Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-7
Station 745+27.6
Offset 56.00ft Rt
Ground Surface Elev. 446.20 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 425.2 ft ▼
Upon Completion 429.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Gray *(continued)*			
Extremely hard drilling at 40 to 41 feet.			
402.30	50/3" / 50/2"	-	14
-45			
-60			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-8
Station 746+33.8
Offset 55.40ft Lt
Ground Surface Elev. 445.99 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 429.5 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 Inches 444.99			
FILL: Brown, silty clay, trace to some sand (A-7)	2 / 2 / 2	0.1 B	25
Some sand, trace fine gravel	5 / 4 / 3	1.5 P	20
-5			
440.49			
SILTY CLAY: Brown and grayish brown (A-6)	2 / 3 / 3	1.5 P	26
Becomes brown	2 / 2 / 4	0.3 B	21
-10			
435.49			
CLAY: Brown, some sand, trace fine gravel (A-7)	1 / 3 / 4	1.6 B	21
	2 / 3 / 5	1.6 B	23
-15			
▼	1 / 2 / 2	0.7 B	20
427.99			
CLAYEY SILT: Brown (A-4)	2 / 2 / 3	<0.25 P	28
-20			
425.49			
SANDY CLAY: Brown, trace fine gravel (A-6)	1 / 3 / 4	2.0 P	16
	2 / 4 / 4	0.8 B	15
-25			
	3 / 5 / 3	1.7 B	18
417.99			
CLAY: Brown and gray, some sand (A-7)	1 / 4 / 5	0.9 B	17
-30			
413.49			
CLAYEY SHALE: Dark gray to black	39 / 50/3" / 50/1"	-	30
-35			
Coal observed			
Becomes gray	40 / 40 / 50/4"	4.5 P	15
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-8
Station 746+33.8
Offset 55.40ft Lt
Ground Surface Elev. 445.99 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 429.5 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Dark gray to black *(continued)*			
	50/4" / 50/0"	-	18
-45			
397.29	50/1" / 50/1"	-	19
-50			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

FILE NAME = i:\dot\0906603\drawings\ddsheets\structural plans\bnsf rr bridge\BORING LOGS 2.dgn

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -
	CHECKED - ATI	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO.S-350F S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	201
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Page 1 of 2

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive Date 11/10/09

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E LOGGED BY KEG

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-11
Station 748+30.9
Offset 55.60ft Rt
Ground Surface Elev. 446.28 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.8 ft
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 445.28				CLAY: Gray and brown, trace to some sand (A-7) *(continued)*			
FILL: Brown, silty clay (A-6)	2			Trace to some sand	1		
	1 1	1.5 P	20		3 3	1.4 B	22
443.28							
FILL: Brown and dark brown, clay, trace sand, coal, shale fragments (A-7)	4				1		
	4 4	1.7 B	20		2 3	1.1 B	21
-5				-25			
440.78							
SILTY CLAY: Grayish brown, trace to some sand (A-6)	3			Becomes brown, some sand, no gravel	1		
	1 1	0.2 B	31		1 5	0.9 B	18
438.28							
CLAY: Brown (A-7)				Trace gravel	4		
Shelby tube - 19 inches recovery. Consolidation test performed on sample with results shown on the Consolidation Test Summary.		2.0	26		6 8	2.7 B	17
-10				-30			
435.63				Hard drilling at 31 feet. 415.28			
SILTY CLAY: Grayish brown and brown (A-6)	WH			CLAYEY SHALE: Gray			
	2 3	0.6 B	24				
433.28							
SILTY CLAY: Grayish brown and brown, trace sand (A-7)	1				45		
	2 3	0.8 B	21		50/1" 50/2"	-	15
-15				-35			
430.78							
CLAY: Gray and brown, trace to some sand (A-7)	1						
	2 2	1.3 B	21				
Becomes brown and gray, trace sand	1				50/3"	-	7
	2 3	1.4 B	27		50/3"		
-20				-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Page 2 of 2

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive Date 11/10/09

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E LOGGED BY KEG

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-11
Station 748+30.9
Offset 55.60ft Rt
Ground Surface Elev. 446.28 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.8 ft
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Gray *(continued)* 406.78			
No recovery	100/0"	-	
-45			
-50			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials
Bridge Foundation Boring Log
Sheet 1 of 2

Illinois Route 13 Over the Burlington Northern Santa Fe Railroad

Route: Illinois 13 Structure Number: Proposed M.S.E. Structure Date: 12/15/2003
Section Bored By: Bryan Keller
County: Williamson Location: Illinois Route 13 Checked By: Rob Graeff

Boring No
Station 746+69
Offset 19' LT CL WBL
Ground Surface 99.8 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 87.8
At Completion 76.8
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Bituminous Shoulder				Stiff, moist, brown, Silty Clay A-6	3	1.6S	17
98.3				72.8	4		
Very stiff, moist, brown, Silty Clay A-6	1			Stiff, moist, brown, Silty Clay Loam A-6	1		
	3 5	3.5S	13		4 6	1.3S	13
95.3				30.0			
Very stiff, moist, brown mottled grey, Silty Clay A-6	5.0 2				1		
	4 4	3.1B	20		3 5	1.4S	17
92.8				67.8			
Stiff, very moist, grey motled brown, Clay to Silty Clay A7-6	1			Very stiff, moist to very moist, brown, Silty Clay A-6 with some Pea Gravel	1		
	4 4	1.4B	28		3 4	2.1B	17
90.3				65.3			
Stiff, moist, brown, Silty Clay A-6	10.0 1			Hard, dry, dark grey, Clay St	84.8 35.0	100/6"	
	3 4	1.7B	23	Bottom of hole = 35.0 ft.			
	1			Free water observed at 12.0 ft.			
	3 3	1.7B	22	Elevation referenced to CL of B.S.F. RR and Rt 13 ; Assumed Elevation = 100.0 ft.			
85.3							
Very stiff, very moist, brown, Silty Clay A7-6	15.0 1			To convert "N" value to "N60" values multiply by 1.25.	40.0		
	4 4	2.7S	25				
82.8							
Medium, moist, brown, Silty Clay A7-6	WH				45.0		
	1 1	0.6B	22				
80.3							
Stiff, moist, brown, Silty Clay A-6 with some Gravel	20.0 1						
	3 3	1.6B	17				
77.8							
Very stiff, very moist, brown, Silty Clay A-6	1						
	3 4	2.1S	24				
75.3							
	25.0 1				50.0		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -	
	CHECKED - ATI	REVISED -	
PLOT SCALE =	DRAWN - GLD	REVISED -	
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS III
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO.S-360F S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	202
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

FILE NAME = i:\jobs\0986803\drawings\sheets\structural plans\bnsf rr bridge\BORING LOGS 3.dgn

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials
Bridge Foundation Boring Log
Sheet 1 of 2

Illinois Route 13 Over the Burlington Northern Santa Fe Railroad
Route: Illinois 13 Structure Number: Proposed M.S.E. Structure Date: 12/15/2003
Section
County: Williamson Location: Illinois Route 13 Checked By: Rob Graeff
Bored By: Bryan Keller

Boring No 2-S
Station 744+51
Offset 19' LT CL WBL
Ground Surface 99.8 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 84.7
At Completion 80.6
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Bituminous Shoulder				Very stiff, moist, brown, Silty Clay A-6	3	2.3B	20
98.3				72.8	4		
Stiff, very moist, brown mottled grey, Silty Clay A-6	1			Stiff, moist, brown, Silty Clay A-6 with some Gravel	1		
	3	1.4B	26		7	1.4B	18
95.3	3			70.3	6		
Soft, very moist, grey, Silty Clay Loam A-6 5.0	WH			Very stiff, moist to very moist brown, Silty Clay A-6 with some Pea Gravel 30.0	1		
	2	0.3B	28		4	2.2B	18
	1				5		
92.8				67.8			
Stiff, very moist, grey mottled brown, Clay to Silty Clay A7-6	WH			Hard, moist, brown mottled grey, Silty Clay A7-6 with Sand Layers	2		
	2	1.4S	31		10	4.3S	16
	3				9		
90.3				65.3			
Stiff, moist, brown, Silty Clay A-6 10.0	1			Very stiff, moist, brown mottled grey, Clay Loam A-6 with some Gravel 35.0	2		
	2	1.2B	24		13	3.5B	18
	3				28		
	1			63.3			
	2	1.7S	21	Hard, dry, brown mottled grey, Sandy Clay Shale	3		
	4			61.3	100/8"		
86.3							
Stiff, moist, brown, Clay to Silty Clay A7-6 15.0	1			Bottom of hole = 38.5 ft 40.0			
	2	1.6S	27				
	3			Free water observed at 15.1 ft.			
82.8							
Very stiff, moist, brown mottled grey, Silty Clay A-6	1			Elevation referenced to CL of RT 13 and B.S.F RR ; Assumed Elevation = 100.0 ft			
	2	2.1B	26				
	4			To convert "N" values to "N60" values multiply by 1.25.			
80.3							
Medium, moist, brown, Clay to Silty Clay A7-6 with some Pea Gravel 20.0	WH			45.0			
	2	0.7B	22				
	2						
77.8							
Medium, very moist, brown mottled grey, Silty Clay A-6	WH						
	1	0.6B	28				
	2						
75.3							
25.0	1			50.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail, B-Bulge S-Shear E-Estimated P-Penetrometer)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials
Bridge Foundation Boring Log
Sheet 1 of 1

Illinois Route 13 Over the Burlington Northern Santa Fe Railroad
Route: Illinois 13 Structure Number: Proposed M.S.E. Structure Date: 12/17/2003
Section
County: Williamson Location: Illinois Route 13 Checked By: Rob Graeff
Bored By: Bryan Keller

Boring No 3-S
Station 745+30
Offset 19' RT CL EBL
Ground Surface 99.8 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 82.8
At Completion 83.8
At: 2.0 Hrs: 91.3

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Bituminous Shoulder				Soft, moist, brown, Silty Clay Loam A-6 with Sand Layers	2	0.4B	16
98.3				72.8	2		
Medium, very moist, grey, Silty Clay Loam A-6	1			Stiff, moist, brown, Clay to Silty Clay A7-6	1		
	3	0.6B	25		4	1.4S	22
	3				5		
95.3				70.3			
Stiff, very moist, grey mottled brown, Clay A 7-6 5.0	1			Stiff to very stiff, moist, grey mottled brown, Clay to Silty Clay A7-6 30.0	1		
	2	1.4S	29		3	2.0B	18
	3				5		
92.8				67.8			
Medium, very moist, grey, Silty Clay Loam A-6	1			Very stiff, moist, grey, Clay A7-6 68.8	1	2.1S	26
	2	0.6B	27		3		
	3			Hard, dry, grey, weathered Clay Shale	8		
90.3							
Very stiff, moist, brown mottled grey, Clay to Silty Clay A7-6 10.0	1			35.0	2		
	5	2.1B	26		92/12"		
	6			63.3			
87.8				Hard, dry, grey, Clay Shale 62.3	100/6"		
Medium, moist, brown mottled grey, Clay to Silty Clay A7-6	1						
	2	0.9B	23	Bottom of hole = 37.5 ft.			
	4						
85.3				Free water observed at 17.0 ft. 40.0			
Very stiff, very moist, brown mottled grey, Clay to Silty Clay A7-6 with some Pea Gravel 15.0	1						
	2	2.1B	20	Elevation referenced to CL of Rt 13 and B.S.F. RR ;Assumed Elevation = 100.0 ft			
	4						
82.8				To convert "N" values to "N60" values Multiply by 1.25.			
Stiff, moist, brown, Silty Clay A-6	WH						
	3	1.8B	26				
	4						
80.3				45.0			
Medium to stiff, very moist, brown mottled grey, Silty Clay A-6 with some Pea Gravel 20.0	1						
	3	1.0S	31				
	3						
77.8							
Medium, moist, brown mottled grey, Clay to Silty Clay A7-6	WH						
	1	0.9B	23				
	1						
76.3							
25.0	1			50.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail, B-Bulge S-Shear E-Estimated P-Penetrometer)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials
Bridge Foundation Boring Log
Sheet 1 of 1

Illinois Route 13 Over the Burlington Northern Santa Fe Railroad
Route: Illinois 13 Structure Number: Proposed M.S.E. Structure Date: 12/17/2003
Section
County: Williamson Location: Illinois Route 13 Checked By: Rob Graeff
Bored By: Bryan Keller

Boring No 4-S
Station 747+41
Offset 19' RT CL EBL
Ground Surface 99.4 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 84.9
At Completion 81.9
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Bituminous Shoulder				Stiff, moist, brown mottled grey, Silty Clay A-6	1	1.4S	21
97.9				72.4	2		
Stiff, moist, brown, Silty Clay A-6	2			Very stiff, moist, brown, Silty Clay A-6	1		
	4	1.2B	18		4	2.5S	18
	4				5		
94.9				69.9			
Very stiff, moist, brown mottled grey, Silty Clay A-6 with Coal Chips 5.0	1			Hard, dry, grey, Clay Shale 30.0	100/6"		
	3	2.8S	19	68.9			
	5			Bottom of hole = 30.5 ft.			
92.4							
Medium, moist to very moist, grey, Silt Loam A-6	1			Free water observed at 14.5 ft.			
	3	0.7S	27				
	2			Elevation referenced to CL of RT 13 and B.S.F. RR; Assumed Elevation =100.0 ft.			
89.9							
Soft to medium, very moist, brown, Silty Clay Loam A-6 10.0	WH			To convert "N" values to "N60" values Multiply by 1.25. 35.0			
	1	0.5S	28				
	2						
87.4							
Stiff, very moist, grey mottled brown, Silty Clay A7-6	1						
	2	1.2S	25				
	3						
15.0	WH			40.0			
	3	1.4B	22				
	3						
	WH						
	2	1.6S	21				
	3						
79.9							
Very stiff, moist, brown, Silty Clay A-6 20.0	1			45.0			
	4	3.3S	18				
	4						
	1						
	3	2.1B	21				
	4						
74.9							
25.0	WH			50.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail, B-Bulge S-Shear E-Estimated P-Penetrometer)

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -
	CHECKED - ATI	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS IV
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (W.B.)
SHEET NO.S-370F S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1)VB-1	WILLIAMSON	367	203
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = i:\dot\0906603\drawcadd_sheets\structural plans\bmsf rr bridge\BORING LOGS 4.dgn

Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 10/06/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 550/HSA HAMMER TYPE Automatic

STRUCT. NO. 100-0093(WB)/0094(EB)
Station
BORING NO. SB-24
Station 1745+07.76
Offset 27.4 ft Lt
Ground Surface Elev. 445.16 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 428.4 ft
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
444.2				GRASS & TOPSOIL - 12 inches
	3 7 6	4.5 P	15	FILL: Brown, silty clay, some sand (A-7)
442.2				
	2 3 4	0.8 B	21	FILL: Grayish brown, silty clay (A-6)
440.7 -5				CLAY: Gray (A-7)
	3 4 6	2.2 B	27	
437.2				SILTY CLAY: Brown and gray (A-7)
	2 3 4	0.7 B	24	
-10 434.7				CLAY: Brown and gray, trace sand (A-7)
	3 3 3	1.6 B	20	
				Some sand, trace gravel
	2 4 3	2.0 P	24	
-15				
▼	2 2 3	<0.25 P	26	
427.2				SILTY CLAY: Brown (A-6)
-20	3 2 2	0.3 P	28	
				SILTY CLAY: Brown (A-6) *(continued)*
	2 3 2	0.3 B	29	
422.2				CLAY: Brown, some sand, trace gravel (A-7)
-25	1 3 3	0.9 B	20	
419.7				SANDY CLAY: Brown, trace gravel (A-6)
	4 5 5	0.7 B	13	
417.2				CLAY: Brown, some sand (A-7)
-30	2 6 7	2.3 B	17	
413.2				CLAYEY SHALE: Gray
	28 39 50/4"	-	12	
-35				
				Borehole continued with rock coring.
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/06/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-24
Station 1745+07.76
Offset 27.4 ft Lt
Ground Surface Elev. 445.16 ft

Core Diameter 1.9 in
Top of Rock Elev. 413.2 ft
Begin Core Elev. 408.6 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)	Description
408.0							CLAYEY SHALE: Gray *(continued)*
	1	100	83	3	60.0	4	SHALE: Gray
-40							
	2	100	95	3	17.0	5	
-45							
	3	100	93	3	32.0	4	
-50							
	4	100	99	2	58.0	3	
-55							
	5	100	100	3	90.0	3	

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/06/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-24
Station 1745+07.76
Offset 27.4 ft Lt
Ground Surface Elev. 445.16 ft

Core Diameter 1.9 in
Top of Rock Elev. 413.2 ft
Begin Core Elev. 408.6 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)	Description
							SHALE: Gray *(continued)*
	6	100	100	3			
-60					67.0	3	
382.0							
							Boring terminated at 63.2 ft.
-65							
-70							
-75							

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -
	CHECKED - ATI	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS V
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO. S-38 OF S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	204
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

FILE NAME = i:\dot\0906603\dgn\cadd_sheets\structural plans\bnsf rr bridge\BORING LOGS 5.dgn

Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 550/HSA HAMMER TYPE Automatic

STRUCT. NO. 100-0093(WB)/0094(EB)
Station
BORING NO. SB-25
Station 1746+56.97
Offset 36.0 ft Lt
Ground Surface Elev. 445.34 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 424.3 ft
Upon Completion ft
After - Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS & TOPSOIL - 12 inches			
444.3			
FILL: Brown and dark brown, clay, some sand (A-7)	6 7 8	7.5 B	15
442.3			
FILL: Grayish brown, silty clay (A-6)	3 2 2	0.5 B	30
-5 439.8			
CLAY: Gray and brown (A-7)	2 5 4	1.7 B	26
437.3			
SILTY CLAY: Brown and gray (A-7)	2 2 3	0.9 B	24
-10 434.8			
CLAY: Brown (A-7)	2 2 3	1.1 B	21
Some sand, trace gravel	2 3 4	1.2 B	19
-15			
	WH 1 5	0.3 B	18
427.3			
SILTY CLAY: Brown (A-6)	3 3 3	1.0 B	23
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
424.8			
CLAY: Brown, some sand, trace gravel (A-7)	3 4 5	0.9 B	16
	5 7 7	1.4 B	12
-25 419.8			
SILTY CLAY: Brown (A-6)	3 5 6	1.0 B	19
417.3			
CLAY: Brown, some sand, trace gravel (A-7)	4 4 10	3.5 B	17
-30 415.3			
SHALE: Dark gray			
With coal fragments	50/2"	-	17
Auger refusal at 34.0 feet. Borehole continued with rock coring.	50/1"		
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-25
Station 1746+56.97
Offset 36.0 ft Lt
Ground Surface Elev. 445.34 ft

Core Diameter 1.9 in
Top of Rock Elev. 415.3 ft
Begin Core Elev. 411.3 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
SHALE: Dark gray *(continued)*						
-35 409.6	1	100	53	5	56.0	5
COAL						
407.0						
CLAYEY SHALE: Gray						
405.5 -40	2	98	88	5	13.0	6
SHALE: Gray						
-45	3	98	71	5	76.0	3
-50	4	100	100	3	55.0	4

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-25
Station 1746+56.97
Offset 36.0 ft Lt
Ground Surface Elev. 445.34 ft

Core Diameter 1.9 in
Top of Rock Elev. 415.3 ft
Begin Core Elev. 411.3 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
SHALE: Gray *(continued)*						
-55 385.6	5	100	100	3	84.0	3
Boring terminated at 59.7 ft.						
-60						
-65						
-70						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -	
	CHECKED - ATI	REVISED -	
PLOT SCALE =	DRAWN - GLD	REVISED -	
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VI
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO. S-390F S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	205
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

FILE NAME = i:\dot\0906683\draw\cadd.sheets\structural plans\bnsf rr bridge\BORING LOGS 6.dgn

Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 550/HSA HAMMER TYPE Automatic

STRUCT. NO. 100-0093(WB)/0094(EB)
Station
BORING NO. SB-26
Station 1745+63.80
Offset 47.0 ft Rt
Ground Surface Elev. 444.10 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 428.1 ft
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS & TOPSOIL - 12 inches			
443.1			
FILL: Brown, silt (A-4)	3 2 2	4.5 P	11
441.1			
CLAY: Gray and brown (A-7) (poor recovery)	2 3 4	1.8 B	25
-5			
438.6			
SILTY CLAY: Brown and gray (A-6) (poor recovery)	2 3 2	1.0 B	23
436.1			
CLAY: Brown, trace sand (A-7)	2 2 2	1.2 B	18
-10			
Becomes brown and gray, trace gravel	1 2 2	1.0 B	26
	1 1 2	0.8 B	26
-15			
428.6			
SANDY CLAY: Brown (A-6)	2 3 5	1.0 B	18
426.1			
CLAY: Brown, some sand, trace gravel (A-7)	1 5 7	2.1 B	15
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
423.6			
SILTY CLAY: Brown (A-6)	4 6 6	3.0 B	19
421.1			
SILTY CLAY: Brown, some sand (A-7)	4 6 7	1.1 B	18
-25			
417.6	24		
COAL	50/3" 50/1"	-	11
416.1			
CLAYEY SHALE: Gray	16 36 50/3"	-	11
-30			
Auger refusal at 31.1 feet. Borehole continued with rock coring.			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-26
Station 1745+63.80
Offset 47.0 ft Rt
Ground Surface Elev. 444.10 ft

Core Diameter 1.9 in
Top of Rock Elev. 416.1 ft
Begin Core Elev. 413.0 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
CLAYEY SHALE: Gray *(continued)*						
412.4						
SHALE: Gray	1	100	81	3	137.0	3
-35						
	2	100	80	3	64.0	3
-40						
	3	100	100	3	99.0	4
-45						
	4	100	100	3	64.0	4
	5	100	100	2		
-50						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/05/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-26
Station 1745+63.80
Offset 47.0 ft Rt
Ground Surface Elev. 444.10 ft

Core Diameter 1.9 in
Top of Rock Elev. 416.1 ft
Begin Core Elev. 413.0 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
SHALE: Gray *(continued)*						
-55	5	100	100	2	232.0	3
387.0					283.0	3
Boring terminated at 57.1 ft.						
-60						
-65						
-70						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -
	CHECKED - ATI	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VII
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO. S-40OF S-41 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	206
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

FILE NAME = i:\dot\0906883\draw\cadd_sheets\structural plans\bnsf rr bridge\BORING LOGS 7.dgn

Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 10/04/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 550/HSA HAMMER TYPE Automatic

STRUCT. NO. 100-0093(WB)/0094(EB)
Station
BORING NO. SB-27
Station 1747+23.25
Offset 45.5 ft Rt
Ground Surface Elev. 438.46 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 425.0 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS & TOPSOIL - 12 inches			
437.5			
FILL: Brown and gray, clay (A-7)	2 1 2	0.8 B	24
435.5			
SILTY CLAY: Gray and brown (A-6)	2 1 2	0.4 B	22
-5			
	2 1 3	0.5 B	20
430.5			
CLAY: Gray (A-7)	1 2 2	0.9 B	25
-10			
Becomes gray and brown	1 3 3	0.5 B	25
425.5			
SILTY CLAY: Brown, some sand (A-6) ▼	1 2 2	0.1 B	22
-15			
423.0			
SILTY CLAY: Brown (A-7)	1 1 2	0.8 B	30
420.5			
CLAY: Brown and gray (A-7)	2 3 3	1.1 B	34
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY: Brown and gray (A-7) *(continued)*			
Trace sand 416.3	2 5 15	2.3 B	20
SHALE: Gray			
	22		
Auger refusal at 24.4 feet. 414.1	50/5"	-	10
Borehole continued with rock coring.			
-25			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/04/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-27
Station 1747+23.25
Offset 45.5 ft Rt
Ground Surface Elev. 438.46 ft

Core Diameter 1.9 in
Top of Rock Elev. 416.3 ft
Begin Core Elev. 414.1 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
CLAYEY SHALE: Gray and brown	1	83	45	5		
414.1						
413.3 -25						
SHALE: Gray						
412.3						
CLAYEY SHALE: Gray						
411.7						
SHALE: Dark gray					24.0	8
-30						
Samples in Run 2 not conducive to perform compressive strength testing.	2	100	78	8		10
405.5						
COAL	3	97	15	5	50.0	4
403.5 -35						
SHALE: Gray	4	100	91	6	9.0	9
401.5						
CALCAREOUS SHALE: Gray						
-40						
	5	98	72	6	127.0	3

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SCI Engineering

ROCK CORE LOG

Date 10/04/10

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION (1X-1)VB-1 LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson CORING METHOD Rotary, surface set diamond bit

STRUCT. NO. 100-0093(WB)/0094(EB) CORING BARREL TYPE & SIZE NBX conv dbl bbl split inner
Station
BORING NO. SB-27
Station 1747+23.25
Offset 45.5 ft Rt
Ground Surface Elev. 438.46 ft

Core Diameter 1.9 in
Top of Rock Elev. 416.3 ft
Begin Core Elev. 414.1 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	MOISTURE (%)
CALCAREOUS SHALE: Gray *(continued)*						
-45						
	6	100	99	6		
					77.0	3
388.1 -50						
Boring terminated at 50.4 ft.						
-55						
-60						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

FILE NAME = I:\dot\090603\draw\cadd_sheets\structural plans\bnsf rr bridge\BORING LOGS 8.dgn

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

USER NAME = Gary Davis	DESIGNED - MCC	REVISED -
	CHECKED - ATI	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE = 12/7/2011	CHECKED - ATI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VIII
STRUCTURE NO. 100-0093 (W.B.) & 100-0094 (E.B.)
SHEET NO. S-41 OF S-41 SHEETS

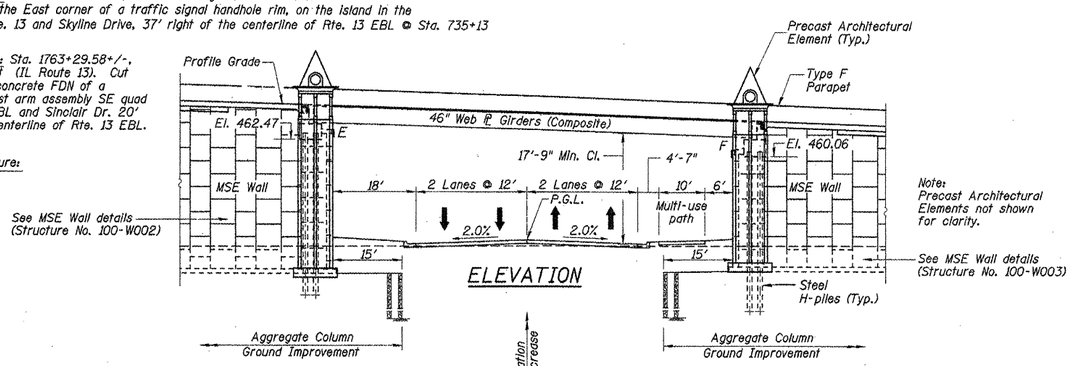
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)VB-1	WILLIAMSON	367	207
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

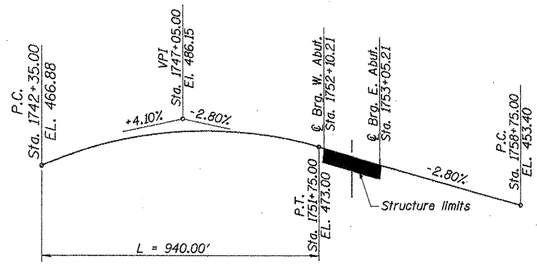
Benchmark #18: Sta. 1735+10.91+/-, 72.25'+/- right (IL Route 13).
Cut square on the East corner of a traffic signal handhole rim, on the island in the SW quad of Rte. 13 and Skyline Drive, 37' right of the centerline of Rte. 13 EBL @ Sta. 735+13
Elev. 439.099

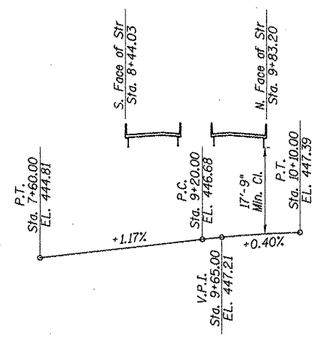
Benchmark #19: Sta. 1763+29.58+/-, 53.73'+/- right (IL Route 13). Cut square in the concrete FDN of a combination mast arm assembly SE quad of Il Rte 13 EBL and Sinclair Dr. 20' South of the centerline of Rte. 13 EBL.
Elev. 448.329

Existing Structure:
None

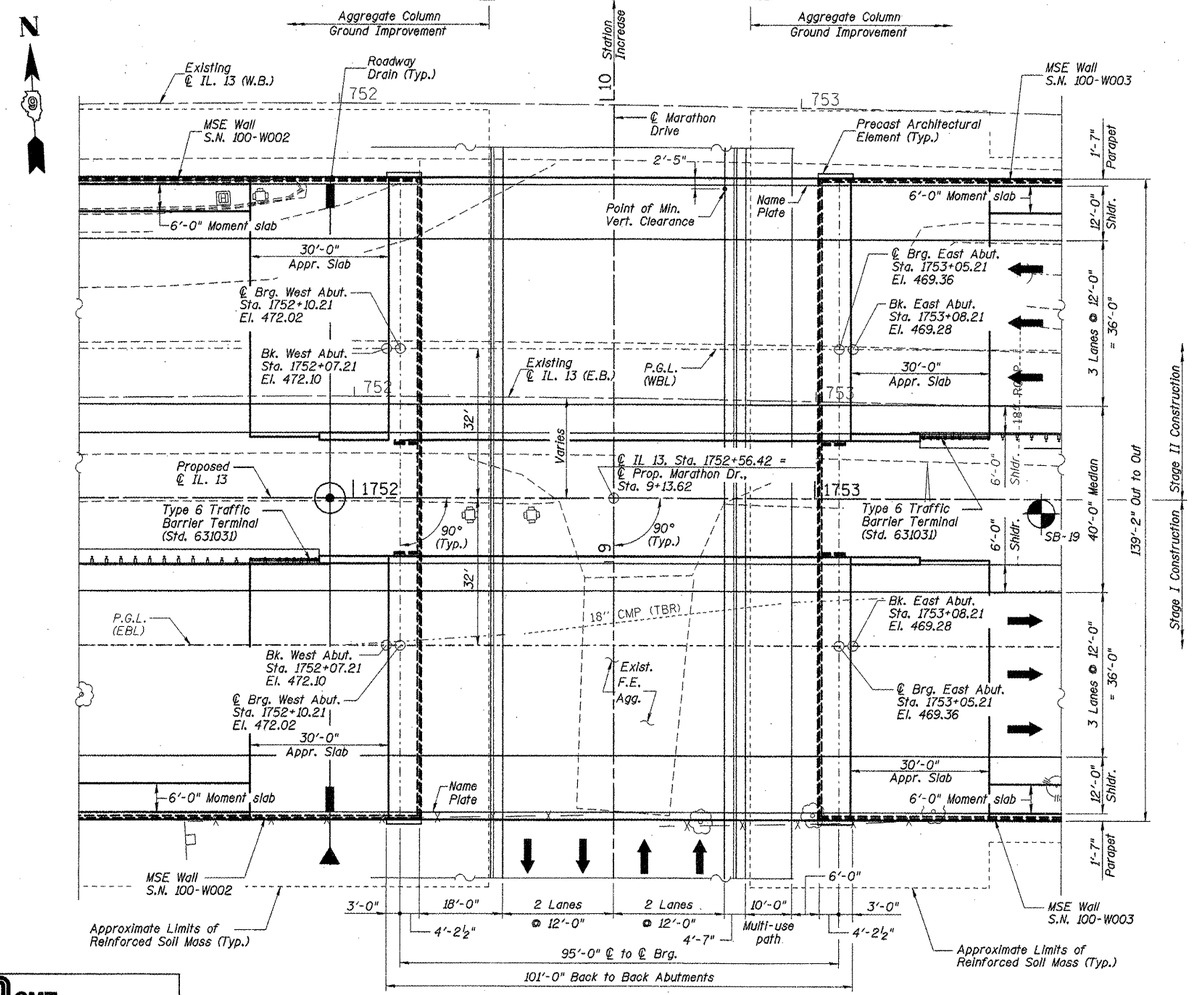
Traffic to be maintained utilizing stage construction.







INDEX OF SHEETS



DESIGN SPECIFICATIONS

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270, Grade 50)
fy = 36,000 psi (AASHTO M270, Grade 36)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface

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

STATION 1752+56.42
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT 331 SEC. (1X-1)B-1
LOADING HL-93
STR. NO. 100-0095 (W.B.)

NAME PLATE

See Std. 515001
(Locate Name Plate on East end of North parapet)

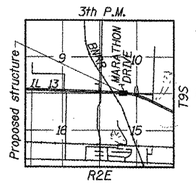
STATION 1752+56.42
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT 331 SEC. (1X-1)B-1
LOADING HL-93
STR. NO. 100-0096 (E.B.)

NAME PLATE

See Std. 515001
(Locate Name Plate on West end of South parapet)

BORINGS

BORING	LOCATION
SB-15	1750+70, 4' Rt.
SB-16	1751+08, 108' Lt.
SB-19	1753+49, 3' Rt.
SB-20	1754+12, 113' Lt.



APPROVED
For Structural Adequacy Only
(Carl Puzey (TBD))
Engineer of Bridges & Structures

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

GENERAL PLAN & ELEVATION
FAP ROUTE 331 (IL 13) OVER MARATHON DRIVE
SECTION (1X-1)VB-1, B-1, N-4, R-3
WILLIAMSON COUNTY
STATION 1752+56.42
STRUCTURE NO. 100-0095 (W.B.)
STRUCTURE NO. 100-0096 (E.B.)

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

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_GEN PLAN SHEET.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WILLEY	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

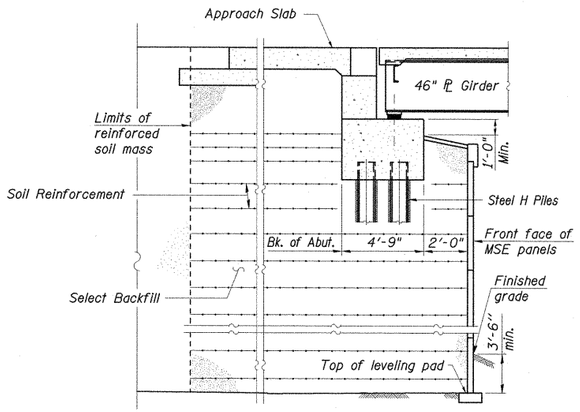
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	208
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{3}{4}$ in. ϕ, holes $\frac{15}{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 239,512 lbs. (AASHTO M270 Grade 50)
   = 26,880 lbs. (AASHTO M270 Grade 36)
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Concrete Sealer shall be applied to the designated areas of the abutments.
6. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4.
7. Precast Architectural Element footings shall be constructed and paid for with S.N. 100-W002 & S.N. 100-W003.
8. Slipforming of the parapets is not allowed.



SECTION THRU PILE SUPPORTED STUB ABUTMENT

(Horiz. dim. ℄ Rt. L's)

Note:
See S.N. 100-W002 and S.N. 100-W003 plans for additional details and Select Backfill quantities.

TOTAL BILL OF MATERIAL (S.N. 100-0095)

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.		154.9	154.9
Concrete Superstructure	Cu. Yd.	361.9		361.9
Bridge Deck Grooving	Sq. Yd.	924		924
Protective Coat	Sq. Yd.	1,081		1,081
Furnishing and Erecting Structural Steel	L. Sum	.1		.1
Stud Shear Connectors	Each	2,709		2,709
Reinforcement Bars, Epoxy Coated	Pound	88,880	12,200	101,080
Bar Splicers	Each		108	108
Furnishing Steel Piles HP 12X53	Foot		1462	1462
Driving Piles	Foot		1462	1462
Test Pile Steel HP 12X53	Each		1	1
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	112		112
Elastomeric Bearing Assembly, Type I	Each	7		7
Anchor Bolts, $\frac{3}{4}$"	Each	14		14
Anchor Bolts, $1\frac{1}{4}$"	Each	14		14
Concrete Sealer	Sq. Ft.		1,054	1,054
Architectural Precast Concrete Panel	Each			2
Anti-Graffiti Protection System	Sq. Ft.			398

TOTAL BILL OF MATERIAL (S.N. 100-0096)

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.		154.9	154.9
Concrete Superstructure	Cu. Yd.	361.9		361.9
Bridge Deck Grooving	Sq. Yd.	924		924
Protective Coat	Sq. Yd.	1,081		1,081
Furnishing and Erecting Structural Steel	L. Sum	.1		.1
Stud Shear Connectors	Each	2,709		2,709
Reinforcement Bars, Epoxy Coated	Pound	88,880	12,200	101,080
Bar Splicers	Each		108	108
Furnishing Steel Piles HP 12X53	Foot		1461	1461
Driving Piles	Foot		1461	1461
Test Pile Steel HP 12X53	Each		1	1
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	112		112
Elastomeric Bearing Assembly, Type I	Each	7		7
Anchor Bolts, $\frac{3}{4}$"	Each	14		14
Anchor Bolts, $1\frac{1}{4}$"	Each	14		14
Concrete Sealer	Sq. Ft.		1,054	1,054
Architectural Precast Concrete Panel	Each			2
Anti-Graffiti Protection System	Sq. Ft.			425

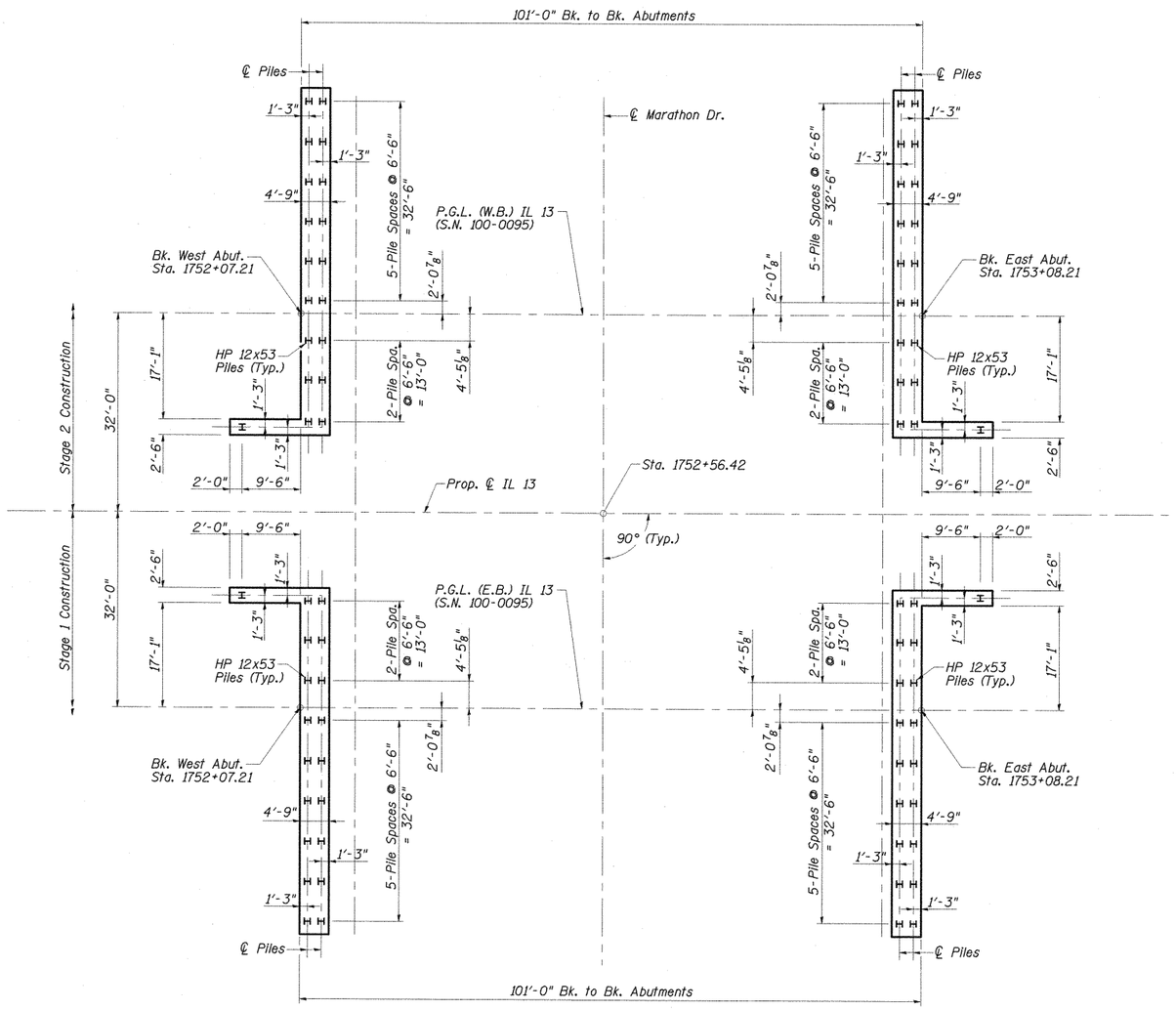
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_sheets\GENERAL DATA.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 2 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	209
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



FOUNDATION PLAN

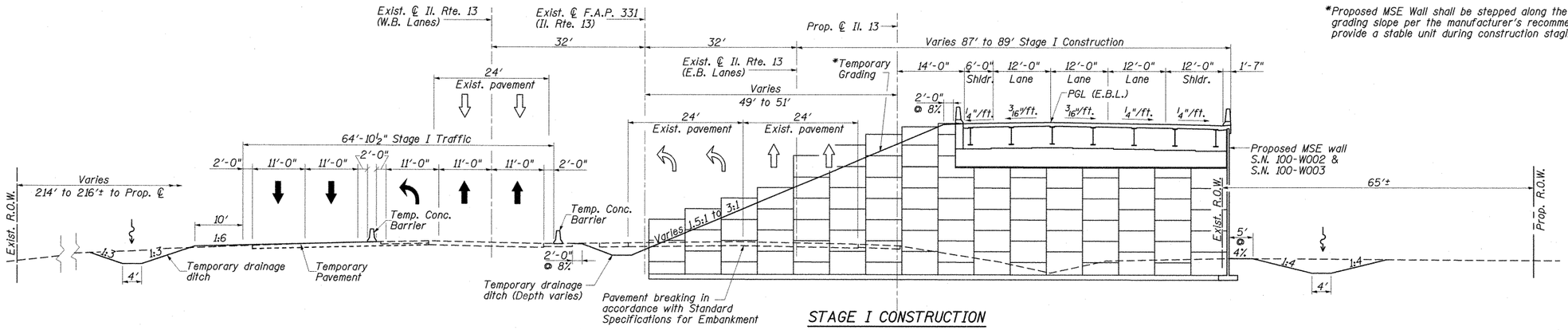
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_[illegible]\FOOTING_LAYOUT.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

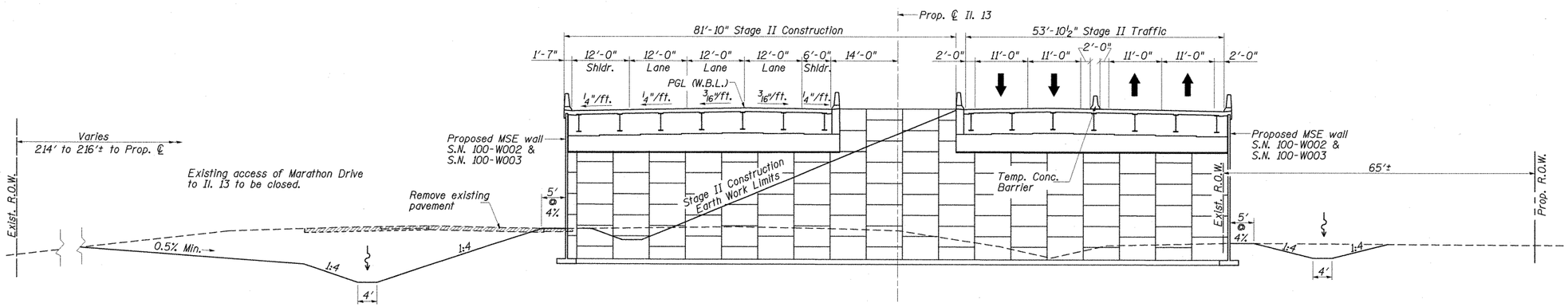
FOOTING LAYOUT
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 3 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	210
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

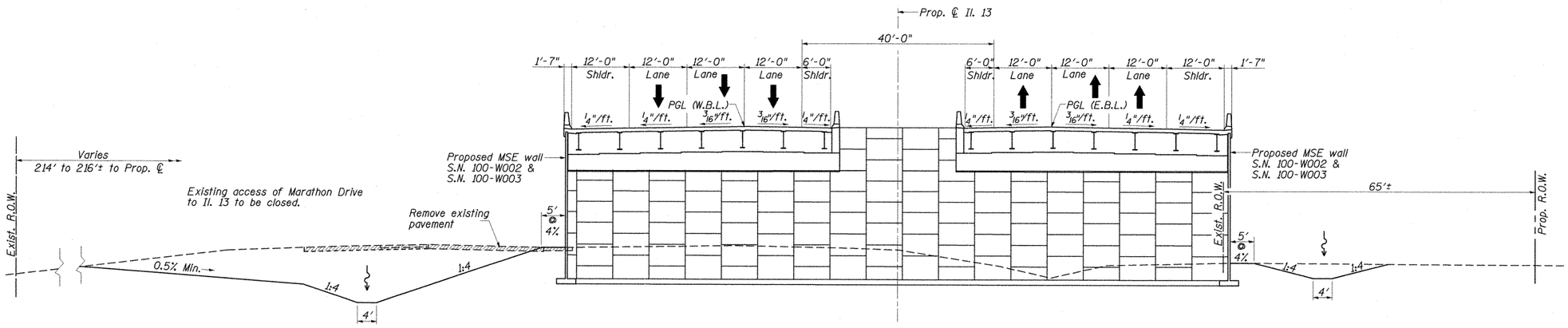


*Proposed MSE Wall shall be stepped along the temporary grading slope per the manufacturer's recommendations to provide a stable unit during construction staging.

STAGE I CONSTRUCTION



STAGE II CONSTRUCTION



FINAL ROADWAY RECONFIGURATION

(Looking East)

NOTES:

1. See roadway plans for quantity of Temporary Concrete Barrier.

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

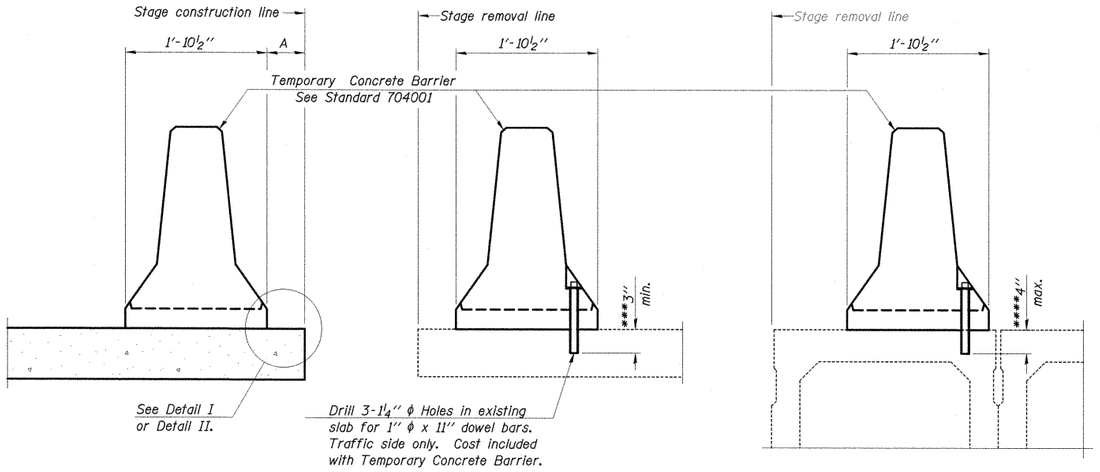
FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_[illegible]\STAGE CONSTR DETAILS.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 4 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	211
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

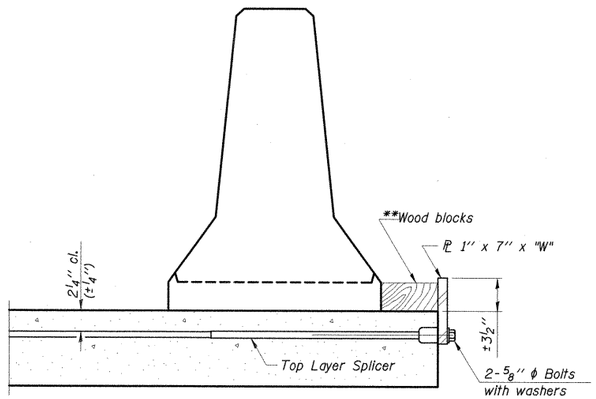
SECTIONS THRU SLAB OR DECK BEAM

NOTES:

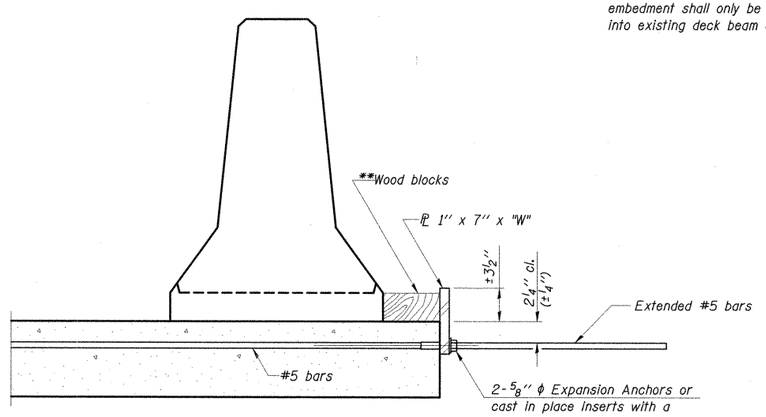
1. Detail I - With Bar Splicer or Couplers:
   Connect one (1) 1" x 7" x "W" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.
2. Detail II - With Extended Reinforcement Bars:
   Connect one (1) 1" x 7" x "W" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.
3. Cost of anchorage is included with Temporary Concrete Barrier.
4. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



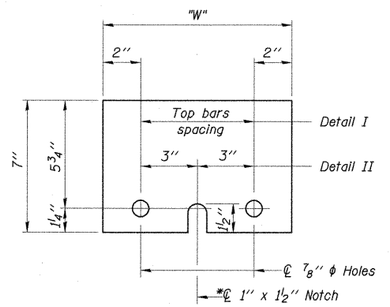
DETAIL I



DETAIL II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"



STEEL RETAINER ℄ 1" x 7" x "W"

* Required only with Detail II

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

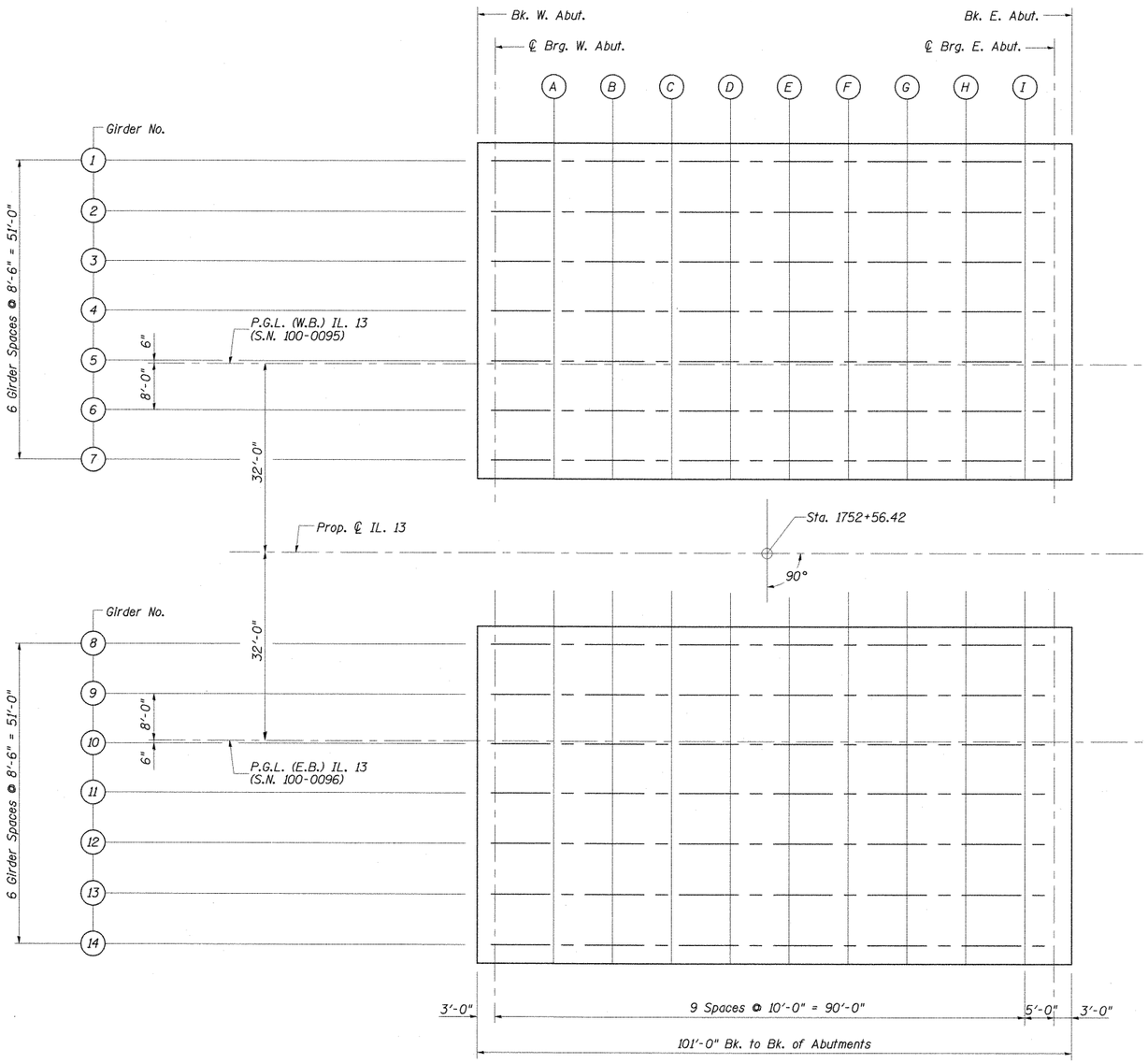
R-27 7-1-10

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_plans\TEMP CONC BARRIER.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

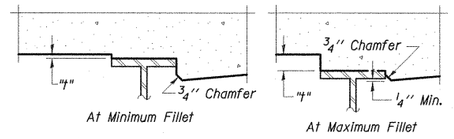
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 5 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	212
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



LAYOUT PLAN FOR DECK ELEVATIONS



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 7 and 8 of 32, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

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

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_sheets\DECK ELEVATION_1.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS 1
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 6 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	213
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

GIRDER 1

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-34.50	471.44	471.44
℄ Brg. W. Abut.	1752+10.21	-34.50	471.36	471.36
A	1752+20.21	-34.50	471.08	471.14
B	1752+30.21	-34.50	470.80	470.94
C	1752+40.21	-34.50	470.52	470.72
D	1752+50.21	-34.50	470.24	470.49
E	1752+60.21	-34.50	469.96	470.22
F	1752+70.21	-34.50	469.68	469.91
G	1752+80.21	-34.50	469.40	469.57
H	1752+90.21	-34.50	469.12	469.22
I	1753+00.21	-34.50	468.84	468.87
℄ Brg. E. Abut.	1753+05.21	-34.50	468.70	468.70
Bk. E. Abut.	1753+08.21	-34.50	468.62	468.62

GIRDER 2

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-26.00	471.62	471.62
℄ Brg. W. Abut.	1752+10.21	-26.00	471.54	471.54
A	1752+20.21	-26.00	471.26	471.32
B	1752+30.21	-26.00	470.98	471.12
C	1752+40.21	-26.00	470.70	470.90
D	1752+50.21	-26.00	470.42	470.67
E	1752+60.21	-26.00	470.14	470.40
F	1752+70.21	-26.00	469.86	470.09
G	1752+80.21	-26.00	469.58	469.75
H	1752+90.21	-26.00	469.30	469.40
I	1753+00.21	-26.00	469.02	469.05
℄ Brg. E. Abut.	1753+05.21	-26.00	468.88	468.88
Bk. E. Abut.	1753+08.21	-26.00	468.79	468.79

GIRDER 3

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-17.50	471.80	471.80
℄ Brg. W. Abut.	1752+10.21	-17.50	471.71	471.71
A	1752+20.21	-17.50	471.43	471.49
B	1752+30.21	-17.50	471.15	471.29
C	1752+40.21	-17.50	470.87	471.07
D	1752+50.21	-17.50	470.59	470.84
E	1752+60.21	-17.50	470.31	470.57
F	1752+70.21	-17.50	470.03	470.26
G	1752+80.21	-17.50	469.75	469.92
H	1752+90.21	-17.50	469.47	469.57
I	1753+00.21	-17.50	469.19	469.22
℄ Brg. E. Abut.	1753+05.21	-17.50	469.05	469.05
Bk. E. Abut.	1753+08.21	-17.50	468.97	468.97

GIRDER 4

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-9.00	471.96	471.96
℄ Brg. W. Abut.	1752+10.21	-9.00	471.88	471.88
A	1752+20.21	-9.00	471.60	471.66
B	1752+30.21	-9.00	471.32	471.46
C	1752+40.21	-9.00	471.04	471.24
D	1752+50.21	-9.00	470.76	471.01
E	1752+60.21	-9.00	470.48	470.74
F	1752+70.21	-9.00	470.20	470.43
G	1752+80.21	-9.00	469.92	470.09
H	1752+90.21	-9.00	469.64	469.74
I	1753+00.21	-9.00	469.36	469.39
℄ Brg. E. Abut.	1753+05.21	-9.00	469.22	469.22
Bk. E. Abut.	1753+08.21	-9.00	469.13	469.13

GIRDER 5

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-0.50	472.09	472.09
℄ Brg. W. Abut.	1752+10.21	-0.50	472.01	472.01
A	1752+20.21	-0.50	471.73	471.79
B	1752+30.21	-0.50	471.45	471.59
C	1752+40.21	-0.50	471.17	471.37
D	1752+50.21	-0.50	470.89	471.14
E	1752+60.21	-0.50	470.61	470.87
F	1752+70.21	-0.50	470.33	470.56
G	1752+80.21	-0.50	470.05	470.22
H	1752+90.21	-0.50	469.77	469.87
I	1753+00.21	-0.50	469.49	469.52
℄ Brg. E. Abut.	1753+05.21	-0.50	469.35	469.35
Bk. E. Abut.	1753+08.21	-0.50	469.26	469.26

PGL (W.B.)

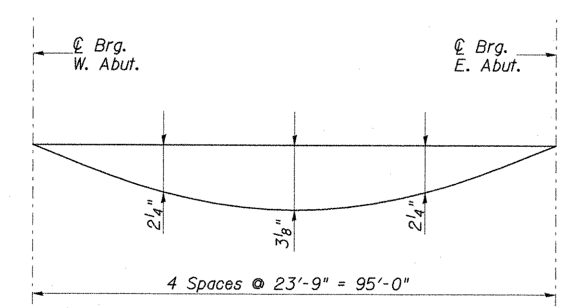
LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	0.00	472.10	472.10
℄ Brg. W. Abut.	1752+10.21	0.00	472.02	472.02
A	1752+20.21	0.00	471.74	471.80
B	1752+30.21	0.00	471.46	471.60
C	1752+40.21	0.00	471.18	471.38
D	1752+50.21	0.00	470.90	471.15
E	1752+60.21	0.00	470.62	470.88
F	1752+70.21	0.00	470.34	470.57
G	1752+80.21	0.00	470.06	470.23
H	1752+90.21	0.00	469.78	469.88
I	1753+00.21	0.00	469.50	469.53
℄ Brg. E. Abut.	1753+05.21	0.00	469.36	469.36
Bk. E. Abut.	1753+08.21	0.00	469.27	469.27

GIRDER 6

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	8.00	471.98	471.98
℄ Brg. W. Abut.	1752+10.21	8.00	471.89	471.89
A	1752+20.21	8.00	471.61	471.67
B	1752+30.21	8.00	471.33	471.47
C	1752+40.21	8.00	471.05	471.25
D	1752+50.21	8.00	470.77	471.02
E	1752+60.21	8.00	470.49	470.75
F	1752+70.21	8.00	470.21	470.44
G	1752+80.21	8.00	469.93	470.10
H	1752+90.21	8.00	469.65	469.75
I	1753+00.21	8.00	469.37	469.40
℄ Brg. E. Abut.	1753+05.21	8.00	469.23	469.23
Bk. E. Abut.	1753+08.21	8.00	469.15	469.15

GIRDER 7

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	16.50	471.82	471.82
℄ Brg. W. Abut.	1752+10.21	16.50	471.74	471.74
A	1752+20.21	16.50	471.46	471.52
B	1752+30.21	16.50	471.18	471.32
C	1752+40.21	16.50	470.90	471.10
D	1752+50.21	16.50	470.62	470.87
E	1752+60.21	16.50	470.34	470.60
F	1752+70.21	16.50	470.06	470.29
G	1752+80.21	16.50	469.78	469.95
H	1752+90.21	16.50	469.50	469.60
I	1753+00.21	16.50	469.22	469.25
℄ Brg. E. Abut.	1753+05.21	16.50	469.08	469.08
Bk. E. Abut.	1753+08.21	16.50	468.99	468.99



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

* Offsets from W.B. P.G.L.

