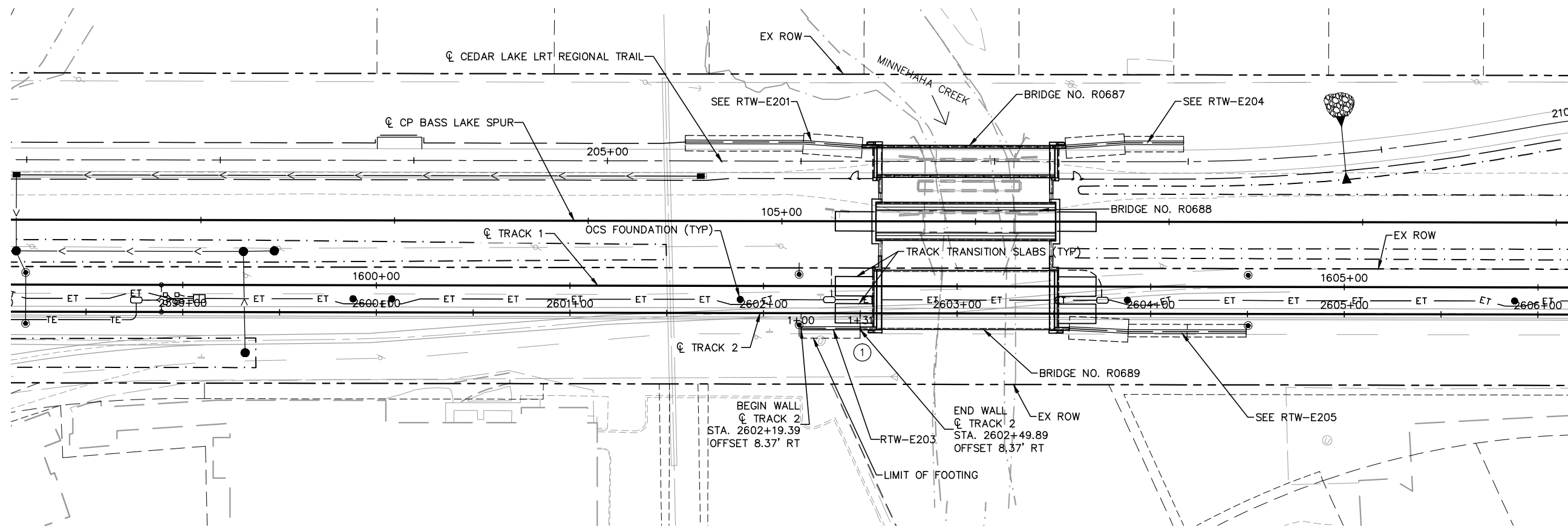
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E201 GEOMETRY**

DISCIPLINE: **STRUCTURES**

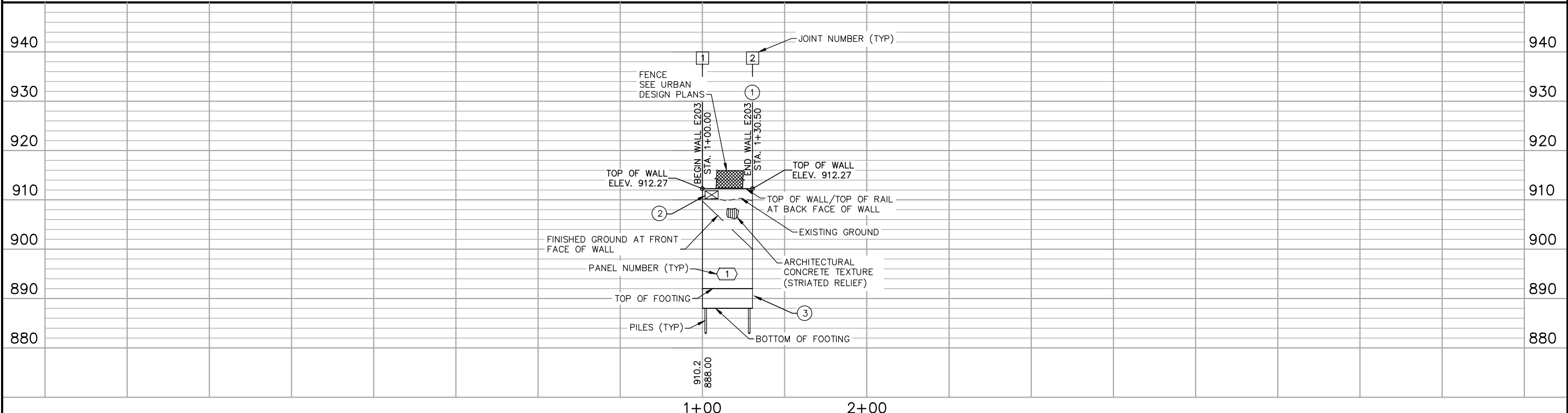
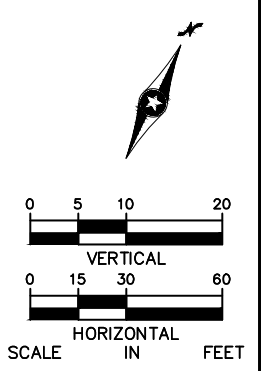
SHEET NAME: **RTW-E201-DTL - 001**

**SHEET  
111  
OF  
271**

Jan. 19 2016 03:44 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E203-PL.E.dwg By: V-PatelPJ



- NOTES**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW E203.

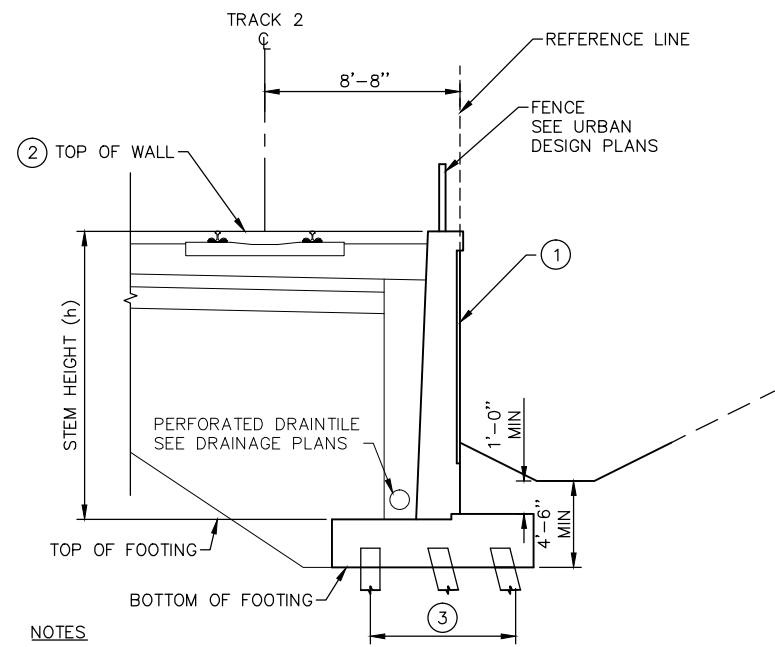


NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

			<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E203 PLAN AND ELEVATION</b></p>	<p><b>SHEET</b> 112 <b>OF</b> 271</p>
<p>90% SUBMISSION - 01/22/16</p>			<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-E203-PL.E</b></p>



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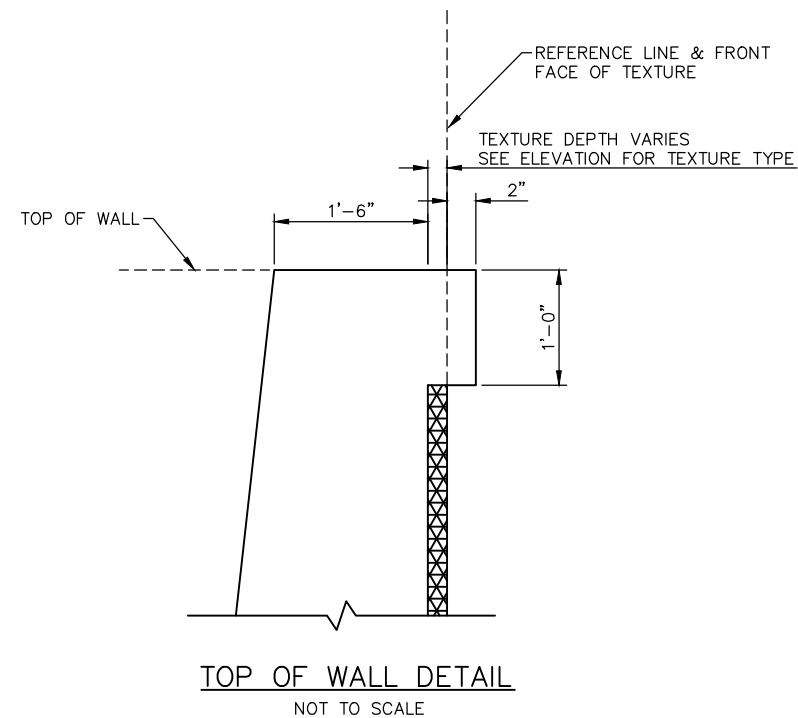
**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF WALL = TOP OF RAIL
- ③ PILE ROWS AND PILE SPACING VARIES
- 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
- 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E203 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E203 SECTION**

NOT TO SCALE

RTW-E203 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	WALL STA.	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	-	150831.69	501289.47	-	888.00	-	892.00	-	912.27	-	20'-3 1/4"	21'
		1+30.50	2	EJ	150844.87	501316.98	888.00	-	892.00	-	912.27	-	20'-3 1/4"	-	21'



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

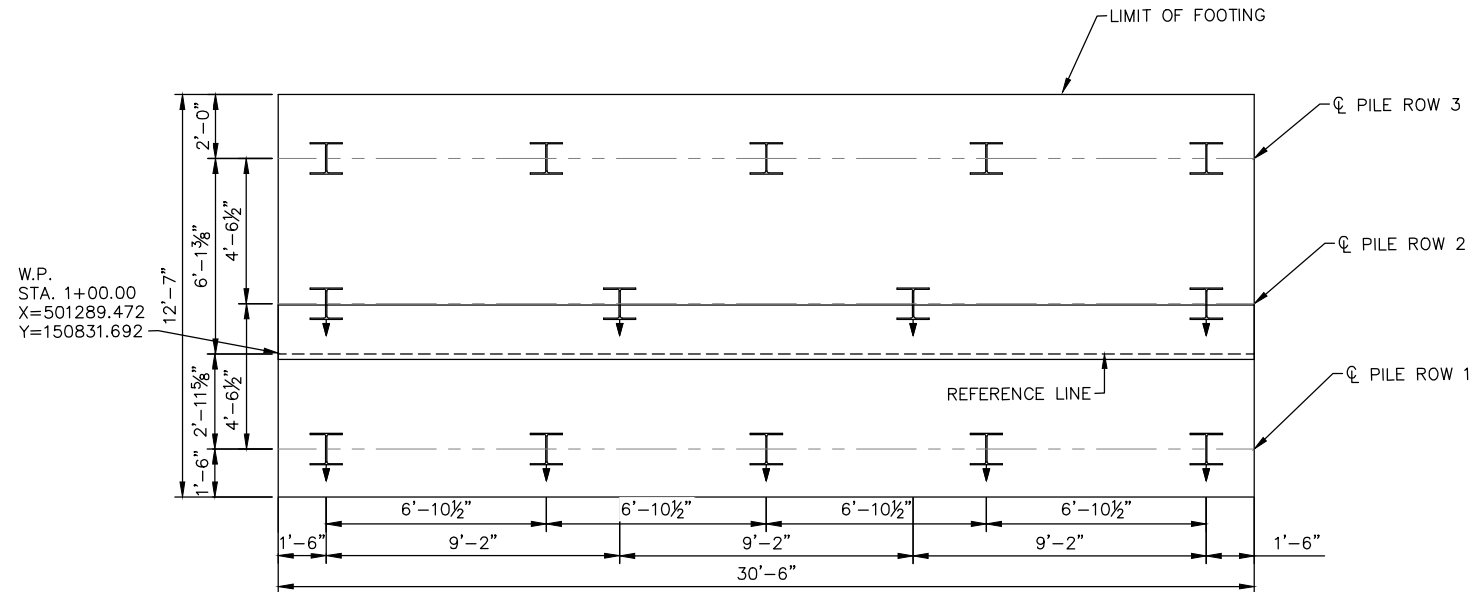


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E203 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E203-DTL - 001**

**SHEET  
113  
OF  
271**

Jan, 17 2016 06:32 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E203-DTL.dwg By: V-PatelPJ



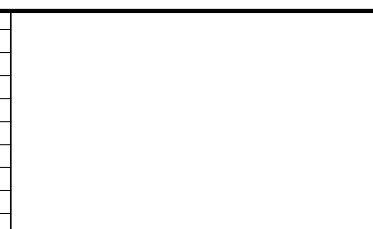
FOOTING LAYOUT



GENERAL PILE NOTES

1. 14 HP 12x53 STEEL PILES XX FT. LENGTH
2. ALL PILES TO BE HP 12x53 WITH PILE TIP PROTECTION
3. PILE SPACING IS SHOWN AT BOTTOM OF FOOTING
4. PILES MARKED WITH AN ARROW ARE TO BE BATTERED 3" PER FOOT IN DIRECTION SHOWN
5. FOR PILE SPLICE DETAILS SEE DETAIL \_\_\_\_

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

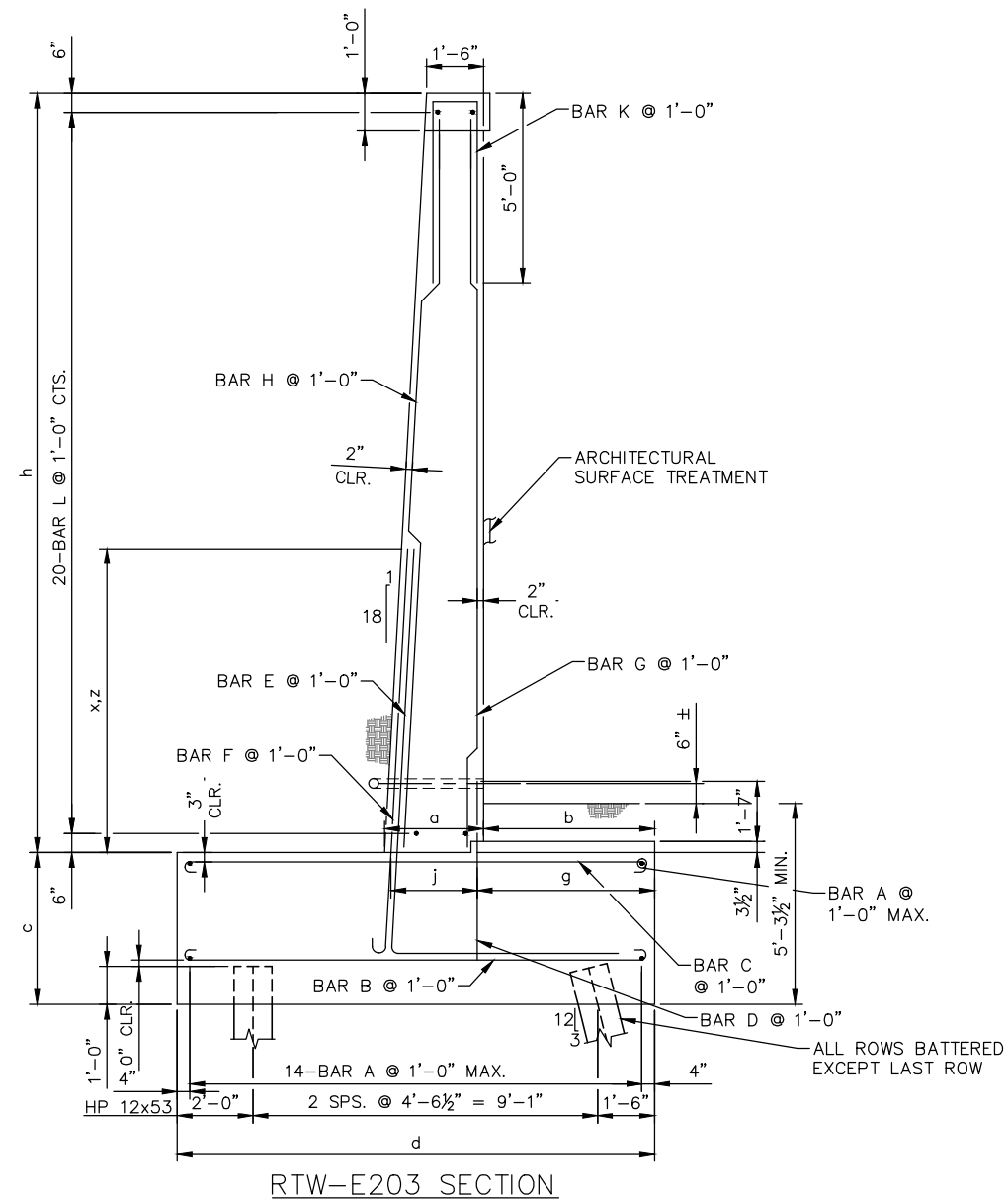


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E203 PILE DETAILS**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E203-DTL - 002**

**SHEET  
114  
OF  
271**

Jan, 17 2016 06:32 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E203-DTL.dwg By: V-Patel/PJ



**NOTES**

1. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E203. WELD RETAINING WALL FOOTING H-PILES TOGETHER AND MAKE PILES CONTINUOUS WITH WELDED REBAR IN RETAINING WALL.
2. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

90% SUBMISSION - 01/22/16



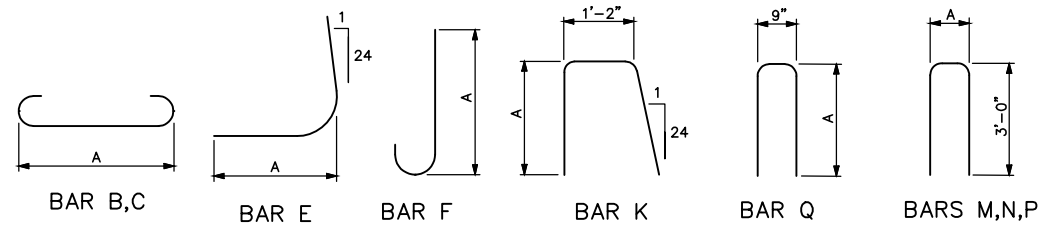
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E203 SECTIONS**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E203-DTL - 003**

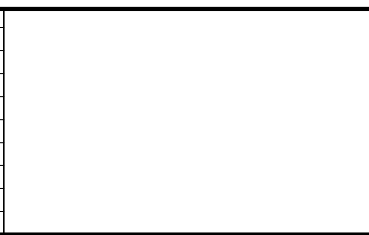
**SHEET  
115  
OF  
271**

Jan, 17 2016 06:32 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E203-DTL.dwg By: V-PatelPJ

h=20'-2 3/4" PANEL: 1 L=30'-6"										
BAR	MARK	NO.	LENGTH	A	LOCATION	WT	DIMENSIONS			
PILE FOUNDATION REINFORCEMENT										
A	F701	26	34'-1"	STR.	LONG T & B	1812	PILE FOUNDATION			
B	F502	31	13'-3"	12'-1"	TRANS BOT	429	b	4'-6"	e	-
C	F603	31	13'-5"	12'-1"	TRANS TOP	625	c	4'-0"	f	-
							d	12'-7"	g	4'-8 3/8"
STEM										
							a	2'-9 1/4"		
							j	2'-4 3/8"		
							x	8'-0"	z	8'-0"
FOOTING DOWELS & STEM REINFORCEMENT					QUANTITIES					
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1G52)			
E	F805E	31	17'-10"	6'-10"	DOWEL BF	1478	(FOOTING)			
F	F806E	30	11'-11"	11'-0"	DOWEL BF	955	PILE	58.4	CU YD	
G	S501E	31	17'-7"	STR.	VERT FF	568	STRUCTURAL CONCRETE (3B52)			
H	S702E	31	17'-10"	STR.	VERT BF	1132	(STEM)			
J	S503E	-	-	STR.	VERT BF	-	PILE	48.8	CU YD	
K	S504E	31	10'-10"	4'-10"	TIE	351				
L	S505E	42	30'-0"	STR.	HORIZ EF	1315	REINFORCEMENT (PLAIN)			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	PILE	2866	LB	
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT (EPOXY)			
P	S508E	2	8'-2"	2'-2"	EXP JT TIE	17	6228	LB		



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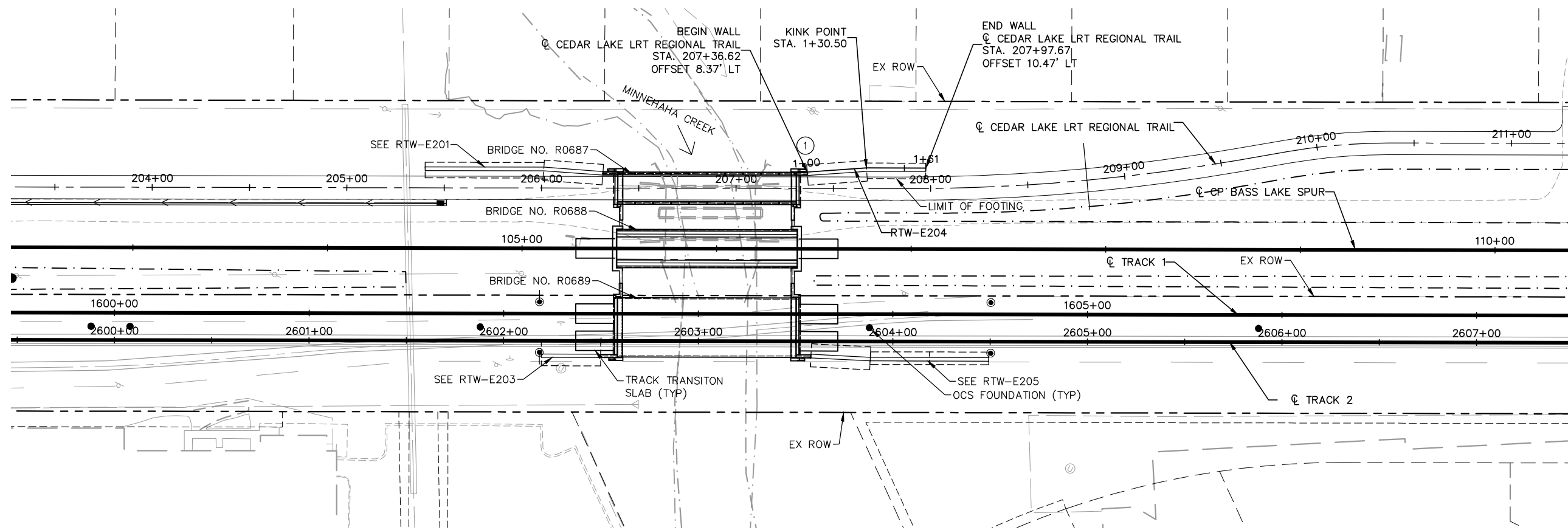


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E203 REINFORCEMENT

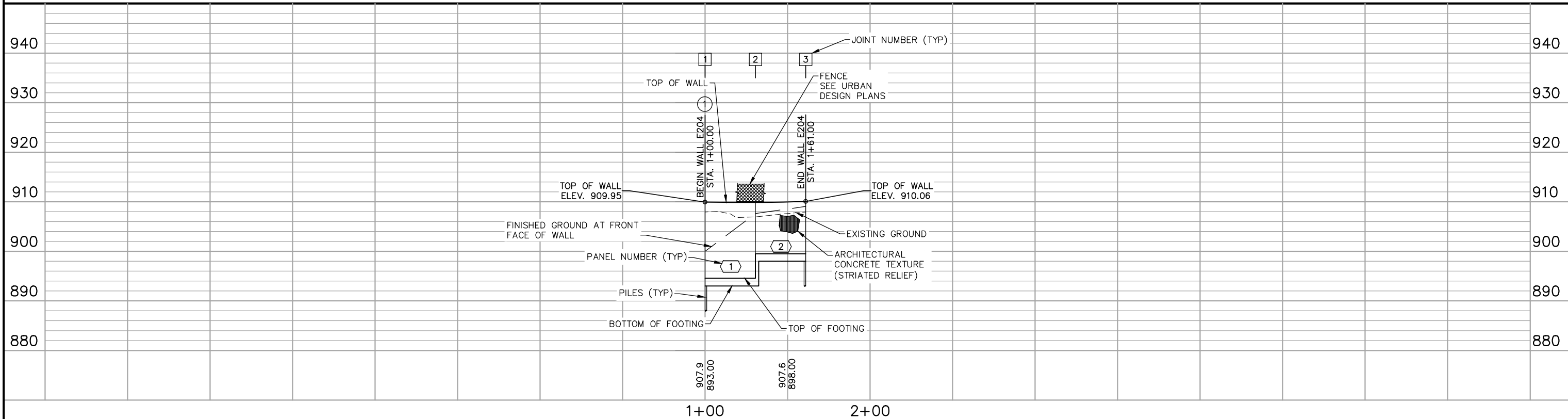
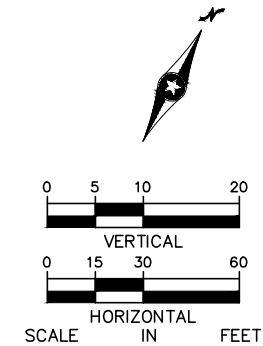
DISCIPLINE: STRUCTURES SHEET NAME: RTW-E203-DTL - 004

SHEET  
116  
OF  
271

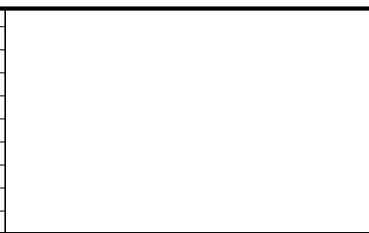
Jan, 19 2016 05:11 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E204-PLA.dwg By: V-PatelPJ



NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

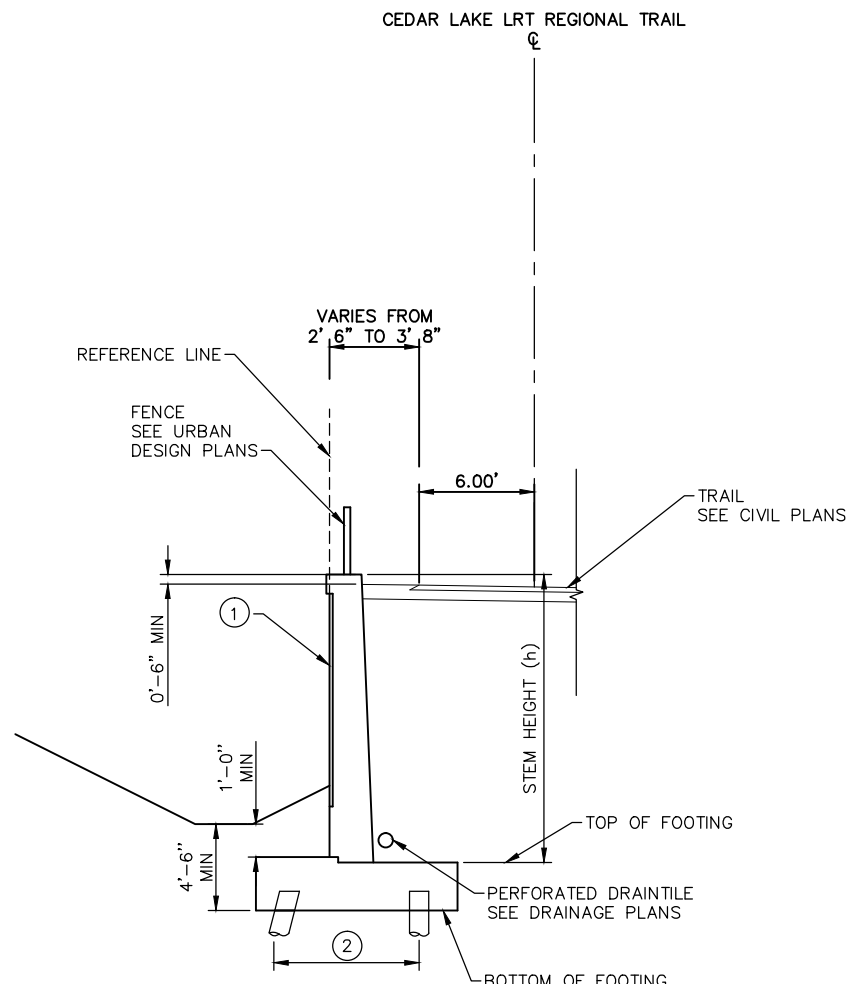


**CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-E204 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**  
 SHEET NAME: **RTW-E204-PLA**

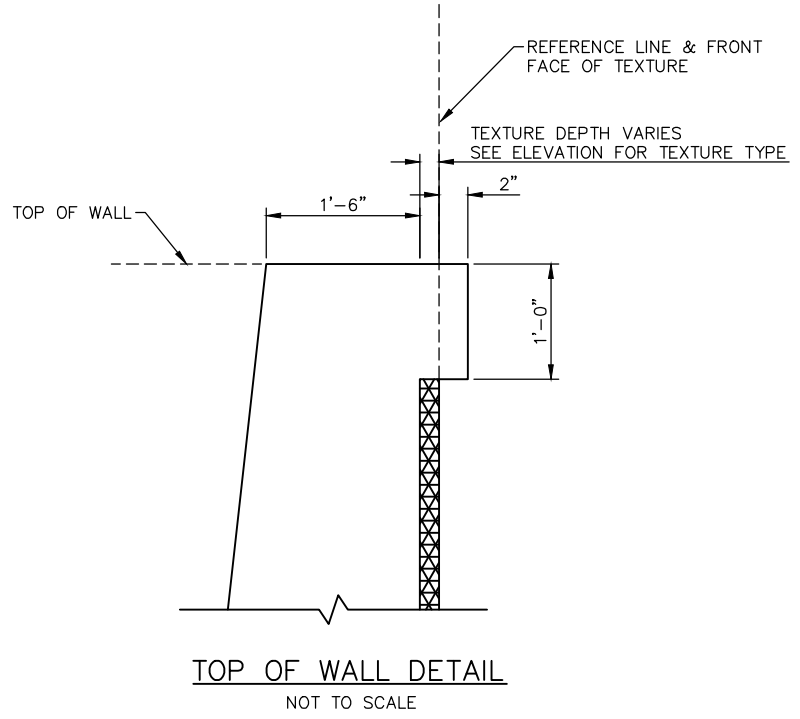
**SHEET  
 117  
 OF  
 271**

Jan, 19 2016 05:11 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E204-DTL.dwg By: V-PatelPJ



- NOTES
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

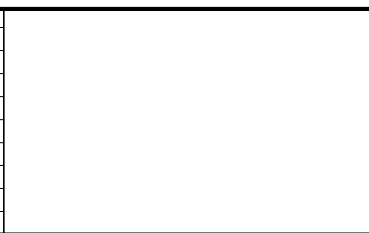
RTW-E204 SECTION  
NOT TO SCALE



TOP OF WALL DETAIL  
NOT TO SCALE

RTW-E204 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	EJ	150976.571	501371.416	-	893	-	909.95	-	15'-4 1/2"	15'
		2	EJ	150991.673	501397.915	893	898	909.87	909.87	15'-3 1/2"	10'-4 1/2"	10'
2	30'-6"	3	CJ	151004.851	501425.421	898	-	910.06	-	10'-6 3/4"	-	11'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

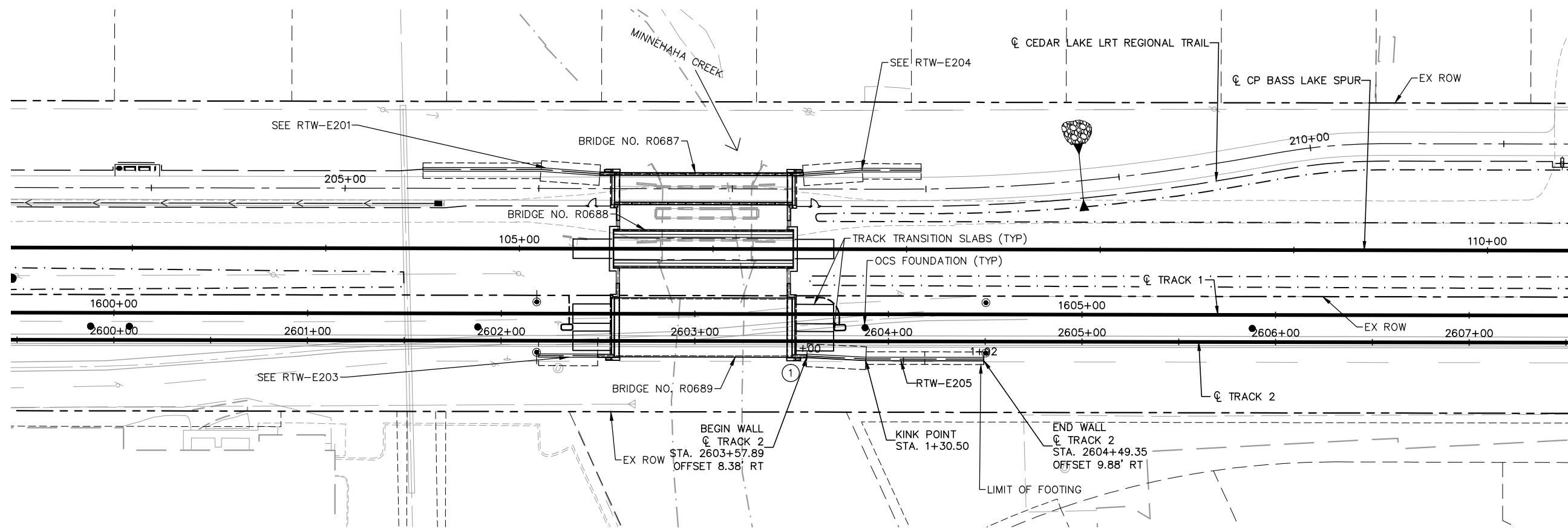


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E204 GEOMETRY

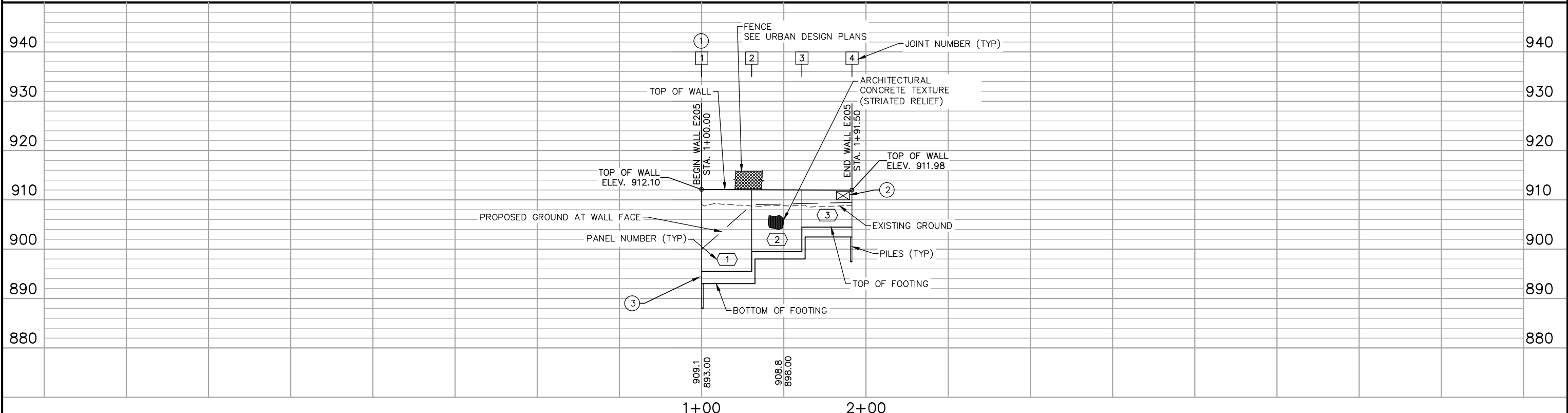
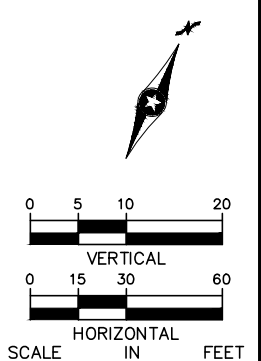
DISCIPLINE: STRUCTURES  
SHEET NAME: RTW-E204-DTL - 001

SHEET  
118  
OF  
271

Jan. 19 2016 05:21 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E205-PL-E.dwg By: V-PatelPJ



- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E205.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

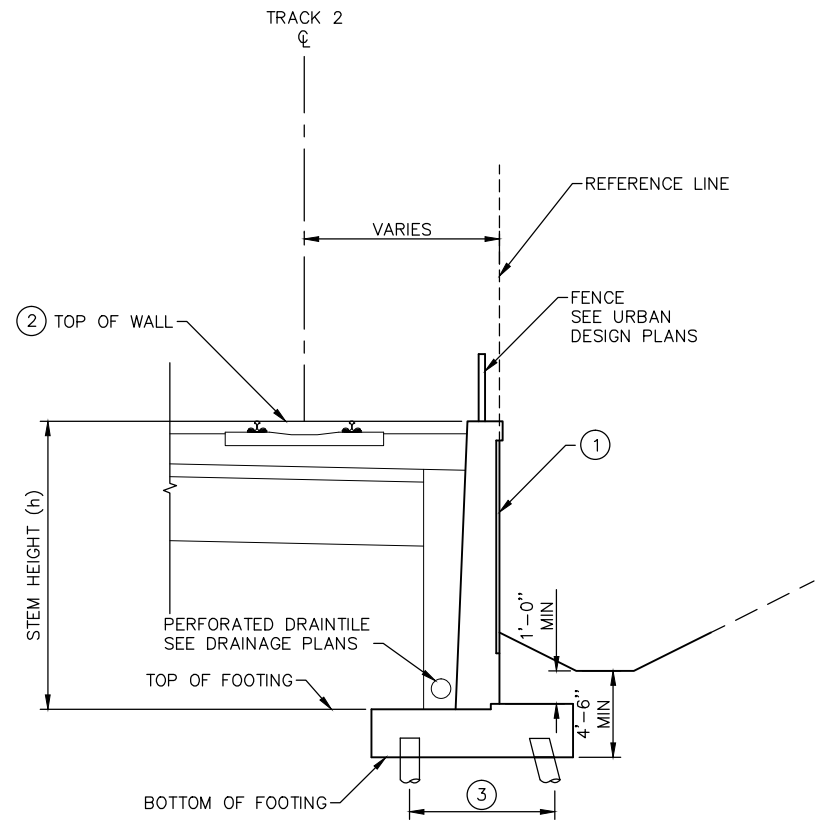
SOUTHWEST  
Green Line LRT Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E205 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E205-PL-E</b>
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SHEET  
119  
OF  
271

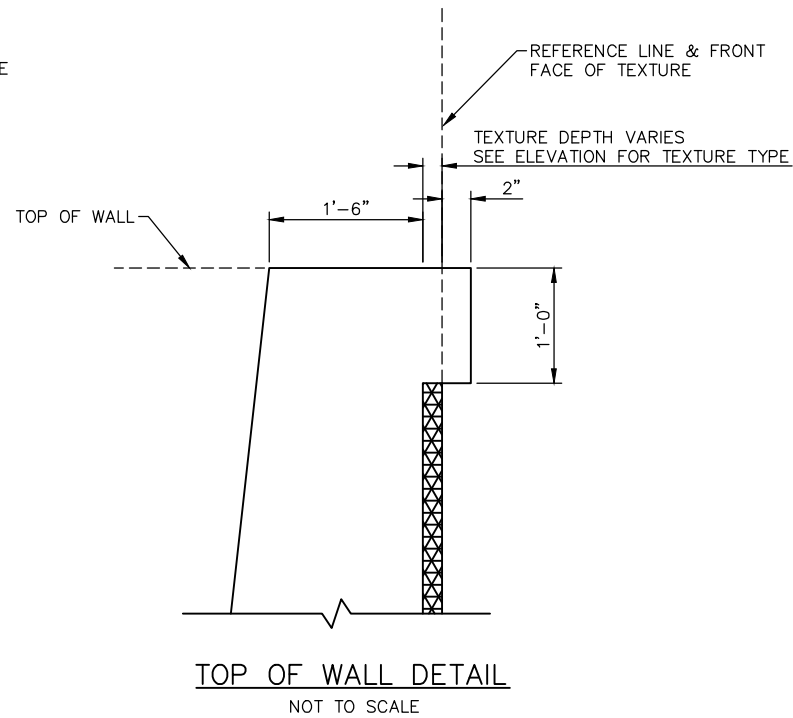
Jan, 19 2016 05:21 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E205-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E205 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E205 SECTION**

NOT TO SCALE



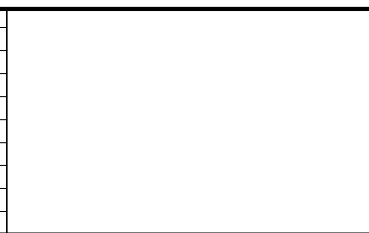
**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E205 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	EJ	150891.536	501414.375	-	893	-	912.1	-	16'-7 1/4"	17'
2	30'-6"	2	EJ	150903.346	501442.496	893	898	912.06	912.06	16'-6 3/4"	7'-7 1/8"	8'
		3	EJ	150916.525	501470.002	898	902.47	912.02	912.02	7'-6 5/8"	7'-6 5/8"	8'
3	30'-6"	4	CJ	150929.703	501497.508	902.47	-	911.98	-	7'-6 1/8"	-	8'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
1	1+30.50	150903.346	501442.496
2			

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



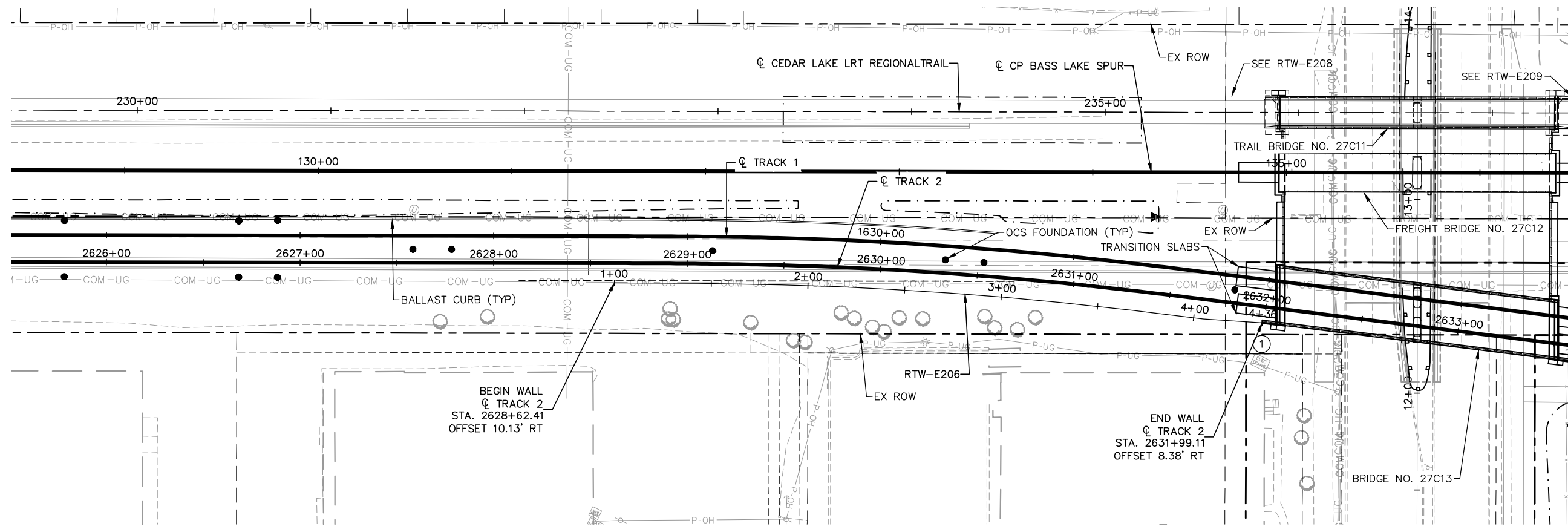
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E205 GEOMETRY**

DISCIPLINE: **STRUCTURES**  
SHEET NAME: **RTW-E205-DTL - 001**

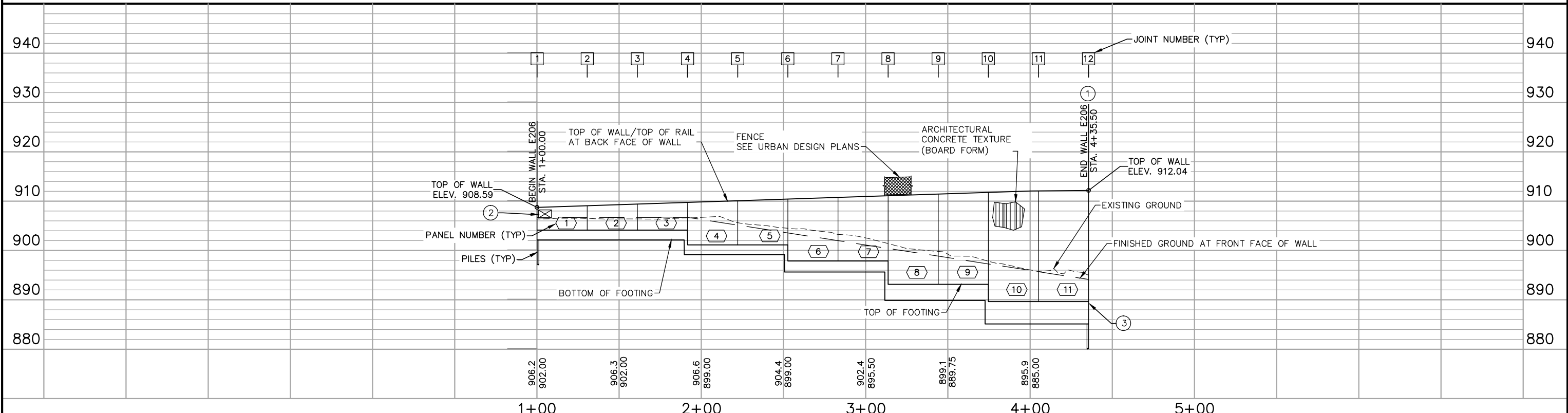
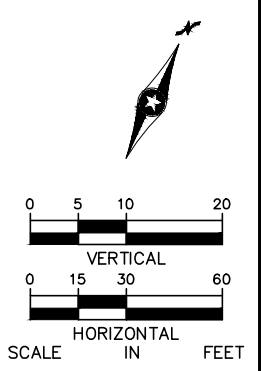
**SHEET  
120  
OF  
271**



Jan, 19 2016 05:03 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E206-PL-E.dwg By: V-GudisshHD



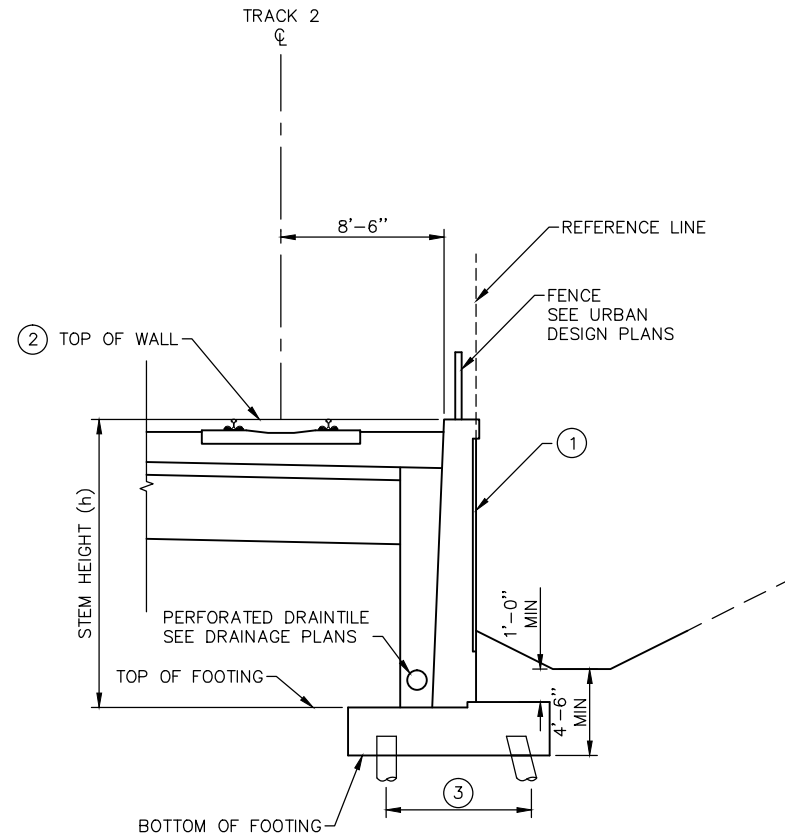
- NOTE:
- 1 JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - 2 STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - 3 SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E206.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

			<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E206 PLAN AND ELEVATION</b></p>	<p>SHEET 121 OF 271</p>
<p>90% SUBMISSION - 01/22/16</p>			<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-E206-PL-E</b></p>

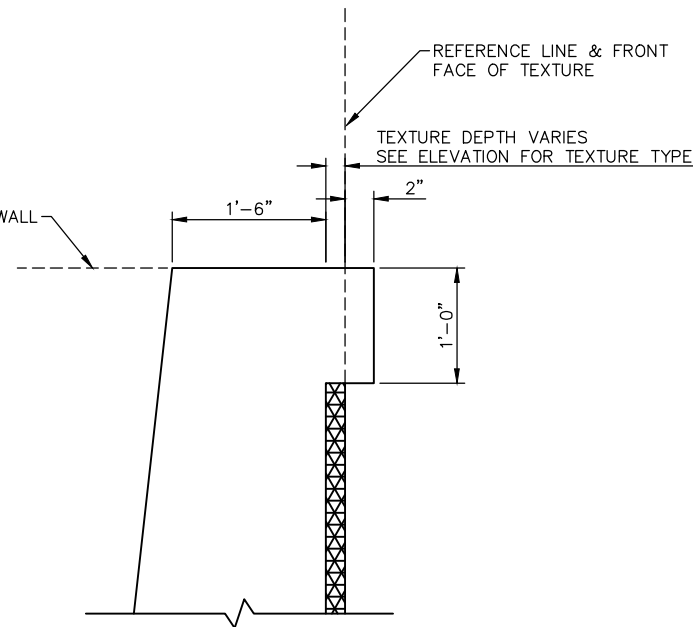
Jan, 19 2016 05:03 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E206-DTL.dwg By: V-GudissHD



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>q</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E206 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING

**RTW-E206 SECTION**

NOT TO SCALE



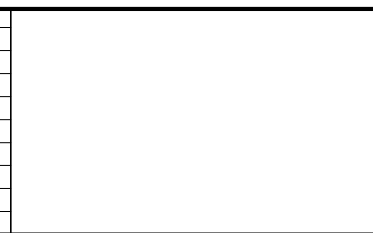
**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E206 GEOMETRICS (CIP)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	151972.12	503673.79	-	902	-	904	-	908.59	-	4 -7 1/8"	5'
		1+30.50	2	CJ	151985.26	503701.32	902	902	904	904	908.93	908.93	4 -11 1/8"	4 -11 1/8"	
2	30'-6"	1+61.00	3	EJ	151998.15	503728.96	902	902	904	904	909.27	909.27	5 -3 1/4"	5 -3 1/4"	5.3'
		1+91.50	4	CJ	152010.78	503756.72	899	899	904	904	909.61	909.61	5 -7 3/8"	5 -7 3/8"	
3	30'-6"	2+22.00	5	CJ	152022.98	503784.67	899	899	901	901	909.95	909.95	8 -11 3/8"	8 -11 3/8"	5.7'
		2+52.50	6	EJ	152034.75	503812.81	895.5	895.5	901	901	910.29	910.29	9 -3 1/2"	9 -3 1/2"	
4	30'-6"	2+83.00	7	CJ	152046.07	503841.13	895.5	895.5	897.75	897.75	910.63	910.63	12 -10 1/2"	12 -10 1/2"	9'
		3+13.50	8	CJ	152056.97	503869.62	889.75	889.75	897.75	897.75	910.97	910.97	13 -2 5/8"	13 -2 5/8"	
5	30'-6"	3+44.00	9	EJ	152067.40	503898.28	889.75	889.75	893	893	911.31	911.31	18 -3 3/4"	18 -3 3/4"	9.3'
		3+74.50	10	CJ	152077.49	503927.06	885	885	893	893	911.65	911.65	18 -7 3/4"	18 -7 3/4"	
6	30'-6"	4+05.00	11	CJ	152087.32	503955.93	885	885	889.5	889.5	911.96	911.96	22 -5 1/2"	22 -5 1/2"	12.9'
		4+35.50	12	EJ	152098.67	503984.24	885	885	889.5	889.5	912.04	912.04	22 -6 1/2"	22 -6 1/2"	
7	30'-6"	3+13.50	8	CJ	152056.97	503869.62	889.75	889.75	897.75	897.75	910.97	910.97	13 -2 5/8"	13 -2 5/8"	13.3'
		3+44.00	9	EJ	152067.40	503898.28	889.75	889.75	893	893	911.31	911.31	18 -3 3/4"	18 -3 3/4"	
8	30'-6"	3+74.50	10	CJ	152077.49	503927.06	885	885	893	893	911.65	911.65	18 -7 3/4"	18 -7 3/4"	18.4'
		4+05.00	11	CJ	152087.32	503955.93	885	885	889.5	889.5	911.96	911.96	22 -5 1/2"	22 -5 1/2"	
9	30'-6"	4+05.00	11	CJ	152087.32	503955.93	885	885	889.5	889.5	911.96	911.96	22 -5 1/2"	22 -5 1/2"	18.7'
		4+35.50	12	EJ	152098.67	503984.24	885	885	889.5	889.5	912.04	912.04	22 -6 1/2"	22 -6 1/2"	
10	30'-6"	4+05.00	11	CJ	152087.32	503955.93	885	885	889.5	889.5	911.96	911.96	22 -5 1/2"	22 -5 1/2"	22.5'
		4+35.50	12	EJ	152098.67	503984.24	885	885	889.5	889.5	912.04	912.04	22 -6 1/2"	22 -6 1/2"	
11	30'-6"	4+05.00	11	CJ	152087.32	503955.93	885	885	889.5	889.5	911.96	911.96	22 -5 1/2"	22 -5 1/2"	22.6'
		4+35.50	12	EJ	152098.67	503984.24	885	885	889.5	889.5	912.04	912.04	22 -6 1/2"	22 -6 1/2"	

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
10	4+05.00	152087.321	503955.933
11			

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

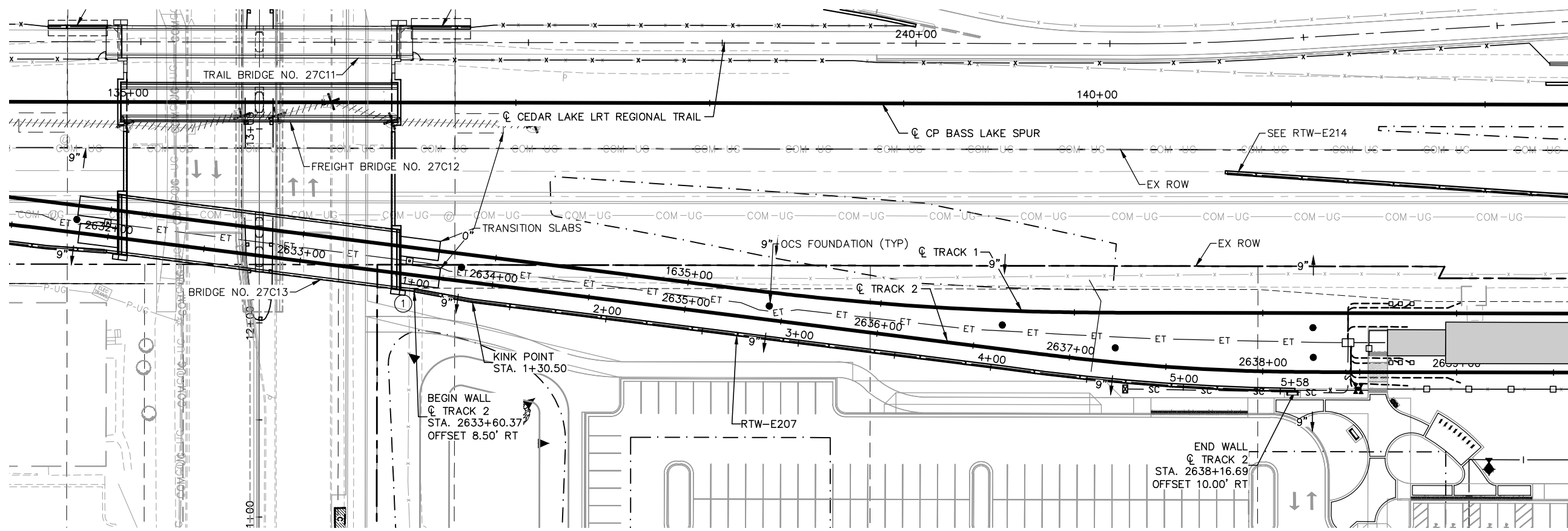


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E206 GEOMETRY**

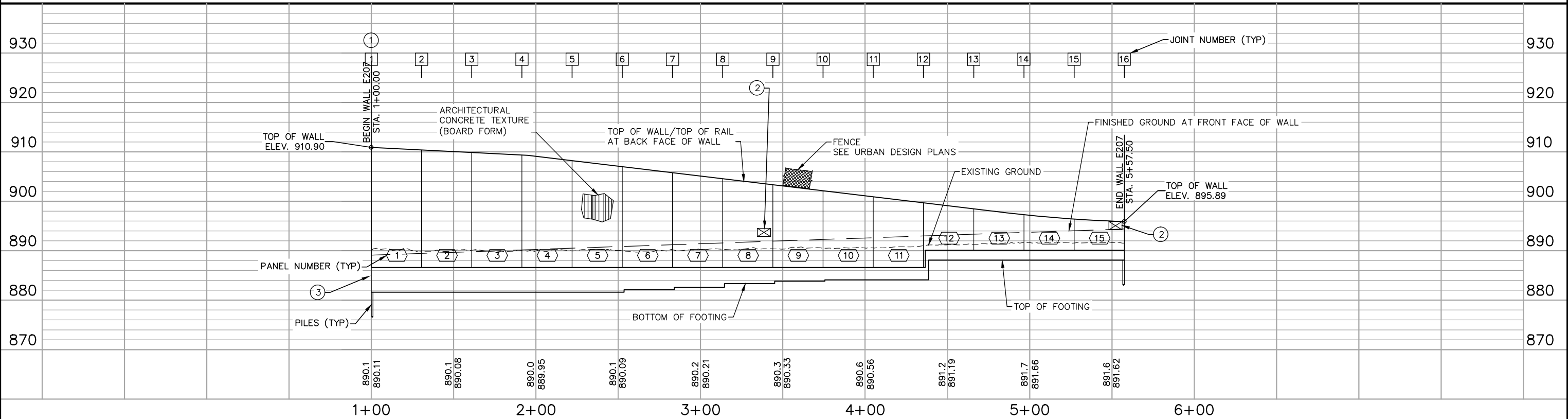
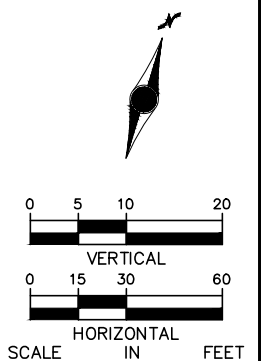
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E206-DTL - 001**

**SHEET  
122  
OF  
271**

Jan, 19 2016 05:07 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E207-PL1.dwg By: V-GudisshHD



- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E207.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



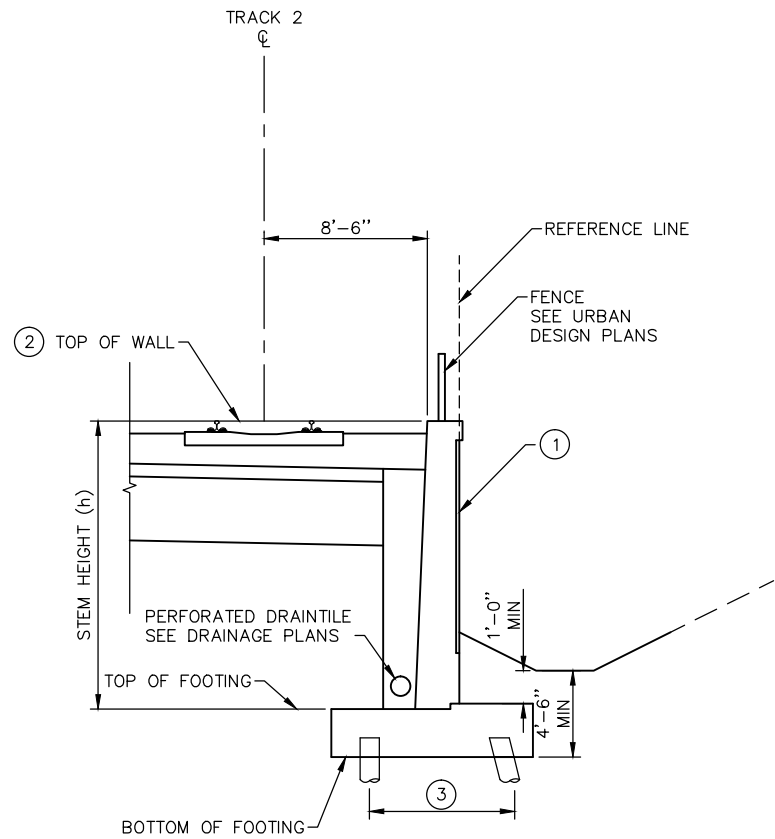
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E207 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E207-PL1**

SHEET  
123  
OF  
271

90% SUBMISSION - 01/22/16

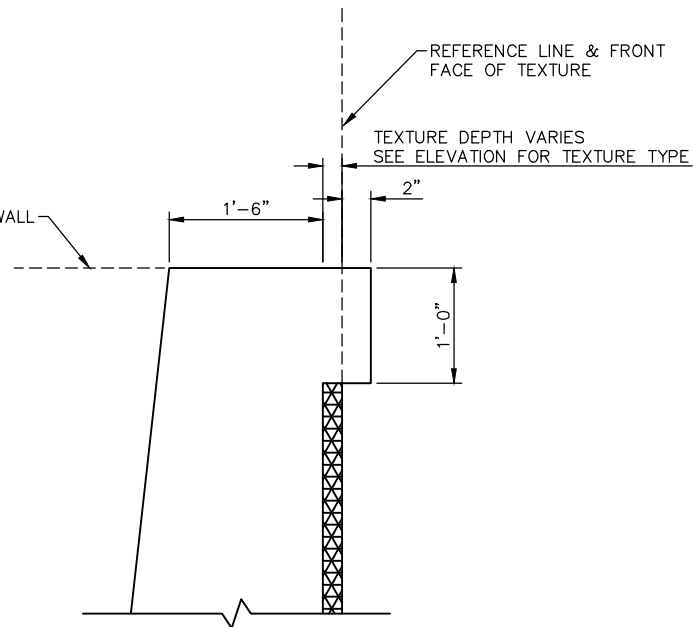
Jan, 19 2016 05:07 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E207-DTL.dwg By: V-GudissHD



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E207 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E207 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E207 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	152149.951	504137.118	-	881.6	-	910.9	-	24'-3 5/8"	24'
2	30'-6"	2	CJ	152157.976	504166.543	881.6	881.6	910.38	910.38	23'-9 3/8"	23'-9 3/8"	24'
3	30'-6"	3	EJ	152167.675	504195.46	881.6	881.6	909.87	909.87	23'-3 1/4"	23'-3 1/4"	23'
4	30'-6"	4	CJ	152177.374	504224.377	881.6	881.6	909.36	909.36	22'-9 1/8"	22'-9 1/8"	23'
5	30'-6"	5	CJ	152187.073	504253.293	881.6	881.6	908.22	908.22	21'-7 1/2"	21'-7 1/2"	22'
6	30'-6"	6	EJ	152196.772	504282.21	881.6	881.6	907	907	20'-4 3/4"	20'-4 3/4"	20'
7	30'-6"	7	CJ	152206.471	504311.127	882.1	882.1	905.78	905.78	19'-2 1/8"	19'-2 1/8"	19'
8	30'-6"	8	CJ	152216.17	504340.044	882.6	882.6	904.56	904.56	17'-11 1/2"	17'-11 1/2"	17'
9	30'-6"	9	EJ	152225.869	504368.961	883.35	883.35	903.34	903.34	16'-8 7/8"	16'-8 7/8"	17'
10	30'-6"	10	CJ	152235.568	504397.877	883.85	883.85	902.12	902.12	15'-6 1/4"	15'-6 1/4"	16'
11	30'-6"	11	CJ	152245.267	504426.794	884.1	884.1	900.9	900.9	14'-3 5/8"	14'-3 5/8"	14'
12	30'-6"	12	EJ	152254.867	504455.743	884.1	884.1	899.68	899.68	13'-1"	9'-7"	10'
13	30'-6"	13	CJ	152265.175	504484.448	888.1	888.1	898.46	898.46	8'-4 3/8"	8'-4 3/8"	8'
14	30'-6"	14	CJ	152276.225	504512.875	888.1	888.1	897.28	897.28	7'-2 1/8"	7'-2 1/8"	8'
15	30'-6"	15	EJ	152288.01	504541.005	888.1	888.1	896.41	896.41	6'-3 3/4"	6'-3 3/4"	6'
16	30'-6"	16	CJ	152300.522	504568.82	888.1	-	895.89	-	5'-9 1/2"	-	6'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
1	1+30.50	152157.976	504166.5431
2			

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



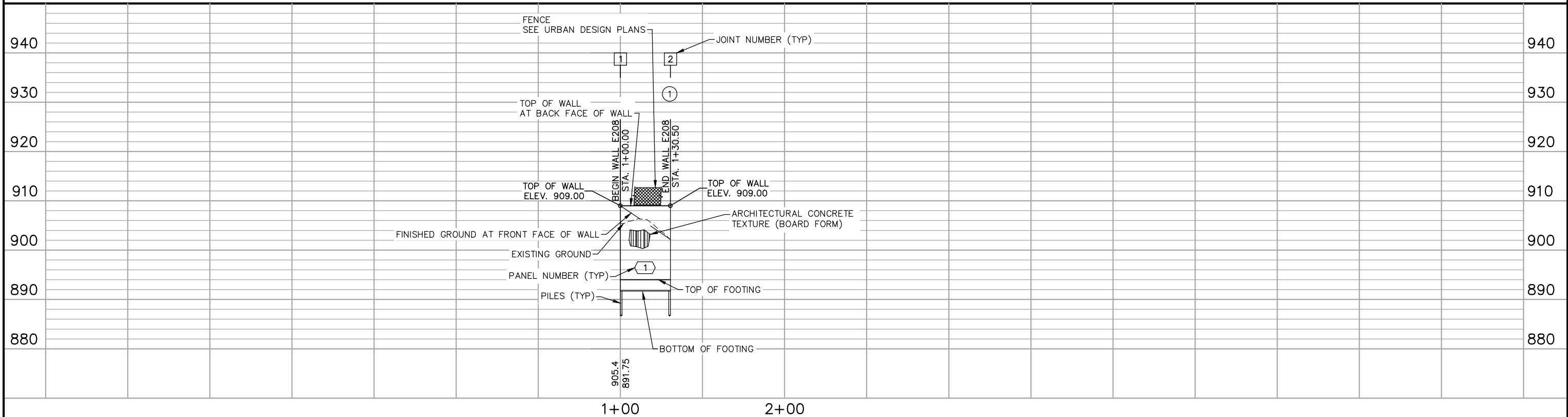
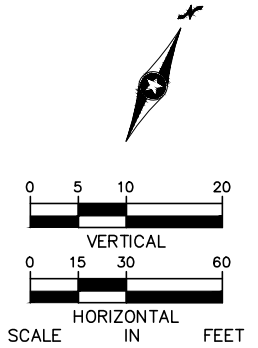
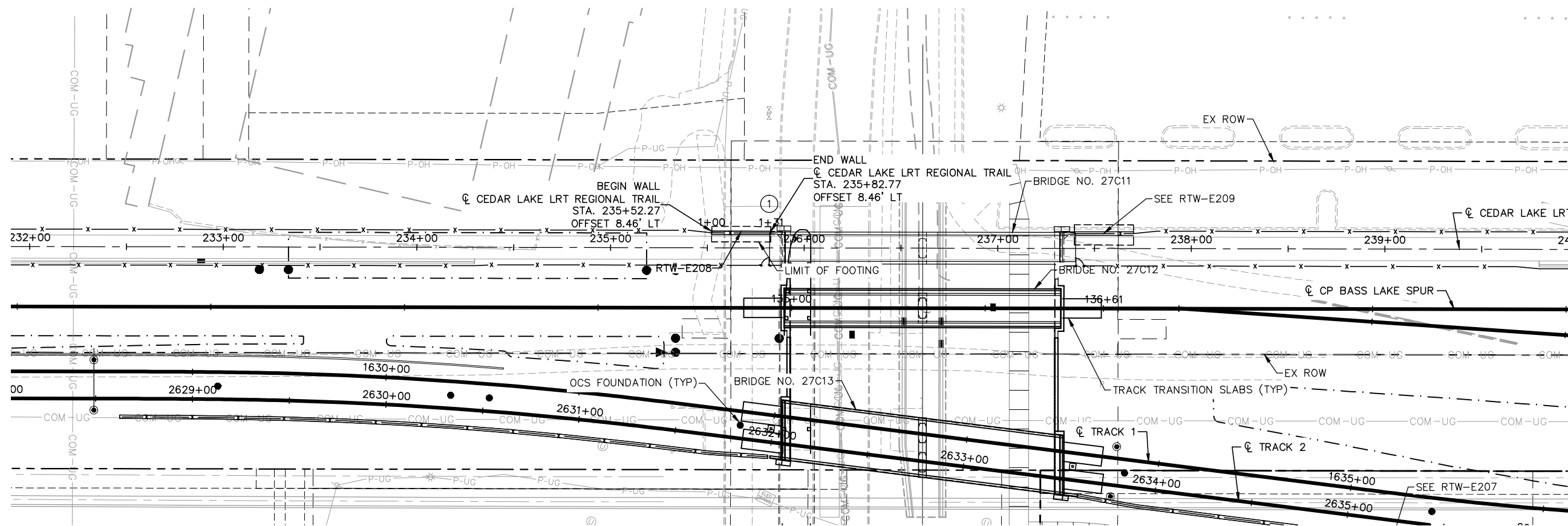
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E207 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E207-DTL - 001**

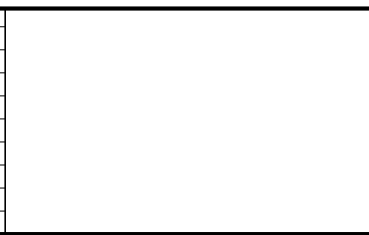
**SHEET  
124  
OF  
271**

Jan, 19 2016 05:38 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E208-PL-E.dwg By: V-GudisshHD

NOTE:  
 ① JOINT LOCATION BETWEEN  
 RETAINING WALL AND  
 BRIDGE WINGWALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

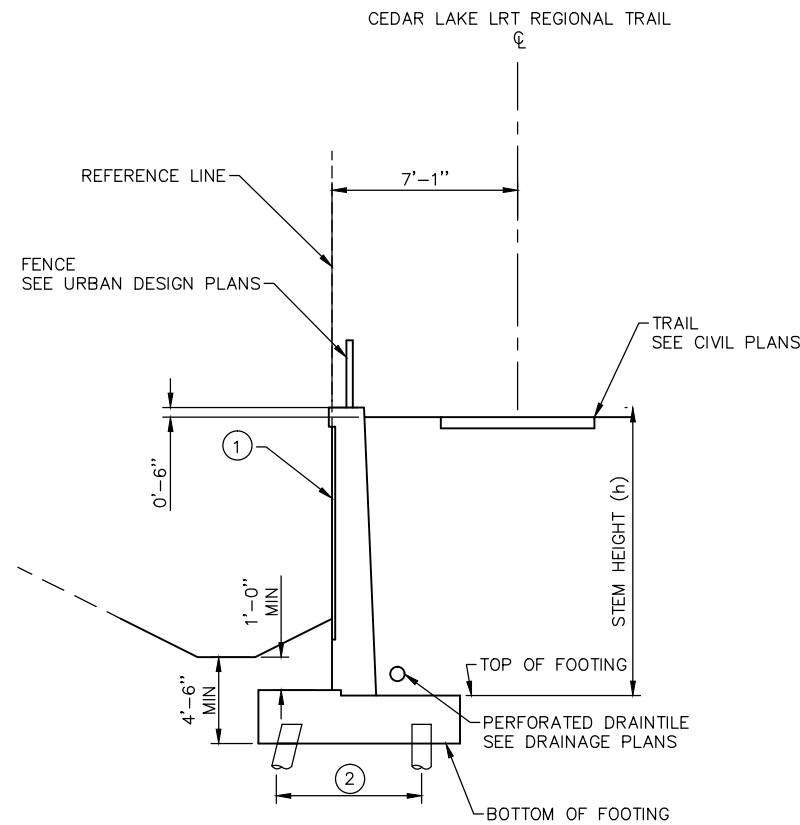


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E208 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**  
 SHEET NAME: **RTW-E208-PL-E**

SHEET  
 125  
 OF  
 271

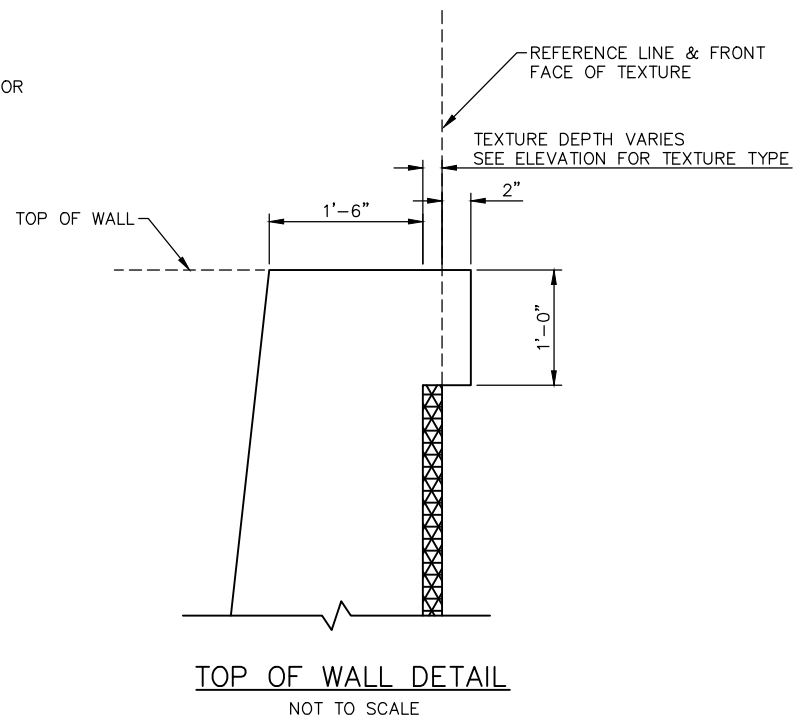
Jan, 20 2016 11:09 am V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E208-DTL.dwg By: V-PatelPJ



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E208 SECTION**

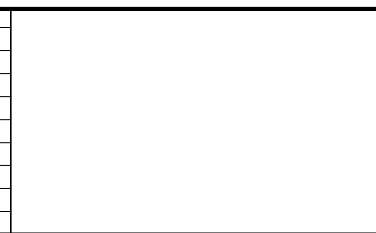
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

RTW-E208 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	152191.734	503907.455	-	891.75	-	909	-	15'-0"	15'
		2	EJ	152204.913	503934.96	891.75	-	909	-	15'-0"	-	15'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



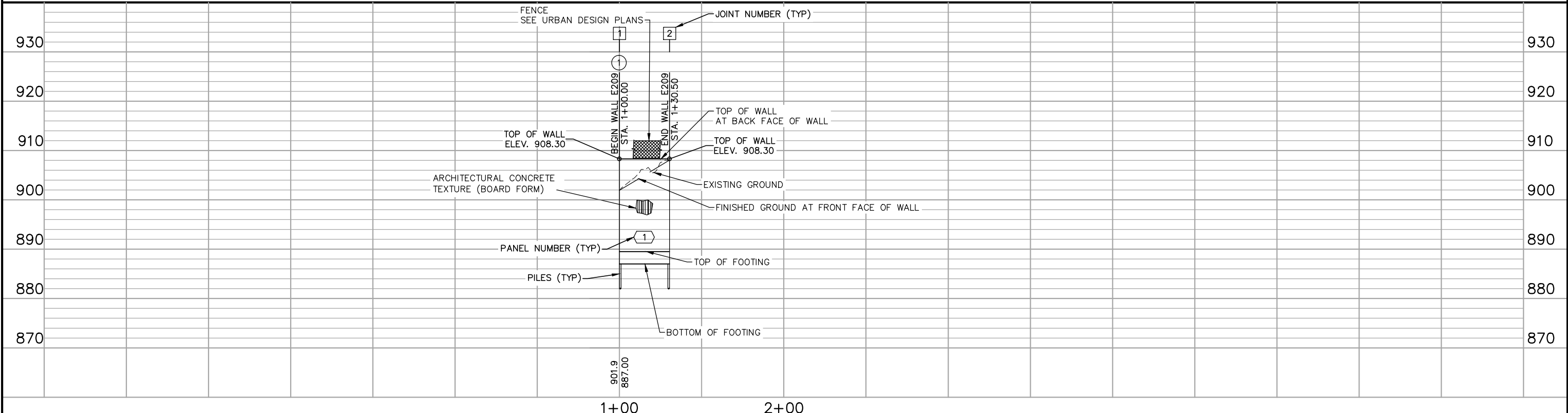
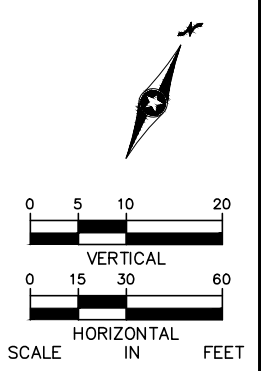
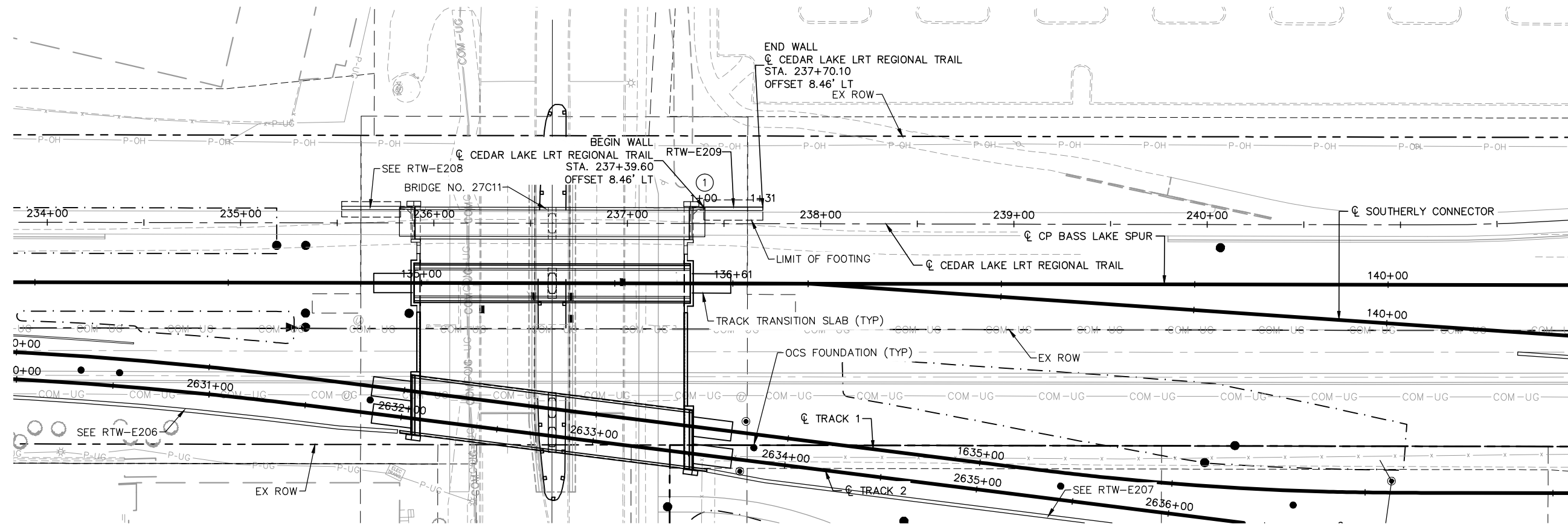
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E208 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E208-DTL - 001**

**SHEET  
126  
OF  
271**

Jan, 19 2016 05:48 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E209-PL.E.dwg By: V-GudisshHD

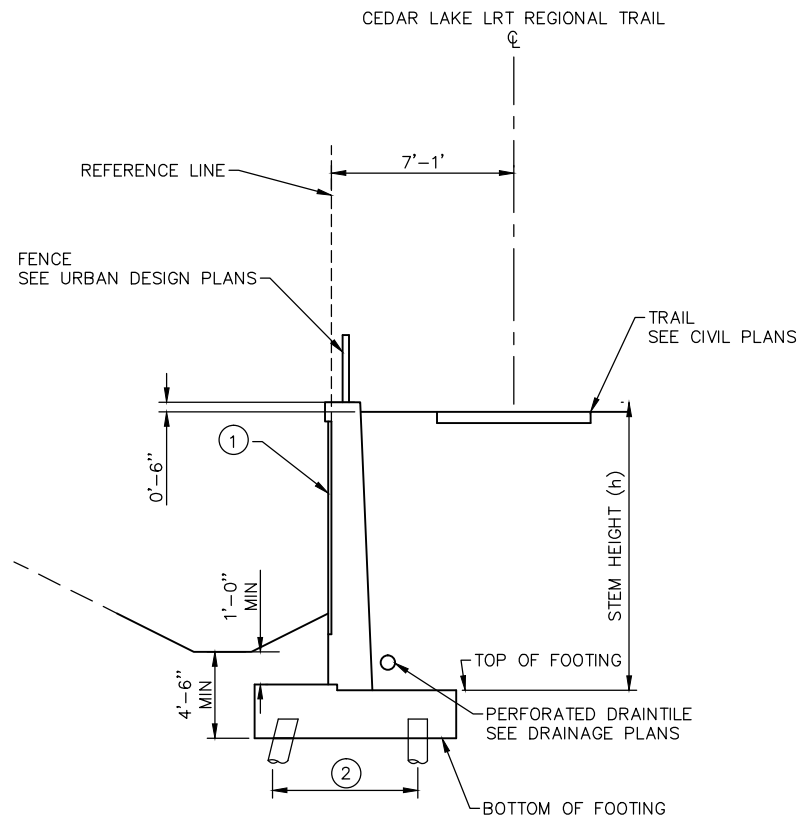
NOTE:  
 ① JOINT LOCATION BETWEEN  
 RETAINING WALL AND  
 BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 <b>AECOM</b>	 <b>METROPOLITAN COUNCIL</b>	 <b>SOUTHWEST</b> <small>Green Line LRT Extension</small>	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E209 PLAN AND ELEVATION</b>	<b>SHEET</b> 127 OF 271
90% SUBMISSION - 01/22/16			DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E209-PL.E</b>

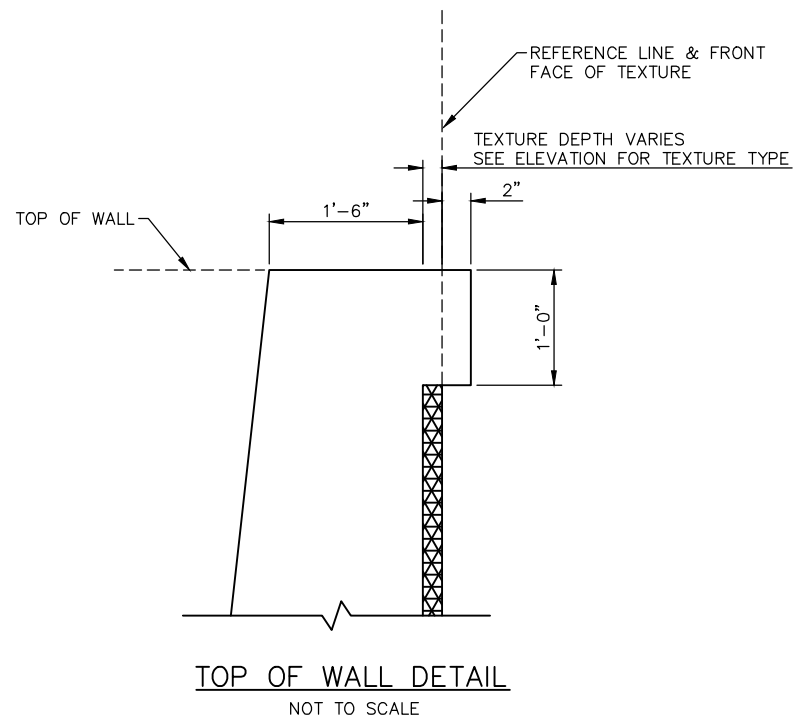
Jan, 19 2016 05:48 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E209-DTL.dwg By: V-GudissHD



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E209 SECTION**

NOT TO SCALE

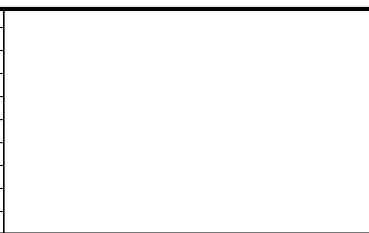


**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E209 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	152272.672	504076.392	-	887	-	908.3	-	18'-9 5/8"	19'
		2	EJ	152285.85	504103.898	887	-	908.3	-	18'-9 5/8"	-	19'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



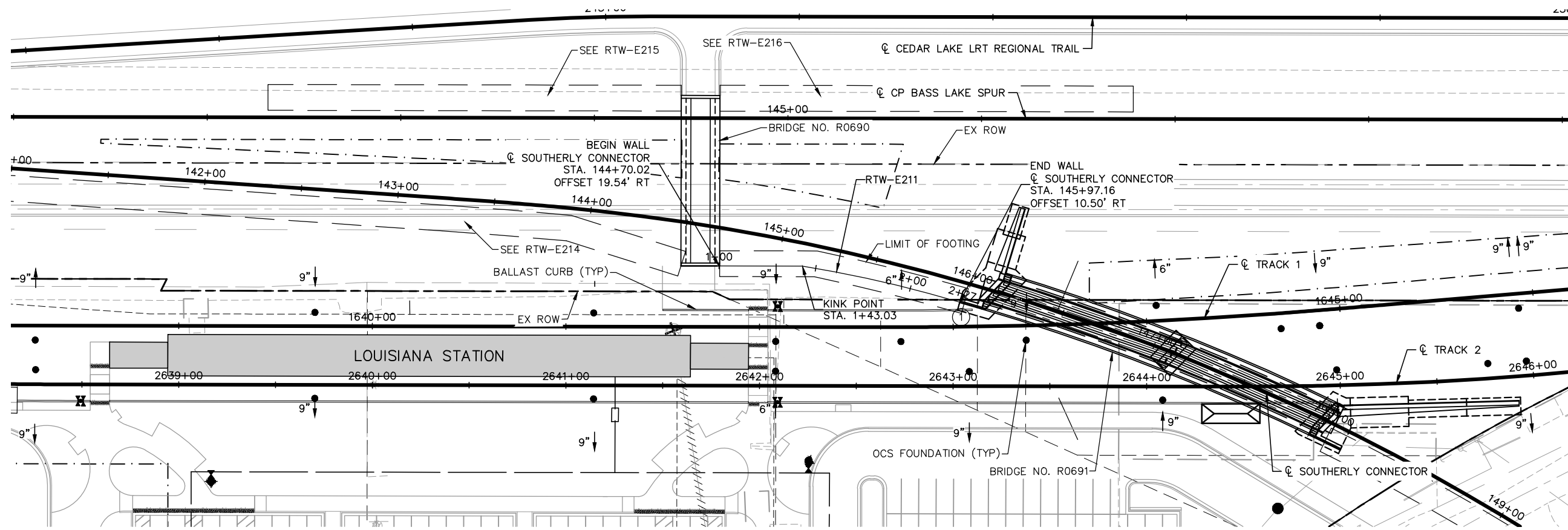
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E209 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E209-DTL - 001**

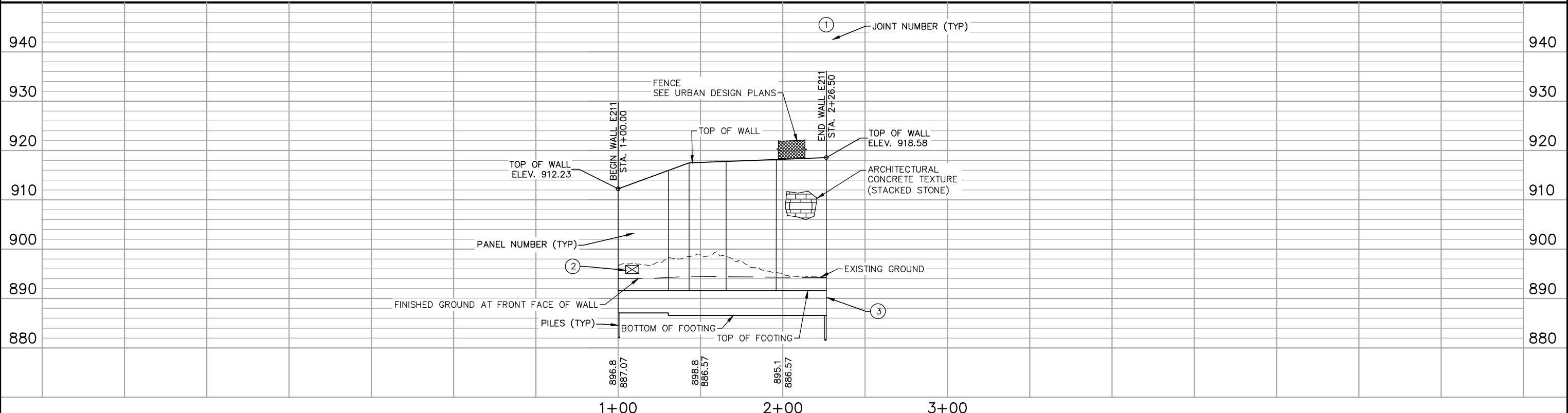
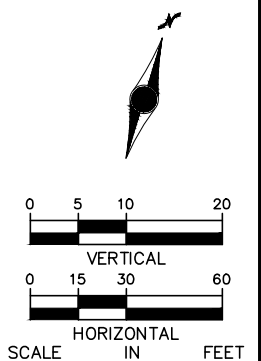
**SHEET  
128  
OF  
271**



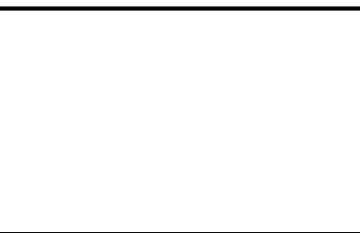
Jan. 17 2016 07:06 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E211-PLA.dwg By: V-PatelPJ



- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT BOND TEST STATION. SEE DETAILS ON SHEETS E0-SYS-CORR-DTL-023 AND 024.
  - ③ SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E211



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

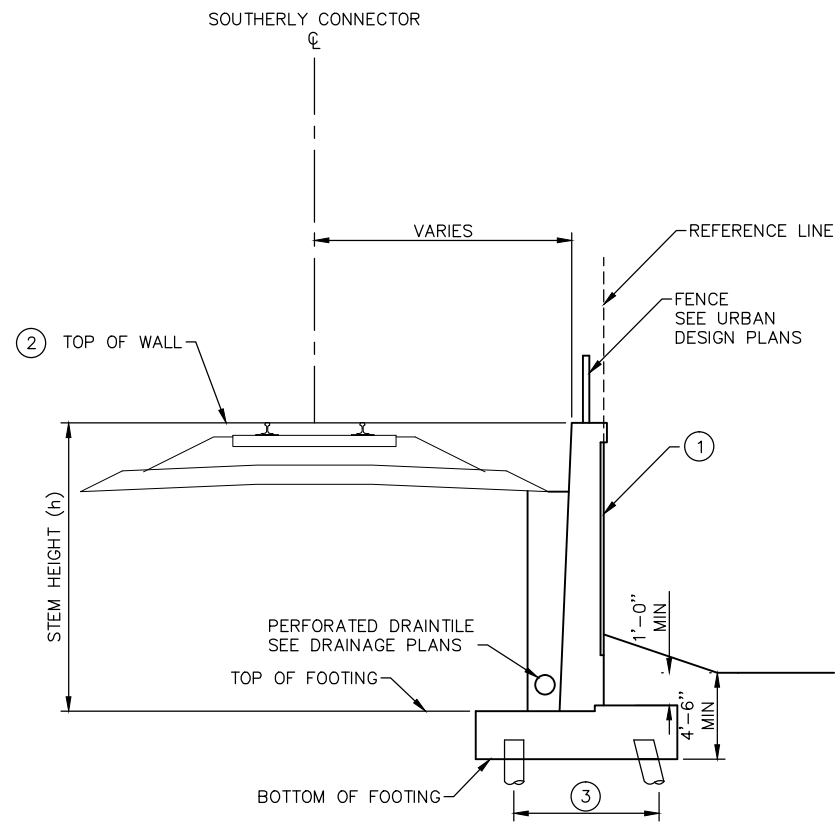


**90% SUBMISSION - 01/22/16**



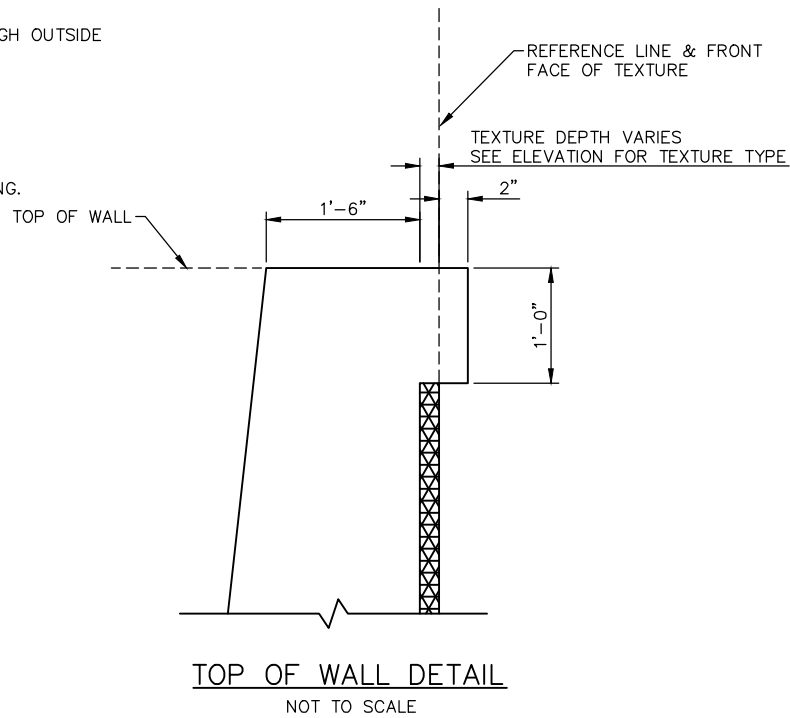
<b>CIVIL - VOLUME 6</b>		<b>SHEET</b>
<b>RETAINING WALLS</b>		
<b>RTW-E211 PLAN AND ELEVATION</b>		OF
DISCIPLINE: <b>STRUCTURES</b>		271
SHEET NAME: <b>RTW-E211-PLA</b>		

Jan, 17 2016 07:07 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E211-DTL.dwg By: V-Patel/PJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E211 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

RTW-E211 SECTION  
NOT TO SCALE



RTW-E211 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	152522.039	504864.607	-	887.07	-	891.57	-	912.23	-	20'-7 7/8"	24.4'
2	12'-6"	1+30.50	2	CJ	152535.216	504892.112	887.07	887.07	891.57	891.57	915.96	915.96	24'-4 5/8"	24'-4 5/8"	26'
3	22'-6"	1+43.00	3	EJ	152540.631	504903.415	886.57	886.57	891.57	891.57	917.5	917.5	25'-11 1/8"	25'-11 1/8"	26.3'
4	30'-6"	1+65.50	4	CJ	152546.631	504925.063	886.57	886.57	891.57	891.57	917.79	917.79	26'-2 5/8"	26'-2 5/8"	26.7'
5	30'-6"	1+96.00	5	CJ	152553.559	504954.768	886.57	886.57	891.57	891.57	918.18	918.18	26'-7 3/8"	26'-7 3/8"	27.1'
		2+26.50	6	EJ	152559.066	504984.761	886.57	-	891.57	-	918.58	-	27'-0 1/8"	-	27.1'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
2	1+43.00	152540.631	504903.415
3			

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

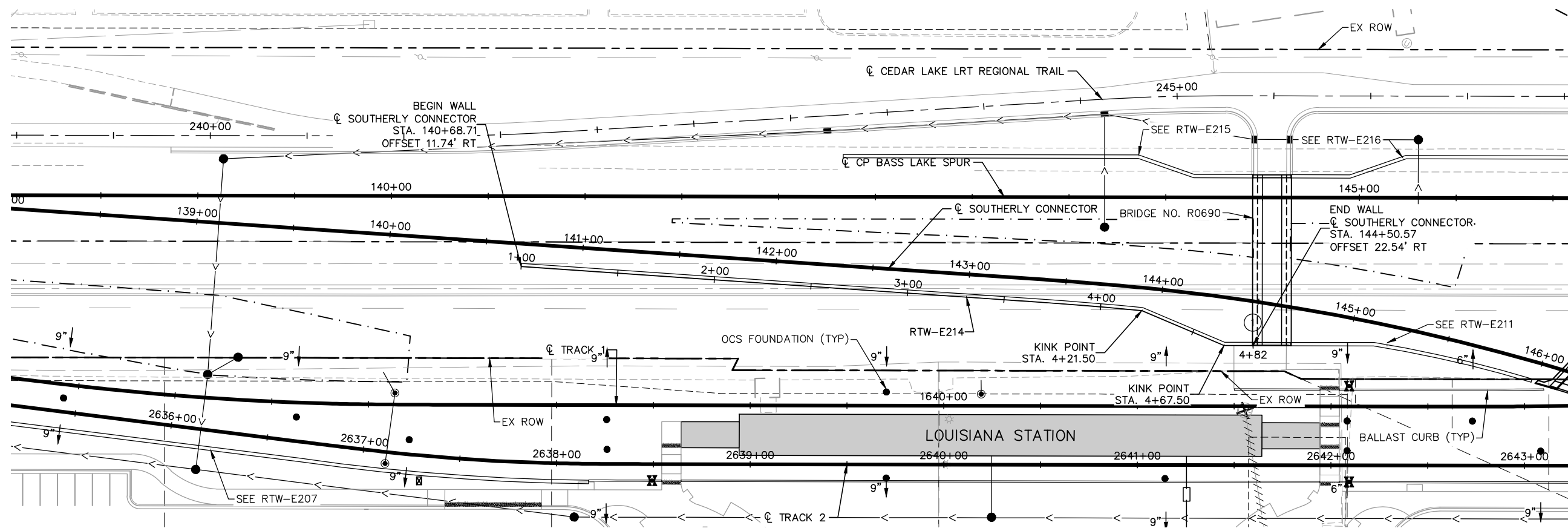



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E211 GEOMETRY**

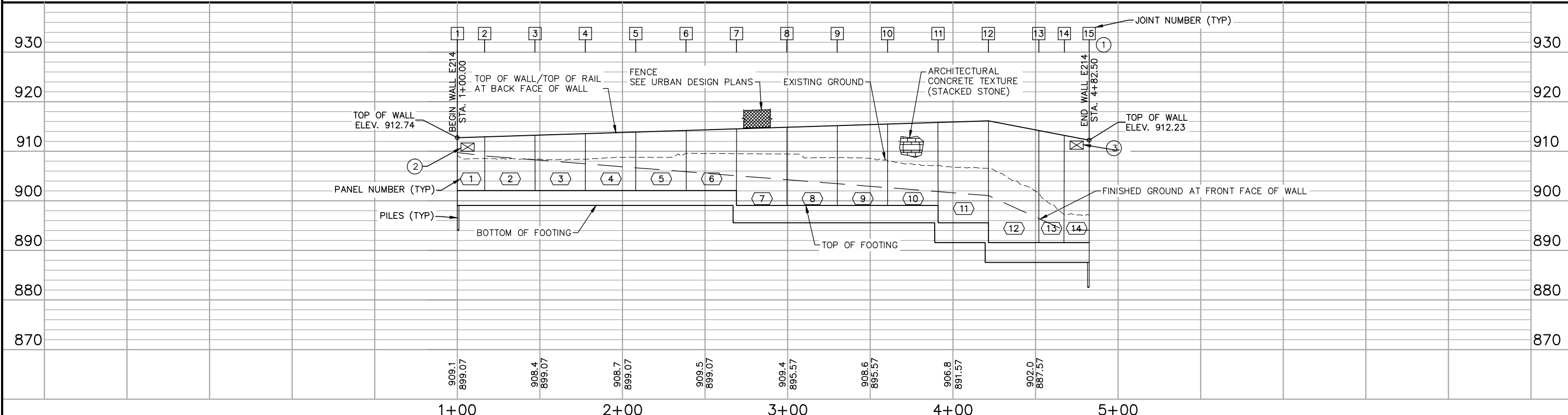
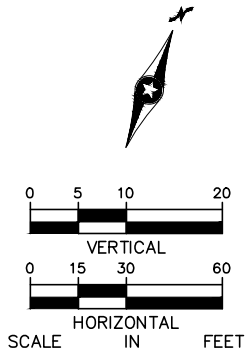
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E211-DTL - 001**

SHEET  
130  
OF  
271

Jan, 19 2016 04:30 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E214-PLA.dwg By: V-Patel/PJ



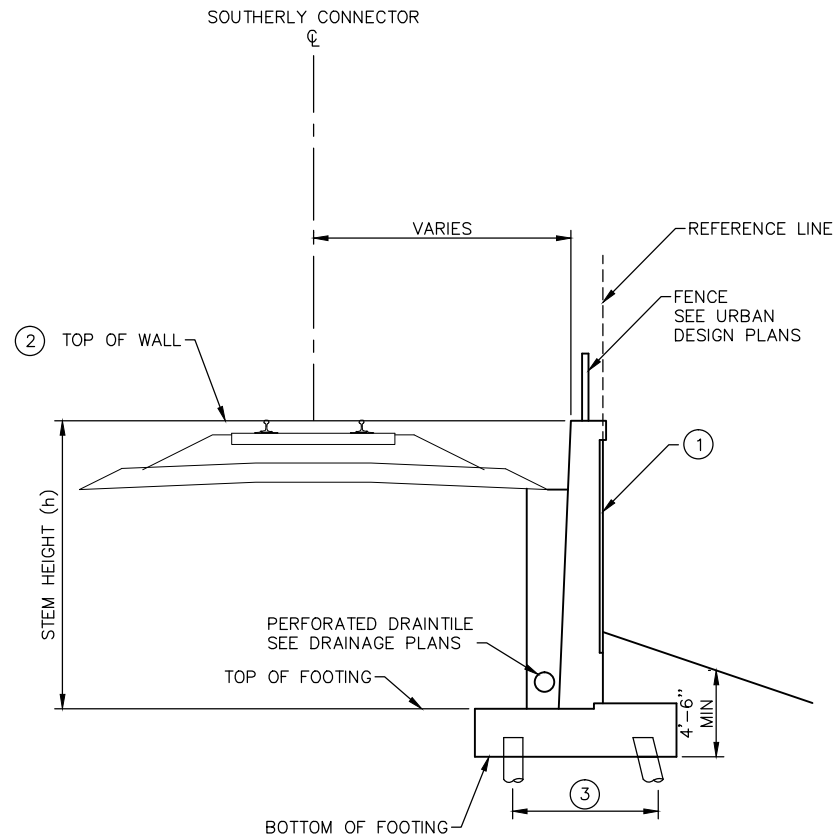
- NOTE:**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ STRAY CURRENT BOND TEST STATION. SEE DETAILS ON SHEETS E0-SYS-CORR-DTL-023 AND 024.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

