

DATE	
BY	
FINAL SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0003 ROADWAY STU (80/20)	0021 SIGNALS STU (80/20)	NON-PARTICIPATING
44004250	PAVED SHOULDER REMOVAL	SQ YD	1,257	1,257		
44201737	CLASS D PATCHES, TYPE I, 8 INCH	SQ YD	50	50		
44201741	CLASS D PATCHES, TYPE II, 8 INCH	SQ YD	84	84		
44201746	CLASS D PATCHES, TYPE III, 8 INCH	SQ YD	840	840		
44201747	CLASS D PATCHES, TYPE IV, 8 INCH	SQ YD	268	268		
48101200	AGGREGATE SHOULDERS, TYPE B	TON	899	899		
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	227	227		
50102400	CONCRETE REMOVAL	CU YD	10.8	10.8		
50200100	STRUCTURE EXCAVATION	CU YD	3,752	3,752		
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	4,071	4,071		
50300225	CONCRETE STRUCTURES	CU YD	7.6	7.6		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	936.0	936.0		
50300285	FORM LINER TEXTURED SURFACE	SQ FT	16,519	16,519		
50300300	PROTECTIVE COAT	SQ YD	747	747		
50500505	STUD SHEAR CONNECTORS	EACH	160	160		
50800105	REINFORCEMENT BARS	POUND	3,600	3,600		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	120,240	120,240		
50800515	BAR SPLICERS	EACH	18	18		
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	9,728	9,728		
52200100	FURNISHING SOLDIER PILES (HP SECTION)	FOOT	374	374		
52200180	DRIVING SOLDIER PILES	FOOT	374	374		
52200250	UNTREATED TIMBER LAGGING	SQ FT	830	830		
52200500	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	14,264	14,264		
52200800	SEGMENTAL CONCRETE BLOCK WALL	SQ FT	8,056	8,056		
52200900	CONCRETE STRUCTURES (RETAINING WALL)	CU YD	53.3	53.3		
54002020	EXPANSION BOLTS 3/4 INCH	EACH	40	40		
54003000	CONCRETE BOX CULVERTS	CU YD	15	15		
54010604	PRECAST CONCRETE BOX CULVERTS 6' X 4'	FOOT	15	15		
54213657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	1	1		
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	10	10		

X DENOTES SPECIALTY ITEM
 XX DENOTES CONSTRUCTION TYPE CODE 0042
 * DENOTES SPECIAL PROVISION

CIVILTECH
 Two Pierce Place, Suite 1400
 Itasca, Illinois 60143
 Tel: 830.773.3900 Fax: 830.773.3975
 www.civiltechinc.com

DESIGNED - PK	REVISED - 4-18-18
DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 1/29/2018	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SHEET NO. 3 OF 12 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	6
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMA/TE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMA/TE	
AREAS	
CHECKED	
NO.	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0003 ROADWAY STU (80/20)	0021 SIGNALS STU (80/20)	NON-PARTICIPATING
X*	89502375 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2		2	
X*	89502380 REMOVE EXISTING HANDHOLE	EACH	14		14	
X*	89502385 REMOVE EXISTING CONCRETE FOUNDATION	EACH	14		14	
X	A2002920 TREE, CELTIS OCCIDENTALIS (COMMON HACKBERRY), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	2		
X	A2004820 TREE, GLEDITSIA TRIACANTHOS INERMIS SKYLINE (SKYLINE THORNLESS COMMON HONEYLOCUST), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	2		
X	A2005020 TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	24	24		
X	A2007116 TREE, QUERCUS RUBRA (RED OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	8	8		
X	A2007920 TREE, TILIA AMERICANA REDMOND (REDMOND AMERICAN LINDEN), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	4	4		
X	A2008120 TREE, TILIA CORDATA GREENSPIRE (GREENSPIRE LITTLE LEAF LINDEN), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	11	11		
X	B2000130 TREE, ACER FREEMANII CELZAM (CELEBRATION FREEMAN MAPLE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	6	6		
X*	K0012970 PERENNIAL PLANTS, BULB TYPE	UNIT	93	93		
X*	K0012990 PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT	UNIT	122	122		
X*	K0012993 PERENNIAL PLANTS, ORNAMENTAL TYPE, 3-GALLON POT	UNIT	7	7		
X*	K1001988 IRRIGATION SYSTEM SPECIAL	LSUM	1	1		
*	X0301423 NOISE ABATEMENT WALL, GROUND MOUNTED	SQ FT	38,139	38,139		
*	X0321865 ANTI-GRAFFITI PROTECTION SYSTEM	SQ FT	97,875			97,875
*	X0324013 NOISE ABATEMENT WALL, STRUCTURE MOUNTED	SQ FT	1,572	1,572		
X*	X0324085 EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	900		900	
*	X0325110 BIAXIAL GEOGRID	SQ YD	195	195		
X*	X0326712 ABANDON AND FILL EXISTING SANITARY SEWER	EACH	1	1		
*	X0326749 AIR RELEASE VALVE MANHOLE	EACH	1	1		
X*	X0327211 RELOCATE SWITCH	EACH	2		2	
X*	X0327698 LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	6		6	
*	X0327980 PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	19,173	19,173		
*	X0426200 DEWATERING	LSUM	1	1		
X*	X0487850 SANITARY SEWER REMOVAL 15"	FOOT	216	216		
X*	X0840000 SANITARY SEWER REMOVAL 8"	FOOT	1,769	1,769		
*	X1200046 STORM SEWERS, CLASS B, TYPE 2 8"	FOOT	89	89		
X*	X1400007 FIBER OPTIC CABLE IN CONDUIT, 24 FIBERS, SINGLE MODE	FOOT	11,167		11,167	
X*	X1400102 OUTDOOR RATED NETWORK CABLE	FOOT	323		323	

