

FILE NAME: ...



USER NAME = mkosir
 PLOT SCALE = 0.999998" / 1"
 PLOT DATE = 4/4/2016

DESIGNED - RWC	REVISED -
DRAWN - RWC	REVISED -
CHECKED - DOB	REVISED -
DATE - 05/08/2015	REVISED -

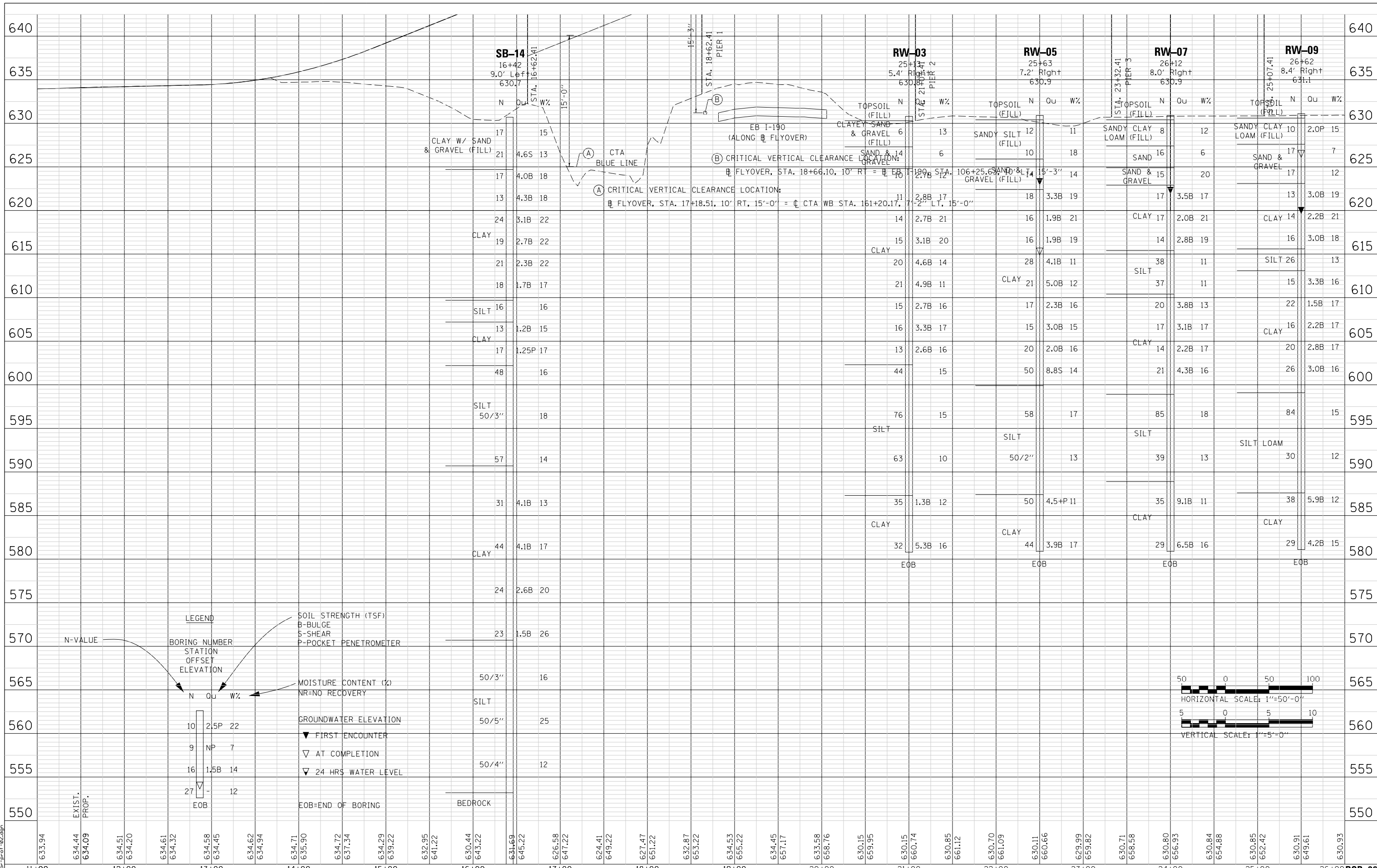
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BORING PROFILES
 FLYOVER RAMP**

SCALE: 1" = 50' SHEET 1 OF 5 SHEETS STA. 14+00.00 TO STA. 28+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	301
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

BOR-05



LEGEND

SOIL STRENGTH (TSF)
 B-BULGE
 S-SHEAR
 P-POCKET PENETROMETER

MOISTURE CONTENT (%)
 NR=NO RECOVERY

GROUNDWATER ELEVATION
 ▼ FIRST ENCOUNTER
 ▽ AT COMPLETION
 ▽ 24 HRS WATER LEVEL

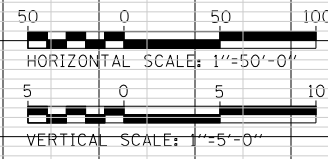
EOB=END OF BORING

BECKROCK

N-VALUE

BORING NUMBER
 STATION
 OFFSET
 ELEVATION

N Ou W%



633.94	634.44	634.09	634.51	634.20	634.61	634.32	634.58	634.45	634.62	634.94	634.71	635.90	634.72	637.34	634.29	639.22	632.95	641.22	630.44	643.22	631.69	645.22	626.58	647.22	624.41	649.22	627.47	651.22	632.87	653.22	634.53	655.22	634.45	657.17	633.58	658.76	630.15	659.95	630.15	660.74	630.85	661.12	630.70	661.09	630.11	660.66	629.99	659.82	630.71	658.58	630.80	656.93	630.84	654.88	630.85	652.42	630.91	649.61	630.93
11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	21+00	22+00	23+00	24+00	25+00	26+00																																												

FILE NAME = ...
 OBA
 O'BRIEN & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 100 S. CLARK ST., CHICAGO, ILL. 60606
 (312) 467-1000 FAX (312) 467-1001
 WWW.OBIENANDASSOCIATES.COM

USER NAME = mksosir	DESIGNED - RWC	REVISED -
PLOT SCALE = 0.999998' / in.	DRAWN - RWC	REVISED -
PLOT DATE = 4/4/2016	CHECKED - DOB	REVISED -
	DATE - 05/08/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING PROFILES
RETAINING WALL 2 AND 4

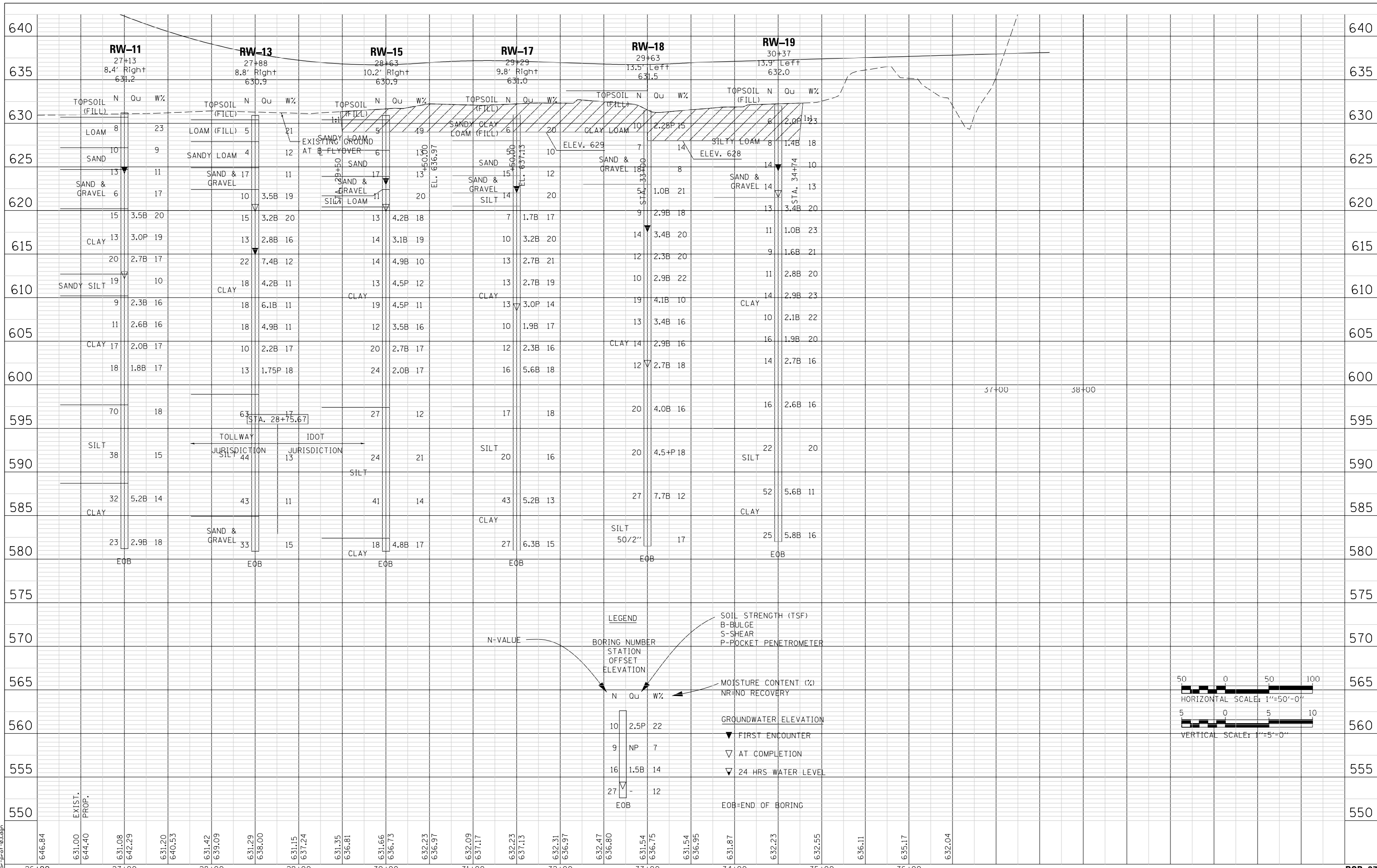
SCALE: 1" = 50'

SHEET 2 OF 5 SHEETS

STA. 11+00.00 TO STA. 26+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	302
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

BOR-06



FILE NAME = D:\2016\26-ant-bor-prof-02.dgn

OBA
 O'BRIEN & ASSOCIATES, INC.
 CONSULTING ENGINEERS
1000 S. MICHIGAN AVE. SUITE 1000 CHICAGO, IL 60605
 (312) 566-1000 FAX (312) 566-1001
 WWW.OBAENGINEERS.COM

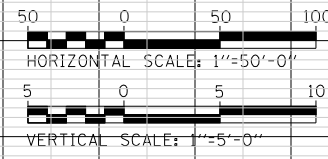
USER NAME = mksosir	DESIGNED - RWC	REVISED -
PLOT SCALE = 0.999998' / in.	DRAWN - RWC	REVISED -
PLOT DATE = 4/4/2016	CHECKED - DOB	REVISED -
	DATE - 05/08/2015	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

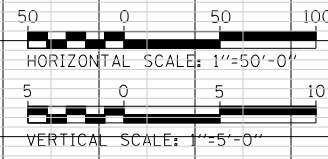
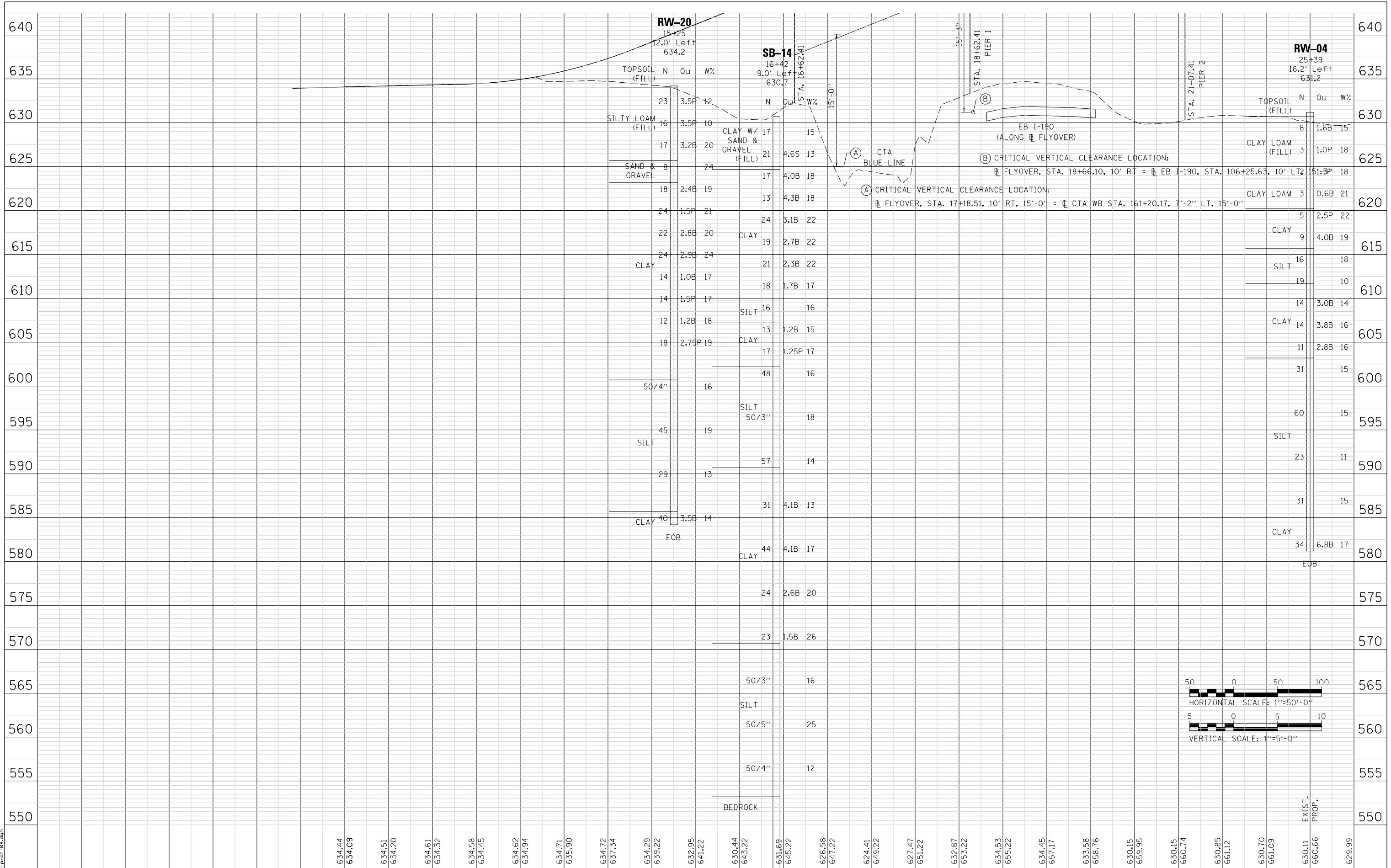
**BORING PROFILES
 RETAINING WALL 2 AND 4**

SCALE: 1" = 50' SHEET 3 OF 5 SHEETS STA. 26+00.00 TO STA. 36+00.00

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	303
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



BOR-07



FILE NAME: ...D:\2016\2016-ant-bor-prof-04.dgn



USER NAME = mkosir	DESIGNED - RWC	REVISED -
	DRAWN - RWC	REVISED -
PLOT SCALE = 0.999998' / in.	CHECKED - DOB	REVISED -
PLOT DATE = 4/4/2016	DATE - 05/08/2015	REVISED -

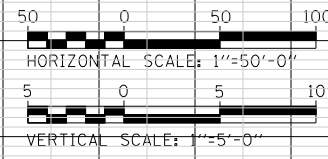
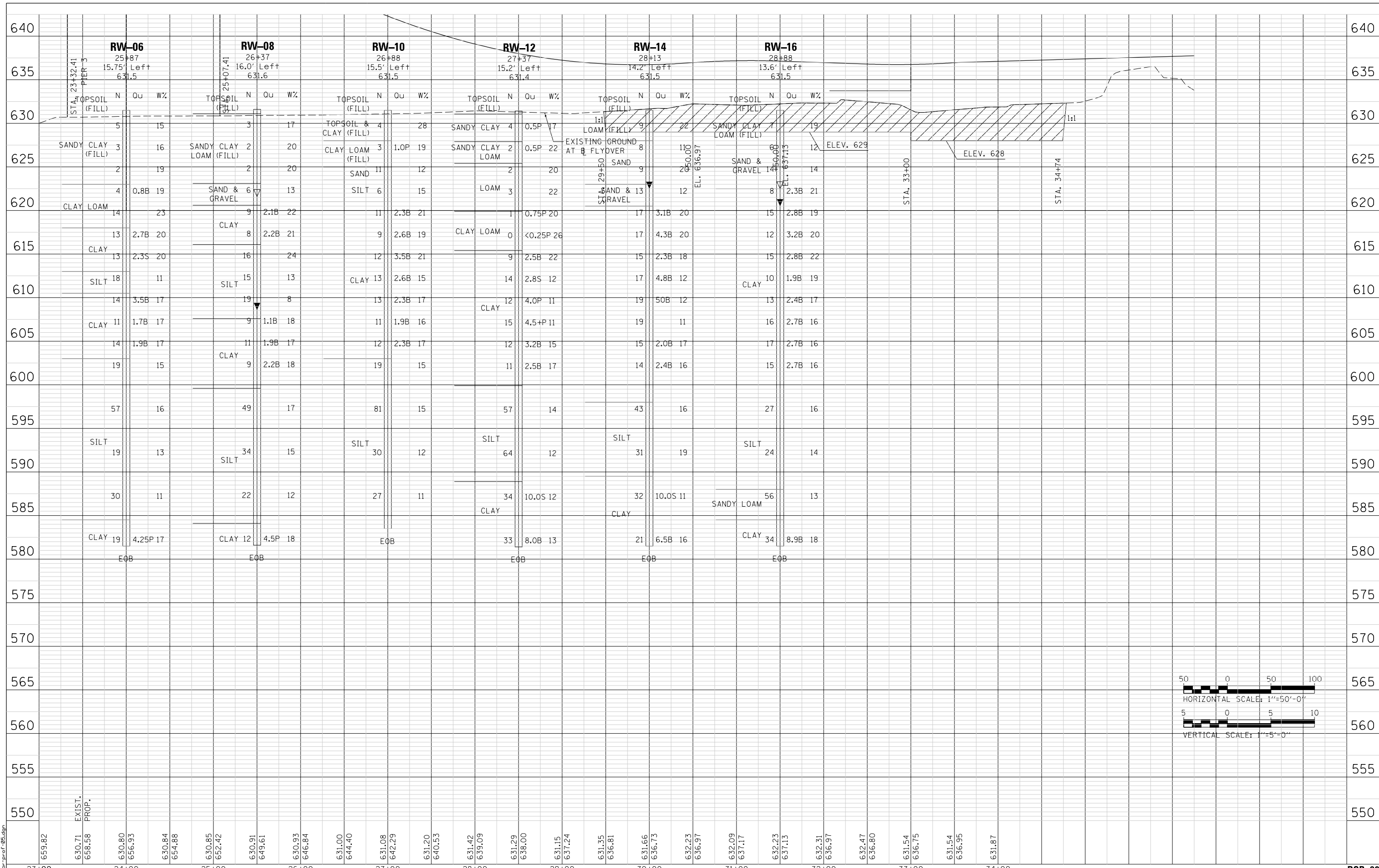
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BORING PROFILES
RETAINING WALLS 1 AND 3**

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	304
CONTRACT NO. 60X56				

SCALE: 1" = 50' SHEET 4 OF 5 SHEETS STA. 12+00.00 TO STA. 23+00.00

ILLINOIS FED. AID PROJECT



FILE NAME = D:\2016\1517R-1(13)\1517R-1(13) BORING PROFILES.dgn



USER NAME = mksir	DESIGNED - RWC	REVISED -
PLOT SCALE = 0.999998' / in.	DRAWN - RWC	REVISED -
PLOT DATE = 4/4/2016	CHECKED - DOB	REVISED -
	DATE - 05/08/2015	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BORING PROFILES
RETAINING WALLS 1 AND 3**

SCALE: 1" = 50' SHEET 5 OF 5 SHEETS STA. 23+00.00 TO STA. 34+00.00

F.A.I. RE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 305
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-09



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 8/28/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD

SECTION -- LOCATION SW 1/4, SEC. 2, TWP. T40N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

Table with columns for D E P T H, B L O W S, U C S, M O I S T, and soil descriptions with elevations and test results.

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)



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 8/28/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD

SECTION -- LOCATION SW 1/4, SEC. 2, TWP. T40N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

Table with columns for D E P T H, B L O W S, U C S, M O I S T, and soil descriptions with elevations and test results.

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)



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 8/27/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD

SECTION -- LOCATION SW 1/4, SEC. 2, TWP. T40N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

Table with columns for D E P T H, B L O W S, U C S, M O I S T, and soil descriptions with elevations and test results.

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: ...D:\2015\25-ant-bor-log-01.dgn



Table with columns for USER NAME, DESIGNED, DRAWN, PLOT SCALE, PLOT DATE, REVISED, CHECKED, DATE.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT BORING LOGS

SCALE: NTS SHEET 1 OF 16 SHEETS STA. TO STA.

Table with columns for F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.

BOR-10



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 8/27/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD
SECTION -- LOCATION SW 1/4, SEC. 2, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	D E P T H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev. n/a ft	Stream Bed Elev. n/a ft	Groundwater Elev.:	First Encounter 623.6 ft	Upon Completion 615.1 ft	After Hrs.	D E P T H S	B L O W S	U C S Qu	M O I S T %	
															(ft)
12.0" TOPSOIL-black				27			CLAY to CLAY LOAM-gray-stiff to very stiff (continued)								
SANDY CLAY LOAM-brown & gray-loose (Fill)		2		15								5	10	3.6	16
		2										13	B		
SAND & GRAVEL-brown & gray-loose to medium dense		2		11								4			
		3										6	2.7	20	
		3										10	B		
		8		13								3			
		8										7	1.9	18	
		8										9	B		
becoming gray @ -8.0'		10		11								4			
		10										8	3.5	19	
		7										11	B		
CLAY to CLAY LOAM-gray-stiff to very stiff		4		20								5	1.7	20	
		8										10	B		
		3		20								5	2.7	20	
		10										8	2.6	19	
		10										14	B		
End Of Boring @ -35.0'. Boring backfilled with cuttings.		10										3			
		9		15								6	2.4	21	
		11										9	B		
		5		18								3			
		7										7	2.1	19	
		12										11	B		

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)



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 8/27/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD
SECTION -- LOCATION SE 1/4, SEC. 3, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	D E P T H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev. n/a ft	Stream Bed Elev. n/a ft	Groundwater Elev.:	First Encounter 629.0 ft	Upon Completion 615.5 ft	After Hrs.	D E P T H S	B L O W S	U C S Qu	M O I S T %	
															(ft)
15.0" TOPSOIL-black				27			CLAY to CLAY LOAM-gray-stiff to hard (continued)								
CLAY LOAM-dark brown, gray & spotted black-stiff to very stiff (Fill)		2		18								5			
		3										3	2.0	17	
		3										7	B		
		2		17								3			
		2										4	2.3	17	
		3										6	B		
		3		19								4			
		3										6	2.3	16	
		5										9	B		
SAND & GRAVEL-brown & gray-medium dense		5		9								4			
		9										7	4.3	19	
		11										11	B		
SAND-gray-medium dense		7		19								4			
		10										7			
		6										9	3.8	19	
CLAY to CLAY LOAM-gray-stiff to hard		3		18								5			
		3										9	3.8	19	
		15										6	2.4	21	
		9										10	B		
		3		19								4			
		7										7	2.1	19	
		11										11	B		

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)



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 8/26/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD
SECTION -- LOCATION SE 1/4, SEC. 3, TWP. T40N, RNG. R12E
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	D E P T H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev. n/a ft	Stream Bed Elev. n/a ft	Groundwater Elev.:	First Encounter 624.8 ft	Upon Completion 620.8 ft	After Hrs.	D E P T H S	B L O W S	U C S Qu	M O I S T %	
															(ft)
7.0" TOPSOIL-black				26			CLAY to CLAY LOAM-gray-stiff to very stiff (continued)								
CLAY LOAM-brown & gray-very stiff		3		23								4			
		3										6	3.0	20	
		4										10	B		
		2		19								4			
		3										6	2.7	19	
		5										10	B		
SAND-brown-medium dense		4		13								3			
		6										5	2.5	13	
		7										9	P		
SAND & GRAVEL-gray-medium dense		6		15								3			
		9										5	1.2	17	
		9										9	B		
CLAY to CLAY LOAM-gray-stiff to very stiff		3		17								5			
		7										10	2.1	18	
		8										13	B		
End Of Boring @ -35.0'. Boring backfilled with cuttings.		3										3			
		6		18								10	2.3	18	
		10										4			
		8		21								8	1.7	21	
		10										10	B		

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 = ...D:\2015\2015-11-11\Bor-Log-02.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
PLOT SCALE = 1.00' / 1in.	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT BORING LOGS	
SCALE: NTS	SHEET 2 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	307
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-11



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 8/26/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD

SECTION -- LOCATION SE 1/4, SEC. 3, TWP. T40N, RNG. R12E

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOISTURE T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After Hrs.	DEPTH H	BLOW S	UCS Qu	MOISTURE T
12.0" TOPSOIL-black				22			CLAY LOAM-gray-very stiff to hard (continued)				
633.90		5						7			
		6	4.2	20				8	5.1		12
		8	B					11	B		
		3						6			
		5	3.1	20				9	4.5		10
		6	B					12	P		
		-5						-25			
629.40		3						3			
		5		13				5	3.7		16
		8						8	B		
626.90		4						3			
		7		6				6	3.3		16
		8						9	B		
		-10						-30			
624.40		4						7			
		4	2.6	17				9			
		5	B					11			
		3						5			
		5	3.8	16				9	4.5		10
		8	P					13	P		
		-15						-35			
		3						5			
		4	2.8	19				9			
		7	B					11			
616.90		3						3			
		7	5.4	11				6	2.2		21
		14	B					10	B		
		-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)



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 8/26/14

ROUTE -- DESCRIPTION I-90 Improvements (Canfield Ave. to Harlem Ave.) LOGGED BY MD

SECTION -- LOCATION SE 1/4, SEC. 3, TWP. T40N, RNG. R12E

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOISTURE T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After Hrs.	DEPTH H	BLOW S	UCS Qu	MOISTURE T
12.0" TOPSOIL-black				20			CLAY to CLAY LOAM-gray-stiff to very stiff (continued)				
632.90		4						5			
		7	5.8	12				8	3.0		16
		12	B					12	B		
		3						3			
		6		19				6	2.7		16
		9	4.5					9	B		
		-5						-25			
628.40		3						3			
		4	2.3	16				5	1.8		17
		8	B					7	B		
625.90		3						3			
		7		16				4	1.7		16
		8						9	B		
		-10						-30			
623.40		7						7			
		9		14				9			
		11						11			
		3						3			
		3		15				3			
		5						5			
		-15						-35			
618.40		3						3			
		6	2.0	20				6			
		9	B					9			
		3						3			
		6	2.2	21				6			
		10	B					10			
		-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)

FILE NAME = ...D:\2015\2015-11-11\Bor-Log-03.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
PLOT SCALE = 1.00' / 1in.	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT
BORING LOGS

SCALE: NTS SHEET 3 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	308
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-12

PAGE 1 of 1
DATE June 6, 2014
LOGGED BY JK
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-01**
Station 100+50
Offset 5.0' Left
Ground Surface Elev. 634.3

DEPTH (ft)	LOG	UCS (tsf)	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	LOG	UCS (tsf)	MOIST
0	18.0" ASPHALT			n/g	n/g		0			
5	GRAVEL FILL—dense						5			
8		114					8			
11	CLAY—gray—very stiff to hard (A-6)	6.3B	15				11			
15							15			
17		106					17			
20							20			
23							23			
25	END OF BORING @ -10.0' 4.0" Straight Flight Auger to -10.0'						25			

PAGE 1 of 1
DATE June 11, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-02**
Station 103+50
Offset 40.0' Right
Ground Surface Elev. 632.5

DEPTH (ft)	LOG	UCS (tsf)	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	LOG	UCS (tsf)	MOIST
0	14.0" ASPHALT			n/g	n/g		0			
6		106					6			
7	CLAY FILL—brown & gray very stiff	14%	15				7			
10							10			
15	CLAY—brown & gray—very stiff	2.6B	21				15			
16							16			
17							17			
20							20			
25	END OF BORING @ -10.0' 4.0" Straight Flight Auger to -10.0'						25			

PAGE 1 of 1
DATE June 6, 2014
LOGGED BY JK
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-03**
Station 106+50
Offset 5.0' Left
Ground Surface Elev. 634.3

DEPTH (ft)	LOG	UCS (tsf)	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	LOG	UCS (tsf)	MOIST
0	15.0" ASPHALT			n/g	n/g		0			
4		109					4			
6	CLAY FILL—brown & gray hard	4.5B	18				6			
8							8			
10	CLAY—brown & gray—very stiff to hard (A-6)	2.7B	21				10			
13							13			
15		103					15			
17							17			
19							19			
20							20			
25	END OF BORING @ -10.0' 4.0" Straight Flight Auger to -10.0'						25			

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—BRIEN & ASSOCIATES, INC.

Type Failure
 B—Buige Failure S—Shear Failure
 E—Estimated Value P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
 W—Water Content, percent dry weight
 NP—Non-Plastic

Unit dry weight (pcf)
 noted in Italics above w%

D—Disturbed
 VS—Vane Shear (psf)

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—BRIEN & ASSOCIATES, INC.

Type Failure
 B—Buige Failure S—Shear Failure
 E—Estimated Value P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
 W—Water Content, percent dry weight
 NP—Non-Plastic

Unit dry weight (pcf)
 noted in Italics above w%

D—Disturbed
 VS—Vane Shear (psf)

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—BRIEN & ASSOCIATES, INC.

Type Failure
 B—Buige Failure S—Shear Failure
 E—Estimated Value P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
 W—Water Content, percent dry weight
 NP—Non-Plastic

Unit dry weight (pcf)
 noted in Italics above w%

D—Disturbed
 VS—Vane Shear (psf)

FILE NAME = ...D:\2015\25-art-bor-log-04.dgn



USER NAME = mksosir	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1.00' / 1in.	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE - 05/06/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

SCALE: NTS SHEET 4 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	309
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

BOR-13

PAGE 1 of 1
DATE June 11, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-04**
Station 109+50
Offset 40.0' Right
Ground Surface Elev. 634.5

DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)
7				n/g	n/g	First Encounter Dry				
8						Upon Completion Dry				
9		D	15			After n/g Hrs. n/g				
630.5			110							
4										
5		4.7B	19							
6			99							
7										
8		1.6B	20							
626.0										
4										
6		NP	9							
9										
-10										
-15										
-20										
-25										

13.0" ASPHALT
CLAY FILL-gray
CLAY-brown & gray-stiff to hard (Possible Fill)
sandy
SAND-brown-medium dense
END OF BORING @ -10.0'
4.0" Straight Flight Auger to -10.0'

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR-No Recovery SI-S Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure B-Bulge Failure S-Shear Failure E-Estimated Value P-Penetrometer
Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
W-Water Content, percent dry weight NP-Non-Plastic VS-Vane Shear (psf)
D-Disturbed

PAGE 1 of 1
DATE June 6, 2014
LOGGED BY JK
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-05**
Station 112+50
Offset 5.0' Left
Ground Surface Elev. 636.4

DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)
49			103			First Encounter Dry				
50						Upon Completion Dry				
632.9		2.6B	23			After n/g Hrs. n/g				
3										
6		2.5P	31							
5										
630.4			93							
4										
6		2.6B	27							
627.4										
3										
4		NP	9							
6										
-10										
-15										
-20										
-25										

17.0" ASPHALT, 7.0" GRAVEL FILL
CLAY FILL-black & gray-very stiff
ORGANIC CLAY-gray-very stiff (A-7)
CLAY-brown & gray-very stiff wet
SAND-brown-medium dense
END OF BORING @ -10.0'
4.0" Straight Flight Auger to -10.0'

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR-No Recovery SI-S Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure B-Bulge Failure S-Shear Failure E-Estimated Value P-Penetrometer
Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
W-Water Content, percent dry weight NP-Non-Plastic VS-Vane Shear (psf)
D-Disturbed

PAGE 1 of 1
DATE June 11, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Pavement Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **P-06**
Station 115+50
Offset 35.0' R
Ground Surface Elev. 635.8

DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLU (lb/ft ³)	UCS (tsf)	MOIST (%)
6			114			First Encounter Dry				
8		4.1B	15			Upon Completion Dry				
632.3			99			After n/g Hrs. n/g				
4										
5		2.7B	23							
6										
7		2.25P	21							
627.3										
4			99							
5										
7		2.25P	21							
-10		NP	10							
-15										
-20										
-25										

14.0" ASPHALT
CLAY FILL-gray-hard
CLAY-brown & gray-very stiff
SAND-brown
END OF BORING @ -10.0'
4.0" Straight Flight Auger to -10.0'

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR-No Recovery SI-S Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure B-Bulge Failure S-Shear Failure E-Estimated Value P-Penetrometer
Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
W-Water Content, percent dry weight NP-Non-Plastic VS-Vane Shear (psf)
D-Disturbed

FILE NAME = ...D:\2015\25-ant-bor-log-05.dgn



USER NAME = mksosir	DESIGNED -	REVISED -
PLOT SCALE = 1.00' / 1in.	DRAWN -	REVISED -
PLOT DATE = 4/4/2016	CHECKED -	REVISED -
	DATE = 05/06/2016	REVISED -

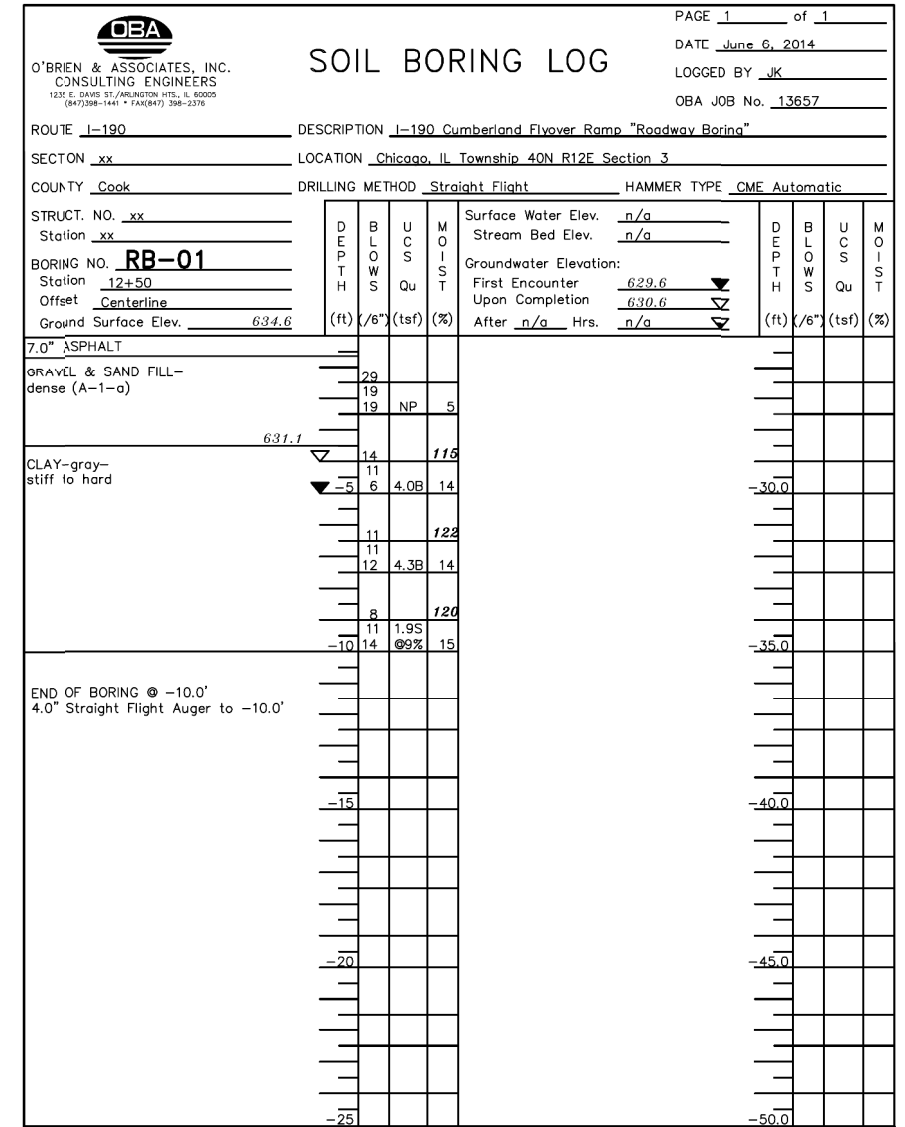
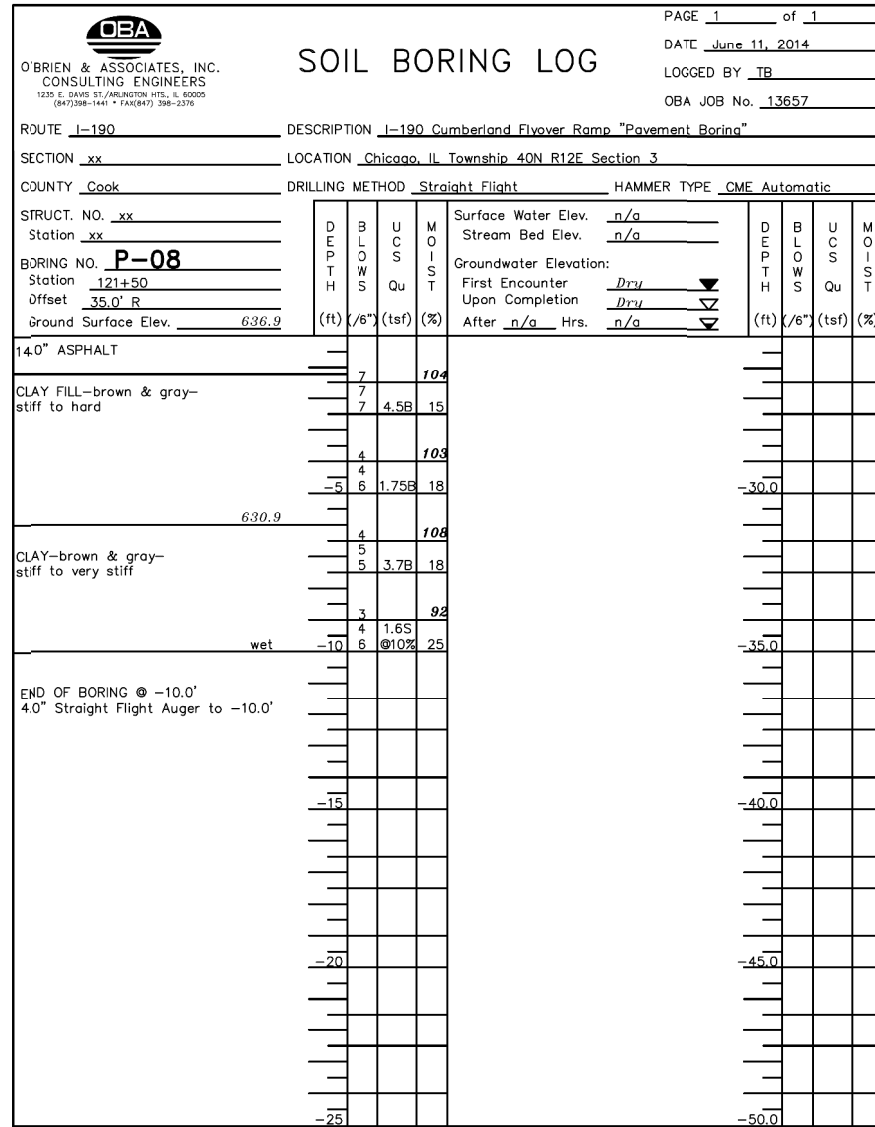
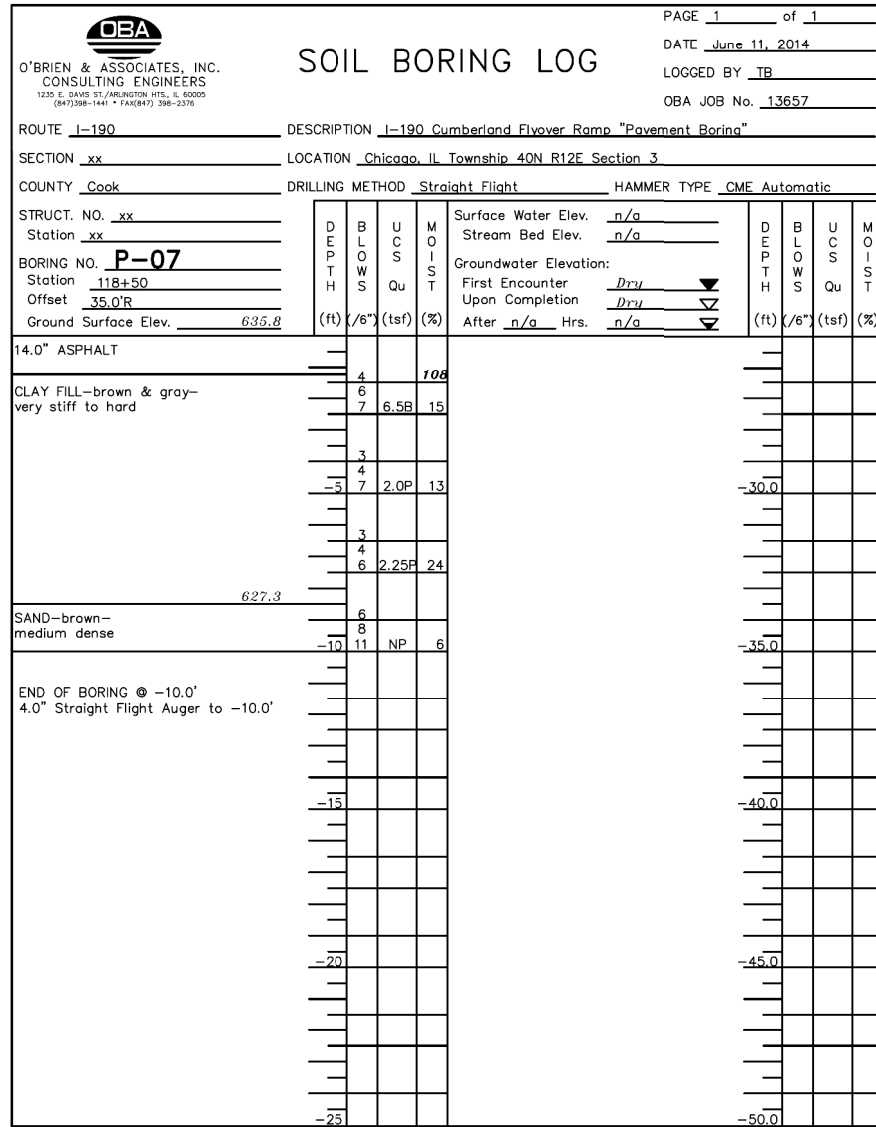
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

SCALE: NTS SHEET 5 OF 16 SHEETS STA. TO STA.

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	310
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

BOR-14



N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VC—Vane Shear (psf)

D—Disturbed

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VC—Vane Shear (psf)

D—Disturbed

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VC—Vane Shear (psf)

D—Disturbed

FILE NAME: ...D:\2015\25-ant-bor-log-06.dgn



USER NAME = mksosir	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1.00' / 1in.	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

SCALE: NTS SHEET 6 OF 16 SHEETS STA. TO STA.

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	311
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

BOR-15

PAGE 1 of 1
DATE December 2, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Roadway Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **RB-02**
Station 31+60
Offset 10.0' L
Ground Surface Elev. 632.6

DEPTH (ft)	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLOWS	UCS	MOIST
1				n/g	n/g	First Encounter	1			
2	0.5P	18				Upon Completion	2			
629.1						After n/g Hrs. n/g	3			
1		98					4			
2	2.1B	25					6	NP	16	
627.1							10			
4							9			
6							11			
10	NP	16					13	NP	11	
11							-10			
13							-15			
15							-20			
20							-25			
25							-30.0			
30.0							-35.0			
40.0							-40.0			
45.0							-45.0			
50.0							-50.0			

CLAY—brown, gray & black medium stiff (FILL)
CLAY—brown & gray—very stiff wet
SAND & GRAVEL—gray—medium dense
END OF BORING @ -10.0' 3.25" Hollow Stem

PAGE 1 of 1
DATE December 2, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Roadway Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **RB-03**
Station 34+50
Offset CENTERLINE
Ground Surface Elev. 631.7

DEPTH (ft)	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLOWS	UCS	MOIST
3				n/g	n/g	First Encounter	3			
5	4.5+F	26				Upon Completion	5			
628.2						After n/g Hrs. n/g	7	3.7B	22	
3		100					6			
5							7			
627.1							6	2.75P	27	
3							8			
5							12			
6							9	NP	4	
623.2							-10			
8							-15			
12							-20			
9							-25			
10							-30.0			
12							-35.0			
15							-40.0			
20							-45.0			
25							-50.0			

TOPSOIL & CLAY FILL—black hard wet
CLAY FILL—brown & gray—very stiff
PEA GRAVEL FILL—brown medium dense
END OF BORING @ -10.0' 3.25" Hollow Stem

PAGE 1 of 1
DATE June 10, 2014
LOGGED BY JK
OBA JOB No. 13657

SOIL BORING LOG

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp "Roadway Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Straight Flight HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **RB-04**
Station 510+00
Offset 30.0' R
Ground Surface Elev. 629.6

DEPTH (ft)	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elevation:	DEPTH (ft)	BLOWS	UCS	MOIST
3				n/g	n/g	First Encounter	3			
5	2.4B	21				Upon Completion	5			
628.6						After n/g Hrs. n/g	7			
2							10	NP	5	
3							6			
626.1							7			
3							6			
623.6							7	NP	14	
5							-10			
7							-15			
10							-20			
13							-25			
15							-30.0			
20							-35.0			
25							-40.0			
30.0							-45.0			
40.0							-50.0			

TOPSOIL FILL wet
CLAY FILL—brown, gray & black—very stiff
SANDY CLAY—dark brown & gray—Possible Fill
SAND & GRAVEL—brown & gray—medium dense
END OF BORING @ -10.0' 4.0" Straight Flight Auger to -10.0'

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VS—Vane Shear (psf)

D—Disturbed

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VS—Vane Shear (psf)

D—Disturbed

N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NR—No Recovery SI—Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B—Bulge Failure
E—Estimated Value
P—Penetrometer

Qu—Unconfined Compressive Strength (tsf)
W—Water Content, percent dry weight
NP—Non-Plastic

Unit dry weight (pcf)
noted in italics above w%
VS—Vane Shear (psf)

D—Disturbed

FILE NAME = ...D:\2013\2013-11-14\Bor-Log-07.dgn



USER NAME = mksosir	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1.00' / 1in.	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

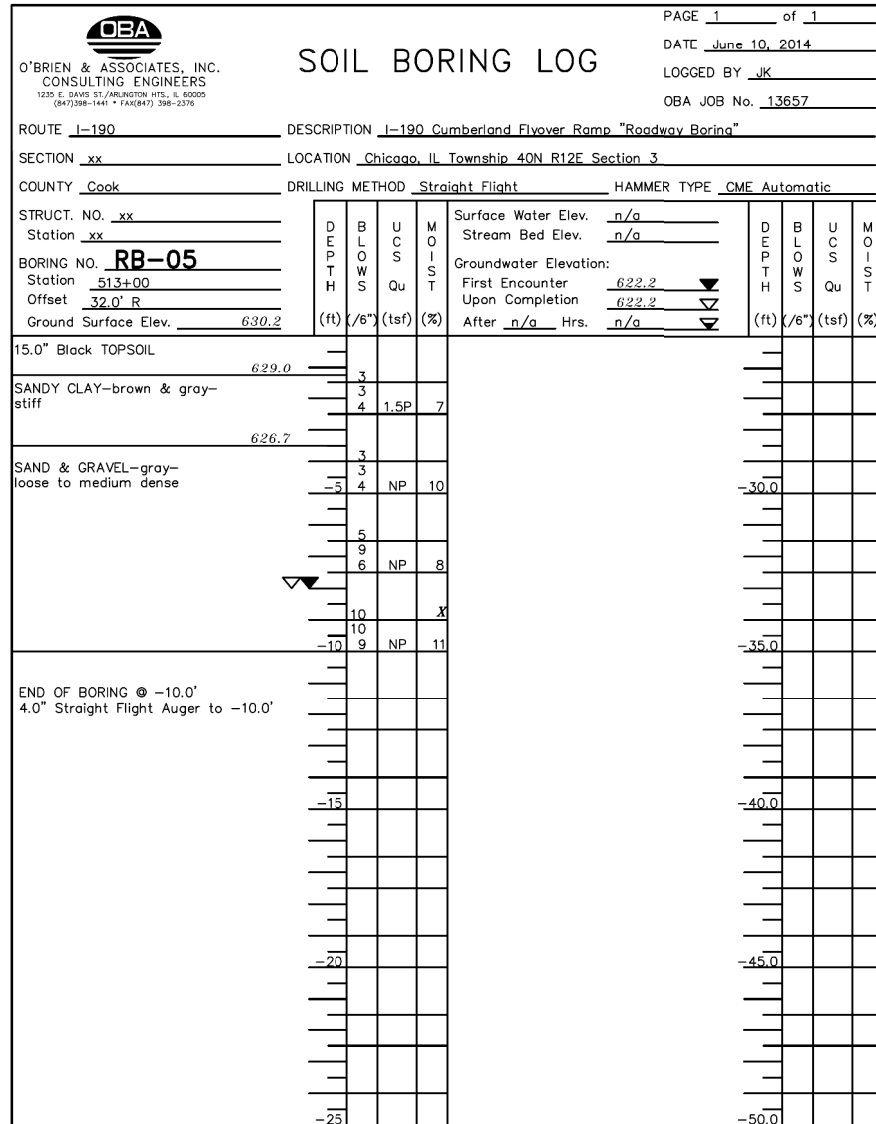
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

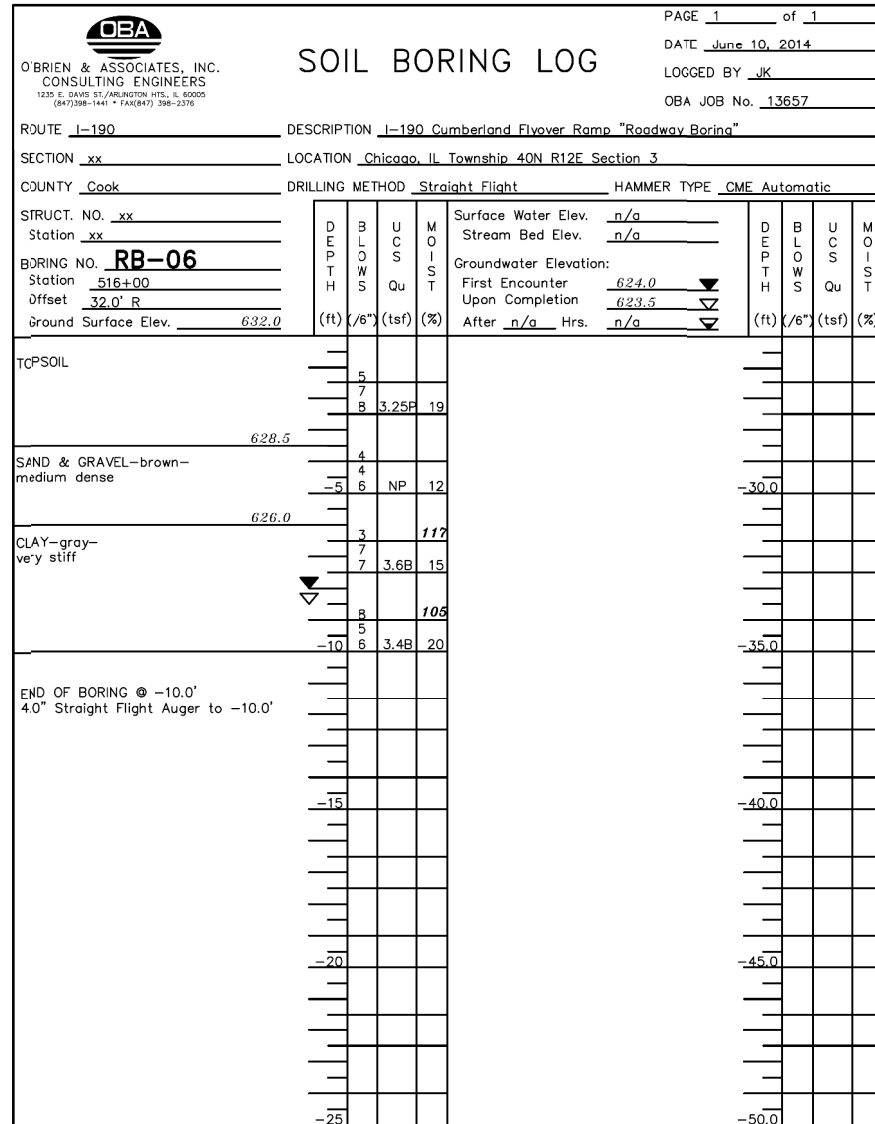
SCALE: NTS SHEET 7 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	312
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

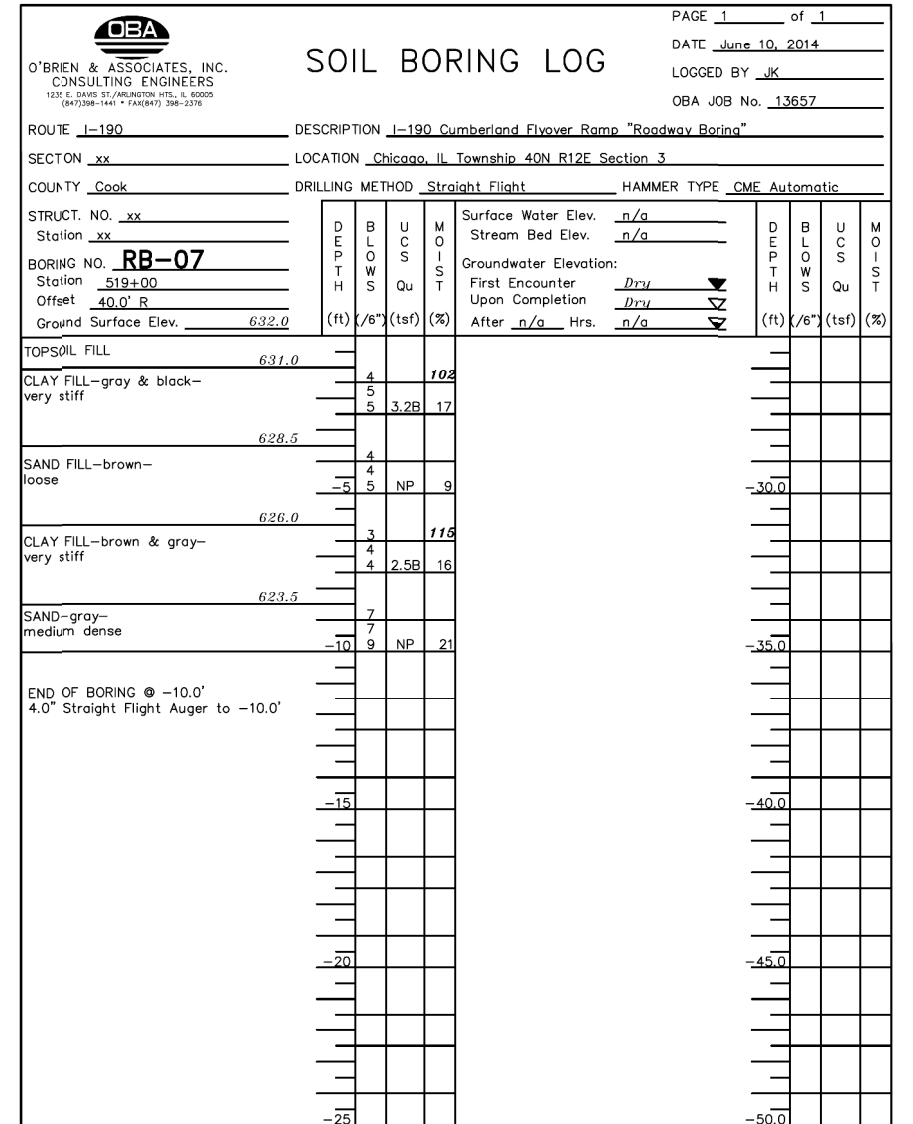
BOR-16



N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—Bulge Failure S—Shear Failure
 E—Estimated Value P—Penetrometer
 Qu—Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
 NP—Non-Plastic
 D—Disturbed
 O'BRIEN & ASSOCIATES, INC.