			<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E214 PLAN AND ELEVATION</b>		<b>SHEET</b> 131 OF 271
			90% SUBMISSION - 01/22/16	DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E214-PLA</b>

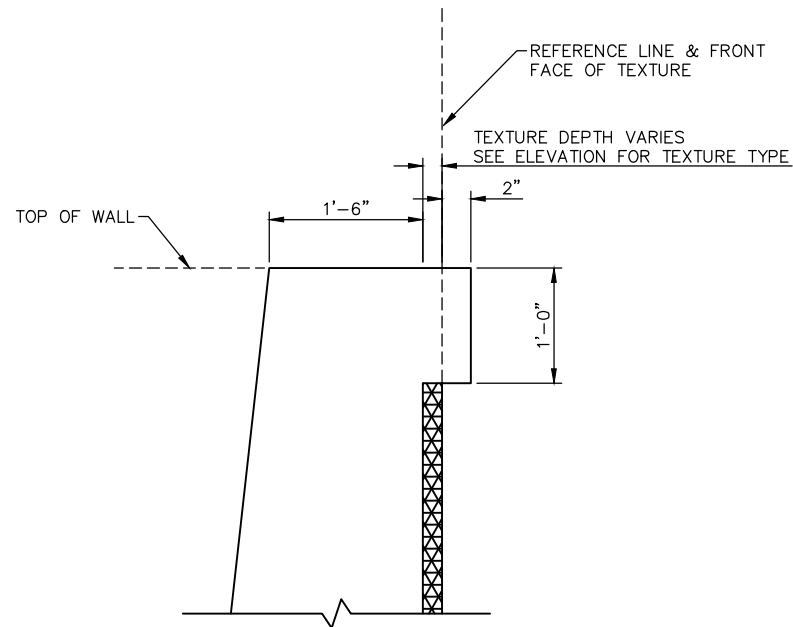
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- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E214 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E214 SECTION**

NOT TO SCALE



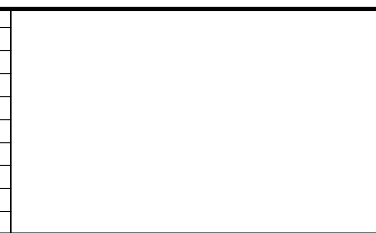
**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E214 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	16'-6"	1+00.00	1	CJ	152386.409	504488.884	-	899.07	-	902.07	-	912.74	-	10'-8"	10.9'
2	30'-6"	1+16.50	2	CJ	152392.533	504504.21	899.07	899.07	902.07	902.07	912.91	912.91	10'-10 1/8"	10'-10 1/8"	11.2'
3	30'-6"	1+47.00	3	EJ	152403.849	504532.528	899.07	899.07	902.07	902.07	913.23	913.23	11'-1 7/8"	11'-1 7/8"	11.5'
4	30'-6"	1+77.50	4	CJ	152415.167	504560.851	899.07	899.07	902.07	902.07	913.55	913.55	11'-5 3/4"	11'-5 3/4"	11.8'
5	30'-6"	2+08.00	5	CJ	152426.484	504589.173	899.07	899.07	902.07	902.07	913.87	913.87	11'-9 5/8"	11'-9 5/8"	12.2'
6	30'-6"	2+38.50	6	EJ	152437.802	504617.496	899.07	899.07	902.07	902.07	914.19	914.19	12'-1 1/2"	12'-1 1/2"	14'
7	30'-6"	2+69.00	7	CJ	152449.12	504645.818	895.57	895.57	900.57	900.57	914.51	914.51	13'-11 1/4"	13'-11 1/4"	15.8'
8	30'-6"	2+99.50	8	CJ	152460.437	504674.141	895.57	895.57	899.07	899.07	914.83	914.83	15'-9 1/8"	15'-9 1/8"	16.1'
9	30'-6"	3+30.00	9	EJ	152471.755	504702.463	895.57	895.57	899.07	899.07	915.15	915.15	16'-1"	16'-1"	16.4'
10	30'-6"	3+60.50	10	CJ	152483.066	504730.788	895.57	895.57	899.07	899.07	915.47	915.47	16'-4 3/4"	16'-4 3/4"	16.8'
11	30'-6"	3+91.00	11	CJ	152494.24	504759.168	891.57	891.57	899.07	899.07	915.8	915.8	16'-8 3/4"	16'-8 3/4"	20.6'
12	30'-6"	4+21.50	12	EJ	152505.028	504787.695	887.57	887.57	895.57	895.57	916.12	916.12	20'-6 5/8"	20'-6 5/8"	22.6'
13	15'-6"	4+52.00	13	CJ	152506.471	504818.161	887.57	887.57	891.57	891.57	914.17	914.17	22'-7 1/4"	22'-7 1/4"	22.6'
14	15'-0"	4+67.50	14	CJ	152507.204	504833.644	887.57	887.57	891.57	891.57	913.17	913.17	21'-7 1/4"	21'-7 1/4"	21.6'
		4+82.50	15	EJ	152513.685	504847.171	887.57	-	891.57	-	912.23	-	20'-7 7/8"	-	20.7'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
11	4+21.50	152505.028	504787.695
12			
13	4+67.50	152507.204	504833.644
14			

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

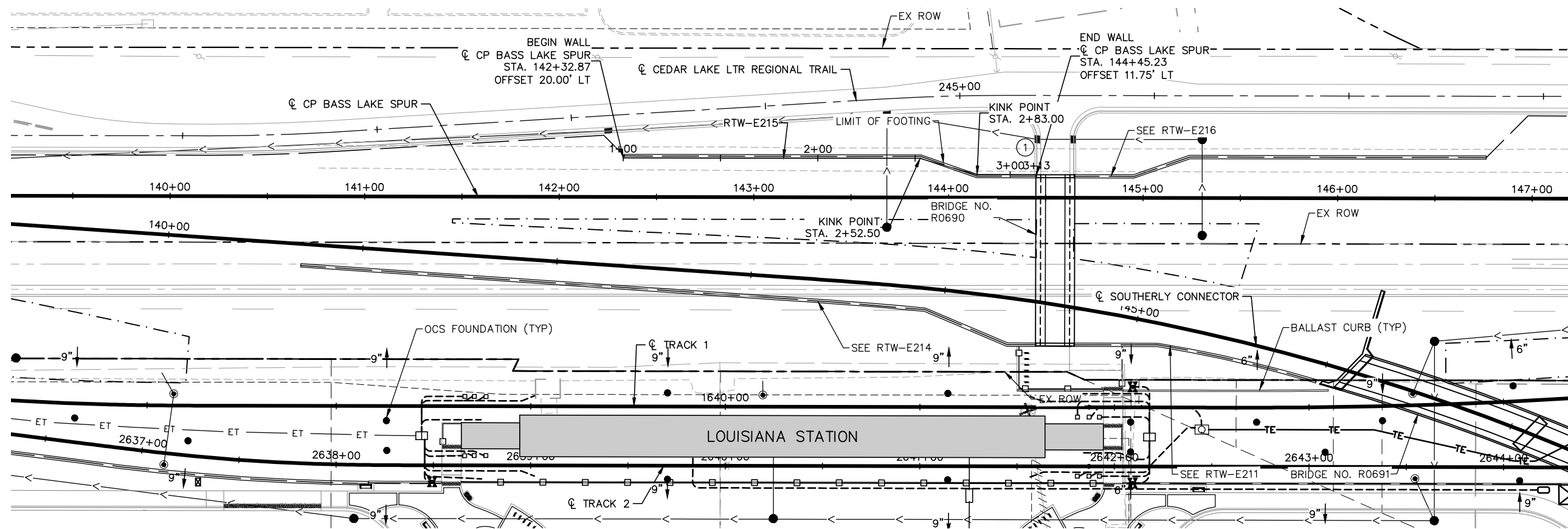


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E214 GEOMETRY**

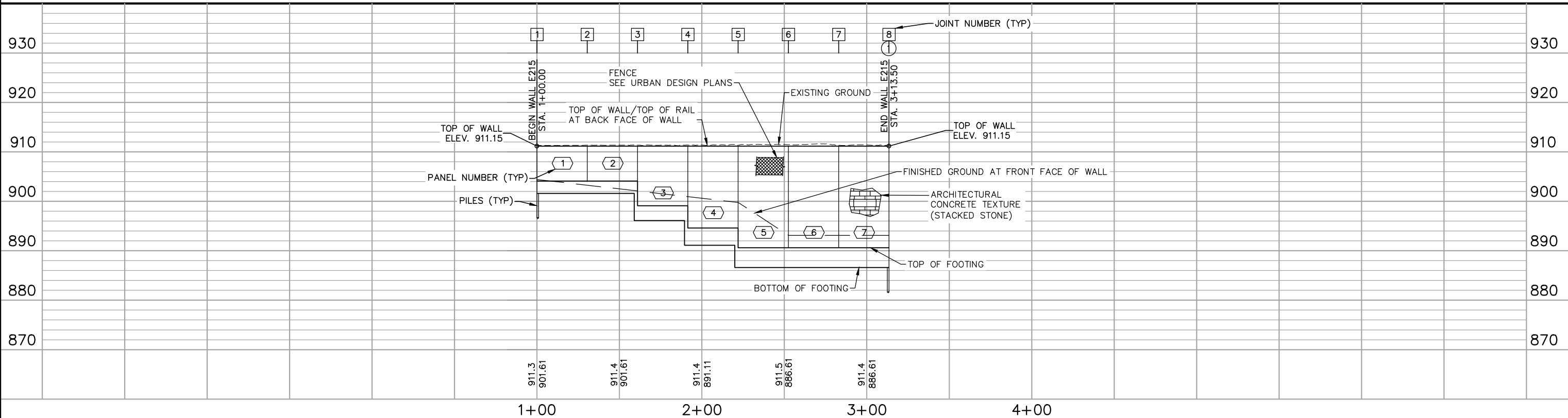
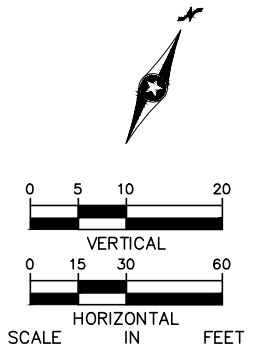
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E214-DTL - 001**

**SHEET**  
**132**  
**OF**  
**271**

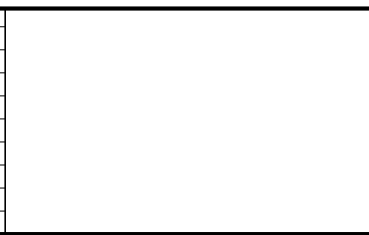
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NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

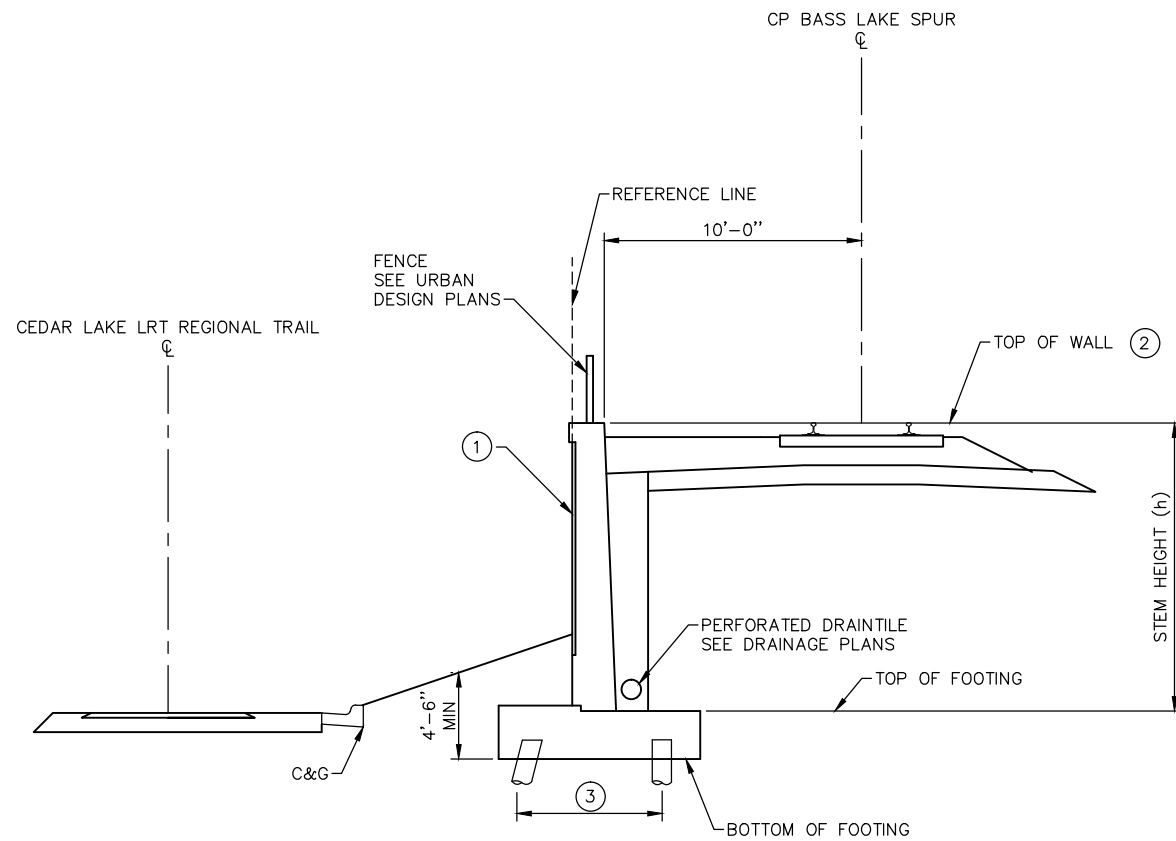


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E215 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E215-PL-E**

SHEET  
133  
OF  
271

Jan, 19 2016 06:30 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E215-DTL.dwg By: V-Patel/PJ

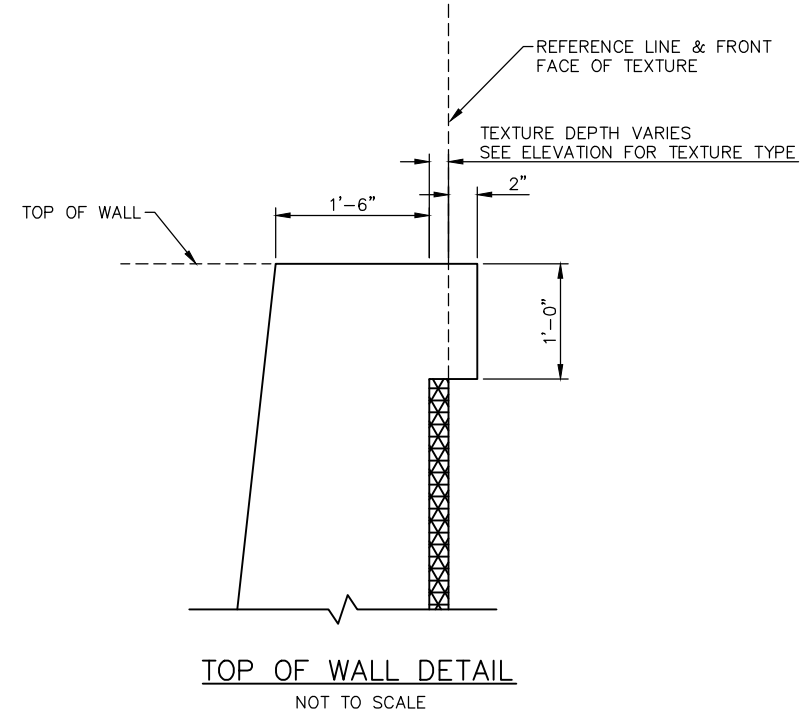


- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION ( $E_a$ ) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E215 SECTION**  
NOT TO SCALE

RTW-E215 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	152508.711	504614.078	-	901.61	-	904.11	-	911.15	-	7'-0 1/2"	8'
2	30'-6"	1+30.50	2	CJ	152521.89	504641.584	901.61	901.61	904.11	904.11	911.15	911.15	7'-0 1/2"	7'-0 1/2"	13'
3	30'-6"	1+61.00	3	EJ	152535.068	504669.09	896.11	896.11	899.11	899.11	911.15	911.15	12'-0 1/2"	12'-0 1/2"	16'
4	30'-6"	1+91.50	4	CJ	152548.247	504696.596	891.11	891.11	896.11	896.11	911.15	911.15	15'-0 1/2"	15'-0 1/2"	17'
5	30'-6"	2+22.00	5	CJ	152561.426	504724.102	886.61	886.61	894.61	894.61	911.15	911.15	16'-6 1/2"	16'-6 1/2"	21'
6	30'-6"	2+52.50	6	EJ	152574.604	504751.608	886.61	886.61	890.61	890.61	911.15	911.15	20'-6 1/2"	20'-6 1/2"	21'
7	30'-6"	2+83.00	7	CJ	152579.85	504781.653	886.61	886.61	890.61	890.61	911.15	911.15	20'-6 1/2"	20'-6 1/2"	21'
		3+13.50	8	CJ	152593.028	504809.157	886.61	-	890.61	-	911.15	-	20'-6 1/2"	-	21'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
5	2+52.20	152561.426	504724.102
6	2+83.00	152579.85	504781.653



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



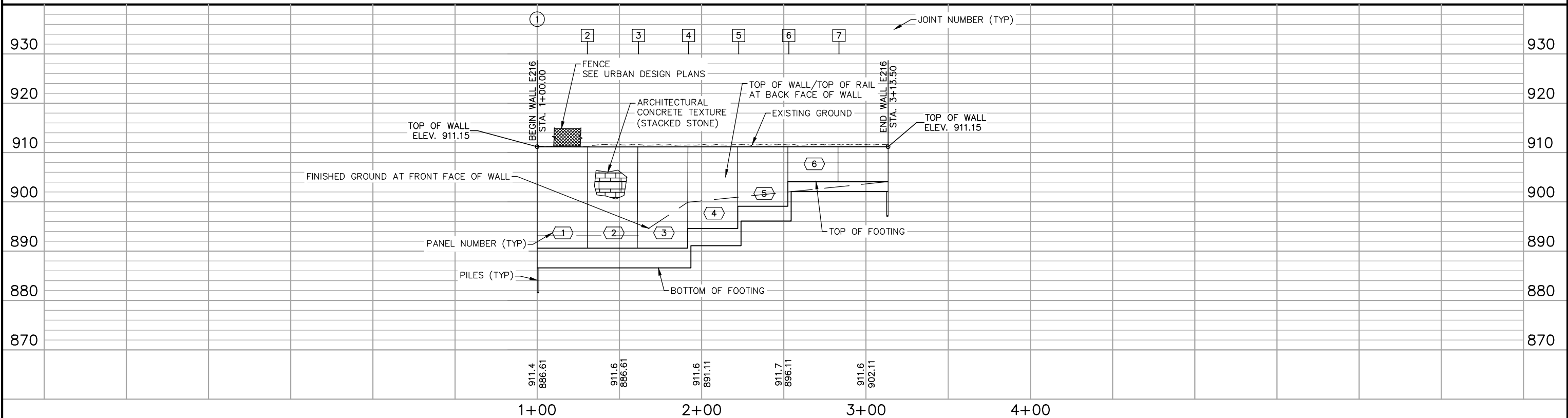
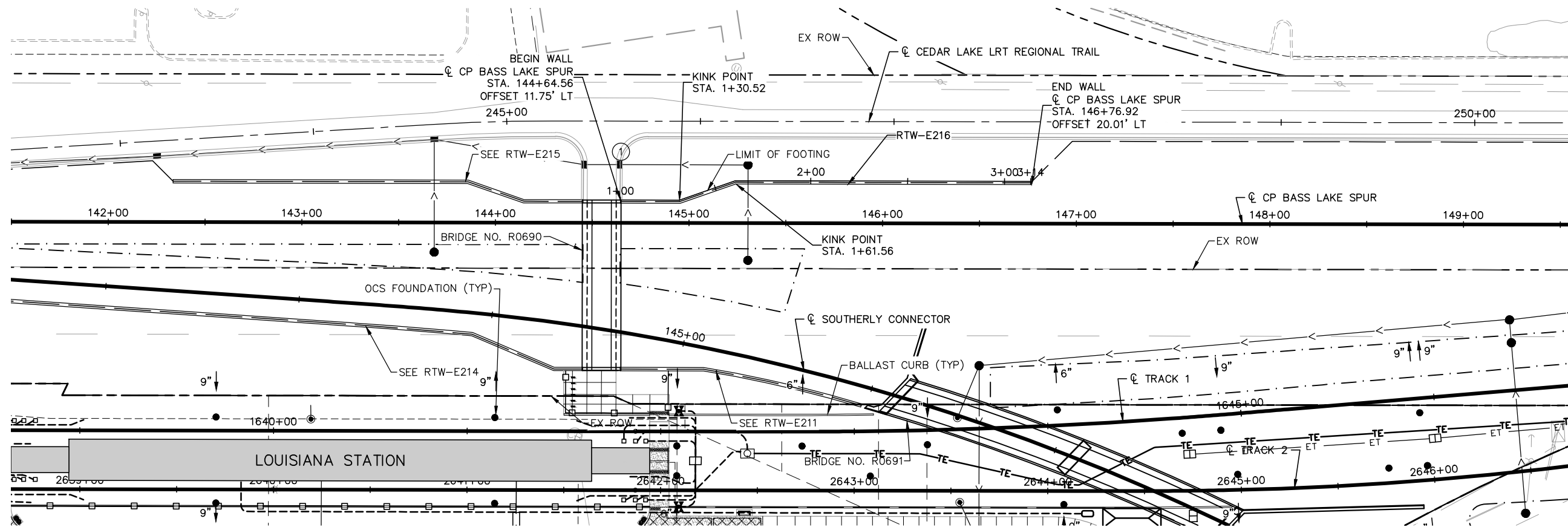
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E215 GEOMETRY**

DISCIPLINE: **STRUCTURES**  
SHEET NAME: **RTW-E215-DTL - 001**

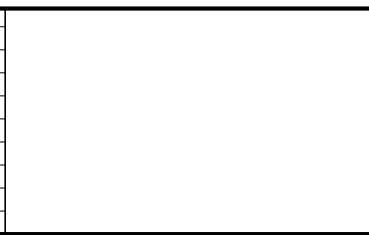
**SHEET  
134  
OF  
271**

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NOTE:  
 ① JOINT LOCATION BETWEEN  
 RETAINING WALL AND BRIDGE  
 WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

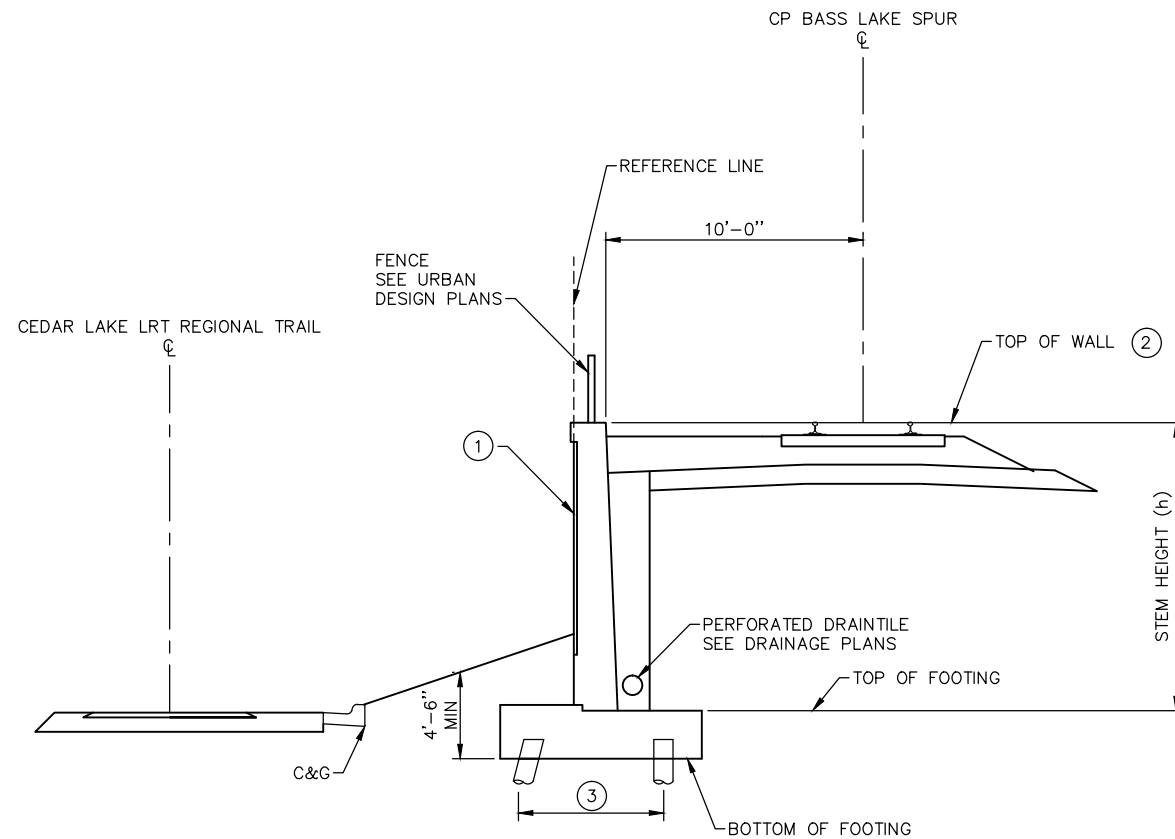


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E216 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E216-PLA**

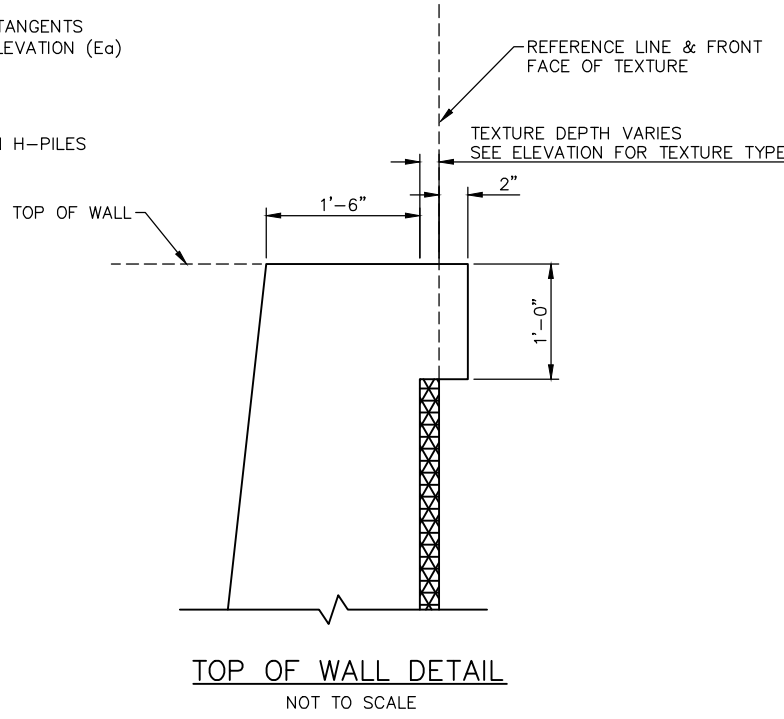
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135  
OF  
271

Jan, 19 2016 06:39 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E216-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

RTW-E216 SECTION  
NOT TO SCALE



TOP OF WALL DETAIL  
NOT TO SCALE

RTW-E216 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	152601.381	504826.592	-	886.61	-	890.61	-	911.15	-	20'-6 1/2"	20.6'
2	30'-6"	1+30.50	2	CJ	152614.56	504854.098	886.61	886.61	890.61	890.61	911.15	911.15	20'-6 1/2"	20'-6 1/2"	20.6'
3	30'-6"	1+61.00	3	EJ	152634.688	504877.013	886.61	886.61	890.61	890.61	911.15	911.15	20'-6 1/2"	20'-6 1/2"	20.6'
4	30'-6"	1+91.50	4	CJ	152647.869	504904.518	886.61	886.61	890.61	890.61	911.15	911.15	20'-6 1/2"	20'-6 1/2"	20.6'
5	30'-6"	2+22.00	5	CJ	152661.05	504932.022	891.11	891.11	894.61	894.61	911.15	911.15	16'-6 1/2"	16'-6 1/2"	16.6'
6	30'-6"	2+52.50	6	EJ	152674.232	504959.527	896.11	896.11	899.11	899.11	911.15	911.15	12'-0 1/2"	12'-0 1/2"	12.1'
7	30'-6"	2+83.00	7	CJ	152687.413	504987.032	902.11	902.11	904.11	904.11	911.15	911.15	7'-0 1/2"	7'-0 1/2"	7.1'
8	30'-6"	3+13.50	8	CJ	152700.593	505014.534	902.11	-	904.11	-	911.15	-	7'-0 1/2"	-	7.1'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
1	1+30.5	152614.56	504854.098
2	1+61.00	152634.688	504877.013

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16



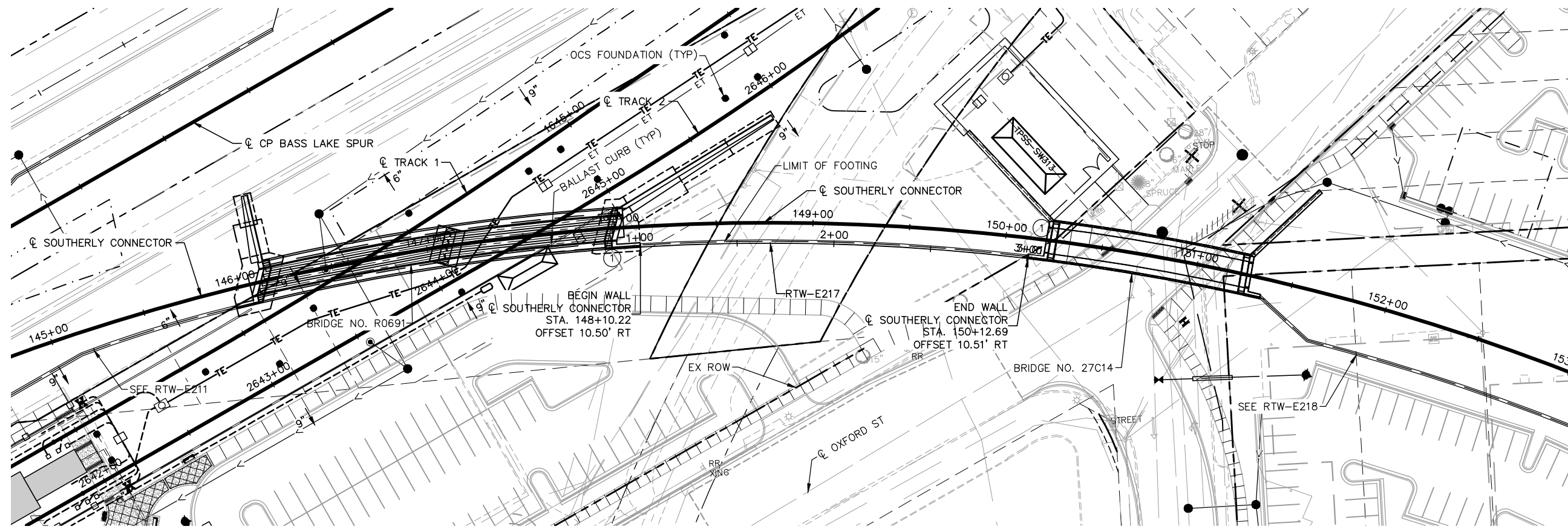
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E216 GEOMETRY**

DISCIPLINE: STRUCTURES SHEET NAME: RTW-E216-DTL - 001

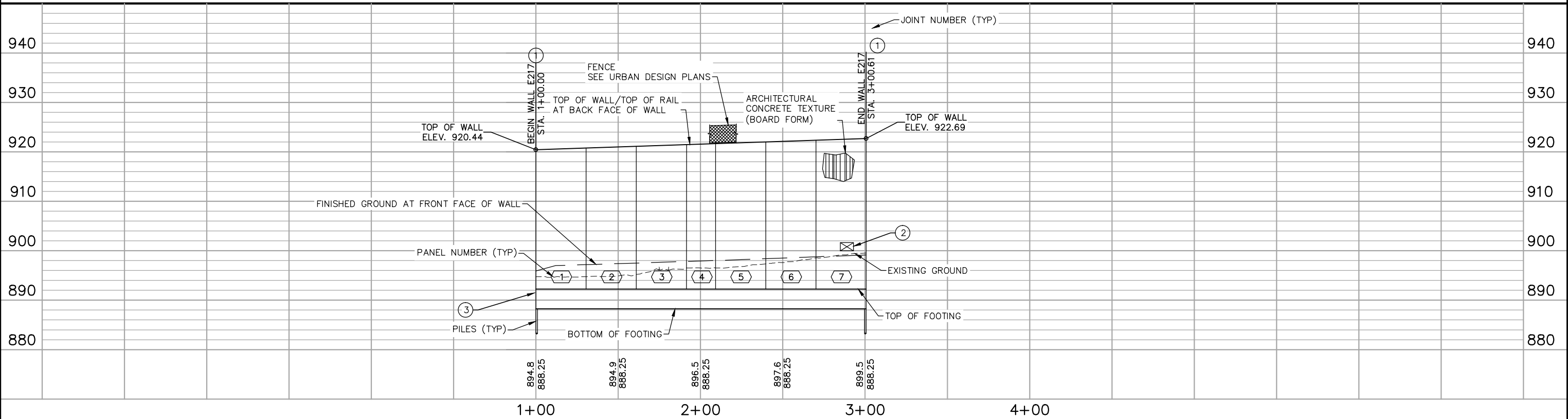
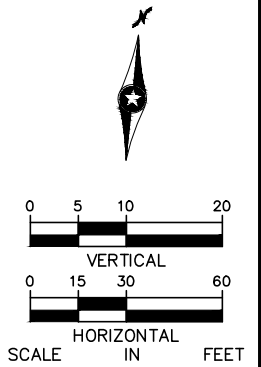
SHEET  
136  
OF  
271



Jan. 17 2016 07:31 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E217-PL.E.dwg By: V-PateiPJ



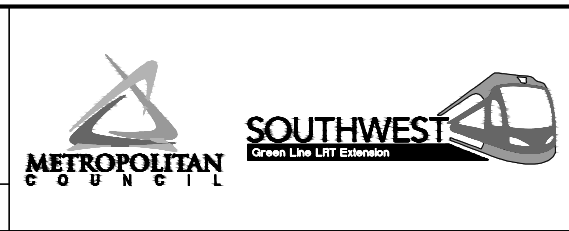
- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E217.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

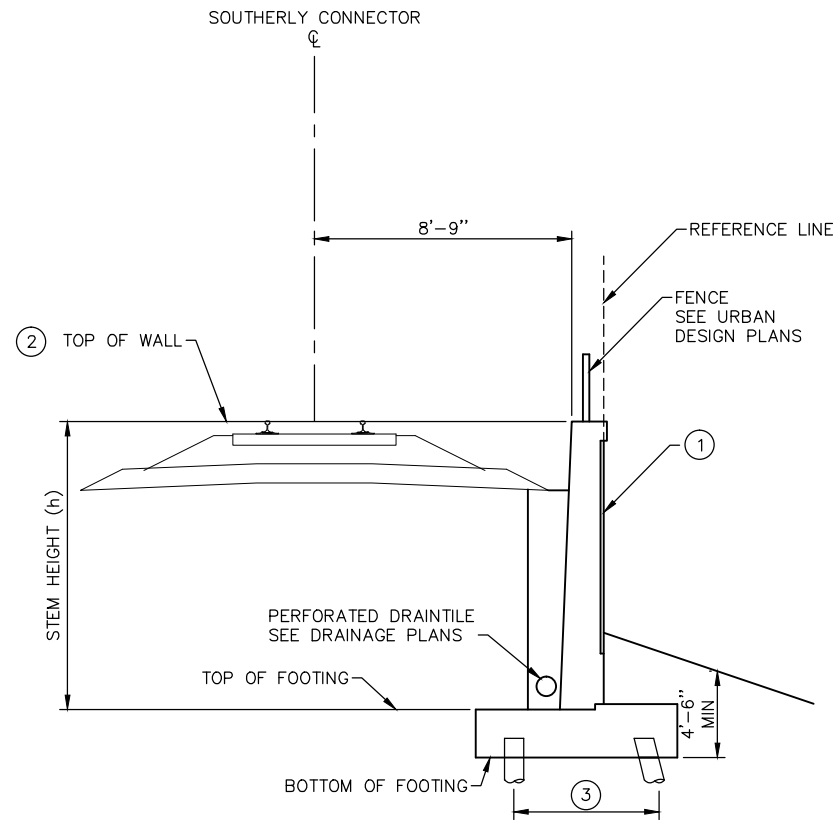


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E217 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E217-PL.E**

SHEET **137**  
OF  
**271**

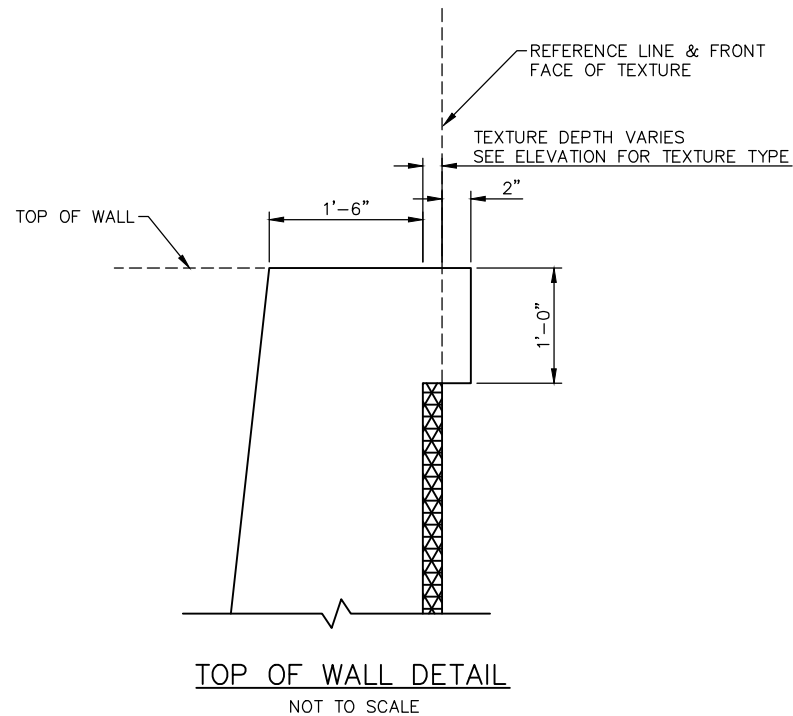
Jan, 17 2016 07:31 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E217-DTL.dwg By: V-PatelPJ



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E217 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E217 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

RTW-217 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	EJ	152575.64	505194.91	-	888.25	-	892.25	-	920.44	-	28'-2 1/4"	29'
2	30'-6"	1+30.50	2	CJ	152574.8	505225.4	888.25	888.25	892.25	892.25	920.78	920.78	28'-6 3/8"	28'-6 3/8"	29'
3	30'-6"	1+61.00	3	CJ	152573.14	505255.85	888.25	888.25	892.25	892.25	921.13	921.13	28'-10 1/2"	28'-10 1/2"	30'
4	17'-7 3/8"	1+91.50	4	EJ	152570.66	505286.25	888.25	888.25	892.25	892.25	921.47	921.47	29'-2 5/8"	29'-2 5/8"	30'
5	30'-6"	2+09.11	5	EJ	152568.86	505303.77	888.25	888.25	892.25	892.25	921.67	921.67	29'-5"	29'-5"	30'
6	30'-6"	2+39.61	6	EJ	152565.09	505334.04	888.25	888.25	892.25	892.25	922.01	922.01	29'-9 1/8"	29'-9 1/8"	31'
7	30'-6"	2+70.11	7	EJ	152560.51	505364.19	888.25	888.25	892.25	892.25	922.35	922.35	30'-1 1/4"	30'-1 1/4"	31'
8	30'-6"	3+00.61	8	EJ	152555.13	505394.21	888.25	-	892.25	-	922.69	-	30'-5 1/4"	-	31'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

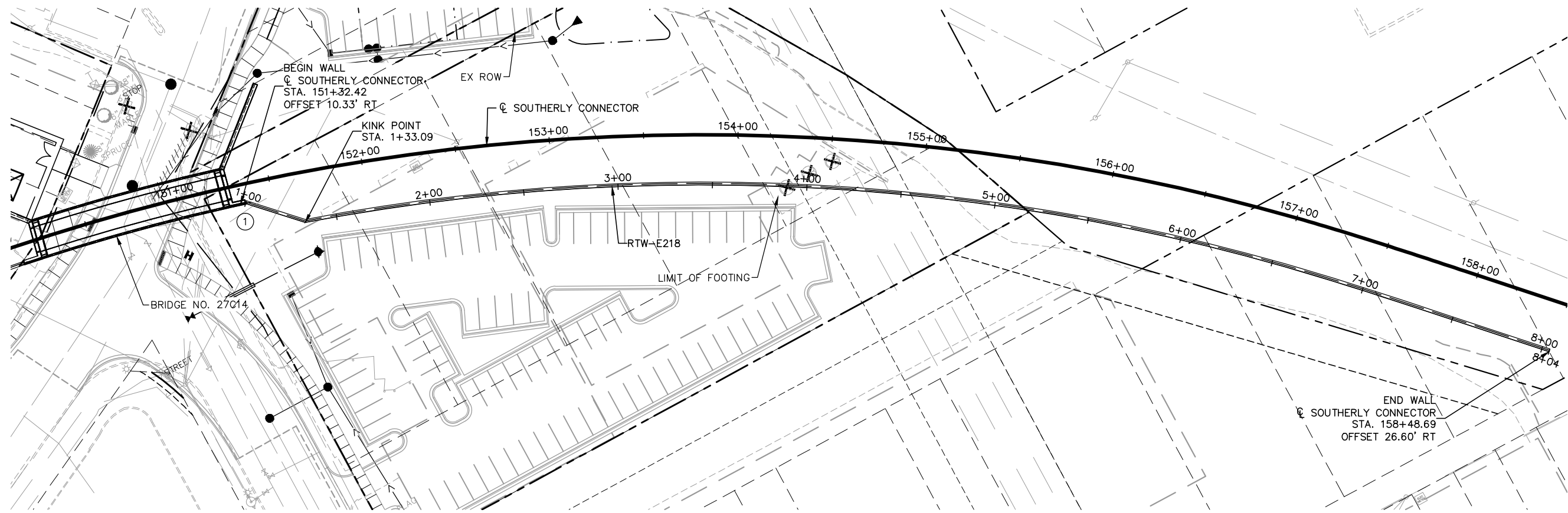



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E217 GEOMETRY**

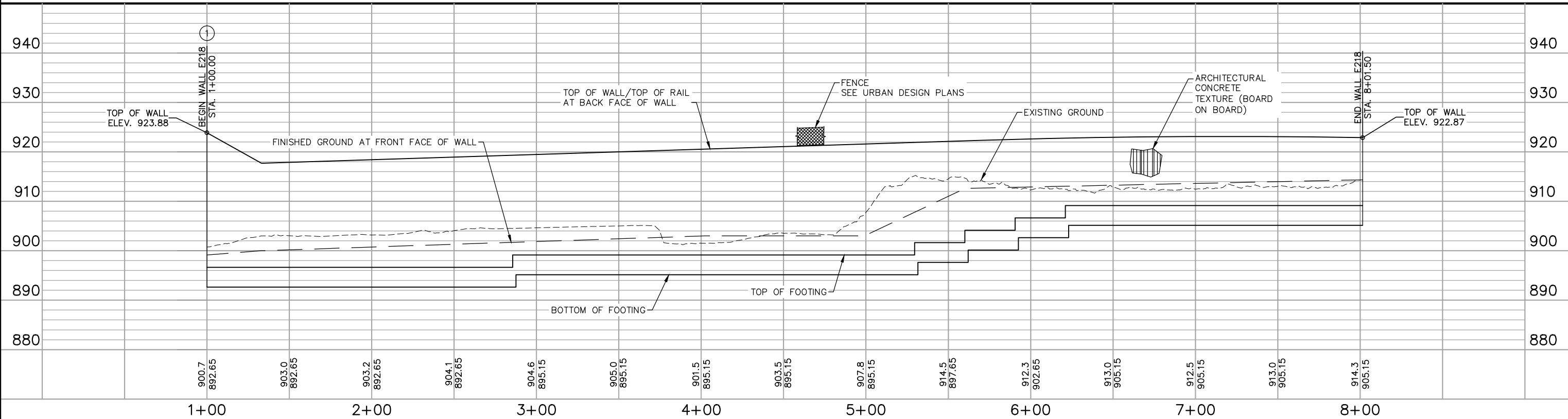
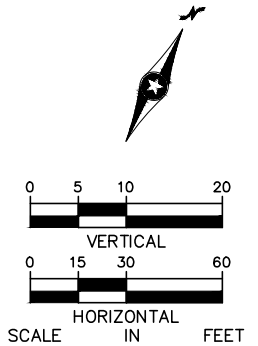
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E217-DTL - 001**

**SHEET**  
138  
OF  
271

Jan. 17 2016 07:37 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E218-PL-E.dwg By: V-Patel/PJ



NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

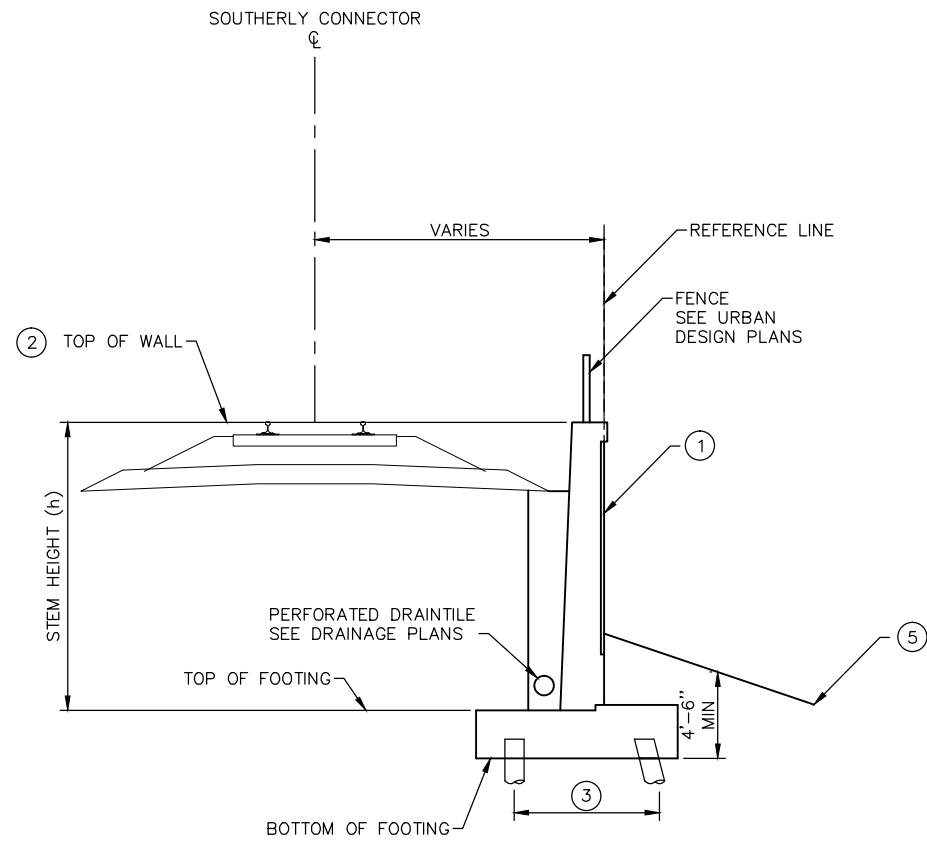


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E218 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E218 - PLE**

SHEET **139**  
OF  
**271**

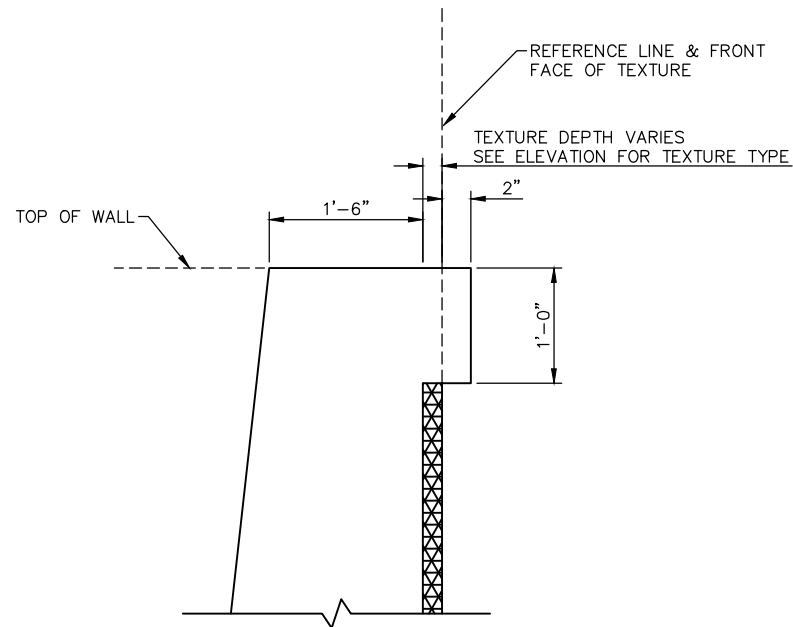
Jan, 17 2016 07:37 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E218-DTL.dwg By: V-Patel/PJ



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION ( $E_a$ ) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - ⑤ PARKING LOT FOR PORTION OF WALL HERE

RTW-E218 SECTION

NOT TO SCALE



TOP OF WALL DETAIL

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



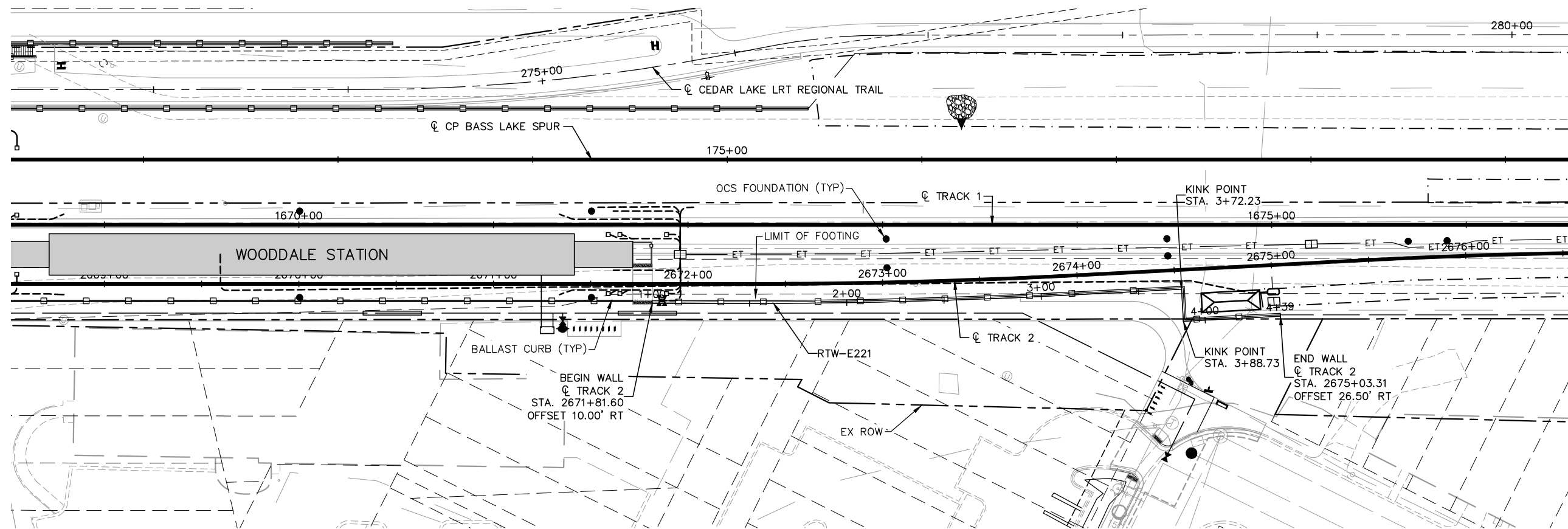
**AECOM**

90% SUBMISSION - 01/22/16

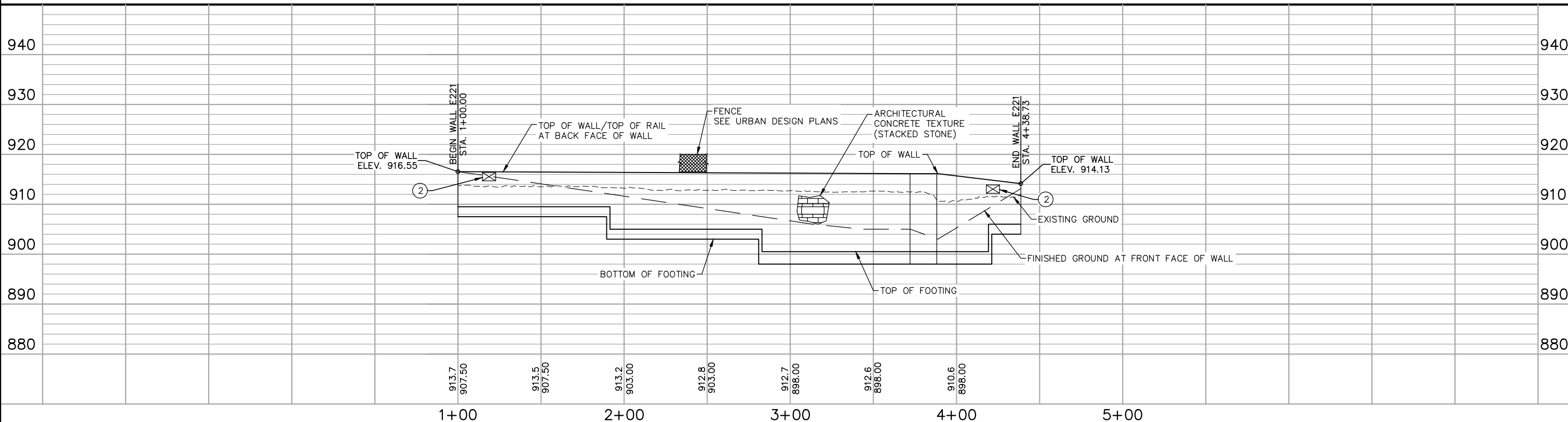
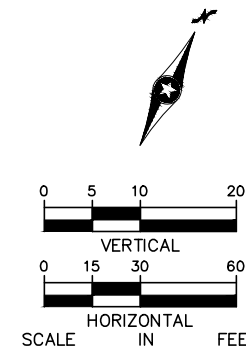
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E218 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E218-DTL - 001**

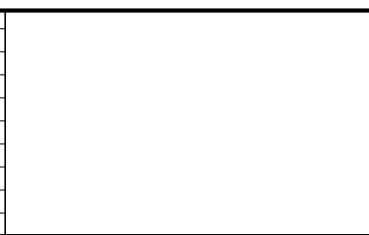
Jan. 17 2016 07:43 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E221-PLI.dwg By: V-PatelPJ



NOTE:  
 ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

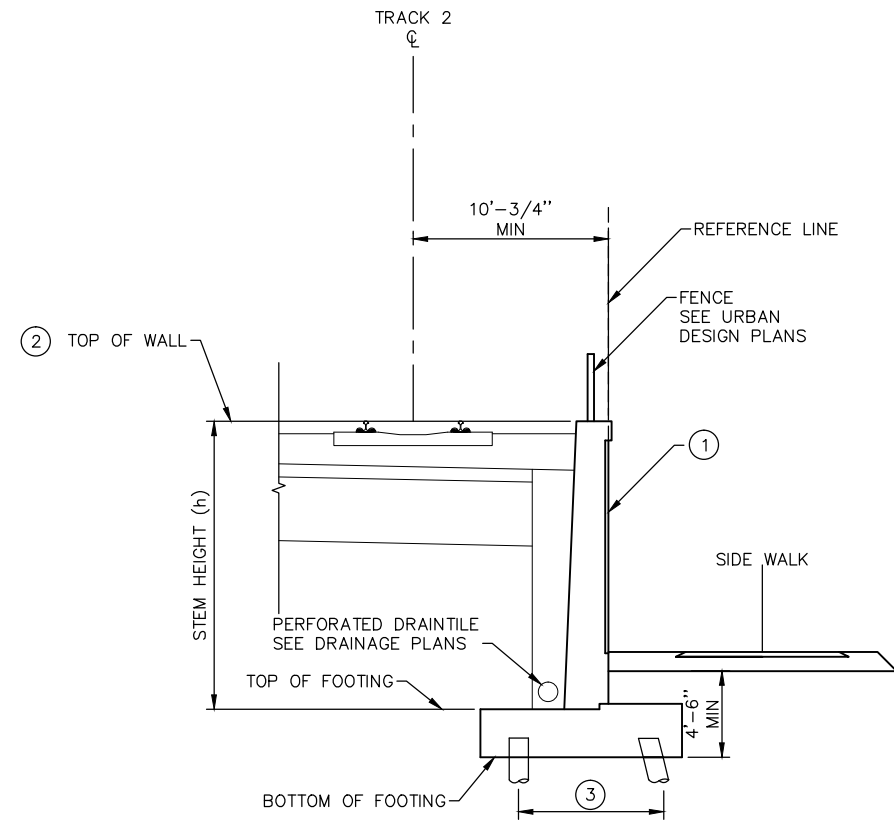


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E221 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E221 - PLE**

SHEET  
 141  
 OF  
 271

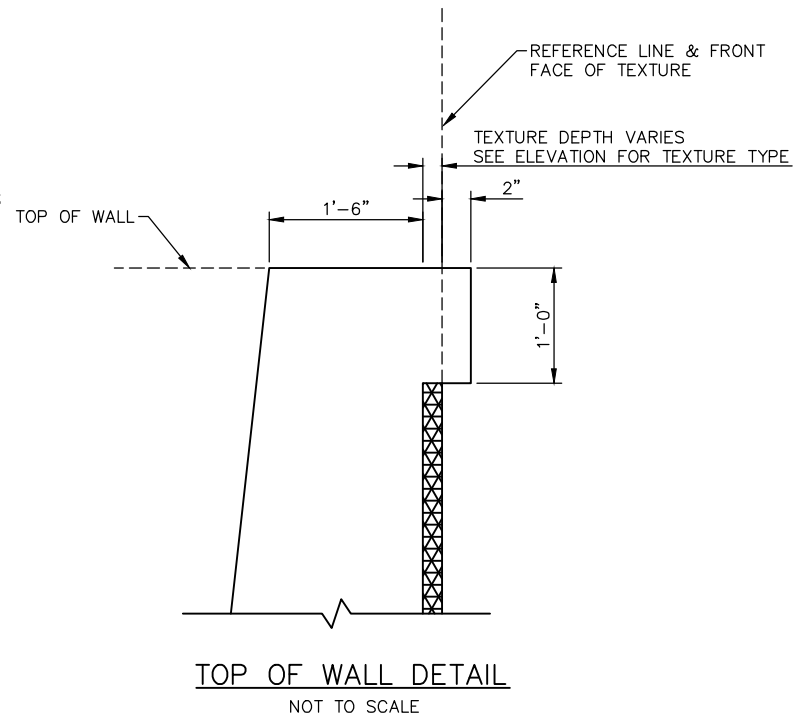
Jan, 17 2016 07:44 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E221-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>0</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E221 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

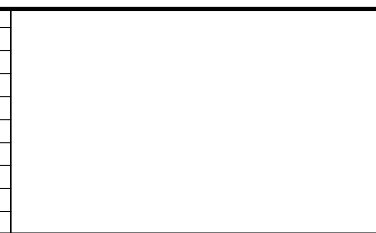
**RTW-E221 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



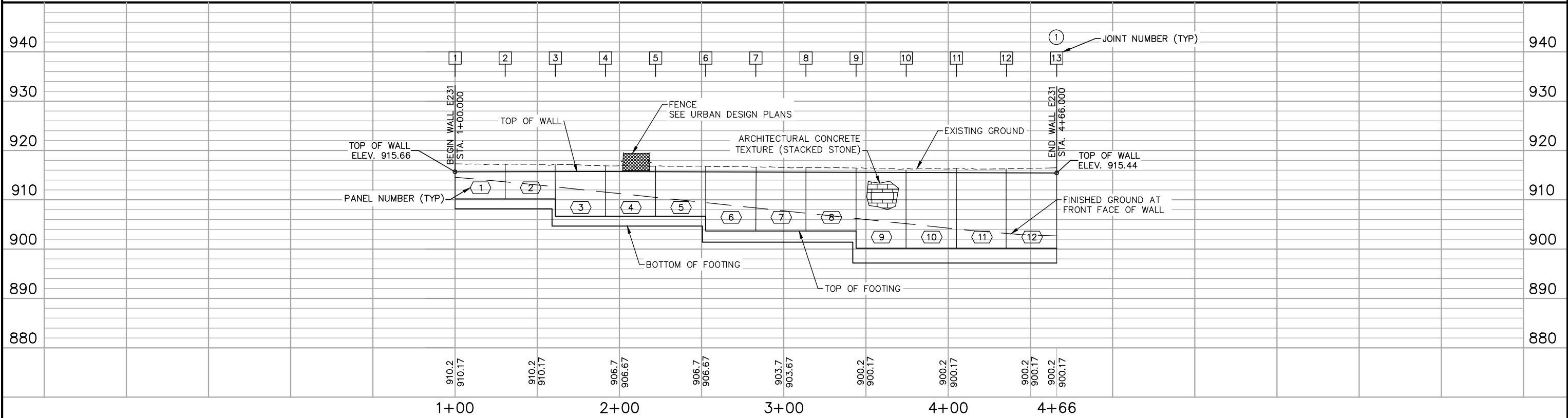
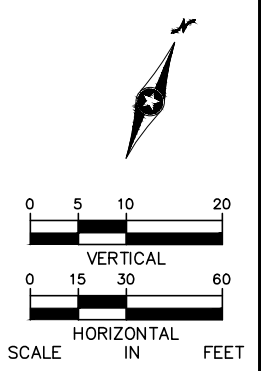
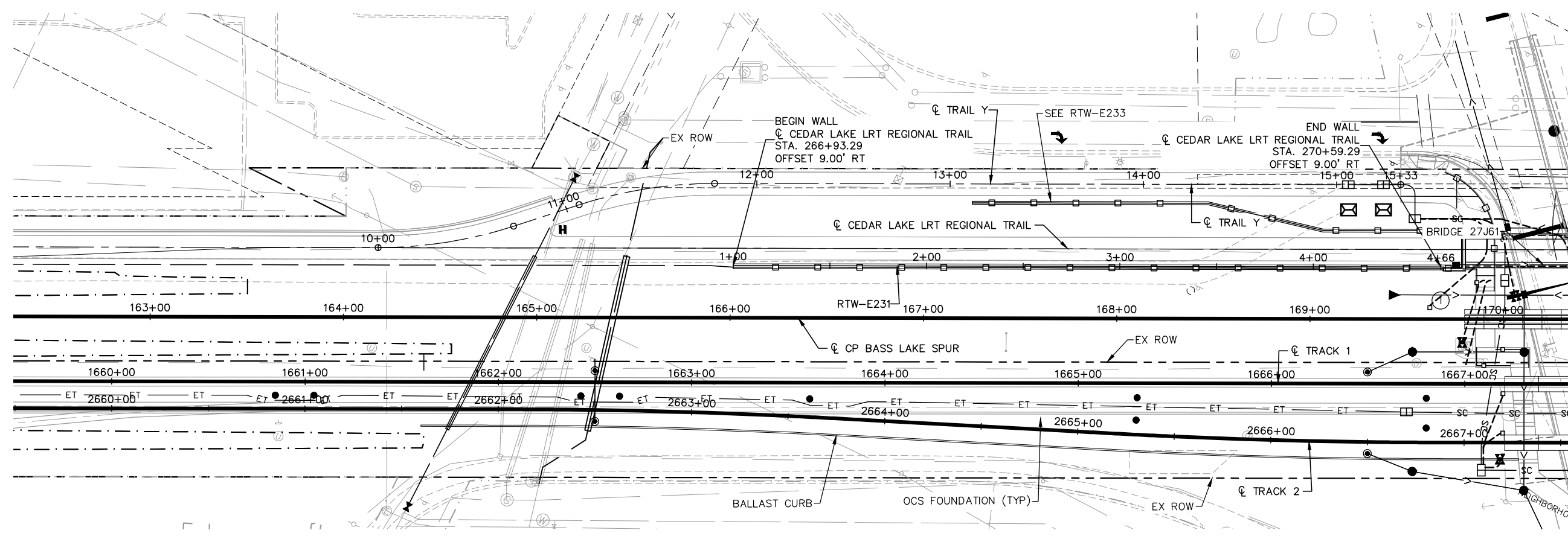
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E221 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E221-DTL - 001**

**SHEET  
142  
OF  
271**

Jan, 19 2016 05:52 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E231-PL-E.dwg By: V-PatelPJ

NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND PEDESTRIAN UNDERPASS



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

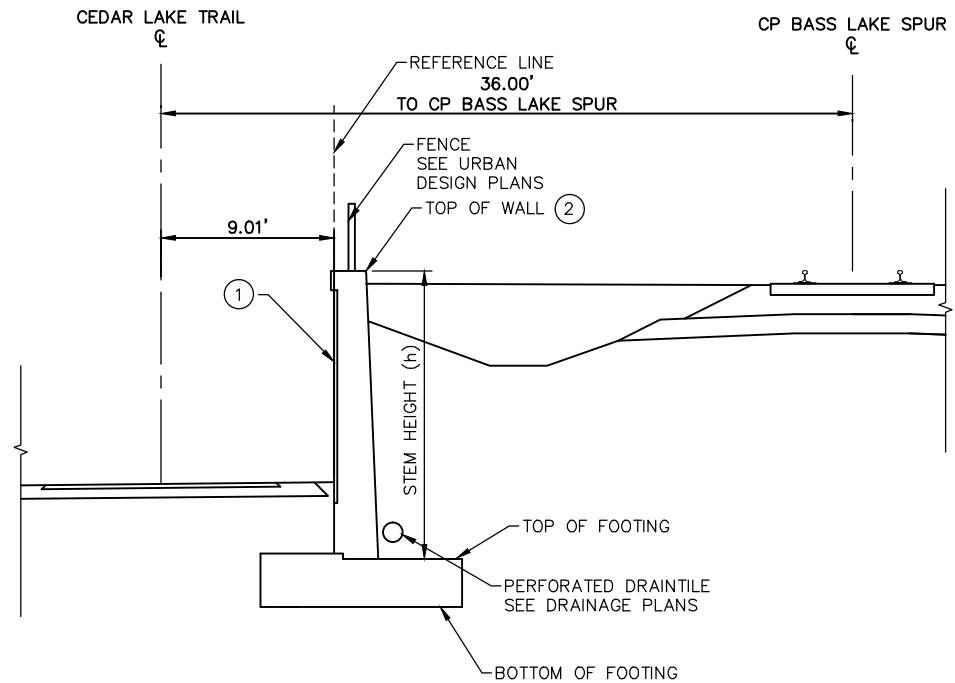


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E231 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E231-PL-E**

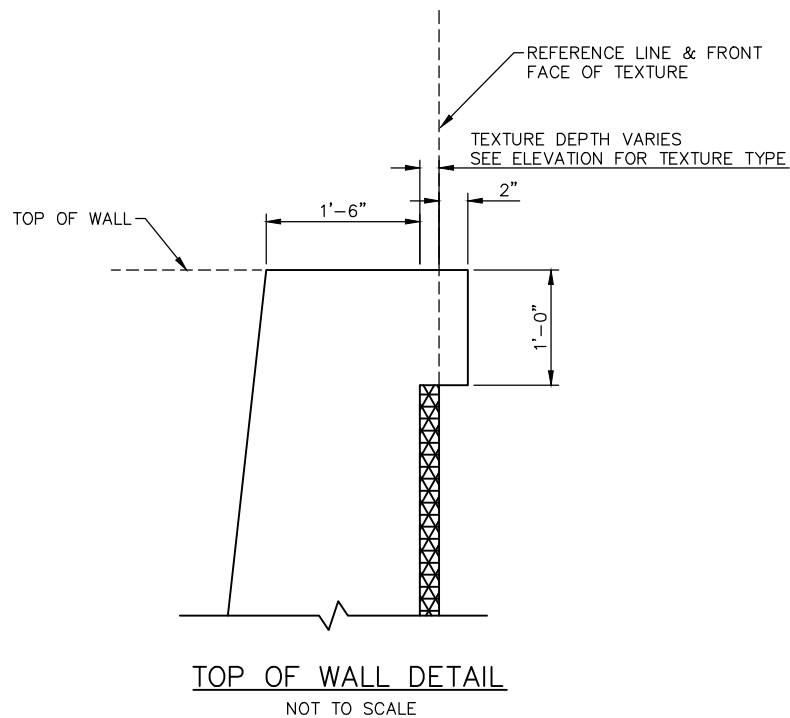
SHEET 143 OF 271

Jan, 19 2016 05:52 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E231-DTL.dwg By: V-PatelIPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>)  
THROUGH OUTSIDE CURVES AND SPIRALS
  - 3 RETAINING WALL TO BE CIP ON SPREAD FOOTINGS

RTW-E231 SECTION  
NOT TO SCALE



TOP OF WALL DETAIL  
NOT TO SCALE

RTW-E231 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	153538.531	506747.278	-	908.17	-	910.17	-	915.66	-	5'-5 7/8"	6'
2	30'-6"	1+30.50	2	CJ	153551.71	506774.784	908.17	908.17	910.17	910.17	915.68	915.68	5'-6 1/8"	5'-6 1/8"	6'
3	30'-6"	1+61.00	3	EJ	153564.889	506802.29	904.67	904.67	910.17	910.17	915.71	915.71	5'-6 1/2"	5'-6 1/2"	10'
4	30'-6"	1+91.50	4	CJ	153578.067	506829.796	904.67	904.67	906.67	906.67	915.73	915.73	9'-0 3/4"	9'-0 3/4"	10'
5	30'-6"	2+22.00	5	CJ	153591.246	506857.302	904.67	904.67	906.67	906.67	915.7	915.7	9'-0 3/8"	9'-0 3/8"	10'
6	30'-6"	2+62.50	6	EJ	153604.424	506884.808	901.42	901.42	906.67	906.67	915.67	915.67	9'-0"	9'-0"	12'
7	30'-6"	2+83.00	7	CJ	153617.603	506912.314	901.42	901.42	903.67	903.67	915.63	915.63	11'-11 1/2"	11'-11 1/2"	12'
8	30'-6"	3+13.50	8	CJ	153630.782	506939.819	901.42	901.42	903.67	903.67	915.6	915.6	11'-11 1/8"	11'-11 1/8"	12'
9	30'-6"	3+44.00	9	EJ	153643.96	506967.325	897.17	897.17	903.67	903.67	915.57	915.57	11'-10 3/4"	11'-10 3/4"	16'
10	30'-6"	3+74.50	10	CJ	153657.139	506994.831	897.17	897.17	900.17	900.17	915.54	915.54	15'-4 1/2"	15'-4 1/2"	16'
11	30'-6"	4+05.00	11	CJ	153670.318	507022.337	897.17	897.17	900.17	900.17	915.51	915.51	15'-4 1/8"	15'-4 1/8"	16'
12	30'-6"	4+35.50	12	EJ	153683.496	507049.843	897.17	897.17	900.17	900.17	915.47	915.47	15'-3 5/8"	15'-3 5/8"	16'
		4+66.00	13	CJ	153696.675	507077.349	897.17	-	900.17	-	915.44	-	15'-3 1/4"	-	16'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16



CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E231 GEOMETRY

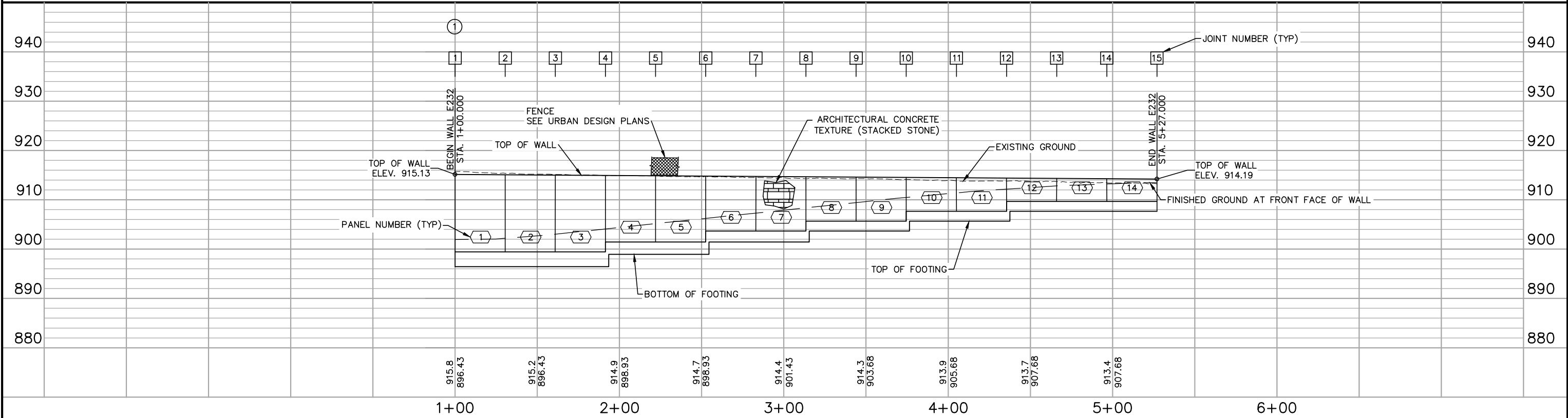
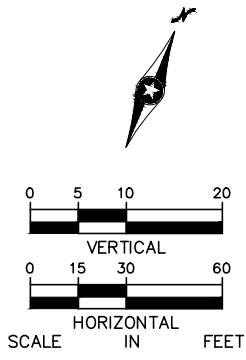
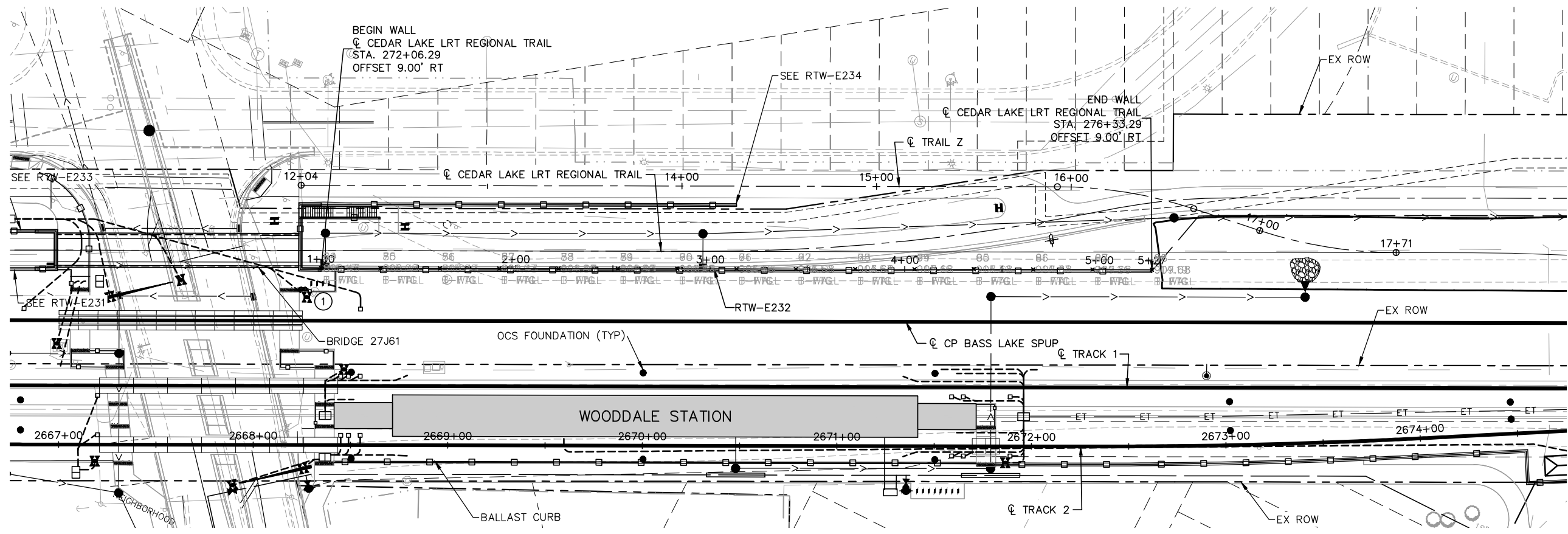
DISCIPLINE: STRUCTURES  
SHEET NAME: RTW-E231-DTL - 001

SHEET  
144  
OF  
271



Jan, 19 2016 05:54 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E232-PL.E.dwg By: V-Patel/PJ

NOTE:  
 ① JOINT LOCATION BETWEEN  
 RETAINING WALL AND  
 PEDESTRIAN UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

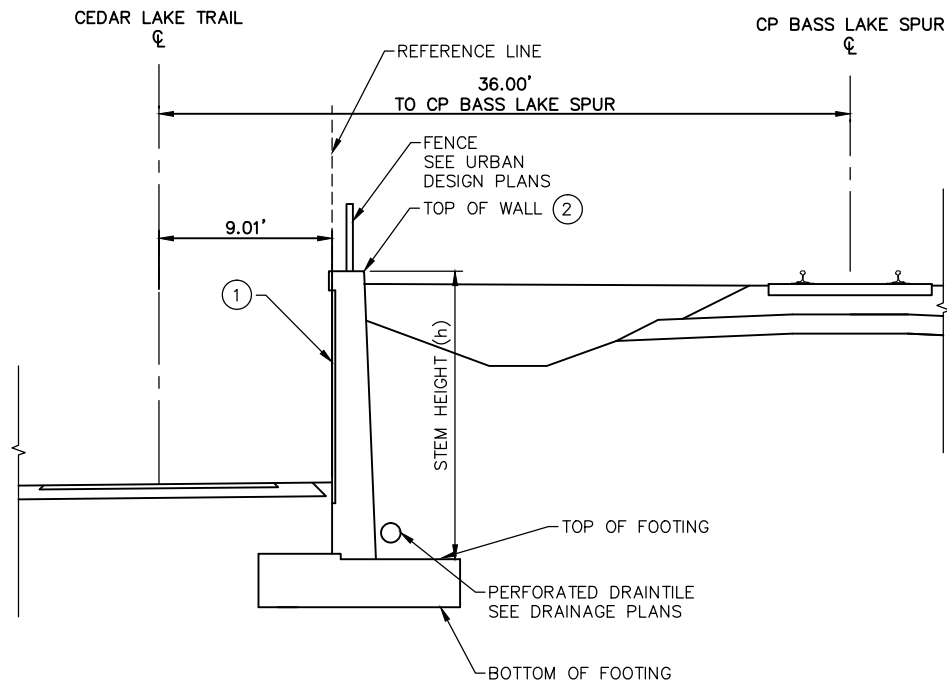


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E232 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E232-PL.E**

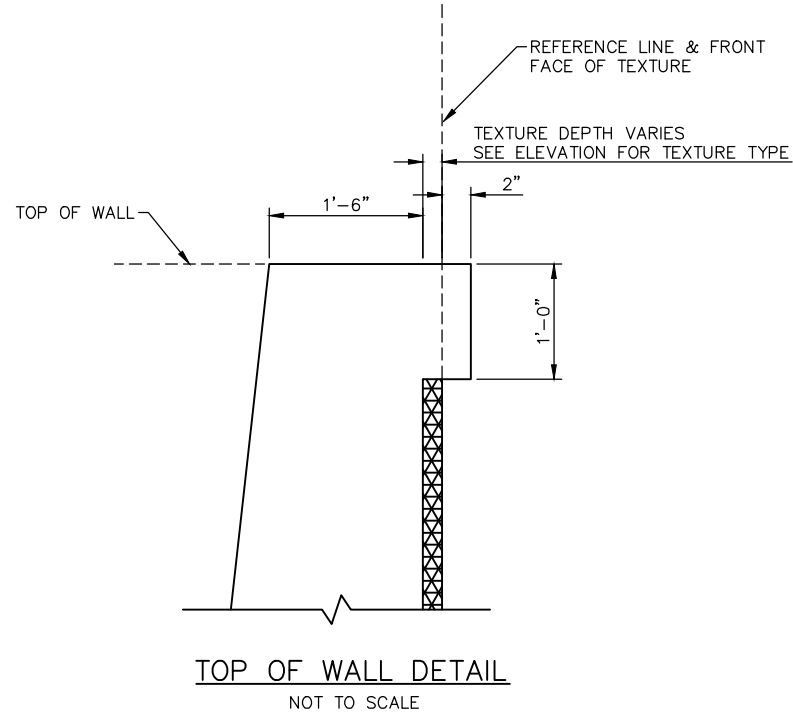
SHEET 145 OF 271

Jan, 19 2016 05:54 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E232-DTL.dwg By: V-Patel/PJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>)  
THROUGH OUTSIDE CURVES AND SPIRALS
  - 3 RETAINING WALL TO BE CIP ON SPREAD FOOTINGS

**RTW-E232 SECTION**  
NOT TO SCALE



RTW-E232 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	153760.19	507209.92	-	896.43	-	899.43	-	915.13	-	15'-8 3/8"	16'
2	30'-6"	1+30.50	2	CJ	153773.37	507237.42	896.43	896.43	899.43	899.43	915.06	915.06	15'-7 1/2"	15'-7 1/2"	16'
3	30'-6"	1+61.00	3	EJ	153786.55	507264.93	896.43	896.43	899.43	899.43	915	915	15'-6 7/8"	15'-6 7/8"	16'
4	30'-6"	1+91.50	4	CJ	153799.73	507292.44	896.43	896.43	899.43	899.43	914.93	914.93	15'-6"	15'-6"	16'
5	30'-6"	2+22.00	5	CJ	153812.91	507319.94	898.93	898.93	901.43	901.43	914.86	914.86	13'-5 1/8"	13'-5 1/8"	14'
6	30'-6"	2+52.50	6	EJ	153826.08	507347.45	898.93	898.93	901.43	901.43	914.8	914.8	13'-4 1/2"	13'-4 1/2"	14'
7	30'-6"	2+83.00	7	CJ	153839.26	507374.95	901.43	901.43	903.68	903.68	914.73	914.73	11'-0 5/8"	11'-0 5/8"	12'
8	30'-6"	3+13.50	8	CJ	153852.44	507402.46	901.43	901.43	903.68	903.68	914.66	914.66	10'-11 3/4"	10'-11 3/4"	11'
9	30'-6"	3+44.00	9	EJ	153865.62	507429.97	903.68	903.68	905.68	905.68	914.59	914.59	8'-10 7/8"	8'-10 7/8"	9'
10	30'-6"	3+74.50	10	CJ	153878.8	507457.47	903.68	903.68	905.68	905.68	914.53	914.53	8'-10 1/4"	8'-10 1/4"	9'
11	30'-6"	4+05.00	11	CJ	153891.98	507484.98	905.68	905.68	907.68	907.68	914.46	914.46	6'-9 3/8"	6'-9 3/8"	7'
12	30'-6"	4+35.50	12	EJ	153905.16	507512.48	905.68	905.68	907.68	907.68	914.39	914.39	6'-8 1/2"	6'-8 1/2"	7'
13	30'-6"	4+66.00	13	CJ	153918.33	507539.99	907.68	907.68	909.68	909.68	914.33	914.33	4'-7 3/4"	4'-7 3/4"	5'
14	30'-6"	4+96.50	14	CJ	153931.51	507567.49	907.68	907.68	909.68	909.68	914.26	914.26	4'-7"	4'-7"	5'
		5+27.00	15	EJ	153944.69	507595	907.68	-	909.68	-	914.19	-	4'-6 1/8"	-	5'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

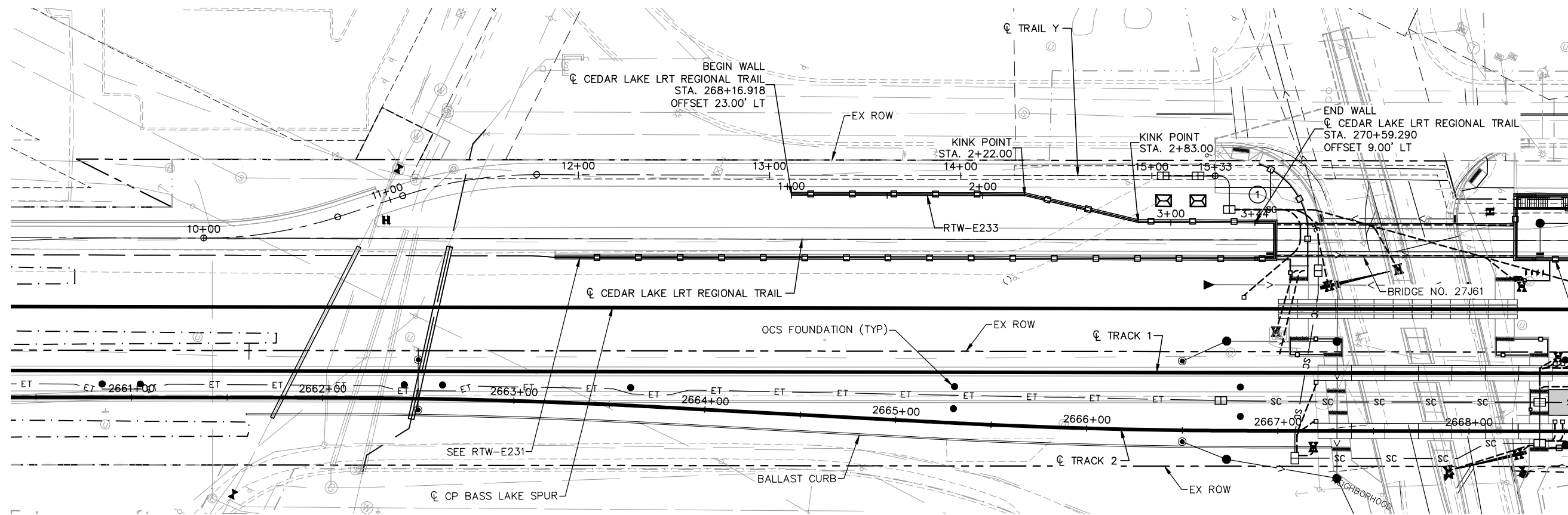


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E232 GEOMETRY**

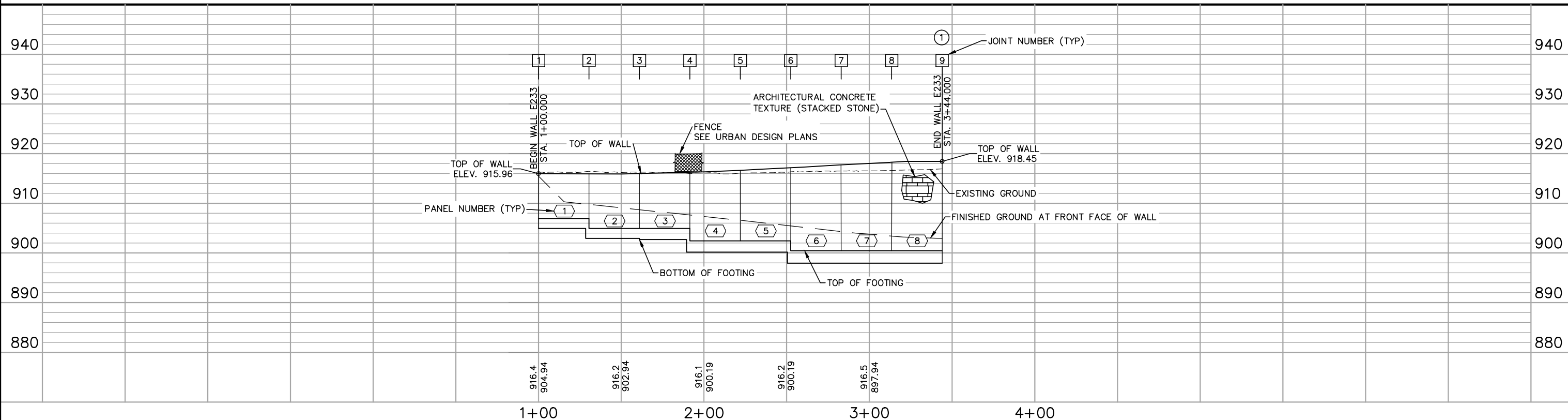
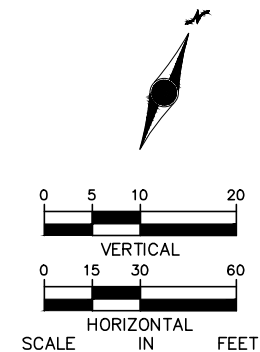
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E232-DTL - 001**

**SHEET**  
**146**  
**OF**  
**271**

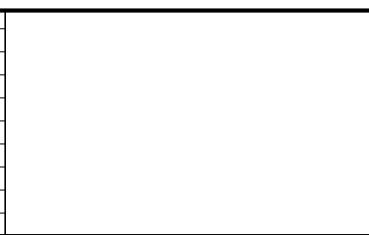
Jan, 19 2016 06:11 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E233-PL.E.dwg By: V-PatelPJ



NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND PEDESTRIAN UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

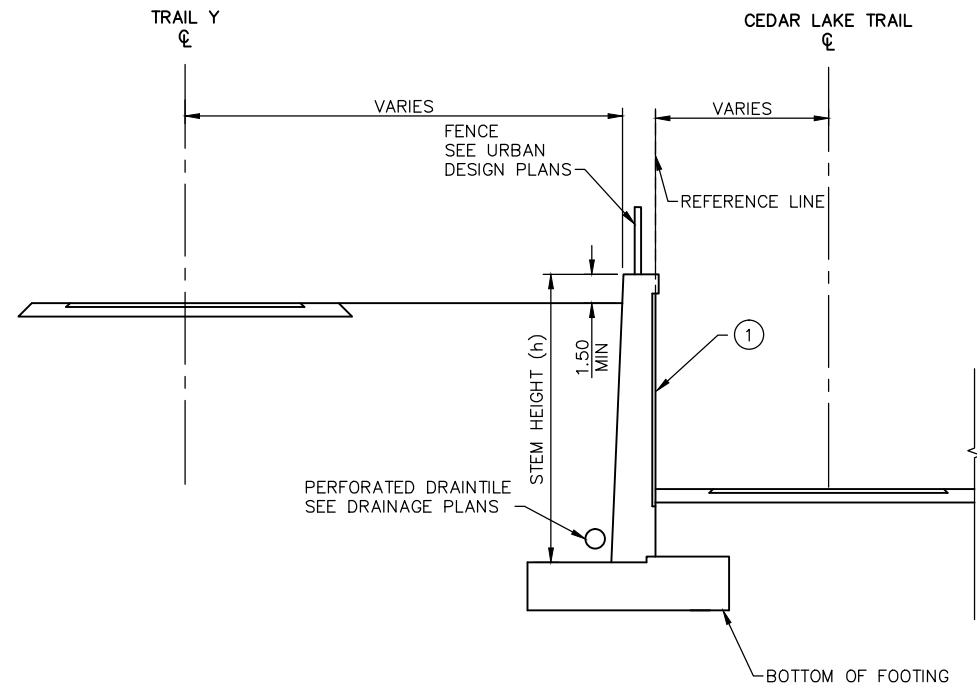


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E233 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E233-PL.E**

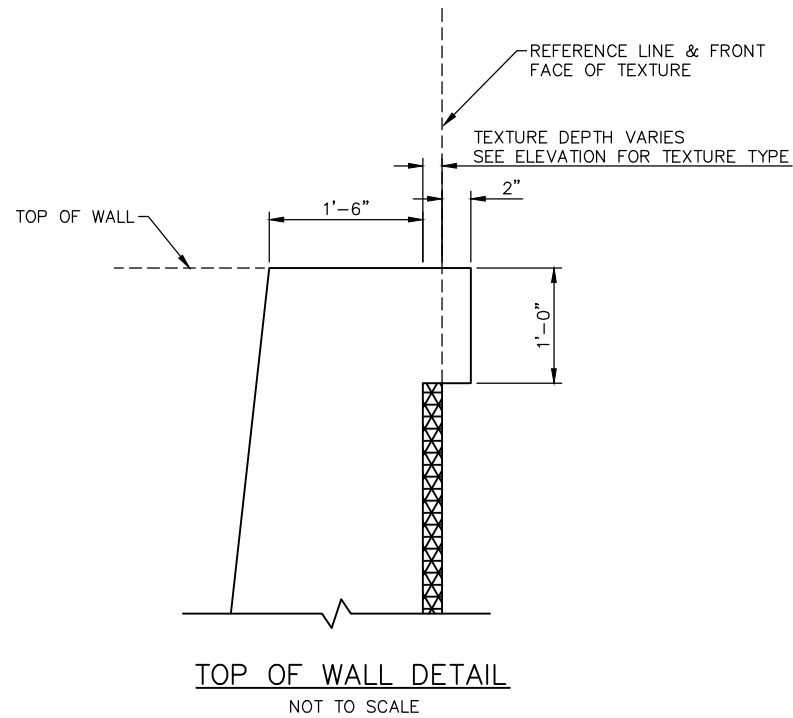
SHEET  
 147  
 OF  
 271

Jan, 19 2016 06:11 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E233-DTL.dwg By: V-PatelPJ



- NOTE:  
 ① ARCHITECTURAL CONCRETE TEXTURE  
 2 RETAINING WALL TO BE CIP ON SPREAD FOOTINGS

**RTW-E233 SECTION**  
NOT TO SCALE



RTW-E233 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	153620.81	506844.94	-	904.94	-	906.94	-	915.96	-	9'-0 1/4"	10'
2	30'-6"	1+30.50	2	CJ	153633.99	506872.45	902.94	902.94	906.94	906.94	915.92	915.92	8'-11 3/4"	8'-11 3/4"	12'
3	30'-6"	1+61.00	3	EJ	153647.17	506899.96	902.94	902.94	904.94	904.94	915.99	915.99	11'-0 5/8"	11'-0 5/8"	12'
4	30'-6"	1+91.50	4	CJ	153660.34	506927.46	900.19	900.19	904.94	904.94	916.26	916.26	11'-3 7/8"	11'-3 7/8"	15'
5	30'-6"	2+22.00	5	CJ	153673.52	506954.97	900.19	900.19	902.44	902.44	916.64	916.64	14'-2 3/8"	14'-2 3/8"	15'
6	30'-6"	2+52.50	6	EJ	153680.04	506984.76	897.94	897.94	902.44	902.44	917.16	917.16	14'-8 5/8"	14'-8 5/8"	18'
7	30'-6"	2+83.00	7	CJ	153686.55	507014.56	897.94	897.94	900.44	900.44	917.75	917.75	17'-3 3/4"	17'-3 3/4"	18'
8	30'-6"	3+13.50	8	CJ	153699.73	507042.07	897.94	897.94	900.44	900.44	918.27	918.27	17'-10"	17'-10"	18'
		3+44.00	9	EJ	153712.91	507069.57	897.94	-	900.44	-	918.45	-	18'-0 1/8"	-	19'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
4	2+22.00	153673.52	506954.97
6	2+83.00	153686.55	507014.560

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

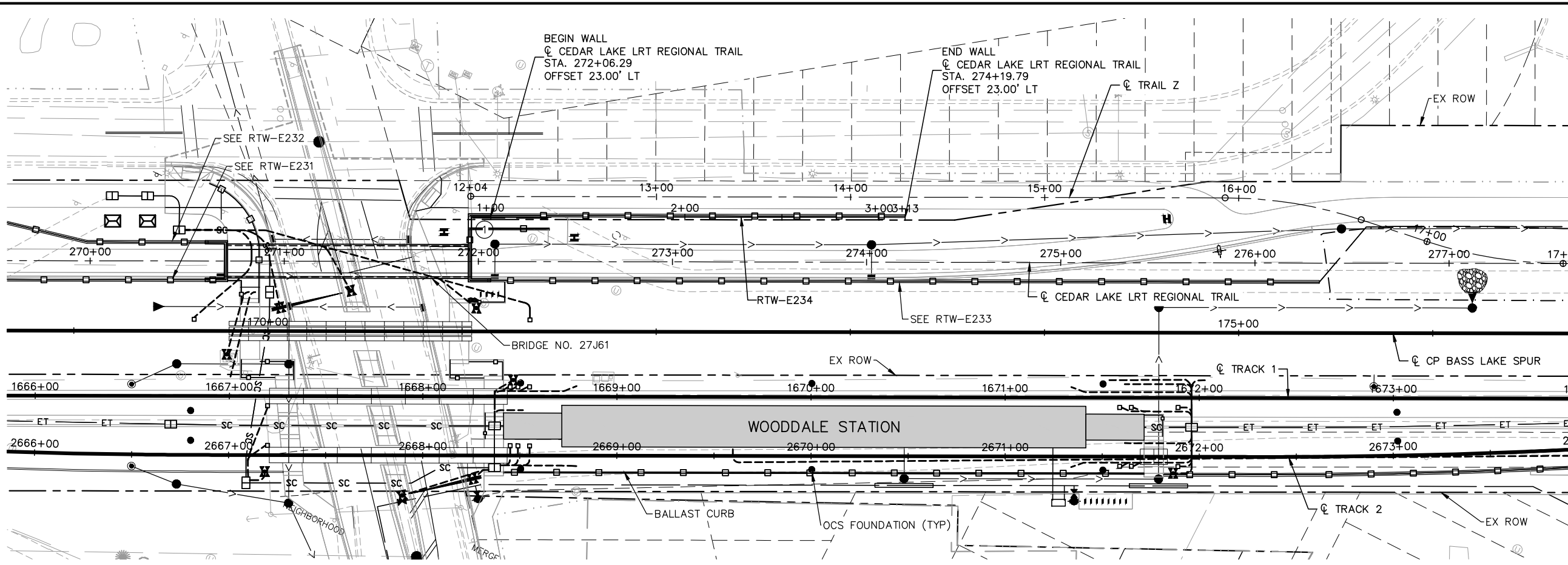



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E233 GEOMETRY**

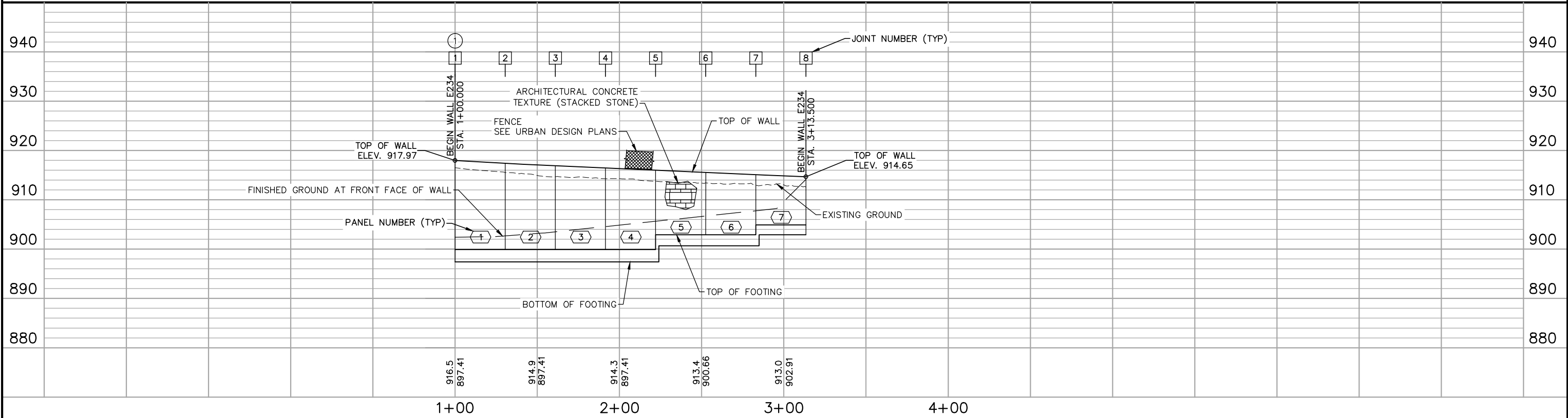
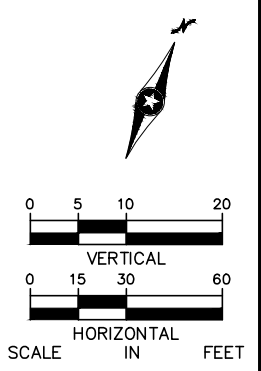
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E233-DTL - 001**

SHEET  
148  
OF  
271




Jan, 19 2016 06:21 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E234-PL1.dwg By: V-PatelPJ



NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND PEDESTRIAN UNDERPASS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

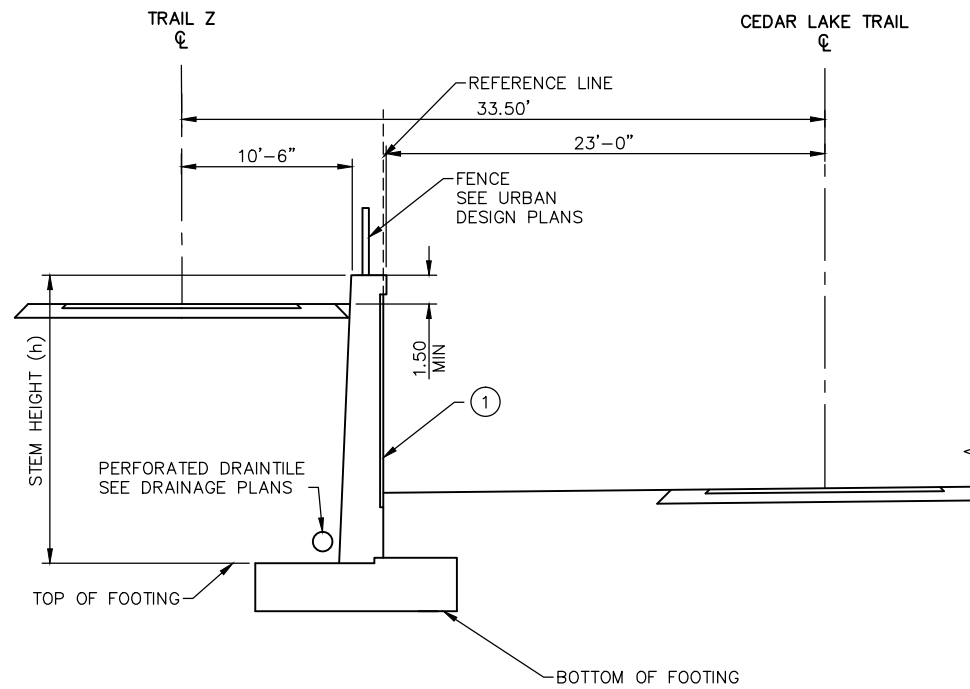
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E234 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E234-PL1</b>
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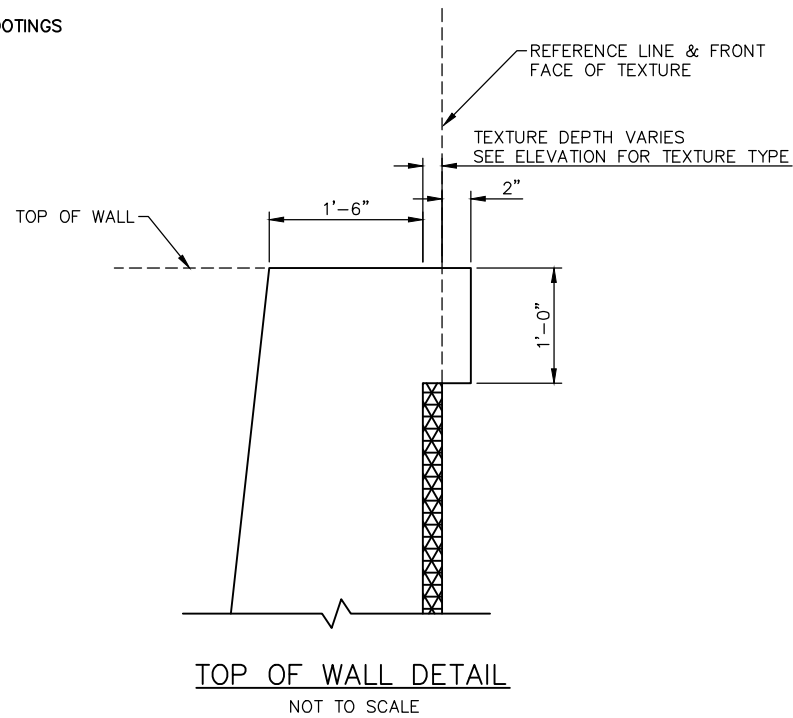
SHEET  
 149  
 OF  
 271