X DENOTES SPECIALTY ITEM
 XX DENOTES CONSTRUCTION TYPE CODE 0042
 * DENOTES SPECIAL PROVISION

CIVILTECH
 Two Pierce Place, Suite 1400
 Itasca, Illinois 60143
 Tel: 630.773.3900 Fax: 630.773.3975
 www.civiltechinc.com

DESIGNED - PK	REVISED - 4-15-18
DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 1/29/2018	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

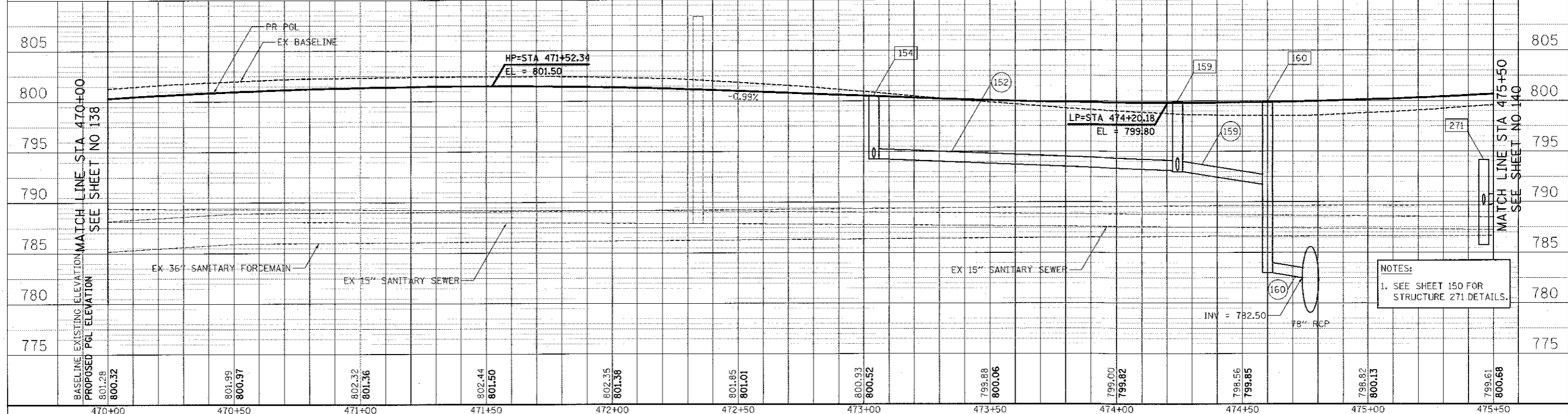
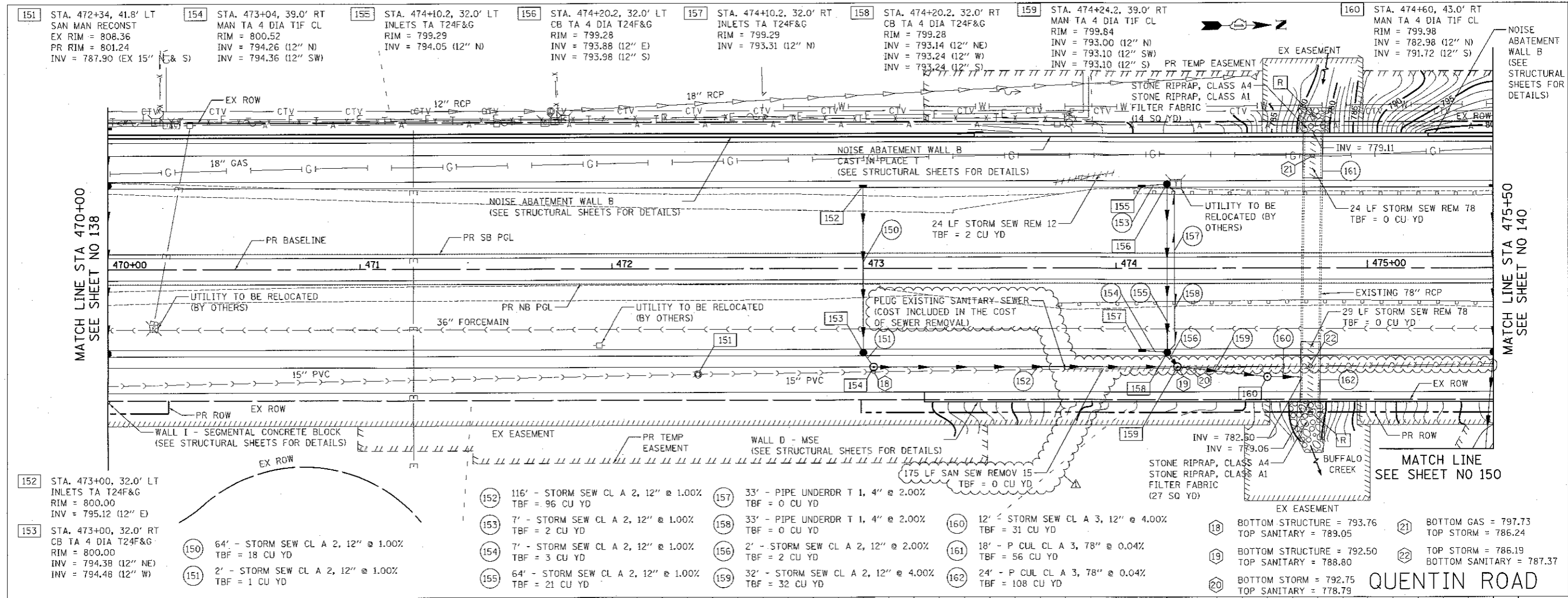
SUMMARY OF QUANTITIES

