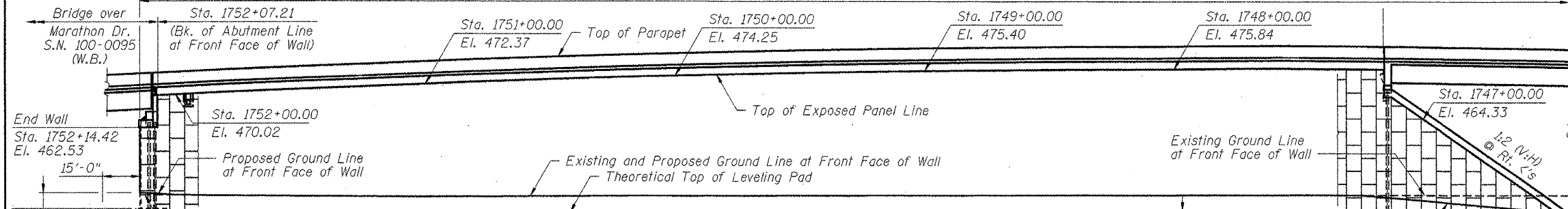
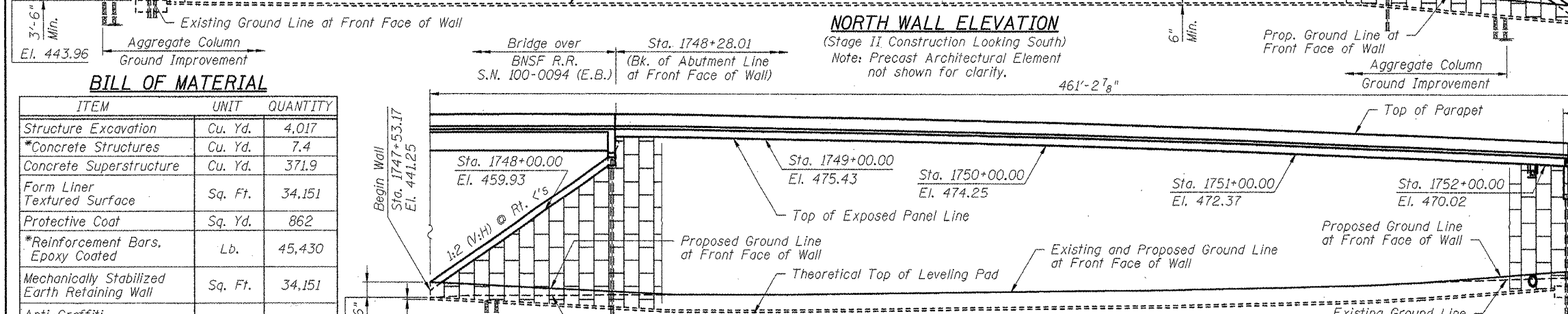


Benchmark #18: Sta. 1735+10.91 +/-, 72.25' +/- right (IL Route 13). Cut square on the East corner of a traffic signal handhole rim, on the island in the SW quad of Rte. 13 and Skyline Drive, 37' right of the centerline of Rte. 13 EBL @ Sta. 735+13. Elev. 439.099  
 Benchmark #19: Sta. 1763+29.58 +/-, 53.73' +/- right (IL Route 13). Cut square in the concrete FDN of a combination mast arm assembly SE quad of IL Rte 13 EBL and Sinclair Dr. 20' South of the centerline of Rte. 13 EBL, Elev. 448.329

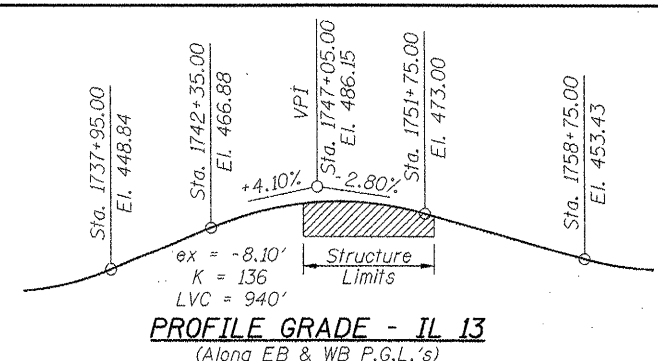
Existing Structure: None  
 Traffic to be maintained utilizing stage construction.  
 MSE WALL FINISH  
 See Sheet 6 of 21 for details.



**NORTH WALL ELEVATION**  
 (Stage II Construction Looking South)  
 Note: Precast Architectural Element not shown for clarity.



**SOUTH WALL ELEVATION**  
 (Stage I Construction Looking North)  
 Note: Precast Architectural Element not shown for clarity.



**PROFILE GRADE - IL 13**  
 (Along EB & WB P.G.L.'s)

**APPROVED**  
 For Structural Adequacy Only  
 Ronald E. Breville  
 Engineer of Bridges & Structures



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	4,017
*Concrete Structures	Cu. Yd.	7.4
Concrete Superstructure	Cu. Yd.	371.9
Form Liner	Sq. Ft.	34,151
Textured Surface	Sq. Yd.	862
*Reinforcement Bars, Epoxy Coated	Lb.	45,430
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	34,151
Anti-Graffiti Protection System	Sq. Ft.	13,179
Aggregate Column Ground Improvement	L. Sum	0.50

\*Includes quantity for the Precast Architectural Element footings. See S.N. 100-0095 & S.N. 100-0096 Sheet Nos. 28 and 29 for details and quantities of footings.