Jan, 19 2016 06:21 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E234-DTL.dwg By: V-PatelPJ



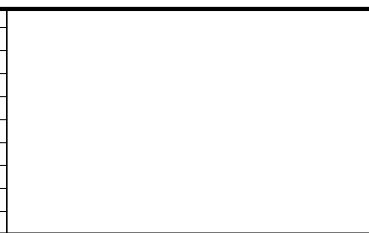
- NOTE:  
 ① ARCHITECTURAL CONCRETE TEXTURE  
 2 RETAINING WALL TO BE CIP ON SPREAD FOOTINGS

RTW-E234 SECTION  
 NOT TO SCALE



RTW-E234 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	153789.05	507196.092	-	897.41	-	899.91	-	917.97	-	18'-0 3/4"	19'
2	30'-6"	1+30.50	2	CJ	153802.229	507223.597	897.41	897.41	899.91	899.91	917.39	917.39	17'-5 3/4"	17'-5 3/4"	18'
3	30'-6"	1+61.00	3	EJ	153815.407	507251.103	897.41	897.41	899.91	899.91	916.9	916.9	16'-11 7/8"	16'-11 7/8"	17'
4	30'-6"	1+91.50	4	CJ	153828.586	507278.609	897.41	897.41	899.91	899.91	916.45	916.45	16'-6 1/2"	16'-6 1/2"	17'
5	30'-6"	2+22.00	5	CJ	153841.764	507306.115	897.41	897.41	899.91	899.91	916	916	16'-1 1/8"	16'-1 1/8"	17'
6	30'-6"	2+52.50	6	EJ	153854.943	507333.621	900.66	900.66	902.91	902.91	915.55	915.55	12'-7 5/8"	12'-7 5/8"	13'
7	30'-6"	2+82.00	7	CJ	153868.122	507361.127	900.66	900.66	902.91	902.91	915.1	915.1	12'-2 1/4"	12'-2 1/4"	13'
8	30'-6"	3+13.50	8	CJ	153881.3	507388.633	902.91	-	904.91	-	914.65	-	9'-8 7/8"	-	13'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

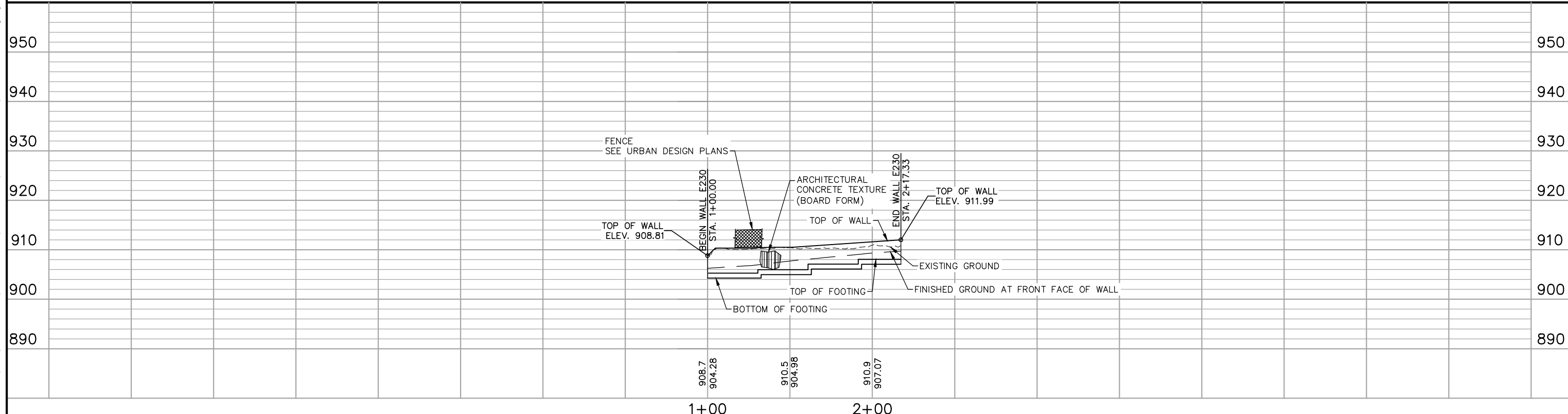
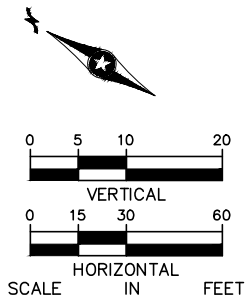
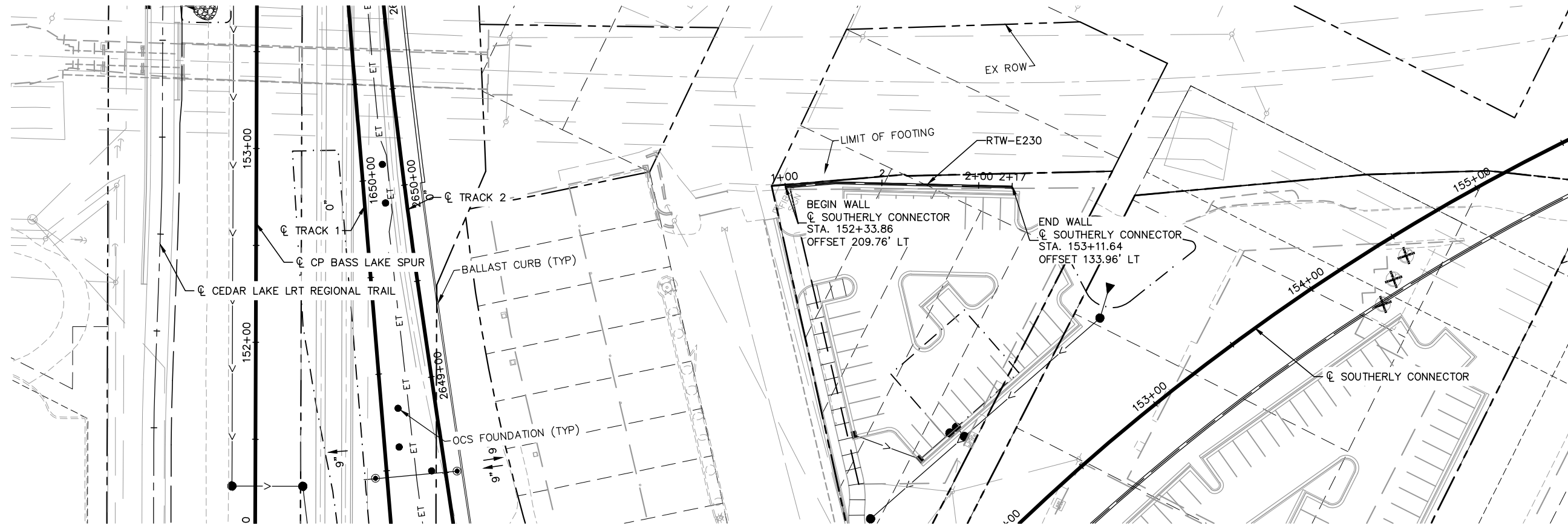


CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-E234 GEOMETRY

DISCIPLINE: STRUCTURES  
 SHEET NAME: RTW-E234-DTL - 001

SHEET  
 150  
 OF  
 271

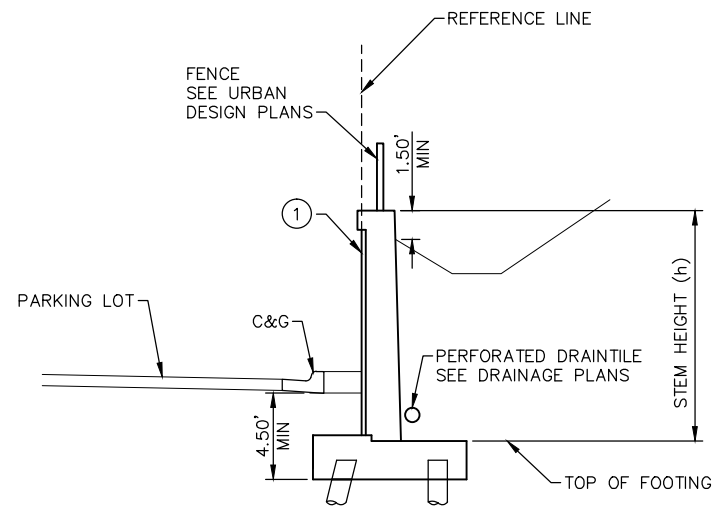
Jan, 17 2016 08:10 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E230-PLI.dwg By: V-Patel/PJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

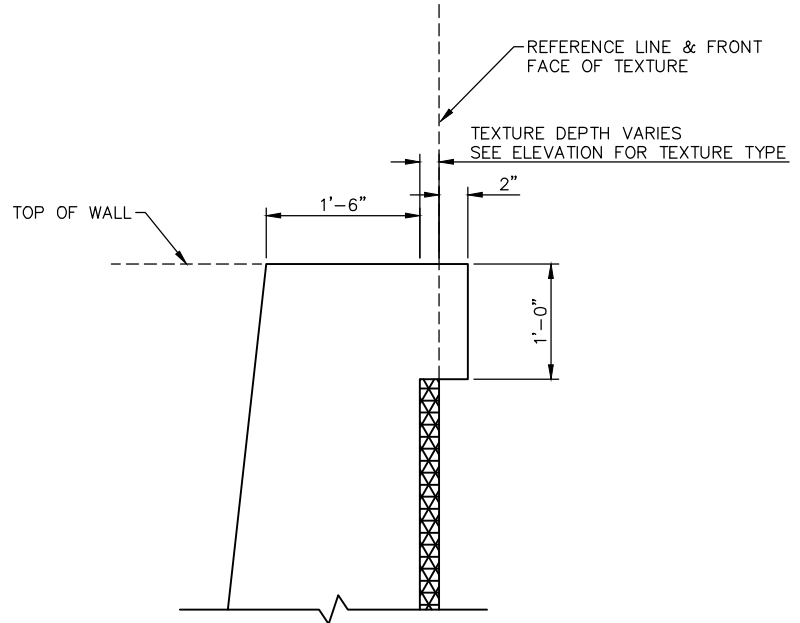
			<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E230 PLAN AND ELEVATION</b>		<b>SHEET</b> 151 OF 271
			DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E230 - PLE</b>	90% SUBMISSION - 01/22/16

Jan, 17 2016 08:10 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E230-DTL.dwg By: V-PatelPJ



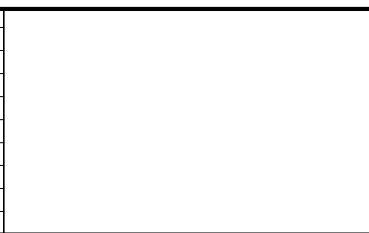
- NOTE:  
 ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE  
 2. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

RTW-E230 SECTION



TOP OF WALL DETAIL  
 NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

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90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-E230 GEOMETRY**

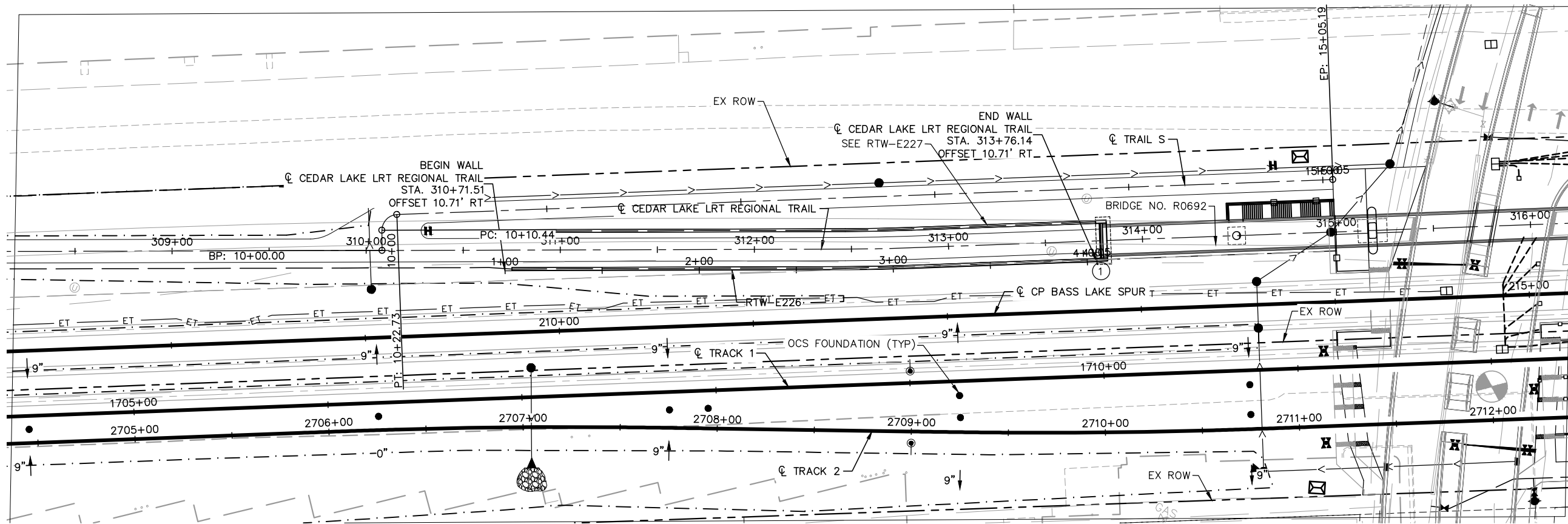
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DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E230-DTL - 001**

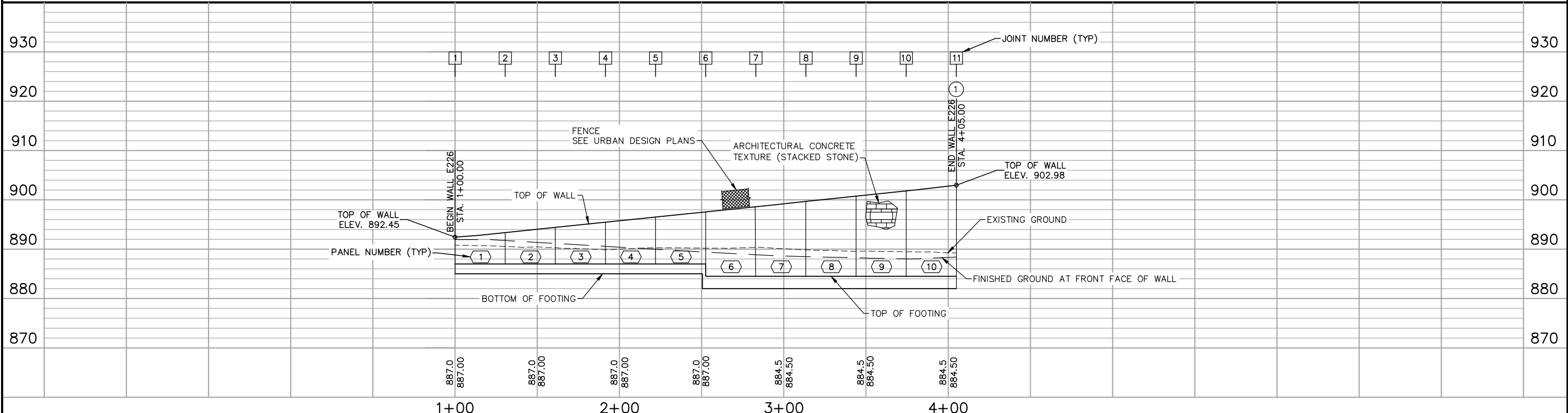
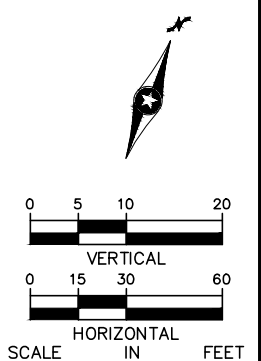
**SHEET**  
 152  
 OF  
 271




Jan. 17 2016 08:17 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E226-PL-E.dwg By: V-PatelPJ




① NOTE:  
JOINT LOCATION BETWEEN  
RETAINING WALL AND BRIDGE  
WINGWALL




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



**METROPOLITAN  
COUNCIL**



**SOUTHWEST  
Green Line LRT Extension**

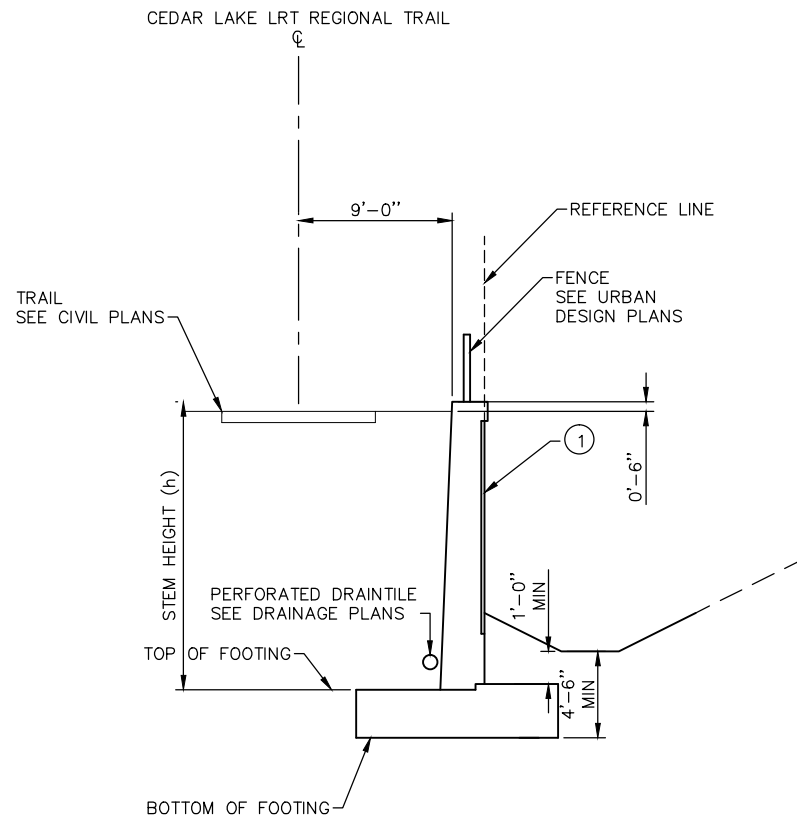
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E226 PLAN AND ELEVATION**

DISCIPLINE:  
**STRUCTURES**

SHEET NAME:  
**RTW-E226-PL-E**

**SHEET**  
153  
**OF**  
271

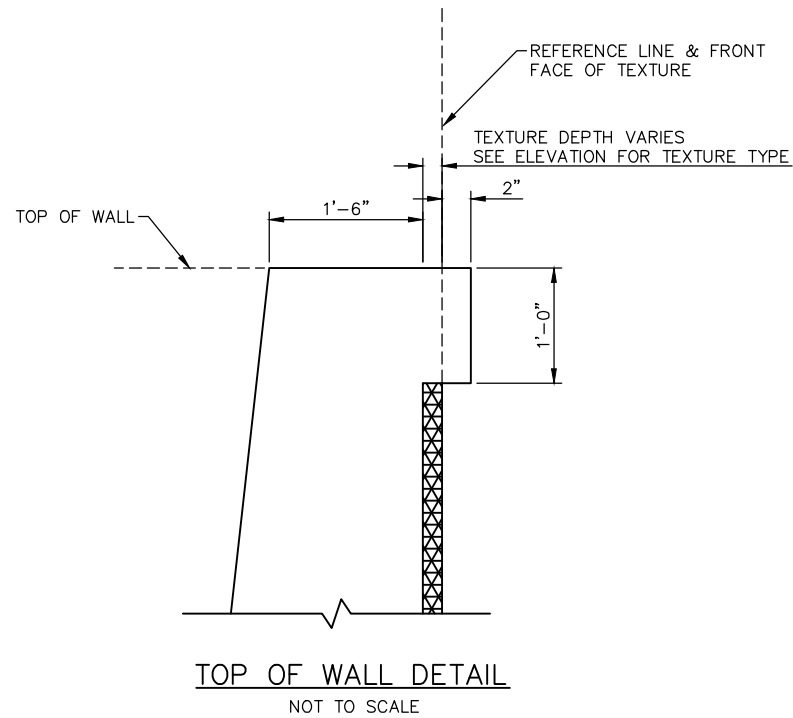
Jan, 17 2016 08:17 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E226-DTL.dwg By: V-PatelPJ



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - 2 RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING

**RTW-E226 SECTION**

NOT TO SCALE

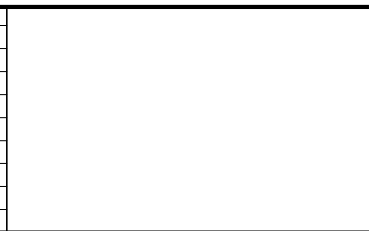


**TOP OF WALL DETAIL**

NOT TO SCALE

RTW-E226 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	155431.89	510687.557	-	885	-	892.45	-	5'-5 3/8"	6'
2	30'-6"	2	CJ	155444.11	510715.502	885	885	893.36	893.36	6'-4 3/8"	6'-4 3/8"	6'
3	30'-6"	3	EJ	155456.33	510743.447	885	885	894.43	894.43	7'-5 1/8"	7'-5 1/8"	8'
4	30'-6"	4	CJ	155468.549	510771.392	885	885	895.48	895.48	8'-5 3/4"	8'-5 3/4"	9'
5	30'-6"	5	EJ	155480.769	510799.337	885	885	896.52	896.52	9'-6 1/4"	9'-6 1/4"	10'
6	30'-6"	6	CJ	155492.989	510827.282	882	882	897.57	897.57	10'-6 7/8"	13'-0 7/8"	13'
7	30'-6"	7	CJ	155505.236	510855.215	882	882	898.61	898.61	14'-1 3/8"	14'-1 3/8"	14'
8	30'-6"	8	EJ	155518.084	510882.876	882	882	899.67	899.67	15'-2"	15'-2"	15'
9	30'-6"	9	CJ	155531.262	510910.382	882	882	900.74	900.74	16'-2 7/8"	16'-2 7/8"	16'
10	30'-6"	10	CJ	155544.441	510937.888	882	882	901.81	901.81	17'-3 3/4"	17'-3 3/4"	17'
10	30'-6"	11	EJ	155557.618	510965.392	882	-	902.98	-	18'-5 3/4"	-	19'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

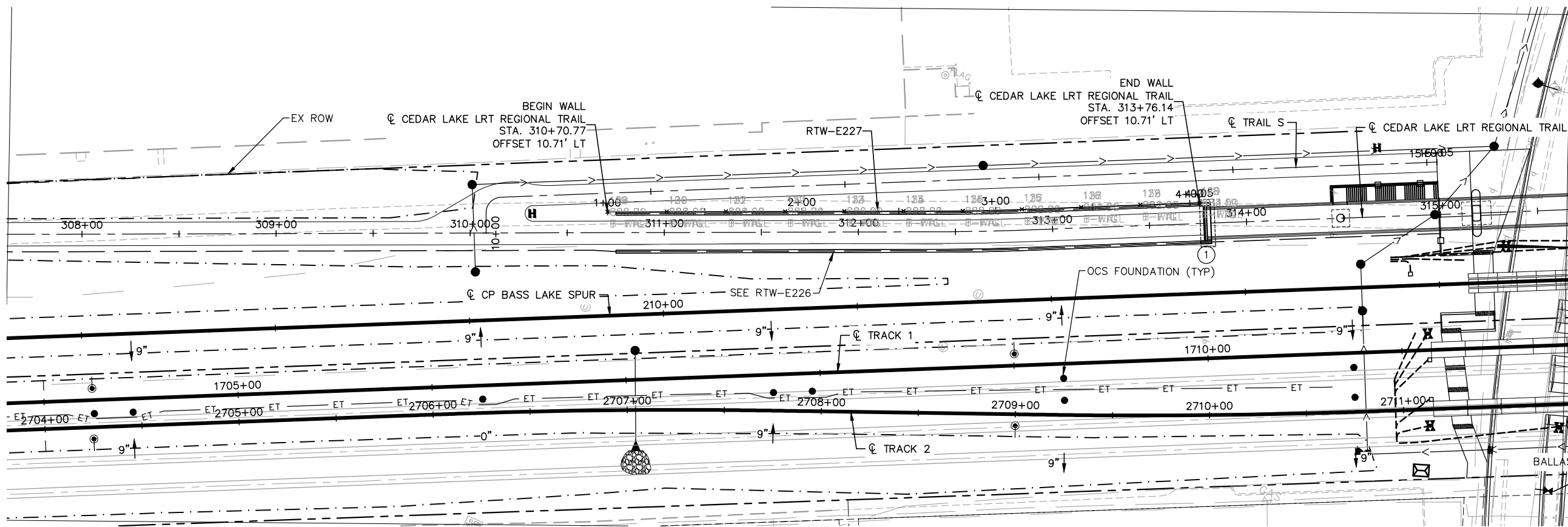


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E226 GEOMETRY**

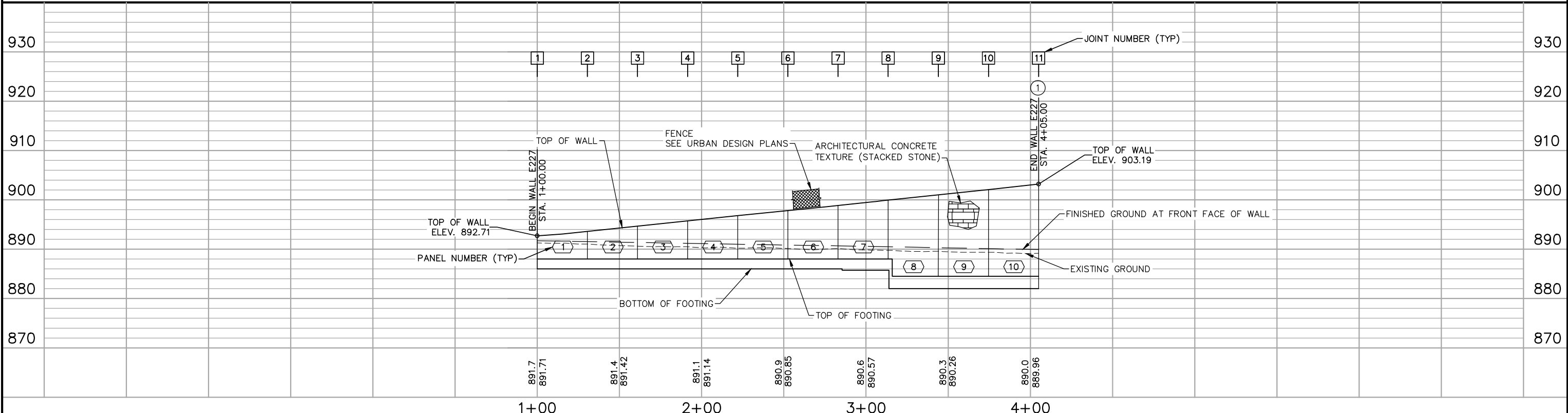
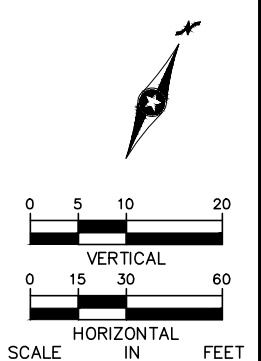
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E226-DTL - 001**

**SHEET**  
**154**  
**OF**  
**271**

Jan. 17 2016 08:24 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E227-PL1.dwg By: V-Patel/PJ



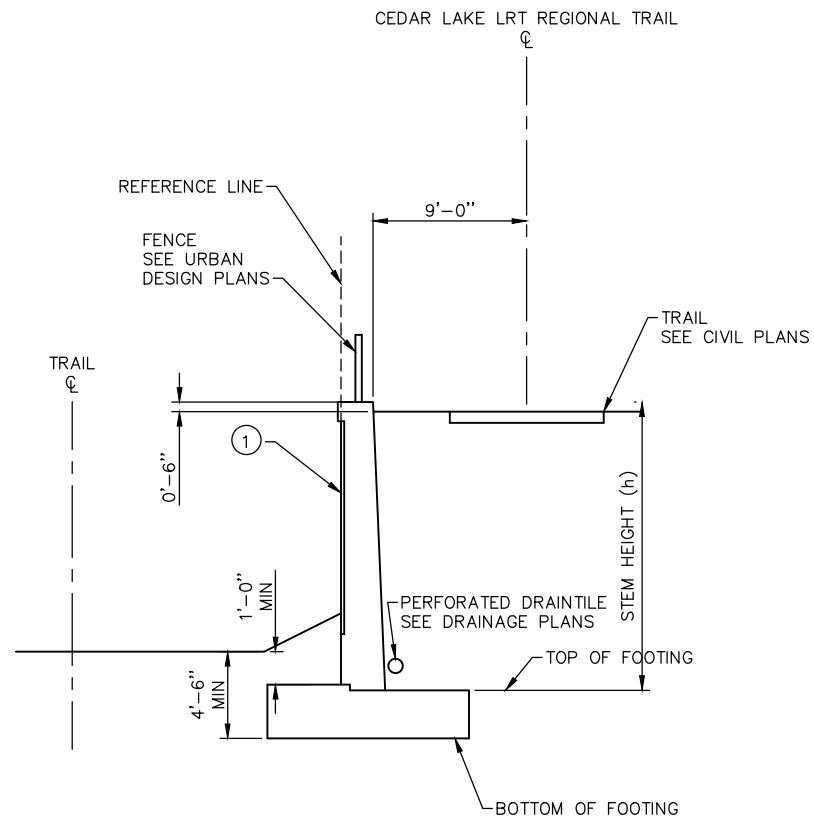
NOTE:  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 <b>AECOM</b>	 <b>METROPOLITAN COUNCIL</b>	 <b>SOUTHWEST</b> <small>Green Line LRT Extension</small>	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E227 PLAN AND ELEVATION</b>	<b>SHEET</b> 155 OF 271
90% SUBMISSION - 01/22/16			DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E227-PL1</b>

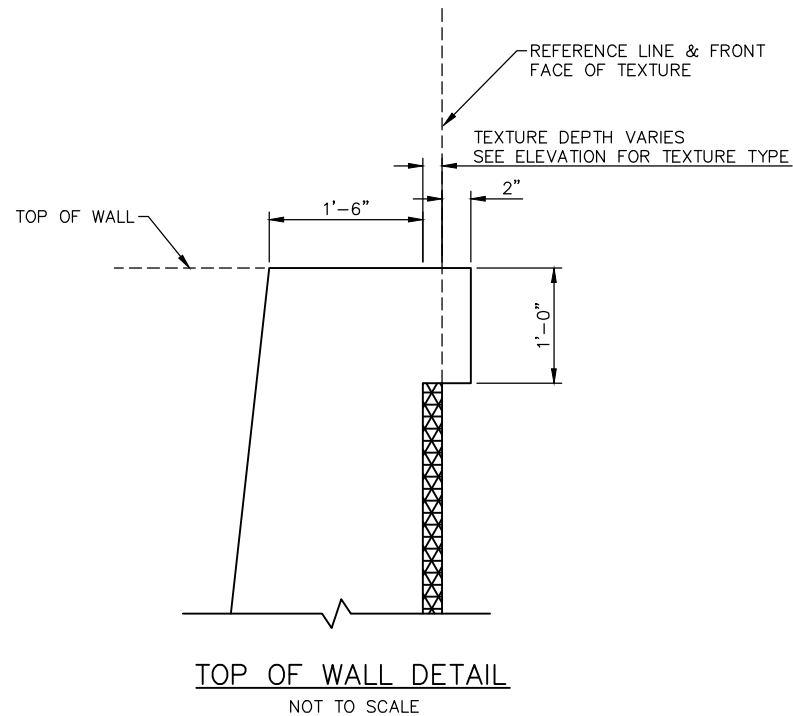
Jan, 17 2016 08:25 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E227-DTL.dwg By: V-PatelPJ



- NOTE:  
 1 ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE  
 2 RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTINGS

RTW-E227 SECTION

NOT TO SCALE

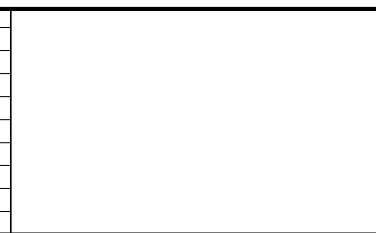


TOP OF WALL DETAIL

NOT TO SCALE

RTW-E227 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	155451.215	510678.298	-	886	-	892.71	-	4'-8 1/2"	5'
2	30'-6"	2	CJ	155463.435	510706.243	886	886	893.61	893.61	5'-7 3/8"	5'-7 3/8"	6'
3	30'-6"	3	EJ	155475.655	510734.188	886	886	894.68	894.68	6'-8 1/8"	6'-8 1/8"	7'
4	30'-6"	4	CJ	155487.875	510762.133	886	886	895.74	895.74	7'-8 7/8"	7'-8 7/8"	8'
5	30'-6"	5	EJ	155500.095	510790.078	886	886	896.81	896.81	8'-9 3/4"	8'-9 3/4"	9'
6	30'-6"	6	CJ	155512.315	510818.023	886	886	897.83	897.83	9'-10"	9'-10"	10'
7	30'-6"	7	CJ	155524.558	510845.958	886	886	898.85	898.85	10'-10 1/4"	10'-10 1/4"	11'
8	30'-6"	8	EJ	155537.398	510873.622	885.75	885.75	899.94	899.94	11'-11 1/4"	15'-5 1/4"	16'
9	30'-6"	9	CJ	155550.576	510901.128	882	882	901.01	901.01	16'-6 1/8"	16'-6 1/8"	17'
10	30'-6"	10	CJ	155563.755	510928.634	882	882	902.07	902.07	17'-6 7/8"	17'-6 7/8"	18'
10	30'-6"	11	EJ	155576.933	510956.138	882	-	903.19	-	18'-8 1/4"	-	19'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

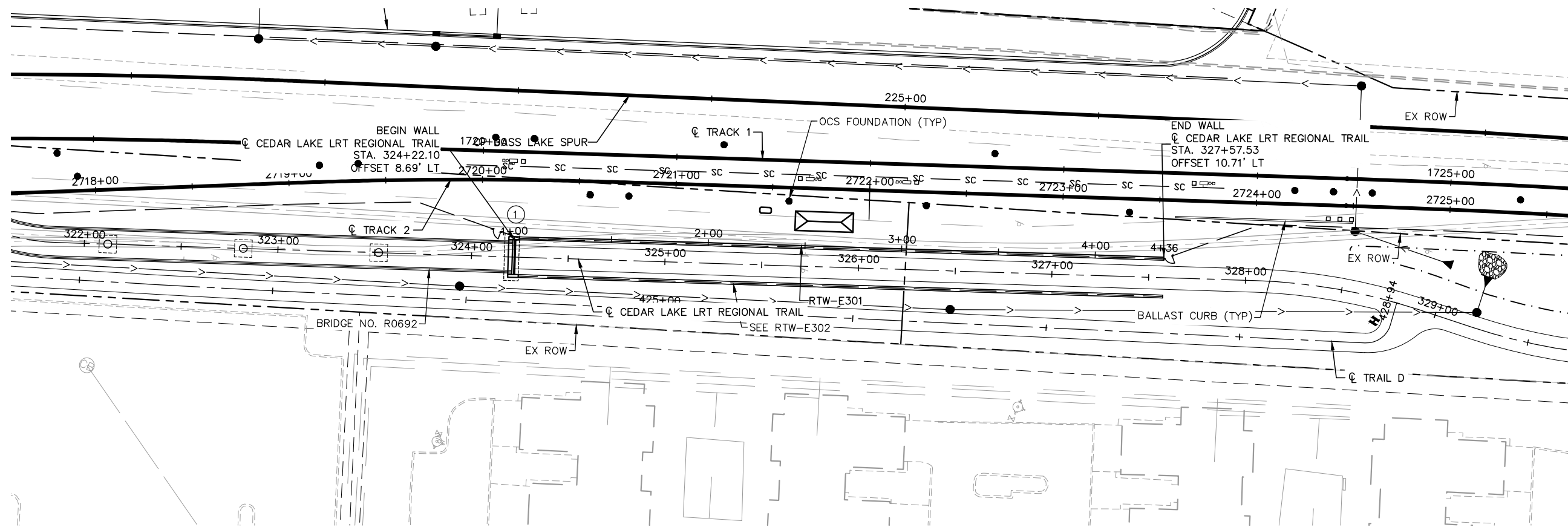


CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-E227 GEOMETRY

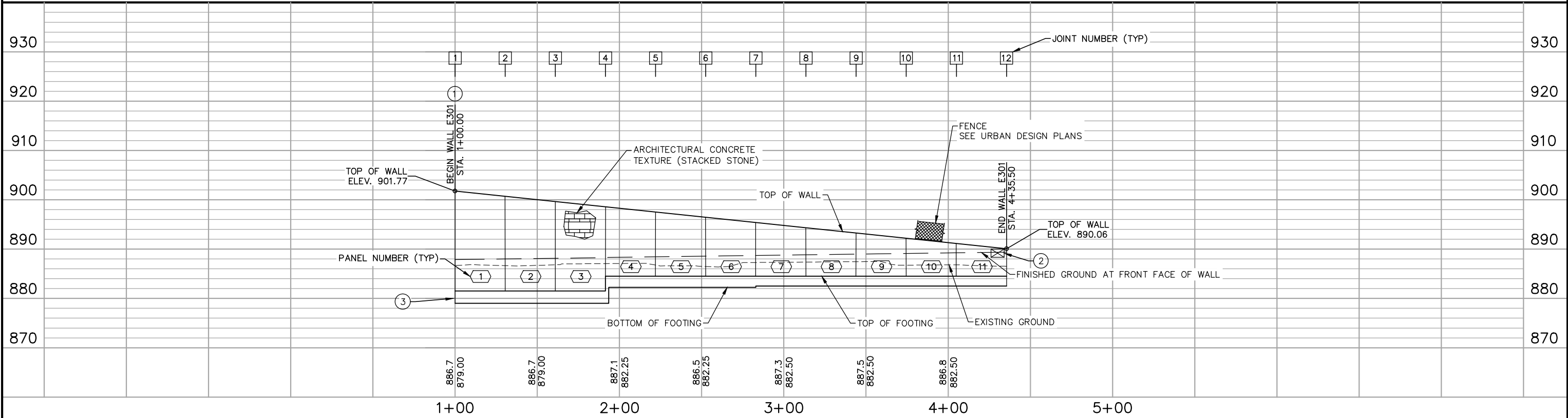
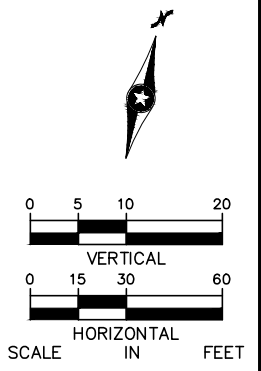
DISCIPLINE: STRUCTURES SHEET NAME: RTW-E227-DTL - 001

SHEET  
 156  
 OF  
 271

Jan. 17 2016 08:33 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E301-PL1.dwg By: V-Patel/PJ



- NOTE:**
- JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW E301.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

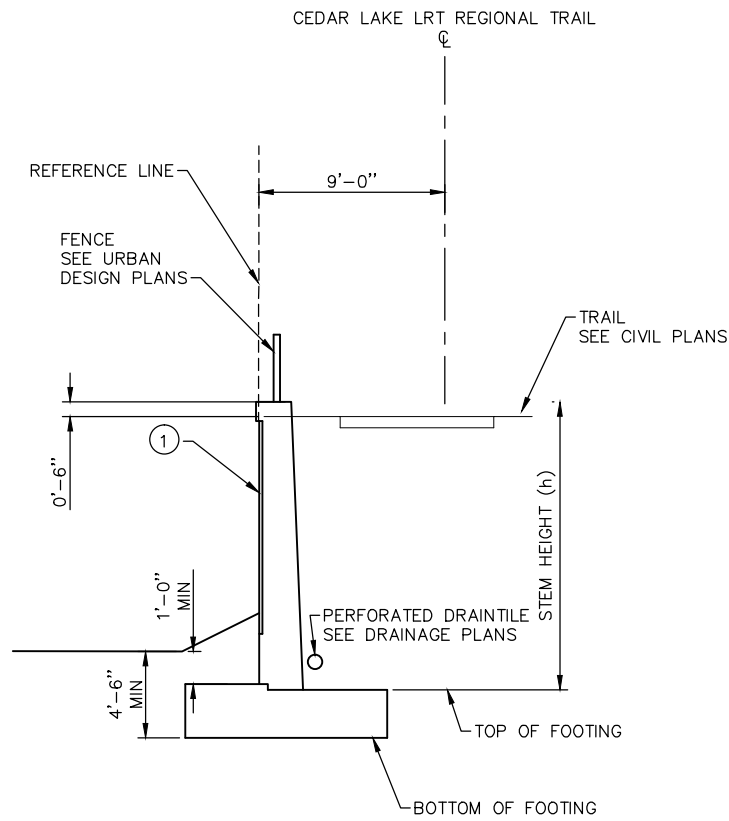


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E301 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E301-PL1**

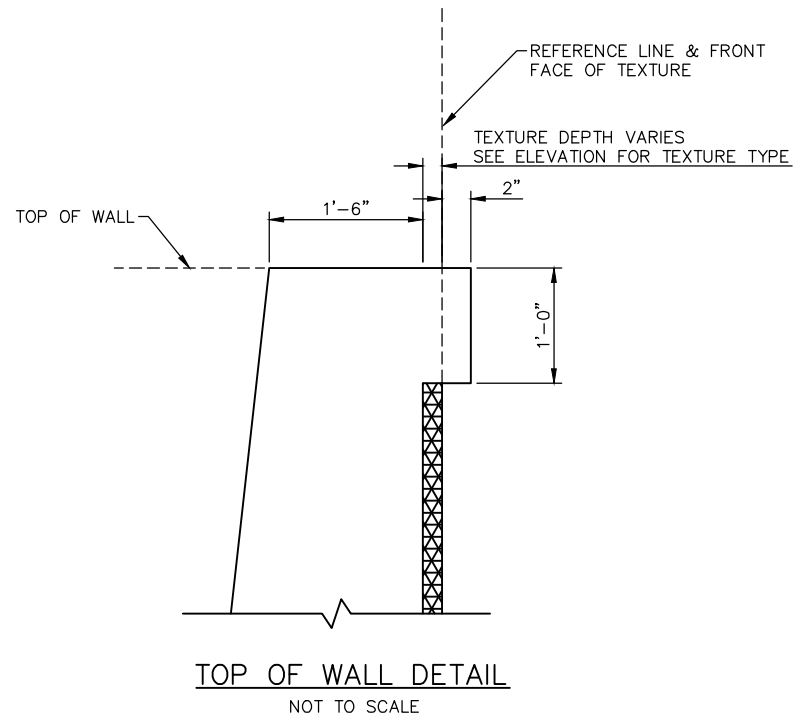
SHEET **157**  
OF  
**271**

Jan, 17 2016 08:34 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E301-DTL.dwg By: V-PatelPJ



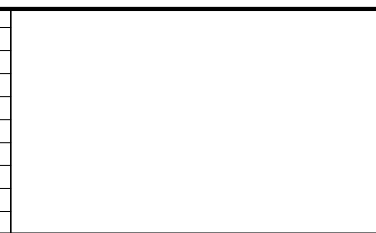
- NOTE:
- 1 ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - 2 RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E301 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

RTW-E301 SECTION  
NOT TO SCALE



RTW-E301 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	155885.819	511935.279	-	879	-	901.77	-	20'-3 1/4"	20'
2	30'-6"	2	CJ	155898.918	511962.823	879	879	900.71	900.71	19'-2 1/2"	19'-2 1/2"	19'
3	30'-6"	3	CJ	155910.165	511991.174	879	879	899.64	899.64	18'-1 5/8"	18'-1 5/8"	18'
4	30'-6"	4	EJ	155921.412	512019.524	879	879	898.58	898.58	17'-1"	14'-1"	14'
5	30'-6"	5	CJ	155932.659	512047.875	882.25	882.25	897.51	897.51	13'-0 1/8"	13'-0 1/8"	13'
6	30'-6"	6	CJ	155943.906	512076.225	882.25	882.25	896.45	896.45	11'-11 3/8"	11'-11 3/8"	12'
7	30'-6"	7	CJ	155955.154	512104.576	882.25	882.25	895.38	895.38	10'-10 1/2"	10'-10 1/2"	11'
8	30'-6"	8	EJ	155966.401	512132.926	882.5	882.5	894.32	894.32	9'-9 7/8"	9'-9 7/8"	10'
9	30'-6"	9	CJ	155977.648	512161.277	882.5	882.5	893.25	893.25	8'-9"	8'-9"	9'
10	30'-6"	10	CJ	155988.895	512189.627	882.5	882.5	892.19	892.19	7'-8 1/4"	7'-8 1/4"	8'
11	30'-6"	11	CJ	156000.143	512217.978	882.5	882.5	891.12	891.12	6'-7 1/2"	6'-7 1/2"	7'
12	30'-6"	12	EJ	156011.39	512246.328	882.5	-	890.06	-	5'-6 3/4"	-	6'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

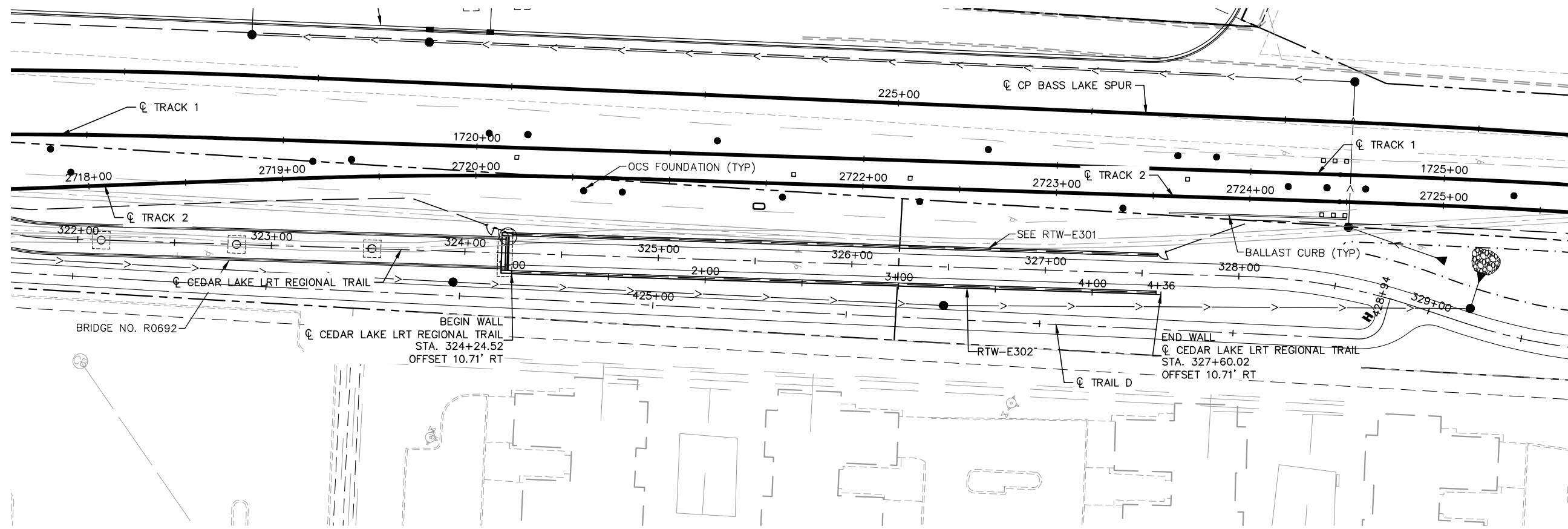


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E301 GEOMETRY

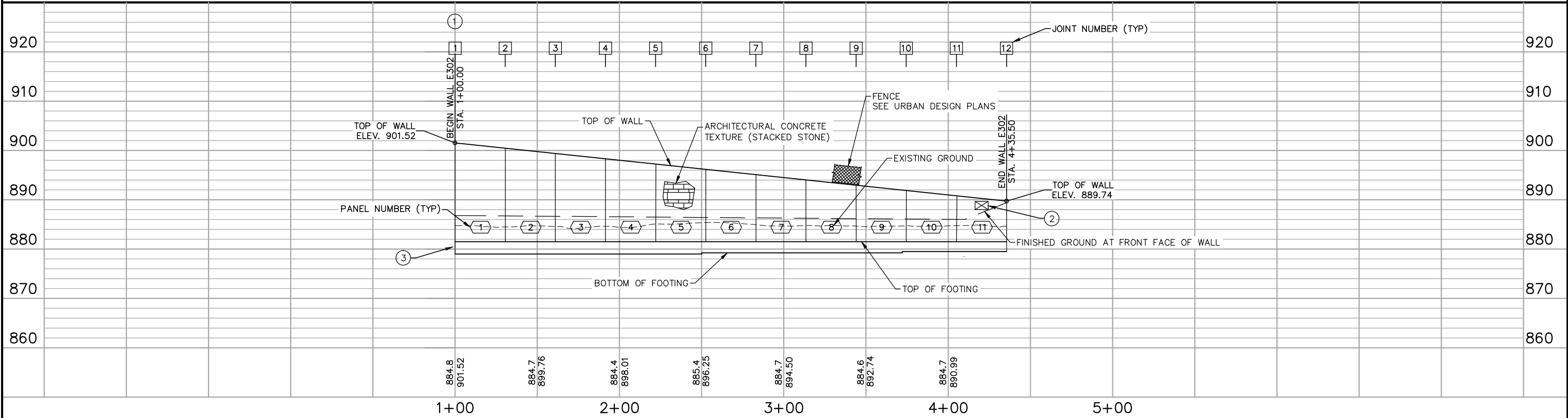
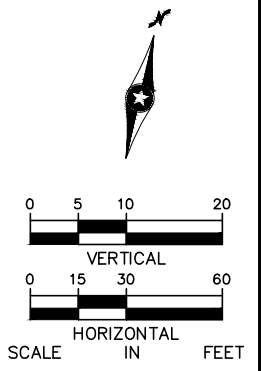
DISCIPLINE: STRUCTURES  
SHEET NAME: RTW-E301-DTL - 001

SHEET  
158  
OF  
271

Jan. 17 2016 08:39 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E302-PL-E.dwg By: V-Patel/PJ



- NOTE:
- JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E302.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

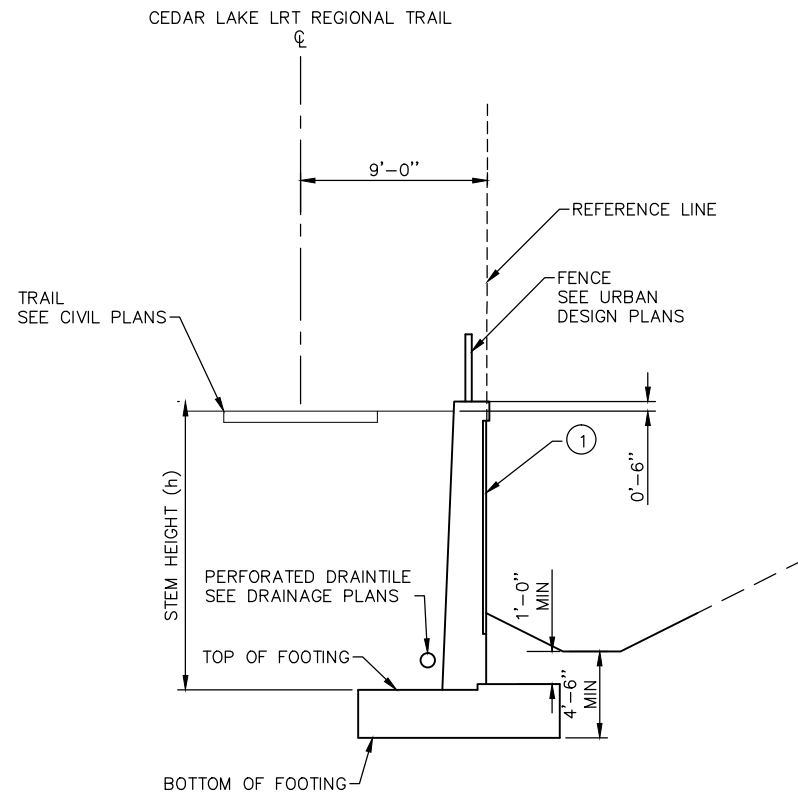



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E302 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E302-PL-E**

SHEET **159** OF **271**

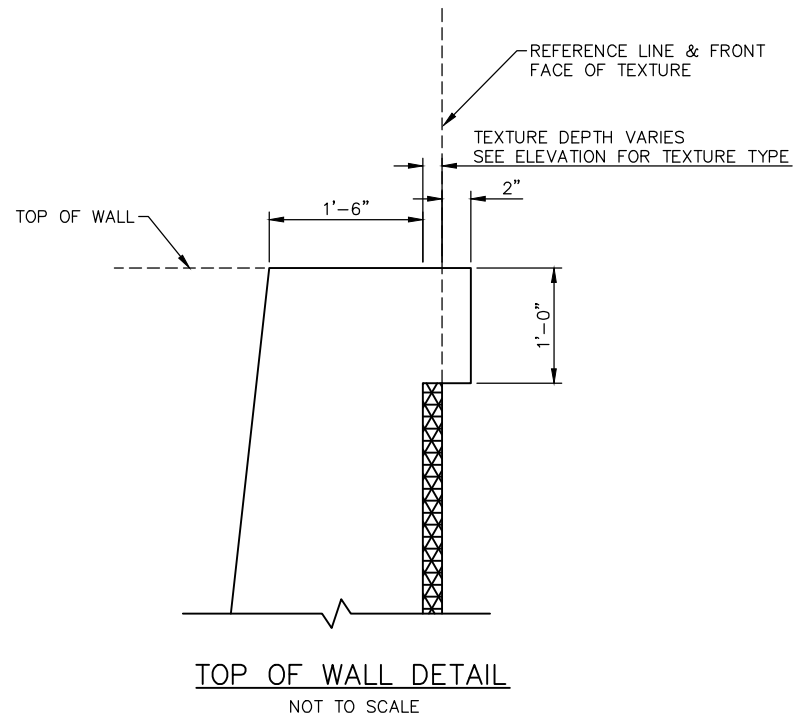
Jan, 17 2016 08:40 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E302-DTL.dwg By: V-Patel/PJ



- NOTE:
1. ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE CIP CONCRETE ON SPREAD FOOTING
  3. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E302 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E302 SECTION**

NOT TO SCALE



RTW-E302 GEOMETRICS (CIPC)												
PANEL NO.	PANEL LENGTH	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
				NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1	CJ	155868.679	511944.679	-	879	-	901.52	-	20'-0 1/4"	20'
2	30'-6"	2	CJ	155879.926	511973.029	879	879	900.45	900.45	18'-11 3/8"	18'-11 3/8"	19'
3	30'-6"	3	EJ	155891.173	512001.38	879	879	899.37	899.37	17'-10 1/2"	17'-10 1/2"	18'
4	30'-6"	4	CJ	155902.421	512029.73	879	879	898.3	898.3	16'-9 5/8"	16'-9 5/8"	17'
5	30'-6"	5	CJ	155913.668	512058.081	879	879	897.23	897.23	15'-8 3/4"	15'-8 3/4"	16'
6	30'-6"	6	EJ	155924.915	512086.431	879.25	879.25	896.16	896.16	14'-7 7/8"	14'-7 7/8"	15'
7	30'-6"	7	CJ	155936.162	512114.782	879.25	879.25	895.09	895.09	13'-7 1/8"	13'-7 1/8"	14'
8	30'-6"	8	CJ	155947.409	512143.132	879.25	879.25	894.02	894.02	12'-6 1/4"	12'-6 1/4"	13'
9	30'-6"	9	EJ	155958.657	512171.483	879.25	879.25	892.95	892.95	11'-5 3/8"	11'-5 3/8"	12'
10	30'-6"	10	CJ	155969.904	512199.833	879.5	879.5	891.88	891.88	10'-4 1/2"	10'-4 1/2"	10'
11	30'-6"	11	CJ	155981.151	512228.184	879.5	879.5	890.81	890.81	9'-3 3/4"	9'-3 3/4"	9'
12	30'-6"	12	EJ	155992.398	512256.534	879.5	-	889.74	-	8'-2 7/8"	-	8'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16



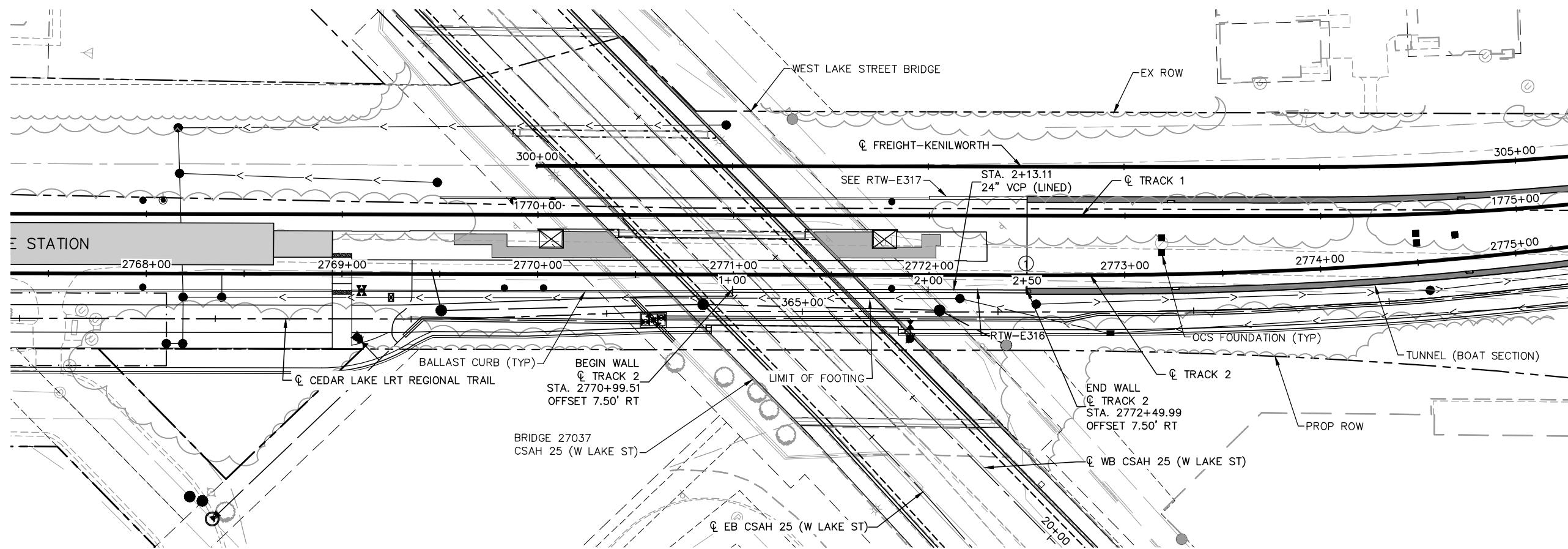
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E302 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E302-DTL - 001**

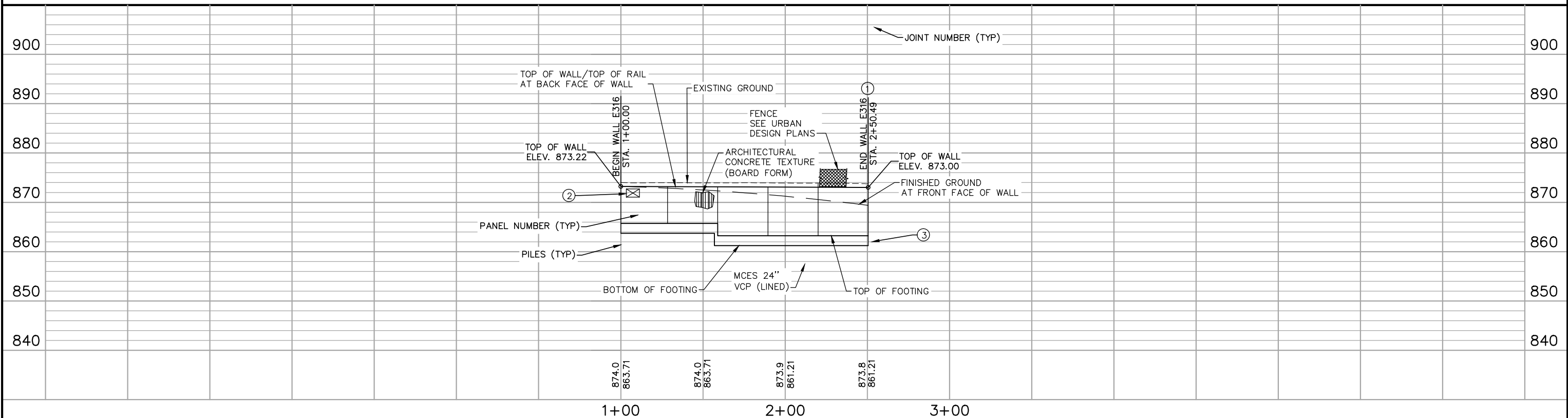
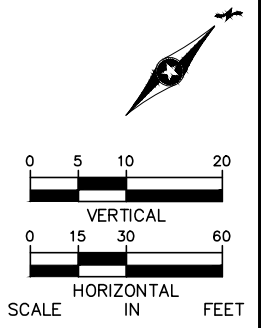
**SHEET  
160  
OF  
271**



Jan. 17 2016 08:45 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E316-PLA.dwg By: V-Patel/PJ



- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL BOAT SECTION
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 4 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E316.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

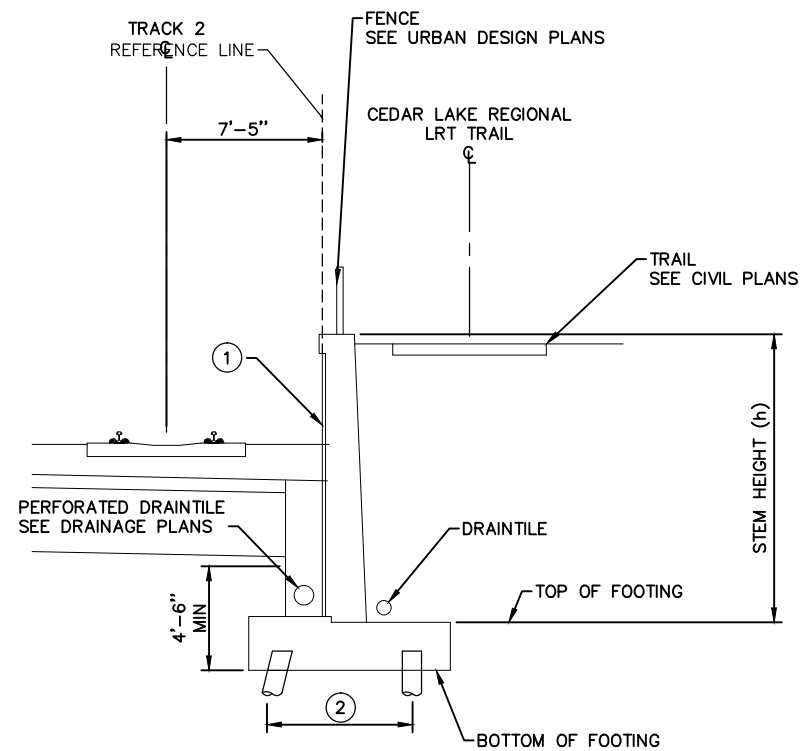


**90% SUBMISSION - 01/22/16**



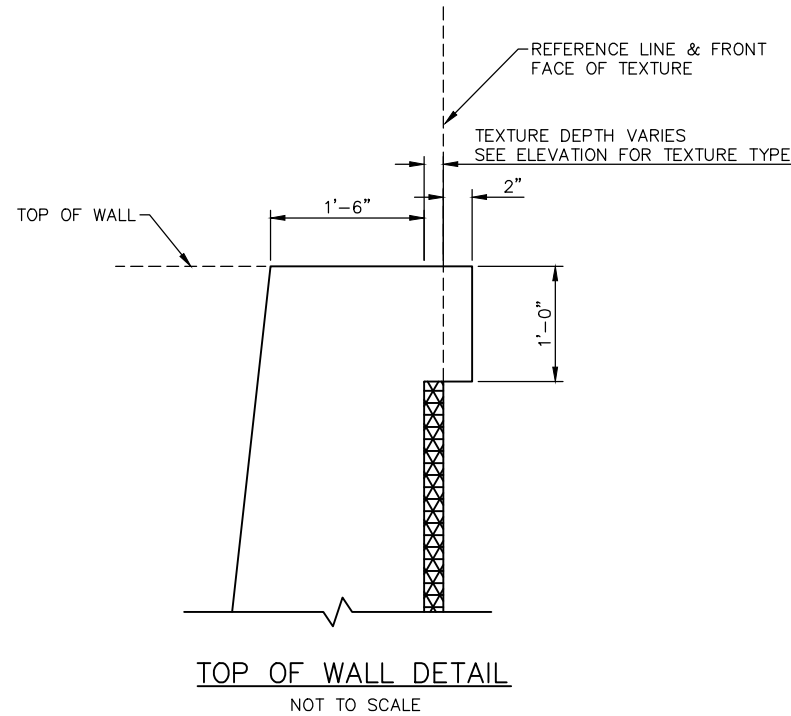
<b>CIVIL - VOLUME 6 RETAINING WALLS RTW-E316 PLAN AND ELEVATION</b>		SHEET 161 OF 271
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E316 - PLE</b>	

Jan, 17 2016 08:46 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E316-DTL.dwg By: V-Patel/PJ



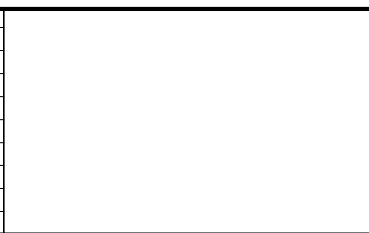
- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E316 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E316 SECTION**  
NOT TO SCALE



RTW-E316 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	28 -5 7/8"	1+00.00	1	CJ	157353.64	515546.049	-	863.71	-	865.71	-	873.22	-	7 -6 1/8"	8'
		1+28.49	2	CJ	157373.865	515566.114	863.71	863.71	865.71	865.71	873.19	873.19	7 -5 3/4"	7 -5 3/4"	
2	30 -6"	1+58.99	3	EJ	157395.518	515587.595	861.21	861.21	863.21	863.21	873.15	873.15	9 -11 1/4"	9 -11 1/4"	10'
		1+89.49	4	CJ	157417.171	515609.075	861.21	861.21	863.21	863.21	873.1	873.1	9 -10 5/8"	9 -10 5/8"	
3	30 -6"	2+19.99	5	CJ	157438.824	515630.555	861.21	861.21	863.21	863.21	873.05	873.05	9 -10 1/8"	9 -10 1/8"	10'
		2+50.49	6	EJ	157460.479	515652.029	861.21	861.21	863.21	863.21	873	873	9 -9 1/2"	9 -9 1/2"	

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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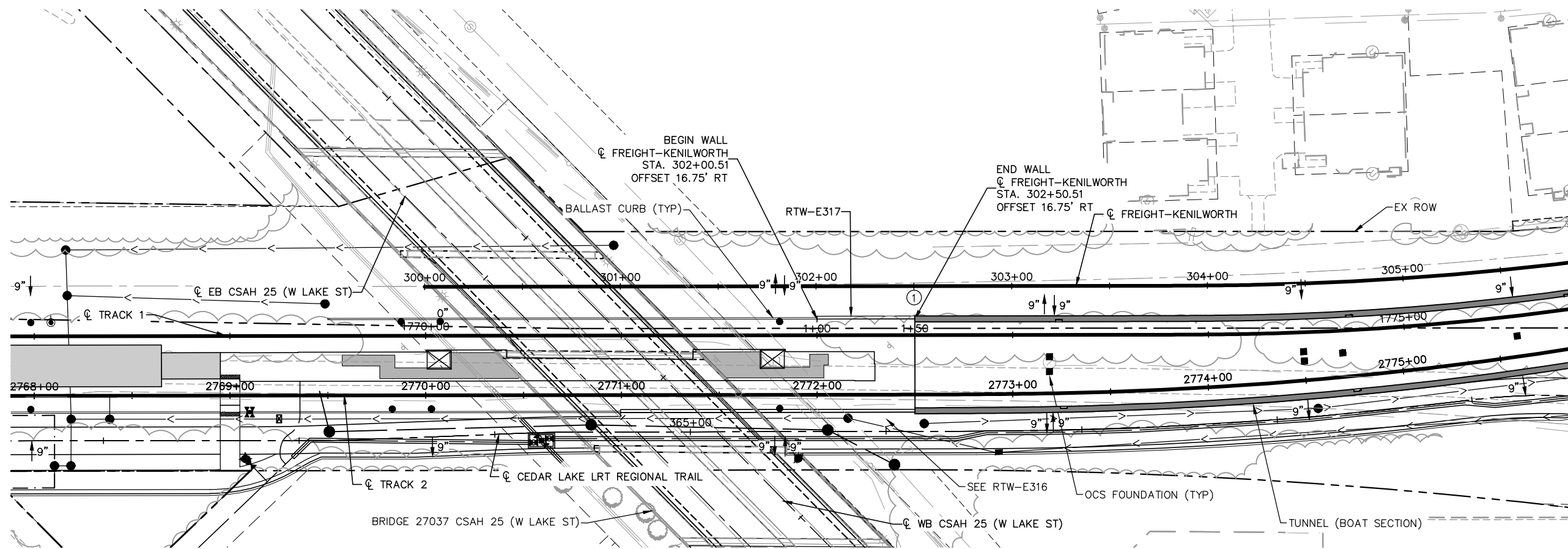


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E316 GEOMETRY**

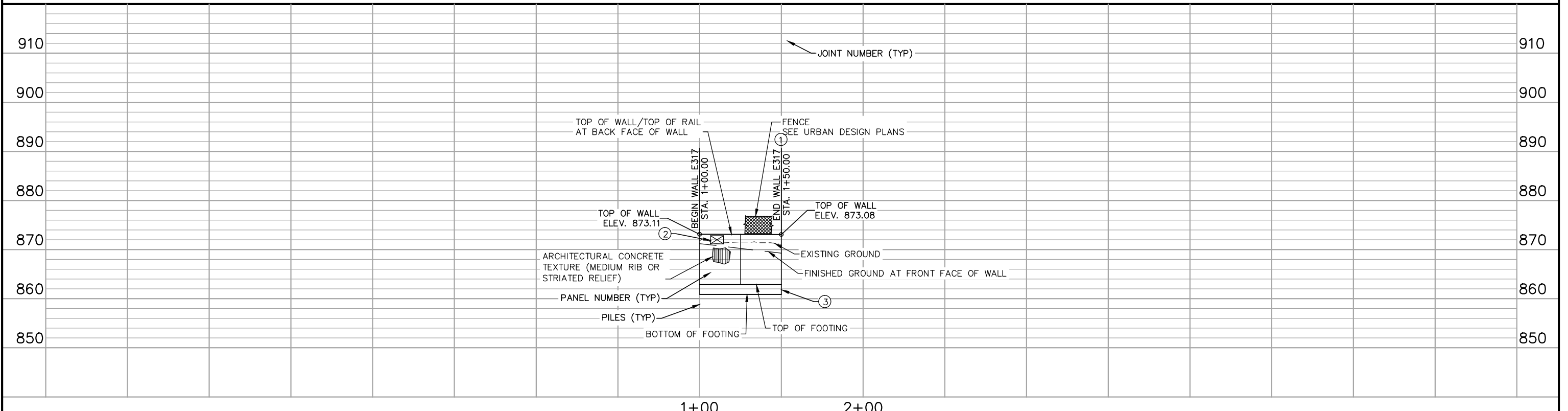
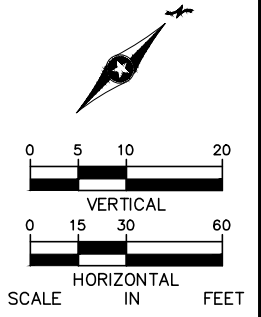
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E316-DTL-001**

**SHEET**  
162  
OF  
271


Jan. 17 2016 08:51 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E317-PLA.dwg By: V-PateIPJ




- NOTE:**
- ① JOINT LOCATION BETWEEN RETAINING WALL AND TUNNEL BOAT SECTION
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 4 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E316.




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**





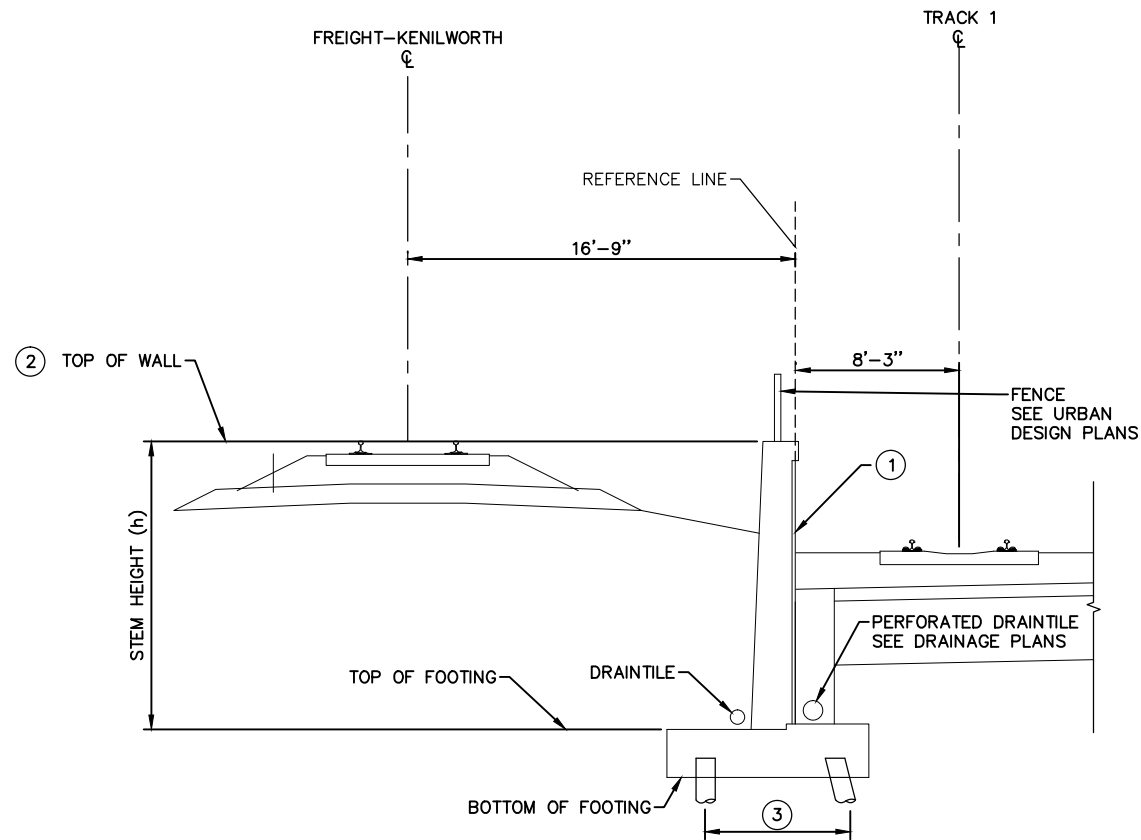
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E317 PLAN AND ELEVATION**

DISCIPLINE:  
**STRUCTURES**

SHEET NAME:  
**RTW-E317 - PLE**

**SHEET**  
163  
**OF**  
271

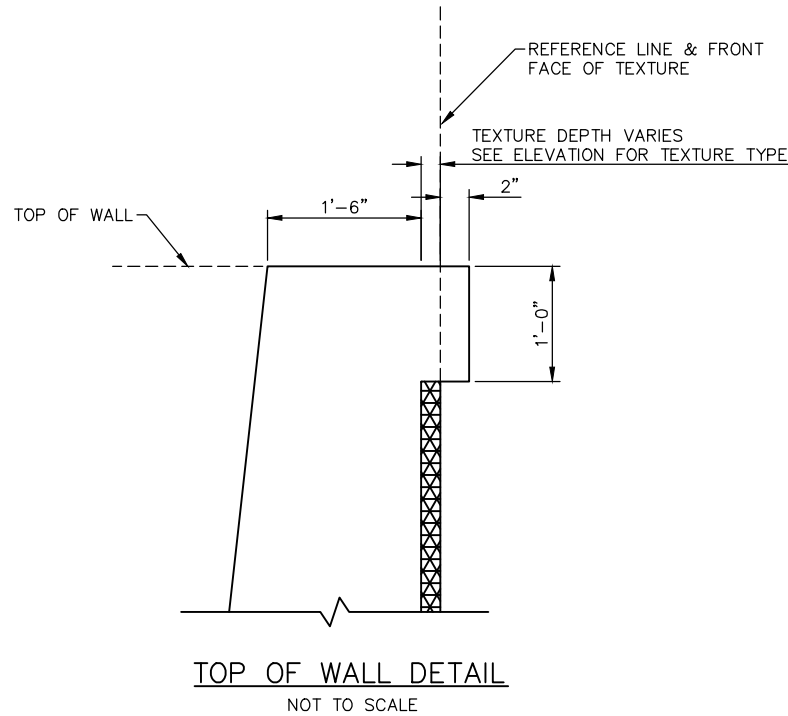
Jan, 17 2016 08:52 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E317-DTL.dwg By: V-PatelPJ



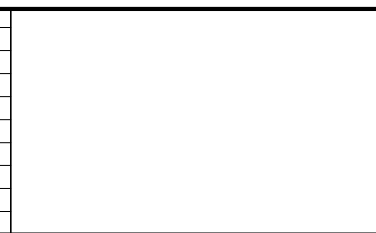
- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (Ea)  
THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E317  
AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES  
IN FOOTING.

**RTW-E317 SECTION**  
NOT TO SCALE

RTW-E317 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	25'-0"	1+00.00	1	CJ	157457.46	515584.07	-	860.87	-	862.87	-	873.13	-	10'-3 1/8"	11'
		1+25.00	2	CJ	157475.21	515601.68	860.87	860.87	862.87	862.87	873.11	873.11	10'-2 7/8"	10'-2 7/8"	
2	25'-0"	1+50.00	3	EJ	157492.96	515619.29	860.87	860.87	862.87	862.87	873.08	873.08	10'-2 1/2"	10'-2 1/2"	11'



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

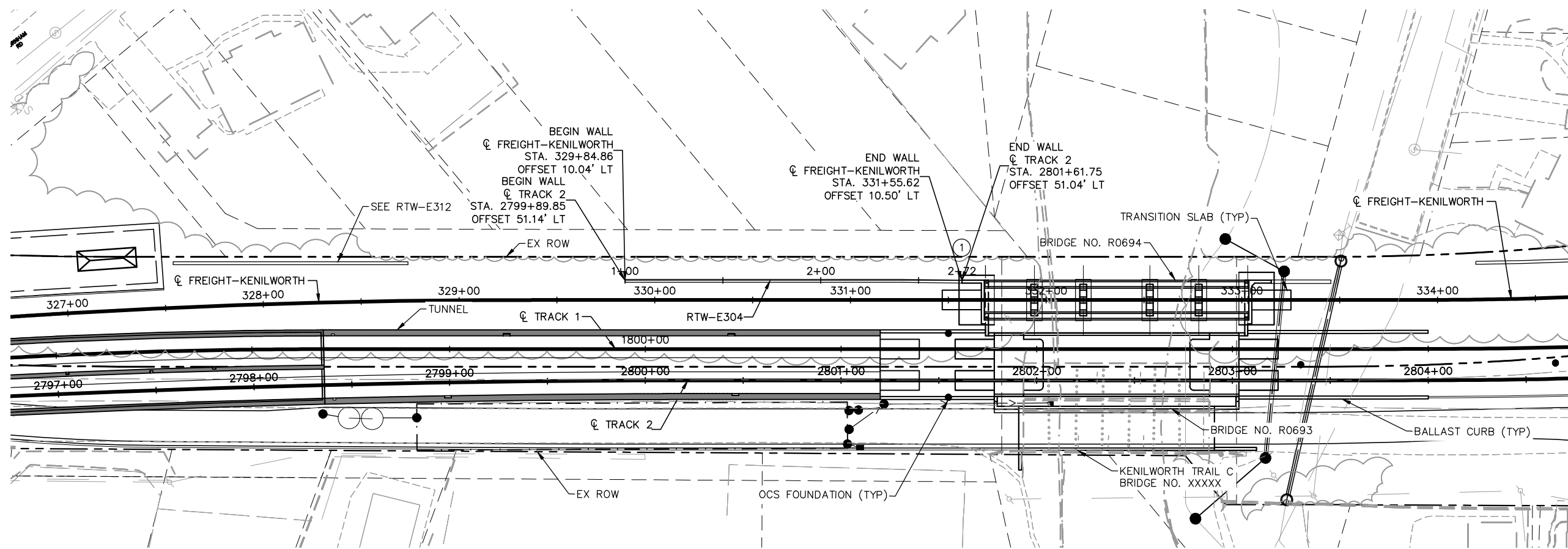


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E317 GEOMETRY**

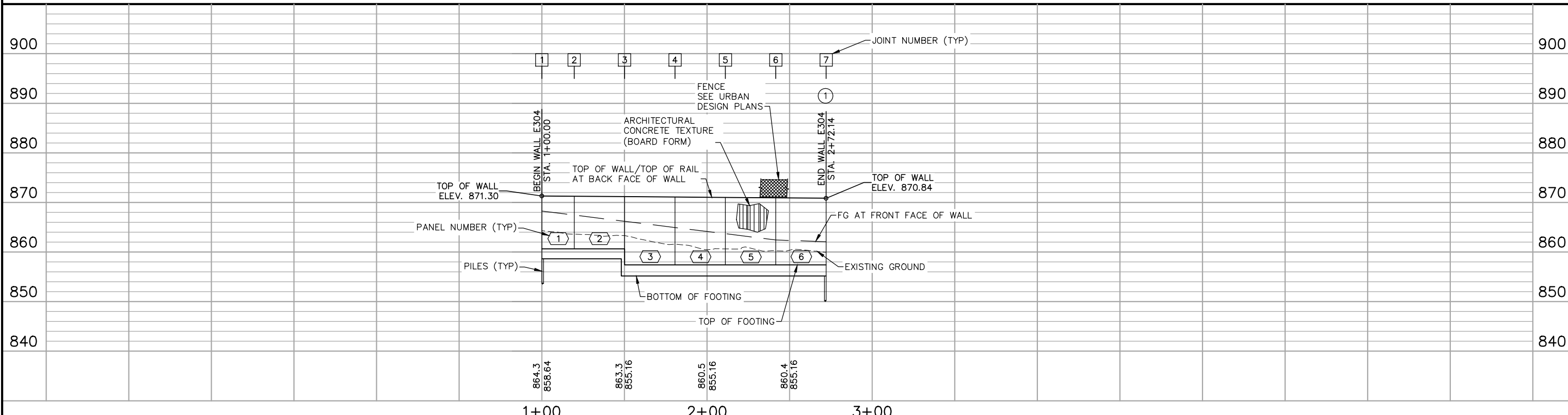
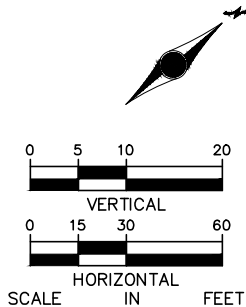
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E317-DTL-001**

**SHEET  
164  
OF  
271**

Jan. 19 2016 04:47 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E304-PL.E.dwg By: V-Patel/PJ



NOTE:  
 ① JOINT LOCATION BETWEEN  
 RETAINING WALL AND  
 BRIDGE WINGWALL.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line Light Extension

90% SUBMISSION - 01/22/16

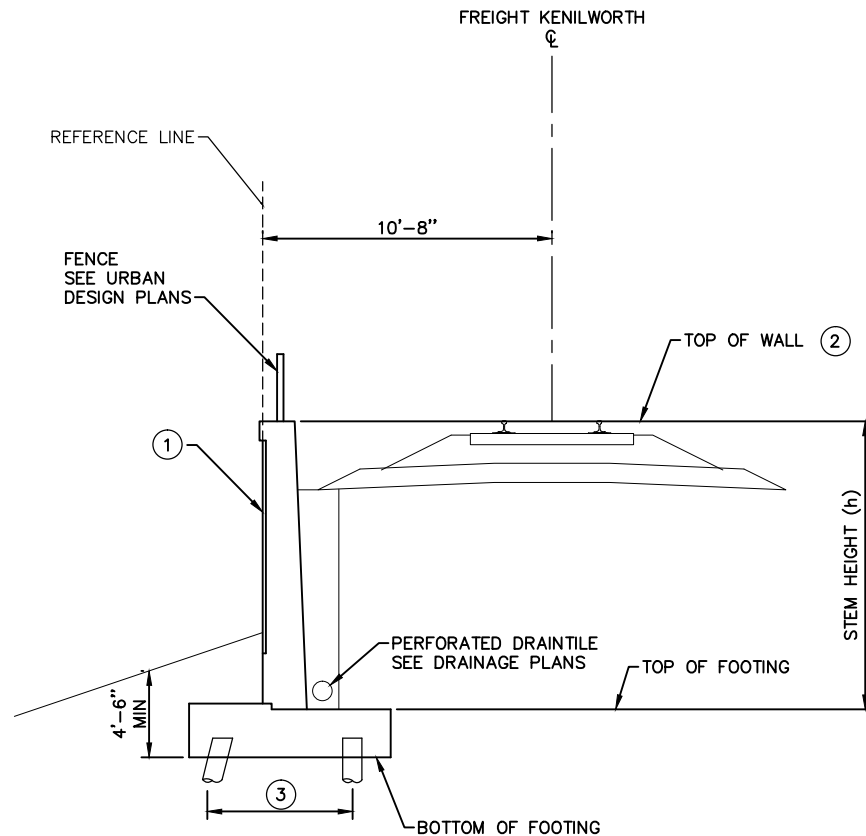
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E304 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E304 - PLE**

**SHEET**  
 165  
 OF  
 271

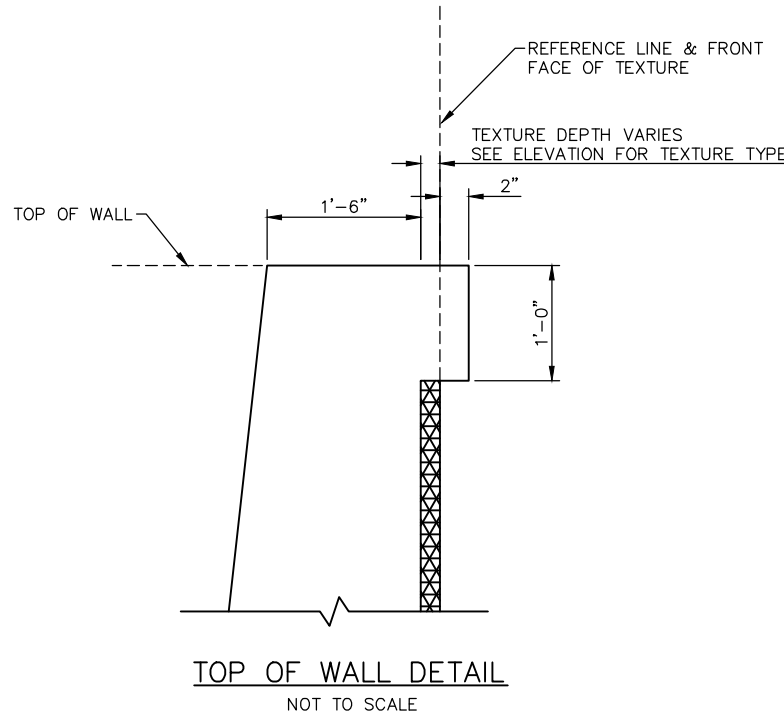
Jan, 19 2016 04:47 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E304-DTL.dwg By: V-Patel/PJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E304 SECTION**  
NOT TO SCALE

PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	RTW-E304 GEOMETRICS (CIPC)										DESIGN HEIGHT	
					COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)			
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA		
1	19'-7 5/8"	1+00.00	1	CJ	159805.52	517047.975	-	858.64	-	860.64	-	871.3	-	-	-	11'
2	30'-6"	1+19.64	2	CJ	159820.623	517060.53	858.64	858.64	860.64	860.64	871.25	871.25	10'-7 3/8"	10'-7 7/8"	14'	
3	30'-6"	1+50.14	3	EJ	159844.076	517080.029	855.16	855.16	857.75	857.75	871.18	871.18	13'-5 1/8"	13'-5 1/8"	14'	
4	30'-6"	1+80.64	4	CJ	159867.53	517099.527	855.16	855.16	857.41	857.41	871.1	871.1	13'-8 1/4"	13'-8 1/4"	14'	
5	30'-6"	2+11.14	5	CJ	159890.983	517119.025	855.16	855.16	857.41	857.41	871.02	871.02	13'-7 3/8"	13'-7 3/8"	14'	
6	30'-6"	2+41.64	6	EJ	159914.437	517138.523	855.16	855.16	857.41	857.41	870.94	870.94	13'-6 3/8"	13'-6 3/8"	14'	
6	30'-6"	2+72.14	7	CJ	159937.89	517158.021	855.16	-	857.41	-	870.85	-	13'-5 1/4"	-	14'	



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

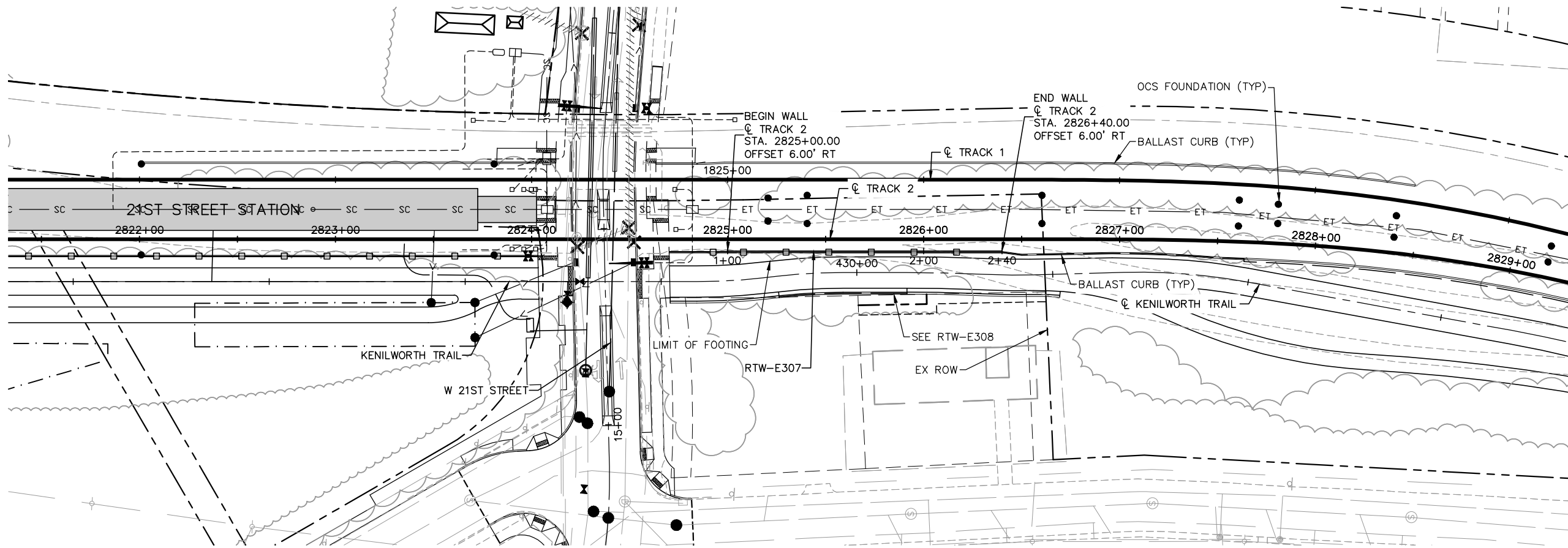


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E304 GEOMETRY**

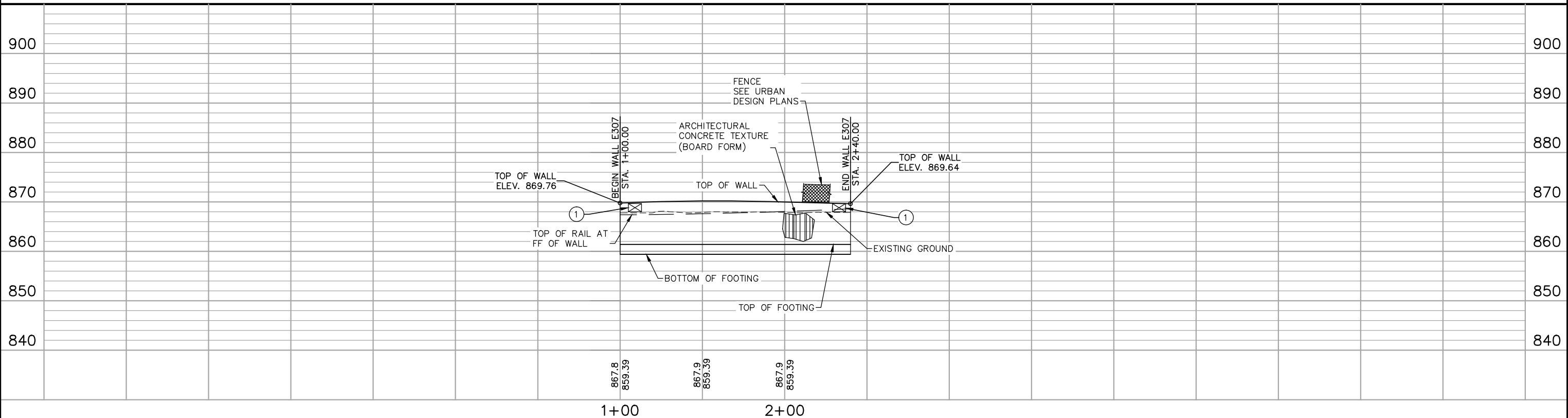
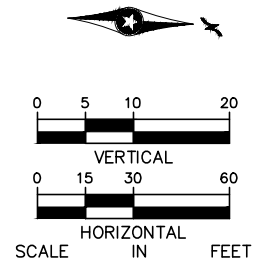
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E304-DTL - 001**

**SHEET  
166  
OF  
271**

Jan. 17 2016 09:02 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E307-PLA.dwg By: V-PatelPJ



① NOTE:  
STRAY CURRENT TEST STATION.  
SEE DETAIL 1 ON SHEET  
E0-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL**

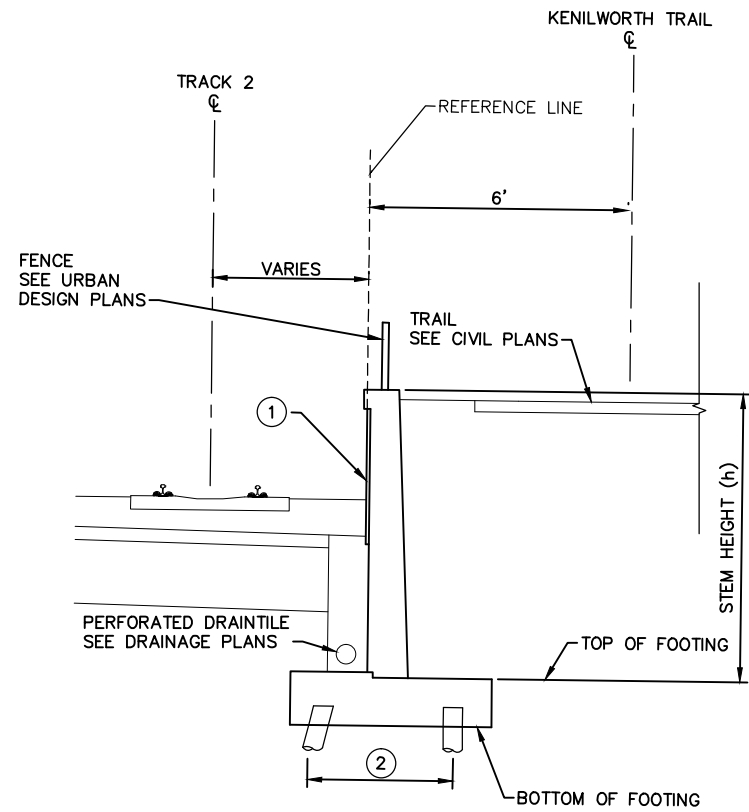
**SOUTHWEST**  
Green Line Light Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E307 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E307 - PLE**

SHEET **167**  
OF **271**

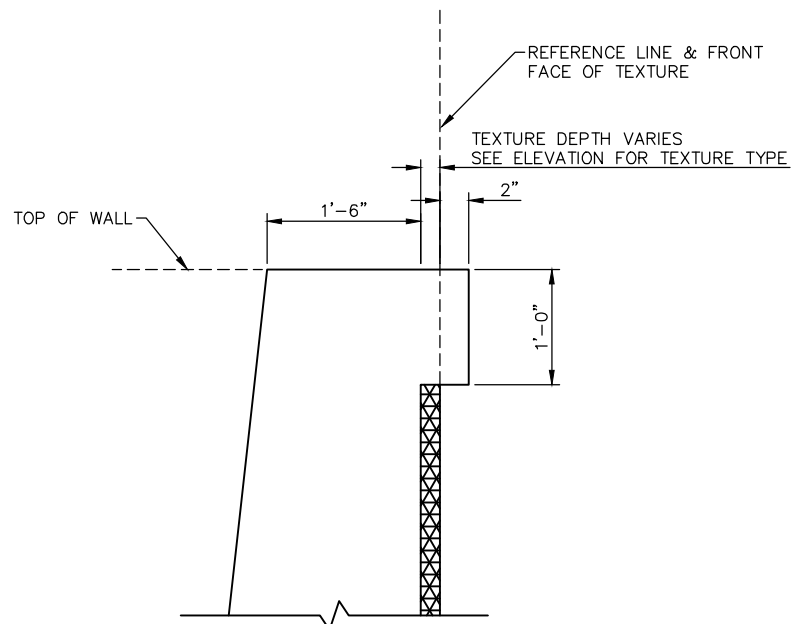
Jan, 18 2016 07:42 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E307-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES
  - 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E307 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E307 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E307 GEOMETRY**

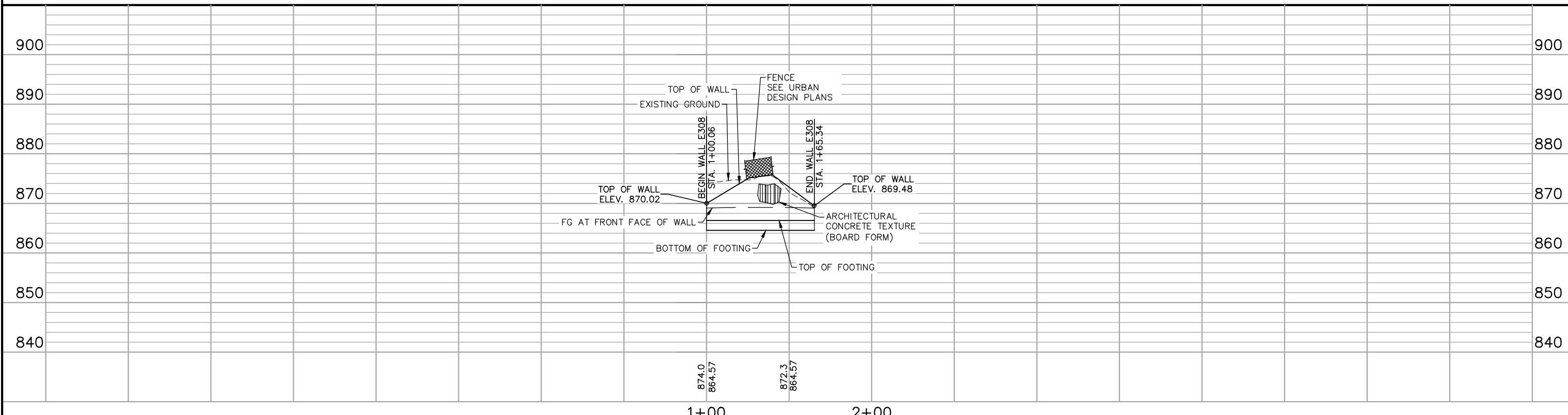
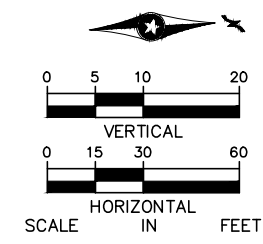
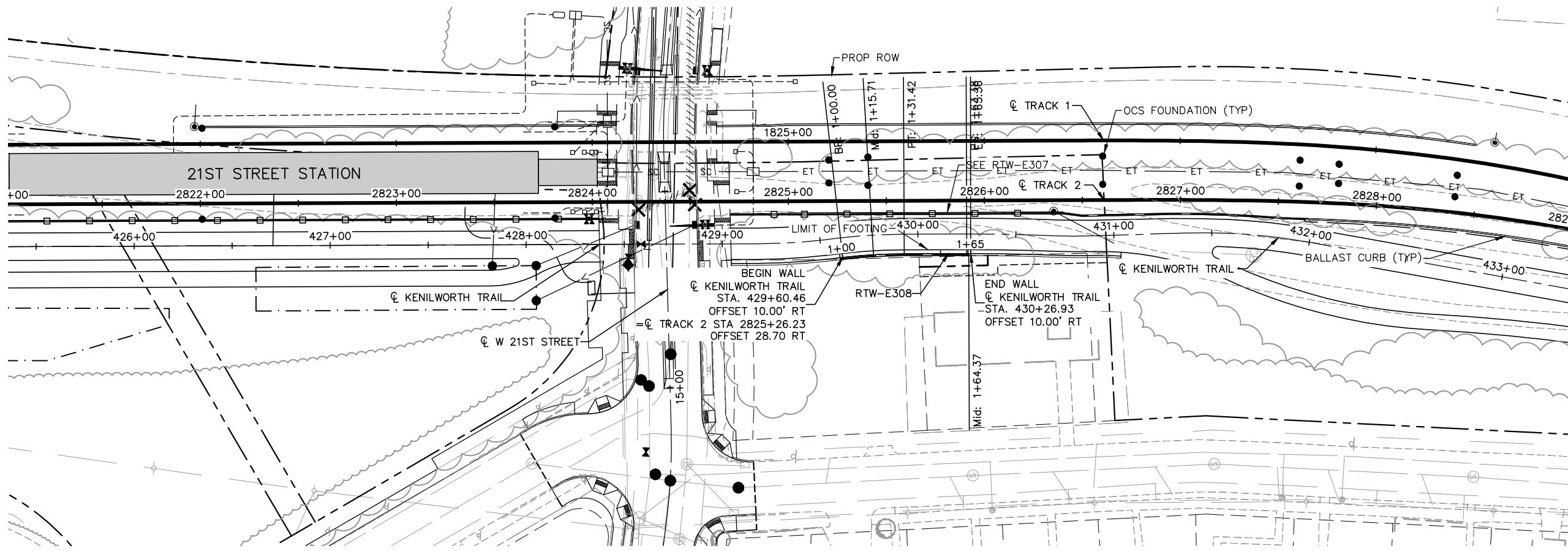
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E307-DTL - 001**

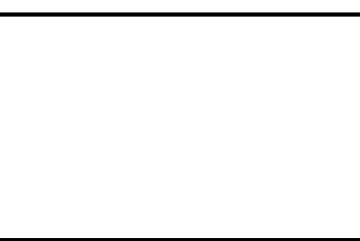
**SHEET**  
168  
OF  
271



Jan. 17 2016 09:08 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E308-PL-E.dwg By: V-Patel/PJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