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

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final ...\DECK ELEVATION_2.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS 2
STRUCTURE NO. 100-0095 (W.B.)

SHEET NO. 7 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	214

CONTRACT NO. 98859

ILLINOIS FED. AID PROJECT

GIRDER 8

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-16.50	471.82	471.82
℄ Brg. W. Abut.	1752+10.21	-16.50	471.74	471.74
A	1752+20.21	-16.50	471.46	471.52
B	1752+30.21	-16.50	471.18	471.32
C	1752+40.21	-16.50	470.90	471.10
D	1752+50.21	-16.50	470.62	470.87
E	1752+60.21	-16.50	470.34	470.60
F	1752+70.21	-16.50	470.06	470.29
G	1752+80.21	-16.50	469.78	469.95
H	1752+90.21	-16.50	469.50	469.60
I	1753+00.21	-16.50	469.22	469.25
℄ Brg. E. Abut.	1753+05.21	-16.50	469.08	469.08
Bk. E. Abut.	1753+08.21	-16.50	468.99	468.99

GIRDER 9

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	-8.00	471.98	471.98
℄ Brg. W. Abut.	1752+10.21	-8.00	471.89	471.89
A	1752+20.21	-8.00	471.61	471.67
B	1752+30.21	-8.00	471.33	471.47
C	1752+40.21	-8.00	471.05	471.25
D	1752+50.21	-8.00	470.77	471.02
E	1752+60.21	-8.00	470.49	470.75
F	1752+70.21	-8.00	470.21	470.44
G	1752+80.21	-8.00	469.93	470.10
H	1752+90.21	-8.00	469.65	469.75
I	1753+00.21	-8.00	469.37	469.40
℄ Brg. E. Abut.	1753+05.21	-8.00	469.23	469.23
Bk. E. Abut.	1753+08.21	-8.00	469.15	469.15

PGL (E.B.)

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	0.00	472.10	472.10
℄ Brg. W. Abut.	1752+10.21	0.00	472.02	472.02
A	1752+20.21	0.00	471.74	471.80
B	1752+30.21	0.00	471.46	471.60
C	1752+40.21	0.00	471.18	471.38
D	1752+50.21	0.00	470.90	471.15
E	1752+60.21	0.00	470.62	470.88
F	1752+70.21	0.00	470.34	470.57
G	1752+80.21	0.00	470.06	470.23
H	1752+90.21	0.00	469.78	469.88
I	1753+00.21	0.00	469.50	469.53
℄ Brg. E. Abut.	1753+05.21	0.00	469.36	469.36
Bk. E. Abut.	1753+08.21	0.00	469.27	469.27

GIRDER 10

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	0.50	472.09	472.09
℄ Brg. W. Abut.	1752+10.21	0.50	472.01	472.01
A	1752+20.21	0.50	471.73	471.79
B	1752+30.21	0.50	471.45	471.59
C	1752+40.21	0.50	471.17	471.37
D	1752+50.21	0.50	470.89	471.14
E	1752+60.21	0.50	470.61	470.87
F	1752+70.21	0.50	470.33	470.56
G	1752+80.21	0.50	470.05	470.22
H	1752+90.21	0.50	469.77	469.87
I	1753+00.21	0.50	469.49	469.52
℄ Brg. E. Abut.	1753+05.21	0.50	469.35	469.35
Bk. E. Abut.	1753+08.21	0.50	469.26	469.26

GIRDER 11

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	9.00	471.96	471.96
℄ Brg. W. Abut.	1752+10.21	9.00	471.88	471.88
A	1752+20.21	9.00	471.60	471.66
B	1752+30.21	9.00	471.32	471.46
C	1752+40.21	9.00	471.04	471.24
D	1752+50.21	9.00	470.76	471.01
E	1752+60.21	9.00	470.48	470.74
F	1752+70.21	9.00	470.20	470.43
G	1752+80.21	9.00	469.92	470.09
H	1752+90.21	9.00	469.64	469.74
I	1753+00.21	9.00	469.36	469.39
℄ Brg. E. Abut.	1753+05.21	9.00	469.22	469.22
Bk. E. Abut.	1753+08.21	9.00	469.13	469.13

GIRDER 12

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	17.50	471.8	471.8
℄ Brg. W. Abut.	1752+10.21	17.50	471.71	471.71
A	1752+20.21	17.50	471.43	471.49
B	1752+30.21	17.50	471.15	471.29
C	1752+40.21	17.50	470.87	471.07
D	1752+50.21	17.50	470.59	470.84
E	1752+60.21	17.50	470.31	470.57
F	1752+70.21	17.50	470.03	470.26
G	1752+80.21	17.50	469.75	469.92
H	1752+90.21	17.50	469.47	469.57
I	1753+00.21	17.50	469.19	469.22
℄ Brg. E. Abut.	1753+05.21	17.50	469.05	469.05
Bk. E. Abut.	1753+08.21	17.50	468.97	468.97

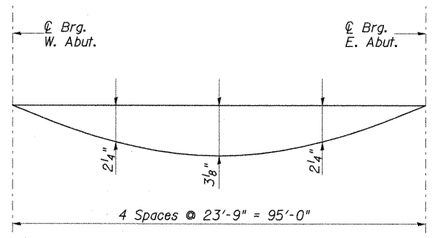
GIRDER 13

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	26.00	471.62	471.62
℄ Brg. W. Abut.	1752+10.21	26.00	471.54	471.54
A	1752+20.21	26.00	471.26	471.32
B	1752+30.21	26.00	470.98	471.12
C	1752+40.21	26.00	470.70	470.90
D	1752+50.21	26.00	470.42	470.67
E	1752+60.21	26.00	470.14	470.40
F	1752+70.21	26.00	469.86	470.09
G	1752+80.21	26.00	469.58	469.75
H	1752+90.21	26.00	469.30	469.40
I	1753+00.21	26.00	469.02	469.05
℄ Brg. E. Abut.	1753+05.21	26.00	468.88	468.88
Bk. E. Abut.	1753+08.21	26.00	468.79	468.79

GIRDER 14

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	1752+07.21	34.50	471.44	471.44
℄ Brg. W. Abut.	1752+10.21	34.50	471.36	471.36
A	1752+20.21	34.50	471.08	471.14
B	1752+30.21	34.50	470.80	470.94
C	1752+40.21	34.50	470.52	470.72
D	1752+50.21	34.50	470.24	470.49
E	1752+60.21	34.50	469.96	470.22
F	1752+70.21	34.50	469.68	469.91
G	1752+80.21	34.50	469.40	469.57
H	1752+90.21	34.50	469.12	469.22
I	1753+00.21	34.50	468.84	468.87
℄ Brg. E. Abut.	1753+05.21	34.50	468.70	468.70
Bk. E. Abut.	1753+08.21	34.50	468.62	468.62

* Offsets from E.B. P.G.L.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

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

FILE NAME = l:\dot\0986603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_sheets\DECK ELEVATION_3.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS 3
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 8 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	215
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-36.00	472.24
A1	1751+87.71	-36.00	471.96
A2	1751+97.71	-36.00	471.68
E. End of W. Appr.	1752+07.71	-36.00	471.40

NORTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-24.00	472.49
A1	1751+87.71	-24.00	472.21
A2	1751+97.71	-24.00	471.93
E. End of W. Appr.	1752+07.71	-24.00	471.65

EDGE OF PAVEMENT & SLOPE CHANGE

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-12.00	472.74
A1	1751+87.71	-12.00	472.46
A2	1751+97.71	-12.00	472.18
E. End of W. Appr.	1752+07.71	-12.00	471.90

℄ ROADWAY & P.G.L.

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	0.00	472.93
A1	1751+87.71	0.00	472.65
A2	1751+97.71	0.00	472.37
E. End of W. Appr.	1752+07.71	0.00	472.09

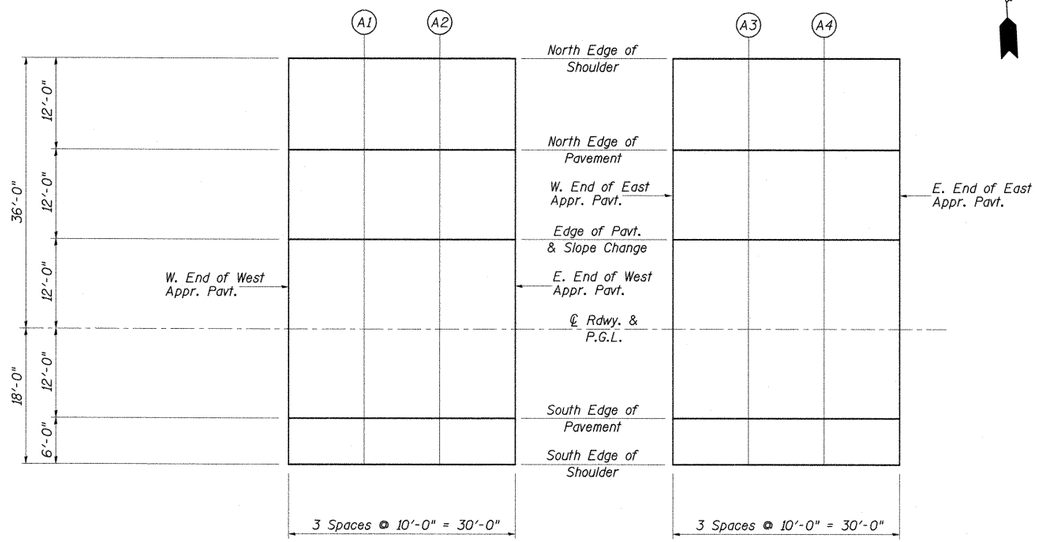
SOUTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	12.00	472.74
A1	1751+87.71	12.00	472.46
A2	1751+97.71	12.00	472.18
E. End of W. Appr.	1752+07.71	12.00	471.90

SOUTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	18.00	472.62
A1	1751+87.71	18.00	472.34
A2	1751+97.71	18.00	472.06
E. End of W. Appr.	1752+07.71	18.00	471.78

* Offsets from W.B. P.G.L.



WEST APPROACH

EAST APPROACH

PLAN
(S.N.100-0095)

NORTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-36.00	468.60
A3	1753+17.71	-36.00	468.32
A4	1753+27.71	-36.00	468.04
E. End of E. Appr.	1753+37.71	-36.00	467.76

NORTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-24.00	468.85
A3	1753+17.71	-24.00	468.57
A4	1753+27.71	-24.00	468.29
E. End of E. Appr.	1753+37.71	-24.00	468.01

EDGE OF PAVEMENT & SLOPE CHANGE

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-12.00	469.10
A3	1753+17.71	-12.00	468.82
A4	1753+27.71	-12.00	468.54
E. End of E. Appr.	1753+37.71	-12.00	468.26

℄ ROADWAY & P.G.L.

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	0.00	469.29
A3	1753+17.71	0.00	469.01
A4	1753+27.71	0.00	468.73
E. End of E. Appr.	1753+37.71	0.00	468.45

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	12.00	469.10
A3	1753+17.71	12.00	468.82
A4	1753+27.71	12.00	468.54
E. End of E. Appr.	1753+37.71	12.00	468.26

SOUTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	18.00	468.98
A3	1753+17.71	18.00	468.70
A4	1753+27.71	18.00	468.42
E. End of E. Appr.	1753+37.71	18.00	468.14

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

FILE NAME = l:\dot\0906803\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_checks\APPROACH PAVMT ELEVS_1.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH PAVEMENT ELEVATIONS 1
STRUCTURE NO. 100-0095 (W.B.)
SHEET NO. 9 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	216
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	18.00	472.62
B1	1751+87.71	18.00	472.34
B2	1751+97.71	18.00	472.06
E. End of W. Appr.	1752+07.71	18.00	471.78

NORTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	12.00	472.74
B1	1751+87.71	12.00	472.46
B2	1751+97.71	12.00	472.18
E. End of W. Appr.	1752+07.71	12.00	471.90

℄ ROADWAY & P.G.L.

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	0.00	472.93
B1	1751+87.71	0.00	472.65
B2	1751+97.71	0.00	472.37
E. End of W. Appr.	1752+07.71	0.00	472.09

EDGE OF PAVEMENT & SLOPE CHANGE

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-12.00	472.74
B1	1751+87.71	-12.00	472.46
B2	1751+97.71	-12.00	472.18
E. End of W. Appr.	1752+07.71	-12.00	471.90

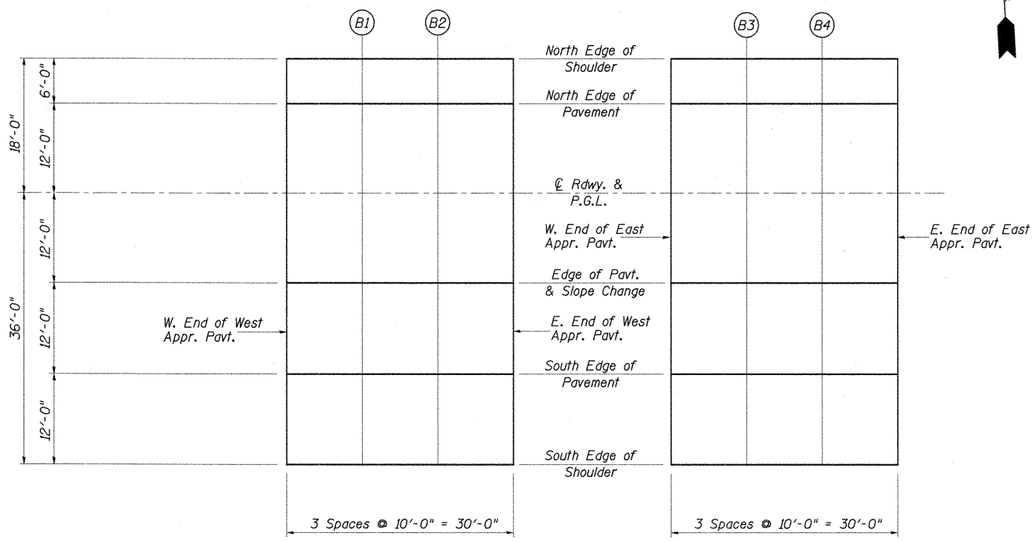
SOUTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-24.00	472.49
B1	1751+87.71	-24.00	472.21
B2	1751+97.71	-24.00	471.93
E. End of W. Appr.	1752+07.71	-24.00	471.65

SOUTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	1751+77.71	-36.00	472.24
B1	1751+87.71	-36.00	471.96
B2	1751+97.71	-36.00	471.68
E. End of W. Appr.	1752+07.71	-36.00	471.40

* Offsets from E.B. P.G.L.



WEST APPROACH

EAST APPROACH

PLAN
(S.N.100-0096)

NORTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	18.00	468.98
B3	1753+17.71	18.00	468.70
B4	1753+27.71	18.00	468.42
E. End of E. Appr.	1753+37.71	18.00	468.14

NORTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	12.00	469.10
B3	1753+17.71	12.00	468.82
B4	1753+27.71	12.00	468.54
E. End of E. Appr.	1753+37.71	12.00	468.26

ROADWAY & P.G.L.

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	0.00	469.29
B3	1753+17.71	0.00	469.01
B4	1753+27.71	0.00	468.73
E. End of E. Appr.	1753+37.71	0.00	468.45

EDGE OF PAVEMENT & SLOPE CHANGE

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-12.00	469.10
B3	1753+17.71	-12.00	468.82
B4	1753+27.71	-12.00	468.54
E. End of E. Appr.	1753+37.71	-12.00	468.26

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-24.00	468.85
B3	1753+17.71	-24.00	468.57
B4	1753+27.71	-24.00	468.29
E. End of E. Appr.	1753+37.71	-24.00	468.01

SOUTH EDGE OF SHOULDER

LOCATION	STATION	*OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	1753+07.71	-36.00	468.60
B3	1753+17.71	-36.00	468.32
B4	1753+27.71	-36.00	468.04
E. End of E. Appr.	1753+37.71	-36.00	467.76

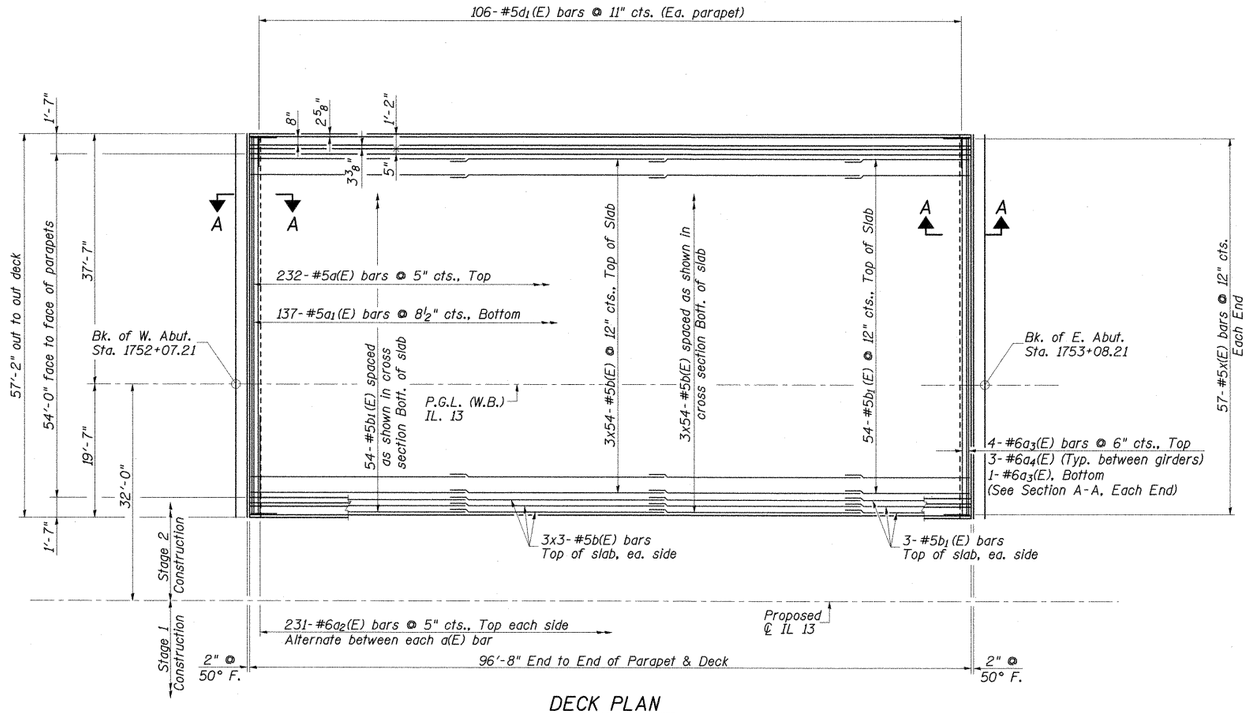
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\8906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final plan sheets\APPROACH PAVMT ELEVS_2.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

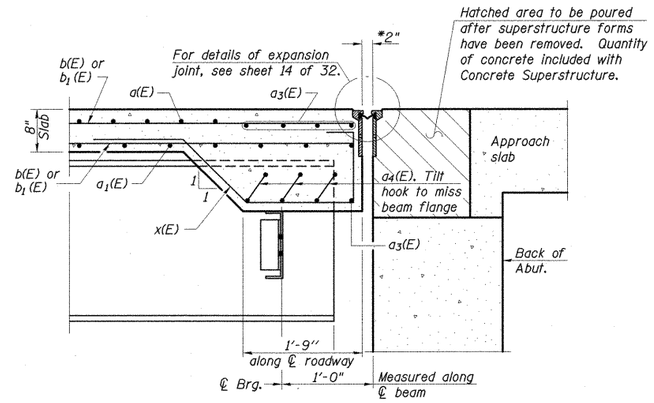
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH PAVEMENT ELEVATIONS 2
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 10 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	217
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

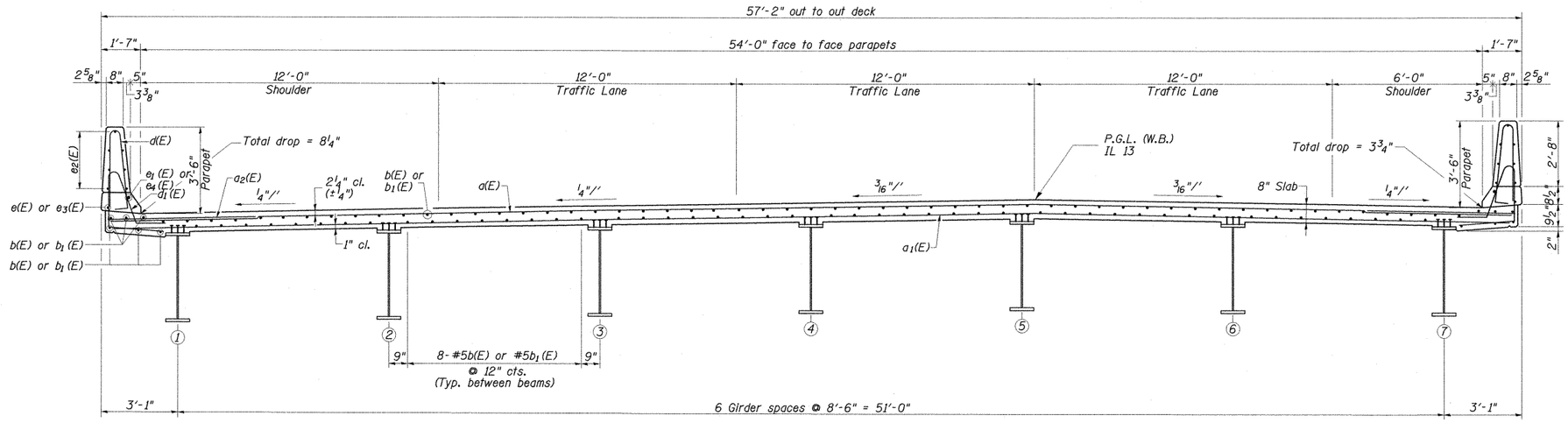


DECK PLAN
(S.N. 100-0095 W.B.)



SECTION A-A

*Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint deck dimensions may require adjustments to satisfy the details on Sheet 14 of 32.



TYPICAL CROSS SECTION
(Looking East)

MIN. BAR LAPS

#4 Bar	=	2'-7"
#5 Bar	=	3'-3"
#6 Bar	=	3'-10"
#8 Bar	=	6'-9"

NOTES:

1. See Sheet 13 of 32 for parapet details and S.N. 100-0095 Superstructure Bill of Material.

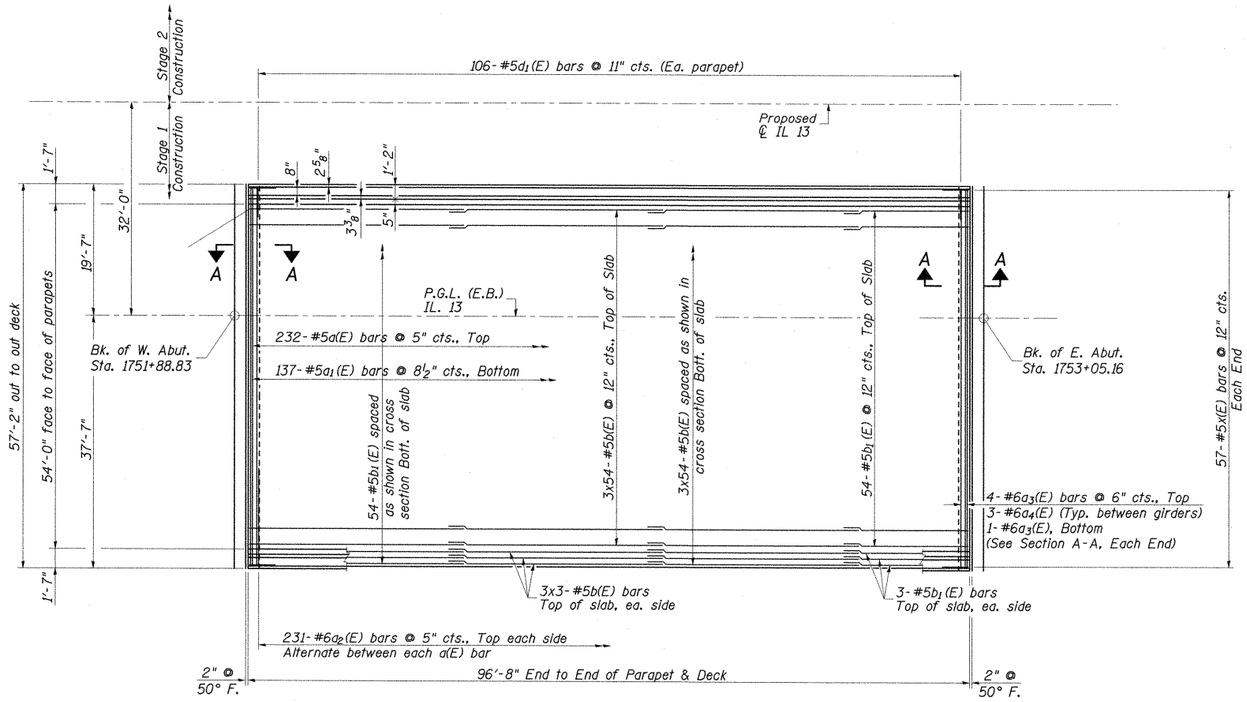
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\dot\2006603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final bridge\SUPERSTRUCTURE_WB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

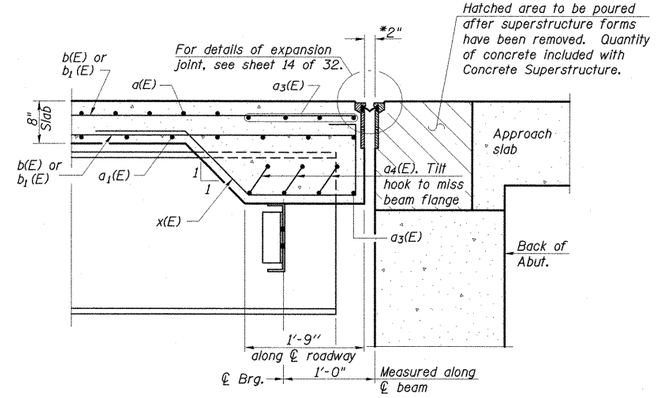
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 100-0095 (W.B.)
SHEET NO. 11 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	218
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

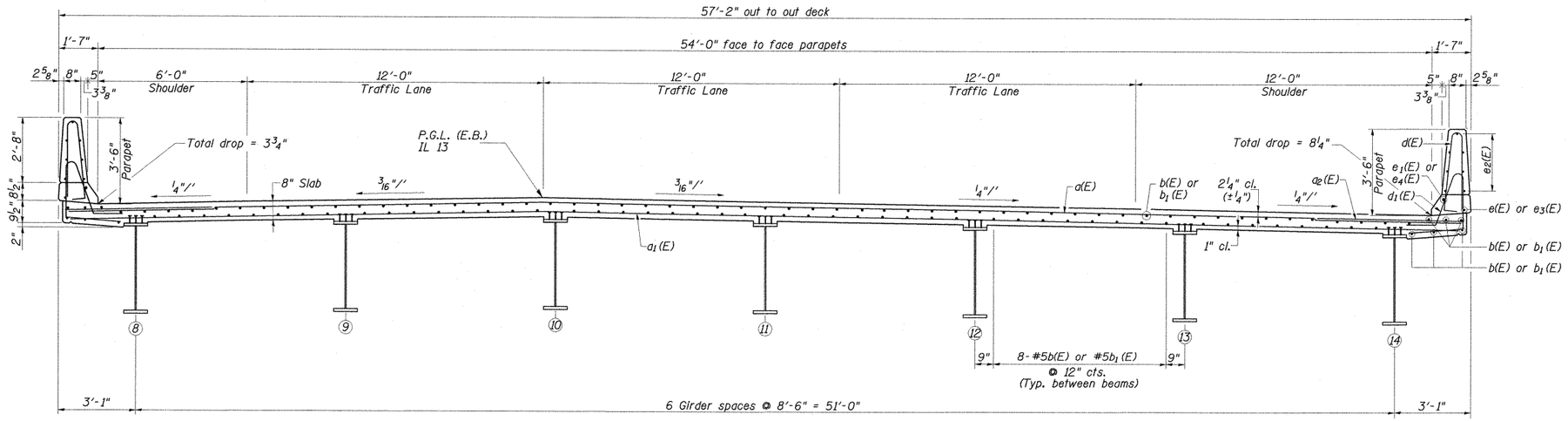


DECK PLAN
(S.N. 100-0096 E.B.)



SECTION A-A

*Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint deck dimensions may require adjustments to satisfy the details on Sheet 14 of 32.



TYPICAL CROSS SECTION
(Looking East)

MIN. BAR LAPS

#4 Bar	=	2'-7"
#5 Bar	=	3'-3"
#6 Bar	=	3'-10"
#8 Bar	=	6'-9"

NOTES:

1. See Sheet 13 of 32 for parapet details and S.N. 100-0096 Superstructure Bill of Material.

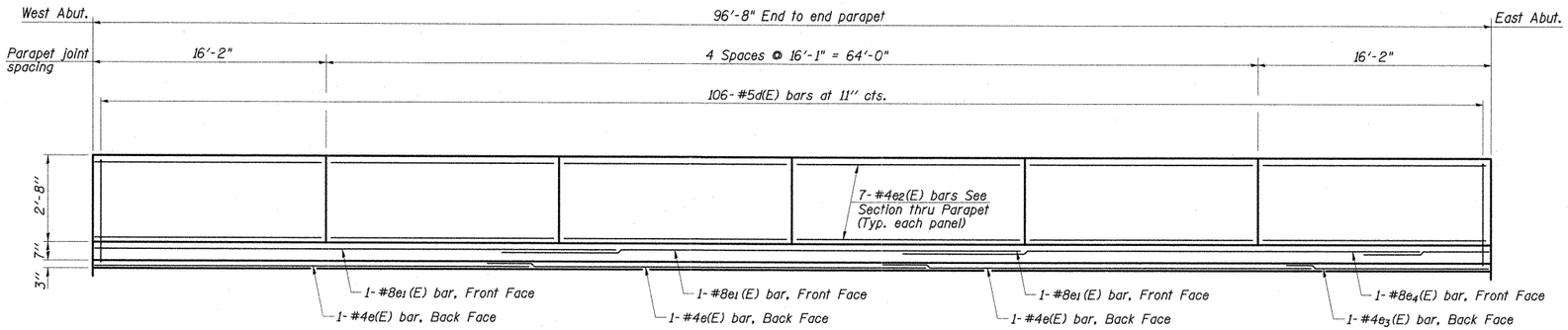
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final plan sheets\SUPERSTRUCTURE_EB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 12 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	219
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET

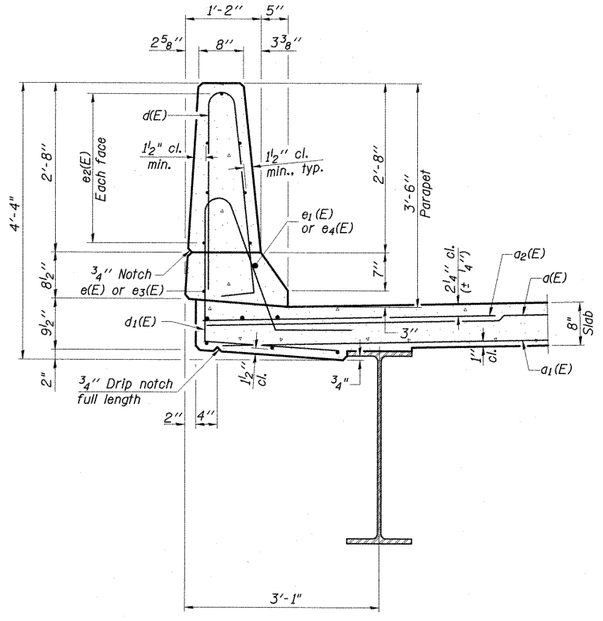
(East Parapet shown, West opposite)

S.N. 100-0095 (W.B.) SUPERSTRUCTURE BILL OF MATERIAL

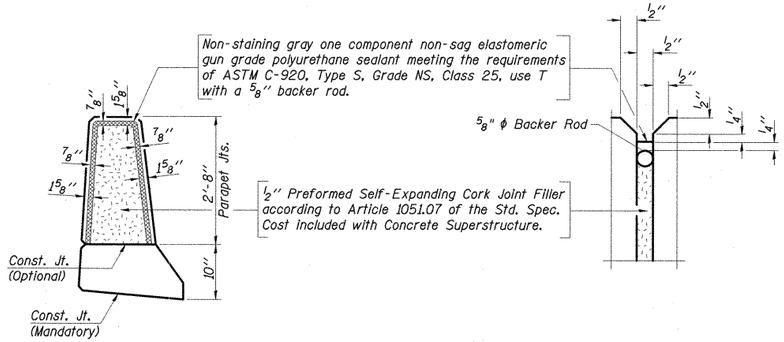
Bar	No.	Size	Length	Shape
d(E)	232	#5	56'-6"	
d_1(E)	137	#5	55'-10"	
d_2(E)	462	#6	6'-6"	
d_3(E)	10	#6	56'-6"	
d_4(E)	36	#6	9'-4"	
b(E)	342	#5	30'-0"	
b_1(E)	114	#5	16'-2"	
d(E)	212	#5	6'-10"	
d_1(E)	212	#5	7'-7"	
e(E)	6	#4	30'-0"	
e_1(E)	6	#8	36'-0"	
e_2(E)	84	#4	15'-8"	
e_3(E)	2	#4	14'-2"	
e_4(E)	2	#8	8'-8"	
x(E)	114	#5	6'-2"	
Reinforcement Bars, Epoxy Coated			Pound	45,700
Concrete Superstructure			Cu. Yd.	170.7
Bridge Deck Grooving			Sq. Yd.	558
Protective Coat			Sq. Yd.	690

S.N. 100-0096 (E.B.) SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	232	#5	56'-6"	
d_1(E)	137	#5	55'-10"	
d_2(E)	462	#6	6'-6"	
d_3(E)	10	#6	56'-6"	
d_4(E)	36	#6	9'-4"	
b(E)	180	#5	30'-0"	
b_1(E)	60	#5	16'-2"	
d(E)	212	#5	6'-10"	
d_1(E)	212	#5	7'-7"	
e(E)	6	#4	30'-0"	
e_1(E)	6	#8	36'-0"	
e_2(E)	98	#4	15'-8"	
e_3(E)	2	#4	14'-2"	
e_4(E)	2	#8	8'-8"	
x(E)	114	#5	6'-2"	
Reinforcement Bars, Epoxy Coated			Pound	45,700
Concrete Superstructure			Cu. Yd.	170.7
Bridge Deck Grooving			Sq. Yd.	558
Protective Coat			Sq. Yd.	690



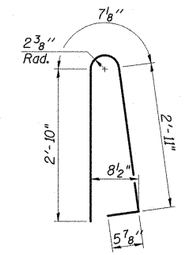
SECTION THRU PARAPET



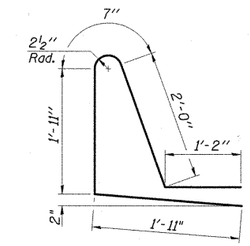
PARAPET JOINT DETAILS

MIN. BAR LAPS

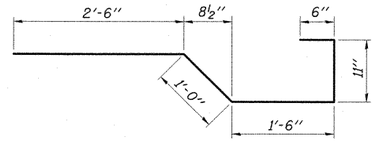
#4 Bar = 2'-7"
#8 Bar = 6'-9"



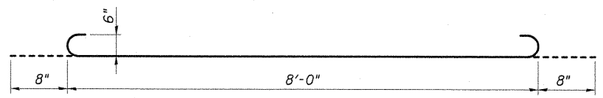
BAR d(E)



BAR d1(E)



BAR x(E)



BAR a4(E)

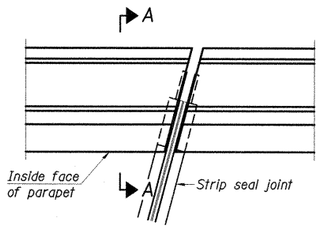
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final bridge_sheets\SUPERSTRUCTURE_DETAILS.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

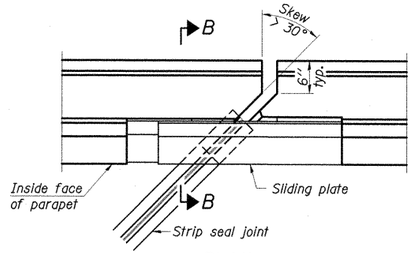
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 13 OF 32 SHEETS

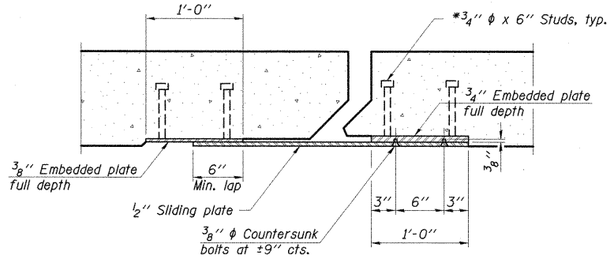
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	220
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



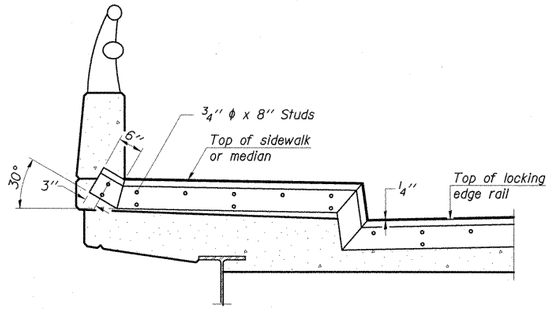
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

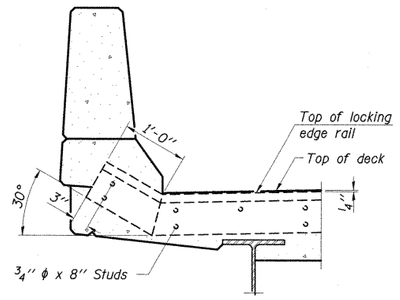


SECTION C-C

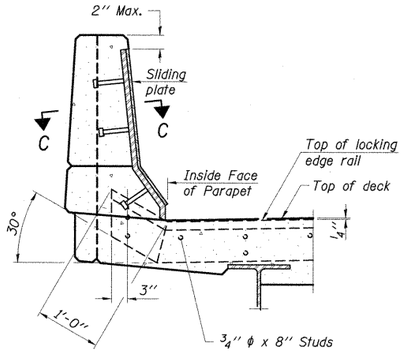


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

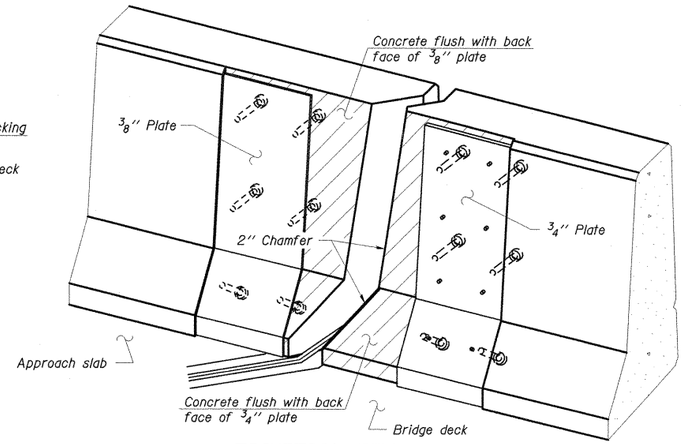
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



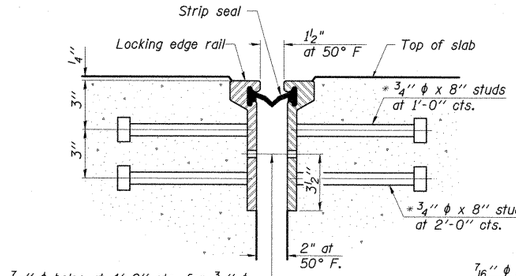
SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

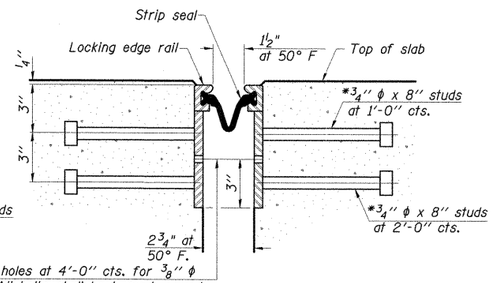
NOTES:

1. The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
2. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
3. The manufacturer's recommended installation methods shall be followed.
4. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
5. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
6. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.
7. Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

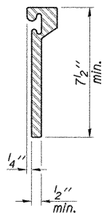
SECTION THRU ROLLED RAIL JOINT



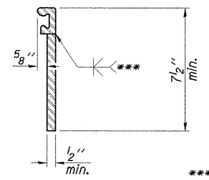
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

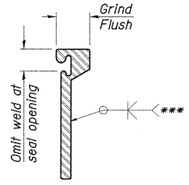
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

S.N. 100-0095 (W.B.)
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	112

S.N. 100-0096 (E.B.)
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	112

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

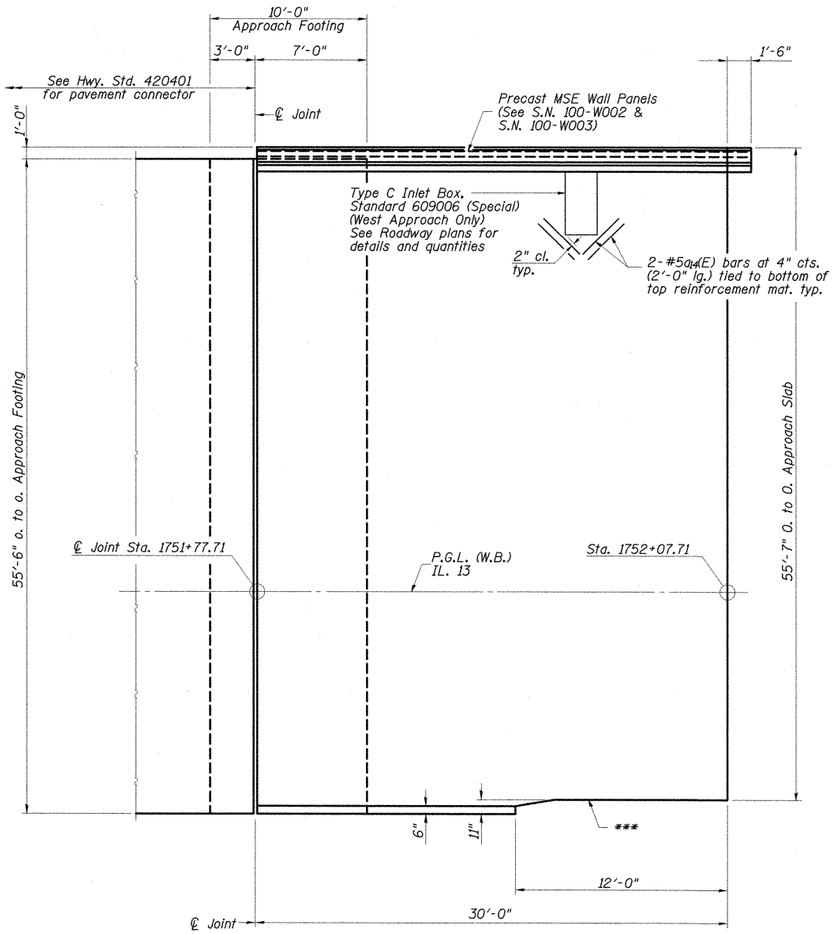
EJ-SSJ 7-1-10

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final bridge plans\EXP JT SEALS.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

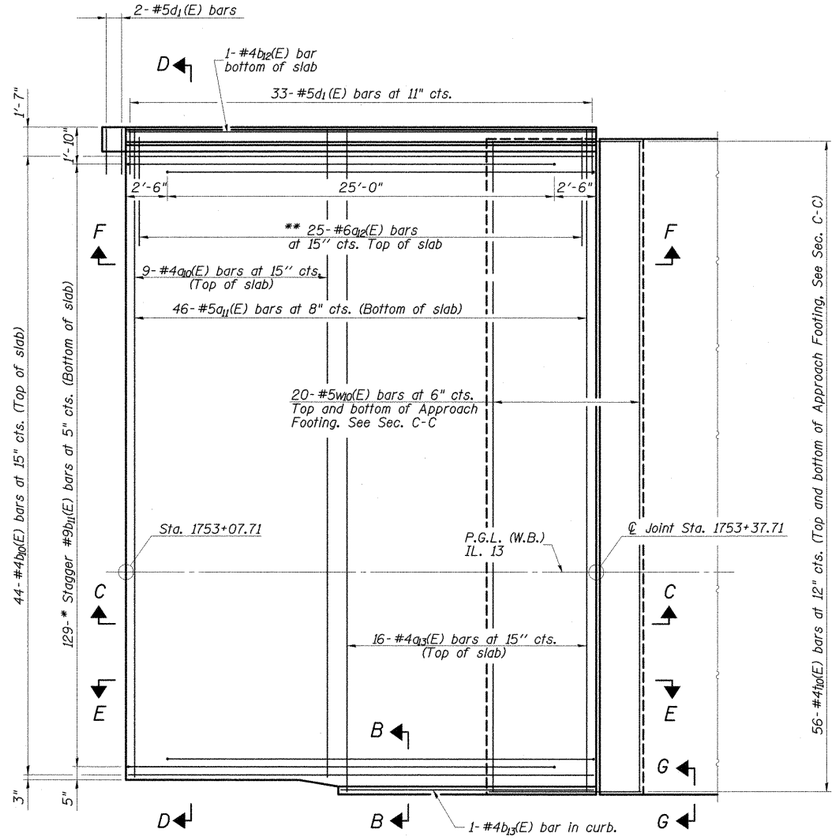
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 14 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	221
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



WEST APPROACH

Showing Dimensions
(East Approach Similar)



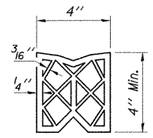
EAST APPROACH

Showing Reinforcement
(West Approach Similar)

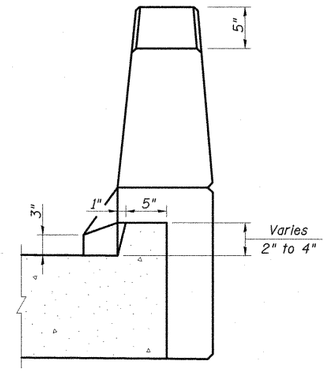
PLAN

(S.N. 100-0095 shown)
(S.N. 100-0096 similar)

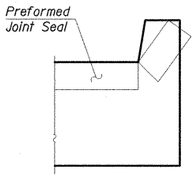
* Tilt #9b1(E) bars as required to maintain clearance.
** Space between a(E) bars, typ. ea. parapet.
*** Closed cell joint filler according to Article 1051.08 of the Std. Specifications: full depth of slab, full length of parapet.



PREFORMED JOINT SEAL

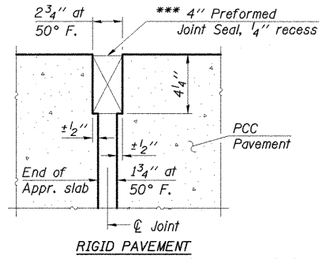


VIEW B-B



VIEW G-G

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



RIGID PAVEMENT

DETAIL A

*** Cost included with Concrete Superstructure.

NOTES:

1. See sheet 16 of 32 for Sections C-C & D-D and Views E-E & F-F.
2. Order $a_{10}(E)$, $a_{11}(E)$, $b_{10}(E)$, and $b_{11}(E)$ bars full length. Cut in the field to fit Type C Inlet Box, Standard 609006 (Special).

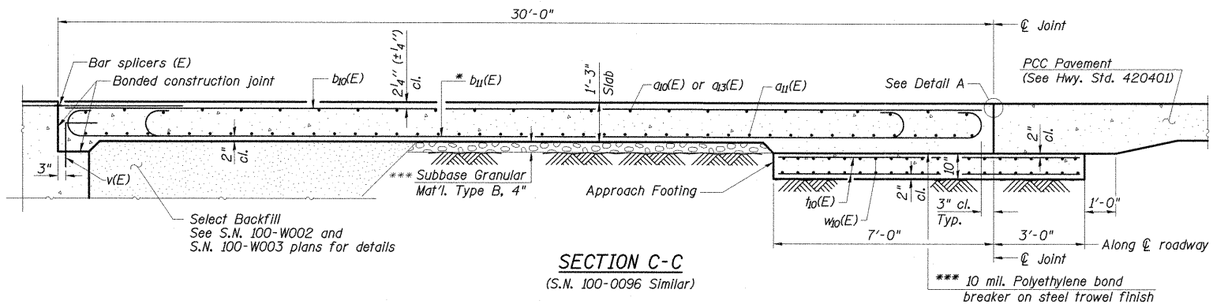
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_bridge_sheets\APPROACH SLAB DETAILS 1.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

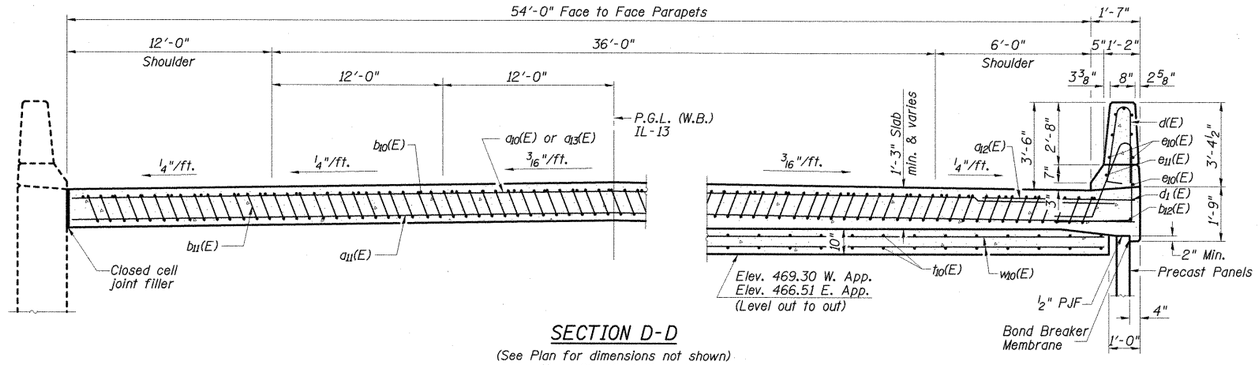
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS 1
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 15 OF 32 SHEETS

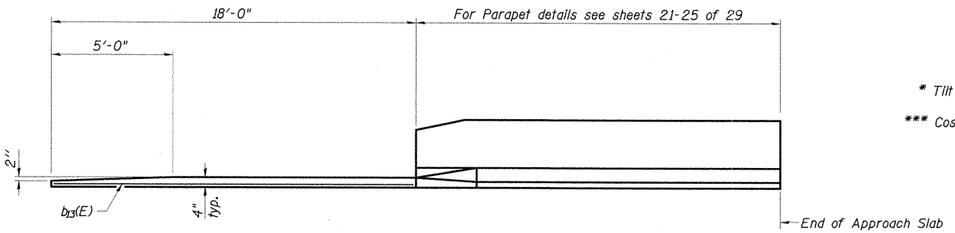
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	222
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



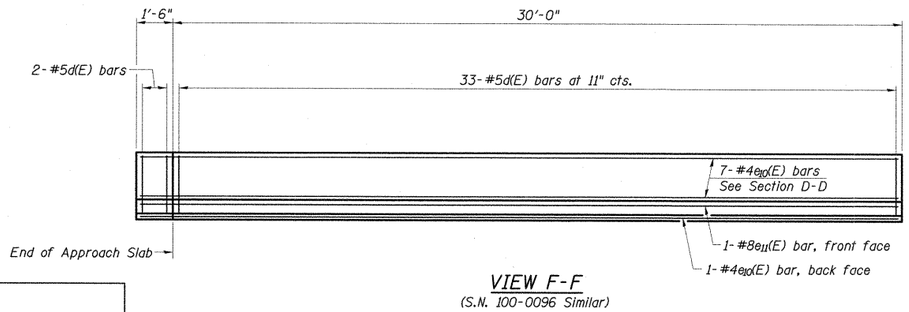
SECTION C-C
(S.N. 100-0096 Similar)



SECTION D-D
(See Plan for dimensions not shown)
(S.N. 100-0096 Similar)



VIEW E-E
(S.N. 100-0096 Similar)



VIEW F-F
(S.N. 100-0096 Similar)

* Tilt #9b_1(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

NOTES:

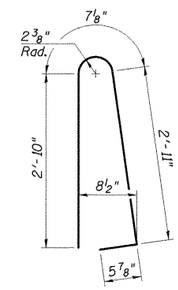
1. See sheet 15 of 32 for Detail A and View B-B.
2. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v(E) bar details, see sheets 21 & 22 of 32.
6. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7. For bar splicer details, see sheet 26 of 32.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For Select Backfill and drainage treatment details, see S.N. 100-W002 and S.N. 100-W003 plans.
10. For additional parapet details, see sheet 13 of 32.

S.N. 100-0095 (E.B. & W.B.) APPROACH BILL OF MATERIAL

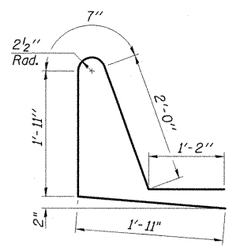
Bar	No.	Size	Length	Shape
a_{10}(E)	18	#4	55'-3"	
a_{11}(E)	92	#5	55'-3"	
a_{12}(E)	50	#6	6'-6"	
a_{13}(E)	32	#4	56'-4"	
a_{14}(E)	4	#5	2'-0"	
b_{10}(E)	88	#4	29'-8"	
b_{11}(E)	258	#9	29'-9"	
b_{12}(E)	2	#4	29'-8"	
b_{13}(E)	2	#4	18'-8"	
d(E)	70	#5	6'-10"	
d_1(E)	70	#5	7'-7"	
e_{10}(E)	16	#4	31'-2"	
e_{11}(E)	2	#8	31'-2"	
t_{10}(E)	224	#4	9'-8"	
w_{10}(E)	80	#5	55'-2"	
Reinforcement Bars, Epoxy Coated		Pound	43,180	
Concrete Superstructure		Cu. Yd.	177.4	
Concrete Structures		Cu. Yd.	34.2	
Bridge Deck Grooving		Sq. Yd.	366	
Protective Coat		Sq. Yd.	408	

S.N. 100-0096 (E.B. & W.B.)) APPROACH BILL OF MATERIAL

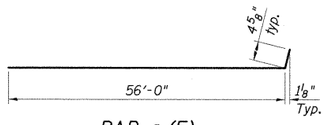
Bar	No.	Size	Length	Shape
a_{10}(E)	18	#4	55'-3"	
a_{11}(E)	92	#5	55'-3"	
a_{12}(E)	50	#6	6'-6"	
a_{13}(E)	32	#4	56'-4"	
a_{14}(E)	4	#5	2'-0"	
b_{10}(E)	88	#4	29'-8"	
b_{11}(E)	258	#9	29'-9"	
b_{12}(E)	2	#4	29'-8"	
b_{13}(E)	2	#4	18'-8"	
d(E)	70	#5	6'-10"	
d_1(E)	70	#5	7'-7"	
e_{10}(E)	16	#4	31'-2"	
e_{11}(E)	2	#8	31'-2"	
t_{10}(E)	224	#4	9'-8"	
w_{10}(E)	80	#5	55'-2"	
Reinforcement Bars, Epoxy Coated		Pound	43,180	
Concrete Superstructure		Cu. Yd.	177.4	
Concrete Structures		Cu. Yd.	34.2	
Bridge Deck Grooving		Sq. Yd.	366	
Protective Coat		Sq. Yd.	408	



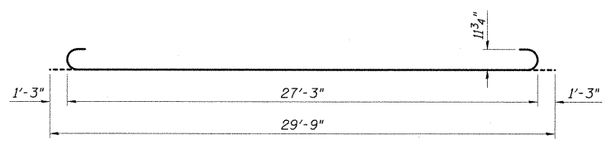
BAR d(E)



BAR d_1(E)



BAR a_3(E)



BAR b_1(E)

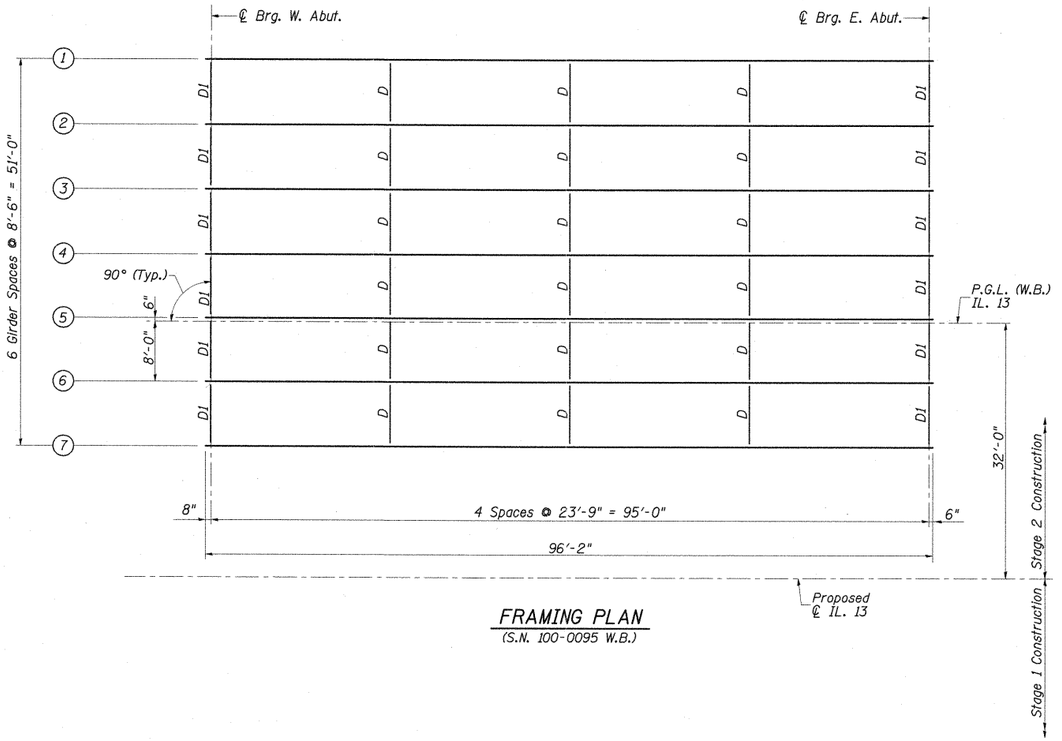
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\09906003\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_bridge_sheets\APPROACH SLAB DETAILS 2.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

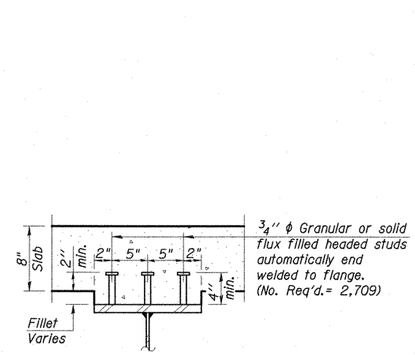
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS 2
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 16 OF 32 SHEETS

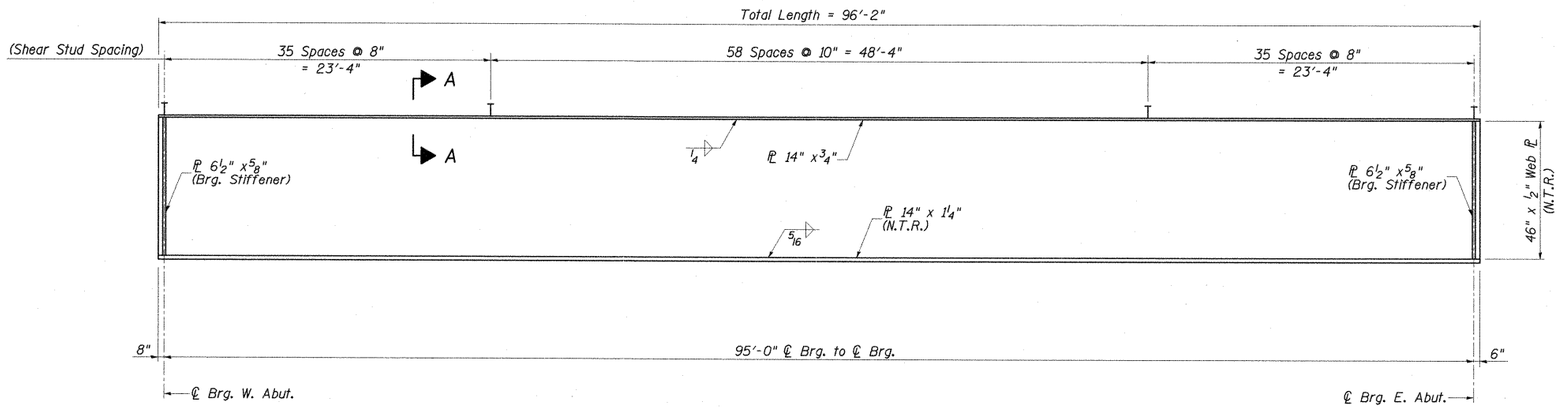
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	223
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN
(S.N. 100-0095 W.B.)



