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 II Rte 13 EBL and Sinclair Dr. 20' South of the centerline of Rte. 13 EBL, Elev. 448.329

Existing Structure:
None

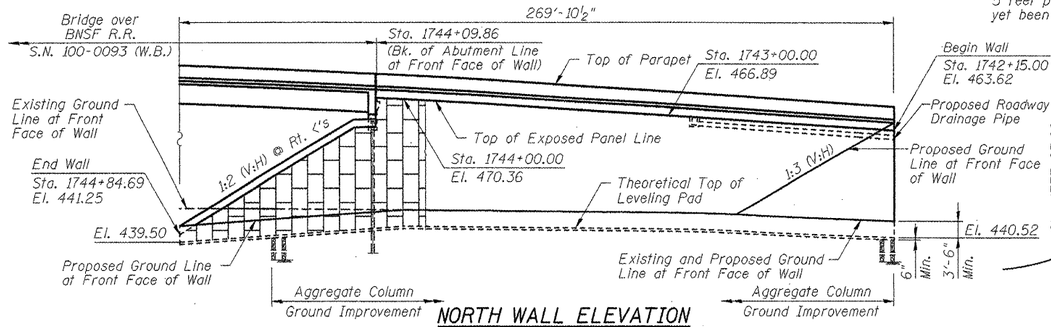
Traffic to be maintained utilizing stage construction.

NOTES:

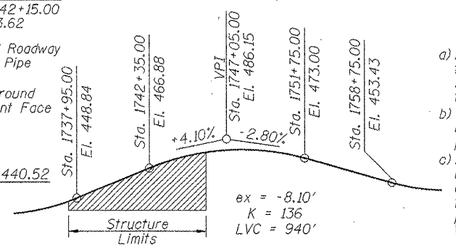
1. Wall is built in conjunction with new bridges S.N. 100-0093 and S.N. 100-0094.
2. Size, depth and spacing of aggregate columns to be determined by Contractor. (See Special Provisions)
3. Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.
4. The rate of fill placement shall 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.

APPROVED
For Structural Adequacy Only
Carl Ruegg (TDD)
Engineer of Bridges & Structures

RONALD E. BREVILLE
081-005711
LICENSED
STRUCTURAL
ENGINEER
ST. LOUIS MO.
STATE OF ILLINOIS
8 DEC 2011
Expr.: 30 NOV 2012



NORTH WALL ELEVATION
(Stage II Construction Looking South)