N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—Bulge Failure S—Shear Failure
 E—Estimated Value P—Penetrometer
 Qu—Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
 NP—Non-Plastic
 D—Disturbed
 O'BRIEN & ASSOCIATES, INC.



N—Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI—No Recovery SI—Shelby Tube
 O—Bulge Failure S—Shear Failure
 E—Estimated Value P—Penetrometer
 Qu—Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in Italics above w%
 NP—Non-Plastic
 D—Disturbed
 O'BRIEN & ASSOCIATES, INC.

FILE NAME: ...D:\2016\2016-06-10\Bor-Log-08.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
PLOT SCALE = 1.00' / 1in.	DRAWN -	REVISED -
PLOT DATE = 4/4/2016	CHECKED -	REVISED -
	DATE = 05/06/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

SCALE: NTS SHEET 8 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	313
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-17

OBA		SOIL BORING LOG				PAGE 1 of 1			
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1235 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2376		DATE June 10, 2014				LOGGED BY TB			
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp - Embankment Boring				OBA JOB No. 13657			
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3							
COUNTY Cook		DRILLING METHOD Straight Flight Auger				HAMMER TYPE CME Automatic			
STRUCT. NO. xx	Station xx	DEPT	BL	UC	MO	DEPT	BL	UC	MO
BORING NO. EB-2	Station 30+00	H	OW	S	IST	H	OW	S	IST
Offset 15.0' L	Ground Surface Elev. 631.9	(ft)	(/6")	(tsf)	(%)	(ft)	(/6")	(tsf)	(%)
TOPSOIL w/ GRAVEL FILL 630.9									
CLAY-brown-stiff (FILL)									
SAND-brown-medium dense 623.4									
SAND & GRAVEL-gray-medium dense 620.9									
CLAY-gray-very stiff to hard									
pushed stone in spoon x2									
END OF BORING @ -20.0' 4.0" Straight Flight Auger									

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

OBA		SOIL BORING LOG				PAGE 1 of 1			
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1235 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2376		DATE June 6, 2014				LOGGED BY TB			
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp - Sign Boring				OBA JOB No. 13657			
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3							
COUNTY Cook		DRILLING METHOD Rotary Wash				HAMMER TYPE CME Automatic			
STRUCT. NO. xx	Station xx	DEPT	BL	UC	MO	DEPT	BL	UC	MO
BORING NO. SG-1	Station 14+60	H	OW	S	IST	H	OW	S	IST
Offset 20.0' R	Ground Surface Elev. 638.1	(ft)	(/6")	(tsf)	(%)	(ft)	(/6")	(tsf)	(%)
TOPSOIL FILL 636.6									
CLAY FILL-brown & gray-very stiff									
sandy, trace brick									
CLAY-gray-stiff to hard									
END OF BORING @ -30.0' 4.0" Hollow Stem to -10.0' Rotary Drilling Started at -10.0'									

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

OBA		SOIL BORING LOG				PAGE 1 of 1			
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1235 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2376		DATE June 10, 2014				LOGGED BY TB			
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp - Sign Boring				OBA JOB No. 13657			
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3							
COUNTY Cook		DRILLING METHOD Hollow Stem Auger				HAMMER TYPE CME Automatic			
STRUCT. NO. xx	Station xx	DEPT	BL	UC	MO	DEPT	BL	UC	MO
BORING NO. SG-2	Station 520+20	H	OW	S	IST	H	OW	S	IST
Offset 35.0' R	Ground Surface Elev. 635.0	(ft)	(/6")	(tsf)	(%)	(ft)	(/6")	(tsf)	(%)
12.0" TOPSOIL, 6.0" GRAVEL FILL 633.5									
CLAY-gray-stiff to very stiff									
CLAY FILL-brown, gray & black-very stiff									
CLAY-brown-very stiff									
Fine to Medium SAND-brown-medium dense									
CLAY-gray-stiff to very stiff									
END OF BORING @ -30.0' 2.25" Hollow Stem Auger									

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

FILE NAME = ...D:\2016\2016-2017\Bor-Log-18.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
PLOT SCALE = 1.00' / 1"	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BORING LOGS		190	1517R-1(13)	COOK	580	315
SCALE: NTS	SHEET 10 OF 16 SHEETS	STA.	TO STA.	CONTRACT NO. 60X56		

ILLINOIS FED. AID PROJECT	
---------------------------	--

BOR-19

OBA		SOIL BORING LOG		PAGE 1 of 1	
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1230 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)388-1441 • FAX(847) 388-2376		DATE November 21, 2013		LOGGED BY TB	
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp		OBA JOB No. 13657	
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3		COUNTY Cook	
DRILLING METHOD Hollow Stem Auger		HAMMER TYPE Diedrich Automatic			
STRUCT. NO. NW78.80R, EB-R	Station xx	Surface Water Elev. n/g	Stream Bed Elev. n/g	DEPT H	BLWS Qu
BORING NO. RW-10	Station 26+88	Groundwater Elevation:		U C S	M O I S T
Offset 15.5' L		First Encounter Dry		(ft) (/6") (tsf) (%)	
Ground Surface Elev. 631.5		Upon Completion Dry			
		After n/g Hrs. n/g			
Black TOPSOIL FILL					
TOPSOIL & CLAY FILL-brown wet					
	2			3	116
	2			4	
	2	D	28	8	2.3B 17
	628.0			603.0	
CLAY LOAM-brown & black stiff (A-4) Possible FILL					
	1			3	
	-5	2	1.0P	13	NP 15
	625.0			-30.0	
SAND-brown-medium dense					
	6			4	
	7			4	
	4	NP	12	6	
	623.5			7	
SILT-gray-medium to very dense					
	2			25	
	3			35	
	-10	3	NP	46	NP 15
	621.0			-35.0	
CLAY-gray-stiff to very stiff					
	2			102	
	4			4	
	7			7	2.3B 21
	2			2	105
	3			3	
	-15	6	2.6B	19	NP 12
	2			2	106
	4			4	
	8			8	3.5B 21
	5			5	111
	6			6	
	-20	7	2.6B	15	NP 11
	3			3	112
	6			6	
	7			7	2.3B 17
	3			3	111
	5			5	
	-25	6	1.9B	16	NP 11
	581.5			-50.0	

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

OBA		SOIL BORING LOG		PAGE 1 of 1	
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1230 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)388-1441 • FAX(847) 388-2376		DATE November 27, 2013		LOGGED BY TB	
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp		OBA JOB No. 13657	
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3		COUNTY Cook	
DRILLING METHOD Hollow Stem Auger		HAMMER TYPE Diedrich Automatic			
STRUCT. NO. NW78.90R, EB-R	Station xx	Surface Water Elev. n/g	Stream Bed Elev. n/g	DEPT H	BLWS Qu
BORING NO. RW-11	Station 27+13	Groundwater Elevation:		U C S	M O I S T
Offset 8.4' R		First Encounter 624.2		(ft) (/6") (tsf) (%)	
Ground Surface Elev. 631.2		Upon Completion 612.2			
		After n/g Hrs. n/g			
TOPSOIL FILL					
LCAM-brown-loose (Possible FILL)					
	2			4	119
	3			7	
	5	NP	23	10	2.0B 17
	627.2			3	116
SAND-brown-medium dense					
	3			5	
	-5	6	NP	9	1.8B 17
	624.7			-30.0	
SAND & GRAVEL-gray-loose to medium dense					
	6			6	
	6			7	
	7	NP	11	7	
	620.2			597.7	
SILT-gray-dense to very dense					
	4			20	
	3			30	
	-10	3	NP	40	NP 18
	620.2			-35.0	
CLAY-gray-very stiff					
	3			3	109
	6			6	
	9			9	3.5B 20
	3			3	112
	5			5	
	-15	8	3.0P	19	NP 15
	7			7	116
	9			9	
	11			11	2.7B 17
	612.7			588.7	
SANDY SILT-gray-medium dense					
	7			9	123
	8			12	
	-20	11	NP	20	5.2B 14
	610.2			-45.0	
CLAY-gray-stiff to very stiff					
	4			4	117
	4			4	
	5			5	2.3B 16
	5			5	117
	5			5	
	-25	6	2.6B	16	NP 11
	581.2			-50.0	

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

OBA		SOIL BORING LOG		PAGE 1 of 1	
O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS 1230 E. DAVIS ST./ARLINGTON HTS., IL 60005 (847)388-1441 • FAX(847) 388-2376		DATE November 25, 2013		LOGGED BY TB	
ROUTE J-190		DESCRIPTION J-190 Cumberland Flyover Ramp		OBA JOB No. 13657	
SECTION xx		LOCATION Chicago, IL Township 40N R12E Section 3		COUNTY Cook	
DRILLING METHOD Hollow Stem Auger		HAMMER TYPE Diedrich Automatic			
STRUCT. NO. NW78.80R, EB-R	Station xx	Surface Water Elev. n/g	Stream Bed Elev. n/g	DEPT H	BLWS Qu
BORING NO. RW-16	Station 28+88	Groundwater Elevation:		U C S	M O I S T
Offset 13.6' L		First Encounter 620.5		(ft) (/6") (tsf) (%)	
Ground Surface Elev. 631.5		Upon Completion 622.5 ACR			
		After n/g Hrs. n/g			
TOPSOIL FILL wet					
SANDY CLAY LOAM-brown-loose (Possible FILL)					
	3			5	118
	3			7	
	4	D	19	10	2.7B 16
	627.5			3	117
SAND & GRAVEL-brown-loose to medium dense					
	2			6	
	-5	4	NP	12	2.7B 16
	627.5			-30.0	
SILT-gray-medium dense					
	4			4	
	7			7	
	7	NP	14	7	
	622.5			598.5	
CLAY-gray-stiff to very stiff					
	6			8	
	4			11	
	-10	4	2.3B	21	NP 16
	3			3	111
	6			6	
	9			9	2.8B 19
	3			3	109
	5			5	
	-15	7	3.2B	20	NP 14
	5			5	106
	7			7	
	8			8	2.8B 22
	622.5			588.0	
SANDY LOAM-gray-very dense (A-4)					
	3			21	
	4			27	
	-20	6	1.9B	19	NP 13
	624.5			-45.0	
CLAY-gray-hard					
	3			3	116
	5			5	
	8			8	2.4B 17
	4			4	118
	6			6	
	-25	10	2.7B	16	NP 11
	581.5			-50.0	

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
 NI-No Recovery SI-Shelby Tube
 O'BRIEN & ASSOCIATES, INC.

FILE NAME = ...D:\2016\2016-2017\Bor-Log-12.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1.00' / 1"	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT
BORING LOGS

SCALE: NTS SHEET 12 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	317
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-21

PAGE 1 of 1
DATE November 26, 2013
LOGGED BY TB
OBA JOB No. 13657

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1230 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2376

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. NW78.90R, EB-R
Station xx
BORING NO. RW-15
Station 28+63
Offset 10.2' R
Ground Surface Elev. 630.9 (ft) (/6") (tsf) (%)

DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)
TOPSOIL FILL wet								
2					6			119
2					8			
3	NP	19		CLAY-gray-very stiff to hard	12	2.7B	17	
626.9								118
2					5			
2					8			
4	NP	13		SAND-brown-medium dense	30.0	16	2.0B	17
623.9								
7					6			
8					7			
9	NP	13		SAND & GRAVEL-gray-medium dense	597.4			
622.4								
5					7			
5					13			
6	NP	20		SILT LOAM-gray-medium dense	35.0	14	NP	12
620.4								
2					3			113
6					5			
7	4.2B	18		CLAY-gray-very stiff to hard	8	3.4B	20	
2					16			112
6					9			
8	3.1B	19			15	NP	21	
13								
3					3			108
6					3			
8	4.9B	10			6	1.6B	21	
4					17			128
5					21			
8	4.5P	12			21	NP	14	
20								
5								128
12	4.5P	11						
7								
4					6			119
4					7			
8	3.5B	16		CLAY-gray-hard	11	4.8B	17	
620.9				END OF BORING @ -50.0' 3.25" Hollow Stem	580.9	-50.0		

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NL-No Recovery ST-Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B-Bulge Failure S-Shear Failure
E-Estimated Value P-Penetrometer

Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in italics above w%
W-Water Content, percent dry weight
NP-Non-Plastic VS-Vane Shear (pcf)

PAGE 1 of 1
DATE November 26, 2013
LOGGED BY TB
OBA JOB No. 13657

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1230 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2376

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. NW78.90R, EB-R
Station xx
BORING NO. RW-19
Station 30+37
Offset 13.9' L
Ground Surface Elev. 632.0 (ft) (/6") (tsf) (%)

DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)
TOPSOIL FILL wet								
3					4			109
3					7			
3	2.0P	23		SILTY LOAM-brown-stiff to very stiff (A-4)	9	1.9B	20	
625.0								117
2					5			
3					8			
5	1.4B	18			30.0	9	2.7B	16
625.0								
6					6			
7					7			
7	NP	10		SAND & GRAVEL-brown-medium dense	623.0			
623.0					5			
7					7			
7	NP	13		SAND & GRAVEL-gray-medium dense	10			
621.5					10			
3					4			118
5					6			
7					10			
7	NP	13			35.0	10	2.6B	16
621.5								
3					3			110
5					5			
8	3.4B	20		CLAY-gray-stiff to very stiff	8	3.4B	20	
4					4			109
4					4			
7	1.0B	23			15	7	1.0B	23
3								108
3					3			
6	1.6B	21			6	1.6B	21	
3					17			131
5					23			
6	2.8B	20		CLAY-gray-hard	20	6	2.8B	20
20					29	5.6B	11	
3								104
7					7			
8	2.9B	23			8	2.9B	23	
6								106
5					10			
5	2.1B	22		END OF BORING @ -50.0' 3.25" Hollow Stem	10			118
622.0					10			
-50.0					15	5.8B	16	

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NL-No Recovery ST-Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B-Bulge Failure S-Shear Failure
E-Estimated Value P-Penetrometer

Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in italics above w%
W-Water Content, percent dry weight
NP-Non-Plastic VS-Vane Shear (pcf)

PAGE 1 of 1
DATE November 25, 2013
LOGGED BY TB
OBA JOB No. 13657

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1230 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2376

ROUTE J-190 DESCRIPTION J-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. NW78.90R, EB-R
Station xx
BORING NO. RW-18
Station 29+63
Offset 13.5' L
Ground Surface Elev. 631.5 (ft) (/6") (tsf) (%)

DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST (%)
TOPSOIL FILL								
2					4			118
2					6			
3	NP	15		CLAY-gray-very stiff to hard	8	2.9B	16	
627.5								114
2					3			
2					5			
4	NP	14		SAND & GRAVEL-brown-loose to medium dense	30.0	7	2.7B	18
623.0								
7					7			
8					8			
10	NP	8			10			
623.0								
3					5			118
2					8			
3	1.0B	21		CLAY-gray-stiff	10	3	1.0B	21
10					10			
2					8			113
4					4			
5	2.9B	18		CLAY-gray-very stiff to hard	5	2.9B	18	
2					2			109
6					6			
8	3.4B	20			8	3.4B	20	
15					15			
3					3			110
5					5			
7	2.3B	20			7	2.3B	20	
4					4			105
4					4			
6	2.9B	22			6	2.9B	22	
20					20			
5					5			131
10	4.1B	10			10	4.1B	10	
4								118
4					4			
6	3.4B	16		SILT-gray-very dense	6	3.4B	16	
621.5				END OF BORING @ -50.0' 3.25" Hollow Stem	50	NP	17	
-50.0					2"			

N-Standard Penetration is the value of the last two blow counts in each sample zone (ASTM D-1586)
NL-No Recovery ST-Shelby Tube
O'BRIEN & ASSOCIATES, INC.

Type Failure
B-Bulge Failure S-Shear Failure
E-Estimated Value P-Penetrometer

Qu-Unconfined Compressive Strength (tsf) Unit dry weight (pcf) noted in italics above w%
W-Water Content, percent dry weight
NP-Non-Plastic VS-Vane Shear (pcf)

FILE NAME = ...D:\2016\25-ant-bor-log-13.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1.00' / 1"	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT
BORING LOGS

SCALE: NTS SHEET 13 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	318
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

BOR-22

PAGE 1 of 3
DATE October 3, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **SB-04**
Station 22+31
Offset 118.8' L
Ground Surface Elev. 634.5

DEPT H	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	DEPT H	BLOWS	UCS	MOIST
(ft)	(/6")	(tsf)	(%)	<u>n/a</u>	<u>n/a</u>	(ft)	(/6")	(tsf)	(%)
TOPSOIL FILL <u>633.5</u>									
7						5			
8					<u>612.5</u>	14			
11	4.5P	13				15	NP	12	
SANDY CLAY—brown & gray—stiff to hard <u>611.5</u>									
7						4			
8						7			
5	8	4.0P	14			9	2.0P	14	
4						4			<u>118</u>
4						7			
4	1.5P	16				9	1.2B	17	
CLAY—gray—stiff to very stiff <u>626.5</u>									
3					<u>605.0</u>	8			<u>114</u>
4						14	1.8B	18	
10	7	NP	9			30	20		
SAND & GRAVEL—brown—medium dense (Possible Fill) <u>621.5</u>									
3									
6									
9	NP	14							
CLAY—gray—very stiff <u>621.5</u>									
6			<u>110</u>			45			
6						50/		NP	16
15	10	2.1B	20			35	5"		
4			<u>107</u>						
7									
10	2.8B	21							
4			<u>122</u>			42			
7						50/		NP	17
10	2.0B	14				40	3"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B—Bulge, S—Shear, P—Penetrometer) ST—Shelby Tube Sample VS—Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR—No Recovery NP—Nonplastic D—Disturbed

PAGE 2 of 3
DATE October 3, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **SB-04**
Station 22+31
Offset 118.8' L
Ground Surface Elev. 634.5

DEPT H	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	DEPT H	BLOWS	UCS	MOIST
(ft)	(/6")	(tsf)	(%)	<u>n/a</u>	<u>n/a</u>	(ft)	(/6")	(tsf)	(%)
SILT—gray—very dense <u>591.5</u>									
21						7			
27						50/		NP	10
45	27	7.9B	12			6"			
7						65			
CLAY—gray—very stiff to hard <u>571.5</u>									
9						34			
18						50/		NP	9
50	24	3.7B	16			70	5"		
SILT w/STONE—gray—very dense <u>557.0</u>									
10						50/		NP	9
15						3"			
55	18	2.7B	20			75			
CLAY—gray—very stiff to hard <u>557.0</u>									
6						42			
9						50/		NP	17
60	11	2.25P	26			80			
Driller's Observation: Possible Bedrock <u>555.5</u>									
wet									
See Following Page									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B—Bulge, S—Shear, P—Penetrometer) ST—Shelby Tube Sample VS—Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR—No Recovery NP—Nonplastic D—Disturbed

PAGE 3 of 3
DATE October 3, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. **SB-04**
Station 22+31
Offset 118.8' L
Ground Surface Elev. 634.5

DEPT H	BLOWS	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	DEPT H	BLOWS	UCS	MOIST
(ft)	(/6")	(tsf)	(%)	<u>n/a</u>	<u>n/a</u>	(ft)	(/6")	(tsf)	(%)
Run 1 (—79.0' to —89.0') Silurian System Niagara Series Dolomite Light gray horizontal bedding; large rags at —80.0', —80.6' & —88.7'; cherty zones @ —81.8', —83.4', —84.0'; & —88.1' to —88.5' 100% Recovery RQD=83%									
85						105			
SAND & GRAVEL—brown—medium dense (Possible Fill) <u>645.5</u>									
34									
50						50/		NP	9
90	7	NP	9			90			
END OF BORING @ —89.0' 4.0" Follow Stem to —15.0' Rotary Drilling Started at —15.0'									
3									
95									
CLAY—gray—very stiff <u>621.5</u>									
6			<u>110</u>			45			
6						50/		NP	16
15	10	2.1B	20			35	5"		
4			<u>107</u>						
7									
10	2.8B	21							
4			<u>122</u>			42			
7						50/		NP	17
10	2.0B	14				40	3"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B—Bulge, S—Shear, P—Penetrometer) ST—Shelby Tube Sample VS—Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR—No Recovery NP—Nonplastic D—Disturbed

FILE NAME: \\D:\2013\13657-act\bor-log14.dgn



USER NAME = <u>mksosir</u>	DESIGNED =	REVISD =
PLOT SCALE = <u>1.00' / 1/4"</u>	CHECKED =	REVISD =
PLOT DATE = <u>4/4/2016</u>	DATE = <u>05/06/2016</u>	REVISD =

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CUMBERLAND FLYOVER PROJECT
BORING LOGS**

SCALE: NTS SHEET 14 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	319
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	



O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2376

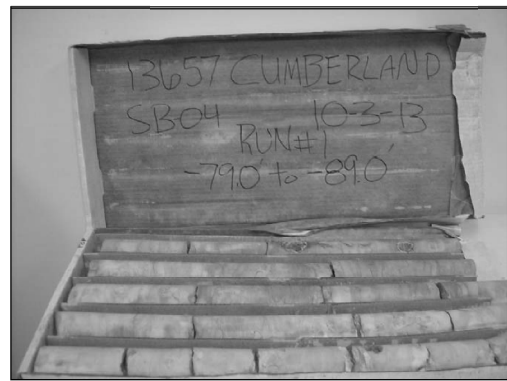
ROCK CORE LOG

PAGE 1 of 1
DATE October 3, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. xx CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station xx Core Diameter 2.0 in
BORING NO. SB-04 Top of Rock Elev. 557.0
Station 22+31 Begin Core Elev. 555.5
Offset 118.8' L
Ground Surface Elev. 634.5

DEPTH (ft)	CORE RECOVERY (%)	R Q D C O R E S T R E N G T H (tsf)
1	100	83
-5		
-10		

Run 1 (-79.0' to -89.0')
Silurian System
Niagaran Series Dolomite
Light gray, horizontal bedding; large vugs at -80.0', -80.6' & -88.7'; cherty zones @ -81.8', -83.4', -84.0', & -88.1' to -88.5'



Color pictures of the cores xx Cores will be stored for examination for xx
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

FILE NAME = ...D:\2013\SB-art-bor-log\15.dgn



USER NAME = mkosir	DESIGNED -	REVISED -
PLOT SCALE = 1:80' / 1"	CHECKED -	REVISED -
PLOT DATE = 4/4/2016	DATE = 05/06/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER PROJECT
BORING LOGS

SCALE: NTS SHEET 15 OF 16 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	320
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

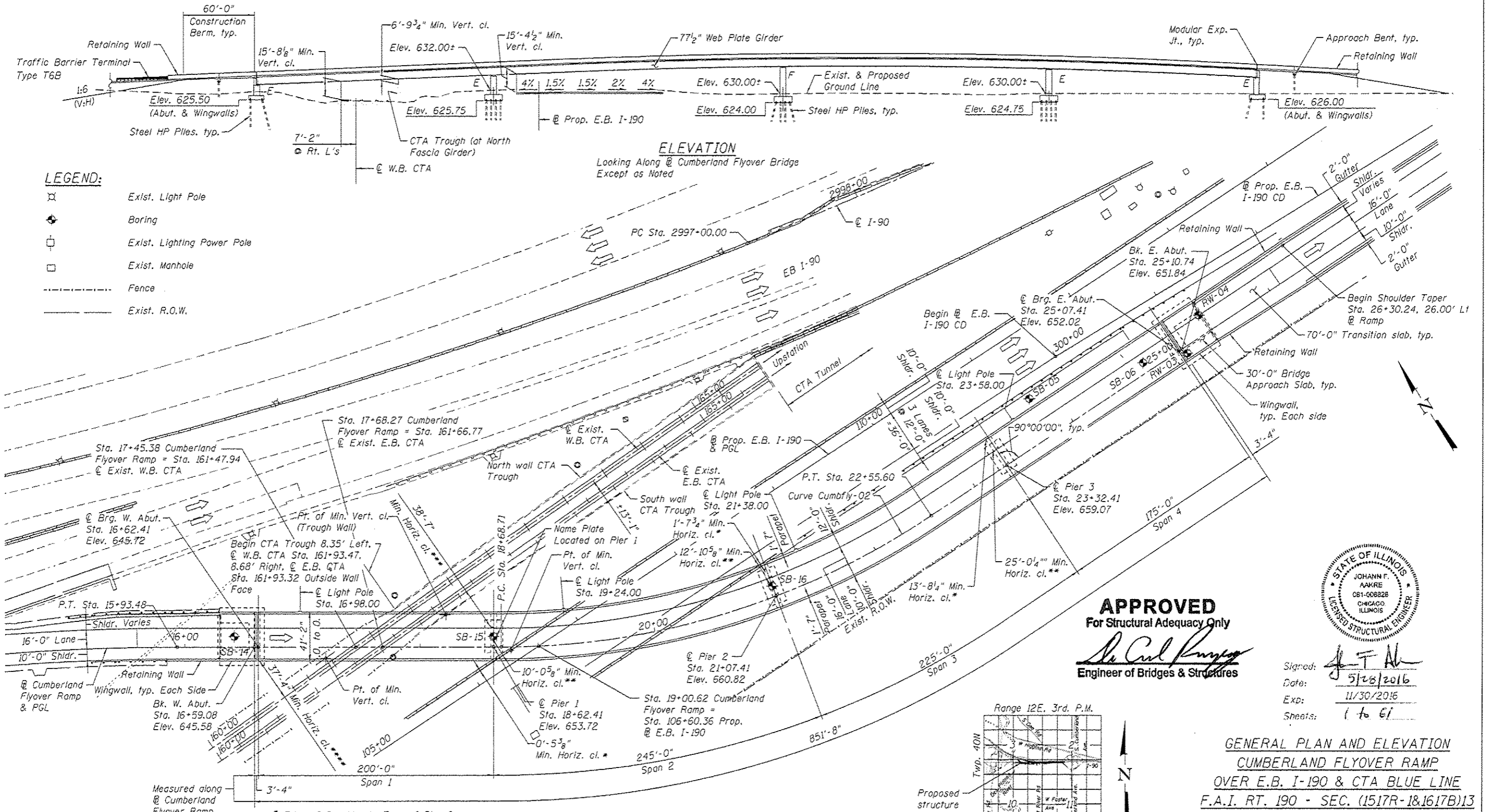
BOR-24

Bench Mark: 1/2" Iron Bar in Grass Southeast of I-90 and Northeast of Paved Ditch Flyover Sta. 12+77.8, 114' Right, Elev. 627.13.

Existing Structure: None

Staging: Bridge will be constructed in stage 1 and 2 of this I-90 Cumberland Flyover Ramp Project.

Proposed Structure: Bridge No. 380 will be a 4 span continuous (200'-0", 245'-0", 225'-0", 175'-0") horizontally curved steel plate girder bridge with an 8" concrete deck (41'-2" out to out Parapets). The superstructure is supported on cast-in-place concrete piers and abutments founded on H-piles.



LEGEND:

- ⊗ Exist. Light Pole
- ⊕ Boring
- ⊠ Exist. Lighting Power Pole
- Exist. Manhole
- - - - - Fence
- — — — — Exist. R.O.W.

ELEVATION

Looking Along @ Cumberland Flyover Bridge
Except as Noted

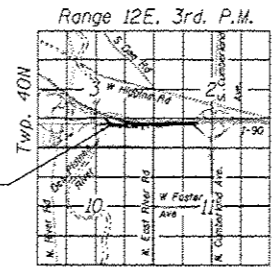
APPROVED
For Structural Adequacy Only

De Carl Ruyter
Engineer of Bridges & Structures



Signed: *J.F.A.*
Date: 5/28/2016
Exp: 11/30/2016
Sheets: 1 to 61

**GENERAL PLAN AND ELEVATION
CUMBERLAND FLYOVER RAMP
OVER E.B. I-190 & CTA BLUE LINE
F.A.I. RT. 190 - SEC. (1517R-1&1617B)13
COOK COUNTY
STATION 106+60.36
BRIDGE NO. 380**



USER NAME : jaakre	DESIGNED - PCA	REVISED
	CHECKED - MRI	REVISED
PLOT SCALE = 1/8" = 1'-0"	DRAWN - LK	REVISED
PLOT DATE = 5/28/2016	CHECKED - MRI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 380

SHEET NO. 1 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-(113)	COOK	580	322
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8 in. φ, holes 15/16 in. φ, unless otherwise noted.

Calculated weight of Structural Steel = 3,058,300 lbs.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of AASHTO M-31 (ASTM A706), Grade 60, deformed bars.

Reinforcement bars designated (E) shall be epoxy coated.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/1.

All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.

Reinforcement bar bending dimensions are out to out.

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2 inches for all other surfaces unless otherwise shown.

Slipforming of the parapets is not allowed.

Bridge seat reinforcement shall be carefully placed as detailed in the plans to avoid interference with drilling holes for anchor rods. The beams shall be erected in final position prior to drilling holes for and placing anchor rods.

All bearing anchor rods shall be set before permanently bolting diaphragms or cross frames over supports.

Web plates shall be furnished in available mill lengths and widths with a minimum number of web splices. Location of splices shall be subject to the approval of the Designer and shall be a minimum of 1'-0" from stiffeners or flange splices.

Bearing stiffeners at abutments shall be vertical and ends of beams shall be vertical. Bearing stiffeners at piers shall be perpendicular to flange.

Painting of new structural steel shall be accomplished in accordance with Section 506 of the Standard Specifications except field-applying intermediate and final coats of paint on new steel shall not be allowed.

Prior to placement of the joint block-out, the Contractor shall coordinate with the Modular Joint Manufacturer to ensure that the joint will be properly supported and that the reinforcement bars will not interfere with the joint components. Any necessary adjustments to the reinforcement layout shall be submitted to the Engineer for approval.

Contractor shall not scale dimensions from the Contract Plans for construction purposes. Scales shown are for information only.

No construction joints except those shown on the plans will be allowed unless approved by the Engineer.

It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.

It shall be the Contractor's responsibility to verify the location of all fiber optic utilities prior to starting construction. The Contractor shall initiate the location process for the fiber optic cable by completing a "Request Tollway Utilities Locate" form filled in online at the Tollway website under "Doing Business" at least four (4) business days prior to starting any underground operations, excavations or digging of any type in the general area of the fiber optic cable.

TOTAL BILL OF MATERIAL

SP	ITEM	UNIT	SUPER	SUB	TOTAL	RECORD QUANTITY
	Protective Shield	Sq Yd	2,228		2,228	
	Structure Excavation	Cu Yd		1,027	1,027	
	Concrete Structures	Cu Yd		1,166.0	1,166.0	
*	Concrete Structures (Special)	Cu Yd		151.0	151.0	
	Concrete Superstructure	Cu Yd	236.4		236.4	
*	High Performance Concrete Superstructure	Cu Yd	1,057.4		1,057.4	
	Bridge Deck Grooving	Sq Yd	3,599		3,599	
	Protective Coat	Sq Yd	4,885		4,885	
	Furnishing and Erecting Structural Steel	L Sum	1		1	
	Stud Shear Connectors	Each	15,987		15,987	
	Reinforcement Bars, Epoxy Coated	Pound	377,840	141,080	518,920	
	Test Pile Steel HP10x42	Each		2	2	
	Test Pile Steel HP14x73	Each		5	5	
	Furnishing Steel Piles HP10x42	Foot		725	725	
	Furnishing Steel Piles HP14x73	Foot		9,595	9,595	
	Driving Piles	Foot		10,320	10,320	
	Name Plates	Each		1	1	
	Anchor Bolts, 1 1/2"	Each		132	132	
	Concrete Sealer	Sq Ft		6,610	6,610	
	Geocomposite Wall Drain	Sq Yd		350	350	
*	High Load Multi-Rotational Bearings, Guided Expansion, 250K	Each	12		12	
*	High Load Multi-Rotational Bearings, Guided Expansion, 750K	Each	12		12	
*	High Load Multi-Rotational Bearings, Fixed - 800K	Each	6		6	
*	Modular Expansion Joint 9"	Foot	76.0		76.0	
*	Granular Backfill For Structures	Cu Yd		291	291	
*	Pipe Underdrains For Structures 6"	Foot		121	121	
*	Bridge Approach Slab	Sq Yd	274		274	
*	Transition Approach Slab	Sq Yd	248		248	
	Bar Splicers	Each	82		82	
*	Form Liner Mock Up	L Sum		1	1	
*	Form Liner	Sq Ft		1,935	1,935	
*	Bonded Preformed Joint Seal 2"	Foot	32		32	

* Indicates item covered by Special Provision

GENERAL NOTES, cont'd.

Concrete sealer shall be applied to the surfaces of all pier and abutment seats, including backwalls located below roadway expansion joints. Sealer shall also be applied to all exposed surfaces of piers in the median or piers, abutments and wingwalls that are adjacent to the roadway.

After the beams (girders) are set, all elevations for determining fillet heights shall be taken at one time.

Upon completion of each structure, the Contractor shall measure the resulting horizontal and vertical clearances and submit them to the Engineer for review and inclusion in the As Built plans (Record Drawings).

The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.

Whenever any material is deposited into a drainage system or drainage structures, the deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.

The deck pouring sequence shown on the plans has been used to design the required beam camber and to determine the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" used in the calculation of fillet heights, "t". Requests for changes to the plan pouring sequence shall be submitted in writing prior to ordering of steel. Modifications, either to the camber diagrams or the "Theoretical Grade Elevations Adjusted for Dead Load Deflection," resulting from changes to the plan pouring sequence shall be the responsibility of the Contractor. All required plans shall be submitted with the request and shall be sealed by an Illinois Licensed Structural Engineer.

INDEX OF SHEETS

Sht. No.	Sht. Title
1	General Plan and Elevation
2	General Data - 1
3	General Data - 2
4	General Data - 3
5	Footing Layout
6	Stage Construction Details
7	Top of Slab Elevations, Grid and Details
8	Top of Slab Elevations - 1
9	Top of Slab Elevations - 2
10	Top of Slab Elevations - 3
11	Top of Slab Elevations - 4
12	Top of Slab Elevations - 5
13	Top of W. Approach Slab Elevation
14	Top of E. Approach Slab Elevation
15	Deck Plan - Span 1
16	Deck Plan - Span 2
17	Deck Plan - Span 3
18	Deck Plan - Span 4
19	Deck Cross Section and Details
20	Parapet Elevation - North
21	Parapet Elevation - South
22	Deck Details
23	Deck Details and Bill of Material
24	Modular Expansion Joint Details
25	Approach Slab Details - 1
26	Approach Slab Details - 2
26A	Approach Slab Details - 3
26B	Approach Slab Details - 4
27	Framing Plan and Girder Elevation - Span 1
28	Framing Plan and Girder Elevation - Span 2
29	Framing Plan and Girder Elevation - Span 3
30	Framing Plan and Girder Elevation - Span 4
31	Girder Layout
32	Moment and Reaction Tables
33	Field Splice Details
34	Girder Camber and Deflections
35	Cross Frame Details
36	High-Load Multi-Rotation Bearings Fixed
37	High-Load Multi-Rotation Bearings Expansion
38	Bearing Orientation Details
39	West Abutment Plan and Elevations
40	West Abutment Details
41	West Abutment Details and Bill of Material
42	East Abutment Plan and Elevations
43	East Abutment Details
44	East Abutment Details and Bill of Material
45	Pier 1 Details
46	Pier 2 Details
47	Pier 3 Details
48	Pier Bill of Materials
49	HP Pile Detail
50	Bar Splicer Assembly and Mechanical Splicer Details
51	Pile Driving Records - 1
52	Pile Driving Records - 2
53	Pile Driving Records - 3
54	Boring Logs - 1
55	Boring Logs - 2
56	Boring Logs - 3
57	Boring Logs - 4
58	Boring Logs - 5
59	Boring Logs - 6
60	Boring Logs - 7
61	Boring Logs - 8



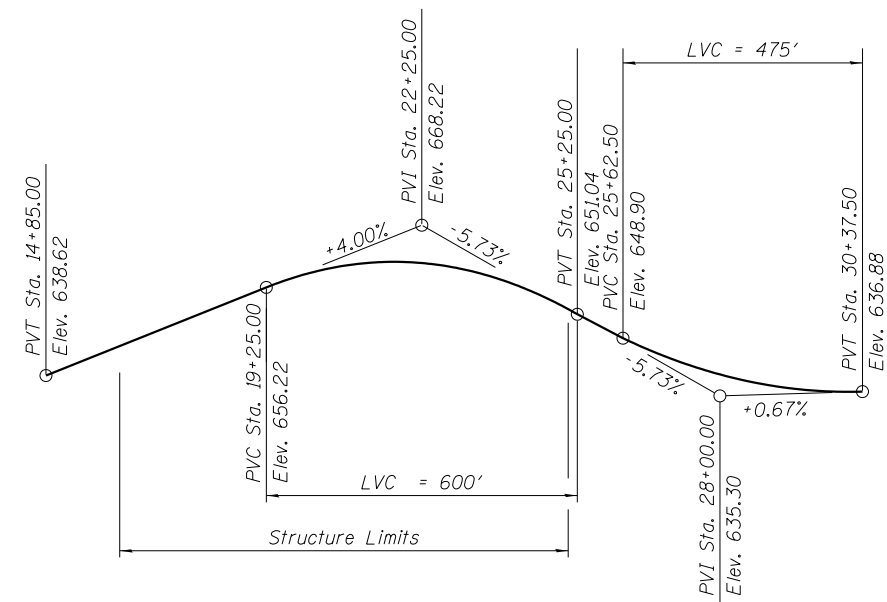
USER NAME = lkalita	DESIGNED - JFA	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

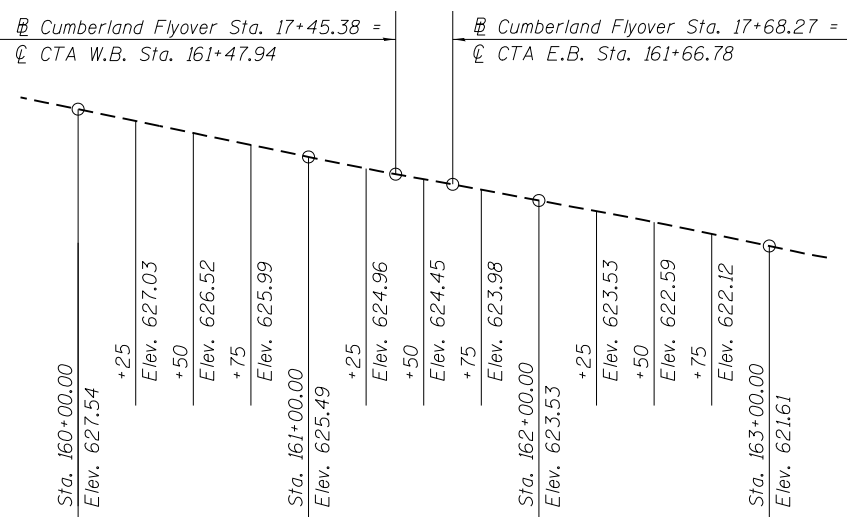
**GENERAL DATA - 1
BRIDGE NO. 380**

SHEET NO. 2 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	323
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



PROFILE GRADE @ CUMBERLAND FLYOVER RAMP



PROFILE GRADE EXISTING CTA
TOP OF RAIL - @ W.B. & E.B. TRACKS

DESIGN STRESSES

FIELD UNITS

- $f'_c = 3,500$ psi Class SI (Substructure)
- $f'_c = 4,500$ psi Class SI (Pier Caps)
- $f'_c = 4,000$ psi Class BS (Parapets)
- $f'_c = 4,000$ psi Performance Mix (Deck, Approach Slab, Transition Slab)
- $f_y = 60,000$ psi (Reinforcement)
- $f_y = 50,000$ psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.060g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.107g
 Soil Site Class = C

ABBREVIATIONS

- PGL Profile Grade Line
- W. Abut West Abutment
- E. Abut East Abutment
- E.F. Each Face
- F.F. Front Face
- B.F. Back Face
- PJF Preformed Joint Filler
- BK. Back of
- Bott. Bottom

CURVE DATA CUMFLY-02

- PI STA. = 20+67.96
- $\Delta = 33^\circ 47' 31''$ (LT)
- $D = 8^\circ 44' 03''$
- $R = 656.00'$
- $T = 199.26'$
- $L = 386.90'$
- $E = 29.59'$
- $e = 6.0\%$
- P.C. STA. = 18+68.71
- P.T. STA. = 22+55.60

HIGHWAY CLASSIFICATION

F.A.I. Rte. 190-Cumberland Flyover Ramp

Functional Class: Interstate Ramp
 ADT: 0 (2011); 20,000 (2040)
 ADTT: 0% (2011); 4% (2040)
 DHV: 504

Design Speed: 40 m.p.h.
 One -Way Traffic
 Directional Distribution: 100:0

F.A.I. Rte. 190 -E.B. I-90

Functional Class: Interstate
 ADT: 29,300 (2011); 38,000 (2040)
 ADTT: 4% (2011); 4% (2040)
 DHV: 2,235

Design Speed: 55 m.p.h.
 Posted Speed: 55 m.p.h.
 One -Way Traffic
 Directional Distribution: 100:0

LOADING HL-93 & IL-120

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

LIVE LOAD DEFLECTION

(Span Length)/800

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition (except as modified by IDOT and Tollway Structure Design Manual)

Illinois Department of Transportation Bridge Manual, January 2012

Illinois Tollway Structure Design Manual, March 2015

Tollway Geotechnical Engineer's Manual, March 2015

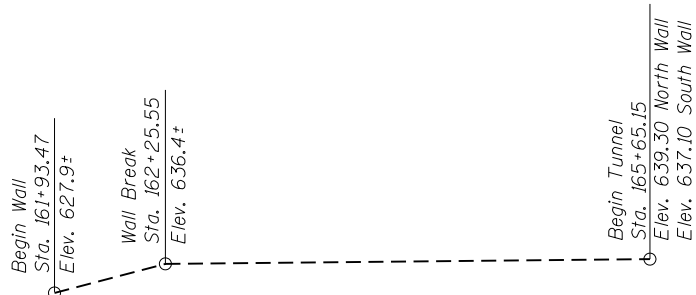
CONSTRUCTION SPECIFICATIONS

Illinois Department of Transportation Guide Bridge Special Provisions (GBSP'S)

Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction issued March 2014

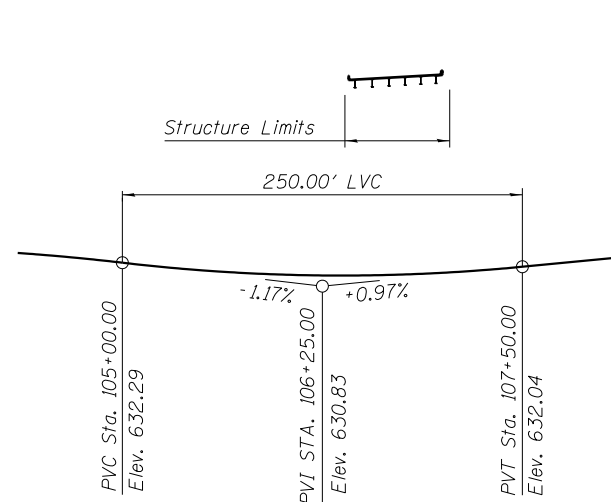
Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions adopted January 1, 2015

Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted January 1, 2012

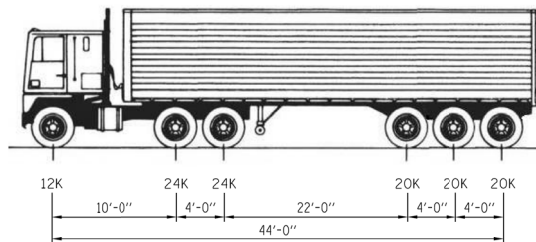


TOP OF WALL PROFILE
CTA TROUGH

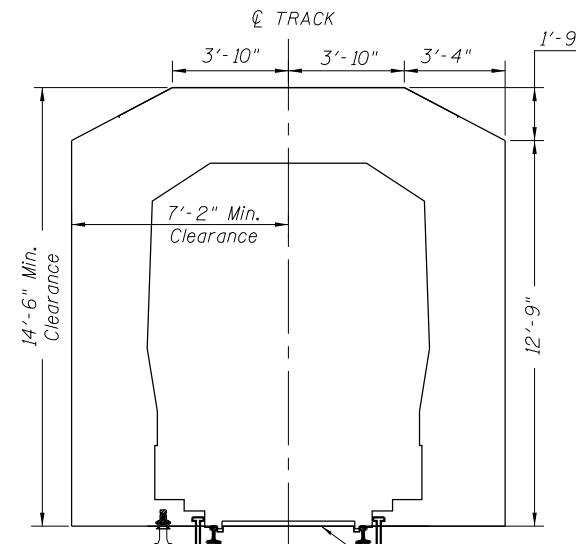
For location of profile, see offsets from CTA on Sheet 1 of 61.