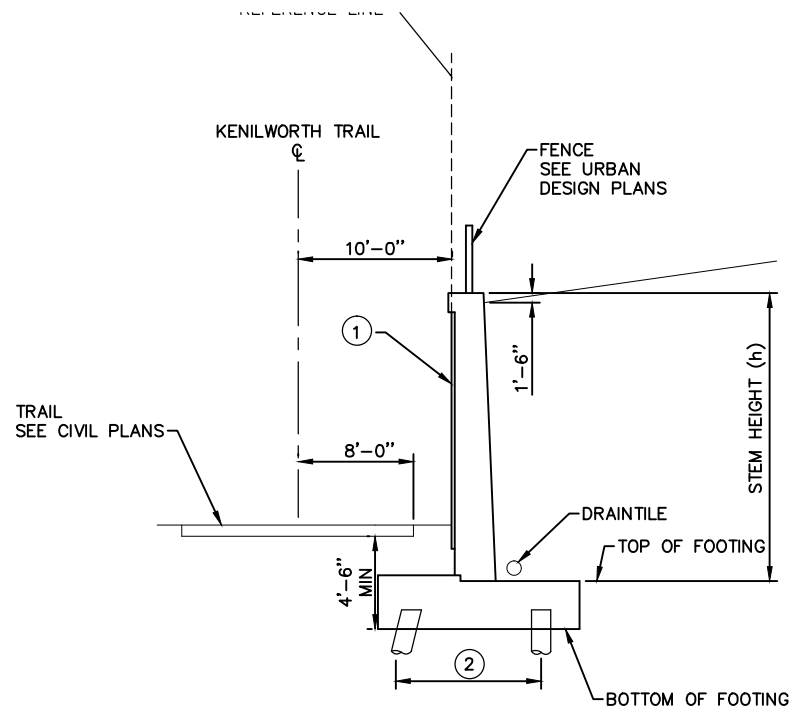


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E308 PLAN AND ELEVATION**

DISCIPLINE: STRUCTURES  
 SHEET NAME: RTW-E308 - PLE

SHEET 169 OF 271

Jan, 18 2016 07:45 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E308-DTL.dwg By: V-PatelPJ

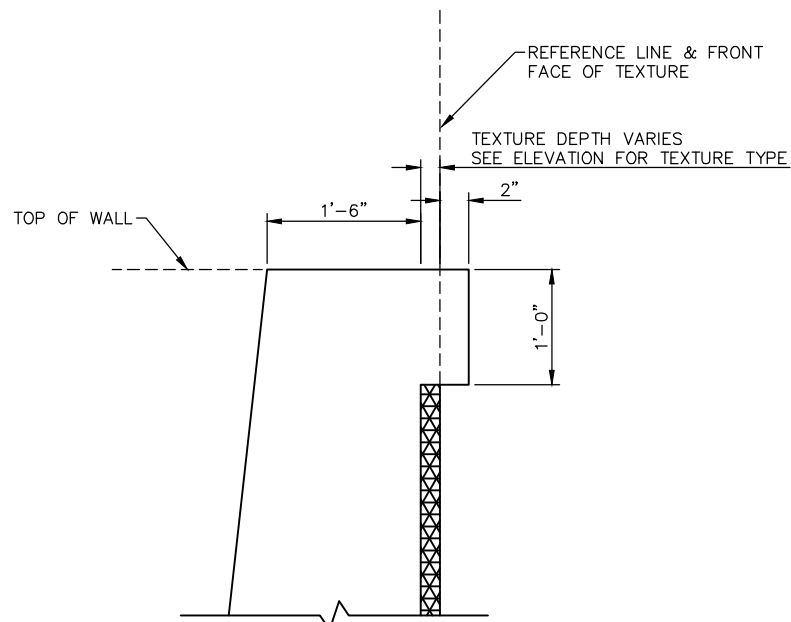


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② PILE ROWS AND SPACING VARIES
- 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

**RTW-E308 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

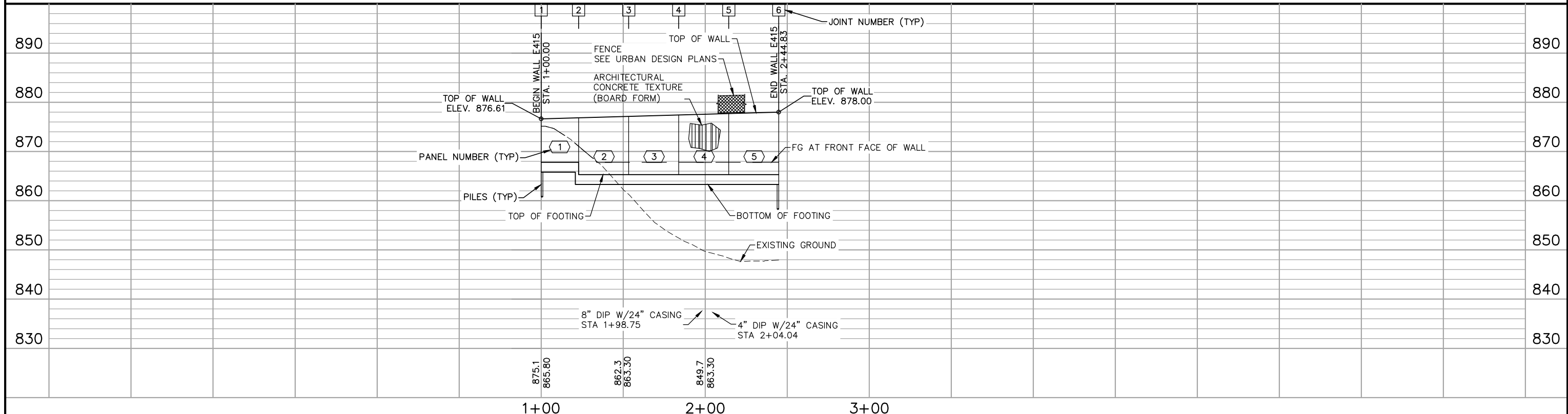
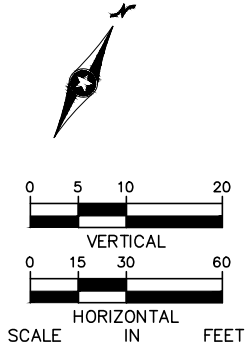
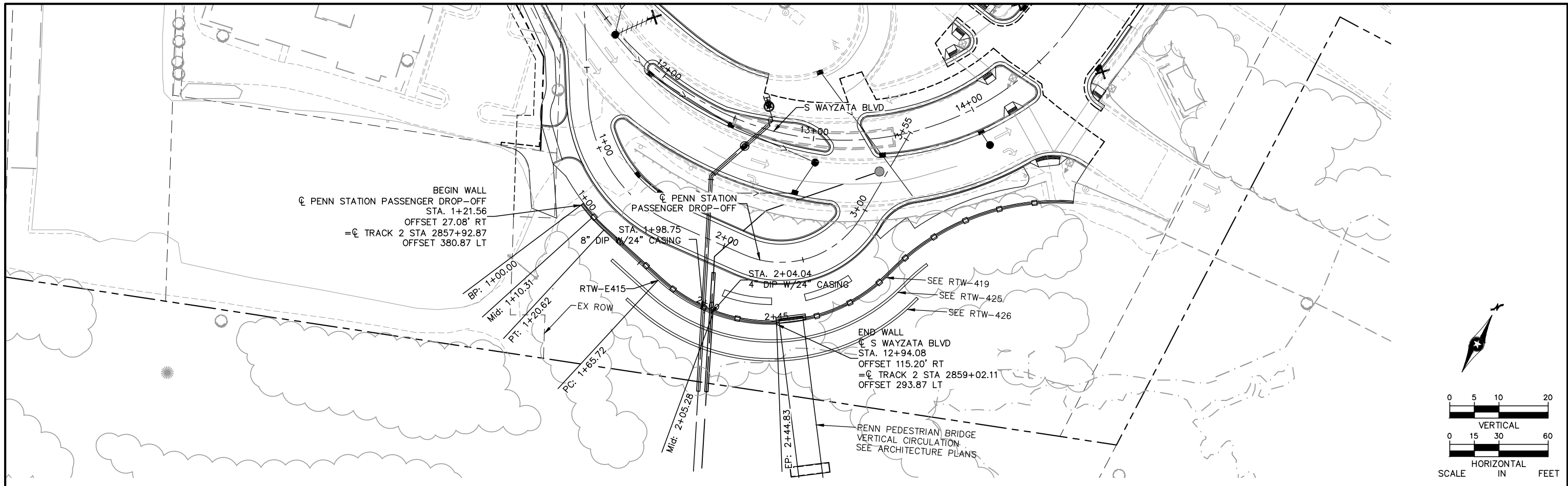
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E308 GEOMETRY**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E308-DTL - 001**

**SHEET  
170  
OF  
271**

Jan, 17 2016 09:12 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E415-PL.E.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST Green Line Light Extension**

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-E415 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E415-PL.E**

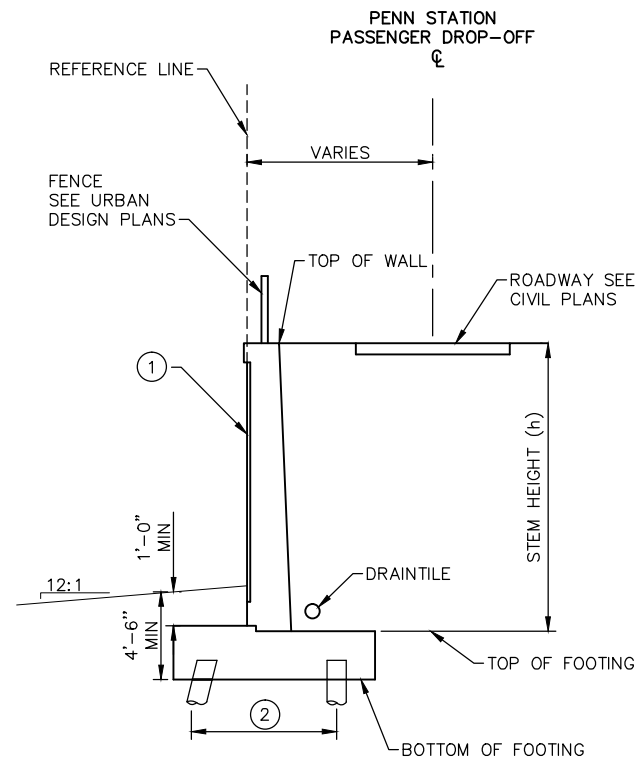
**SHEET**

171

OF

271

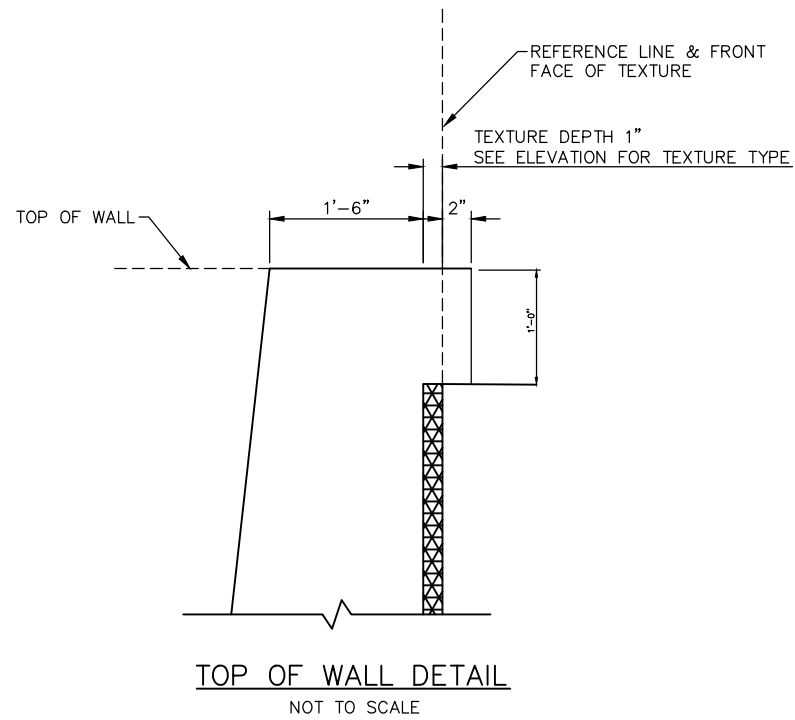
Jan, 17 2016 09:13 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E415-DTL.dwg By: V-PatelPJ



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② PILE ROWS AND PILE SPACING VARIES
- 3. RETAINING WALL TO BE CIP CONCRETE ON PILING

**RTW-E415 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

RTW-E415 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	22'-10"	1+00.00	1	CJ	164860.375	519045.467	-	865.8	-	867.8	-	876.61	-	8'-9 3/4"	9.1'
		1+22.83	2	CJ	164852.668	519066.916	863.3	863.3	867.8	867.8	876.83	876.83	9'-0 3/8"	9'-0 3/8"	
3	30'-6"	1+53.33	3	EJ	164844.73	519096.367	863.3	863.3	865.3	865.3	877.12	877.12	11'-9 7/8"	11'-9 7/8"	12.2'
4	30'-6"	1+83.83	4	CJ	164838.378	519126.14	863.3	863.3	865.3	865.3	877.42	877.42	12'-1 1/2"	12'-1 1/2"	12.5'
		2+14.33	5	CJ	164840.389	519156.464	863.3	863.3	865.3	865.3	877.71	877.71	12'-4 7/8"	12'-4 7/8"	
5	30'-6"	2+44.83	6	EJ	164851.307	519184.822	863.3	-	865.3	-	878	-	12'-8 3/8"	-	12.7'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**

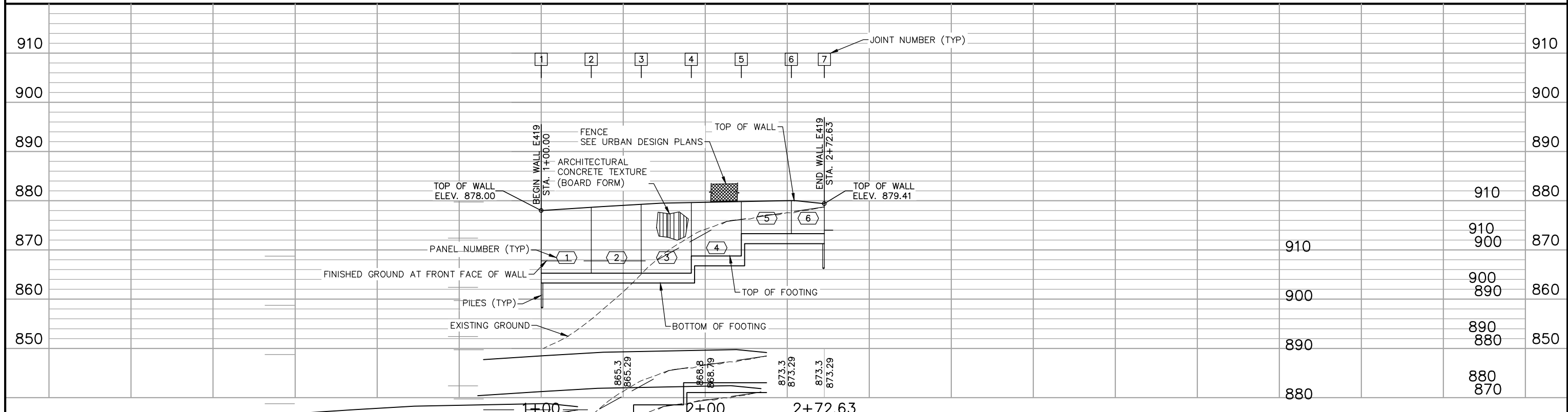
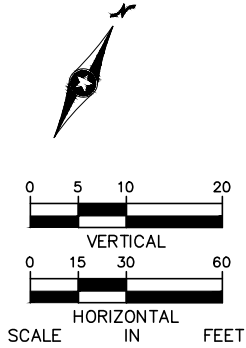
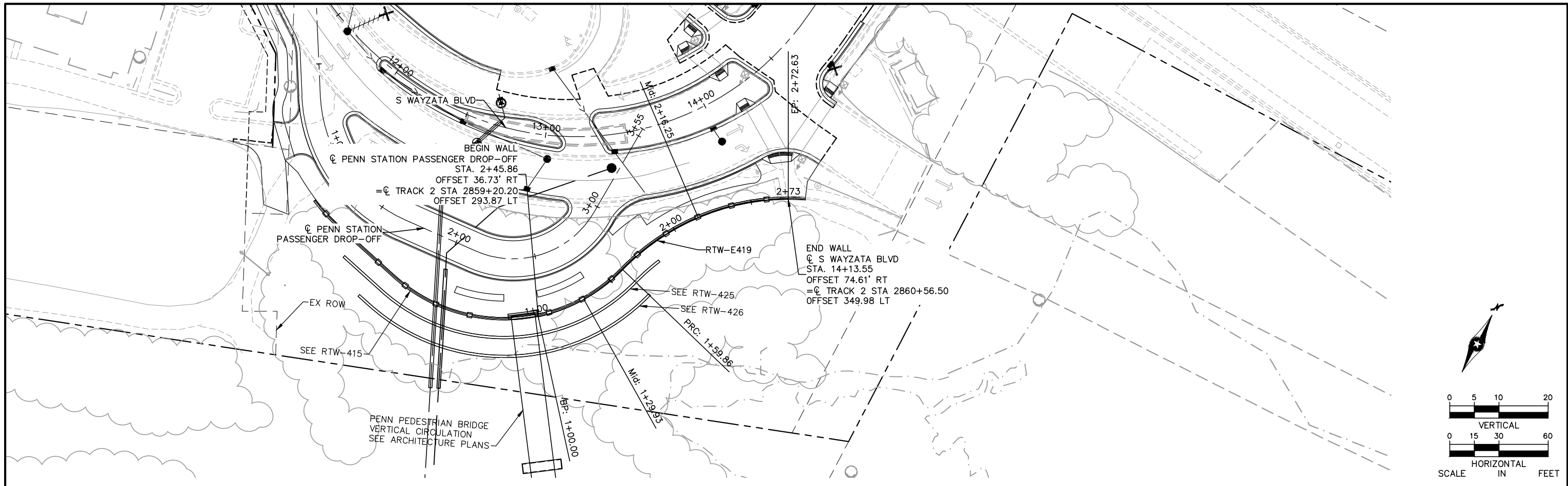
90% SUBMISSION - 01/22/16



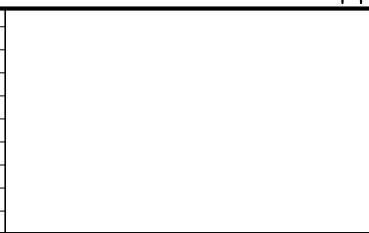

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E415 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E415-DTL - 001**

Jan, 17 2016 09:16 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E419-PL-E.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

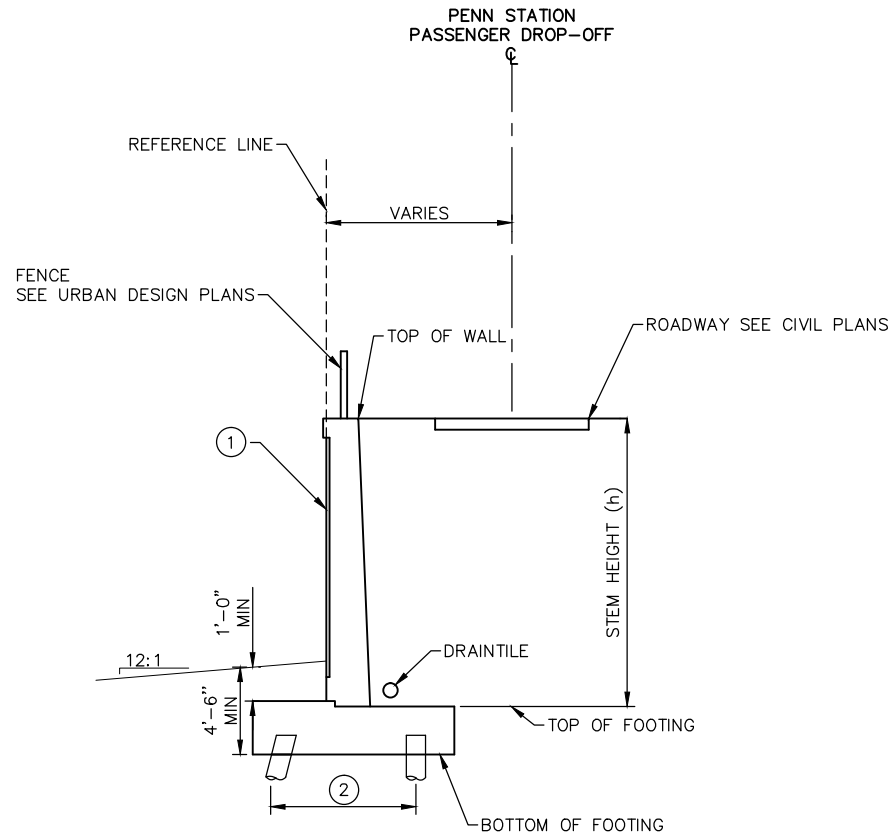


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E419 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E419-PLE**

SHEET **173**  
OF  
**271**

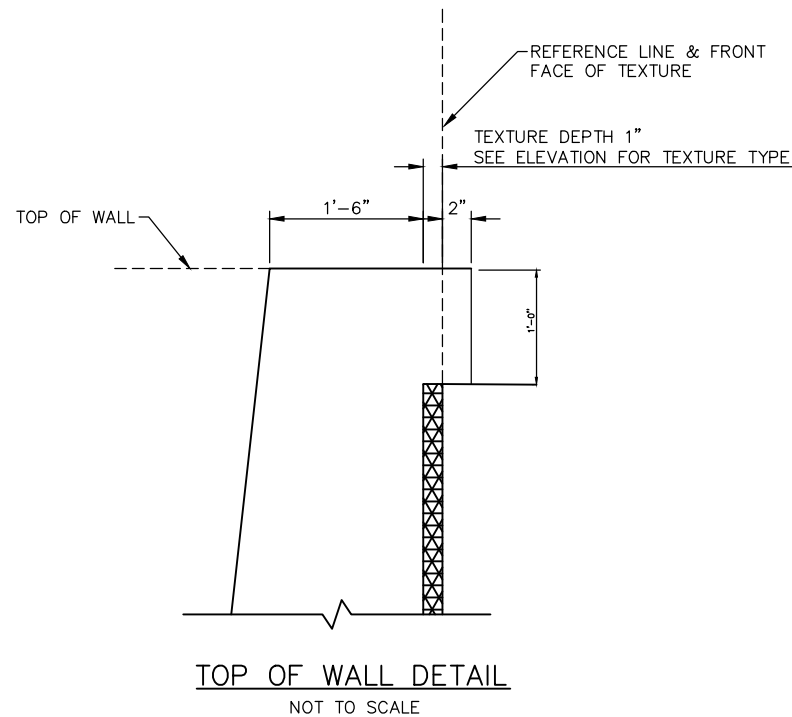
Jan, 17 2016 09:17 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E419-DTL.dwg By: V-PatelPJ



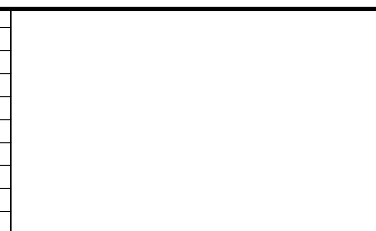
- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  3. RETAINING WALL TO BE CIP CONCRETE ON PILING

**RTW-E419 SECTION**  
NOT TO SCALE

RTW-E419 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	164861.63	519199.669	-	863.29	-	865.29	-	878	-	12'-8 1/2"	13.4'
2	30'-6"	1+30.50	2	CJ	164884.409	519219.778	863.29	863.29	865.29	865.29	878.66	878.66	13'-4 1/2"	13'-4 1/2"	14'
3	30'-6"	1+61.00	3	EJ	164912.126	519232.233	863.29	863.29	865.29	865.29	879.26	879.26	13'-11 5/8"	13'-11 5/8"	14.4'
4	30'-6"	1+91.50	4	CJ	164940.167	519244.076	863.29	863.29	865.29	865.29	879.61	879.61	14'-3 7/8"	14'-3 7/8"	14.4'
5	30'-6"	2+22.00	5	CJ	164964.986	519261.7	866.79	866.79	868.79	868.79	879.81	879.81	11'-0 1/4"	11'-0 1/4"	11.1'
6	20'-1 1/2"	2+52.50	6	EJ	164985.409	519284.272	871.29	871.29	873.29	873.29	880.02	880.02	6'-8 3/4"	6'-8 3/4"	6.8'
		2+72.63	7	CJ	164996.003	519301.373	871.29	-	873.29	-	879.41	-	6'-1 1/2"	-	6.2'



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

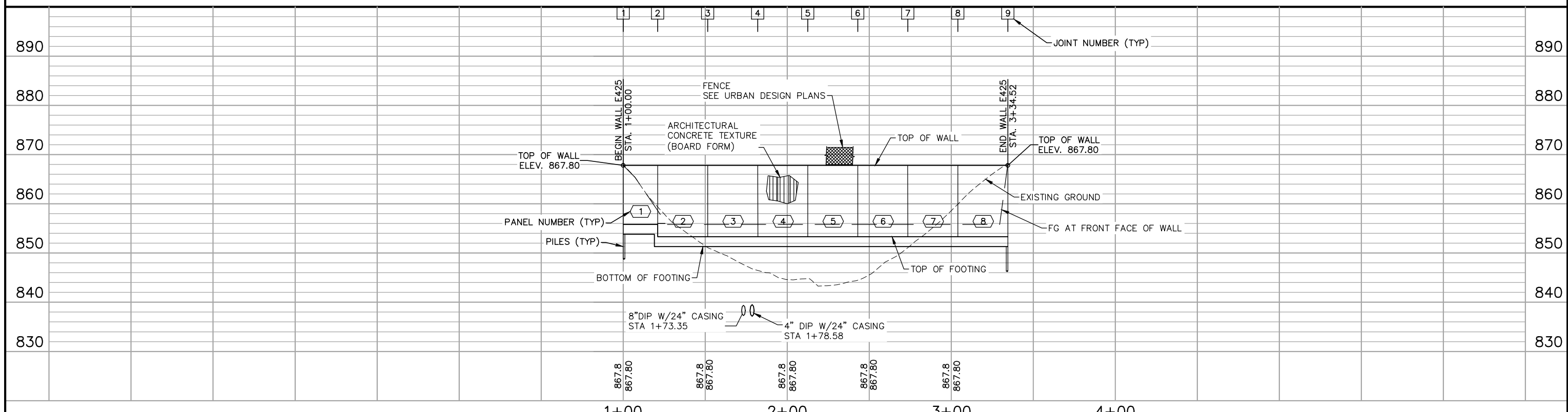
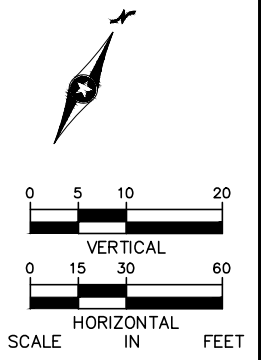
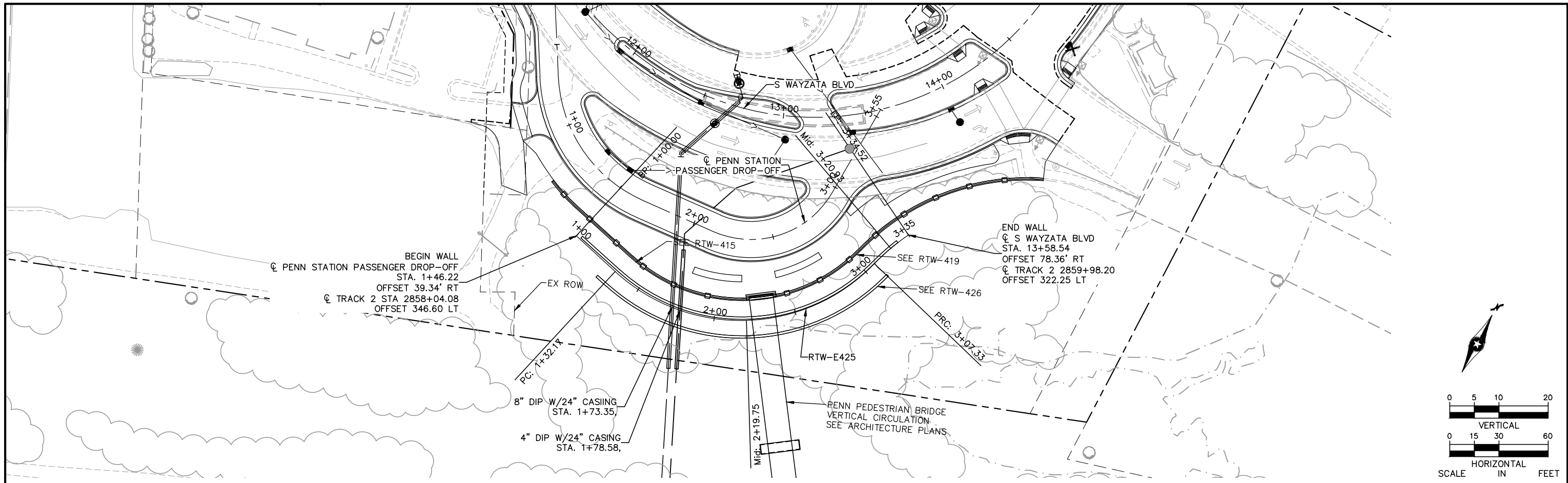


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E419 GEOMETRY**


DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E419-DTL - 001**

**SHEET**  
174  
OF  
271


Jan. 17 2016 09:20 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E425-PL.E.dwg By: V-Patel/PJ




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



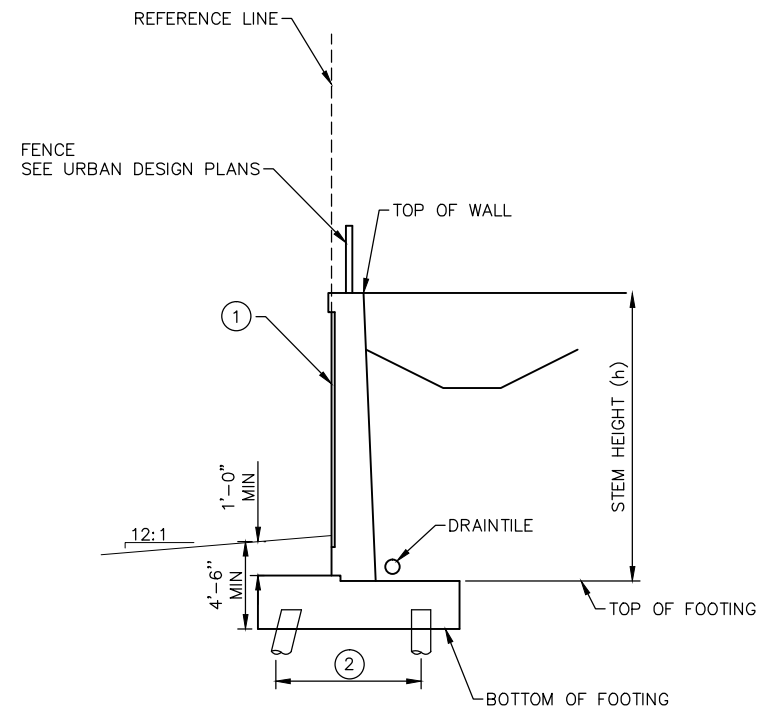


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E425 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

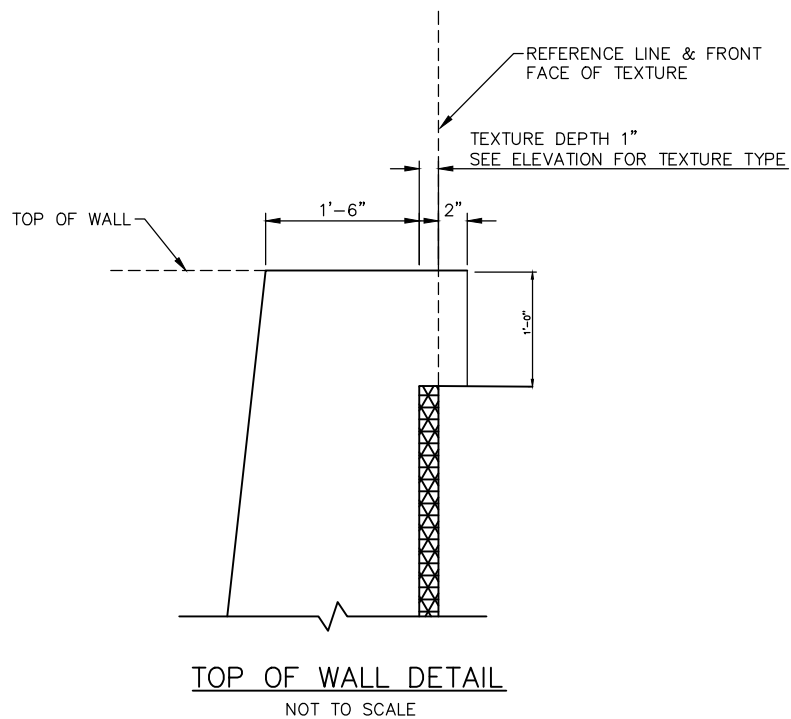
SHEET NAME: **RTW-E425-PL.E**

**SHEET**  
175  
**OF**  
271



- NOTES**
- ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - PILE ROWS AND PILE SPACING VARIES
  - RETAINING WALL TO BE CIP CONCRETE ON PILING

**RTW-E425 SECTION**  
NOT TO SCALE

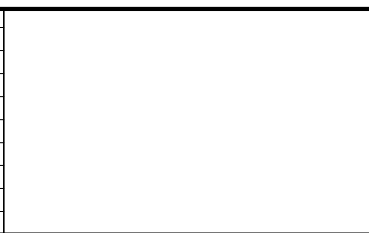


**TOP OF WALL DETAIL**  
NOT TO SCALE

RTW-E425 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	21'-0"	1+00.00	1	CJ	164838.635	519074.232	-	853.8	-	855.8	-	867.8	-	12'-0"	12'
2	30'-6"	1+51.50	2	CJ	164833.169	519094.508	851.3	851.3	855.8	855.8	867.8	867.8	12'-0"	12'-0"	14.5'
3	30'-6"	2+12.50	3	EJ	164826.85	519124.296	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
4	30'-6"	2+73.50	4	CJ	164828.157	519154.675	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
5	30'-6"	3+34.52	5	CJ	164837.524	519183.604	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
6	30'-6"	0+00.00	6	EJ	164854.272	519208.983	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
7	30'-6"	0+00.00	7	CJ	164877.187	519228.972	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
8	30'-6 1/4"	0+00.00	8	CJ	164904.604	519242.12	851.3	851.3	853.3	853.3	867.8	867.8	14'-6"	14'-6"	14.5'
			9	EJ	164932.887	519253.366	851.3	-	853.3	-	867.8	-	14'-6"	-	14.5'

Jan, 17 2016 09:21 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E425-DTL.dwg By: V-PatelPJ

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



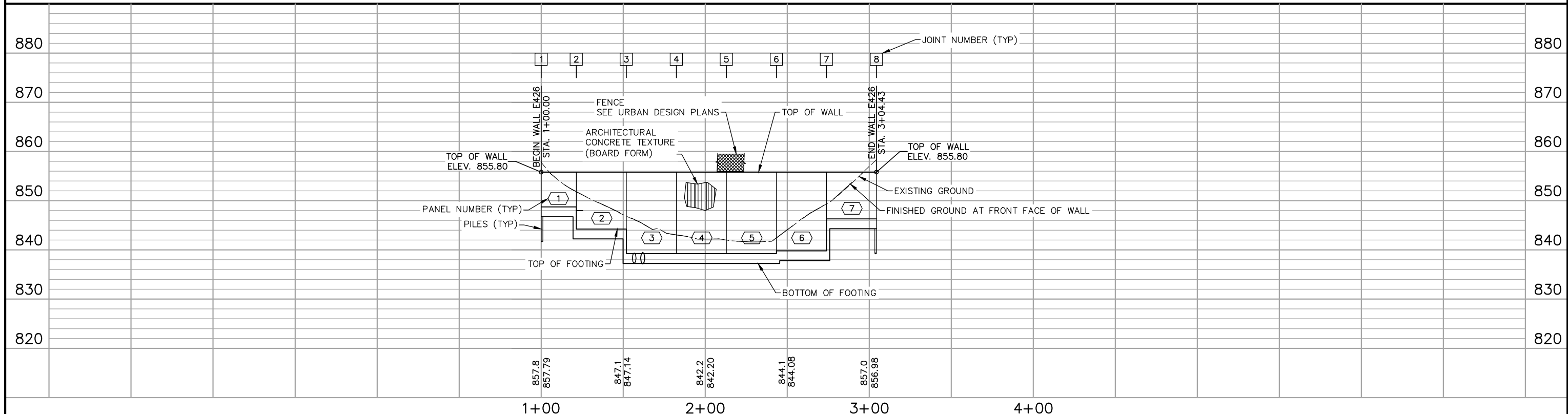
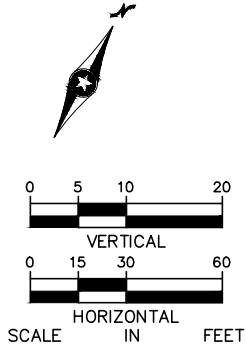
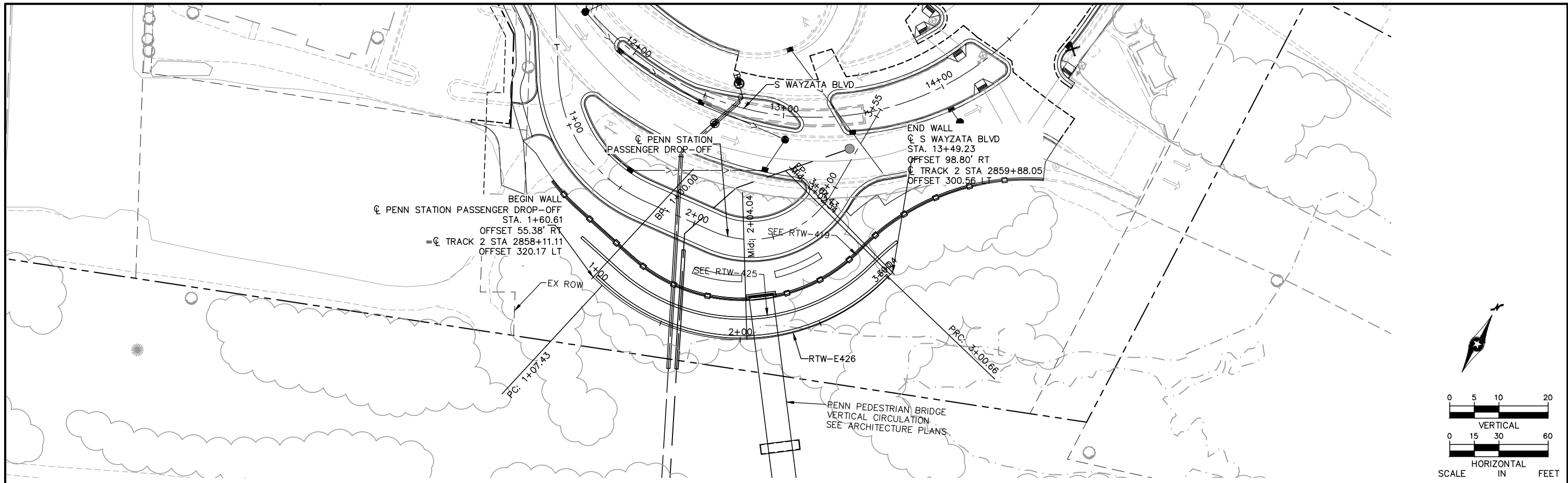
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E425 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E425-DTL - 001**

**SHEET**  
176  
OF  
271



Jan. 17 2016 09:24 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E426-PL.E.dwg By: V-Patel/PJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line Light Extension

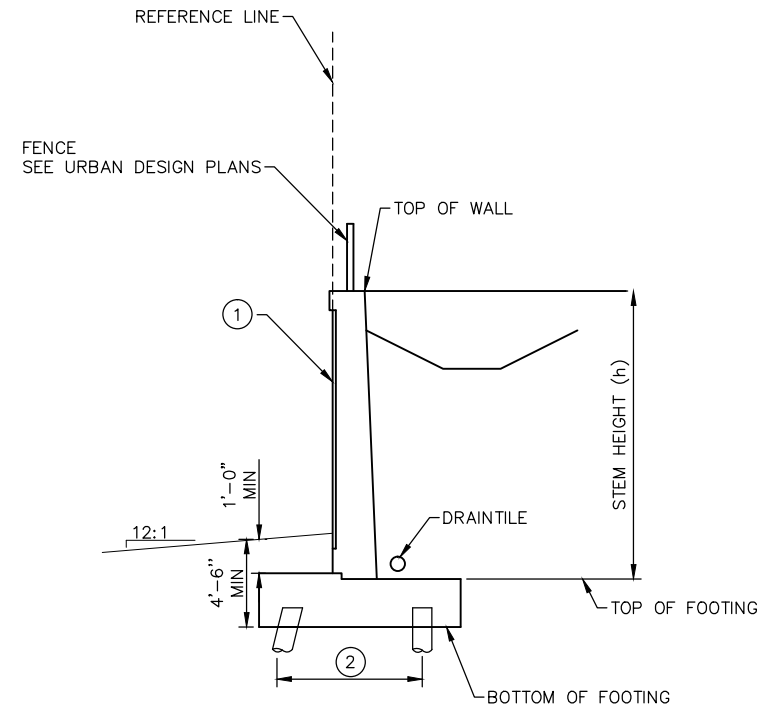
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E426 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E426-PL.E**

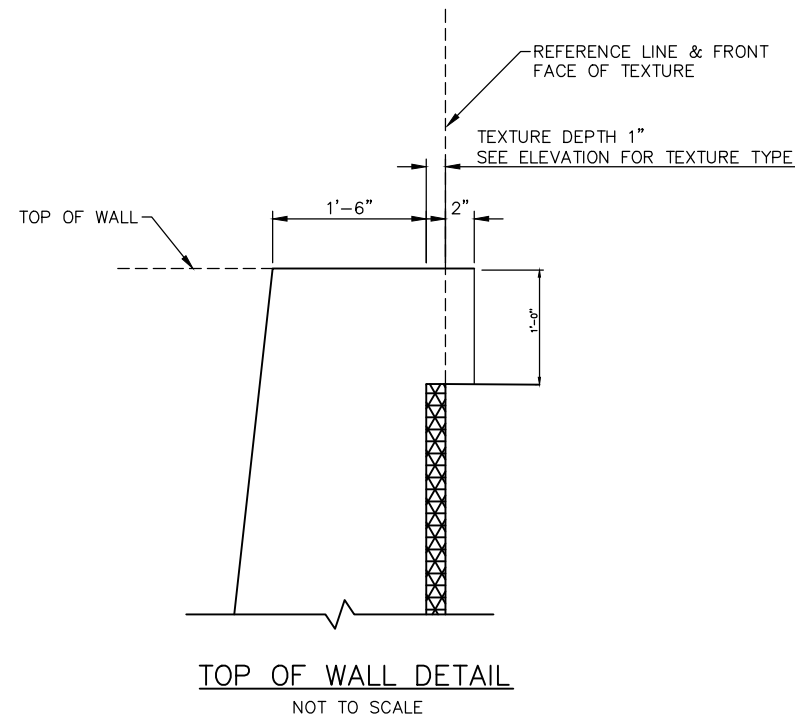
**SHEET**  
177  
**OF**  
271



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON PILES

**RTW-E426 SECTION**  
NOT TO SCALE

RTW-E426 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	21'-4 3/4"	1+00.00	1	CJ	164820.951	519095.093	-	846.74	-	848.74	-	855.8	-	7'-0 3/4"	7.1'
2	30'-6"	1+21.40	2	CJ	164816.145	519115.931	842.24	842.24	848.74	848.74	855.8	855.8	7'-0 3/4"	7'-0 3/4"	11.6'
3	30'-6"	1+51.90	3	EJ	164815.273	519146.342	837.24	837.24	844.24	844.24	855.8	855.8	11'-6 3/4"	11'-6 3/4"	16.6'
4	30'-6"	1+82.40	4	CJ	164821.801	519176.057	837.24	837.24	839.24	839.24	855.8	855.8	16'-6 3/4"	16'-6 3/4"	16.6'
5	30'-6"	2+12.90	5	CJ	164835.339	519203.303	837.24	837.24	839.24	839.24	855.8	855.8	16'-6 3/4"	16'-6 3/4"	16.6'
6	30'-6"	2+43.40	6	EJ	164855.079	519226.454	837.24	837.24	839.24	839.24	855.8	855.8	16'-6 3/4"	16'-6 3/4"	16.6'
7	30'-6 3/8"	2+73.90	7	CJ	164879.843	519244.127	837.8	837.8	839.8	839.8	855.8	855.8	16'-0"	16'-0"	16'
		3+04.43	8	CJ	164908.12	519255.381	844.3	-	846.3	-	855.8	-	9'-6"	-	9.5'



Jan, 17 2016 09:25 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E426-DTL.dwg By: V-Patel/PJ

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

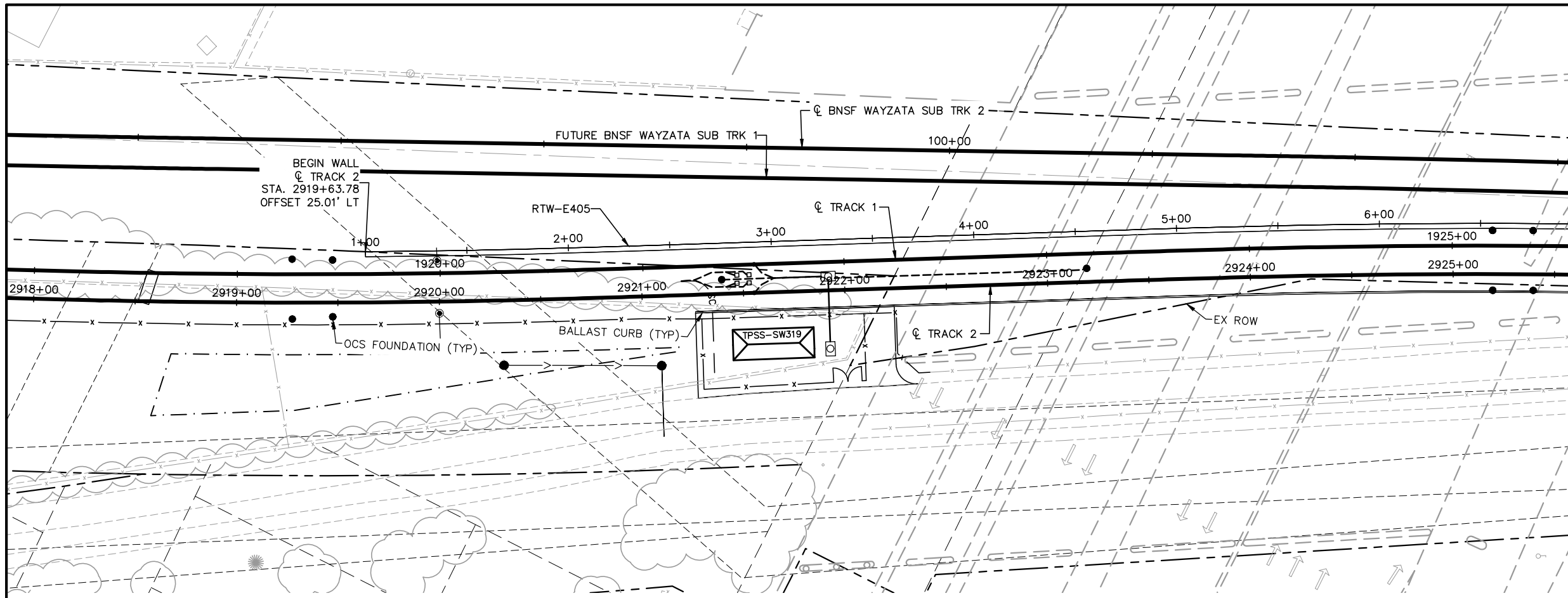


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E426 GEOMETRY**

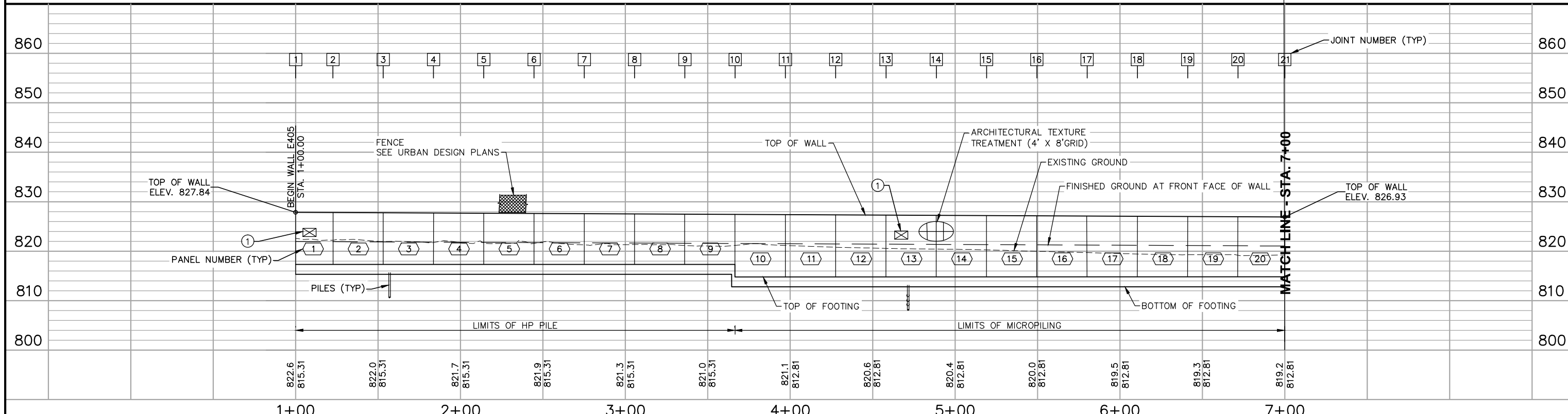
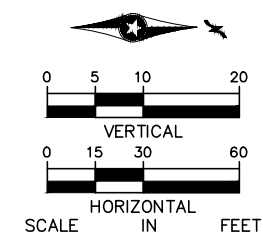
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E426-DTL - 001**

**SHEET  
178  
OF  
271**

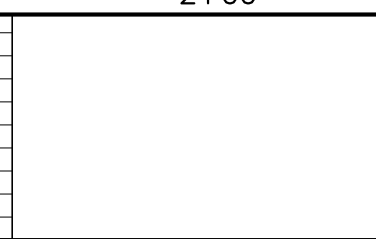
Jan. 18 2016 03:34 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E405-PL-E.dwg By: V-GudisshHD



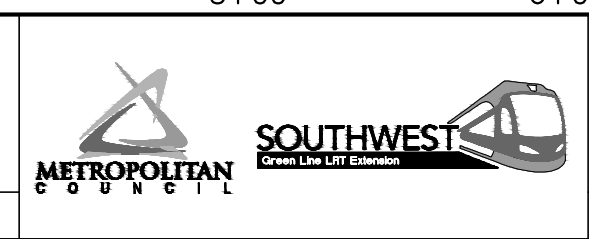
① NOTE:  
STRAY CURRENT TEST STATION.  
SEE DETAIL 2 ON SHEET  
E0-SYS-CORR-DTL-022.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

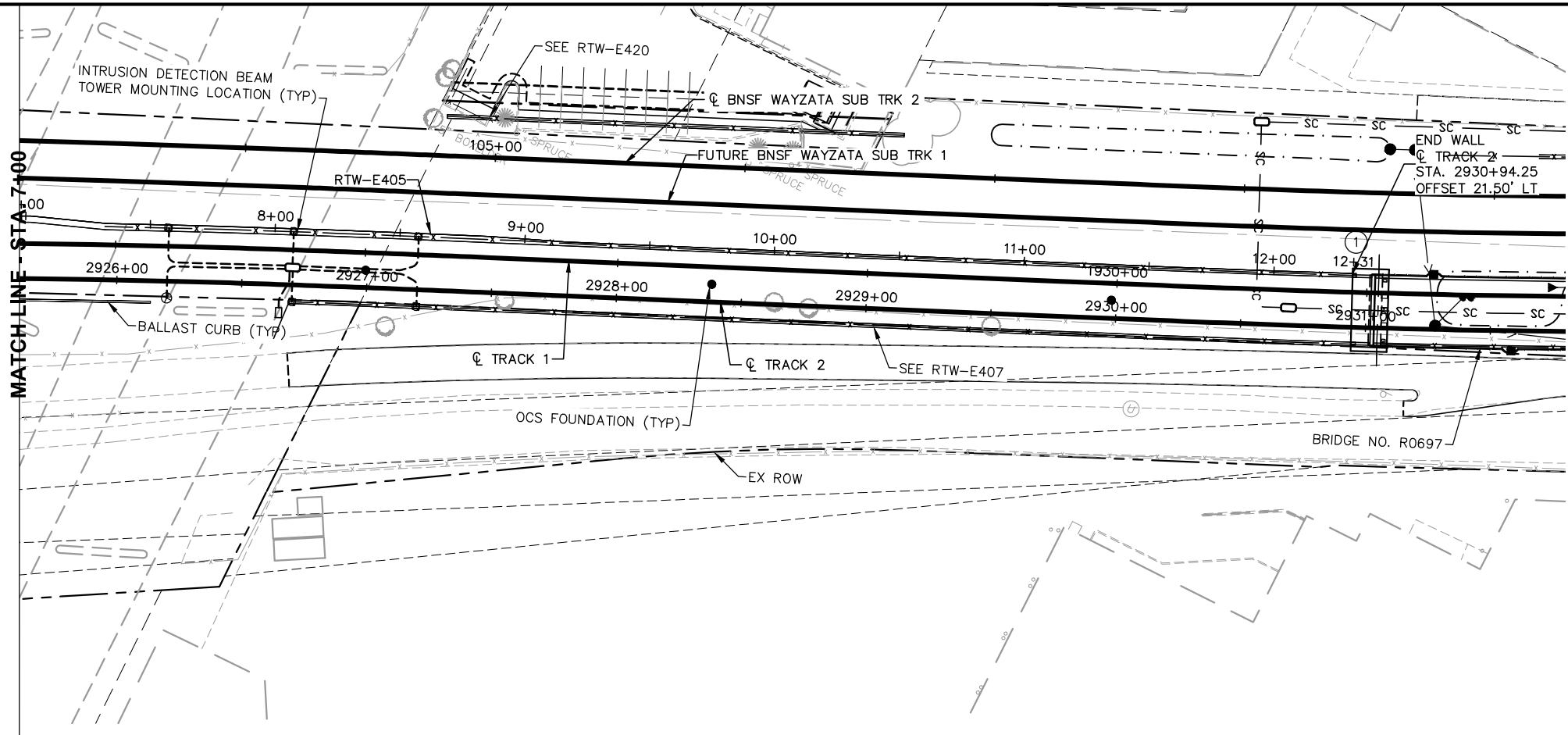


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E405 PLAN AND ELEVATION**  
**STA. 1+00 TO STA. 7+00**

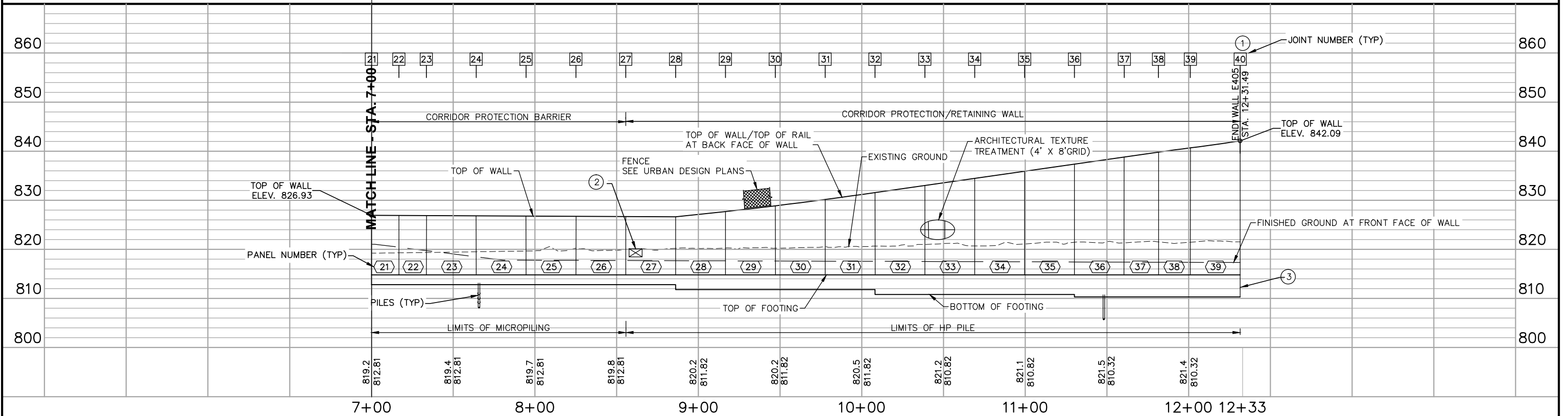
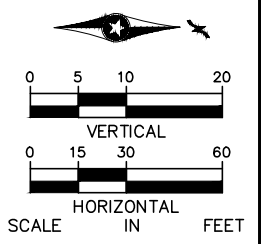
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E405-PL-E-001**

SHEET **179** OF **271**

Jan. 18 2016 03:35 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E405-PL-E.dwg By: V-GudisshHD



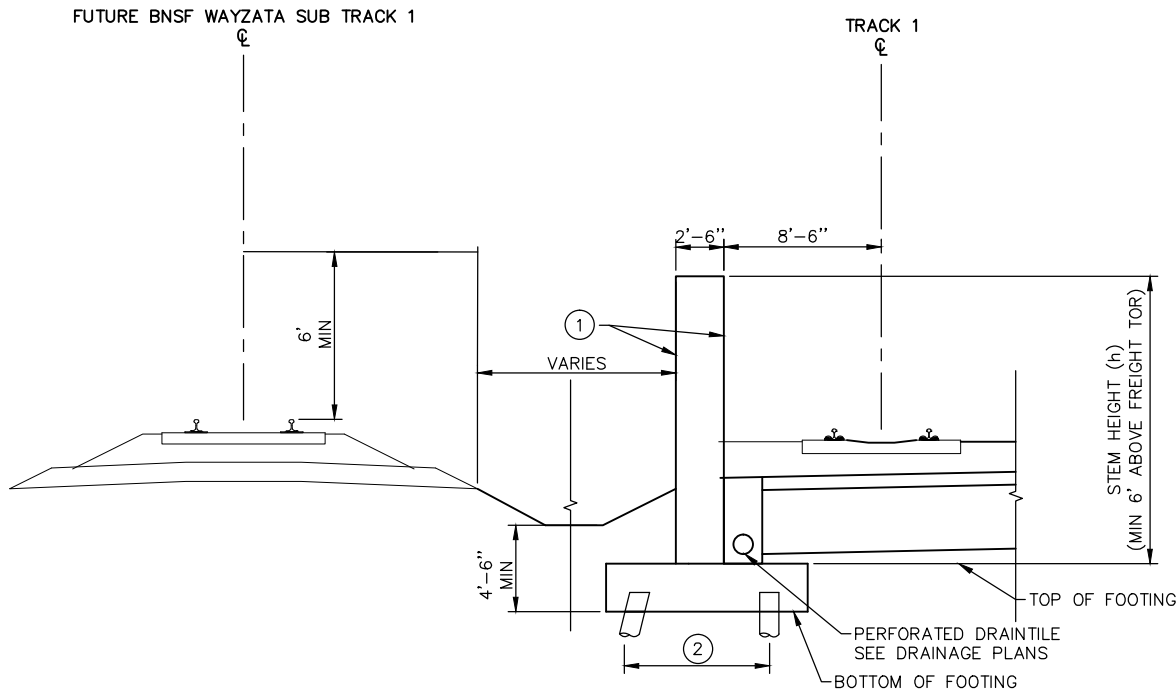
- NOTE:
- JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E405.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

						<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E405 PLAN AND ELEVATION</b> <b>STA. 7+00 TO STA. 12+31</b>		<b>SHEET</b> <b>180</b> <b>OF</b> <b>271</b>
<b>90% SUBMISSION - 01/22/16</b>				DISCIPLINE: <b>STRUCTURES</b>		SHEET NAME: <b>RTW-E405-PL-E-002</b>		

Jan, 18 2016 03:35 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E405-DTL.dwg By: V-GudissHD



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES OR MICROPILING SEE ELEVATION FOR LIMITS.
  - 4. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E405 STEM AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

RTW-E405 SECTION (CORRIDOR PROTECTION BARRIER)  
STA 1+00 TO 8+55.6  
NOT TO SCALE

RTW-E405-1 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	22'-7 1/4"	1+00.00	1	CJ	167844.713	524384.539	-	815.31	-	817.31	-	827.84	-	10'-6 3/8"	10.6'
2	30'-6"	1+22.60	2	CJ	167854.937	524404.689	815.31	815.31	817.31	817.31	827.81	827.81	10'-6"	10'-6"	10.5'
3	30'-6"	1+53.10	3	EJ	167868.917	524431.801	815.31	815.31	817.31	817.31	827.76	827.76	10'-5 3/8"	10'-5 3/8"	10.5'
4	30'-6"	1+83.60	4	CJ	167883.082	524458.812	815.31	815.31	817.31	817.31	827.71	827.71	10'-4 3/4"	10'-4 3/4"	10.5'
5	30'-6"	2+14.10	5	CJ	167897.343	524485.773	815.31	815.31	817.31	817.31	827.67	827.67	10'-4 3/8"	10'-4 3/8"	10.4'
6	30'-6"	2+44.60	6	EJ	167911.7	524512.682	815.31	815.31	817.31	817.31	827.62	827.62	10'-3 3/4"	10'-3 3/4"	10.4'
7	30'-6"	2+75.10	7	CJ	167926.139	524539.548	815.31	815.31	817.31	817.31	827.58	827.58	10'-3 1/4"	10'-3 1/4"	10.3'
8	30'-6"	3+05.60	8	CJ	167940.557	524566.424	815.31	815.31	817.31	817.31	827.53	827.53	10'-2 5/8"	10'-2 5/8"	10.3'
9	30'-6"	3+36.10	9	EJ	167954.976	524593.301	815.31	815.31	817.31	817.31	827.48	827.48	10'-2"	10'-2"	12.7'
10	30'-6"	3+66.60	10	CJ	167969.394	524620.178	812.81	812.81	814.81	814.81	827.44	827.44	12'-7 1/2"	12'-7 1/2"	12.7'
11	30'-6"	3+97.10	11	CJ	167983.813	524647.055	812.81	812.81	814.81	814.81	827.39	827.39	12'-7"	12'-7"	12.6'
12	30'-6"	4+27.60	12	EJ	167998.231	524673.932	812.81	812.81	815.63	815.63	827.34	827.34	11'-8 1/2"	11'-8 1/2"	11.9'
13	30'-6"	4+58.10	13	CJ	168012.664	524700.8	812.81	812.81	815.42	815.42	827.3	827.3	11'-10 1/2"	11'-10 1/2"	12.1'
14	30'-6"	4+88.60	14	CJ	168027.069	524727.684	812.81	812.81	815.22	815.22	827.25	827.25	12'-0 3/8"	12'-0 3/8"	12.2'
15	30'-6"	5+19.10	15	EJ	168041.378	524754.62	812.81	812.81	815.01	815.01	827.2	827.2	12'-2 1/4"	12'-2 1/4"	12.4'
16	30'-6"	5+49.60	16	CJ	168055.59	524781.606	812.81	812.81	814.81	814.81	827.16	827.16	12'-4 1/4"	12'-4 1/4"	12.4'
17	30'-6"	5+80.10	17	CJ	168069.677	524808.658	812.81	812.81	814.81	814.81	827.11	827.11	12'-3 5/8"	12'-3 5/8"	12.4'
18	30'-6"	6+10.60	18	EJ	168083.55	524835.82	812.81	812.81	814.81	814.81	827.07	827.07	12'-3 1/8"	12'-3 1/8"	12.3'
19	30'-6"	6+41.10	19	CJ	168097.231	524863.079	812.81	812.81	814.81	814.81	827.02	827.02	12'-2 1/2"	12'-2 1/2"	12.3'
		6+71.60	20	CJ	168110.717	524890.436	812.81	812.81	814.81	814.81	826.97	826.97	12'-1 7/8"	12'-1 7/8"	12.2'
20	28'-4 3/4"	7+00.00	21	EJ	168123.1	524915.994	812.81	-	814.81	-	826.93	-	12'-1 1/2"	-	12.2'

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

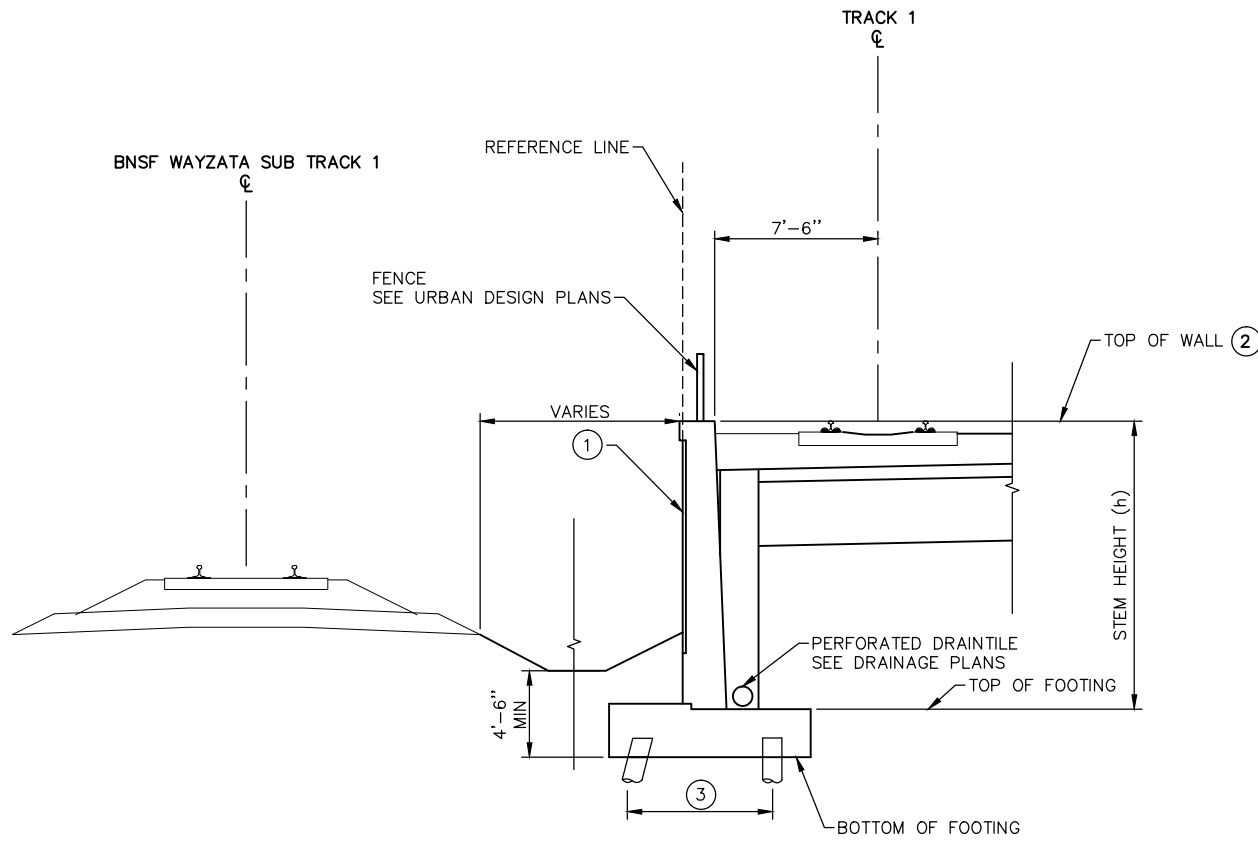


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E405 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E405-DTL - 001-1**

**SHEET  
181  
OF  
271**

Jan, 18 2016 03:35 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E405-DTL.dwg By: V-GudissHD

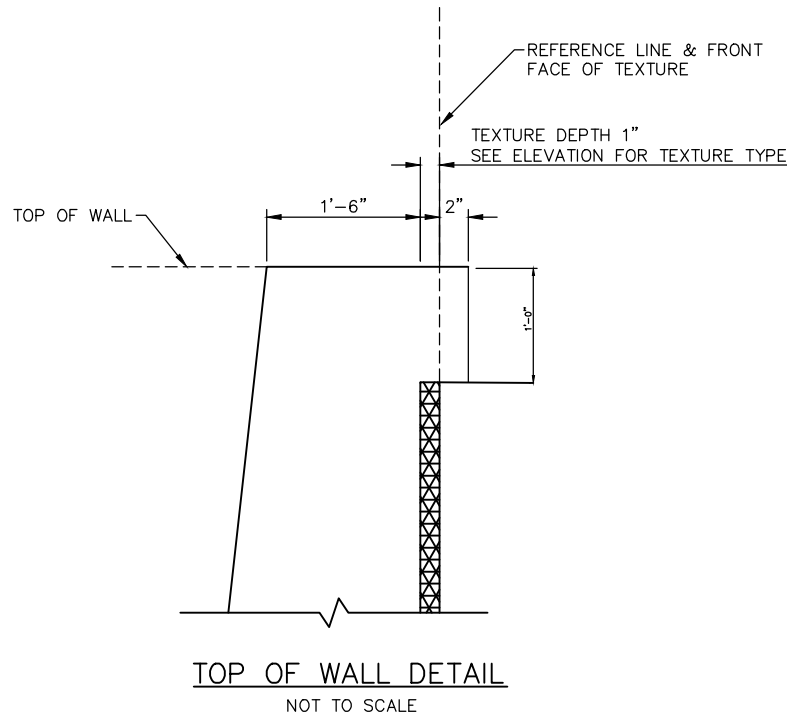


- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>0</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES OR MICROPILING SEE ELEVATION FOR LIMITS.
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E405 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

RTW-E405 SECTION  
STA 8+55.6 TO 12+31

NOT TO SCALE

RTW-E405-2 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
21	16'-9 5/8"	7+00.00	21	EJ	168123.1	524915.994	-	812.81	-	814.81	-	826.93	-	12'-1 1/2"	12.2'
22	16'-9 5/8"	7+16.80	22	CJ	168129.202	524931.635	812.81	812.81	814.81	814.81	826.9	826.9	12'-1 7/8"	12'-1 1/8"	12.1'
23	30'-6"	7+33.60	23	CJ	168135.23	524947.32	812.81	812.81	814.81	814.81	826.88	826.88	12'-0 7/8"	12'-0 7/8"	12.1'
24	30'-6"	7+64.10	24	EJ	168148.123	524974.958	812.81	812.81	814.81	814.81	826.83	826.83	12'-0 1/4"	12'-0 1/4"	12.1'
25	30'-6"	7+94.60	25	CJ	168160.803	525002.697	812.81	812.81	814.82	814.82	826.79	826.79	11'-11 5/8"	11'-11 5/8"	12'
26	30'-6"	8+25.10	26	CJ	168173.379	525030.484	812.81	812.81	814.82	814.82	826.74	826.74	11'-11"	11'-11"	12'
27	30'-6"	8+55.60	27	EJ	168185.854	525058.316	812.81	812.81	814.82	814.82	826.69	826.69	11'-10 1/2"	11'-10 1/2"	11.9'
28	30'-6"	8+86.10	28	CJ	168198.23	525086.192	812.81	812.81	814.82	814.82	826.65	826.65	11'-10"	11'-10"	12.9'
29	30'-6"	9+16.60	29	CJ	168209.701	525114.453	811.82	811.82	814.82	814.82	827.71	827.71	12'-10 5/8"	12'-10 5/8"	14.1'
30	30'-6"	9+47.10	30	EJ	168222.092	525142.323	811.82	811.82	814.82	814.82	828.88	828.88	14'-0 3/4"	14'-0 3/4"	15.4'
31	30'-6"	9+77.60	31	CJ	168234.483	525170.192	811.82	811.82	814.82	814.82	830.17	830.17	15'-4 1/4"	15'-4 1/4"	16.8'
32	30'-6"	10+08.10	32	CJ	168246.874	525198.062	811.82	811.82	814.82	814.82	831.57	831.57	16'-9"	16'-9"	18.2'
33	30'-6"	10+38.60	33	EJ	168259.265	525225.931	810.82	810.82	814.82	814.82	833.01	833.01	18'-2 1/4"	18'-2 1/4"	19.7'
34	30'-6"	10+69.10	34	CJ	168271.656	525253.801	810.82	810.82	814.82	814.82	834.46	834.46	19'-7 5/8"	19'-7 5/8"	21.1'
35	30'-6"	10+99.60	35	CJ	168284.047	525281.67	810.82	810.82	814.82	814.82	835.91	835.91	21'-1 1/8"	21'-1 1/8"	22.6'
36	30'-6"	11+30.10	36	EJ	168296.416	525309.55	810.82	810.82	814.82	814.82	837.36	837.36	22'-6 1/2"	22'-6 1/2"	24'
37	20'-10 3/4"	11+60.60	37	CJ	168308.834	525337.407	810.32	810.32	814.82	814.82	838.8	838.8	23'-11 3/4"	23'-11 3/4"	25'
38	19'-6"	11+81.50	38	CJ	168317.397	525356.476	810.32	810.32	814.82	814.82	839.79	839.79	24'-11 5/8"	24'-11 5/8"	25.9'
		12+01.00	39	EJ	168325.423	525374.249	810.32	810.32	814.82	814.82	840.67	840.67	25'-10 1/4"	25'-10 1/4"	27.3'
39	30'-6"	12+31.50	40	EJ	168338.044	525402.002	810.32	-	814.82	-	842.09	-	27'-3 1/4"	-	27.3'



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

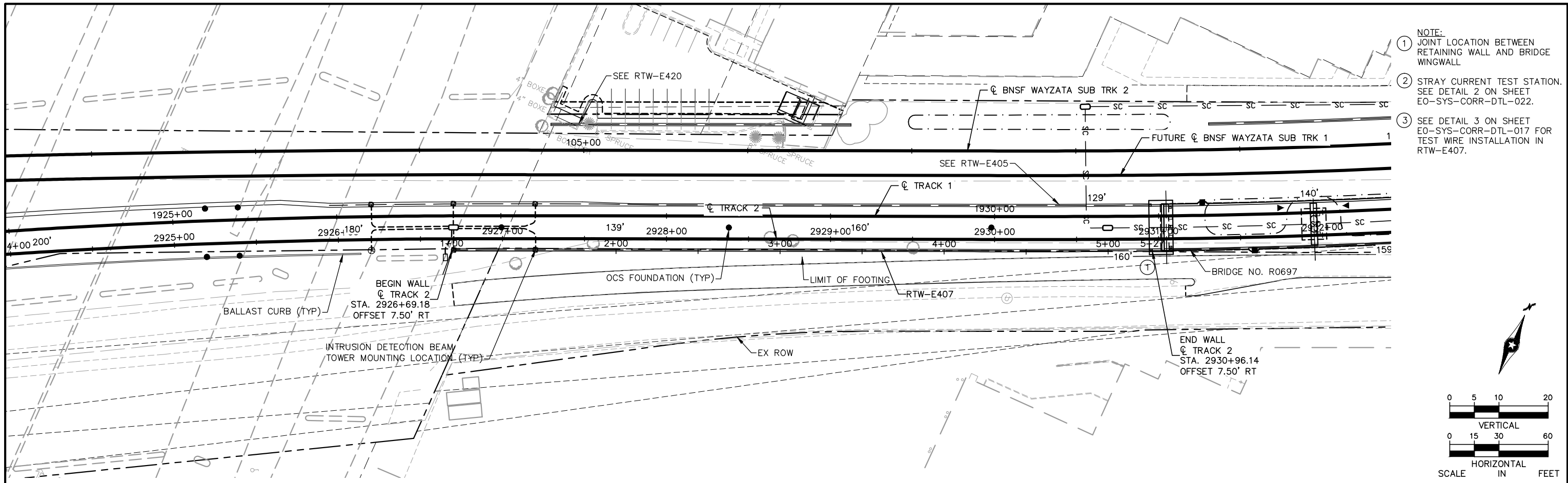


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E405 GEOMETRY

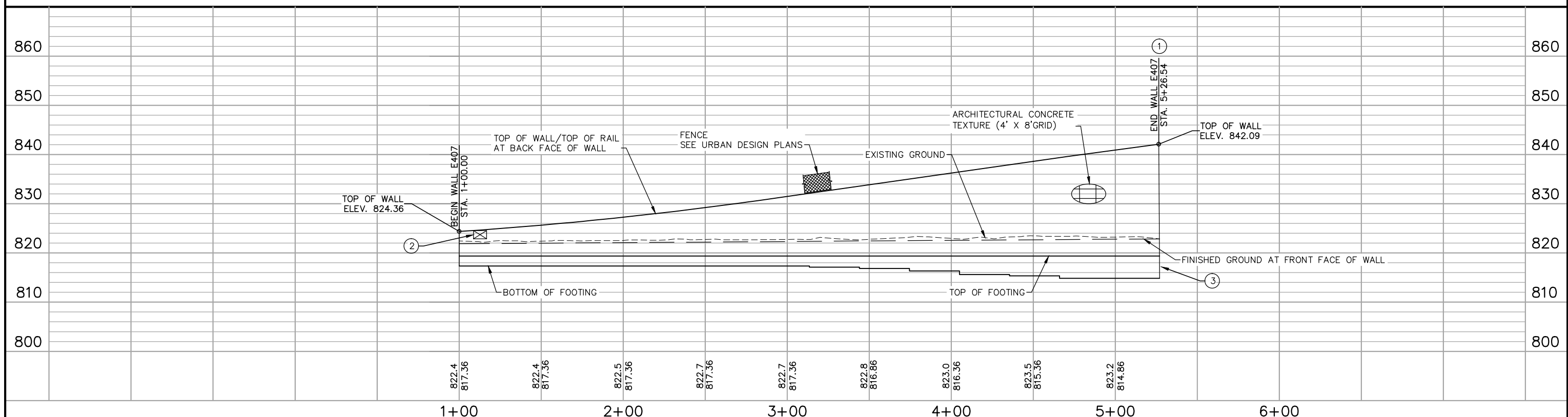
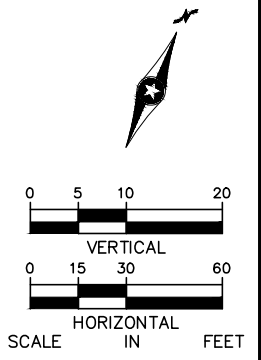
DISCIPLINE: STRUCTURES  
SHEET NAME: RTW-E405-DTL - 001-2

SHEET  
182  
OF  
271

Jan. 17 2016 09:33 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E407-PL-E.dwg By: V-Patel/PJ



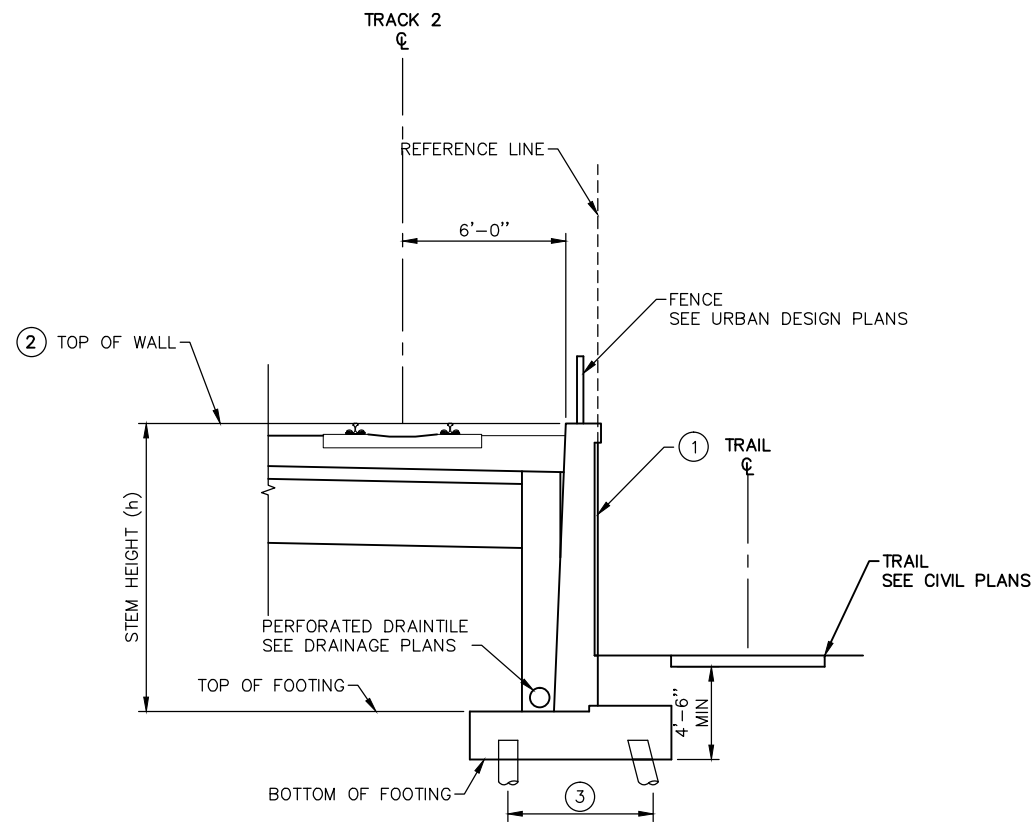
- NOTE:
- JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET EO-SYS-CORR-DTL-022.
  - SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E407.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

			<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-E407 PLAN AND ELEVATION</b>	<b>SHEET</b> 183 OF 271
90% SUBMISSION - 01/22/16			DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E407-PL-E</b>

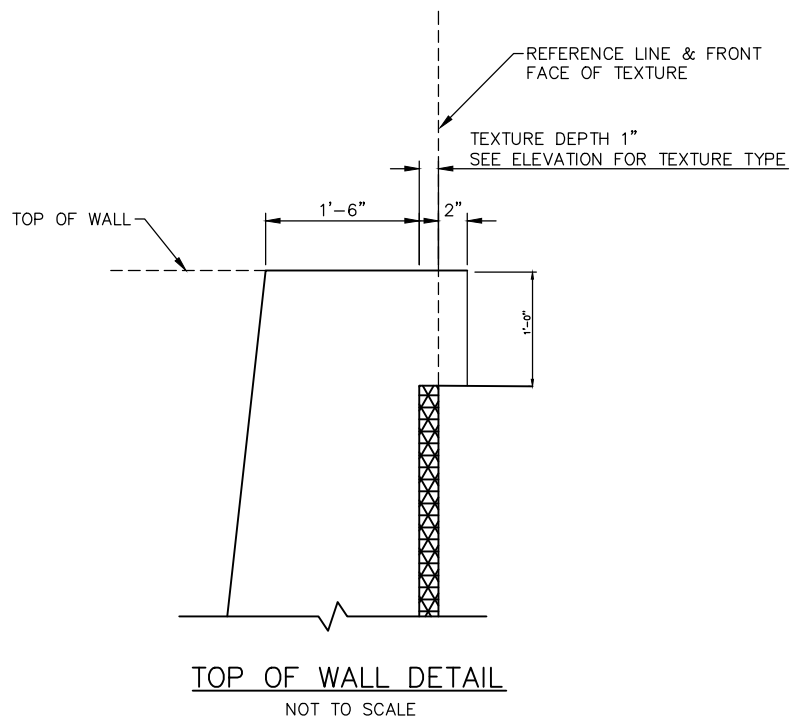
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- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON H-PILES OR MICRO PILING (FIRST 2 PANELS)
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E407 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E407 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16



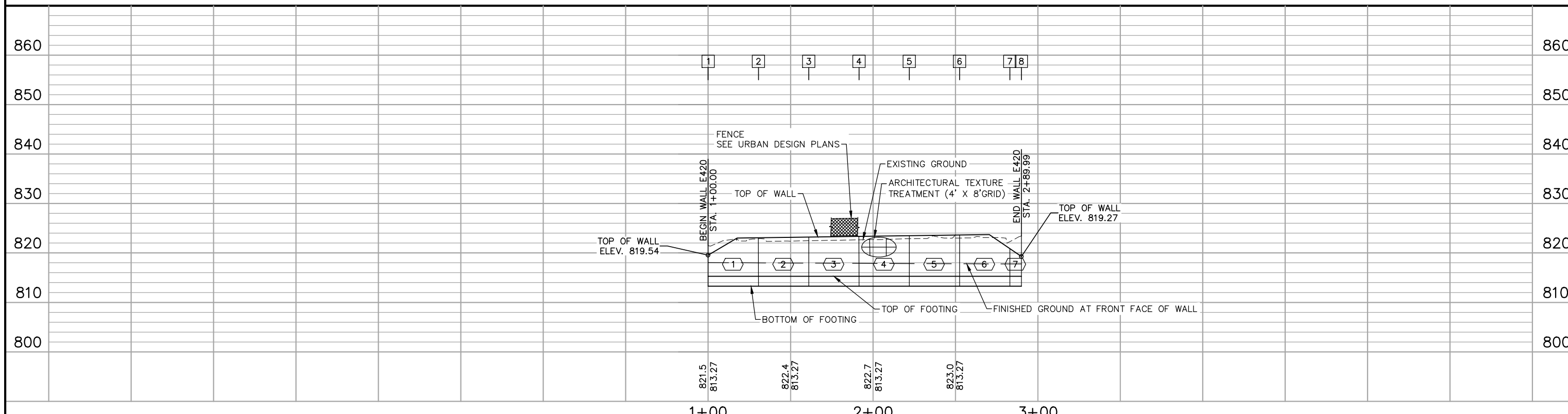
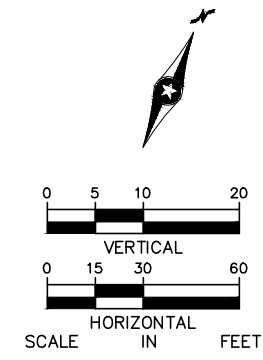
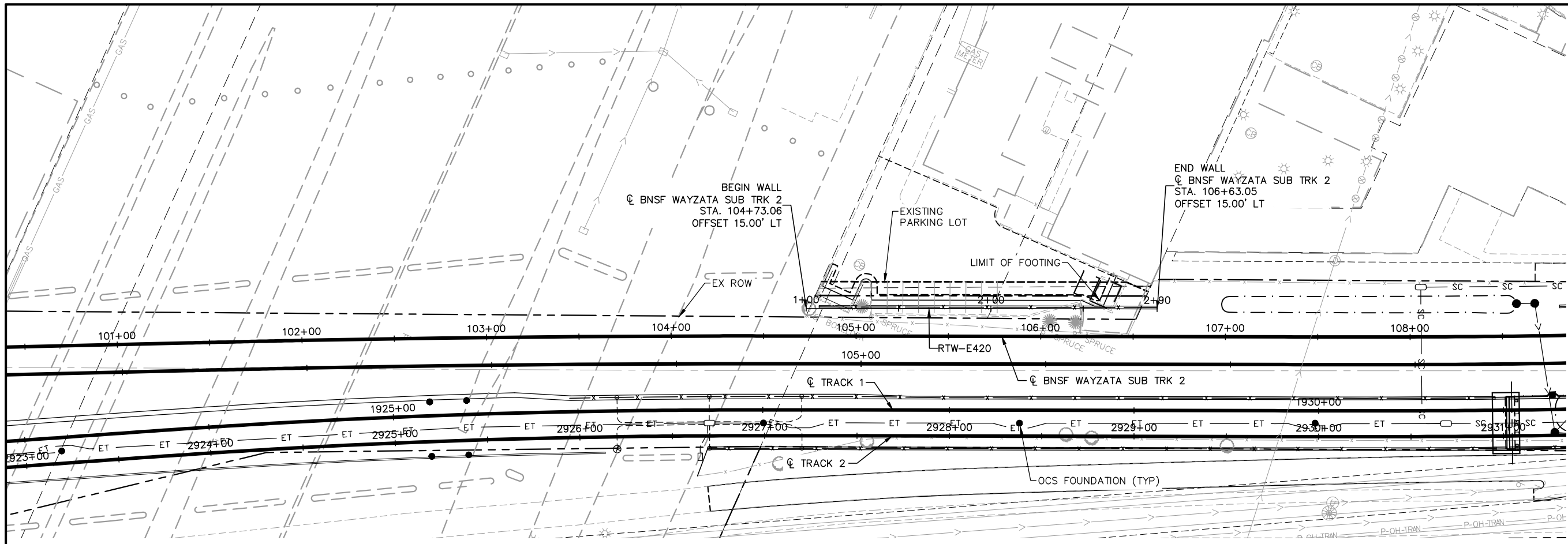
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E407 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E407-DTL - 001**


**SHEET**  
184  
OF  
271




Jan, 18 2016 12:57 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E420-PL-E.dwg By: V-GudisshHD




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



**METROPOLITAN COUNCIL**



**SOUTHWEST Green Line Light Extension**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-E420 PLAN AND ELEVATION**

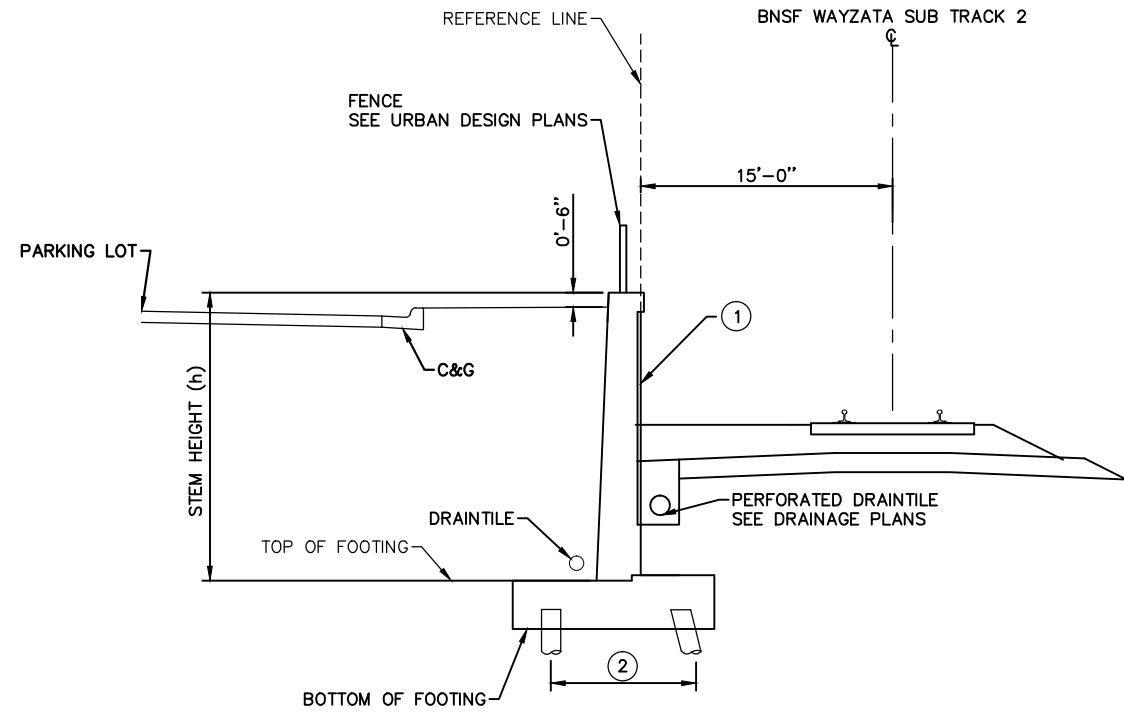
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E420-PL-E**

SHEET **185**

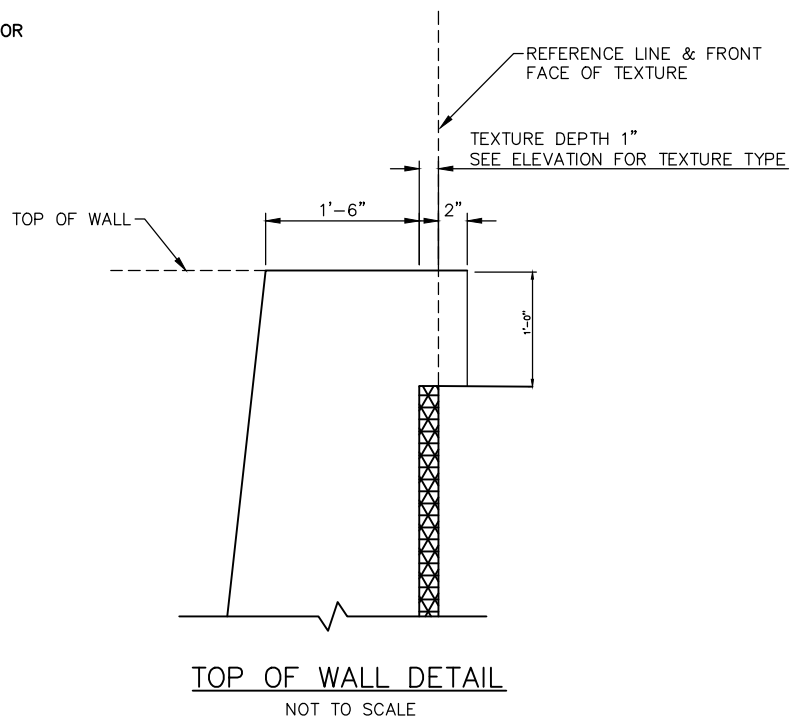
OF **271**

Jan, 18 2016 12:57 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E420-DTL.dwg By: V-GudisshD



- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

RTW-E420 SECTION  
NOT TO SCALE



RTW-E420 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	168230.084	525043.38	-	813.27	-	815.27	-	819.54	-	4'-3 1/4"	8'
2	30'-6"	1+30.50	2	CJ	168242.475	525071.25	813.27	813.27	815.27	815.27	823.07	823.07	7'-9 5/8"	7'-9 5/8"	8'
3	30'-6"	1+61.00	3	EJ	168254.866	525099.119	813.27	813.27	815.27	815.27	823.21	823.21	7'-11 1/4"	7'-11 1/4"	9'
4	30'-6"	1+91.50	4	CJ	168267.258	525126.989	813.27	813.27	815.27	815.27	823.35	823.35	8'-1"	8'-1"	9'
5	30'-6"	2+22.00	5	CJ	168279.649	525154.858	813.27	813.27	815.27	815.27	823.5	823.5	8'-2 3/4"	8'-2 3/4"	9'
6	30'-6"	2+52.50	6	EJ	168292.04	525182.728	813.27	813.27	815.27	815.27	823.64	823.64	8'-4 1/2"	8'-4 1/2"	6'
7	30'-6"	2+83.00	7	CJ	168304.431	525210.597	813.27	813.27	815.27	815.27	820.87	820.87	5'-7 1/4"	5'-7 1/4"	4'
		2+90.00	8	CJ	168307.271	525216.984	813.27	-	815.27	-	819.27	-	4'-0"	-	

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

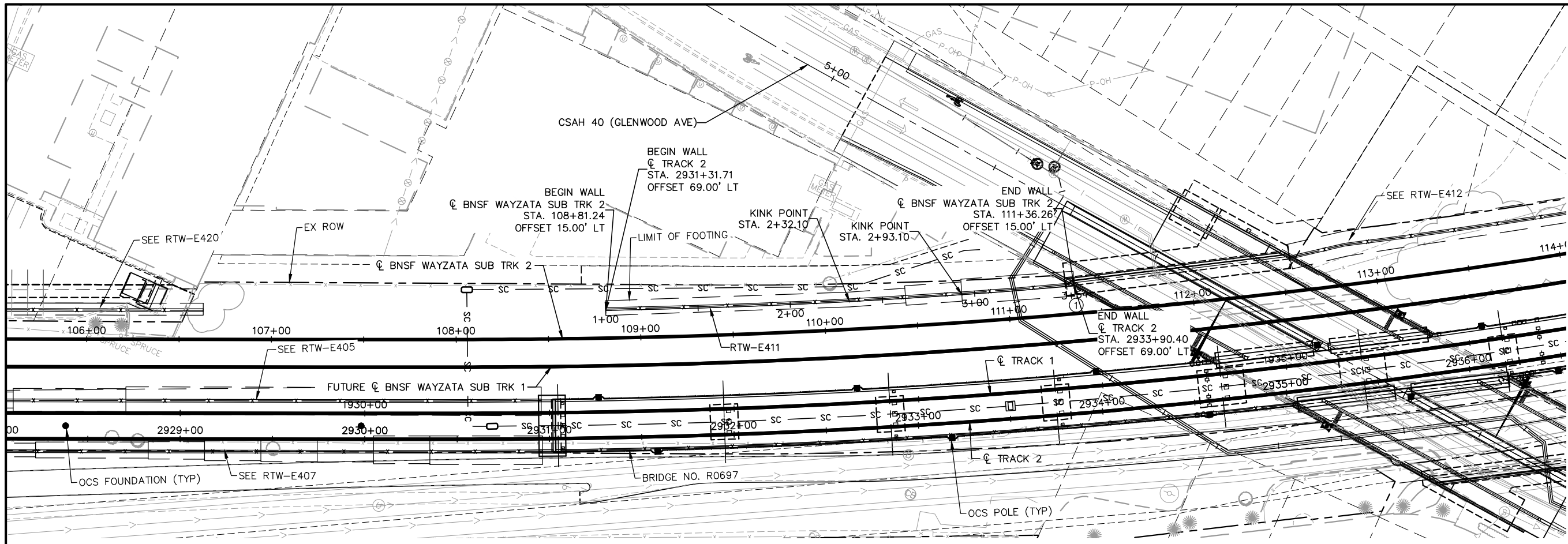


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E420 GEOMETRY

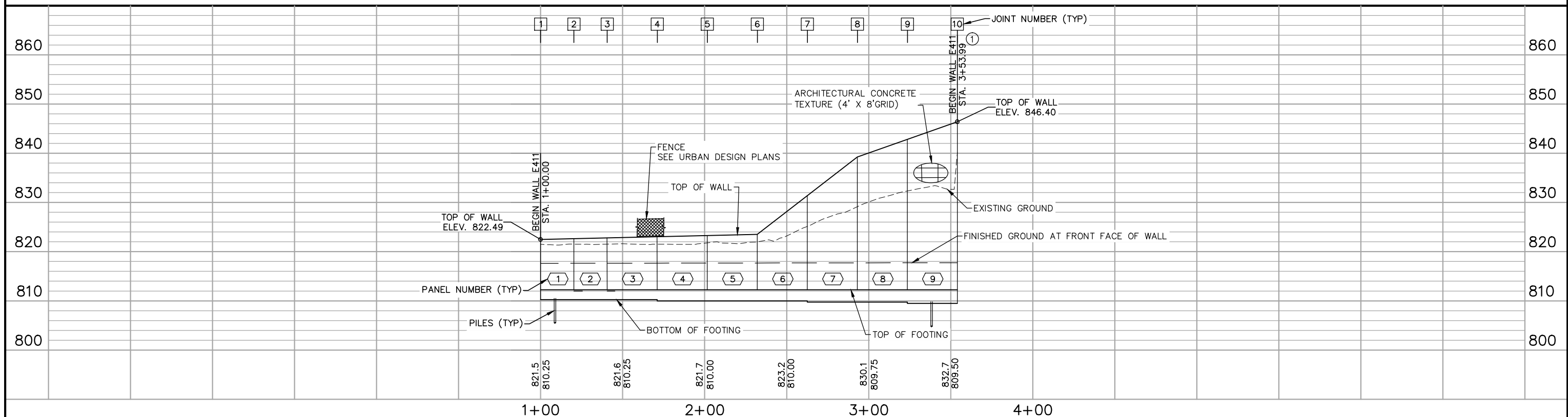
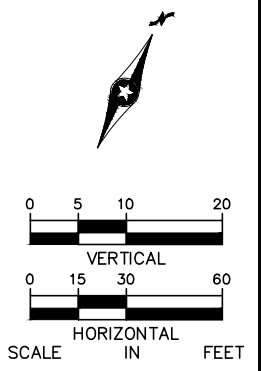
DISCIPLINE: STRUCTURES SHEET NAME: RTW-E420-DTL - 001

SHEET  
186  
OF  
271

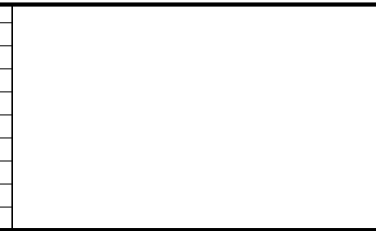
Jan. 18 2016 02:50 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E411-PLA.dwg By: V-GudisshD



① NOTE: JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

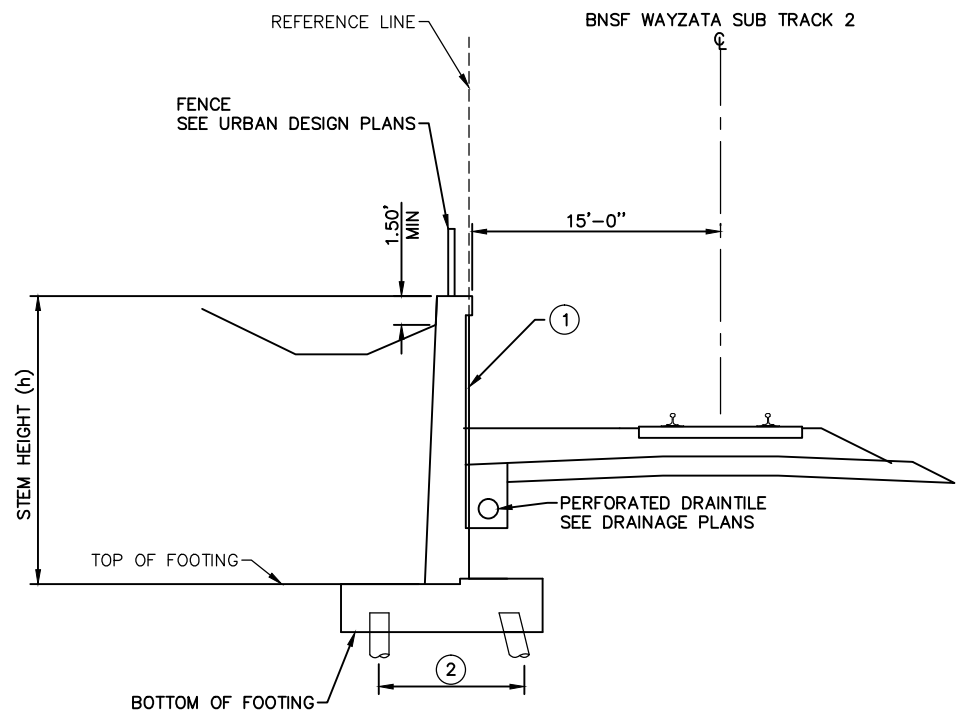


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E411 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E411-PLA**

SHEET **187**  
OF  
**271**

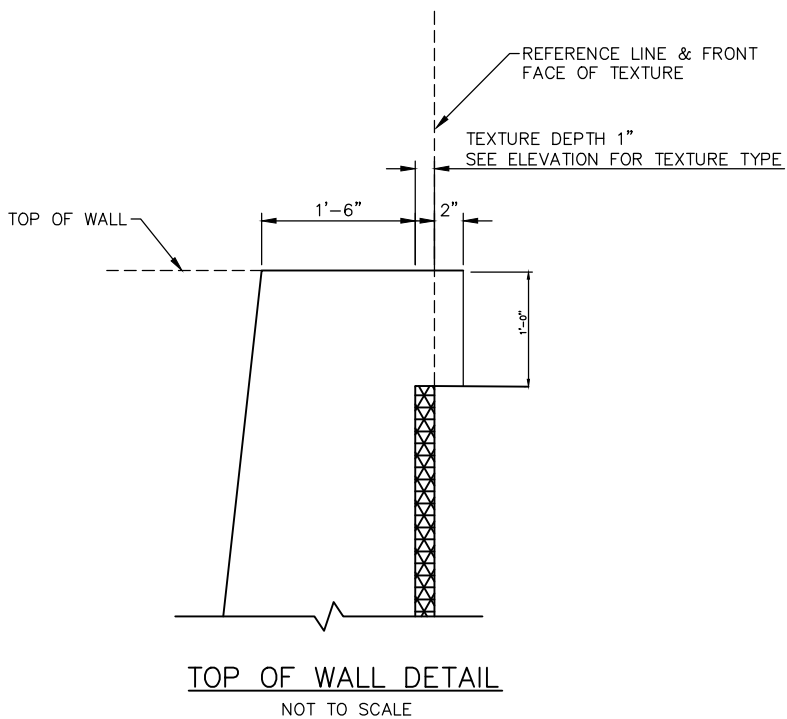
Jan, 18 2016 02:51 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E411-DTL.dwg By: V-GudssHD