SHEET NO. 9 OF 12 SHEETS	STA. TO STA.
--------------------------	--------------

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	12
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
FINAL SURVEY	
SUBMITTED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

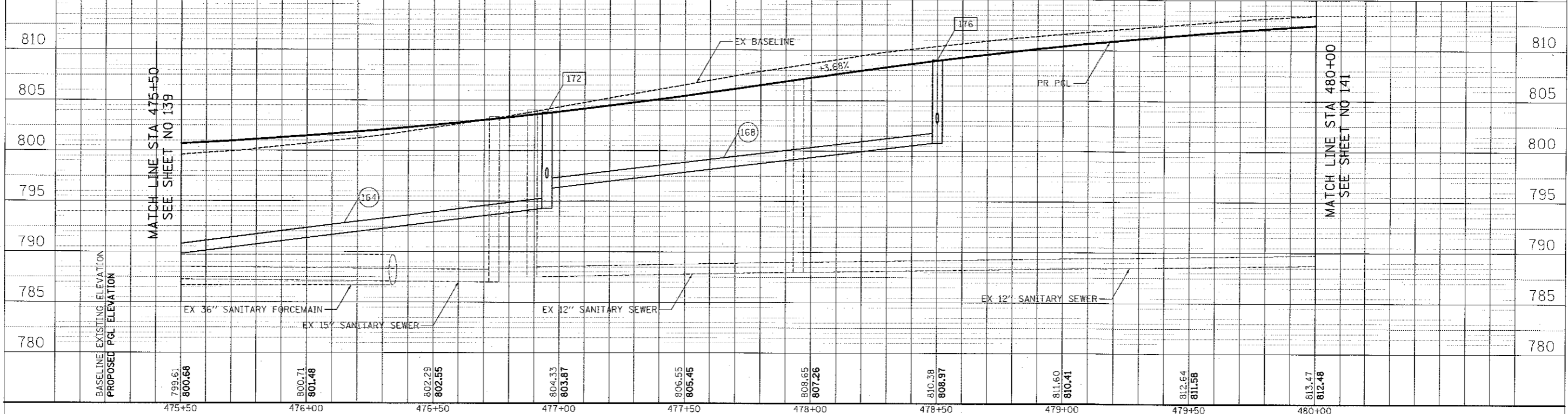
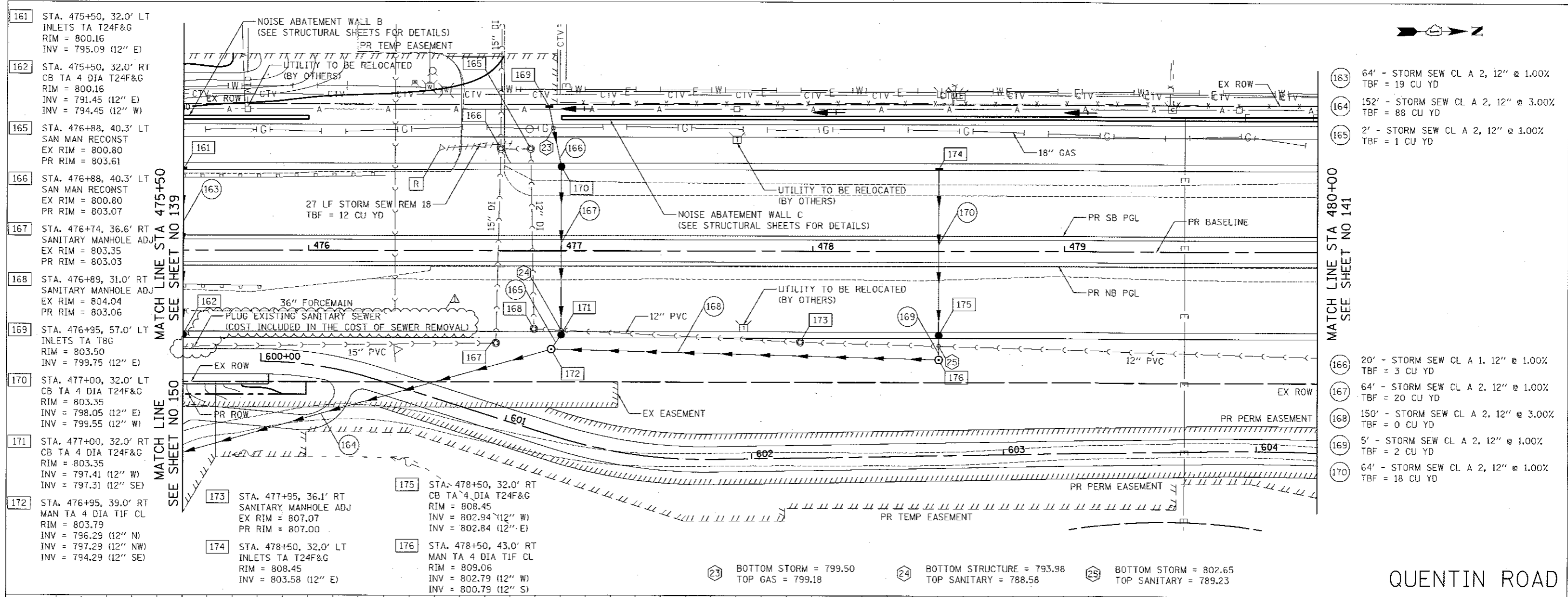
DATE	
BY	
ORIGINAL SURVEY	
SUBMITTED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	