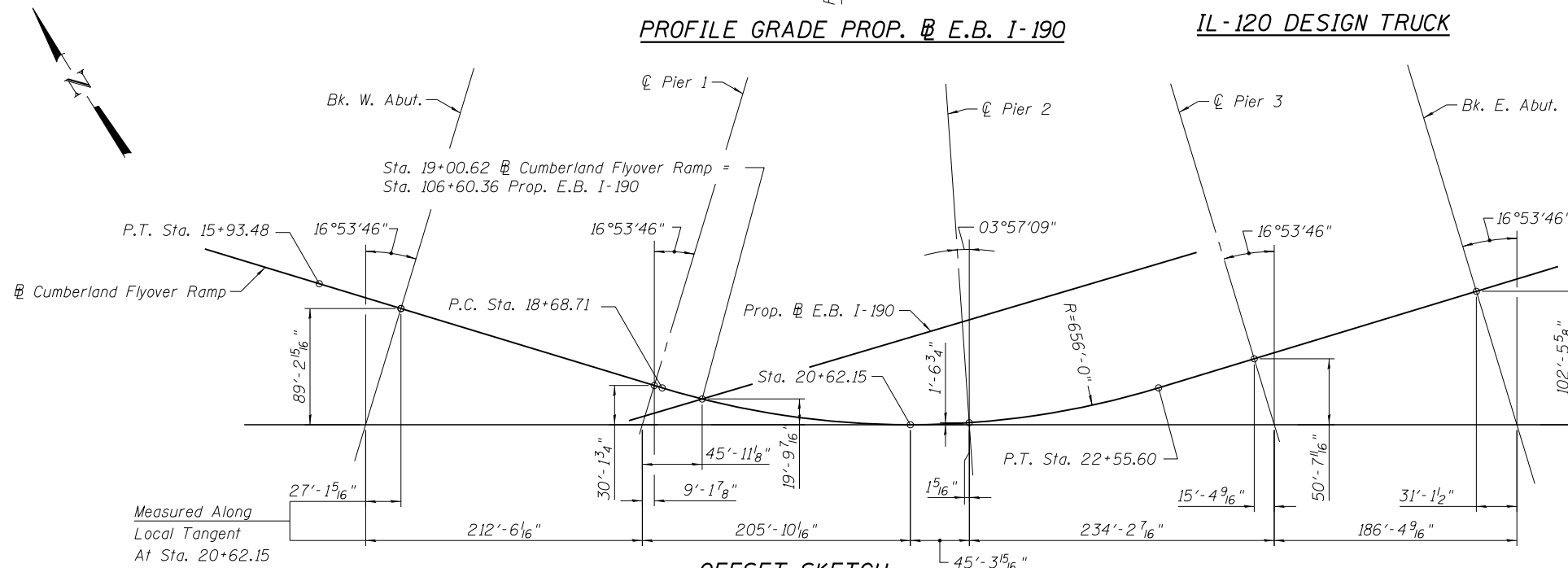
PROFILE GRADE PROP. @ E.B. I-190



IL-120 DESIGN TRUCK



CTA TRAIN CLEARANCE DIAGRAM



OFFSET SKETCH

Limit State	Design Load Rating	
	Inventory	Operating
Strength I	1.54	2.00

STRUCTURE RATING

Based on HL-93 Loading

STATION 19+00.62
 BUILT 20 BY
 ILLINOIS STATE TOLL
 HIGHWAY AUTHORITY
 LOADING HL-93 WITH
 IL-120 TRUCK
 BRIDGE NO. 380

NAME PLATE

See Std. 515001

GENERAL DATA - 2

BRIDGE NO. 380

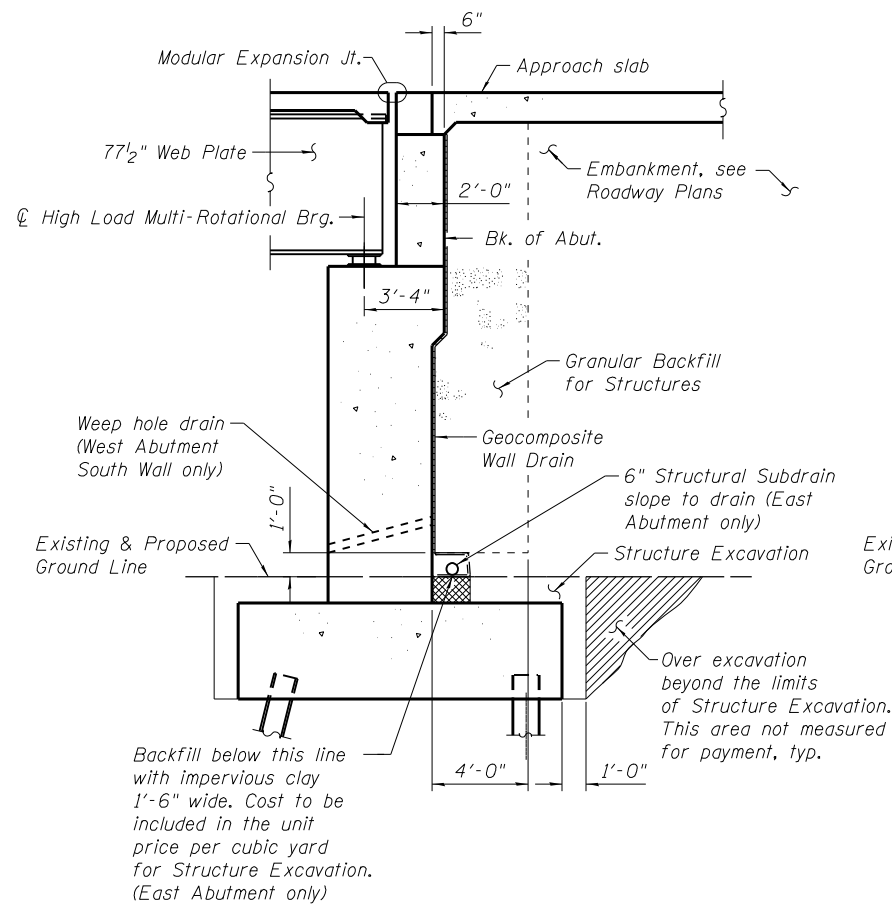
SHEET NO. 3 OF 61 SHEETS



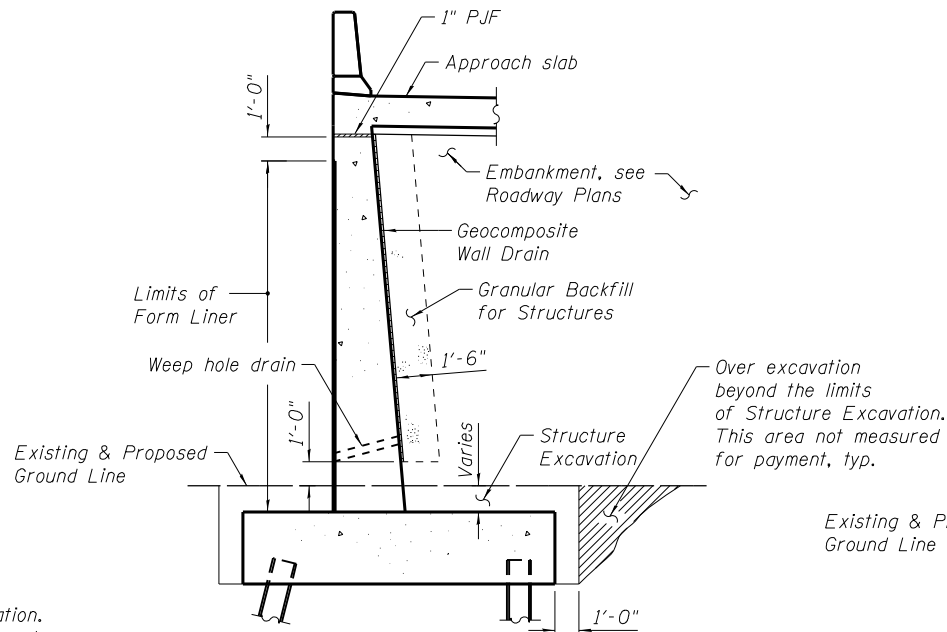
USER NAME = jblakley	DESIGNED -	REVISOR -
PLOT SCALE = 0.083333' / in.	CHECKED - JFA	REVISOR -
PLOT DATE = 6/1/2016	DRAWN - LK	REVISOR -
	CHECKED - JFA	REVISOR -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

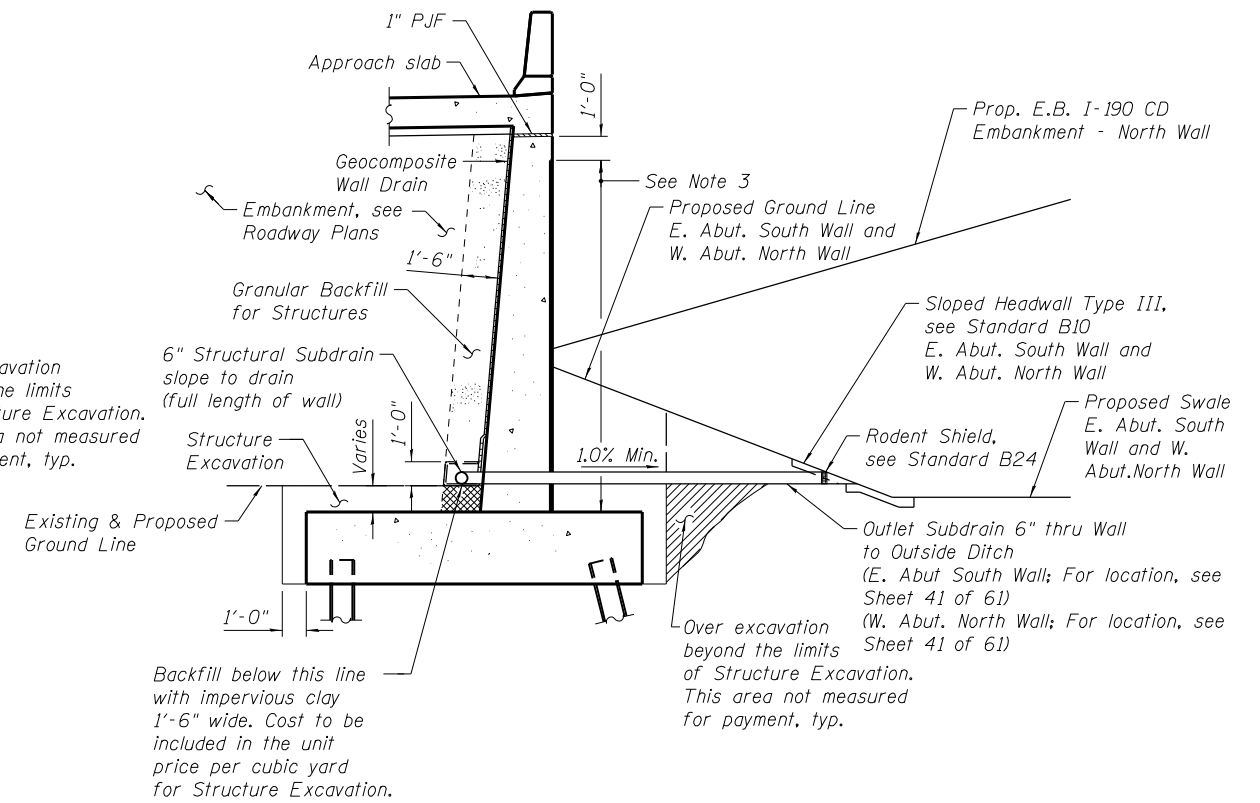
F.A.I. RTE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 324
CONTRACT NO. 60X56				



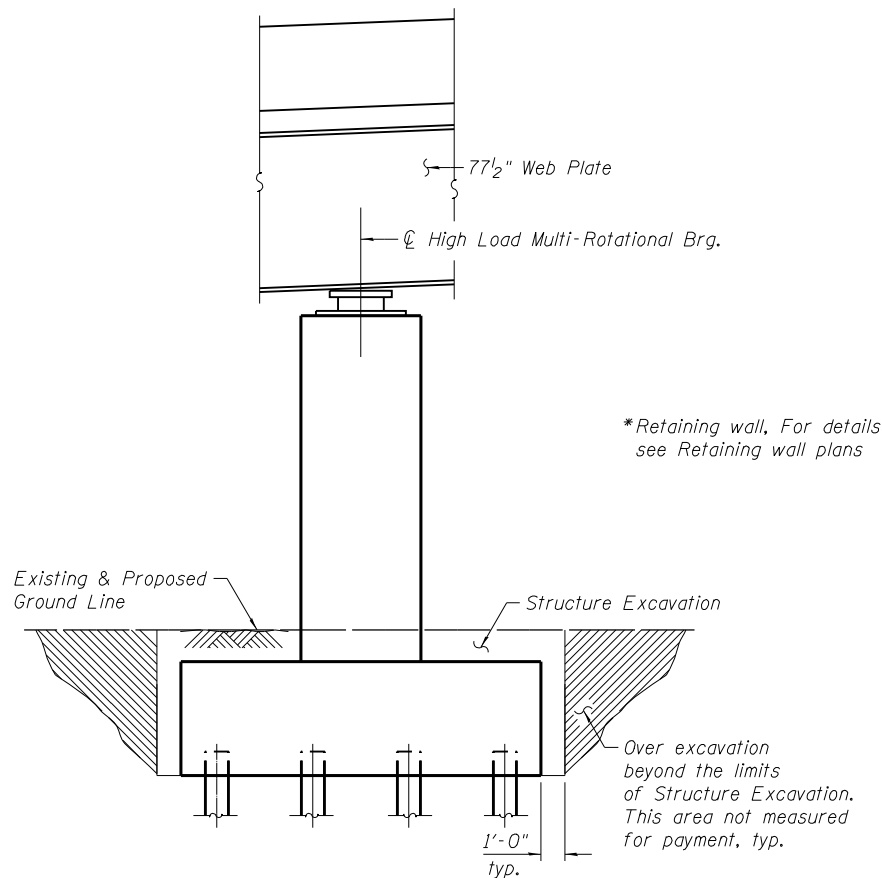
SECTION THRU ABUTMENTS



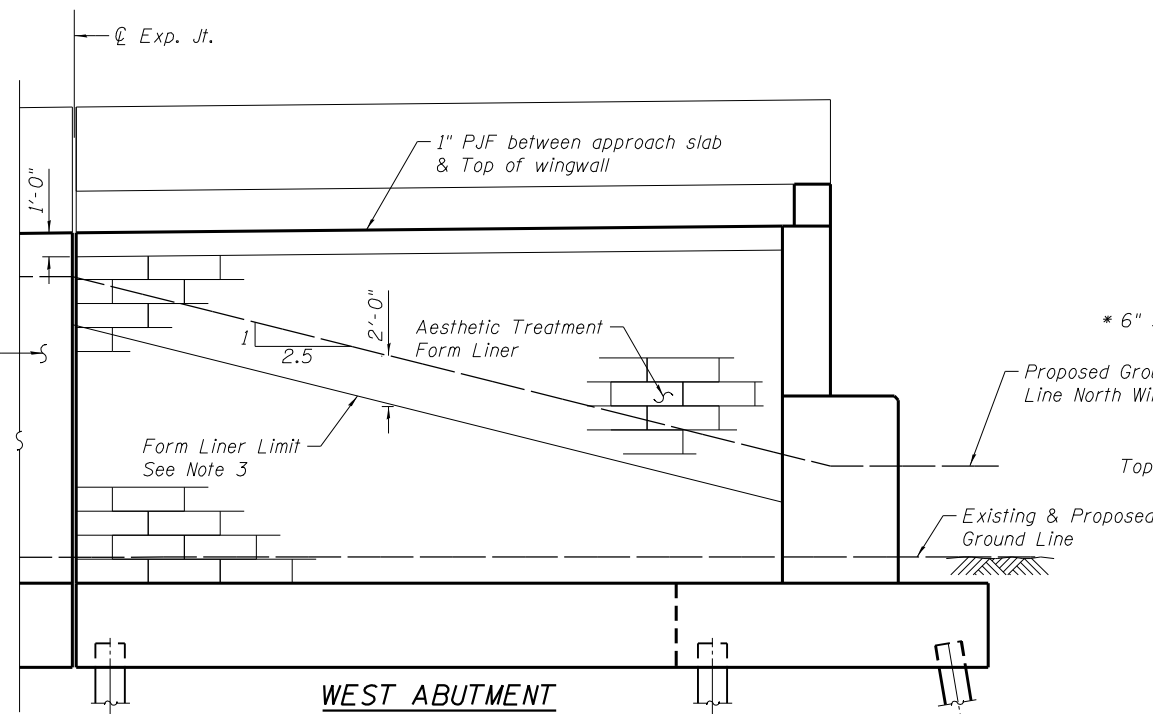
TYPICAL SECTION THRU WEST ABUTMENT SOUTH WINGWALL



TYPICAL SECTION THRU WEST ABUTMENT NORTH WINGWALL AND EAST ABUTMENT WINGWALLS



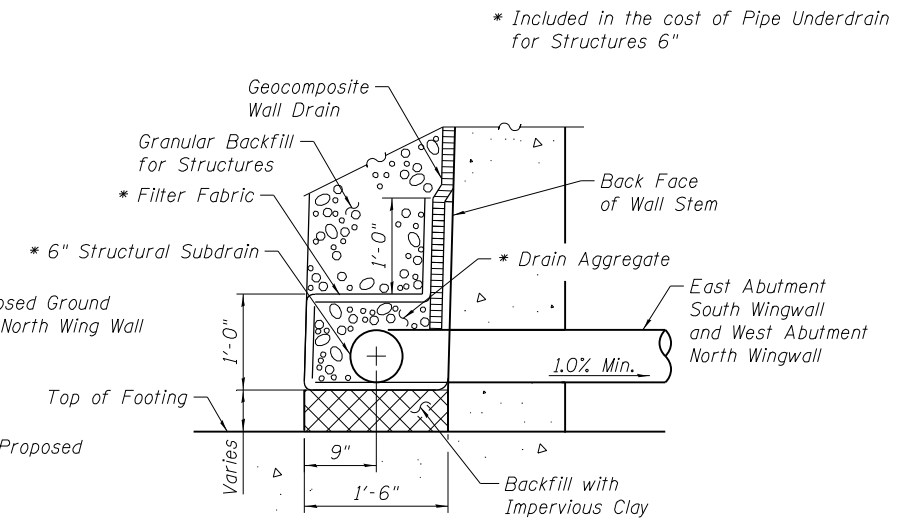
SECTION THRU PIERS



WEST ABUTMENT WINGWALL ELEVATION (Looking North)

South Wingwall shown, North Wingwall Similar, East Abutment Wingwalls Similar

*West Abutment North Wingwall does not have retaining wall



PIPE UNDERDRAIN DETAIL (East Abutment and East Abutment Wingwalls) (West Abutment North Wingwall)

- Notes:
- For abutment details, see Sheets 39 thru 44 of 61.
 - Headwall (with Rodent Shield) included for payment with Civil quantities as "Sloped Headwall Type III, 6", 1:3".
 - Form liner to extend 2'-0" below proposed groundline at North Wall



USER NAME = jblakley	DESIGNED - JFA	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

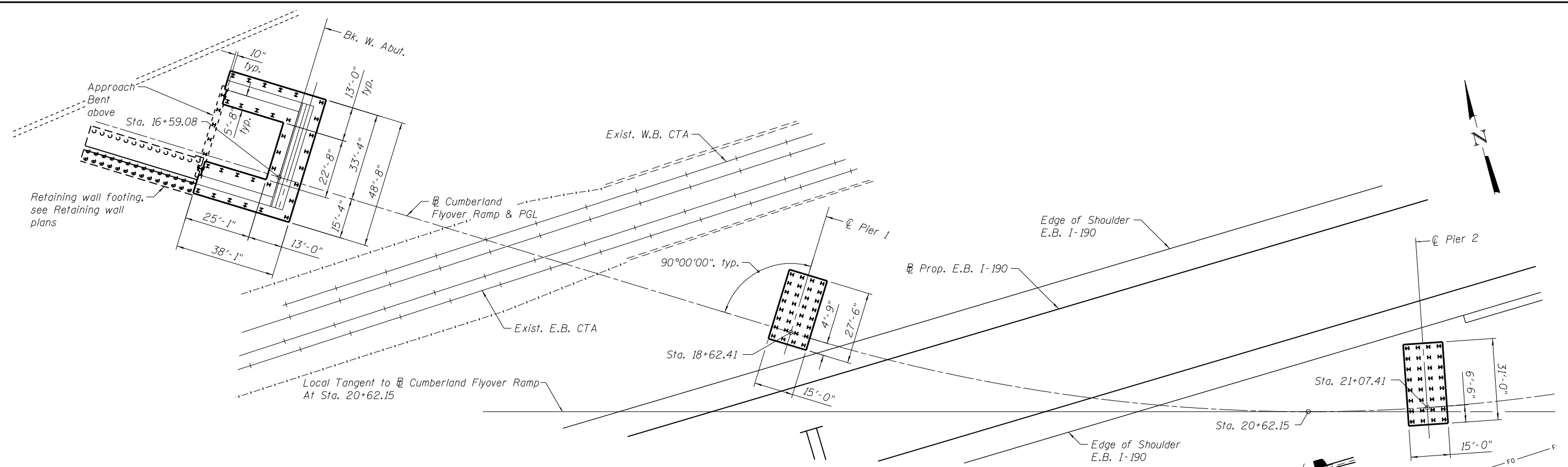
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL DATA - 3 BRIDGE NO. 380

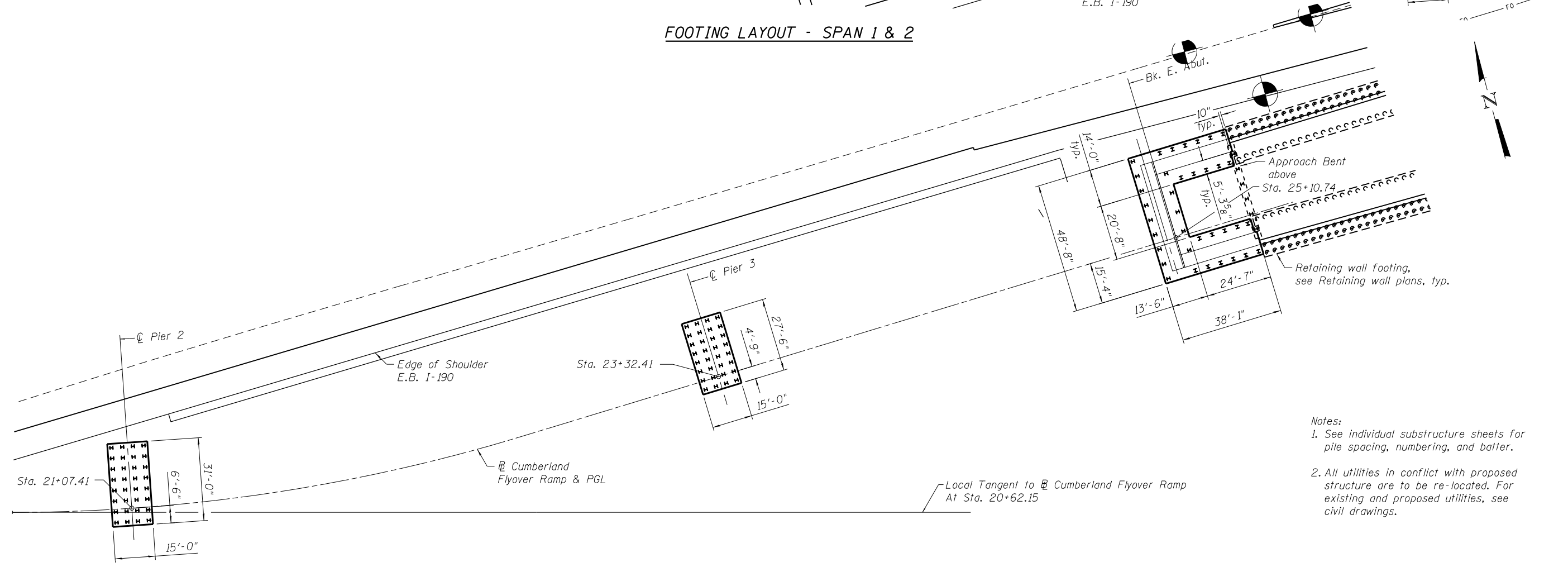
SHEET NO. 4 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	325
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT



FOOTING LAYOUT - SPAN 1 & 2



FOOTING LAYOUT - SPAN 3 & 4

- Notes:
1. See individual substructure sheets for pile spacing, numbering, and batter.
 2. All utilities in conflict with proposed structure are to be re-located. For existing and proposed utilities, see civil drawings.



USER NAME = mkutsko	DESIGNED - PCA	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/3/2016	CHECKED - JFA	REVISED

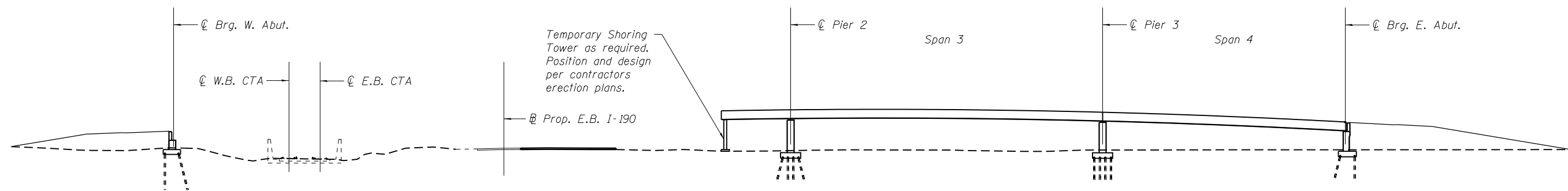
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOOTING LAYOUT
BRIDGE NO. 380

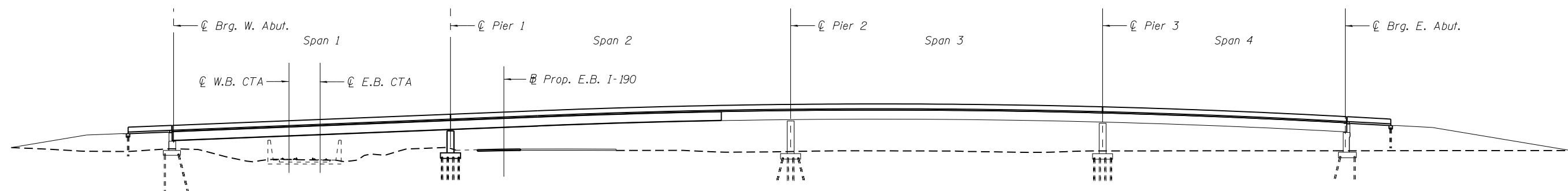
SHEET NO. 5 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	326
CONTRACT NO. 60X56				

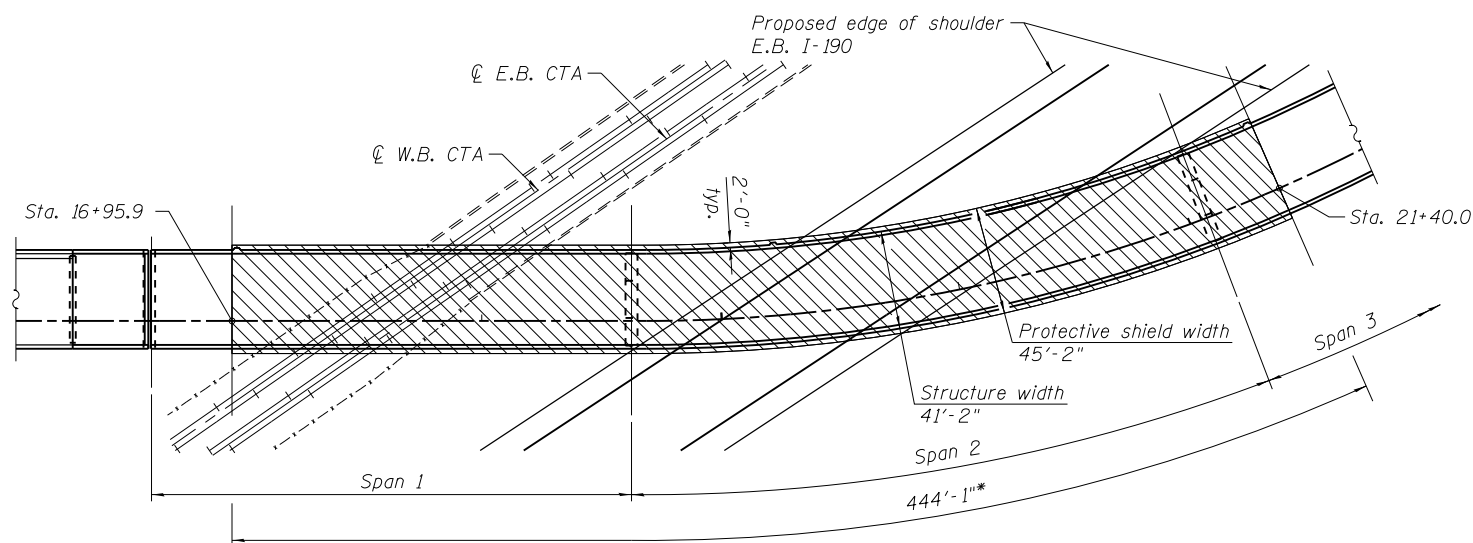
ILLINOIS FED. AID PROJECT



ELEVATION - STAGE 1
(Looking North)



ELEVATION - STAGE 2
(Looking North)



PROTECTIVE SHIELD LIMITS

*Measured Along Cumberland Flyover Ramps

STAGING SEQUENCE:

Stage 1

1. Construct West and East Embankments and West and East Abutments.
2. Construct Piers 2 and 3.
3. Erect Girders in Spans 3 and 4 and over Pier 2.

Stage 2

1. Construct Pier 1.
2. Erect Girders in Spans 1 and 2.
3. Prior to deck construction, a protective shield system shall be installed within the limits shown on this sheet.
4. Construct Deck and Approach Slabs.



USER NAME = jblakley	DESIGNED - PCA	REVISED
	CHECKED - MRI	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/1/2016	CHECKED - MRI	REVISED

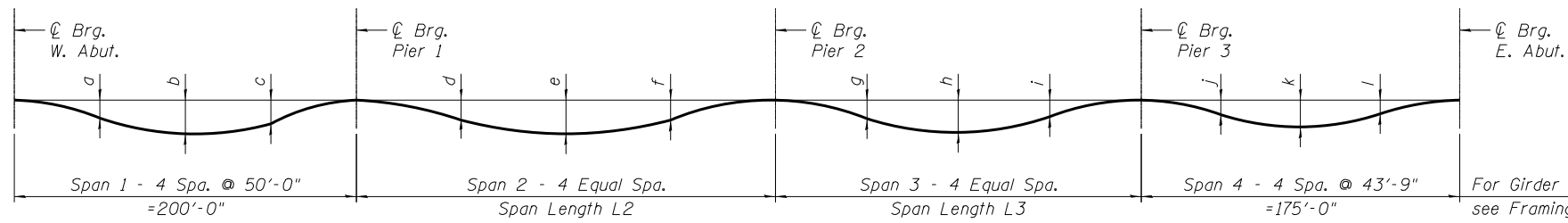
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
BRIDGE NO. 380

SHEET NO. 6 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	327
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT

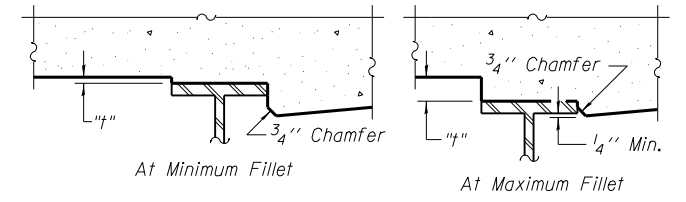


DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

DEAD LOAD DEFLECTION TABLE

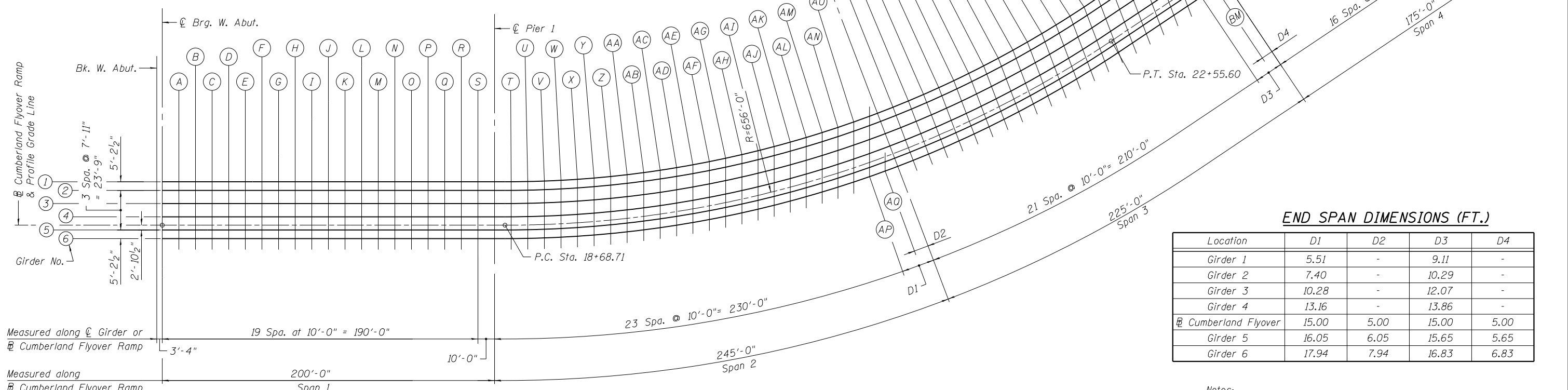
Girder No.	Span 1			Span 2			Span 3			Span 4		
	a	b	c	d	e	f	g	h	i	j	k	l
1	-2 1/2"	-2 7/8"	-1 3/8"	-7/8"	-1 7/8"	-1 1/8"	-3/4"	-1 3/8"	-3/4"	-7/8"	-1 7/8"	-1 5/8"
2	-2 3/8"	-2 3/4"	-1 1/4"	-1 1/8"	-2 1/4"	-1 3/8"	-3/4"	-1 1/2"	-3/4"	-7/8"	-1 7/8"	-1 1/2"
3	-2 1/4"	-2 1/2"	-1 1/8"	-1 3/8"	-2 3/4"	-1 5/8"	-7/8"	-1 3/4"	-7/8"	-7/8"	-1 3/4"	-1 1/2"
4	-2 1/4"	-2 3/8"	-1"	-1 3/4"	-3 3/8"	-1 7/8"	-7/8"	-1 7/8"	-1"	-3/4"	-1 3/4"	-1 1/2"
5	-2 1/8"	-2 1/4"	-7/8"	-2 1/8"	-3 7/8"	-2 1/4"	-7/8"	-2"	-1 1/8"	-3/4"	-1 5/8"	-1 3/8"
6	-2"	-2 1/8"	-3/4"	-2 1/4"	-4 1/4"	-2 1/2"	-7/8"	-2 1/8"	-1 1/4"	-5/8"	-1 5/8"	-1 3/8"

Note:
The above deflections are not to be used in the field if the engineer is working from the theoretical grade elevations adjusted for dead load deflections as shown in the "Top of Slab Elevations" tables. All offsets in the "Top of Slab Elevations" tables are in feet and are measured with respect to the \square Cumberland Flyover Ramp.
The deflections are based on the required deck pouring sequence shown on sheet 16 of 61.
Negative deflections are downward.



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 8 thru 12 of 61, minus 8" slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



END SPAN DIMENSIONS (FT.)

Location	D1	D2	D3	D4
Girder 1	5.51	-	9.11	-
Girder 2	7.40	-	10.29	-
Girder 3	10.28	-	12.07	-
Girder 4	13.16	-	13.86	-
\square Cumberland Flyover	15.00	5.00	15.00	5.00
Girder 5	16.05	6.05	15.65	5.65
Girder 6	17.94	7.94	16.83	6.83

Notes:
1. For table of Top of Slab Elevations, see Sheets 8 thru 12 of 61.
2. Offsets in Top of Slab Elevation tables are with respect to \square Cumberland Flyover Ramp.



USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS, GRID AND DETAILS
BRIDGE NO. 380

F.A.I. RTE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 328
CONTRACT NO. 60X56				

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	-26.08	645.40	645.40
⊕ Brg. W. Abut.	16+62.41	-26.08	645.52	645.52
A	16+72.41	-26.08	645.86	645.90
B	16+82.41	-26.08	646.20	646.29
C	16+92.41	-26.08	646.54	646.67
D	17+02.41	-26.08	646.88	647.05
E	17+12.41	-26.08	647.21	647.42
F	17+22.41	-26.08	647.55	647.78
G	17+32.41	-26.08	647.89	648.13
H	17+42.41	-26.08	648.23	648.48
I	17+52.41	-26.08	648.57	648.82
J	17+62.41	-26.08	648.91	649.15
K	17+72.41	-26.08	649.25	649.47
L	17+82.41	-26.08	649.59	649.79
M	17+92.41	-26.08	649.93	650.11
N	18+02.41	-26.08	650.27	650.42
O	18+12.41	-26.08	650.61	650.72
P	18+22.41	-26.08	650.95	651.03
Q	18+32.41	-26.08	651.29	651.34
R	18+42.41	-26.08	651.63	651.66
S	18+52.41	-26.08	651.96	651.98
⊕ Pier 1	18+62.41	-26.08	652.30	652.30
T	18+72.56	-26.08	652.65	652.65
U	18+82.98	-26.08	653.00	653.01
V	18+93.39	-26.08	653.39	653.41
W	19+03.81	-26.08	653.81	653.84
X	19+14.22	-26.08	654.22	654.28
Y	19+24.63	-26.08	654.64	654.72
Z	19+35.05	-26.08	655.05	655.15
AA	19+45.46	-26.08	655.44	655.56
AB	19+55.88	-26.08	655.81	655.95
AC	19+66.29	-26.08	656.17	656.31
AD	19+76.70	-26.08	656.51	656.66
AE	19+87.12	-26.08	656.83	656.98
AF	19+97.53	-26.08	657.13	657.29
AG	20+07.95	-26.08	657.42	657.57
AH	20+18.36	-26.08	657.68	657.82
AI	20+28.77	-26.08	657.93	658.06
AJ	20+39.19	-26.08	658.17	658.27
AK	20+49.60	-26.08	658.38	658.47
AL	20+60.02	-26.08	658.58	658.64
AM	20+70.43	-26.08	658.76	658.80
AN	20+80.84	-26.08	658.92	658.95
AO	20+91.26	-26.08	659.07	659.08
AP	21+01.67	-26.08	659.19	659.20
⊕ Pier 2	21+07.41	-26.08	659.26	659.26

GIRDER 1 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.82	-26.08	659.36	659.36
AS	21+28.24	-26.08	659.44	659.45
AT	21+38.65	-26.08	659.50	659.53
AU	21+49.07	-26.08	659.55	659.59
AV	21+59.48	-26.08	659.58	659.64
AW	21+69.89	-26.08	659.59	659.67
AX	21+80.31	-26.08	659.59	659.67
AY	21+90.72	-26.08	659.56	659.66
AZ	22+01.14	-26.08	659.52	659.63
BA	22+11.55	-26.08	659.46	659.58
BB	22+21.96	-26.08	659.39	659.50
BC	22+32.38	-26.08	659.38	659.49
BD	22+42.79	-26.08	659.37	659.48
BE	22+53.21	-26.08	659.34	659.44
BF	22+63.30	-26.08	659.30	659.38
BG	22+73.30	-26.08	659.25	659.31
BH	22+83.30	-26.08	659.17	659.22
BI	22+93.30	-26.08	659.08	659.11
BJ	23+03.30	-26.08	658.98	658.99
BK	23+13.30	-26.08	658.85	658.86
BL	23+23.30	-26.08	658.72	658.72
⊕ Pier 3	23+32.41	-26.08	658.54	658.54
BN	23+42.41	-26.08	658.27	658.28
BO	23+52.41	-26.08	657.99	658.02
BP	23+62.41	-26.08	657.69	657.73
BQ	23+72.41	-26.08	657.37	657.44
BR	23+82.41	-26.08	657.04	657.13
BS	23+92.41	-26.08	656.69	656.80
BT	24+02.41	-26.08	656.32	656.46
BU	24+12.41	-26.08	655.94	656.09
BV	24+22.41	-26.08	655.54	655.70
BW	24+32.41	-26.08	655.13	655.29
BX	24+42.41	-26.08	654.70	654.86
BY	24+52.41	-26.08	654.25	654.40
BZ	24+62.41	-26.08	653.79	653.92
CA	24+72.41	-26.08	653.31	653.42
CB	24+82.41	-26.08	652.81	652.90
CC	24+92.41	-26.08	652.30	652.35
⊕ Brg. E. Abut.	25+07.41	-26.08	651.50	651.50
Bk. E. Abut.	25+10.74	-26.08	651.32	651.32

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	-20.87	645.44	645.44
⊕ Brg. W. Abut.	16+62.41	-20.87	645.56	645.56
A	16+72.41	-20.87	645.91	645.95
B	16+82.41	-20.87	646.26	646.35
C	16+92.41	-20.87	646.61	646.74
D	17+02.41	-20.87	646.96	647.13
E	17+12.41	-20.87	647.31	647.51
F	17+22.41	-20.87	647.67	647.88
G	17+32.41	-20.87	648.02	648.25
H	17+42.41	-20.87	648.37	648.61
I	17+52.41	-20.87	648.72	648.96
J	17+62.41	-20.87	649.07	649.30
K	17+72.41	-20.87	649.42	649.64
L	17+82.41	-20.87	649.77	649.97
M	17+92.41	-20.87	650.13	650.29
N	18+02.41	-20.87	650.48	650.62
O	18+12.41	-20.87	650.83	650.94
P	18+22.41	-20.87	651.18	651.26
Q	18+32.41	-20.87	651.53	651.58
R	18+42.41	-20.87	651.88	651.91
S	18+52.41	-20.87	652.23	652.25
⊕ Pier 1	18+62.41	-20.87	652.59	652.59
T	18+72.53	-20.87	652.94	652.94
U	18+82.86	-20.87	653.30	653.32
V	18+93.19	-20.87	653.70	653.72
W	19+03.52	-20.87	654.11	654.15
X	19+13.85	-20.87	654.52	654.59
Y	19+24.18	-20.87	654.94	655.03
Z	19+34.50	-20.87	655.34	655.46
AA	19+44.83	-20.87	655.73	655.87
AB	19+55.16	-20.87	656.10	656.26
AC	19+65.49	-20.87	656.45	656.63
AD	19+75.82	-20.87	656.79	656.97
AE	19+86.15	-20.87	657.11	657.30
AF	19+96.48	-20.87	657.41	657.60
AG	20+06.80	-20.87	657.70	657.88
AH	20+17.13	-20.87	657.97	658.13
AI	20+27.46	-20.87	658.22	658.36
AJ	20+37.79	-20.87	658.45	658.58
AK	20+48.12	-20.87	658.66	658.77
AL	20+58.45	-20.87	658.86	658.94
AM	20+68.78	-20.87	659.04	659.10
AN	20+79.11	-20.87	659.21	659.24
AO	20+89.43	-20.87	659.35	659.37
AP	20+99.76	-20.87	659.48	659.49
⊕ Pier 2	21+07.41	-20.87	659.57	659.57

Note:
1. For Elevation Grid, see Sheet 7 of 61.



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.1" = 1'-0"	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA/MRI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS - 1
BRIDGE NO. 380

SHEET NO. 8 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	329
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

GIRDER 2 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.74	-20.87	659.67	659.67
AS	21+28.07	-20.87	659.75	659.76
AT	21+38.39	-20.87	659.81	659.84
AU	21+48.72	-20.87	659.86	659.90
AV	21+59.05	-20.87	659.89	659.95
AW	21+69.38	-20.87	659.90	659.98
AX	21+79.71	-20.87	659.90	659.99
AY	21+90.04	-20.87	659.88	659.98
AZ	22+00.37	-20.87	659.84	659.95
BA	22+10.70	-20.87	659.78	659.90
BB	22+21.02	-20.87	659.71	659.83
BC	22+31.35	-20.87	659.67	659.80
BD	22+41.68	-20.87	659.65	659.76
BE	22+52.01	-20.87	659.60	659.71
BF	22+62.12	-20.87	659.54	659.63
BG	22+72.12	-20.87	659.47	659.54
BH	22+82.12	-20.87	659.38	659.43
BI	22+92.12	-20.87	659.27	659.31
BJ	23+02.12	-20.87	659.15	659.17
BK	23+12.12	-20.87	659.01	659.02
BL	23+22.12	-20.87	658.85	658.85
☉ Pier 3	23+32.41	-20.87	658.65	658.65
BN	23+42.41	-20.87	658.38	658.39
BO	23+52.41	-20.87	658.09	658.12
BP	23+62.41	-20.87	657.79	657.84
BQ	23+72.41	-20.87	657.48	657.54
BR	23+82.41	-20.87	657.14	657.23
BS	23+92.41	-20.87	656.79	656.90
BT	24+02.41	-20.87	656.43	656.56
BU	24+12.41	-20.87	656.05	656.19
BV	24+22.41	-20.87	655.65	655.80
BW	24+32.41	-20.87	655.23	655.39
BX	24+42.41	-20.87	654.80	654.96
BY	24+52.41	-20.87	654.36	654.50
BZ	24+62.41	-20.87	653.89	654.02
CA	24+72.41	-20.87	653.41	653.52
CB	24+82.41	-20.87	652.92	653.00
CC	24+92.41	-20.87	652.41	652.46
☉ Brg. E. Abut.	25+07.41	-20.87	651.61	651.61
Bk. E. Abut.	25+10.74	-20.87	651.43	651.43

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	-12.96	645.49	645.49
☉ Brg. W. Abut.	16+62.41	-12.96	645.62	645.62
A	16+72.41	-12.96	645.99	646.03
B	16+82.41	-12.96	646.36	646.44
C	16+92.41	-12.96	646.73	646.85
D	17+02.41	-12.96	647.10	647.25
E	17+12.41	-12.96	647.47	647.65
F	17+22.41	-12.96	647.84	648.04
G	17+32.41	-12.96	648.21	648.43
H	17+42.41	-12.96	648.58	648.80
I	17+52.41	-12.96	648.95	649.17
J	17+62.41	-12.96	649.32	649.53
K	17+72.41	-12.96	649.69	649.89
L	17+82.41	-12.96	650.06	650.24
M	17+92.41	-12.96	650.43	650.58
N	18+02.41	-12.96	650.80	650.92
O	18+12.41	-12.96	651.17	651.26
P	18+22.41	-12.96	651.54	651.60
Q	18+32.41	-12.96	651.91	651.95
R	18+42.41	-12.96	652.28	652.30
S	18+52.41	-12.96	652.65	652.65
☉ Pier 1	18+62.41	-12.96	653.02	653.02
T	18+72.48	-12.96	653.39	653.39
U	18+82.69	-12.96	653.76	653.78
V	18+92.89	-12.96	654.16	654.19
W	19+03.09	-12.96	654.57	654.63
X	19+13.29	-12.96	654.97	655.06
Y	19+23.49	-12.96	655.38	655.50
Z	19+33.69	-12.96	655.78	655.93
AA	19+43.90	-12.96	656.17	656.34
AB	19+54.10	-12.96	656.54	656.73
AC	19+64.30	-12.96	656.89	657.10
AD	19+74.50	-12.96	657.22	657.45
AE	19+84.70	-12.96	657.54	657.77
AF	19+94.90	-12.96	657.84	658.07
AG	20+05.10	-12.96	658.13	658.35
AH	20+15.31	-12.96	658.39	658.60
AI	20+25.51	-12.96	658.64	658.83
AJ	20+35.71	-12.96	658.88	659.04
AK	20+45.91	-12.96	659.09	659.23
AL	20+56.11	-12.96	659.29	659.40
AM	20+66.31	-12.96	659.48	659.55
AN	20+76.51	-12.96	659.64	659.69
AO	20+86.72	-12.96	659.79	659.82
AP	20+96.92	-12.96	659.92	659.94
☉ Pier 2	21+07.41	-12.96	660.04	660.04

GIRDER 3 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.61	-12.96	660.14	660.14
AS	21+27.81	-12.96	660.22	660.23
AT	21+38.01	-12.96	660.29	660.31
AU	21+48.21	-12.96	660.33	660.37
AV	21+58.42	-12.96	660.36	660.42
AW	21+68.62	-12.96	660.38	660.45
AX	21+78.82	-12.96	660.37	660.47
AY	21+89.02	-12.96	660.35	660.47
AZ	21+99.22	-12.96	660.32	660.44
BA	22+09.42	-12.96	660.26	660.40
BB	22+19.63	-12.96	660.19	660.33
BC	22+29.83	-12.96	660.13	660.27
BD	22+40.03	-12.96	660.08	660.21
BE	22+50.23	-12.96	660.01	660.13
BF	22+60.34	-12.96	659.92	660.03
BG	22+70.34	-12.96	659.82	659.91
BH	22+80.34	-12.96	659.70	659.77
BI	22+90.34	-12.96	659.57	659.61
BJ	23+00.34	-12.96	659.41	659.44
BK	23+10.34	-12.96	659.25	659.26
BL	23+20.34	-12.96	659.06	659.07
☉ Pier 3	23+32.41	-12.96	658.81	658.81
BN	23+42.41	-12.96	658.54	658.54
BO	23+52.41	-12.96	658.25	658.27
BP	23+62.41	-12.96	657.95	657.99
BQ	23+72.41	-12.96	657.63	657.69
BR	23+82.41	-12.96	657.30	657.38
BS	23+92.41	-12.96	656.95	657.05
BT	24+02.41	-12.96	656.59	656.71
BU	24+12.41	-12.96	656.20	656.34
BV	24+22.41	-12.96	655.81	655.95
BW	24+32.41	-12.96	655.39	655.55
BX	24+42.41	-12.96	654.96	655.11
BY	24+52.41	-12.96	654.51	654.66
BZ	24+62.41	-12.96	654.05	654.18
CA	24+72.41	-12.96	653.57	653.68
CB	24+82.41	-12.96	653.08	653.16
CC	24+92.41	-12.96	652.56	652.61
☉ Brg. E. Abut.	25+07.41	-12.96	651.77	651.77
Bk. E. Abut.	25+10.74	-12.96	651.58	651.58

Note:
1. For Elevation Grid, see Sheet 7 of 61.