RTW-E415 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	22'-10"	1+00.00	1	CJ	164860.375	519045.467	-	865.8	-	867.8	-	876.61	-	8'-9 3/4"	9.1'
2	30'-6"	1+22.83	2	CJ	164852.668	519066.916	863.3	863.3	867.8	867.8	876.83	876.83	9'-0 3/8"	9'-0 3/8"	11.9'
3	30'-6"	1+53.33	3	EJ	164844.73	519096.367	863.3	863.3	865.3	865.3	877.12	877.12	11'-9 7/8"	11'-9 7/8"	12.2'
4	30'-6"	1+83.83	4	CJ	164838.378	519126.14	863.3	863.3	865.3	865.3	877.42	877.42	12'-1 1/2"	12'-1 1/2"	12.5'
5	30'-6"	2+14.33	5	CJ	164840.389	519156.464	863.3	863.3	865.3	865.3	877.71	877.71	12'-4 7/8"	12'-4 7/8"	12.7'
		2+44.83	6	EJ	164851.307	519184.822	863.3	-	865.3	-	878	-	12'-8 3/8"	-	12.7'

- NOTE:
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

RTW-E411 SECTION  
NOT TO SCALE



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

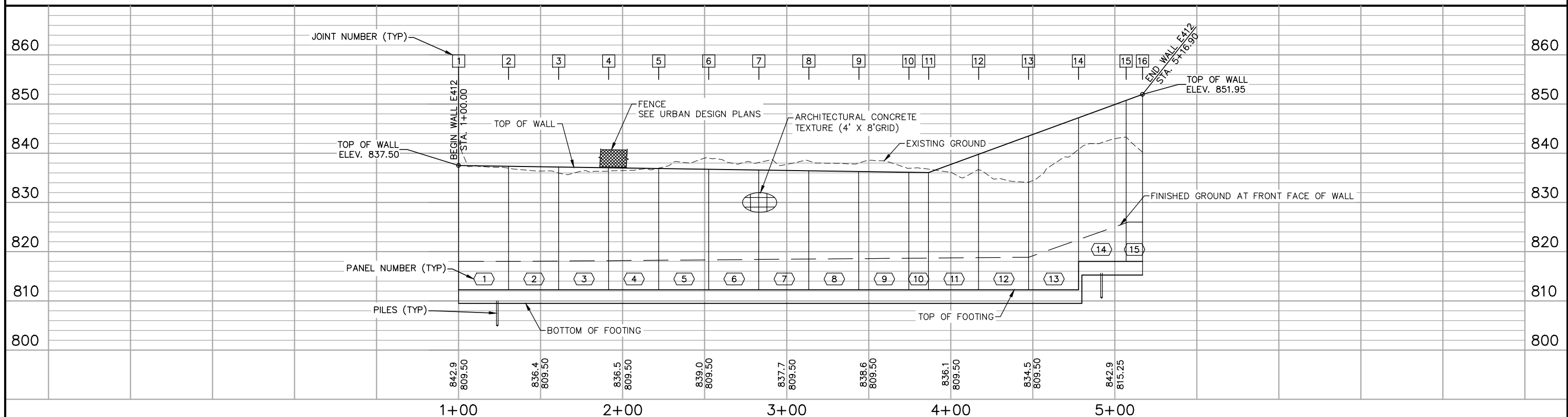
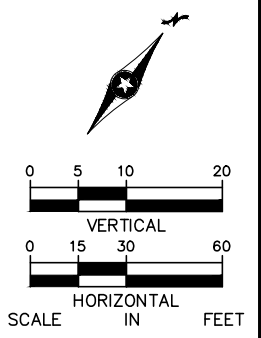
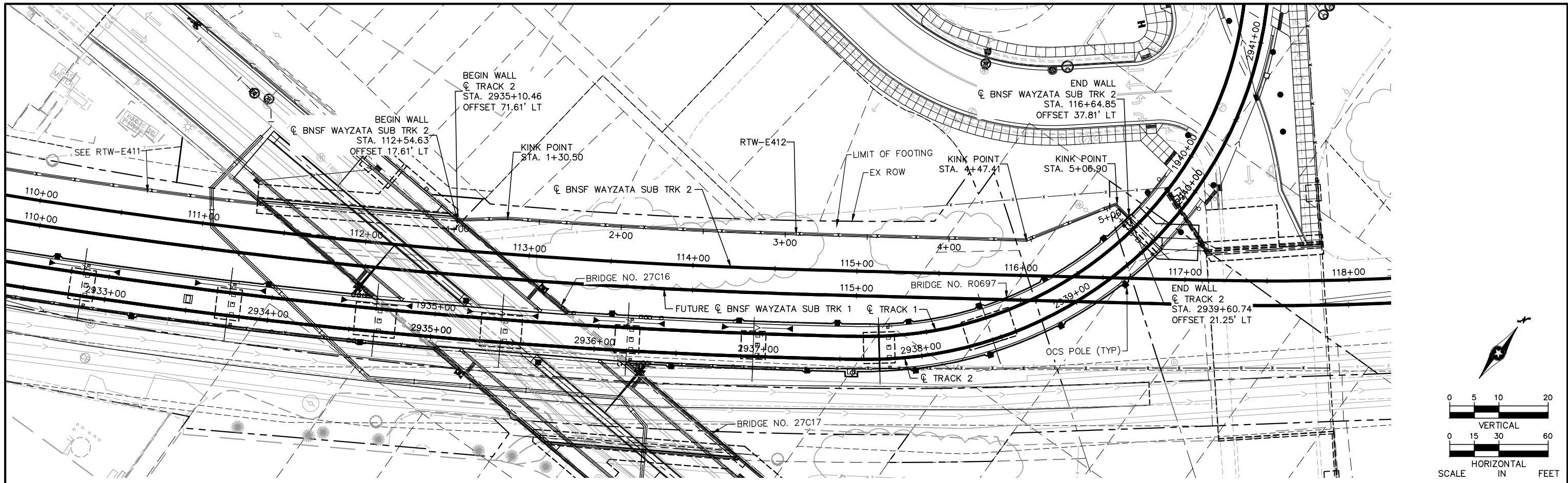


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E411 GEOMETRY

DISCIPLINE: STRUCTURES SHEET NAME: RTW-E411-DTL - 001

SHEET  
188  
OF  
271

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NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

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**AECOM**

90% SUBMISSION - 01/22/16

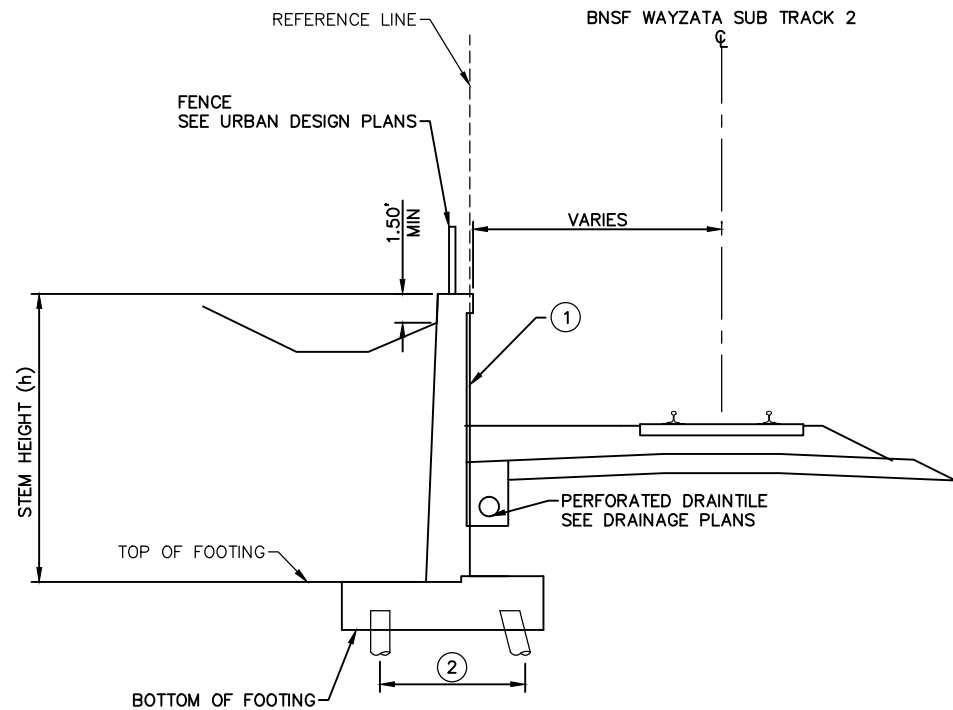



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E412 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E412-PLE**

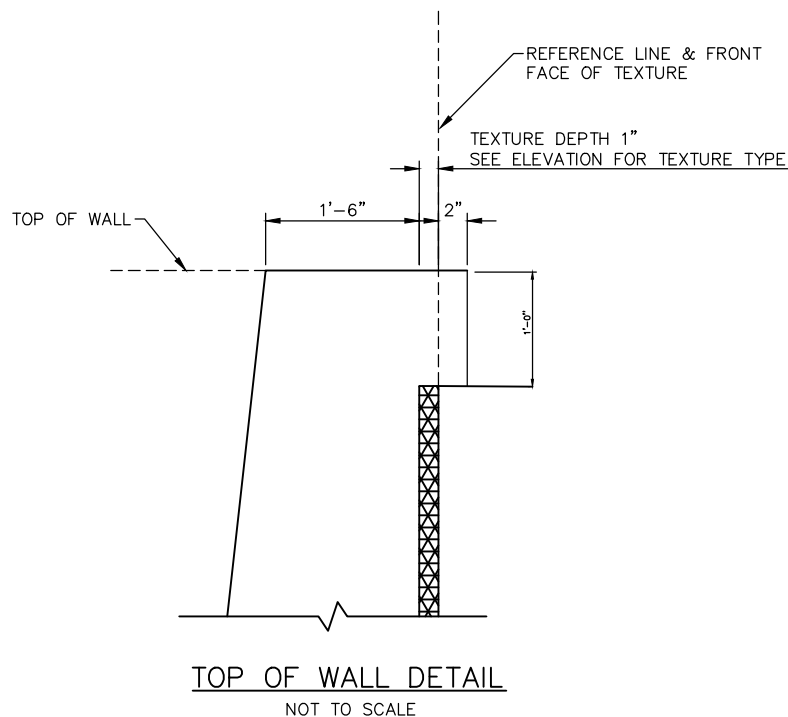
**SHEET**  
 189  
 OF  
 271

Jan, 18 2016 02:52 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E412-DTL.dwg By: V-GudissHD



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  3. RETAINING WALL TO BE CIP CONCRETE ON H-PILES

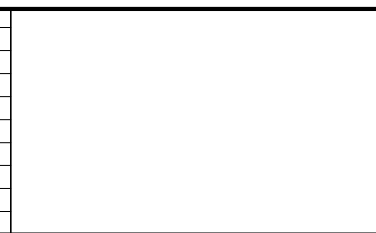
**RTW-E412 SECTION**  
NOT TO SCALE



RTW-E412 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	168573.271	525742.67	-	809.5	-	812.25	-	837.5	-	25'-3"	25.3'
2	30'-6"	1+30.50	2	CJ	168591.778	525766.913	809.5	809.5	812.25	812.25	837.35	837.35	25'-1 1/4"	25'-1 1/4"	25.1'
3	30'-6"	1+61.00	3	EJ	168607.73	525792.909	809.5	809.5	812.25	812.25	837.2	837.2	24'-11 3/8"	24'-11 3/8"	25'
4	30'-6"	1+91.50	4	CJ	168623.891	525818.775	809.5	809.5	812.25	812.25	837.04	837.04	24'-9 1/2"	24'-9 1/2"	24.8'
5	30'-6"	2+22.00	5	CJ	168640.259	525844.511	809.5	809.5	812.25	812.25	836.89	836.89	24'-7 5/8"	24'-7 5/8"	24.7'
6	30'-6"	2+52.50	6	EJ	168656.833	525870.115	809.5	809.5	812.25	812.25	836.74	836.74	24'-5 7/8"	24'-5 7/8"	24.5'
7	30'-6"	2+83.00	7	CJ	168673.63	525895.573	809.5	809.5	812.25	812.25	836.59	836.59	24'-4 1/8"	24'-4 1/8"	24.4'
8	30'-6"	3+13.50	8	CJ	168690.574	525920.933	809.5	809.5	812.25	812.25	836.43	836.43	24'-2 1/8"	24'-2 1/8"	24.2'
9	30'-6"	3+44.00	9	EJ	168707.622	525946.224	809.5	809.5	812.25	812.25	836.28	836.28	24'-0 3/8"	24'-0 3/8"	24.1'
10	12'-0"	3+74.50	10	CJ	168724.757	525971.455	809.5	809.5	812.25	812.25	836.13	836.13	23'-10 1/2"	23'-10 1/2"	23.9'
11	30'-6"	3+86.50	11	CJ	168731.496	525981.388	809.5	809.5	812.25	812.25	836.08	836.08	23'-10"	23'-10"	27.6'
12	30'-4 7/8"	4+17.00	12	EJ	168748.619	526006.628	809.5	809.5	812.25	812.25	839.79	839.79	27'-6 1/2"	27'-6 1/2"	31.3'
13	30'-6"	4+47.41	13	CJ	168765.69	526031.791	809.5	809.5	812.25	812.25	843.49	843.49	31'-2 7/8"	31'-2 7/8"	35'
14	28'-11 7/8"	4+77.91	14	CJ	168791.458	526048.107	809.5	809.5	812.25	812.25	847.2	847.2	34'-11 3/8"	34'-11 3/8"	35'
15	10'-0"	5+06.90	15	EJ	168815.955	526063.619	815.25	815.25	818	818	850.73	850.73	32'-8 3/4"	32'-8 3/4"	34'
		5+16.90	16	CJ	168814.326	526073.486	815.25	-	818	-	851.95	-	33'-11 3/8"	-	34'

GEOMETRIC CHANGE TABLE			
PANEL NO.	KINK POINT STATION	COORDINATES	
		NORTHING	EASTING
1	1+30.50	168591.778	525766.913
12	4+47.41	168765.69	526031.791
14	5+06.90	168815.955	526063.619

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90% SUBMISSION - 01/22/16

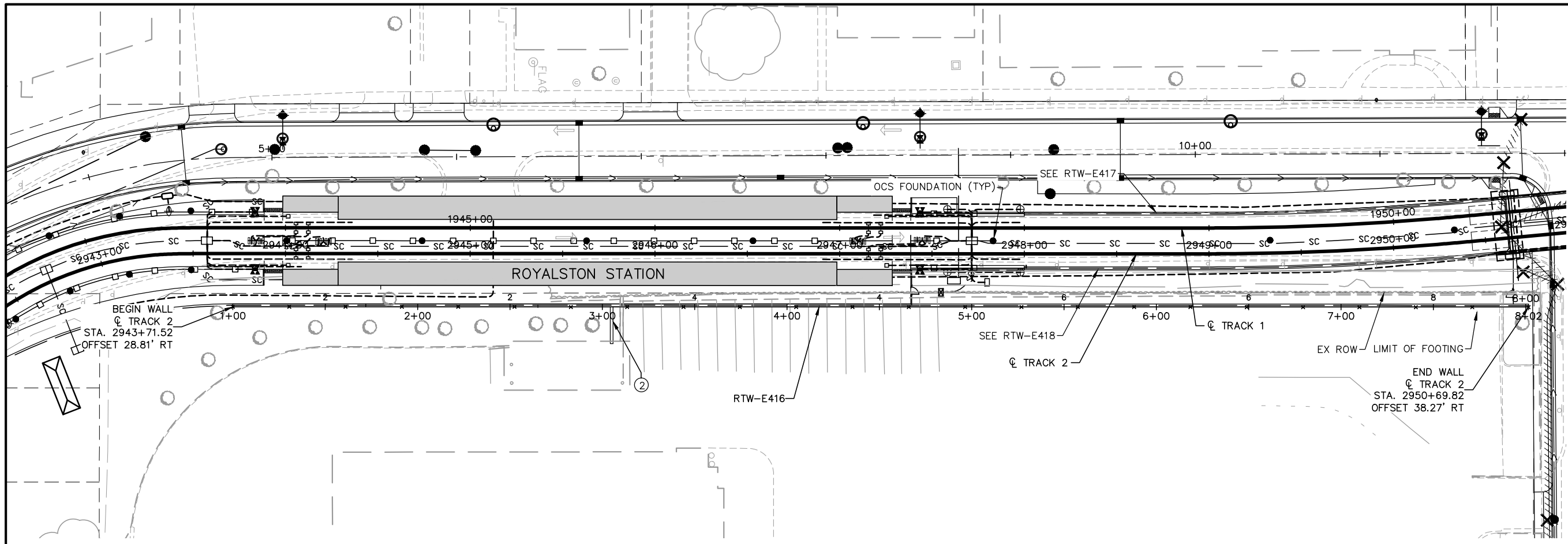


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E412 GEOMETRY**

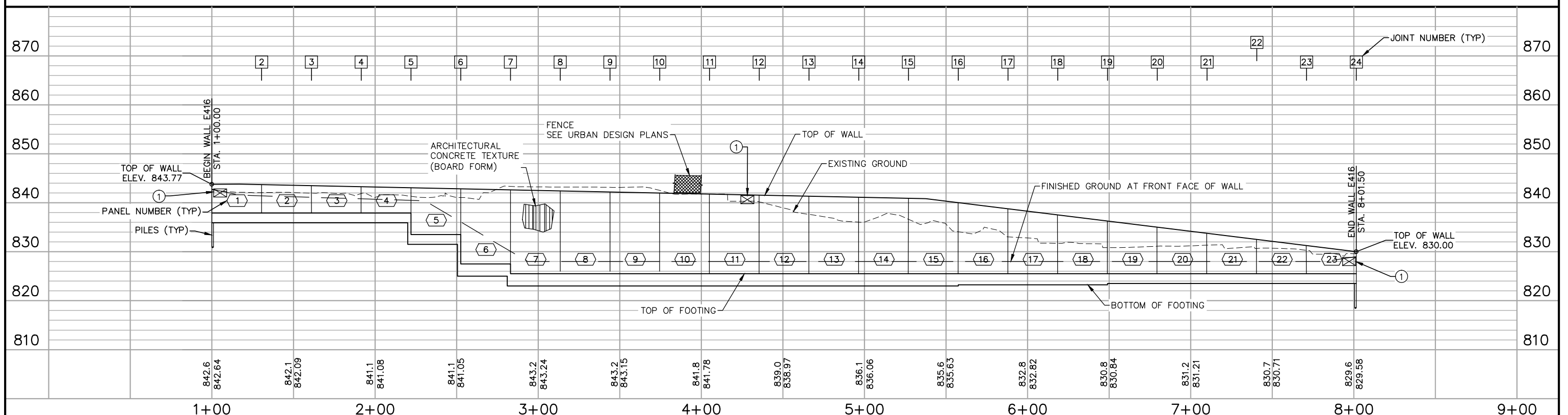
DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E412-DTL - 001**

**SHEET**  
**190**  
**OF**  
**271**

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- NOTE:
- ① STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ② WELDED REBAR/PILES IN FOOTING FOR RTW-E416 SHALL BE ELECTRICALLY CONTINUOUS WITH WELDED REBAR/PILES IN FOOTING FOR RTW-E423.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

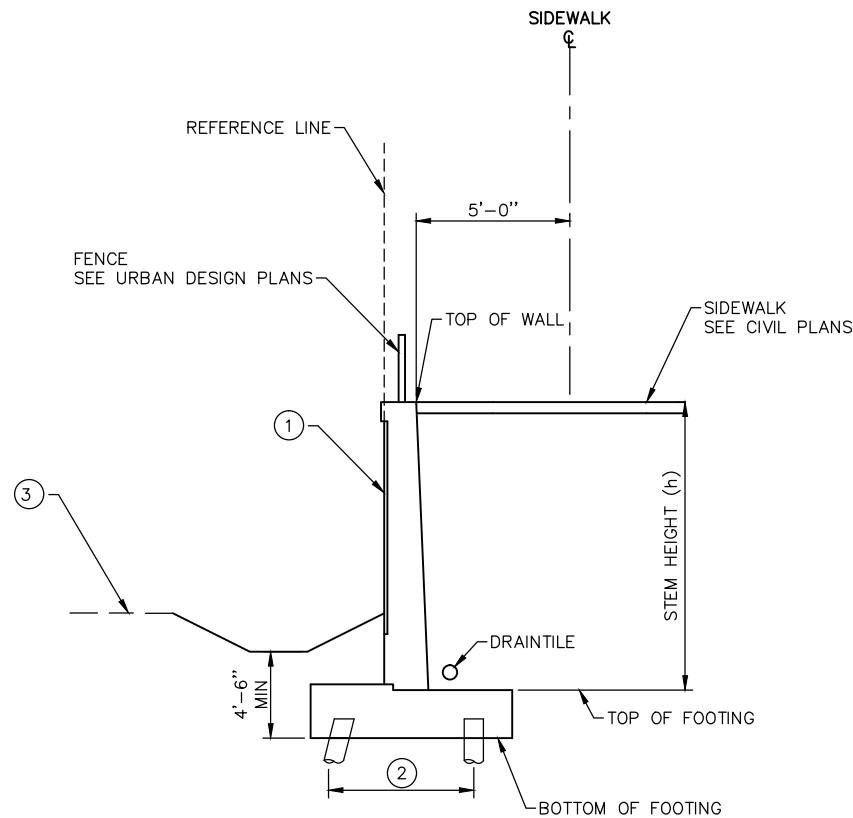


**90% SUBMISSION - 01/22/16**



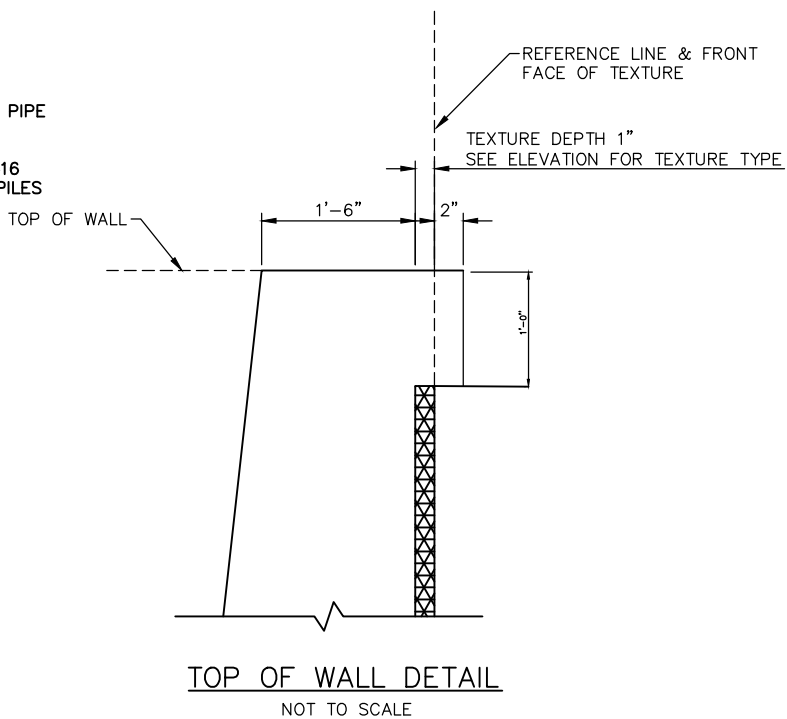
<b>CIVIL - VOLUME 6</b>		<b>RETAINING WALLS</b>	<b>RTW-E416 PLAN AND ELEVATION</b>	SHEET
<b>STRUCTURES</b>				191
DISCIPLINE:		SHEET NAME:		OF
STRUCTURES		RTW-E416-PL.E		271

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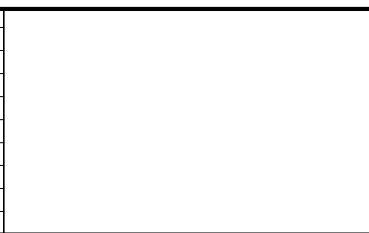
- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - ③ PARKING LOT AT FRONT FACE OF WALL
  - 4. RETAINING WALL TO BE CIP CONCRETE ON CIP STEEL PIPE PILES
  - 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E416 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E416 SECTION**  
NOT TO SCALE



RTW-E416 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	30'-6"	1+00.00	1	CJ	169188.882	525998.335	-	835.9	-	837.9	-	843.77	-	5'-10 1/2"	5.9'
2	30'-6"	1+30.50	2	CJ	169219.382	525998.385	835.9	835.9	837.9	837.9	843.7	843.7	5'-9 5/8"	5'-9 5/8"	5.9'
3	30'-6"	1+61.00	3	EJ	169249.882	525998.435	835.9	835.9	837.9	837.9	843.49	843.49	5'-7 1/8"	5'-7 1/8"	5.6'
4	30'-6"	1+91.50	4	CJ	169280.382	525998.485	835.9	835.9	837.9	837.9	843.28	843.28	5'-4 1/2"	5'-4 1/2"	5.4'
5	30'-6"	2+22.00	5	CJ	169310.882	525998.535	831.5	831.5	837.9	837.9	843.06	843.06	5'-1 7/8"	5'-1 7/8"	9.4'
6	30'-6"	2+52.50	6	EJ	169341.382	525998.585	825	825	833.5	833.5	842.85	842.85	9'-4 1/4"	9'-4 1/4"	15.2'
7	30'-6"	2+83.00	7	CJ	169371.882	525998.635	823	823	827.5	827.5	842.64	842.64	15'-1 5/8"	15'-1 5/8"	17'
8	30'-6"	3+13.50	8	CJ	169402.382	525998.685	823	823	825.5	825.5	842.42	842.42	16'-11"	16'-11"	17'
9	30'-6"	3+44.00	9	EJ	169432.882	525998.735	823	823	825.5	825.5	842.21	842.21	16'-8 1/2"	16'-8 1/2"	16.8'
10	30'-6"	3+74.50	10	CJ	169463.382	525998.785	823	823	825.5	825.5	841.99	841.99	16'-5 7/8"	16'-5 7/8"	16.5'
11	30'-6"	4+05.00	11	CJ	169493.882	525998.835	823	823	825.5	825.5	841.78	841.78	16'-3 3/8"	16'-3 3/8"	16.3'
12	30'-6"	4+35.50	12	EJ	169524.382	525998.885	823	823	825.5	825.5	841.57	841.57	16'-0 7/8"	16'-0 7/8"	16.1'
13	30'-6"	4+66.00	13	CJ	169554.882	525998.935	823	823	825.5	825.5	841.35	841.35	15'-10 1/4"	15'-10 1/4"	15.9'
14	30'-6"	4+96.50	14	CJ	169585.382	525998.985	823	823	825.5	825.5	841.14	841.14	15'-7 5/8"	15'-7 5/8"	15.7'
15	30'-6"	5+27.00	15	EJ	169615.882	525999.035	823	823	825.5	825.5	840.93	840.93	15'-5 1/8"	15'-5 1/8"	15.5'
16	30'-6"	5+57.50	16	CJ	169646.382	525999.085	823	823	825.5	825.5	840.03	840.03	14'-6 3/8"	14'-6 3/8"	14.6'
17	30'-6"	5+88.00	17	CJ	169676.882	525999.134	823.25	823.25	825.5	825.5	838.78	838.78	13'-3 3/8"	13'-3 3/8"	13.3'
18	30'-6"	6+18.50	18	EJ	169707.382	525999.184	823.25	823.25	825.5	825.5	837.53	837.53	12'-0 3/8"	12'-0 3/8"	12.1'
19	30'-6"	6+49.00	19	CJ	169737.882	525999.234	823.25	823.25	825.5	825.5	836.27	836.27	10'-9 1/4"	10'-9 1/4"	10.8'
20	30'-6"	6+79.50	20	CJ	169768.382	525999.284	823.5	823.5	825.5	825.5	835.02	835.02	9'-6 1/4"	9'-6 1/4"	9.6'
21	30'-6"	7+10.00	21	EJ	169798.882	525999.334	823.5	823.5	825.5	825.5	833.77	833.77	8'-3 1/4"	8'-3 1/4"	8.3'
22	30'-6"	7+40.50	22	CJ	169829.382	525999.384	823.5	823.5	825.5	825.5	832.51	832.51	7'-0 1/8"	7'-0 1/8"	7.1'
23	30'-6"	7+71.00	23	CJ	169859.881	525999.434	823.5	823.5	825.5	825.5	831.26	831.26	5'-9 1/8"	5'-9 1/8"	5.8'
		8+01.50	24	EJ	169890.381	525999.484	823.5	-	825.5	-	830	-	4'-6"	-	4.5'

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16



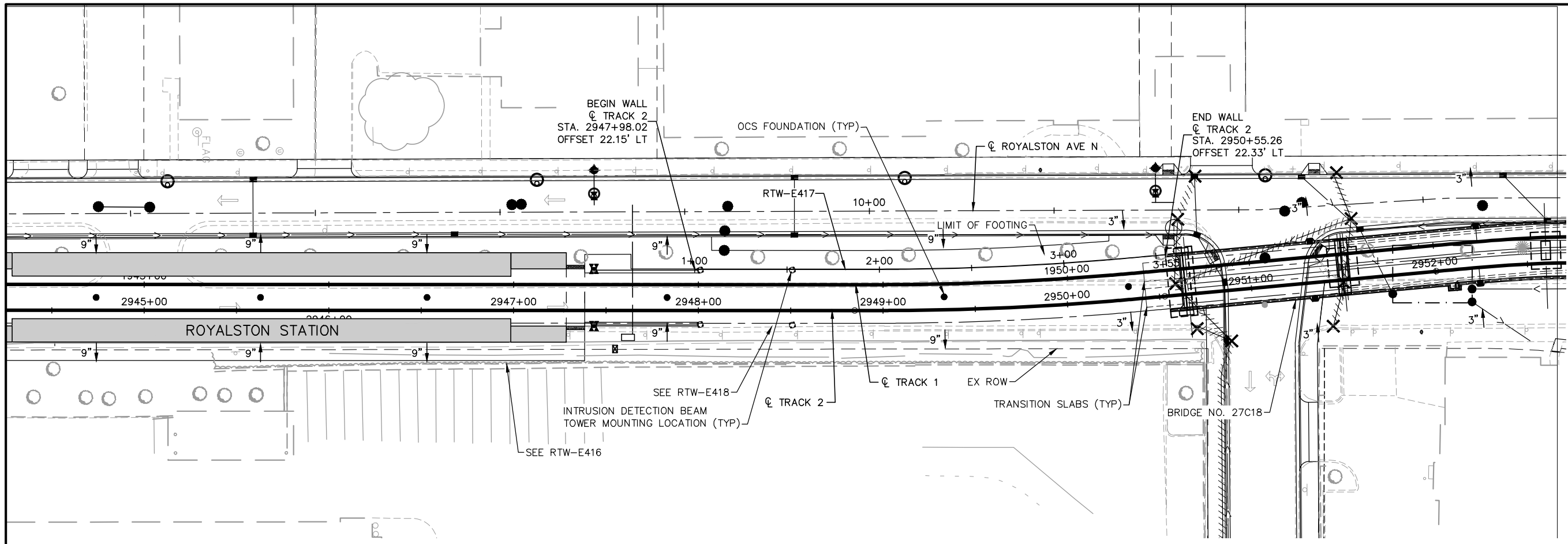
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E416 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E416-DTL - 001**

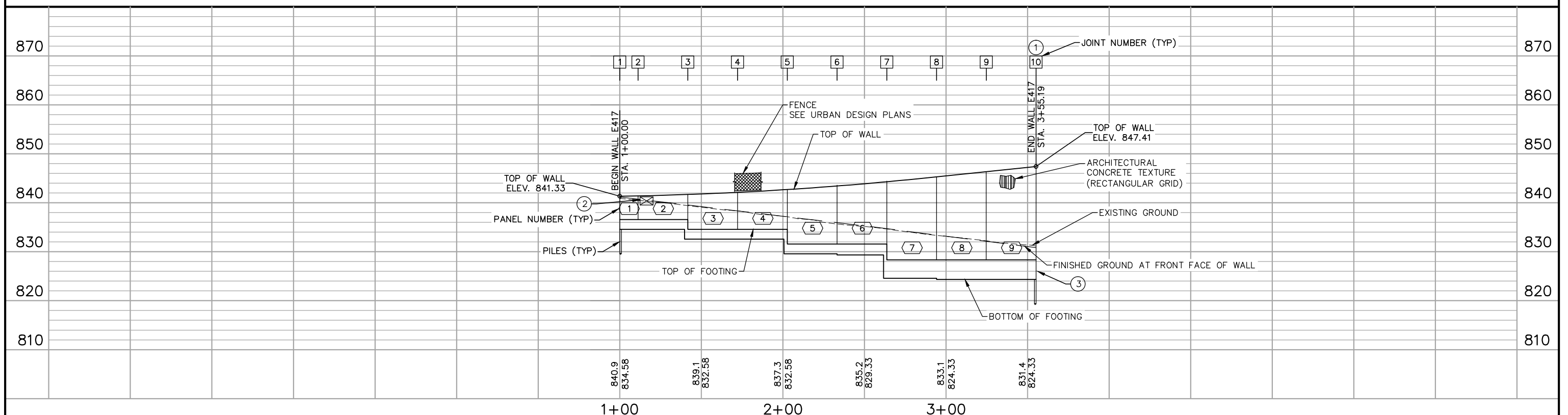
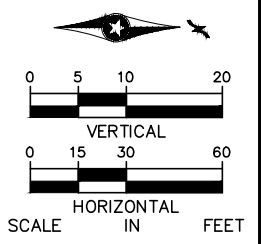
**SHEET**  
192  
OF  
271



Jan. 17 2016 09:55 pm v:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E417-PLA.dwg By: V-PatelPJ



- NOTE:
- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
  - ② STRAY CURRENT TEST STATION. SEE DETAIL 2 ON SHEET E0-SYS-CORR-DTL-022.
  - ③ SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-017 FOR TEST WIRE INSTALLATION IN RTW-E417.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

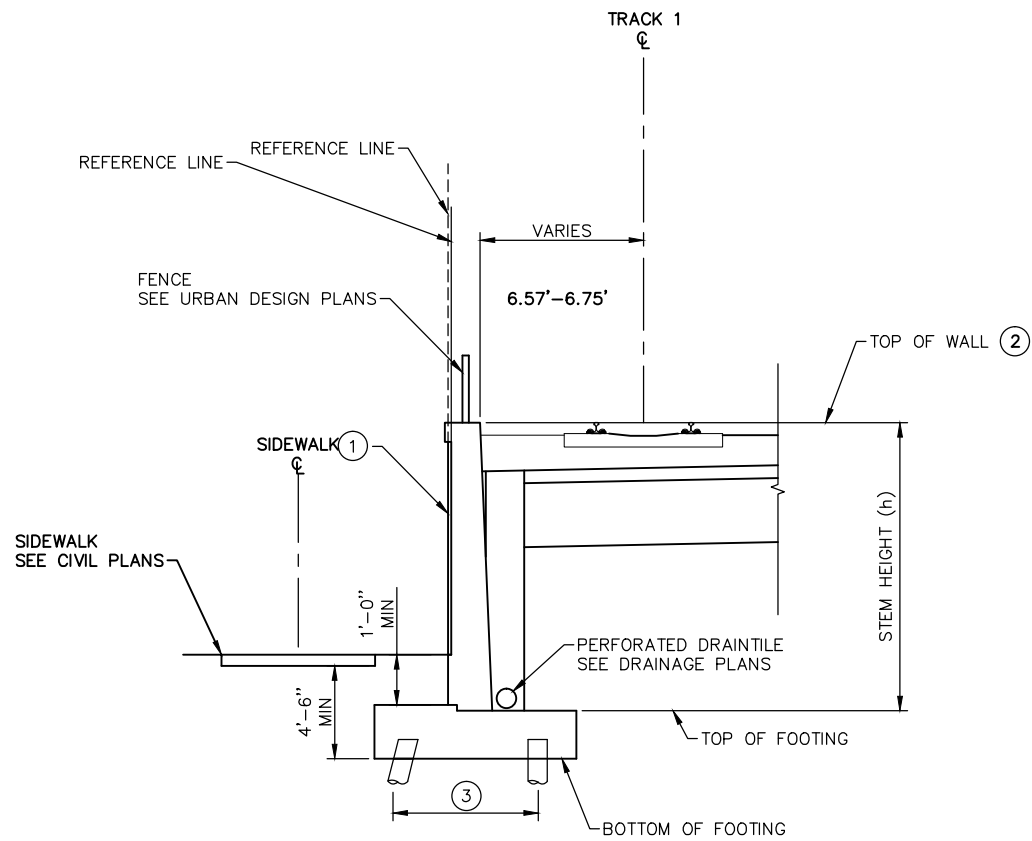


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E417 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E417-PLA**

SHEET **193**  
OF  
**271**

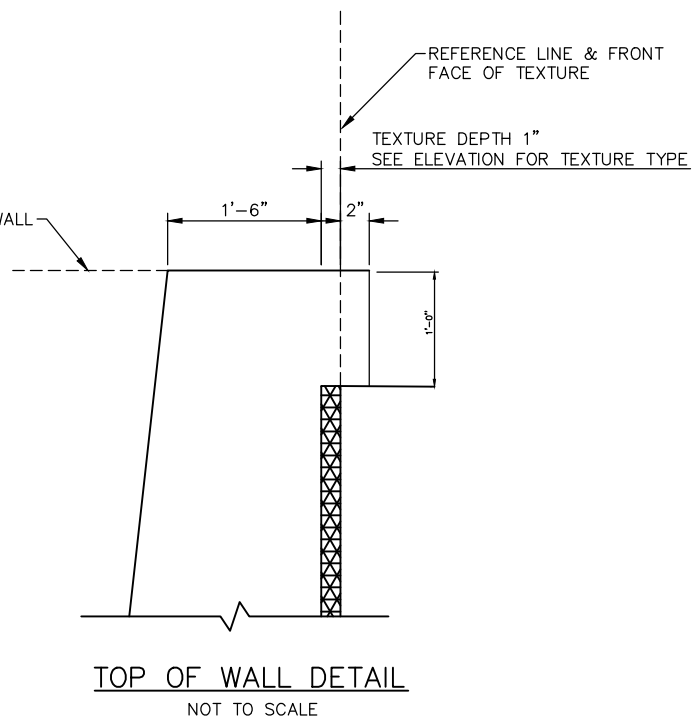
Jan, 17 2016 09:56 pm v:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E417-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>a</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  4. RETAINING WALL TO BE CIP CONCRETE ON CIP STEEL PIPE PILES
  5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E417 TOP OF WALL AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E417 SECTION**  
NOT TO SCALE

RTW-E417 GEOMETRICS (CIPC)															
PANEL NO.	PANEL LENGTH	STATION	WALL JT NUMBER	WALL JT TYPE	COORDINATES		BOT OF FOOTING ELEV		TOP OF FOOTING ELEV		TOP OF WALL ELEVATION		STEM HEIGHT (h)		DESIGN HEIGHT
					NORTHING	EASTING	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	DOWN STA	UP STA	
1	11'-2 1/4"	1+00.00	1	CJ	169615.472	525948.069	-	834.58	-	836.58	-	841.33	-	4'-9"	4.9'
2	30'-6"	1+11.19	2	CJ	169626.659	525948.087	834.58	834.58	836.58	836.58	841.4	841.4	4'-9 7/8"	4'-9 7/8"	5.7'
3	30'-6"	1+41.69	3	EJ	169657.158	525948.137	832.58	832.58	836.07	836.07	841.69	841.69	5'-7 1/2"	5'-7 1/2"	7.6'
4	30'-6"	1+72.19	4	CJ	169687.661	525948.187	832.58	832.58	834.58	834.58	842.13	842.13	7'-6 5/8"	7'-6 5/8"	8.2'
5	30'-6"	2+02.69	5	CJ	169718.178	525948.213	829.58	829.58	834.58	834.58	842.71	842.71	8'-1 1/2"	8'-1 1/2"	11.9'
6	30'-6"	2+33.19	6	EJ	169748.656	525947.873	829.44	829.44	831.58	831.58	843.43	843.43	11'-10 1/4"	11'-10 1/4"	16'
7	30'-6"	2+63.69	7	CJ	169779.144	525946.915	824.58	824.58	828.33	828.33	844.29	844.29	15'-11 1/2"	15'-11 1/2"	17'
8	30'-6"	2+94.19	8	CJ	169809.604	525945.333	824.33	824.33	828.33	828.33	845.3	845.3	16'-11 5/8"	16'-11 5/8"	18.1'
9	30'-6"	3+24.69	9	EJ	169840.015	525943.13	824.33	824.33	828.33	828.33	846.35	846.35	18'-0 1/4"	18'-0 1/4"	19.1'
		3+55.19	10	CJ	169870.4	525940.445	824.33	-	828.33	-	847.41	-	19'-1"	-	19.1'



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



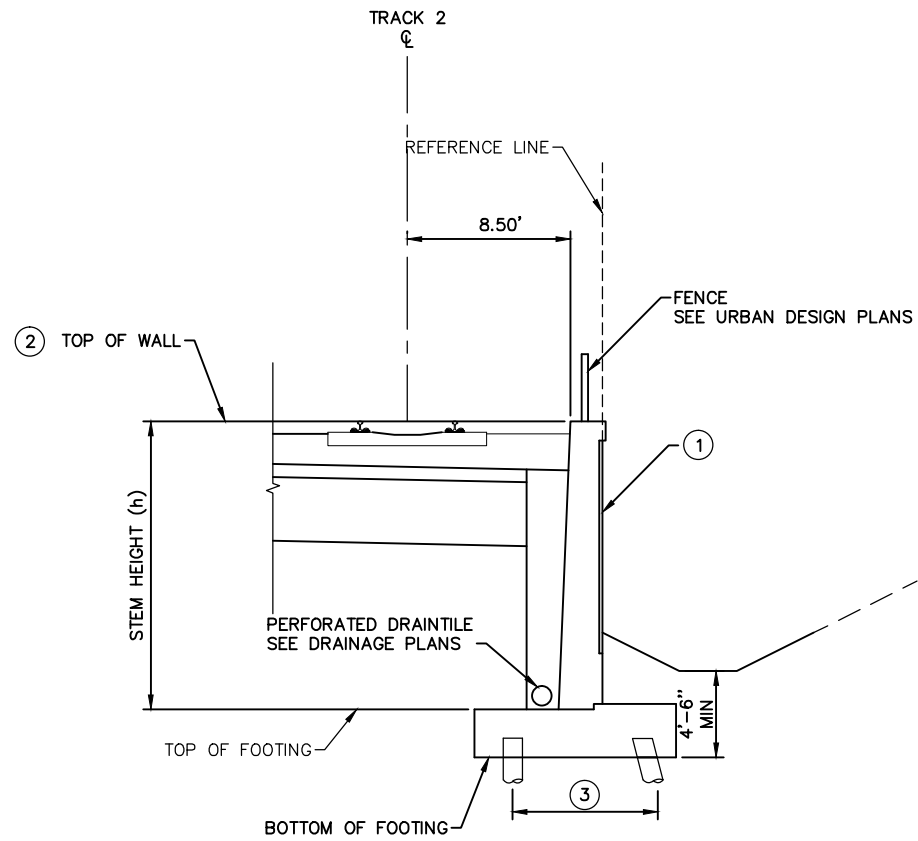
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E417 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E417-DTL - 001**

**SHEET**  
**194**  
**OF**  
**271**

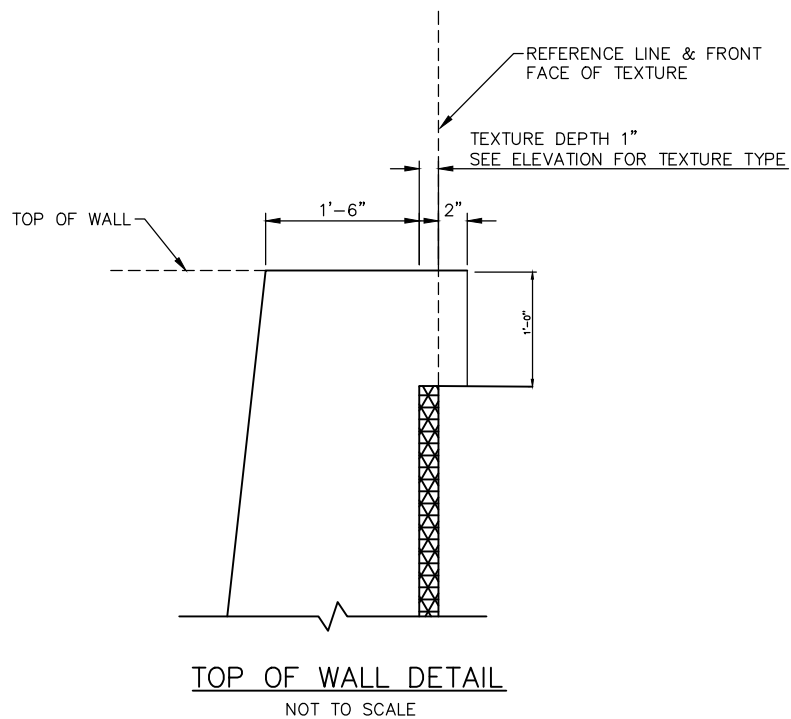


Jan, 17 2016 10:00 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E418-DTL.dwg By: V-PatelPJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF WALL = TOP OF RAIL THROUGH TANGENTS  
TOP OF WALL = TOP OF RAIL + SUPERELEVATION (E<sub>o</sub>) THROUGH OUTSIDE CURVES AND SPIRALS
  - ③ PILE ROWS AND PILE SPACING VARIES
  - 4. RETAINING WALL TO BE CIP CONCRETE ON CIP STEEL PILE PILES
  - 5. ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E418 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E418 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

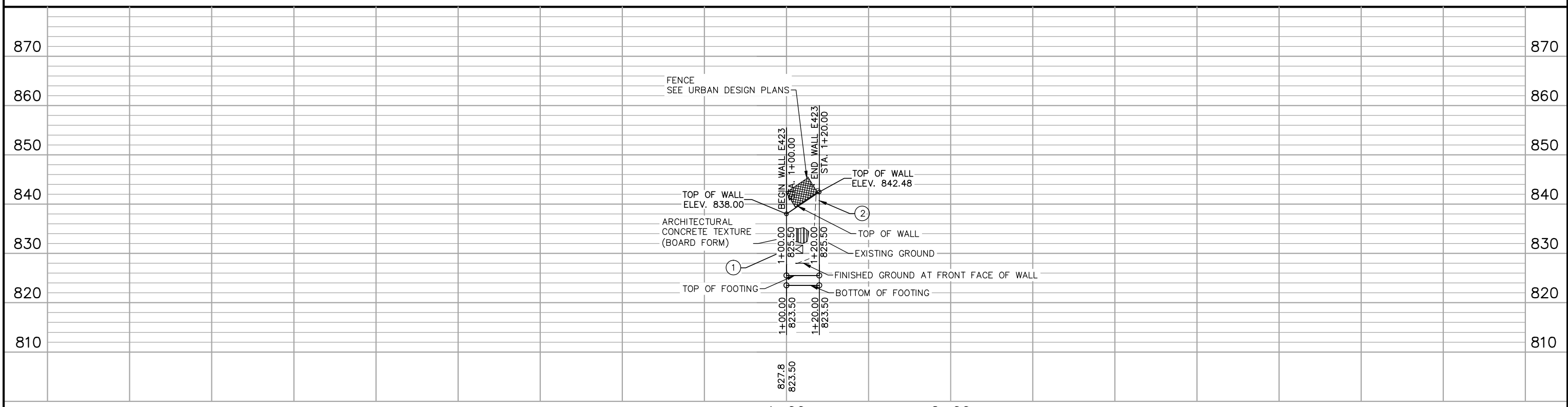
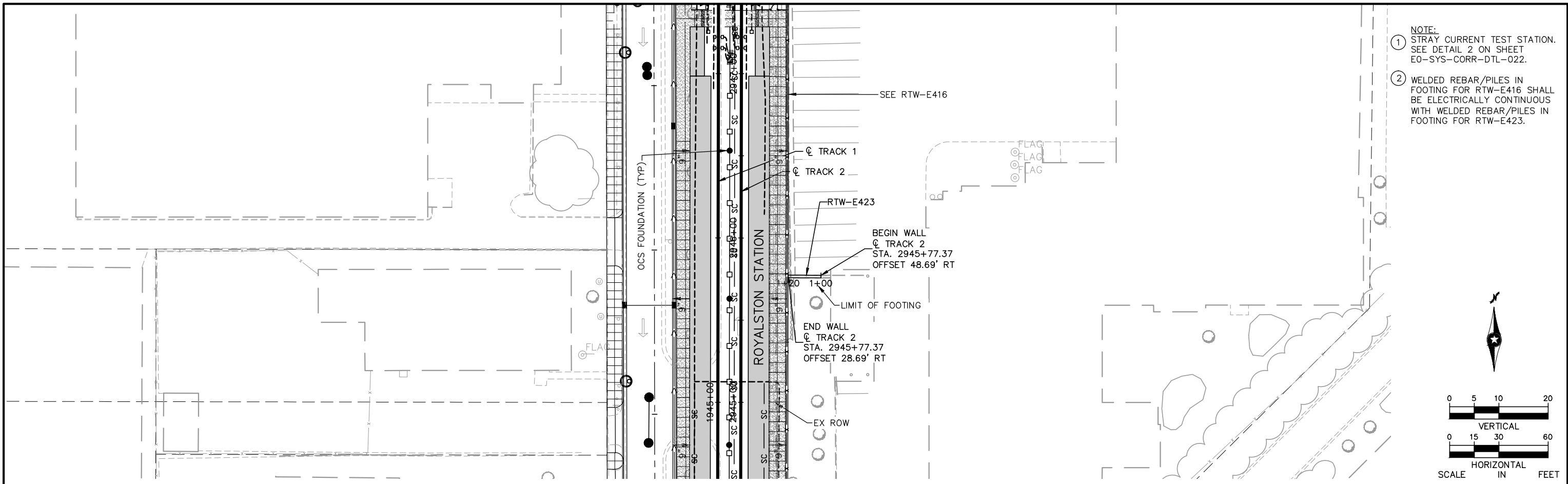



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E418 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E418-DTL - 001**

**SHEET**  
196  
OF  
271


Jan, 18 2016 01:31 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E423-PL-E.dwg By: V-GudisshD



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

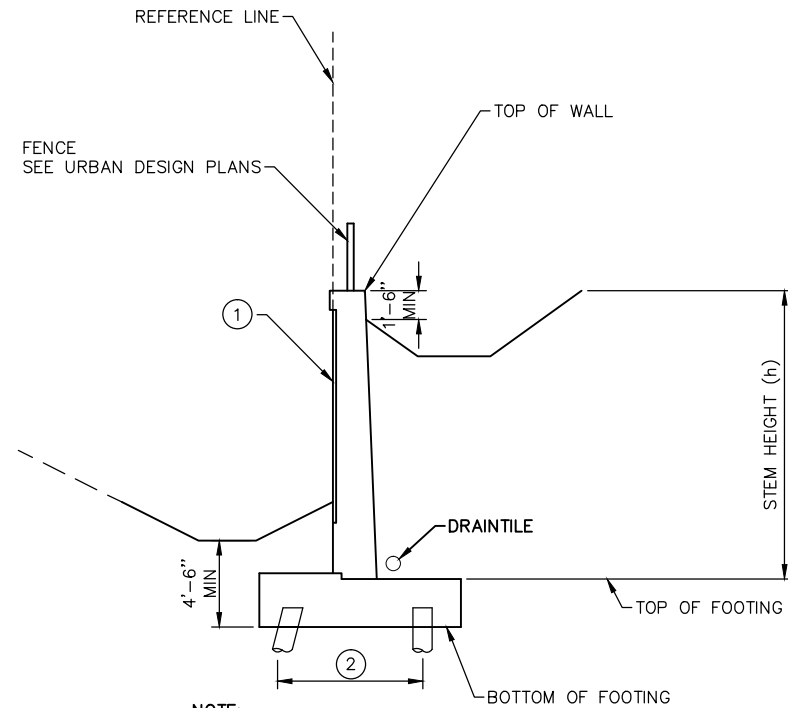



**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E423 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E423-PL-E**

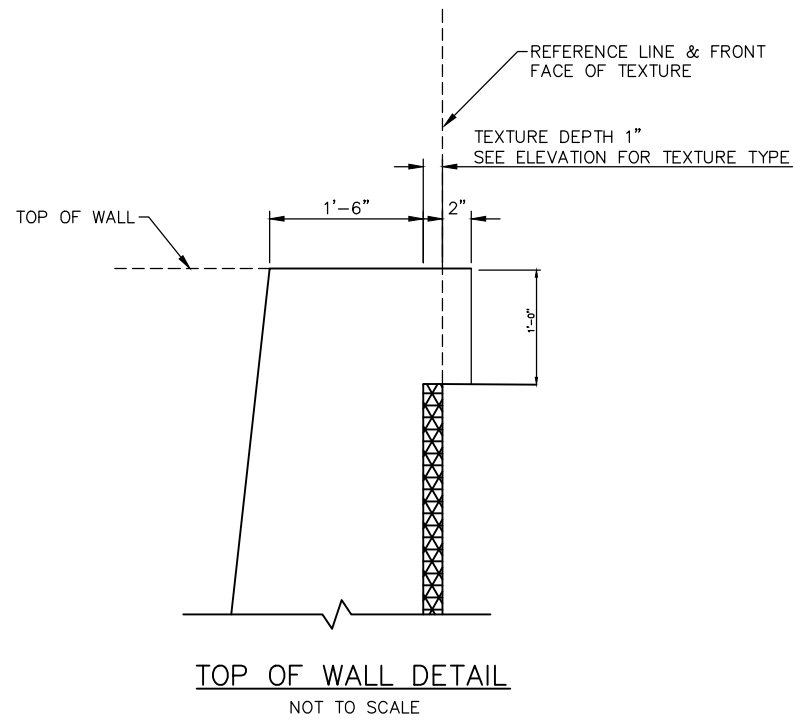
SHEET  
197  
OF  
271

Jan, 18 2016 07:48 pm v:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E423-DTL.dwg By: V-Patel/PJ



- NOTE:**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② PILE ROWS AND PILE SPACING VARIES
  - 3 ELECTRICALLY CONTINUOUS BLACK REBAR IN RTW-E423 AND ELECTRICALLY CONTINUOUS BLACK REBAR AND PILES IN FOOTING.

**RTW-E423 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

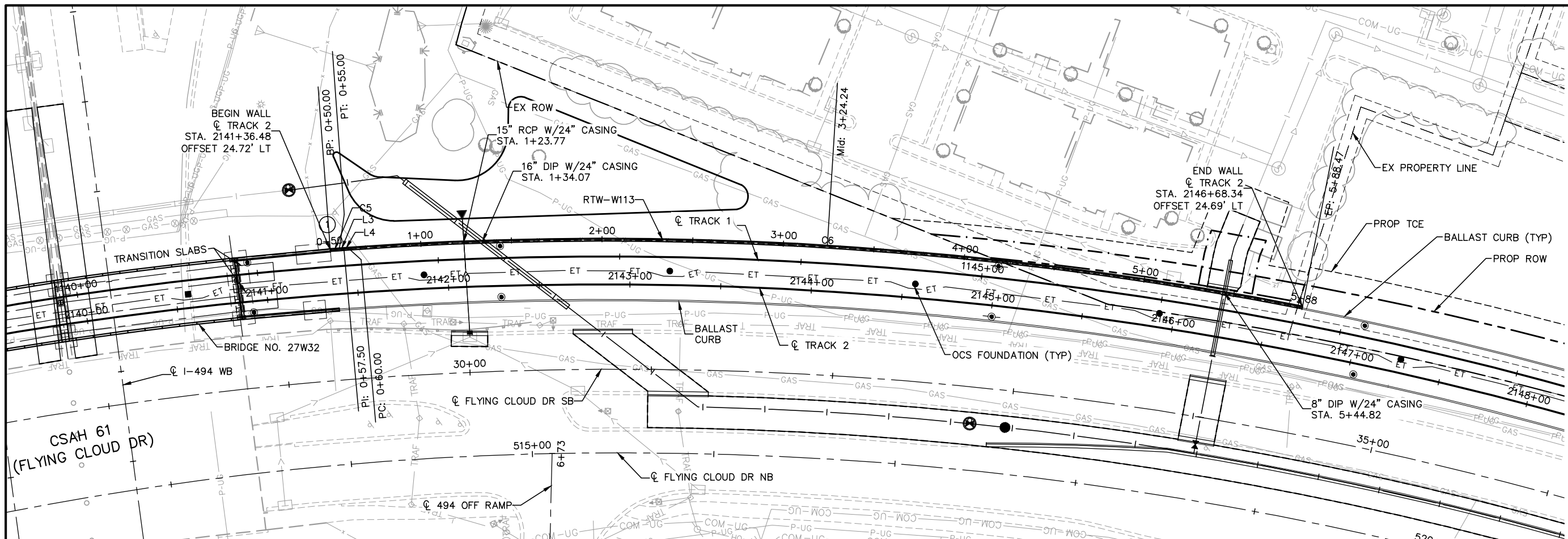
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E423 GEOMETRY**

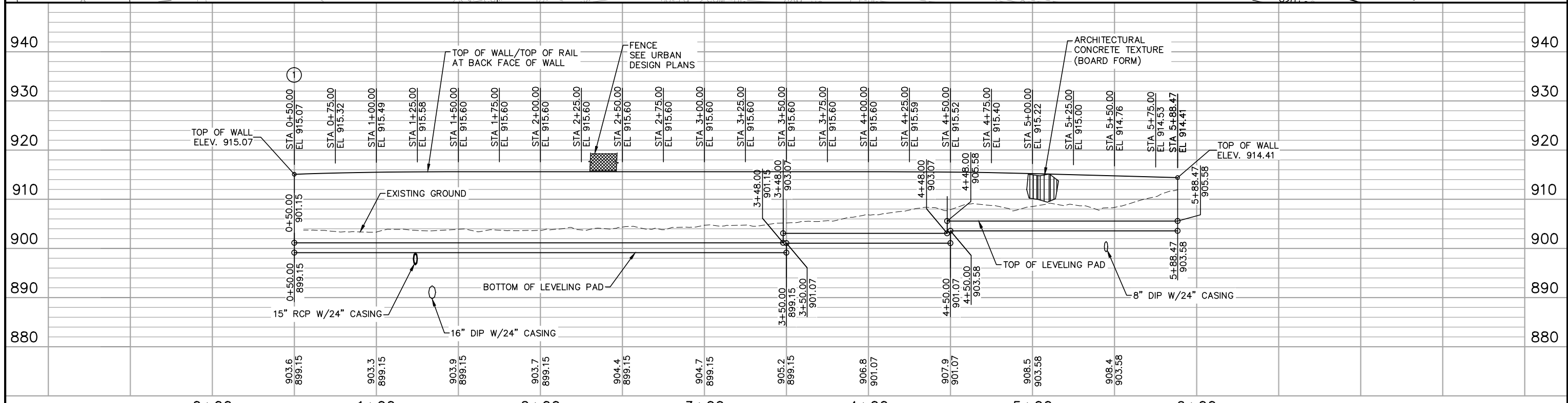
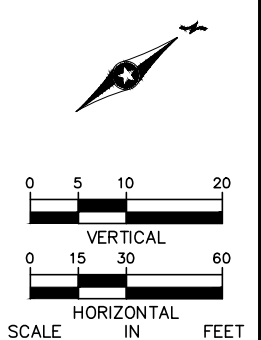
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E423-DTL - 001**

**SHEET**  
198  
OF  
271

Jan. 17 2016 09:45 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W113.dwg By: V-NutzmaM



**NOTES**  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST Green Line LRT Extension**

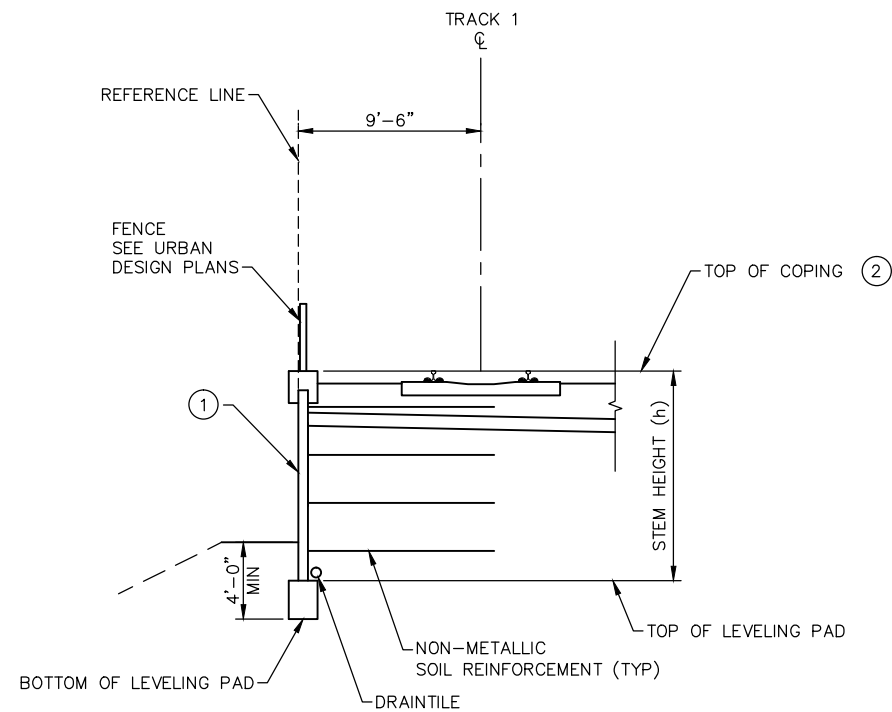
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W113 PLAN AND ELEVATION**

**SHEET**  
 199  
 OF  
 271

**90% SUBMISSION - 01/22/16**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W113-PL</b>
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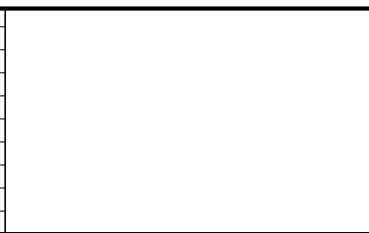
**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W113 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W113													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C5	0+50.00	0+55.00	0+52.50	0'08'33"	2'51'04.97"	2009.40	2.50	5.00	126229.81	489189.65	126234.03	489192.33	32'21'27" 32'30'00"
L3	0+55.00	0+57.50						2.50	126234.03	489192.33	126236.17	489193.64	31'30'43"
L4	0+57.50	0+60.00						2.50	126236.17	489193.64	126238.30	489194.95	31'30'43"
C6	0+60.00	5+88.47	3+25.77	15'04'05"	2'51'04.48"	2009.50	265.77	528.47	126238.30	489194.95	126640.92	489534.91	32'38'33" 47'42'38"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



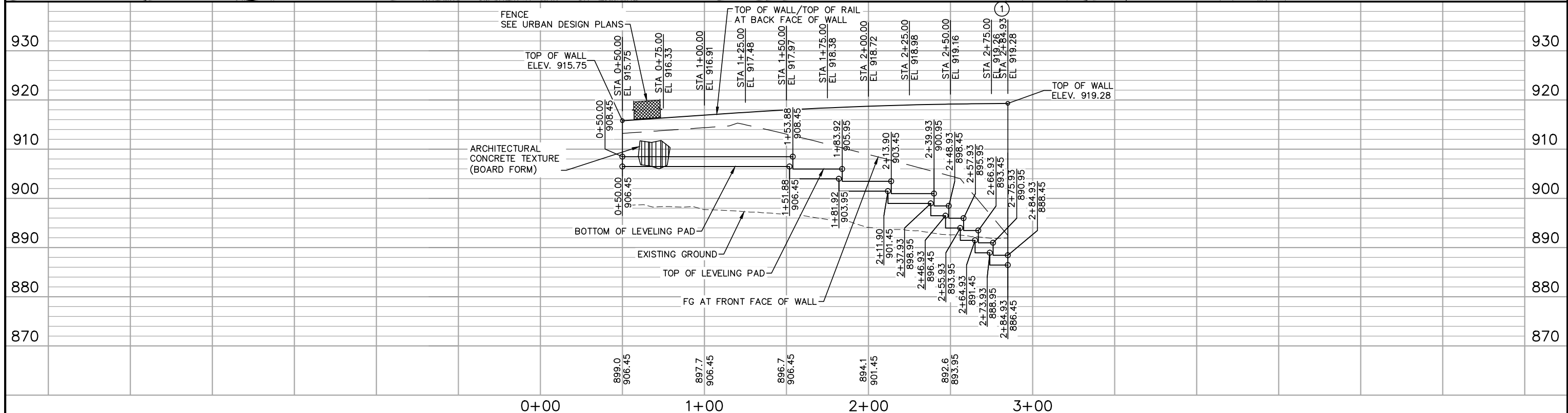
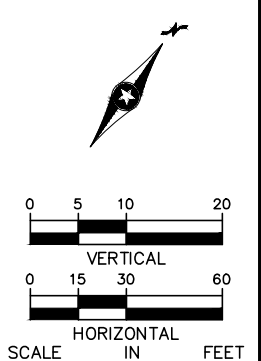
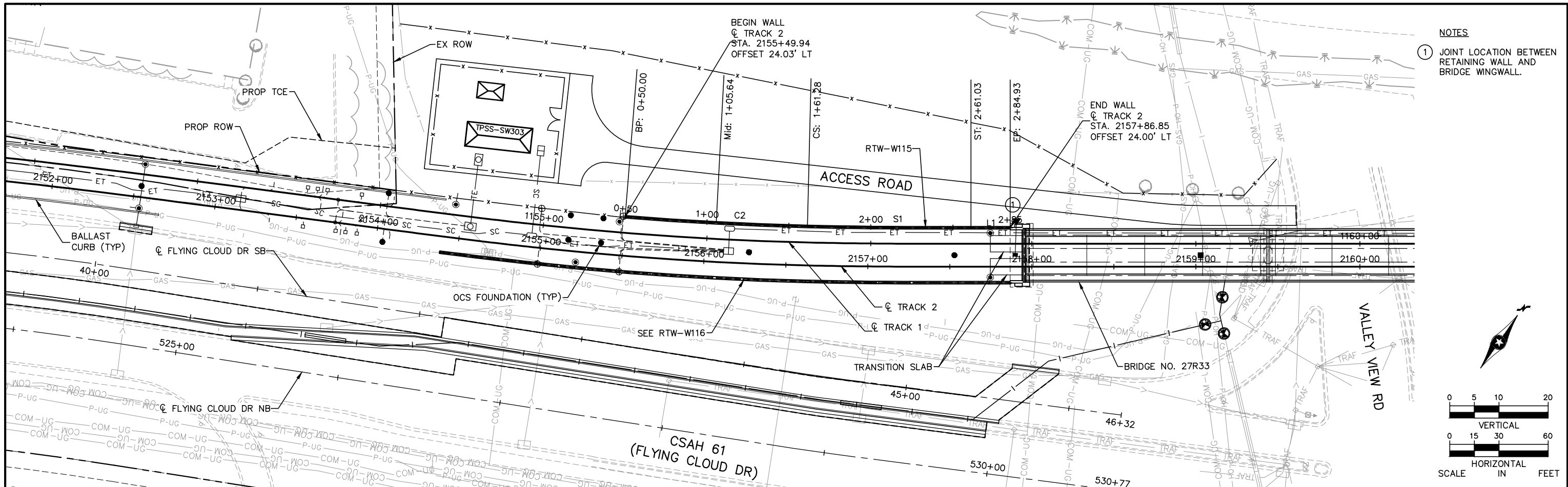
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W113 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W113-DTL**

**SHEET  
200  
OF  
271**



Jan. 17 2016 09:50 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW\RTW-W115.dwg By: V-NutzmaM



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

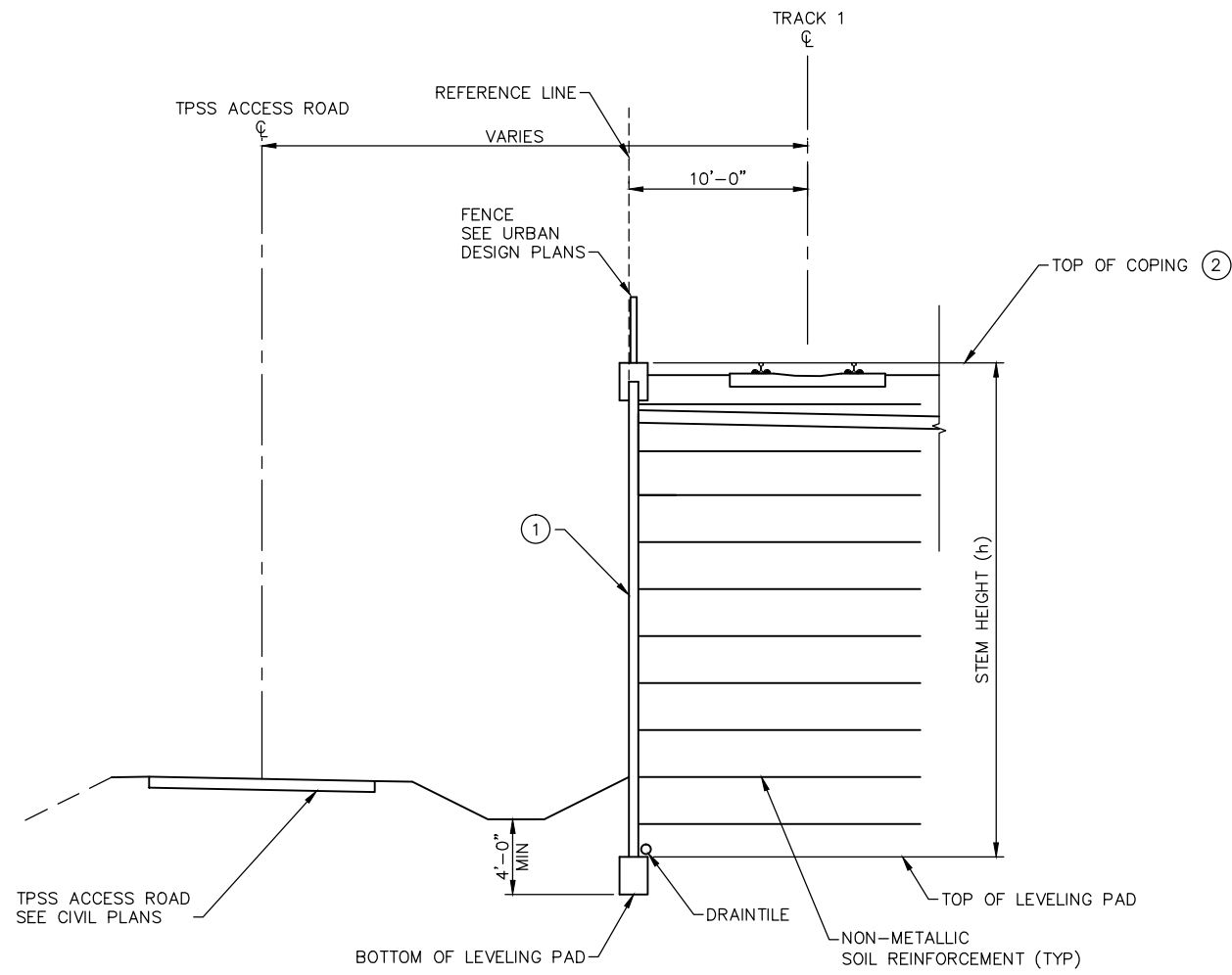
**RETAINING WALLS**

**RTW-W115 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W115-PL</b>
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SHEET  
 201  
 OF  
 271

Jan. 17 2016 09:50 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W115.dwg By: V-NutzmaML



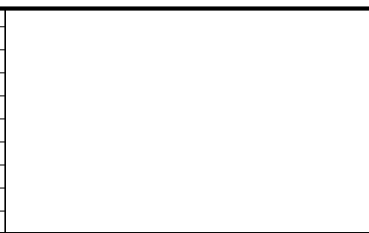
**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W115 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W115													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C2	0+50.00	1+61.28	1+05.66	3°12'14"	2°52'45.07"	1990.00	55.66	111.28	127108.14	490285.01	127166.29	490379.88	60°05'49" 56°53'35"
S1	1+61.28	2+61.03						99.75	127166.29	490379.88	127222.16	490462.51	56°53'35" 55°27'38"
L1	2+61.03	2+84.93						23.90	127222.16	490462.51	127235.71	490482.20	55°27'38"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

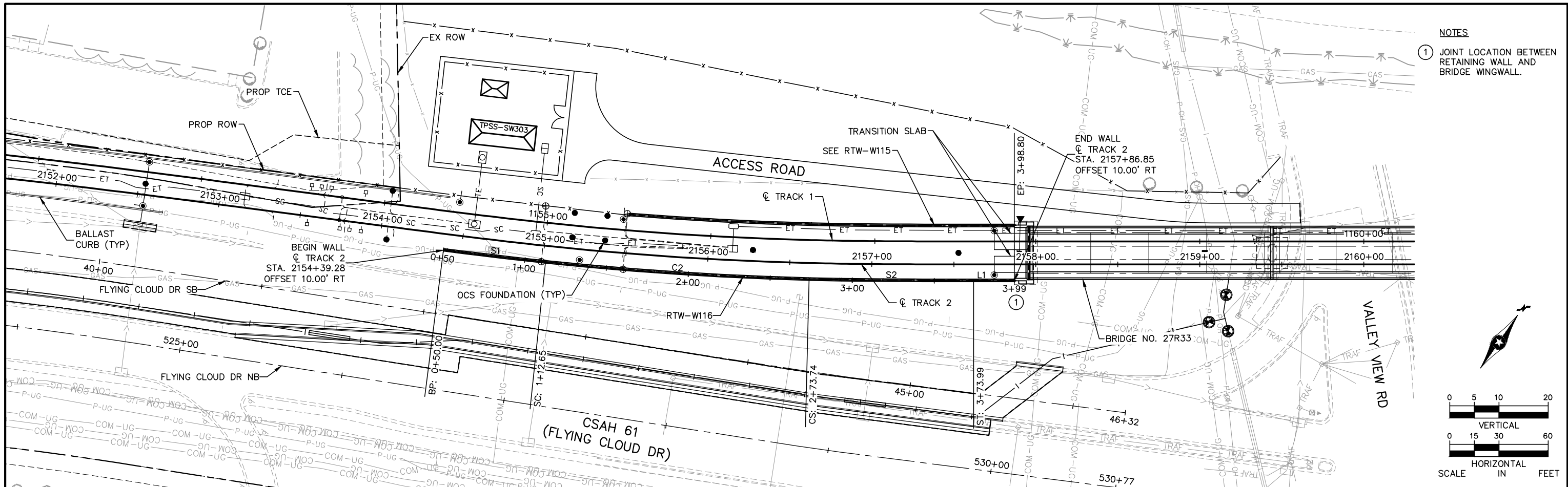
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W115 GEOMETRY**

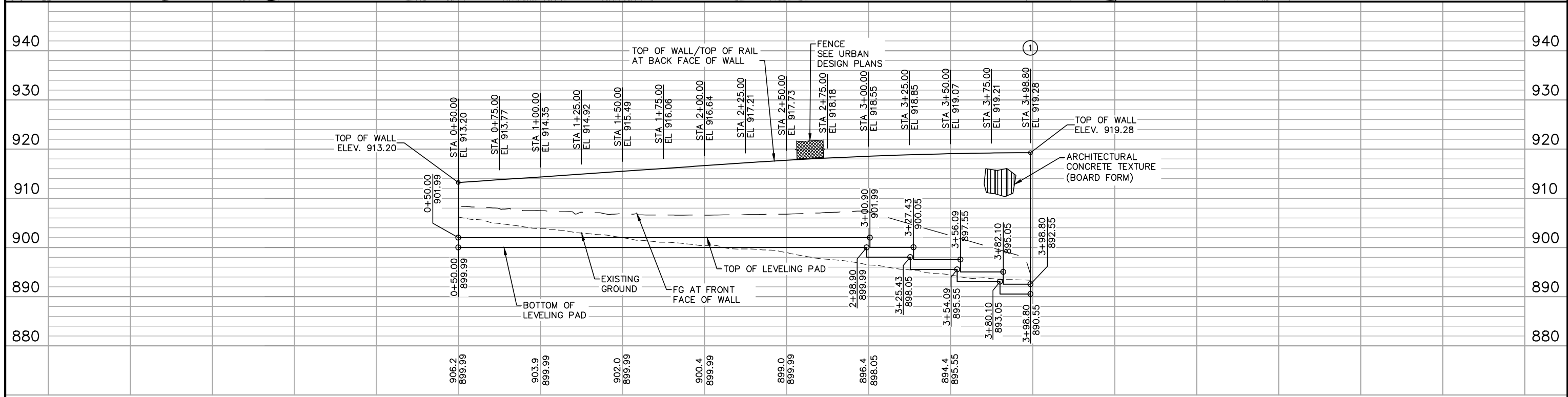
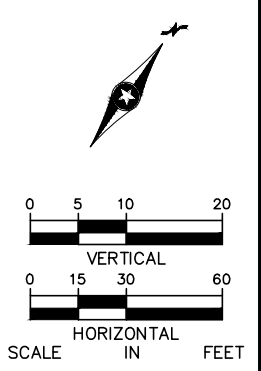
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W115-DTL**

SHEET  
202  
OF  
271

Jan. 17 2016 09:56 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W116.dwg By: V-NutzmaM



**NOTES**  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL.



NO.	DATE	BY	CHECK/DESIGN REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

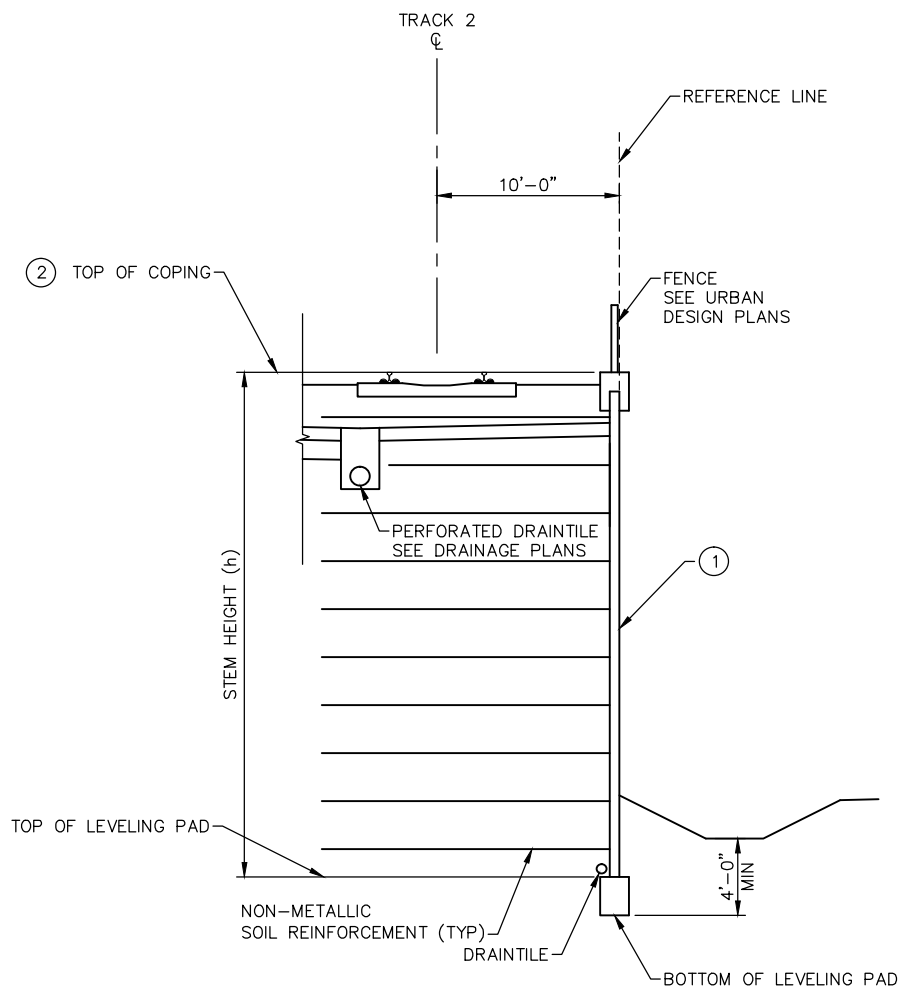
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W116 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W116-PL6**

**SHEET**  
203  
**OF**  
271

Jan. 17 2016 09:57 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W116.dwg By: V-NutzmaML



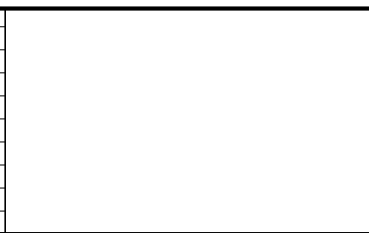
**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W116 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W116													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
S1	0+50.00	1+12.65						62.65	127025.77	490204.26	127055.00	490259.67	62°42'55" 61°29'06"
C2	1+12.65	2+73.74	1+93.24	4°35'31"	2°51'01.93"	2010.00	80.59	161.09	127055.00	490259.67	127137.49	490397.99	61°29'06" 56°53'35"
S2	2+73.74	3+73.99						100.25	127137.49	490397.99	127193.63	490481.04	56°53'35" 55°27'38"
L1	3+73.99	3+98.80						24.81	127193.63	490481.04	127207.70	490501.47	55°27'38"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**

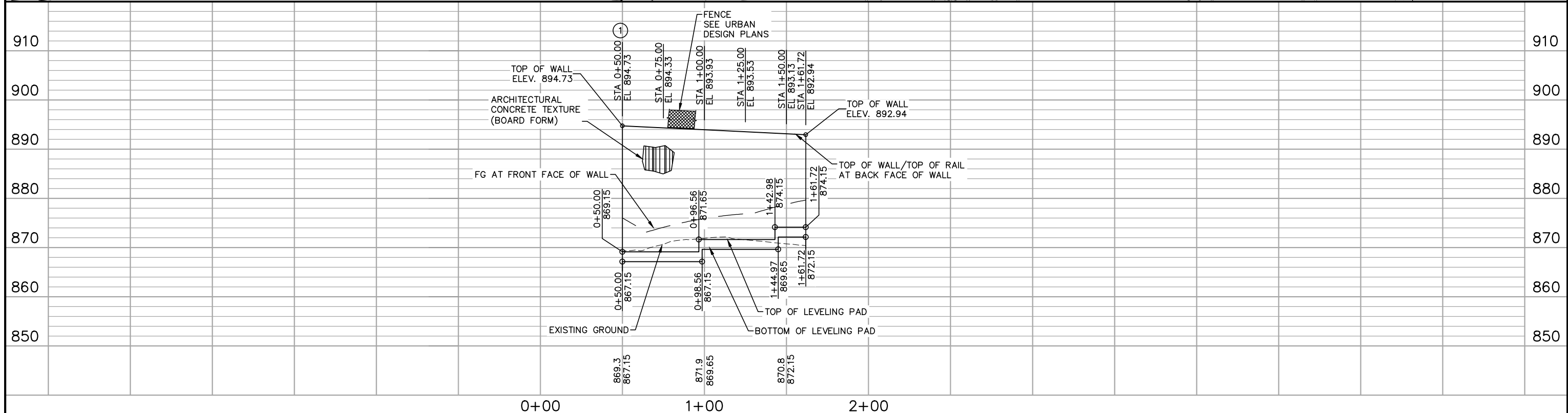
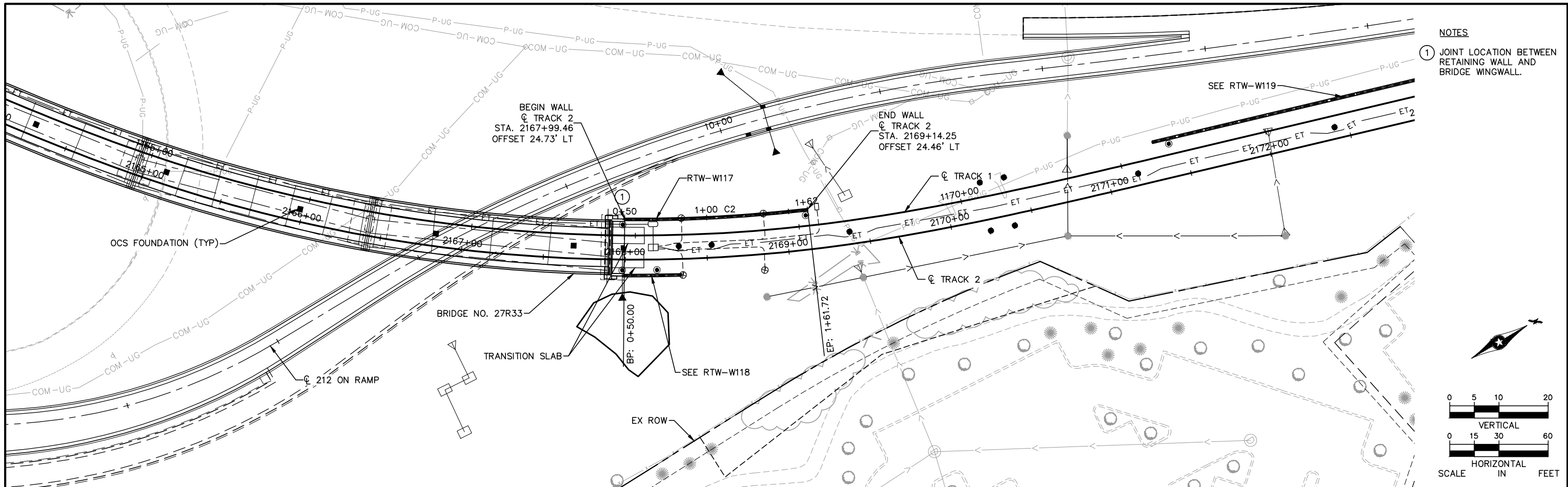


**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W116 GEOMETRY**




DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W116-DTL**

**SHEET  
204  
OF  
271**

Jan, 17 2016 10:02 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W117.dwg By: V-NutzmaML



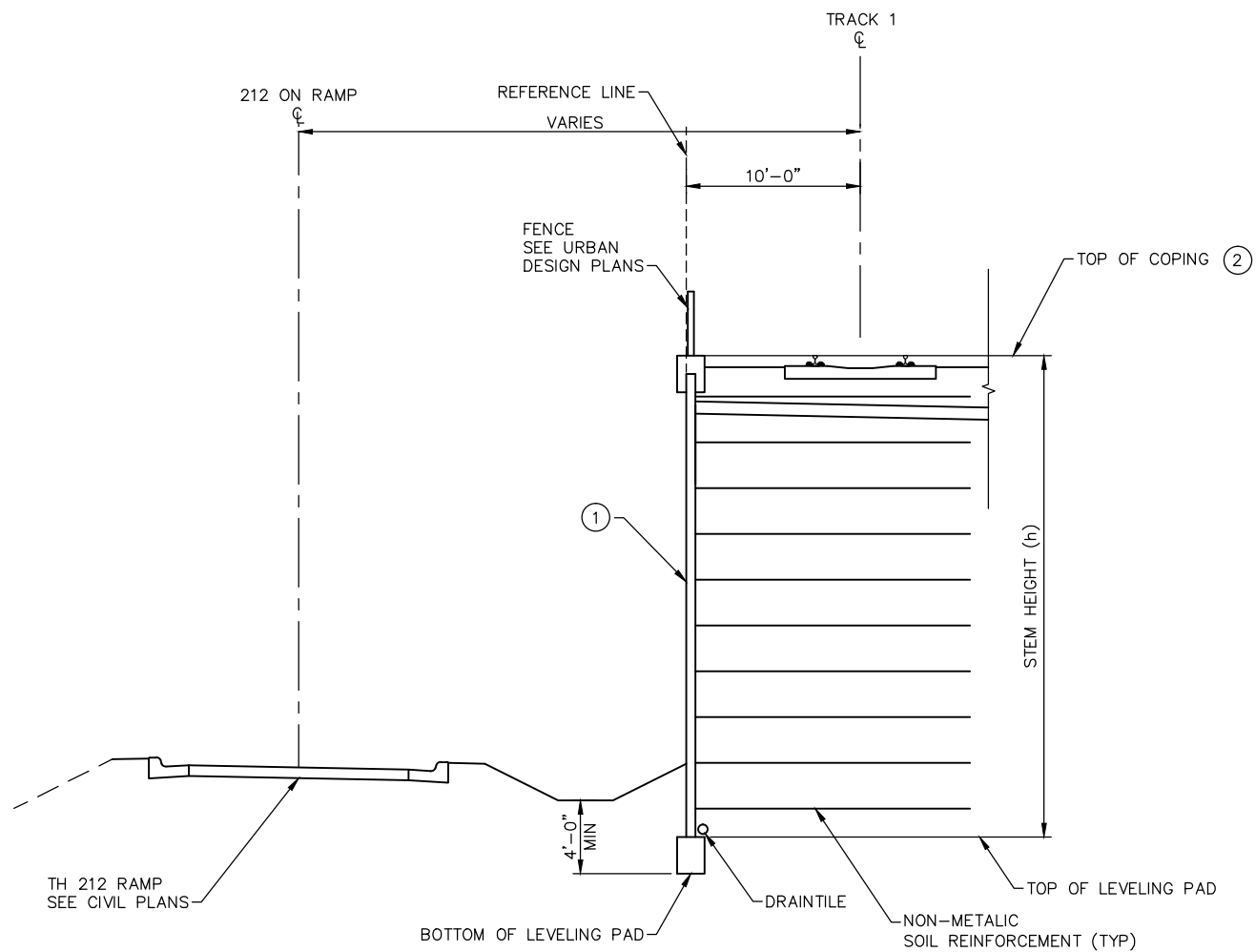
NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

<b>CIVIL - VOLUME 6</b>		<b>SHEET</b>
<b>RETAINING WALLS</b>		
<b>RTW-W117 PLAN AND ELEVATION</b>		OF
DISCIPLINE: <b>STRUCTURES</b>		271
SHEET NAME: <b>RTW-W117-PL</b>		

Jan. 17 2016 10:02 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W117.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W117 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W117													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C2	0+50.00	1+61.72	1+05.93	7°02'02"	6°17'46.46"	910.00	55.93	111.72	127863.55	491253.63	127962.06	491306.18	31°35'46" 24°33'44"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

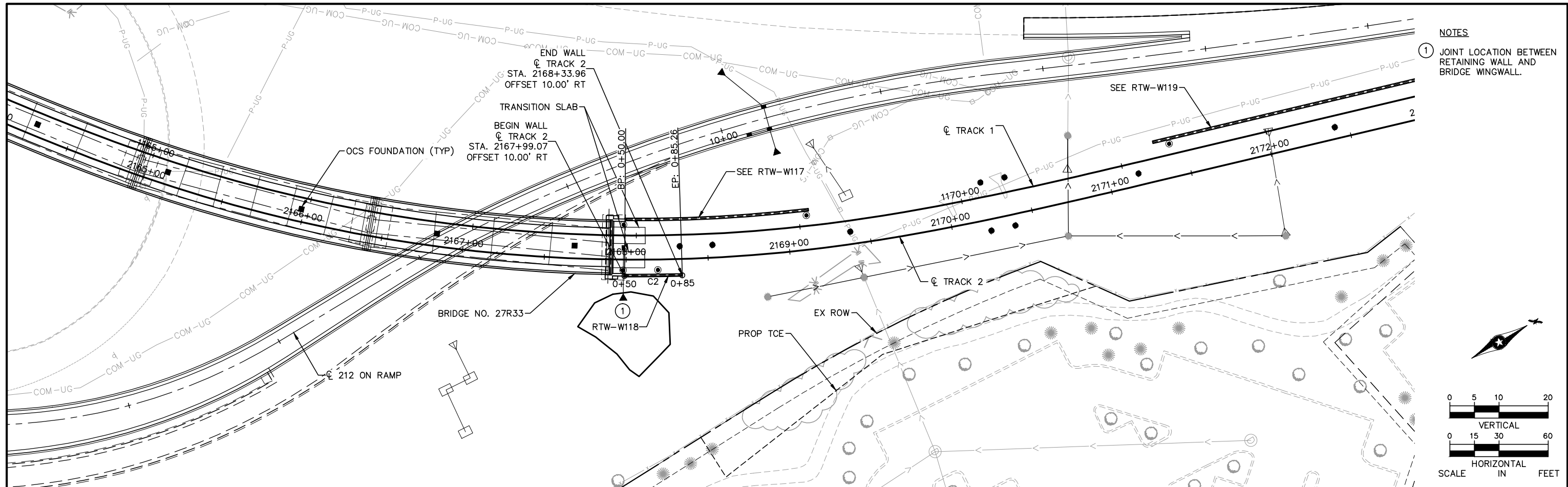



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W117 GEOMETRY**

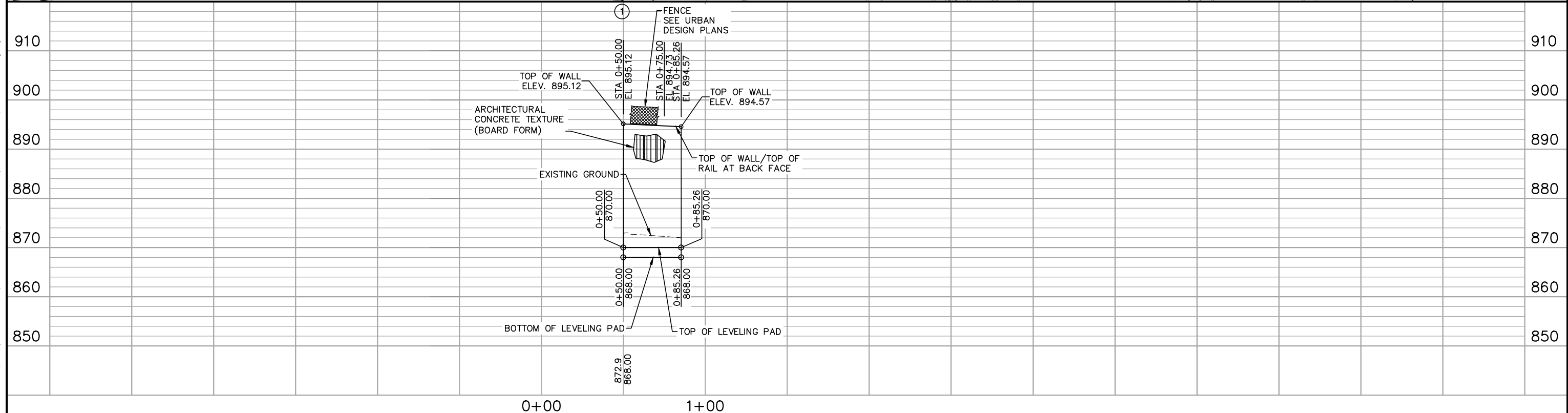
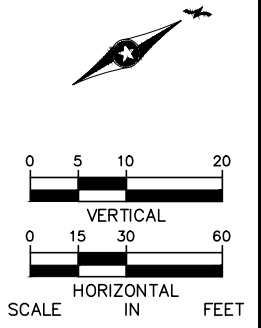
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W117-DTL**

SHEET  
206  
OF  
271


Jan. 17 2016 10:07 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W118.dwg By: V-NutzmaML




**NOTES**  
 ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



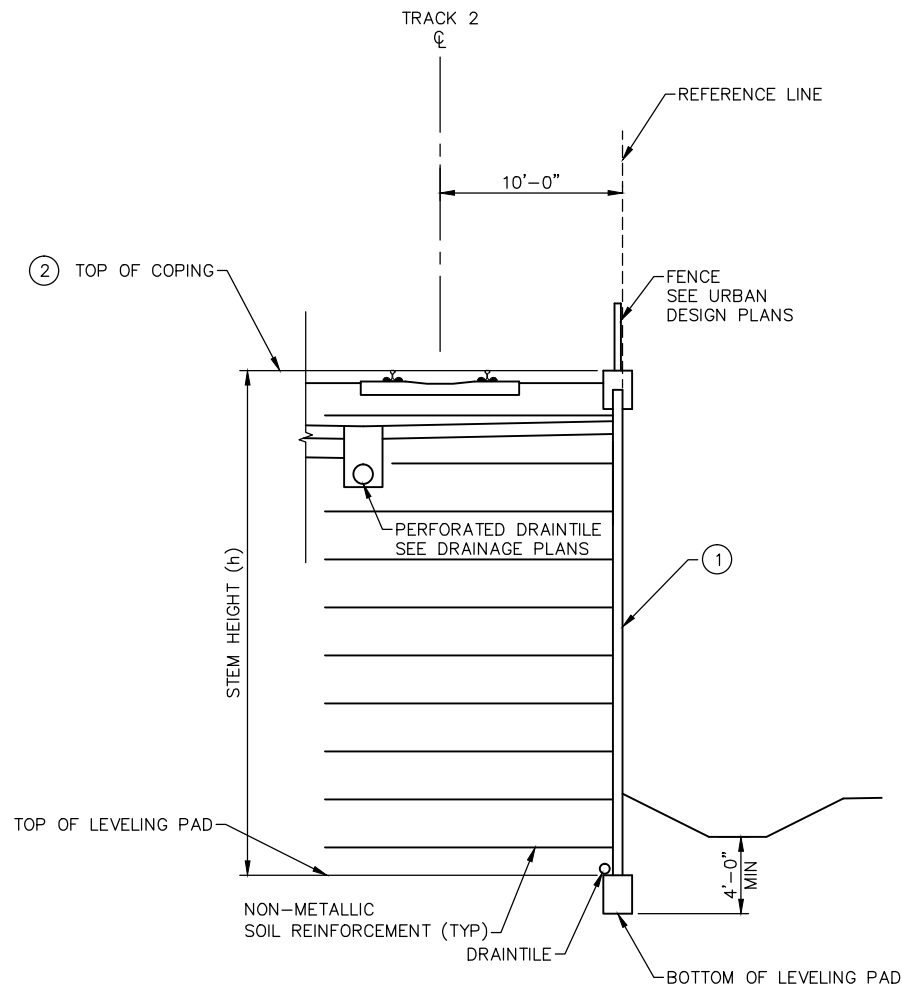
**90% SUBMISSION - 01/22/16**



**SOUTHWEST**  
Green Line Light Extension

<b>CIVIL - VOLUME 6</b>		<b>SHEET</b>
<b>RETAINING WALLS</b>		
<b>RTW-W118 PLAN AND ELEVATION</b>		207
		OF
		271
DISCIPLINE:	SHEET NAME:	
STRUCTURES	RTW-W118-PL	

Jan, 17 2016 10:07 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W118.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL + SUPERELEVATION ( $E_s$ )
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W118 SECTION**

NOT TO SCALE

ALIGNMENT DATA RTW-W118													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C2	0+50.00	0+85.26	0+67.63	2'10'21"	6°09'39.01"	930.00	17.63	35.26	127845.06	491283.04	127875.46	491300.91	31°32'15" 29°21'54"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16



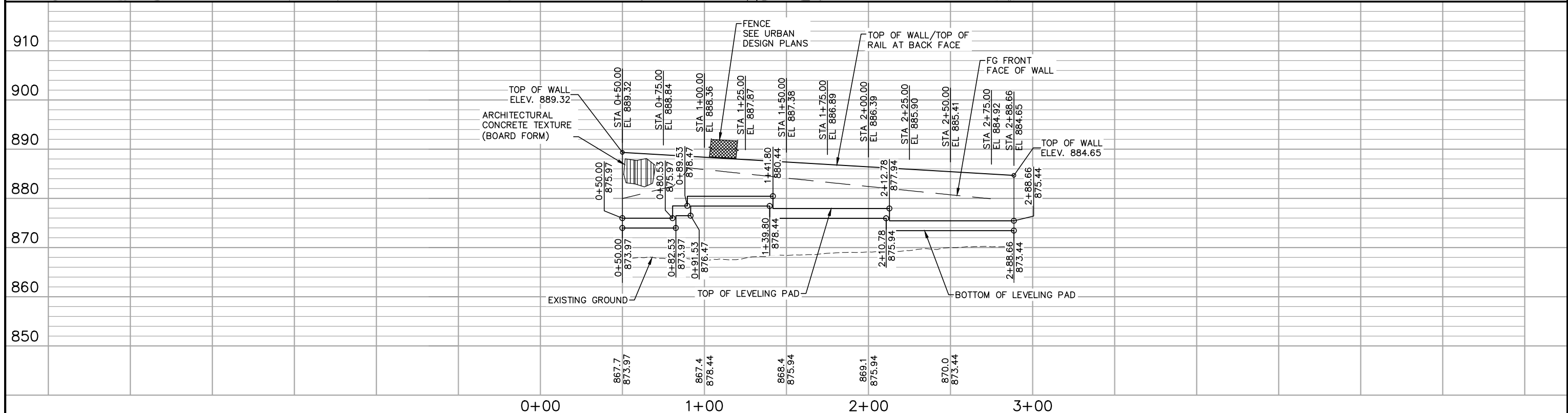
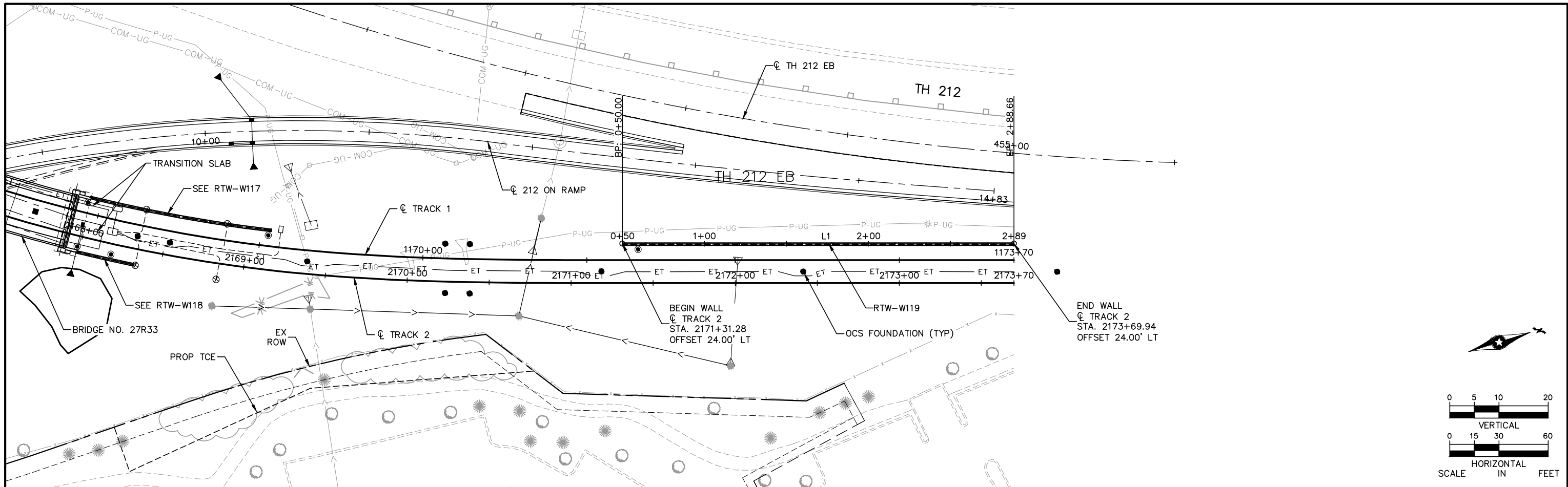

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W118 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W118-DTL**

SHEET  
208  
OF  
271



Jan, 17 2016 10:13 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W119.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