<p>Two Pierce Place, Suite 1400 Itasca, Illinois 60143 Tel: 630.773.3900 Fax: 630.773.3975 www.civiltechinc.com</p>	DESIGNED - JSG DRAWN - JSG CHECKED - TKL DATE - 3/12/2018	REVISED - 4/16/2018 REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VERT. 0 HORIZ. 0	SCALES 5 10 20 40	DRAINAGE AND UTILITIES	F.A.U. R/E. 2574 SECTION 08-00090-12-CH COUNTY LAKE TOTAL SHEETS 778 SHEET NO. 139 CONTRACT NO. 61E22
---	--	--	---	---------------------	-------------------------	-------------------------------	--

DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	

DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	

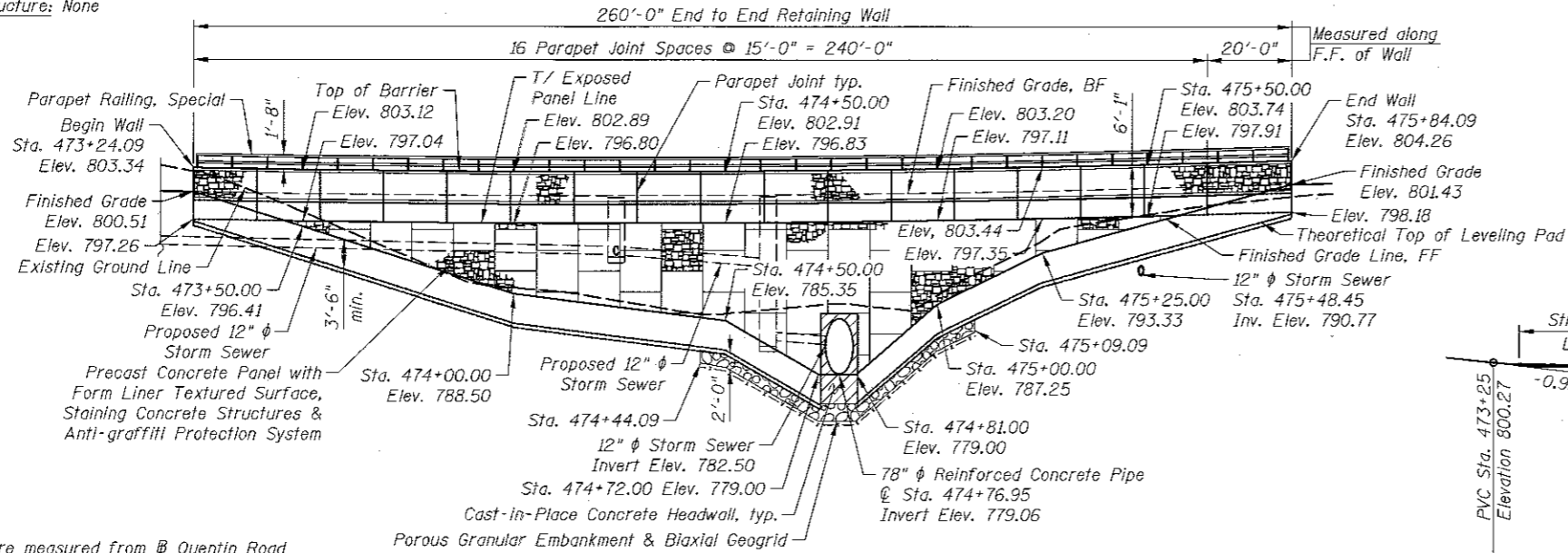


	Two Pierce Place, Suite 1400 Itasca, Illinois 60143 Tel: 630.773.3900 Fax: 630.773.3975 www.civiltechinc.com	DESIGNED - JSG DRAWN - JSG CHECKED - TKL DATE - 3/12/2018	REVISED - 4/16/2018 REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VERT. 0 5 10 HORIZ. 0 20 40	DRAINAGE AND UTILITIES	F.A.U. RTE. 2574 SECTION 08-0090-12-CH COUNTY LAKE TOTAL SHEETS 778 SHEET NO. 140
	SHEET NO. 15 OF 29 SHEETS STA. 475+50 TO STA. 480+00			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			

Benchmark: TBM #5 Railroad spike (set) in seventh power pole North of Cuba Road on West side of Quentin Road, Quentin Road Sta. 475+75.63, Offset 56.00' Lt., Elevation 796.44.