USER NAME = lkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.1" = 1'	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA/MRI	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS - 2
BRIDGE NO. 380**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	330
			CONTRACT NO. 60X56	
ILLINOIS FED. AID PROJECT				

SHEET NO. 9 OF 61 SHEETS

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	-5.04	645.55	645.55
☉ Brg. W. Abut.	16+62.41	-5.04	645.68	645.68
A	16+72.41	-5.04	646.07	646.11
B	16+82.41	-5.04	646.45	646.54
C	16+92.41	-5.04	646.84	646.96
D	17+02.41	-5.04	647.23	647.38
E	17+12.41	-5.04	647.62	647.80
F	17+22.41	-5.04	648.01	648.21
G	17+32.41	-5.04	648.40	648.60
H	17+42.41	-5.04	648.78	649.00
I	17+52.41	-5.04	649.17	649.38
J	17+62.41	-5.04	649.56	649.76
K	17+72.41	-5.04	649.95	650.13
L	17+82.41	-5.04	650.34	650.50
M	17+92.41	-5.04	650.73	650.87
N	18+02.41	-5.04	651.11	651.23
O	18+12.41	-5.04	651.50	651.59
P	18+22.41	-5.04	651.89	651.95
Q	18+32.41	-5.04	652.28	652.32
R	18+42.41	-5.04	652.67	652.69
S	18+52.41	-5.04	653.06	653.06
☉ Pier 1	18+62.41	-5.04	653.44	653.44
T	18+72.44	-5.04	653.83	653.84
U	18+82.52	-5.04	654.22	654.25
V	18+92.59	-5.04	654.62	654.67
W	19+02.67	-5.04	655.02	655.10
X	19+12.75	-5.04	655.43	655.54
Y	19+22.83	-5.04	655.83	655.97
Z	19+32.90	-5.04	656.23	656.40
AA	19+42.98	-5.04	656.61	656.82
AB	19+53.06	-5.04	656.98	657.21
AC	19+63.14	-5.04	657.33	657.58
AD	19+73.21	-5.04	657.66	657.93
AE	19+83.29	-5.04	657.97	658.25
AF	19+93.37	-5.04	658.27	658.55
AG	20+03.45	-5.04	658.56	658.82
AH	20+13.52	-5.04	658.82	659.07
AI	20+23.60	-5.04	659.07	659.30
AJ	20+33.68	-5.04	659.31	659.51
AK	20+43.76	-5.04	659.53	659.69
AL	20+53.83	-5.04	659.73	659.86
AM	20+63.91	-5.04	659.91	660.01
AN	20+73.99	-5.04	660.08	660.15
AO	20+84.07	-5.04	660.23	660.27
AP	20+94.14	-5.04	660.36	660.38
☉ Pier 2	21+07.41	-5.04	660.52	660.52

GIRDER 4 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.49	-5.04	660.61	660.61
AS	21+27.56	-5.04	660.69	660.70
AT	21+37.64	-5.04	660.76	660.78
AU	21+47.72	-5.04	660.81	660.84
AV	21+57.80	-5.04	660.84	660.89
AW	21+67.87	-5.04	660.85	660.93
AX	21+77.95	-5.04	660.85	660.95
AY	21+88.03	-5.04	660.84	660.96
AZ	21+98.11	-5.04	660.80	660.93
BA	22+08.18	-5.04	660.75	660.89
BB	22+18.26	-5.04	660.68	660.83
BC	22+28.34	-5.04	660.60	660.76
BD	22+38.42	-5.04	660.52	660.67
BE	22+48.49	-5.04	660.42	660.56
BF	22+58.55	-5.04	660.31	660.43
BG	22+68.55	-5.04	660.18	660.28
BH	22+78.55	-5.04	660.03	660.12
BI	22+88.55	-5.04	659.87	659.93
BJ	22+98.55	-5.04	659.69	659.73
BK	23+08.55	-5.04	659.50	659.52
BL	23+18.55	-5.04	659.29	659.30
☉ Pier 3	23+32.41	-5.04	658.96	658.96
BN	23+42.41	-5.04	658.69	658.70
BO	23+52.41	-5.04	658.41	658.43
BP	23+62.41	-5.04	658.11	658.14
BQ	23+72.41	-5.04	657.79	657.85
BR	23+82.41	-5.04	657.46	657.54
BS	23+92.41	-5.04	657.11	657.21
BT	24+02.41	-5.04	656.74	656.86
BU	24+12.41	-5.04	656.36	656.49
BV	24+22.41	-5.04	655.96	656.11
BW	24+32.41	-5.04	655.55	655.70
BX	24+42.41	-5.04	655.12	655.27
BY	24+52.41	-5.04	654.67	654.81
BZ	24+62.41	-5.04	654.21	654.33
CA	24+72.41	-5.04	653.73	653.83
CB	24+82.41	-5.04	653.22	653.30
CC	24+92.41	-5.04	652.72	652.77
☉ Brg. E. Abut.	25+07.41	-5.04	651.92	651.92
Bk. E. Abut.	25+10.74	-5.04	651.74	651.74

B & PGL CUMBERLAND FLYOVER RAMP

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	0.00	645.58	645.58
☉ Brg. W. Abut.	16+62.41	0.00	645.72	645.72
A	16+72.41	0.00	646.11	646.16
B	16+82.41	0.00	646.51	646.60
C	16+92.41	0.00	646.91	647.03
D	17+02.41	0.00	647.31	647.46
E	17+12.41	0.00	647.71	647.89
F	17+22.41	0.00	648.11	648.31
G	17+32.41	0.00	648.51	648.72
H	17+42.41	0.00	648.91	649.12
I	17+52.41	0.00	649.31	649.52
J	17+62.41	0.00	649.71	649.91
K	17+72.41	0.00	650.11	650.29
L	17+82.41	0.00	650.51	650.67
M	17+92.41	0.00	650.91	651.05
N	18+02.41	0.00	651.31	651.42
O	18+12.41	0.00	651.71	651.80
P	18+22.41	0.00	652.11	652.17
Q	18+32.41	0.00	652.51	652.55
R	18+42.41	0.00	652.91	652.93
S	18+52.41	0.00	653.31	653.32
☉ Pier 1	18+62.41	0.00	653.71	653.71
T	18+72.41	0.00	654.11	654.13
U	18+82.41	0.00	654.51	654.55
V	18+92.41	0.00	654.91	654.97
W	19+02.41	0.00	655.31	655.40
X	19+12.41	0.00	655.71	655.84
Y	19+22.41	0.00	656.11	656.28
Z	19+32.41	0.00	656.51	656.71
AA	19+42.41	0.00	656.89	657.12
AB	19+52.41	0.00	657.26	657.51
AC	19+62.41	0.00	657.60	657.88
AD	19+72.41	0.00	657.93	658.23
AE	19+82.41	0.00	658.25	658.55
AF	19+92.41	0.00	658.55	658.85
AG	20+02.41	0.00	658.83	659.13
AH	20+12.41	0.00	659.10	659.38
AI	20+22.41	0.00	659.35	659.60
AJ	20+32.41	0.00	659.58	659.81
AK	20+42.41	0.00	659.80	659.99
AL	20+52.41	0.00	660.00	660.15
AM	20+62.41	0.00	660.19	660.30
AN	20+72.41	0.00	660.36	660.44
AO	20+82.41	0.00	660.51	660.56
AP	20+92.41	0.00	660.65	660.67
AQ	21+02.41	0.00	660.77	660.76
☉ Pier 2	21+07.41	0.00	660.82	660.82

Note:
1. For Elevation Grid, see Sheet 7 of 61.



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.1" = 1'	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA/MRI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS - 3
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	331
CONTRACT NO. 60X56				

SHEET NO. 10 OF 61 SHEETS

ILLINOIS FED. AID PROJECT

Q & PGL CUMBERLAND FLYOVER RAMP CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.41	0.00	660.92	660.92
AS	21+27.41	0.00	661.00	661.00
AT	21+37.41	0.00	661.06	661.08
AU	21+47.41	0.00	661.11	661.14
AV	21+57.41	0.00	661.14	661.20
AW	21+67.41	0.00	661.15	661.23
AX	21+77.41	0.00	661.15	661.26
AY	21+87.41	0.00	661.14	661.26
AZ	21+97.41	0.00	661.10	661.24
BA	22+07.41	0.00	661.05	661.21
BB	22+17.41	0.00	660.99	661.15
BC	22+27.41	0.00	660.90	661.07
BD	22+37.41	0.00	660.81	660.96
BE	22+47.41	0.00	660.69	660.84
BF	22+57.41	0.00	660.56	660.70
BG	22+67.41	0.00	660.41	660.53
BH	22+77.41	0.00	660.25	660.35
BI	22+87.41	0.00	660.07	660.14
BJ	22+97.41	0.00	659.88	659.92
BK	23+07.41	0.00	659.66	659.69
BL	23+17.41	0.00	659.44	659.45
BM	23+27.41	0.00	659.19	659.21
Q Pier 3	23+32.41	0.00	659.06	659.06
BN	23+42.41	0.00	658.80	658.80
BO	23+52.41	0.00	658.51	658.53
BP	23+62.41	0.00	658.21	658.24
BQ	23+72.41	0.00	657.89	657.95
BR	23+82.41	0.00	657.56	657.63
BS	23+92.41	0.00	657.21	657.30
BT	24+02.41	0.00	656.84	656.96
BU	24+12.41	0.00	656.46	656.59
BV	24+22.41	0.00	656.06	656.20
BW	24+32.41	0.00	655.65	655.80
BX	24+42.41	0.00	655.22	655.36
BY	24+52.41	0.00	654.77	654.91
BZ	24+62.41	0.00	654.31	654.43
CA	24+72.41	0.00	653.83	653.93
CB	24+82.41	0.00	653.33	653.41
CC	24+92.41	0.00	652.82	652.87
Q Brg. E. Abut.	25+07.41	0.00	652.02	652.02
Bk. E. Abut.	25+10.74	0.00	651.84	651.84

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	2.87	645.60	645.60
Q Brg. W. Abut.	16+62.41	2.87	645.74	645.74
A	16+72.41	2.87	646.15	646.19
B	16+82.41	2.87	646.55	646.63
C	16+92.41	2.87	646.96	647.07
D	17+02.41	2.87	647.37	647.51
E	17+12.41	2.87	647.77	647.94
F	17+22.41	2.87	648.18	648.37
G	17+32.41	2.87	648.59	648.78
H	17+42.41	2.87	648.99	649.19
I	17+52.41	2.87	649.40	649.60
J	17+62.41	2.87	649.81	649.99
K	17+72.41	2.88	650.21	650.38
L	17+82.41	2.88	650.62	650.77
M	17+92.41	2.88	651.03	651.15
N	18+02.41	2.88	651.43	651.53
O	18+12.41	2.88	651.84	651.91
P	18+22.41	2.88	652.25	652.30
Q	18+32.41	2.88	652.65	652.68
R	18+42.41	2.88	653.06	653.07
S	18+52.41	2.88	653.47	653.47
Q Pier 1	18+62.41	2.88	653.87	653.87
T	18+72.39	2.88	654.28	654.29
U	18+82.35	2.88	654.68	654.72
V	18+92.31	2.88	655.09	655.14
W	19+02.26	2.88	655.48	655.57
X	19+12.22	2.88	655.88	656.01
Y	19+22.18	2.88	656.28	656.45
Z	19+32.13	2.88	656.67	656.88
AA	19+42.09	2.88	657.05	657.29
AB	19+52.04	2.88	657.42	657.69
AC	19+62.00	2.88	657.76	658.06
AD	19+71.96	2.88	658.09	658.41
AE	19+81.91	2.88	658.41	658.73
AF	19+91.87	2.88	658.71	659.03
AG	20+01.83	2.88	658.99	659.30
AH	20+11.78	2.88	659.25	659.55
AI	20+21.74	2.88	659.50	659.77
AJ	20+31.70	2.88	659.74	659.98
AK	20+41.65	2.88	659.96	660.16
AL	20+51.61	2.88	660.16	660.32
AM	20+61.56	2.88	660.34	660.47
AN	20+71.52	2.88	660.51	660.60
AO	20+81.48	2.88	660.67	660.72
AP	20+91.43	2.88	660.81	660.83
AQ	21+01.39	2.88	660.93	660.94
Q Pier 2	21+07.41	2.88	660.99	660.99

GIRDER 5 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.37	2.88	661.09	661.09
AS	21+27.32	2.88	661.17	661.17
AT	21+37.28	2.88	661.23	661.25
AU	21+47.23	2.88	661.28	661.32
AV	21+57.19	2.88	661.31	661.37
AW	21+67.15	2.88	661.33	661.41
AX	21+77.10	2.88	661.33	661.43
AY	21+87.06	2.88	661.31	661.44
AZ	21+97.02	2.88	661.28	661.42
BA	22+06.97	2.88	661.23	661.39
BB	22+16.93	2.88	661.16	661.33
BC	22+26.89	2.88	661.08	661.25
BD	22+36.84	2.88	660.97	661.13
BE	22+46.80	2.88	660.85	661.00
BF	22+56.76	2.88	660.71	660.85
BG	22+66.76	2.88	660.55	660.67
BH	22+76.76	2.88	660.38	660.48
BI	22+86.76	2.88	660.19	660.26
BJ	22+96.76	2.88	659.98	660.03
BK	23+06.76	2.88	659.76	659.79
BL	23+16.76	2.88	659.52	659.53
BM	23+26.76	2.88	659.27	659.27
Q Pier 3	23+32.41	2.88	659.12	659.12
BN	23+42.41	2.88	658.85	658.86
BO	23+52.41	2.88	658.57	658.58
BP	23+62.41	2.88	658.27	658.30
BQ	23+72.41	2.88	657.95	658.00
BR	23+82.41	2.88	657.62	657.69
BS	23+92.41	2.88	657.27	657.36
BT	24+02.41	2.88	656.90	657.01
BU	24+12.41	2.88	656.52	656.65
BV	24+22.41	2.88	656.12	656.26
BW	24+32.41	2.88	655.71	655.85
BX	24+42.41	2.88	655.28	655.42
BY	24+52.41	2.88	654.83	654.97
BZ	24+62.41	2.88	654.37	654.49
CA	24+72.41	2.88	653.89	653.99
CB	24+82.41	2.88	653.39	653.47
CC	24+92.41	2.88	652.88	652.93
Q Brg. E. Abut.	25+07.41	2.88	652.08	652.08
Bk. E. Abut.	25+10.74	2.88	651.90	651.90

Note:
1. For Elevation Grid, see Sheet 7 of 61.



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA/MRI	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS - 4
BRIDGE NO. 380**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	332
			CONTRACT NO. 60X56	
SHEET NO. 11 OF 61 SHEETS				
ILLINOIS FED. AID PROJECT				

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	16+59.08	8.08	645.64	645.64
⊕ Brg. W. Abut.	16+62.41	8.08	645.78	645.78
A	16+72.41	8.08	646.20	646.24
B	16+82.41	8.08	646.62	646.69
C	16+92.41	8.08	647.03	647.15
D	17+02.41	8.08	647.45	647.59
E	17+12.41	8.08	647.87	648.04
F	17+22.41	8.08	648.29	648.47
G	17+32.41	8.08	648.71	648.90
H	17+42.41	8.08	649.13	649.32
I	17+52.41	8.08	649.55	649.74
J	17+62.41	8.08	649.97	650.15
K	17+72.41	8.08	650.39	650.55
L	17+82.41	8.08	650.80	650.95
M	17+92.41	8.08	651.22	651.34
N	18+02.41	8.08	651.64	651.74
O	18+12.41	8.08	652.06	652.13
P	18+22.41	8.08	652.48	652.52
Q	18+32.41	8.08	652.90	652.92
R	18+42.41	8.08	653.32	653.33
S	18+52.41	8.08	653.74	653.74
⊕ Pier 1	18+62.41	8.08	654.15	654.15
T	18+72.36	8.08	654.57	654.59
U	18+82.24	8.08	654.99	655.02
V	18+92.12	8.08	655.39	655.45
W	19+02.00	8.08	655.79	655.89
X	19+11.88	8.08	656.18	656.32
Y	19+21.76	8.08	656.57	656.75
Z	19+31.63	8.08	656.97	657.20
AA	19+41.51	8.08	657.34	657.60
AB	19+51.39	8.08	657.70	658.00
AC	19+61.27	8.08	658.05	658.37
AD	19+71.15	8.08	658.38	658.72
AE	19+81.03	8.08	658.69	659.04
AF	19+90.90	8.08	658.99	659.34
AG	20+00.78	8.08	659.27	659.61
AH	20+10.66	8.08	659.54	659.86
AI	20+20.54	8.08	659.79	660.09
AJ	20+30.42	8.08	660.02	660.29
AK	20+40.30	8.08	660.24	660.47
AL	20+50.17	8.08	660.44	660.63
AM	20+60.05	8.08	660.63	660.77
AN	20+69.93	8.08	660.80	660.90
AO	20+79.81	8.08	660.96	661.03
AP	20+89.69	8.08	661.10	661.14
AQ	20+99.57	8.08	661.21	661.22
⊕ Pier 2	21+07.41	8.08	661.31	661.31

GIRDER 6 CONT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
AR	21+17.29	8.08	661.40	661.40
AS	21+27.17	8.08	661.48	661.48
AT	21+37.04	8.08	661.54	661.56
AU	21+46.92	8.08	661.59	661.62
AV	21+56.80	8.08	661.62	661.68
AW	21+66.68	8.08	661.64	661.72
AX	21+76.56	8.08	661.63	661.74
AY	21+86.44	8.08	661.62	661.75
AZ	21+96.31	8.08	661.59	661.74
BA	22+06.19	8.08	661.54	661.71
BB	22+16.07	8.08	661.48	661.66
BC	22+25.95	8.08	661.40	661.58
BD	22+35.83	8.08	661.27	661.45
BE	22+45.71	8.08	661.13	661.31
BF	22+55.58	8.08	660.97	661.12
BG	22+65.46	8.08	660.80	660.93
BH	22+75.34	8.08	660.61	660.72
BI	22+85.22	8.08	660.40	660.48
BJ	22+95.10	8.08	660.18	660.24
BK	23+05.00	8.08	659.94	659.98
BL	23+15.58	8.08	659.68	659.70
BM	23+25.58	8.08	659.41	659.42
⊕ Pier 3	23+32.41	8.08	659.22	659.22
BN	23+42.41	8.08	658.96	658.96
BO	23+52.41	8.08	658.67	658.69
BP	23+62.41	8.08	658.37	658.40
BQ	23+72.41	8.08	658.05	658.10
BR	23+82.41	8.08	657.72	657.79
BS	23+92.41	8.08	657.37	657.46
BT	24+02.41	8.08	657.01	657.11
BU	24+12.41	8.08	656.62	656.75
BV	24+22.41	8.08	656.23	656.36
BW	24+32.41	8.08	655.81	655.95
BX	24+42.41	8.08	655.38	655.52
BY	24+52.41	8.08	654.93	655.07
BZ	24+62.41	8.08	654.47	654.59
CA	24+72.41	8.08	653.99	654.09
CB	24+82.41	8.08	653.50	653.57
CC	24+92.41	8.08	652.98	653.03
⊕ Brg. E. Abut.	25+07.41	8.08	652.19	652.19
Bk. E. Abut.	25+10.74	8.08	652.00	652.00

Note:
1. For Elevation Grid, see Sheet 7 of 61.



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.1" = 1'-0"	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA/MRI	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS - 5
BRIDGE NO. 380**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	333
CONTRACT NO. 60X56				

SHEET NO. 12 OF 61 SHEETS

ILLINOIS FED. AID PROJECT

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Bridge Appr. Slab	16+29.58	-28.00	644.40
A1	16+39.58	-28.00	644.74
A2	16+49.58	-28.00	645.07
E. End West Bridge Appr. Slab	16+59.58	-28.00	645.41

NORTH EDGE OF PAVEMENT

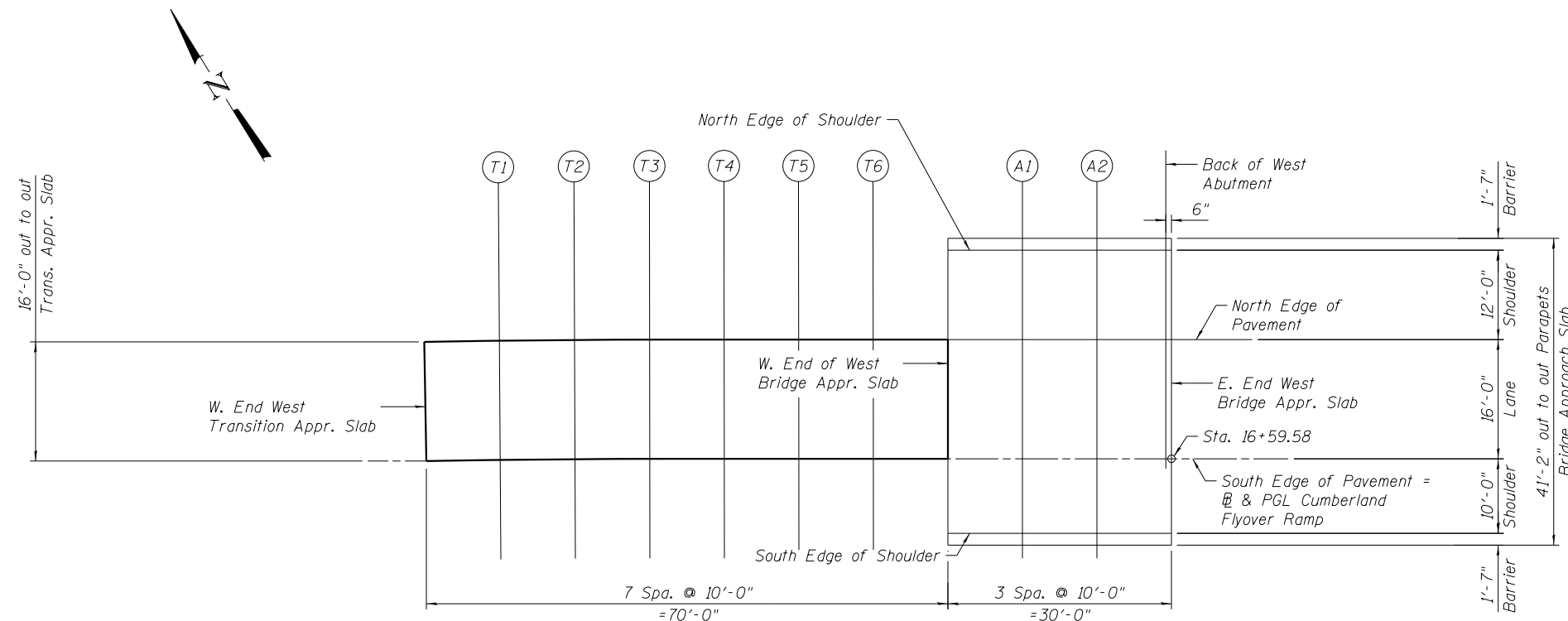
Location	Station	Offset	Theoretical Grade Elevations
W. End West Transition Appr. Slab	15+59.58	-16.00	641.86
T1	15+69.58	-16.00	642.23
T2	15+79.58	-16.00	642.62
T3	15+89.58	-16.00	642.95
T4	15+99.58	-16.00	643.32
T5	16+09.58	-16.00	643.68
T6	16+19.58	-16.00	644.04
W. End West Bridge Appr. Slab	16+29.58	-16.00	644.40
A1	16+39.58	-16.00	644.77
A2	16+49.58	-16.00	645.13
E. End West Bridge Appr. Slab	16+59.58	-16.00	645.49

⊞ & PGL CUMBERLAND FLYOVER RAMP = SOUTH EDGE OF PAV'T.

Location	Station	Offset	Theoretical Grade Elevations
W. End West Transition Appr. Slab	15+59.58	0.00	641.60
T1	15+69.58	0.00	642.00
T2	15+79.58	0.00	642.40
T3	15+89.58	0.00	642.80
T4	15+99.58	0.00	643.20
T5	16+09.58	0.00	643.60
T6	16+19.58	0.00	644.00
W. End West Bridge Appr. Slab	16+29.58	0.00	644.40
A1	16+39.58	0.00	644.80
A2	16+49.58	0.00	645.20
E. End West Bridge Appr. Slab	16+59.58	0.00	645.60

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Bridge Appr. Slab	16+29.58	10.00	644.40
A1	16+39.58	10.00	644.83
A2	16+49.58	10.00	645.25
E. End West Bridge Appr. Slab	16+59.58	10.00	645.67



PLAN
West Approach

Note:
1. Offsets in tables are with respect to ⊞ Cumberland Flyover Ramp.



USER NAME = kkalite	DESIGNED -	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF W. APPROACH SLAB ELEVATIONS
BRIDGE NO. 380

SHEET NO. 13 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	334
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Bridge Appr. Slab	25+10.24	-28.00	651.31
A10	25+20.24	-28.00	650.75
A11	25+30.24	-28.00	650.18
E. End East Bridge Appr. Slab.	25+40.24	-28.00	649.61

NORTH EDGE OF PAVEMENT

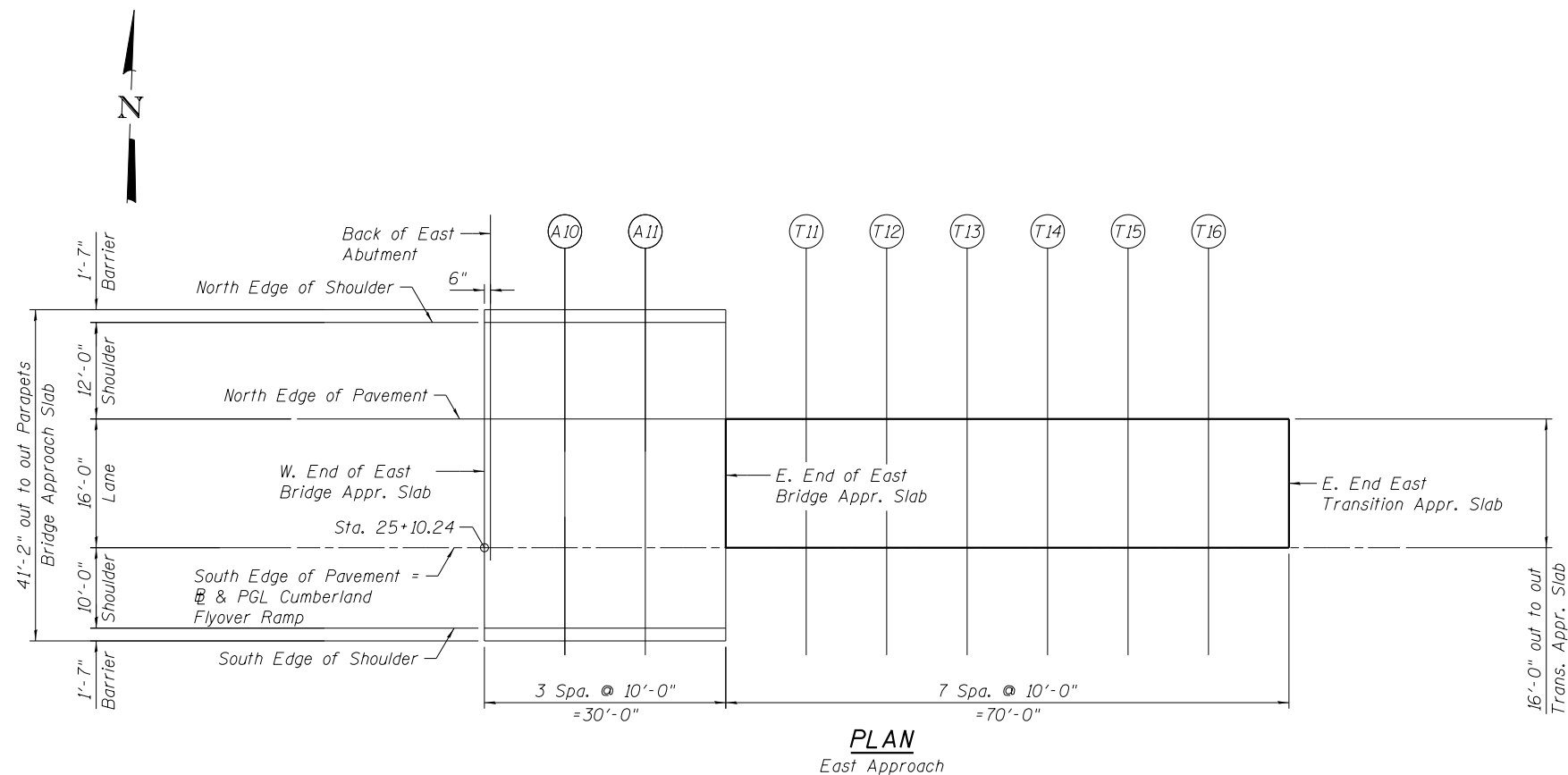
Location	Station	Offset	Theoretical Grade Elevations
W. End East Bridge Appr. Slab	25+10.24	-16.00	651.55
A10	25+20.24	-16.00	650.99
A11	25+30.24	-16.00	650.42
E. End East Bridge Appr. Slab	25+40.24	-16.00	649.85
T11	25+50.24	-16.00	649.28
T12	25+60.24	-16.00	648.71
T13	25+70.24	-16.00	648.14
T14	25+80.24	-16.00	648.58
T15	25+90.24	-16.00	647.04
T16	26+00.24	-16.00	646.51
E. End East Transition Appr. Slab	26+10.24	-16.00	646.00

⊞ & PGL CUMBERLAND FLYOVER RAMP = SOUTH EDGE OF PAV'T.

Location	Station	Offset	Theoretical Grade Elevations
W. End East Bridge Appr. Slab	25+10.24	0.00	651.87
A10	25+20.24	0.00	651.31
A11	25+30.24	0.00	650.74
E. End East Bridge Appr. Slab	25+40.24	0.00	650.18
T11	25+50.24	0.00	649.60
T12	25+60.24	0.00	649.03
T13	25+70.24	0.00	648.46
T14	25+80.24	0.00	647.90
T15	25+90.24	0.00	647.36
T16	26+00.24	0.00	646.83
E. End East Transition Appr. Slab	26+10.24	0.00	646.32

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Bridge Appr. Slab	25+10.24	10.00	652.07
A10	25+20.24	10.00	651.51
A11	25+30.24	10.00	650.94
E. End East Bridge Appr. Slab	25+40.24	10.00	650.37



Note:
1. Offsets in tables are with respect to ⊞ Cumberland Flyover Ramp.



USER NAME = ikolite	DESIGNED - APR	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA	REVISED

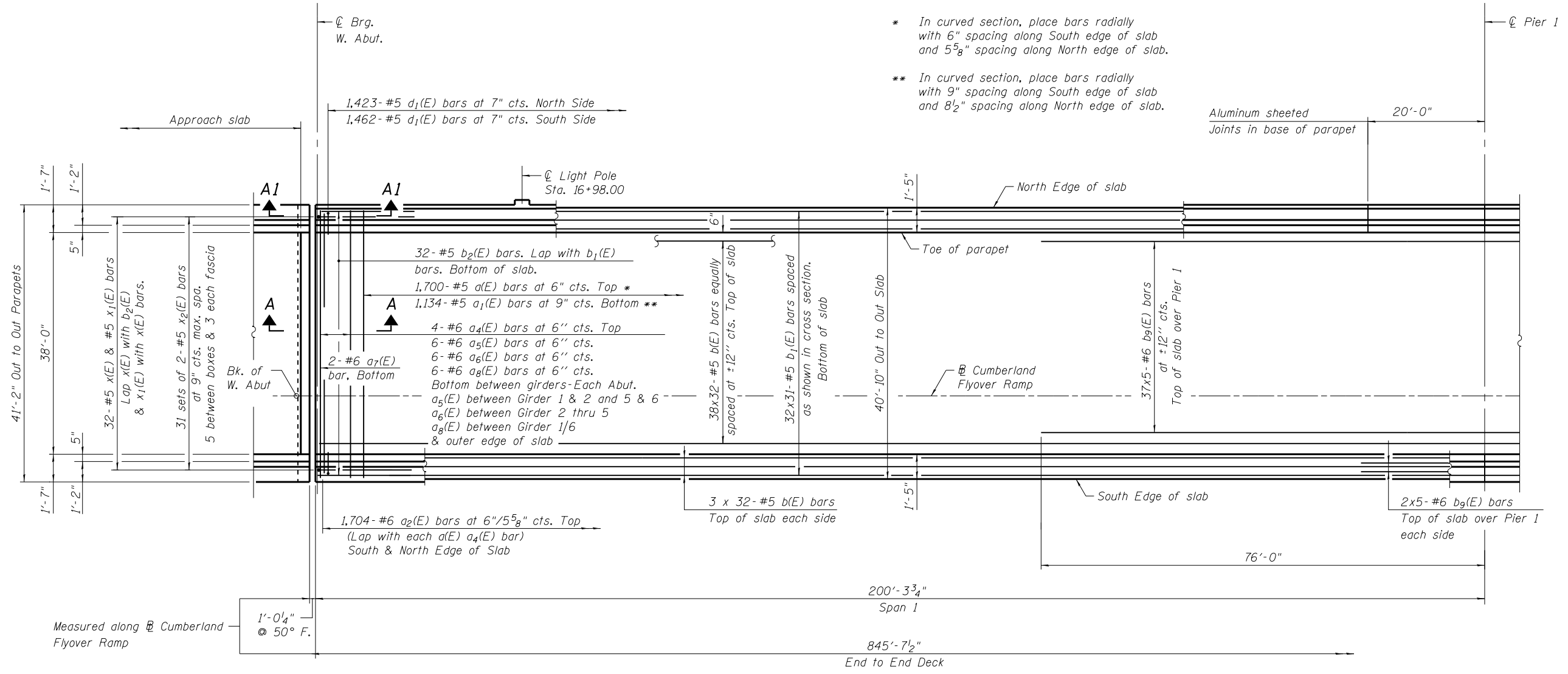
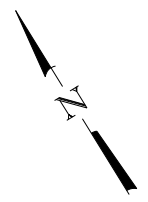
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF E. APPROACH SLAB ELEVATIONS
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	335
CONTRACT NO. 60X56				

SHEET NO. 14 OF 61 SHEETS

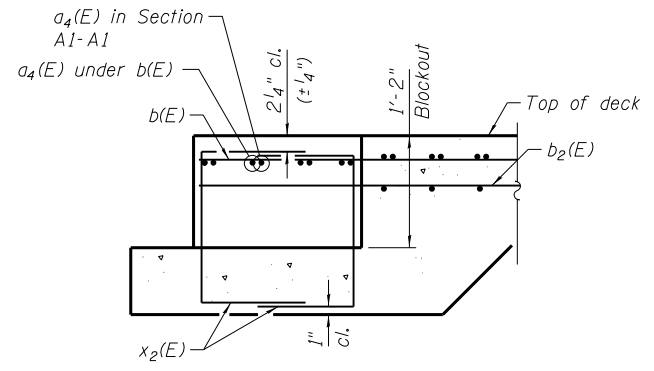
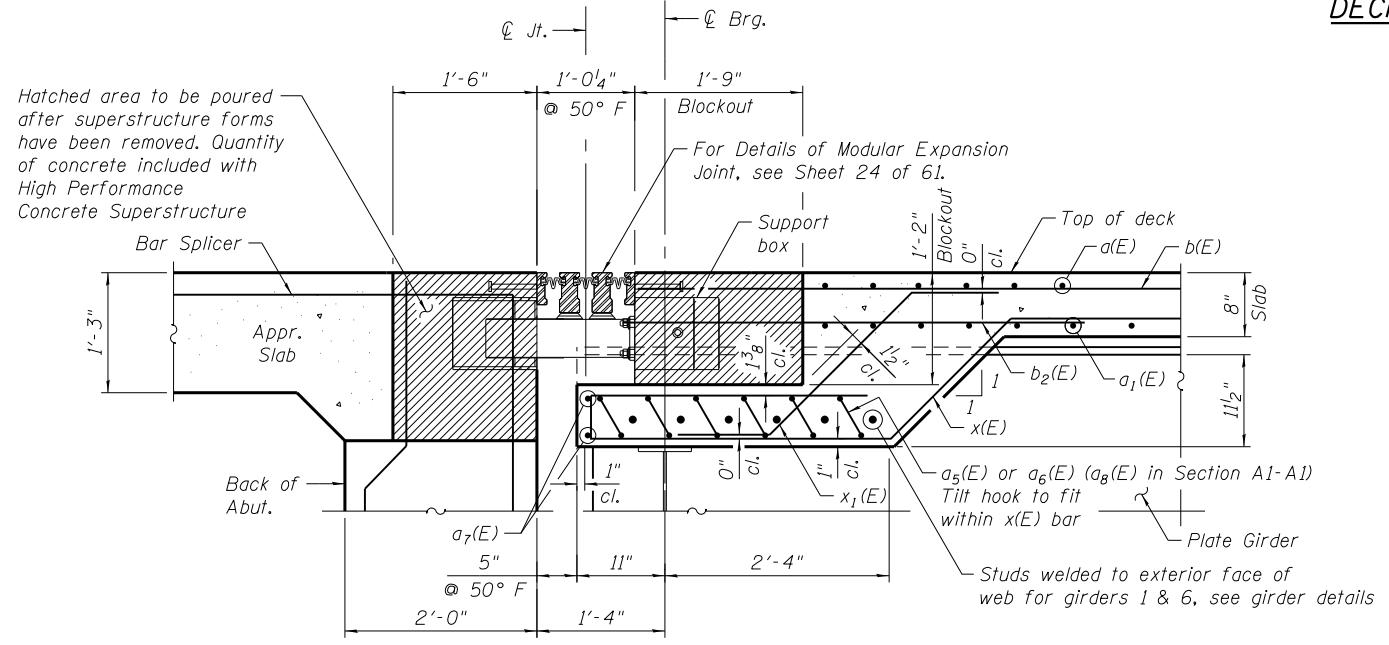
ILLINOIS FED. AID PROJECT



* In curved section, place bars radially with 6" spacing along South edge of slab and 5 5/8" spacing along North edge of slab.

** In curved section, place bars radially with 9" spacing along South edge of slab and 8 1/2" spacing along North edge of slab.

DECK PLAN - SPAN 1



- Notes:
1. For superstructure details and Bill of Material, see Sheet 19, 22, and 23 of 61.
 2. Bars indicated thus "20 x 3-#5 etc." indicates 20 lines of bars with 3 lengths per line.
 3. For parapet reinforcement, see Sheet 20 and 21 of 61.
 4. Unless otherwise noted, the minimum bar laps are:
#5 bar - 3'-3"
#6 bar - 3'-10"
 5. Move longitudinally b2(E) bars where in conflict with joint support box.



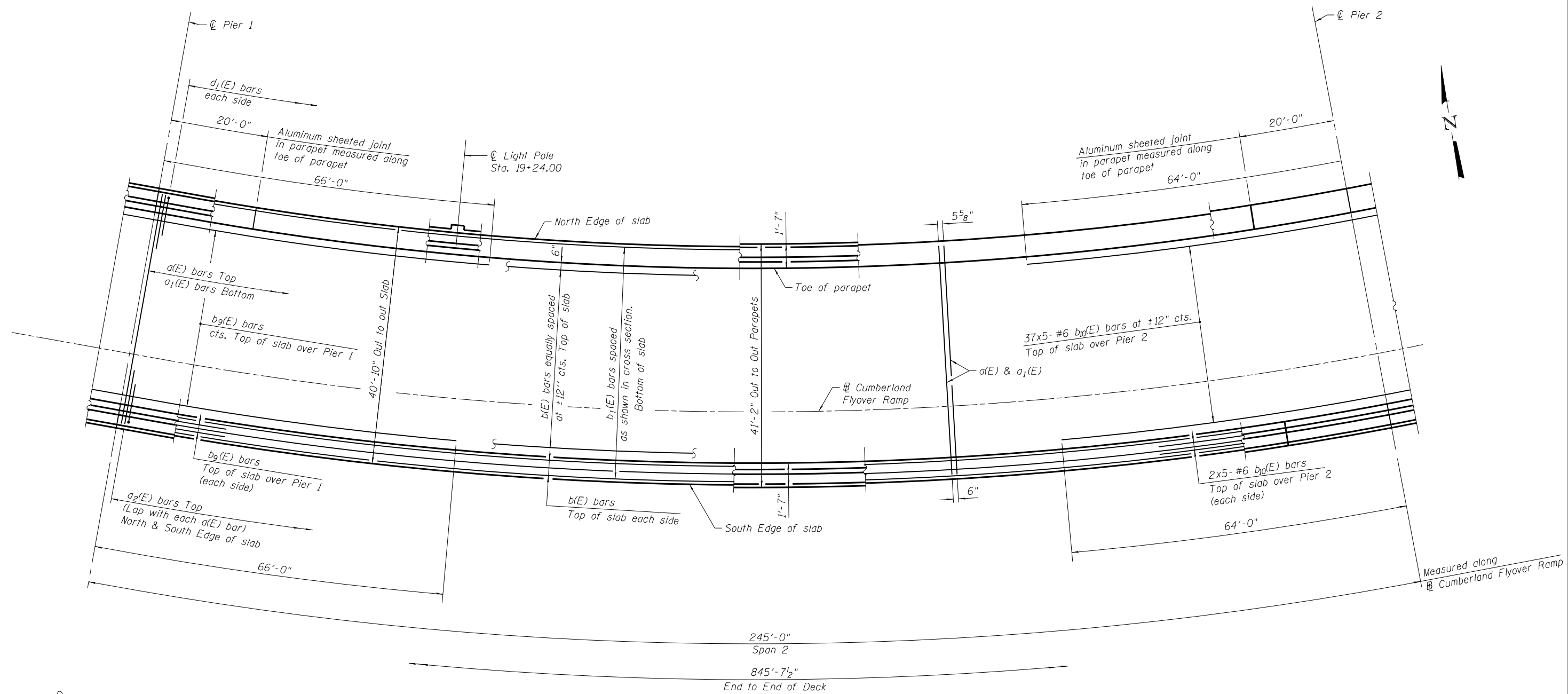
USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

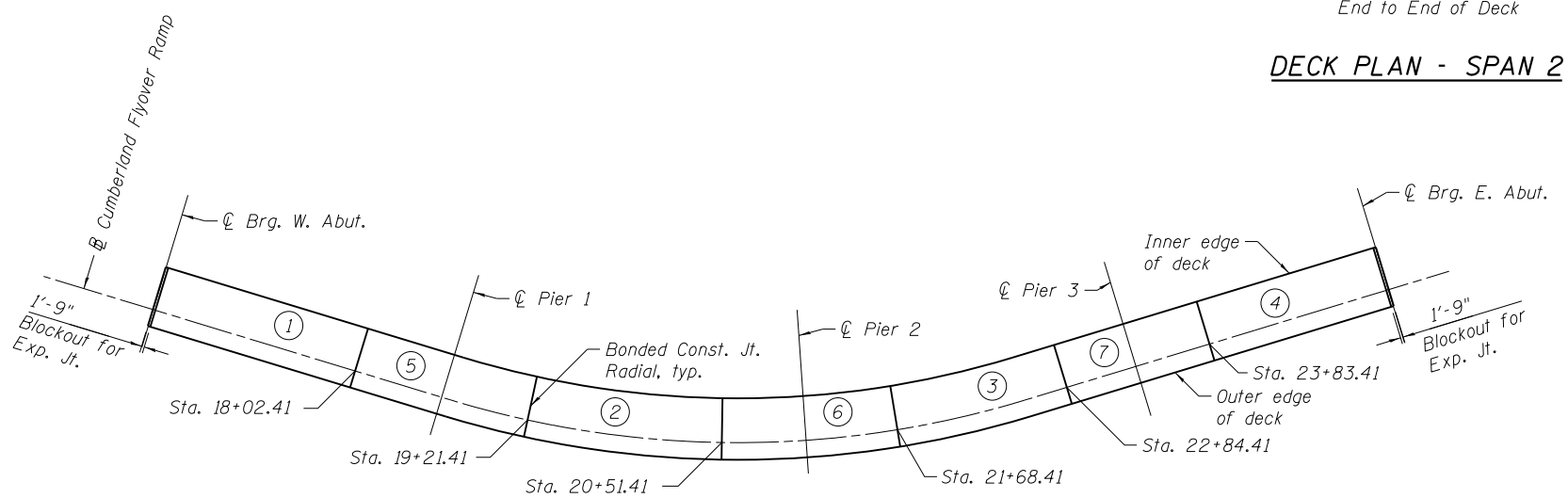
DECK PLAN - SPAN 1
BRIDGE NO. 380

SHEET NO. 15 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	336
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



DECK PLAN - SPAN 2



DECK POURING SEQUENCE

- Notes:
1. For notes, see Sheet 15 of 61.
 2. When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
 - 1) At least 72 hours shall have elapsed from the end of the previous pour.
 - 2) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.



USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/1/2016	CHECKED - PCA	REVISED

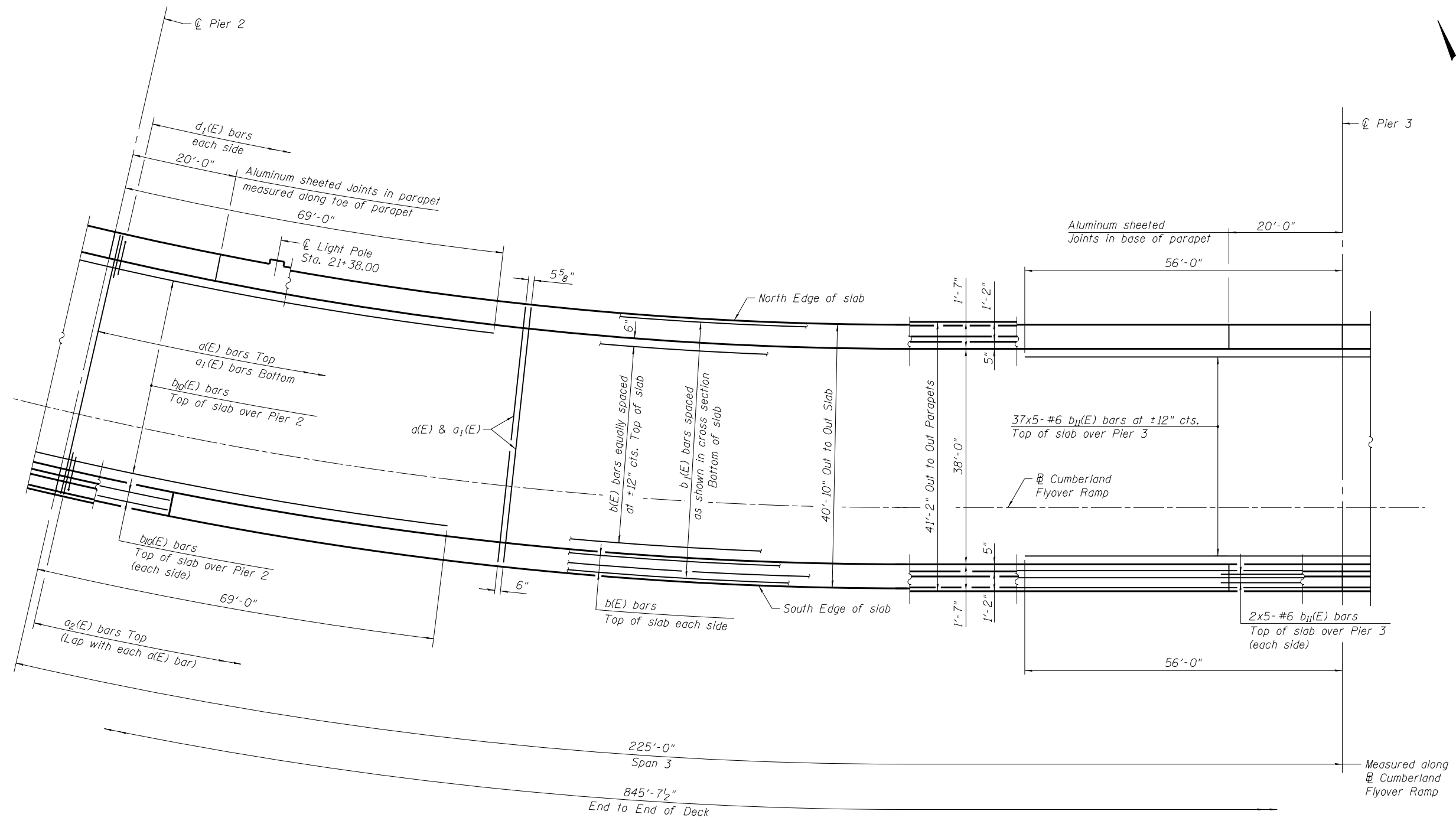
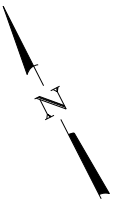
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK PLAN - SPAN 2
BRIDGE NO. 380**

SHEET NO. 16 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	337
CONTRACT NO. 60X56				

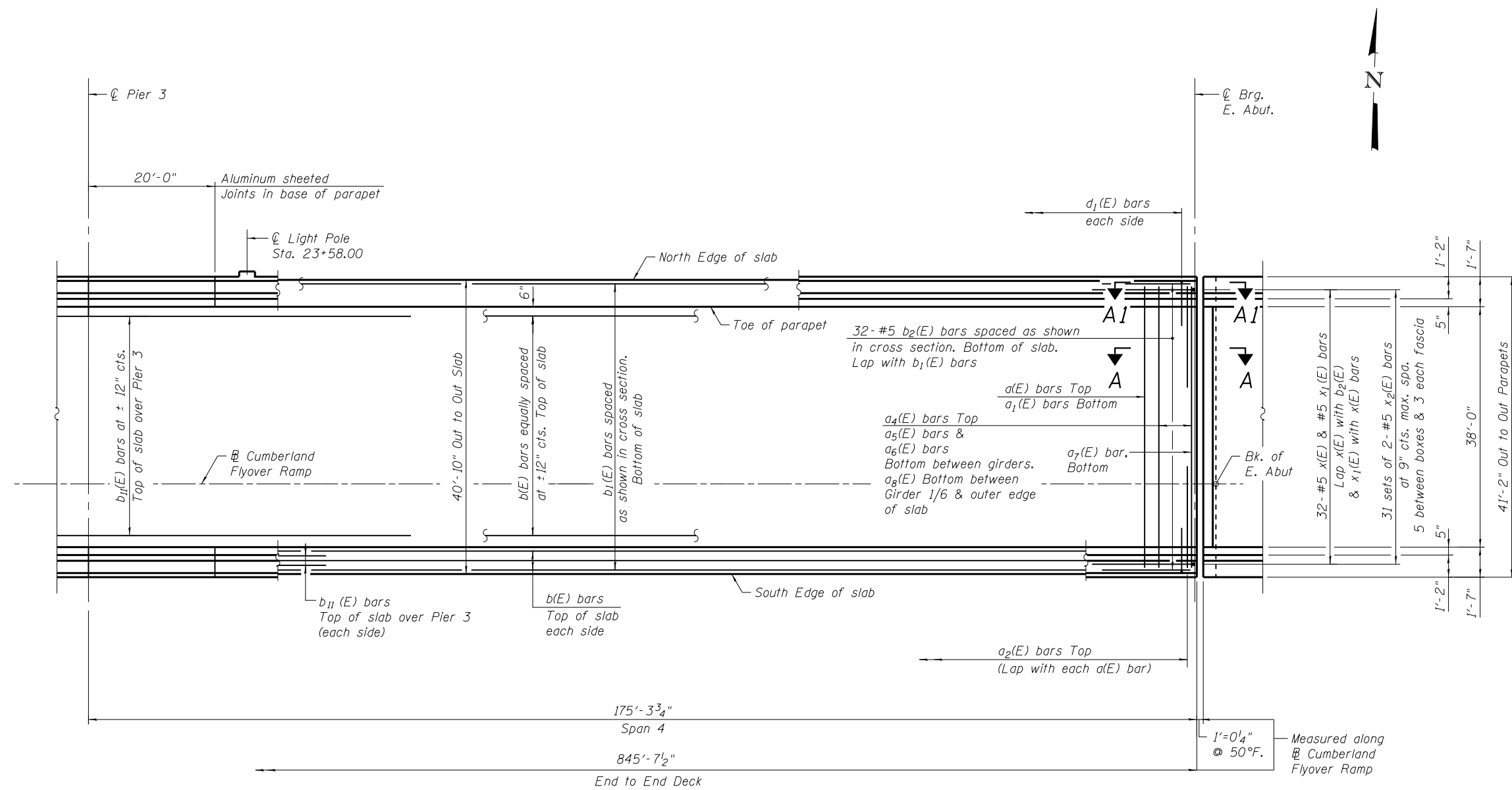
ILLINOIS FED. AID PROJECT



DECK PLAN - SPAN 3

Notes:
1. For notes see Sheet 15 of 61.