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

AGGREGATE COLUMN GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS

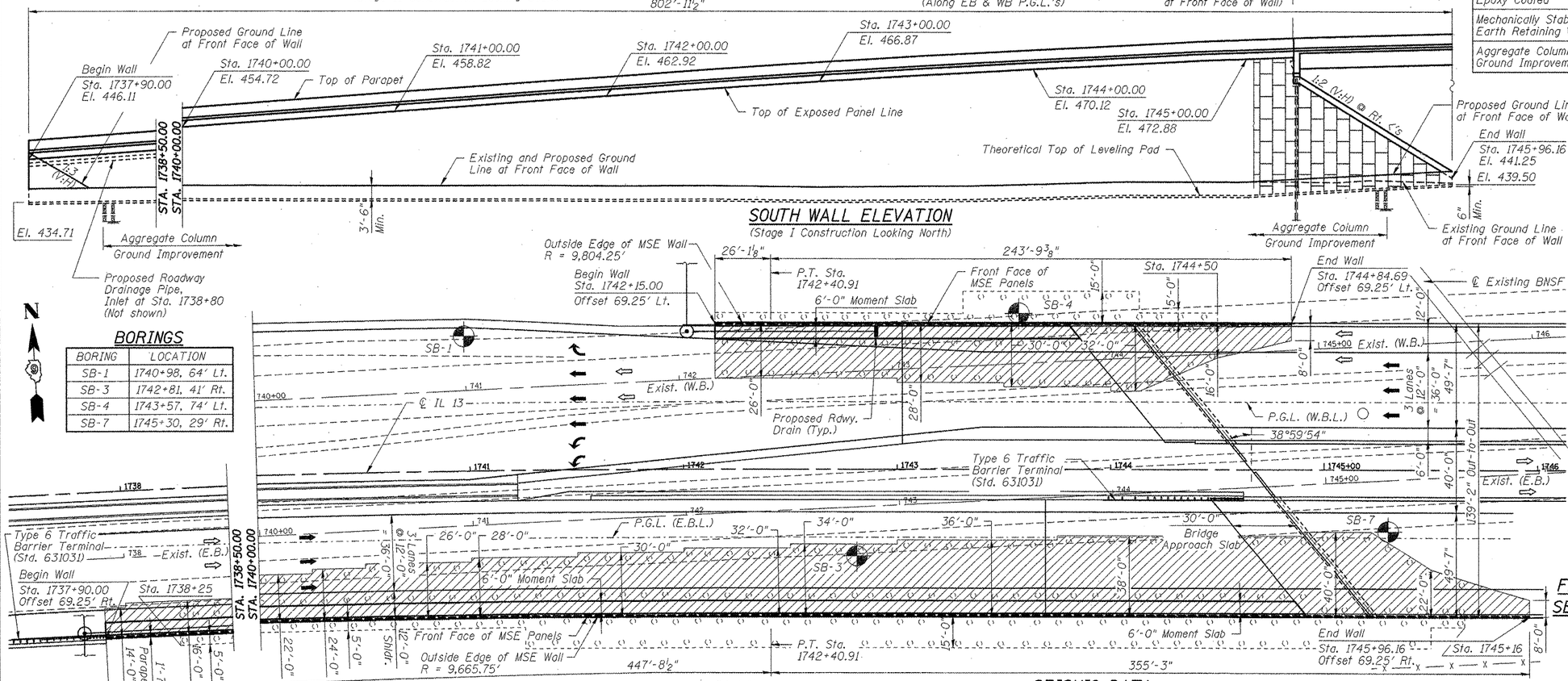
a) A factor of safety of 1.5 against global stability failure for end-of-construction and long-term. A factor of safety of 1.0 against global stability failure for a design seismic event.

b) Total settlement not to exceed 4 inches and settlement after completing wall or pavement construction not to exceed 1 inch.

c) 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).

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	6,204
Concrete Superstructure	Cu. Yd.	427.5
Form Liner Textured Surface	Sq. Ft.	25,462
Protective Coat	Sq. Yd.	991
Reinforcement Bars, Epoxy Coated	Lb.	54,290
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	25,462
Aggregate Column Ground Improvement	L. Sum	0.33



SOUTH WALL ELEVATION
(Stage I Construction Looking North)

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

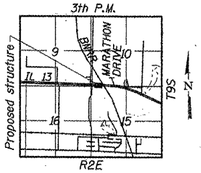
PRECAST UNITS
f'c = 4,500 psi (Precast panels)

CURVE DATA

PI STA. = 1739+94.71
Δ = 2° 53' 55" (RT)
D = 0° 35' 19"
R = 9,735.00'
T = 246.31'
L = 492.51'
E = 3.12'
e = N/C
T.R. = N/A
S.E. RUN = N/A
P.C. STA = 1737+48.41
P.T. STA = 1742+40.91

BORINGS

BORING	LOCATION
SB-1	1740+98, 64' Lt.
SB-3	1742+81, 41' Rt.
SB-4	1743+57, 74' Lt.
SB-7	1745+30, 29' Rt.



LOCATION SKETCH
GENERAL PLAN & ELEVATION
FAP ROUTE 331 (IL 13)
SECTION (1X-1)VB-1, B-1, N-4, R-3
WILLIAMSON COUNTY
STA. 1737+90.00 TO 1745+96.16
MSE WALL STRUCTURE
STRUCTURE NO. 100-W001

LEGEND

Approximate Limits of Reinforced Soil Mass

Aggregate Column Ground Improvement

PLAN

MSE WALL FINISH

See Sheet 5 of 17 for details.

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_{DS}) = 0.754g
Soil Site Class = C

DESIGN SPECIFICATIONS

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

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

FILE NAME = L:\IDOT\ 0906803\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-001-GPE.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	240
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		