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None



ELEVATION
(Looking at Front Face of Wall)

Notes:
Offsets are measured from @ Quentin Road to the front face of precast panels.
F.F. - Front Face
B.F. - Back Face

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	130
Structure Excavation	Cu. Yd.	481
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	852
Concrete Superstructure	Cu. Yd.	154.9
Form Liner Textured Surface	Sq. Ft.	4,089
Protective Coat	Sq. Yd.	111
Reinforcement Bars, Epoxy Coated	Pound	19,370
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,539
Biaxial Geogrid	Sq. Yd.	195
Staining Concrete Structures	Sq. Ft.	3,736
Parapet Railing, Special	Foot	259
Anti-graffiti Protection System	Sq. Ft.	3,736
Temporary Soil Retention System	Sq. Ft.	1,534

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accommodate potential differential settlement.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

INDEX OF SHEETS

- WD1 General Plan and Elevation
- WD2 MSE Wall Details
- WD3 Anchorage Slab
- WD4 Anchorage Slab Details
- WD5 Parapet Railing, Special & TSRS
- WD6 Soil Boring Logs I
- WD7 Soil Boring Logs II

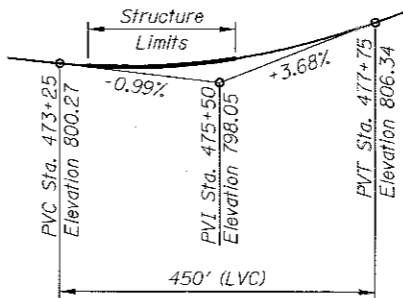
DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)



PROPOSED PROFILE
QUENTIN ROAD

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.