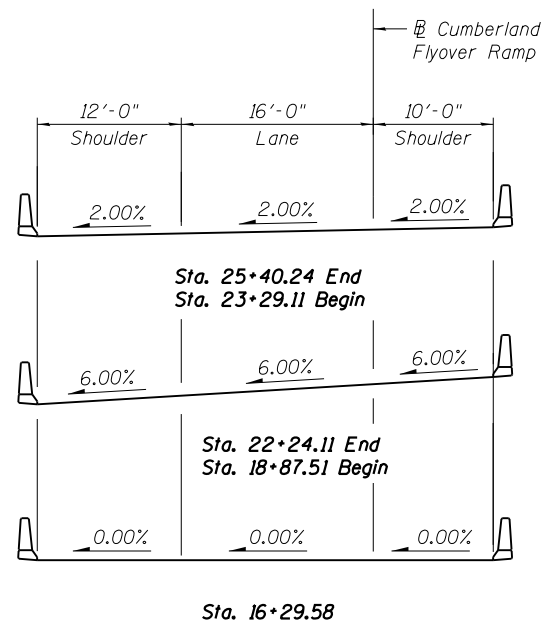
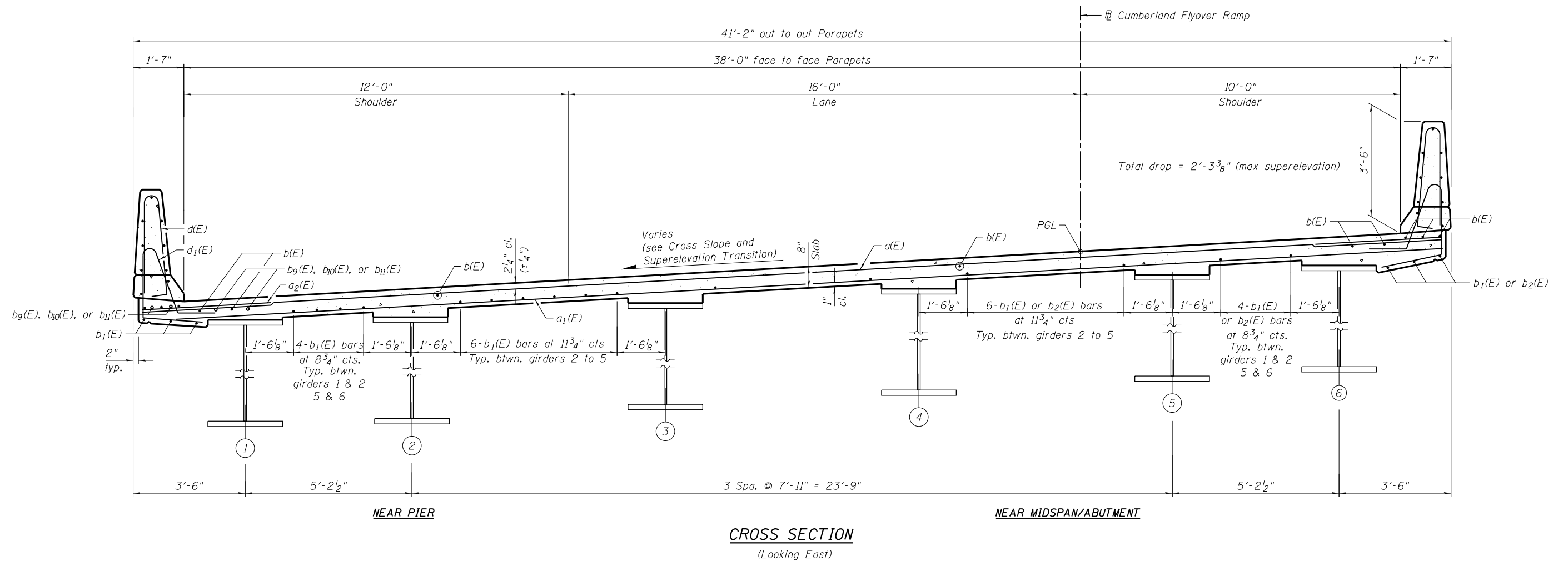
	USER NAME = jblakley	DESIGNED - APR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK PLAN - SPAN 3 BRIDGE NO. 380	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 0.0833' / in.	CHECKED - PCA	REVISED			190	1517R-1(13)	COOK	580	338	
	PLOT DATE = 6/1/2016	DRAWN - LK	REVISED			CONTRACT NO. 60X56					
		CHECKED - PCA	REVISED			ILLINOIS FED. AID PROJECT					
SHEET NO. 17 OF 61 SHEETS											



DECK PLAN - SPAN 4

- Notes:
- For notes see, Sheet 15 of 61.
 - For location of Section A-A and A1-A1, see Sheet 15 of 61.

	USER NAME = jblakley	DESIGNED - APR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK PLAN - SPAN 4 BRIDGE NO. 380	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 0.0833' / in.	CHECKED - PCA	REVISED			190	1517R-1(13)	COOK	580	339
	PLOT DATE = 6/1/2016	DRAWN - LK	REVISED			CONTRACT NO. 60X56				
SHEET NO. 18 OF 61 SHEETS						ILLINOIS FED. AID PROJECT				



- Notes:
 1. For notes, see Sheet 15 of 61.
 2. For bill of material, see Sheet 23 of 61.

CROSS SLOPE & SUPERELEVATION TRANSITION
 (Looking East)



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION AND DETAILS
 BRIDGE NO. 380

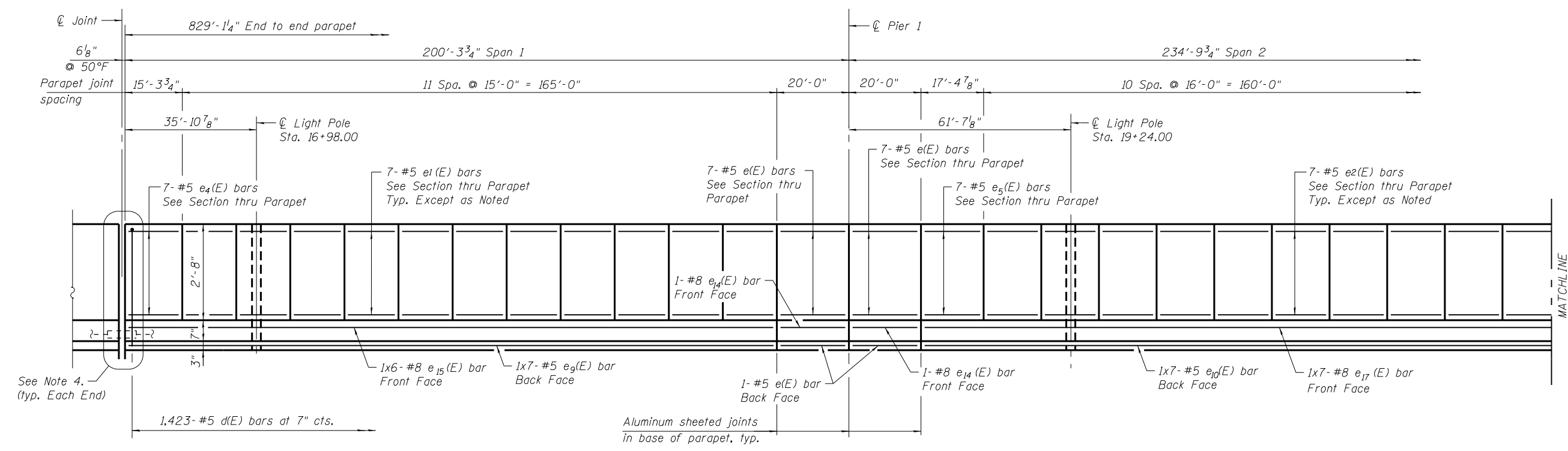
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	340
CONTRACT NO. 60X56				

SHEET NO. 19 OF 61 SHEETS

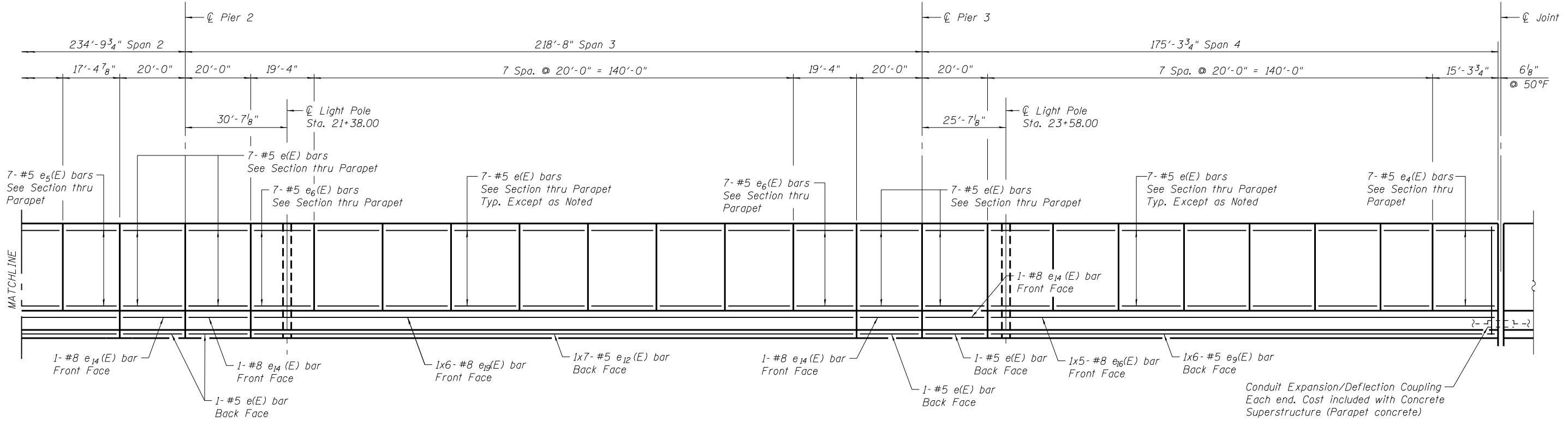
ILLINOIS FED. AID PROJECT

MINIMUM BAR LAP

(Parapet)
 #5 bar = 2'-6"
 #8 bar = 5'-2"



INSIDE ELEVATION OF NORTH PARAPET



INSIDE ELEVATION OF NORTH PARAPET

Conduit Expansion/Deflection Coupling
 Each end. Cost included with Concrete
 Superstructure (Parapet concrete)

Notes:
 1. Bars indicated thus "1x7-#5 etc." indicates 1 line
 of bars with 7 lengths per line.
 2. All horizontal dimensions taken at toe of parapet.
 3. For Bill of Material, see Sheet 23 of 61.
 4. For details of embedded Modular Expansion Joint, see
 Sheet 24 of 61.



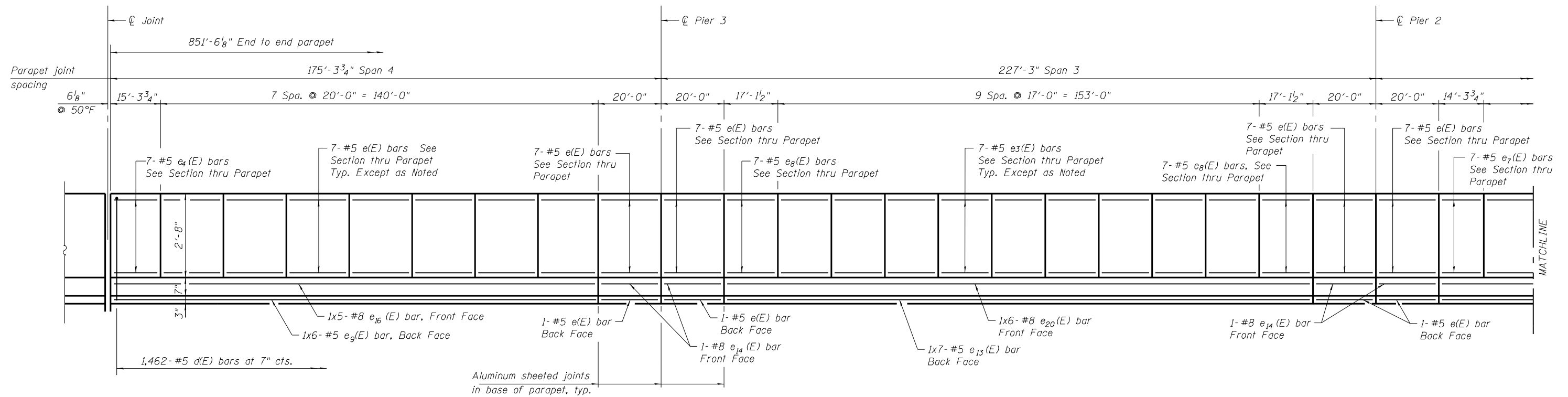
USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

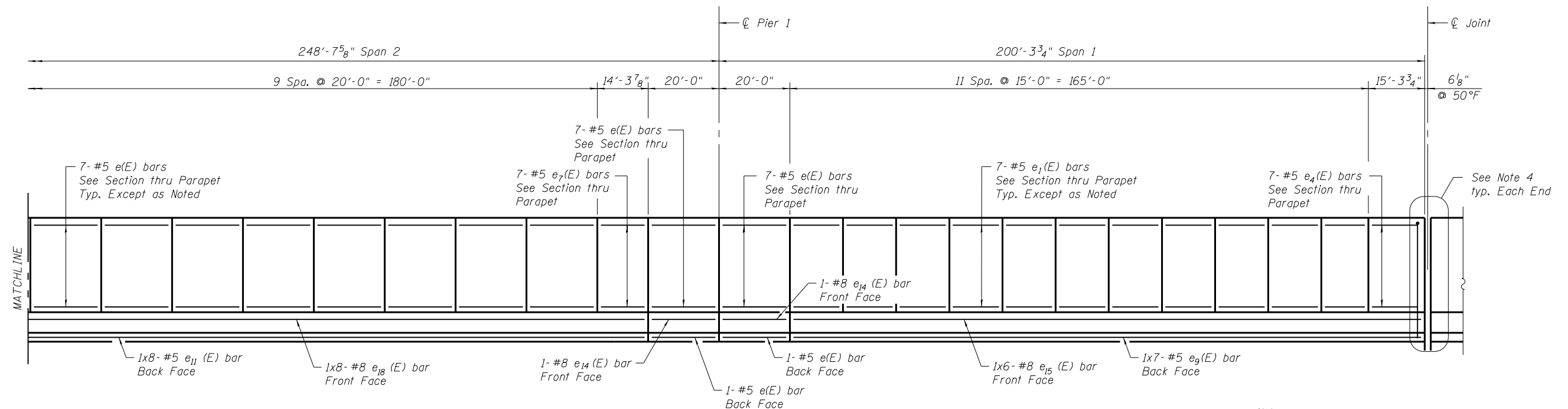
PARAPET ELEVATION - NORTH
 BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	341
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 20 OF 61 SHEETS



INSIDE ELEVATION OF SOUTH PARAPET



INSIDE ELEVATION OF SOUTH PARAPET

- Notes:
1. Bars indicated thus "1x7-#5 etc." indicates 1 line of bars with 7 lengths per line.
 2. All horizontal dimensions taken at toe of parapet.
 3. For Bill of Material, see Sheet 23 of 61.
 4. For details of embedded Modular Expansion Joint, see Sheet 24 of 61.



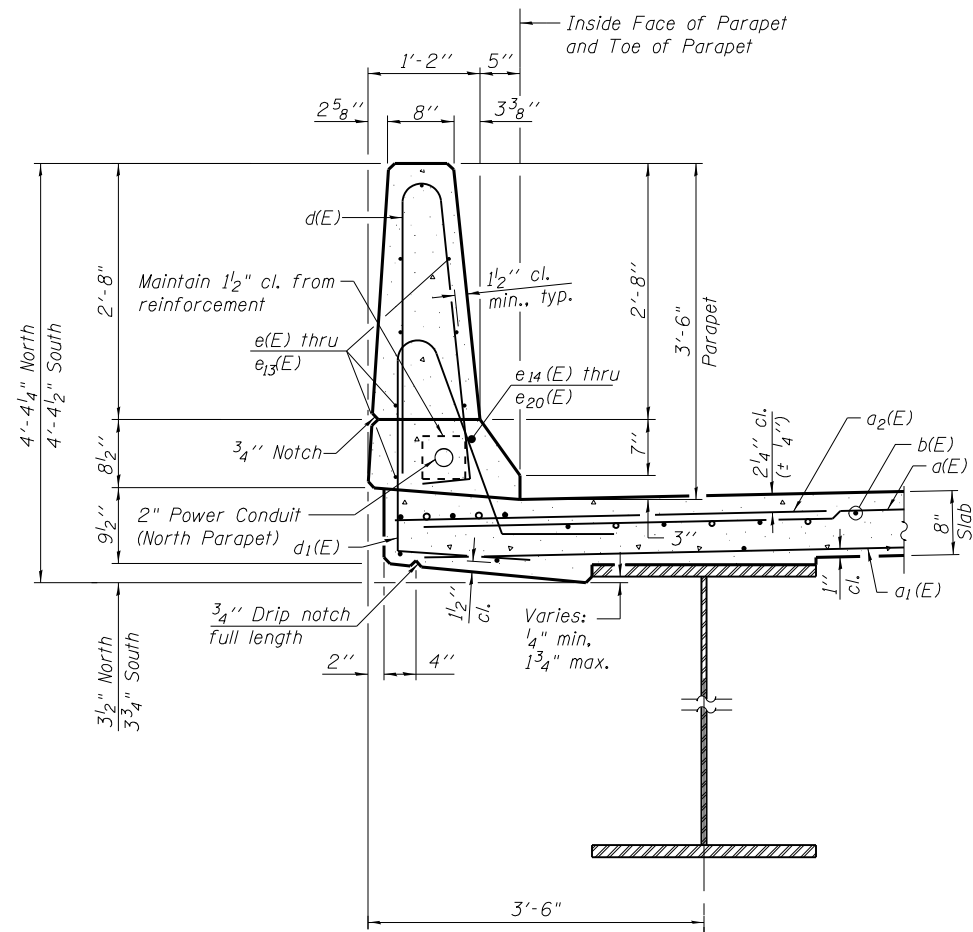
USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.0833' / 1in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

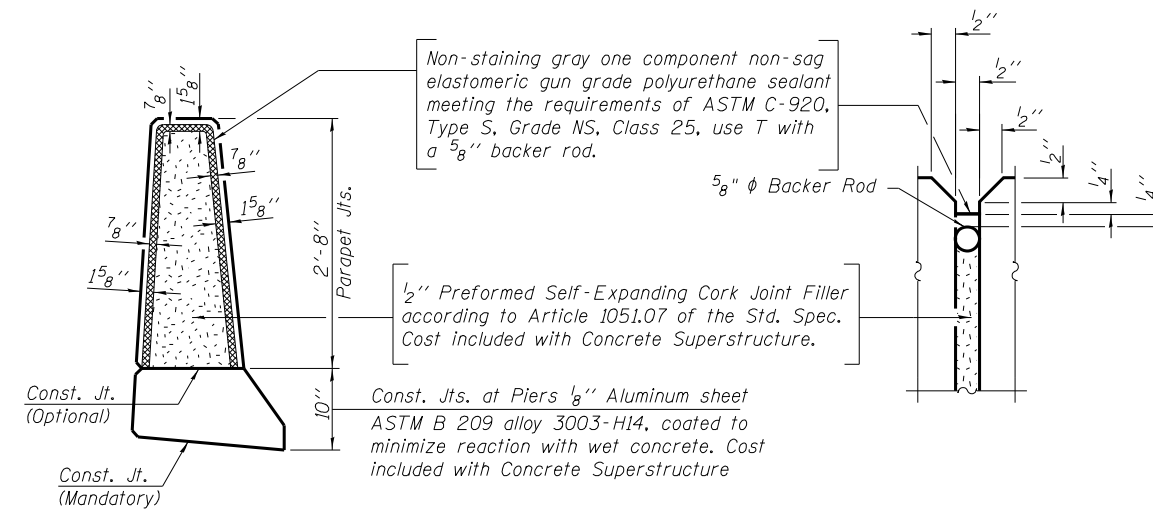
**PARAPET ELEVATION - SOUTH
BRIDGE NO. 380**

SHEET NO. 21 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	342
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



SECTION THRU PARAPET



PARAPET JOINT DETAILS

- Notes:
1. For parapet reinforcement and joint locations, see Sheets 20 and 21 of 61.
 2. For slab reinforcement, see Sheets 15 thru 18 of 61.



USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - PCA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK DETAILS
BRIDGE NO. 380**

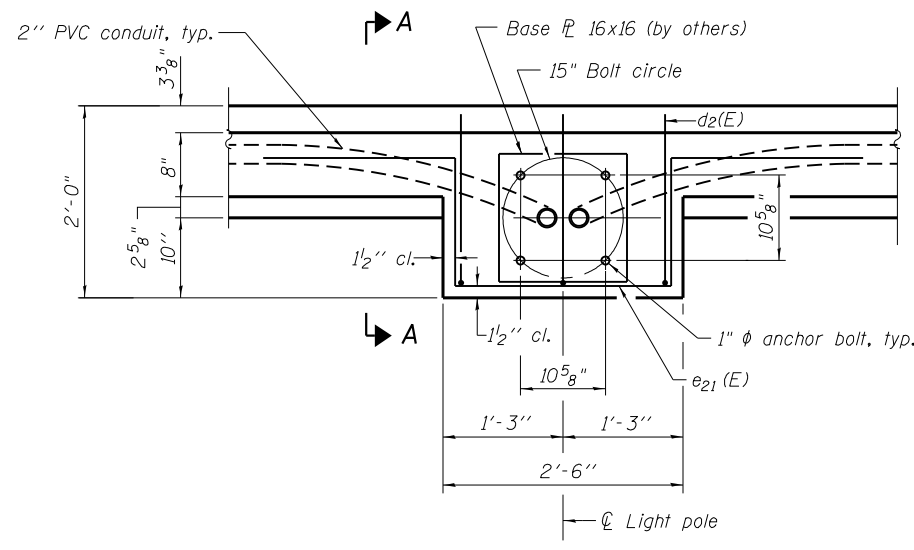
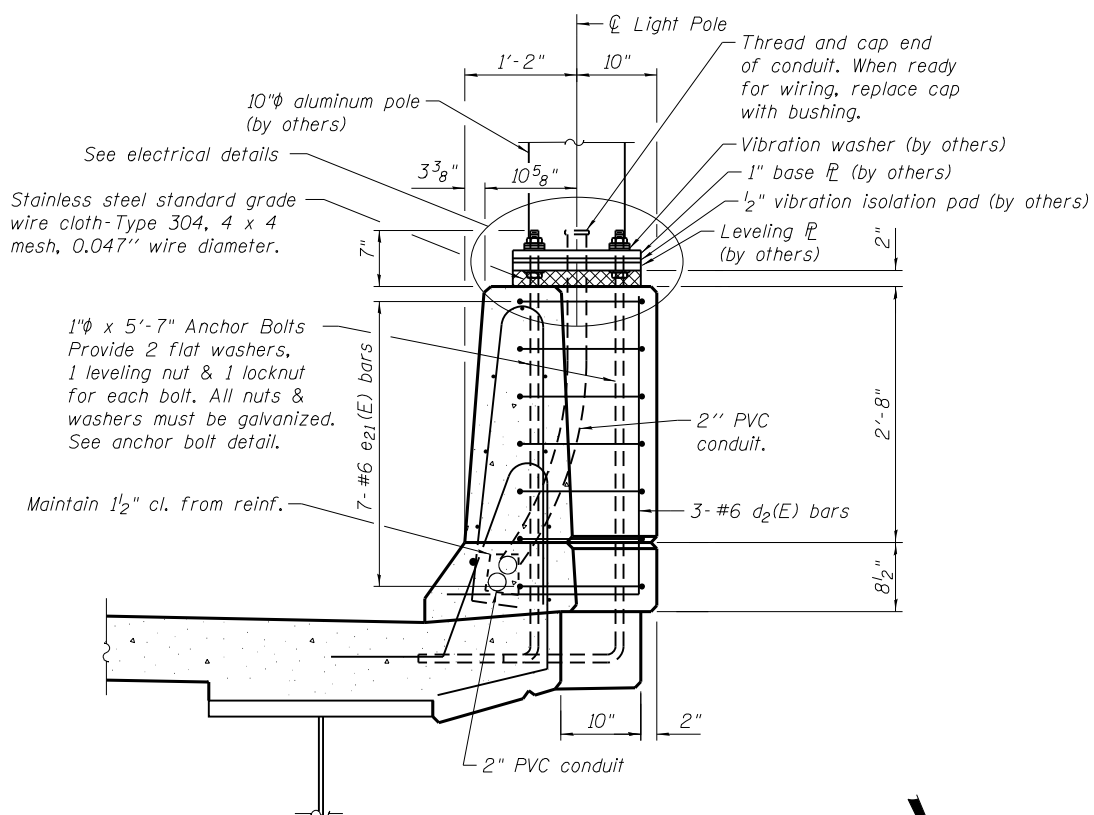
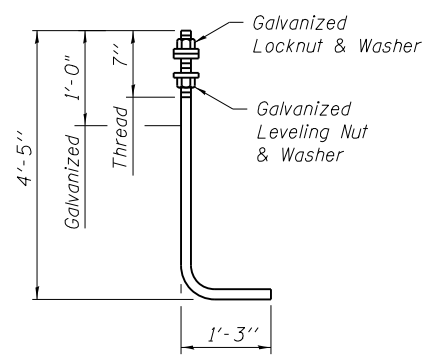
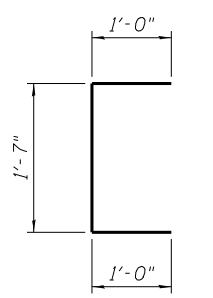
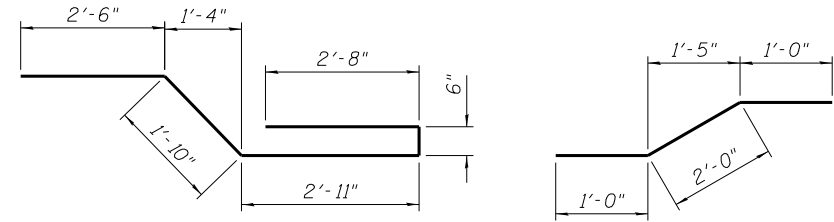
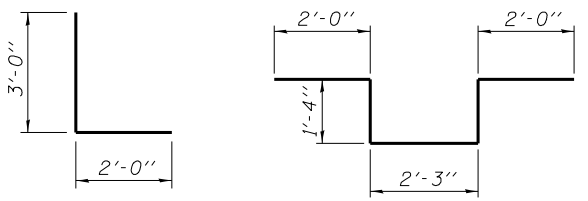
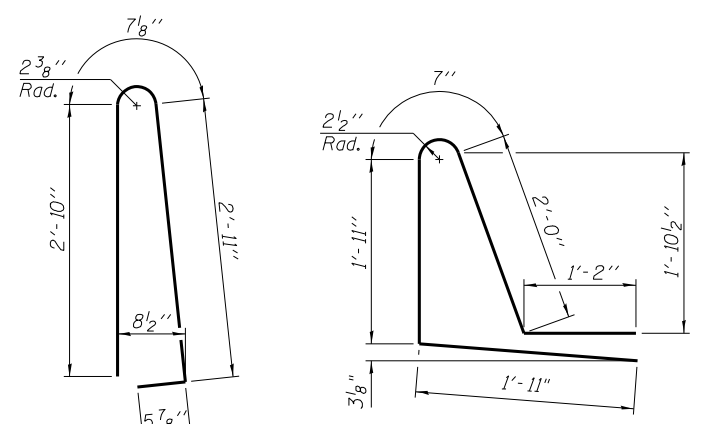
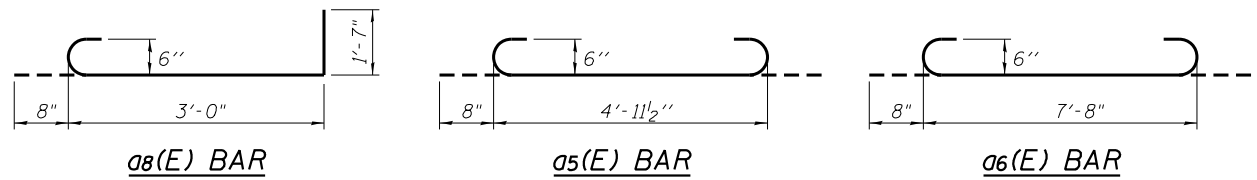
SHEET NO. 22 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	343
				CONTRACT NO. 60X56
ILLINOIS FED. AID PROJECT				

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	1,700	#5	40'-6"	—
a1(E)	1,134	#5	40'-6"	—
a2(E)	3,408	#6	6'-6"	—
a4(E)	8	#6	40'-6"	—
a5(E)	24	#6	6'-4"	—
a6(E)	36	#6	9'-0"	—
a7(E)	4	#6	40'-6"	—
a8(E)	24	#6	5'-3"	—
b(E)	1,408	#5	29'-10"	—
b1(E)	992	#5	30'-0"	—
b2(E)	64	#5	15'-0"	—
b9(E)	205	#5	31'-6"	—
b10(E)	205	#6	29'-9"	—
b11(E)	205	#6	24'-6"	—
d(E)	2,885	#5	6'-10"	—
d1(E)	2,885	#5	7'-7"	—
d2(E)	12	#6	5'-0"	—
e(E)	306	#5	19'-8"	—
e1(E)	154	#5	14'-8"	—
e2(E)	70	#5	15'-8"	—
e3(E)	63	#5	16'-8"	—
e4(E)	28	#5	15'-0"	—
e5(E)	14	#5	17'-1"	—
e6(E)	14	#5	19'-0"	—
e7(E)	14	#5	14'-0"	—
e8(E)	14	#5	16'-10"	—
e9(E)	26	#5	28'-0"	—
e10(E)	7	#5	30'-0"	—
e11(E)	8	#5	28'-3"	—
e12(E)	7	#5	27'-8"	—
e13(E)	7	#5	28'-11"	—
e14(E)	12	#8	19'-8"	—
e15(E)	12	#8	34'-6"	—
e16(E)	10	#8	35'-4"	—
e17(E)	7	#8	32'-3"	—
e18(E)	8	#8	30'-7"	—
e19(E)	6	#8	34'-1"	—
e20(E)	6	#8	35'-6"	—
e21(E)	28	#6	8'-11"	—
x(E)	64	#5	10'-5"	—
x1(E)	64	#5	4'-0"	—
x2(E)	124	#5	3'-7"	—
Reinforcement Bars, Epoxy Coated	Pound		321,120	
High Performance Concrete Superstructure	Cu Yd		1057.4	
Concrete Superstructure	Cu Yd		220.4	
Bridge Deck Grooving	Sq Yd		3,361	
Protective Coat	Sq Yd		4,354	

- Notes:
- For location of light pole supports, see Sheet 15 thru 18 of 61.
 - Cost of anchor bolts, conduits, and other electrical components are included with Concrete Superstructure (Parapet Concrete), except as noted.
 - Parapet concrete shall be included in the item Concrete Superstructures. All other concrete in the superstructure shall be included in the item High Performance Concrete Superstructures.
 - The conduit shall be PVC pipe, schedule 40 minimum wall.
 - Conduit shall be standard 2 inch conduit (2 3/8" O.D.)
 - Conduit shall be placed in the lower curb portion of the parapet as shown.
 - Provide expansion/deflection coupling at abutment.



USER NAME = jblakley	DESIGNED - APR	REVISED
PLOT SCALE = 0.0833' / in.	CHECKED - PCA	REVISED
PLOT DATE = 4/1/2016	DRAWN - LK	REVISED
	CHECKED - PCA	REVISED

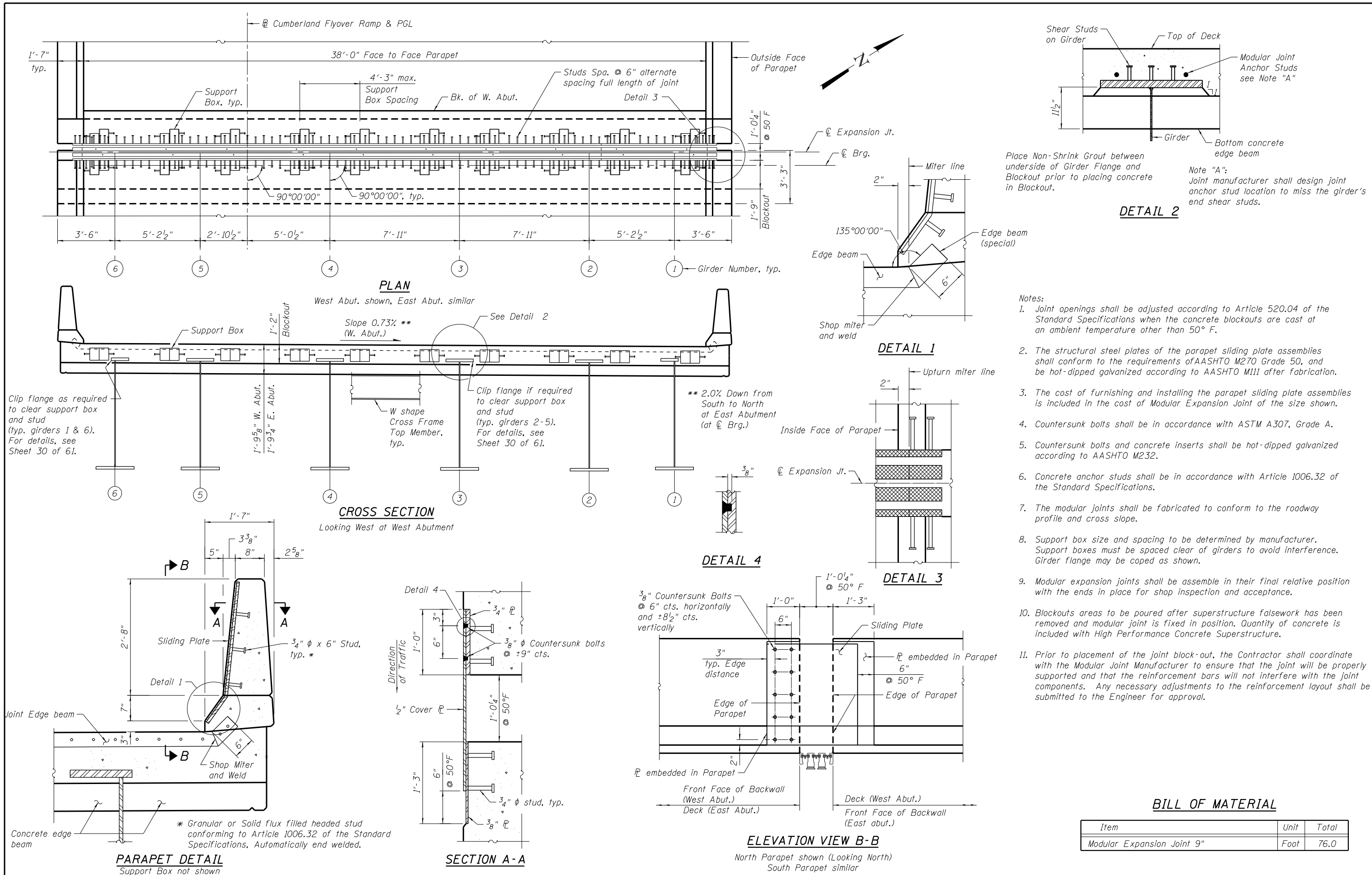
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DETAILS AND BILL OF MATERIAL
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	344
CONTRACT NO. 60X56				

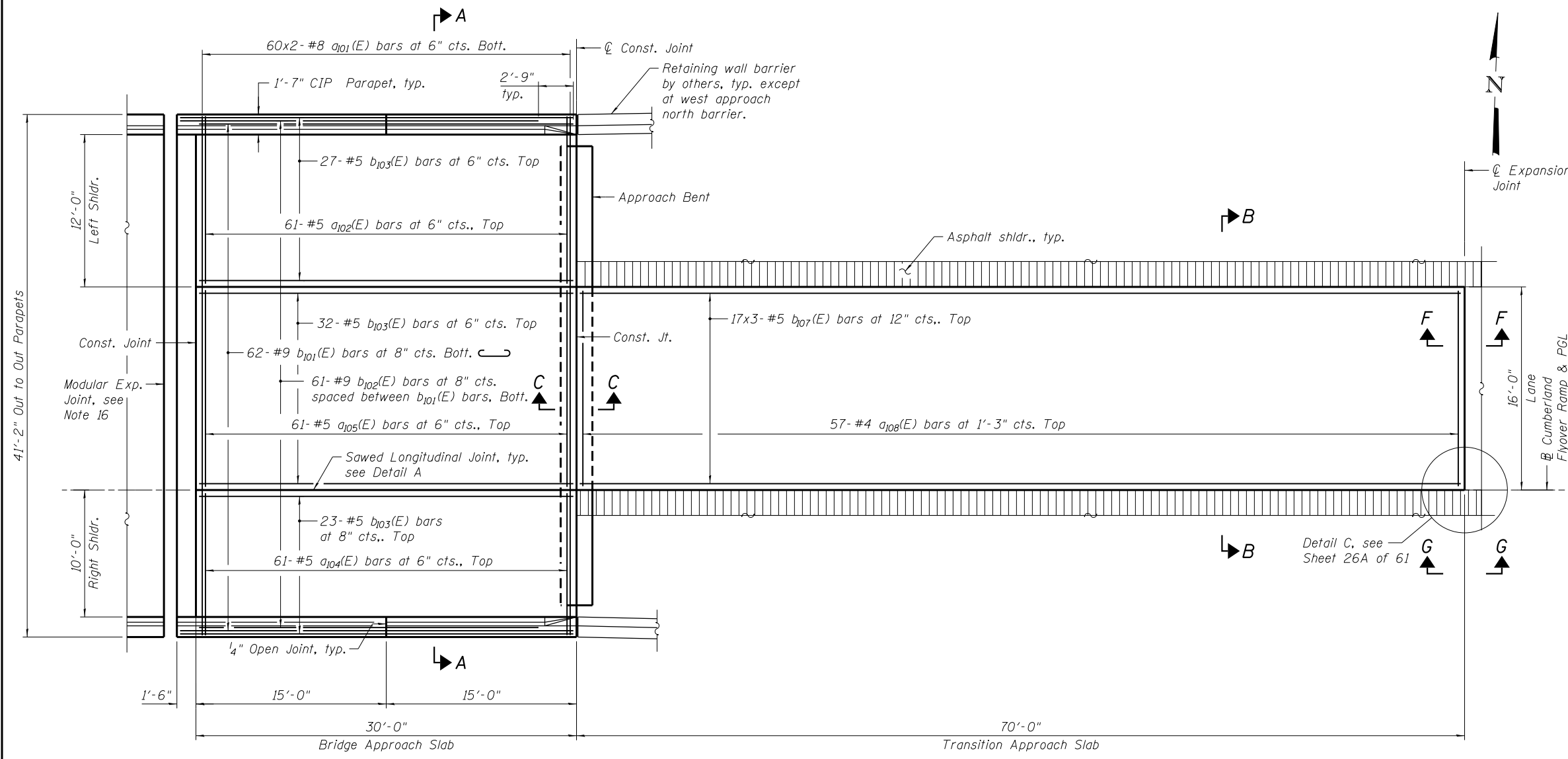
SHEET NO. 23 OF 61 SHEETS

ILLINOIS FED. AID PROJECT



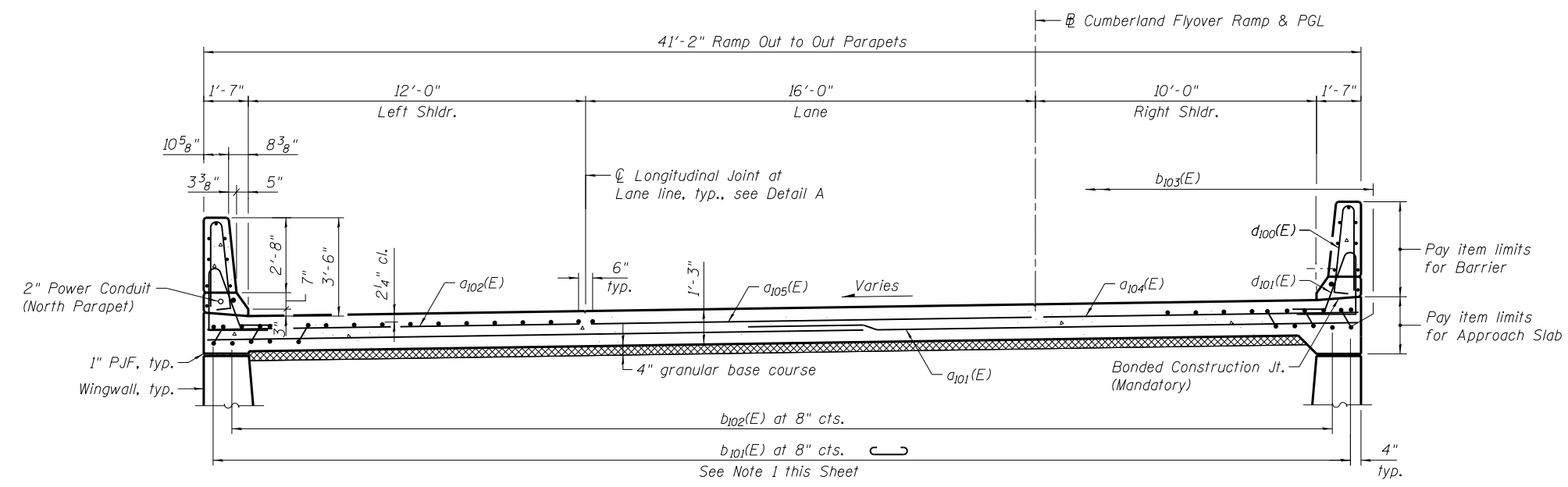
BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint 9"	Foot	76.0



PLAN

- Notes:
1. Tilt hook of #9 bars for minimum 3/2" clearance.
 2. Use 2'-0" min. lap for #4 bars. Use 2'-6" min. lap for #5 bars. Use 4'-10" minimum lap for #8 bars.
 3. For Sections B-B and Detail A, see Sheet 26 of 61; for Sections C-C, F-F and view G-G see Sheet 26A of 61.
 4. East Approach shown, West Approach similar. No retaining wall barrier on West Approach North side.
 5. Protective coat shall be applied to top and traffic faces of barriers.
 6. Tool edges of expansion joints to 1/4" radius.
 7. Reinforcement bars shall meet the requirements of AASHTO M31 (ASTM A615), Grade 60, and shall conform to section 508 of the Standard Specifications.
 8. Concrete barriers shall be constructed & paid for in accordance with sections 503 and 508 of the Standard Specifications.
 9. In reference to longitudinal construction joints on Sheet 26 of 61. These bars shall be cut to fit from lengths shown in the reinforcement bar schedule for the construction joint. These bars may be replaced by alternative bars and lengths as shown in the design plans. Paint exposed ends with epoxy paint.
 10. Expansion anchors and drilled and grouted dowels shall conform to the Standard Specifications.
 11. As approved by the engineer, the contractor may elect to reduce the widths of the pour by use of the optional longitudinal construction joint shown. Joints shall be located at the edge of a traffic lane.
 12. See Special Provisions, Bridge Approach Slab, Transition Approach Slab, and Bonded Preformed Joint Seal.
 13. For e(E) bars, see section I-I and J-J on Sheet 26A of 61.
 14. For wingwall details, see Sheets 41 and 44 of 61.
 15. For Bill of Material, see Sheet 26B of 61.
 16. For Modular Expansion joint detail, see Sheet 24 of 61.



SECTION A-A



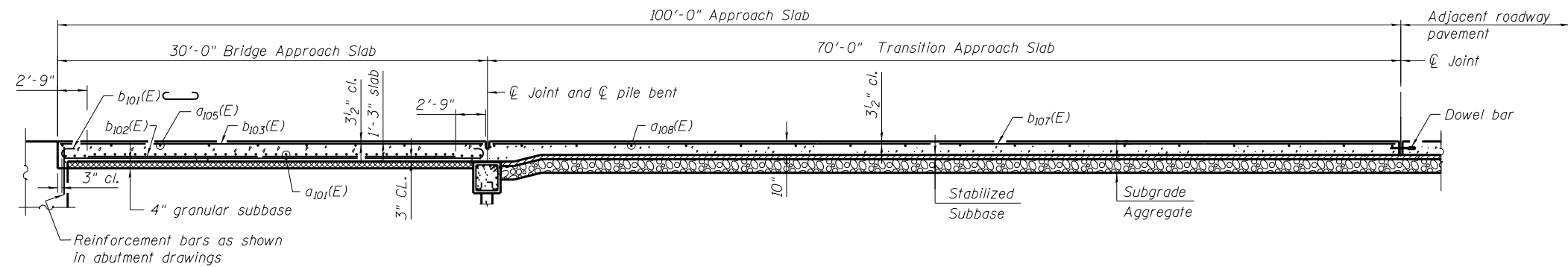
USER NAME = jblakley	DESIGNED - JFA	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/1/2016	CHECKED -	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

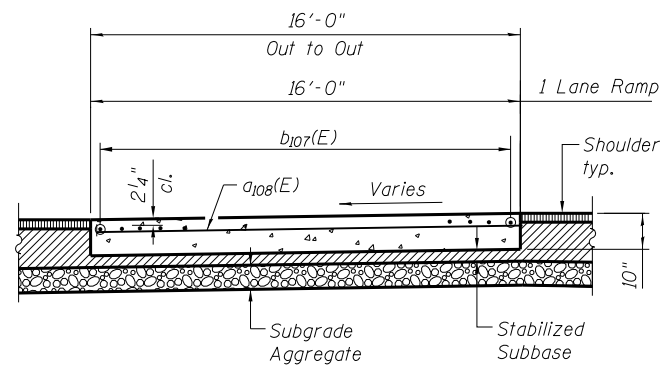
**APPROACH SLAB DETAILS - 1
BRIDGE NO. 380**

SHEET NO. 25 OF 61 SHEETS

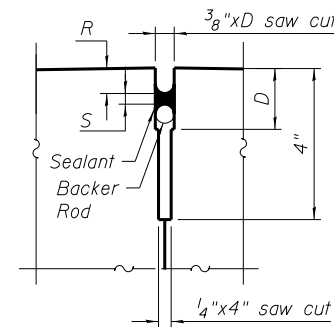
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	346
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



LONGITUDINAL CROSS SECTION



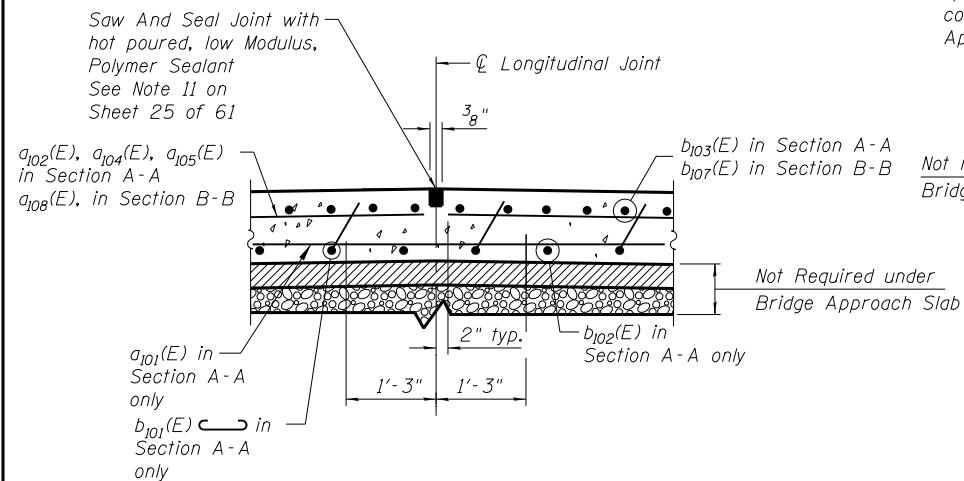
SECTION B-B



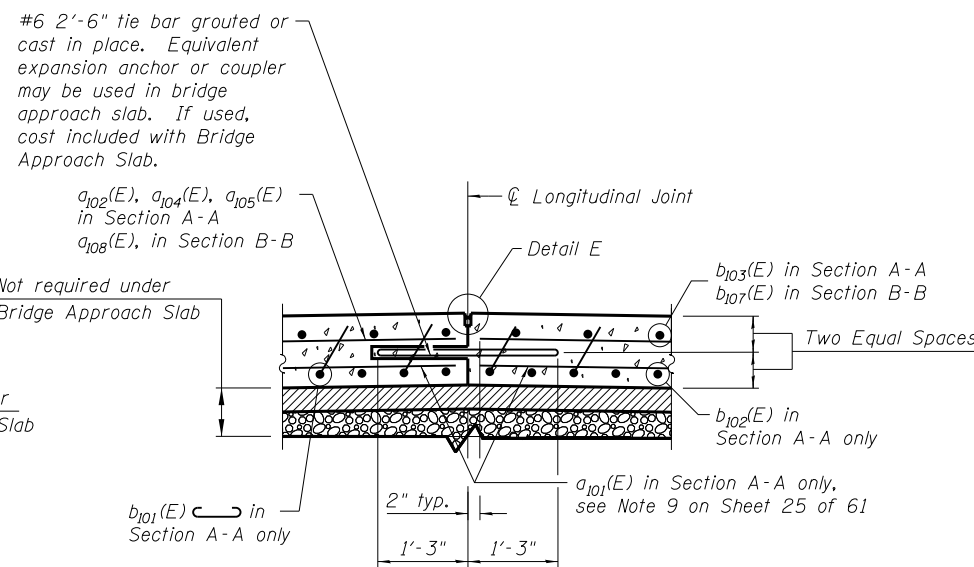
DETAIL E

Note:
dimensions d, r & s are as recommended by the sealant manufacturer.

Notes:
1. For General Notes, see Sheet 25 of 61.



**DETAIL A
TYPICAL LONGITUDINAL JOINT**



**DETAIL A
OPTIONAL LONGITUDINAL JOINT
@ EDGE OF TRAFFIC LANE**

(See Note 11 on Sheet 25 of 61)



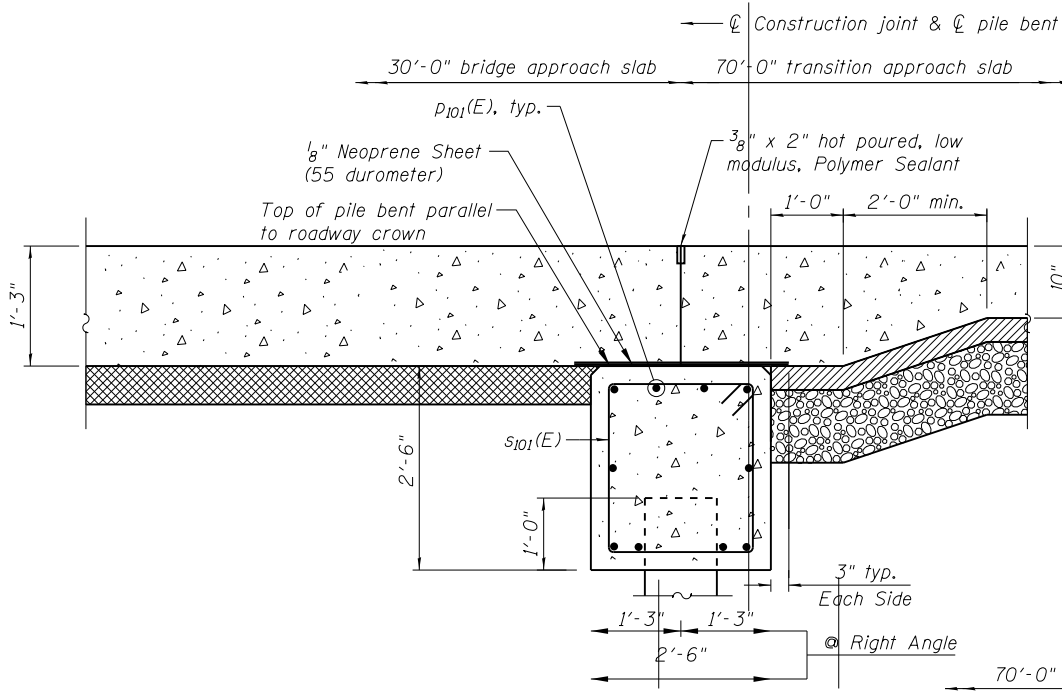
USER NAME = jblakley	DESIGNED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	CHECKED - MRI	REVISED
PLOT DATE = 6/1/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

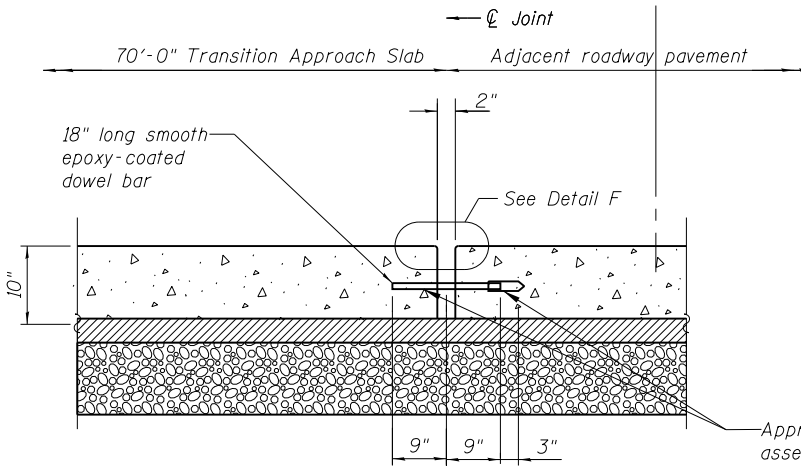
APPROACH SLAB DETAILS - 2
BRIDGE NO. 380

SHEET NO. 26 OF 61 SHEETS

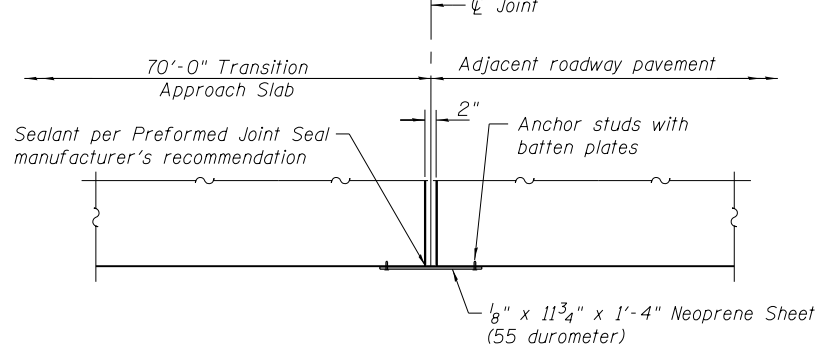
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	347
			CONTRACT NO. 60X56	
ILLINOIS FED. AID PROJECT				



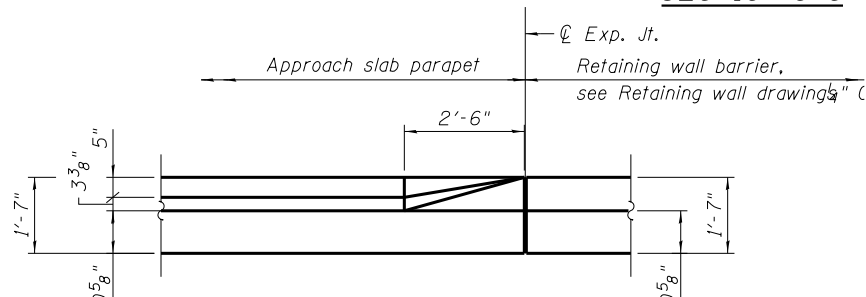
SECTION C-C



SECTION F-F

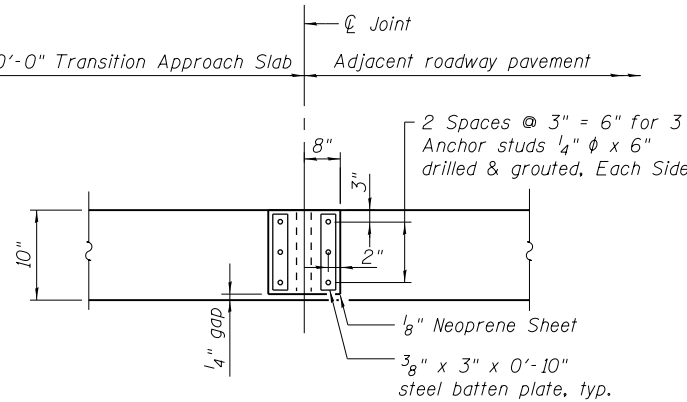


**DETAIL C
END PLAN OF JOINT**

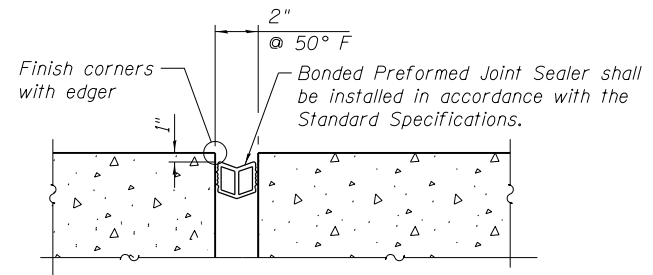


PARAPET TRANSITION DETAIL

(East Appr. South Parapet shown, Transition Detail shall be used for all parapets except North Barrier on the West Approach Slab. See Detail 1 for treatment at North Barrier.)