SECTION A-A



GIRDER ELEVATION

NOTES:

1. All steel for flanges, webs, bearing stiffeners, and steel plates for bearing assembly shall be AASHTO M270 Grade 50.
2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
3. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

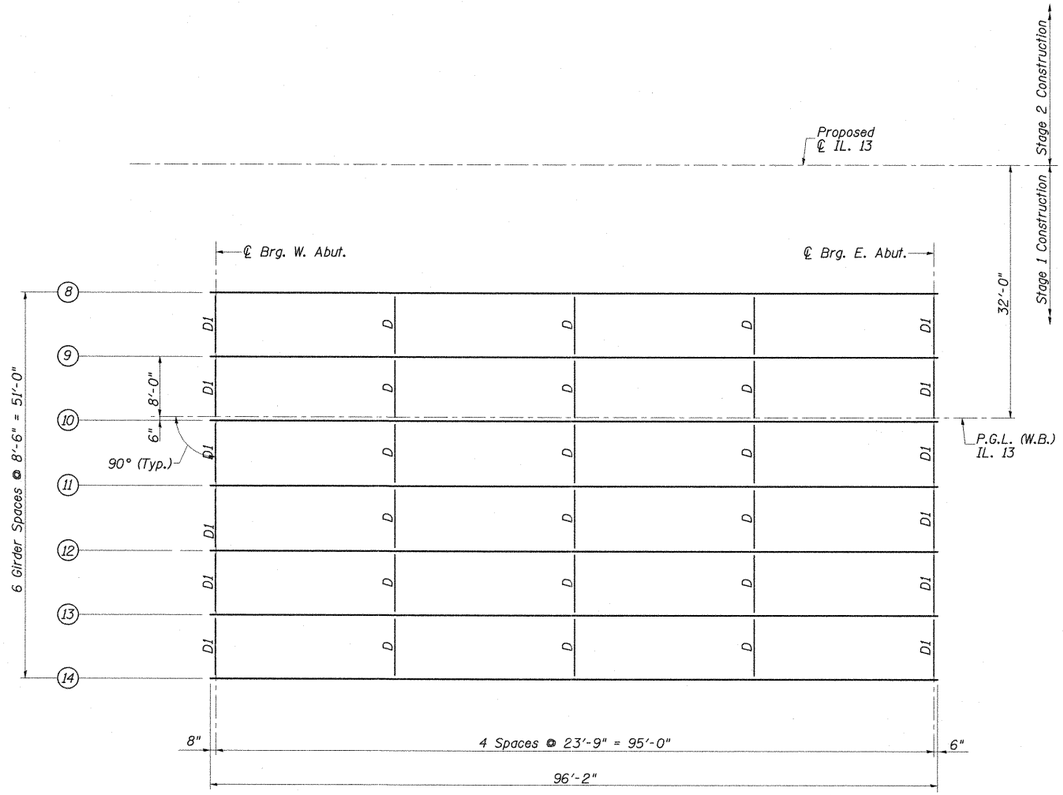
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\dot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_sheets\FRAMING PLAN_WB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

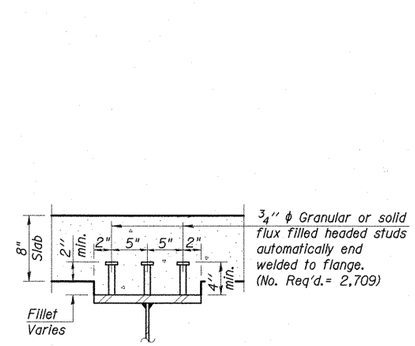
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & DETAILS
STRUCTURE NO. 100-0095 (W.B.)
SHEET NO. 17 OF 32 SHEETS

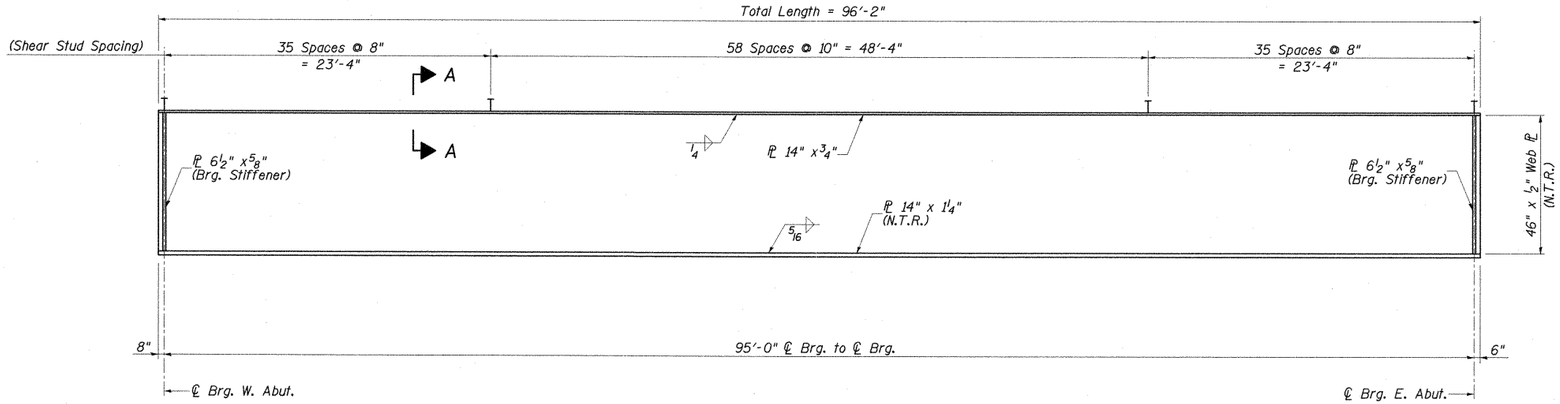
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	224
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



FRAMING PLAN
(S.N. 100-0095 W.B.)



SECTION A-A



GIRDER ELEVATION

NOTES:

1. All steel for flanges, webs, bearing stiffeners, and steel plates for bearing assembly shall be AASHTO M270 Grade 50.
2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
3. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

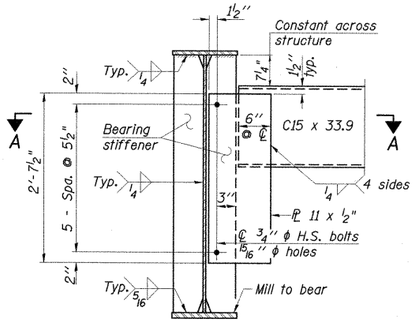
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_	CHECKED - WLB	REVISED -	
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

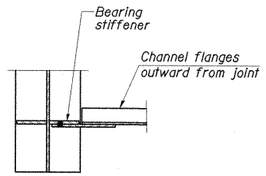
FRAMING PLAN & DETAILS
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 18 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	225
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



END DIAPHRAGM (D1)

Note:
Two hardened washers required for each set of oversized holes.



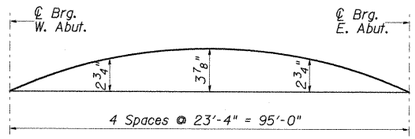
SECTION A-A

TOP OF WEB ELEVATIONS STR. NO. 100-0095							
Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7
℄ Brg. W. Abut.	470.55	470.73	470.91	471.06	471.20	471.08	470.93
℄ Brg. E. Abut.	467.89	468.07	468.25	468.40	468.54	468.42	468.27

For Fabrication only

TOP OF WEB ELEVATIONS STR. NO. 100-0096							
Location	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12	Girder 13	Girder 14
℄ Brg. W. Abut.	470.93	471.08	471.20	471.06	470.91	470.73	470.55
℄ Brg. E. Abut.	468.27	468.42	468.54	468.40	468.25	468.07	467.89

For Fabrication only



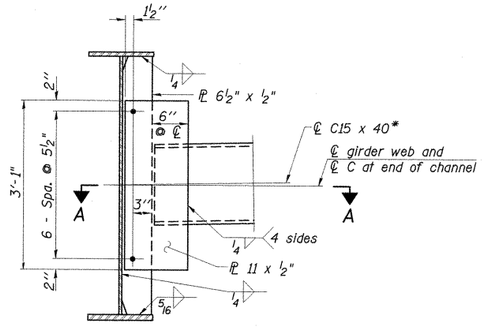
CAMBER DIAGRAM

Girders 1 thru 7 (S.N. 100-0095)
Girders 8 thru 14 (S.N. 100-0096)

INTERIOR GIRDER MOMENT TABLE			
			0.5 Span
I_s		(in^4)	19,010
$I_c(n)$		(in^4)	53,696
$I_c(3n)$		(in^4)	39,345
S_s		(in^3)	907
$S_c(n)$		(in^3)	1,283
$S_c(3n)$		(in^3)	1,182
Z		(in^3)	2,550
DC1		(k/')	1.09
M_{DC1}		('k)	1,199
DC2		(k/')	0.15
M_{DC2}		('k)	167
DW		(k/')	0.39
M_{DW}		('k)	435
M_{L+Imp}		('k)	1,718
Mu (Strength I)		('k)	5,367
*	ϕfMn	('k)	6,477
	f_s DC1	(ksi)	15.86
	f_s DC2	(ksi)	1.69
	f_s DW	(ksi)	4.42
	f_s 1.3(L+I)	(ksi)	16.07
	f_s (Service II)	(ksi)	38.04
**	f_s (Total)(Strength I)	(ksi)	-
	V_f	(k)	56.07

* Compact, Braced Section.
** Non-Compact Section.

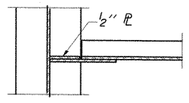
INTERIOR GIRDER REACTION TABLE		
		W. & E. Abuts.
R_{DC1}	(k)	51.52
R_{DC2}	(k)	7.03
R_{DW}	(k)	18.34
R_{L+IM}	(k)	99.16
R_{Total}	(k)	176.05



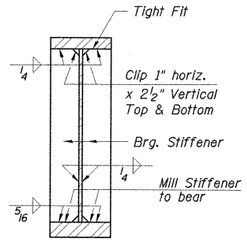
INTERIOR DIAPHRAGM (D)

Notes:
Two hardened washers required for each set of oversized holes.

*Alternate channels C15x50 are permitted to facilitate material acquistion. Calculated weight of structural steel is based on C15X40 sections. The alternate, if utilized, shall be provided at no extra cost to the department.



SECTION A-A



SECTION AT ABUTMENT

NOTES:

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f (Total-Strength I, and Service II) due to non-composite dead loads (in. and in.).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total-Strength I, and Service II) due to short-term composite live loads (in. and in.).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in. and in.).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

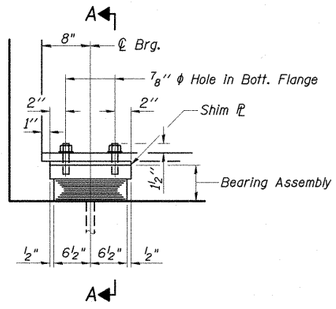
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\dot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final drawings\STEEL GIRDER DETAILS.dgn		CHECKED - WLB	REVISED -
PLOT SCALE =		DRAWN - GLD	REVISED -
PLOT DATE =		CHECKED - SF	REVISED -

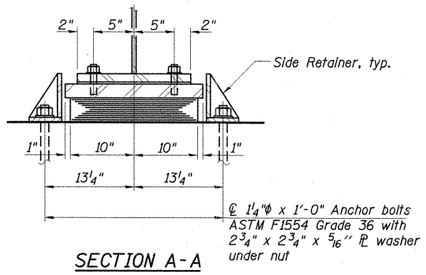
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 19 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	226
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



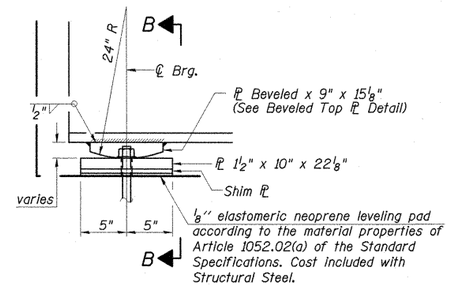
ELEVATION AT ABUT.



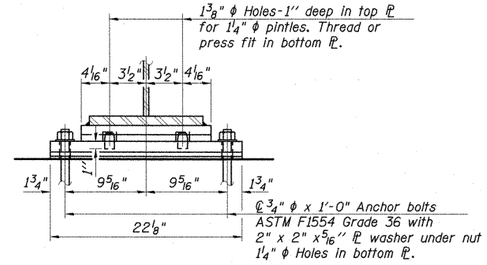
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

(℄ West Abut.)



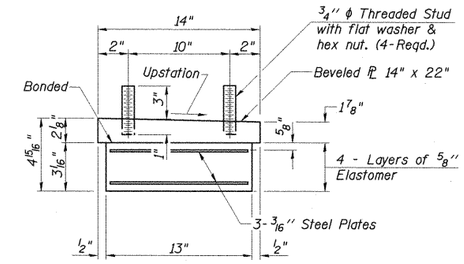
ELEVATION AT ABUTMENT



SECTION B-B

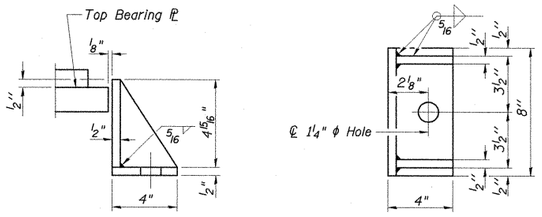
FIXED BEARING

(℄ East Abut.)



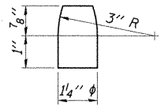
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

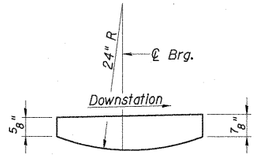


SIDE RETAINER

Note:
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



PINTLE



BEVELED TOP PL

NOTES:

1. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
2. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
3. Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
4. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
5. Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
6. Two ⅛ in. adjusting shims shall be provided for each bearing in addiotion to all other plates or shims and placed as shown on bearing details.
7. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.
8. The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

S.N. 100-0095 (W.B.) BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Anchor Bolts, ¾"	Each	14
Anchor Bolts, 1¼"	Each	14

S.N. 100-0096 (E.B.) BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Anchor Bolts, ¾"	Each	14
Anchor Bolts, 1¼"	Each	14

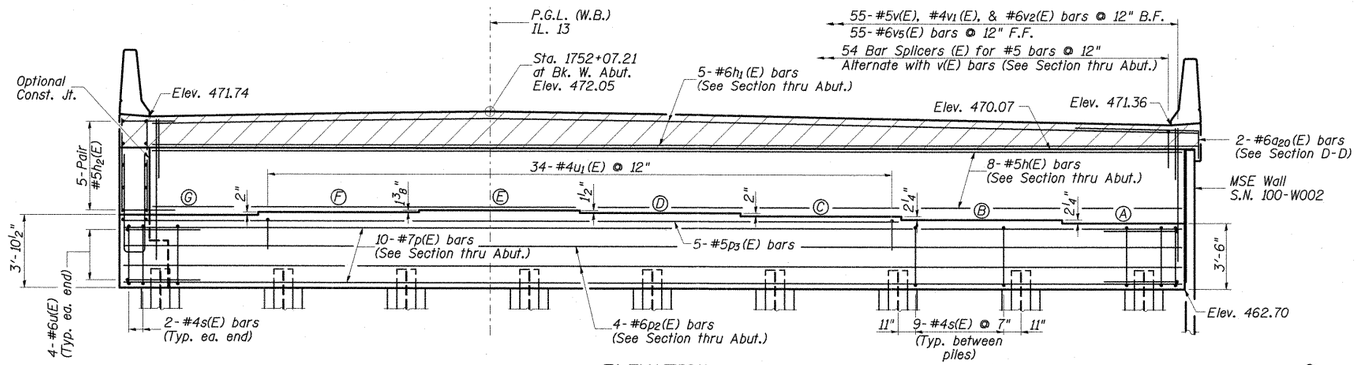
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = I:\idot\0906603\draw\cadd.sheets\structural plans\marathon dr bridge\marathon_final_details\BEARING DETAILS.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

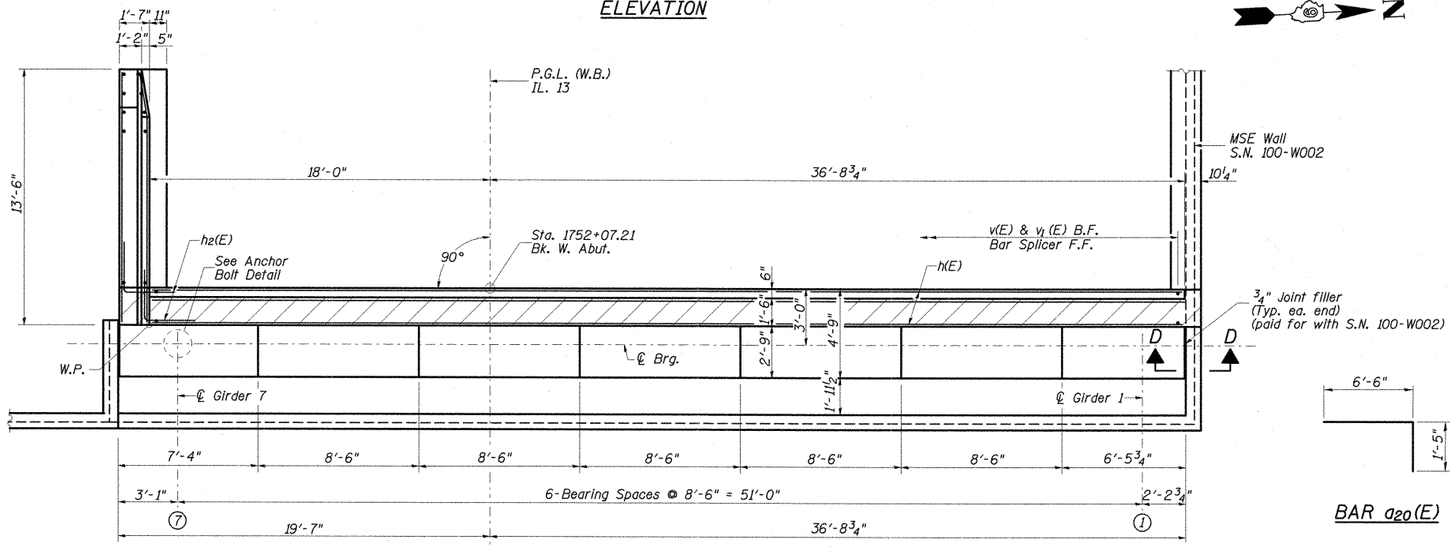
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 20 OF 32 SHEETS

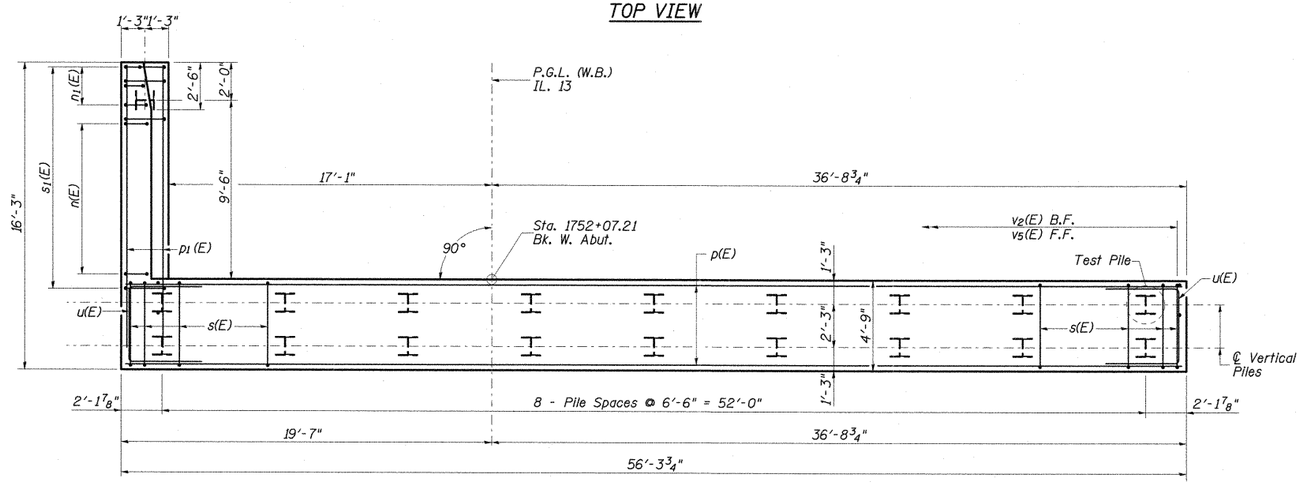
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	227
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



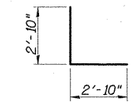
ELEVATION



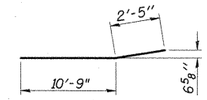
TOP VIEW



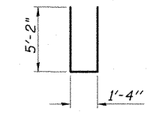
PILE CAP PLAN



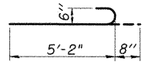
BAR $h_2(E)$



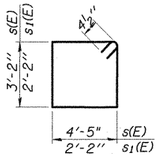
BAR $h_4(E)$



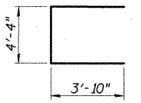
BAR $n(E)$



BAR $n_1(E)$

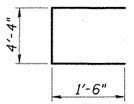


BARS $s(E)$ & $s_1(E)$

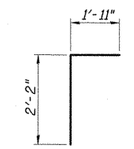


BAR $u(E)$

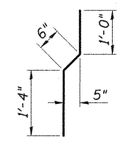
BAR $a_{20}(E)$



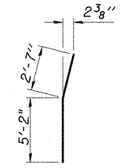
BAR $u_1(E)$



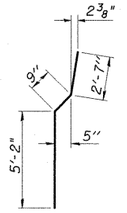
BAR $v(E)$



BAR $v_1(E)$



BAR $v_3(E)$



BAR $v_4(E)$

WEST ABUTMENT BILL OF MATERIAL

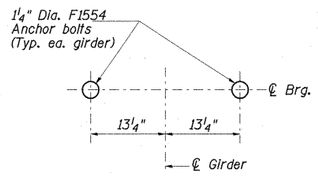
Bar	No.	Size	Length	Shape
$a_{20}(E)$	2	#6	7'-11"	
h(E)	8	#5	54'-4"	
$h_1(E)$	5	#6	55'-3"	
$h_2(E)$	10	#5	5'-7"	
$h_3(E)$	6	#5	13'-2"	
$h_4(E)$	6	#5	13'-2"	
n(E)	9	#6	11'-4"	
$n_1(E)$	6	#6	5'-10"	
p(E)	10	#7	55'-11"	
$p_1(E)$	6	#7	15'-1"	
$p_2(E)$	4	#6	55'-11"	
$p_3(E)$	5	#5	40'-11"	
s(E)	76	#4	15'-6"	
$s_1(E)$	15	#4	9'-0"	
u(E)	8	#6	11'-9"	
$u_1(E)$	34	#4	7'-3"	
v(E)	55	#5	4'-1"	
$v_1(E)$	55	#4	2'-10"	
$v_2(E)$	55	#6	5'-8"	
$v_3(E)$	3	#6	7'-9"	
$v_4(E)$	9	#6	8'-6"	
$v_5(E)$	55	#6	7'-4"	
$v_6(E)$	12	#6	8'-5"	
Concrete Structures			Cu. Yd.	60.5
Concrete Superstructure			Cu. Yd.	6.9
Reinforcement Bars, Epoxy Coated			Pound	6,100
Furnishing Steel Piles, HP 12x53			Foot	702
Driving Piles			Foot	702
Test Pile Steel, HP 12x53			Each	1
Concrete Sealer			Sq. Ft.	527

BEAM SEAT ELEVATIONS

LOCATION	ELEVATION
A	466.20
B	466.38
C	466.56
D	466.72
E	466.85
F	466.74
G	466.58

PILE DATA

Pile Type and Size:	HP 12x53
Nominal Bearing Required:	419 Kips
Factored Resistance Available:	230 Kips
Estimated Pile Length:	39 Ft.
Number of Production Piles:	18
Number of Test Piles:	1



ANCHOR BOLT DETAIL

NOTES:

1. Pour steps monolithically with cap.
2. Space reinforcement to miss anchor bolts.
3. See Sheet 2 of 32 for abutment backfill requirements.
4. See Sheet 27 of 32 for steel H-pile details.
5. For details of Bar Splicers, see sheet 26 of 32.
6. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
7. Quantity of concrete in end post included with Concrete Superstructure.

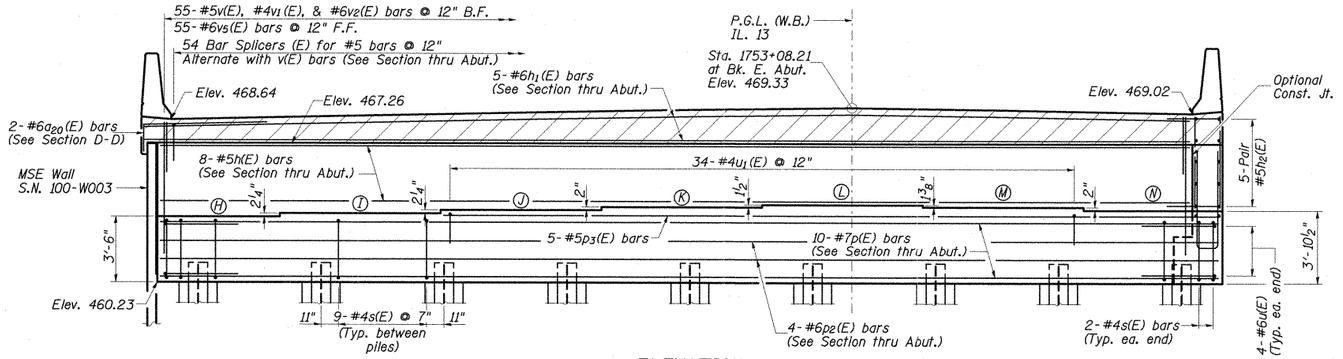
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_...\WEST ABUTMENT_WB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

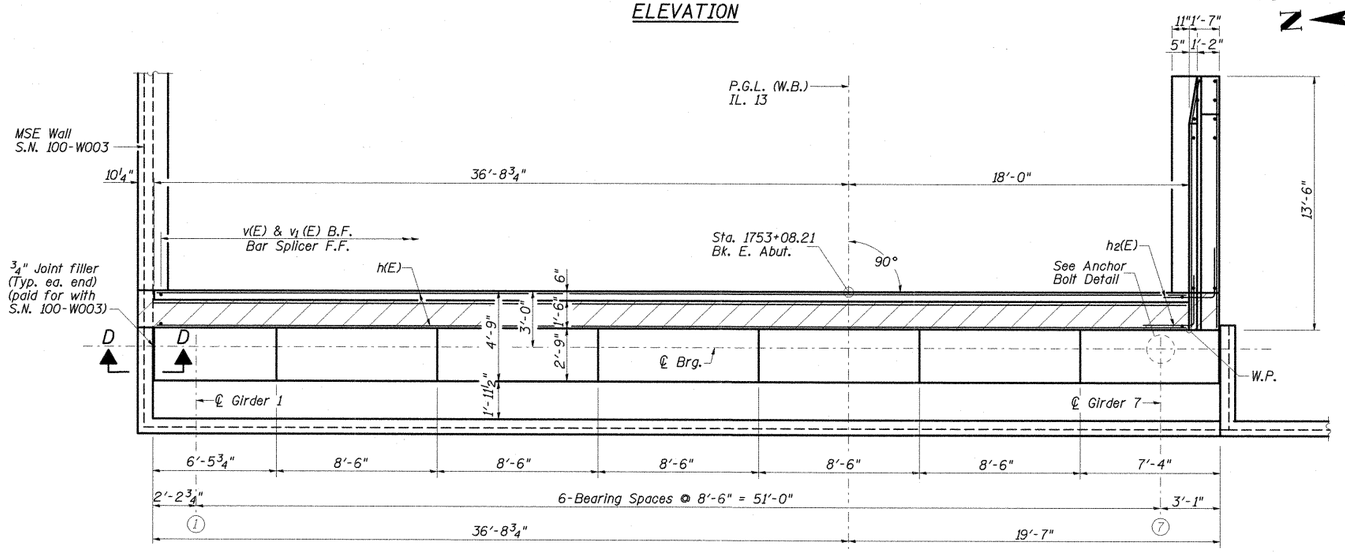
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 100-0095 (W.B.)
SHEET NO. 21 OF 32 SHEETS

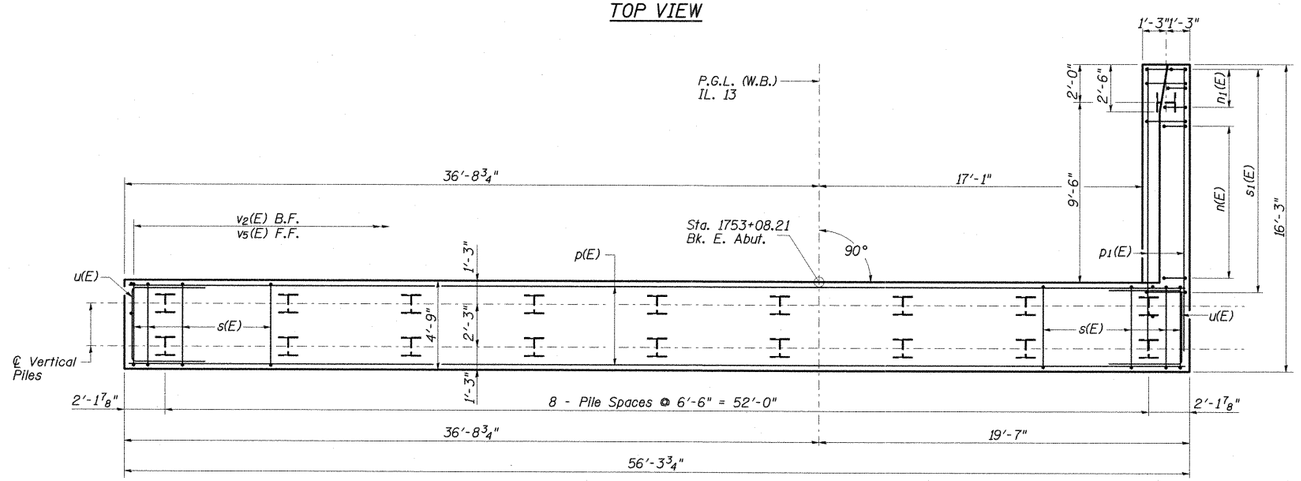
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	228
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



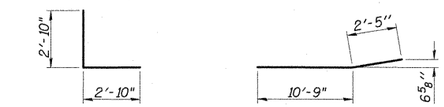
ELEVATION



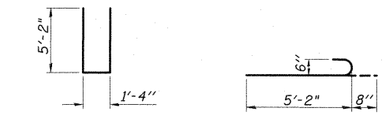
TOP VIEW



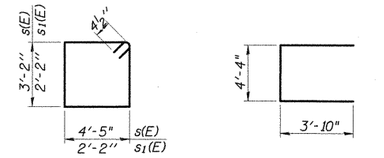
PILE CAP PLAN



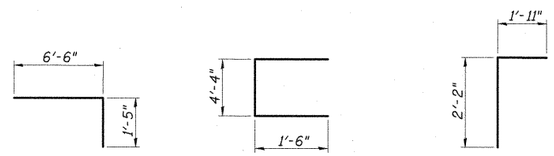
BAR h2(E) BAR h4(E)



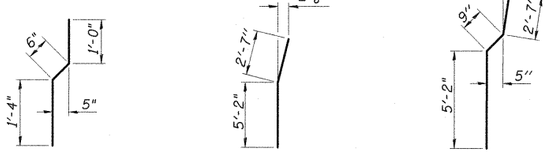
BAR n(E) BAR n1(E)



BARS s(E) & s1(E) BAR u(E)



BAR a20(E) BAR u1(E) BAR v(E)



BAR v1(E) BAR v3(E) BAR v4(E)

EAST ABUTMENT BILL OF MATERIAL

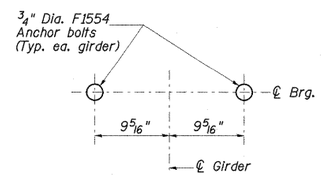
Bar	No.	Size	Length	Shape
a20(E)	2	#6	7'-11"	
h(E)	8	#5	54'-4"	
h1(E)	5	#6	55'-3"	
h2(E)	10	#5	5'-7"	
h3(E)	6	#5	13'-2"	
h4(E)	6	#5	13'-2"	
n(E)	9	#6	11'-4"	
n1(E)	6	#6	5'-10"	
p(E)	10	#7	55'-11"	
p1(E)	6	#7	15'-1"	
p2(E)	4	#6	55'-11"	
p3(E)	5	#5	40'-11"	
s(E)	76	#4	15'-6"	
s1(E)	15	#4	9'-0"	
u(E)	8	#6	11'-9"	
u1(E)	34	#4	7'-3"	
v(E)	55	#5	4'-1"	
v1(E)	55	#4	2'-10"	
v2(E)	55	#6	5'-8"	
v3(E)	3	#6	7'-9"	
v4(E)	9	#6	8'-6"	
v5(E)	55	#6	7'-4"	
v6(E)	12	#6	8'-5"	
Concrete Structures			Cu. Yd.	60.2
Concrete Superstructure			Cu. Yd.	6.9
Reinforcement Bars, Epoxy Coated			Pound	6,100
Furnishing Steel Piles, HP 12x53			Foot	760
Driving Piles			Foot	760
Concrete Sealer			Sq. Ft.	527

BEAM SEAT ELEVATIONS

LOCATION	ELEVATION
H	463.73
I	463.91
J	464.09
K	464.25
L	464.38
M	464.27
N	464.11

PILE DATA

Pile Type and Size:	HP 12x53
Nominal Bearing Required:	419 Kips
Factored Resistance Available:	230 Kips
Estimated Pile Length:	40 Ft.
Number of Production Piles:	19
Number of Test Piles:	0



ANCHOR BOLT DETAIL

NOTES:

1. Pour steps monolithically with cap.
2. Space reinforcement to miss anchor bolts.
3. See Sheet 2 of 32 for abutment backfill requirements.
4. See Sheet 27 of 32 for steel H-pile details.
5. For details of Bar Splicers, see sheet 26 of 32.
6. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
7. Quantity of concrete in end post included with Concrete Superstructure.

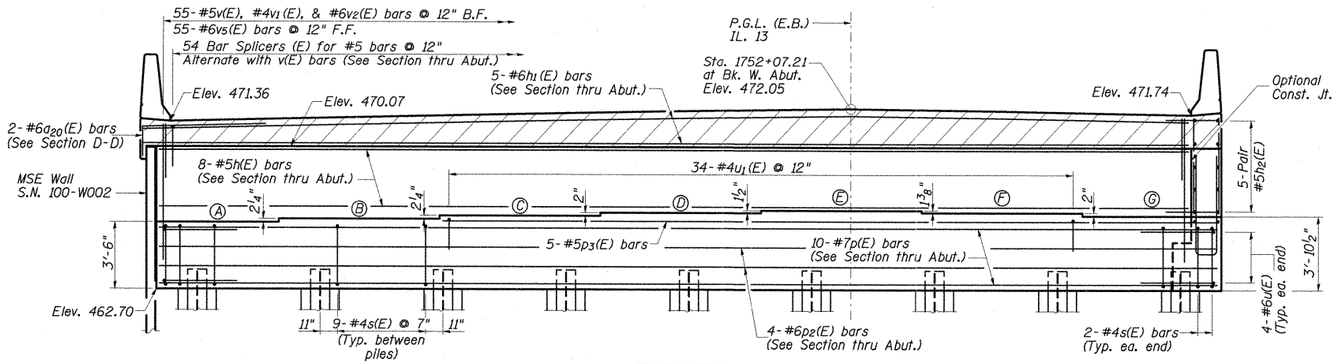
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final b[illegible]\EAST ABUTMENT_WB.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

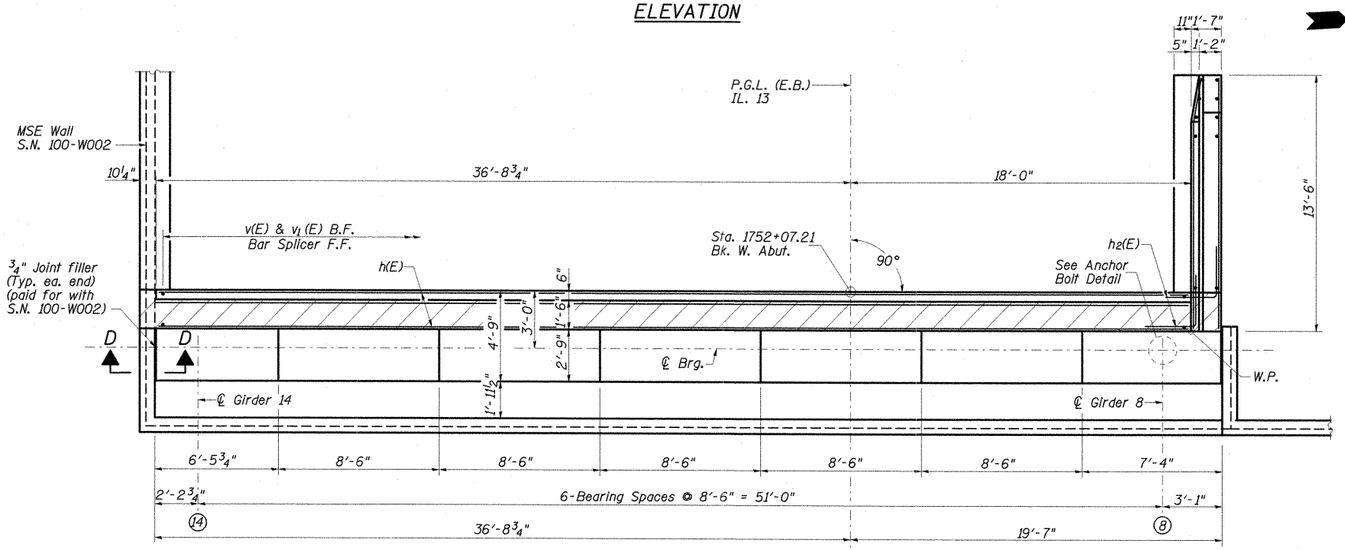
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 100-0095 (W.B.)
SHEET NO. 22 OF 32 SHEETS

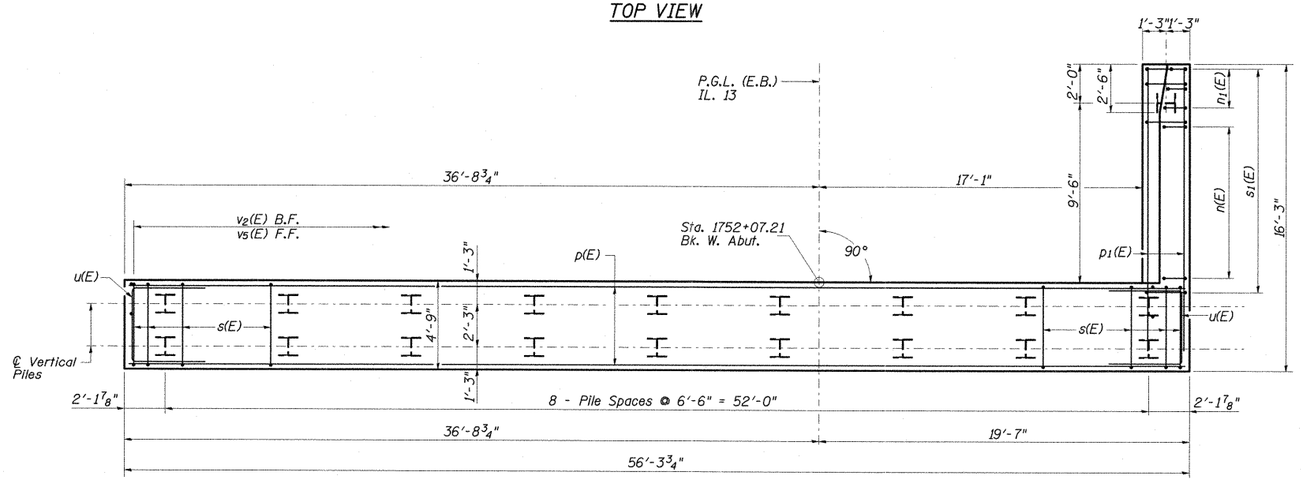
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	229
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

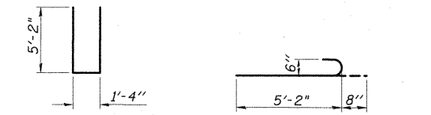


TOP VIEW

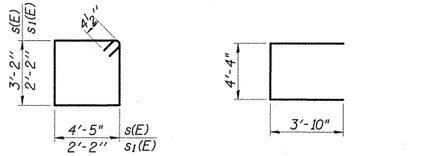


PILE CAP PLAN

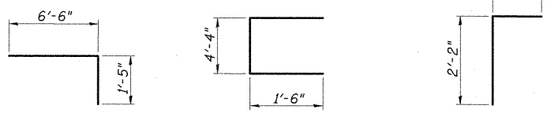
BAR h2(E) BAR h4(E)



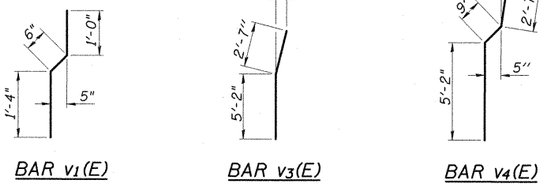
BAR n(E) BAR n1(E)



BARS s(E) & s1(E) BAR u(E)



BAR a20(E) BAR u1(E) BAR v(E)



BAR v1(E) BAR v3(E) BAR v4(E)

EAST ABUTMENT BILL OF MATERIAL

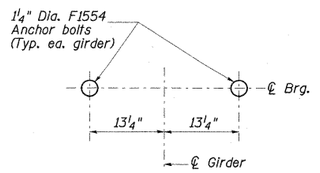
Bar	No.	Size	Length	Shape
a20(E)	2	#6	7'-11"	
h(E)	8	#5	54'-4"	
h1(E)	5	#6	55'-3"	
h2(E)	10	#5	5'-7"	
h3(E)	6	#5	13'-2"	
h4(E)	6	#5	13'-2"	
n(E)	9	#6	11'-4"	
n1(E)	6	#6	5'-10"	
p(E)	10	#7	55'-11"	
p1(E)	6	#7	15'-1"	
p2(E)	4	#6	55'-11"	
p3(E)	5	#5	40'-11"	
s(E)	76	#4	15'-6"	
s1(E)	15	#4	9'-0"	
u(E)	8	#6	11'-9"	
u1(E)	34	#4	7'-3"	
v(E)	55	#5	4'-1"	
v1(E)	55	#4	2'-10"	
v2(E)	55	#6	5'-8"	
v3(E)	3	#6	7'-9"	
v4(E)	9	#6	8'-6"	
v5(E)	55	#6	7'-4"	
v6(E)	12	#6	8'-5"	
Concrete Structures			Cu. Yd.	60.5
Concrete Superstructure			Cu. Yd.	6.9
Reinforcement Bars, Epoxy Coated			Pound	6,100
Furnishing Steel Piles, HP 12x53			Foot	741
Driving Piles			Foot	741
Concrete Sealer			Sq. Ft.	527

BEAM SEAT ELEVATIONS

LOCATION	ELEVATION
A	466.20
B	466.38
C	466.56
D	466.72
E	466.85
F	466.74
G	466.58

PILE DATA

Pile Type and Size:	HP 12x53
Nominal Bearing Required:	419 Kips
Factored Resistance Available:	230 Kips
Estimated Pile Length:	39 Ft.
Number of Production Piles:	19
Number of Test Piles:	0



ANCHOR BOLT DETAIL

NOTES:

1. Pour steps monolithically with cap.
2. Space reinforcement to miss anchor bolts.
3. See Sheet 2 of 32 for abutment backfill requirements.
4. See Sheet 27 of 32 for steel H-pile details.
5. For details of Bar Splicers, see sheet 26 of 32.
6. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
7. Quantity of concrete in end post included with Concrete Superstructure.

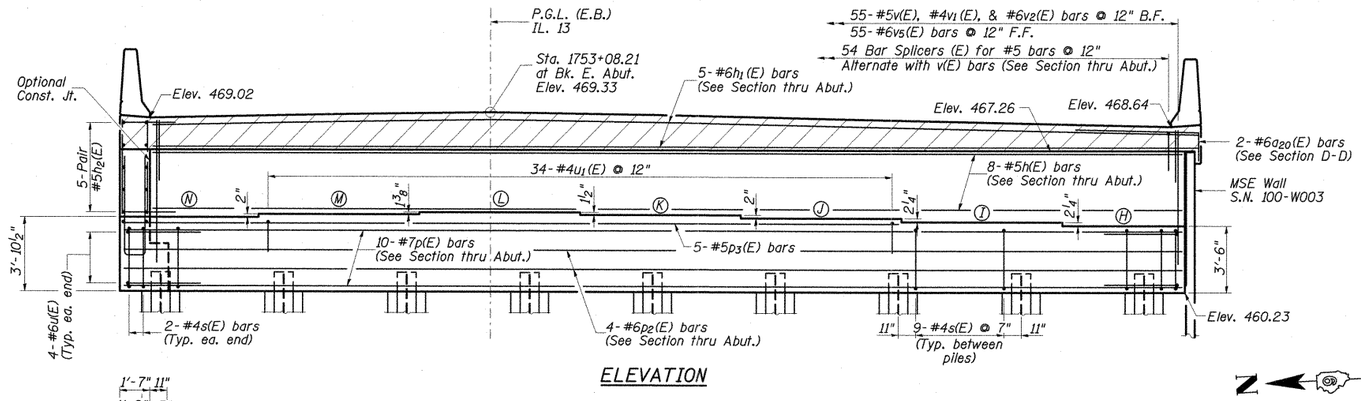
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

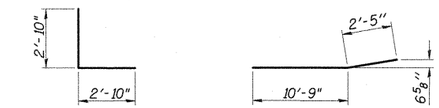
FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final b...\WEST ABUTMENT_EB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - NLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

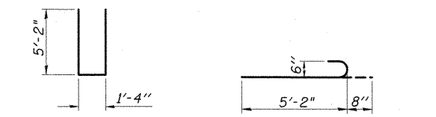
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

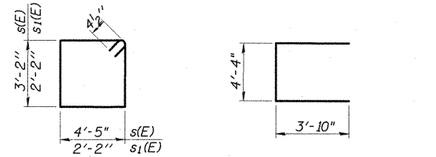
WEST ABUTMENT
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 23 OF 32 SHEETS

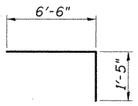
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	230
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

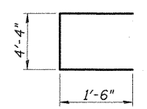


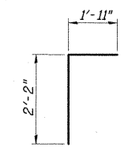


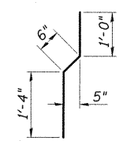


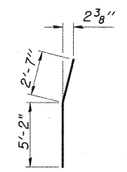


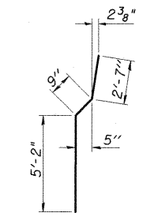


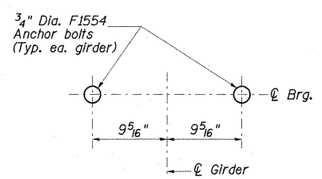












WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{20}(E)	2	#6	7'-11"	
h(E)	8	#5	54'-4"	
h_1(E)	5	#6	55'-3"	
h_2(E)	10	#5	5'-7"	
h_3(E)	6	#5	13'-2"	
h_4(E)	6	#5	13'-2"	
n(E)	9	#6	11'-4"	
n_1(E)	6	#6	5'-10"	
p(E)	10	#7	55'-11"	
p_1(E)	6	#7	15'-1"	
p_2(E)	4	#6	55'-11"	
p_3(E)	5	#5	40'-11"	
s(E)	76	#4	15'-6"	
s_1(E)	15	#4	9'-0"	
u(E)	8	#6	11'-9"	
u_1(E)	34	#4	7'-3"	
v(E)	55	#5	4'-1"	
v_1(E)	55	#4	2'-10"	
v_2(E)	55	#6	5'-8"	
v_3(E)	3	#6	7'-9"	
v_4(E)	9	#6	8'-6"	
v_5(E)	55	#6	7'-4"	
v_6(E)	12	#6	8'-5"	
Concrete Structures			Cu. Yd.	60.2
Concrete Superstructure			Cu. Yd.	6.9
Reinforcing Bars, Epoxy Coated			Pound	6,100
Furnishing Steel Piles, HP 12x53			Foot	720
Driving Piles			Foot	720
Test Pile Steel, HP 12x53			Each	1
Concrete Sealer			Sq. Ft.	527

BEAM SEAT ELEVATIONS

LOCATION	ELEVATION
H	463.73
I	463.91
J	464.09
K	464.25
L	464.38
M	464.27
N	464.11

PILE DATA

Pile Type and Size:	HP 12x53
Nominal Bearing Required:	419 Kips
Factored Resistance Available:	230 Kips
Estimated Pile Length:	40 Ft.
Number of Production Piles:	18
Number of Test Piles:	1

NOTES:

1. Pour steps monolithically with cap.
2. Space reinforcement to miss anchor bolts.
3. See Sheet 2 of 32 for abutment backfill requirements.
4. See Sheet 27 of 32 for steel H-pile details.
5. For details of Bar Splicers, see sheet 26 of 32.
6. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
7. Quantity of concrete in end post included with Concrete Superstructure.

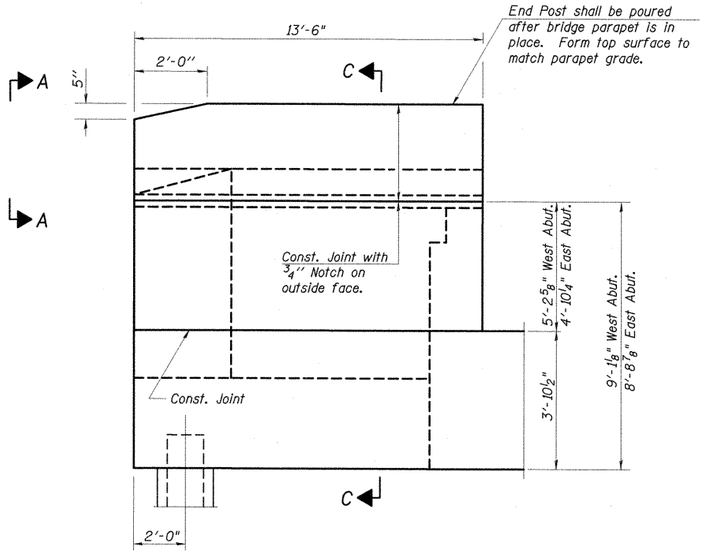
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_...\EAST ABUTMENT_EB.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

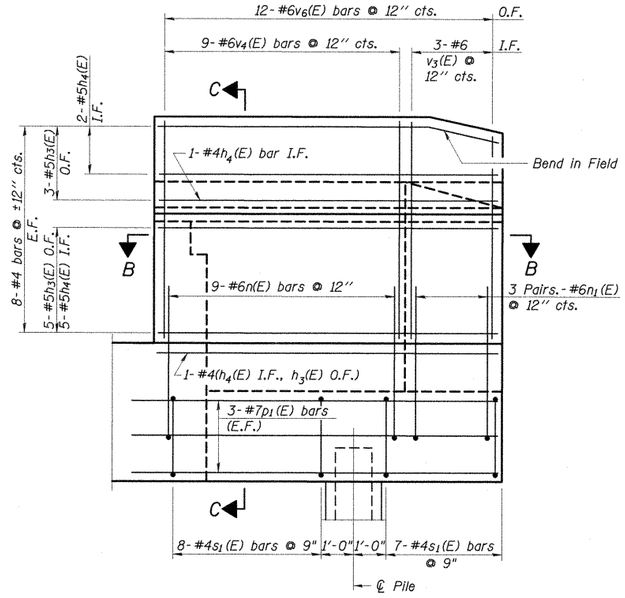
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 100-0096 (E.B.)
SHEET NO. 24 OF 32 SHEETS

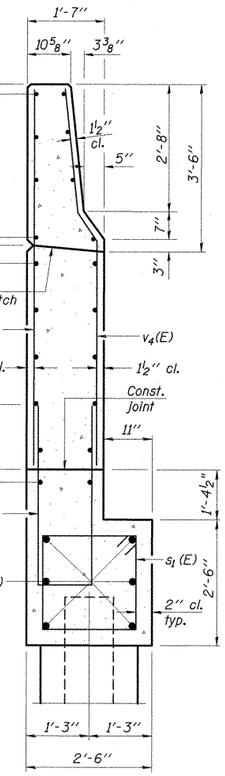
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	231
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	



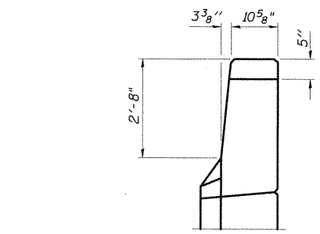
WING WALL ELEVATION
Showing Dimensions



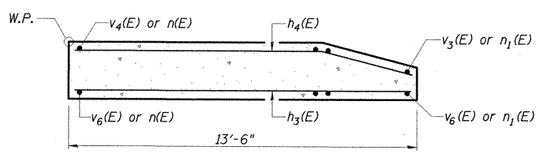
WING WALL ELEVATION
Showing Reinforcement



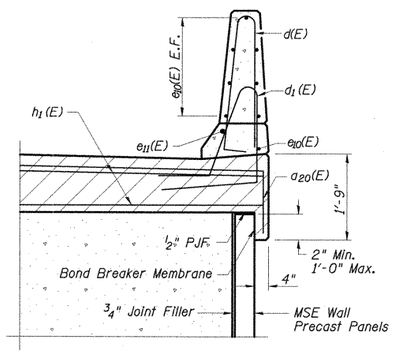
SECTION C-C



VIEW A-A

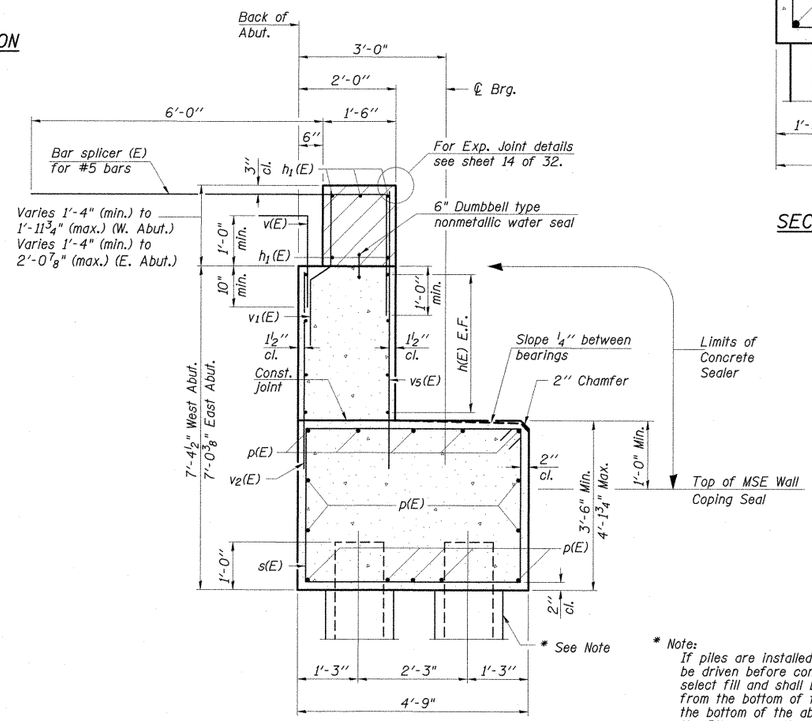


SECTION B-B



SECTION D-D

Note:
d(E), d_1(E), e_{10}(E), and e_{11}(E) bars detailed and Billed on sheets 15 and 16 of 32.



SEC. THRU ABUT.

* Note:
If piles are installed without sleeves they shall be driven before construction of the MSE Wall select fill and shall be coated with Bitumen from the bottom of the select fill to 1" above the bottom of the abutment cap. The cost of the Bitumen coating shall be included with the pay item for furnishing piles.

Alternately, the contractor may install sleeves around the piles in lieu of coating with Bitumen. The annulus between the pile and the sleeve shall be filled with loose dry sand after construction of the MSE Wall select fill. The cost of furnishing, installing, and filling the pile sleeves shall be included with the pay item for furnishing piles.