GREGORY J. HATLESTAD, S.E.
081-005562

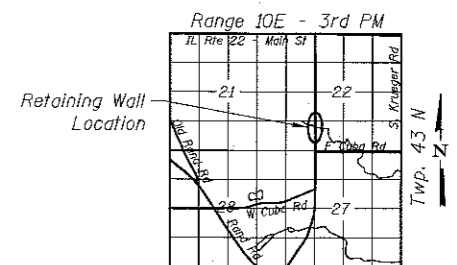
EXP 11-30-2018

DATE 01-29-2018

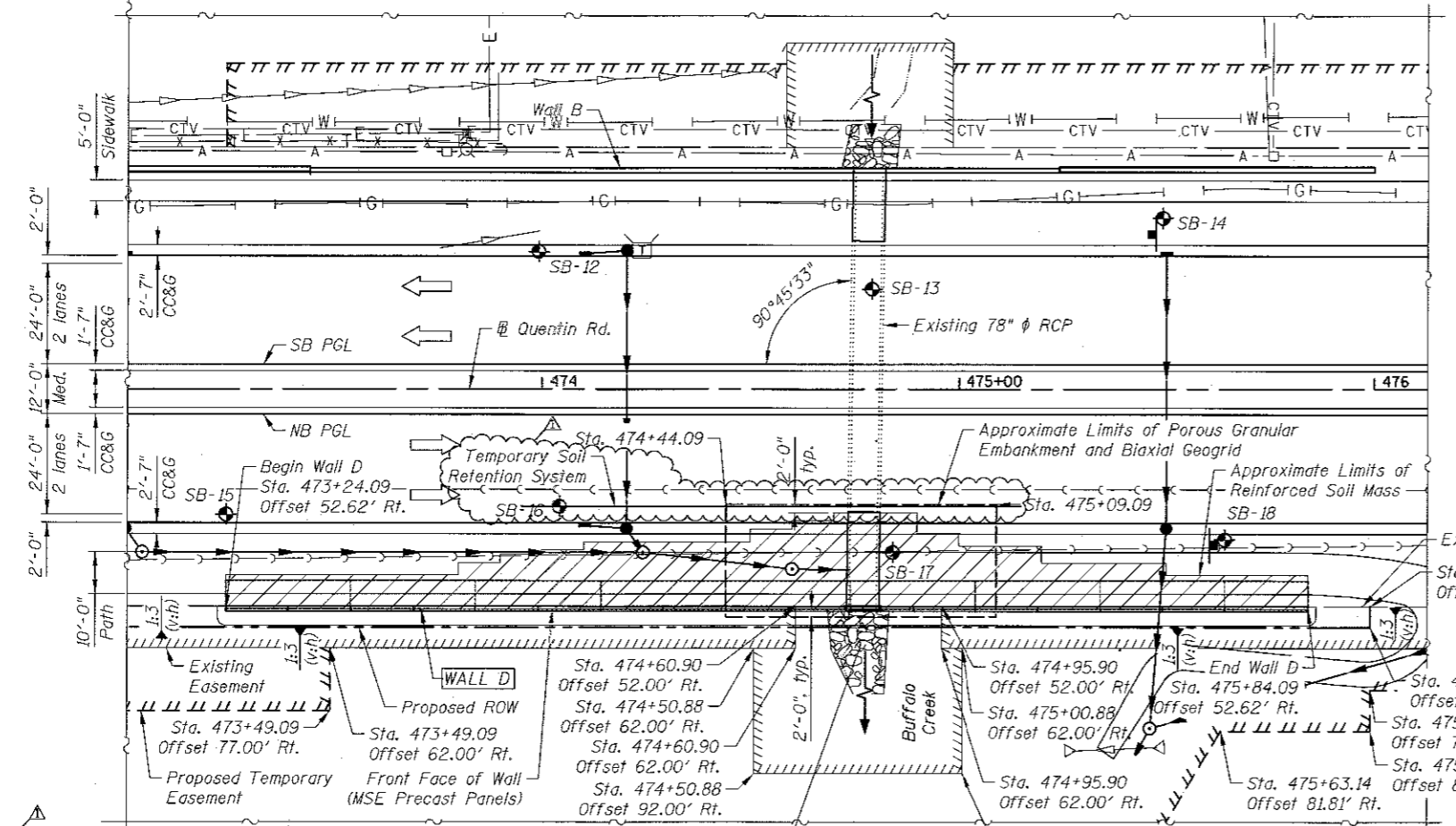
I certify that to the best of my knowledge, infrastructure, and belief, this wall design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of the structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications.

LEGEND

- Proposed Storm Sewer
- Existing Gas Line
- Existing Storm Sewer
- Existing Sanitary Sewer
- Existing Underground Cable TV
- Existing Aerial Lines
- Existing Underground Telephone
- Existing Underground Electric
- Existing Fence
- Existing Water Main
- Soil Boring



LOCATION SKETCH



PLAN

Note:
See Sheet WD5 for more information regarding the Temporary Soil Retention System.

GENERAL PLAN AND ELEVATION
WALL D
QUENTIN ROAD, F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 473+24.09 TO STA. 475+84.09

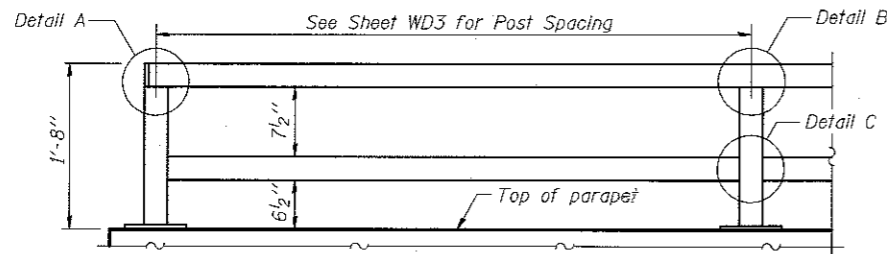
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED - 4/16/2018
DESIGNED - K. KOMPARE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