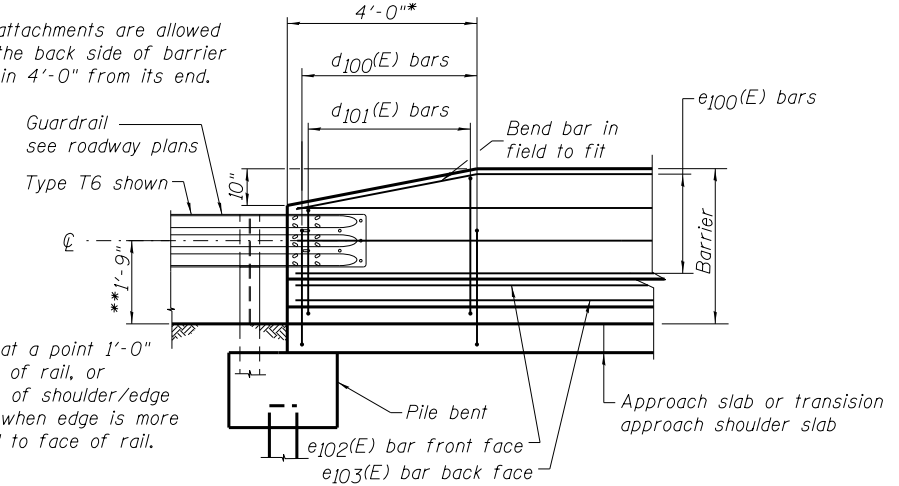


**VIEW G-G
END ELEVATION OF JOINT**



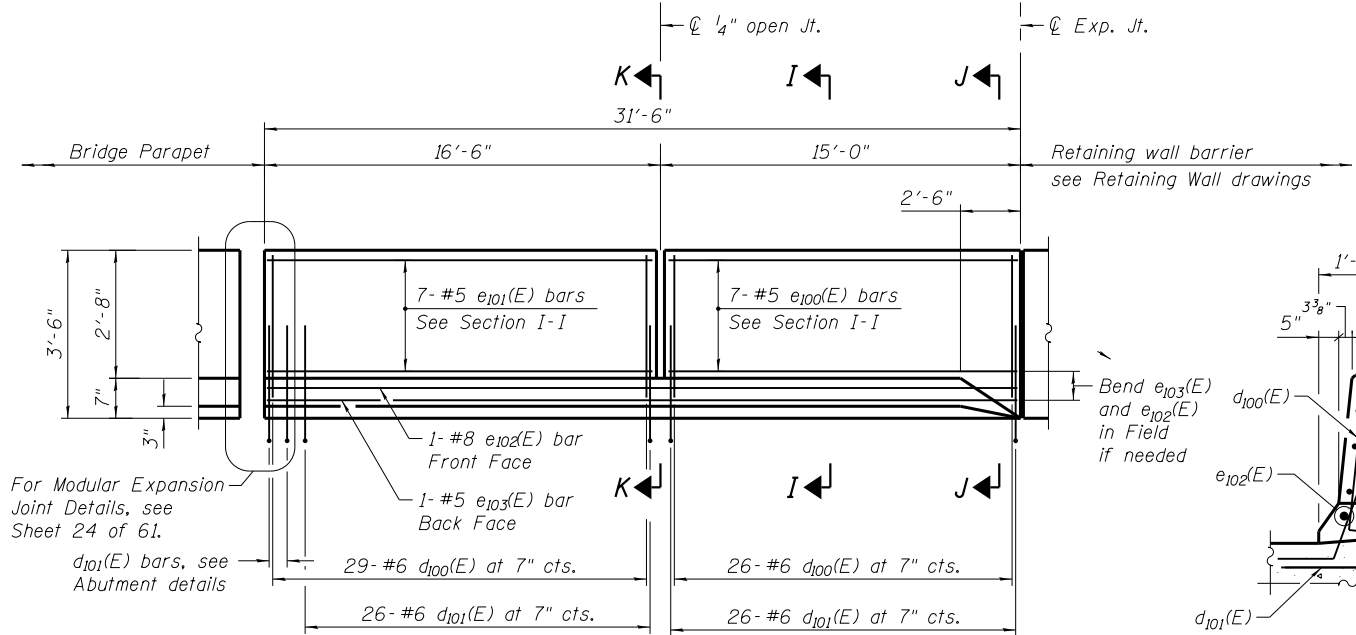
**DETAIL F
EXPANSION JOINT**

*No attachments are allowed on the back side of barrier within 4'-0" from its end.



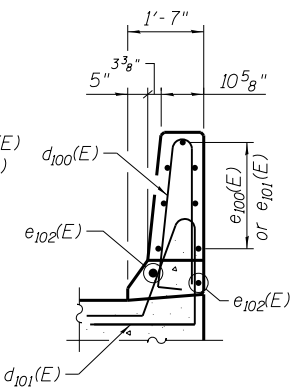
DETAIL 1

(Curb and gutter not shown for clarity)

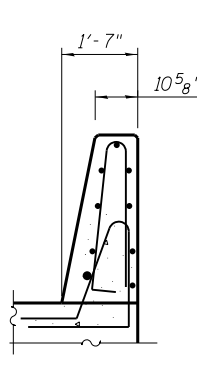


PARAPET ELEVATION

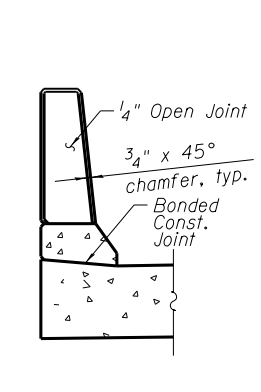
Looking North
(East Appr. North Parapet shown)



SECTION I-I



SECTION J-J



SECTION K-K

LEGEND:

- Concrete
- Stabilized Subbase
- Subgrade Aggregate
- Granular Subbase

- Notes:
1. In View G-G, anchor studs shall be installed in accordance with article 1006.09 of the Standard Specifications. Steel plates, anchor studs, nuts and washers shall be galvanized.
 2. The thicknesses of stabilized subbase and subgrade aggregate shall be the same as for the adjacent pavement sections.
 3. For pile bent details and quantities, see Sheet 26B of 61.
 4. For general notes, see Sheet 25 of 61.



USER NAME = mkutsko	DESIGNED - JFA	REVISED
	CHECKED - MRI	REVISED
PLOT SCALE = 0.0833' / 1"	DRAWN - LK	REVISED
PLOT DATE = 6/3/2016	CHECKED - JFA	REVISED

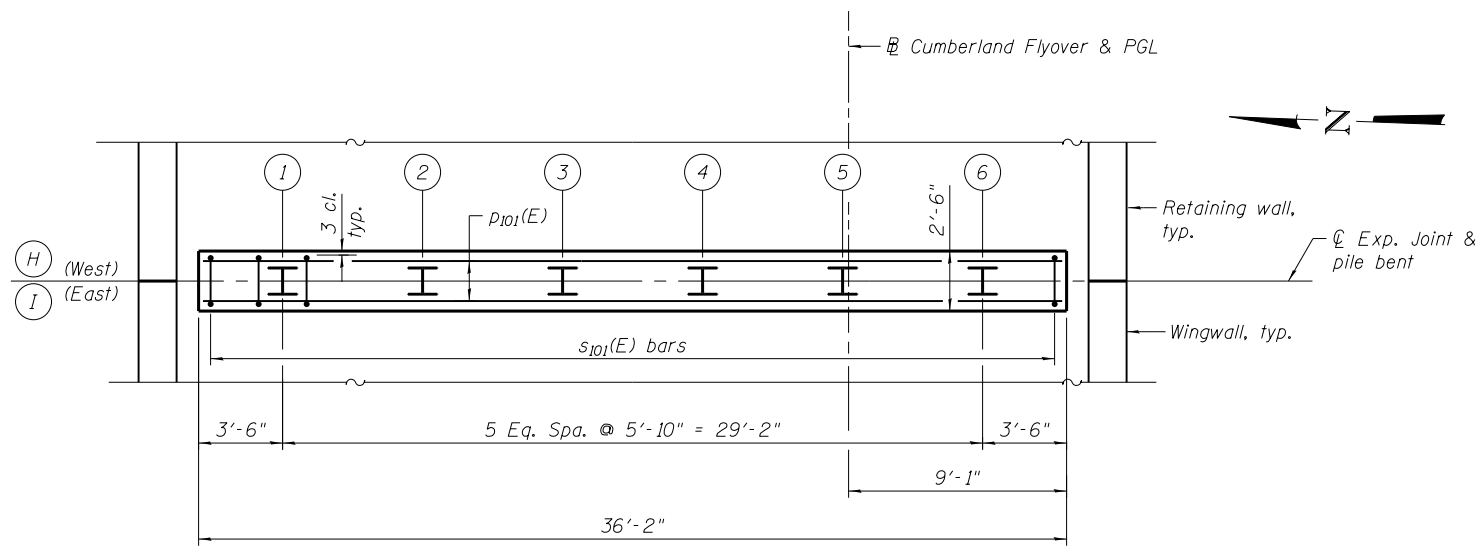
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS - 3
BRIDGE NO. 380

SHEET NO. 26A OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	348
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT



APPROACH BENT - PLAN
East Appr. shown, West Appr. similar

PILE DATA
Type: Steel-HP10x42
Nominal Required Bearing: 291 kips
Factored Resistance Available: 160 kips
Est. Length: *
No. Production Piles: 5
No. Test Piles: 1

* 71'-0" West
74'-0" East

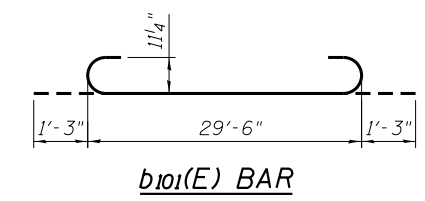
** 355 West Bent
370 East Bent

**ONE APPROACH BENT
BILL OF MATERIAL**

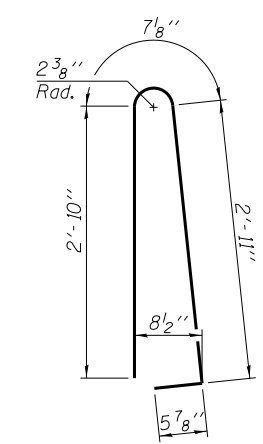
Bar	No.	Size	Length	Shape
p ₁₀₁ (E)	10	#6	35'-10"	—
s ₁₀₁ (E)	38	#4	8'-9"	□
Concrete Structures		Cu Yd	8.5	
Reinforcement Bars, Epoxy Coated		Pound	760	
Furnishing Steel Piles HP10x42		Foot	**	
Driving Piles		Foot	**	
Test Pile Steel HP10x42		Each	1	

**ONE APPROACH SLAB
BILL OF MATERIAL**

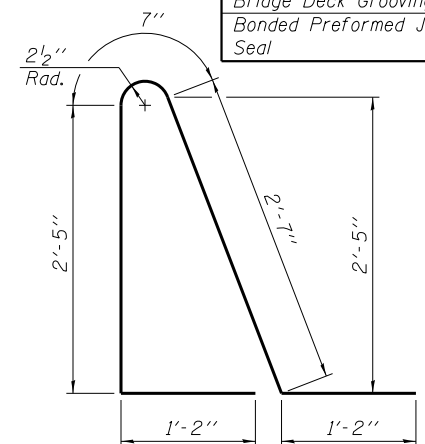
Bar	No.	Size	Length	Shape
a ₁₀₁ (E)	120	#8	22'-6"	—
a ₁₀₂ (E)	61	#5	13'-3"	—
a ₁₀₄ (E)	61	#5	11'-3"	—
a ₁₀₅ (E)	61	#5	15'-8"	—
a ₁₀₈ (E)	57	#4	15'-8"	—
b ₁₀₁ (E)	62	#9	32'-0"	—
b ₁₀₂ (E)	61	#9	24'-6"	—
b ₁₀₃ (E)	82	#5	29'-6"	—
b ₁₀₇ (E)	51	#5	24'-11"	—
d ₁₀₀ (E)	110	#5	6'-10"	△
d ₁₀₁ (E)	104	#5	7'-11"	△
e ₁₀₀ (E)	14	#5	14'-8"	—
e ₁₀₁ (E)	14	#5	16'-2"	—
e ₁₀₂ (E)	2	#8	31'-2"	—
e ₁₀₃ (E)	2	#5	31'-2"	—
Bridge Approach Slab		Sq Yd	137	
Transition Approach Slab		Sq Yd	124	
Concrete Superstructure		Cu Yd	8.0	
Reinforcement Bars, Epoxy Coated		Pound	28,360	
Protective Coat		Sq Yd	265	
Bridge Deck Grooving		Sq Yd	119	
Bonded Preformed Joint Seal		Foot	16	



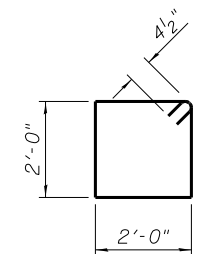
b₁₀₁(E) BAR



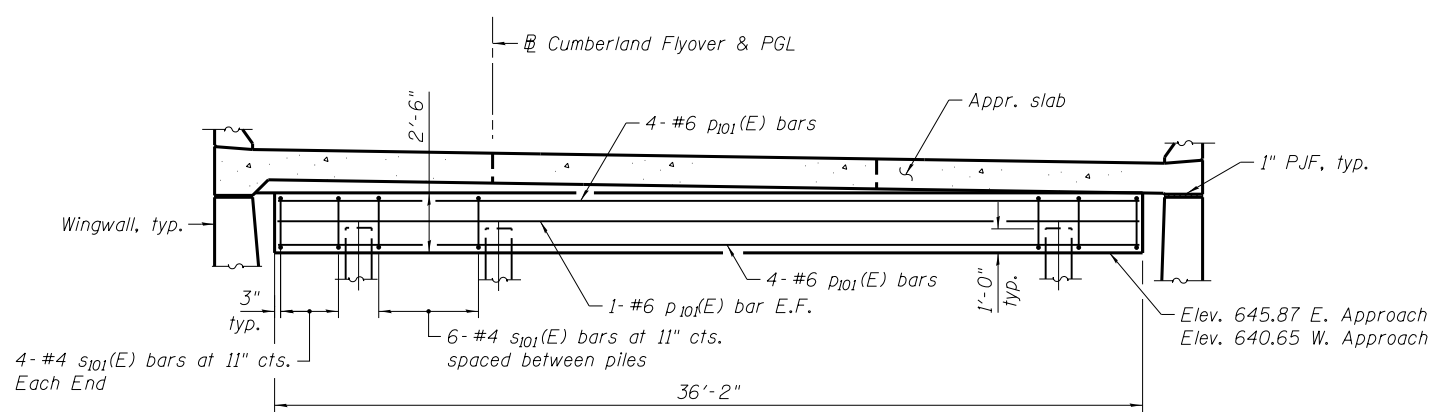
BAR d₁₀₀(E)



BAR d₁₀₁(E)



BAR s₁₀₁(E)



APPROACH BENT ELEVATION
Looking West

- Notes:
- The reinforcing bars schedule, bill of materials, and quantities are calculated for one end of bridge.
 - The area of main Bridge Approach Slab shall be measured in place and computed in square yards. See Special Provisions for other work that is included in the cost of this item.
 - The area of the Transition Approach Slab calculated for payment is the plan area calculated from the width dimensions from left outside edge of concrete pavement to the right outside edge of concrete pavement by the minimum length of 70.00 feet.
 - For Modular Expansion Joint Detail, see Sheet 24 of 61.
 - Concrete parapets shall be constructed and paid for in accordance with sections 503 and 508 of the IDOT Standard Specifications.
 - Protective Coat shall be applied to the Bridge Approach Slab and Transition Approach Slab, and Approach Slab parapets in accordance with section 503.17 of the IDOT Standard Specifications.
 - Bridge Deck Grooving shall be applied to the Bridge Approach Slab in accordance with section 503 of the IDOT Standard Specifications.
 - If approach bent piles are installed after wingwall footing is constructed, they shall be precored in accordance with section 512.09c of the IDOT Standard Specifications.

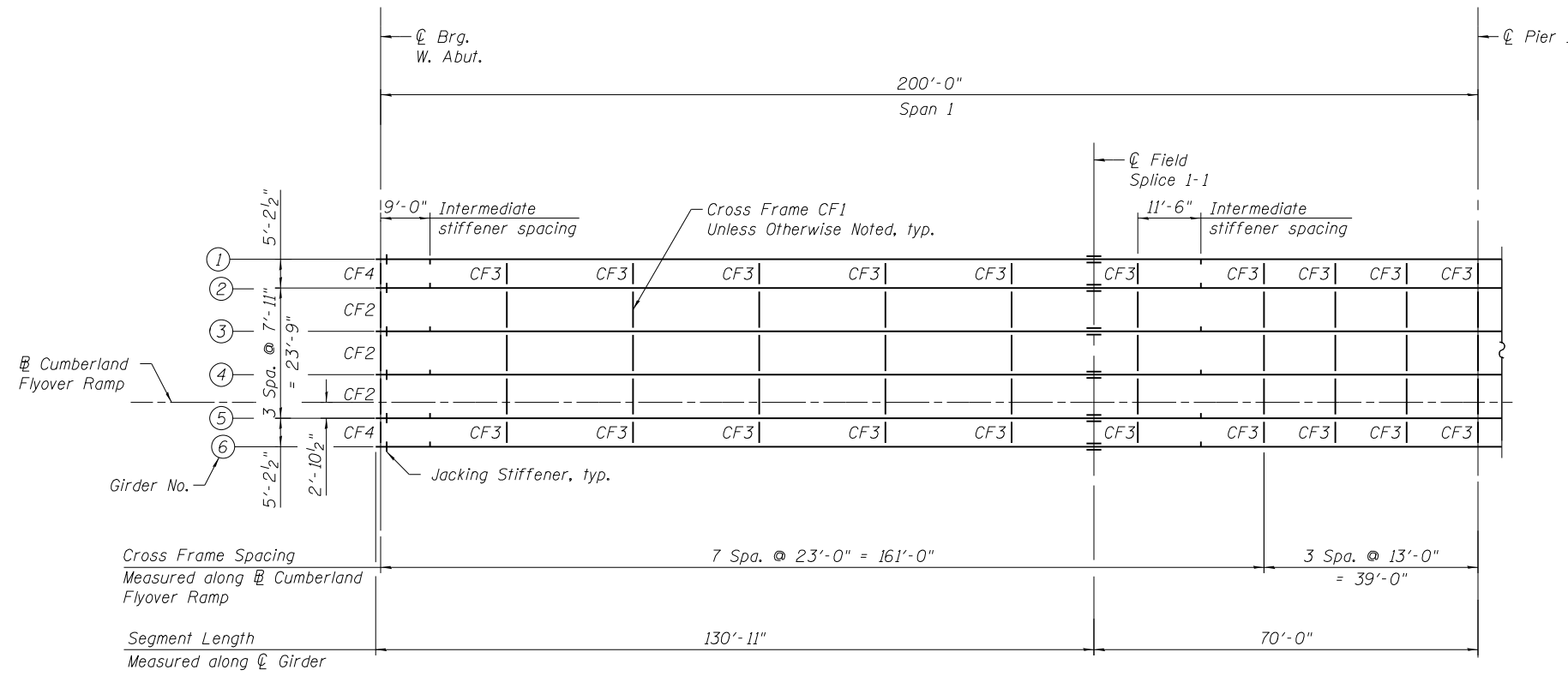


USER NAME = kkalite	DESIGNED -	REVISED
PLOT SCALE = 0.0833' / in.	CHECKED - MRI	REVISED
PLOT DATE = 7/29/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

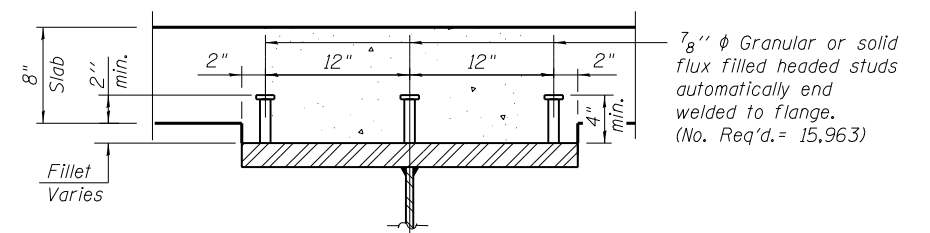
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS - 4
BRIDGE NO. 380
SHEET NO. 26B OF 61 SHEETS

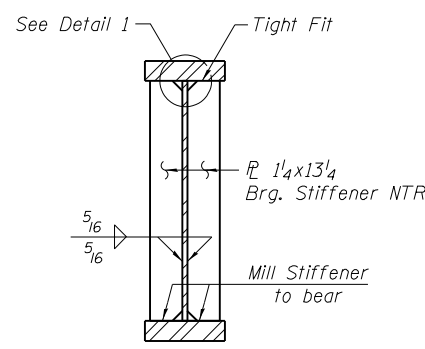
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	349
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



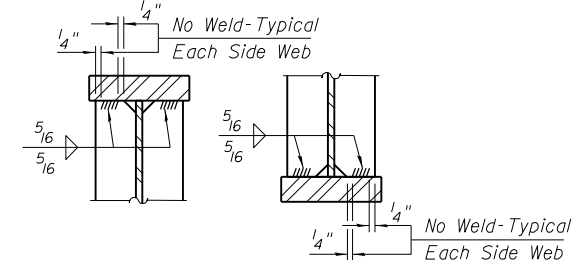
FRAMING PLAN - SPAN 1



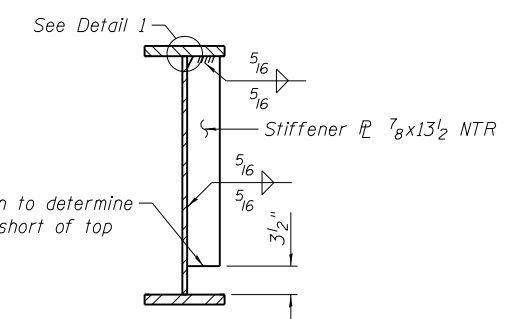
SECTION A-A



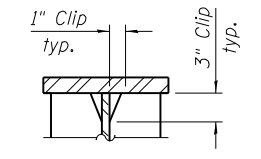
BEARING STIFFENER
(Jacking Stiffener similar)



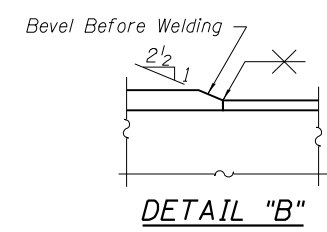
TOP FLANGE
BOTTOM FLANGE
STIFFENER TO FLANGE WELD
(Applicable for all stiffeners and cross frame connection plates)



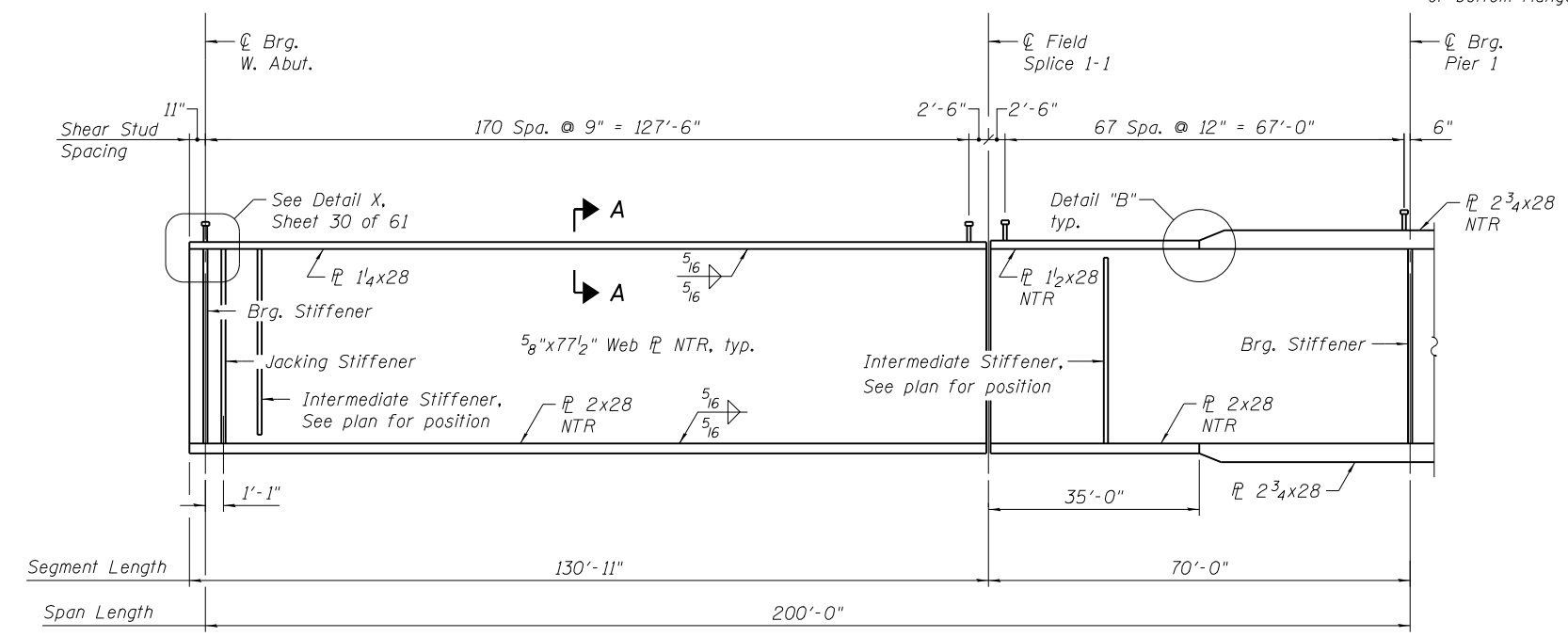
INTERMEDIATE STIFFENER



DETAIL 1
(Typical top & bottom flanges)



DETAIL "B"



GIRDER ELEVATION

- Notes:
- All structural steel shall be AASHTO M270 Grade 50.
 - The Contractor shall either:
 - Ream diaphragm and/or cross frame connection holes during shop assembly or
 - Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(l) of the Standard Specifications.
 - All cross frames within horizontal curve limits shall be placed radially.
 - Load carrying components designated "NTR" shall conform to Impact Testing Requirement, Zone 2.



USER NAME = ikolite	DESIGNED - ITC	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / 1"	DRAWN - LK	REVISED
PLOT DATE = 4/28/2016	CHECKED - MRI	REVISED

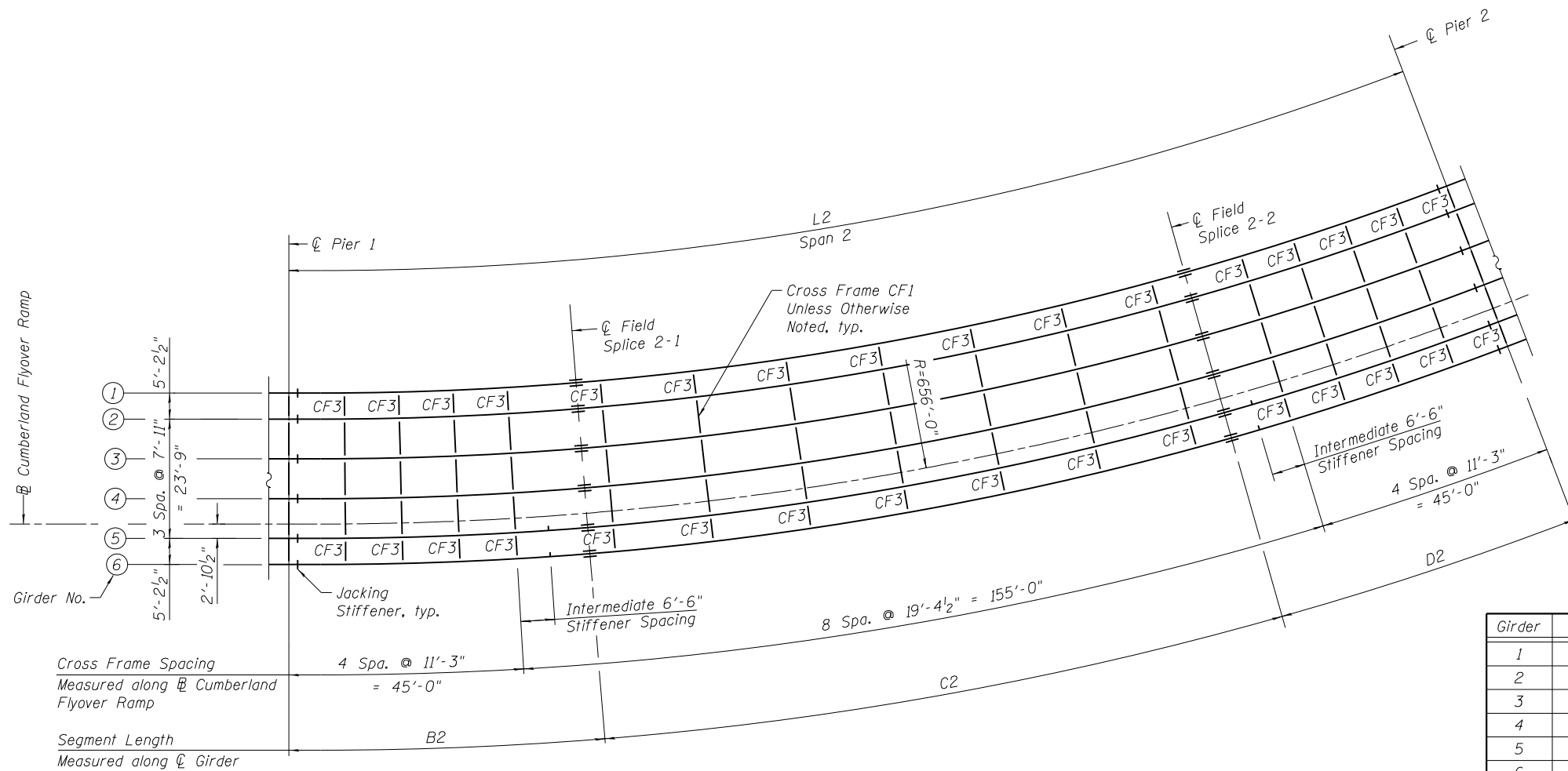
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN AND GIRDER ELEVATION - SPAN 1
BRIDGE NO. 380**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	350
CONTRACT NO. 60X56				

SHEET NO. 27 OF 61 SHEETS

ILLINOIS FED. AID PROJECT



FRAMING PLAN - SPAN 2

GIRDER DIMENSIONS

Girder	Radius	L2	B2	b2	C2	D2	d2
1	629'-11"	235'-6 1/8"	57'-2 3/4"	28'-9"	123'-3 9/16"	54'-11 13/16"	27'-5 13/16"
2	635'-1 1/2"	237'-4 7/8"	57'-7 13/16"	28'-11 1/4"	124'-3 3/4"	55'-5 1/4"	27'-8 1/2"
3	643'-0 1/2"	240'-3 7/16"	58'-3 1/2"	29'-2 5/8"	125'-10 3/8"	56'-1 9/16"	28'-0 5/8"
4	650'-11 1/2"	243'-2"	58'-11 3/16"	29'-6"	127'-4 15/16"	56'-9 13/16"	28'-4 13/16"
5	658'-10 1/2"	246'-0 9/16"	59'-6 7/8"	29'-9 3/8"	128'-11 9/16"	57'-6 8/8"	28'-8 15/16"
6	664'-1"	247'-11 5/16"	59'-11 5/16"	29'-11 5/8"	129'-11 13/16"	57'-11 9/16"	28'-11 11/16"

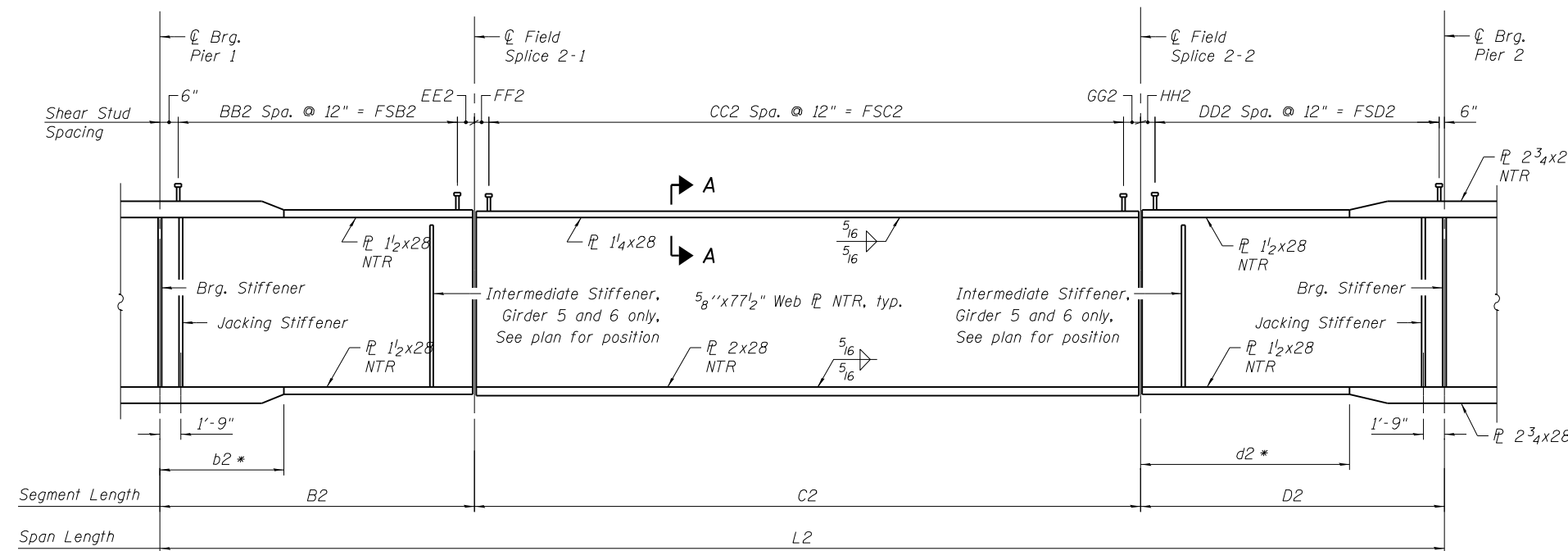
SHEAR CONNECTOR DIMENSIONS

Girder	BB2	FSB2	EE2	FF2	CC2	FSC2
1	54	54'-0"	2'-8 3/4"	2'-7 13/16"	118	118'-0"
2	54	54'-0"	3'-1 13/16"	2'-7 7/8"	119	119'-0"
3	55	55'-0"	2'-9 1/2"	2'-11 3/16"	120	120'-0"
4	56	56'-0"	2'-5 3/16"	2'-8 1/2"	122	122'-0"
5	56	56'-0"	3'-0 7/8"	2'-5 3/4"	124	124'-0"
6	57	57'-0"	2'-5 7/8"	2'-5 7/8"	125	125'-0"

SHEAR CONNECTOR DIMENSIONS (cont'd)

Girder	GG2	HH2	DD2	FSD2
1	2'-7 13/16"	2'-5 13/16"	52	52'-0"
2	2'-7 7/8"	2'-11 1/4"	52	52'-0"
3	2'-11 3/16"	2'-7 9/16"	53	53'-0"
4	2'-8 1/2"	2'-3 13/16"	54	54'-0"
5	2'-5 3/4"	3'-0"	54	54'-0"
6	2'-5 7/8"	2'-5 5/8"	55	55'-0"

Notes:
 1. For notes, see Sheet 27 of 61.
 2. For section A-A, see Sheet 27 of 61.



GIRDER DEVELOPED ELEVATION

* Top & Bottom



USER NAME = jblakley	DESIGNED - ITC	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - MRI	REVISED

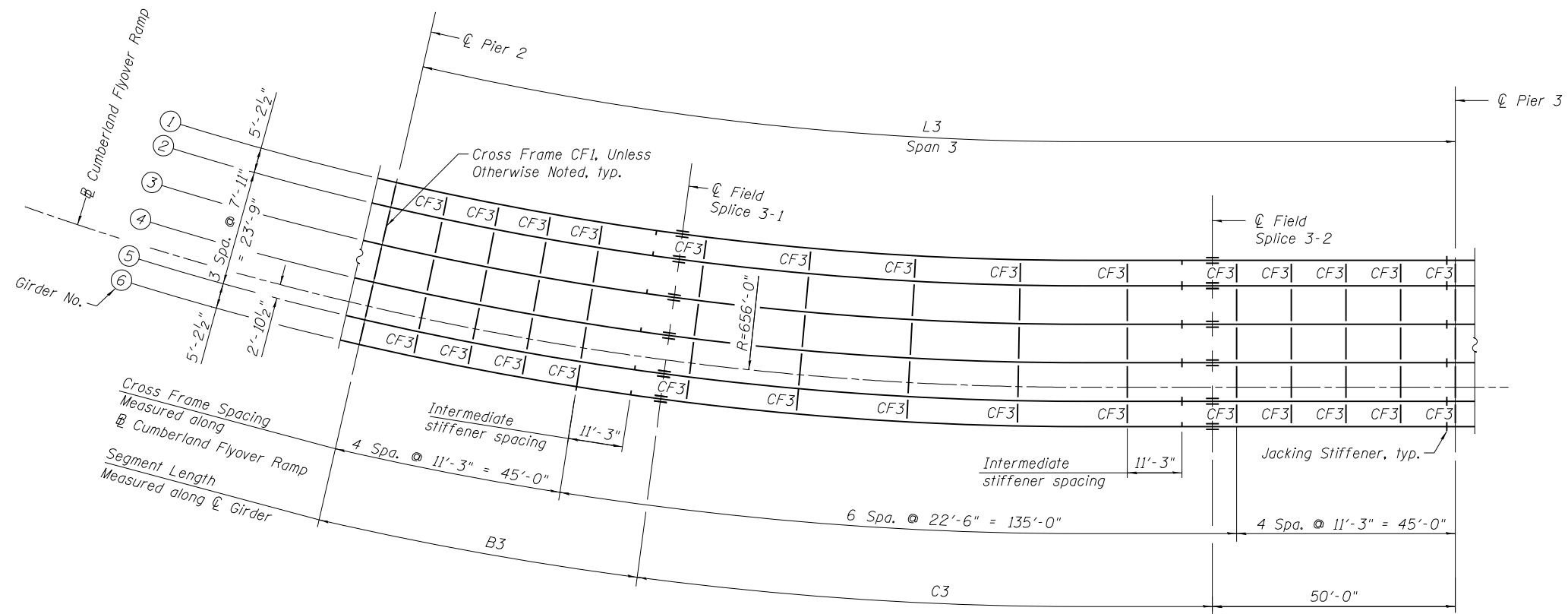
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND GIRDER ELEVATION - SPAN 2
 BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	351
CONTRACT NO. 60X56				

SHEET NO. 28 OF 61 SHEETS

ILLINOIS FED. AID PROJECT



FRAMING PLAN - SPAN 3

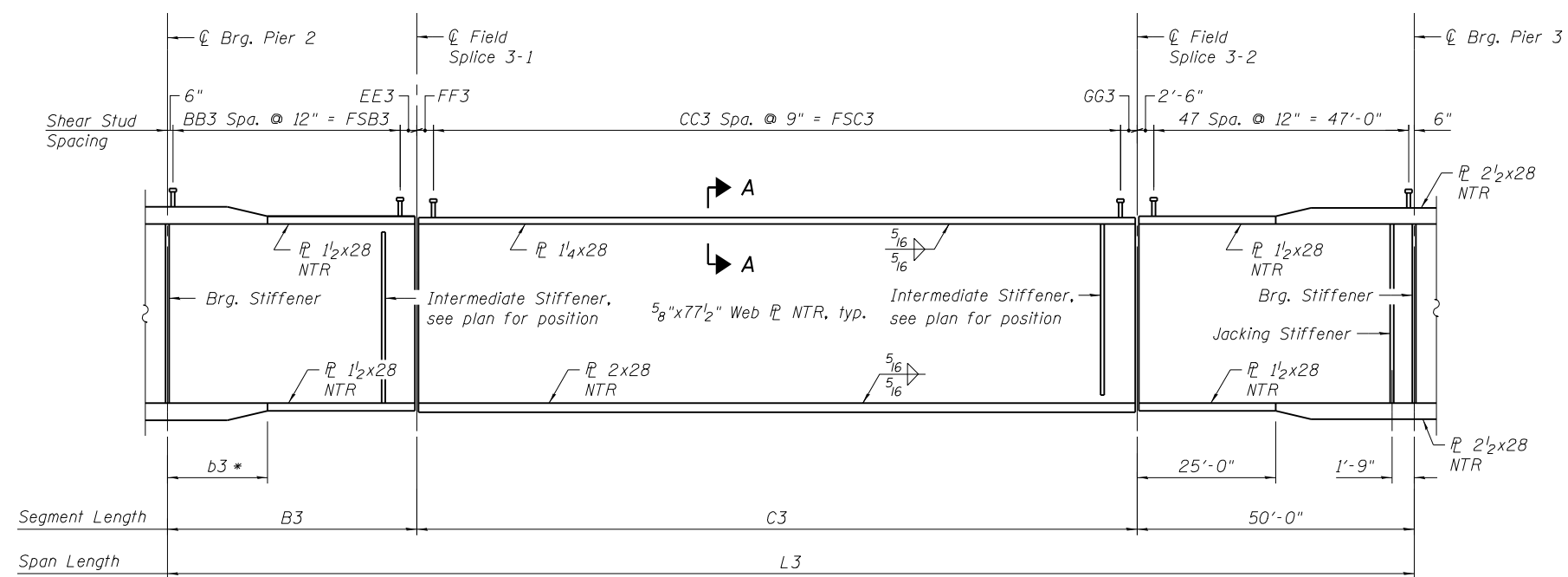
GIRDER DIMENSIONS

Girder	Radius	L3	B3	b3	C3
1	629'-11"	219'-1 ⁵ / ₁₆ "	59'-9 ³ / ₄ "	34'-2 ¹ / ₈ "	109'-3 ⁹ / ₁₆ "
2	635'-1 ¹ / ₂ "	220'-3 ⁷ / ₁₆ "	60'-3 ¹¹ / ₁₆ "	34'-5 ¹ / ₂ "	109'-11 ¹ / ₁₆ "
3	643'-0 ¹ / ₂ "	222'-0 ⁷ / ₈ "	61'-0 ¹¹ / ₁₆ "	34'-10 ⁵ / ₈ "	111'-0 ³ / ₁₆ "
4	650'-11 ¹ / ₂ "	223'-10 ³ / ₈ "	61'-9 ³ / ₄ "	35'-3 ¹³ / ₁₆ "	112'-0 ⁵ / ₈ "
5	658'-10 ¹ / ₂ "	225'-7 ¹³ / ₁₆ "	62'-6 ³ / ₄ "	35'-8 ¹⁵ / ₁₆ "	113'-1 ¹ / ₁₆ "
6	664'-1"	226'-9 ¹⁵ / ₁₆ "	63'-0 ¹¹ / ₁₆ "	36'-0 ⁵ / ₁₆ "	113'-9 ¹ / ₄ "

SHEAR CONNECTOR DIMENSIONS

Girder	BB3	FSB3	EE3	FF3	CC3	FSC3	GG3
1	57	57'-0"	2'-3 ³ / ₄ "	2'-1 ³ / ₄ "	140	105'-0"	2'-1 ³ / ₄ "
2	57	57'-0"	2'-9 ³ / ₄ "	2'-1 ³ / ₈ "	141	105'-9"	2'-1 ³ / ₈ "
3	58	58'-0"	2'-6 ³ / ₄ "	2'-3 ¹ / ₈ "	142	106'-6"	2'-3 ¹ / ₈ "
4	59	59'-0"	2'-3 ³ / ₄ "	2'-4 ¹³ / ₁₆ "	143	107'-3"	2'-4 ¹³ / ₁₆ "
5	59	59'-0"	3'-0 ³ / ₄ "	2'-6 ¹ / ₂ "	144	108'-0"	2'-6 ¹ / ₂ "
6	60	60'-0"	2'-6 ³ / ₄ "	2'-6 ¹ / ₈ "	145	108'-9"	2'-6 ¹ / ₈ "

Notes:
 1. For notes, see Sheet 27 of 61.
 2. For section A-A, see Sheet 27 of 61.