**AGGREGATE COLUMN GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS**

- A factor of safety of 1.5 against global stability failure for end-of-construction and long-term. A factor of safety of 1.0 against global stability failure for a design seismic event.
- Total settlement not to exceed 4 inches and settlement after completing wall or pavement construction not to exceed 1 inch.
- A factor of safety of 2.5 against equivalent uniform service bearing pressure failure. (The equivalent uniform service bearing pressure for each designed wall section shall be as per the Shop Plans provided by the MSE Wall Subcontractor).

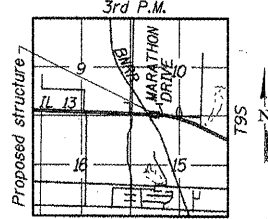
**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD Bridge Design Specifications, 5th Edition, with 2010 Interim Revisions

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST UNITS**  
 $f'_c = 4,500$  psi (Precast panels)

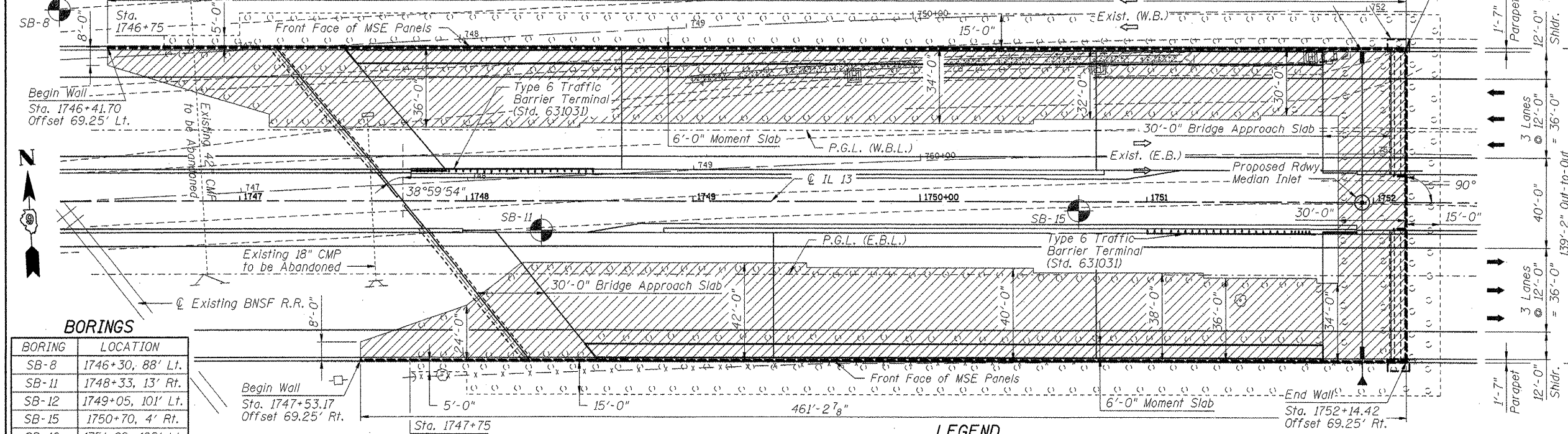


**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**

FAP ROUTE 331 (IL 13)  
 SECTION (IX-1)VB-1, B-1  
 N-4, R-3

WILLIAMSON COUNTY  
 STATION 1746+41.70 TO 1752+14.42  
 MSE WALL STRUCTURE  
 STRUCTURE NO. 100-W002



**BORINGS**

BORING	LOCATION
SB-8	1746+30, 88' Lt.
SB-11	1748+33, 13' Rt.
SB-12	1749+05, 10' Lt.
SB-15	1750+70, 4' Rt.
SB-16	1751+09, 108' Lt.

**NOTES:**

- Wall is built in conjunction with new bridges S.N. 100-0093, S.N. 100-0094, S.N. 100-0095 and S.N. 100-0096.
- Size, depth and spacing of aggregate columns to be determined by Contractor. (See Special Provisions)
- Wall offsets are measured from the IL 13 to the front face of MSE panels.
- The rate of fill placement shall not exceed 1 foot per day and not more than 5 feet per week in areas where ground improvement is not utilized or has not yet been installed, per the structure geotechnical report.

**LEGEND**

- Approximate Limits of Reinforced Soil Mass
- Aggregate Column Ground Improvement

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
 Design Spectral Acceleration at 1.0 sec ( $S_{D1}$ ) = 0.275g  
 Design Spectral Acceleration at 0.2 sec ( $S_{D5}$ ) = 0.754g  
 Soil Site Class = C

**CMT**  
 CRAWFORD MURPHY & TILLY, INC.  
 CONSULTING ENGINEERS  
 SPRINGFIELD, ILL. ■ AURORA, ILL. ■ ST. LOUIS, MO  
 ROCKFORD, ILL. ■ PEORIA, ILL. ■ CHICAGO, ILL.

USER NAME	DESIGNED	REVISIONS
Gary Davis	JMW	
	CHECKED - REB	REVISED -
	PLOT SCALE = 28.1985' / IN.	DRAWN - AJK
	PLOT DATE = 12/7/2011	CHECKED - REB
		REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	257
			CONTRACT NO.	98859
ILLINOIS FED. AID PROJECT				