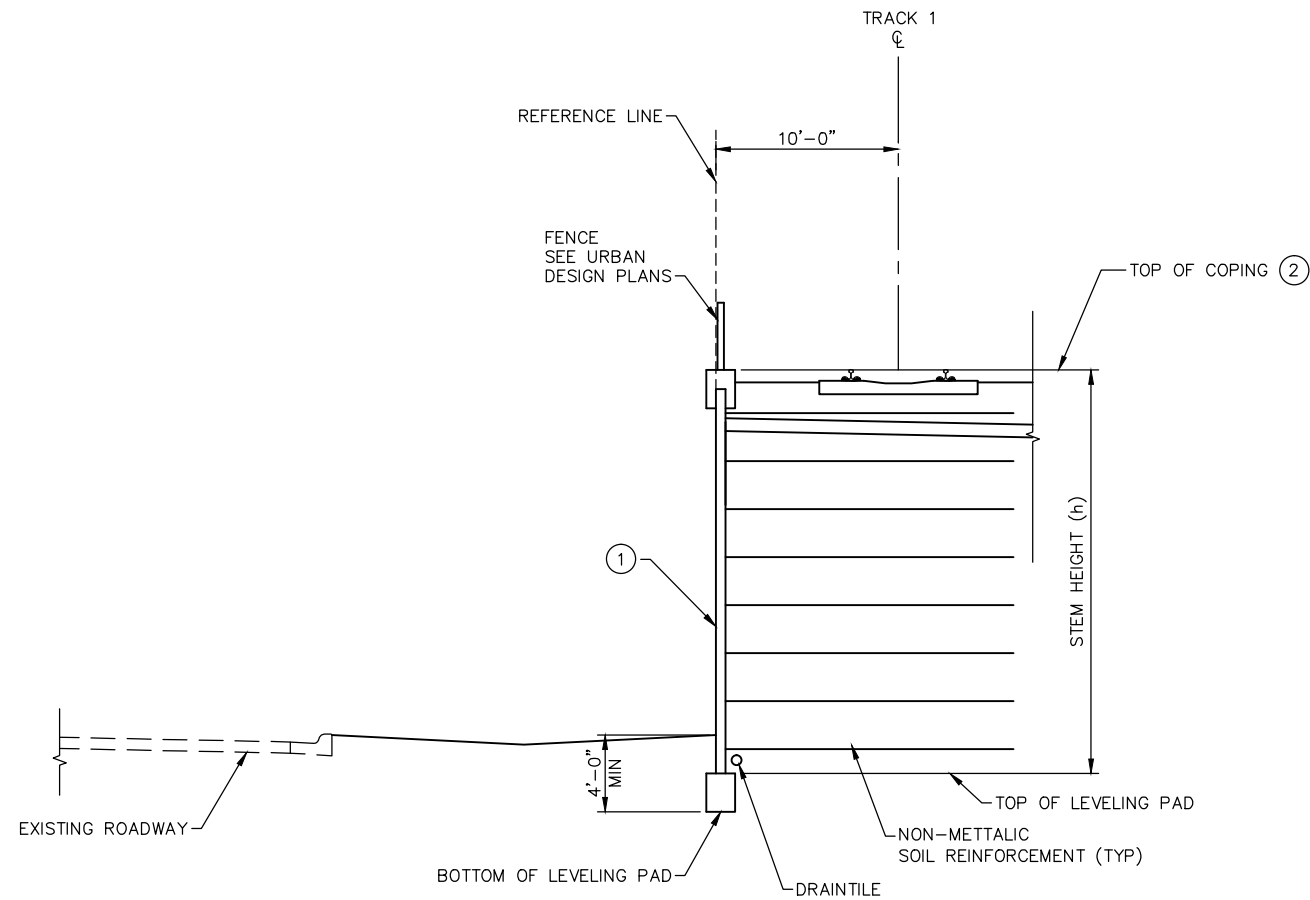


90% SUBMISSION - 01/22/16



<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W119 PLAN AND ELEVATION</b>		<b>SHEET</b> 209 OF 271
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W119-PL</b>	

Jan, 17 2016 10:13 pm v:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W119.dwg By: V-NutzmaML



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - ② TOP OF COPING = TOP OF RAIL
  - 3. RETAINING WALL TO BE MSE WALL
  - 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS


**RTW-W119 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W119													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	2+88.66						238.66	128163.23	491379.48	128390.48	491452.37	17°46'57"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W119 GEOMETRY**

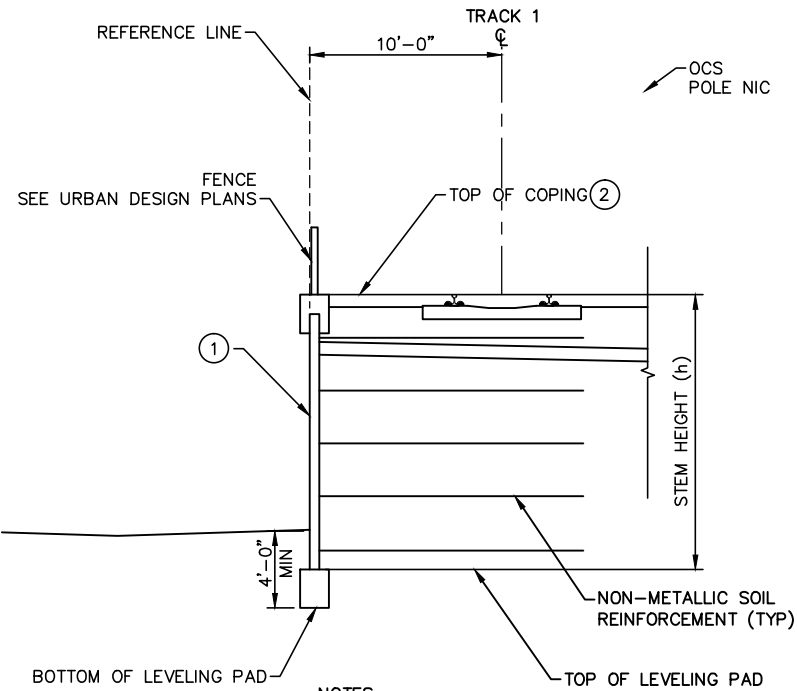
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W119-DTL**

SHEET  
210  
OF  
271



Jan, 18 2016 01:57 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W201.dwg By: V-NutzmaML

ALIGNMENT DATA RTW-W201													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	1+28.15						78.15	128390.48	491452.37	128464.90	491476.24	17°46'57"
S2	1+28.15	2+07.99						79.85	128464.90	491476.24	128541.05	491500.23	17°46'57" 16°54'04"
C3	2+07.99	4+88.78	3+48.52	6°12'42"	2°12'43.89"	2590.00	140.53	280.79	128541.05	491500.23	128813.61	491567.15	16°54'04" 10°41'22"
S4	4+88.78	5+68.63						79.85	128813.61	491567.15	128892.22	491581.16	10°41'22" 9°48'29"
L5	5+68.63	6+27.10						58.47	128892.22	491581.16	128949.83	491591.12	9°48'29"
S6	6+27.10	7+48.60						121.50	128949.83	491591.12	129068.24	491617.78	9°48'29" 18°24'09"
C7	7+48.60	8+46.52	7+97.79	13°41'02"	13°58'28.49"	410.00	49.19	97.92	129068.24	491617.78	129156.60	491659.44	18°24'09" 32°05'10"



**NOTES**

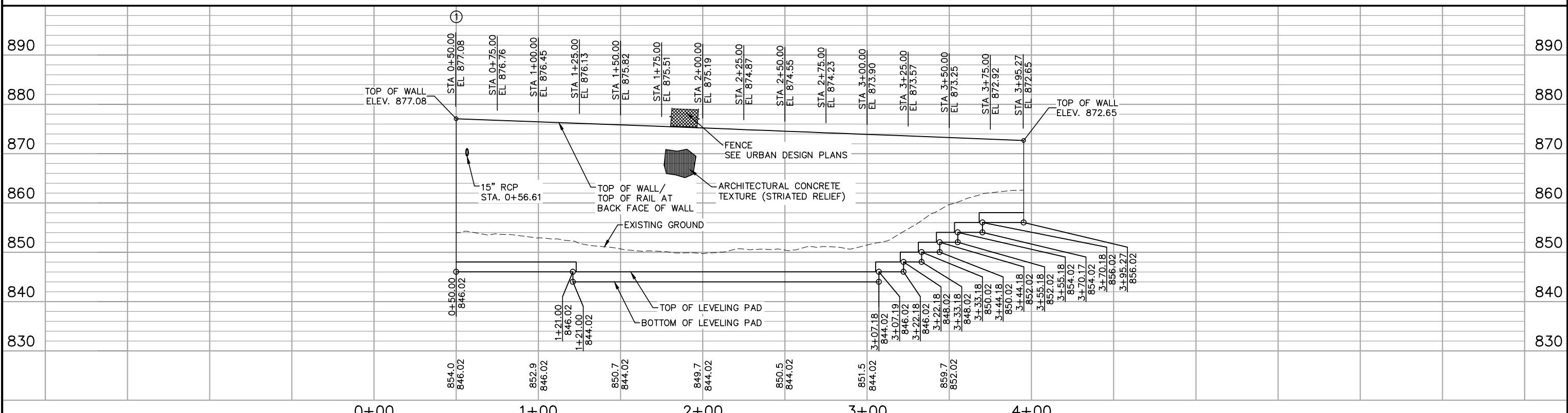
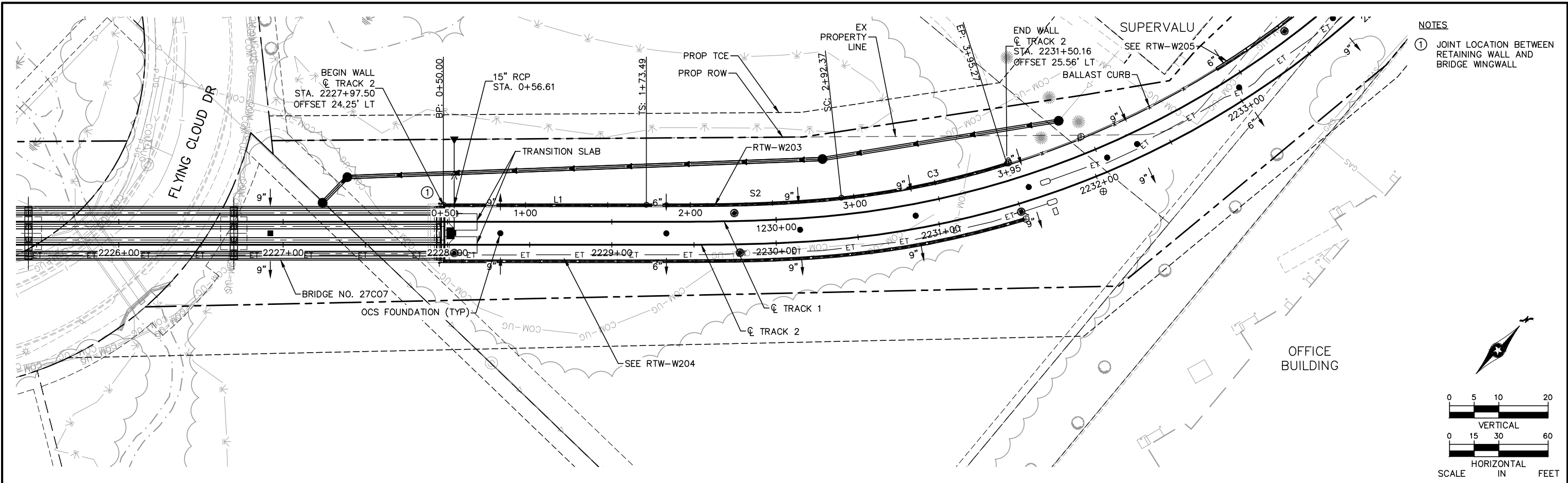
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W201 SECTION**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

 	 	<p><b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W201 GEOMETRY</b></p>	<p><b>SHEET</b> 212 <b>OF</b> 271</p>
<p>90% SUBMISSION - 01/22/16</p>		<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-W201-DTL</b></p>

Jan, 18 2016 02:01 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W203.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W203 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W203-PL**

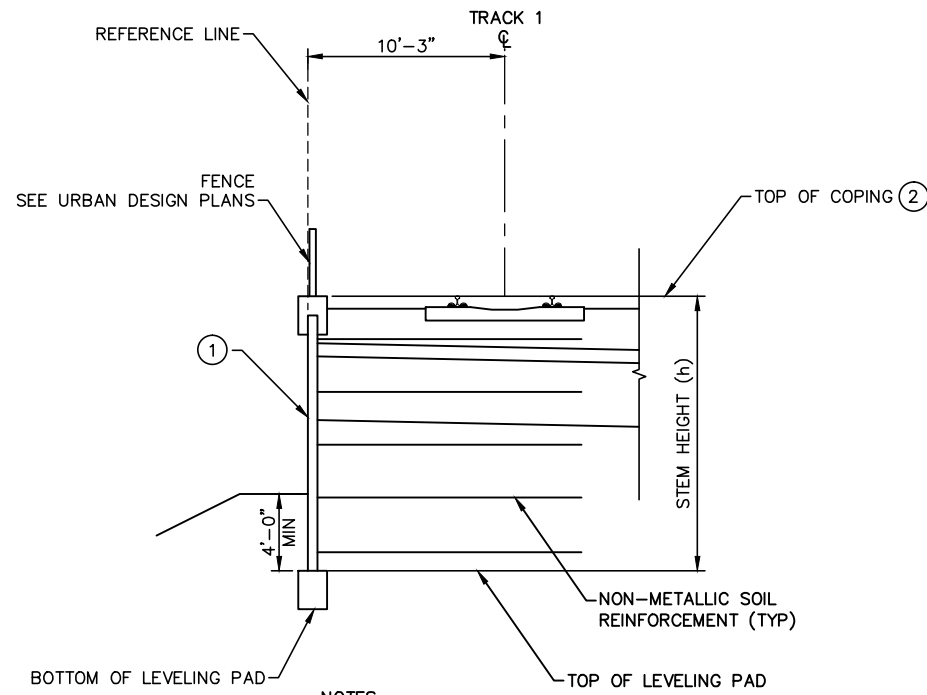
**SHEET**

213

OF

271

Jan. 18 2016 02:03 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W203.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W203 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W203													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	1+73.49						123.49	129949.02	492805.49	130029.39	492899.25	49°23'45"
S2	1+73.49	2+92.37						118.88	130029.39	492899.25	130109.94	492986.60	49°23'45" 43°08'43"
C3	2+92.37	3+95.27	3+43.98	10°55'22"	10°36'54.88"	539.75	51.61	102.90	130109.94	492986.60	130191.25	493049.41	43°08'43" 32°13'21"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL







**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

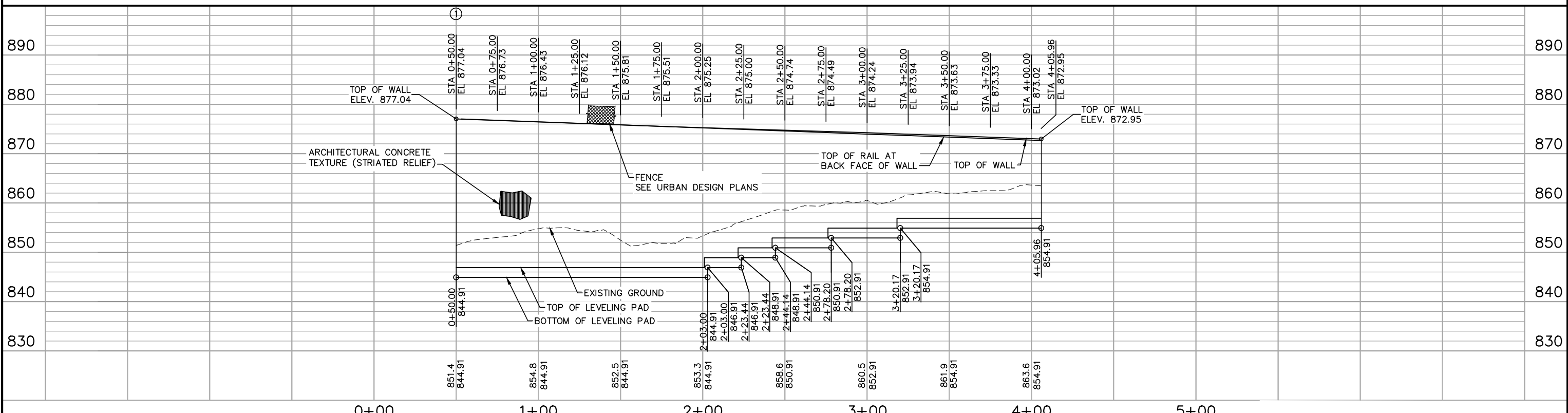
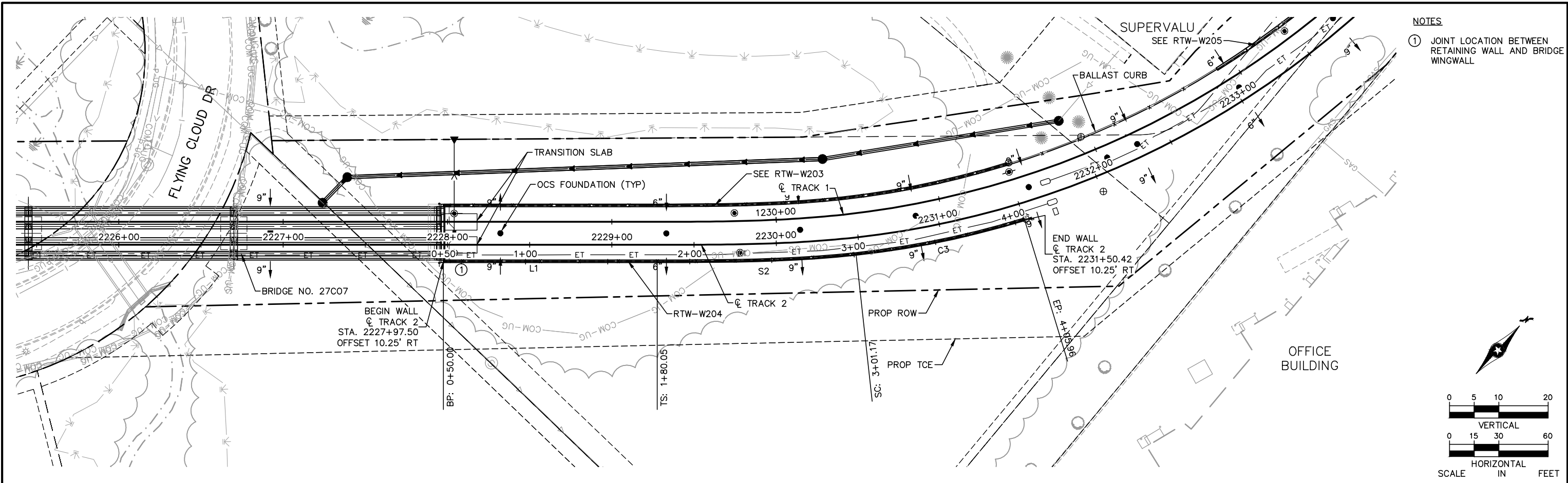
**RETAINING WALLS**

**RTW-W203 GEOMETRY**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W203-DTL</b>
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SHEET  
214  
OF  
271

Jan, 18 2016 02:07 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W204.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

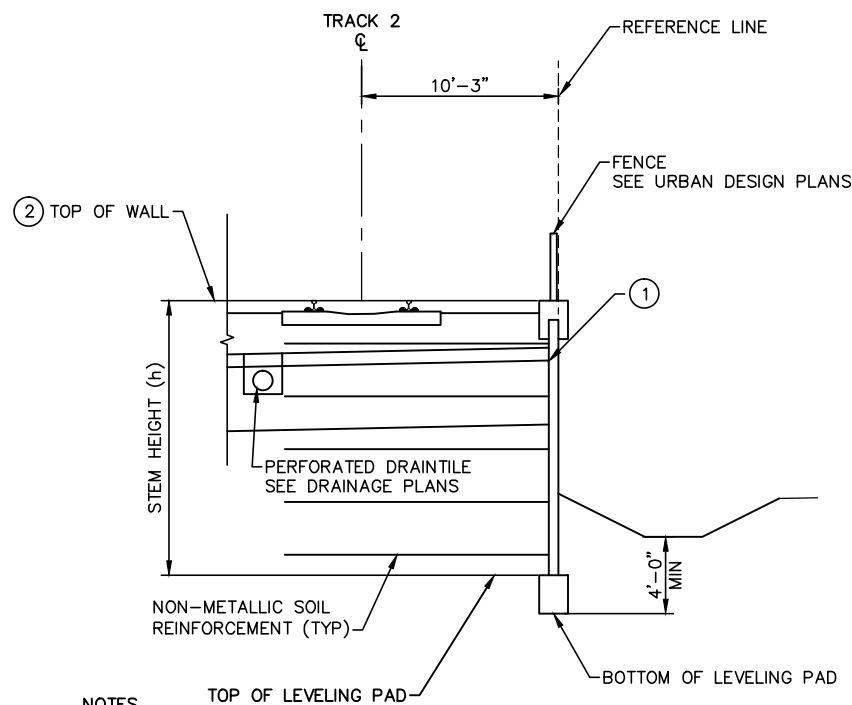
**RETAINING WALLS**

**RTW-W204 PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W204-PL6</b>
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SHEET  
215  
OF  
271

ALIGNMENT DATA RTW-W204													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	1+80.05						130.05	129922.83	492827.95	130007.47	492926.68	49°23'45"
S2	1+80.05	3+01.17						121.12	130007.47	492926.68	130089.56	493015.65	49°23'45" 43°08'43"
C3	3+01.17	4+05.96	3+53.72	10°43'00"	10°13'36.57"	560.25	52.55	104.79	130089.56	493015.65	130172.25	493079.77	43°08'43" 32°25'43"



- NOTES**
- ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - TOP OF WALL = TOP OF RAIL + SUPERELEVATION (EA) THROUGH OUTSIDE CURVES AND SPIRALS
  - RETAINING WALL TO BE MSE WALL
  - SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W204 SECTION**  
NOT TO SCALE

Jan. 18 2016 02:09 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W204.dwg By: V-NutzmaML

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

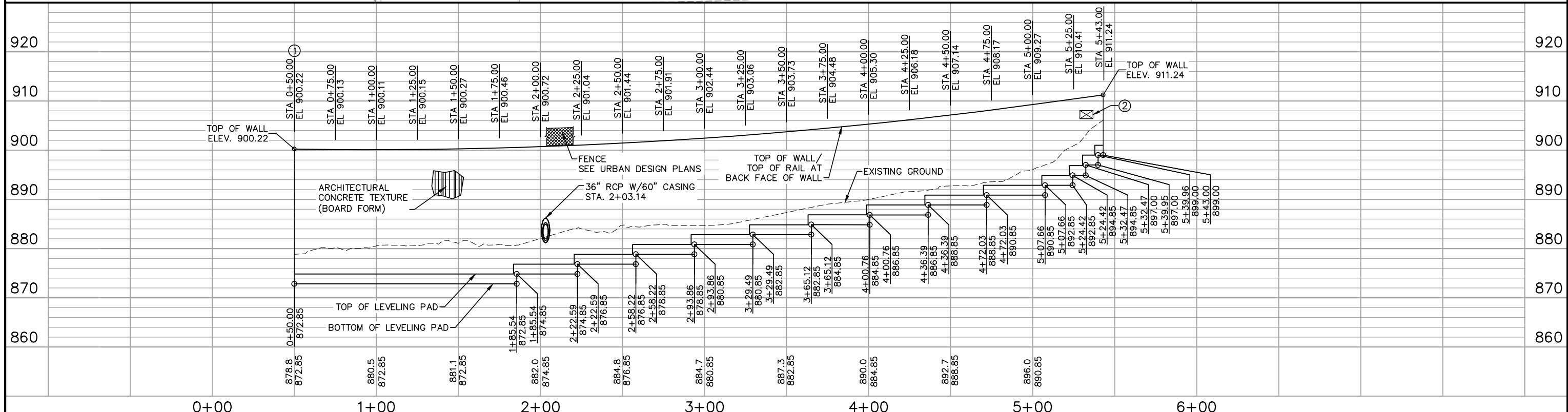
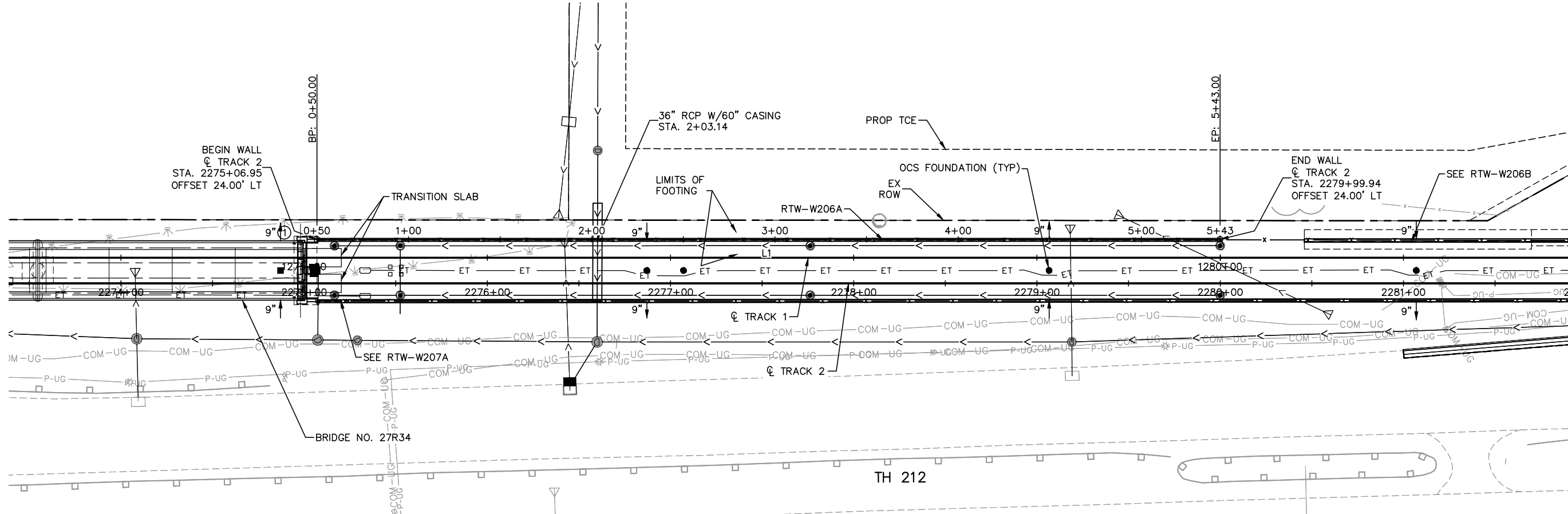
   	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W204 GEOMETRY</b>	<b>SHEET</b> <b>216</b> <b>OF</b> <b>271</b>
	<b>90% SUBMISSION - 01/22/16</b>	DISCIPLINE: <b>STRUCTURES</b>



Jan, 18 2016 02:14 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W206A.dwg By: V-NutzmaM

**NOTES**

- ① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL
- ② STRAY CURRENT TEST STATION, SEE ELECTRICAL PLANS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

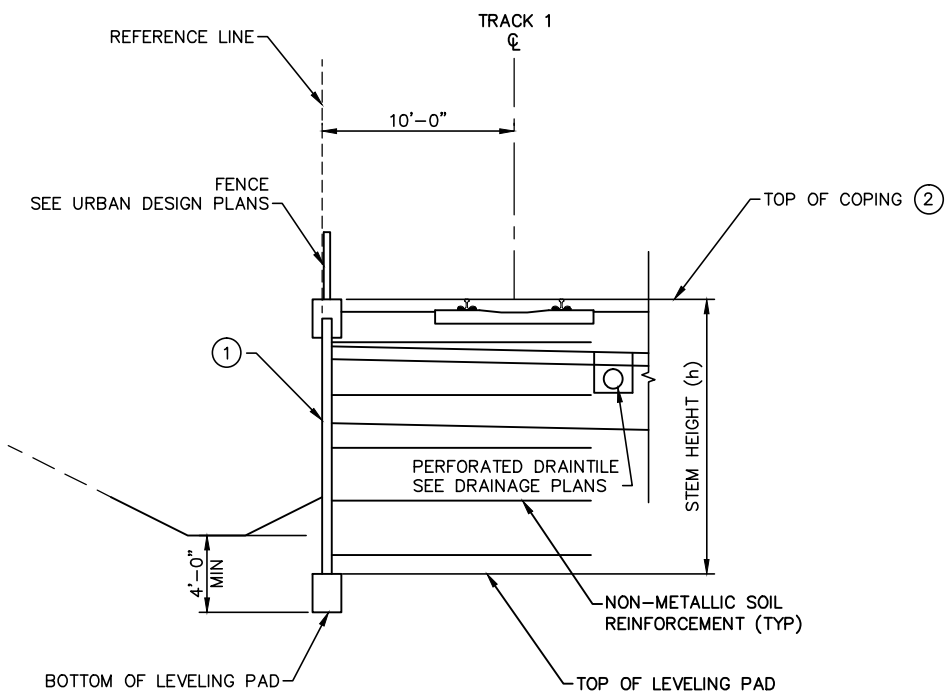
**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W206A PLAN AND ELEVATION**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W206A-PL</b>
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ALIGNMENT DATA RTW-W206A													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	5+43.00						493.00	134419.25	492910.72	134854.74	493141.80	27°57'08"



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- ② TOP OF COPING = TOP OF RAIL
- 3. RETAINING WALL TO BE MSE WALL
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

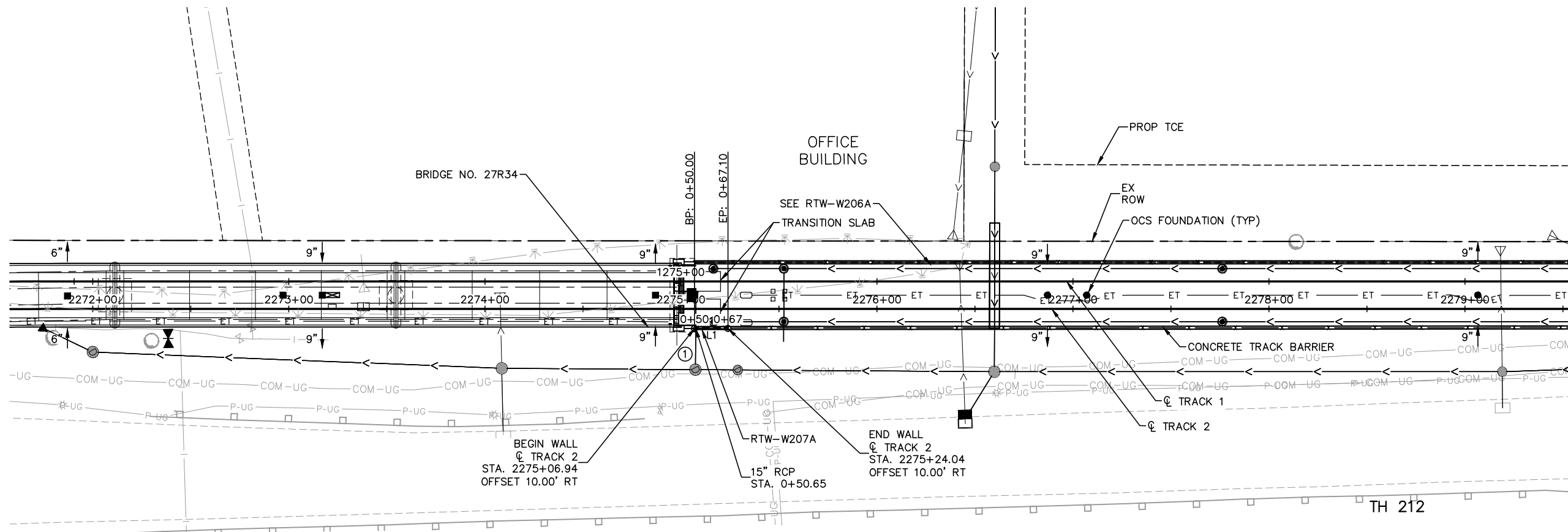
**RTW-W206A SECTION**  
NOT TO SCALE

Jan. 18 2016 02:17 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W206A.dwg By: V-NutzmdML

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

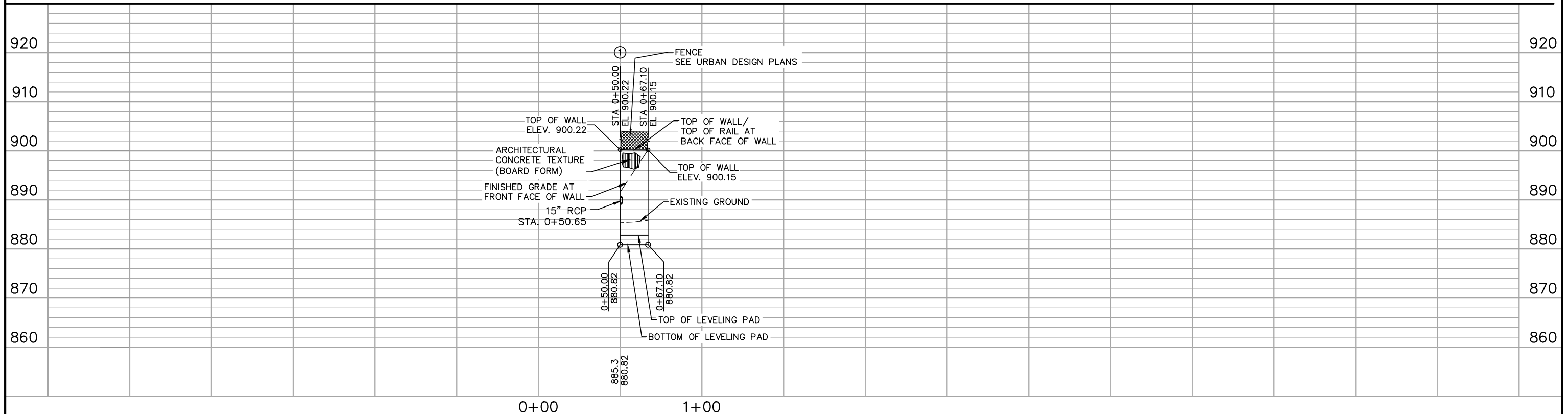
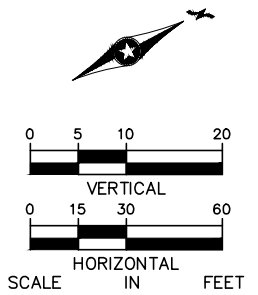
 	 	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W206A GEOMETRY</b>		<b>SHEET</b> 218 OF 271
		90% SUBMISSION - 01/22/16		DISCIPLINE: <b>STRUCTURES</b>

Jan. 18 2016 02:21 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W207A.dwg By: V-NutzmaML



NOTES

① JOINT LOCATION BETWEEN RETAINING WALL AND BRIDGE WINGWALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W207A PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

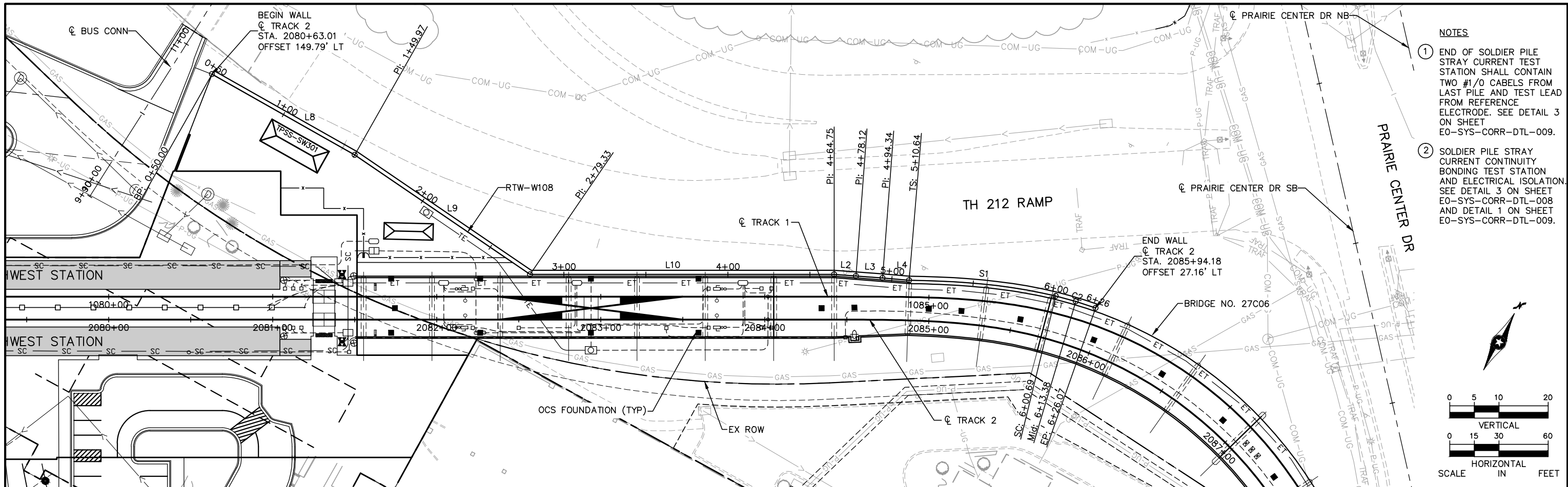
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SHEET **219**

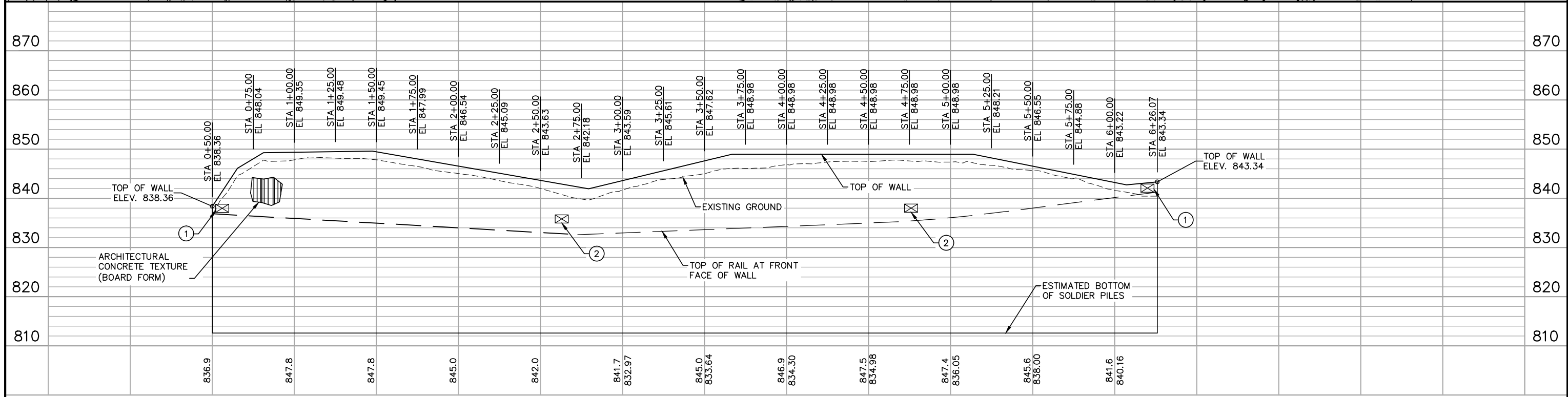
OF **271**



Jan. 17 2016 10:45 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W108.dwg By: V-NutzmaM



- NOTES**
- END OF SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABELS FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-009.
  - SOLDIER PILE STRAY CURRENT CONTINUITY BONDING TEST STATION AND ELECTRICAL ISOLATION. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008 AND DETAIL 1 ON SHEET E0-SYS-CORR-DTL-009.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

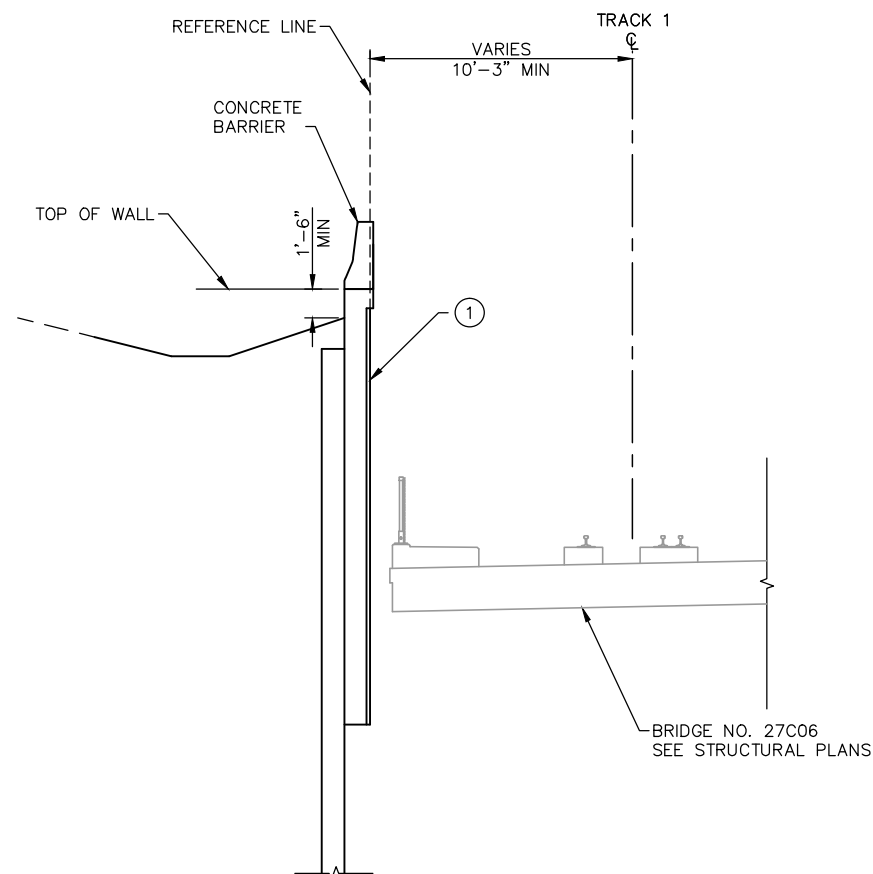
**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W108 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W108-PLE**

**SHEET**  
221  
**OF**  
271

Jan, 17 2016 10:46 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W108.dwg By: V-NutzmaML



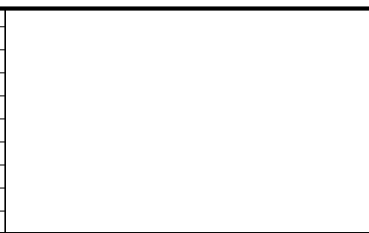
**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. BOND SOLDIER PILES PER SHEET E0-SYS-CORR-DTL-008 AND E0-SYS-CORR-DTL-009
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W108 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W108													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L8	0+50.00	1+49.97						99.97	125267.95	484190.97	125265.72	484290.91	91°16'48"
L9	1+49.97	2+79.33						129.36	125265.72	484290.91	125252.05	484419.55	96°03'45"
L10	2+79.33	4+64.75						185.42	125252.05	484419.55	125339.79	484582.90	61°45'32"
L2	4+64.75	4+78.12						13.38	125339.79	484582.90	125345.23	484595.12	66°03'49"
L3	4+78.12	4+94.34						16.21	125345.23	484595.12	125351.81	484609.94	66°03'49"
L4	4+94.34	5+10.64						16.30	125351.81	484609.94	125358.30	484624.89	66°03'49"
S1	5+10.64	6+00.69						90.05	125358.30	484624.89	125392.06	484708.17	62°45'03" 75°30'35"
C2	6+00.69	6+26.07	6+13.39	5°35'17"	22°00'56.41"	260.25	12.70	25.38	125392.06	484708.17	125397.20	484733.01	75°30'35" 81°05'53"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

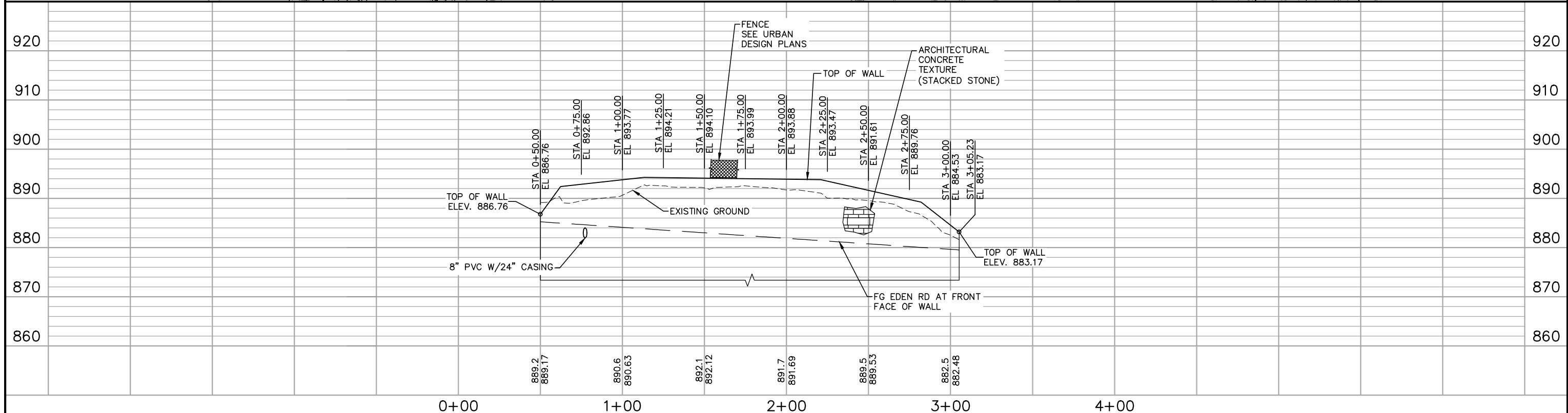
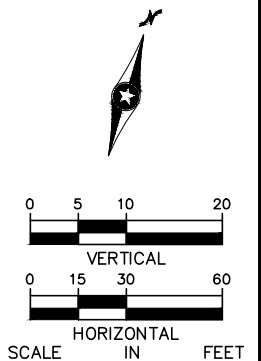
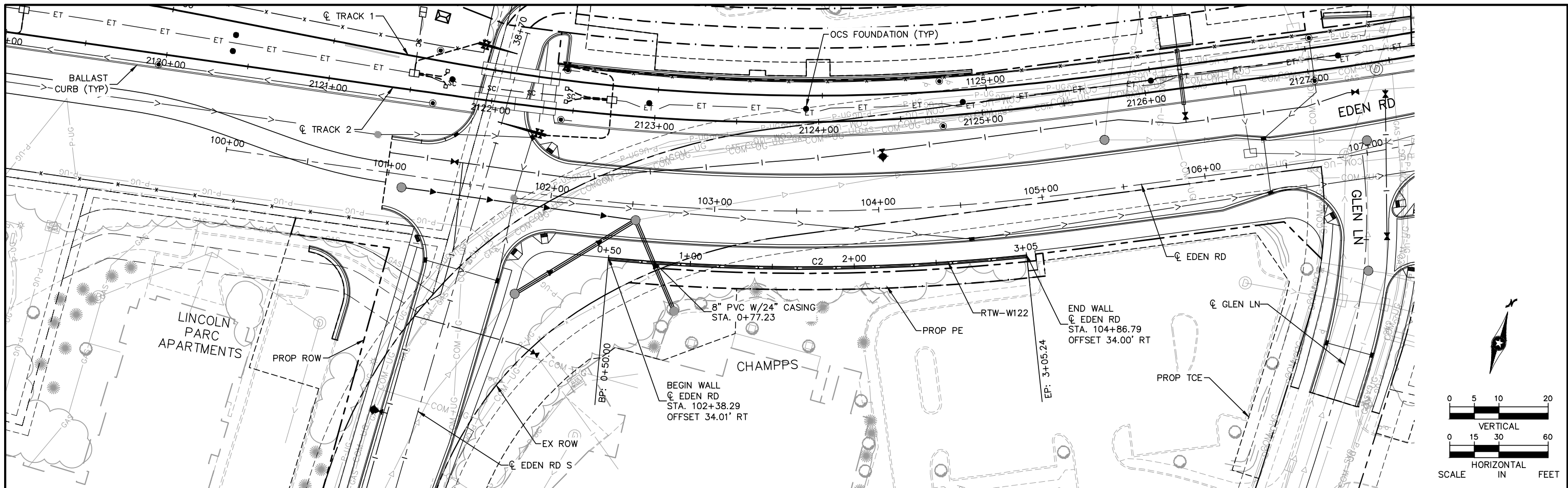


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W108 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-W108-DTL**

SHEET  
222  
OF  
271

Jan, 17 2016 10:51 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W122.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

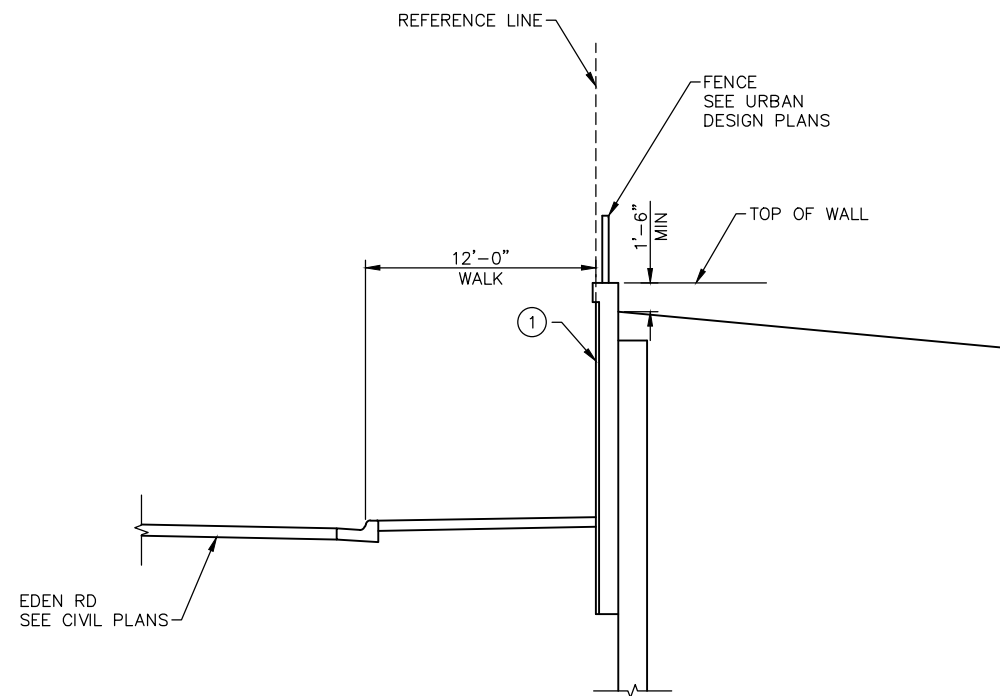


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W122 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W122-PL6**

SHEET **223**  
OF  
**271**

Jan, 17 2016 10:51 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W122.dwg By: V-NutzmaML



**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W122 SECTION**

NOT TO SCALE

**ALIGNMENT DATA  
RTW-W122**

SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C2	0+50.00	3+05.24	1+78.04	11°22'19"	4°27'19.25"	1286.00	128.04	255.24	124774.94	488167.59	124846.38	488412.19	79°24'17" 68°01'57"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W122 GEOMETRY**

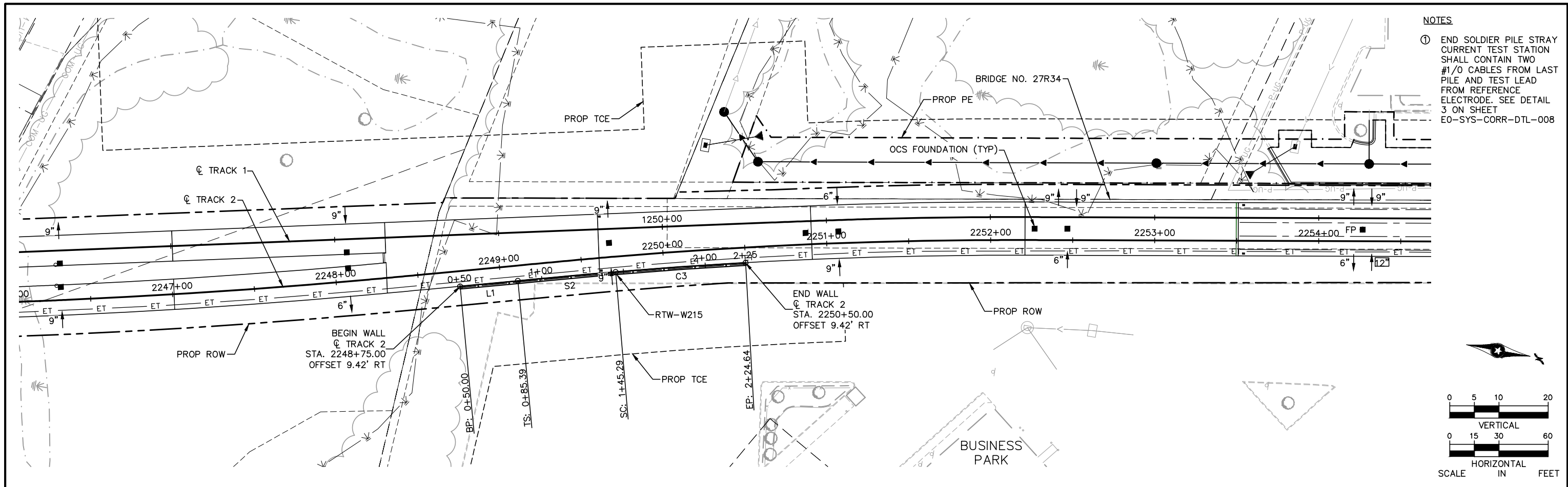
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W122-DTL**

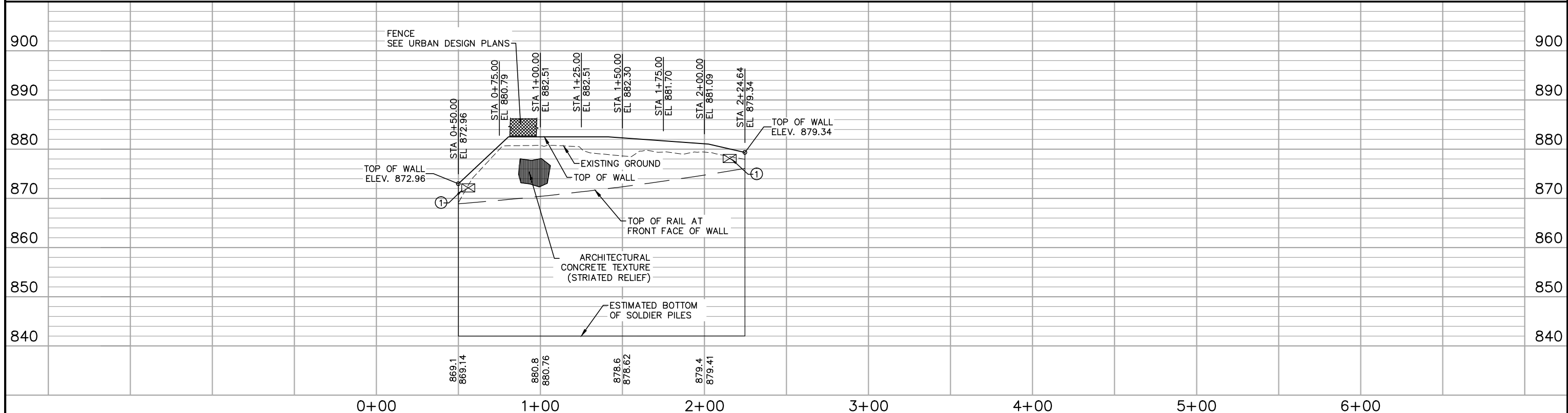
**SHEET  
224  
OF  
271**



Jan, 18 2016 02:26 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W215.dwg By: V-NutzmaML



**NOTES**  
 ① END SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

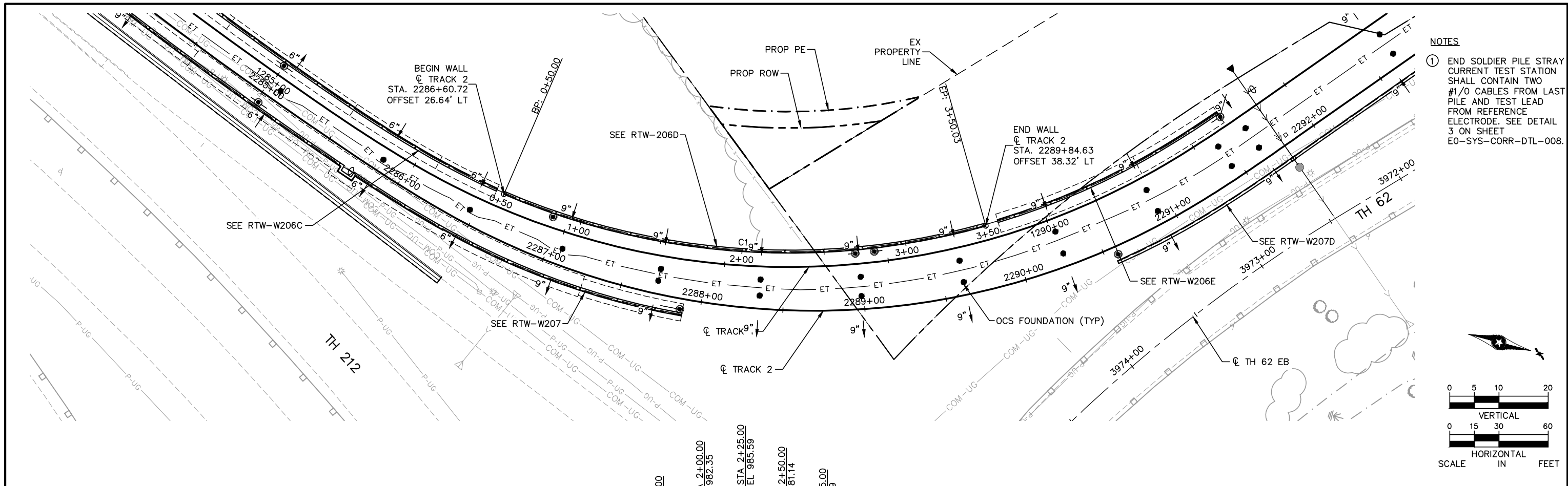
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W215 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W215-PLE**

**SHEET 225 OF 271**

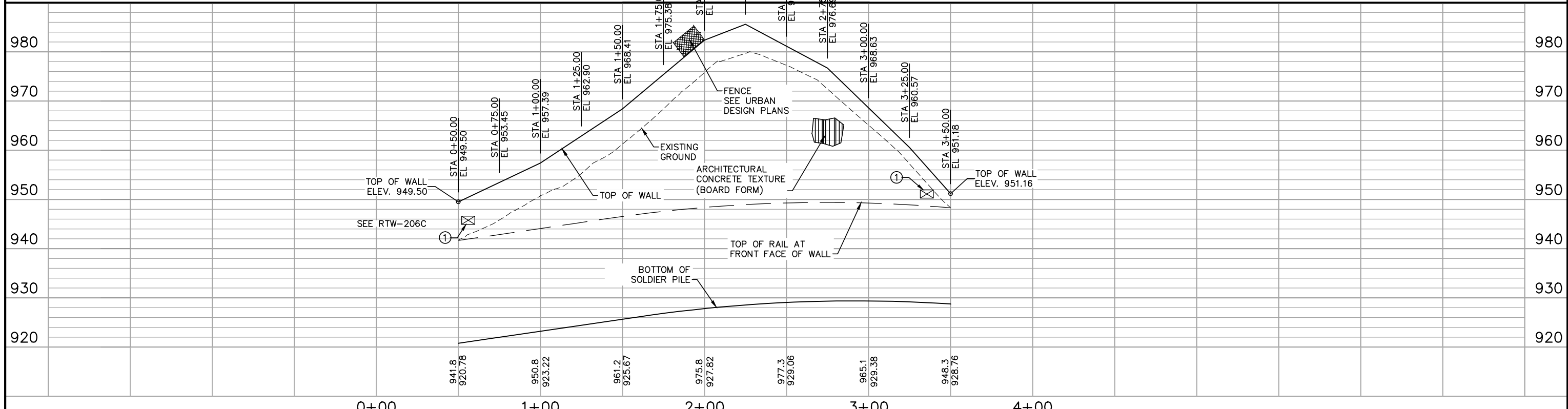
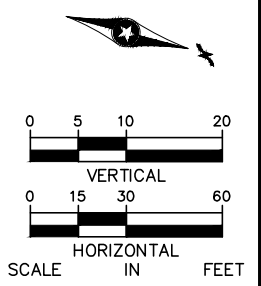


Jan. 18 2016 02:33 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W206D.dwg By: V-NutzmaML



**NOTES**

① END SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W206D PLAN AND ELEVATION**

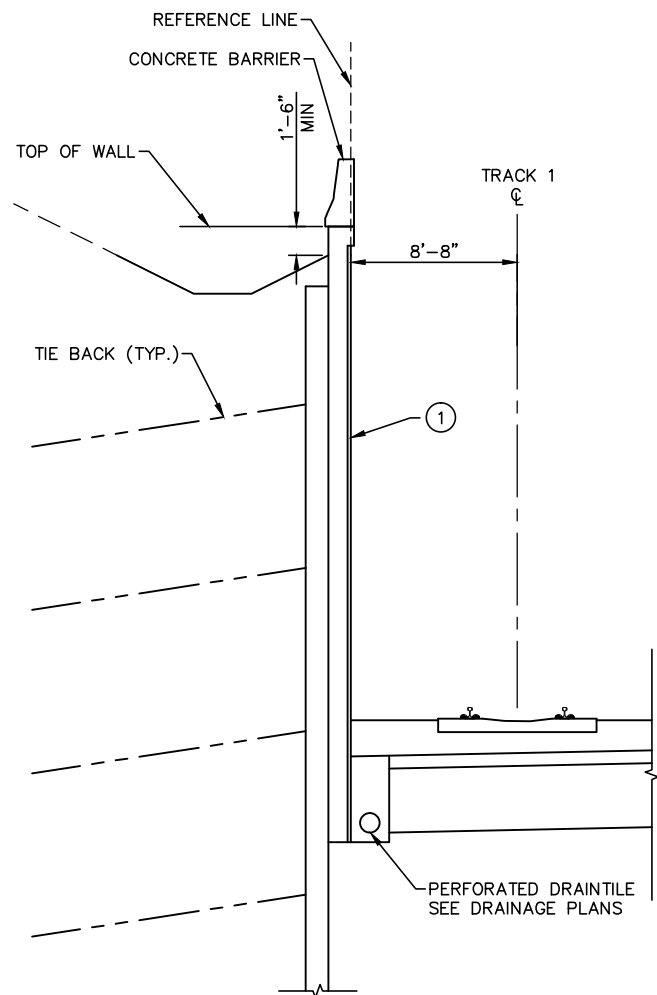
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W206D-PL**

SHEET **227**

OF **271**

Jan. 18 2016 02:35 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W206D.dwg By: V-NutzmaML

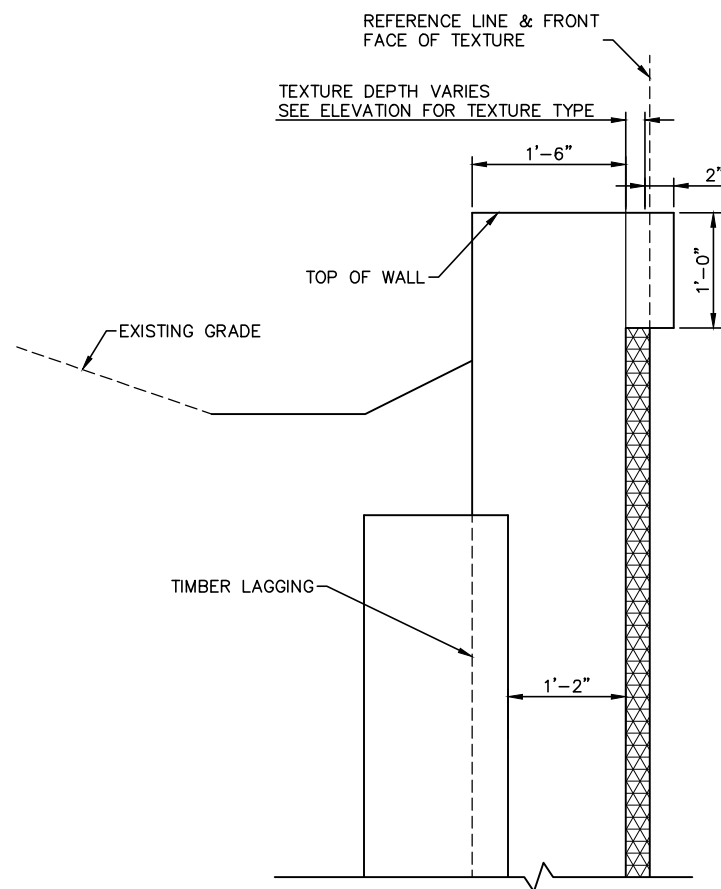


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. BOND SOLDIER PILES PER SHEET E0-SYS-COR-DTL-008 AND SHEET E0-SYS-COR-DTL-009
- 4. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W206D SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W206D													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C1	0+50.00	3+50.03	2+06.07	38°57'06"	12°58'56.74"	441.33	156.07	300.03	135451.58	493404.26	135740.85	493350.14	8°52'47" 329°55'41"



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL









**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

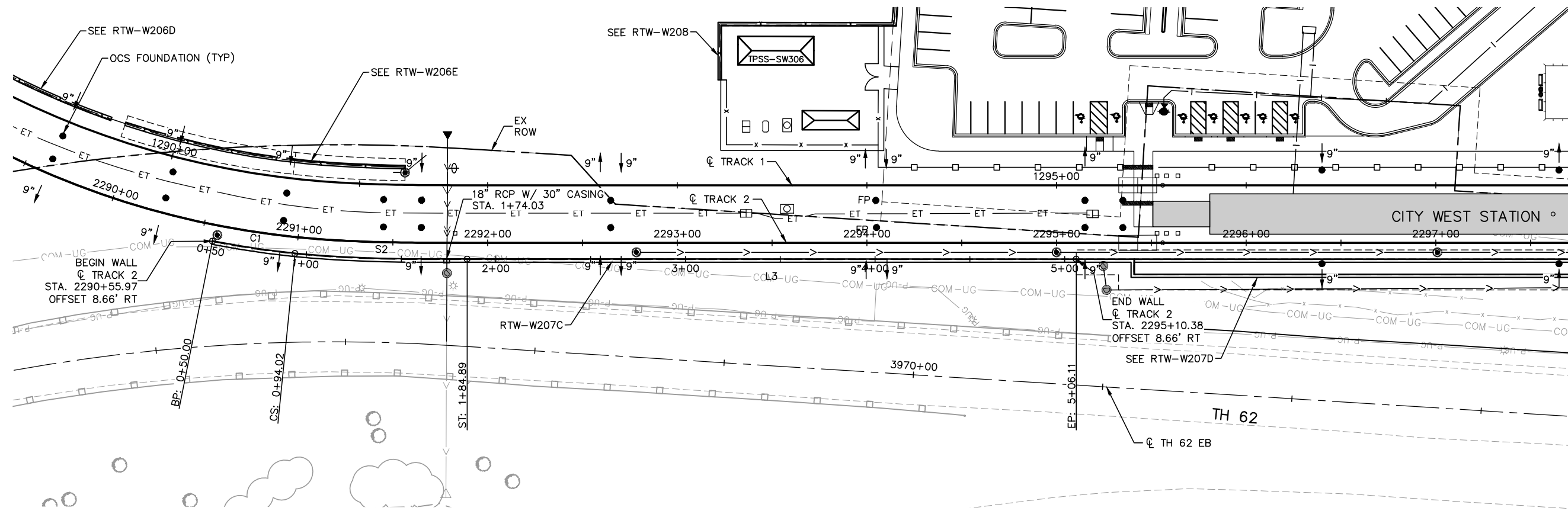
**RETAINING WALLS**

**RTW-W206D GEOMETRY**

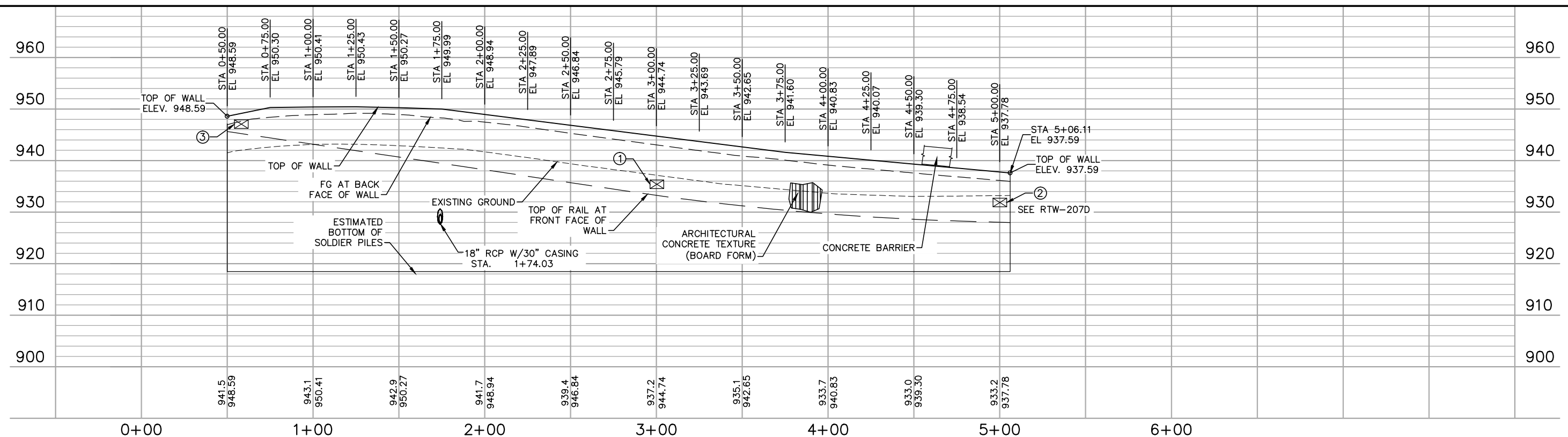
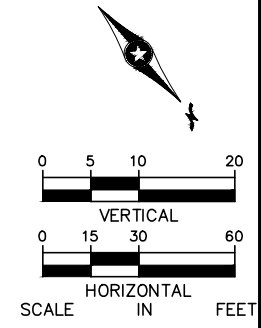
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W206D-DTL</b>
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SHEET  
228  
OF  
271

Jan. 18 2016 02:40 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W207C.dwg By: V-NutzmaML



- NOTES**
- ① STRAY CURRENT TEST STATION. SEE SHEET E0-SYS-CORR-DTL-008
  - ② SOLDIER PILE RETAINING WALL TO CIP RETAINING WALL STRAY CURRENT BOND TEST STATION. SEE SHEET E0-SYS-CORR-DTL-009 AND DETAIL 4 ON E0-SYS-CORR-DTL-018 FOR TEST WIRES FROM RTW-207D.
  - ③ END SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008.



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



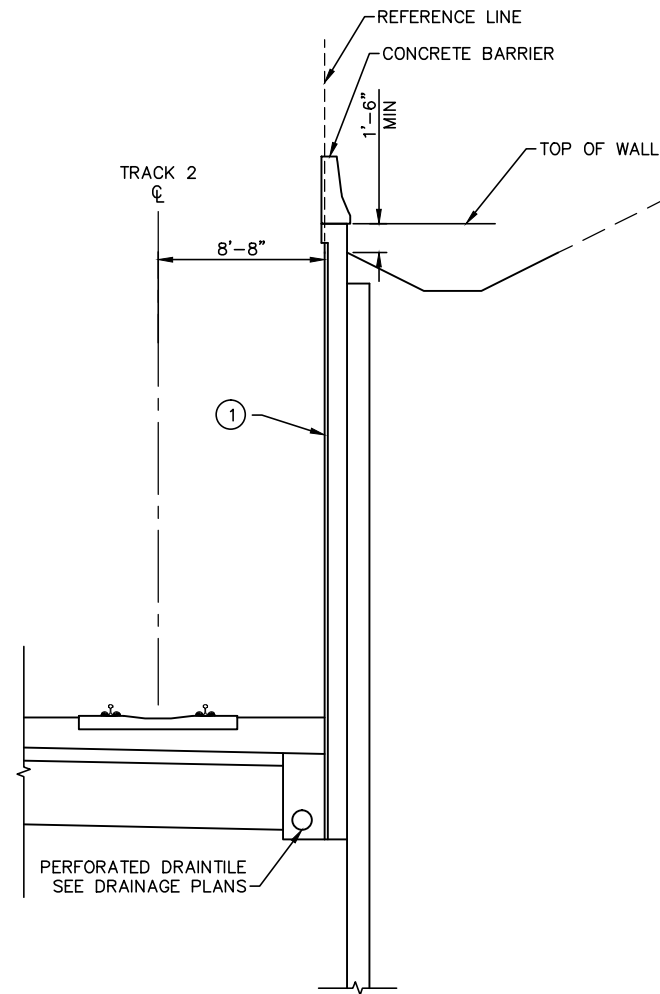
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W207C PLAN AND ELEVATION**

DISCIPLINE: STRUCTURES SHEET NAME: RTW-W207C-PLE

SHEET 229 OF 271

Jan, 18 2016 02:42 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W207C.dwg By: V-NutzmaML

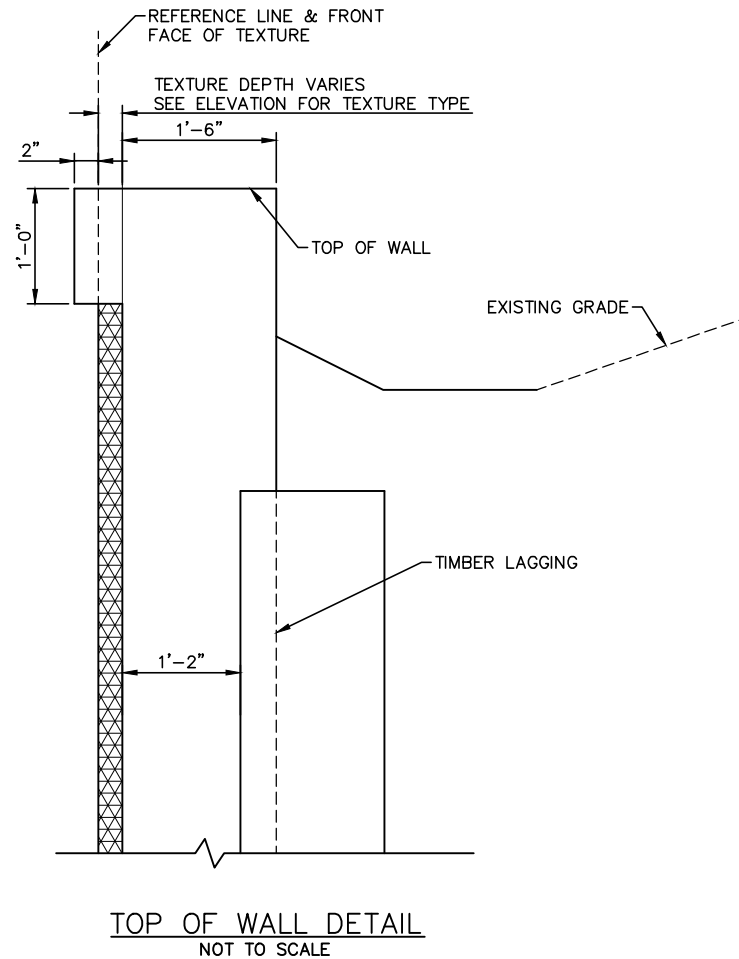


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. BOND SOLDIER PILES PER SHEET E0-SYS-COR-DTL-008 AND SHEET E0-SYS-COR-DTL-009

**RTW-W207C SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-207C													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C1	0+50.00	0+94.02	0+72.03	5'29'56"	12'29'30.89"	458.66	22.03	44.02	135824.17	493350.97	135857.41	493322.14	321'49'44" 316'19'47"
S2	0+94.02	1+84.89						90.87	135857.41	493322.14	135918.80	493255.20	316'19'47" 310'36'01"
L3	1+84.89	5+06.11						321.22	135918.80	493255.20	136127.84	493011.31	310'36'01"



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

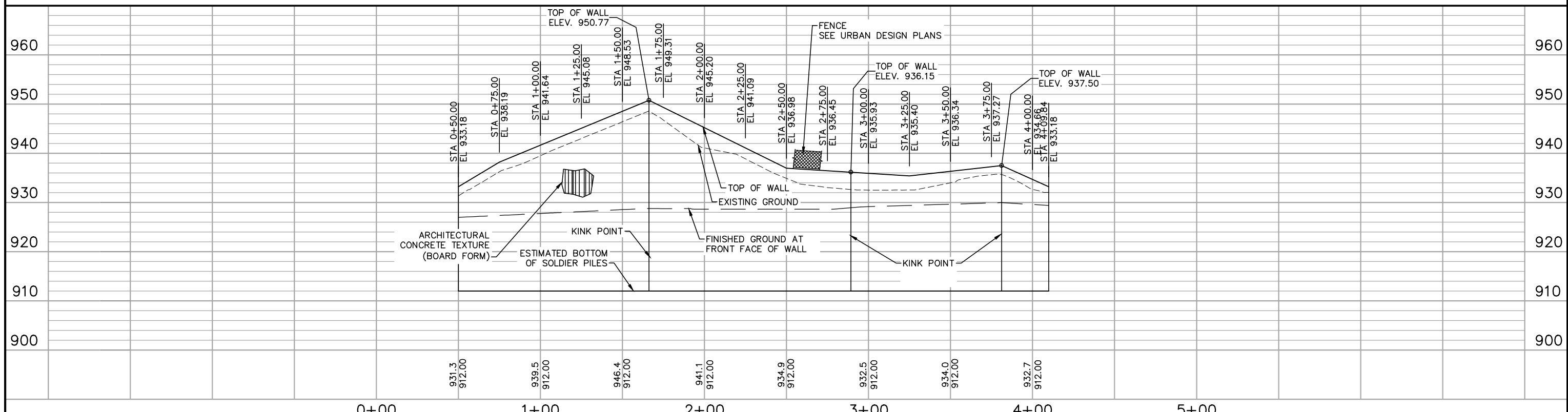
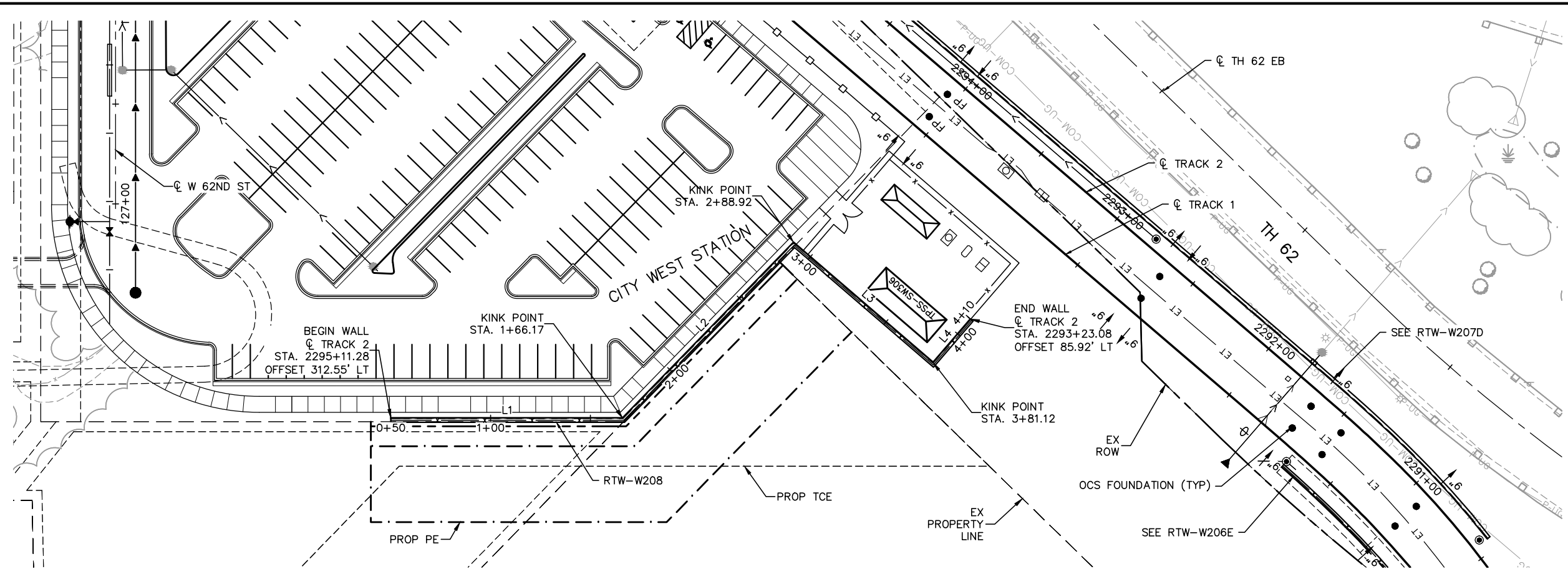
**RETAINING WALLS**

**RTW-W207C GEOMETRY**

DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W207C-DTL</b>
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SHEET  
230  
OF  
271

Jan, 18 2016 02:46 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W208.dwg By: V-NutzmaML



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W208 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W208-PL**

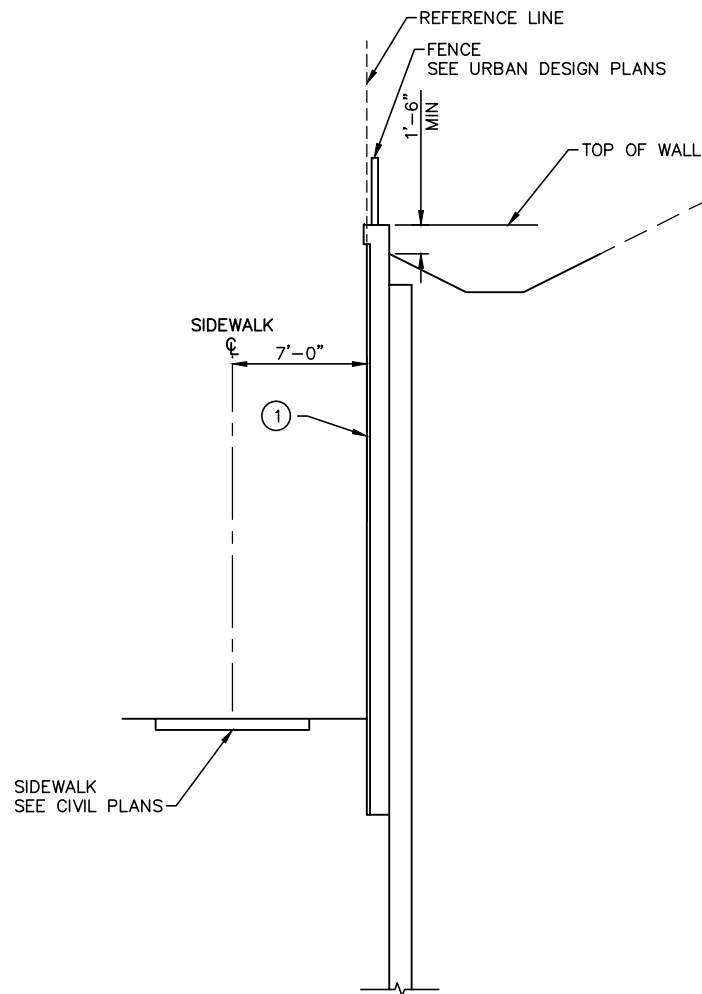
**SHEET**

231

OF

271

Jan, 18 2016 02:49 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W208.dwg By: V-NutzmaML

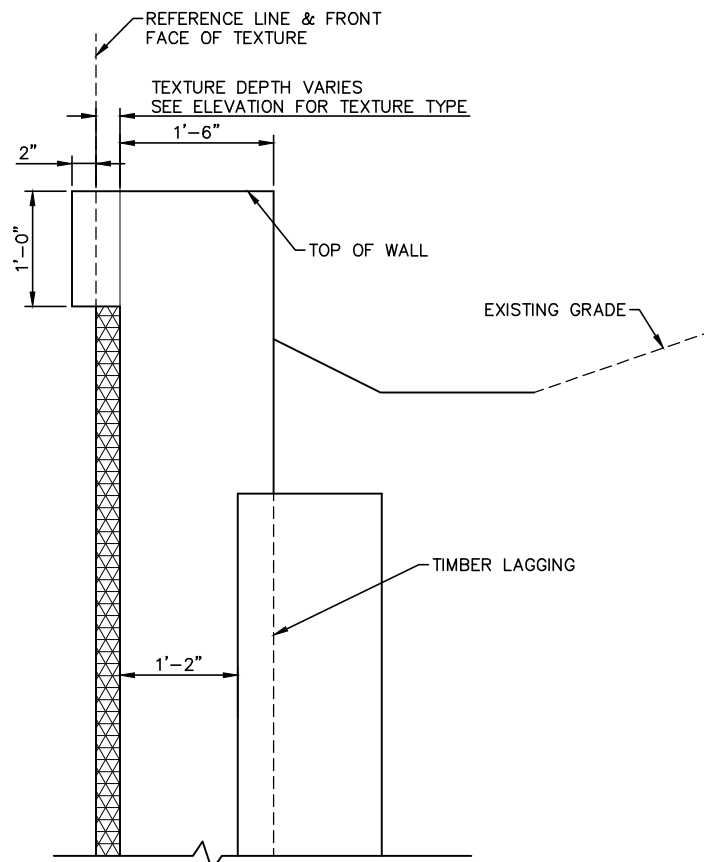


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W208 SECTION**  
NOT TO SCALE

ALIGNMENT DATA RTW-W208													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	1+66.17						116.17	135884.54	492801.59	135884.54	492917.76	90°00'00"
L2	1+66.17	2+88.92						122.75	135884.54	492917.76	135972.52	493003.35	44°12'44"
L3	2+88.92	3+81.12						92.20	135972.52	493003.35	135912.38	493073.23	130°43'10"
L4	3+81.12	4+09.84						28.72	135912.38	493073.23	135934.14	493091.97	40°43'10"



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL









**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W208 GEOMETRY**

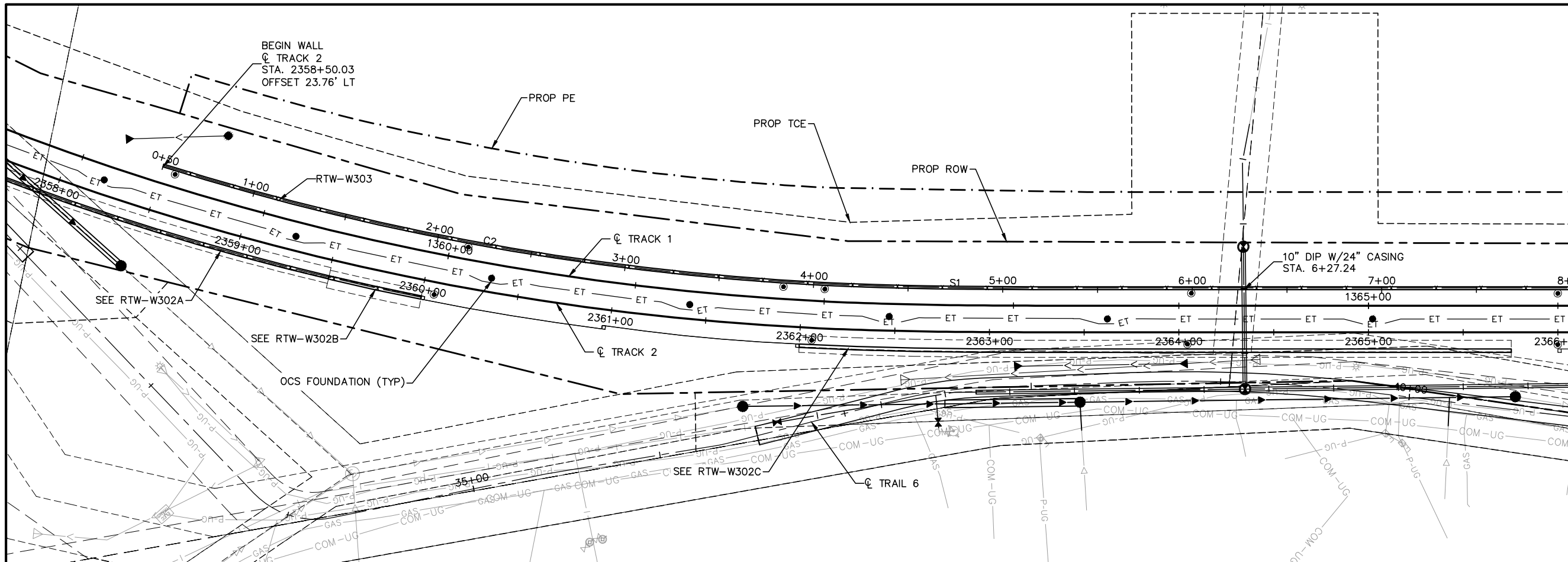
DISCIPLINE:  
**STRUCTURES**

SHEET NAME:  
**RTW-W208-DTL**

SHEET  
232  
OF  
271



Jan. 17 2016 11:19 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W303.dwg By: V-NutzmaM

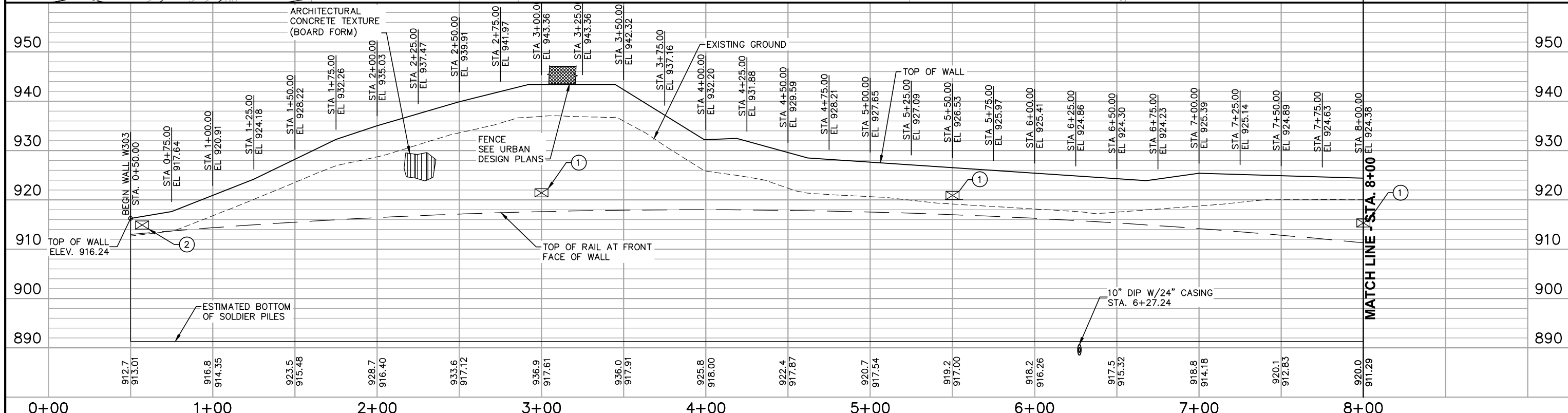


**NOTES**

- SOLDIER PILE STRAY CURRENT TEST STATION AND ISOLATION IN CAP BEAM. SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-008.
- END SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET EO-SYS-CORR-DTL-008

**MATCH LINE - STA. 8+00**

SCALE IN FEET



NO.	DATE	BY	CHECK/DESIGN REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

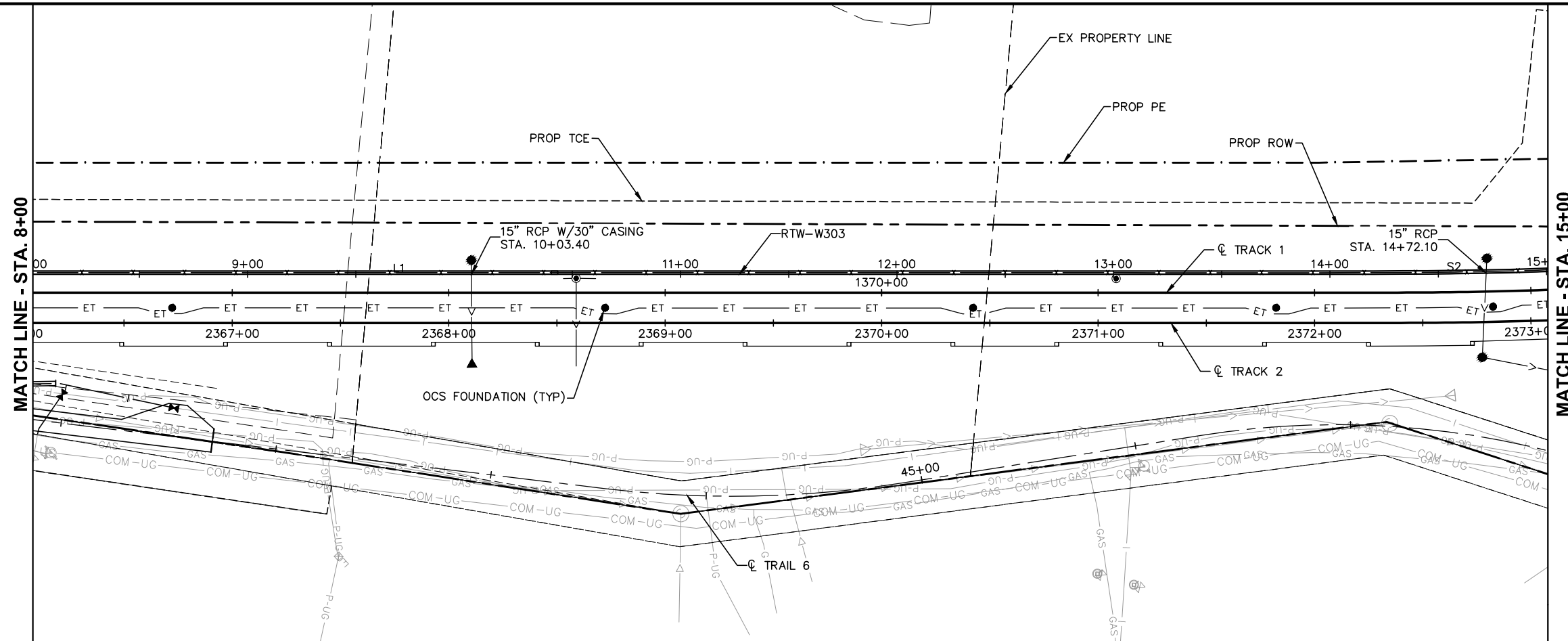
SOUTHWEST  
Green Line LRT Extension

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W303 PLAN AND ELEVATION**  
**STA. 0+50 TO STA. 8+00**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W303-PL-001**

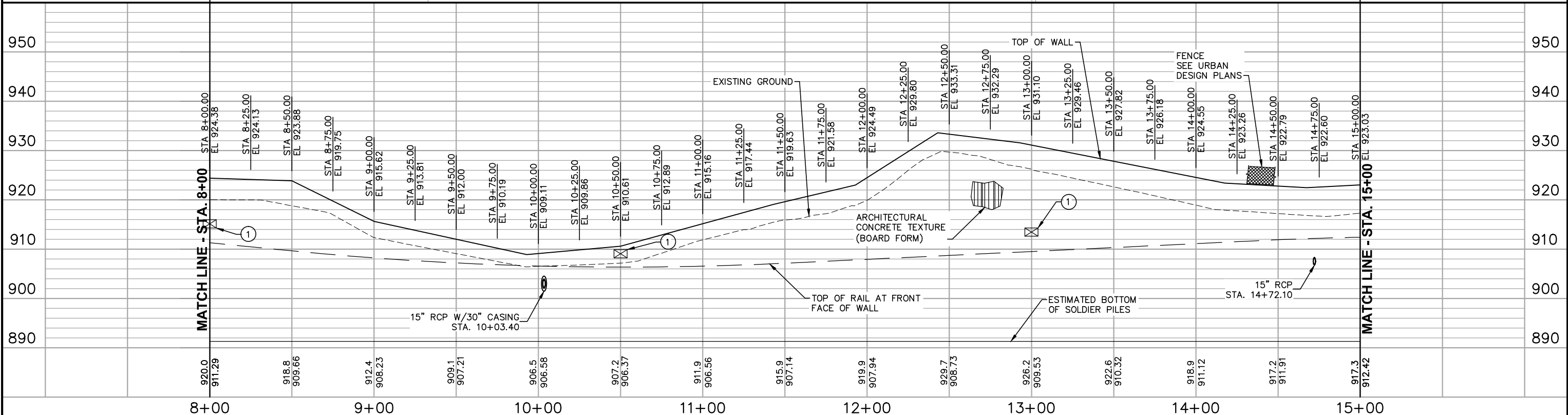
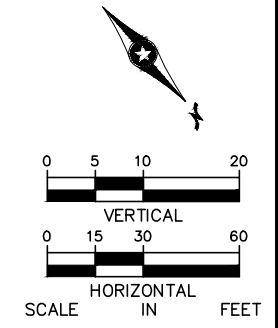
<b>SHEET</b>	<b>233</b>
<b>OF</b>	<b>271</b>

Jan, 17 2016 11:20 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W303.dwg By: V-NutzmaML



**NOTES**

① SOLDIER PILE STRAY CURRENT TEST STATION AND ISOLATION IN CAP BEAM. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

8+00	9+00	10+00	11+00	12+00	13+00	14+00	15+00
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**AECOM**

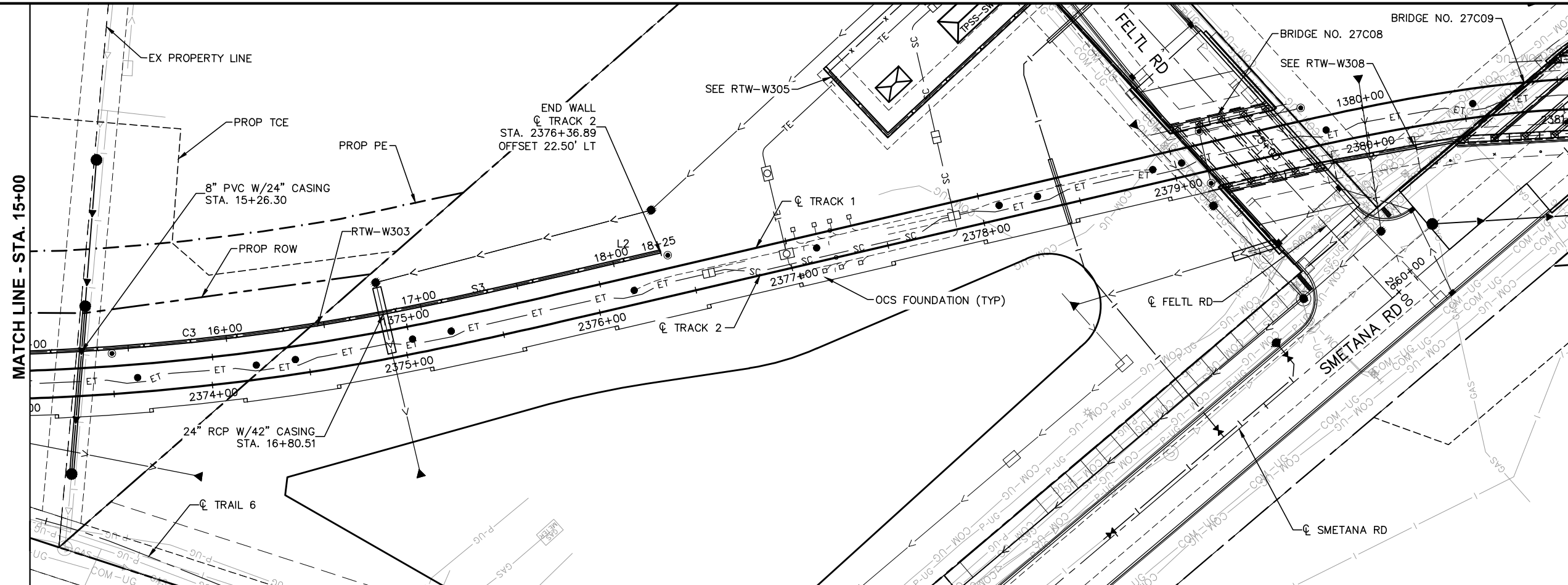
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-W303 PLAN AND ELEVATION**  
**STA. 8+00 TO STA. 15+00**

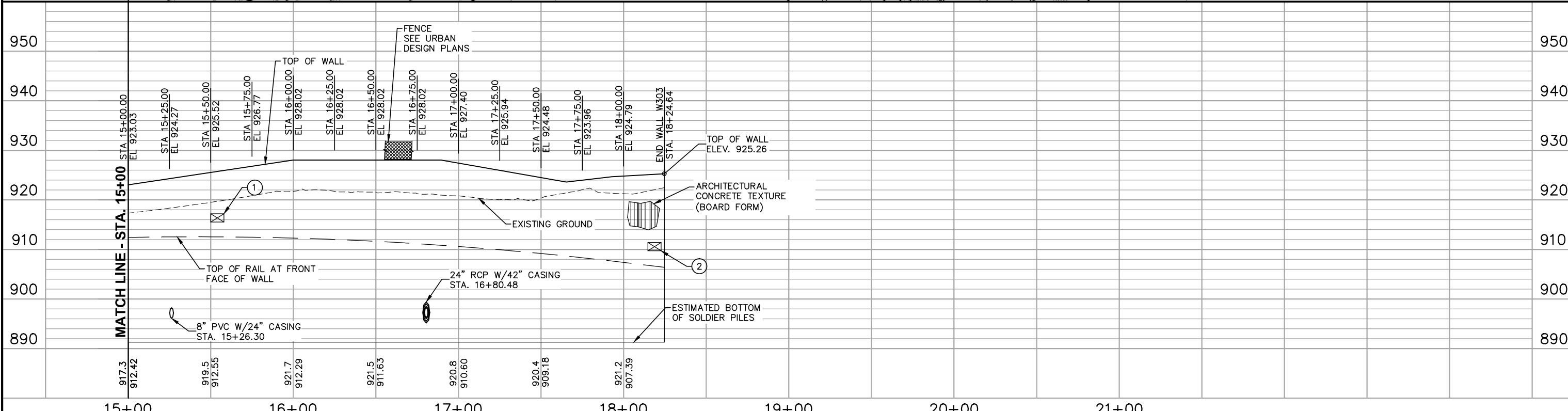
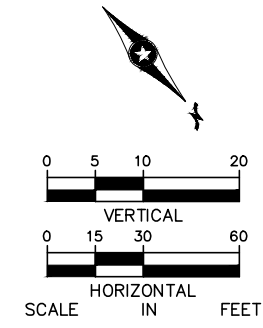
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W303-PL-002**

SHEET  
234  
OF  
271

Jan, 17 2016 11:20 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W303.dwg By: V-NutzmaML



- NOTES**
- SOLDIER PILE STRAY CURRENT TEST STATION AND ISOLATION IN CAP BEAM. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008
  - END SOLDIER PILE STRAY CURRENT TEST STATION SHALL CONTAIN TOW #1 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAIL 3 ON SHEET E0-SYS-CORR-DTL-008



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W303 PLAN AND ELEVATION**

**STA. 15+00 TO STA. 18+25**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W303-PL-003**

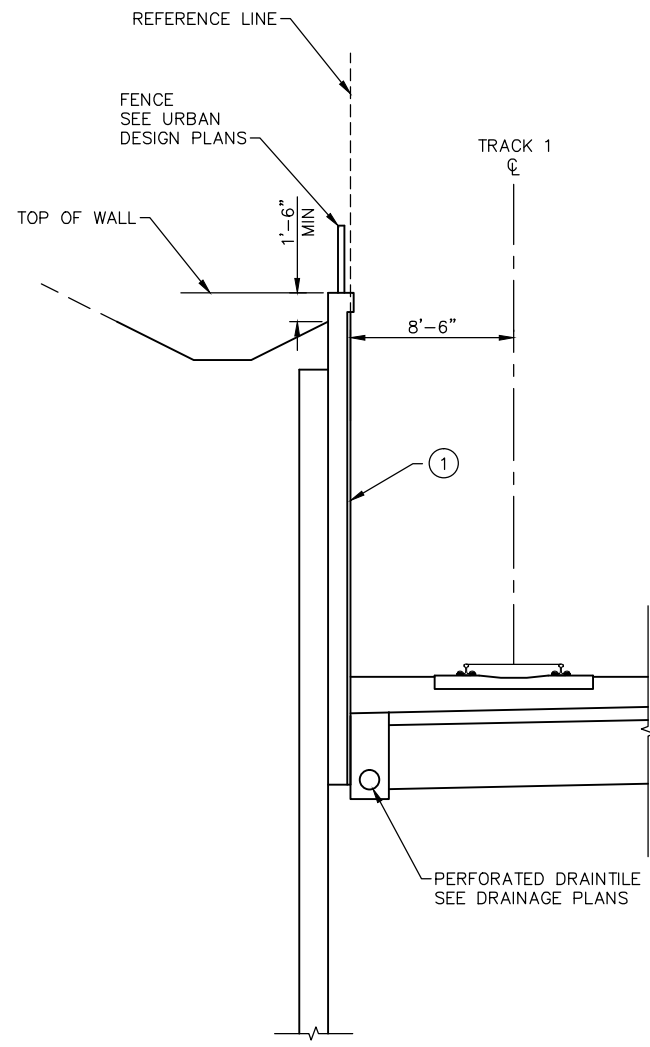
**SHEET**

**235**

**OF**

**271**

Jan, 17 2016 11:20 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\STRUCTURES\W3-STU-RTW-W303.dwg By: V-NutzmaML



**NOTES**

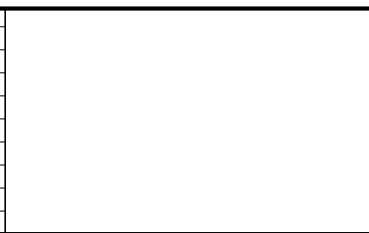
- ① ARCHITECTURAL CONCRETE TEXTURE
- 2. RETAINING WALL TO BE SOLDIER PILE AND LAGGING WALL
- 3. BOND SOLDIER PILES PER SHEETS E0-SYS-CORR-DTL-008 AND SHEET E0-SYS-CORR-DTL-009

**RTW-W303 SECTION**

NOT TO SCALE

ALIGNMENT DATA RTW-W303													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C2	0+50.00	4+04.76	2+28.35	14°36'27"	4°07'03.20"	1391.50	178.35	354.76	140564.80	491861.22	140842.92	491642.54	329°07'35" 314°31'08"
S1	4+04.76	5+44.34						139.58	140842.92	491642.54	140937.40	491539.82	314°31'08" 311°39'14"
L1	5+44.34	13+95.06						850.72	140937.40	491539.82	141502.81	490904.19	311°39'14"
S2	13+95.06	15+19.61						124.56	141502.81	490904.19	141583.96	490809.71	311°39'14" 308°40'11"
C3	15+19.61	16+68.23	15+94.02	7°08'48"	4°48'31.36"	1191.50	74.41	148.62	141583.96	490809.71	141669.36	490688.19	308°40'11" 301°31'24"
S3	16+68.23	17+92.79						124.56	141669.36	490688.19	141730.74	490579.83	301°31'24" 298°32'21"
L2	17+92.79	18+24.64						31.85	141730.74	490579.83	141745.96	490551.85	298°32'21"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

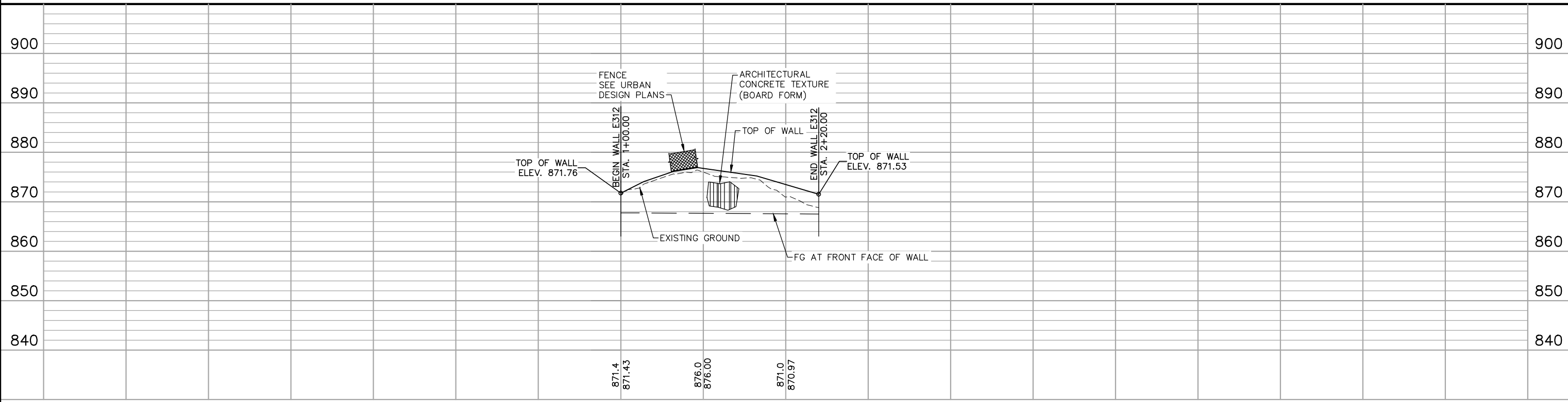
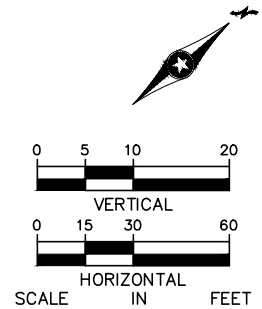
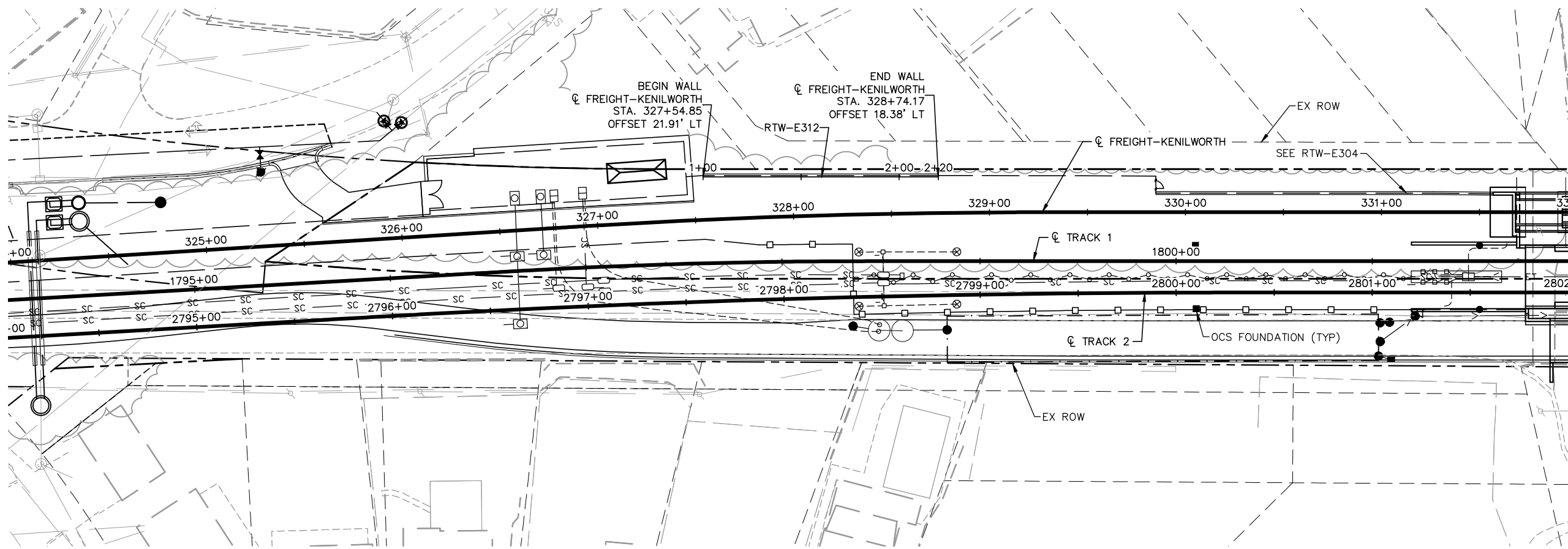
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W303 GEOMETRY**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W303-DTL**

**SHEET  
236  
OF  
271**

Jan. 18 2016 06:06 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E312-PLA.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

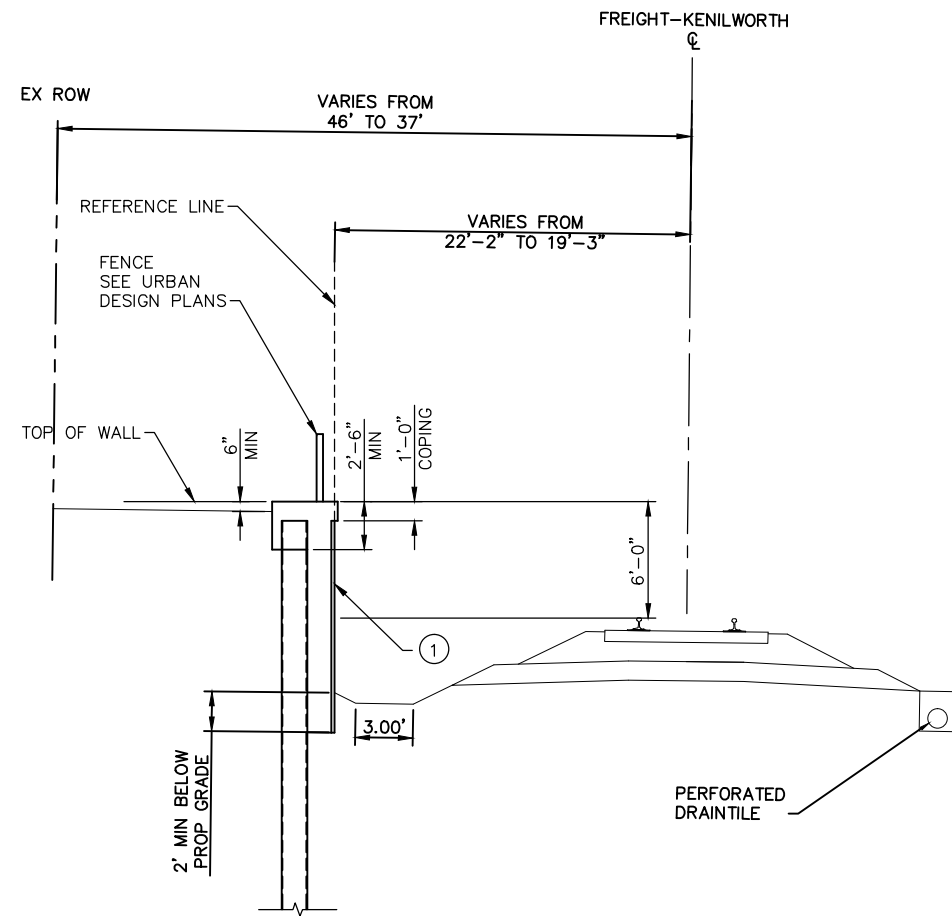
**METROPOLITAN COUNCIL**  
SOUTHWEST Green Line LRT Extension

**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E312 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E312 - PLE**

SHEET 237 OF 271

Jan, 18 2016 06:07 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E312-DTL.dwg By: V-PatelPJ

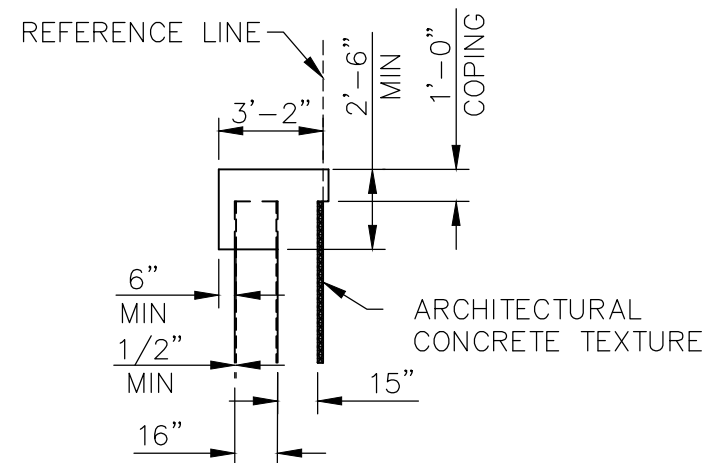


**NOTES**

- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
- 2. RETAINING WALL TO BE SHEET PILE WITH CONCRETE FACE
- 3. BOND SHEET PILES TOGETHER PER DETAIL 5 ON SHEET EO-SYS-CORR-DTL-008.