GIRDER DEVELOPED ELEVATION

* Top & Bottom



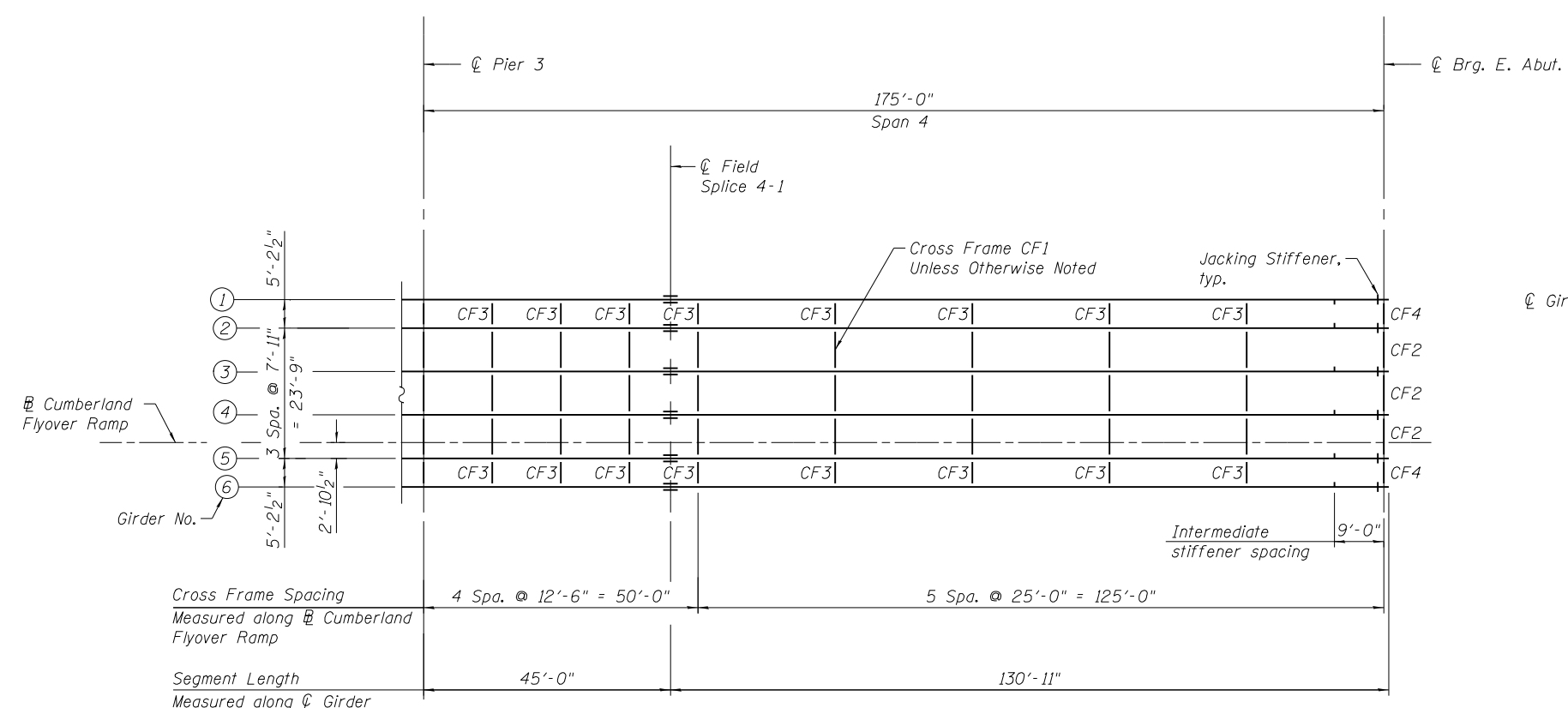
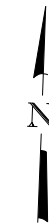
USER NAME = jblakley	DESIGNED - ITC	REVISED
PLOT SCALE = 0.0833' / 1"	CHECKED - JFA	REVISED
PLOT DATE = 4/1/2016	DRAWN - LK	REVISED
	CHECKED - MRI	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

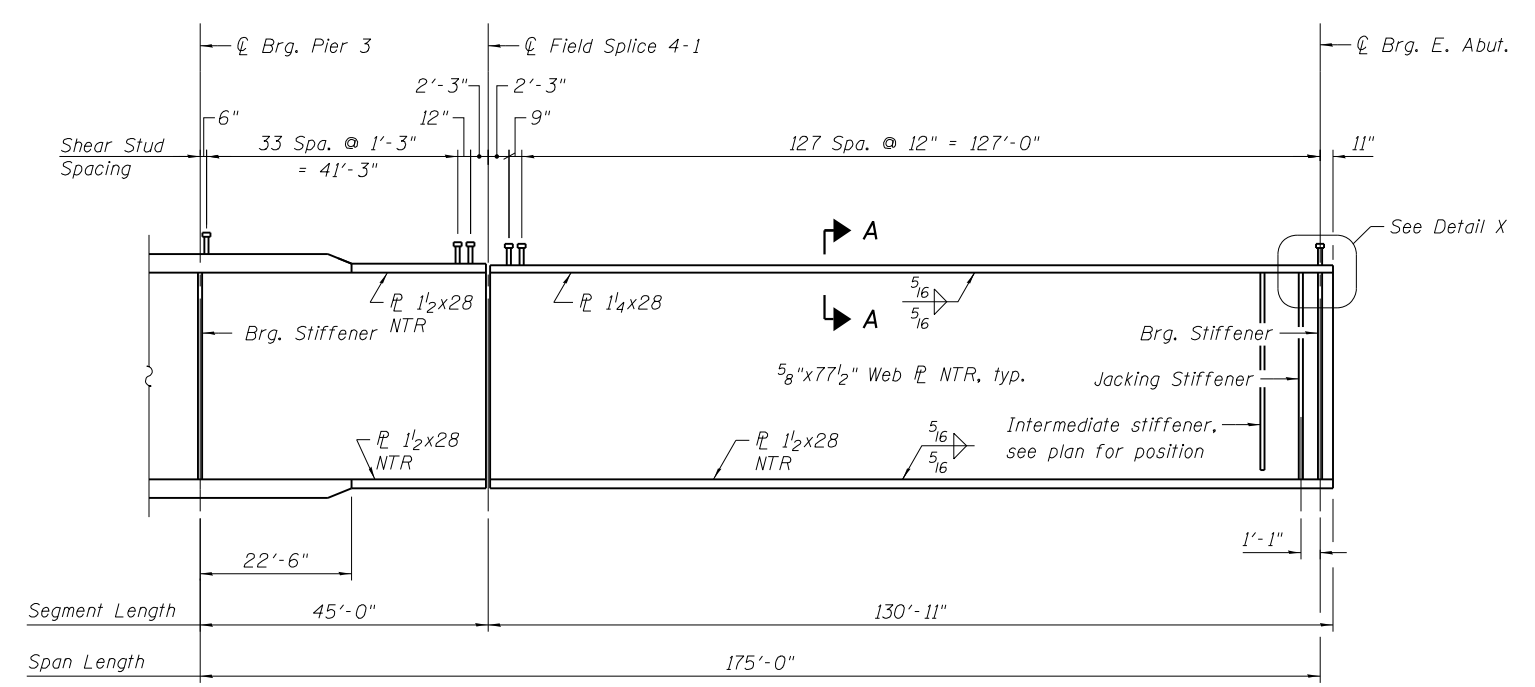
**FRAMING PLAN AND GIRDER ELEVATION - SPAN 3
 BRIDGE NO. 380**

SHEET NO. 29 OF 61 SHEETS

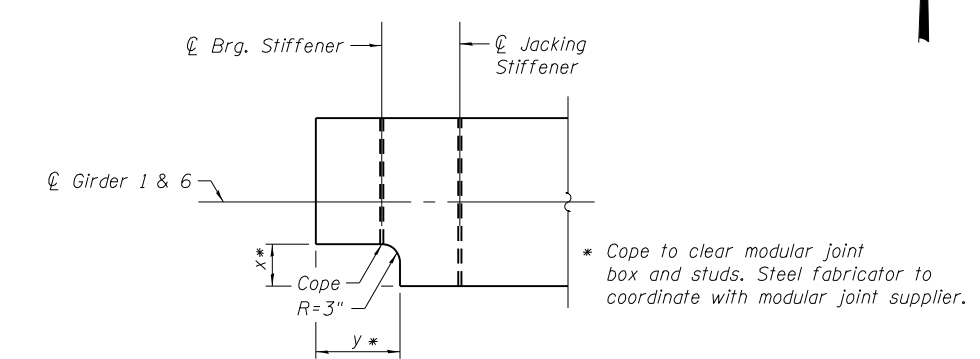
F.A.I. RTE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 352
CONTRACT NO. 60X56				ILLINOIS FED. AID PROJECT



FRAMING PLAN - SPAN 4



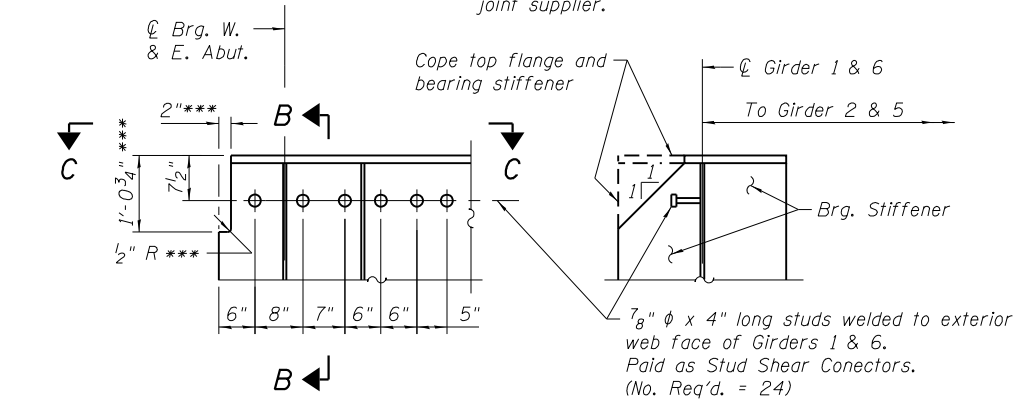
GIRDER ELEVATION



VIEW C-C **

Flange shear studs not shown.
Respace when in conflict with clip.
3" minimum spacing.

** Coping shown for Girders 1 and 6.
Cope Girders 2 thru 5 similarly if required,
steel fabricator to coordinate with modular
joint supplier.



DETAIL X (GIRDER 1 & 6)

Detail Y similar (Girder 1 & 6)

SECTION B-B

- Notes:
1. For notes, see Sheet 27 of 61.
 2. For section A-A, see Sheet 27 of 61.
 3. For location of Detail X at West end, see Sheet 27 of 61.



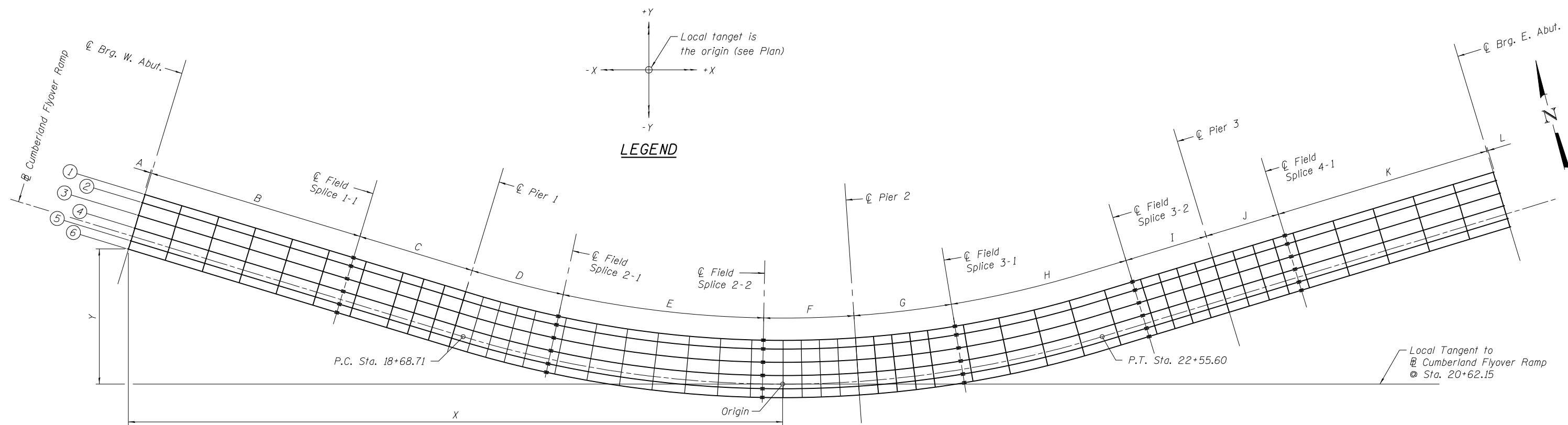
USER NAME = jblakley	DESIGNED - ITC	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - MRI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND GIRDER ELEVATION - SPAN 4
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	353
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 30 OF 61 SHEETS



GIRDER LAYOUT PLAN

LAYOUT DIMENSIONS (in feet)

Girder	Station	Brg. W. Abut.		$\text{C Field Splice 1-1}$		Pier 1		P.C.		$\text{C Field Splice 2-1}$		$\text{C Field Splice 2-2}$		Pier 2		$\text{C Field Splice 3-1}$		P.T.		$\text{C Field Splice 3-2}$	
		16+62.41		17+92.41		18+62.41		18+68.71		19+21.75		20+50.15		21+07.41		21+69.70		22+55.60		22+82.41	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
1	629.917	-380.47	113.23	-256.08	75.45	-189.10	55.10	-183.08	53.27	-133.79	40.46	-11.53	26.19	43.42	27.58	102.81	34.53	183.08	53.27	208.73	61.07
2	635.125	-381.98	108.25	-257.59	70.47	-190.61	50.12	-184.59	48.29	-134.90	35.37	-11.62	20.98	43.78	22.39	103.66	29.39	184.59	48.29	210.24	56.08
3	643.042	-384.28	100.67	-259.89	62.89	-192.92	42.55	-186.89	40.72	-136.58	27.63	-11.77	13.07	44.33	14.49	104.95	21.58	186.89	40.72	212.54	48.51
4	650.958	-386.58	93.10	-262.19	55.32	-195.22	34.97	-189.19	33.14	-138.26	19.89	-11.91	5.15	44.87	6.59	106.24	13.77	189.19	33.14	214.84	40.93
5	658.875	-388.88	85.52	-264.49	47.74	-197.52	27.40	-191.49	25.57	-139.95	12.16	-12.06	-2.76	45.42	-1.31	107.53	5.96	191.49	25.57	217.14	33.36
6	664.083	-390.40	80.54	-266.01	42.7	-199.03	22.41	-193.01	20.58	-141.05	7.07	-12.15	-8.08	45.78	-6.50	108.38	0.81	193.01	20.58	218.66	28.37

LAYOUT DIMENSIONS CONT.

Girder	Pier 3		$\text{C Field Splice 4-1}$		Brg. E. Abut.	
	23+32.41		23+77.41		25+07.41	
	X	Y	X	Y	X	Y
1	256.57	75.60	299.63	88.68	424.01	126.46
2	258.08	70.61	301.14	83.69	425.53	121.47
3	260.38	63.04	303.44	76.12	427.83	113.90
4	262.68	55.46	305.74	68.54	430.13	106.32
5	264.98	47.89	308.04	60.97	432.43	98.75
6	266.50	42.91	309.56	55.98	433.94	93.77

GIRDER DIMENSIONS (in feet)

Girder	A	B	C	D	E	F	G	H	I	J	K	L
1	0.750	130.00	70.00	57.231	123.295	54.983	59.813	109.294	50.00	45.00	130.00	0.750
2	0.750	130.00	70.00	57.652	124.314	55.438	60.308	109.976	50.00	45.00	130.00	0.750
3	0.750	130.00	70.00	58.292	125.864	56.129	61.060	111.013	50.00	45.00	130.00	0.750
4	0.750	130.00	70.00	58.932	127.413	56.820	61.811	112.050	50.00	45.00	130.00	0.750
5	0.750	130.00	70.00	59.572	128.963	57.511	62.563	113.087	50.00	45.00	130.00	0.750
6	0.750	130.00	70.00	59.994	129.982	57.966	63.058	113.769	50.00	45.00	130.00	0.750



USER NAME = jbiakley	DESIGNED - ITC	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - JFA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GIRDER LAYOUT
BRIDGE NO. 380**

SHEET NO. 31 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	354
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE (GIRDER 4)								
	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4	
I_s	(in ⁴)	161859	272283	161859	272283	161859	248317	143422
$I_c(n)$	(in ⁴)	319550	413569	319550	413569	319550	386351	273255
$I_c(3n)$	(in ⁴)	233729	332014	233729	332014	233729	307457	204002
$I_c(cr)$	(in ⁴)	174822	289310	174822	289310	174822	265297	154571
S_s	(in ³)	4669	6561	4669	6561	4669	6020	3773
$S_c(n)$	(in ³)	5706	15533	5706	15533	5706	15069	4627
$S_c(3n)$	(in ³)	5264	9430	5264	9430	5264	8897	4264
$S_c(cr)$	(in ³)	4805	7280	4805	7280	4805	6739	3886
S_{xc}	(in ³)	5521	6652	5541	6655	5575	6121	4521
DC1	(k/')	1.31	1.55	1.31	1.55	1.31	1.50	1.26
MDC1	(k)	3289	7823	2929	7122	2329	5622	2444
DC2	(k/')	0.10	0.14	0.13	0.13	0.13	0.13	0.09
MDC2	(k)	445	939	420	867	326	682	347
DW	(k/')	0.35	0.35	0.35	0.35	0.35	0.35	0.35
MDW	(k)	836	1846	755	1675	588	1362	650
$M_{\xi} + IM$	(k)	4049	4959	3774	4876	3659	4174	3252
f_i (Strength I)	(ksi)	1.59	0.65	4.79	2.07	5.75	0.47	1.61
$M_u + 1/3 f_i S_{xc}$	(k)	13215	22518	12544	21409	11350	17306	10325
$\phi_r M_n$	(k)	*	**	*	**	*	**	*
f_s DC1	(ksi)	8.45	14.31	7.53	13.03	5.99	11.21	7.77
f_s DC2	(ksi)	1.01	1.55	0.96	1.43	0.74	1.21	0.98
f_s DW	(ksi)	1.91	3.04	1.72	2.76	1.34	2.43	1.83
f_s ($\xi + IM$)	(ksi)	8.52	8.17	7.94	8.04	7.70	7.43	8.44
f_i (Service II)	(ksi)	1.02	1.07	2.49	2.47	2.91	1.26	1.17
$f_s + 1/2$ (Service II)	(ksi)	22.96	30.06	21.77	28.90	19.53	25.14	22.13
$0.95R_n F_{yt}$	(ksi)	47.5	47.5	47.5	47.5	47.5	47.5	47.5
$f_s + 1/3$ (Total)(Strength I)	(ksi)	30.13	38.91	28.68	36.97	25.81	32.33	28.98
$\phi_r F_n$	(ksi)	50	50	50	50	50	50	50
Vr	(k)	56	90	83	84	95	107	52

EXTERIOR GIRDER MOMENT TABLE (GIRDER 6)								
	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4	
I_s	(in ⁴)	161859	272283	161859	272283	161859	248317	143422
$I_c(n)$	(in ⁴)	295796	389751	295796	389751	295796	363527	254408
$I_c(3n)$	(in ⁴)	219709	319799	219709	319799	219709	295458	192375
$I_c(cr)$	(in ⁴)	171927	285523	171927	285523	171927	261529	152088
S_s	(in ³)	4669	6561	4669	6561	4669	6020	3773
$S_c(n)$	(in ³)	5602	13380	5602	13380	5602	12884	4542
$S_c(3n)$	(in ³)	5169	8763	5169	8763	5169	8227	4186
$S_c(cr)$	(in ³)	4775	7114	4775	7114	4775	6574	3862
S_{xc}	(in ³)	5445	6631	5416	6633	5465	6099	4312
DC1	(k/')	1.13	1.37	1.13	1.37	1.13	1.32	1.08
MDC1	(k)	3107	8105	3681	7678	2728	5806	2351
DC2	(k/')	0.20	0.26	0.22	0.21	0.23	0.27	0.21
MDC2	(k)	430	1073	477	1005	334	789	326
DW	(k/')	0.27	0.30	0.25	0.24	0.27	0.32	0.24
MDW	(k)	742	1822	908	1735	661	1326	596
$M_{\xi} + IM$	(k)	5215	6689	5386	6559	5245	5864	4326
f_i (Strength I)	(ksi)	1.57	0.98	6.42	2.46	7.59	0.62	1.60
$M_u + 1/3 f_i S_{xc}$	(k)	14865	26090	16817	25382	14981	20598	11979
$\phi_r M_n$	(k)	*	**	*	**	*	**	*
f_s DC1	(ksi)	7.99	14.82	9.46	14.04	7.01	11.57	7.48
f_s DC2	(ksi)	1.00	1.81	1.11	1.70	0.78	1.44	0.94
f_s DW	(ksi)	1.72	3.07	2.11	2.93	1.53	2.42	1.71
f_s ($\xi + IM$)	(ksi)	11.17	11.28	11.54	11.06	11.23	10.70	11.43
f_i (Service II)	(ksi)	1.02	1.06	3.41	2.61	3.88	1.58	1.18
$f_s + 1/2$ (Service II)	(ksi)	25.74	34.90	29.38	34.35	25.87	30.14	25.57
$0.95R_n F_{yt}$	(ksi)	47.5	47.5	47.5	47.5	47.5	47.5	47.5
$f_s + 1/3$ (Total)(Strength I)	(ksi)	33.89	45.47	38.70	44.24	34.22	38.84	33.61
$\phi_r F_n$	(ksi)	50	50	50	50	50	50	50
Vr	(k)	72	107	88	105	87	107	66

* Per Article 6.10.6.2.2 Curved Sections in Positive flexure are evaluated as non-compact sections per Article 6.10.7.2
 ** Per Article 6.10.6.2.3 Curved Sections in Negative flexure are evaluated as non-compact sections per Article 6.10.8

INTERIOR GIRDER REACTION TABLE (GIRDER 4)						
	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.	
R_{DC1}	(k)	95.21	358.13	343.77	302.21	81.03
R_{DC2}	(k)	8.62	35.05	34.43	29.62	7.38
R_{DW}	(k)	23.99	86.43	81.84	74.73	21.42
$R_{\xi} + IM$	(k)	121.74	231.91	230.28	213.36	99.47
R_{Total}	(k)	249.56	711.52	690.31	619.91	209.30

EXTERIOR GIRDER REACTION TABLE (GIRDER 6)						
	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.	
R_{DC1}	(k)	91.27	331.58	276.58	303.89	77.94
R_{DC2}	(k)	20.47	51.34	43.08	48.21	19.43
R_{DW}	(k)	20.85	68.14	57.50	64.30	18.73
$R_{\xi} + IM$	(k)	131.54	287.81	252.69	280.51	123.79
R_{Total}	(k)	264.13	738.87	629.85	696.92	239.89

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
 $I_c(n), S_c(n)$: 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) in uncracked sections due to short term composite live loads (in.⁴ and in.³).
 $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
 $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
 S_{xc} : Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.³).
 DC1: Un-factored non-composite dead load (kips/ft.).
 MDC1: 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.).
 MDC2: 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.).
 MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 $M_{\xi} + IM$: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\xi} + IM$
 f_i : Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (ksi).
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s ($\xi + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
 $M_{\xi} + IM / S_c(n)$ or $M_{\xi} + IM / S_c(cr)$ as applicable.
 $f_s + 1/2$ (Service II): Sum of stresses as computed below (ksi).
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (\xi + IM) + 1/2$
 $0.95R_n F_{yt}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 $f_s + 1/3$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (\xi + IM) + 1/3$
 $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
 Vr: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
 M_{ξ} and R_{ξ} include the effects of centrifugal force and superelevation.

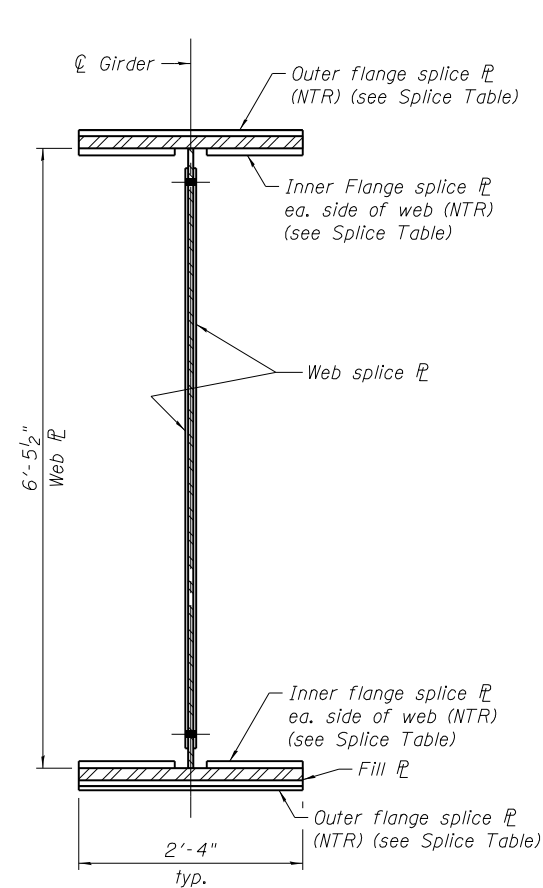


USER NAME = jblakley	DESIGNED - ITC	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - JFA	REVISED

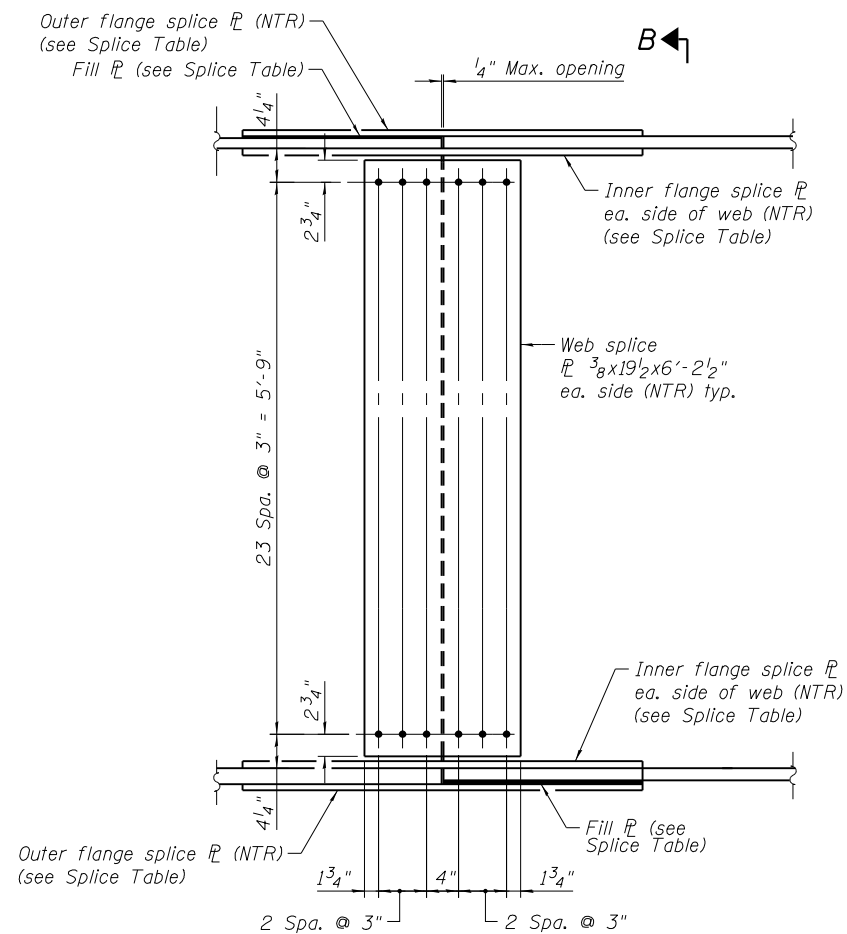
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTIONS TABLES
 BRIDGE NO. 380

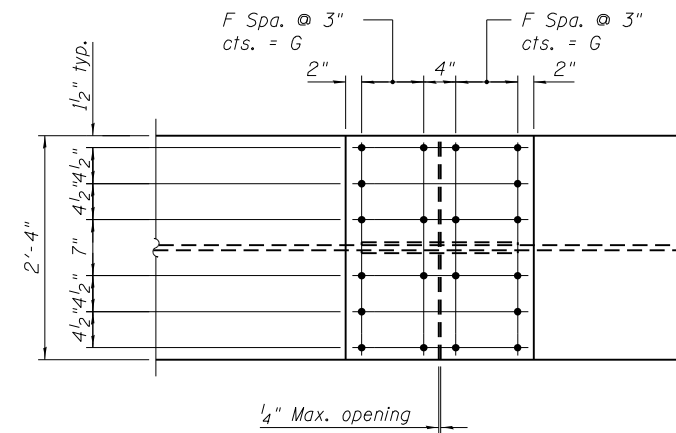
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	355
CONTRACT NO. 60X56				



SECTION B-B



ELEVATION



FLANGE SPLICE
(Top and Bottom Flanges)

SPLICE TABLE

Splice Location	Top Flange						Bottom Flange					
	Outer Flange (NTR)	Inner Flange (NTR)	Fill (NTR)	F	G	No. Bolts	Outer Flange (NTR)	Inner Flange (NTR)	Fill (NTR)	F	G	No. Bolts
Field Splice 1-1	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	1 1/8"x28"x6'-8"	1 1/4"x1'-0 1/2"x6'-8"	-	12	36"	156
Field Splice 2-1	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	7/8"x28"x5'-2"	1"x1'-0 1/2"x5'-2"	1/2"x28"x2'-7"	9	27"	120
Field Splice 2-2	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	7/8"x28"x5'-2"	1"x1'-0 1/2"x5'-2"	1/2"x28"x2'-7"	9	27"	120
Field Splice 3-1	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	7/8"x28"x5'-2"	1"x1'-0 1/2"x5'-2"	1/2"x28"x2'-7"	9	27"	120
Field Splice 3-2	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	7/8"x28"x5'-2"	1"x1'-0 1/2"x5'-2"	1/2"x28"x2'-7"	9	27"	120
Field Splice 4-1	3/4"x28"x4'-2"	7/8"x1'-0 1/2"x4'-2"	1/4"x28"x2'-1"	7	21"	96	7/8"x28"x5'-2"	1"x1'-0 1/2"x5'-2"	-	9	27"	120

Notes:

- All splice plates shall be AASHTO M270 Grade 50 steel, except fill plates which may be AASHTO M270 Grade 36 or 50.
- All splice bolts shall be 7/8" ϕ ASTM A325 High Strength with 15/16" ϕ holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



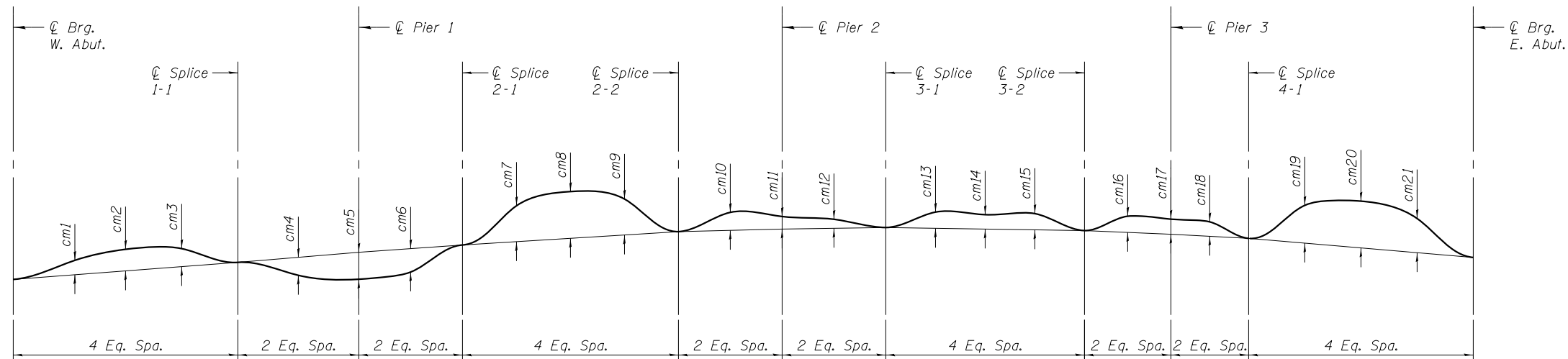
USER NAME = jblakley	DESIGNED - ITC	REVISED
	CHECKED - MRI	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - AYW/LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - MRI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIELD SPLICE DETAILS
BRIDGE NO. 380

SHEET NO. 33 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	356
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



CAMBER DIAGRAM

GIRDER DIMENSIONS (in inches)

Girder	cm1	cm2	cm3	cm4	cm5	cm6	cm7	cm8	cm9	cm10	cm11	cm12	cm13	cm14	cm15	cm16	cm17	cm18	cm19	cm20	cm21
1	2	3	2 1/2	-2 1/2	-3 3/4	-3 1/4	5	6 1/2	5	2 1/4	1 3/4	1 1/4	2 1/4	2	2 1/4	2 1/4	3 1/2	2	5 1/4	6 1/2	4 3/4
2	2	3	2 1/2	-2 1/4	-3 3/4	-3	5	6 1/2	5 1/4	2 1/4	1 1/2	1 1/4	2 1/2	2 3/4	2 3/4	1 3/4	3	1 3/4	5	6 1/2	4 3/4
3	2	2 3/4	2 1/2	-2 1/4	-3 1/2	-2 3/4	5 1/2	7	5 1/2	2 1/4	1 1/4	1 1/4	3 1/4	3 3/4	3 1/4	1 1/2	2 1/4	1 1/4	5 1/4	6 1/2	4 3/4
4	1 3/4	2 3/4	2 1/2	-2 1/4	-3	-2 1/2	5 1/2	7 1/2	5 3/4	2	1	1	4	4 3/4	4	1	1 1/2	0 3/4	5 1/4	6 1/2	4 3/4
5	1 3/4	2 3/4	2 1/2	-2	-3	-2	5 3/4	7 3/4	5 3/4	1 3/4	0 3/4	0	4 1/2	6	4 1/2	0	0	0	5 1/4	6 1/2	4 3/4
6	1 3/4	2 3/4	2 1/4	-2	-2 3/4	-1 3/4	6	8	6 1/4	1 3/4	0	0	5	6 3/4	5	0	0	0	5	6 1/2	4 1/2

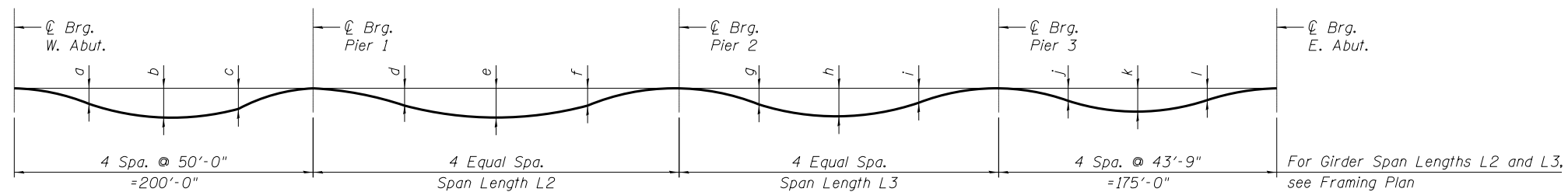
TOP OF WEB ELEVATIONS (in feet)
(For fabrication only)

Girder	℄ Brg. W. Abut.	℄ Splice 1-1	℄ Brg. Pier 1	℄ Splice 2-1	℄ Splice 2-2	℄ Pier 2	℄ Splice 3-1	℄ Splice 3-2	℄ Brg. Pier 3	℄ Splice 4-1	℄ Brg. E. Abut.
1	644.68	649.26	651.35	653.71	657.60	658.30	658.78	658.34	657.60	656.39	650.67
2	644.72	649.45	651.63	654.04	657.93	658.61	659.10	658.55	657.71	656.49	650.77
3	644.78	649.73	652.06	654.56	658.44	659.08	659.58	658.86	657.87	656.64	650.93
4	644.84	650.01	652.48	655.07	658.95	659.56	660.06	659.17	658.03	656.79	651.09
5	644.90	650.29	652.91	655.58	659.45	660.03	660.54	659.48	658.18	656.94	651.25
6	644.94	650.48	653.20	655.92	659.79	660.35	660.86	659.69	658.28	657.04	651.35

STEEL GIRDER DEFLECTION TABLE

Deflection Girder No.	Span 1			Span 2			Span 3			Span 4		
	a	b	c	d	e	f	g	h	i	j	k	l
1	-1 3/8"	-1 5/8"	-0 13/16"	-0 1/2"	-1 1/16"	-0 5/8"	-0 1/2"	-0 7/8"	-0 1/2"	-0 7/16"	-0 15/16"	-0 3/4"
2	-1 5/16"	-1 9/16"	-0 3/4"	-0 5/8"	-1 5/16"	-0 3/4"	-0 1/2"	-1"	-0 9/16"	-0 3/8"	-0 7/8"	-0 3/4"
3	-1 1/4"	-1 7/16"	-0 1/16"	-0 13/16"	-1 5/8"	-0 15/16"	-0 9/16"	-1 1/16"	-0 5/8"	-0 3/8"	-0 13/16"	-0 3/4"
4	-1 3/16"	-1 3/8"	-0 9/16"	-1"	-1 5/16"	-1 1/8"	-0 9/16"	-1 3/16"	-0 1/16"	-0 5/16"	-0 13/16"	-0 1/16"
5	-1 1/8"	-1 1/4"	-0 1/2"	-1 3/16"	-2 1/4"	-1 1/4"	-0 9/16"	-1 5/16"	-0 13/16"	-0 1/4"	-0 3/4"	-0 1/16"
6	-1 1/8"	-1 3/16"	-0 7/16"	-1 5/16"	-2 7/16"	-1 3/8"	-0 9/16"	-1 3/8"	-0 7/8"	-0 1/4"	-0 1/16"	-0 5/8"

Note: Top of web elevations are based on a "no-load" condition prior to any dead load deflection.



STEEL GIRDER DEFLECTION DIAGRAM

Notes:
1. The calculated deflections of the primary girders under steel self-weight shall be used to detail the cross frame connections, and to erect the structural steel such that the girders will be plumb with a tolerance of ±1/8 in. per vertical ft. throughout when supporting their own weight.



USER NAME = kkalite	DESIGNED - APR	REVISED
	CHECKED - MRI	REVISED
PLOT SCALE = 0.1" = 1'	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - MRI	REVISED

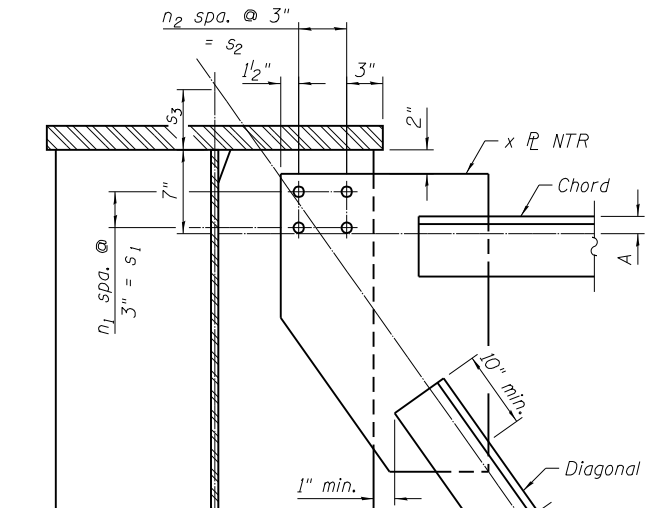
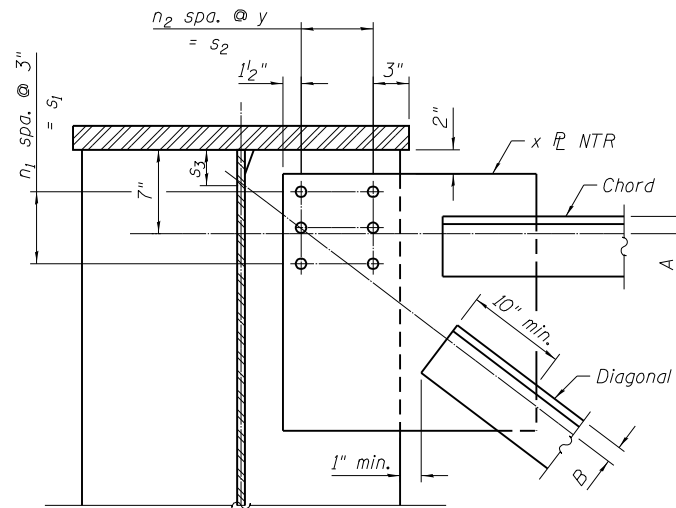
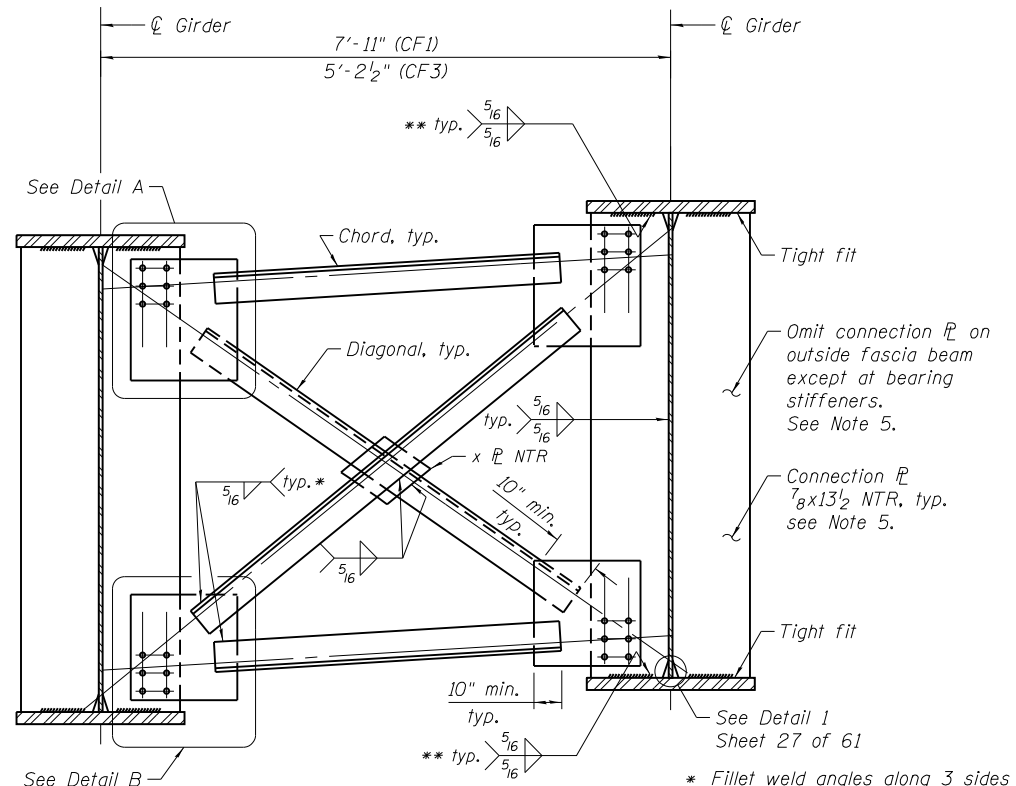
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER CAMBER AND DEFLECTIONS
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	357
CONTRACT NO. 60X56				

SHEET NO. 34 OF 61 SHEETS

ILLINOIS FED. AID PROJECT



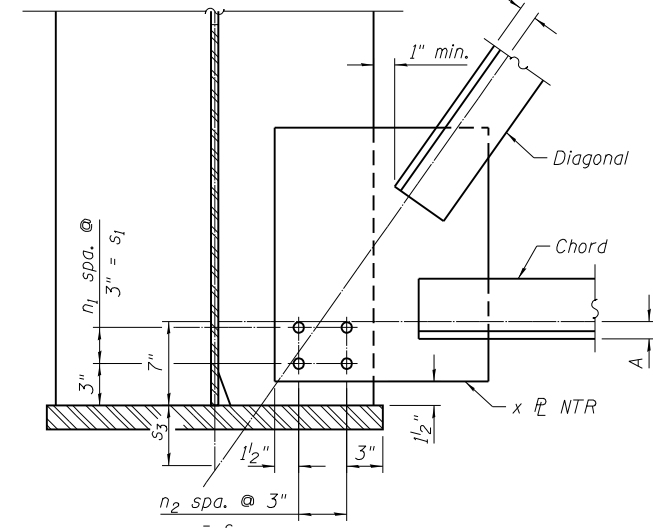
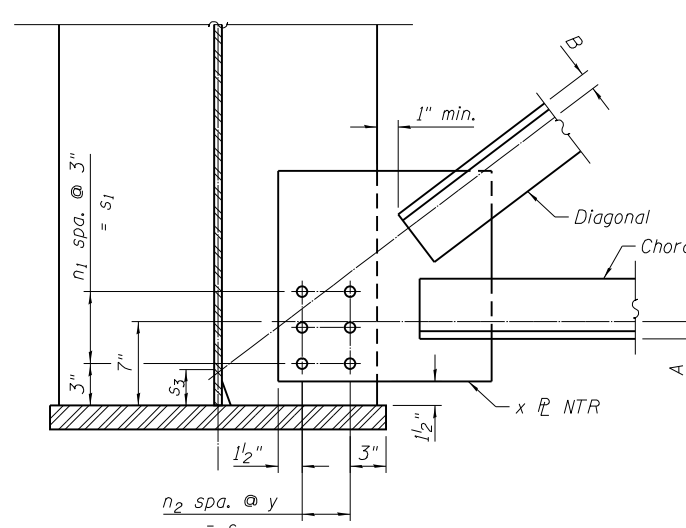
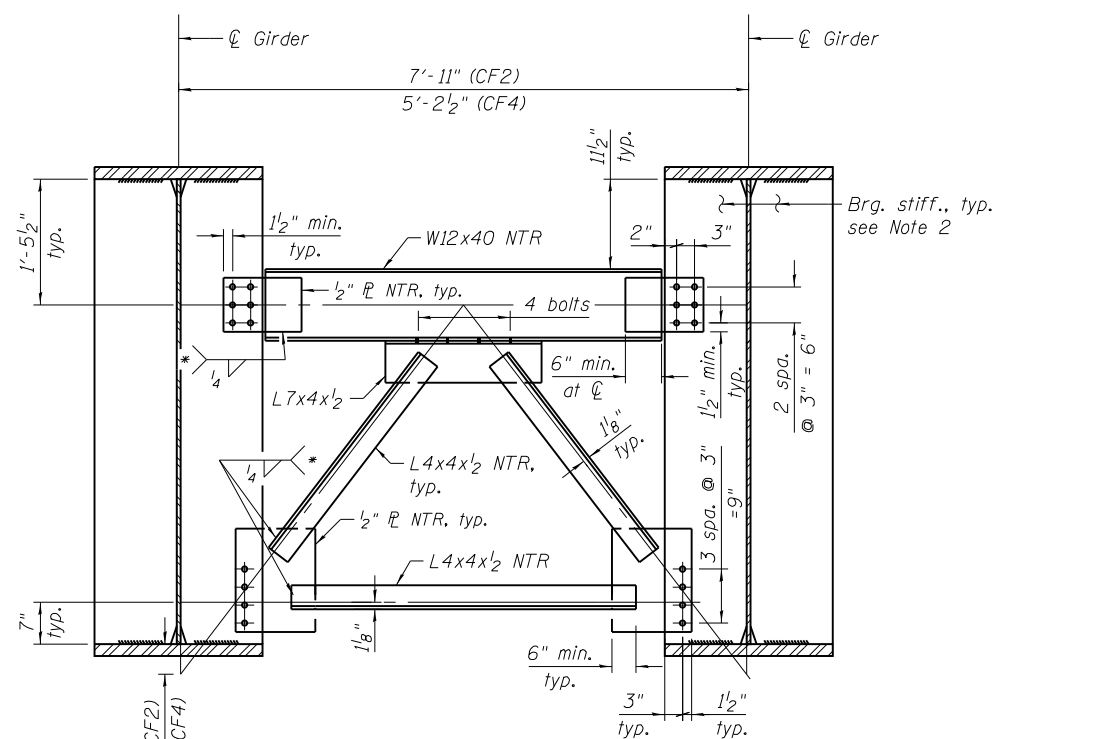
DETAIL A FOR CF1

DETAIL A FOR CF3

TABLE OF VARIABLES

Span	CF1											CF3									
	Diagonal Member	Chord Member	n ₁	s ₁	n ₂	s ₂	s ₃	A	B	x	y	Diagonal Member	Chord Member	n ₁	s ₁	n ₂	s ₂	s ₃	A	B	x
1	L5x5x3/4 NTR	L6x6x3/4 NTR	2	6"	1	4"	0"	1 3/4"	1 1/2"	3/4"	4"	L5x5x3/4 NTR	L5x5x3/4 NTR	1	3"	1	3"	7"	1 1/2"	1 1/2"	3/4"
2	L6x6x3/4 NTR	L8x8x1 NTR	2	6"	2	6"	3"	2 3/8"	1 3/4"	1"	3"	L6x6x3/4 NTR	L5x5x3/4 NTR	2	6"	2	6"	5"	1 1/2"	1 3/4"	3/4"
3	L6x6x3/4 NTR	L8x8x1 NTR	2	6"	2	6"	3"	2 3/8"	1 3/4"	1"	3"	L6x6x3/4 NTR	L5x5x3/4 NTR	2	6"	2	6"	5"	1 1/2"	1 3/4"	3/4"
4	L5x5x3/4 NTR	L8x8x3/4 NTR	2	6"	1	4"	0"	2 1/4"	1 1/2"	3/4"	4"	L5x5x3/4 NTR	L5x5x3/4 NTR	1	3"	1	3"	7"	1 1/2"	1 1/2"	3/4"

INTERIOR CROSS FRAMES - CF1 AND CF3



DETAIL B FOR CF1

DETAIL B FOR CF3

END CROSS FRAMES - CF2 AND CF4

- Notes:
1. AASHTO M270 Grade 50 Steel shall be used for all cross frames and connection plates.
 2. For Bearing Stiffener details, see Sheet 27 of 61.
 3. All cross frames between girders shall be installed with erection pins and bolts in accordance with erection plan submitted to and approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
 4. For girder dead load deflections, see Sheet 34 of 61.
 5. At pier locations, the bearing plate stiffeners shall be used as the connection plates for the cross frames. At Pier 1, Span 2 cross frame members shall be used. At Piers 2 and 3, Span 3 cross frame members shall be used.
 6. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



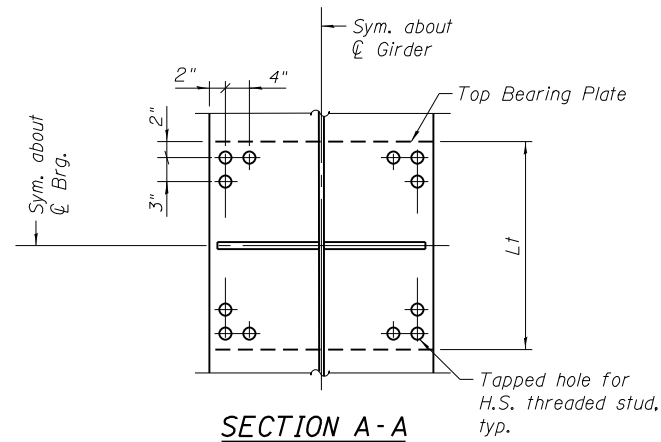
USER NAME = jblakley	DESIGNED - MRI	REVISED
CHECKED - MLK	REVISIONS	
PLOT SCALE = 0.08333' / in.	DRAWN - AYW	REVISIONS
PLOT DATE = 4/1/2016	CHECKED - MLK	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

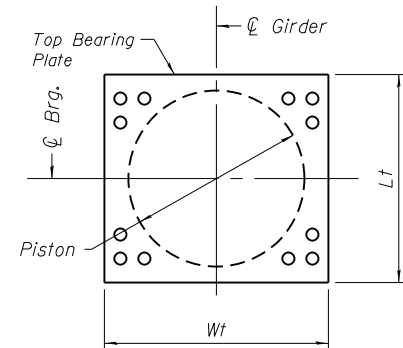
CROSS FRAME DETAILS
BRIDGE NO. 380

SHEET NO. 35 OF 61 SHEETS

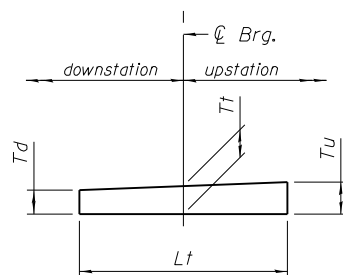
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	358
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



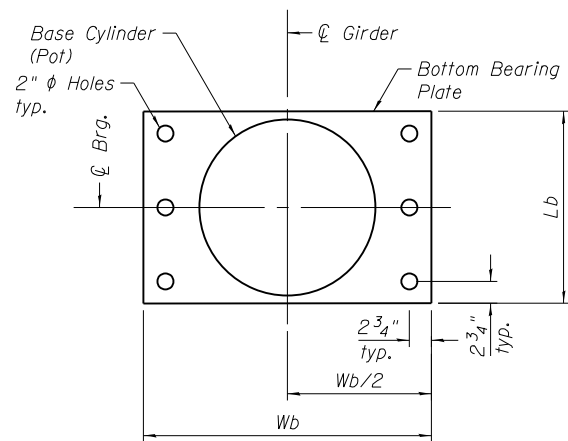
SECTION A-A



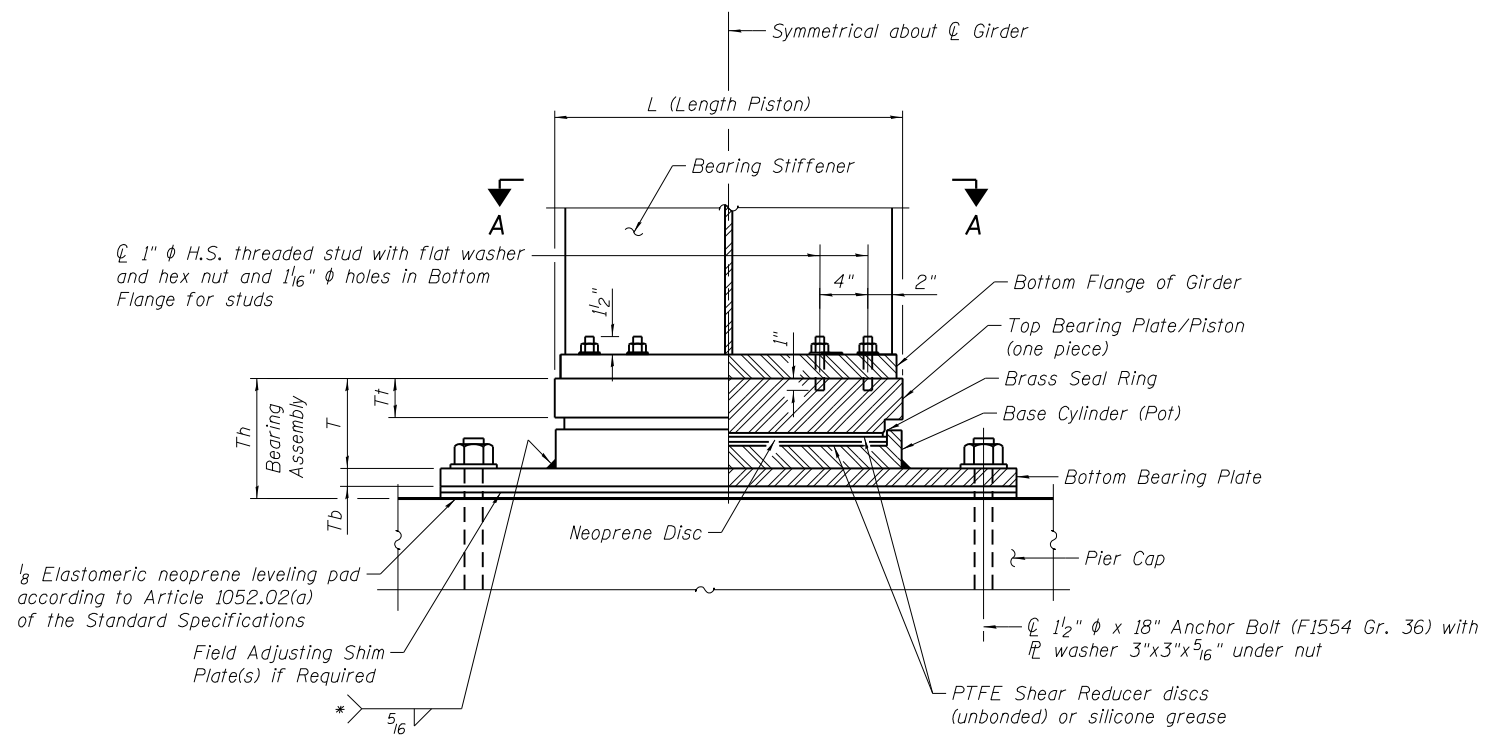
**TOP BEARING PLATE/
PISTON PLAN**



**TOP BEARING PLATE/
PISTON BEVEL**



**BOTTOM BEARING PLATE
AND BASE CYLINDER PLAN**



HALF SECTION THRU FIXED BEARING

* Weld may be omitted if base cylinder is recessed into bottom bearing plate.