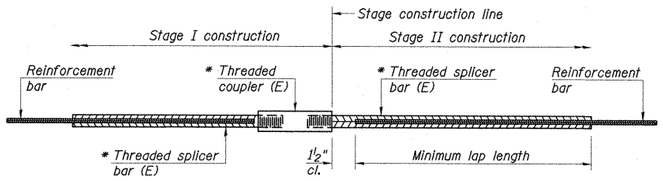
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_plans\ABUTMENT DETAILS.dgn	DESIGNED - SF	REVISED -
USER NAME =	CHECKED - WLB	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 25 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	232
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

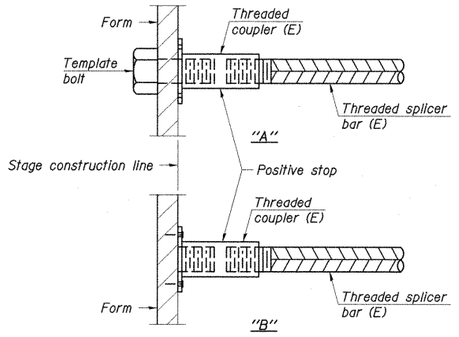
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

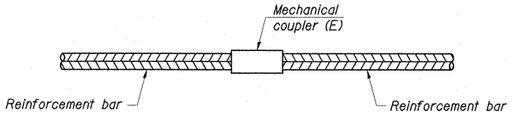
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



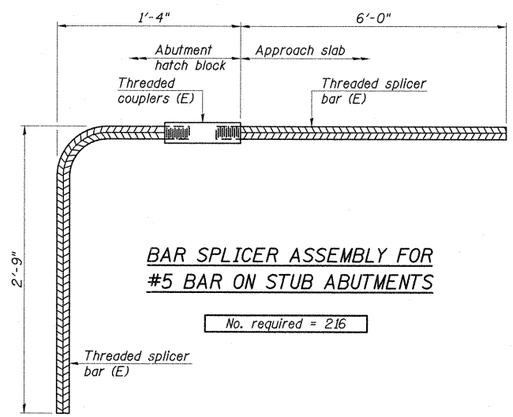
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 216

NOTES:

1. Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
2. All reinforcement shall be lapped and tied to the splicer bars.
3. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
4. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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

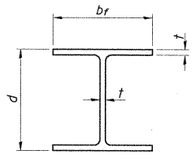
BSD-1 7-1-10

FILE NAME = l:\idot\090603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final ...\BAR SPLICER.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

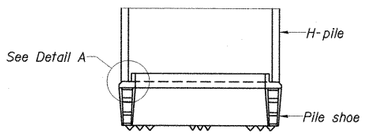
BAR SPLICER DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 26 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	233
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

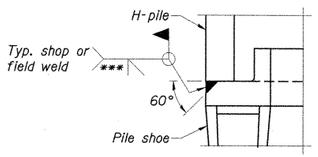


STEEL PILE TABLE

Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

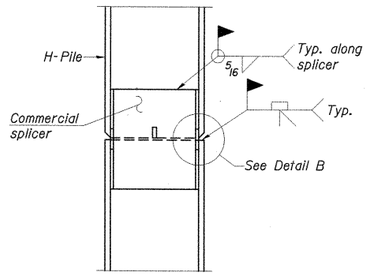


ELEVATION

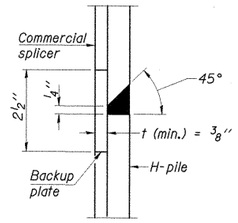


DETAIL A

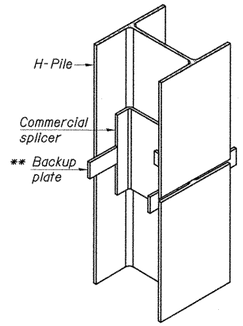
H-PILE SHOE ATTACHMENT



ELEVATION

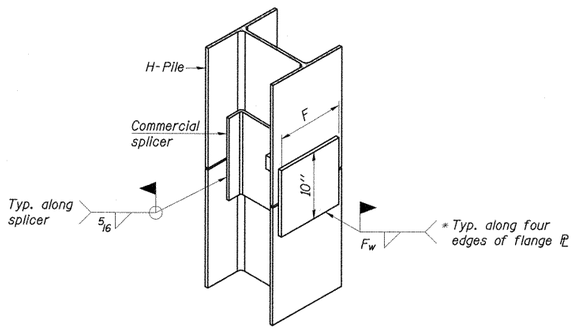


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



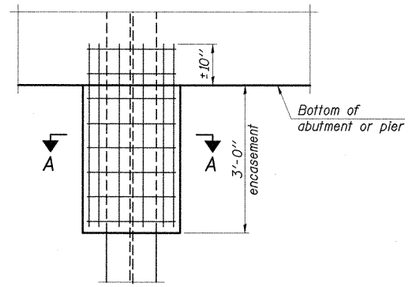
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

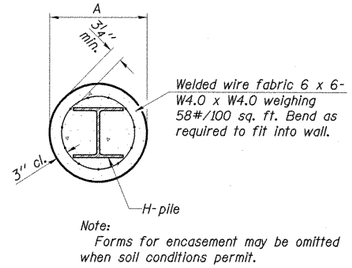
* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



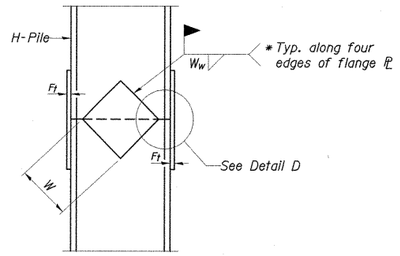
ELEVATION



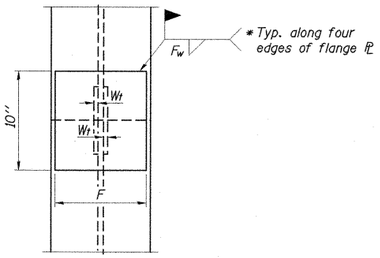
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

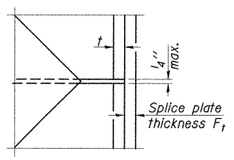


ELEVATION



END VIEW

WELDED PLATE FIELD SPLICE



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

WELDED PLATE FIELD SPLICE

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

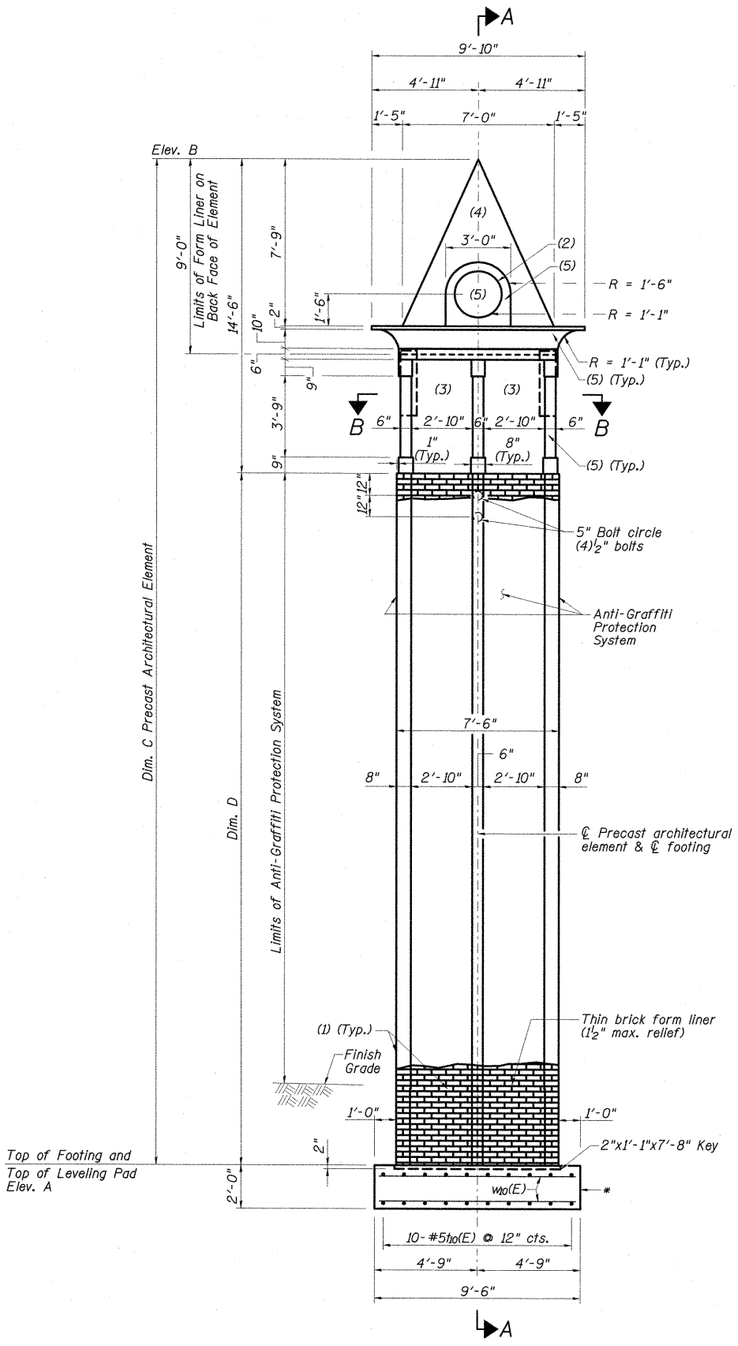
F-HP 7-1-10

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_HP PILE DETAILS.dgn	DESIGNED - SF	REVISED -
USER NAME =	CHECKED - WLB	REVISED -
PLOT SCALE =	DRAWN - GLD	REVISED -
PLOT DATE =	CHECKED - SF	REVISED -

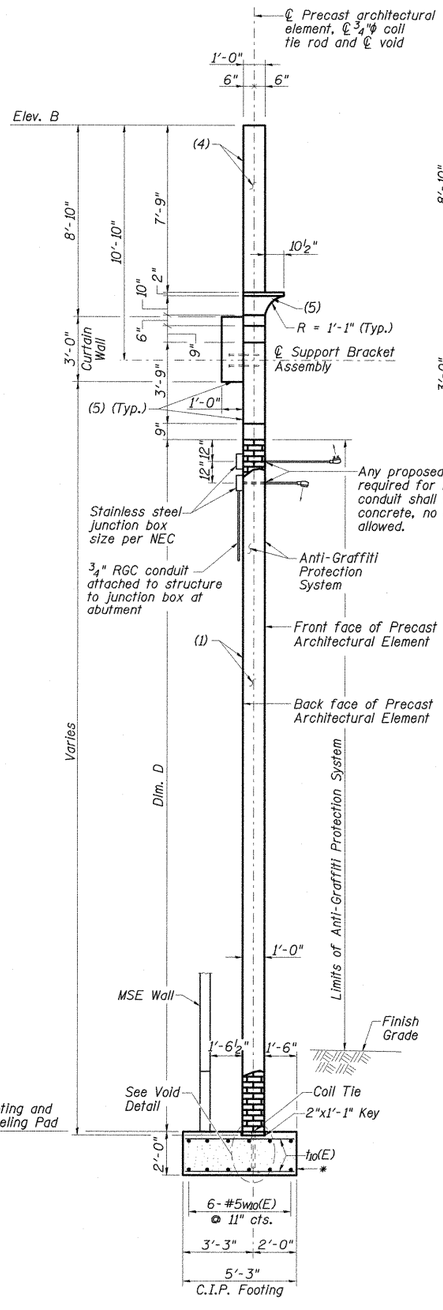
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 27 OF 32 SHEETS

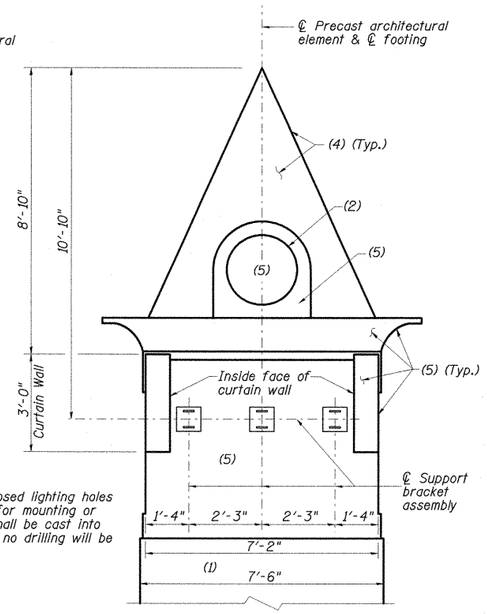
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	234
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



ELEVATION

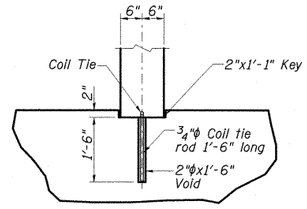


SECTION A-A



PART ELEVATION OF BACKFACE

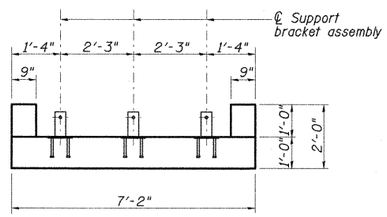
PRECAST ARCHITECTURAL ELEMENT DIMENSIONS				
	S.N. 100-0095 (West)	S.N. 100-0095 (East)	S.N. 100-0096 (West)	S.N. 100-0096 (East)
Elev. A	443.91	443.66	442.36	442.36
Elev. B	482.66	479.84	482.66	479.84
Dim. C	39'-9"	36'-2¼"	40'-3⅝"	37'-5¾"
Dim. D	24'-3"	21'-8¼"	25'-9⅝"	22'-11¾"
Location	Sta. 1752+11.00 (Left)	Sta. 1753+04.42 (Left)	Sta. 1752+11.00 (Right)	Sta. 1753+04.42 (Right)



VOID DETAIL

Just prior to placement of Precast Architectural Element, void and base of key shall be filled with nonshrink grout in accordance with Art. 1024.01.

Coil ties shall be held in place in the forms by slotted Wire-Setting-Studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until Architectural Elements are placed, then replaced with Coil Tie Rods.



SECTION B-B

COLOR CHART

NO.	FEDERAL STD. COLOR
(1)	10076 (Red)
(2)	17038 (Black)
(3)	17200 (Gray)
(4)	24325 (Green)
(5)	27925 (White)

Notes:

Concrete for Precast Architectural Element shall have a minimum 28 day compressive strength of 4000 psi.

Cast-In-Place concrete shall have a minimum 28 day compressive strength of 3500 psi.

Cost of furnishing, galvanizing and installing Support Bracket Assembly (Including Resin Anchor System) will be covered by the contract unit price for Architectural Precast Concrete Panel per each.

All joints between Precast Architectural Element and wall structure shall be sealed with an approved joint filler.

Payment for all concrete, joint filler between Precast Architectural Element and wall structure, form liners and reinforcement, will be considered completely covered by the contract unit price for the Architectural Precast Concrete Panel.

All lifting devices shall be recessed and filled with a nonshrink grout, after use, to present a smooth concrete surface.

Details of proposed lifting devices, locations and lifting procedures shall be submitted to the engineer for approval prior to casting of Architectural Element.

For additional footing details, see S.N. 100-W002 & S.N. 100-W003 Plans.

* Footings shall be constructed and paid for with S.N. 100-W002 & S.N. 100-W003. See Sheet No. 29 for quantities.

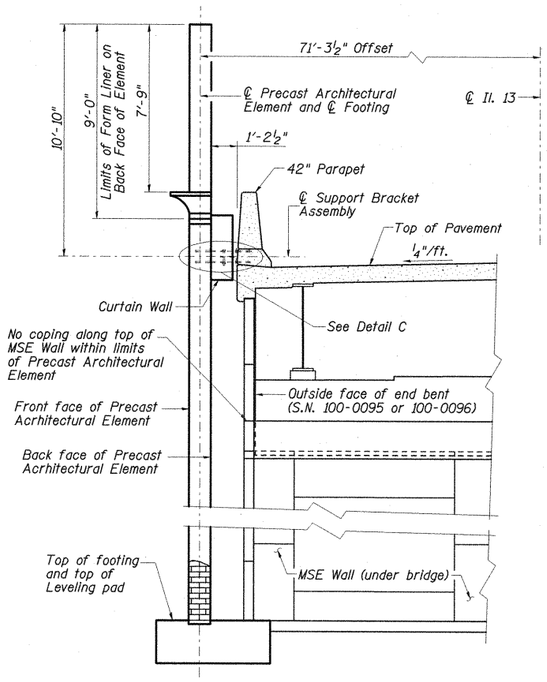
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\09006803\Draw\CADD_Sheets\STRUCTURAL PLANS\MARATHON DR BRIDGE\Marathon_fin_ARCHITECTURAL_DETAILS.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

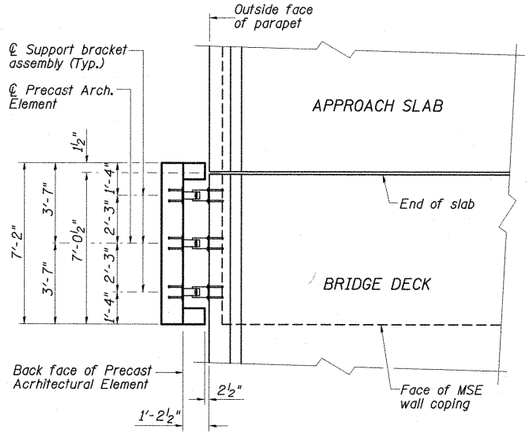
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST ARCHITECTURAL ELEMENT (SHEET 1)
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 28 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	235
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

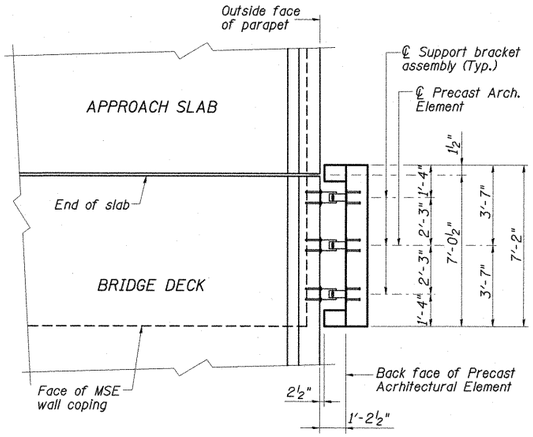


PART ELEVATION OF
PRECAST ARCHITECTURAL ELEMENT



PART PLAN OF
PRECAST ARCHITECTURAL ELEMENT

S.N. 100-0096 (West shown)
S.N. 100-0095 (West similar)



PART PLAN OF
PRECAST ARCHITECTURAL ELEMENT

S.N. 100-0096 (East shown)
S.N. 100-0095 (East similar)

S.N. 100-0095 (W.B.)
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
t_{10} (E)	40	#5	4'-11"	——
w_{10} (E)	24	#5	9'-2"	——
*Concrete Structures			Cu. Yd.	7.4
*Reinforcement Bars, Epoxy Coated			Pound	440
Precast Architectural Element (7'-6")			Each	2
Anti-Graffiti Protection System			Sq. Ft.	398

S.N. 100-0096 (E.B.)
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
t_{10} (E)	40	#5	4'-11"	——
w_{10} (E)	24	#5	9'-2"	——
*Concrete Structures			Cu. Yd.	7.4
*Reinforcement Bars, Epoxy Coated			Pound	440
Precast Architectural Element (7'-6")			Each	2
Anti-Graffiti Protection System			Sq. Ft.	425

* Quantities for information purposes only.
Footings shall be constructed and paid for with S.N. 100-W002 & S.N. 100-W003.

Notes:

All reinforcement shall be epoxy coated.

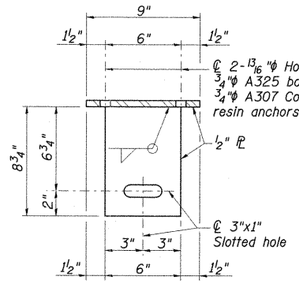
All plates and bars in the Support Bracket Assembly shall conform to ASTM A 709 Gr 36.

All plates, bars, bolts, plate washers and nuts in the Support Bracky Assembly shall be galvanized according to AASHTO M111 or M232 as applicable.

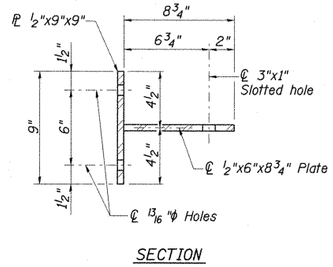
The contractor shall use one of the qualified resin anchor systems in accordance with Art. 1027.01.

The ¾" diameter resin anchor system shall have a minimum ultimate pullout strength of 20,400 lbs. in concrete with f'c=4000 psi.

See Sheet 28 for Color Chart.

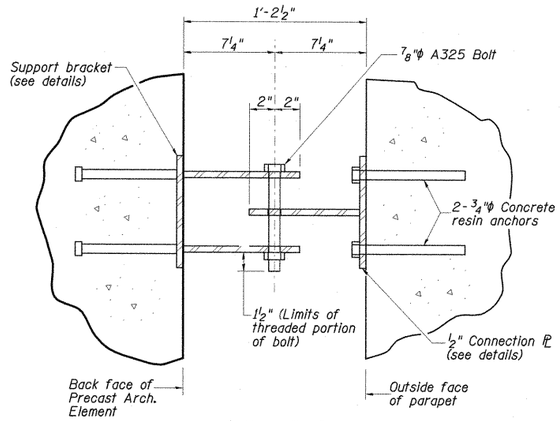


PLAN

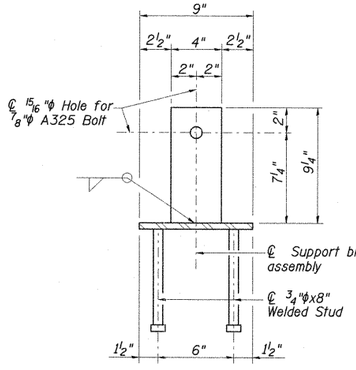


SECTION

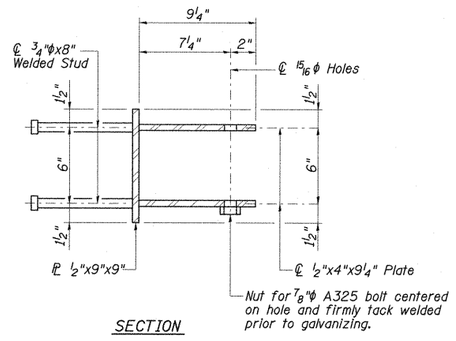
PARAPET



DETAIL C



PLAN



SECTION

PRECAST ARCHITECTURAL ELEMENT

SUPPORT BRACKET DETAILS

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

FILE NAME = l:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_bridge_details\ARCHITECTURAL_DETAILS.SHT 2.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST ARCHITECTURAL ELEMENT (SHEET 2)
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 29 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	236
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION ____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. ____
Station ____

BORING NO. SB-15
Station 750+70.3
Offset 56.20ft Rt
Ground Surface Elev. 445.97 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 436.0 ft ▼
Upon Completion 407.5 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
444.97				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
	3 2 4	1.2	24	FILL: Brown, clay, trace to some sand (A-7)
442.97				
	4 5 4	3.3	19	FILL: Grayish brown and dark brown, silty clay (A-6)
-5				
440.47				
	3 4 5	1.6	26	CLAY: Grayish brown and brown, trace to some sand (A-7)
437.97				
	3 2 3	1.8	23	SILTY CLAY: Brown (A-6)
-10				
435.47				
▼	1 1 2	0.7	22	SILTY CLAY: Brown, trace sand (A-7)
432.97				
	1 2 2	1.6	23	CLAY: Brown, trace to some sand (A-7)
-15				
	2 2 2	1.1	26	Trace sand
426.77				
-20	3 29 50/5"	-	10	CLAYEY SHALE: Brown

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAYEY SHALE: Brown *(continued)*
	41 50/4" 50/2"	-	14	
	50 50/3"	-	16	
-25				
	50/4" 50/1"	-	6	Becomes gray
-30				
	50/4" 50/1"	-	6	
-35				Extremely hard drilling at 35.5 feet.
▽				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION ____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. ____
Station ____

BORING NO. SB-15
Station 750+70.3
Offset 56.20ft Rt
Ground Surface Elev. 445.97 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 435.0 ft ▼
Upon Completion 407.5 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAYEY SHALE: Brown *(continued)*
401.97	50/4" 50/2"	-	6	
-45				
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_[illegible]\BORING LOGS 1.dgn		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 30 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	237
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-16
Station 751+11.1
Offset 55.10ft Lt
Ground Surface Elev. 446.57 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 430.6 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
0				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
445.57				
	3 4 5	2.8 P	17	FILL: Brown clay, some sand (A-7)
442.57				
	4 3 2	0.4 B	30	CLAYEY SILT: Grayish brown, trace to some organics (A-4)
-5				
441.07				
	2 4 6	2.9 B	31	CLAY: Grayish brown and brown (A-7)
438.57				
	2 4 6	1.3 B	21	SILTY CLAY: Brown (A-6)
-10				
436.07				
	WH 2 2	0.8 B	22	SILTY CLAY: Brown and grayish brown (A-7)
433.57				
	2 2 3	1.5 B	21	CLAY: Gray and brown, trace to some sand (A-7)
-15				
▼				
	WH 2 3	1.2 S/15	22	
		0.5 S	25	Trace sand Shelby tube - 22 inches recovery. Unconfined compression strength test
-20				
426.07				performed with results shown in Qu and Moist. columns. Dry density - 101.7 pounds per cubic foot.
	2 7 16	1.4 B	26	CLAYEY SHALE: Gray and brown
	12 15 50/3"	3.0 S	19	Becomes brown
-25				
	50/5" 50/2"	-	17	
	50 50/1"	-	8	Becomes gray
-30				
	20 11 13	4.5 P	12	
-35				
	50/3" 50/2"	-	12	
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-16
Station 751+11.1
Offset 55.10ft Lt
Ground Surface Elev. 446.57 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 430.6 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAYEY SHALE: Gray and brown *(continued)*
402.77				
	50/2" 50/2"	-	12	
-45				
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = l:\dot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_v2\BORING LOGS 1A.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
PLOT SCALE =		DRAWN - GLD	REVISED -
PLOT DATE =		CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 31 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	238
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/11/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-19
Station 753+52.1
Offset 54.70ft Rt
Ground Surface Elev. 446.73 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 425.7 ft ▼
Upon Completion 433.7 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 446.73			
CLAYEY SILT: Brown (A-4)	4 3 3	0.6 B	24
443.73			
CLAY: Grayish brown and brown (A-7)	4 5 6	1.8 B	27
-5 441.23			
SILTY CLAY: Grayish brown and brown (A-6)	3 3 3	1.2 B	24
Trace sand	2 3 4	0.9 B	23
-10 436.23			
CLAY: Gray and brown, trace to some sand (A-7)	2 2 3	0.9 B	21
▽			
Becomes brown, some sand	3 3 3	1.0 B	25
-15			
	2 3 3	1.6 B	22
With coarse gravel and clayey shale	6 7 5	0.8 P	40
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
425.73 ▼			
CLAYEY SHALE: Brown	27 50/5" 50/3"	-	17
Extremely hard drilling at 22.5 and 25 feet.	29 50/4" 50/3"	-	14
-25			
	40 50/3" 50/2"	-	17
-30			
Becomes gray 412.93	50/3" 50/1"	-	15
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-20
Station 754+11.2
Offset 63.10ft Lt
Ground Surface Elev. 447.19 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 430.2 ft ▼
Upon Completion 441.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 446.19			
FILL: Brown clay, some sand, trace rock (A-7)	3 2 3	1.0 P	23
444.19			
CLAY: Grayish brown and brown (A-7)	3 5 6	2.9 B	25
-5 441.69			
SILTY CLAY: Brown (A-6) ▽	1 2 3	0.6 B	23
439.19			
SILTY CLAY: Brown, some sand (A-7)	2 3 3	0.9 B	21
-10 436.69			
CLAY: Brown and grayish brown, trace to some sand, trace gravel (A-7)	1 2 4	1.1 B	21
Becomes brown and gray, some sand	2 3 5	1.3 B	20
-15 431.69			
SANDY CLAY: Brown, trace to some fine gravel (A-6) ▼	WH WH 4	-	30
Some coarse gravel	4 3 8	-	16
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
426.69			
CLAYEY SHALE: Brown	7 10 11	1.8 S/5	16
	22 50/5" 50/2"	-	15
-25			
	37 50/3" 50/1"	-	16
Becomes gray	44 50/2" 50/2"	-	12
-30			
413.29	50/3" 50/2"	-	14
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = I:\idot\0906603\draw\cadd_sheets\structural plans\marathon dr bridge\marathon_final_BORING LOGS 2.dgn	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - WLB	REVISED -
	PLOT SCALE =	DRAWN - GLD	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)
SHEET NO. 32 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	239
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

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

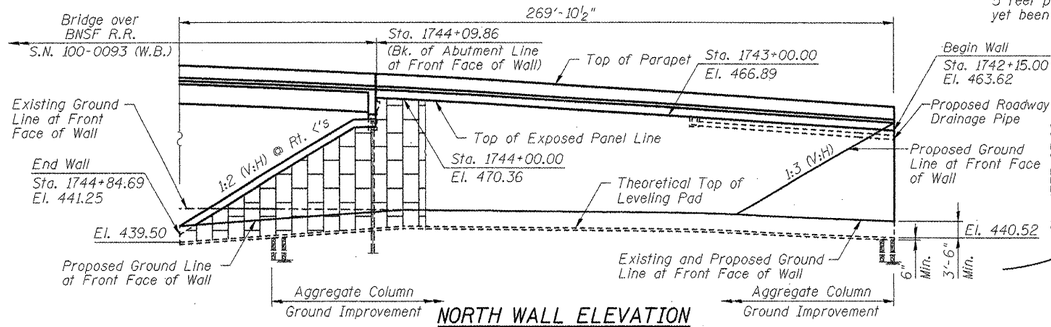
Traffic to be maintained utilizing stage construction.

NOTES:

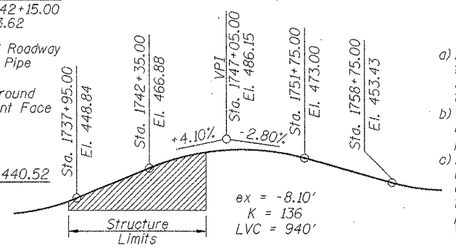
1. Wall is built in conjunction with new bridges S.N. 100-0093 and S.N. 100-0094.
2. Size, depth and spacing of aggregate columns to be determined by Contractor. (See Special Provisions)
3. Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.
4. The rate of fill placement shall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

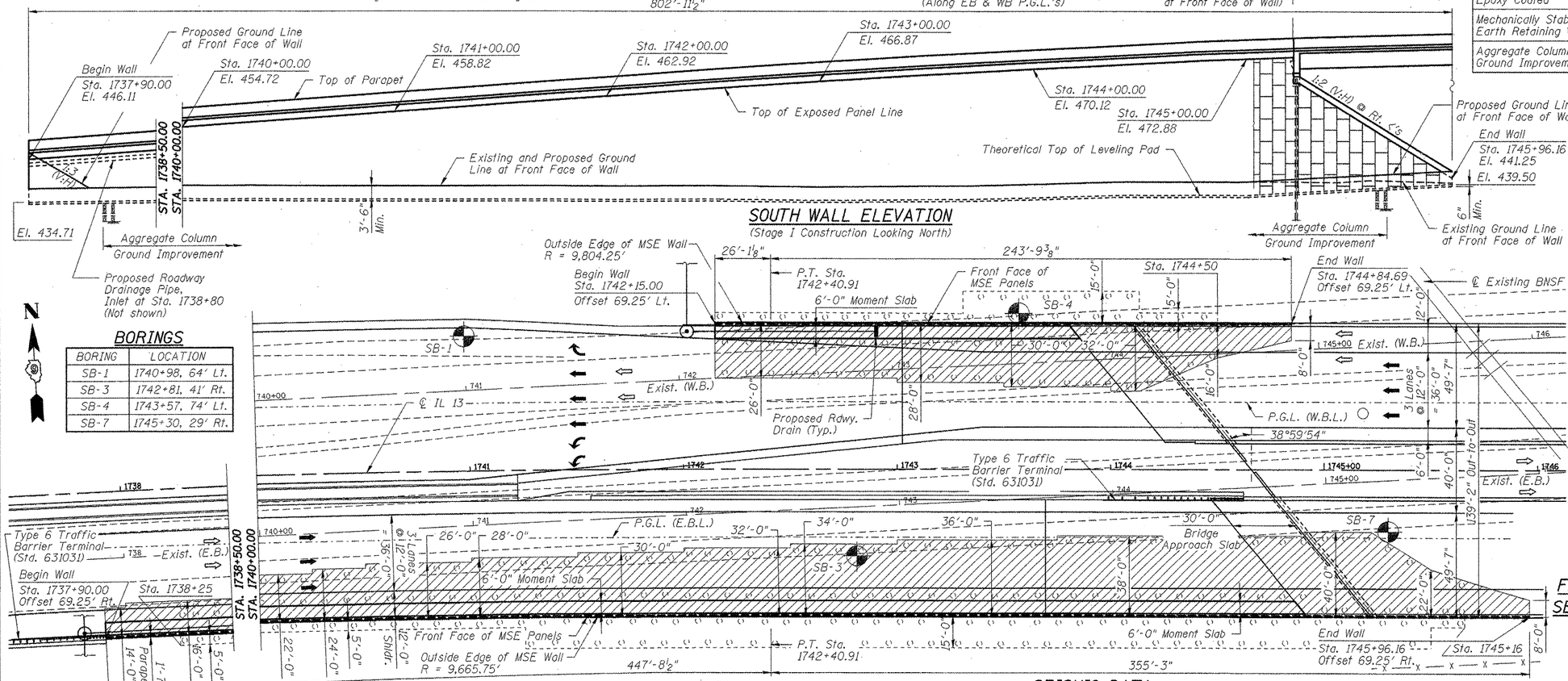
a) A factor of safety of 1.5 against global stability failure for end-of-construction and long-term. A factor of safety of 1.0 against global stability failure for a design seismic event.

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)

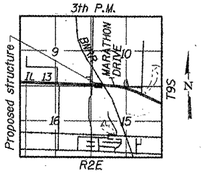
PRECAST UNITS
f'c = 4,500 psi (Precast panels)

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

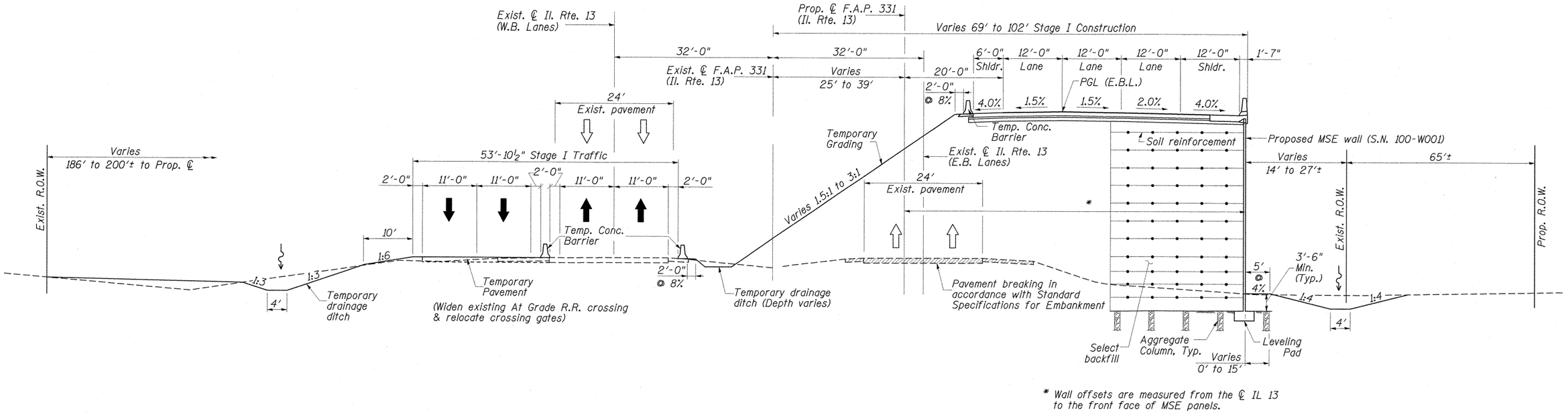
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

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		



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

MSE walls shall be constructed to accommodate the roadway fill staging and any required temporary grading slopes. No permanent vertical coping shall be utilized for staged construction of the face panels.

STAGE I CONSTRUCTION

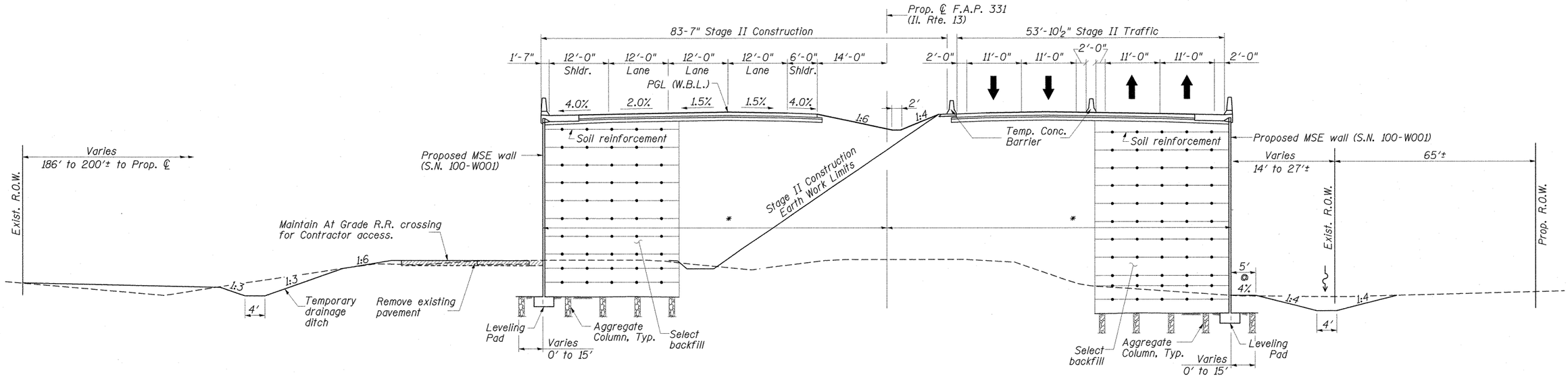
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-002-StageIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ′ / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION
STRUCTURE NO. 100–W001
SHEET NO. 2 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	241
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

STAGE II CONSTRUCTION

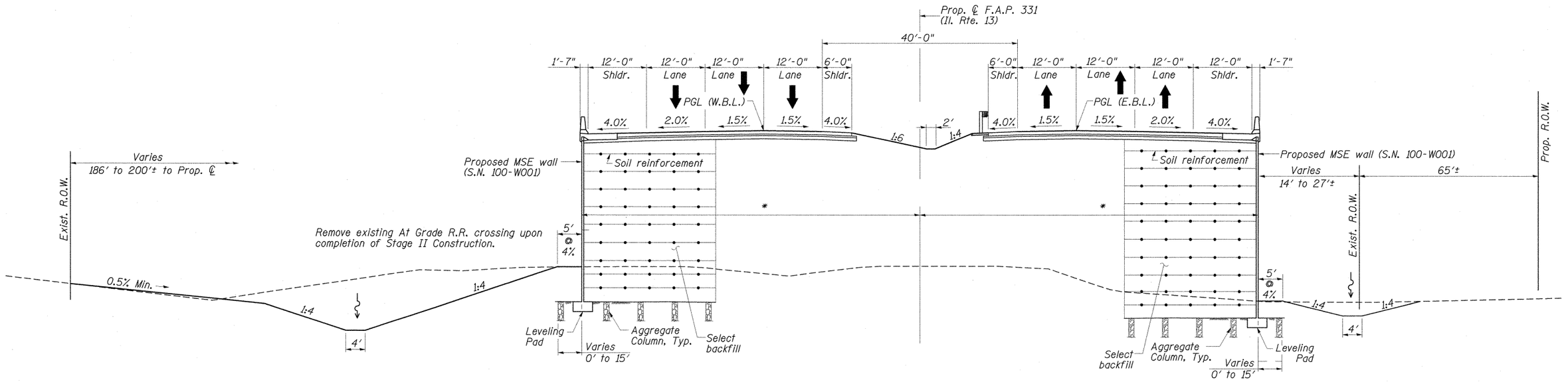
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-003-StageIIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION
STRUCTURE NO. 100-W001
SHEET NO. 3 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	242
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

FINAL ROADWAY RECONFIGURATION

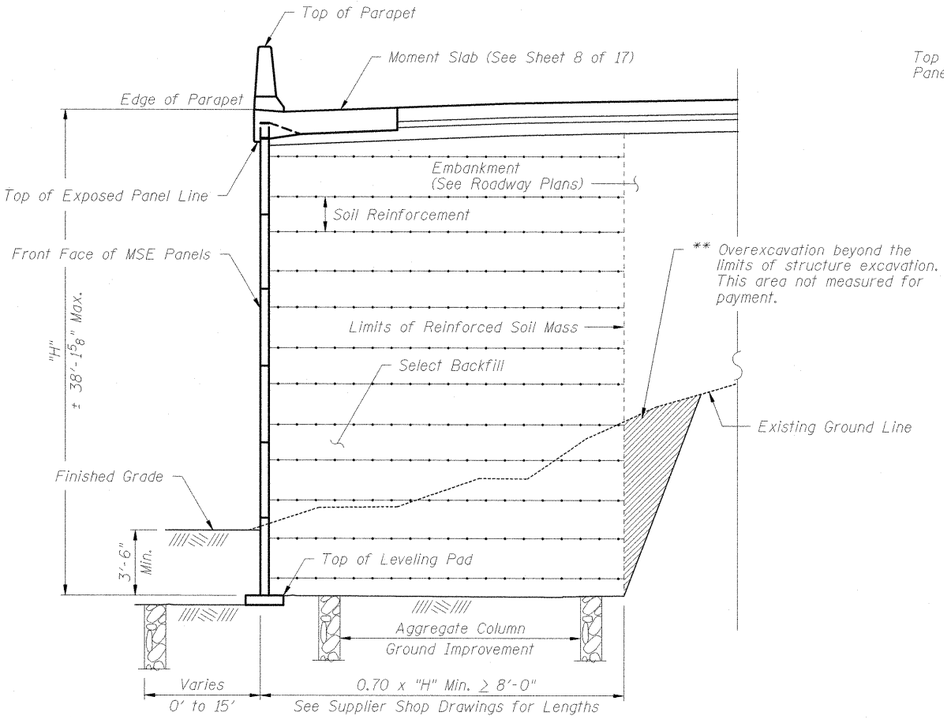
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 030603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-004-Final_Reconfig.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

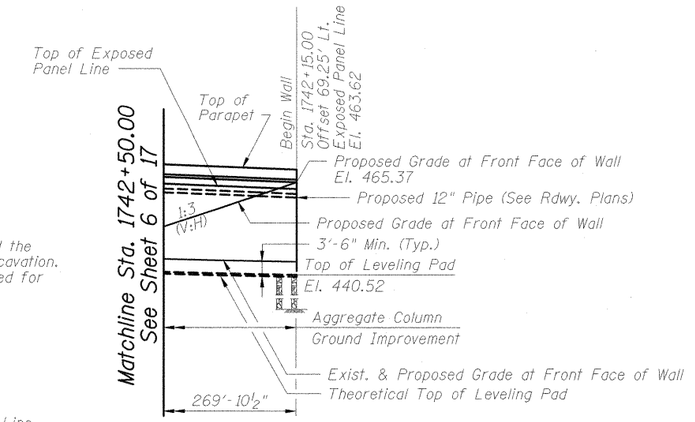
FINAL ROADWAY RECONFIGURATION
STRUCTURE NO. 100-W001
SHEET NO. 4 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	243
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



** Backfill overexcavation with select fill.

TYPICAL SECTION THRU WALL



NORTH WALL ELEVATION

(Looking South)

MSE WALL FINISH

The wall panels shall be textured with an approved Ashlar Stone Form Liner with max. depth of relief of 1-1/2". Panel color shall be Federal Standard Color 10266 (Tan).

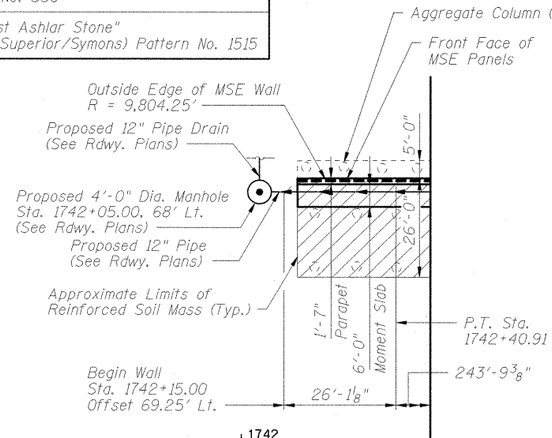
The following is a list of Ashlar Stone Form Liner Systems which may be used.

List of Approved Ashlar Stone Form Liner Systems
"Ashlar Stone" (Scott System, Inc.) Pattern No. 167
"Georgetown Ashlar Stone" (Fitzgerald Formliners) Pattern No. 16986
"Ashlar Stone" (Greenstreak) Pattern No. 330
"Southwest Ashlar Stone" (Dayton Superior/Symons) Pattern No. 1515

NOTES:

Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

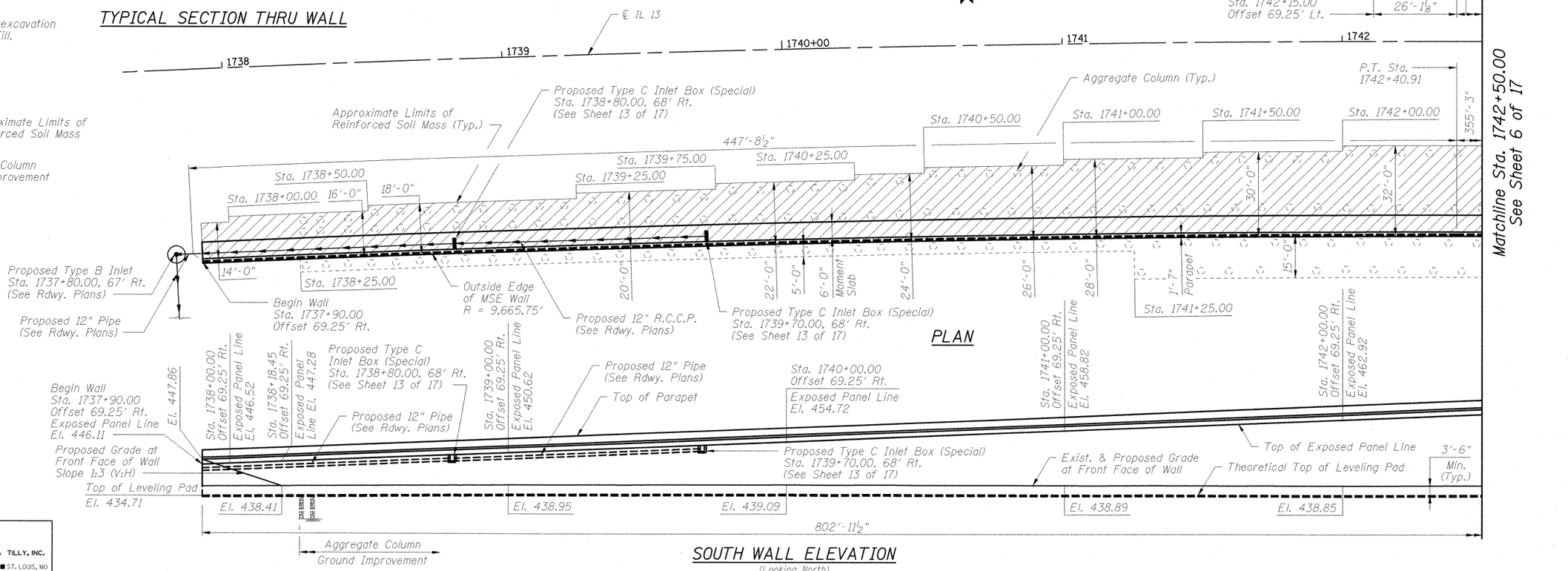
Longitudinal dimensions are measured along the front face of MSE panels.



LEGEND

Approximate Limits of Reinforced Soil Mass

Aggregate Column Ground Improvement



SOUTH WALL ELEVATION

(Looking North)

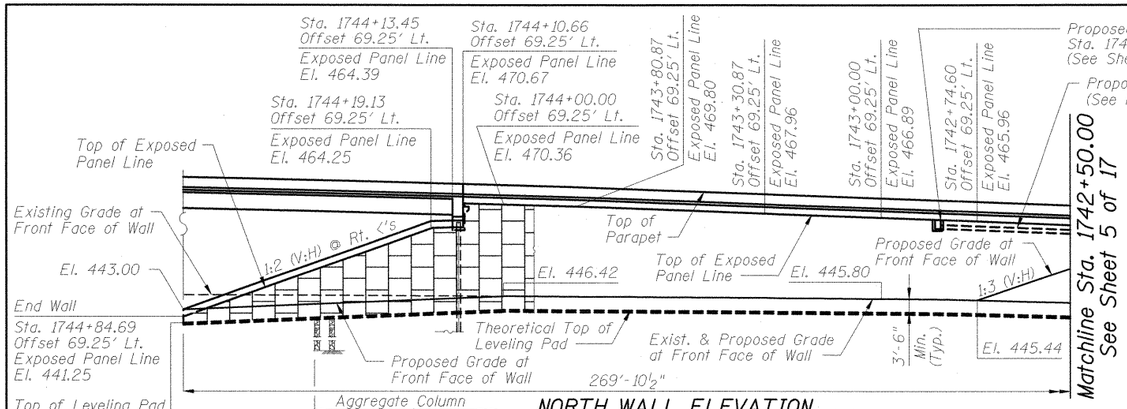
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-005-Elevs_Sects.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

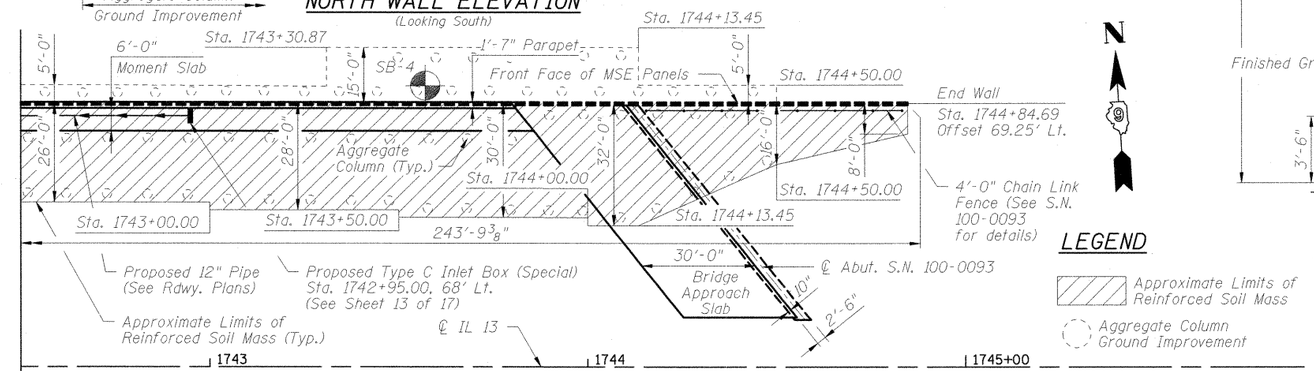
WALL ELEVATIONS AND SECTIONS
STRUCTURE NO. 100-W001
SHEET NO. 5 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	244
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



NORTH WALL ELEVATION

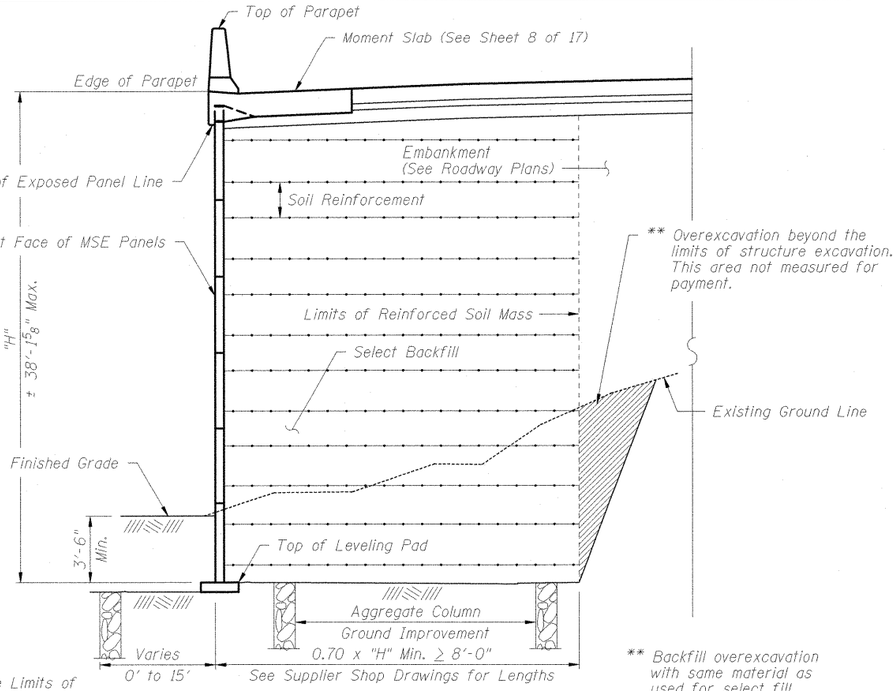
(Looking South)



LEGEND

Approximate Limits of Reinforced Soil Mass

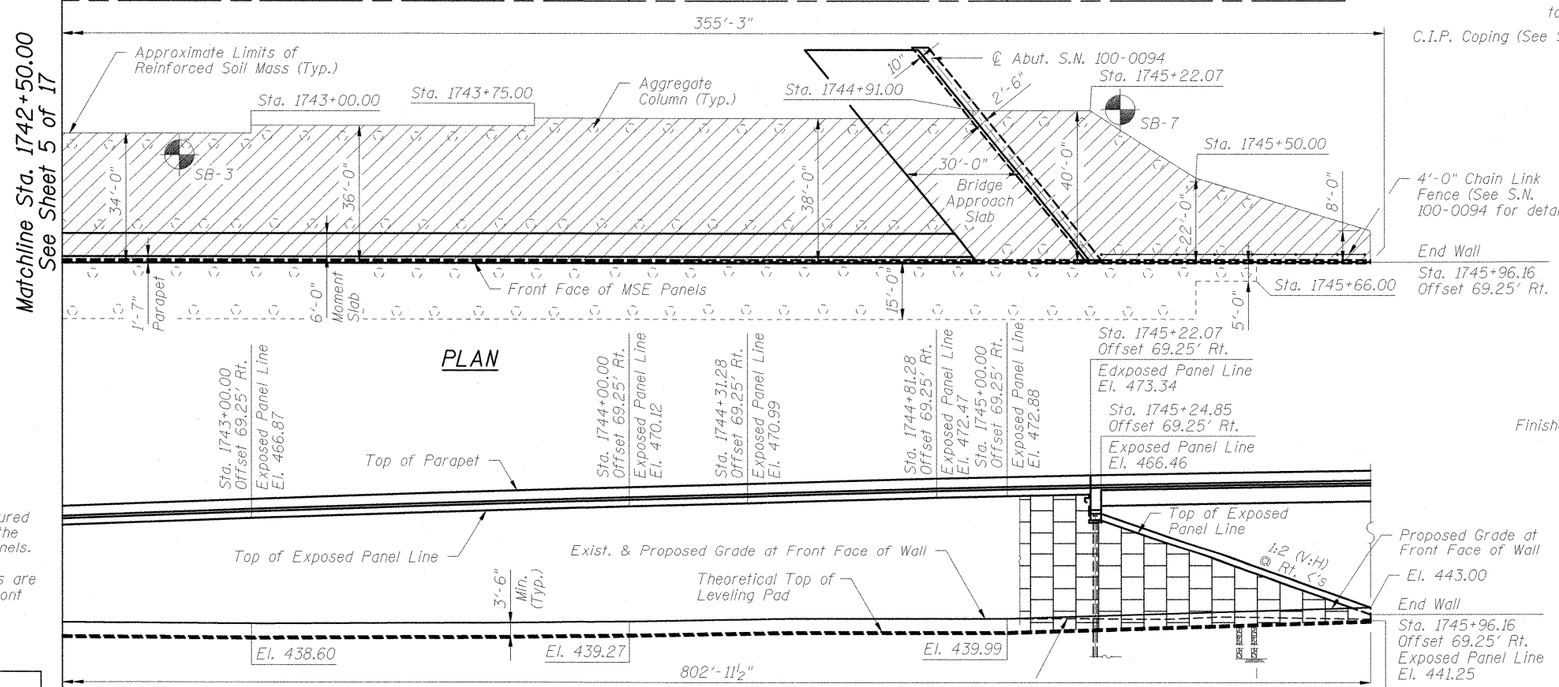
Aggregate Column Ground Improvement



TYPICAL SECTION THRU WALL

Sta. 1737+90.00 (South Wall)
to Sta. 1745+24.85 (South Wall)
Sta. 1742+15.00 (North Wall)
to Sta. 1744+13.45 (North Wall)

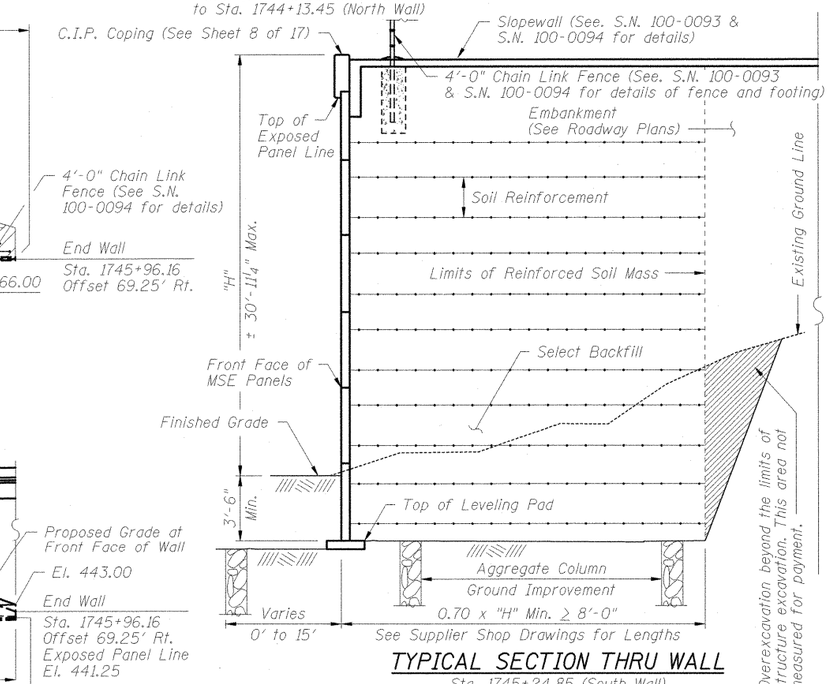
** Backfill overexcavation with same material as used for select fill.



PLAN

SOUTH WALL ELEVATION

(Looking North)



TYPICAL SECTION THRU WALL

Sta. 1745+24.85 (South Wall)
to Sta. 1745+96.16 (South Wall)
Sta. 1744+13.45 (North Wall)
to Sta. 1744+84.69 (North Wall)

** Backfill overexcavation with same material as used for select fill.

NOTES:

Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

Longitudinal dimensions are measured along the front face of MSE panels.

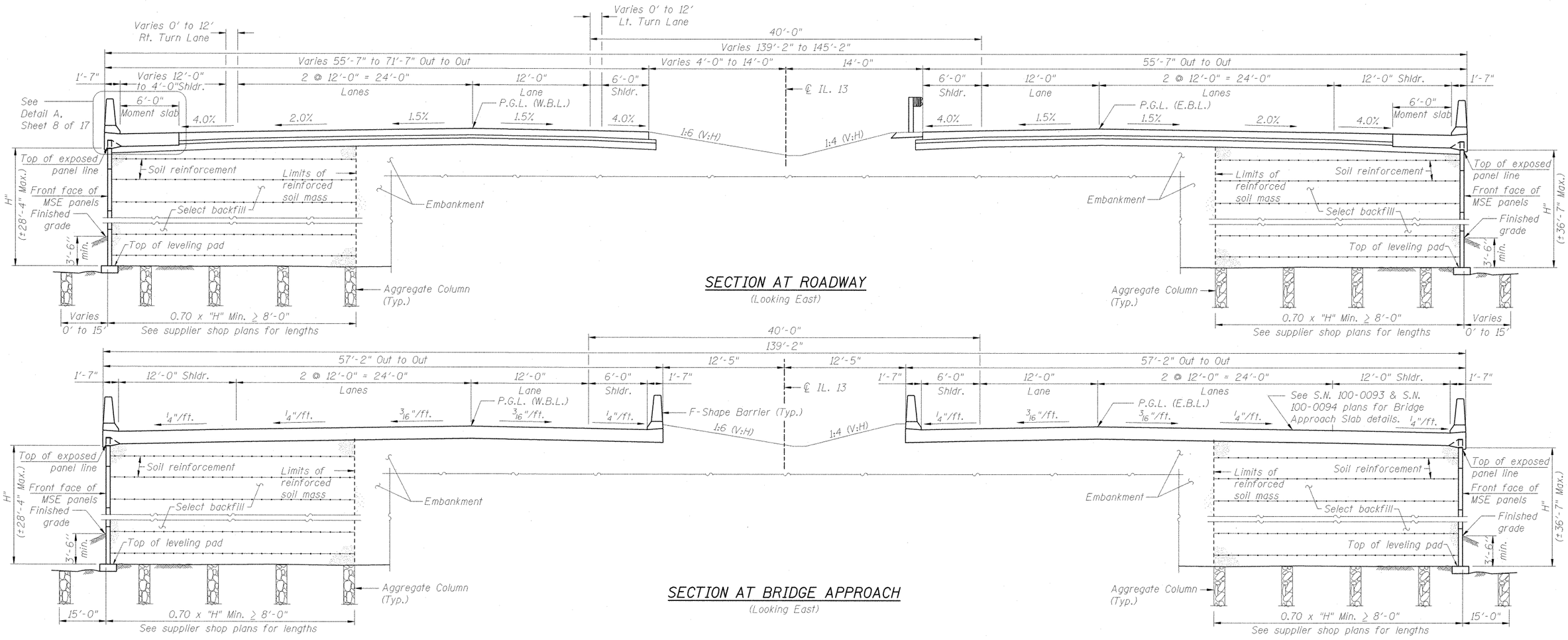
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 09006603\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W001\100W001-98859-006-Elevs_Sects.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

WALL ELEVATIONS AND SECTIONS
STRUCTURE NO. 100-W001
SHEET NO. 6 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	245
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



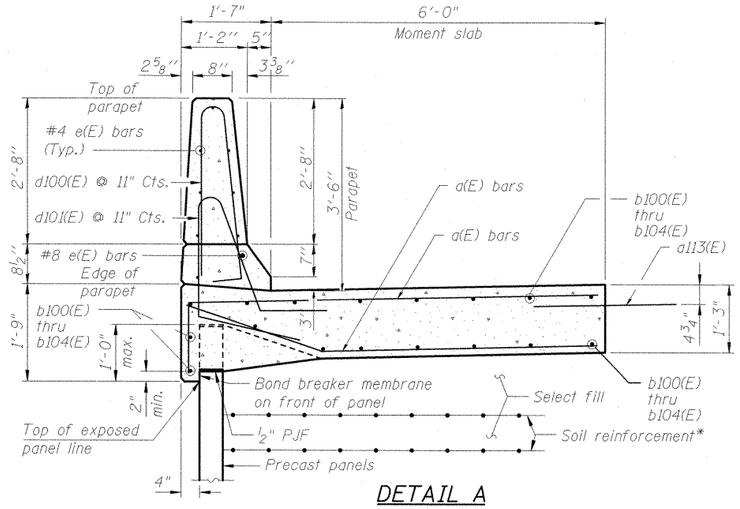
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100w001-98859-007-Sections.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

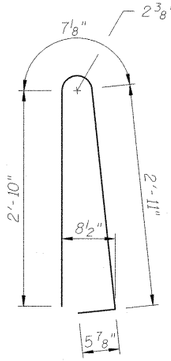
BACK TO BACK WALL SECTIONS
STRUCTURE NO. 100-W001
SHEET NO. 7 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	246
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

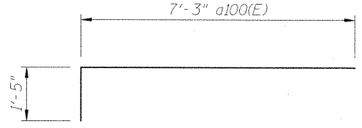


DETAIL A

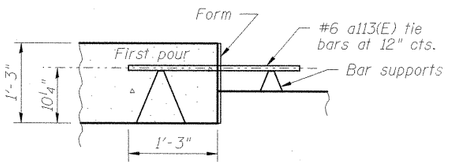
* The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.



BAR d100(E)

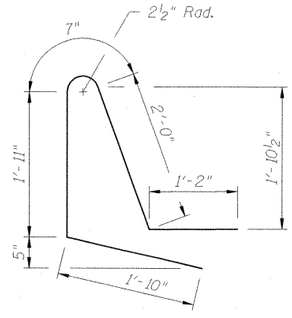


BAR a100(E), a105(E), a107(E), a109(E), & a111(E)

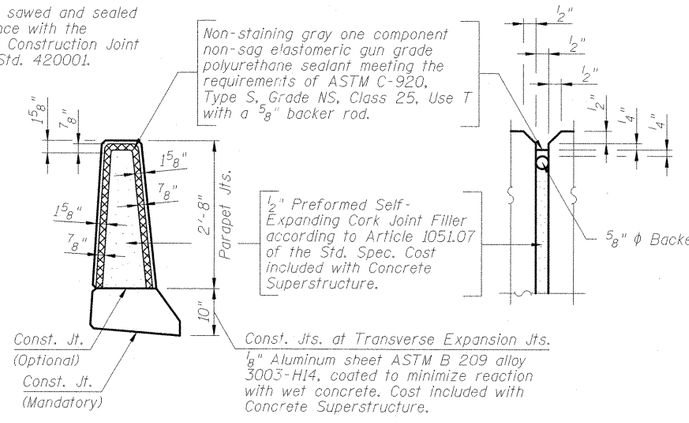


CONSTRUCTION JOINT

Note: Joint to be sawed and sealed in accordance with the Longitudinal Construction Joint Details on Std. 420001.