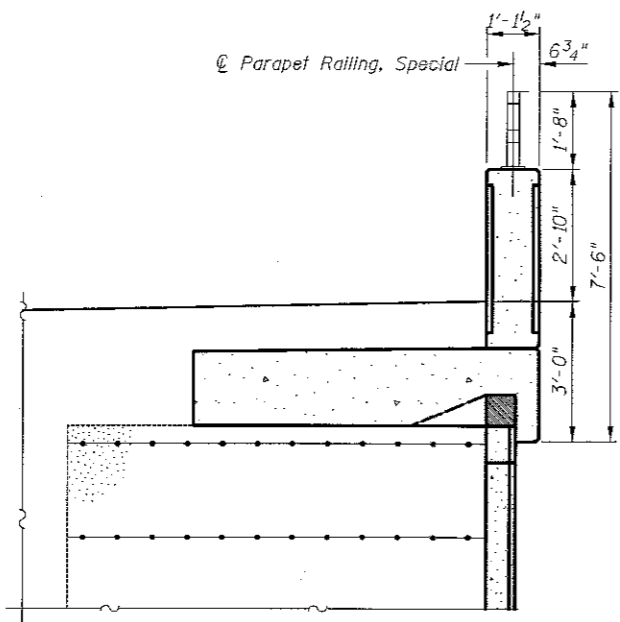
GENERAL PLAN AND ELEVATION
WALL D
QUENTIN ROAD, F.A.U. 2574
SHEET NO. WD1 OF WD7 SHEETS

F.A.U. RTE. 2574	SECTION 08-00090-12-CH	COUNTY LAKE	TOTAL SHEETS 778	SHEET NO. 274
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

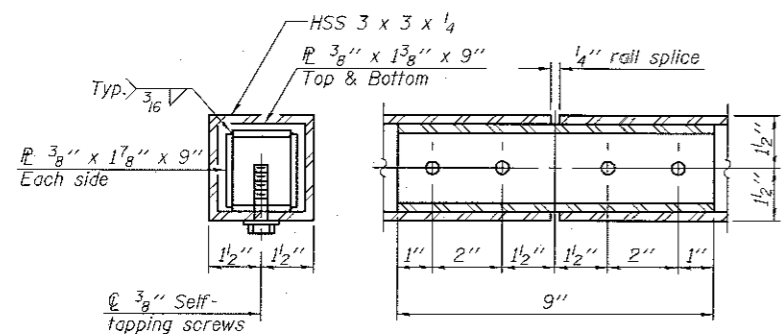


**PARAPET RAILING
ELEVATION**

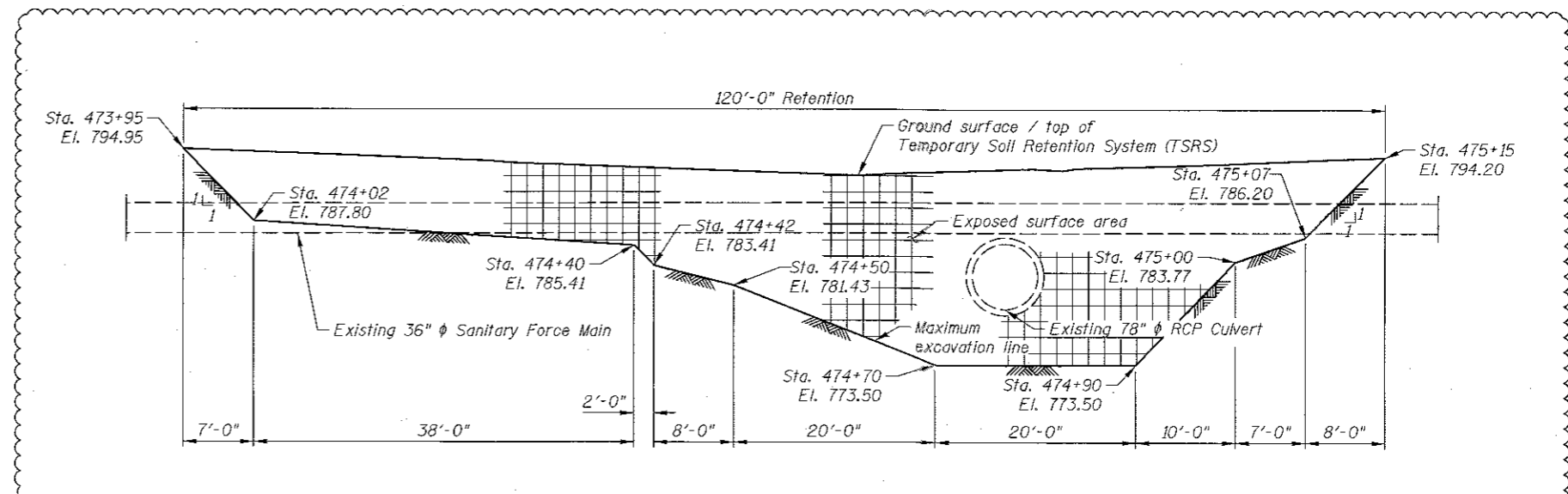
(Inside Face of Two Element Rail)