**RTW-E312 SECTION**

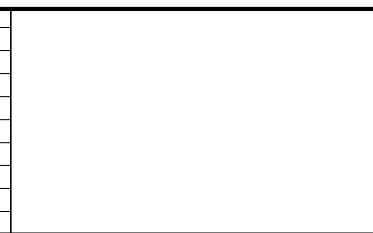
NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

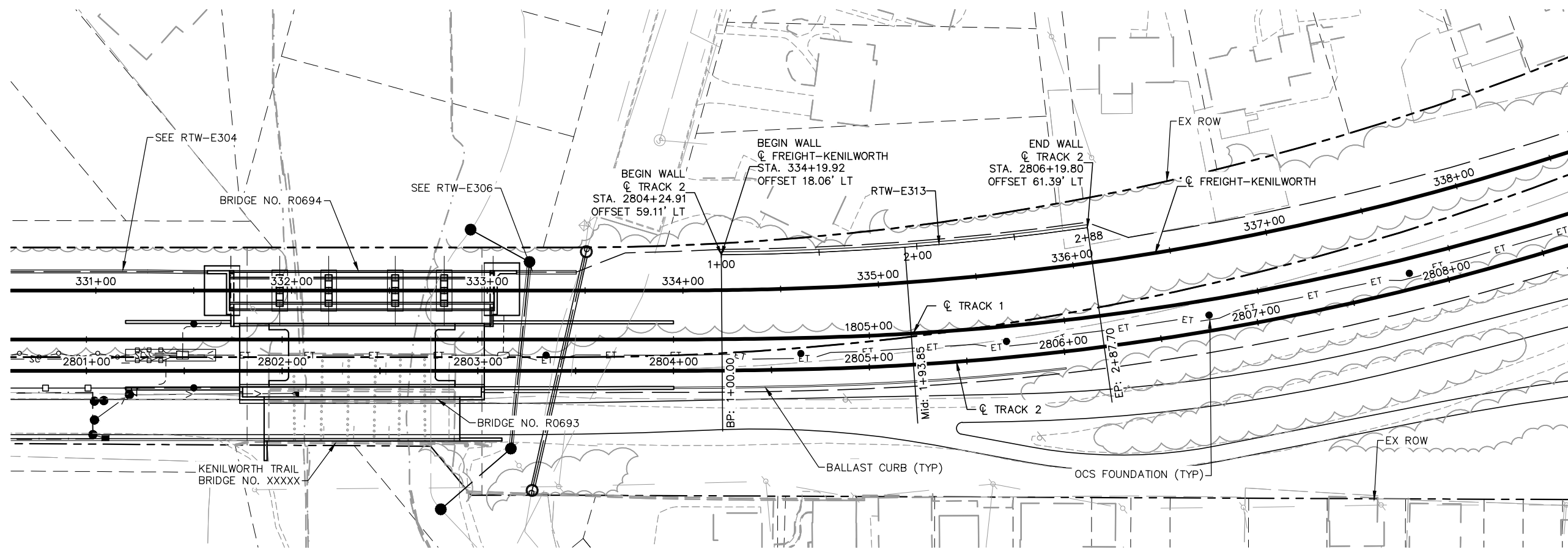


CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E312 GEOMETRY

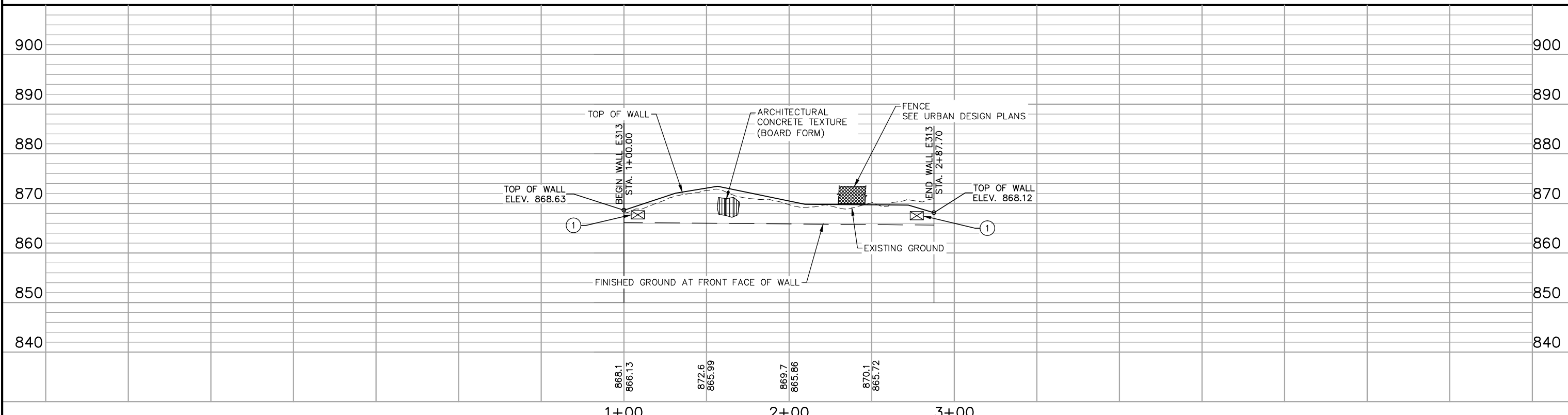
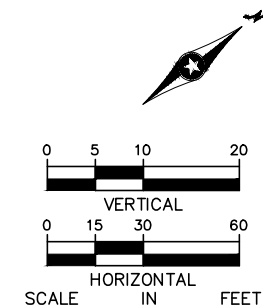
DISCIPLINE: STRUCTURES SHEET NAME: RTW-E312 - DTL

SHEET  
238  
OF  
271


Jan. 18 2016 06:09 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E313-PL.E.dwg By: V-PatelPJ




NOTE:  
 ① END SHEET PILE STRAY CURRENT TEST STATION SHALL CONTAIN TWO #1/0 CABLES FROM LAST PILE AND TEST LEAD FROM REFERENCE ELECTRODE. SEE DETAILS 3 AND 5 ON SHEET E0-SYS-CORR-DTL-008.




NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**





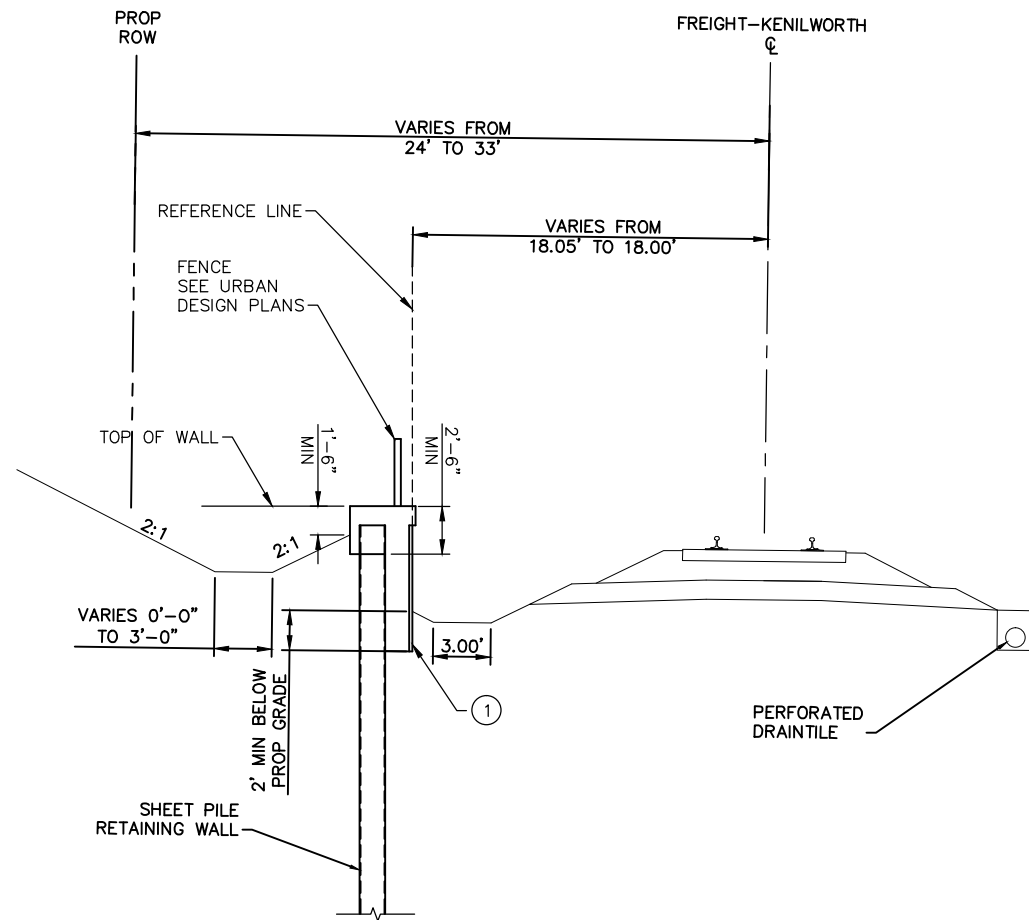
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E313 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E313-PL.E**

SHEET **239**  
 OF **271**

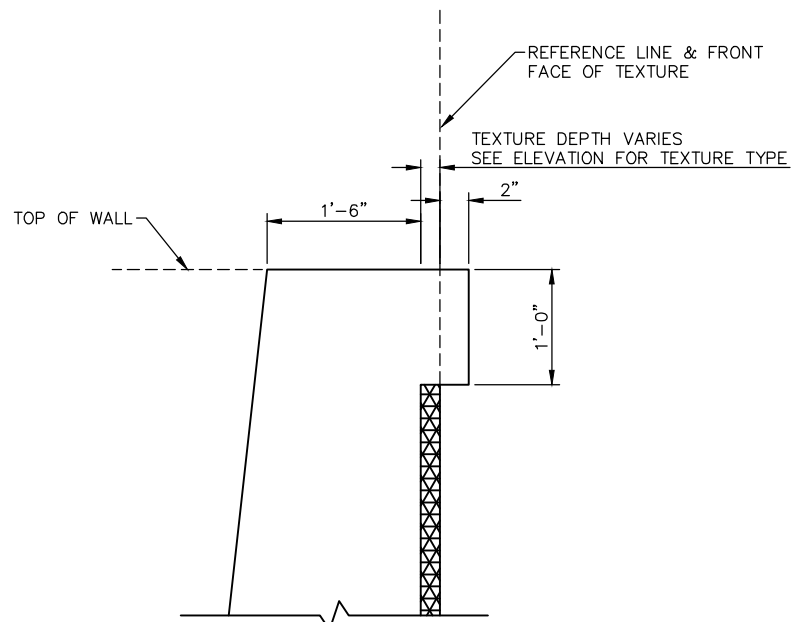
Jan, 18 2016 06:09 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E313-DTL.dwg By: V-PatelPJ



- NOTES**
- ① ARCHITECTURAL CONCRETE TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  - 2. RETAINING WALL TO BE SHEET PILE WITH CONCRETE FACE
  - 3. BOND SHEET PILES TOGETHER PER DETAIL 5 ON SHEET E0-SYS-CORR-DTL-008.

**RTW-E313 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E313 GEOMETRY**

**SHEET  
240  
OF  
271**

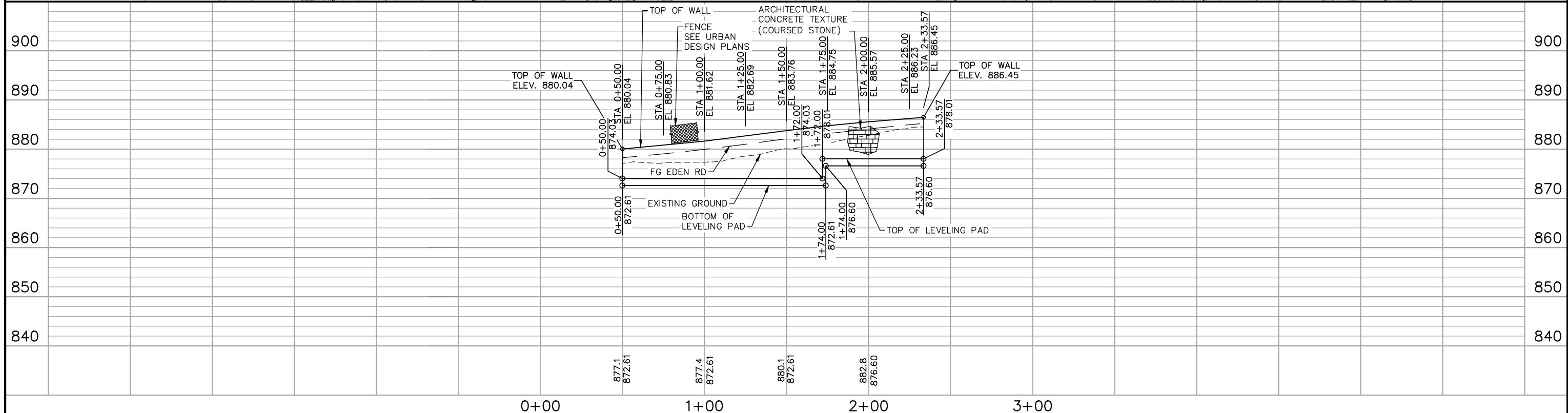
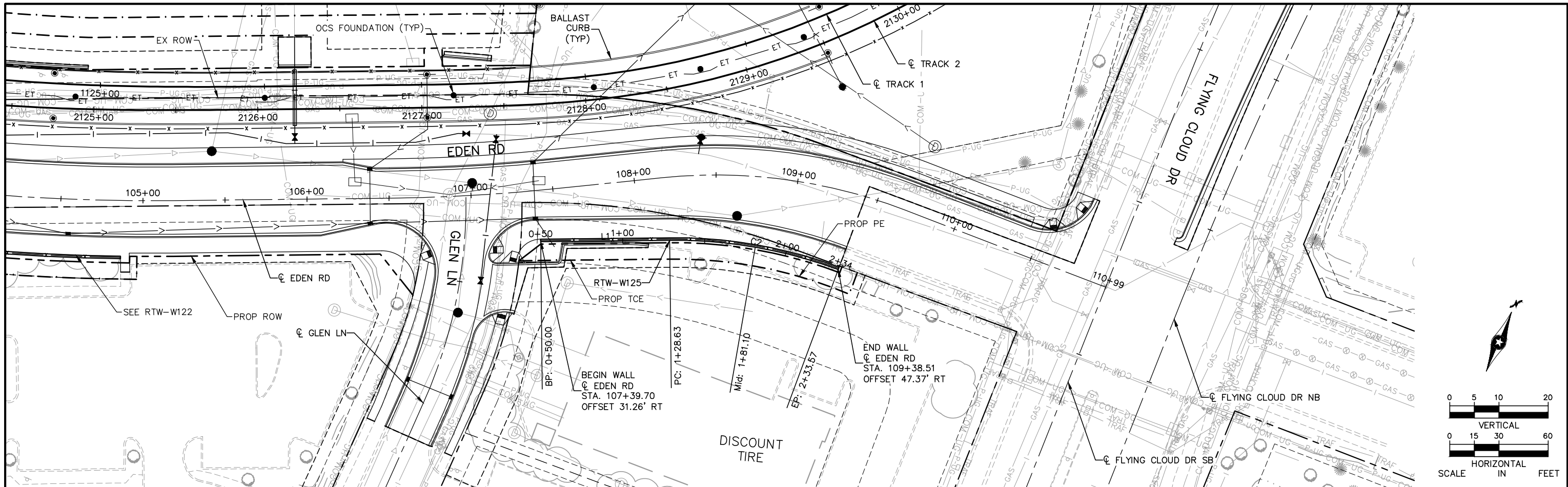
90% SUBMISSION - 01/22/16

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E313-DTL**



Jan, 17 2016 11:25 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W125.dwg By: V-NutzmaML



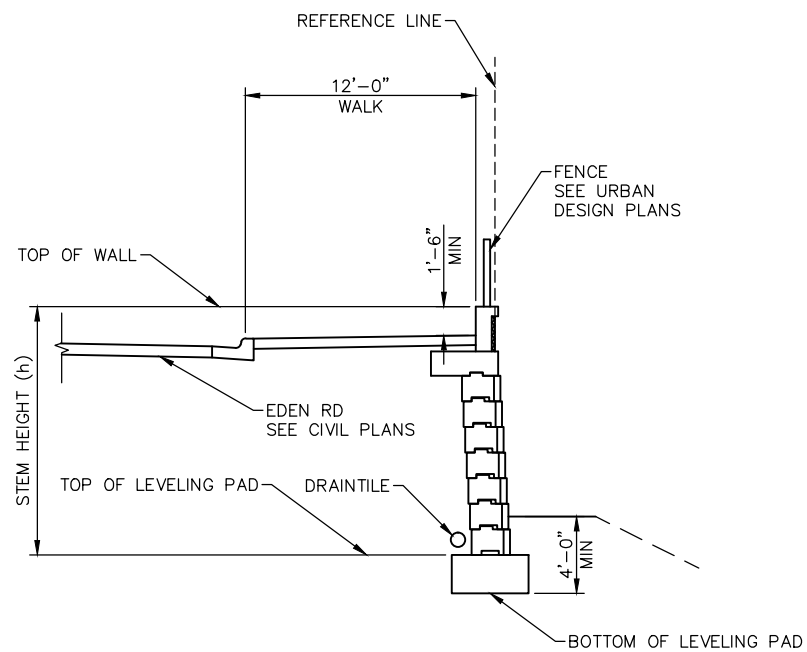
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W125 PLAN AND ELEVATION</b>		<b>SHEET</b> 241 OF 271
DISCIPLINE:	STRUCTURES	SHEET NAME:
		RTW-W125-PL

90% SUBMISSION - 01/22/16

Jan, 17 2016 11:26 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\STRUCTURES\W1-STU-RTW-W125.dwg By: V-NutzmaML



**NOTES**

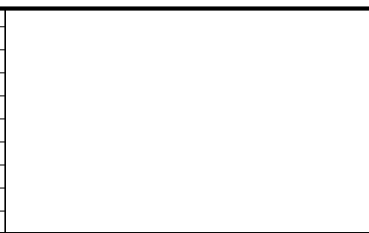
1. RETAINING WALL TO BE PMBW
2. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W125 SECTION**

NOT TO SCALE

ALIGNMENT DATA RTW-W125													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+50.00	1+28.63						78.63	124953.76	488644.91	124985.00	488717.07	66°35'37"
C2	1+28.63	2+33.57	1+81.70	20°59'09"	19°59'54.70"	286.50	53.06	104.94	124985.00	488717.07	125008.32	488818.79	66°35'37" 87°34'46"

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



**AECOM**

90% SUBMISSION - 01/22/16

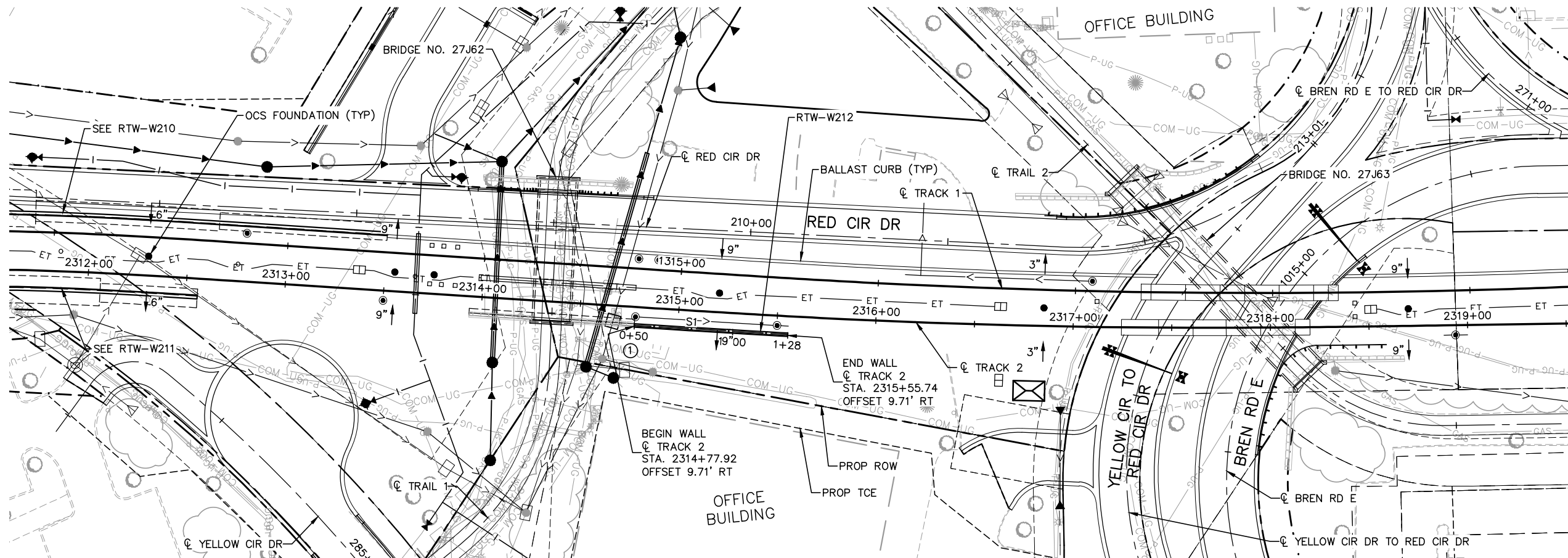



**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-W125 GEOMETRY**

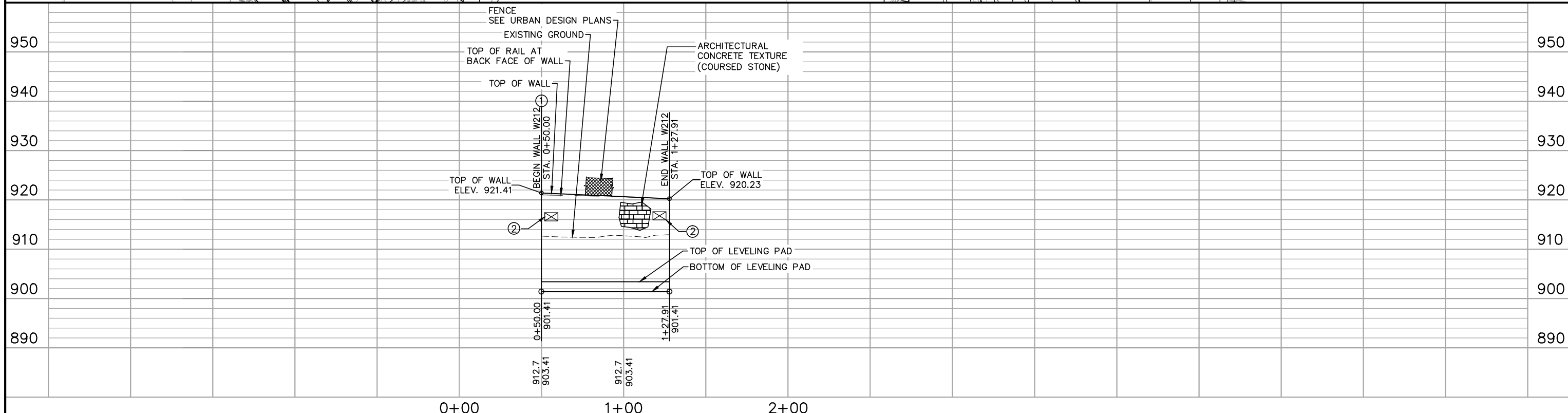
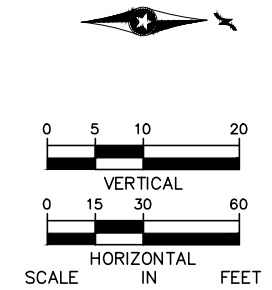
DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-W125-DTL**

SHEET  
242  
OF  
271

Jan. 18 2016 02:55 pm V:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W212.dwg By: V-NutzmaML



- NOTES**
- ① JOINT LOCATION BETWEEN RETAINING WALL & PEDESTRIAN UNDERPASS
  - ② STRAY CURRENT TEST STATION, SEE CORROSION CONTROL PLANS



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6**

**RETAINING WALLS**

**RTW-W212 PLAN AND ELEVATION**

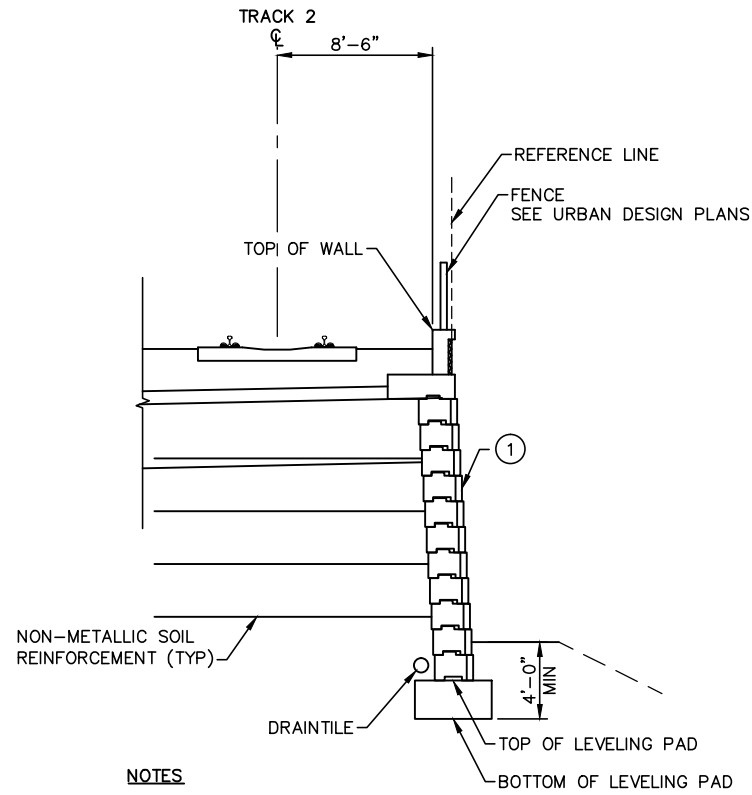
DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-W212-PL**

SHEET **243**

OF **271**

Jan, 18 2016 02:56 pm v:\3400\_ADC\CAD\SEGMENT W2\PLAN SHEETS\STRUCTURES\W2-STU-RTW-W212.dwg By: V-NutzmaML



- NOTES**
- ① BLOCK TEXTURE, SEE ELEVATION FOR TEXTURE TYPE
  2. RETAINING WALL TO BE PMBW
  3. SEE ELECTRICAL PLANS FOR GROUNDING DETAILS

**RTW-W212 SECTION**  
NOT TO SCALE

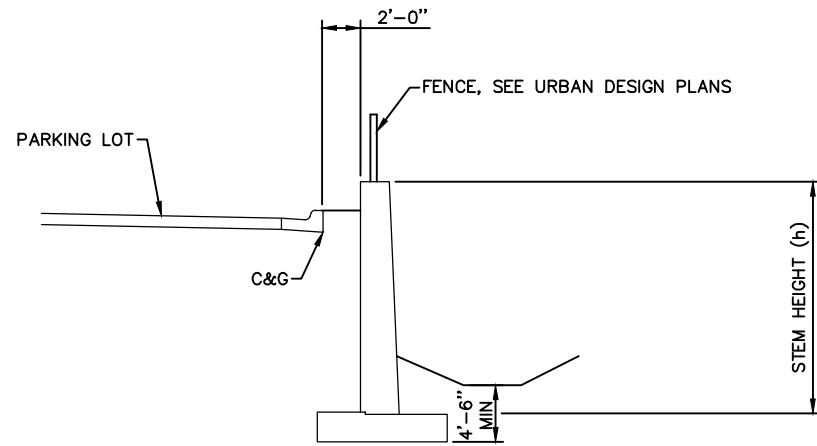
ALIGNMENT DATA RTW-W212													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
S1	0+50.00	1+27.91						77.91	137685.19	492067.17	137762.83	492073.64	4°59'12" 4°25'24"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

	<b>CIVIL - VOLUME 6</b> <b>RETAINING WALLS</b> <b>RTW-W212 GEOMETRY</b>		<b>SHEET</b> 244 OF 271
	90% SUBMISSION - 01/22/16	DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-W212-DTL</b>



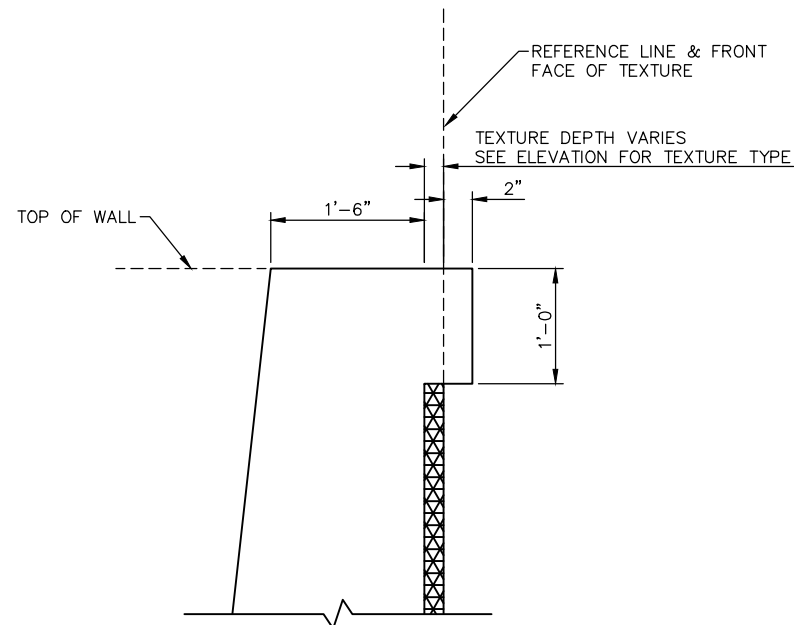
Jan, 18 2016 07:34 pm v:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E107-DTL.dwg By: V-PatelPJ



- NOTE:**  
 1. RETAINING WALL TO BE CIP ON SPREAD FOOTING

**RTW-E107 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



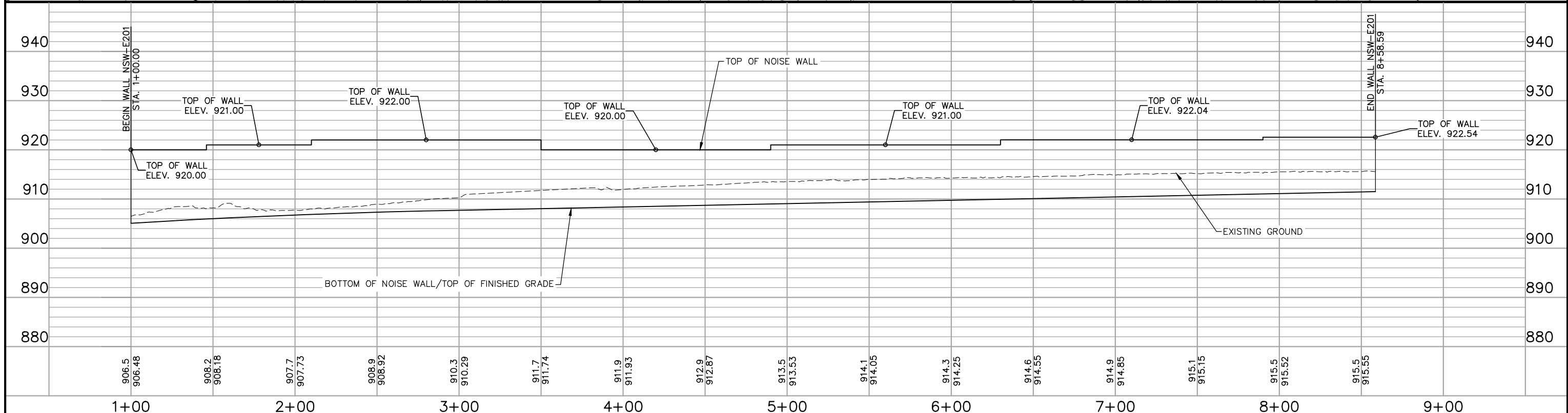
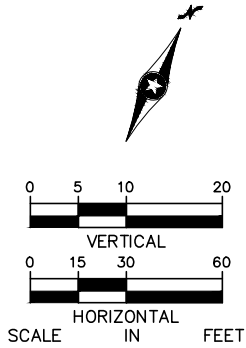
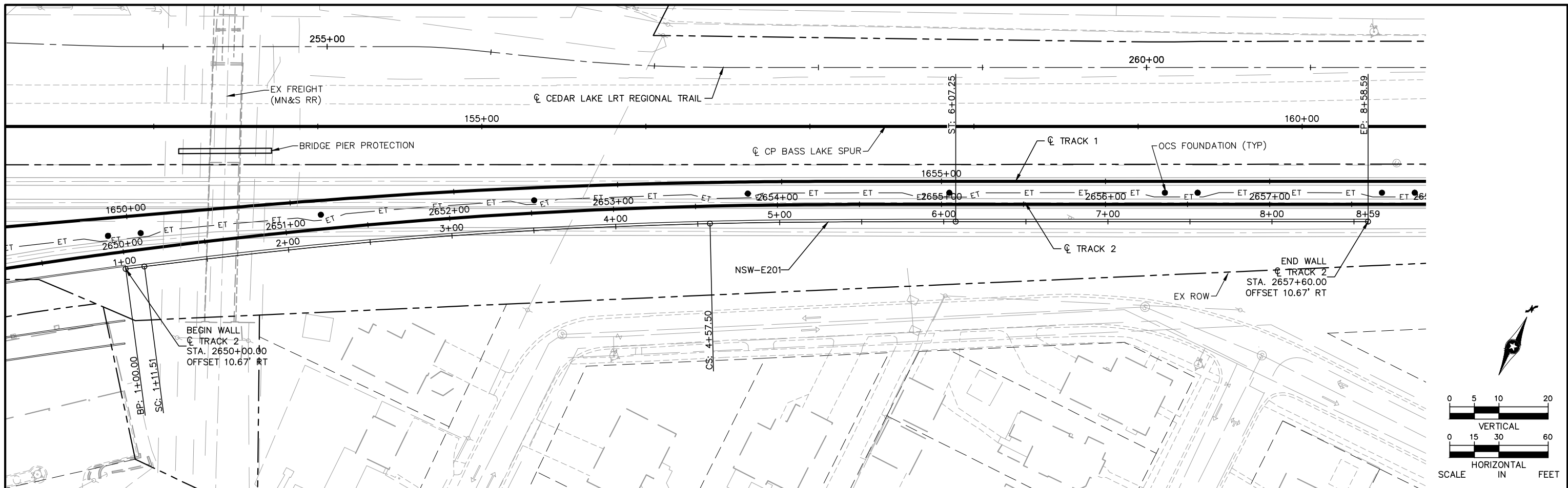
90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
 RETAINING WALLS  
 RTW-E107 GEOMETRY**

DISCIPLINE: **STRUCTURES** SHEET NAME: **RTW-E107-DTL - 001**

**SHEET**  
 246  
 OF  
 271

Jan, 18 2016 05:03 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\NSW-E201-PILE.dwg By: V-Patel/PJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

**AECOM**

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

**90% SUBMISSION - 01/22/16**

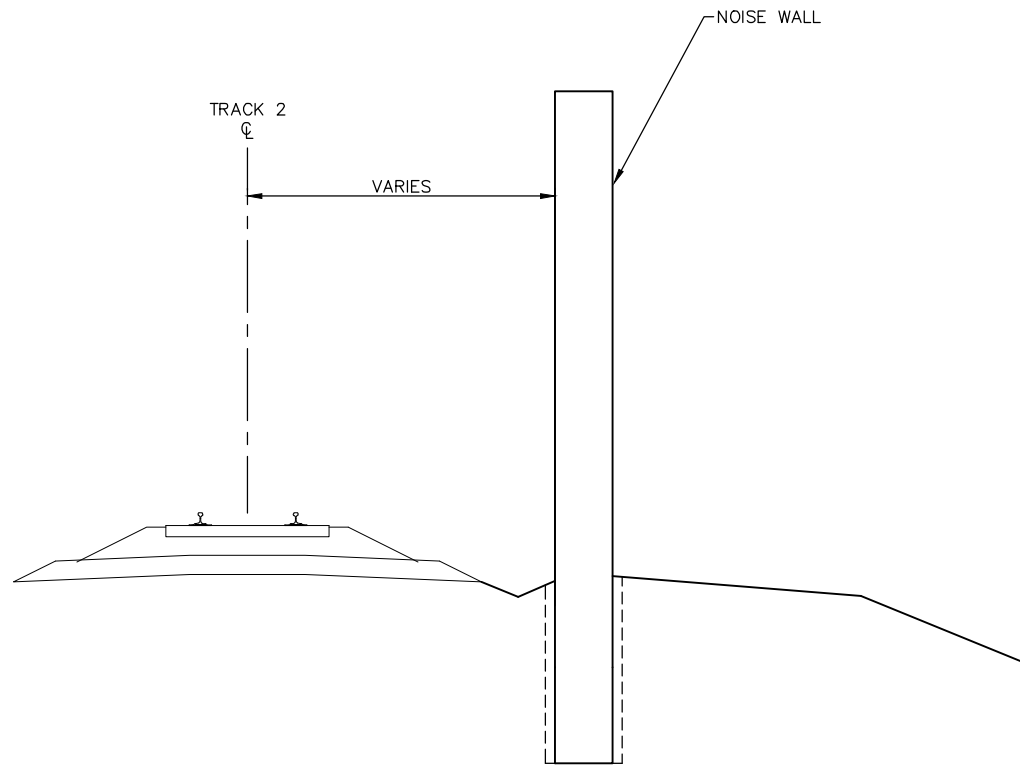
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**NSW-E201 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **NSW-E201-PLE**

SHEET  
**247**  
OF  
**271**

Jan, 18 2016 05:03 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\RETAINING WALLS\NSW-E201-DTL.dwg By: V-PatelPJ



NSW-E201 SECTION

NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM**

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90% SUBMISSION - 01/22/16

**CIVIL - VOLUME 6  
RETAINING WALLS  
NSW-E201 GEOMETRY**

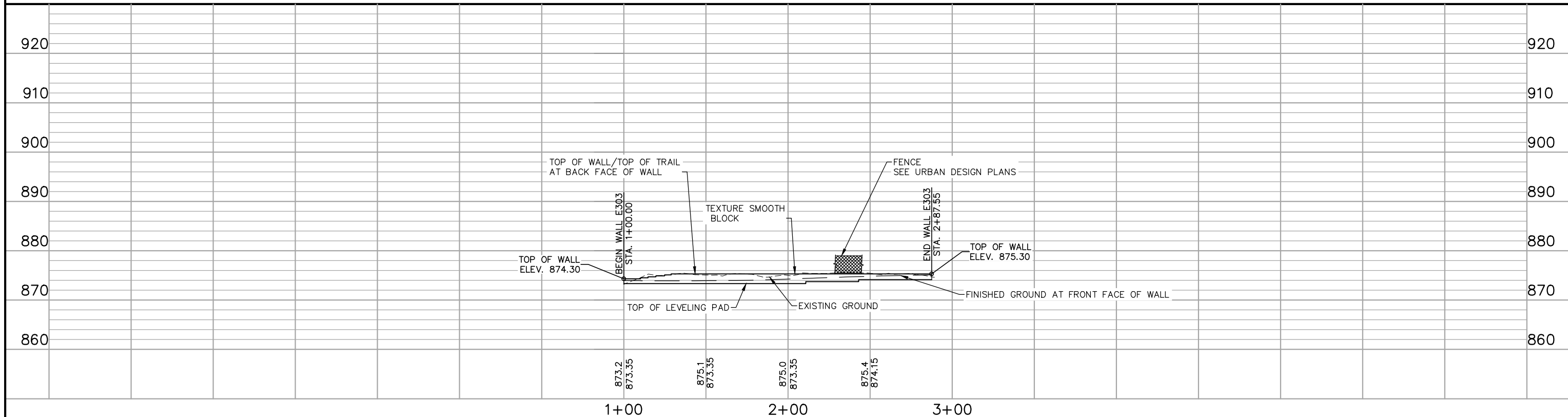
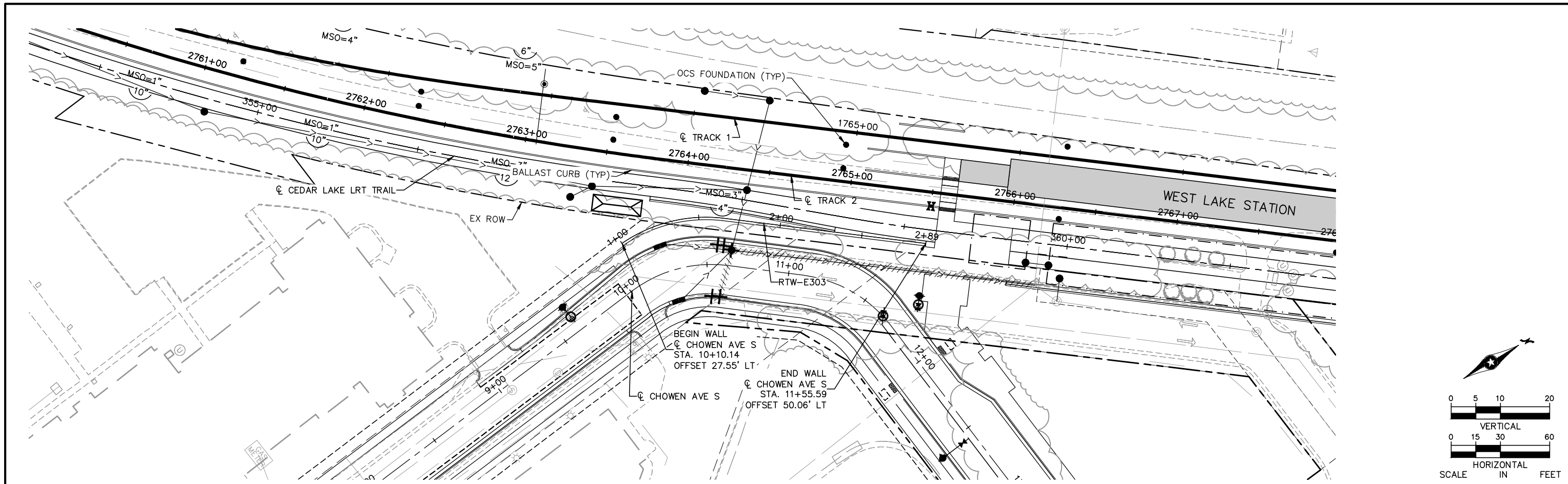
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DISCIPLINE: **STRUCTURES**      SHEET NAME: **NSW-E201-DTL - 001**

**SHEET**  
248  
**OF**  
271



Jan. 18 2016 02:19 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E303-PLA.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

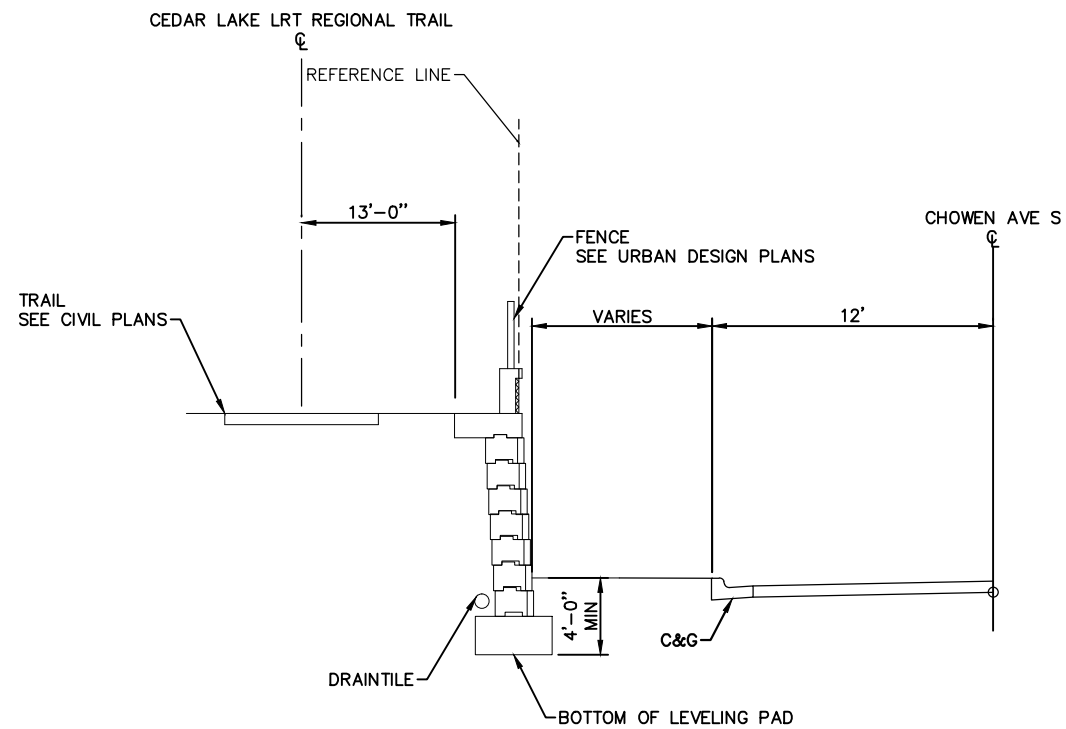


**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E303 PLAN AND ELEVATION**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **RTW-E303 - PLE**

SHEET **249**  
OF  
**271**

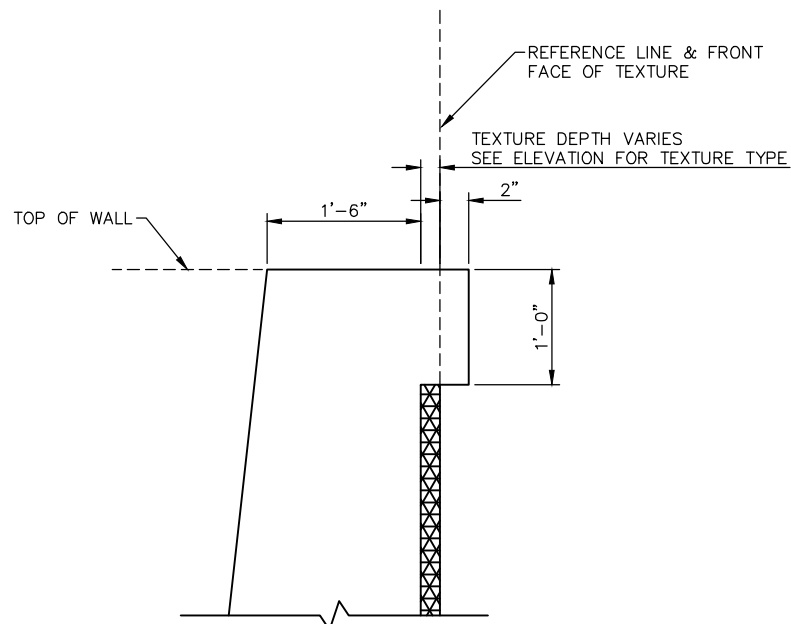
Jan, 18 2016 02:19 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E303-DTL.dwg By: V-Patel/PJ



- NOTE:  
1. RETAINING WALL TO BE PMBW

**RTW-E303 SECTION**

NOT TO SCALE



**TOP OF WALL DETAIL**

NOT TO SCALE

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

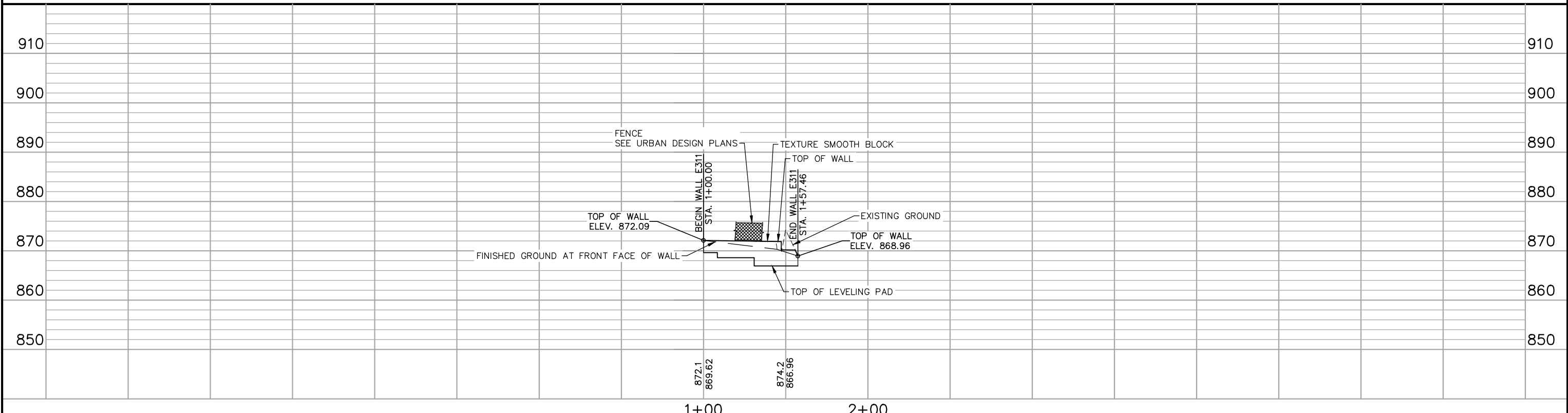
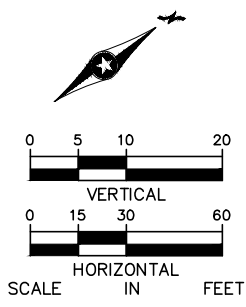
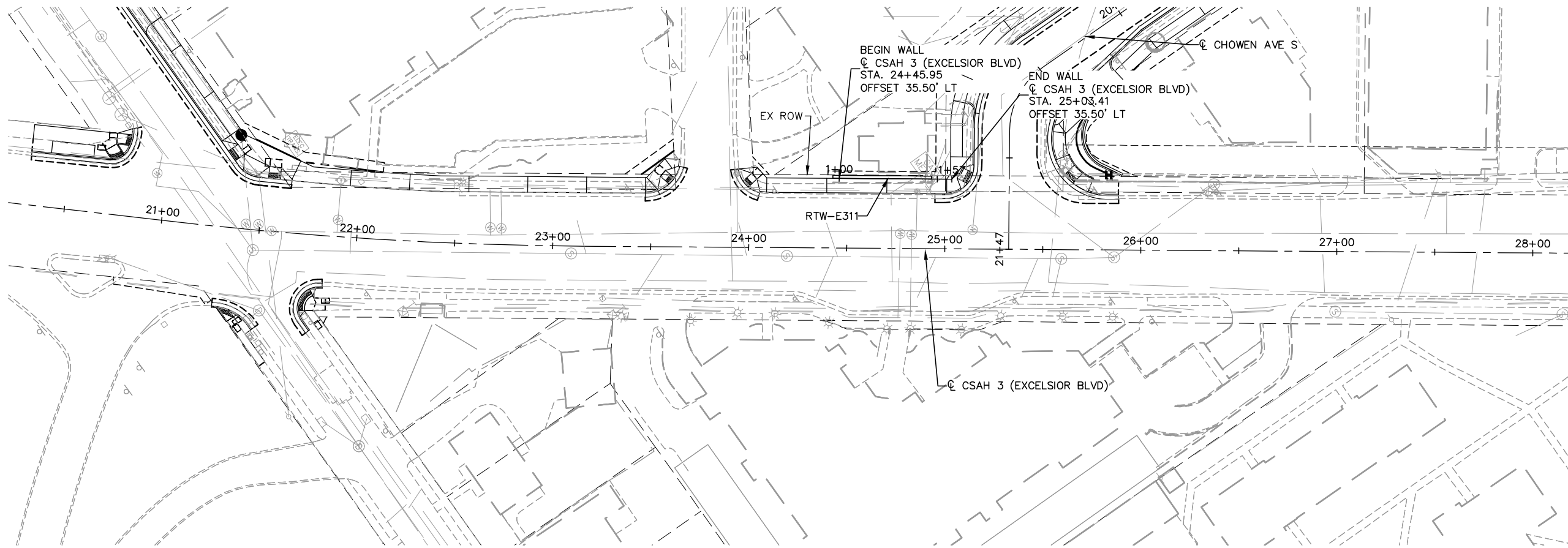
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E303 GEOMETRY**

DISCIPLINE: **STRUCTURES**

SHEET NAME: **RTW-E303 - DTL**

**SHEET  
250  
OF  
271**

Jan. 18 2016 02:26 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E311-PLD.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

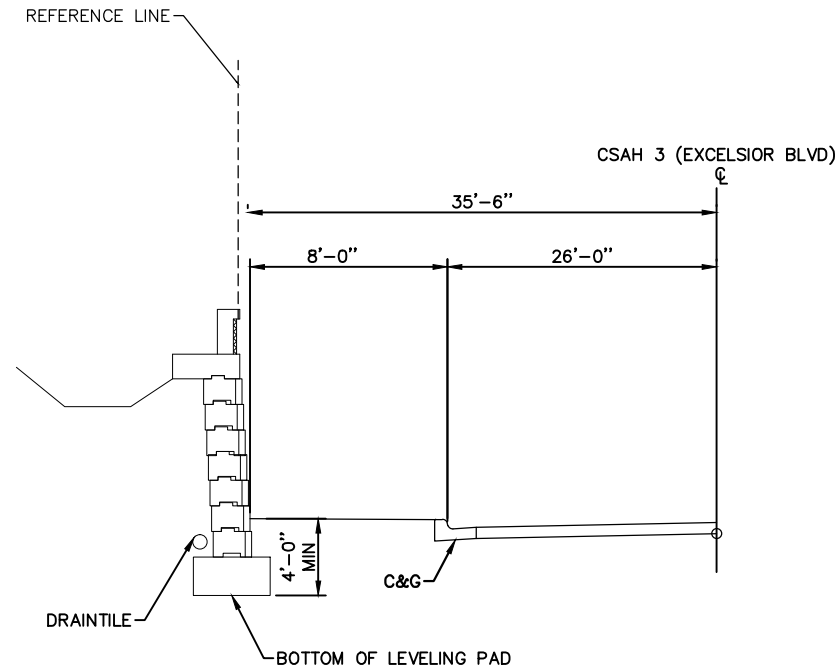


**90% SUBMISSION - 01/22/16**

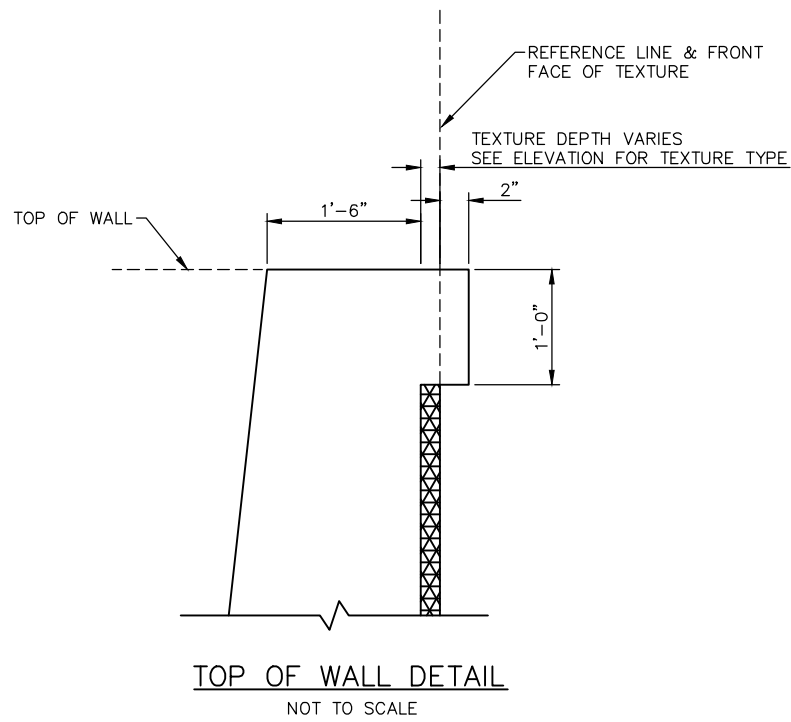


<b>CIVIL - VOLUME 6 RETAINING WALLS RTW-E311 PLAN AND ELEVATION</b>		<b>SHEET 251 OF 271</b>
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>RTW-E311 - PLE</b>	

Jan, 18 2016 02:26 pm v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E311-DTL.dwg By: V-PatelPJ



NOTE:  
1. RETAINING WALL TO BE PMBW  
RTW-E311 SECTION  
NOT TO SCALE



TOP OF WALL DETAIL  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**



90% SUBMISSION - 01/22/16

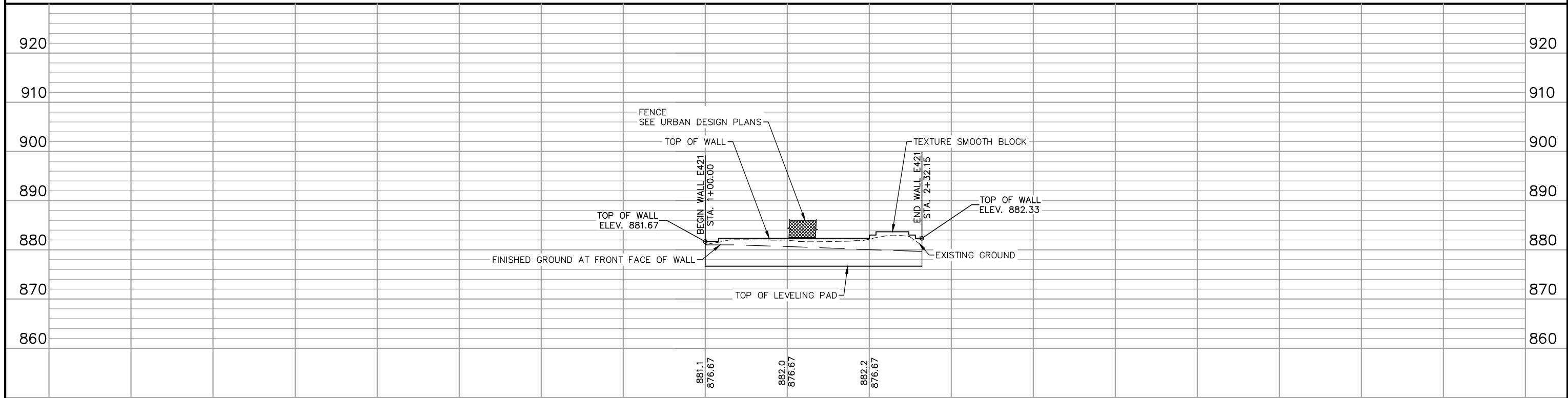
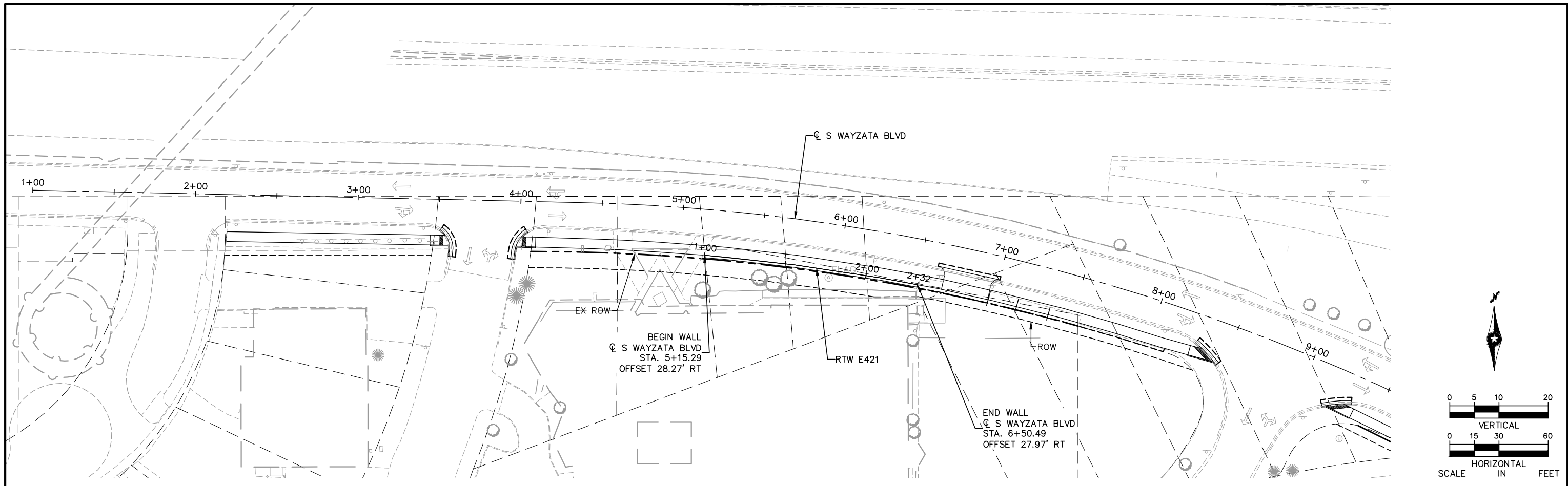
**CIVIL - VOLUME 6  
RETAINING WALLS  
RTW-E311 GEOMETRY**

DISCIPLINE:  
**STRUCTURES**




SHEET NAME:  
**RTW-E311 - DTL**

**SHEET**  
252  
OF  
271

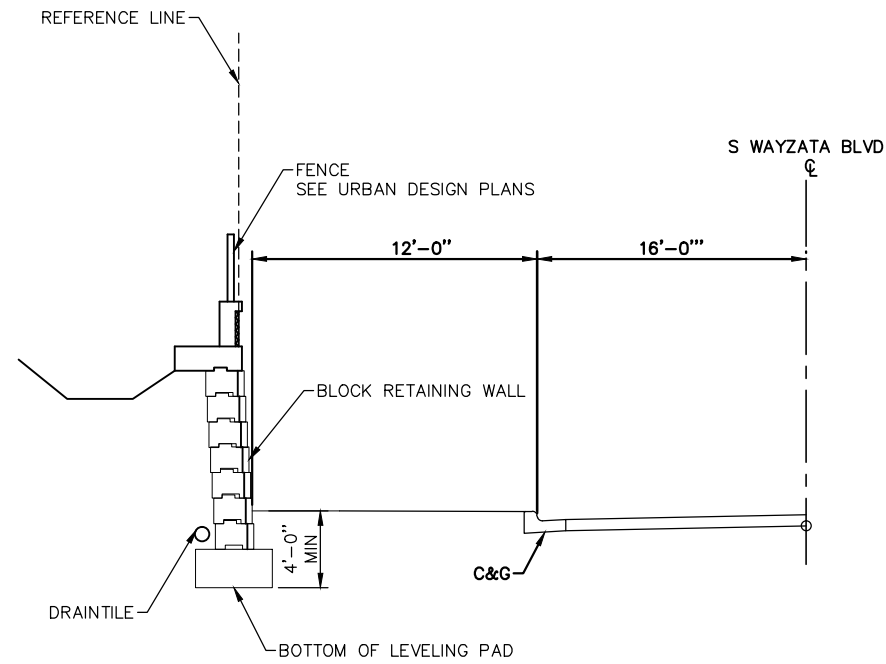
Jan, 17 2016 10:13 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E421-PL.E.dwg By: V-PatelPJ



NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

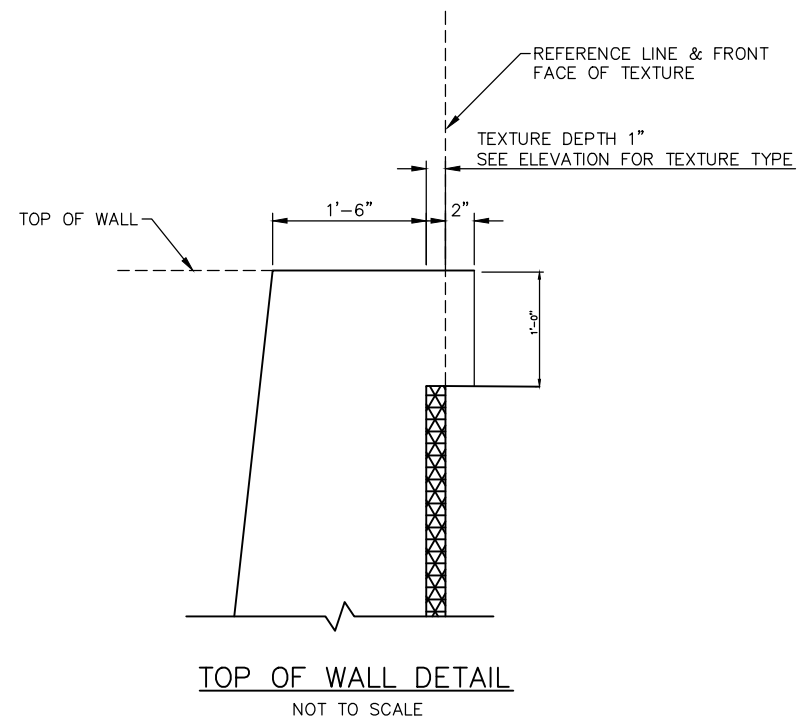
			<p><b>CIVIL - VOLUME 6</b>  <b>RETAINING WALLS</b>  <b>RTW-E421 PLAN AND ELEVATION</b></p>	<p><b>SHEET</b>                  253                  OF                  271</p>
<p>90% SUBMISSION - 01/22/16</p>			<p>DISCIPLINE: <b>STRUCTURES</b></p>	<p>SHEET NAME: <b>RTW-E421-PL.E</b></p>

Jan, 17 2016 10:14 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\STRUCTURES\RETAINING WALLS\RTW-E421-DTL.dwg By: V-PatelPJ



- NOTE:**  
1. RETAINING WALL TO BE PMBW

**RTW-E421 SECTION**  
NOT TO SCALE



**TOP OF WALL DETAIL**  
NOT TO SCALE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

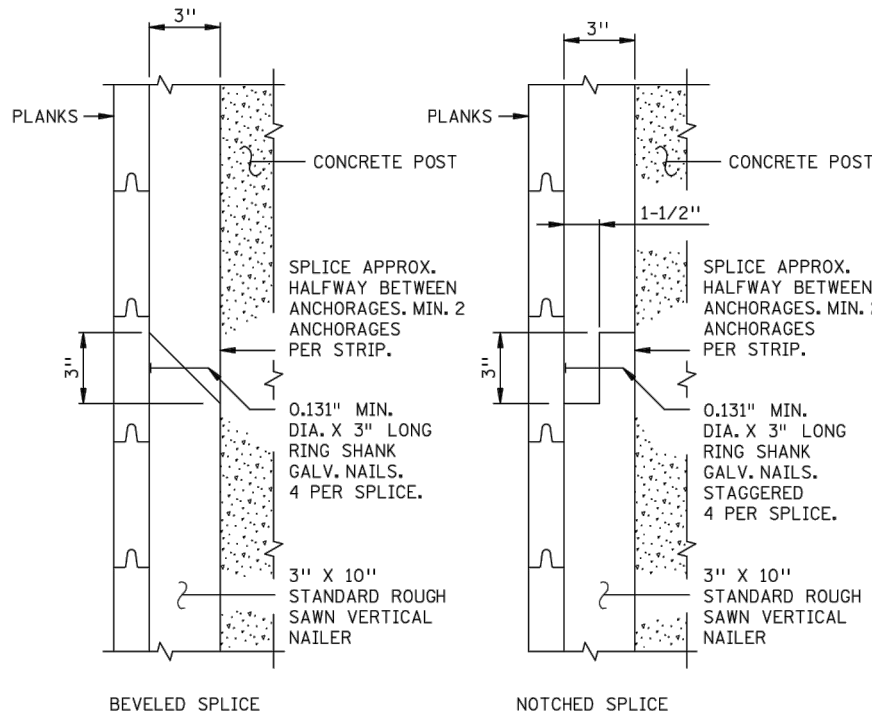
**CIVIL - VOLUME 6**  
**RETAINING WALLS**  
**RTW-E421 GEOMETRY**

DISCIPLINE: **STRUCTURES**

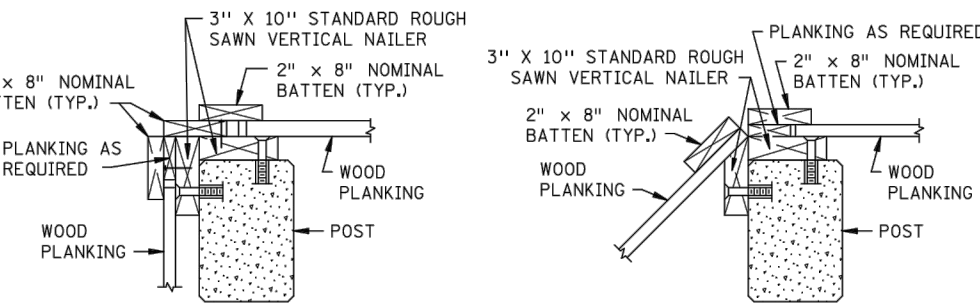
SHEET NAME: **RTW-E421-DTL - 001**

**SHEET**  
254  
OF  
271

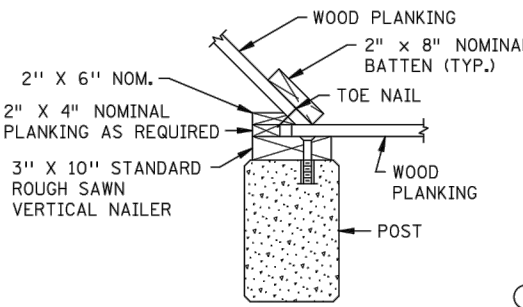
Jan. 18 2016 10:19 am v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W3-DTL.dwg By: kmcclement



VERTICAL NAILER SPLICE DETAIL  
(CONTRACTOR OPTION)

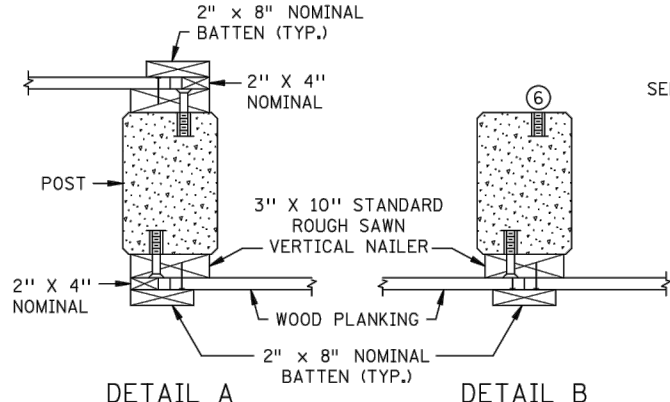


POST LOCATIONS FOR ANGLE TURNS

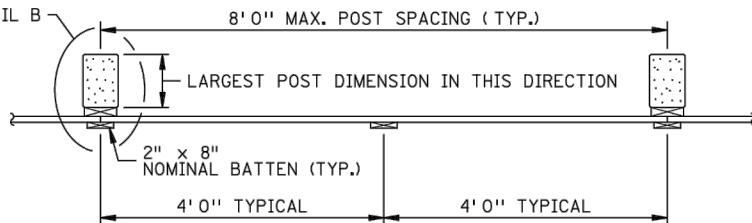


FILL SIDE  
WALL TYPE NO. 1 ①

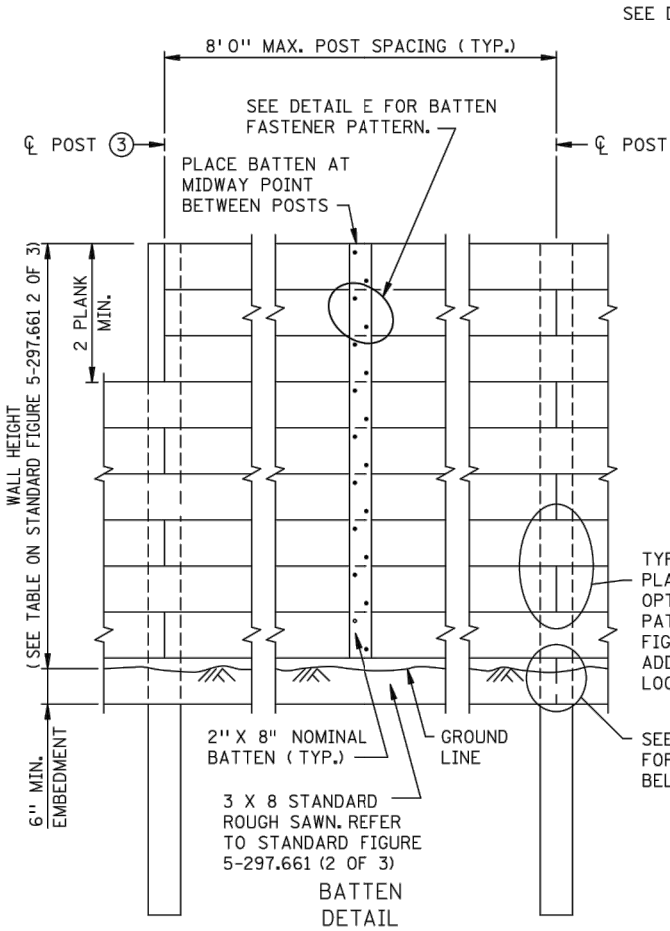
- NOTES:**
- PROVIDE PRESERVATIVE TREATED TIMBER PRODUCTS PER SPEC. 3491.
  - GALVANIZE NAILS PER SPEC. 3392. NAILING REQUIREMENTS SHOWN ARE BASED ON FULL HEAD NAILS AND ENTIRE LENGTH OF SHANK RINGED.
  - ① SEE CONSTRUCTION PLAN FOR REQUIRED WALL TYPE.
  - ② WALL TYPE NO. 2 SHALL BE USED IN NON-FILL CONDITIONS ONLY.
  - ③ USE THE POST SIZE AND EMBEDMENT FOR THE HIGHER WALL SECTION AT THE STEP.
  - ④ SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION REGARDING SCREWS AND NAILS.
  - ⑤ REFER TO STANDARD FIGURE 5-297.661 (3 OF 3) FOR ADDITIONAL DETAILS REGARDING OPTIONAL PLANK SPLICE LOCATIONS.
  - ⑥ GALVANIZED COIL THREAD ANCHORS SHALL BE PLACED ON ALTERNATE SIDES OF POST FACE  $\phi$ . MINIMUM FACTORED PULL OUT OF 2.5 KIPS PER ANCHOR. UNUSED ANCHORS SHALL BE COMPLETELY FILLED WITH A MnDOT APPROVED/QUALIFIED PRODUCT PER 3722, SILICONE JOINT SEALANT.
  - ⑦ PREFERRED LAYOUT IS 5-7 POSTS SPACES.



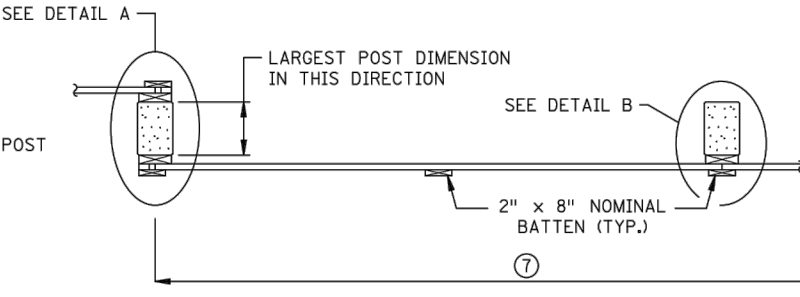
DETAIL A      DETAIL B



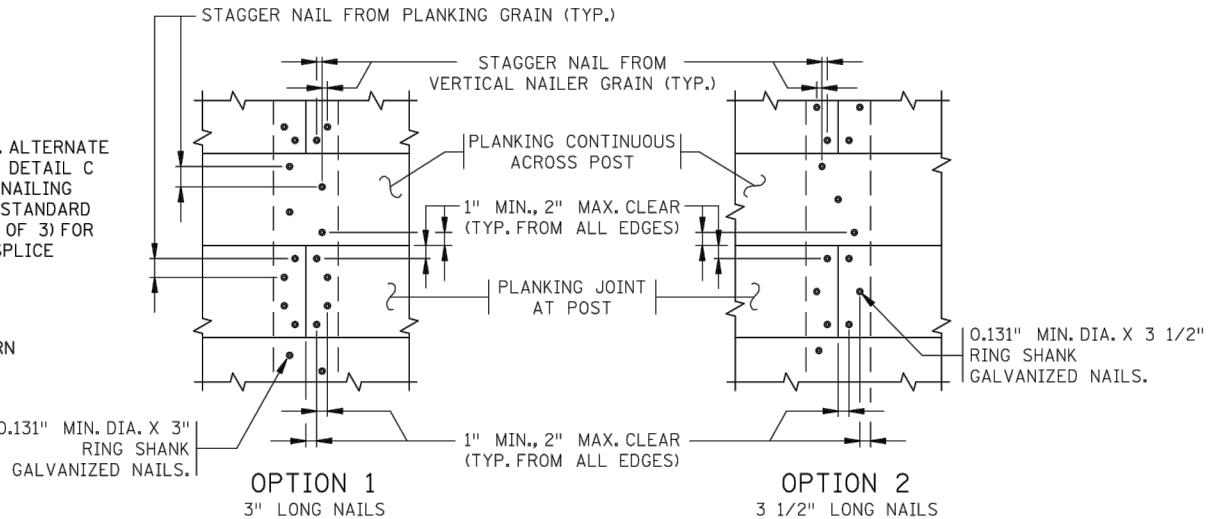
TRAFFIC SIDE  
WALL TYPE NO. 2 ①②



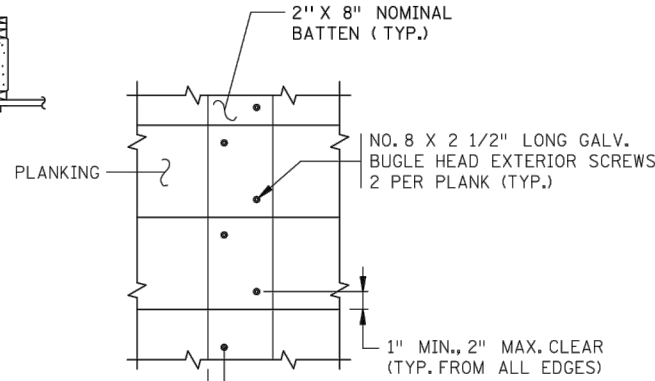
STEP DETAIL      LEVEL DETAIL  
FRONT ELEVATION ⑤  
POST BATTENS NOT SHOWN



DETAIL C ④  
NAILING PATTERN FOR PLANK TO VERTICAL NAILER - ABOVE GROUND



DETAIL D ④  
NAILING PATTERN FOR PLANK TO VERTICAL NAILER - BELOW GROUND



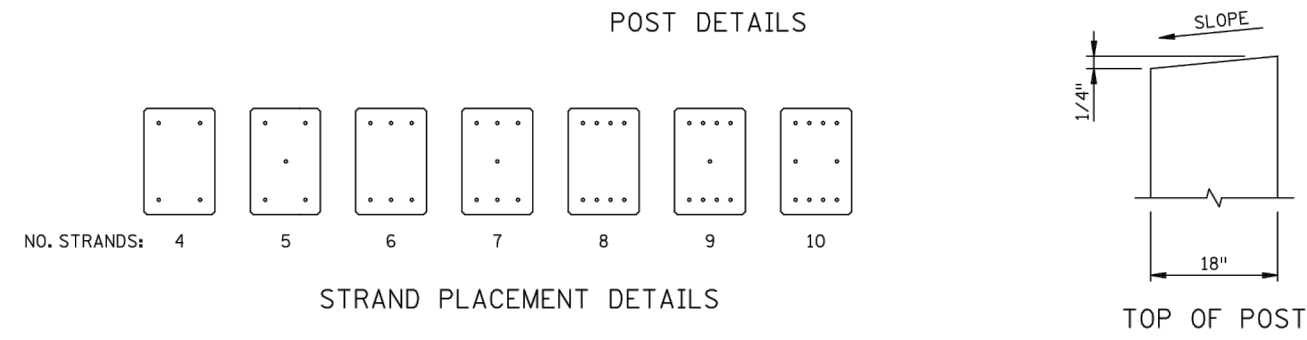
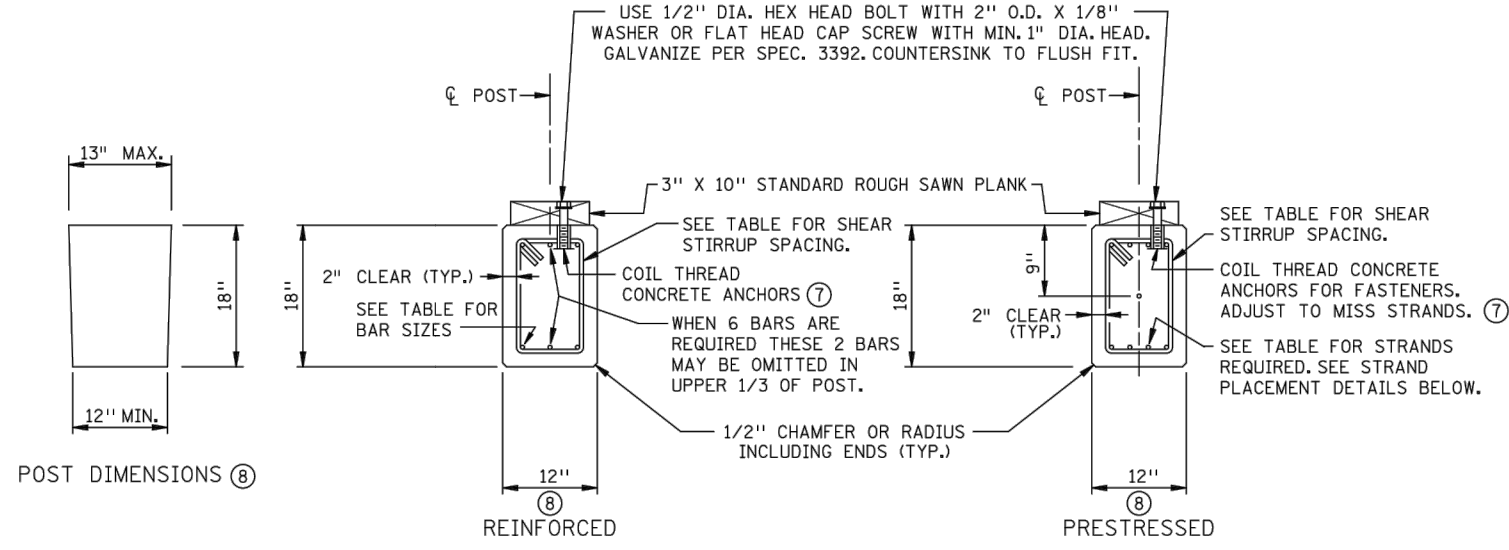
DETAIL E ④  
FASTENER PATTERN FOR BATTENS

REVISION:  
APPROVED: 5-13-2014  
*Nancy Saubenberg*  
STATE BRIDGE ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
REVISOR:  
*Christopher By*  
STATE DESIGN ENGINEER  
APPROVED: 5-13-2014

WOOD PLANKING NOISE WALL WITH CONCRETE POSTS  
STANDARD PLAN 5-297.661  
1 OF 3  
SHEET 255 OF 271

Jan. 18 2016 10:19 am v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W3-DTL.dwg By: kmcclement



**POST EMBEDMENT TABLE**  
FILL HEIGHT W = 1 FT. MAXIMUM

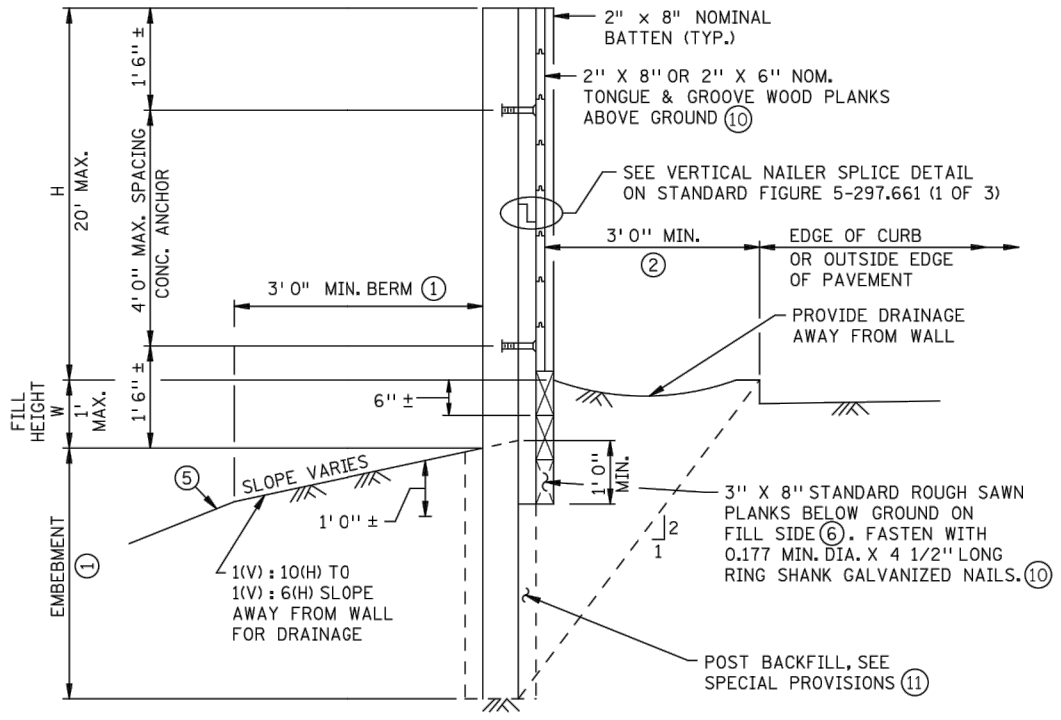
"H" WALL HEIGHT (FT.)	POST SPACING (FT.)	POST SIZE (IN.)	REINF. BARS	SHEAR STIRRUP SPACING (IN.) (9)	PRE-STRESSED STRANDS	POST EMBEDMENT (1)			
						LEVEL GROUND	1(V):4(H) SLOPE	1(V):3(H) SLOPE	1(V):2(H) SLOPE (11)
5	8	12 X 18	4 NO. 4	18	4	6'0"	6'0"	7'0"	8'0"
6	8	12 X 18	4 NO. 4	18	4	7'0"	7'0"	7'0"	8'0"
7	8	12 X 18	4 NO. 4	18	4	7'0"	7'0"	8'0"	9'0"
8	8	12 X 18	4 NO. 5	18	4	7'0"	8'0"	8'0"	9'0"
9	8	12 X 18	4 NO. 5	18	4	8'0"	8'0"	8'0"	9'0"
10	8	12 X 18	4 NO. 5	18	4	8'0"	8'0"	9'0"	10'0"
11	8	12 X 18	4 NO. 5	10	4	8'0"	9'0"	9'0"	10'0"
12	8	12 X 18	6 NO. 5	10	4	8'0"	9'0"	9'0"	10'0"
13	8	12 X 18	6 NO. 5	10	4	9'0"	9'0"	10'0"	10'0"
14	8	12 X 18	6 NO. 5	10	4	9'0"	10'0"	10'0"	11'0"
15	8	12 X 18	6 NO. 6	10	4	9'0"	10'0"	10'0"	11'0"
16	8	12 X 18	6 NO. 6	10	4	10'0"	10'0"	11'0"	12'0"
17	8	12 X 18	6 NO. 6	10	4	10'0"	10'0"	11'0"	12'0"
18	8	12 X 18	6 NO. 6	10	4	10'0"	11'0"	11'0"	13'0"
19	8	12 X 18	6 NO. 7	10	5	11'0"	11'0"	12'0"	13'0"
20	8	12 X 18	6 NO. 7	10	6	11'0"	11'0"	12'0"	13'0"
21	8	12 X 18	6 NO. 7	10	6	11'0"	12'0"	12'0"	14'0"
22	8	12 X 18	6 NO. 8	10	7	12'0"	12'0"	13'0"	14'0"
23	8	12 X 18	6 NO. 8	10	8	12'0"	12'0"	13'0"	15'0"
24	8	12 X 18	6 NO. 8	10	9	12'0"	13'0"	14'0"	15'0"
25	8	12 X 18	6 NO. 8	10	10	12'0"	13'0"	14'0"	17'0"

**DESIGN CRITERIA:**  
 2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING 2013 INTERIMS.  
 2012 NATIONAL DESIGN SPECIFICATION (NDS) FOR WALL CONSTRUCTION - LRFD  
 $\phi = 30^\circ$  (GRANULAR)  
 $\gamma = 110$  P.C.F.  
 WIND LOAD = 19 P.S.F.  
 $F_b = 1500$  P.S.I. WOOD PLANKING AND BATTEN.  
 $F_b = 1200$  P.S.I. ALL OTHER WOOD MEMBERS.

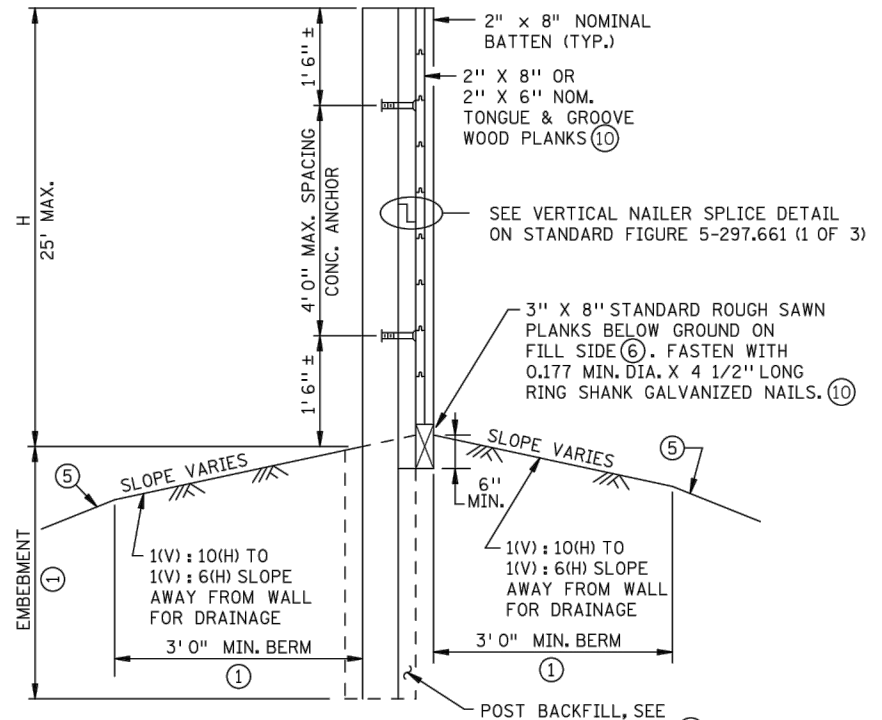
**POST DESIGN CRITERIA**

NO. OF STRANDS	f'cl (3)	f'c (4)
6 OR LESS	4000 PSI	5500 PSI
7 OR MORE	4000 PSI	6000 PSI

- NOTES:**  
 REFER TO SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.  
 SLOPES ARE EXPRESSED AS A RATIO OF VERTICAL DISTANCE: HORIZONTAL DISTANCE.  
 EMBEDMENT LENGTH IS BASED ON THE WATER TABLE BEING BELOW THE EMBEDMENT DEPTH OTHER CONDITIONS REQUIRE A SPECIAL DESIGN.  
 FOR SLOPES BETWEEN THOSE SHOWN, USE THE EMBEDMENTS FOR THE STEEPER SLOPE OR USE INTERPOLATION.  
 FOR SLOPES 1(V):6(H) OR FLATTER, USE LEVEL GROUND EMBEDMENT.  
 POSTS LOCATED WITHIN 20 FEET OF THE OUTSIDE EDGE OF A ROADWAY SHOULDER AND ALL POSTS SUPPORTING GLUE LAMINATED RUBRAIL (STANDARD FIGURE 5-297.678) SHALL BE CONVENTIONALLY REINFORCED (NOT PRESTRESSED). FABRICATOR TO IDENTIFY NON-PRESTRESSED POSTS WITH PERMANENT MARK ON BOTTOM OF POST.  
 SOIL TESTS AT MAXIMUM 200 FT. INTERVALS SHALL BE REQUIRED AT EACH SITE LOCATION AND THE RESULTS REVIEWED BY THE SOILS ENGINEER FOR RECOMMENDATIONS.  
 CONCRETE POSTS WITH THE SAME TOTAL LENGTH SHALL USE THE LARGEST NUMBER OF PRESTRESSED STRANDS REQUIRED FOR THAT POST LENGTH. USE MIX 3W36 FOR ALL POSTS.  
 PRESTRESSED STEEL STRANDS ARE 1/2" DIA. (AREA = 0.153 SQ. IN.), MIN. OF 4 LOW-RELAXATION STRANDS, 270 KSI ULTIMATE STRENGTH. INITIAL PRESTRESS EQUALS 30,900 LBS./STRAND.  
 STEEL STRANDS PER SPEC. 3348 AND PAINT THE EXPOSED ENDS OF THE STRANDS WITH AN APPROVED GRAY EPOXY.  
 ALL REINF. BARS SHALL BE EPOXY COATED GRADE 60 PER SPEC. 3301 AND HAVE A MIN. 2" CLEAR UNLESS OTHERWISE NOTED.
- EMBEDMENT DEPTH IN THE TABLE IS BASED ON A 3 FT. MIN. BERM IN FRONT OF THE WALL.
  - WHEN THE CURB LINE IS CLOSER THAN 1(V):2(H) SLOPE, A SPECIAL DESIGN IS REQUIRED.
  - MINIMUM CONCRETE STRENGTH AT THE TIME OF PRESTRESS TRANSFER.
  - MIN. CONCRETE STRENGTH AT WHICH THE POST CAN BE TRANSPORTED AND PLACED.
  - SEE POST EMBEDMENT TABLES FOR MAXIMUM SLOPE.
  - SEE SPEC. 3491 FOR ADDITIONAL PRESERVATIVE TREATMENT REQUIREMENTS FOR LUMBER PLACED BELOW GRADE.
  - GALVANIZED COIL THREAD ANCHORS SHALL BE PLACED ON ALTERNATE SIDES OF POST FACE  $\phi$ . MINIMUM FACTORED PULL OUT OF 2.5 KIPS PER ANCHOR. UNUSED ANCHORS SHALL BE COMPLETELY FILLED WITH A MnDOT APPROVED/QUALIFIED PRODUCT PER 3372, SILICONE JOINT SEALANT.
  - 12" MIN, 13" MAX. TO ALLOW FOR DRAFT OF FORM.
  - USE NO. 3 BARS FOR SHEAR STIRRUPS.
  - REFER TO STANDARD FIGURE 5-297.661 (1 OF 3) FOR NAILING PATTERN.
  - ON 1(V):2(H) SLOPES, WHEN H = 10 FT. AND GREATER, FILL HOLE WITH CONC. SEE SPECIAL PROVISIONS.