BAR d101(E)



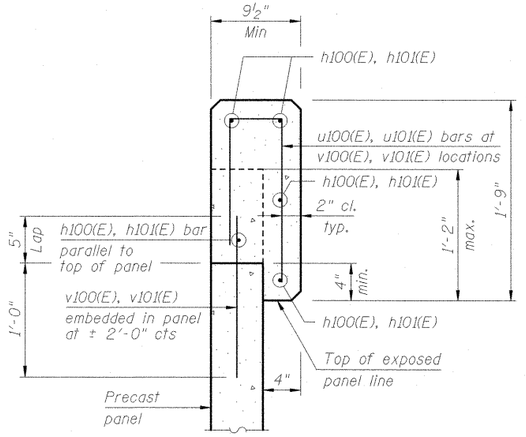
PARAPET JOINT DETAILS

MOMENT SLAB/PARAPET BILL OF MATERIAL

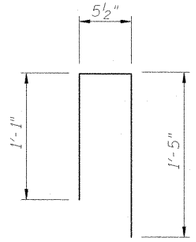
Bar	No	Size	Length	Shape
a100(E)	863	#6	8'-8"	
a101(E)	863	#6	7'-3"	
a102(E)	2	#6	4'-11"	
a103(E)	2	#6	3'-8"	
a104(E)	2	#6	2'-5"	
a105(E)	1	#6	7'-11"	
a106(E)	1	#6	6'-6"	
a107(E)	1	#6	6'-8"	
a108(E)	1	#6	5'-3"	
a109(E)	1	#6	5'-5"	
a110(E)	1	#6	4'-0"	
a111(E)	1	#6	4'-3"	
a112(E)	1	#6	2'-10"	
a113(E)	863	#6	2'-6"	
a114(E)	24	#5	2'-0"	
b100(E)	34	#4	13'-5"	
b101(E)	680	#4	14'-6"	
b102(E)	51	#4	29'-6"	
b103(E)	85	#4	26'-8"	
b104(E)	51	#4	12'-0"	
d100(E)	978	#5	6'-10"	
d101(E)	978	#5	7'-6"	
e100(E)	4	#4	23'-4"	
e101(E)	3	#8	32'-7"	
e102(E)	3	#4	27'-3"	
e103(E)	3	#8	29'-4"	
e104(E)	5	#4	25'-11"	
e105(E)	4	#8	34'-3"	
e106(E)	21	#4	29'-4"	
e107(E)	19	#8	35'-3"	
e108(E)	14	#4	13'-6"	
e109(E)	280	#4	14'-6"	
e110(E)	28	#4	19'-0"	
e111(E)	42	#4	19'-9"	
e112(E)	21	#4	12'-0"	
Concrete Superstructure		Cu. Yd.	427.7	
Reinforcement Bars, Epoxy Coated		Lb.	55,690	

MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"



COPING DETAIL



BAR u100(E), u101(E)

Reinforcement bars designated (E) shall be epoxy coated.

Slipforming of the parapets is not allowed.

Moment slab joints shall be sealed in accordance with Art. 420.05.

All work including dowel bars, joint filler, joint sealer, backer rod, and expansion cap necessary to complete the construction of joints will be included for payment in the contract unit price for Concrete Superstructure.

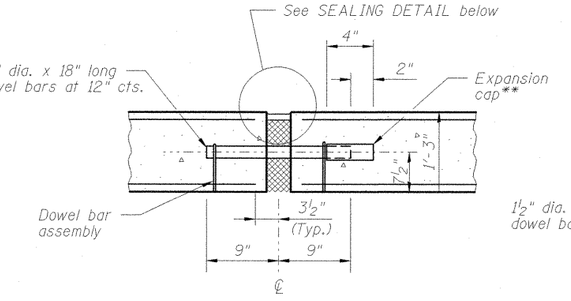
For location of joints and reinforcing details in parapet and moment slab, see Sheets 9 thru 12 of 17.

C.I.P. COPING BILL OF MATERIAL

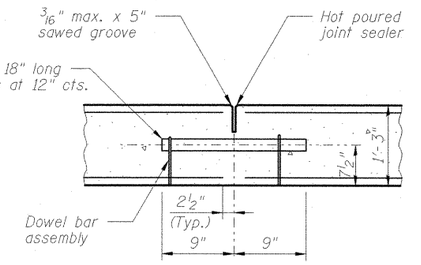
Bar	No.	Size	Length	Shape	Wall
h100(E)	15	#4	26'-6"		North
h101(E)	15	#4	26'-9"		South
u100(E)	38	#4	2'-11 1/2"		North
u101(E)	38	#4	2'-11 1/2"		South
v100(E)	38	#4	1'-5"		North
v101(E)	38	#4	1'-5"		South
Concrete Superstructure		Cu. Yd.	6.9		
Reinforcement Bars, Epoxy Coated		Lb.	760		

For information purposes only.

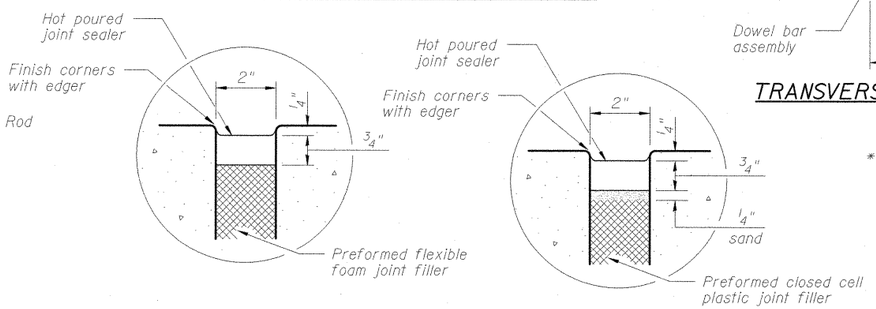
Cost of C.I.P. Coping will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.



TRANSVERSE EXPANSION JOINT



TRANSVERSE CONTRACTION JOINT



SEALING DETAIL

** Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W001\100W001-98859-008-Slab_Parapet.dgn

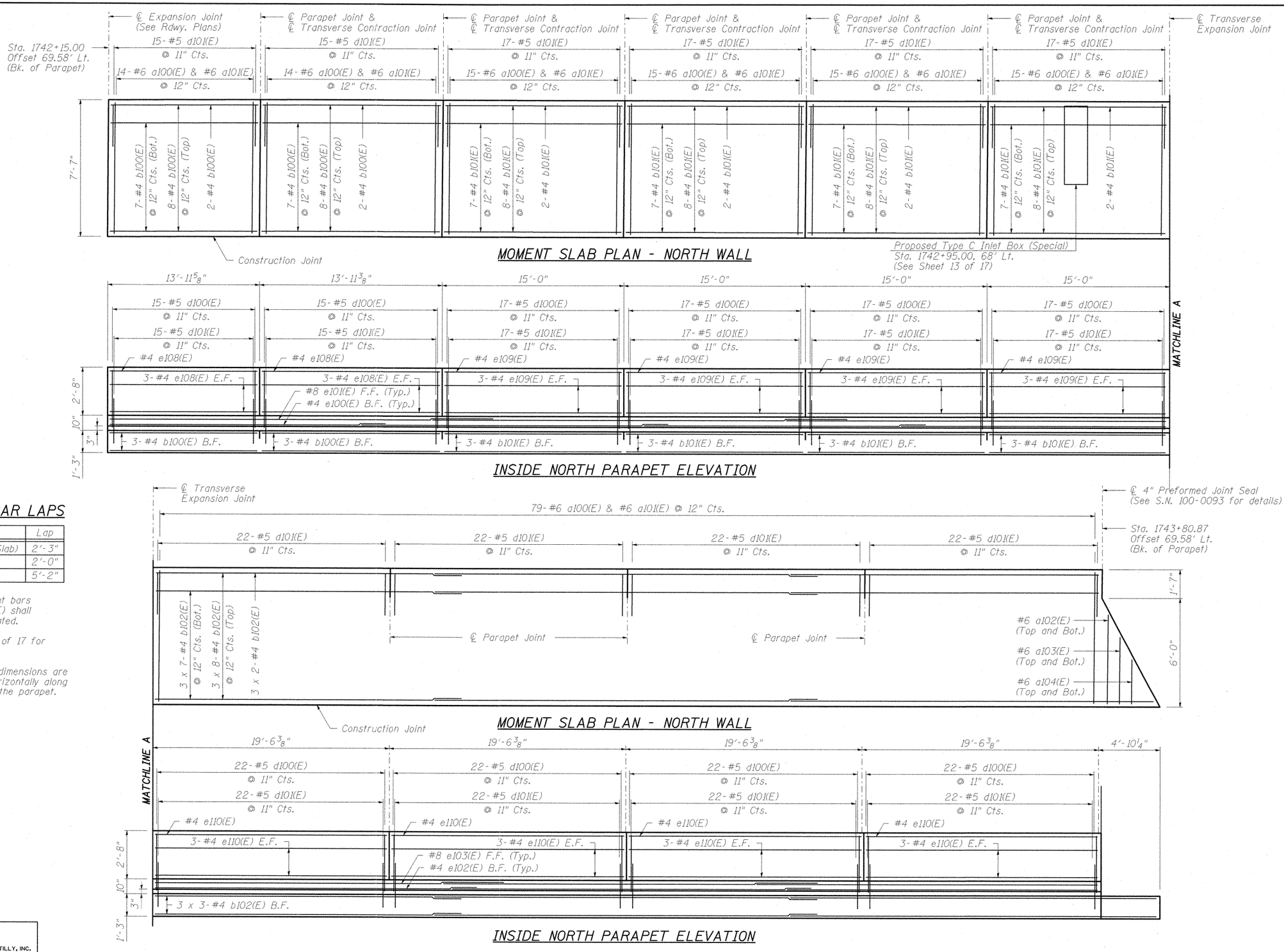
USER NAME = Gary Davis
PLOT SCALE = 1.0000 ' / IN.
PLOT DATE = 1/10/2012

DESIGNED - JMW | CHECKED - REB | REVISED -
DRAWN - AJK | CHECKED - REB | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB, PARAPET AND COPING DETAILS
STRUCTURE NO. 100-W001
SHEET NO. 8 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	247
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 17 for joint details.

Longitudinal dimensions are measured horizontally along the back of the parapet.

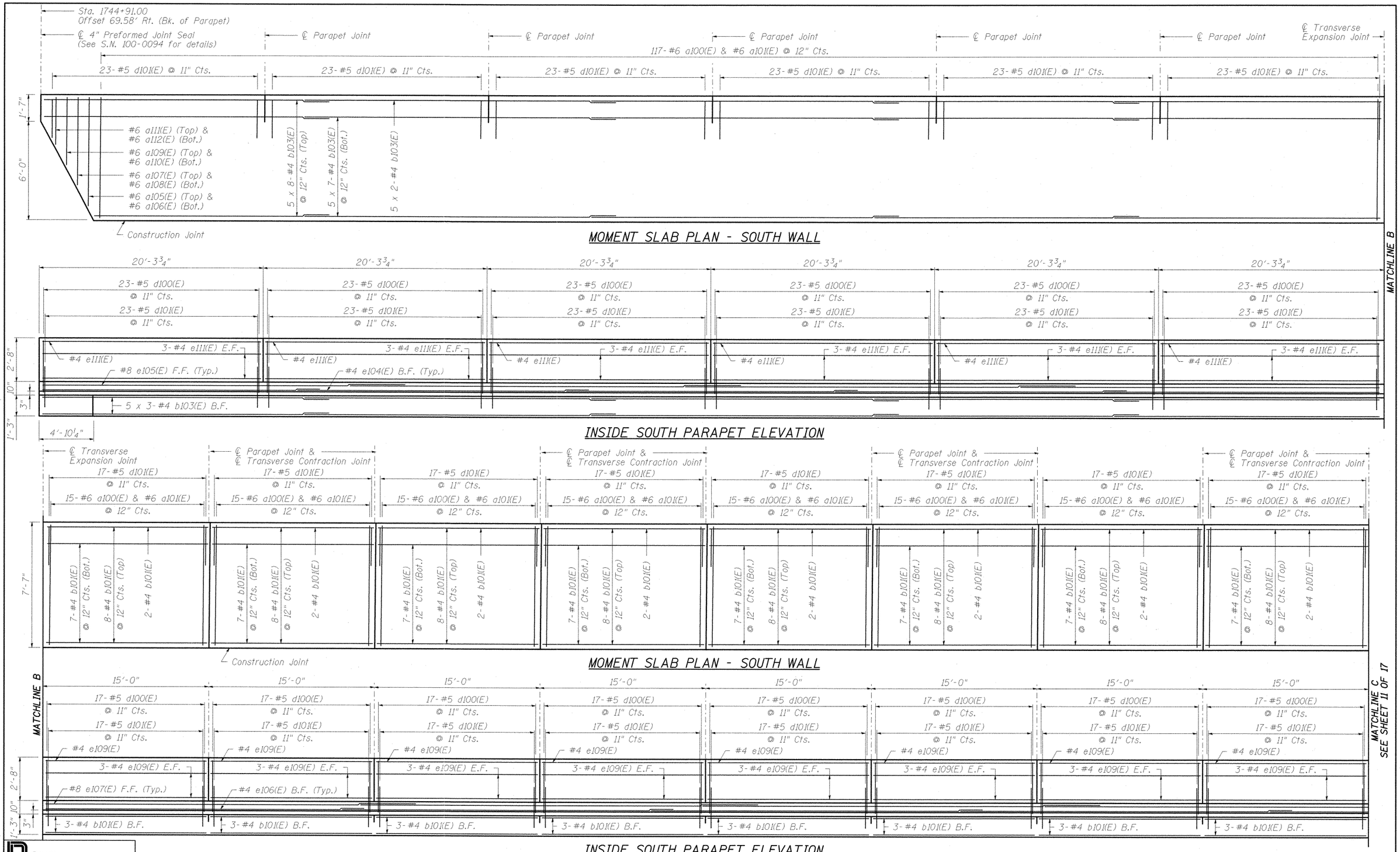
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-009-N_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W001
SHEET NO. 9 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	248
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* See Sheet 9 of 17 for notes.

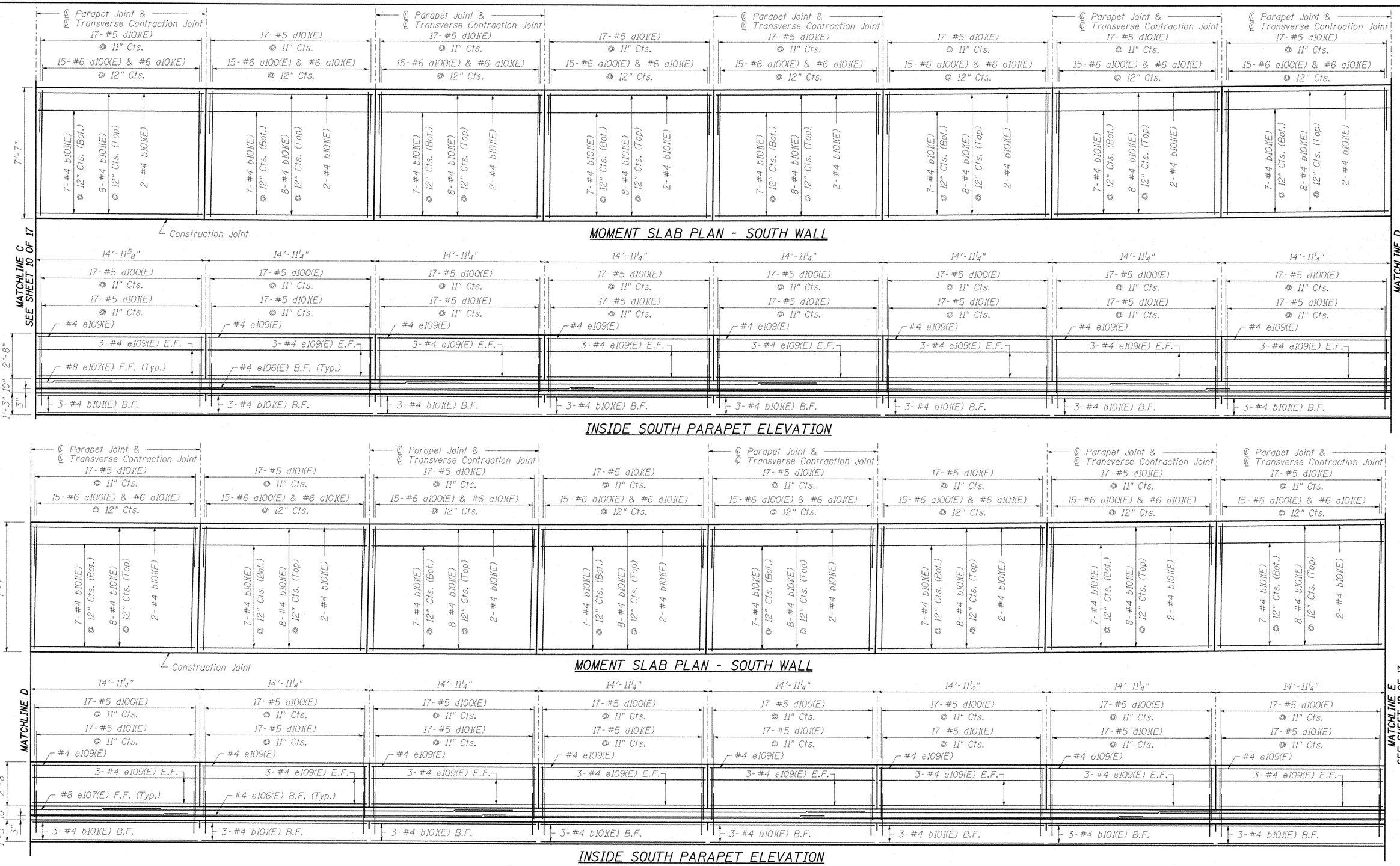
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-010-S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W001
SHEET NO. 10 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	249
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* See Sheet 9 of 17 for notes.

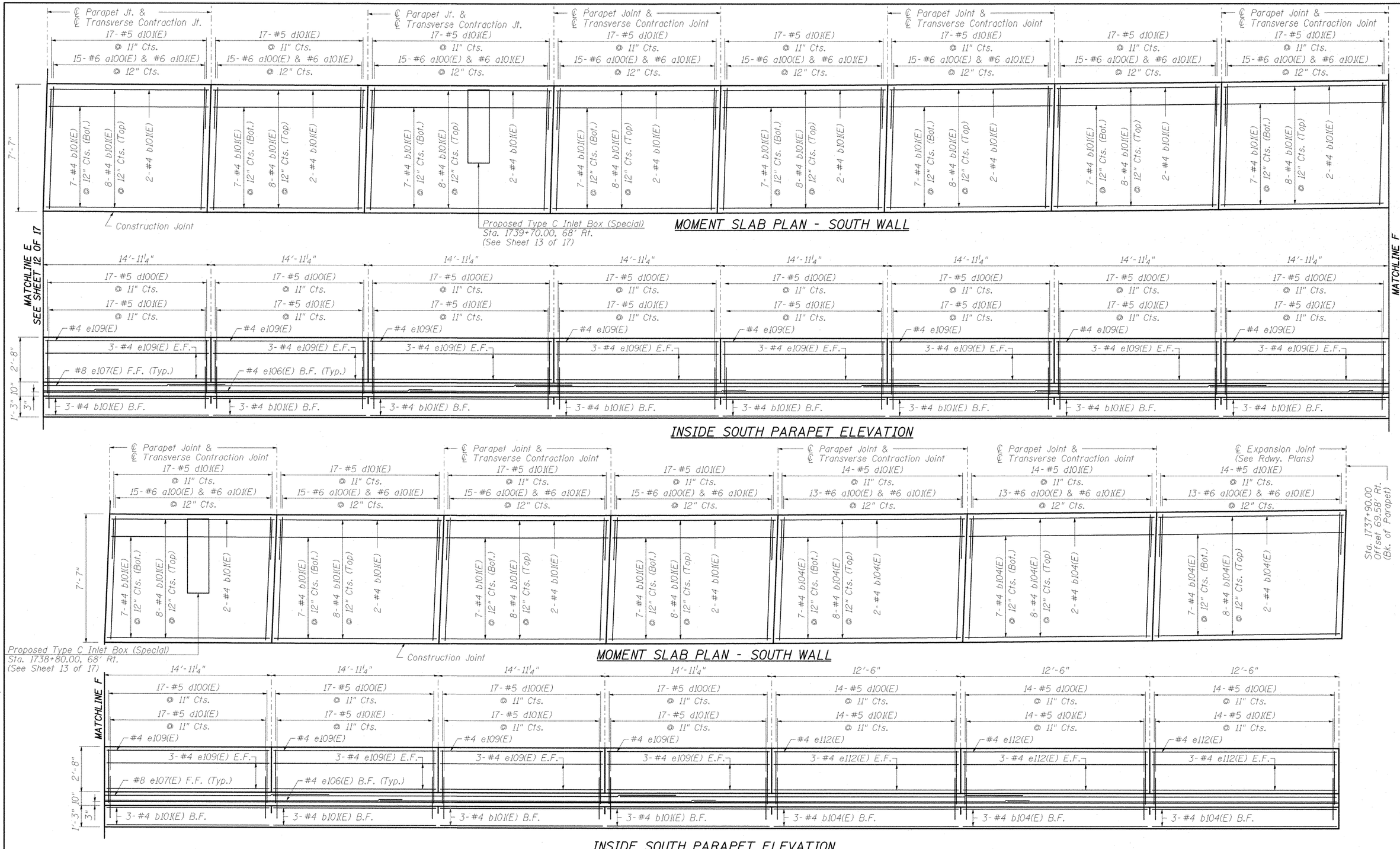
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W001\100w001-98859-01I-S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W001
SHEET NO. 11 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	250
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



* See Sheet 9 of 17 for notes.

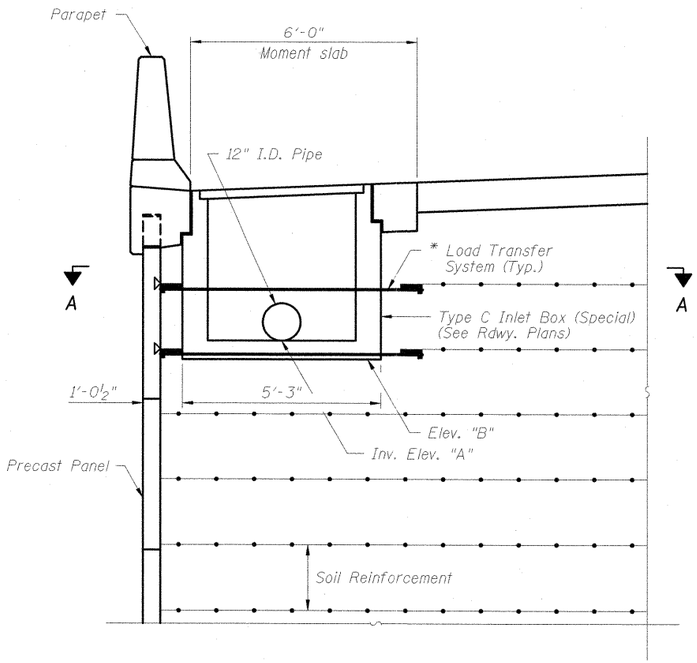
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 070603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-012-S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W001
SHEET NO. 12 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	251
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



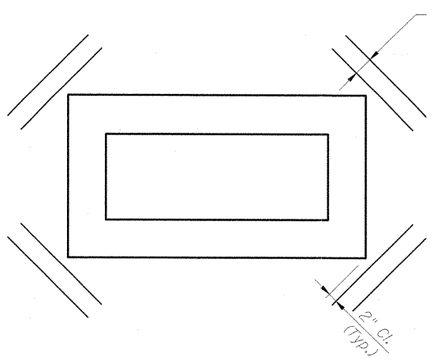
Sta.	Location	A	B
1738+80.00	68' Rt.	447.53 (E) 447.43 (W)	446.93
1739+70.00	68' Rt.	451.12	450.62
1742+95.00	68' Lt.	464.34	463.84

Reinforcing in moment slab, parapet and drainage structure not shown for clarity.

* M.S.E. supplier to design load transfer system to accommodate concrete pipe and inlet box.

LOAD TRANSFER SYSTEM AROUND DRAINAGE DETAIL

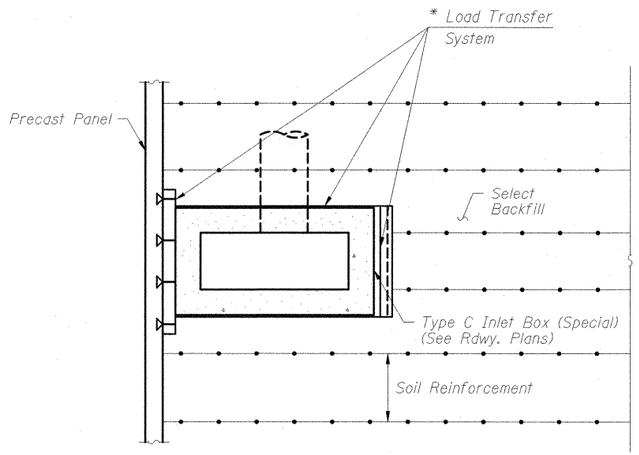
Sta. 1738+80.00 (South Wall)
Sta. 1739+70.00 (South Wall)
Sta. 1742+95.00 (North Wall)



Shift transverse reinforcement and cut longitudinal reinforcement in moment slab to clear drainage structures. Coat exposed ends with epoxy paint. Cost shall be included for payment in the contract unit price for Reinforcement Bars, Epoxy Coated.

Reinforcement bars designated (E) shall be epoxy coated.

REINFORCEMENT AROUND DRAINAGE STRUCTURE



SECTION A-A

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-013-Drainage.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOAD TRANSFER SYSTEM
STRUCTURE NO. 100-W001
SHEET NO. 13 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	252
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1

Date 11/9/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-1
Station 1740+97.70
Offset 63.84ft Lt
Ground Surface Elev. 444.2 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 425.7 ft ▼
Upon Completion 421.2 ft ▽
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches				
443.22				
FILL: Brown and gray, silty clay, trace rock, asphalt (A-7)		3		
		3 3	2.5 P	25
441.22				
CLAYEY SILT: Grayish brown (A-4)		2		
		1 2	0.0 B	31
438.72	-5			
CLAY: Gray and brown, trace sand (A-7)				
Shelby tube - 13 inches recovery. Unconfined compression strength test performed with results shown in Qu and Moist. columns. Dry density - 100.4 pounds per cubic foot.			2.3 S	25
436.22		2		
SILTY CLAY: Gray and brown, trace to some sand (A-7)		3 4	1.2 B	21
	-10			
Becomes grayish brown		WH		
		2 3	0.9 B	21
431.22				
CLAY: Gray and brown, trace to some sand (A-7)		2		
		3 3	1.6 B	23
	-15			
Becomes brown and gray		2		
		3 5	2.6 B	19
▼		2		
		3 4	1.6 B	21
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY: Gray and brown, trace to some sand (A-7) *(continued)*				
Some sand, trace fine gravel		WH		
		1 4	0.5 P	20
▽		3		
		4 6	1.9 B	18
	-25			
415.72				
CLAYEY SHALE: Brown and gray		3	-	21
415.02		50/1"		
	-30	50/1"		
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 070606D3\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-014-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100–W001
SHEET NO. 14 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	253
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2

Date 11/9/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-3
Station 1742+81.27
Offset 40.66ft Rt
Ground Surface Elev. 445.2 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 431.7 ft ▼
Upon Completion 415.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Stratum / Notes
				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
444.20				
	3			FILL: Brown, clay, some sand, trace rock (A-7)
	2	2.0	24	
	2	B		
442.20				
	3			FILL: Grayish brown, silty clay, some sand (A-7)
	3	3.5	19	
-5	3	P		
439.70				
	2			CLAYEY SILT: Grayish brown (A-4)
	WH	<0.25	29	
	2	P		
437.20				
	2			CLAY: Gray and brown, trace sand (A-7)
	4	1.9	25	
-10	4	B		
434.70				
	1			SILTY CLAY: Grayish brown, trace to some sand (A-7)
	2	0.8	21	
	2	B		
432.20				
				SILTY CLAY: Grayish brown and brown, some sand (A-6)
		0.9	22	
-15		S		Shelby tube - 22 inches recovery. Unconfined compression strength test performed with results shown in Qu and Moist. columns. Dry density - 104.3 pounds per cubic foot.
429.45				
	2			CLAY: Brown, trace to some sand (A-7)
	2	1.4	33	
	2	B		
	WH			
	3	1.1	20	
-20	2	B		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Stratum / Notes
				CLAY: Brown, trace to some sand (A-7) *(continued)*
				Some sand, trace fine gravel
	WH			
	WH	1.2	19	
	5	B		
	3			
	5	1.7	18	
-25	6	B		
	2			
	3	<0.25	18	
	7	P		
	2			No gravel
	5	2.7	18	
▽-30	8	S		With black organic deposit
	5			
	7	2.4	21	
-35	11	S		
408.40				
				CLAYEY SHALE: Brown and gray
	20			
	50/4"	-	17	
-40	50/2"			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2

Date 11/9/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-3
Station 1742+81.27
Offset 40.66ft Rt
Ground Surface Elev. 445.2 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 431.7 ft ▼
Upon Completion 415.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Stratum / Notes
				CLAYEY SHALE: Brown and gray *(continued)*
				Becomes gray
	50/0"	-	10	
-45	50/1"			
396.50				
	50/2"	-	12	
	50/0"			
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-015-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W001
SHEET NO. 15 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	254
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-4
Station 1743+57.42
Offset 74.40ft Lt
Ground Surface Elev. 445.7 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.2 ft ▼
Upon Completion - ft
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 444.74				
FILL: Brown, clayey silt, trace sand, organics (A-4)		1		
		2 2	0.5 B	32
442.74 SILTY CLAY: Grayish brown, trace sand (A-6)		1		
	-5	2 2	0.0 B	28
440.24 CLAY: Brown and grayish brown (A-7)		WH		
		1 3	2.0 P	30
437.74 SILTY CLAY: Gray and brown (A-6)		2		
	-10	2 4	1.0 B	25
435.24 CLAY: Brown and grayish brown (A-7)		2		
		2 3	1.3 B	22
▼		1		
	-15	3 3	1.5 B	23
Becomes brown and gray, trace sand		1		
		2 2	1.0 B	27
Becomes brown, some sand, trace fine gravel		2		
	-20	1 2	<0.25 P	21
425.24 SILTY CLAY: Brown and grayish brown, trace to some sand, trace fine gravel (A-6)		2		
		2 3	0.8 B	24
		3		
	-25	4 4	0.4 B	25
		1		
		2 3	1.5 P	24
417.74 CLAY: Brown, some sand (A-7)		3		
	-30	3 5	1.0 B	18
		6		
411.74 CLAYEY SHALE: Tan and brown	-35	10 24	4.5 P	14
Becomes brown		42		
	-40	50/3" 50/2"	-	13

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-4
Station 1743+57.42
Offset 74.40ft Lt
Ground Surface Elev. 445.7 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.2 ft ▼
Upon Completion - ft
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Tan and brown *(continued)*				
Becomes gray	-45	50/4" 50/1"	-	14
397.04	-50	50/1" 50/1"	-	14
	-55			
	-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-016-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W001
SHEET NO. 16 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	255
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-7
Station 1745+29.69
Offset 29.01ft Rt
Ground Surface Elev. 446.2 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 425.2 ft ▼
Upon Completion 429.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
445.20				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
	3			No Recovery
	3	-		
	3			
443.20				CLAY: Grayish brown, trace sand (A-7)
	3			
	3	2.5	26	
-5	3	P		
440.70				SILTY CLAY: Grayish brown, trace sand (A-6)
	1			
	1	0.5	31	
	1	P		
438.20				CLAY: Gray, trace sand (A-7)
	3			
	4	2.0	25	
-10	4	B		
435.70				SILTY CLAY: Grayish brown and brown, some sand (A-7)
	1			
	2	0.8	23	
	3	B		
433.20				CLAY: Grayish brown and brown, trace to some sand (A-7)
	2			
	3	1.1	21	
-15	3	B		
	WH			Becomes brown, trace fine gravel
▽	2	1.0	26	
	3	B		
	WH			
	2	0.8	24	
-20	3	B		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
▼	1			CLAY: Grayish brown and brown, trace to some sand (A-7) *(continued)*
424.70				
	1	<0.25	25	SANDY CLAY: Brown, trace fine gravel (A-4)
	1	P		
	1			
	2	0.9	14	
-25	3	B		
420.70				SANDY CLAY: Brown, trace fine gravel (A-6)
	2			
	3	2.0	20	
	5	P		
418.20				CLAY: Brown, some sand (A-7)
	2			
	3	1.3	18	
-30	5	B		
414.40				CLAYEY SHALE: Gray
	14			
	20	4.5	13	
-35	47	P		
	50/3"	-	12	Very hard drilling at 38.5 feet.
	50/1"			
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-7
Station 1745+29.69
Offset 29.01ft Rt
Ground Surface Elev. 446.2 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 425.2 ft ▼
Upon Completion 429.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAYEY SHALE: Gray *(continued)*
				Extremely hard drilling at 40 to 41 feet.
402.30	50/3"	-	14	
	50/2"			
-45				
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 030603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W001\ 100W001-98859-017-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W001
SHEET NO. 17 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	256
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

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

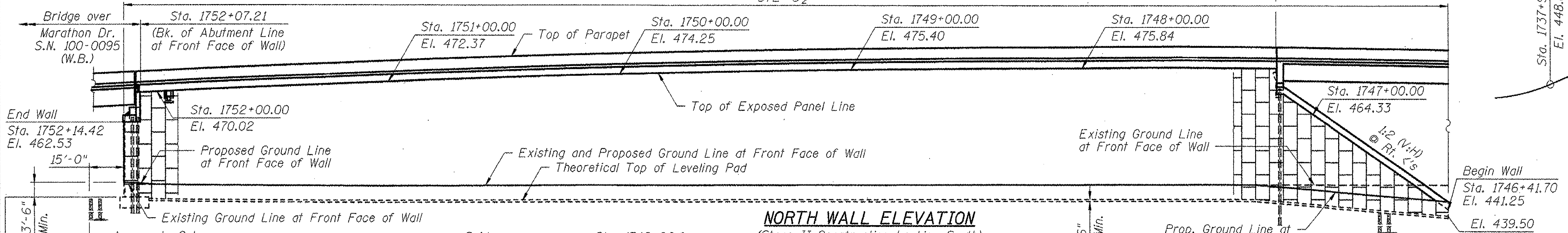
Benchmark #19: Sta. 1763+29.58+/-, 53.73'+/- right (IL Route 13). Cut square in the concrete FDN of a combination mast arm assembly SE quad of Il Rte 13 EBL and Sinclair Dr. 20' South of the centerline of Rte. 13 EBL. Elev. 448.329

Existing Structure:
None

Traffic to be maintained utilizing stage construction.

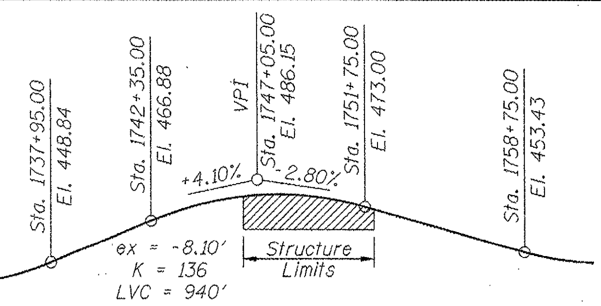
MSE WALL FINISH

See Sheet 6 of 21 for details.



NORTH WALL ELEVATION

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



PROFILE GRADE - IL 13

(Along EB & WB P.G.L.'s)

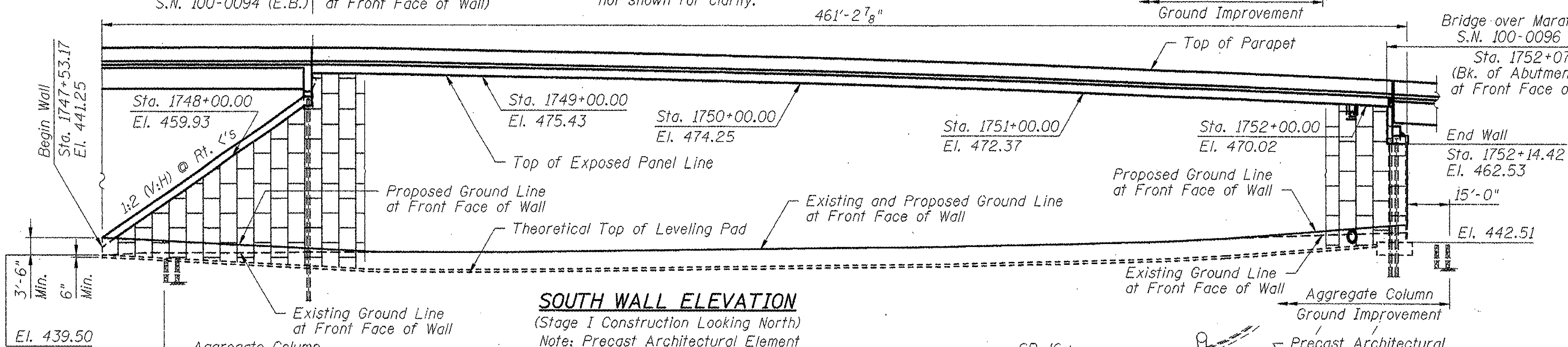
APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

RONALD E. BREVILLE 081-005711 LICENSED STRUCTURAL ENGINEER ST. LOUIS MO STATE OF ILLINOIS
EXP: 30NOV2012

BILL OF MATERIAL

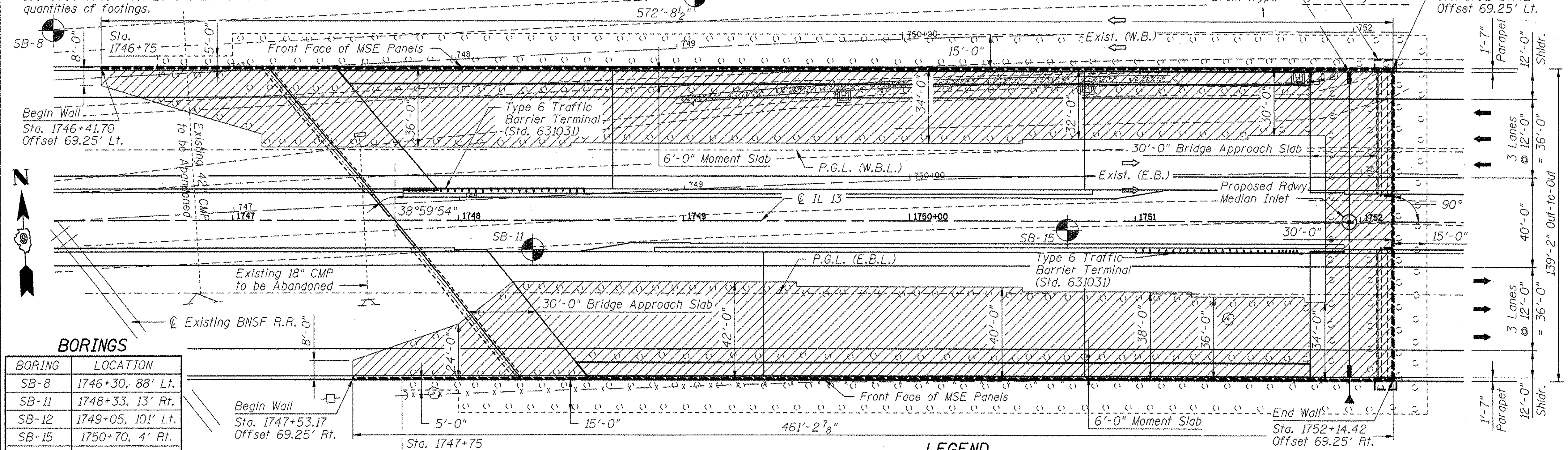
ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	4,017
*Concrete Structures	Cu. Yd.	7.4
Concrete Superstructure	Cu. Yd.	371.9
Form Liner Textured Surface	Sq. Ft.	34,151
Protective Coat	Sq. Yd.	862
*Reinforcement Bars, Epoxy Coated	Lb.	45,430
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	34,151
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.



SOUTH WALL ELEVATION

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



BORINGS

BORING	LOCATION
SB-8	1746+30, 88' Lt.
SB-11	1748+33, 13' Rt.
SB-12	1749+05, 101' Lt.
SB-15	1750+70, 4' Rt.
SB-16	1751+09, 108' Lt.

NOTES:

1. 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.
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.

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

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).

DESIGN SPECIFICATIONS

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

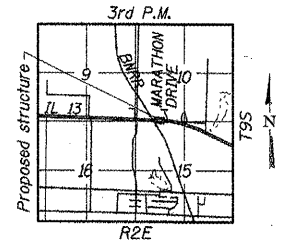
DESIGN STRESSES

FIELD UNITS

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

PRECAST UNITS

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



LOCATION SKETCH

GENERAL PLAN & ELEVATION
FAP ROUTE 331 (IL 13)
SECTION (1X-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

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

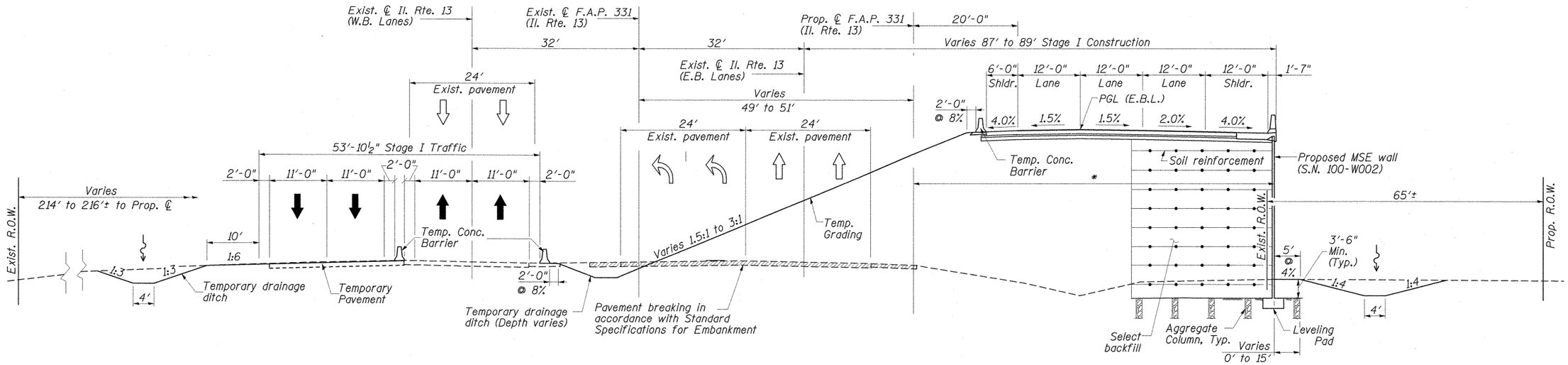
FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-001-GPE.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 28.1905 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 21 SHEETS

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

ILLINOIS FED. AID PROJECT



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

MSE walls shall be constructed to accommodate the roadway fill staging and any required temporary grading slopes. No permanent vertical coping shall be utilized for staged construction of the face panels.

STAGE I CONSTRUCTION

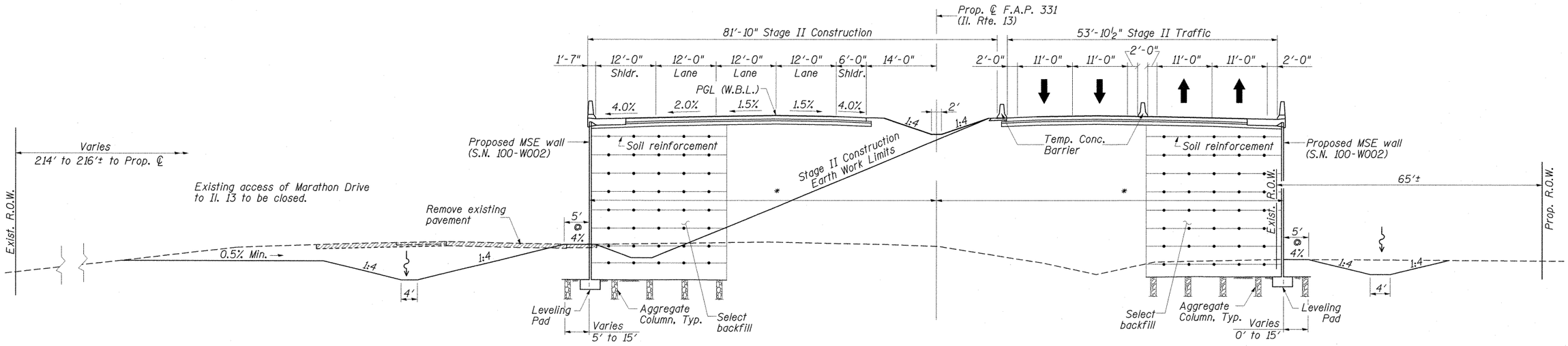
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-002-StageIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION
STRUCTURE NO. 100-W002
SHEET NO. 2 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	258
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

STAGE II CONSTRUCTION

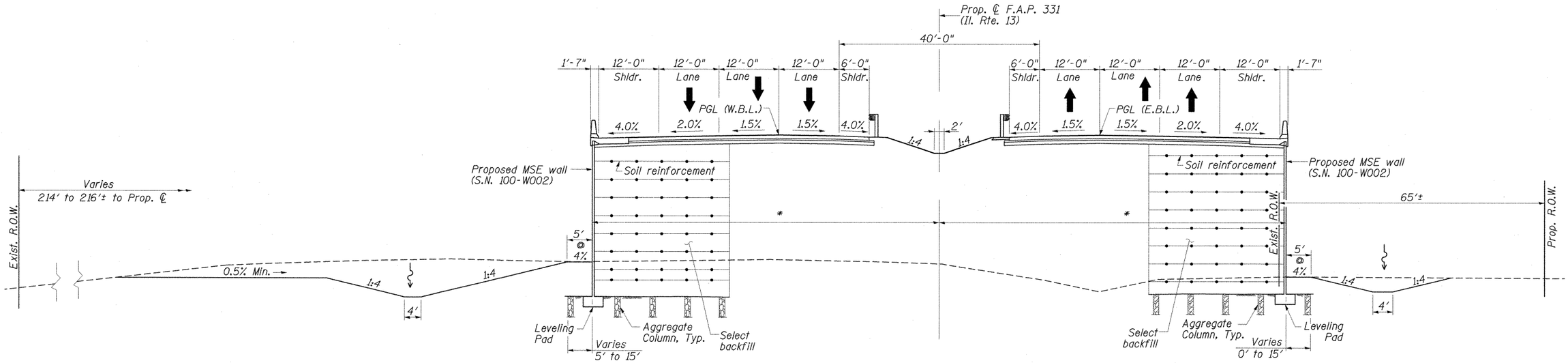
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-003-StageIIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION
STRUCTURE NO. 100-W002
SHEET NO. 3 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-I) VB-1, B-1, N-4, R-3	WILLIAMSON	367	259
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

FINAL ROADWAY RECONFIGURATION

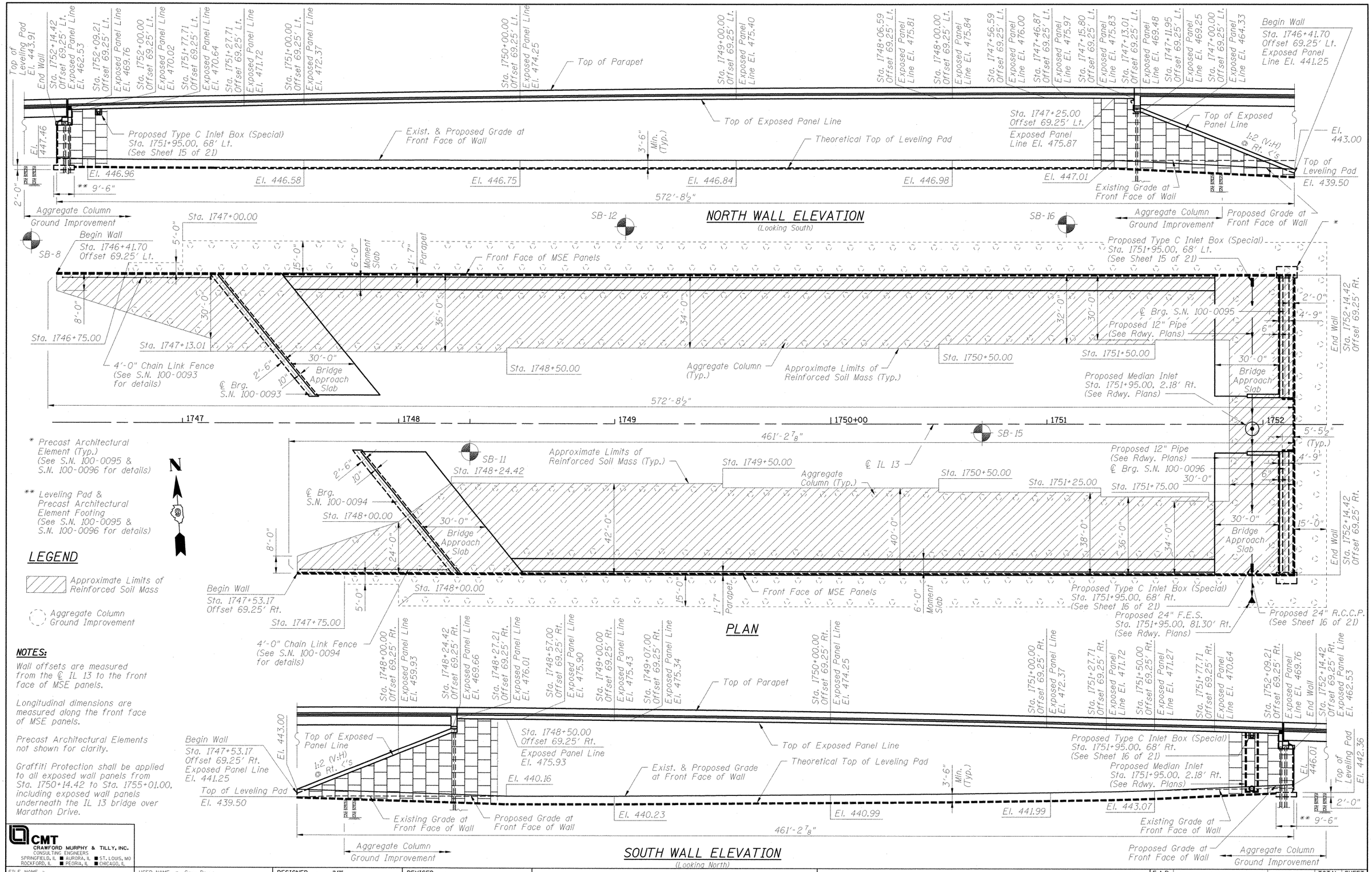
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-004-Final_Reconfig.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINAL ROADWAY RECONFIGURATION
STRUCTURE NO. 100-W002
SHEET NO. 4 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	260
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



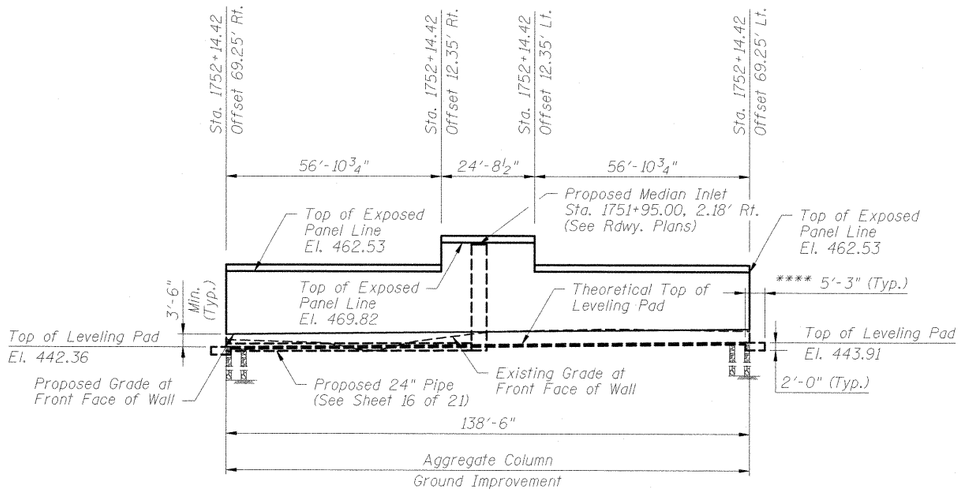
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-005-Elevs_Sects.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

WALL ELEVATIONS AND SECTIONS
STRUCTURE NO. 100-W002
SHEET NO. 5 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	261
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



WALL AT ABUTMENT ELEVATION

(Looking West)

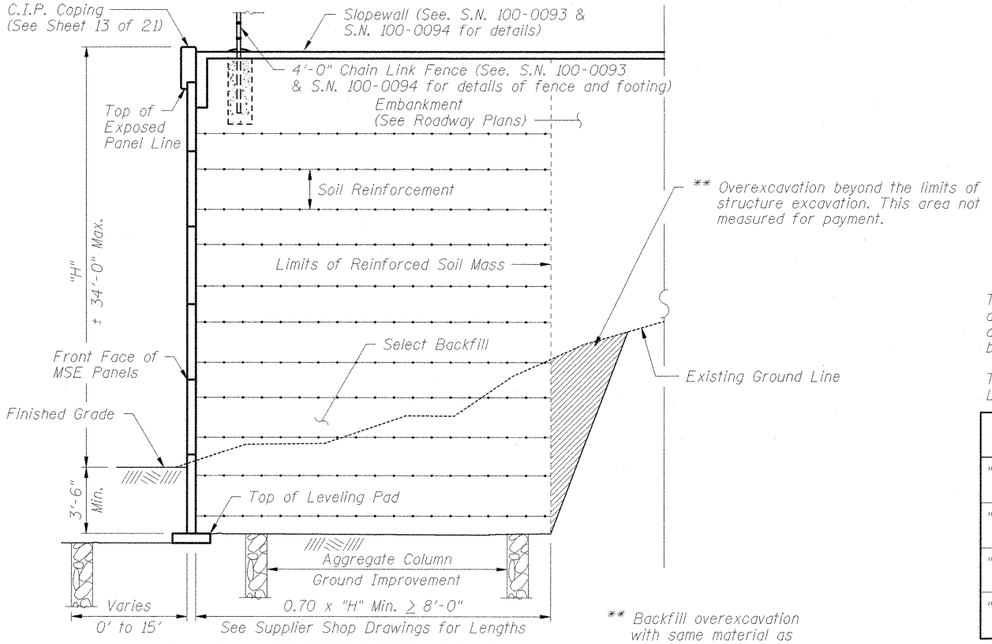
**** Leveling Pad & Precast Architectural Element Footing (See S.N. 100-0095 & S.N. 100-0096 for details)

NOTES:

Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

Longitudinal dimensions are measured along the front face of MSE panels.

Precast Architectural Elements not shown for clarity.



** Backfill overexcavation with same material as used for select fill.

TYPICAL SECTION THRU WALL

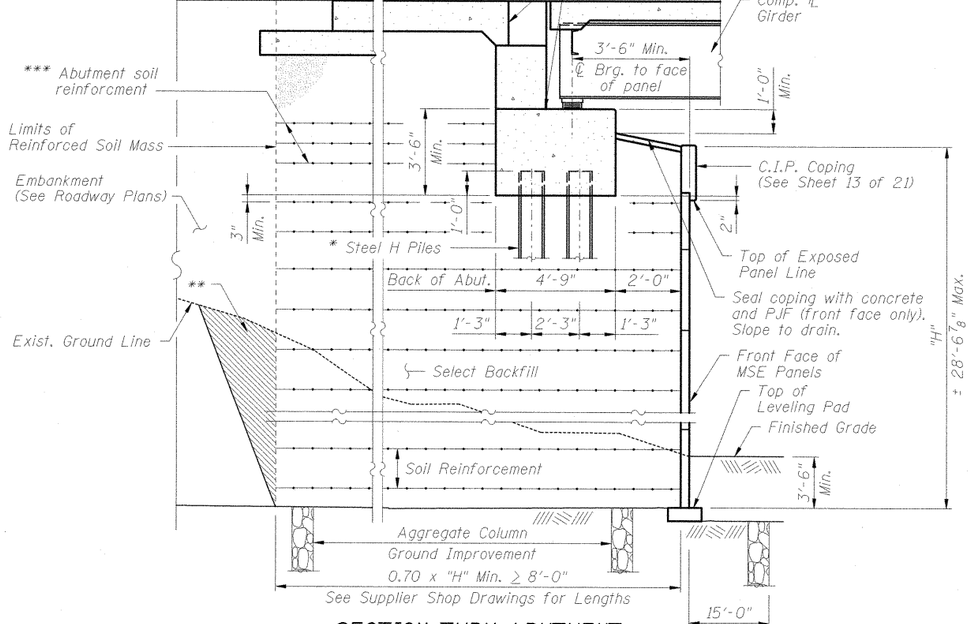
Sta. 1747+53.17 (South Wall) to Sta. 1748+27.21 (South Wall)
Sta. 1746+41.70 (North Wall) to Sta. 1747+15.80 (North Wall)

MSE WALL FINISH

The wall panels shall be textured with an approved Ashlar Stone Form Liner with max. depth of relief of 1-1/2". Panel color shall be Federal Standard Color 10266 (Tan).

The following is a list of Ashlar Stone Form Liner Systems which may be used.

List of Approved Ashlar Stone Form Liner Systems
"Ashlar Stone" (Scott System, Inc.) Pattern No. 167
"Georgetown Ashlar Stone" (Fitzgerald Formliners) Pattern No. 16986
"Ashlar Stone" (Greenstreak) Pattern No. 330
"Southwest Ashlar Stone" (Dayton Superior/Symons) Pattern No. 1515



SECTION THRU ABUTMENT

(Horiz. Dim. ℄ Rt. <'s)

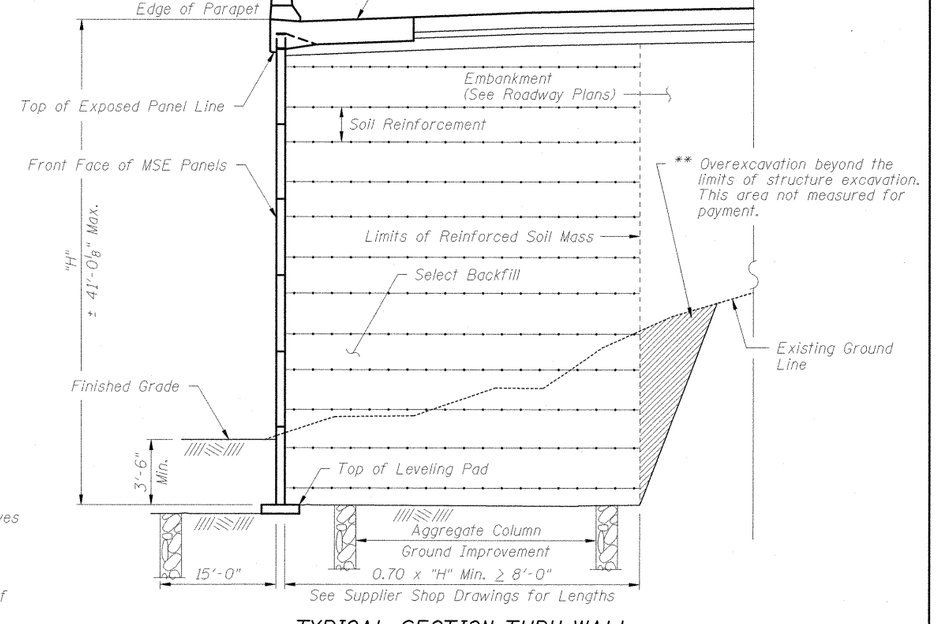
* If piles are installed without sleeves they shall be driven before construction of the MSE Wall select fill and shall be coated with Bitumen from the bottom of the select fill to 1" above the bottom of the abutment cap. The cost of the Bitumen coating shall be included with the pay item for furnishing piles.

Alternately, the Contractor may install sleeves around the piles in lieu of coating with Bitumen. The annulus between the pile and the sleeve shall be filled with loose dry sand after construction of the MSE Wall select fill. The cost of furnishing, installing, and filling the pile sleeves shall be included with the pay item for furnishing piles.

See S.N. 100-0095 & S.N. 100-0096 for details.

** Overexcavation beyond structure excavation and removal of unsuitable material. This area not measured for payment. Backfill overexcavation with select fill used in MSE wall.