SECTION THRU ANCHORAGE SLAB



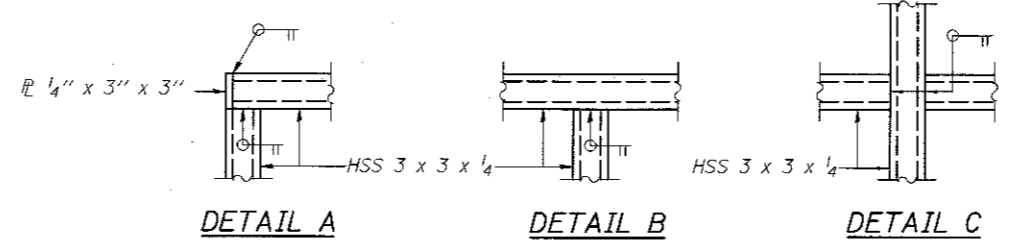
RAIL SPLICE



ELEVATION OF TSRS, OFFSET 30' RIGHT

Notes:

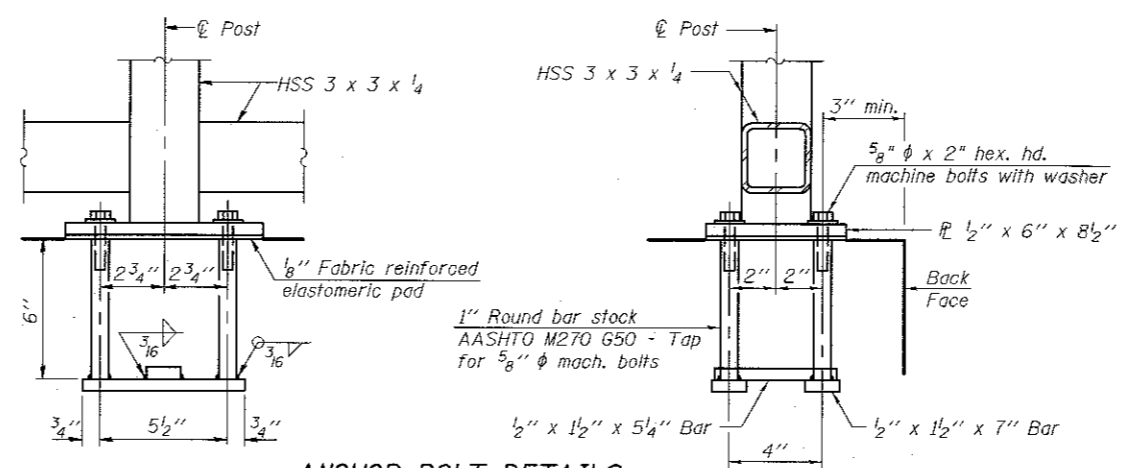
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the engineer.



DETAIL A

DETAIL B

DETAIL C



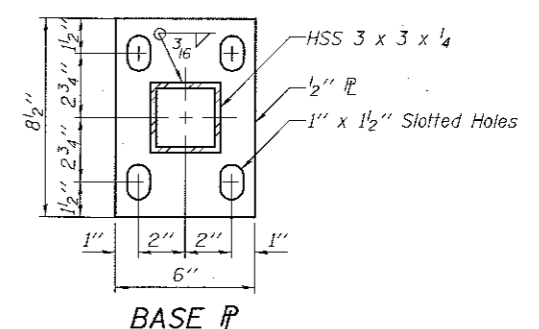
ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Notes:
A. All posts, anchor devices, plates and structural steel tubing shall be hot-dip galvanized after shop fabrication according to Article 509.05 of the Standard Specifications.
B. All post, railing, splices, anchor devices, and bent plates shall be painted the color black (Munsell No. N1).

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	259
Temporary Soil Retention System	Sq. Ft.	1,334



BASE PL

PK 4/17/2018 10:28:00 AM J:\2724\acad\sheet\ME-Structures\Wall D\05-Parapet Railing Details.dgn

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 830.773.3900 Fax: 830.773.3975
www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED - 4/16/2018
DESIGNED - K. KOMPARE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING, SPECIAL & TSRS
WALL D
QUENTIN ROAD; F.A.U. 2574**
SHEET NO. WDS OF WDT SHEETS

F.A.U. RTE. 2574	SECTION 08-00090-12-CH	COUNTY LAKE	TOTAL SHEETS 778	SHEET NO. 278
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				