**SECTION AT POST**  
WITH EARTH FILL  
(MAX. FILL RETAINED 1'-0")  
(WALL TYPE 1 ONLY)



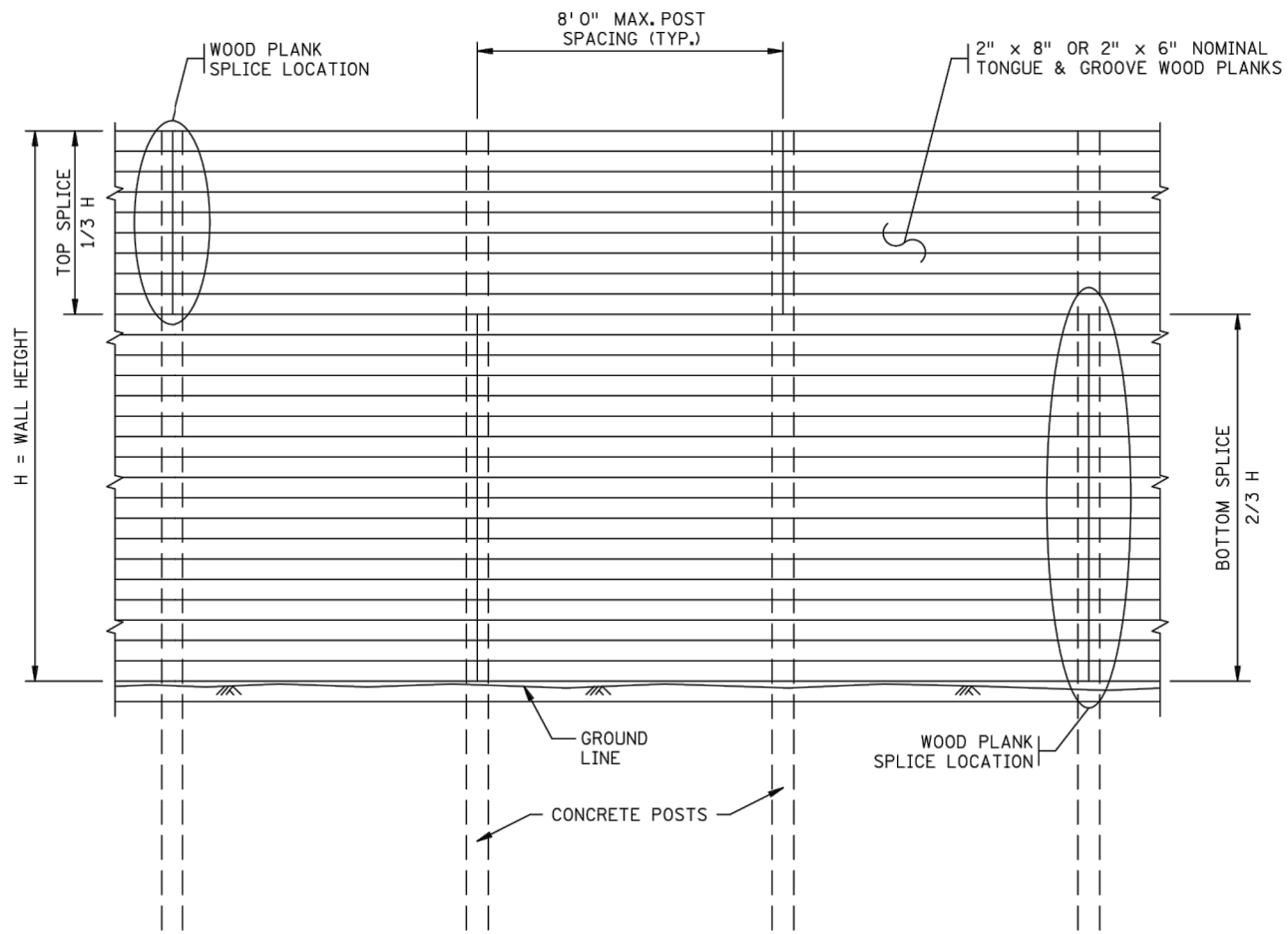
**SECTION AT POST**  
WITHOUT EARTH FILL  
(WALL TYPE 1 OR 2)

REVISION:  
 APPROVED: 5-13-2014  
*Nancy Saubenberg*  
 STATE BRIDGE ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION  
 REVISION:  
 APPROVED: 5-13-2014  
*Christopher Ry*  
 STATE DESIGN ENGINEER

WOOD PLANKING NOISE WALL WITH CONCRETE POSTS  
 STANDARD PLAN 5-297.661  
 2 OF 3

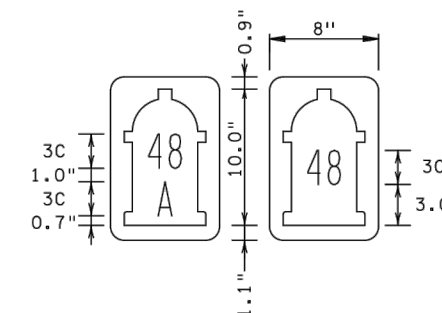




**NOTES:**

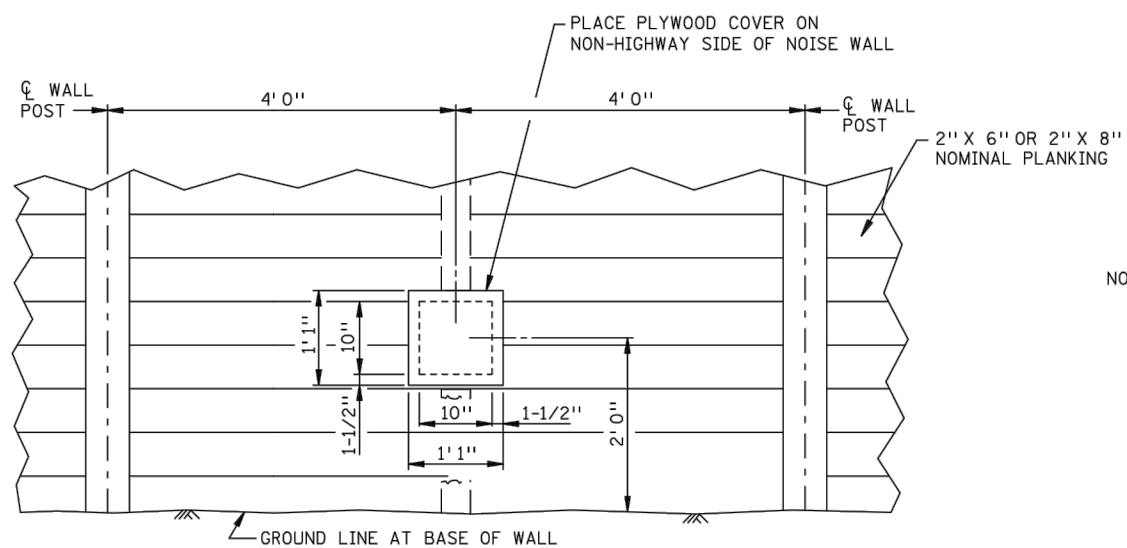
① IF THE CONTRACTOR CHOOSES TO USE THIS PLANK SPLICE PATTERN, THE TOP SPLICE DIMENSION SHALL BE 1/3 OF THE WALL HEIGHT (H/3) AS MEASURED FROM THE TOP OF THE WALL. THE BOTTOM SPLICE DIMENSION SHALL BE 2/3 OF THE WALL HEIGHT (2/3 OF H) AS MEASURED FROM THE BOTTOM OF THE WALL. IN NO CASE SHALL MORE THAN 2/3 OF THE BOARDS BE SPLICED AT ANY SINGLE POST LOCATION. REFER TO STANDARD FIGURE 5-297.661 (1 OF 3) FOR NAILING PATTERN

**OPTIONAL PLANK SPLICE LOCATION ①**  
 AT THE CONTRACTOR'S OPTION, IN LIEU OF ALTERNATING PLANK SPLICES AS SHOWN ON MNDOT STANDARD PLAN SHEET 5-297.661 (1 OF 3) - FRONT ELEVATION, THE PATTERN SHOWN ABOVE MAY BE USED.

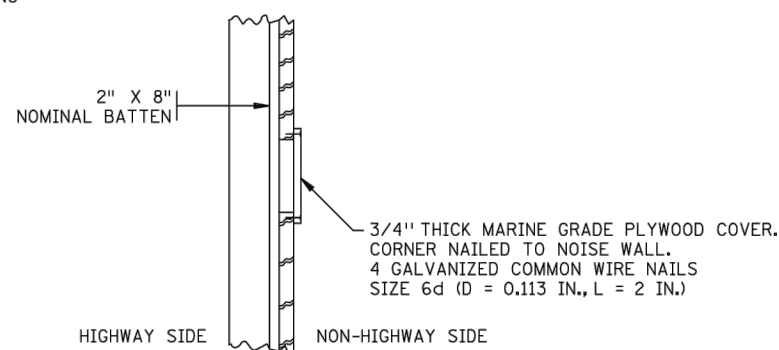


**IDENTIFICATION SIGN**

8" X 12" SIGN WITH 1" RADIUS CORNERS. WHITE LETTERS, RED HYDRANT ON WHITE BACKGROUND FULLY REFLECTORIZED. THE ENGINEER WILL PROVIDE THE NUMBER AND LETTER DESIGNATION FOR EACH LOCATION. LOCATE SIGN ON HIGHWAY SIDE ADJACENT TO FIRE HOSE ACCESS HOLE. SIGNS ARE INCIDENTAL.



**ELEVATION FROM NON-HIGHWAY SIDE  
 FIRE HOSE ACCESS DETAIL**



**SECTION AT  
 ACCESS OPENING**

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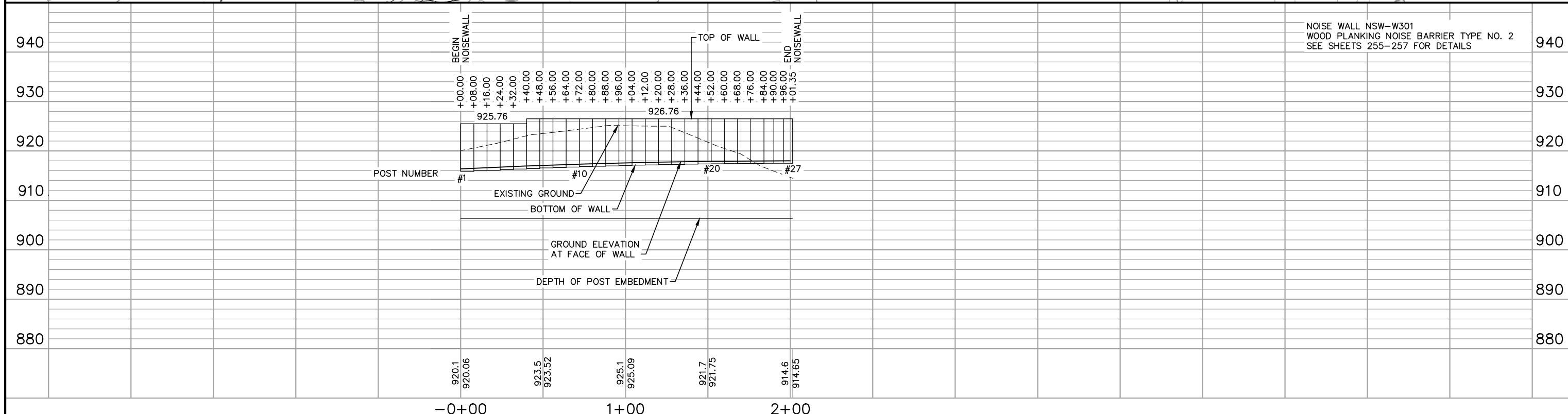
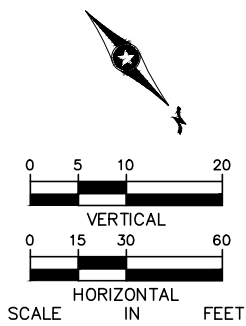
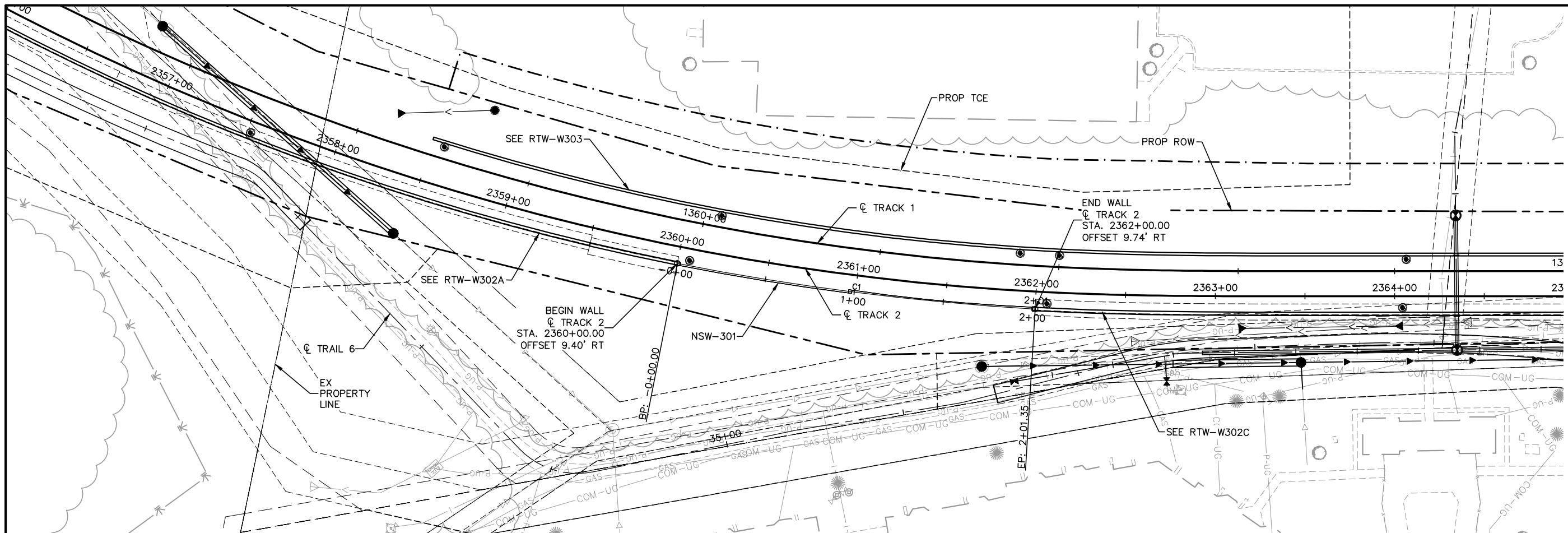
REVISION:  
 APPROVED: 5-13-2014  
*Nancy Saubenberg*  
 STATE BRIDGE ENGINEER

REVISOR:  
  
 STATE DESIGN ENGINEER  
 APPROVED: 5-13-2014  
*Christopher Ky*

WOOD PLANKING NOISE WALL  
 WITH CONCRETE POSTS  
 STANDARD PLAN 5-297.661

3 OF 3

Jan, 19 2016 04:59 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W301-PLA.dwg By: kmcclement



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

90% SUBMISSION - 01/22/16

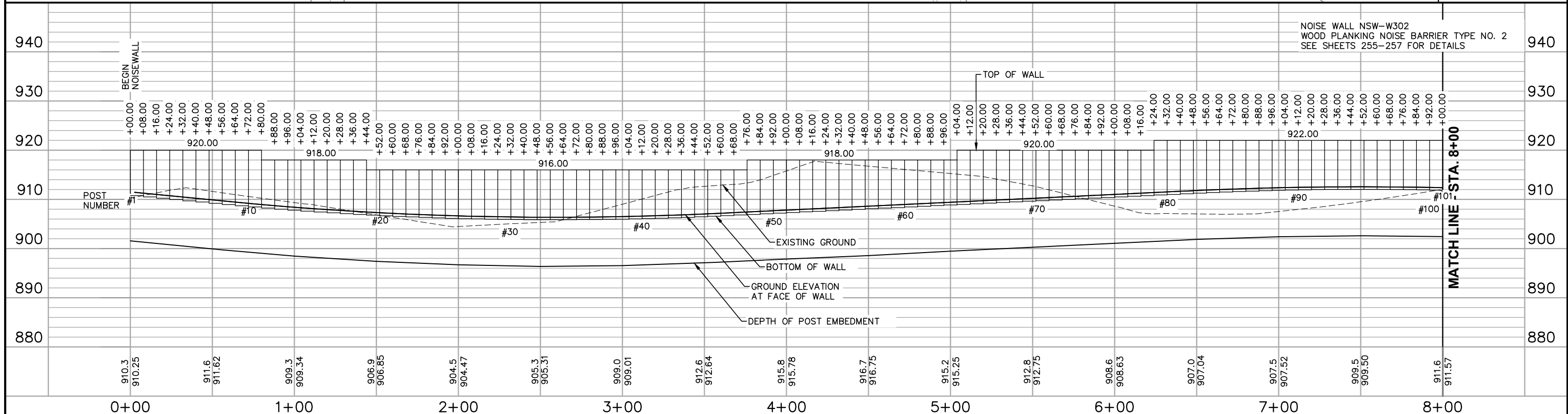
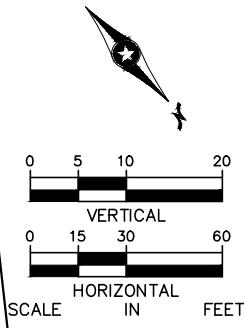
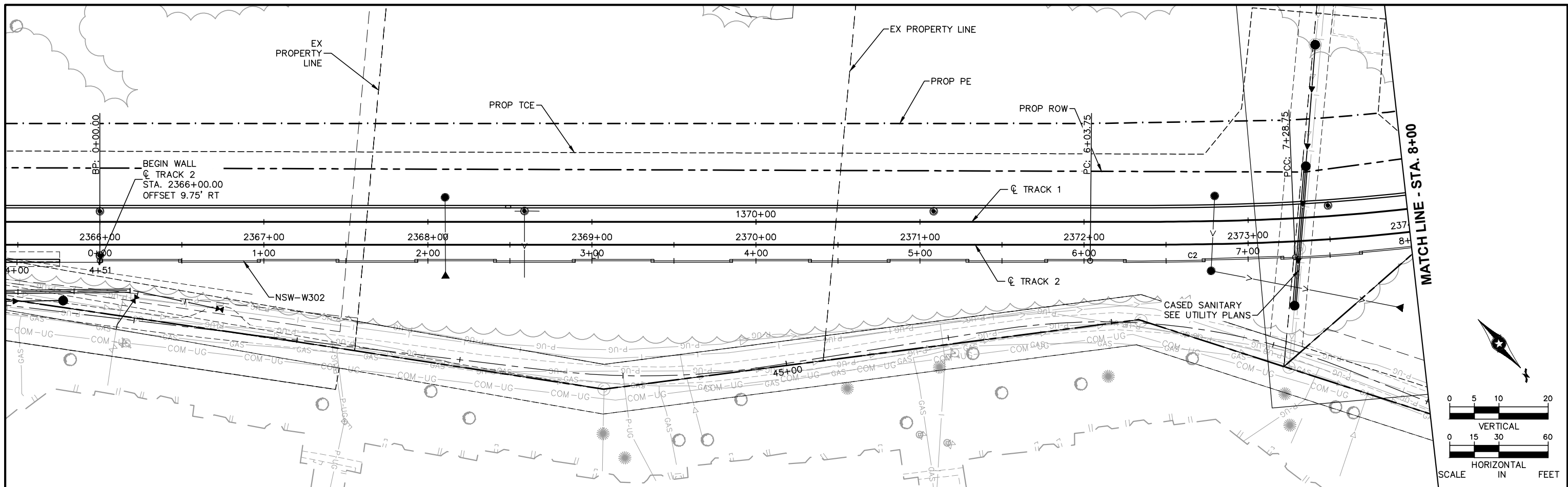


**CIVIL - VOLUME 6**  
**NSW-W301**  
**PLAN AND ELEVATION**

DISCIPLINE: CIVIL      SHEET NAME: NSW-W301-PLA

SHEET 258 OF 271

Jan, 19 2016 04:59 pm V:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W302-PL1.dwg By: kmcclement



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM**

90% SUBMISSION - 01/22/16

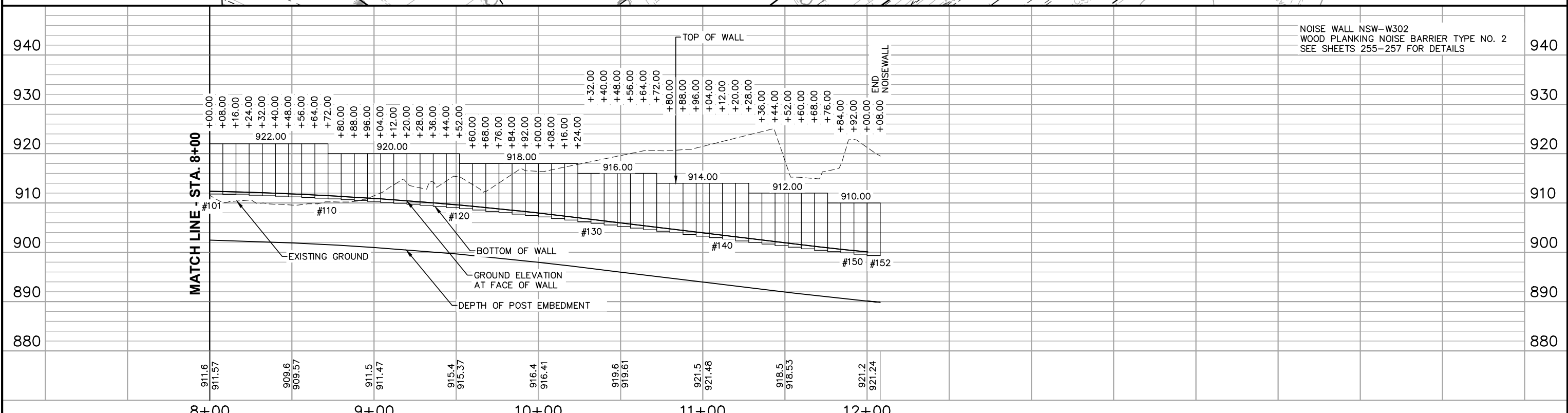
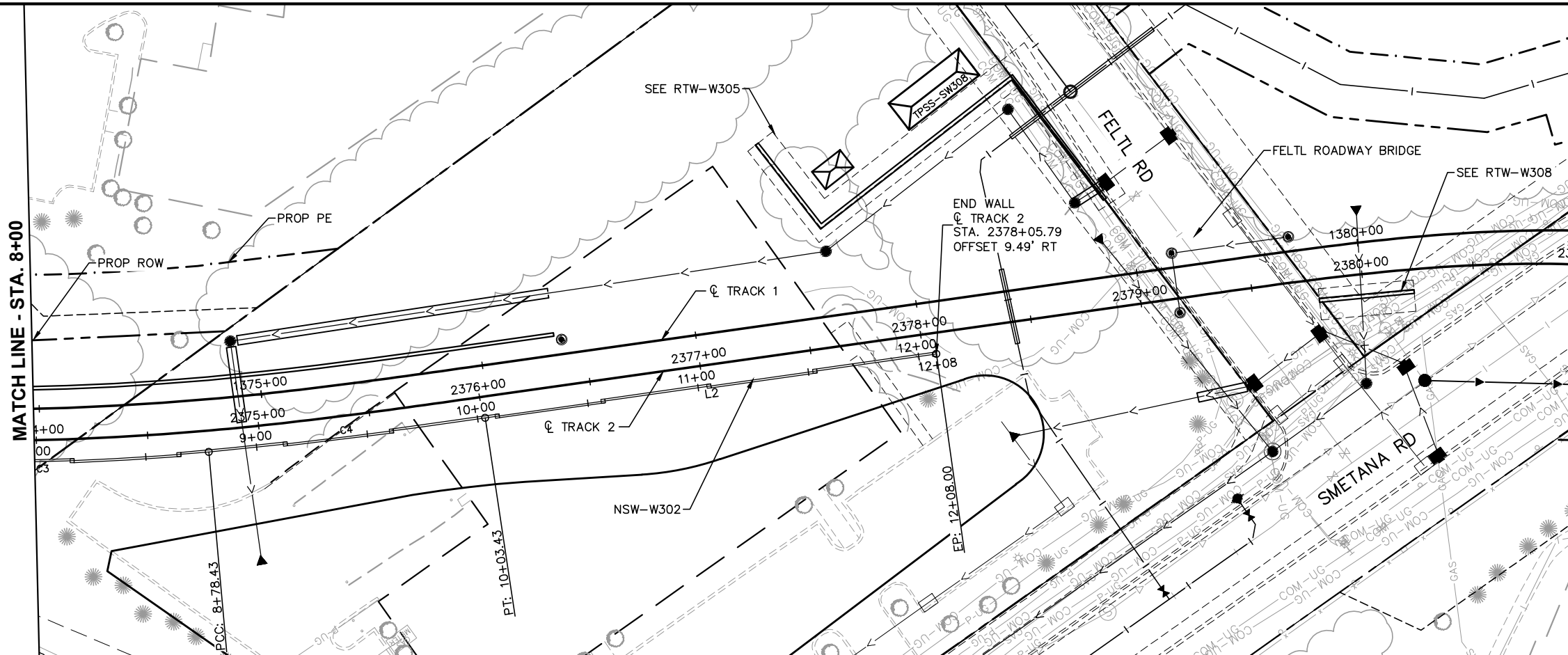



**CIVIL - VOLUME 6**  
**NSW-W302**  
**PLAN AND ELEVATION 1**

DISCIPLINE: CIVIL      SHEET NAME: NSW-W302-PL1-001


SHEET 259 OF 271

Jan, 19 2016 04:59 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W302-PL2.dwg By: kmcclement




NOISE WALL NSW-W302  
WOOD PLANKING NOISE BARRIER TYPE NO. 2  
SEE SHEETS 255-257 FOR DETAILS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**90% SUBMISSION - 01/22/16**



**SOUTHWEST**  
Green Line Light Extension

**CIVIL - VOLUME 6**  
**NSW-W302**  
**PLAN AND ELEVATION 2**

DISCIPLINE: CIVIL

SHEET NAME: NSW-W302-PL2-002

**SHEET**  
260  
OF  
271

Jan, 19 2016 04:59 pm v:\3400\_ADC\CAD\SEGMENT W3\PLAN SHEETS\CIVIL\NOISEWALLS\NSW-W3-TAB.dwg By: kmcclement

**ALIGNMENT DATA  
NSW-301**

SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	NOTES	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C1	-0+00.00	2+01.35	1+00.83		7'43'38"	3'50'15.94"	1492.95	100.83	201.35	140706.92	491805.23	140858.58	491673.02	322'47'00" 315'03'22"

**ALIGNMENT DATA  
NSW-W302**

SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	NOTES	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	0+00.00	6+03.75							603.75	141126.71	491375.53	141527.98	490924.42	311'39'14"
C2	6+03.75	7+28.75	6+66.27		2'58'08"	2'22'30.31"	2412.37	62.51	125.00	141527.98	490924.42	141609.41	490829.61	312'08'37" 309'10'30"
C3	7+28.75	8+78.43	8+03.69		7'08'48"	4'46'28.73"	1200.00	74.94	149.68	141609.41	490829.61	141695.42	490707.22	308'40'11" 301'31'24"
C4	8+78.43	10+03.43	9+40.95		2'59'03"	2'23'14.42"	2399.99	62.51	125.00	141695.42	490707.22	141757.03	490598.47	301'01'33" 298'02'30"
L2	10+03.43	12+08.00							204.57	141757.03	490598.47	141854.76	490418.76	298'32'15"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



90% SUBMISSION - 01/22/16

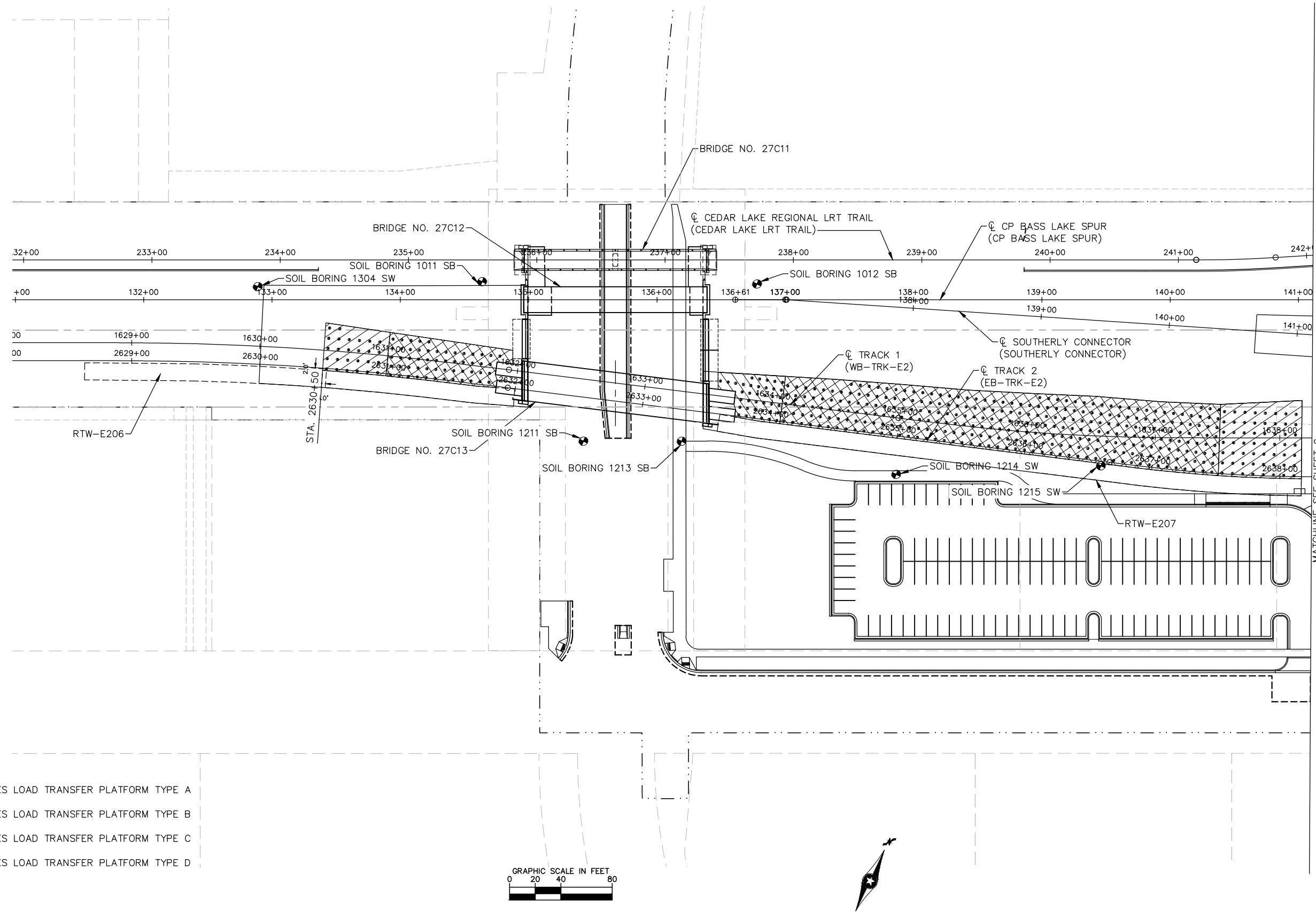
**CIVIL - VOLUME 6  
NOISEWALL  
ALIGNMENT TABULATIONS**

DISCIPLINE: CIVIL

SHEET NAME: NSW-W3-TAB

SHEET  
261  
OF  
271

Jan, 20 2016 04:33 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\Approach Fill Pile Support\XE2-STU-APPR-FILL-PILE-STAK-001.dwg By: jlm.kimble



**NOTES:**

- INDICATES LOAD TRANSFER PLATFORM TYPE A
- INDICATES LOAD TRANSFER PLATFORM TYPE B
- INDICATES LOAD TRANSFER PLATFORM TYPE C
- INDICATES LOAD TRANSFER PLATFORM TYPE D

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

DESIGNED BY: JCW	CHECKED BY: SAD
DRAWN BY: JIK	CHECKED BY: SAD

AECOM Kimley»Horn

90% SUBMISSION - 01/22/16

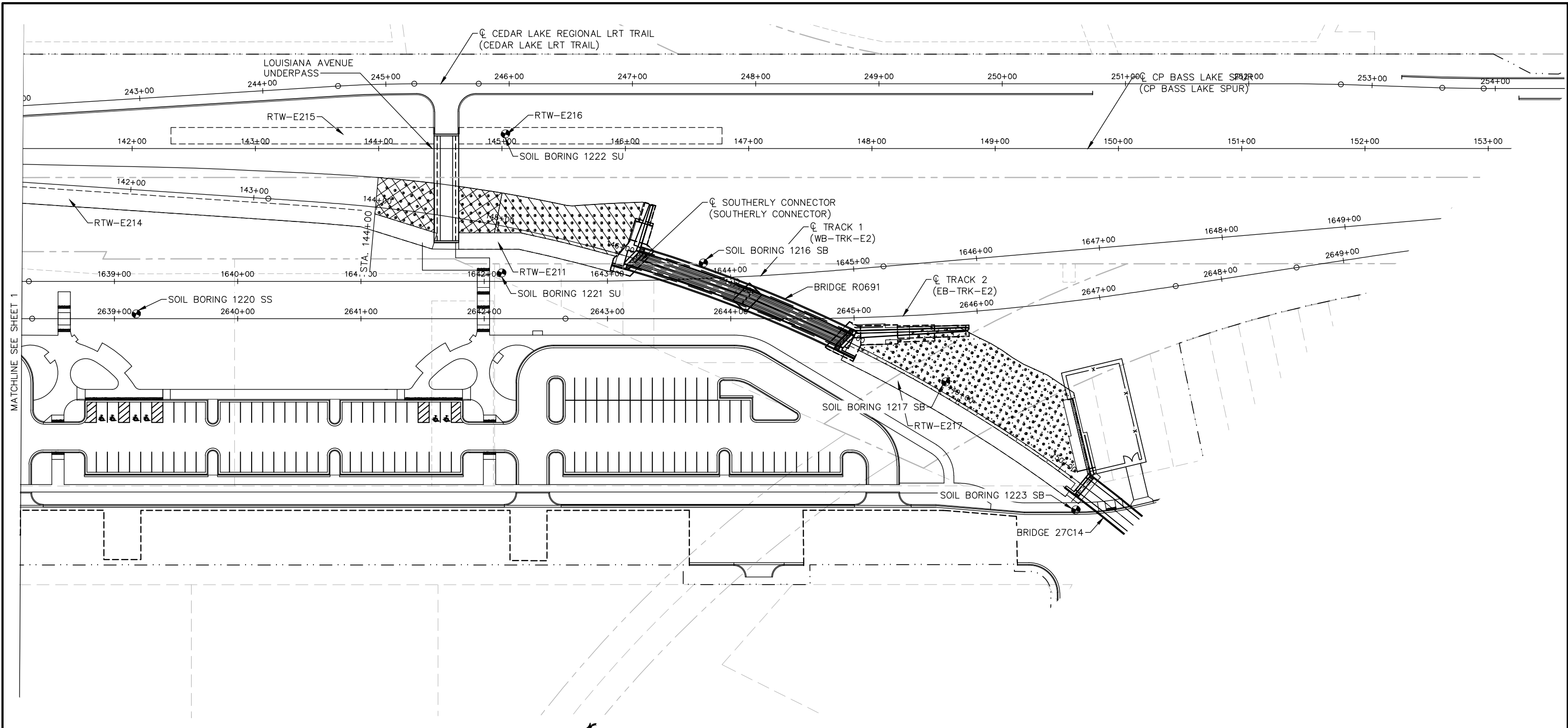
CIVIL - VOLUME 6

LOAD TRANSFER PLATFORM DETAILS 1

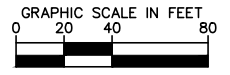
DISCIPLINE: <b>STRUCTURES</b>	SHEET NAME: <b>XE2-STU-APPR-FILL-PILE-STAK-001</b>
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SHEET  
262  
OF  
271

Jan, 20 2016 04:34 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\Approach Fill Pile Support\XE2-STU-APPR-FILL-PILE-STAK-002.dwg By: Jjm:Kimble



- NOTES:**
- INDICATES LOAD TRANSFER PLATFORM TYPE A
  - INDICATES LOAD TRANSFER PLATFORM TYPE B
  - INDICATES LOAD TRANSFER PLATFORM TYPE C
  - INDICATES LOAD TRANSFER PLATFORM TYPE D



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: JCW  
 CHECKED BY: SAD  
 DRAWN BY: JIK  
 CHECKED BY: SAD

**AECOM Kimley»Horn**

**90% SUBMISSION - 01/22/16**

**CIVIL - VOLUME 6**

**LOAD TRANSFER PLATFORM DETAILS 2**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **XE2-STU-APPR-FILL-PILE-STAK-002**

**SHEET 263 OF 271**

**CONSTRUCTION NOTES:**

1. PRIOR TO PLACING THE INITIAL AGGREGATE BASE LAYER, A TYPE 5 GEOTEXTILE SHALL BE PLACED UPON COMPACTED EXISTING GROUND FLUSH WITH THE TOPS OF THE PILES. TYPE 5 GEOTEXTILE SHALL BE PER MNDOT SPECIFICATION 3733.
2. FILL SHALL BE SELECT GRANULAR BORROW.
3. GEOGRID SHALL BE PLACED IN OVERLAPPING SECTIONS, WITH THE MINIMUM OVERLAP EQUAL TO THE OVERALL THICKNESS "H".
4. SPACING OF PILES SHOWN, "Sp", IS BASED ON A SQUARE GRID PATTERN.

LRFD COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	
FACTORED LIVE LOAD	
FACTORED OVERTURNING	
* FACTORED DESIGN LOAD = PILE BEARING RESISTANCE	140.0

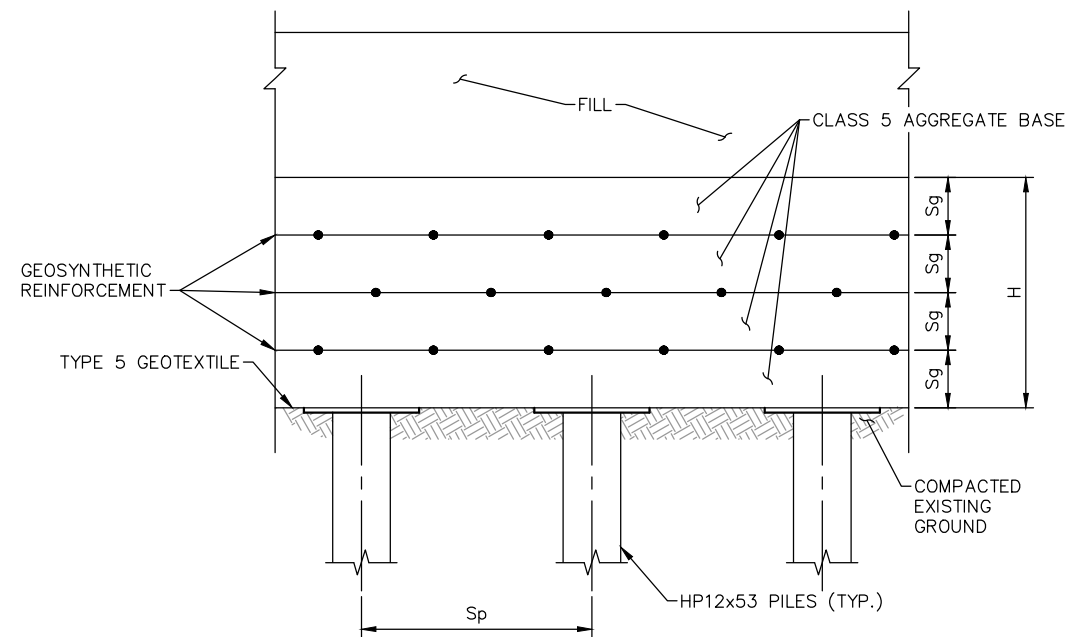
LRFD LOAD TRANSFER PLATFORM REQUIRED NOMINAL PILE BEARING RESISTANCE FOR H-PILES Rn-Tons/Pile		
FIELD CONTROL METHOD	$\phi_{dyn}$	*Rn
PDA	0.65	215

\*Rn = (FACTORED DESIGN LOAD) /  $\phi_{dyn}$

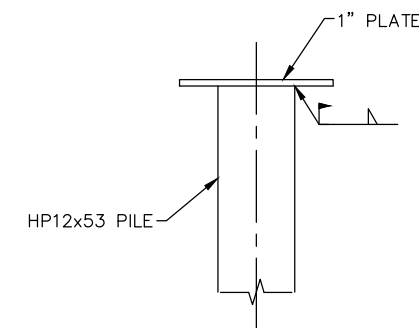
ASD COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	
FACTORED LIVE LOAD	
FACTORED OVERTURNING	
* SERVICE DESIGN LOAD = PILE BEARING RESISTANCE	95.0

ASD LOAD TRANSFER PLATFORM REQUIRED NOMINAL PILE BEARING RESISTANCE FOR H-PILES Rn-Tons/Pile		
FIELD CONTROL METHOD	F.S.	*Rn
PDA	2.0	190

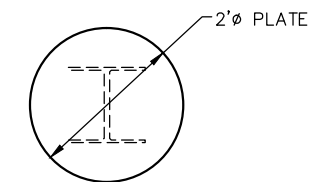
\*Rn = (SERVICE DESIGN LOAD) X F.S.



**LOAD TRANSFER PLATFORM SECTION**



**PILE PLATE DETAIL**



**PILE NOTES:**

- ALL PILES TO BE HP12x53 WITH PILE TIP PROTECTION.
- HP12x53 STEEL PILES XX FT. LENGTH
- HP12x53 STEEL PILES REQ'D.

LOAD TRANSFER PLATFORM DATA TABLE				
TYPE	Sp (FT.)	Sg (FT.)	H (FT.)	REQ'D GEOGRID STRENGTH (plf)
A	8	1.5	6	600
B	7	1.25	5	417
C	6	1.0	4	267
D	5.5	0.875	3.5	205

Jan, 20 2016 04:34 pm v:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\STRUCTURES\Approach Fill Pile Support\XE2-STU-APPR-FILL-PILE-STAK-003.dwg By: Jjm.Kimble

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: JCW      CHECKED BY: SAD  
 DRAWN BY: JIK        CHECKED BY: SAD



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**CIVIL - VOLUME 6**

**LOAD TRANSFER PLATFORM DETAILS 3**

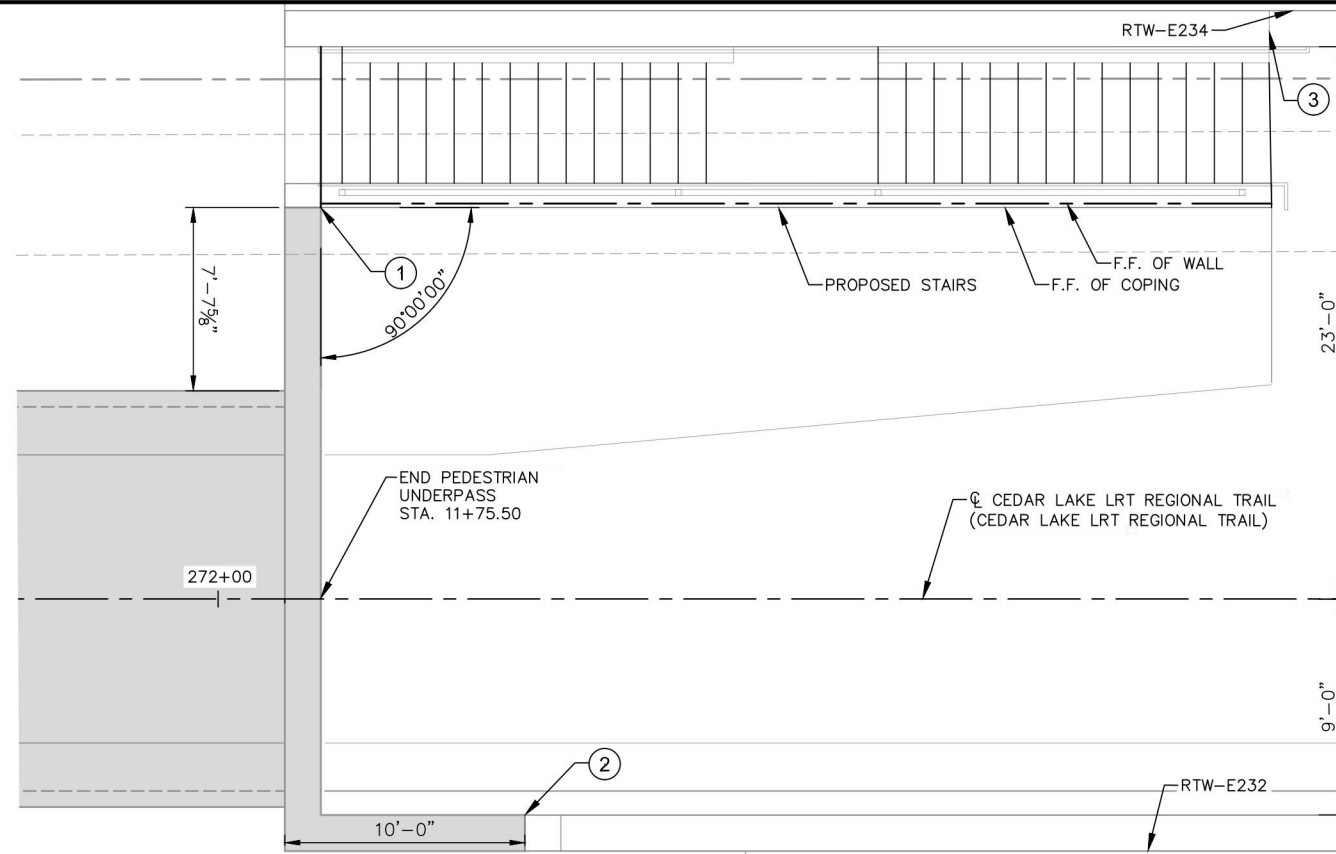
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SHEET  
264  
OF  
271

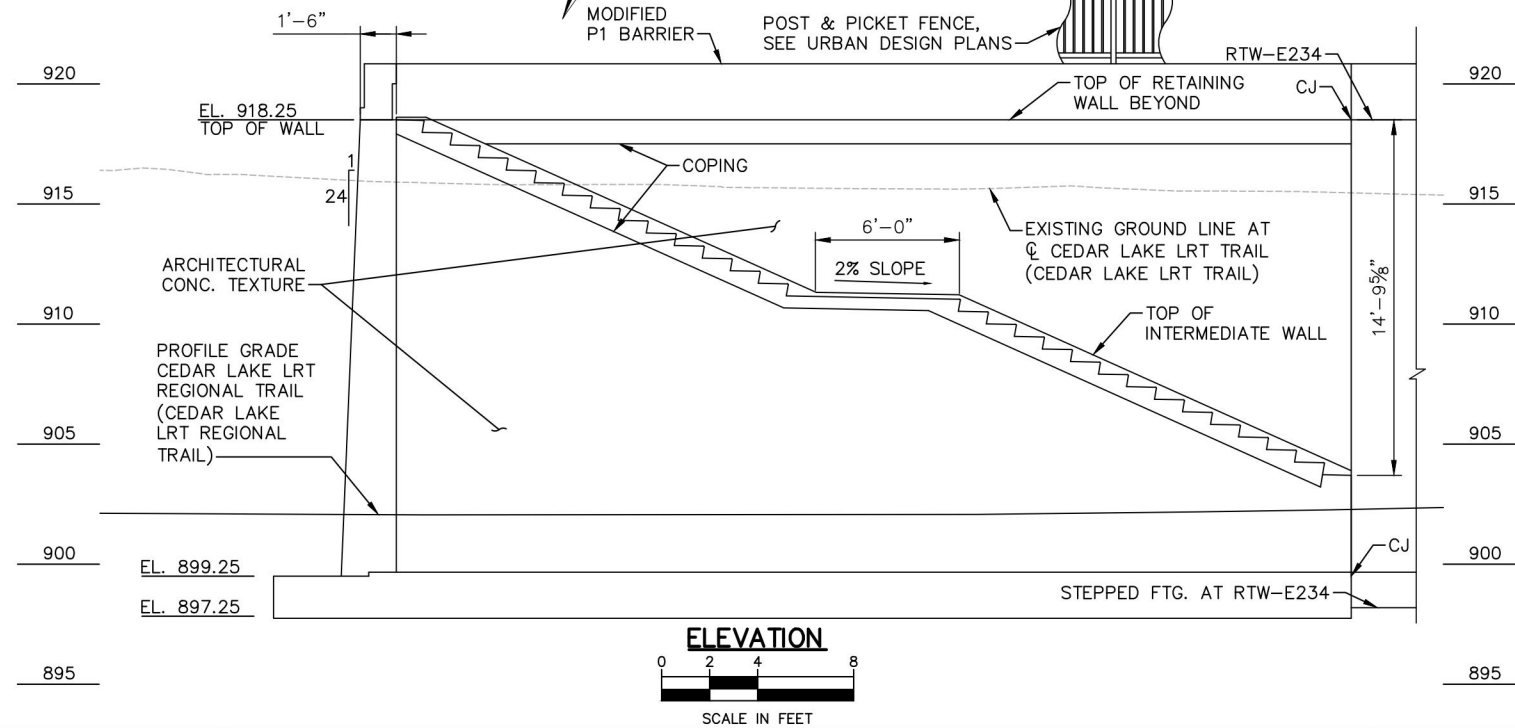
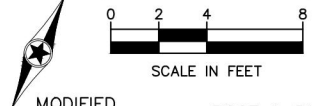


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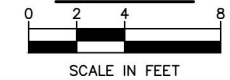
- ① END OF STAIR WALL AND BEGIN NE HEADWALL AT F.F. HEADWALL. C CEDAR LAKE LRT REGIONAL TRAIL (CEDAR LAKE LRT REGIONAL TRAIL)  
STA. 11+75.50  
X = 507189.967  
Y = 153778.689
- ② END OF RTW-E232 AND BEGIN NW HEADWALL AT F.F. HEADWALL. C CEDAR LAKE LRT REGIONAL TRAIL (CEDAR LAKE LRT REGIONAL TRAIL)  
STA. 11+84.00  
X = 507208.566  
Y = 153759.543
- ③ END OF STAIR WALL AND BEGIN RTW-E234  
SEE BRIDGE SURVEY PLAN SHEET FOR IN PLACE UTILITIES.



**GENERAL PLAN**



**ELEVATION**



**DESIGN DATA**

ACI 318-05  
 SOUTHWEST LIGHT RAIL TRANSIT DESIGN CRITERIA (REVISION 4.0)  
 LOAD AND RESISTANCE FACTOR DESIGN METHOD  
 100 PSF PEDESTRIAN LIVE LOAD ON STAIRS  
 MATERIAL DESIGN PROPERTIES:  
 REINFORCED CONCRETE:  
 $f'_c = 4$  KSI  
 $f_y = 60$  KSI REINFORCEMENT  
 $n = 8$

**LIST OF SHEETS**

NO.	DESCRIPTION
1	GENERAL PLAN AND ELEVATION
2	REINFORCEMENT AND QUANTITIES
3	FOOTING DETAILS AND REINFORCEMENT
4	WALL DETAILS
5	WALL REINFORCEMENT
6	STAIR DETAILS 1
7	STAIR DETAILS 2

**2040 PROJECTED TRAFFIC VOLUMES**

WOODDALE AVE. S		CEDAR LAKE LRT TRAIL	
18,600	AADT		N/A
XXXX	DHV		N/A
XXXX	ADTT		N/A

**BRIDGE NO. 27J61**

WOODDALE AVE. S. OVER CEDAR LAKE TRAIL  
 0.06 MI. SE OF JCT. OF T.H. 7  
 IN ST. LOUIS PARK  
 16' x 12' PRECAST BOX  
 13'-59"-50.0" SKEW  
 BRIDGE I.D. NO. 113  
**GENERAL PLAN AND ELEVATION**  
 SEC 16 T 117N R 21W  
 CITY OF ST LOUIS PARK HENNEPIN COUNTY

**DRAFT-WORK IN PROGRESS**

JOB NO.: T9N635

STATE PROJECT NO.: 9909-01

MNDOT REVIEW: TBD

NO.	DATE	BY	CHECK DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH  
 DRAWN BY: KJF  
 CHECKED BY: SAD  
 CHECKED BY: SAD

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DISCIPLINE: STRUCTURES

SHEET NAME: CBR-27J61-BRG-DTL-004

**CIVIL - VOLUME 6  
 WOODDALE STAIRS  
 BRIDGE 27J61  
 GENERAL PLAN AND ELEVATION**

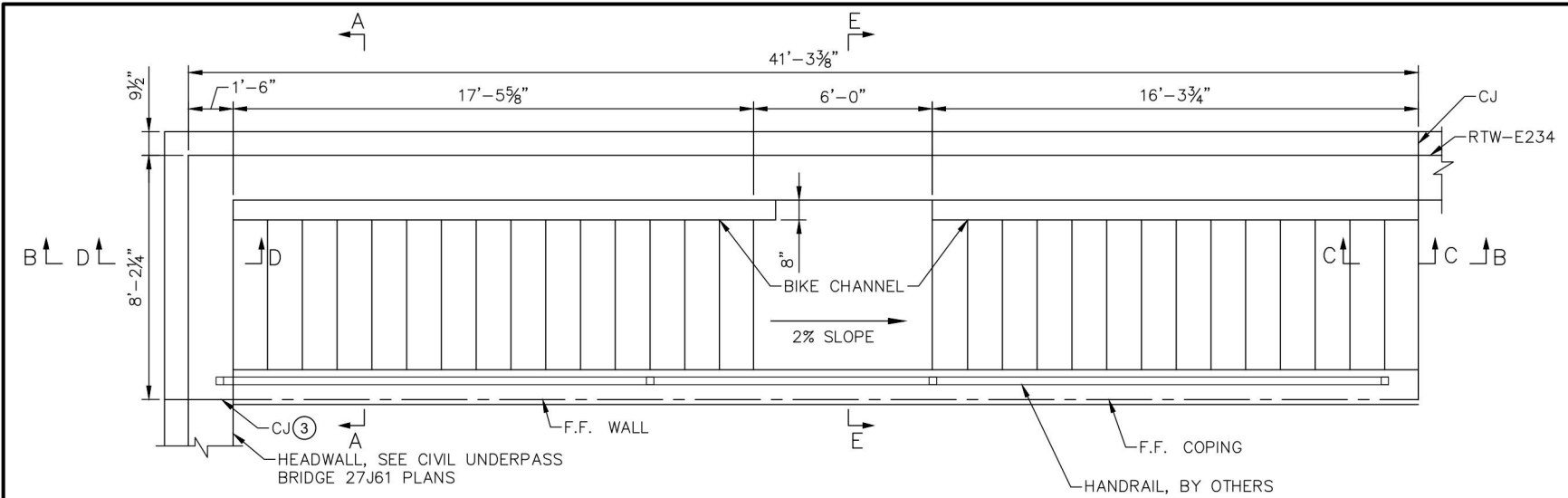
**SHEET  
 265  
 OF  
 271**

SCHEDULE OF QUANTITIES			
SPEC. SECTION	ITEM	UNIT	QUANTITY
-----	WOODDALE STAIRS	LUMP SUM	LS

COMPONENT ITEM SUMMARY			
SPEC. SECTION	COMPONENT ITEM SUMMARY	UNIT	QUANTITY
MnDOT 2401	STRUCTURAL CONCRETE (1G52)	CU. YD.	
MnDOT 2401	STRUCTURAL CONCRETE (3B52)	CU. YD.	
MnDOT 2401	REINFORCEMENT BARS	POUND	
MnDOT 2401	REINFORCEMENT BARS (EPOXY COATED)	POUND	
MnDOT 2401	TYPE MOD P-1 BARRIER CONCRETE	LIN. FT.	
SB-	ARCHITECTURAL CONCRETE TEXTURE (BASKET WEAVE)	SQ. FT.	
SB-	STRUCTURE EXCAVATION	CU. YD.	
MnDOT 2557	WIRE FENCE	LIN. FT.	
SB-	STRUCTURAL BACKFILL	CU. YD.	

**NOTES:**

- QUANTITIES LISTED FOR THE COMPONENT ITEMS OF THE LUMP SUM WOODDALE STAIR ITEM ARE FOR INFORMATIONAL PURPOSES. ANY ADDITIONAL ITEMS OR CHANGES IN QUANTITIES REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.
  - MEASUREMENT AND PAYMENT FOR COMPONENT ITEMS SHALL BE PART OF THE LUMP SUM PAYMENT FOR WOODDALE STAIRS. REFER TO MnDOT STANDARD SPECIFICATIONS OR SPECIAL PROVISIONS FOR TECHNICAL SPECIFICATION REQUIREMENTS FOR ALL PROVISIONS OTHER THAN MEASUREMENT AND PAYMENT REQUIREMENTS.
  - END OF RTW-E234 AND BEGIN NE HEADWALL AT F.F. HEADWALL.  $\varnothing$  CEDAR LAKE LRT REGIONAL TRAIL STA. 11+75.50  
X = 507189.967  
Y = 153778.689
- FOR SECTIONS B-B, C-C, D-D, AND E-E SEE SHEET 7 OF 7.



**CONSTRUCTION NOTES:**

**UTILITIES:**  
EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. PRIOR TO EXCAVATION VERIFY THE LOCATION OF EXISTING FACILITIES AND EXERCISE CARE IN ADJACENT CONSTRUCTION.

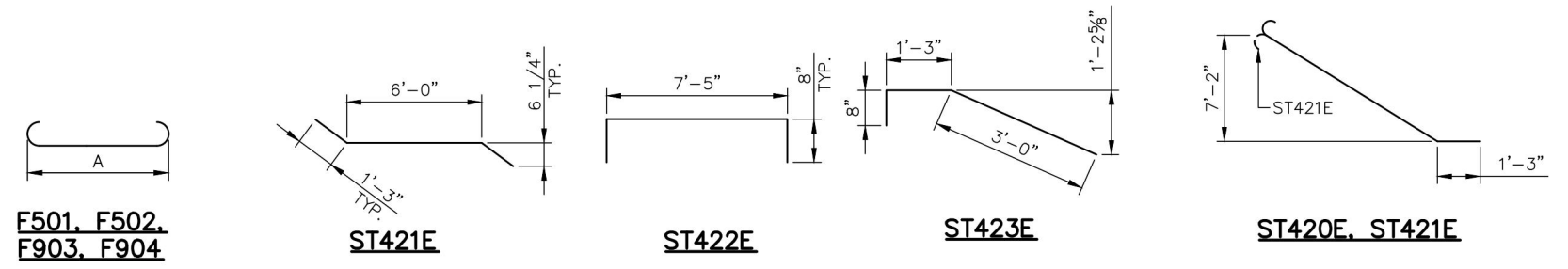
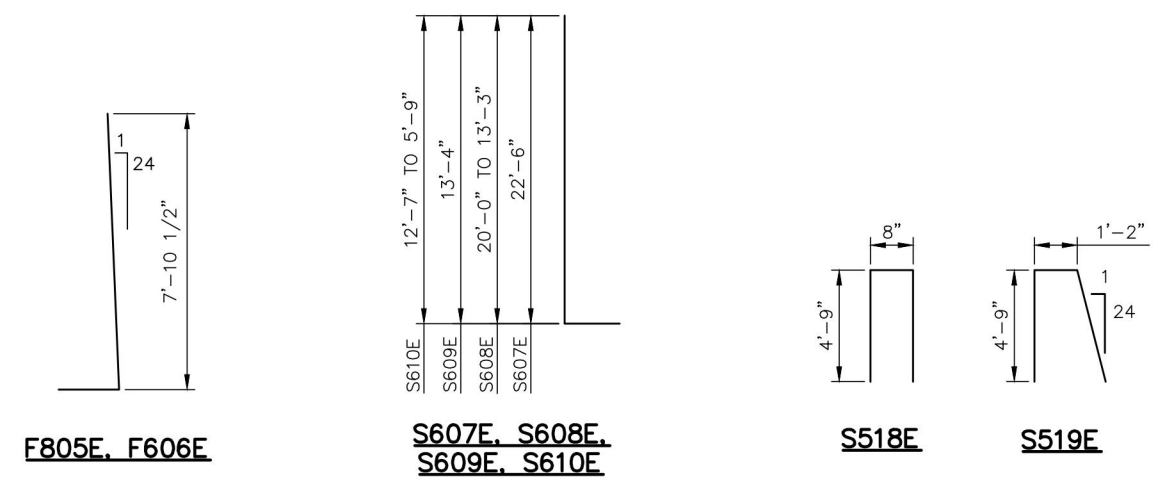
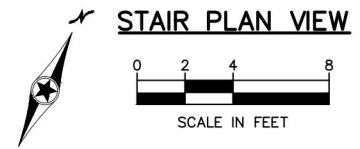
THE THICKNESS OF THE ARCHITECTURAL CONCRETE TEXTURE VARIES WITH THE TEXTURE RELIEF PATTERN.

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

BARS MARKED WITH THE SUFFIX "E" TO BE EPOXY COATED IN ACCORDANCE WITH SPEC 3301.

MAINTAIN CLEAR DISTANCE BETWEEN REINFORCEMENT BARS AND FACE OF CONCRETE OF 2 INCHES IN FOOTINGS, 3 INCHES IN BOTTOM OF SPREAD FOOTINGS, AND 2 INCHES ELSEWHERE UNLESS OTHERWISE NOTED.

THE BAR SIZES SHOWN IN THIS PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS. THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.



Jan, 20 2016 05:39 pm U:\00\_Structures\160562002 - Stair Design\CAD\CBR 27J61 - BRG-DTL-005.dwg By: kyle.freehart

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH      CHECKED BY: SAD  
 DRAWN BY: KJF        CHECKED BY: SAD

**AECOM Kimley»Horn**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL**

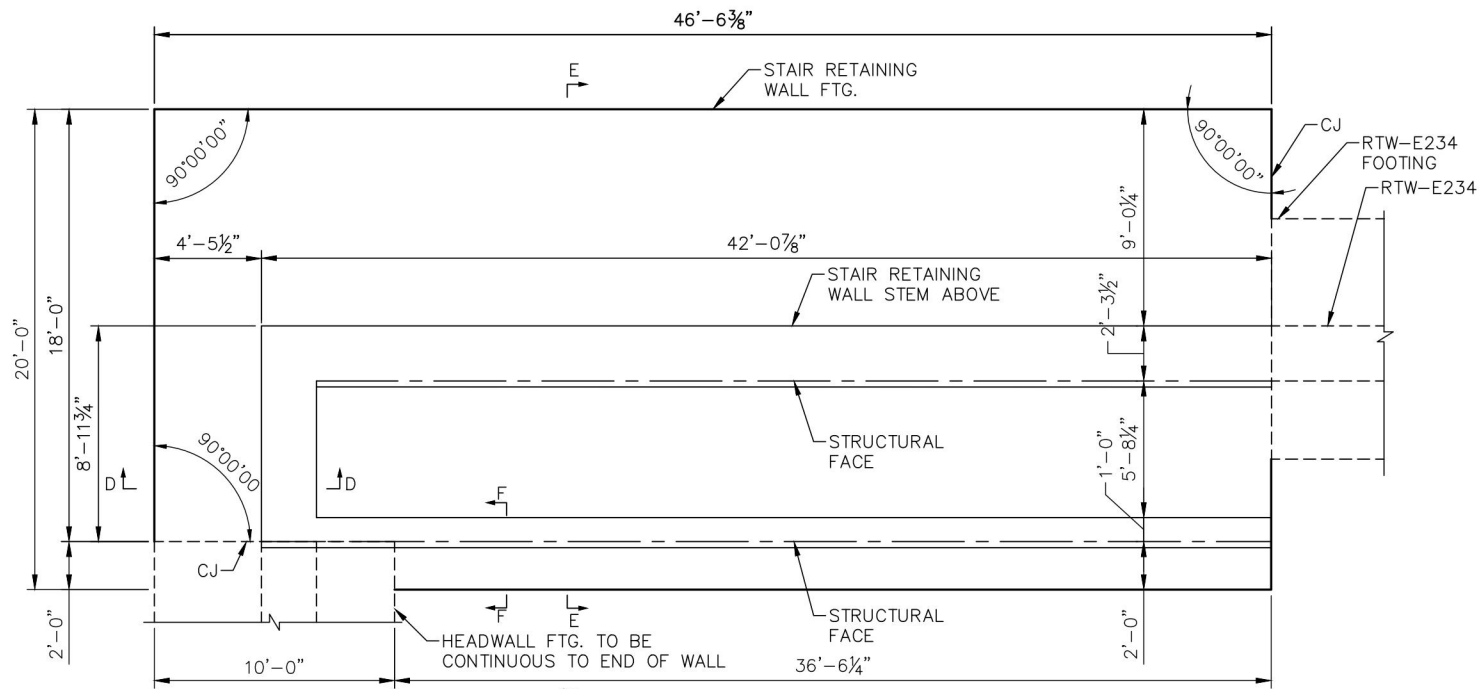
**SOUTHWEST**

**CIVIL - VOLUME 6**  
**WOODDALE STAIRS**  
**BRIDGE 27J61**  
**REINFORCEMENT AND QUANTITIES**

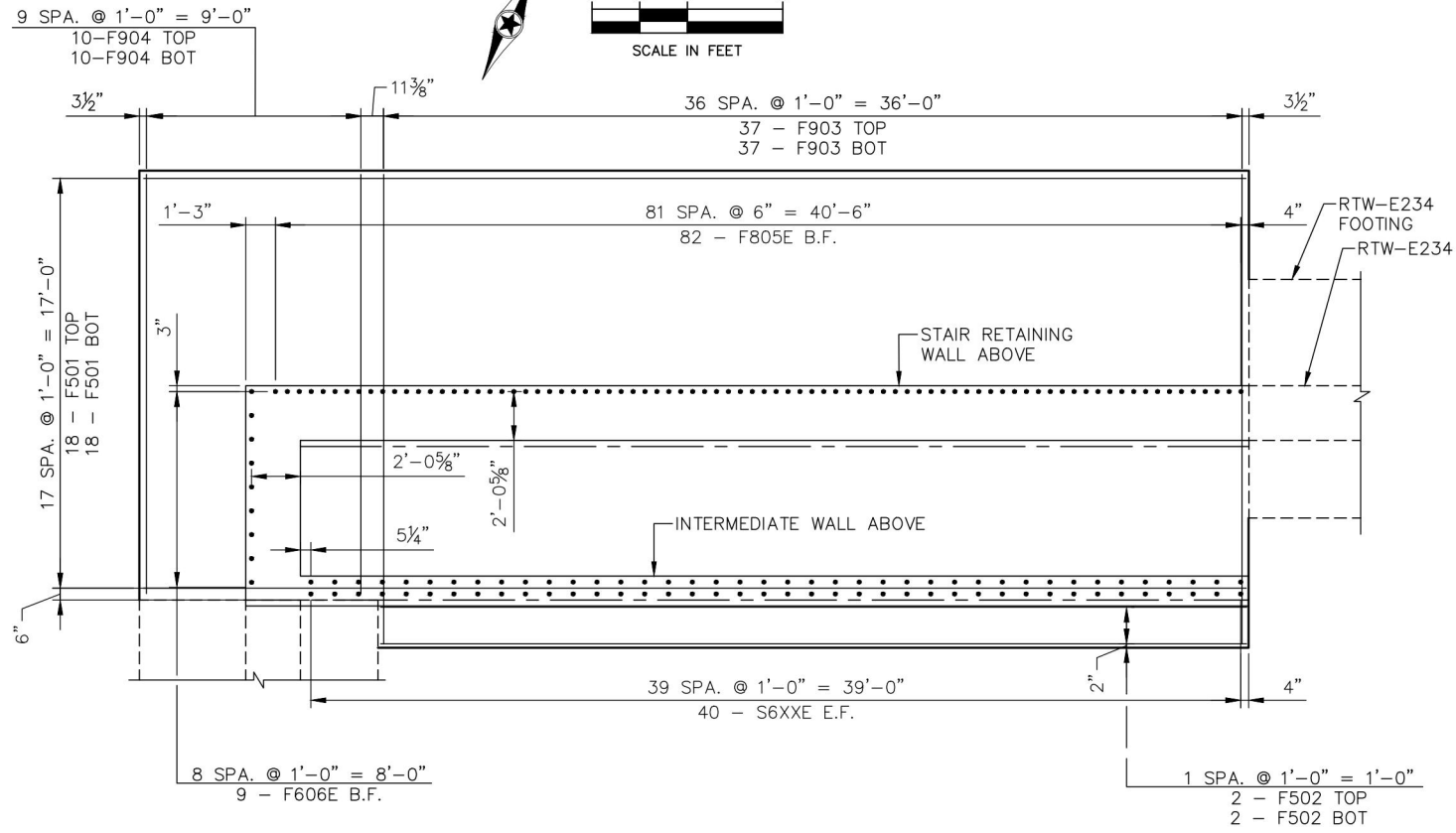
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**SHEET**  
266  
**OF**  
271

Jan, 20 2016 05:36 pm U:\00\_Structures\160562002 - Stair Design\CAD\CBR 27J61-BRG-DTL-006.dwg By: kyle.freehart



**FOOTING PLAN**  
SCALE IN FEET



**FOOTING PLAN REINFORCEMENT**  
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH  
DRAWN BY: KJF  
CHECKED BY: SAD  
CHECKED BY: SAD

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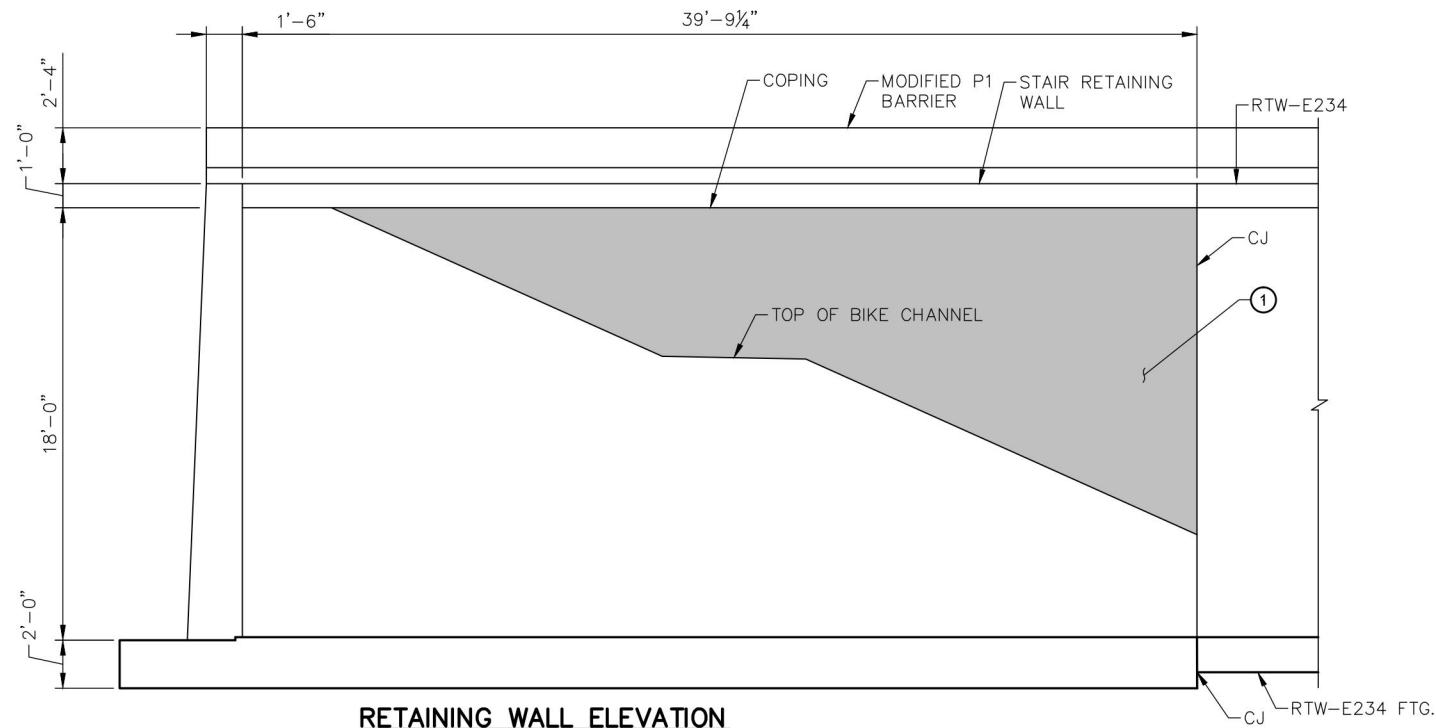
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**CIVIL - VOLUME 6**  
**WOODDALE STAIRS**  
**BRIDGE 27J61**  
**FOOTING DETAILS AND REINFORCEMENT**

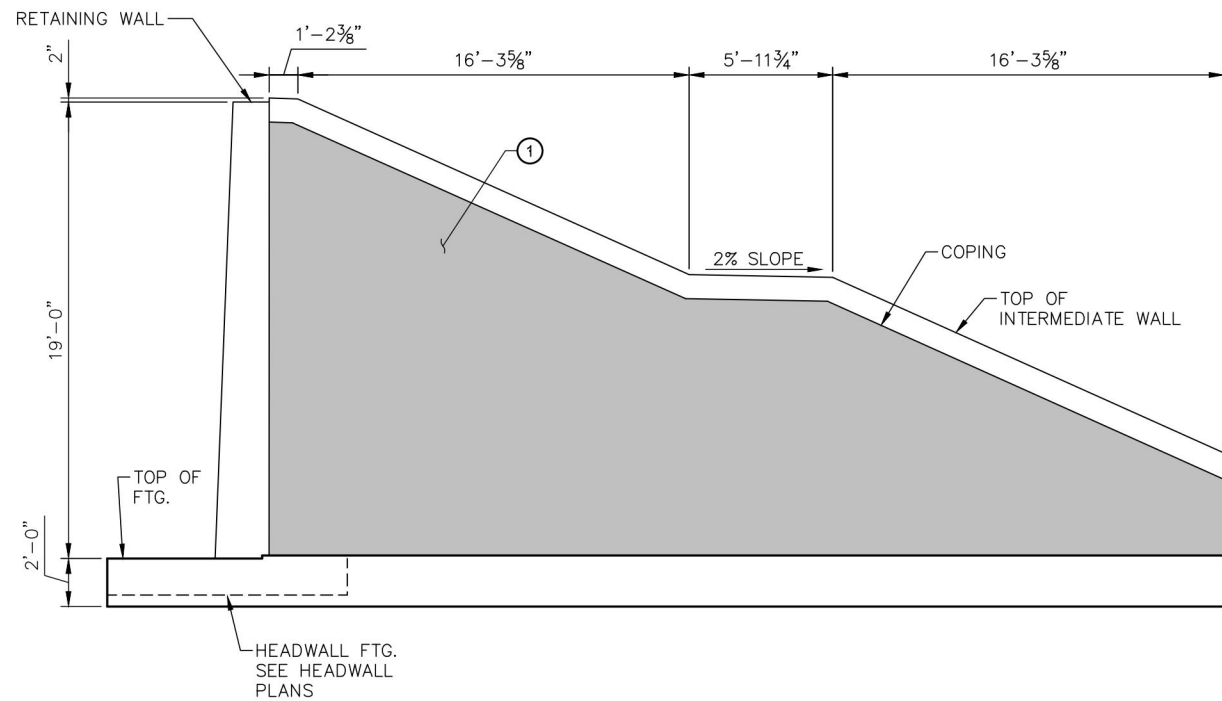
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SHEET NAME: CBR-27J61-BRG-DTL-006

**SHEET**  
267  
OF  
271

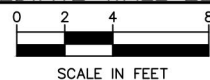
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**RETAINING WALL ELEVATION**



**INTERMEDIATE WALL ELEVATION**



NOTES:  
 ① ARCHITECTURAL CONCRETE TEXTURE (STACKED STONE) WITH ARCHITECTURAL SURFACE FINISH (SINGLE COLOR). PATTERN SHALL RUN CONTINUOUSLY ABOVE STAIRS ON RETAINING WALL & ALONG INTERMEDIATE WALL BELOW STAIRS. ADJUST LENGTH OF STONE UNITS AS NEEDED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH  
 CHECKED BY: SAD  
 DRAWN BY: KJF  
 CHECKED BY: SAD

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**METROPOLITAN COUNCIL**

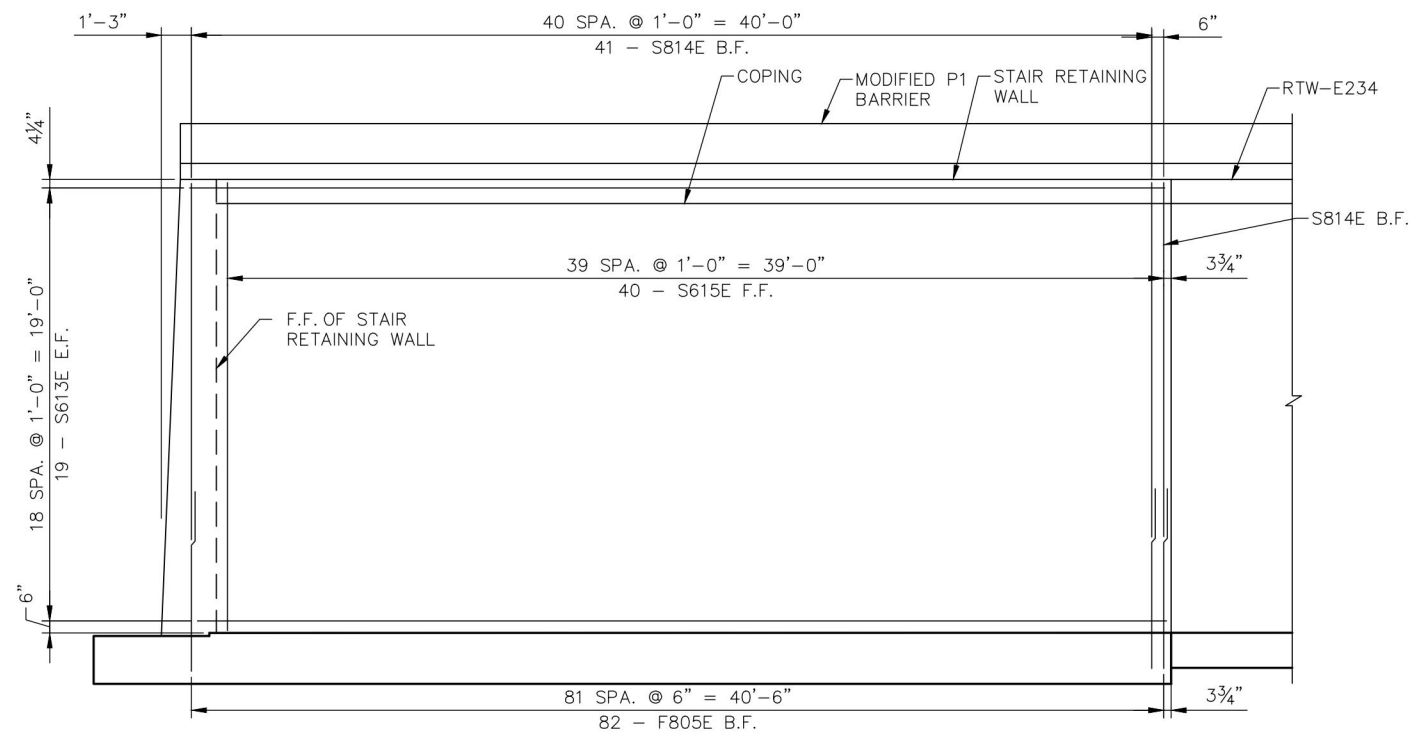
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**CIVIL - VOLUME 6  
 WOODDALE STAIRS  
 BRIDGE 27J61  
 WALL DETAILS**

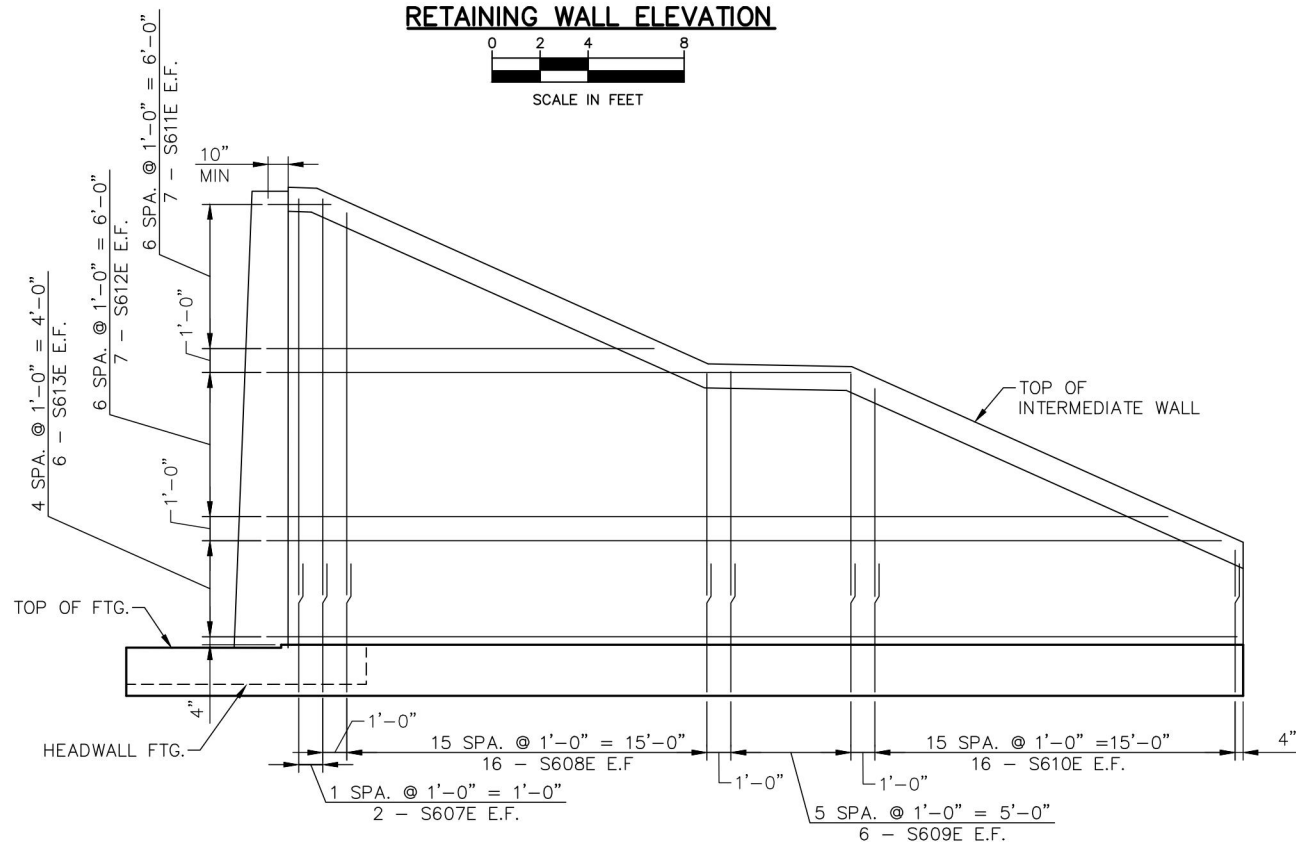
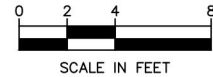
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 SHEET NAME: CBR-27J61-BRG-DTL-007

**SHEET**  
 268  
 OF  
 271

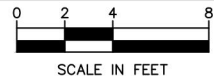
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**RETAINING WALL ELEVATION**



**INTERMEDIATE WALL ELEVATION**



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH  
 CHECKED BY: SAD  
 DRAWN BY: KJF  
 CHECKED BY: SAD

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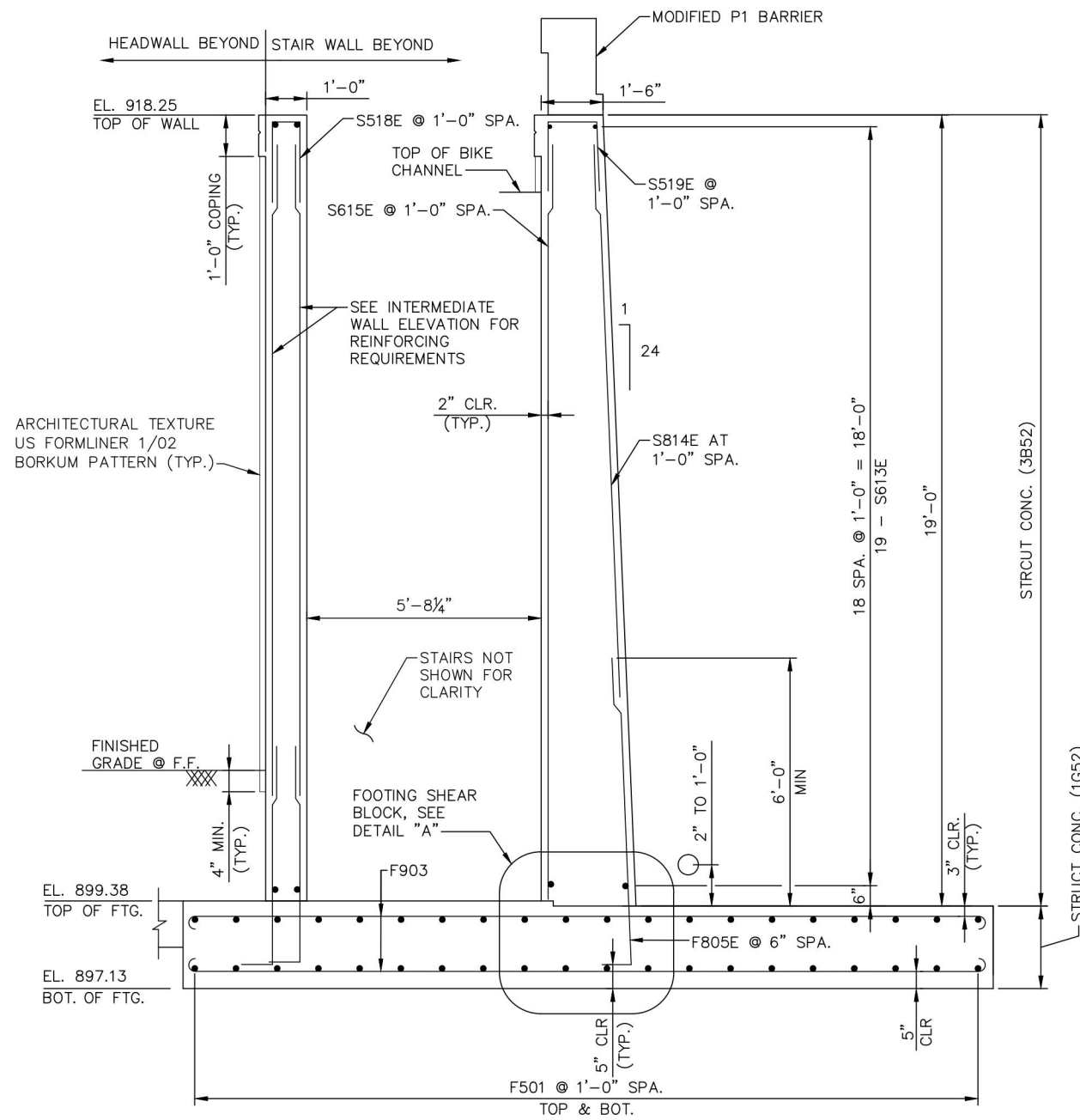
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**CIVIL - VOLUME 6**  
**WOODDALE STAIRS**  
**BRIDGE 27J61**  
**WALL REINFORCEMENT**

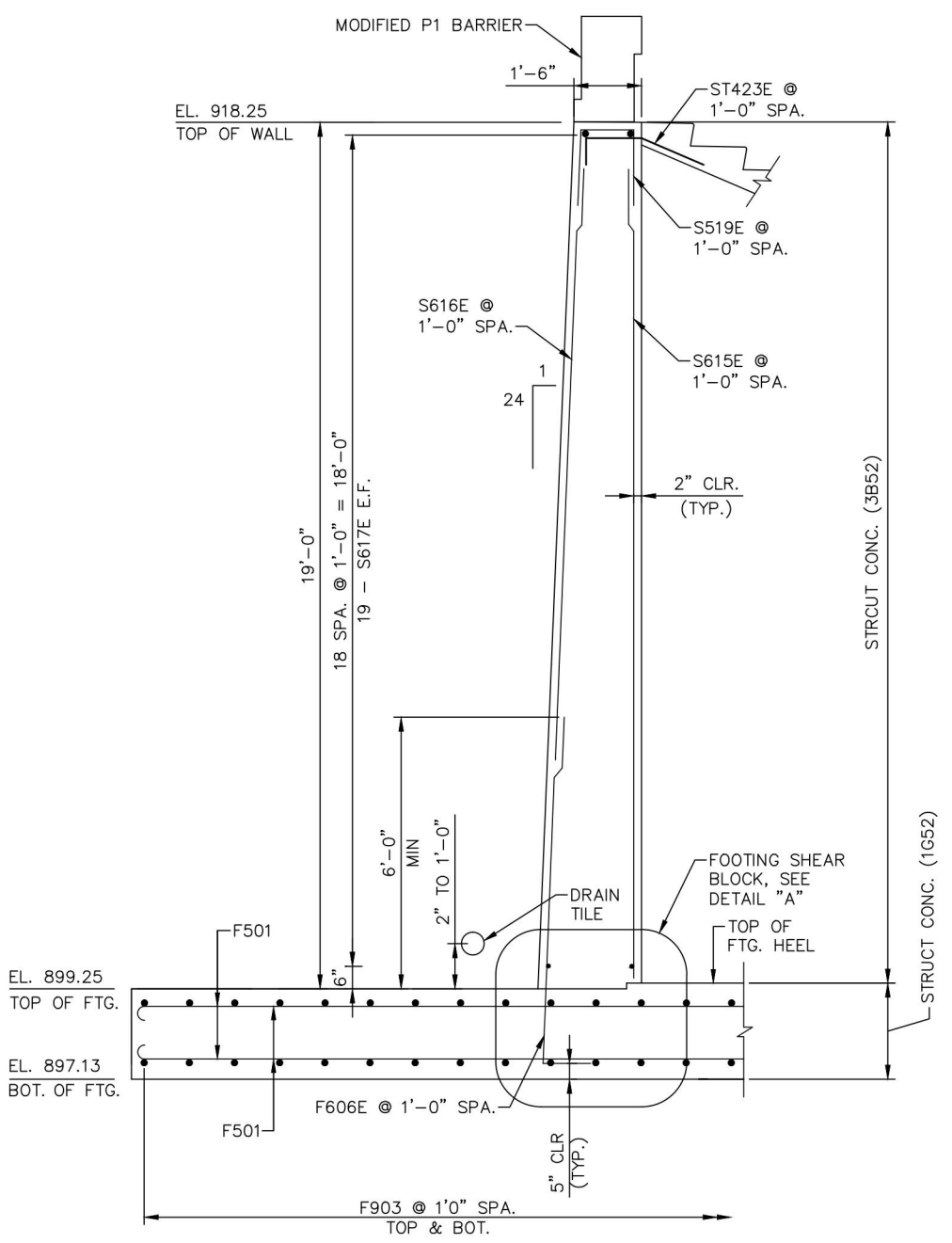
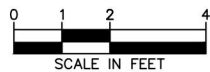
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**SHEET**  
 269  
 OF  
 271

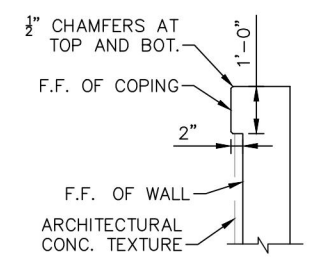
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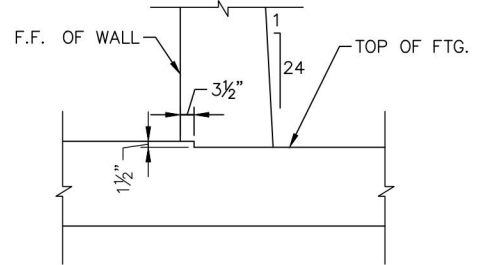
SECTION A-A



SECTION D-D



COPE DETAIL



DETAIL A

NO.	DATE	BY	CHECK/DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH  
 DRAWN BY: KJF  
 CHECKED BY: SAD  
 CHECKED BY: SAD



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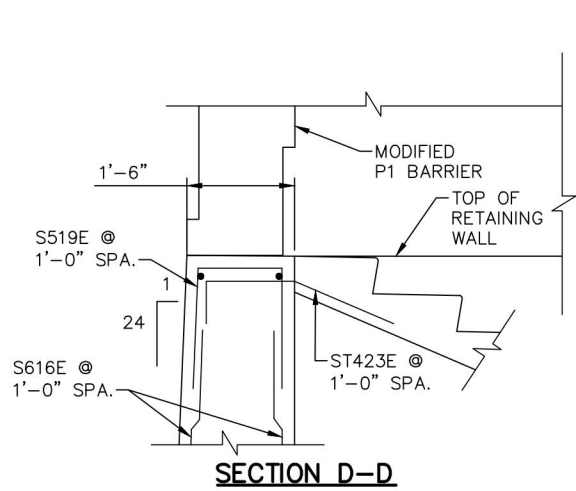
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SHEET NAME: CBR 27J61-BRG-DTL-009

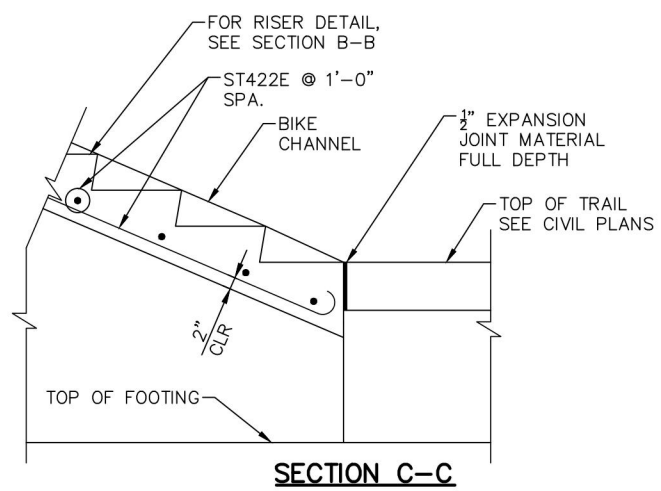
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 WOODDALE STAIRS  
 BRIDGE 27J61  
 STAIR DETAILS 1

SHEET  
 270  
 OF  
 271

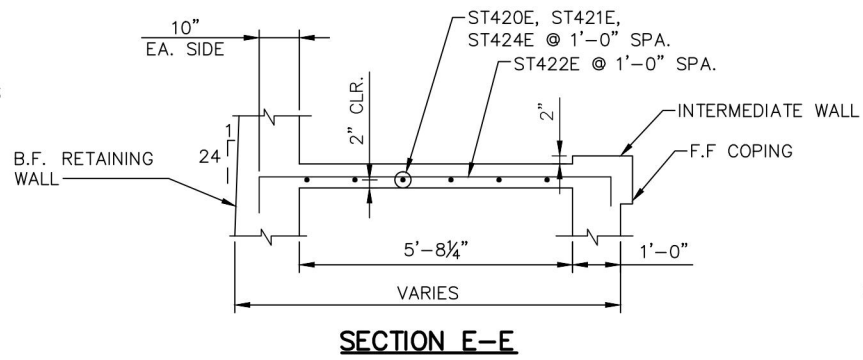
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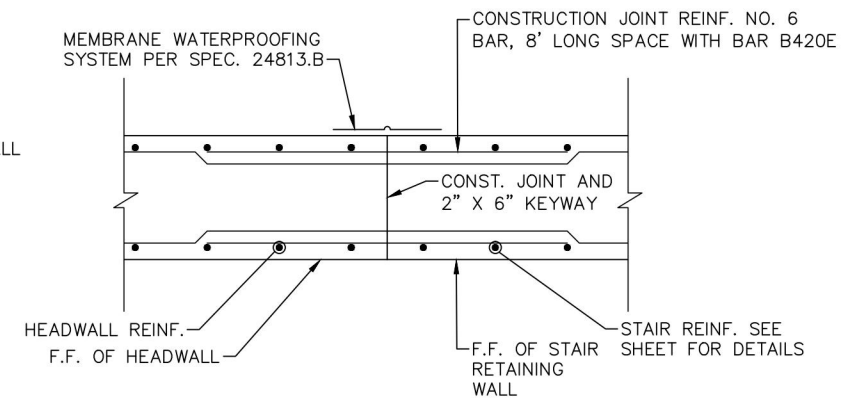
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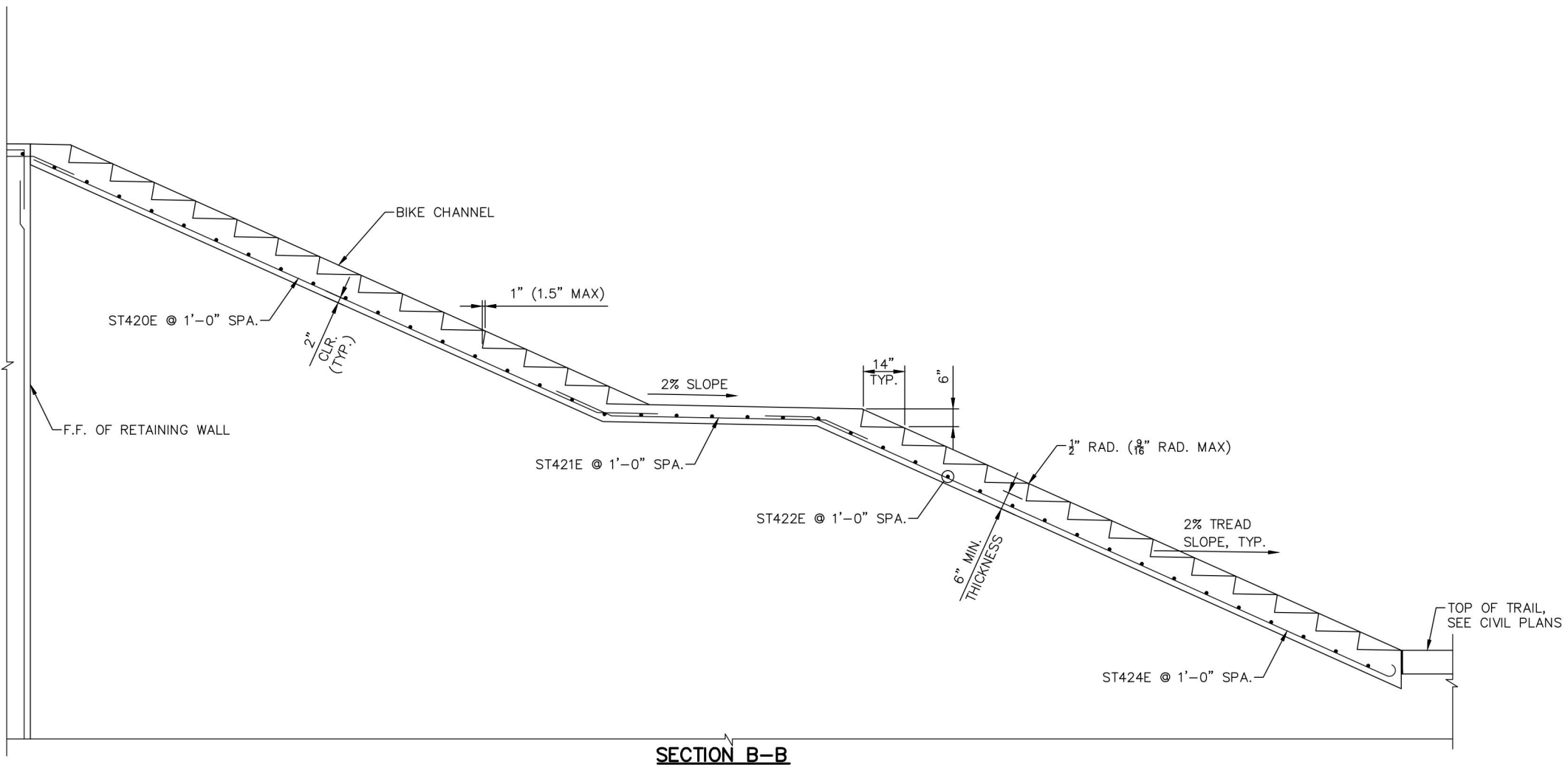
**SECTION C-C**



**SECTION E-E**



**CONSTRUCTION JOINT DETAIL**



**SECTION B-B**

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: EEH      CHECKED BY: SAD  
 DRAWN BY: KJF        CHECKED BY: SAD

**AECOM Kimley»Horn**

90% SUBMISSION - 01/22/16

**METROPOLITAN COUNCIL**

**SOUTHWEST**

**CIVIL - VOLUME 6**  
**WOODDALE STAIRS**  
**BRIDGE 27J61**  
**STAIR DETAILS 2**

DISCIPLINE: **STRUCTURES**      SHEET NAME: **CBR-27J61-BRG-DTL-010**

**SHEET**  
 271  
 OF  
 271