*** The MSE wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 6.1 kips/ft. of abutment.



TYPICAL SECTION THRU WALL

Sta. 1748+27.21 (South Wall) to Sta. 1752+14.42 (South Wall)
Sta. 1747+15.80 (North Wall) to Sta. 1752+14.42 (North Wall)

** Backfill overexcavation with same material as used for select fill.

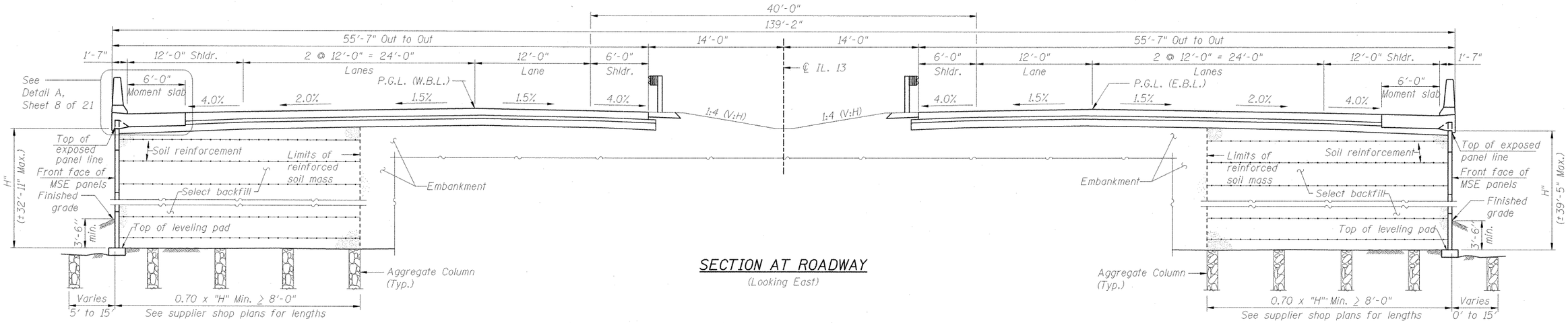
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 090660\3\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-006-Elevs_Sects.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

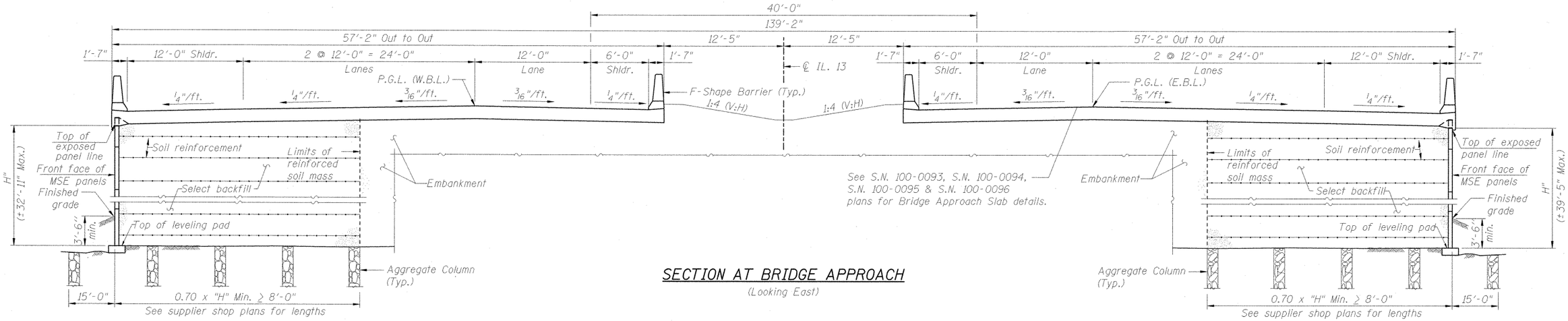
WALL ELEVATIONS AND SECTIONS
STRUCTURE NO. 100-W002
SHEET NO. 6 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	262
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



SECTION AT ROADWAY

(Looking East)



SECTION AT BRIDGE APPROACH

(Looking East)

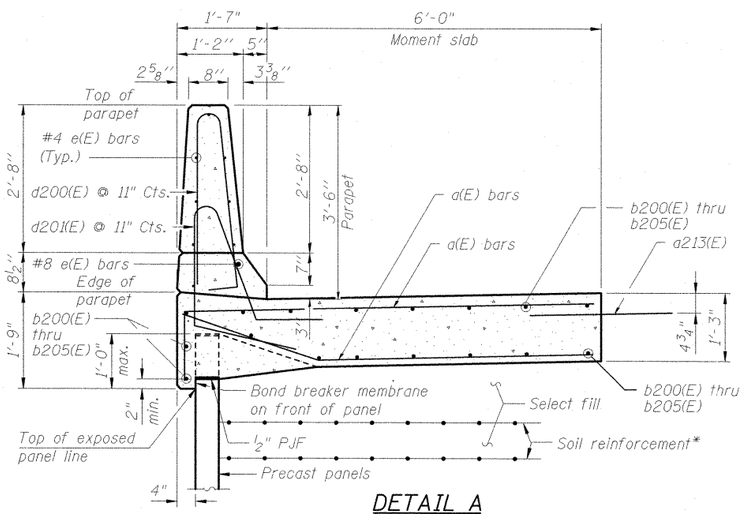
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL. ■ AURORA, IL. ■ ST. LOUIS, MO
ROCKFORD, IL. ■ PEORIA, IL. ■ CHICAGO, IL.

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-007-Sections.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

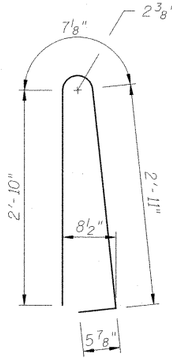
BACK TO BACK WALL SECTIONS
STRUCTURE NO. 100-W002
SHEET NO. 7 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	263
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

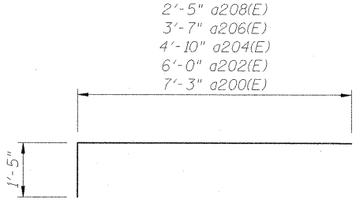


DETAIL A

* The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.



BAR d200(E)



BARS a200(E), a202(E), a204(E), a206(E), & a208(E)

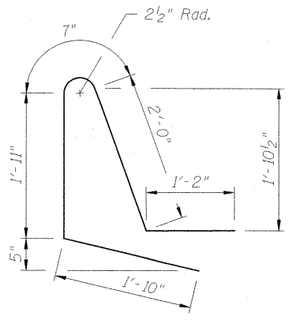
Reinforcement bars designated (E) shall be epoxy coated.

Slipforming of the parapets is not allowed.

Moment slab joints shall be sealed in accordance with Art. 420.05.

All work including dowel bars, joint filler, joint sealer, and expansion cap necessary to complete the construction of joints will be included for payment in the contract unit price for Concrete Superstructure.

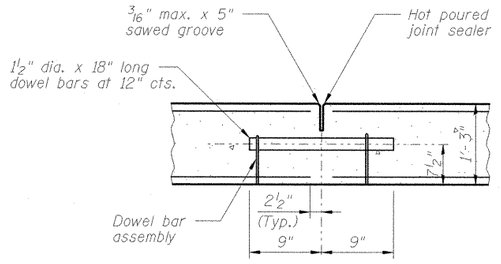
For location of joints and reinforcing details in parapet and moment slab, see Sheets 9 thru 12 of 21.



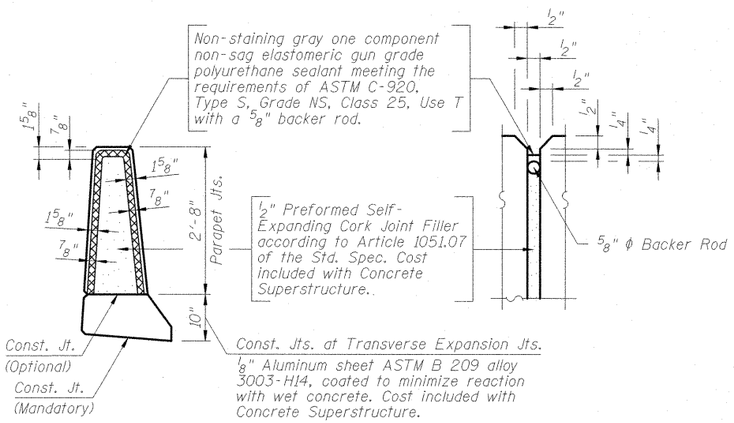
BAR d201(E)

MOMENT SLAB/PARAPET BILL OF MATERIAL

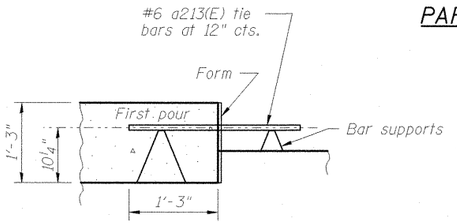
Bar	No	Size	Length	Shape
a200(E)	748	#6	8'-8"	
a201(E)	748	#6	7'-3"	
a202(E)	1	#6	7'-5"	
a203(E)	1	#6	6'-0"	
a204(E)	1	#6	6'-3"	
a205(E)	1	#6	4'-10"	
a206(E)	1	#6	5'-0"	
a207(E)	1	#6	3'-7"	
a208(E)	1	#6	3'-10"	
a209(E)	1	#6	2'-5"	
a210(E)	2	#6	5'-0"	
a211(E)	2	#6	3'-9"	
a212(E)	2	#6	2'-6"	
a213(E)	748	#6	2'-6"	
b200(E)	85	#4	26'-3"	
b201(E)	340	#4	14'-6"	
b202(E)	17	#4	13'-5"	
b203(E)	136	#4	26'-9"	
b204(E)	51	#4	12'-0"	
b205(E)	51	#4	27'-3"	
d200(E)	837	#5	6'-10"	
d201(E)	837	#5	7'-6"	
e200(E)	5	#4	25'-11"	
e201(E)	4	#8	34'-3"	
e202(E)	8	#4	27'-10"	
e203(E)	7	#8	34'-3"	
e204(E)	4	#4	26'-5"	
e205(E)	4	#8	28'-9"	
e206(E)	4	#4	26'-5"	
e207(E)	4	#8	28'-9"	
e208(E)	5	#4	30'-0"	
e209(E)	5	#8	32'-7"	
e210(E)	3	#4	27'-3"	
e211(E)	3	#8	29'-4"	
e212(E)	42	#4	19'-9"	
e213(E)	140	#4	14'-6"	
e214(E)	7	#4	13'-5"	
e215(E)	70	#4	19'-6"	
e216(E)	21	#4	12'-0"	
e217(E)	28	#4	19'-0"	
Concrete Superstructure			Cu. Yd.	353.8
Reinforcement Bars, Epoxy Coated			Lb.	48,270



TRANSVERSE CONTRACTION JOINT



PARAPET JOINT DETAILS

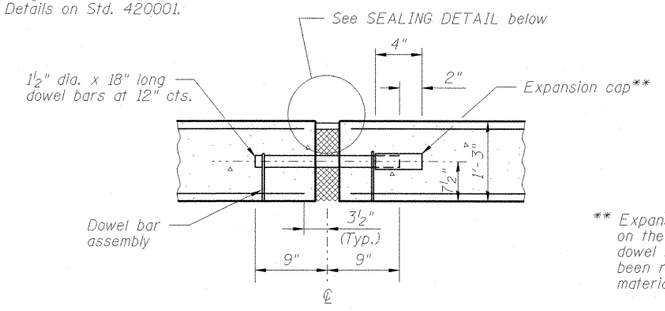


CONSTRUCTION JOINT

Note: Joint to be sawed and sealed in accordance with the Longitudinal Construction Joint Details on Std. 420001.

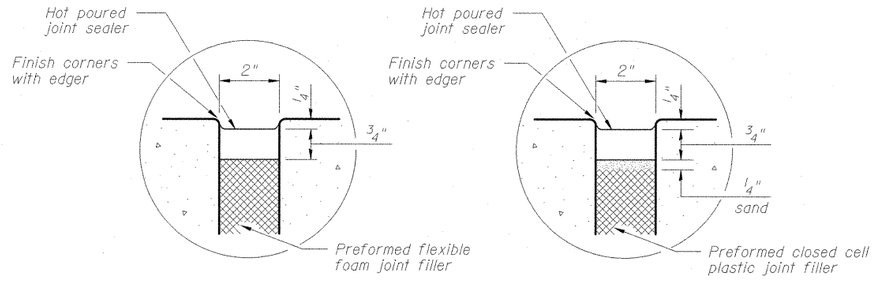
MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"



** Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

TRANSVERSE EXPANSION JOINT



SEALING DETAIL

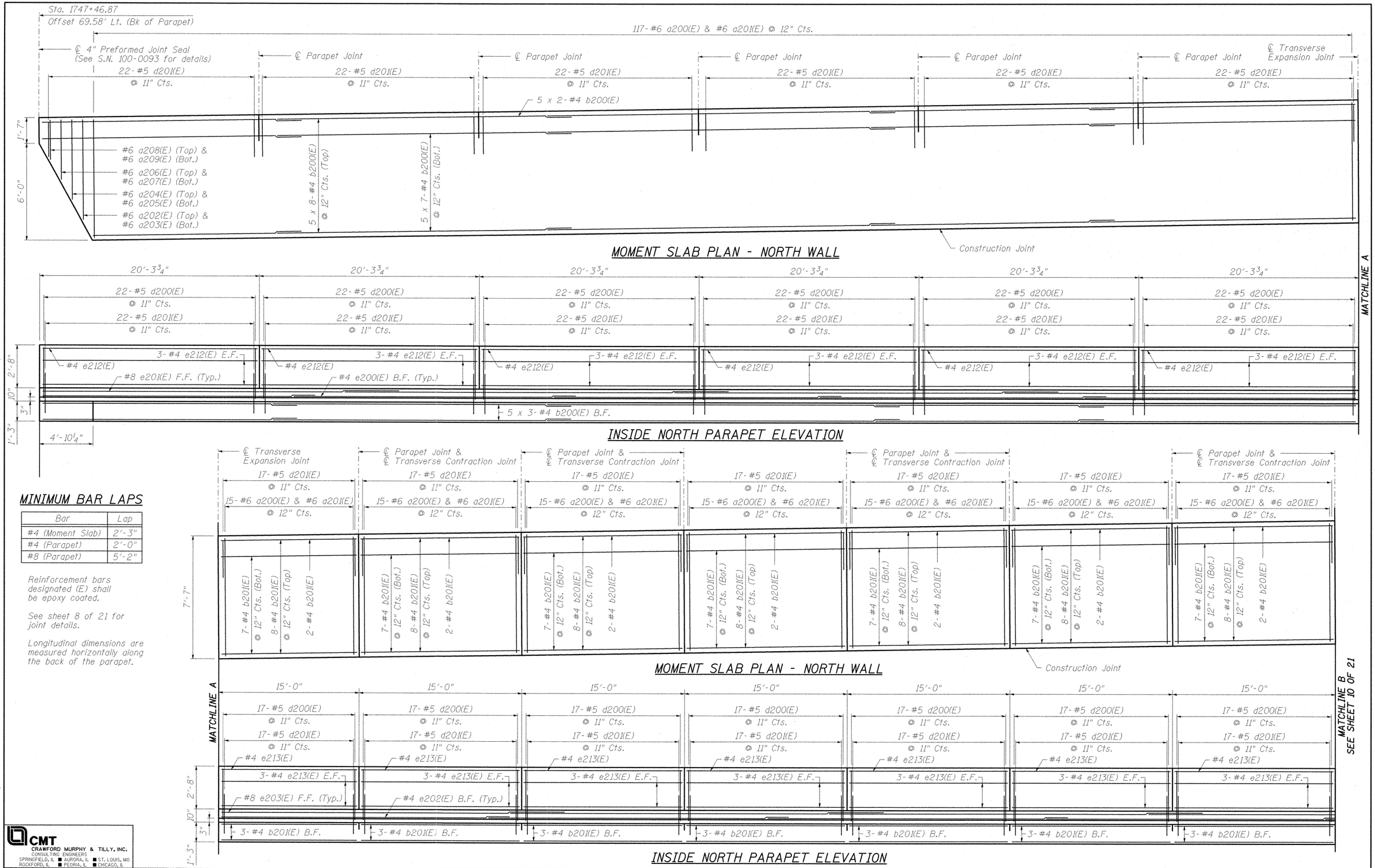
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-008-Slab_Parapet.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB AND PARAPET DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 8 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	264
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 21 for joint details.

Longitudinal dimensions are measured horizontally along the back of the parapet.

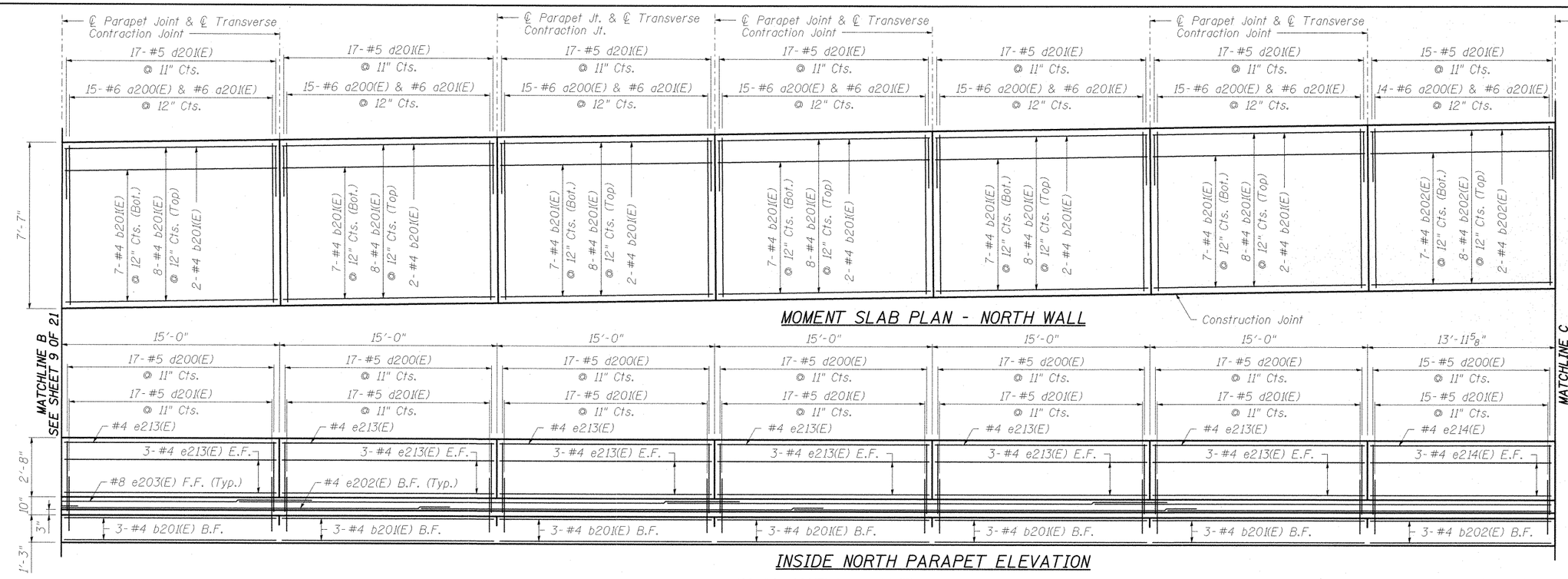
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-009-N_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 9 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	265
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 21 for joint details.

Longitudinal dimensions are measured horizontally along the back of the parapet.

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-010-N_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 10 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	266
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	

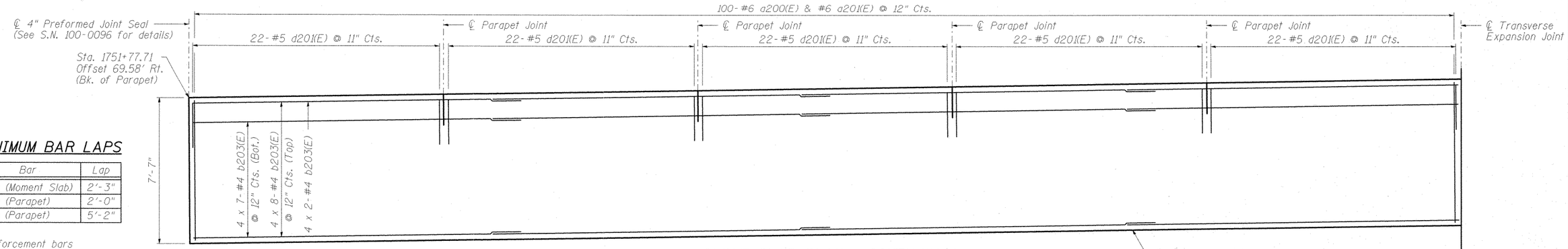
MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

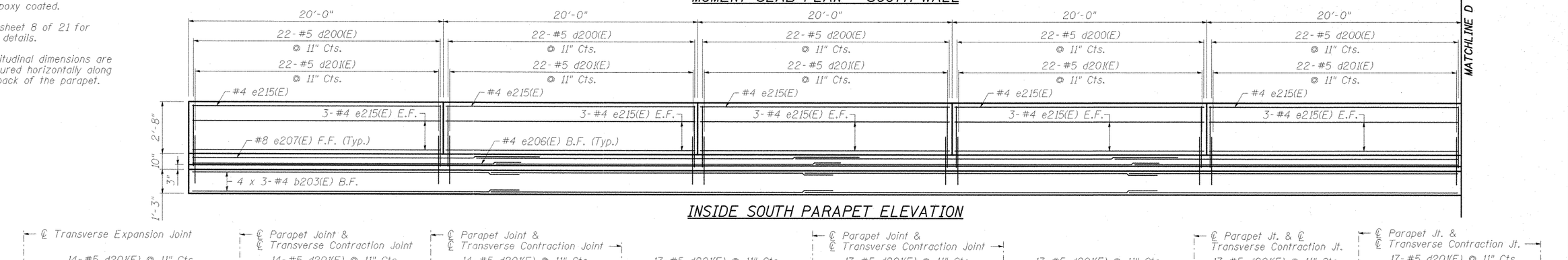
Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 21 for joint details.

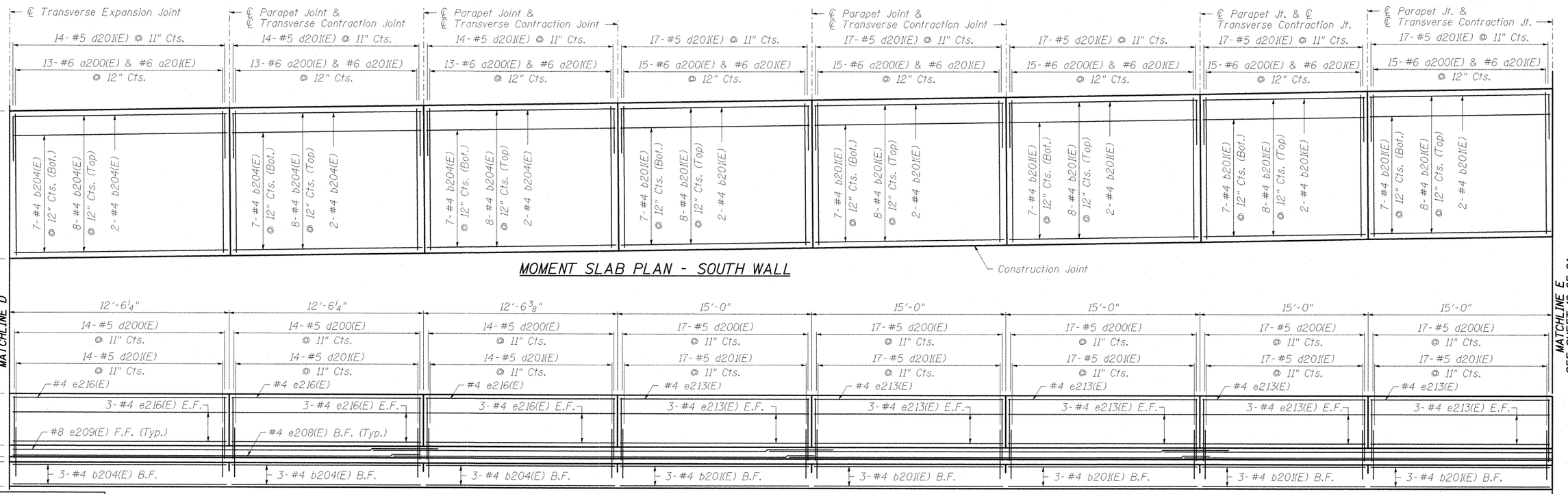
Longitudinal dimensions are measured horizontally along the back of the parapet.



MOMENT SLAB PLAN - SOUTH WALL



INSIDE SOUTH PARAPET ELEVATION



MOMENT SLAB PLAN - SOUTH WALL

INSIDE SOUTH PARAPET ELEVATION

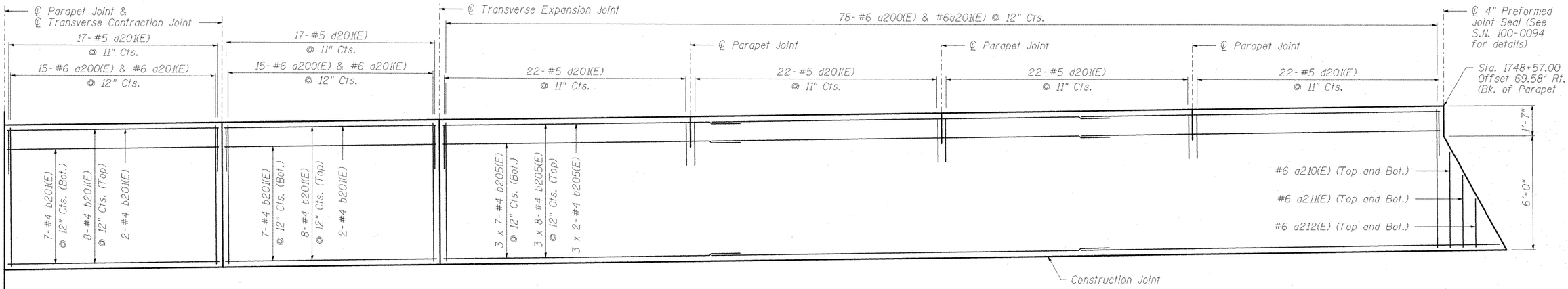
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100w002-98859-01I_S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

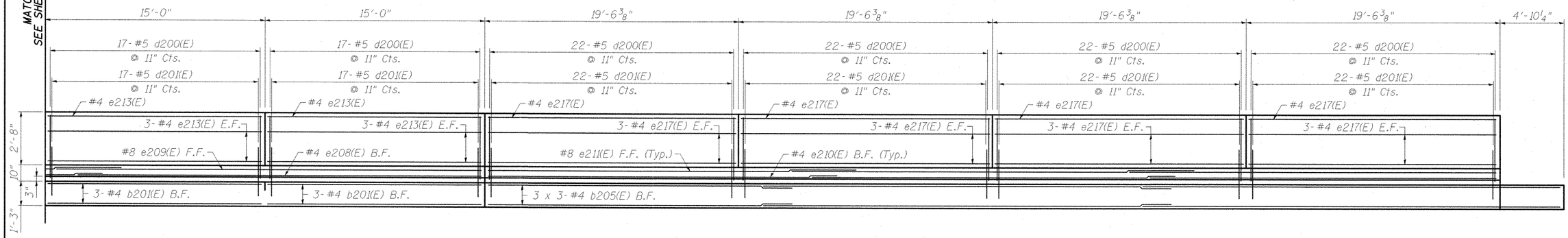
JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 11 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	267
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



MOMENT SLAB PLAN - SOUTH WALL

MATCHLINE E
SEE SHEET 12 OF 21



INSIDE SOUTH PARAPET ELEVATION

MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 21 for joint details.

Longitudinal dimensions are measured horizontally along the back of the parapet.

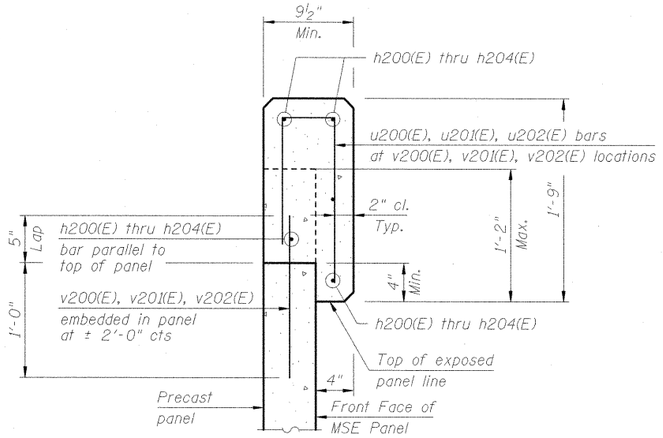
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0926603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-012_S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

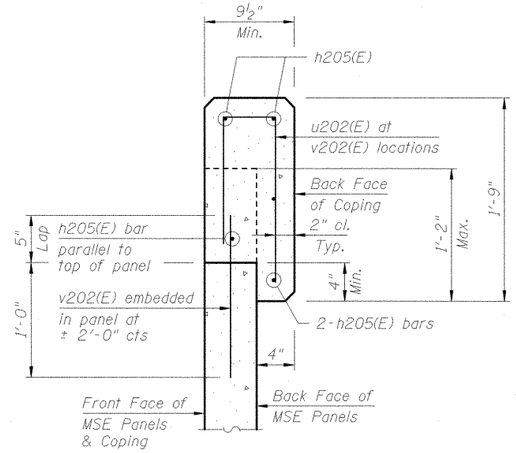
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 12 OF 21 SHEETS

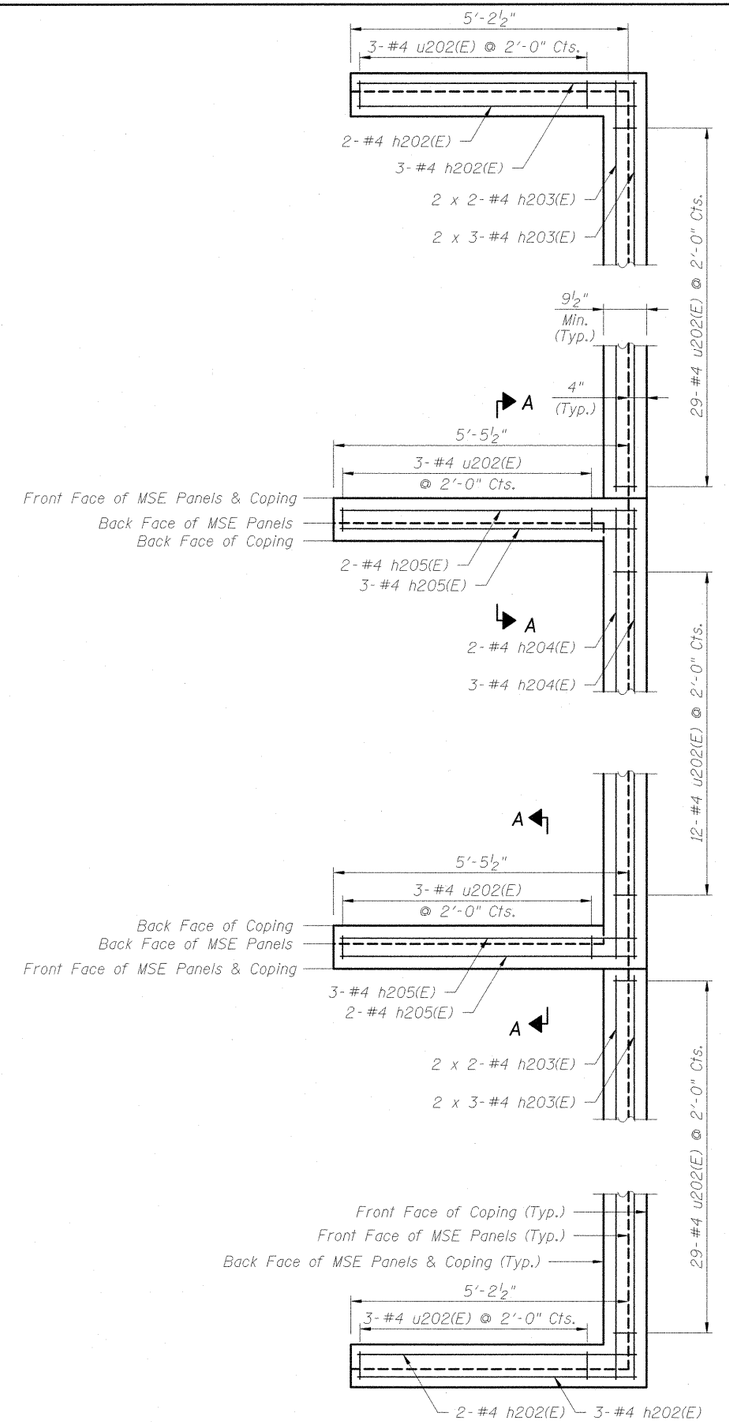
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	268
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION THRU COPING



SECTION A-A



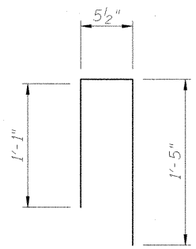
COPING REINFORCING PLAN AT ABUTMENT

C.I.P. COPING BILL OF MATERIAL

Bar	No.	Size	Length	Shape	Location
h200(E)	15	#4	27'-0"		North Wall @ S.N. 100-0093
h201(E)	15	#4	27'-0"		South Wall @ S.N. 100-0094
h202(E)	10	#4	5'-1"		Abutment
h203(E)	20	#4	30'-0"		Abutment
h204(E)	5	#4	24'-4"		Abutment
h205(E)	10	#4	5'-5"		Abutment
u200(E)	39	#4	2'-11½"		North Wall @ S.N. 100-0093
u201(E)	39	#4	2'-11½"		South Wall @ S.N. 100-0094
u202(E)	82	#4	2'-11½"		Abutment
v200(E)	39	#4	1'-5"		North Wall @ S.N. 100-0093
v201(E)	39	#4	1'-5"		South Wall @ S.N. 100-0094
v202(E)	82	#4	1'-5"		Abutment
Concrete Superstructure			Cu. Yd.	14.2	
Reinforcement Bars, Epoxy Coated			Lb.	1,570	

For information purposes only.

Cost of C.I.P. Coping will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.



BAR u200(E), u201(E), u202(E)

MINIMUM BAR LAPS

Bar	Lap
#4	2'-3"

Reinforcement bars designated (E) shall be epoxy coated.

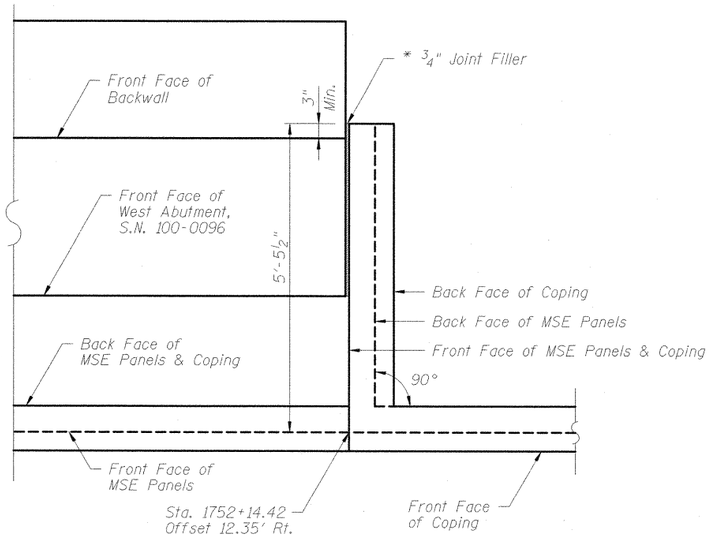
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

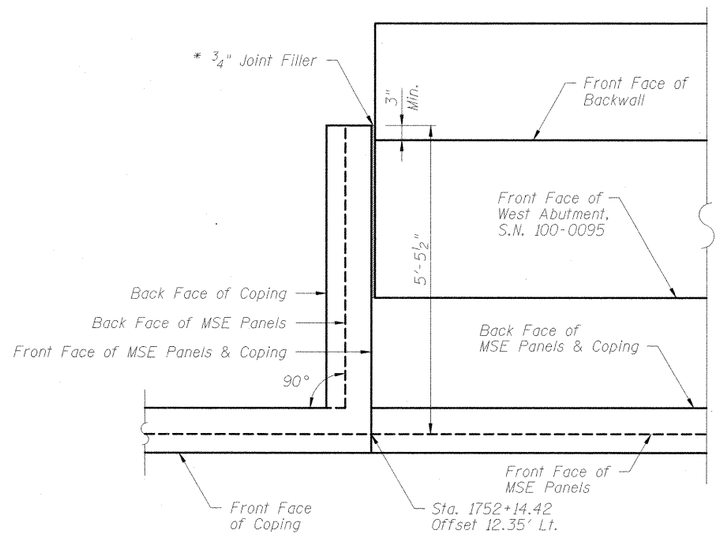
FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-013-Coping.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

C.I.P. COPING REINFORCING DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 13 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	269
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

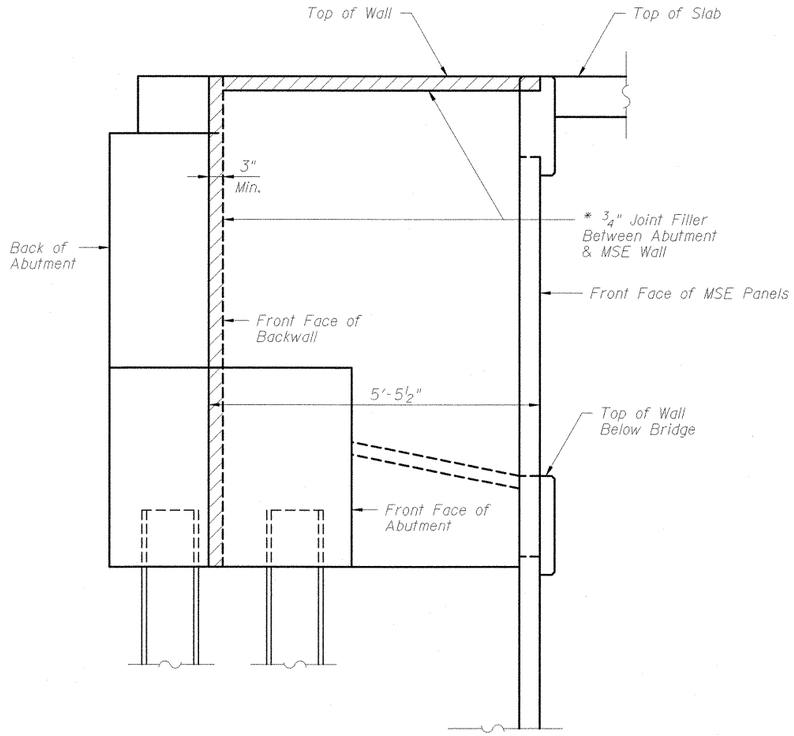




* The cost of Joint Filler will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.

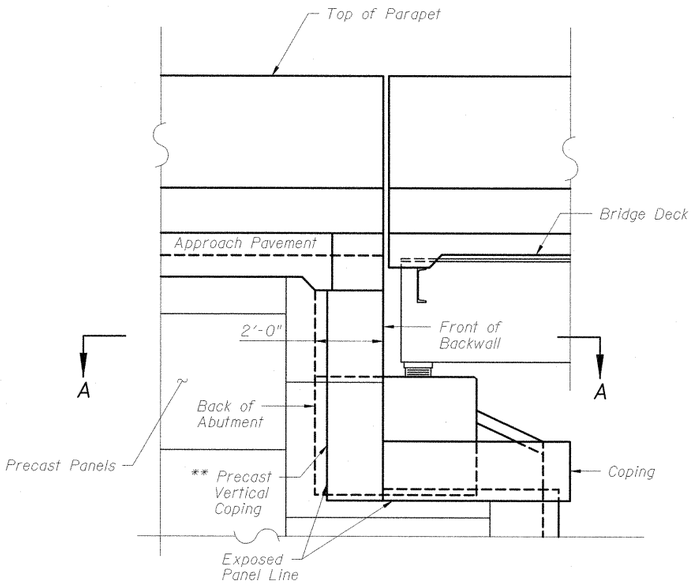
WALL AT ABUTMENT DETAILS

(Looking West)

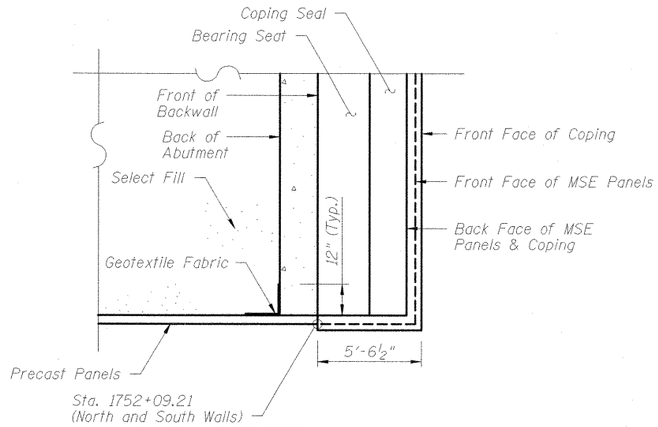


TYPICAL ELEVATION

* The cost of Joint Filler will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.



END VIEW



SECTION A-A

WRAP AROUND WALL DETAILS

** The cost of Precast Vertical Coping will be included in the contract unit price for Mechanically Stabilized Earth Retaining Wall.

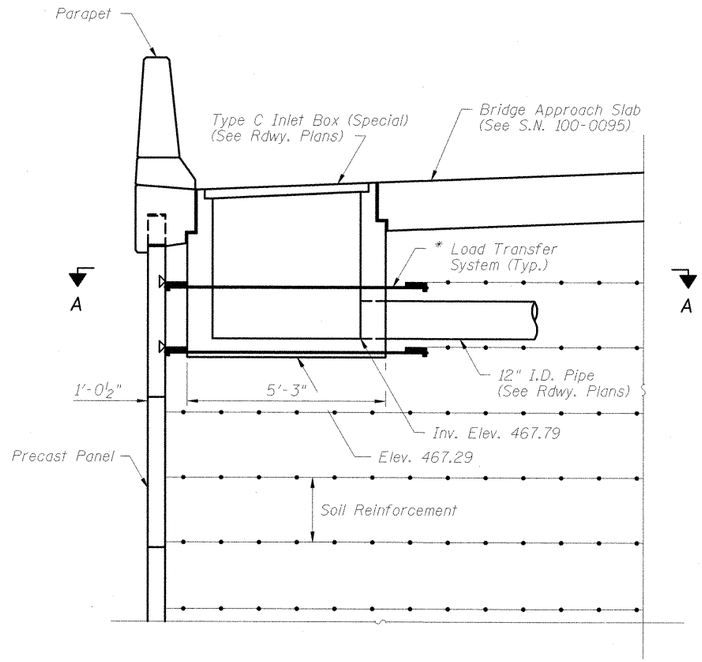
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-014-Wrap.Around.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL AT ABUTMENT DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 14 OF 21 SHEETS

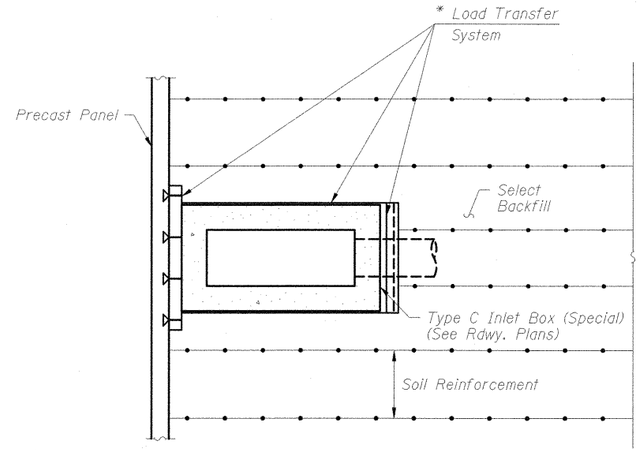
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	270
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



Reinforcing in moment slab, parapet and drainage structure not shown for clarity.

LOAD TRANSFER SYSTEM AROUND DRAINAGE DETAIL

Sta. 1751+95.00 (North Wall)



* M.S.E. supplier to design load transfer system to accommodate concrete pipe and inlet box.

SECTION A-A

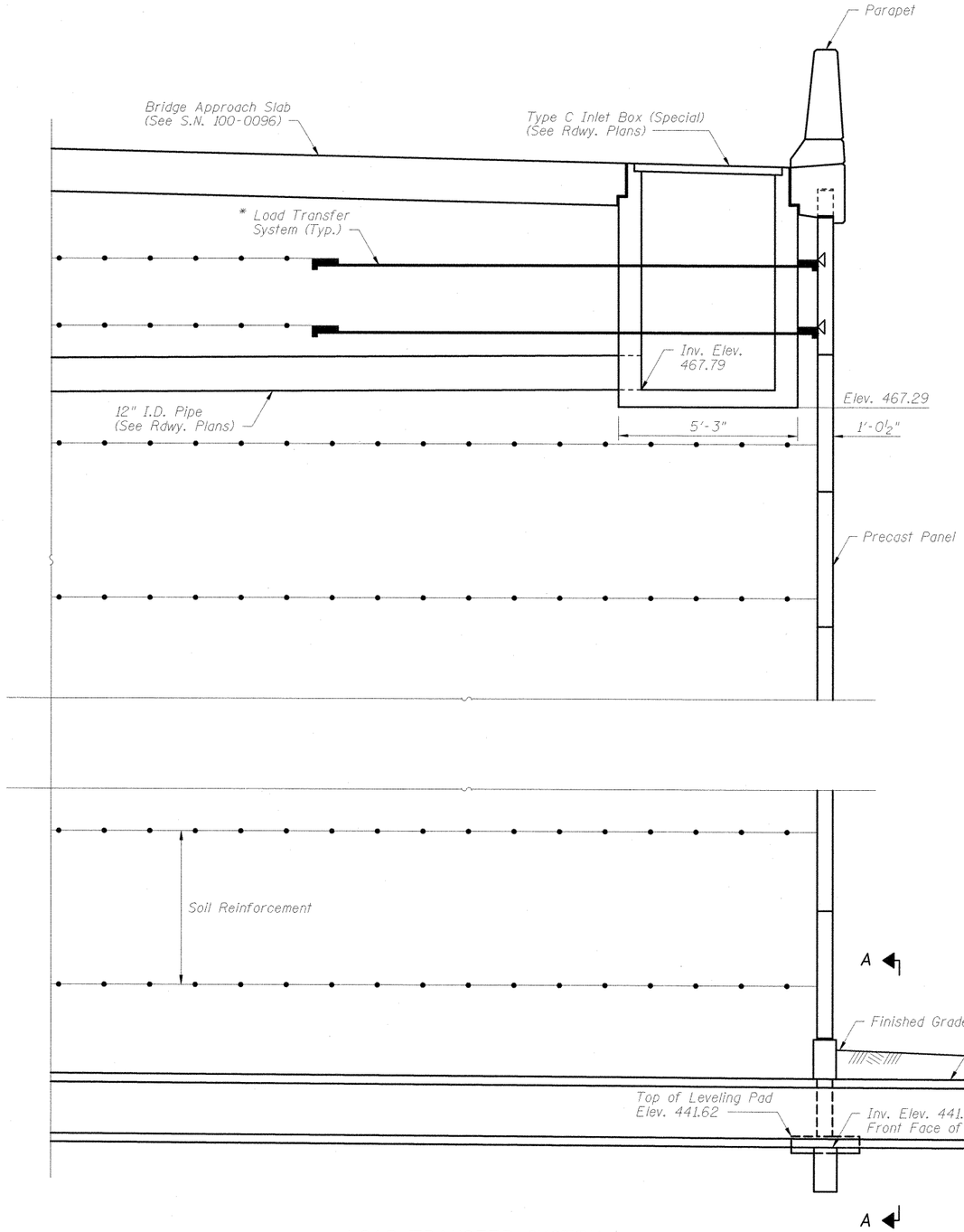
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-015-Drainage.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOAD TRANSFER SYSTEM
STRUCTURE NO. 100-W002
SHEET NO. 15 OF 21 SHEETS

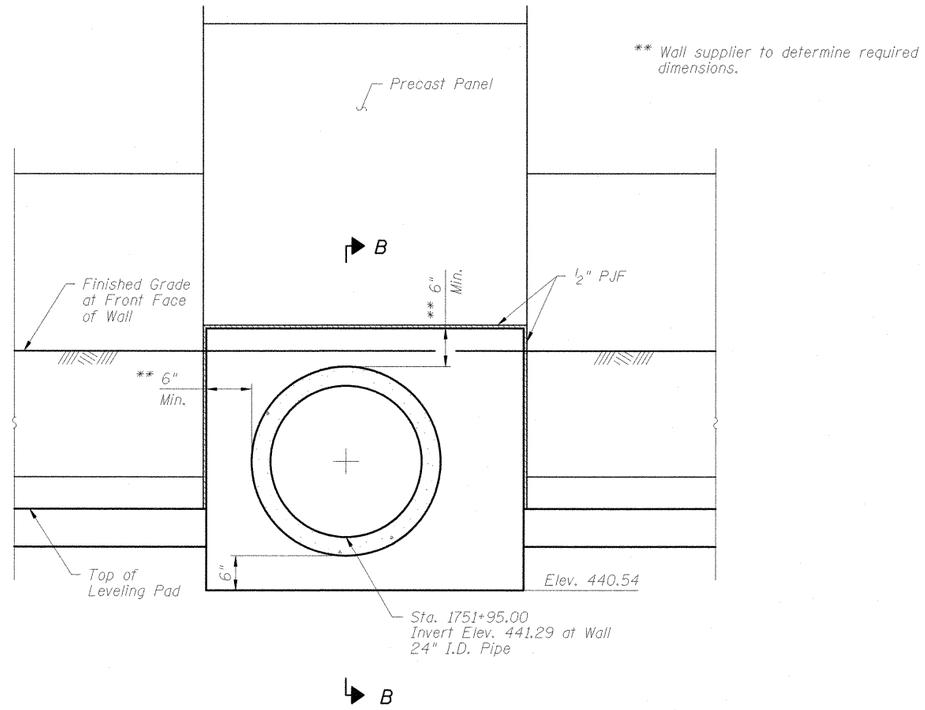
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	271
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



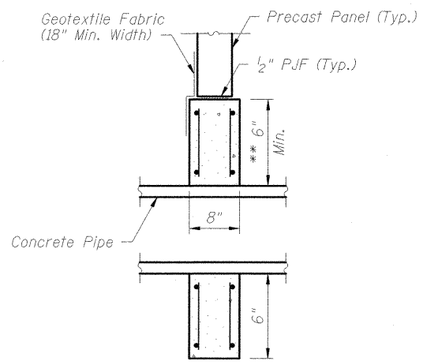
LOAD TRANSFER SYSTEM AROUND DRAINAGE DETAIL

Sta. 1751+95.00 (South Wall)

* M.S.E. supplier to design load transfer system to accommodate concrete pipe, inlet box, and manhole.



SECTION A-A



SECTION B-B

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-016-Pipe_Through.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIPE PASS THROUGH DETAILS
STRUCTURE NO. 100-W002
SHEET NO. 16 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	272
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-8
Station 1746+30.07
Offset 87.66ft Lt
Ground Surface Elev. 446.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 429.5 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
				444.99
	2			FILL: Brown, silty clay, trace to some sand (A-7)
	2	0.1	25	
	2	B		
				Some sand, trace fine gravel
	5			
	4	1.5	20	
-5	3	P		
				440.49
				SILTY CLAY: Brown and grayish brown (A-6)
	2			
	3	1.5	26	
	3	P		
				Becomes brown
	2			
	2	0.3	21	
-10	4	B		
				435.49
				CLAY: Brown, some sand, trace fine gravel (A-7)
	1			
	3	1.6	21	
	4	B		
	2			
	3	1.6	23	
-15	5	B		
▼	1			
	2	0.7	20	
	2	B		
				427.99
				CLAYEY SILT: Brown (A-4)
	2			
	2	<0.25	28	
-20	3	P		
				425.49
				SANDY CLAY: Brown, trace fine gravel (A-6)
	1			
	3	2.0	16	
	4	P		
	2			
	4	0.8	15	
-25	4	B		
	3			
	5	1.7	18	
	3	B		
				417.99
				CLAY: Brown and gray, some sand (A-7)
	1			
	4	0.9	17	
-30	5	B		
				413.49
				CLAYEY SHALE: Dark gray to black
	39			
	50/3"	-	30	
-35	50/1"			
				Coal observed
				Becomes gray
	40			
	40	4.5	15	
-40	50/4"	P		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-8
Station 1746+30.07
Offset 87.66ft Lt
Ground Surface Elev. 446.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 429.5 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAYEY SHALE: Dark gray to black *(continued)*
	50/4"	-	18	
	50/0"			
-45				
				397.29
	50/1"	-	19	
	50/1"			
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-017-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W002
SHEET NO. 17 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	273
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-11
Station 1748+32.51
Offset 13.21ft Rt
Ground Surface Elev. 446.3 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.8 ft ▼
Upon Completion - ft
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches				
445.28				
FILL: Brown, silty clay (A-6)		2		
		1 3	1.5 P	20
443.28				
FILL: Brown and dark brown, clay, trace sand, coal, shale fragments (A-7)		4		
		4 4	1.7 B	20
	-5			
440.78				
SILTY CLAY: Grayish brown, trace to some sand (A-6)		3		
		1 1	0.2 B	31
438.28				
CLAY: Brown (A-7)				
Shelby tube - 19 inches recovery. Consolidation test performed on sample with results shown on the Consolidation Test Summary.	-10		2.0	26
435.53				
SILTY CLAY: Grayish brown and brown (A-6)		WH		
		2 3	0.6 B	24
433.28				
SILTY CLAY: Grayish brown and brown, trace sand (A-7) ▼		1		
		2 3	0.8 B	21
	-15			
430.78				
CLAY: Gray and brown, trace to some sand (A-7)		1		
		2 2	1.3 B	21
Becomes brown and gray, trace sand		1		
		2 3	1.4 B	27
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY: Gray and brown, trace to some sand (A-7) *(continued)* Trace to some sand		1		
		3 3	1.4 B	22
		1		
		2 3	1.1 B	21
	-25			
Becomes brown, some sand, no gravel		1		
		1 5	0.9 B	18
Trace gravel		4		
		6 8	2.7 B	17
	-30			
Hard drilling at 31 feet. 415.28				
CLAYEY SHALE: Gray		45		
		50/1" 50/2"	-	15
	-35			
		50/3" 50/3"	-	7
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-11
Station 1748+32.51
Offset 13.21ft Rt
Ground Surface Elev. 446.3 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 432.8 ft ▼
Upon Completion - ft
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Gray *(continued)* No recovery 405.78		100/0"	-	
	-45			
	-50			
	-55			
	-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME =	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-018-Borings.dgn		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W002
SHEET NO. 18 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	274
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1

Date 11/6/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION _____ LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-12
Station 1749+04.68
Offset 101.46ft Lt
Ground Surface Elev. 446.2 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 433.2 ft ▼
Upon Completion 410.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
445.18				GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches
	3			FILL: Brown, clay, trace to some sand (A-7)
	4	3.5	20	
	4	P		
	4			Some sand, trace rock fragments
-5	5	3.0	20	
	5	P		
440.68				CLAY: Gray and brown (A-7) No Recovery
	WH			
	WH	-		
	1			
	2			
	3	1.1	28	
-10	3	B		
435.68				SILTY CLAY: Grayish brown and brown (A-7)
	WH			
	1	0.7	24	
	2	B		
		1.3	20	
		B		
-15				
430.68				CLAY: Brown and gray, trace sand (A-7)
	1			
	2	1.2	24	
	2	B		
		0.8	20	Some sand Shelby tube - 23 inches recovery. Unconfined compression strength test performed with results
-20		S		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				shown in Qu and Moist. columns. Dry density - 108.9 pounds per cubic foot.
	1			CLAY: Brown and gray, trace sand (A-7) *(continued)*
	3	2.3	19	
	4	B		
423.18				CLAYEY SHALE: Brown
	28			
	50	-	13	
-25	50/3"			
	30			
	50	-	12	
	50/2"			
	36			
	50/4"	-	10	
-30	50/3"			
				Becomes gray
	50/4"	-	6	
-35	50/2"			
				▽
407.18	50/4"	-	10	
-40	50/2"			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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-W002\ 100W002-98859-019-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W002
SHEET NO. 19 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	275
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-15
Station 1750+70.20
Offset 4.00ft Rt
Ground Surface Elev. 446.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 435.0 ft ▼
Upon Completion 407.5 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 444.97			
FILL: Brown, clay, trace to some sand (A-7)	3		
	2 4	1.2 B	24
442.97			
FILL: Grayish brown and dark brown, silty clay (A-6)	4		
	5 4	3.3 B	19
-5			
440.47			
CLAY: Grayish brown and brown, trace to some sand (A-7)	3		
	4 5	1.6 B	26
437.97			
SILTY CLAY: Brown (A-6)	3		
	2 3	1.8 B	23
-10			
435.47			
SILTY CLAY: Brown, trace sand (A-7) ▼	1		
	1 2	0.7 B	22
432.97			
CLAY: Brown, trace to some sand (A-7)	1		
	2 2	1.6 B	23
-15			
Trace sand	2		
	2 2	1.1 B	26
	3		
426.77			
CLAYEY SHALE: Brown	29	-	10
-20	50/5"		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Brown *(continued)*			
	41		
	50/4" 50/2"	-	14
	50		
	50/3"	-	16
-25			
Becomes gray	50/4" 50/1"	-	6
-30			
	50/4" 50/1"	-	6
-35			
Extremely hard drilling at 35.5 feet.			
▽			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2

Date 11/10/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-15
Station 1750+70.20
Offset 4.00ft Rt
Ground Surface Elev. 446.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 435.0 ft ▼
Upon Completion 407.5 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Brown *(continued)*			
401.97	50/4"	-	6
	50/2"		
-45			
-50			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME =	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100W002-98859-020-Borings.dgn		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W002
SHEET NO. 20 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	276
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-16
Station 1751+08.84
Offset 108.05ft Lt
Ground Surface Elev. 446.6 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 430.6 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches 445.57			
FILL: Brown clay, some sand (A-7)	3		
	4 5	2.8 P	17
442.57	4		
CLAYEY SILT: Grayish brown, trace to some organics (A-4)	3 2	0.4 B	30
-5 441.07			
CLAY: Grayish brown and brown (A-7)	2		
	4 6	2.9 B	31
438.57			
SILTY CLAY: Brown (A-6)	2		
	4 6	1.3 B	21
-10 436.07			
SILTY CLAY: Brown and grayish brown (A-7)	WH		
	2 2	0.8 B	22
433.57			
CLAY: Gray and brown, trace to some sand (A-7)	2		
	2 3	1.5 B	21
-15 ▼			
	WH		
	2 3	1.2 S/15	22
Trace sand Shelby tube - 22 inches recovery. Unconfined compression strength test performed with results		0.5 S	25
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
shown in Qu and Moist. columns. Dry density - 101.7 pounds per cubic foot. 426.07			
CLAYEY SHALE: Gray and brown	2		
	7 16	1.4 B	26
Becomes brown	12		
	15 50/3"	3.0 S	19
-25			
	50/5"		
	50/2"	-	17
Becomes gray	50		
	50/1"	-	8
-30			
	20		
	11 13	4.5 P	12
-35			
	50/3"	-	12
	50/2"		
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-16
Station 1751+08.84
Offset 108.05ft Lt
Ground Surface Elev. 446.6 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 430.6 ft ▼
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAYEY SHALE: Gray and brown *(continued)*			
402.77	50/2"	-	12
	50/2"		
-45			
-50			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W002\ 100w002-98859-021-Borings.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W002
SHEET NO. 21 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	277
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

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

Traffic to be maintained utilizing stage construction.

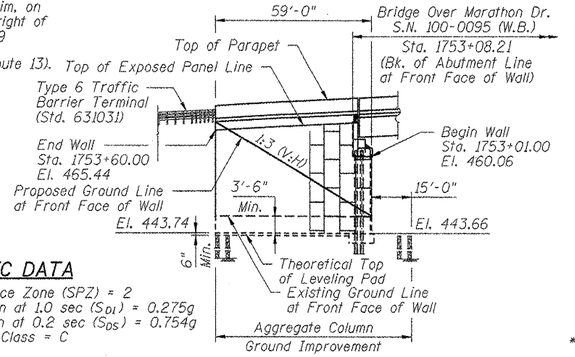
Existing Structure:
None

BORINGS

BORING	LOCATION
SB-19	1753+49, 3' Rt.
SB-20	1754+12, 113' Lt.
SB-23	1755+75, 16' Rt.

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



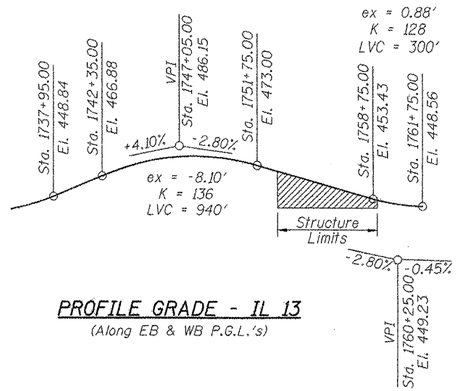
NORTH WALL ELEVATION

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

BILL OF MATERIAL

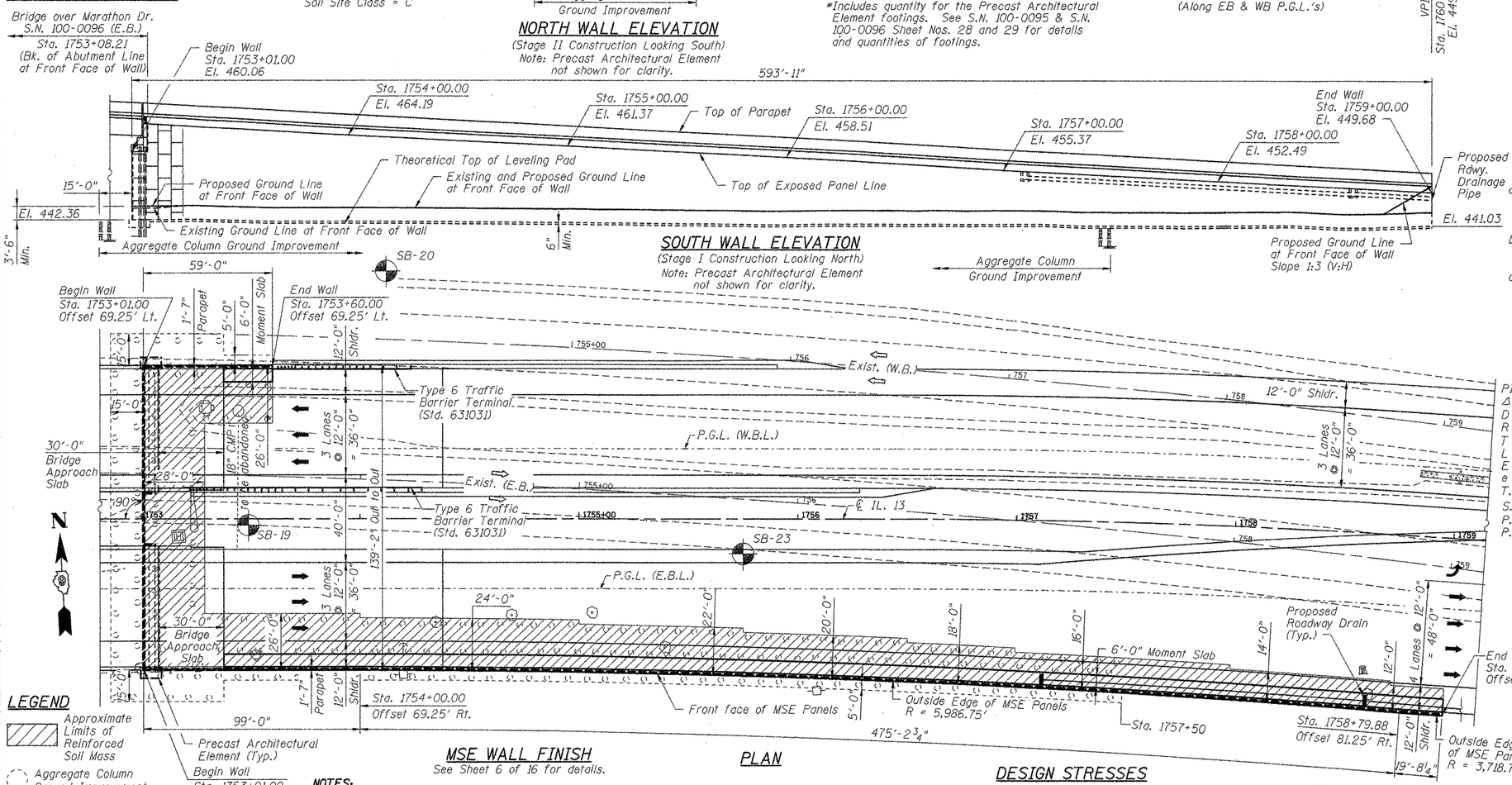
ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	2,149
*Concrete Structures	Cu. Yd.	3.7
Concrete Superstructure	Cu. Yd.	286.8
Form Liner Textured Surface	Sq. Ft.	13,880
Protective Coat	Sq. Yd.	665
*Reinforcement Bars, Epoxy Coated	Lb.	36,930
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	13,880
Anti-Graffiti Protection System	Sq. Ft.	6,219
Aggregate Column Ground Improvement		0.17

*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.



PROFILE GRADE - IL 13

(Along EB & WB P.G.L.'s)



LEGEND

- Approximate Limits of Reinforced Soil Mass
- Aggregate Column Ground Improvement
- Precast Architectural Element (Typ.)
- Begin Wall Sta. 1753+01.00 Offset 69.25' Rt.

MSE WALL FINISH

See Sheet 6 of 16 for details.

PLAN

NOTES:

1. Wall is built in conjunction with new bridges S.N. 100-0095 and S.N. 100-0096.
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 where ground improvement is not utilized or has not yet been installed, per the structure geotechnical report.

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
PRECAST UNITS
f'c = 4,500 psi (Precast panels)

DESIGN SPECIFICATIONS

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

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

APPROVED
For Structural Adequacy Only
Carl Puzey (TFD)
Engineer of Bridges & Structures

AGGREGATE COLUMN GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS

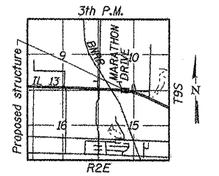
a) A factor of safety of 1.5 against global stability failure for end-of-construction and long-term. A factor of safety of 1.0 against global stability failure for a design seismic event.
b) Total settlement not to exceed 4 inches and settlement after completing wall or pavement construction not to exceed 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).

WALL CURVE DATA

PI STA. = 1756+37.74
Δ = 4° 32' 54" (RT)
D = 0° 57' 25"
R = 5,986.75'
T = 237.74'
L = 475.23'
E = 4.72'
e = --
T.R. = --
S.E. RUN = --
P.C. STA = 1754+00.00
P.T. STA = 1758+79.88

CURVE DATA

PI STA. = 1761+00.38
Δ = 13° 39' 07" (RT)
D = 1° 30' 28"
R = 3,800.00'
T = 454.87'
L = 905.44'
E = 27.13'
e = 2.7%
T.R. = 80'
S.E. RUN = 138'
P.C. STA = 1756+45.51
P.T. STA = 1765+50.95



LOCATION SKETCH

GENERAL PLAN & ELEVATION
FAP ROUTE 331 (IL 13)
SECTION (1X-1)VB-1, B-1
WILLIAMSON COUNTY
STATION 1753+01.00 TO 1759+00.00
MSE WALL STRUCTURE
STRUCTURE NO. 100-W003

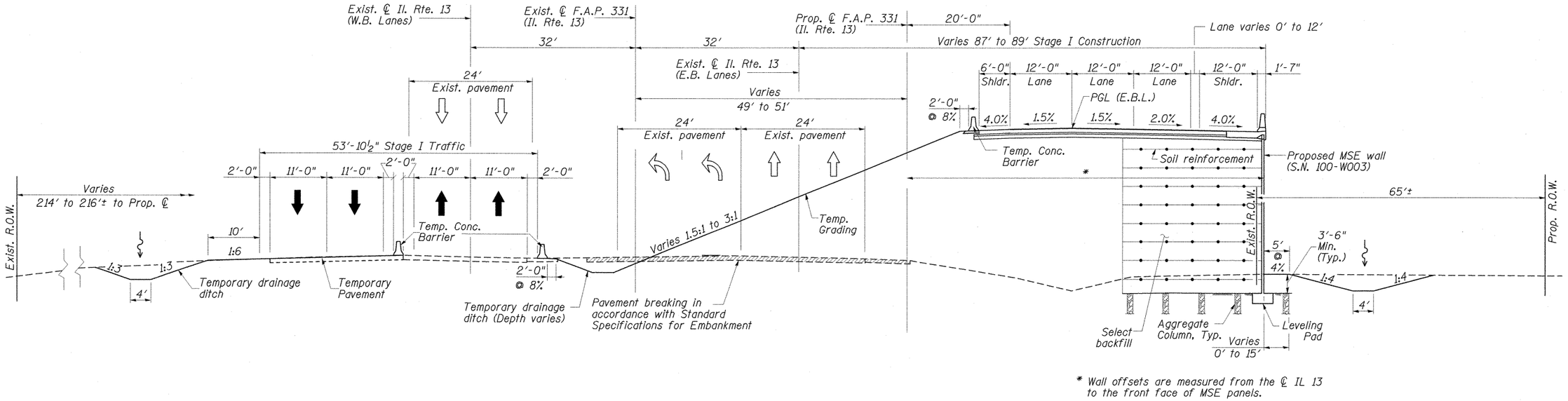
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-001-GPE.dgn	USER NAME = OpenM&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 26.1905 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/10/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	278
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

MSE walls shall be constructed to accommodate the roadway fill staging and any required temporary grading slopes. No permanent vertical coping shall be utilized for staged construction of the face panels.

STAGE I CONSTRUCTION

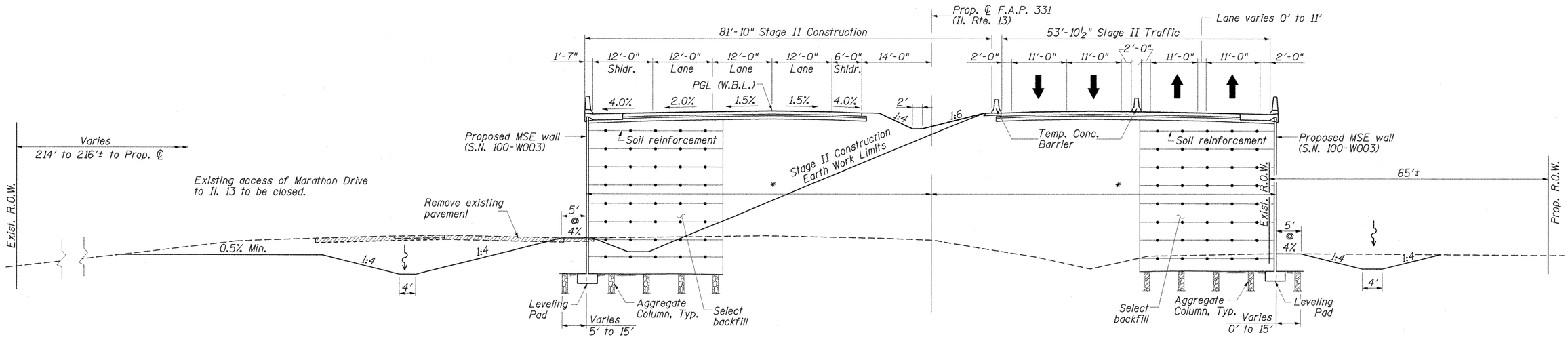
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-002-StageIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION
STRUCTURE NO. 100–W003
SHEET NO. 2 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	279
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

STAGE II CONSTRUCTION

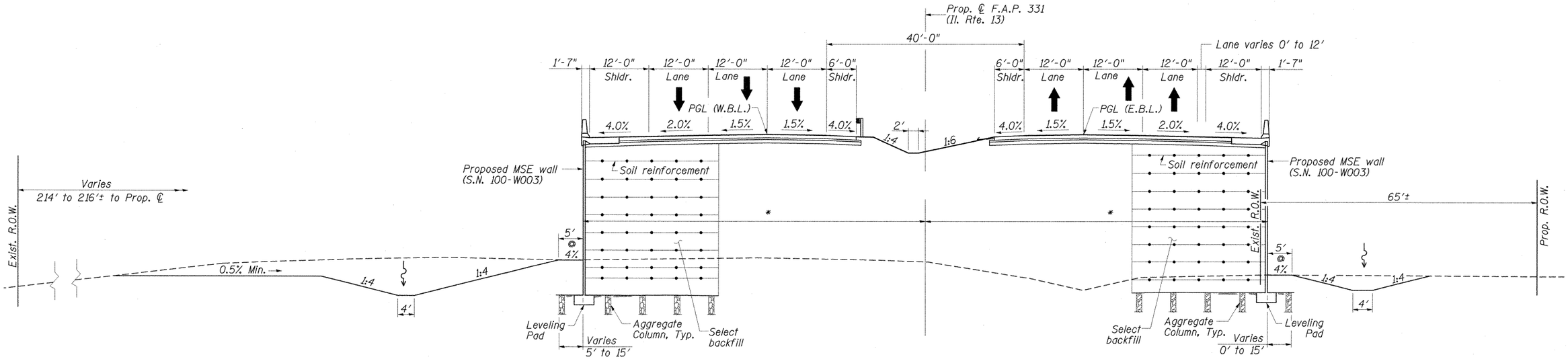
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-003-StageIIConst.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION
STRUCTURE NO. 100–W003
SHEET NO. 3 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	280
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



* Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

FINAL ROADWAY RECONFIGURATION

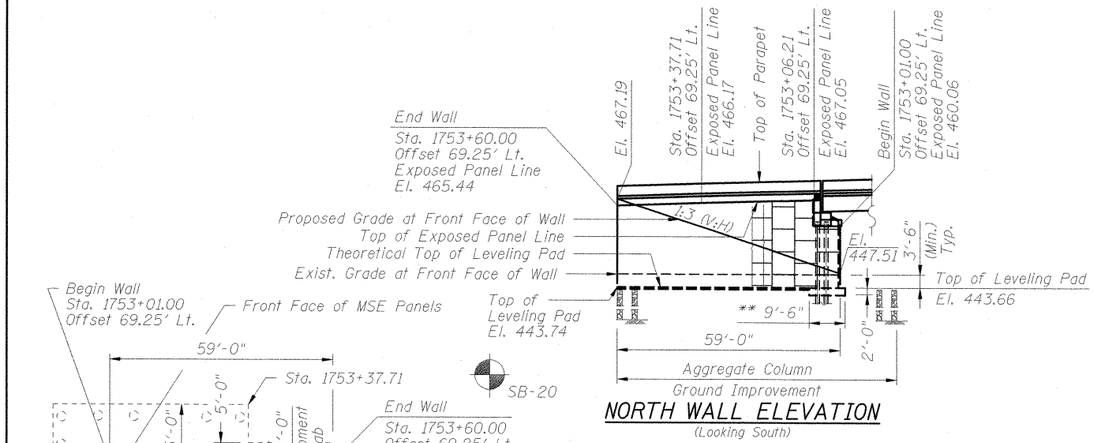
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-004-Final_Reconfig.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/7/2011	CHECKED - REB	REVISED -

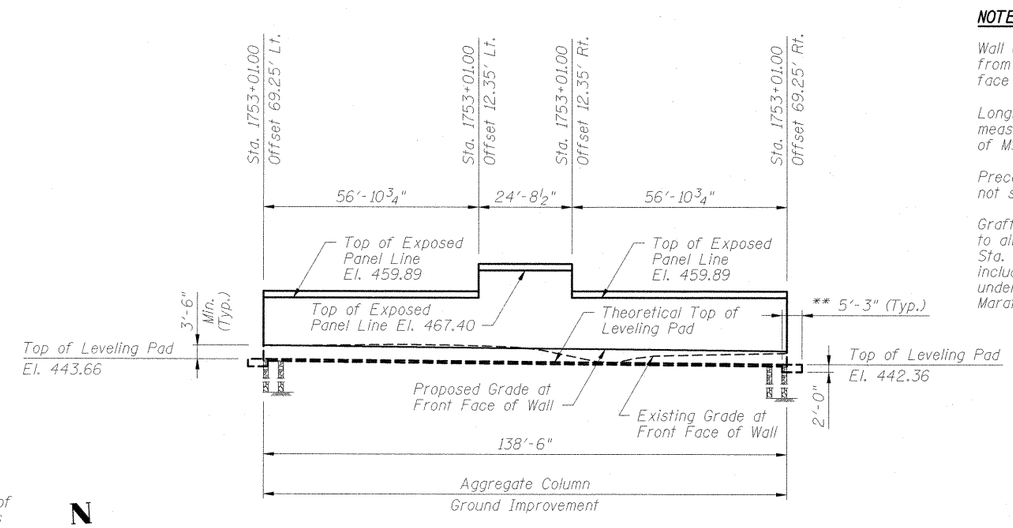
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINAL ROADWAY RECONFIGURATION
STRUCTURE NO. 100-W003
SHEET NO. 4 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	281
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



NORTH WALL ELEVATION
(Looking South)



WALL AT ABUTMENT ELEVATION
(Looking East)

NOTES:

Wall offsets are measured from the ℄ IL 13 to the front face of MSE panels.

Longitudinal dimensions are measured along the front face of MSE panels.

Precast Architectural Elements not shown for clarity.

Graffiti Protection shall be applied to all exposed wall panels from Sta. 1750+14.42 to Sta. 1755+01.00, including exposed wall panels underneath the IL 13 bridge over Marathon Drive.

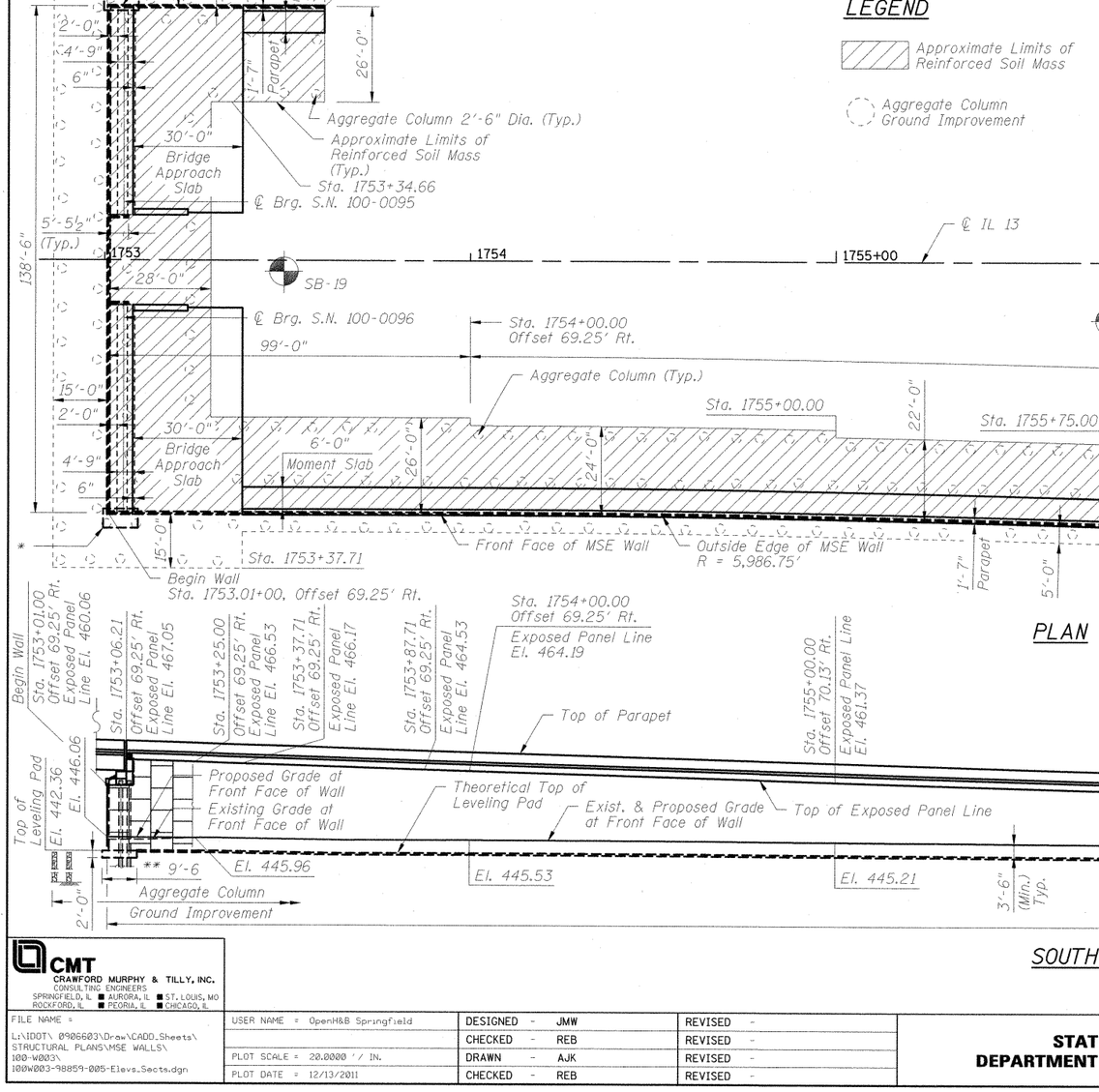
* Precast Architectural Element (Typ.) (See S.N. 100-0095 & S.N. 100-0096 for details)

** Leveling Pad & Precast Architectural Elemebt Footing (See S.N. 100-0095 & S.N. 100-0096 for details)

LEGEND

Approximate Limits of Reinforced Soil Mass

Aggregate Column Ground Improvement

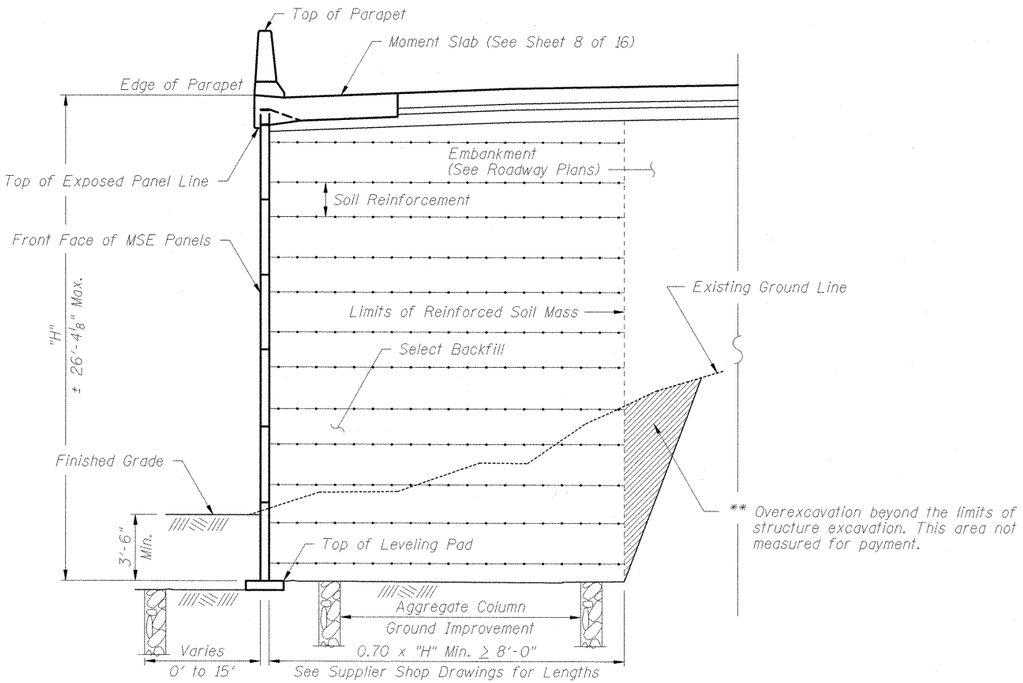


PLAN

SOUTH WALL ELEVATION
(Looking North)

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL					
FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-005-Elevs_Sects.dgn	USER NAME = OpenH&B Springfield	DESIGNED - JMW	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**WALL ELEVATIONS AND SECTIONS STRUCTURE NO. 100-W003**
		CHECKED - REB	REVISED -		
	PLOT SCALE = 20.0000 ' / IN.	DRAWN - AJK	REVISED -		SHEET NO. 5 OF 16 SHEETS
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	282
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION THRU WALL

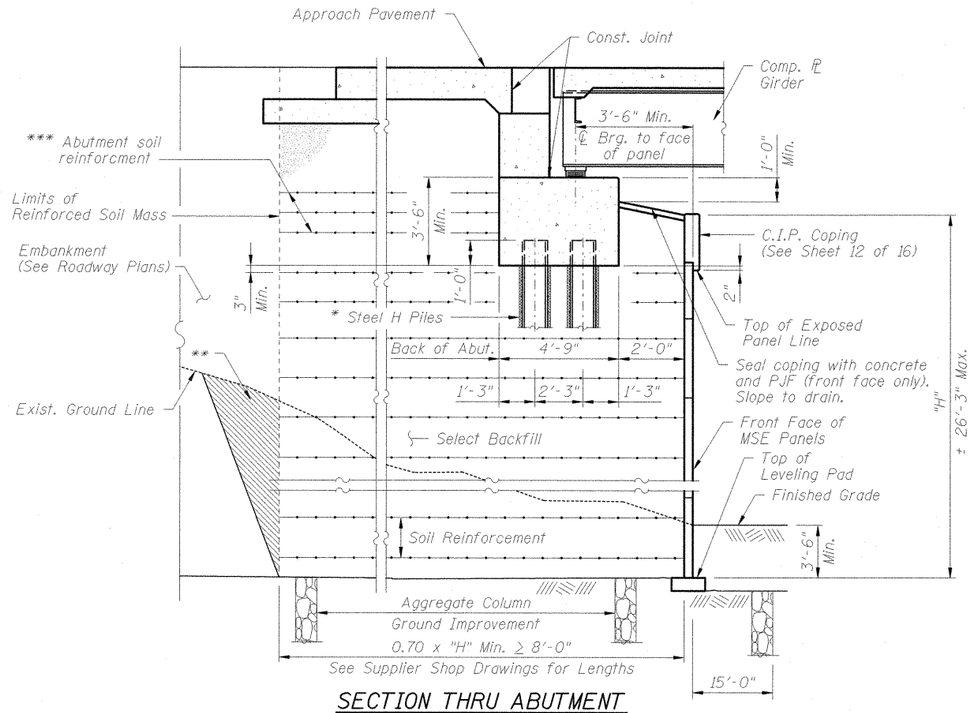
** Backfill overexcavation with same material as used for select fill.

MSE WALL FINISH

The wall panels shall be textured with an approved Ashlar Stone Form Liner with max. depth of relief of 1-1/2". Panel color shall be Federal Standard Color 10266 (Tan).

The following is a list of Ashlar Stone Form Liner Systems which may be used.

List of Approved Ashlar Stone Form Liner Systems
"Ashlar Stone" (Scott System, Inc.) Pattern No. 167
"Georgetown Ashlar Stone" (Fitzgerald Formliners) Pattern No. 16986
"Ashlar Stone" (Greenstreak) Pattern No. 330
"Southwest Ashlar Stone" (Dayton Superior/Symons) Pattern No. 1515



SECTION THRU ABUTMENT

(Horiz. Dim. ℄ Rt. <'s)

* If piles are installed without sleeves they shall be driven before construction of the MSE Wall select fill and shall be coated with Bitumen from the bottom of the select fill to 1" above the bottom of the abutment cap. The cost of the Bitumen coating shall be included with the pay item for furnishing piles.

Alternately, the Contractor may install sleeves around the piles in lieu of coating with Bitumen. The annulus between the pile and the sleeve shall be filled with loose dry sand after construction of the MSE Wall select fill. The cost of furnishing, installing, and filling the pile sleeves shall be included with the pay item for furnishing piles.

See S.N. 100-0095 & S.N. 100-0096 for details.

** Overexcavation beyond structure excavation and removal of unsuitable material. This area not measured for payment. Backfill overexcavation with select fill used in MSE wall.

*** The MSE wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 6.1 kips/ft. of abutment.

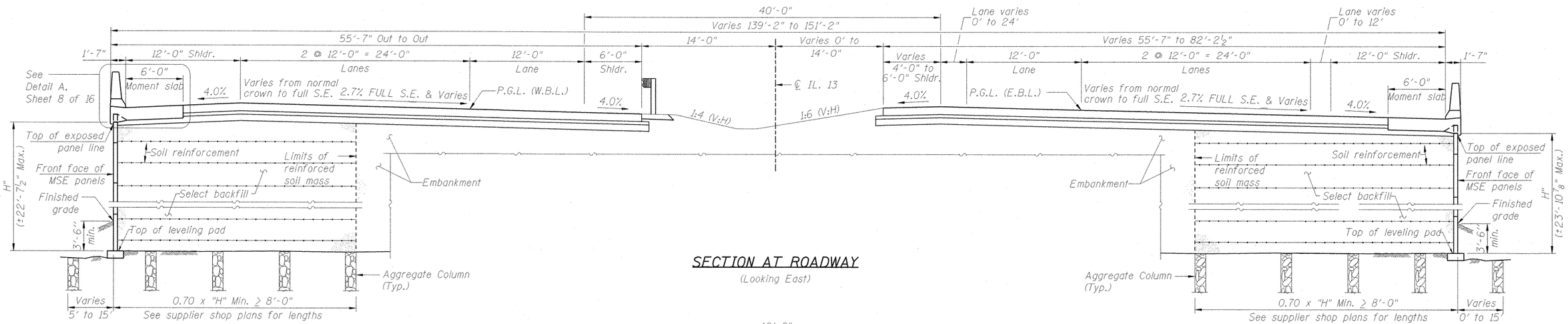
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-006-Elevs_Sects.dgn	USER NAME = OpenM&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

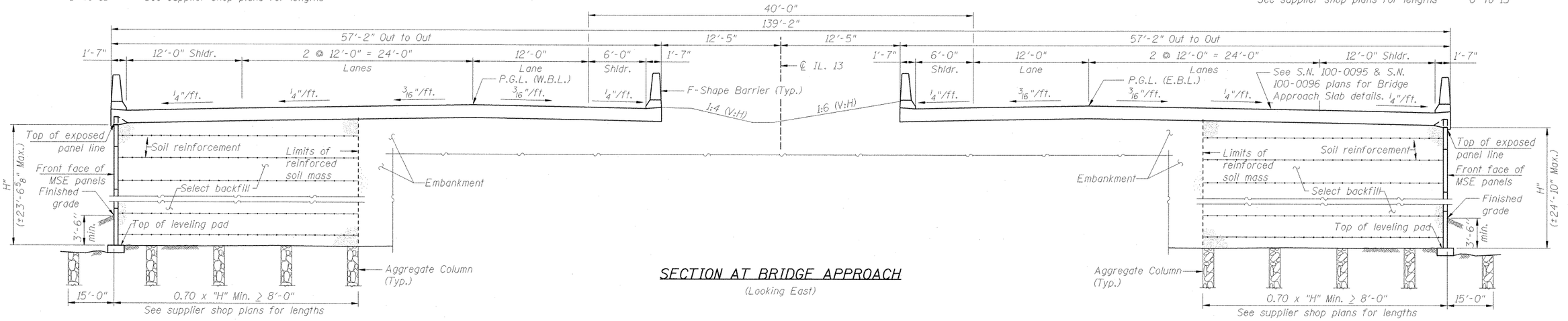
WALL ELEVATIONS AND SECTIONS
STRUCTURE NO. 100-W003
SHEET NO. 6 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	283
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



SECTION AT ROADWAY

(Looking East)



SECTION AT BRIDGE APPROACH

(Looking East)

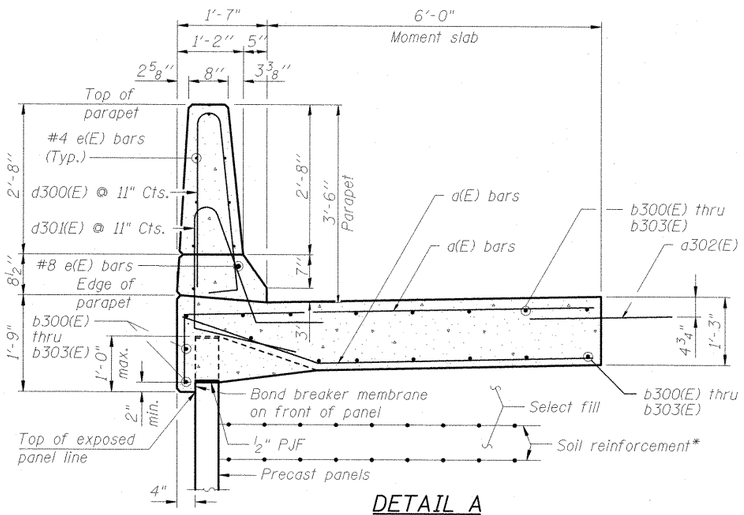
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W003\100W003-98859-007-Sections.dgn	USER NAME = OpenH&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BACK TO BACK WALL SECTIONS
STRUCTURE NO. 100-W003
SHEET NO. 7 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	284
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



DETAIL A

* The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

MOMENT SLAB/PARAPET BILL OF MATERIAL

Bar	No	Size	Length	Shape
a300(E)	583	#6	8'-8"	
a301(E)	583	#6	7'-3"	
a302(E)	588	#6	2'-6"	
a303(E)	16	#5	2'-0"	
b300(E)	17	#4	21'-9"	
b301(E)	34	#4	11'-11"	
b302(E)	493	#4	14'-4"	
b303(E)	68	#4	26'-9"	
d300(E)	626	#5	6'-10"	
d301(E)	626	#5	7'-6"	
e300(E)	1	#4	21'-9"	
e301(E)	1	#8	21'-9"	
e302(E)	17	#4	28'-9"	
e303(E)	15	#8	35'-4"	
e304(E)	4	#4	26'-5"	
e305(E)	4	#8	28'-9"	
e306(E)	14	#4	10'-7"	
e307(E)	14	#4	11'-10"	
e308(E)	98	#4	14'-4"	
e309(E)	105	#4	14'-5"	
e310(E)	35	#4	19'-6"	
Concrete Superstructure			Cu. Yd.	289.8
Reinforcement Bars, Epoxy Coated			Lb.	36,830

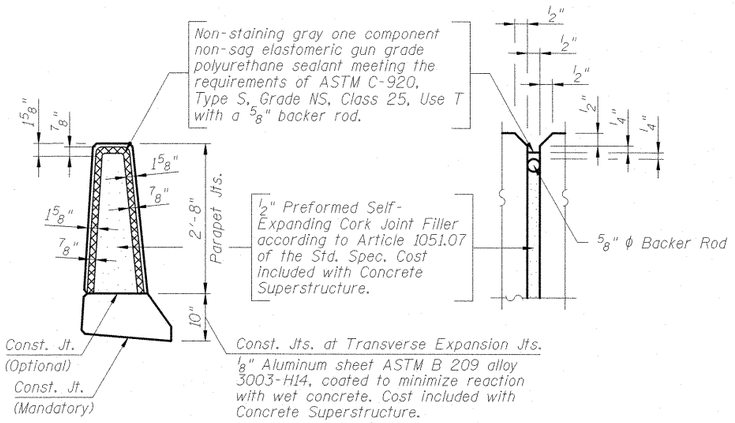
Reinforcement bars designated (E) shall be epoxy coated.

Slipforming of the parapets is not allowed.

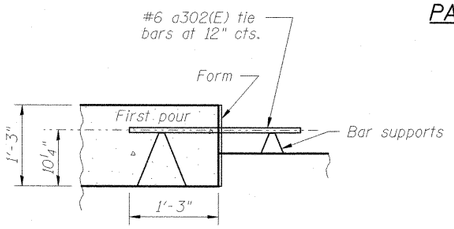
Moment slab joints shall be sealed in accordance with Art. 420.05.

All work including dowel bars, joint filler, joint sealer, and expansion cap necessary to complete the construction of joints will be included for payment in the contract unit price for Concrete Superstructure.

For location of joints and reinforcing details in parapet and moment slab, see Sheets 9 thru 11 of 16.



PARAPET JOINT DETAILS

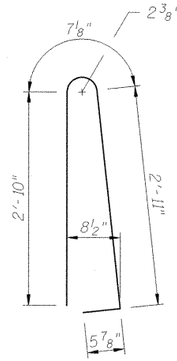


CONSTRUCTION JOINT

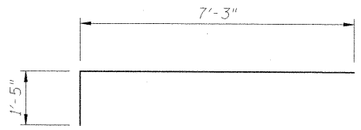
Note: Joint to be sawed and sealed in accordance with the Longitudinal Construction Joint Details on Std. 420001.

MINIMUM BAR LAPS

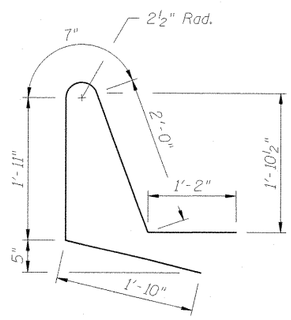
Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"



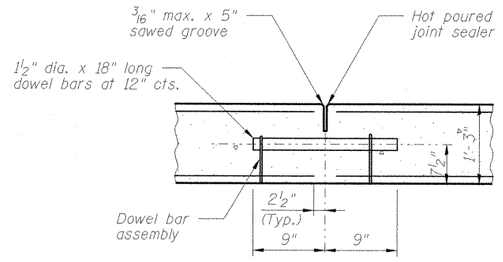
BAR d300(E)



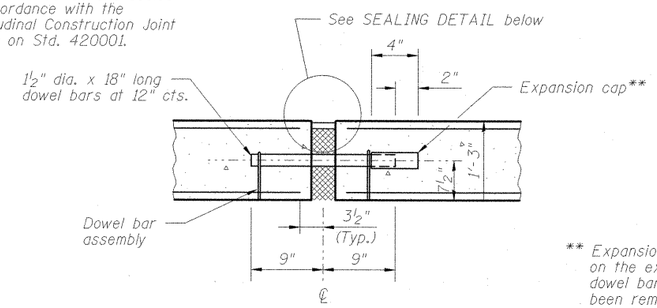
BAR a300(E)



BAR d301(E)

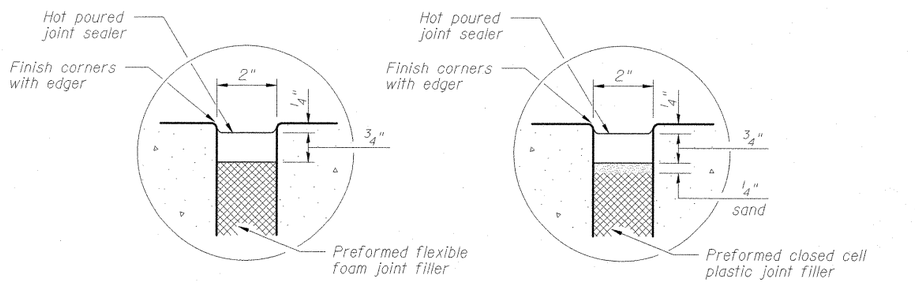


TRANSVERSE CONTRACTION JOINT



TRANSVERSE EXPANSION JOINT

** Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.



SEALING DETAIL

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

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100w003-98859-008-Slab_Parapet.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB AND COPING DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 8 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	285
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

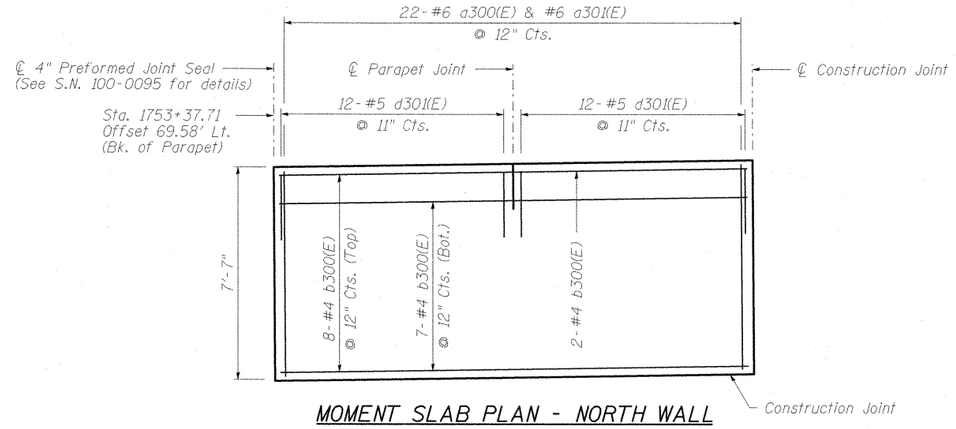
MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

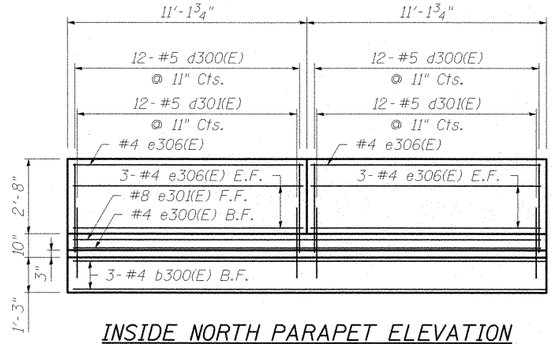
Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 16 for joint details.

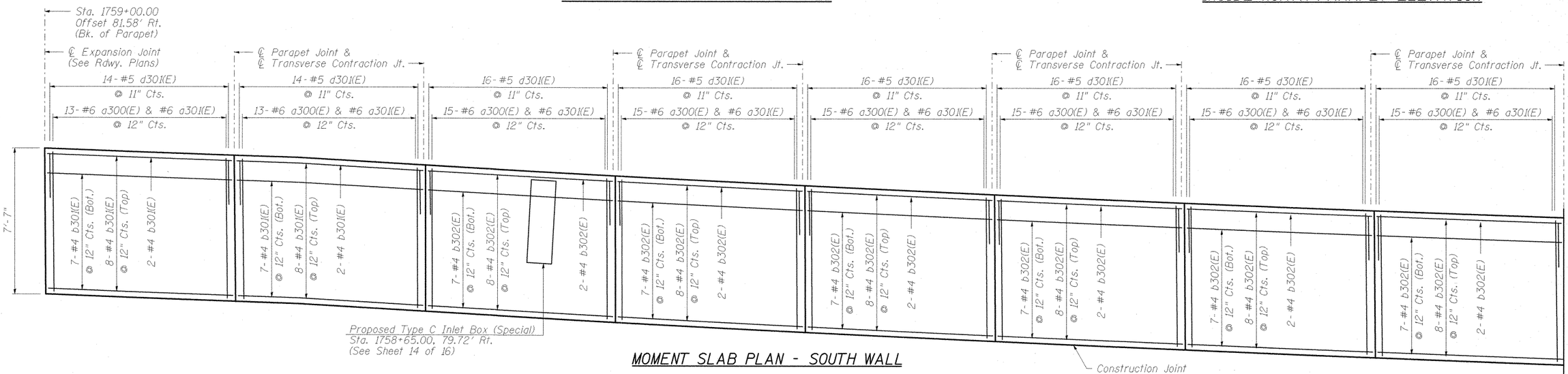
Longitudinal dimensions are measured horizontally along the back of the parapet.



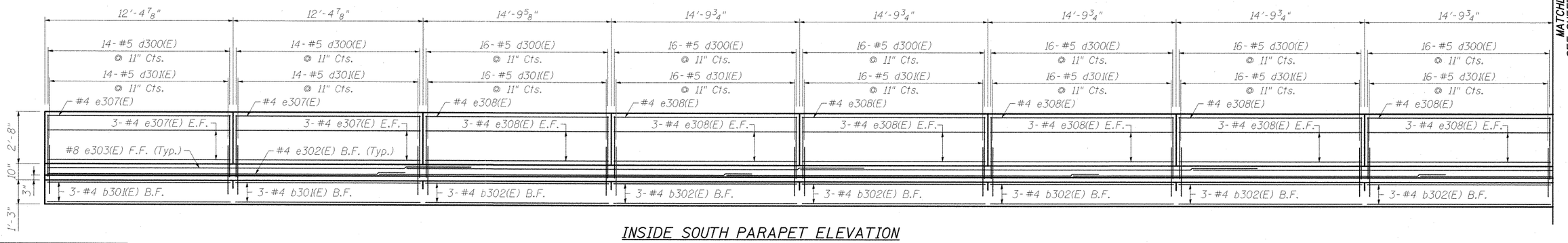
MOMENT SLAB PLAN - NORTH WALL



INSIDE NORTH PARAPET ELEVATION



MOMENT SLAB PLAN - SOUTH WALL



INSIDE SOUTH PARAPET ELEVATION

MATCHLINE A
SEE SHEET 10 OF 16

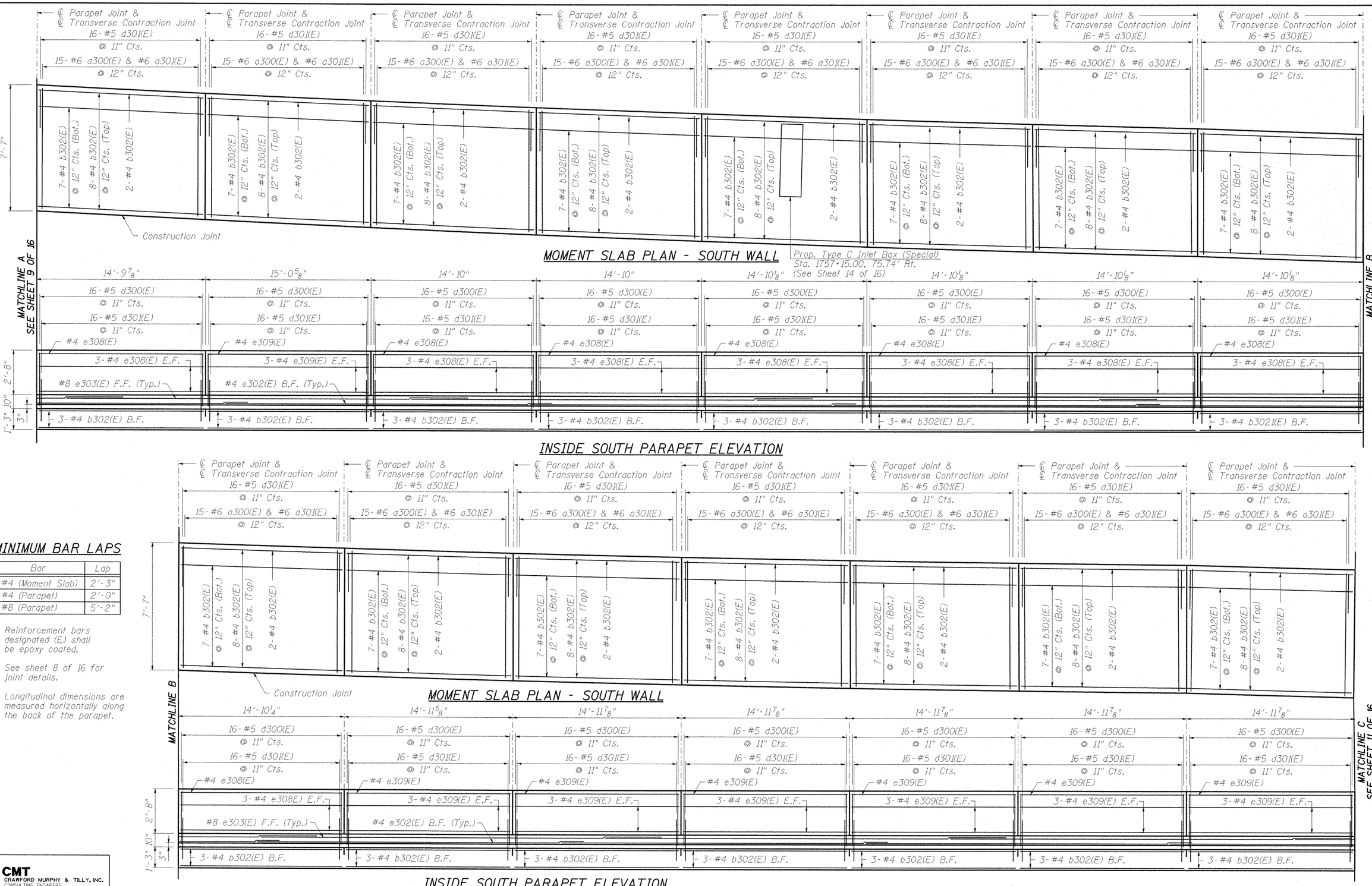
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-009-NS_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 9 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	286
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



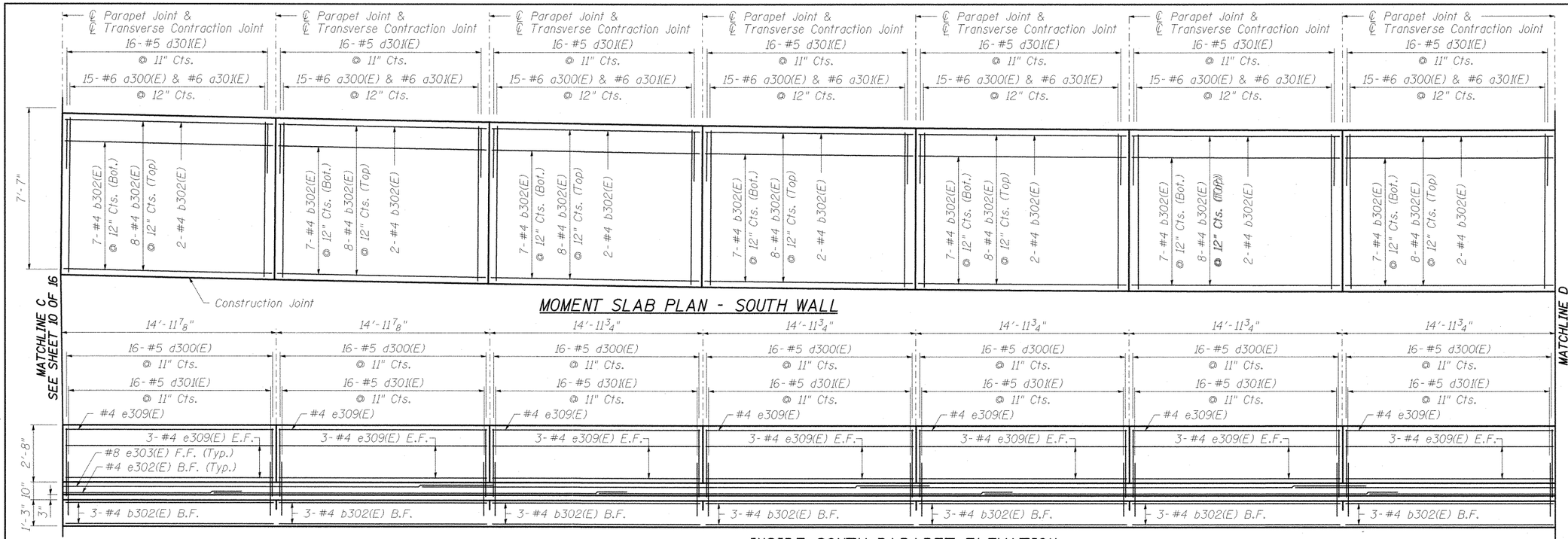
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-010-S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 10 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	287
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



MINIMUM BAR LAPS

Bar	Lap
#4 (Moment Slab)	2'-3"
#4 (Parapet)	2'-0"
#8 (Parapet)	5'-2"

Reinforcement bars designated (E) shall be epoxy coated.

See sheet 8 of 16 for joint details.

Longitudinal dimensions are measured horizontally along the back of the parapet.

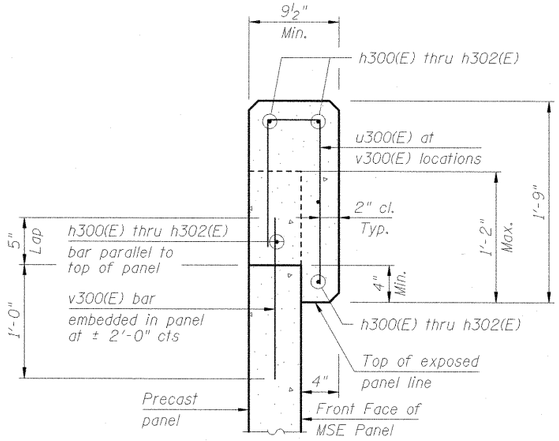
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-011-S_Parapet_Elev.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

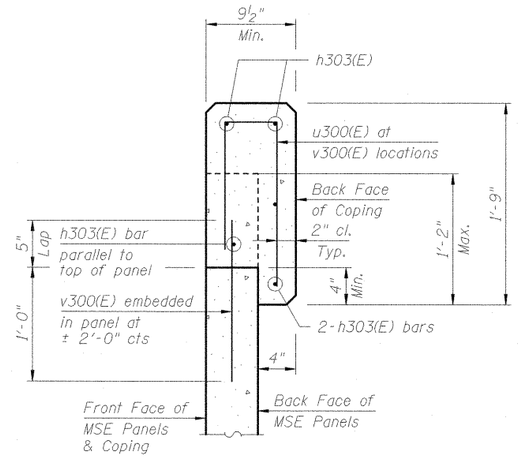
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT AND REINFORCING DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 11 OF 16 SHEETS

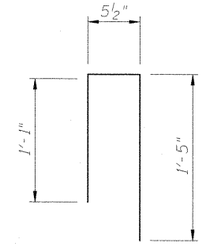
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	288
		CONTRACT NO. 98859		
	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION THRU COPING



SECTION A-A



BAR u300(E), u301(E)

C.I.P. COPING BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	10	#4	5'-1"	
h301(E)	20	#4	30'-0"	
h302(E)	5	#4	24'-4"	
h303(E)	10	#4	5'-5"	
u300(E)	82	#4	2'-11½"	
v300(E)	82	#4	1'-5"	
Concrete Superstructure		Cu. Yd.		7.2
Reinforcement Bars, Epoxy Coated		Lb.		800

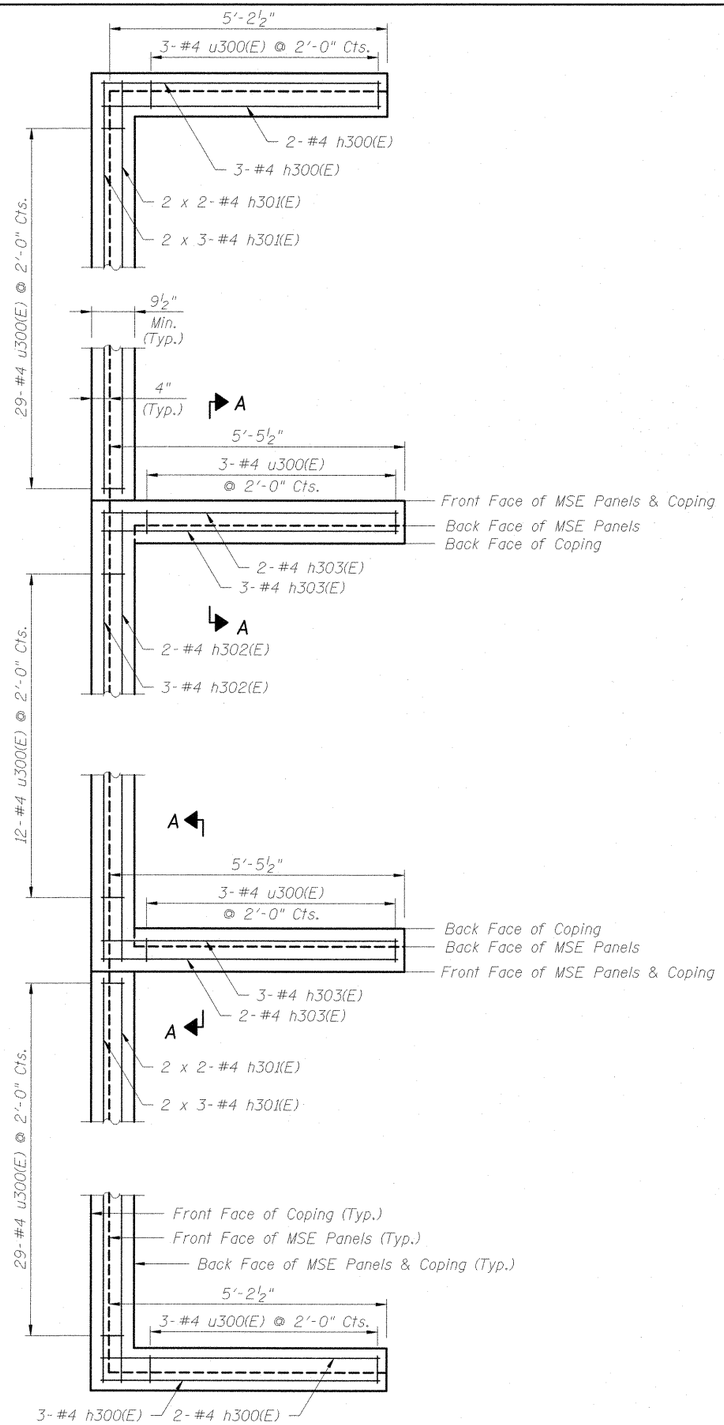
For information purposes only.

Cost of C.I.P. Coping will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.

MINIMUM BAR LAPS

Bar	Lap
#4	2'-3"

Reinforcement bars designated (E) shall be epoxy coated.



COPING REINFORCING PLAN AT ABUTMENT

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

FILE NAME = L:\IDOT\ 090603\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W003\100W003-98859-012-Coping.dgn

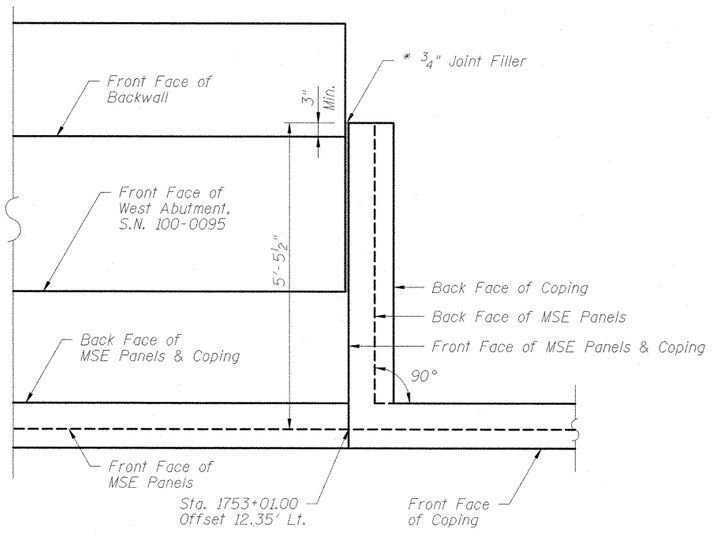
USER NAME = Gary Davis
PLOT SCALE = 1.0000 ' / IN.
PLOT DATE = 1/10/2012

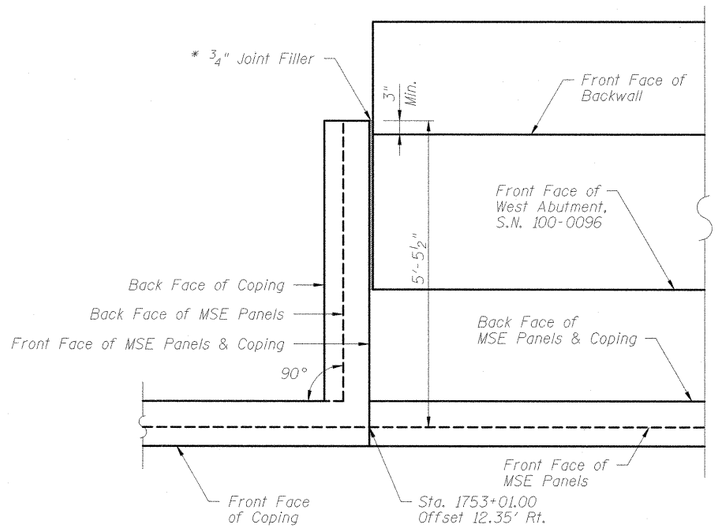
DESIGNED - JMW | CHECKED - REB | DRAWN - AJK | CHECKED - REB
REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

C.I.P. COPING REINFORCING DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 12 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	289
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

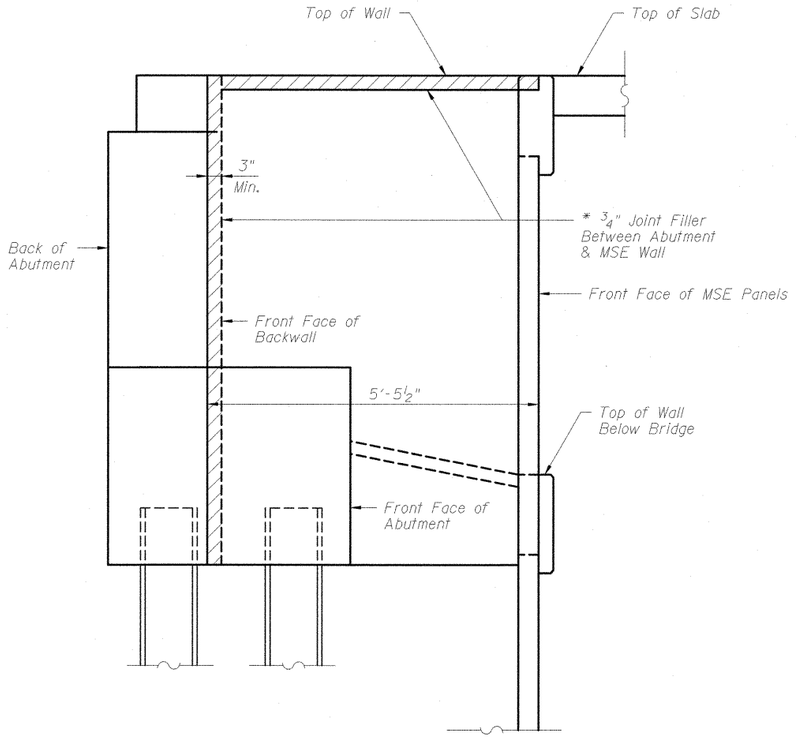




* The cost of Joint Filler will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.

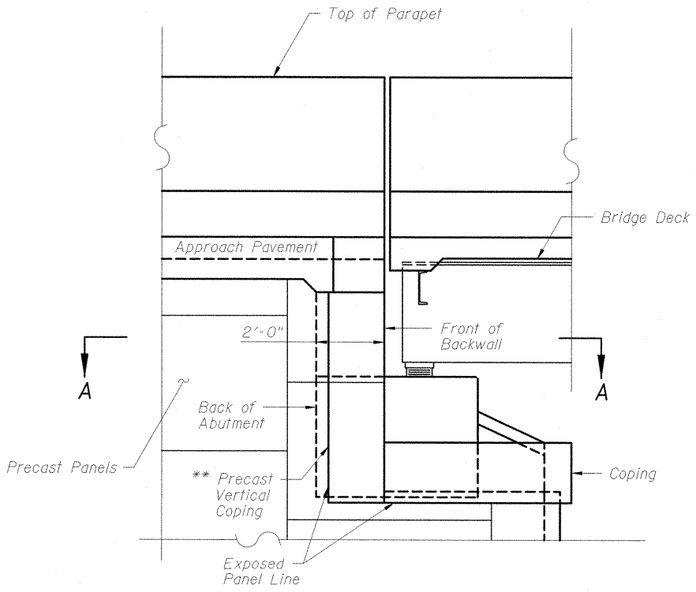
WALL AT ABUTMENT DETAILS

(Looking West)

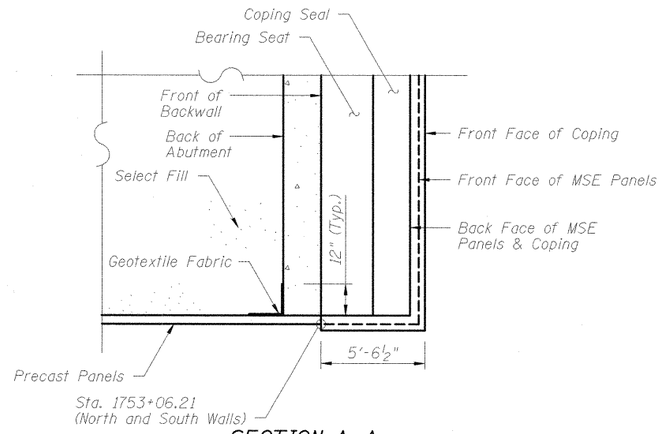


TYPICAL ELEVATION

* The cost of Joint Filler will be included for payment in the contract unit price for Mechanically Stabilized Earth Retaining Wall.



END VIEW



SECTION A-A

WRAP AROUND WALL DETAILS

** The cost of Precast Vertical Coping will be included in the contract unit price for Mechanically Stabilized Earth Retaining Wall.

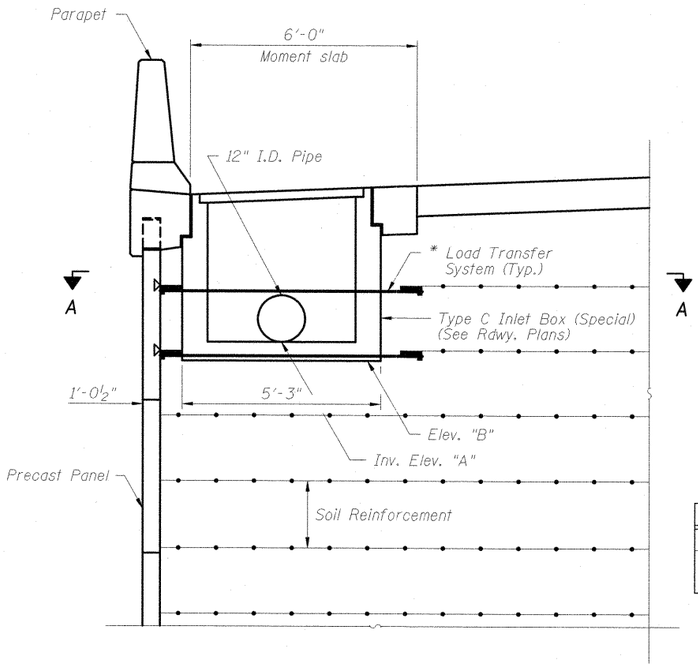
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-013-Wrap_Around.dgn	USER NAME = OpenH&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL AT ABUTMENT DETAILS
STRUCTURE NO. 100-W003
SHEET NO. 13 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	290
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			



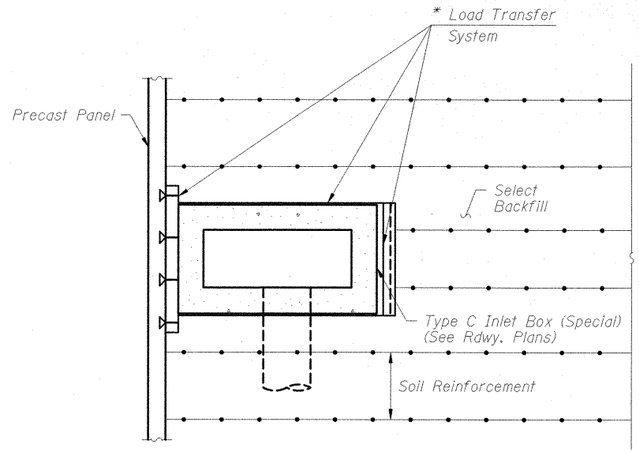
Reinforcing in moment slab, parapet and drainage structure not shown for clarity.

Sta.	Location	A	B
1757+15.00	75.74' Rt.	452.57	452.07
1758+65.00	79.72' Rt.	448.36 (W) 448.26 (E)	447.46

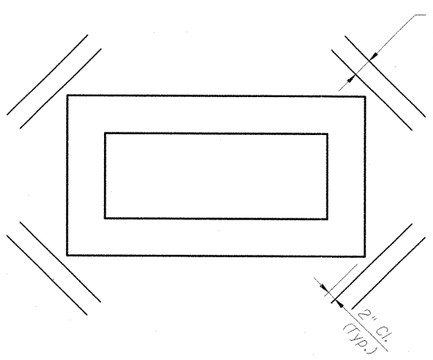
* M.S.E. supplier to design load transfer system to accommodate concrete pipe and inlet box.

LOAD TRANSFER SYSTEM AROUND DRAINAGE DETAIL

Sta. 1757+15.00 (South Wall)
Sta. 1758+65.00 (South Wall)



SECTION A-A



Shift transverse reinforcement and cut longitudinal reinforcement in moment slab to clear drainage structures. Coat exposed ends with epoxy paint. Cost shall be included for payment in the contract unit price for Reinforcement Bars, Epoxy Coated.

Reinforcement bars designated (E) shall be epoxy coated.

REINFORCEMENT AROUND DRAINAGE STRUCTURE

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

FILE NAME = L:\IDOT\ 0900603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-01-Drainage.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 1/10/2012	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOAD TRANSFER SYSTEM
STRUCTURE NO. 100-W003
SHEET NO. 14 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	291
		CONTRACT NO. 98859		
		ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1

Date 11/11/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-19
Station 1753+49.22
Offset 3.11ft Rt
Ground Surface Elev. 446.7 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 425.7 ft ▼
Upon Completion 433.7 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches			
445.73			
CLAYEY SILT: Brown (A-4)	4		
	3	0.6	24
	3	B	
443.73			
CLAY: Grayish brown and brown (A-7)	4		
	5	1.8	27
-5	6	B	
441.23			
SILTY CLAY: Grayish brown and brown (A-6)	3		
	3	1.2	24
	3	B	
Trace sand	2		
	3	0.9	23
-10	4	B	
436.23			
CLAY: Gray and brown, trace to some sand (A-7)	2		
	2	0.9	21
	3	B	
▽			
Becomes brown, some sand	3		
	3	1.0	25
-15	3	B	
	2		
	3	1.6	22
	3	B	
With coarse gravel and clayey shale	6		
	7	0.8	40
-20	5	P	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
425.73 ▼			
CLAYEY SHALE: Brown	27		
	50/5"	-	17
	50/3"		
Extremely hard drilling at 22.5 and 25 feet.			
	29		
	50/4"	-	14
-25	50/3"		
	40		
	50/3"	-	17
-30	50/2"		
Becomes gray 412.93			
	50/3"	-	15
	50/1"		
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1

Date 11/5/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-20
Station 1754+12.11
Offset 112.70ft Lt
Ground Surface Elev. 447.2 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 430.2 ft ▼
Upon Completion 441.2 ft ▽
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches			
446.19			
FILL: Brown clay, some sand, trace rock (A-7)	3		
	2	1.0	23
	3	P	
444.19			
CLAY: Grayish brown and brown (A-7)	3		
	5	2.9	25
-5	6	B	
441.69			
SILTY CLAY: Brown (A-6) ▽	1		
	2	0.6	23
	3	B	
439.19			
SILTY CLAY: Brown, some sand (A-7)	2		
	3	0.9	21
-10	3	B	
436.69			
CLAY: Brown and grayish brown, trace to some sand, trace gravel (A-7)	1		
	2	1.1	21
	4	B	
Becomes brown and gray, some sand	2		
	3	1.3	20
-15	5	B	
431.69			
SANDY CLAY: Brown, trace to some fine gravel (A-6)	WH		
▼	WH	-	30
	4		
Some coarse gravel	4		
	3	-	16
-20	8		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
426.69			
CLAYEY SHALE: Brown	7		
	10	1.8	16
	11	S/5	
	22		
	50/5"	-	15
-25	50/2"		
	37		
	50/3"	-	16
	50/1"		
Becomes gray	44		
	50/2"	-	12
-30	50/2"		
413.29			
	50/3"	-	14
	50/2"		
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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

FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-015-Borings.dgn	USER NAME = OpenH&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100-W003
SHEET NO. 15 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	292
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1

Date 11/11/09

ROUTE 331 DESCRIPTION IL Route 13 over BNSF Railroad near Marathon Drive LOGGED BY KEG

SECTION LOCATION Marion, SECS. 10SW & 15NW, TWP. 9S, RNG. 2E

COUNTY Williamson DRILLING METHOD CME 55LC w/HSA HAMMER TYPE Automatic

STRUCT. NO.
Station

BORING NO. SB-23
Station 1755+75.10
Offset 15.72ft Rt
Ground Surface Elev. 447.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 421.0 ft ▼
Upon Completion 434.0 ft ▽
After - Hrs. - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRASS, TOPSOIL, & CRUSHED ROCK - 12 inches				
445.97				
CLAYEY SILT: Brown (A-4)		2		
		1	0.5	26
		2	B	
443.97				
CLAY: Grayish brown (A-7)		2		
		3	1.6	26
	-5	4	B	
441.47				
SILTY CLAY: Brown and grayish brown (A-6)			1.3	21
			S	
Shelby tube - 20 inches recovery. Unconfined compression strength test performed with results shown in Qu and Moist. columns. Dry density - 106.2 pounds per cubic foot.				
438.72				
		2		
		3	1.4	21
SILTY CLAY: Brown (A-7)	-10	3	B	
436.47				
CLAY: Brown, trace sand (A-7)		2		
		2	1.8	21
		3	B	
▽				
Becomes brown and gray		2		
		4	1.4	28
	-15	4	B	
Trace gravel		2		
		4	2.3	17
		7	B	
Some sand		5		
		4	1.3	16
	-20	18	B	

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
426.47				
SANDY CLAY: Brown (A-6)		9		
		15	4.5	15
424.72		15	P	
SHALE: Dark gray to black				
423.97				
CLAYEY SHALE: Brown		9		
		14	1.3	17
	-25	36	S/15	
▼		50		
		50/3"	-	14
Hard drilling at 27.5 feet.				
		50/3"	-	15
		50/1"		
	-30			
Becomes gray		50/3"	-	11
		50/1"		
	-35			
408.17		50/3"	-	14
		50/1"		
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

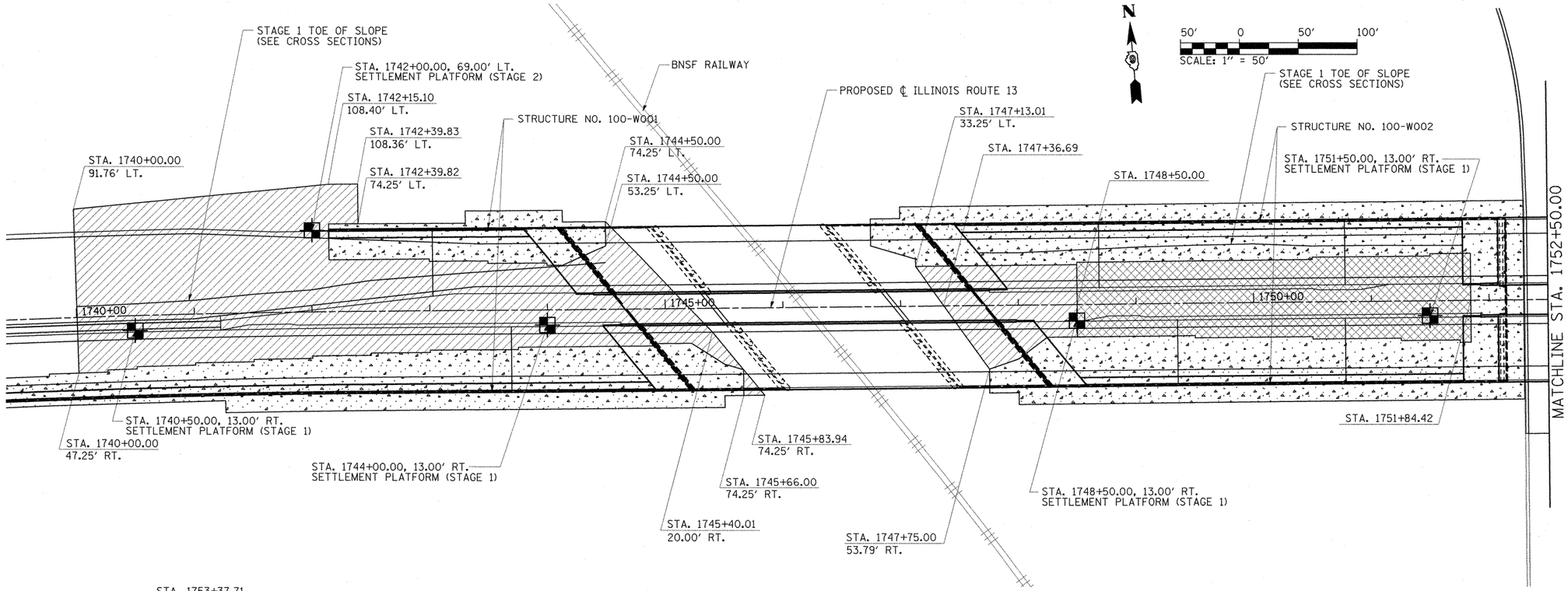
CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

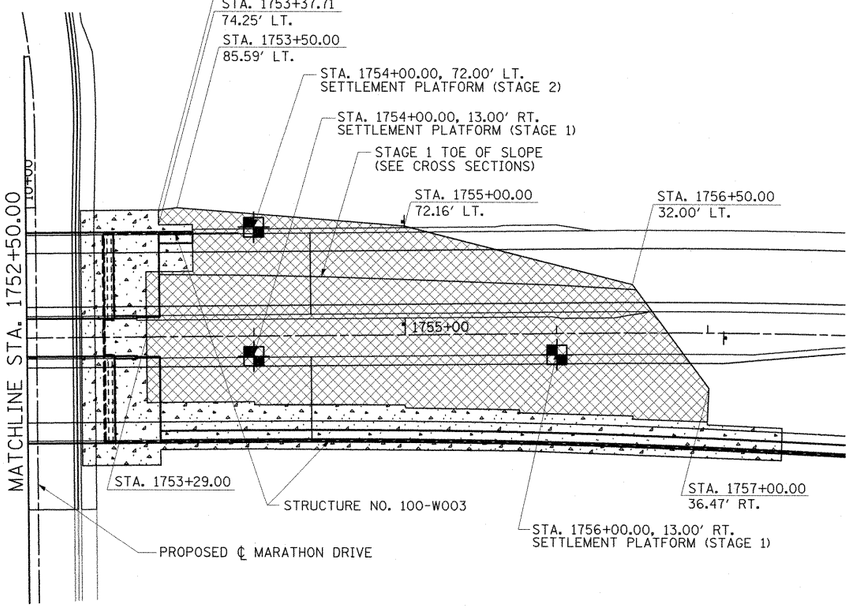
FILE NAME = L:\IDOT\ 0906603\Draw\CADD_Sheets\ STRUCTURAL PLANS\MSE WALLS\ 100-W003\ 100W003-98859-016-Borings.dgn	USER NAME = OpenH&B Springfield	DESIGNED - JMW	REVISED -
		CHECKED - REB	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - AJK	REVISED -
	PLOT DATE = 12/13/2011	CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 100–W003
SHEET NO. 16 OF 16 SHEETS

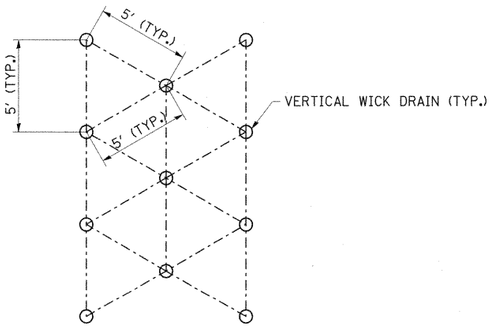
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	293
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			





LEGEND

- APPROXIMATE LIMITS OF WICK DRAINS EXTENDED TO ELEV. 414.0
- APPROXIMATE LIMITS OF WICK DRAINS EXTENDED TO ELEV. 425.00
- APPROXIMATE LIMITS OF AGGREGATE COLUMN GROUND IMPROVEMENTS
- SETTLEMENT PLATFORM



WICK DRAIN PATTERN

NOTES:

1. SEE MSE WALL PLANS AND SPECIAL PROVISIONS FOR DETAILS OF CONTRACTOR DESIGNED AGGREGATE COLUMN GROUND IMPROVEMENTS.
2. THE WICK DRAIN LIMITS SHALL BE ADJUSTED BASED ON THE CONTRACTOR'S FINAL DESIGN OF THE AGGREGATE COLUMN GROUND IMPROVEMENTS.
3. IN THE AREAS WHERE WICK DRAINS WILL BE INSTALLED, THE EXISTING GROUND SHALL BE PREPARED ACCORDING TO ART. 205 EXCEPT THE EXISTING PAVEMENT AND SHOULDERS SHALL BE REMOVED OR BROKEN UP INTO PIECES NOT TO EXCEED 3 SQ.FT.
4. THE CONTRACTOR SHALL INSTALL THE WICK DRAINS THROUGH THE BROKEN PAVEMENT USING A METHOD ACCEPTABLE TO THE ENGINEER WHICH DOES NOT DAMAGE THE WICK DRAINS. SEE WICK DRAINS SPECIAL PROVISION.
5. FOLLOWING PREPARATION OF THE EXISTING GROUND AND INSTALLATION OF THE WICK DRAINS, A SAND DRAINAGE BLANKET 2 FT. THICK SHALL BE PLACED WITHIN THE LIMITS OF THE INSTALLED WICK DRAINS.
6. THE SAND DRAINAGE BLANKET AND WICK DRAINS SHALL BE INSTALLED TO THE STAGE 1 TOE OF SLOPE IN STAGE 1. THE REMAINDER OF THE SAND DRAINAGE BLANKET AND WICK DRAINS SHALL BE INSTALLED IN STAGE 2.
7. FOR SETTLEMENT PLATFORM REQUIREMENTS SEE ART. 204.06, THE PLAN SETTLEMENT PLATFORM DETAIL IN THE DISTRICT DETAILS SHEETS, AND THE SETTLEMENT PLATFORMS SPECIAL PROVISION.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
WICK DRAINS	FEET	166,200
SAND DRAINAGE BLANKET	CY	9145.4
SETTLEMENT PLATFORMS	EACH	8

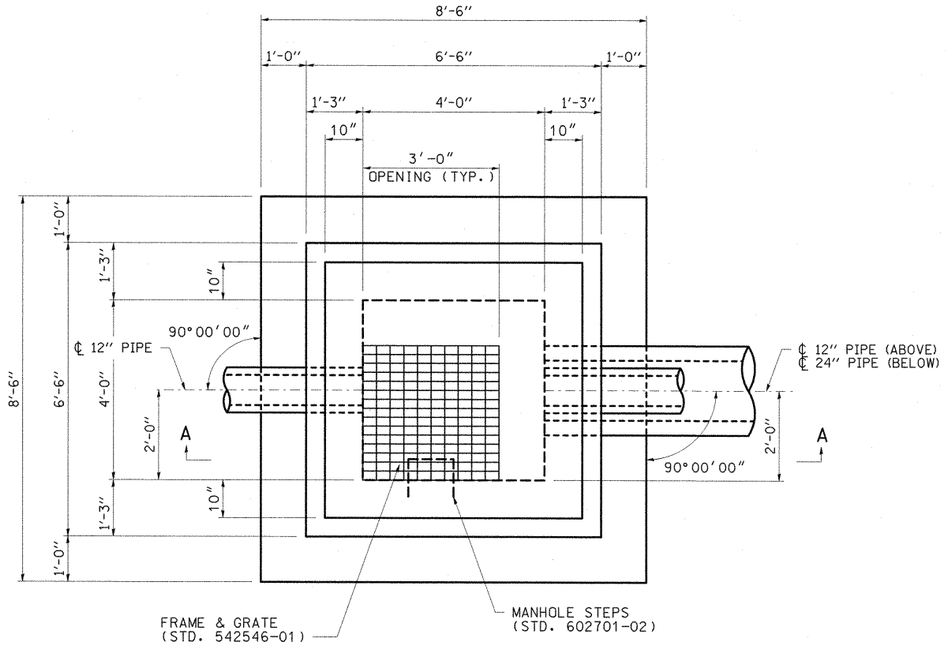
FILE NAME = I:\idot\0906603\draw\cadd_sheets\D998858-sht-wick-drains.dgn	USER NAME = OpenH&B Springfield	DESIGNED - MDM (KEG)	REVISED -
		DRAWN - TAP	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - KPF/SPH	REVISED -
	PLOT DATE = 12/12/2011	DATE - 12/9/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

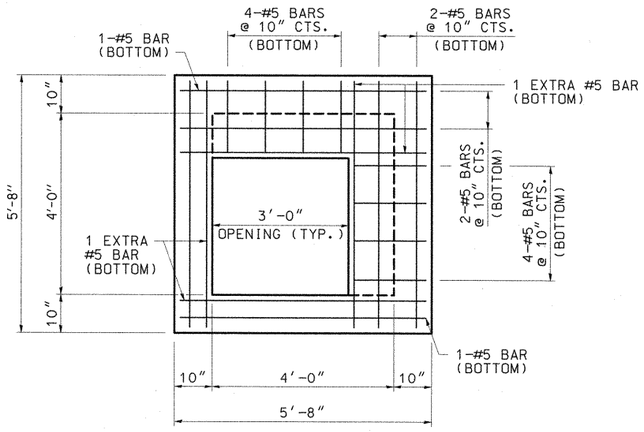
WICK DRAIN PLAN
ILLINOIS ROUTE 13

SCALE: 1"=50' | SHEET NO. 1 OF 1 SHEETS | STA. 1740+00.00 TO STA. 1757+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	294
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



PLAN - MEDIAN INLET

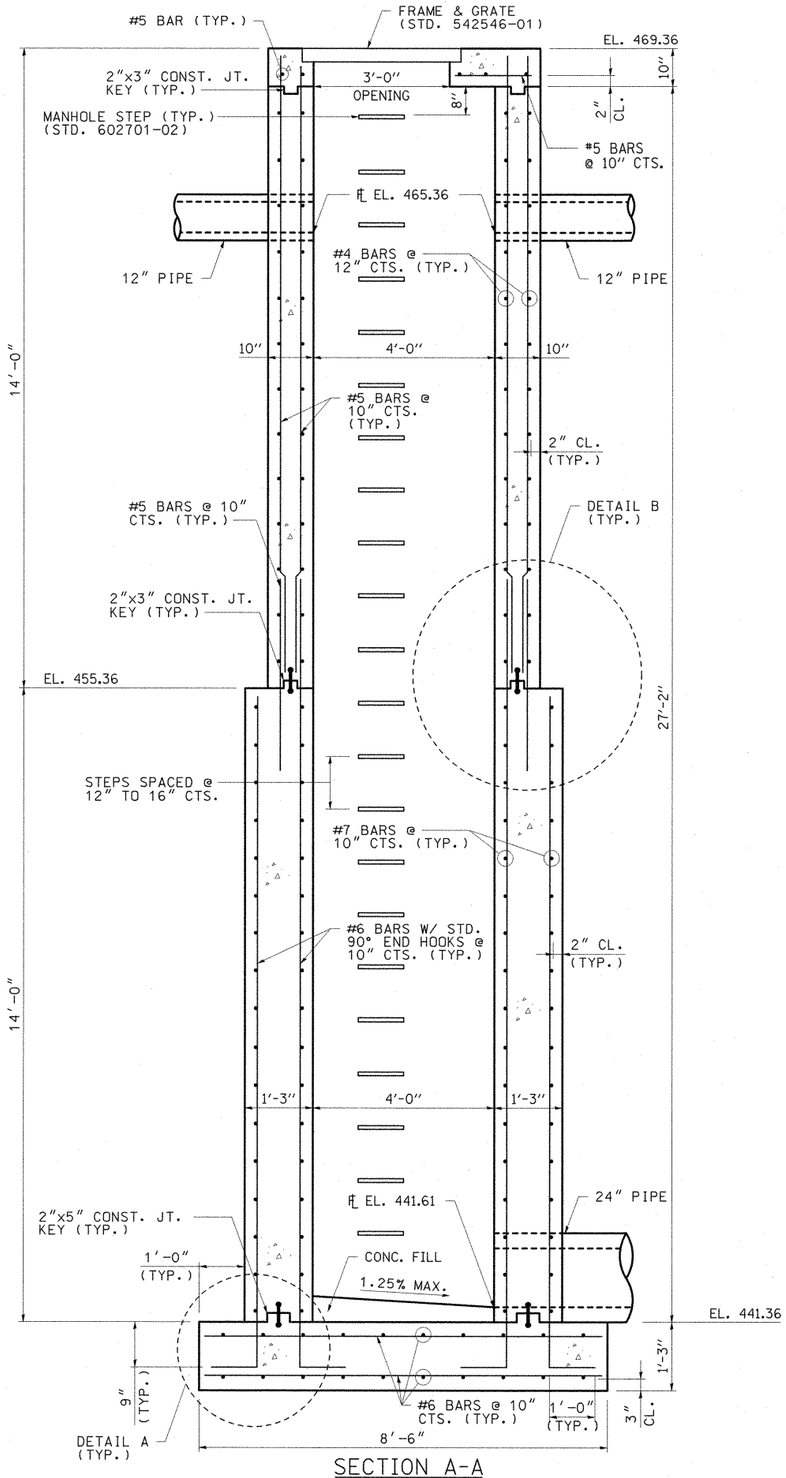


PLAN - TOP SLAB REINFORCEMENT

ESTIMATED QUANTITIES

(FOR INFORMATION ONLY)

CONCRETE CLASS SI	CU. YD.	25.2
REINFORCEMENT BARS	POUND	5,330
FRAME & GRATE (STD. 542546-01)	EACH	1



SECTION A-A

NOTES:

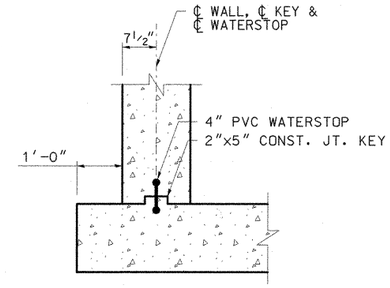
CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

REINFORCING BARS SHALL BE CUT AND/OR BENT AT ALL PIPE OPENINGS TO MAINTAIN 1" CLEARANCE FROM PIPES.

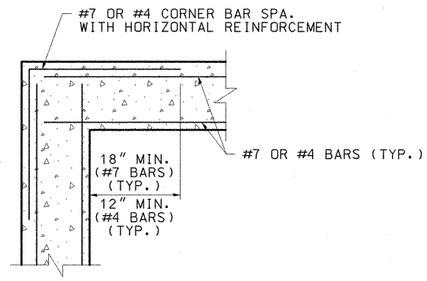
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2" UNLESS OTHERWISE SHOWN.

ALL WORK INCLUDING CONCRETE, REINFORCING STEEL, FRAME AND GRATE, WATERSTOP AND MANHOLE STEPS NECESSARY TO COMPLETE THE STRUCTURE SHALL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR FLUSH INLET BOX FOR MEDIAN, STANDARD 542546, SPECIAL (EACH).

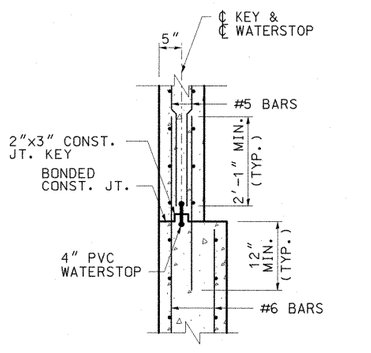


DETAIL A

REINFORCEMENT NOT SHOWN FOR CLARITY.



PLAN - TYPICAL WALL CORNER DETAIL



DETAIL B

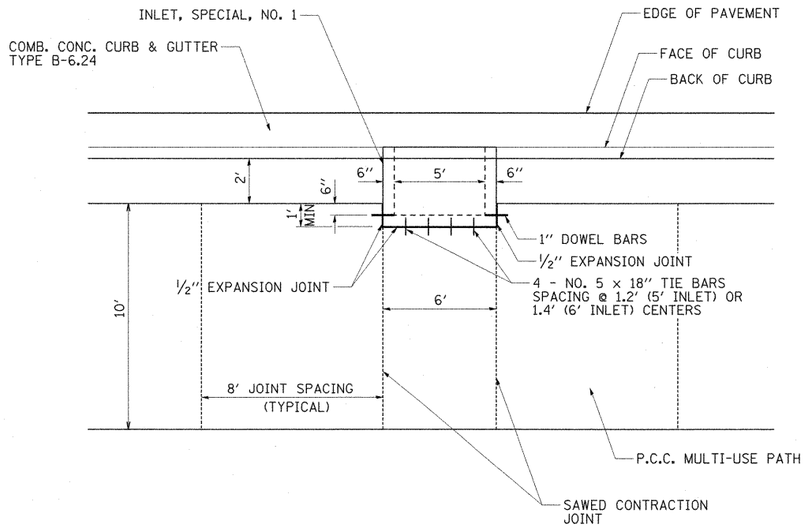
FILE NAME = li\idot\0906603\draw\cadd_sheets\D998851-sht-median_inlet.dgn	USER NAME = Gary Davis	DESIGNED - JMW	REVISED -
		DRAWN - AJK	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - REB	REVISED -
	PLOT DATE = 12/7/2011	DATE - 12/9/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL – FLUSH INLET BOX FOR MEDIAN AT STA. 1751+95.00
ILLINOIS ROUTE 13

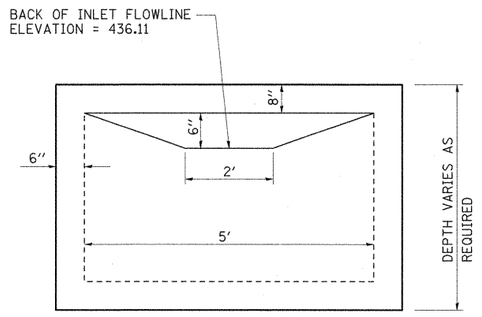
SCALE: N/A | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	295
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		



INLET, SPECIAL, NO. 1 MULTI-USE PATH BLOCK OUT

STA. 8+25.00, RT. (MARATHON DRIVE)
STA. 10+72.31, RT. (MARATHON DRIVE)



ELEVATION

BACK OF INLET, SPECIAL, NO. 1

STA. 4+00.00, LT. (SKYLINE DRIVE SOUTH)

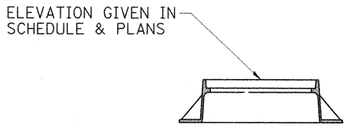
FILE NAME = l:\idot\0906603\draw\cadd_sheets\D998859-sht-details_MISC.dgn	USER NAME = Gary Davis	DESIGNED - BMB	REVISED -
		DRAWN - GLD	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - SPH	REVISED -
	PLOT DATE = 12/7/2011	DATE - 12/9/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

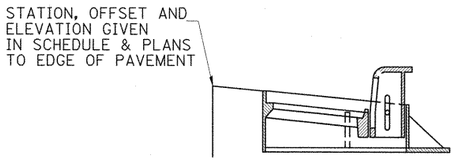
MISCELLANOUS DETAILS
ILLINOIS ROUTE 13

SCALE: N/A | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(IX-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	296
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

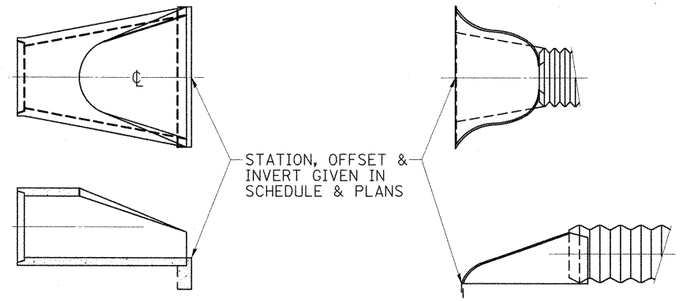


TYPE 1 FRAME AND LID



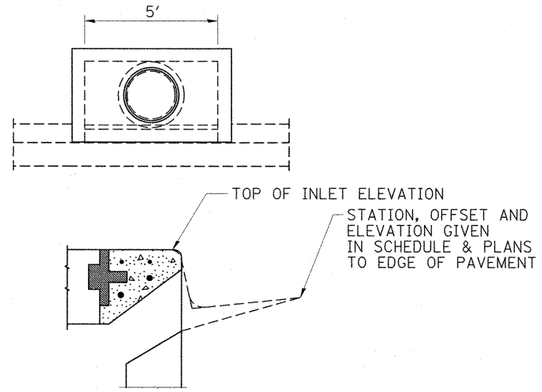
TYPE 3V FRAME AND GRATE

STATION AND OFFSET ARE NOT
TO THE CENTER OF THE MANHOLE
OR INLET.

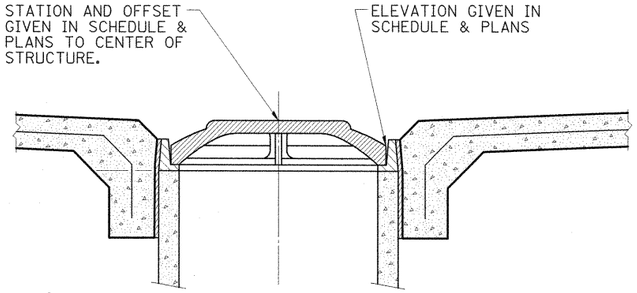


CONC. END SECTIONS

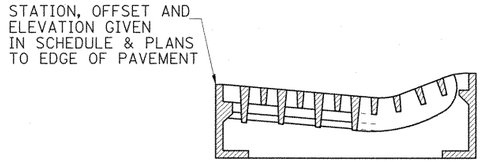
METAL END SECTIONS



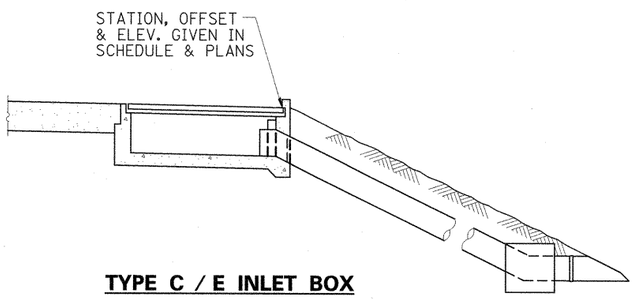
DETAILS OF INLET, SPECIAL, NO. 1
(TYPE 3, 5 FEET)



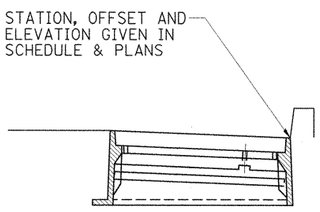
MEDIAN INLETS
STD. 604101 AND 604106



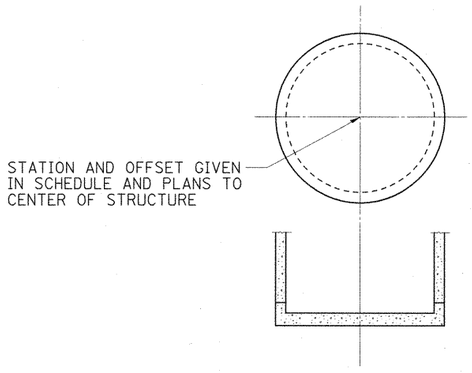
INLET, SPECIAL, NO. 2



TYPE C / E INLET BOX



TYPE 20 FRAME AND GRATE



MANHOLES AND INLETS, TYPE A & B
EXCEPT WHEN USED WITH TYPE 3V

FILE NAME =	USER NAME = Gary Davis	DESIGNED - BMB	REVISED -
I:\idot\0906603\draw\cadd_sheets\D998859-sht-Det-Drain.Struct.Ref.dgn		DRAWN - GLD	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - SPH	REVISED -
	PLOT DATE = 12/7/2011	DATE - 12/9/11	REVISED -

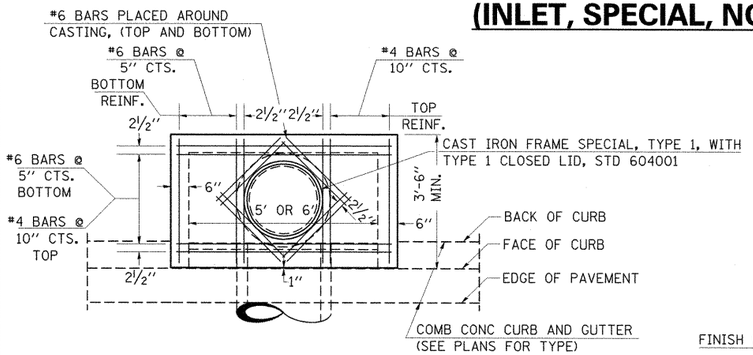
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL – DRAINAGE STRUCTURE REFERENCE POINTS
IL ROUTE 13

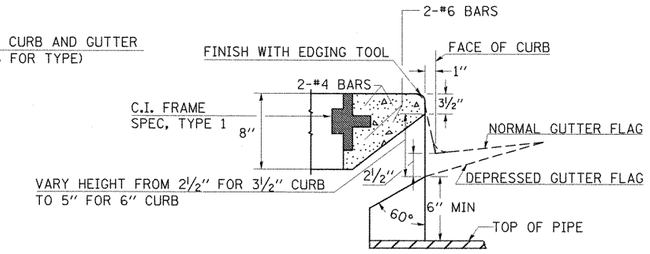
SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	297
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

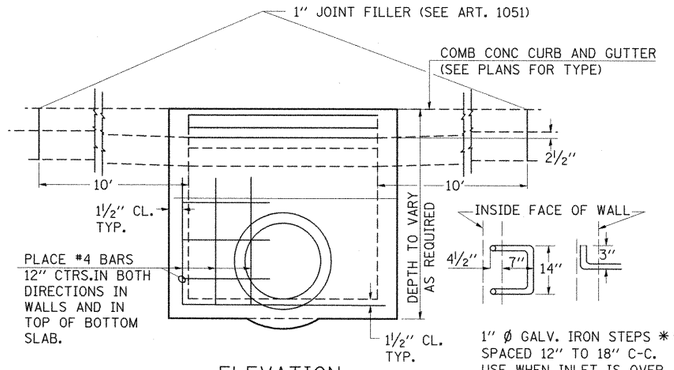
DETAILS OF INLET SPECIAL, TYPE 3, 5 FEET AND 6 FEET
(INLET, SPECIAL, NO. 1)



PLAN



SECTION AT WEIR



ELEVATION

DESIGN	PIPE DIA	"D"
A	18"&LESS	2'-6"
B	21"&24"	3'-0"
C	27"&30"	3'-7"
D	33"&36"	4'-2"
E	42"	4'-9"
F	48"	5'-0"
G	54"	6'-1"

1" Ø GALV. IRON STEPS **
SPACED 12" TO 18" C-C.
USE WHEN INLET IS OVER 4' DEEP.

NOTES:

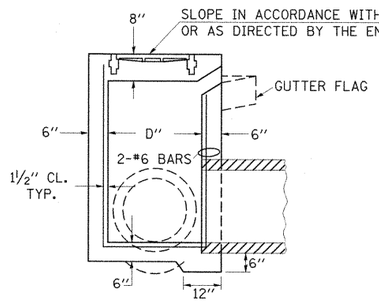
PROVIDE 1½" CLEARANCE TYP. ALL REINFORCEMENT UNLESS OTHERWISE SPECIFIED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. SET FACE OF INLET 1" BEHIND FACE OF CURB. DEPRESS GUTTER FLOWLINE AT INLET 2½" BELOW NORMAL GUTTER FLOWLINE. CONSTRUCT TRANSITION IN FLOWLINE IN 10 FEET EACH SIDE OF INLET. PIPES TO BE CONNECTED TO INLET AS SHOWN ON STORM SEWER LAYOUT.

INLETS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR **INLET, SPECIAL, NO. 1,** WHICH PRICE SHALL INCLUDE THE CAST IRON FRAME, SPECIAL, TYPE 1 WITH TYPE 1 CLOSED LID, THE REINFORCEMENT BARS, METAL STEPS AND JOINT FILLER.

**THE GALVONIZED IRON STEPS AS DETAILED HEREON ARE TYPICAL. STEPS OF OTHER DESIGN AND MATERIAL THAT WILL CONFORM TO THE MINIMUM REQUIREMENTS OF THE STEPS SHOWN. MAY BE USED WHEN APPROVED BY THE ENGINEER.

IF THE INLET IS NOT CAST IN PLACE THEN THE INLET SHALL BE PRODUCED ACCORDING TO THE DEPARTMENT'S CURRENT POLICY MEMORANDUM, "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS".



SECTION

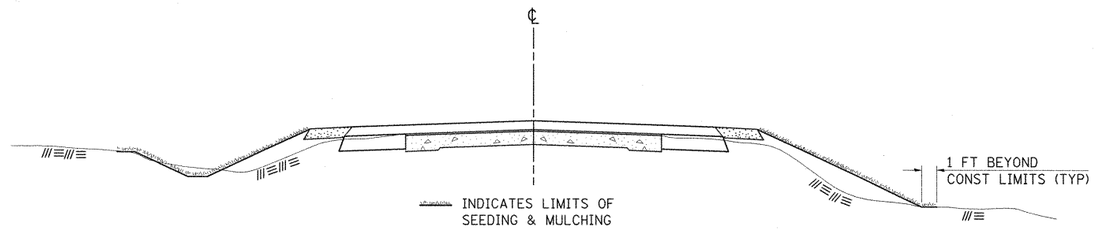
NOTE TO DESIGNER:

WHEN USING THIS STANDARD THE DESIGNER SHOULD ALSO CHECK BDE SPECIAL PROVISION 419 "PRECAST CONCRETE PRODUCTS".

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	1-19-99
REVISED	5-6-04
RESIZED	5-6-08

STD. 9-1

SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

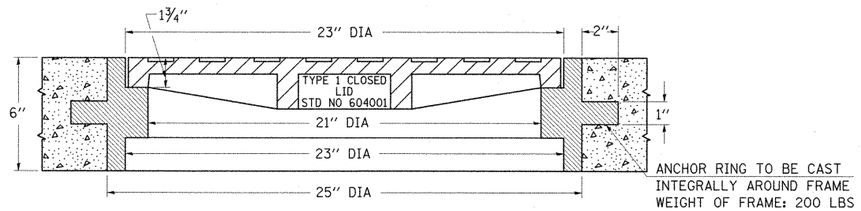
SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08

STD. 9-12

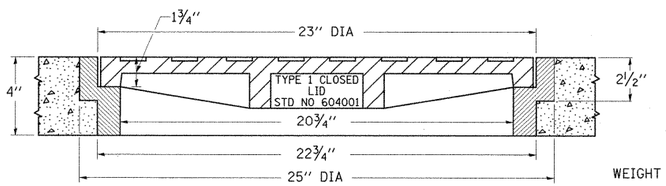
DETAILS OF CAST IRON FRAMES SPECIAL TYPE 1 & TYPE 2 WITH TYPE 1 CLOSED LID

TYPE 1



THE FRAMES MAY BE MADE OF EITHER GRAY IRON CONFORMING TO THE STANDARD SPECIFICATIONS OR DUCTILE IRON CONFORMING TO THE SPECIFICATIONS FOR DUCTILE IRON CASTING, A.S.T.M. DESIGNATION: A536, GRADE 60-45-10.

TYPE 2



WEIGHT OF FRAME: 90 LBS

REVISIONS	
REDRAWN	2-15-89
REVISED	12-14-01
REVISED	3-26-08
REVISED	

STD. 9-18

FILE NAME = I:\idot\0906603\draw\cadd_sheets\D9988591-sht-details.dgn	USER NAME = OpenH&B Springfield	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/12/2011	DATE - 12/9/11	REVISED -

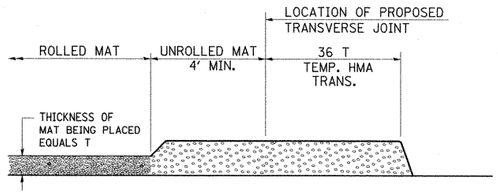
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT DETAILS
ILLINOIS ROUTE 13

SCALE: N/A | SHEET NO. OF SHEETS | STA. | TO STA.

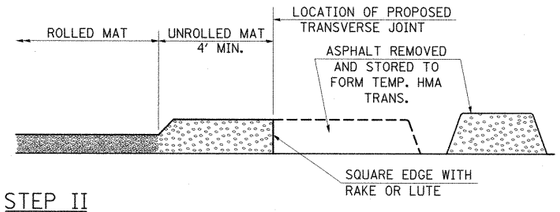
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	298
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

TEMPORARY HOT-MIX ASPHALT TRANSITIONS



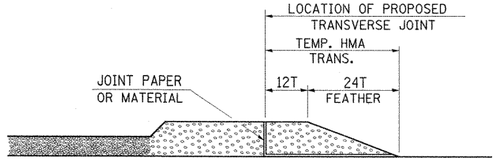
STEP I

1. PLACE HOT-MIX ASPHALT MAT, LENGTH 36 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES. EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH
2. MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



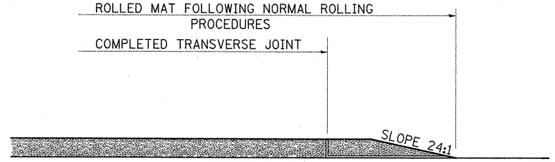
STEP II

1. MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY HOT-MIX ASPHALT TRANSITION.
2. SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
3. NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



STEP III

1. JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
2. NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



STEP IV

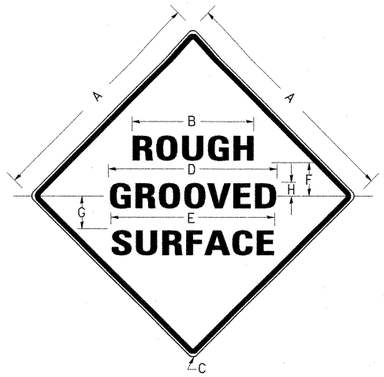
1. COMPLETE TEMPORARY TRANSITION BY ROLLING.
2. TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
3. CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY IN ACCORDANCE WITH ARTICLE 406.14 OF THE STANDARD SPECIFICATIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-16-94
REVISED	01-09-07
RESIZED	05-8-08

STD. 9-26

ILLINOIS STANDARD

W8-I106



COLORS:

LEGEND AND BORDER- BLACK NON-REFLECTORIZED
BACKGROUND- ORANGE REFLECTORIZED

SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	H
48X48	48.0	24.1	3.0	34.0	33.0	6.0	13.0	3.5

SIGN SIZE	SERIES LINES			MARGIN	BORDER	BLANK STD.
	1	2	3			
48X48	7C	7C	7C	0.8	1.2	B4-48D

ALL DIMENSIONS IN INCHES

NOTES:

PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED, THE CONTRACTOR SHALL HAVE ERECTED "ROUGH GROOVED SURFACE" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "ROUGH GROOVED SURFACE" SIGNS UNTIL THE COLDMILLED SURFACE IS COVERED WITH LEVELING BINDER OR SURFACE COURSE.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

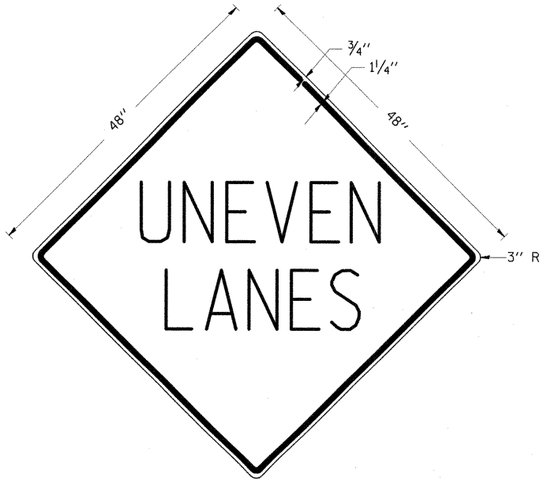
THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
REDRAWN	2-15-89
REVISED	4-6-93
REVISED	3-27-08
REVISED	

STD. 9-39

UNEVEN LANES SIGN

W8-11 (48" x 48")



COLORS:

LEGEND AND BORDER - BLACK NON-REFLECTORIZED
BACKGROUND - ORANGE REFLECTORIZED

NOTE: PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED OR BEFORE RESURFACING OPERATIONS BEGIN, THE CONTRACTOR SHALL HAVE ERECTED "UNEVEN PAVEMENT" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "UNEVEN PAVEMENT" SIGNS UNTIL THE RESURFACING OPERATIONS ARE COMPLETED.

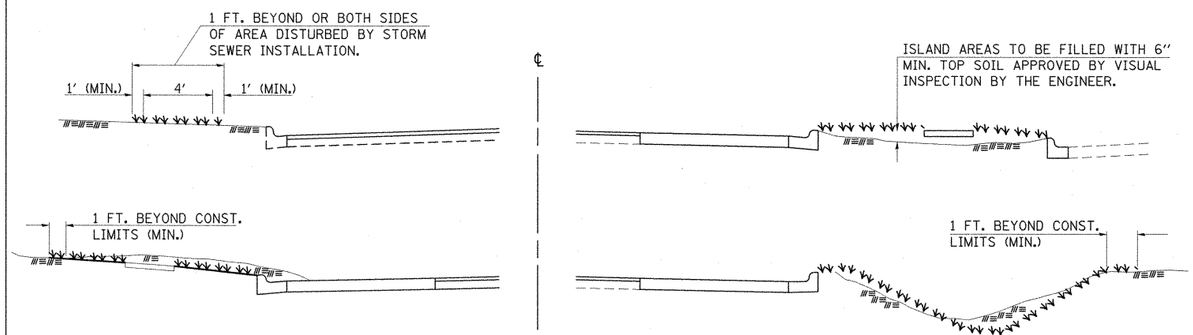
IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
DRAWN	2-15-89
REVISED	4-6-93
REDSIGNED	7-23-04
RESIZED	5-8-08

STD. 9-41

SEEDING & MULCHING



-INDICATES LIMITS OF SEEDING & MULCHING

GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
DRAWN	6-15-89
REVISED	8-16-94
REVISED	3-27-08
REVISED	

STD. 9-52

FILE NAME = l:\idot\0906603\draw\cadd_sheets\D998859-sht-details.dgn	USER NAME = OpenM&B Springfield	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/10/2011	DATE - 12/9/11	REVISED -

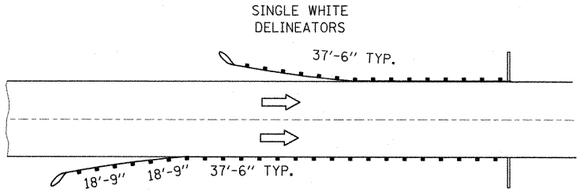
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT DETAILS
ILLINOIS ROUTE 13

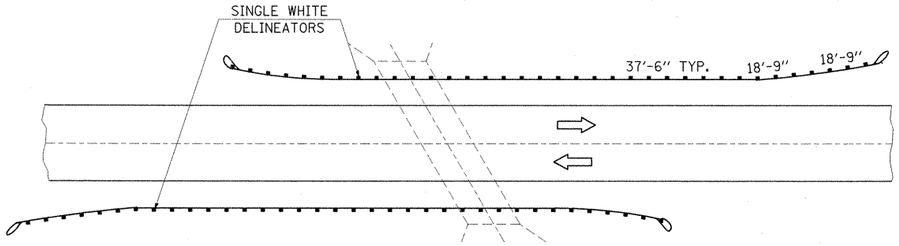
SCALE: N/A | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	299
		CONTRACT NO. 98859		
	ILLINOIS FED. AID PROJECT			

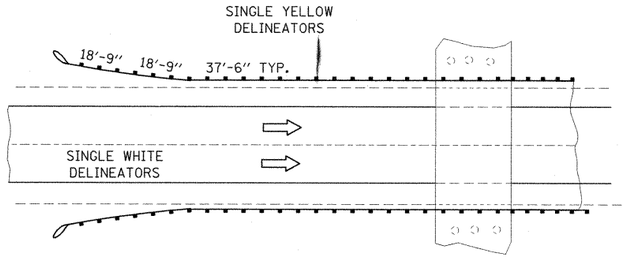
TYPICAL GUARDRAIL DELINEATION



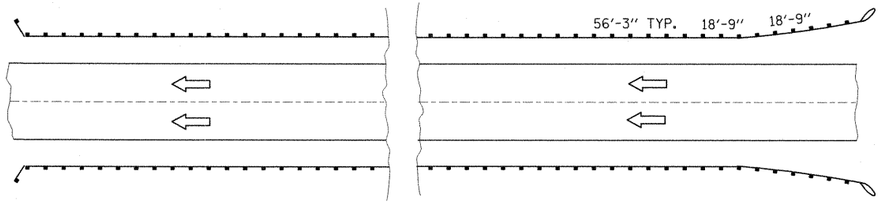
BRIDGE APPROACH INSTALLATION (TWO-WAY TRAFFIC)



ROADSIDE OBSTACLE INSTALLATION - LENGTH 250' OR LESS
(TWO WAY TRAFFIC)

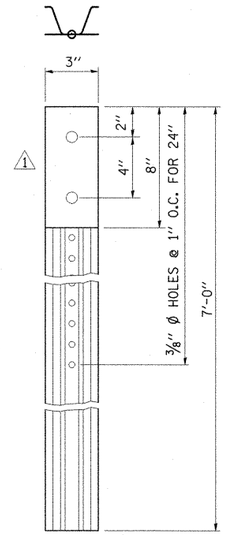


ROADSIDE OBSTACLE INSTALLATION - LENGTH 250' OR LESS
(ONE WAY TRAFFIC)

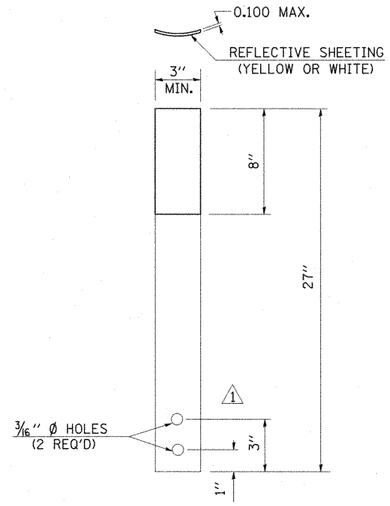


EMBANKMENT OR ROADSIDE OBSTACLE INSTALLATION-
LENGTH GREATER THAN 250'

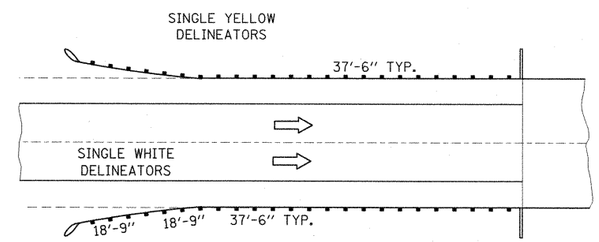
(ONE-WAY TRAFFIC SHOWN DELINEATOR SPACING FOR TWO-TRAFFIC SIMILAR.
DELINEATOR COLOR WILL BE THE SAME AS THE ADJACENT PAVEMENT EDGE MARKING)



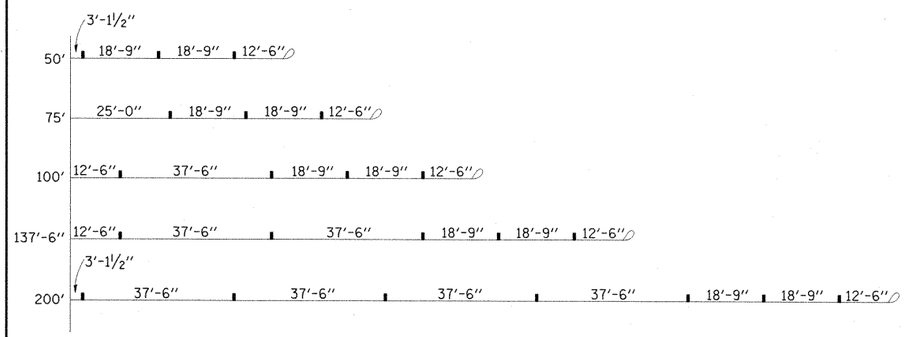
DETAIL OF A SINGLE
WHITE OR SINGLE YELLOW
DELINEATOR



DETAIL OF FLEXIBLE
GUARDRAIL DELINEATOR



BRIDGE APPROACH INSTALLATION (ONE-WAY TRAFFIC)



GRAPHICS SHOWING SPACING OF GUARDRAIL DELINEATORS
AT SOME COMMONLY USED BRIDGE APPROACHES

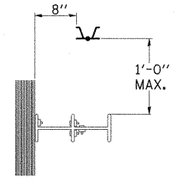
STD. 9-42

GENERAL NOTES

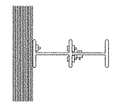
1. THE UNIT PRICE OF DELINEATOR INCLUDES: COST(S) OF DELINEATOR FACE(S), POST, HARDWARE, AND INSTALLATION.
2. DELINEATOR FACE WILL BE ENCAPSULATED LENS REFLECTIVE SHEETING.
3. DELINEATORS ON STEEL POSTS
   - A. DELINEATOR FACE SHALL BE PLACED ON 0.06" SHEET ALUMINUM OR 14 GAGE GALVANIZED SHEET STEEL
   - B. DELINEATOR POSTS SHALL BE GALVANIZED STEEL U-SECTION POSTS (2.0 TO 2.5 LBS PER FT.). THE POSTS ARE TO BE FABRICATED BEFORE THE METAL IS GALVANIZED. RADIUS IN BENDS OF POST CROSS-SECTION NOT TO EXCEED 13/32 INCH FOR HOT ROLLED SECTION.
   - C. WHEN COVER OVER A DRAINAGE STRUCTURE IS LESS THAN THE NORMAL DELINEATOR POST DEPTH, THE DELINEATOR POSTS WILL BE FIELD CUT, DRILLED AND FASTENED TO THE BACK OF THE GUARDRAIL POSTS WITH (2) 1/4" LAG SCREWS.
4. DELINEATORS ON FLEXIBLE POSTS
   - A. DELINEATOR POSTS SHALL BE WHITE IN COLOR.
   - 1 B. THE DELINEATOR POSTS WILL BE SECURED TO METAL GUARDRAIL POSTS BY TWO HUCK RIVETS (PIN #C6LB-R6-7C; COLLAR #3LCW-2R6-6) OR EQUIVALENT. A 3/8" GALVANIZED FLANGED NUT WILL BE PLACED BETWEEN THE DELINEATOR POST AND GUARDRAIL POST ON EACH RIVET.

     HOLES IN THE STEEL GUARDRAIL POSTS SHALL BE 1/4" DIAMETER AND MAY BE SHOP FABRICATED OR FIELD DRILLED.

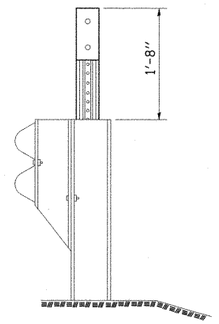
REVISIONS	
DRAWN	5-17-97
REVISED	01-10-07
RESIZED	05-06-08



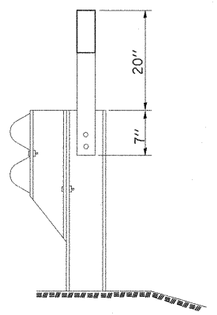
PLAN VIEW



PLAN VIEW



TYPICAL STEEL POST
GUARDRAIL DELINEATOR
INSTALLATION



TYPICAL FLEXIBLE
GUARDRAIL DELINEATOR
INSTALLATION

FILE NAME = l:\idot\8906603\draw\cadd_sheets\D998859-sht-details.dgn	USER NAME = OpenH&B Springfield	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/10/2011	DATE - 12/9/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT DETAILS
ILLINOIS ROUTE 13

SCALE: N/A | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	300
		CONTRACT NO. 98859		
		ILLINOIS FED. AID PROJECT		