BEARING DESIGN INFORMATION

Design Information	Location Pier 2
Vertical Design Load (kips)	708
Pay Item Size (kips)	800
Lateral Load (kips)	161
All Design Rotation (Radians)***	0.03

*** Vertical Design Load = Total Vertical Dead Load + Live Load (No Impact)
 Lateral Design Load = larger of Factored ultimate strength Design lateral load or 20% of the vertical service
 *** Includes Maximum Factored Ultimate Strength Design Rotation plus allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians)

BEARING ASSEMBLY DIMENSIONS

Member	**Dimension	Location Pier 2
Top Plate	Wt	28
	Lt	25
	Td	3 1/8
	Tt	3 1/4
	Tu	3 3/8
Bearing	D	22 1/2
	L	22 1/2
	T	8
Bottom Plate	Wb	37 1/4
	Lb	27 1/2
	Tb	2
Bearing Assembly	Th	13 3/8

** All dimensions are in inches

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
High Load Multi-Rotational Bearing, Fixed - 800 Kips	Each	6
Anchor Bolts, 1 1/2"	Each	36

Notes:

- The structural steel for the top and bottom bearing plates shall AASHTO M270 Grade 50.
- Cost of top and bottom bearing plates, 1/8" Elastomeric Neoprene, shim plates and threaded studs with washer shall be included with High Load Multi-Rotational Bearings.
- Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- The 1/8" PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bearing dimensions and details shown are for pot type HLMR bearings. Disc type HLMR bearing dimensions and details vary.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameters specified. The corresponding specified grade of AASHTO M314 bolts may be used in lieu of ASTM F1554.
- For bearing orientation details, see Sheet 38 of 61.



USER NAME = jblakley	DESIGNED - APR	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0:1' = 1/4"	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - JFA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HIGH-LOAD MULTIROTATION BEARINGS FIXED
BRIDGE NO. 380**

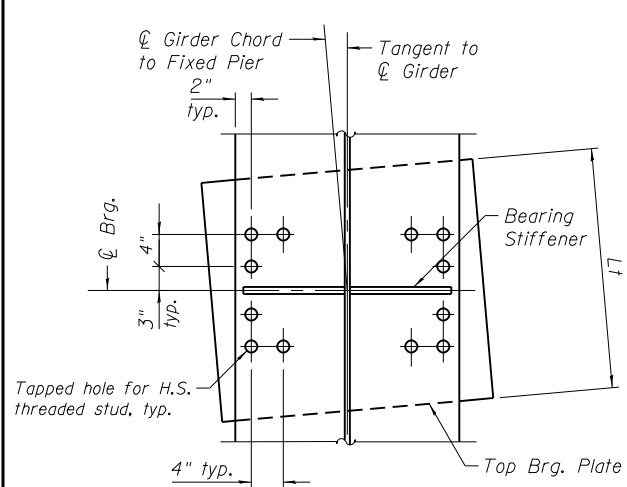
SHEET NO. 36 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	359
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT

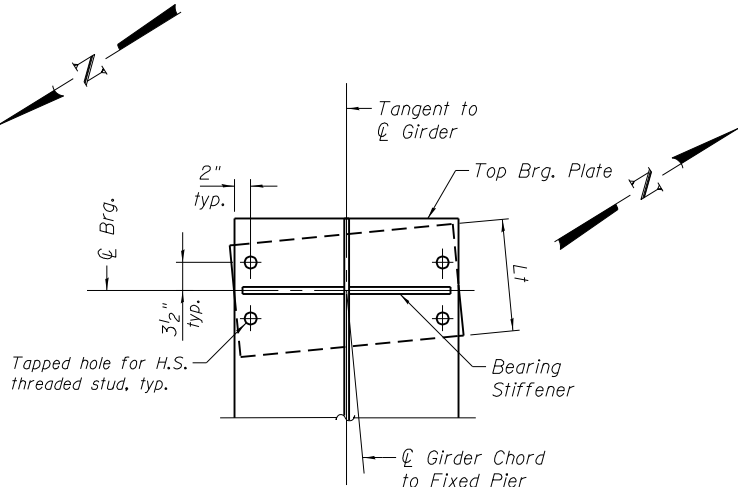
MANDATORY SHIM TABLE

Location	Shim
West Abut. G2	1/2"
West Abut. G4	3/4"
West Abut. G6	1/2"



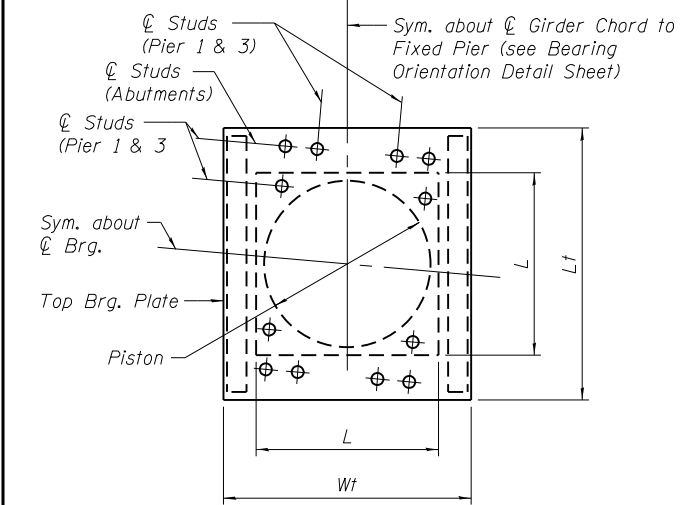
SECTION A-A

(Brg. at Pier 1 shown
Pier 3 similar)



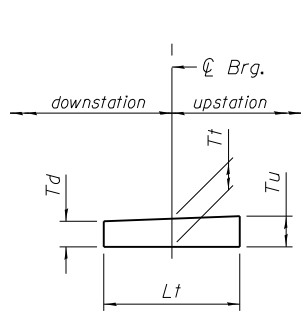
SECTION A-A

(Brg. at West Abut. shown
East Abut. similar)

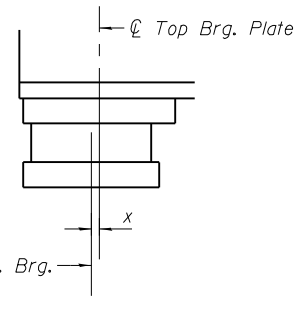


TOP BEARING PLATE / PISTON PLAN

Plate and piston are parallel to ϕ Girder Chord and not parallel to ϕ Girder

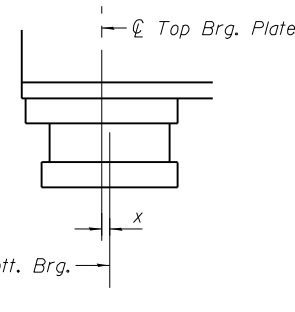


TOP BEARING PLATE BEVEL



BELOW 50°F.

(Move bott. brg. away from fixed brg.)

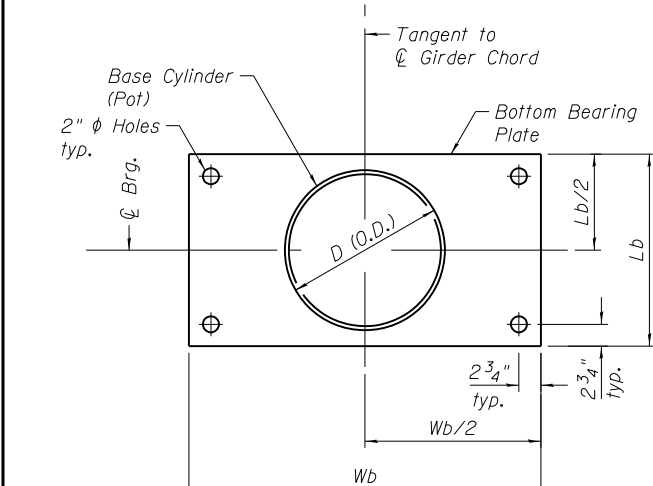


ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

$X = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN

Bottom plate parallel to ϕ girder.

BEARING ASSEMBLY DIMENSIONS

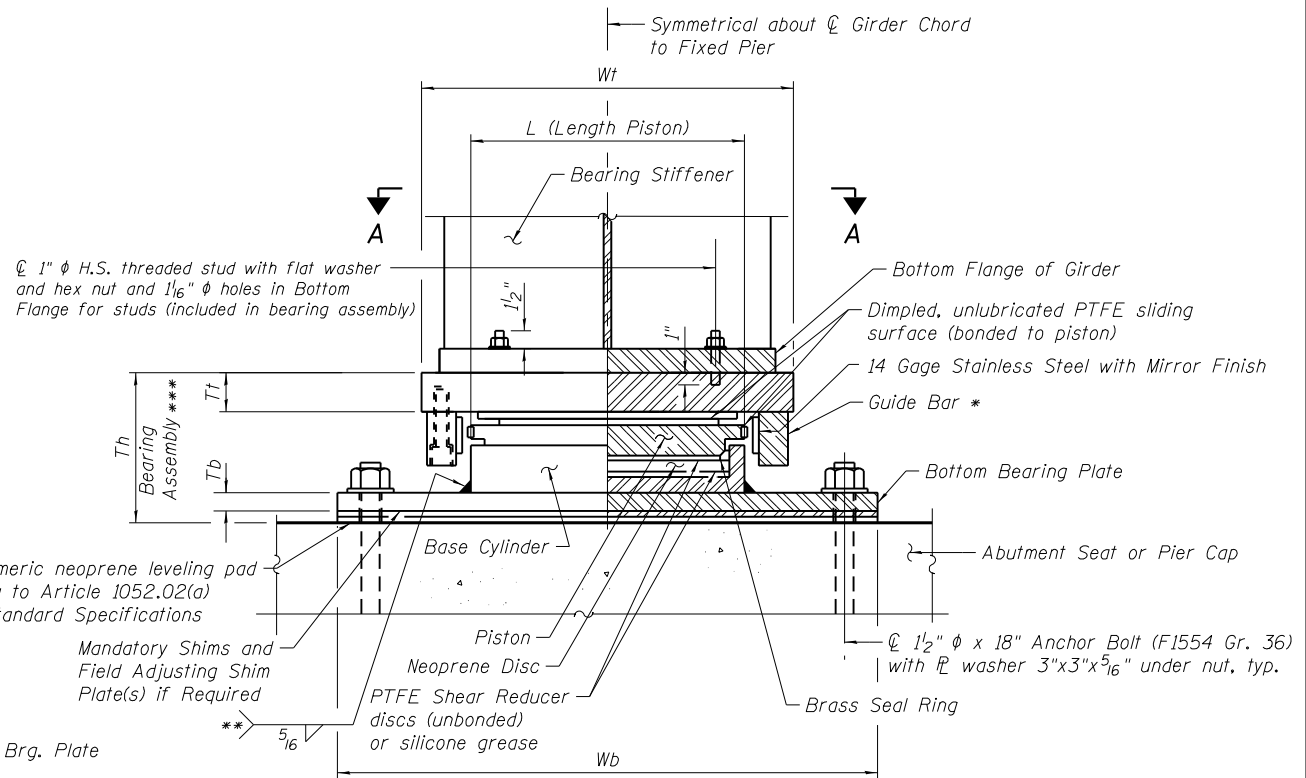
Member	**** Dimension	Location			
		W. Abut.	Pier 1	Pier 3	E. Abut.
Top Plate	Wt	29	29	29	29
	Lt	19 1/2	24 1/2	24 1/2	19
	Td	1 1/2	2 3/4	3 1/4	2 1/2
	Tt	1 7/8	3 1/4	3	2
	Tu	2 1/4	3 3/4	2 5/8	1 1/2
Bearing	D	11 1/2	19	19	11 1/2
	L	11 1/2	19	19	11 1/2
Bottom Plate	Wb	36	36 1/4	36 1/4	36
	Lb	15 3/4	21	21	15 3/4
	Tb	3	3	3	3
Bearing Assembly	Th	10	13 3/8	13 1/8	10 1/8

**** All dimensions are in inches.

BEARING DESIGN INFORMATION

Design Information	Location			
	W. Abut.	Pier 1	Pier 3	E. Abut.
Vertical Design Load (kips)	250	734	655	223
Pay Item Size (kips)	250	750	750	250
Lateral Load (kips)	53	141	131	50
Total Required Movement (in)	6	3.5	3	5.5
All Design Rotation (Radians) ***	0.03	0.03	0.03	0.03

Note:
Vertical Design Load = Total Vertical Dead Load + Live Load (No Impact)
Lateral Design Load = larger of Factored ultimate strength Design lateral load or 20% of the vertical service
*** Includes Maximum Factored Ultimate Strength Design Rotation plus allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians)



HALF SECTION THRU GUIDED EXPANSION BEARING

Tt and Tu are measured at ϕ Bearing
Th includes 1/8" elastomeric neoprene pad

- * As alternatives to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.
- ** Weld may be omitted if base cylinder is recessed into bottom bearing plate.
- *** Th does not include the Mandatory and Field Adjusting shims.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnish and Erect High Load Multi-Rotational Bearing, Guided Expansion, 250 Kips	Each	12
Furnish and Erect High Load Multi-Rotational Bearing, Guided Expansion, 750 Kips	Each	12
Anchor Bolts, 1 1/2"	Each	96

- Notes:
- The Structural Steel for the top and bottom bearing plates shall AASHTO M270 Grade 50.
 - Cost of top and bottom bearing plates, 1/8" Elastomeric Neoprene, shim plates and threaded studs with washer shall be included with High Load Multi-Rotational Bearings.
 - Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 - Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
 - Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 - The 1/8" PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 - Bearing dimensions and details shown are for pot type HLMR bearings. Disc type HLMR bearing dimensions and details vary.
 - Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameters specified. The corresponding specified grade of AASHTO M314 bolts may be used in lieu of ASTM F1554.
 - For bearing orientation details, see Sheet 38 of 61.



USER NAME = jblakley	DESIGNED - APR	REVISED
PLOT SCALE = 0 1/16" / 1"	CHECKED - JFA	REVISED
PLOT DATE = 4/1/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

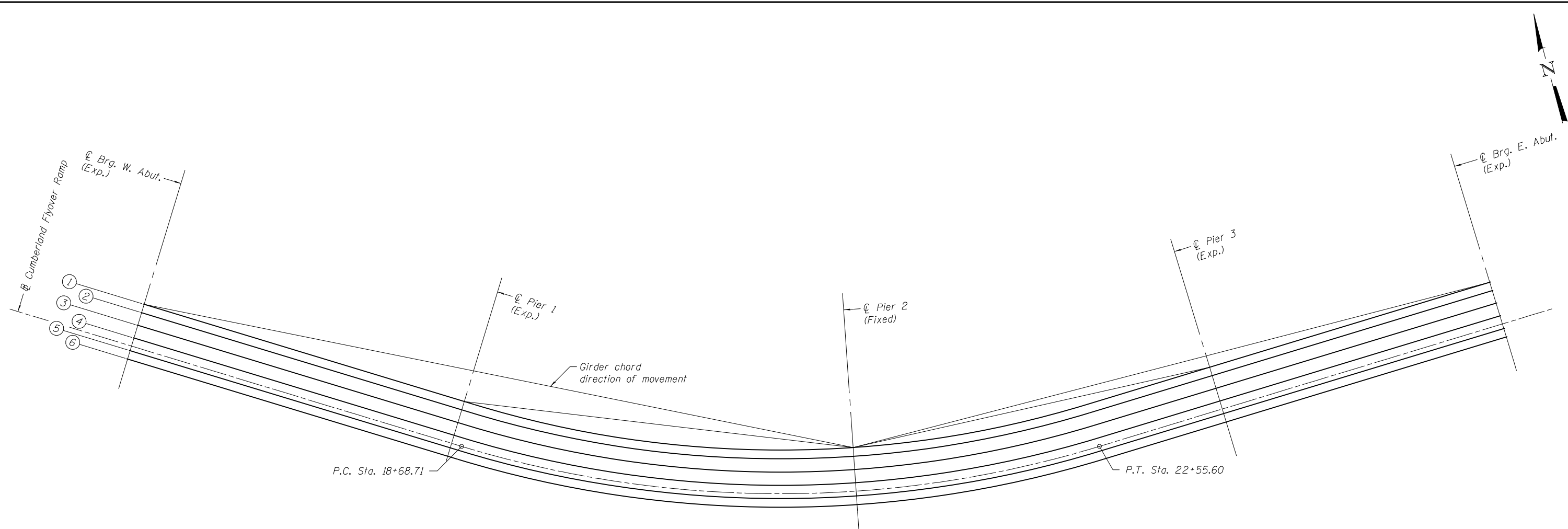
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HIGH-LOAD MULTI-ROTATION BEARINGS EXPANSION
BRIDGE NO. 380**

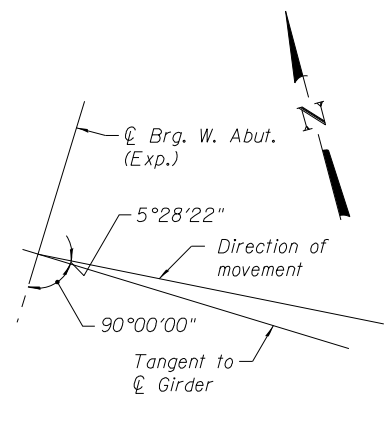
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	360
CONTRACT NO. 60X56				

SHEET NO. 37 OF 61 SHEETS

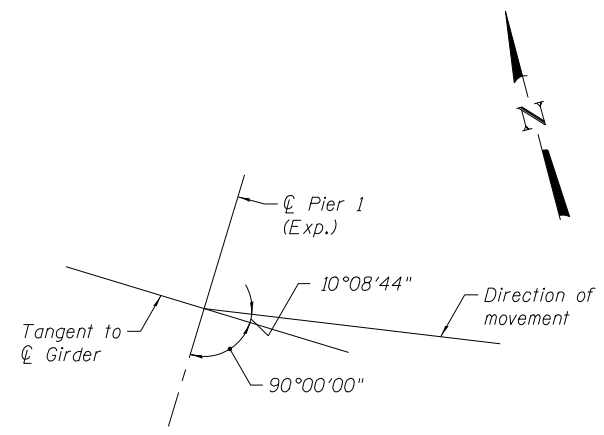
ILLINOIS FED. AID PROJECT



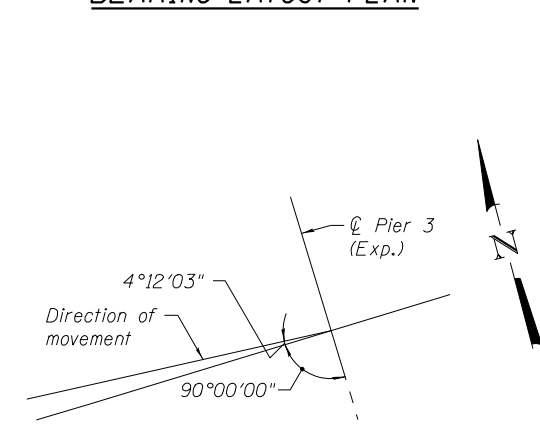
BEARING LAYOUT PLAN



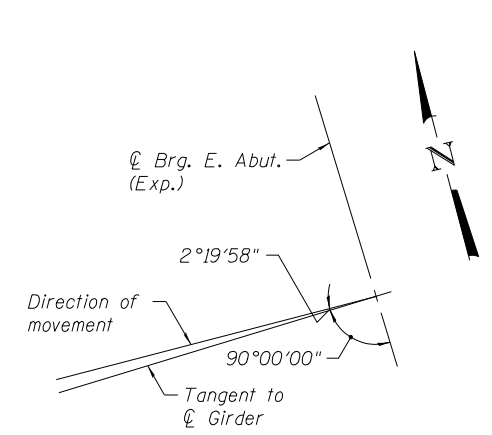
WEST ABUTMENT



PIER 1



PIER 3



EAST ABUTMENT

BEARING ORIENTATION



USER NAME = jblakley	DESIGNED - PCA	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - JFA	REVISED

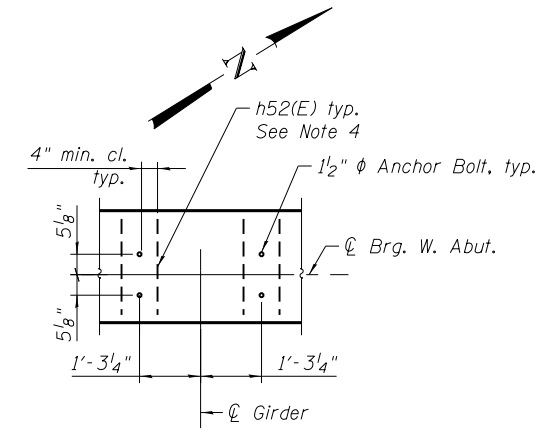
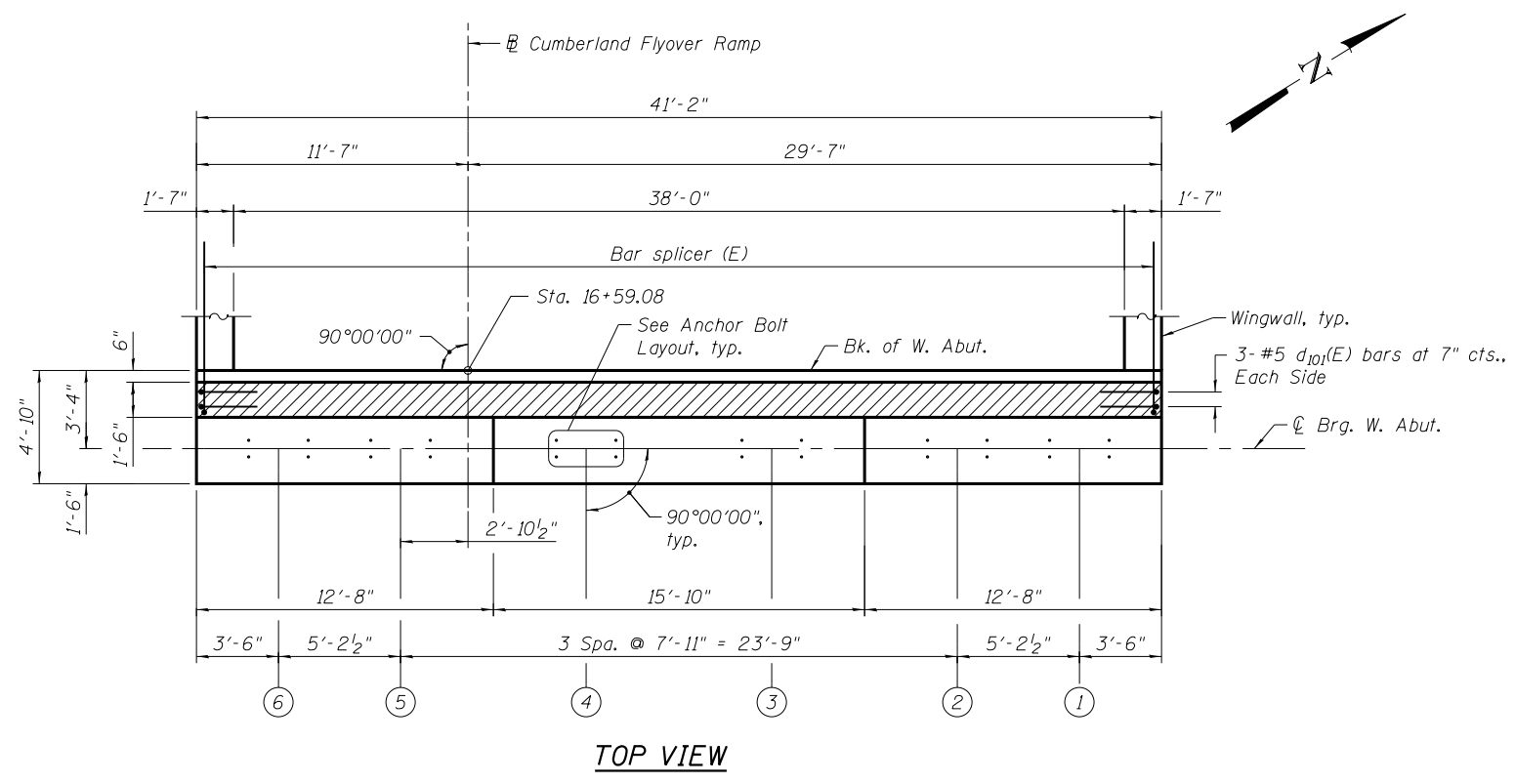
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BEARING ORIENTATION DETAILS
BRIDGE NO. 380**

SHEET NO. 38 OF 61 SHEETS

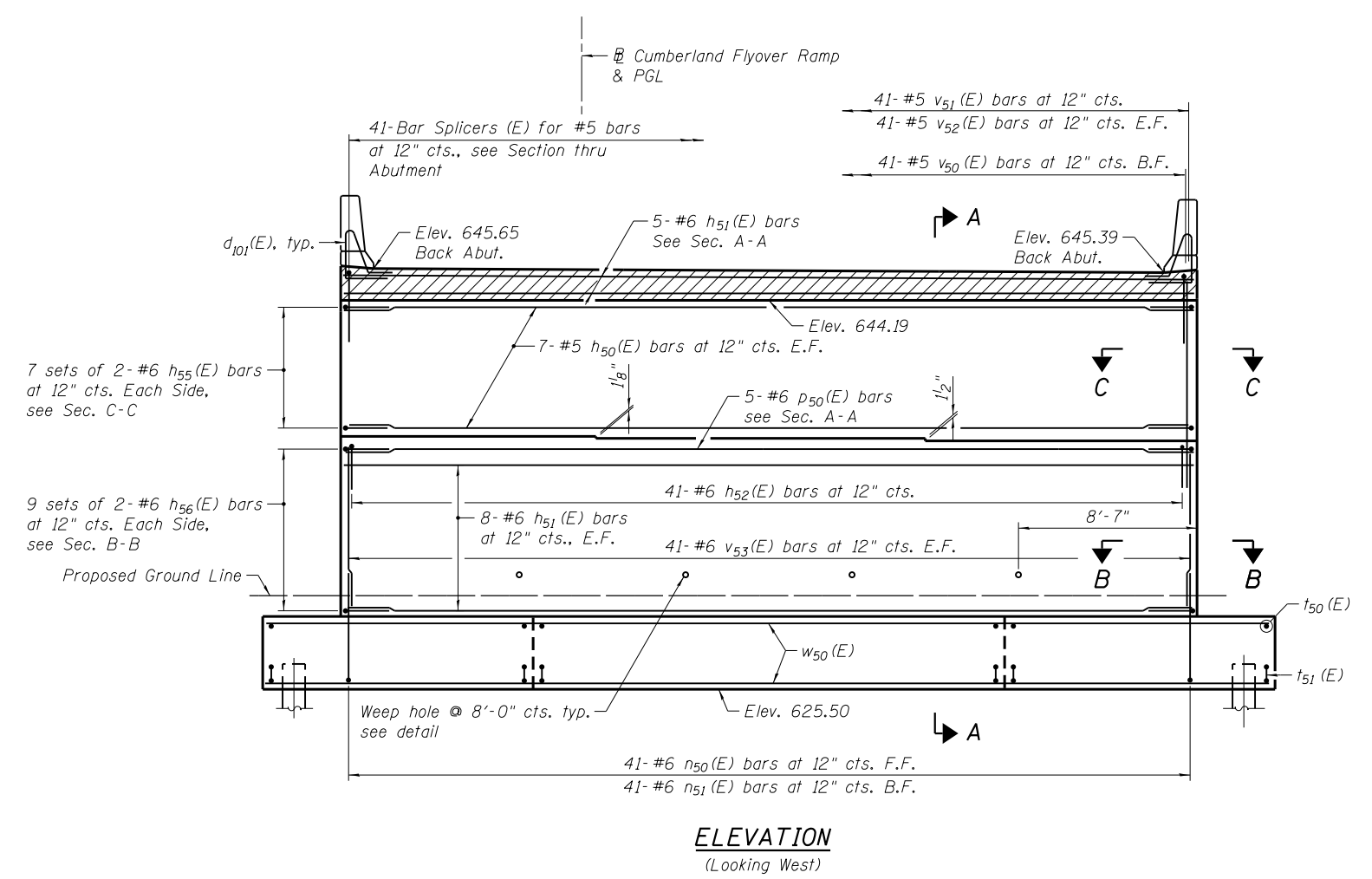
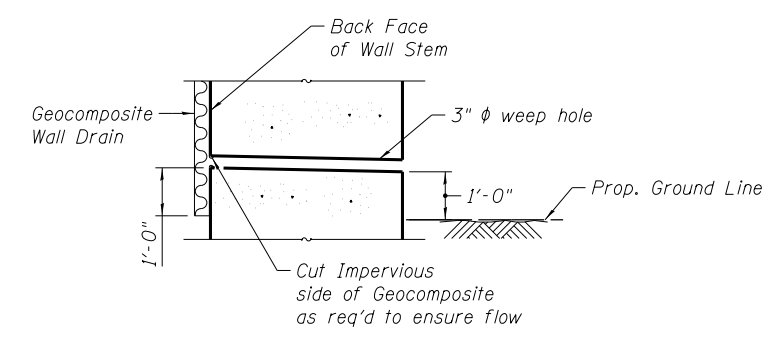
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	361
CONTRACT NO. 60X56				

ILLINOIS FED. AID PROJECT



BEARING SEAT ELEVATIONS

Girder	Elev.
1	637.22
2	637.22
3	637.32
4	637.32
5	637.44
6	637.44



- Notes:
1. For Section A-A, see Sheet 40 of 61.
 2. For Section B-B and C-C, see Sheet 41 of 61.
 3. For Footing layout, see Sheet 40 of 61.
 4. Reinforcement spacing in cap should be adjusted to maintain 4" clear spacing to anchor bolts.
 5. Pour steps monotonically with cap.
 6. For Bill of Material and bar bending diagrams, see Sheet 41 of 61.
 7. For abutment drainage and aesthetic treatment of wingwalls, see Sheet 4 of 61.
 8. Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete to be included with High Performance Concrete Superstructures.



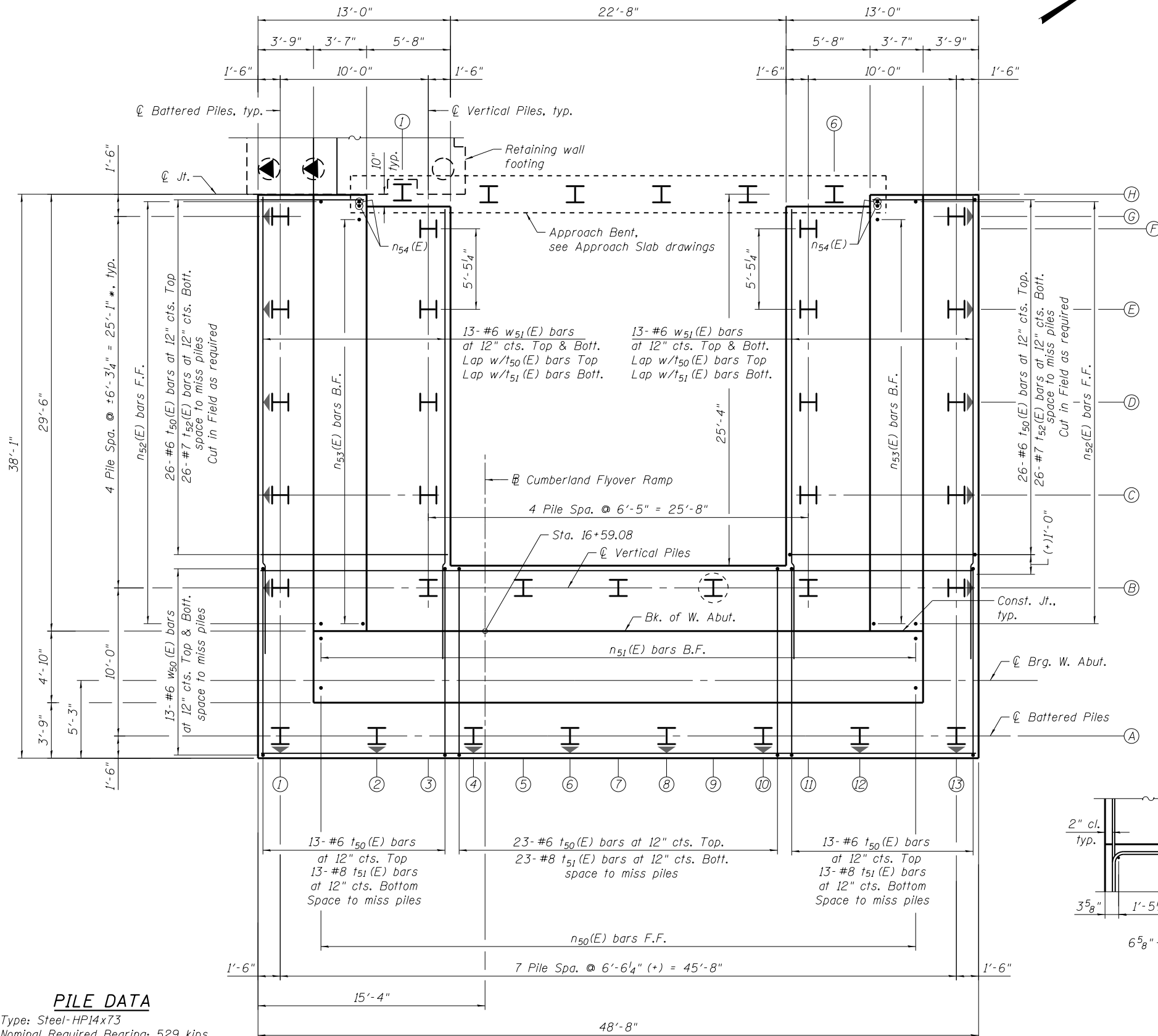
USER NAME = lkalite	DESIGNED - AJN	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0:1.0000 '1' / in.	DRAWN - LK	REVISED
PLOT DATE = 7/29/2016	CHECKED - JFA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT PLAN AND ELEVATION
BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	362
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 39 OF 61 SHEETS

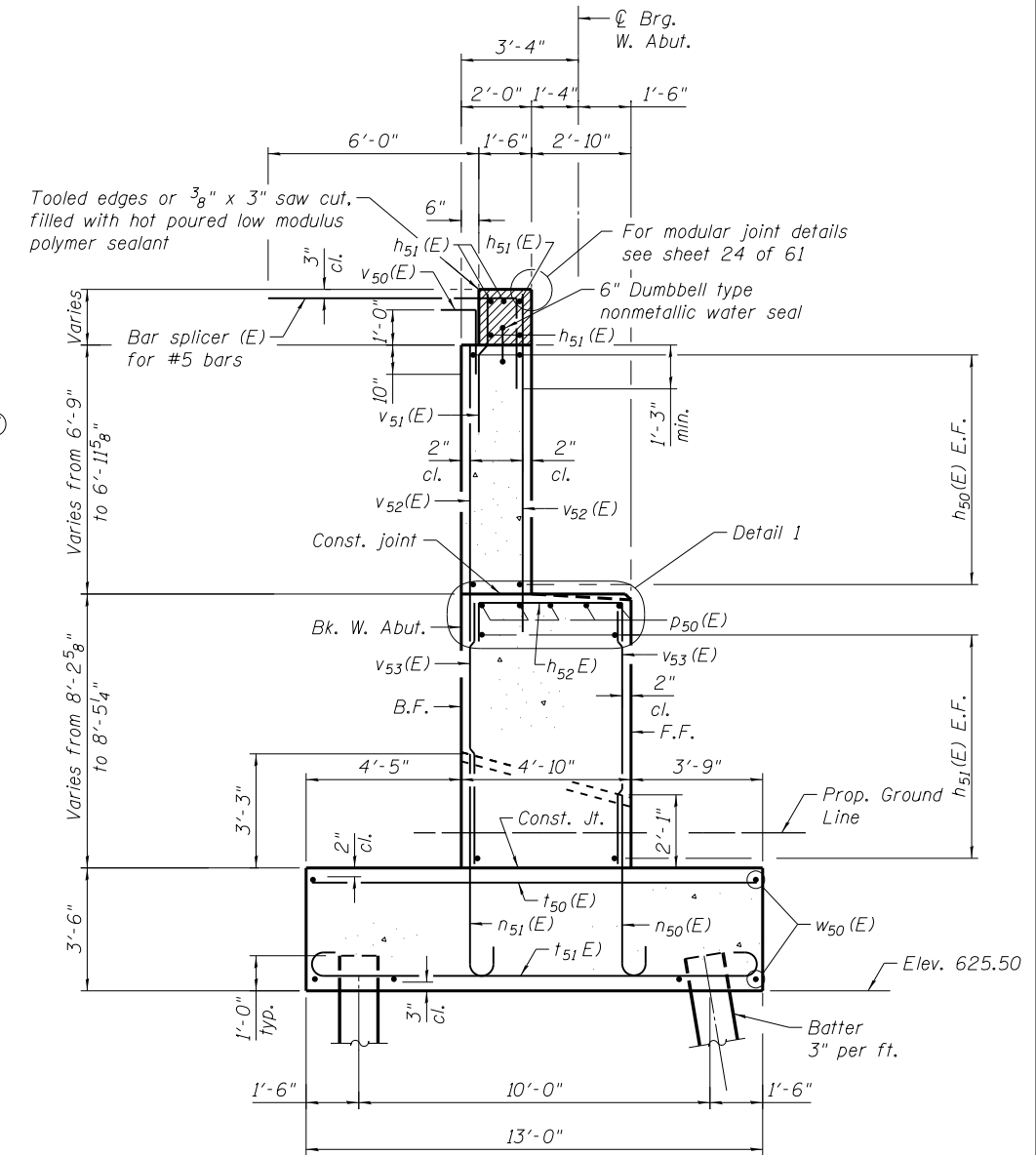


PILE DATA

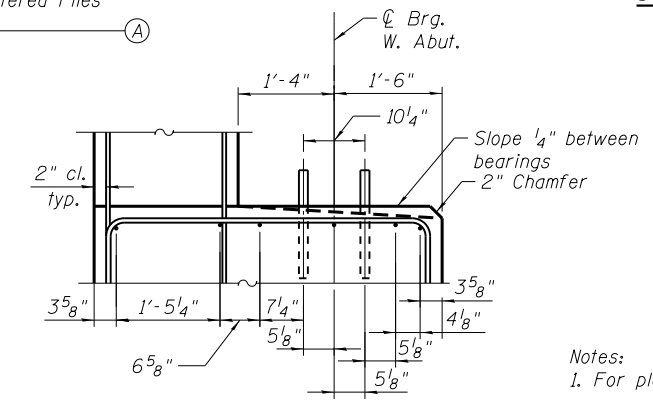
Type: Steel-HPI4x73
 Nominal Required Bearing: 529 kips
 Factored Resistance Available: 291 kips
 Est. Length: 61 ft
 No. Production Piles: 30
 No. Test Piles: 1

FOOTING PLAN

* Unless specified otherwise



SECTION A-A



DETAIL 1

LEGEND:

- Battered Pile
- Test Pile

- Notes:
- For plan and elevation, see Sheet 39 of 61.
 - For Bill of material, see Sheet 41 of 61.
 - Concrete Sealer to be applied to abutment seat and backwall.



USER NAME = kkalite	DESIGNED - AJN	REVISED
PLOT SCALE = 0:1.0000 '1' / in.	CHECKED - JFA	REVISED
PLOT DATE = 7/29/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

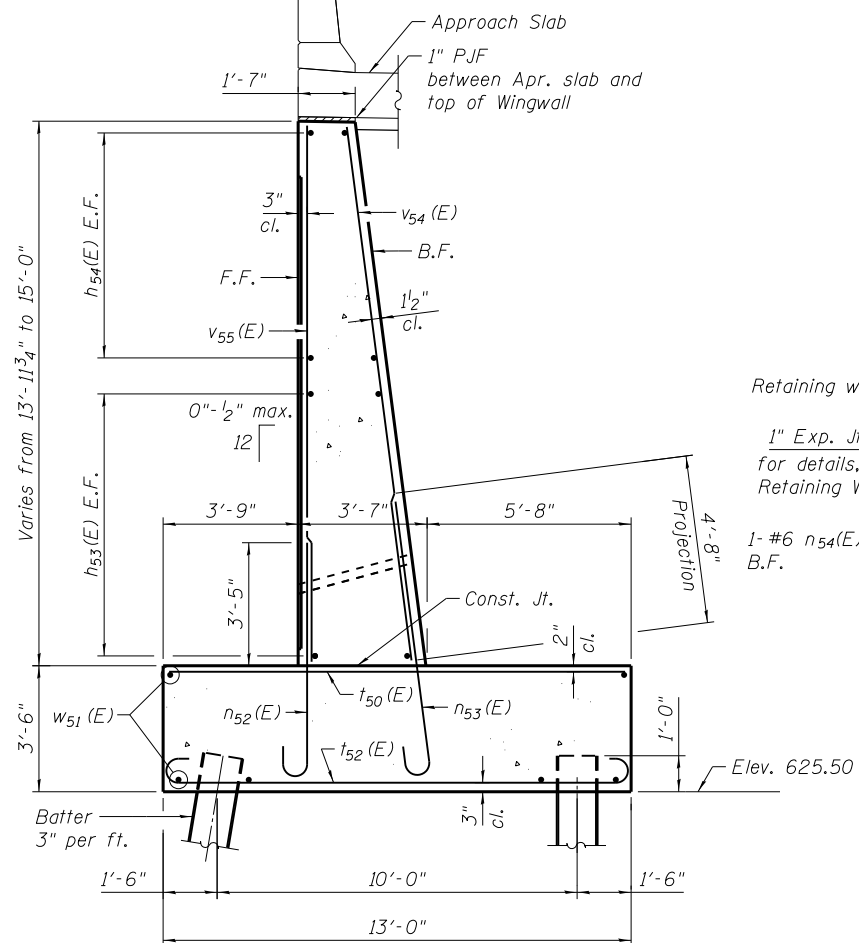
WEST ABUTMENT DETAILS
 BRIDGE NO. 380

SHEET NO. 40 OF 61 SHEETS

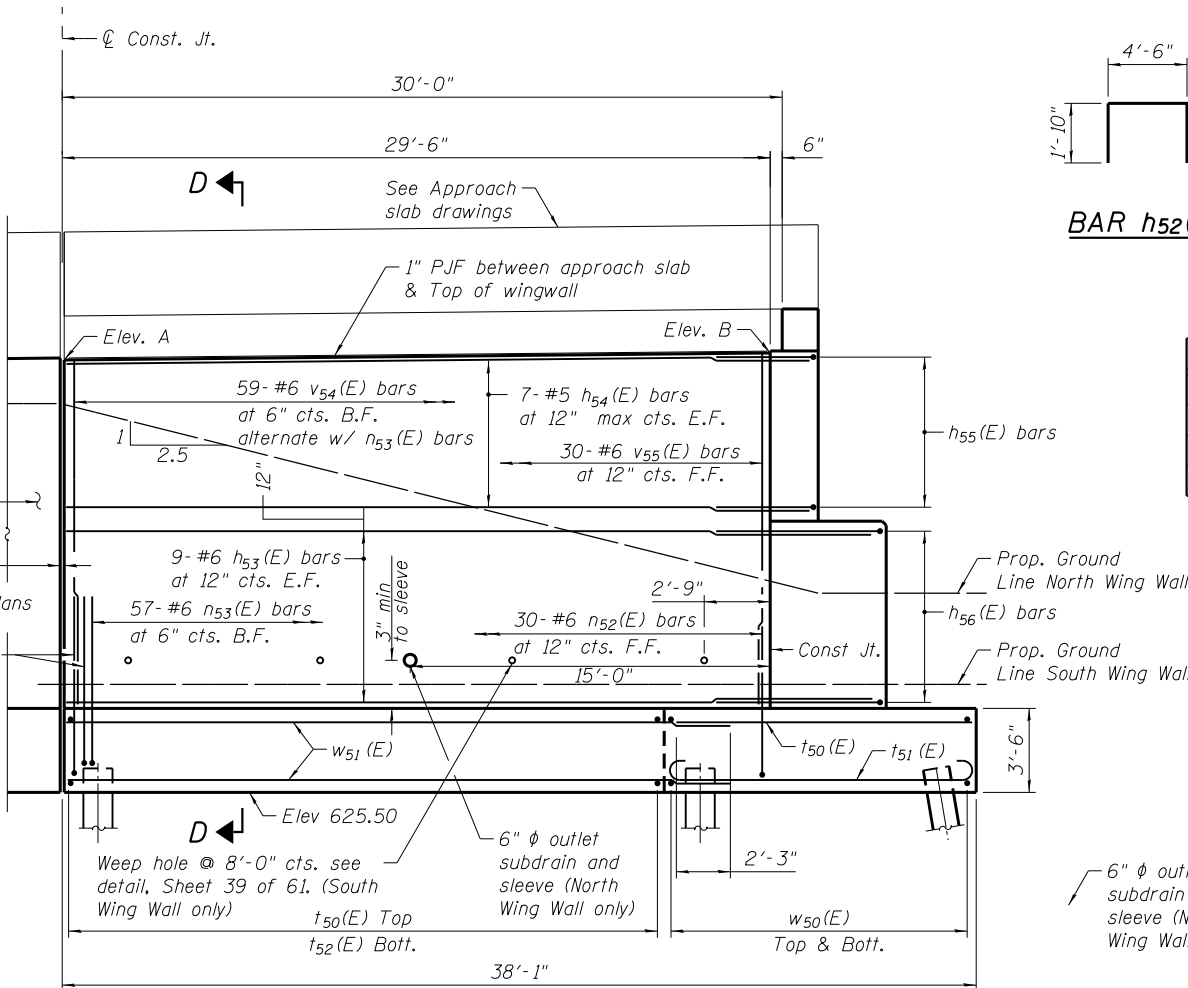
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	363
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

ELEVATION

Girder	Elev. A	Elev. B
N. WWall	642.98	644.00
S. WWall	642.98	644.00

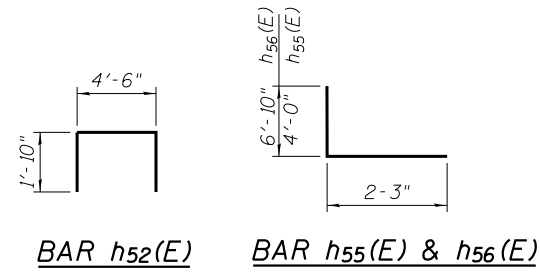


SECTION D-D



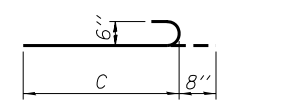
WINGWALL ELEVATION

Looking North
South Wingwall shown.
*North Wingwall does not have retaining wall

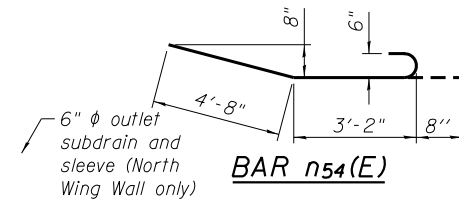


DIM. C

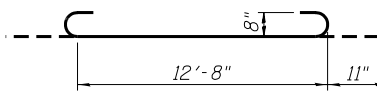
Bar	C
n50(E)	5'-3"
n51(E)	6'-5"
n52(E)	6'-7"
n53(E)	7'-10"



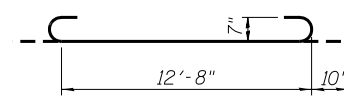
BAR n50(E), n51(E), n52(E), & n53(E)



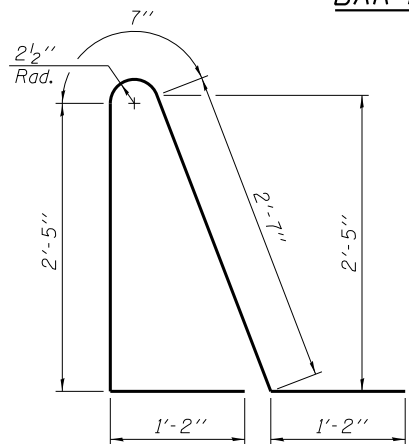
BAR n54(E)



BAR t51(E)



BAR t52(E)

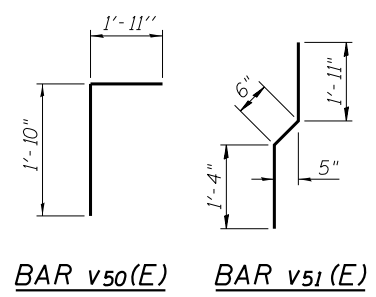


BAR d101(E)

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d101(E)	6	#5	7'-11"	⏏
h50(E)	14	#5	40'-10"	⏏
h51(E)	21	#6	40'-10"	⏏
h52(E)	41	#6	8'-2"	⏏
h53(E)	36	#6	29'-3"	⏏
h54(E)	28	#5	29'-3"	⏏
h55(E)	28	#5	6'-3"	⏏
h56(E)	36	#6	9'-1"	⏏
n50(E)	41	#6	5'-11"	⏏
n51(E)	41	#6	7'-1"	⏏
n52(E)	60	#6	7'-3"	⏏
n53(E)	114	#6	8'-6"	⏏
n54(E)	4	#6	8'-6"	⏏
p50(E)	6	#6	40'-10"	⏏
t50(E)	101	#6	12'-8"	⏏
t51(E)	49	#8	14'-6"	⏏
t52(E)	52	#7	14'-4"	⏏
v50(E)	41	#5	3'-9"	⏏
v51(E)	41	#5	3'-9"	⏏
v52(E)	82	#5	9'-11"	⏏
v53(E)	82	#6	8'-3"	⏏
v54(E)	118	#6	13'-10"	⏏
v55(E)	60	#6	13'-8"	⏏
w50(E)	26	#6	48'-4"	⏏
w51(E)	52	#6	27'-7"	⏏
Structure Excavation		Cu Yd	377	
Concrete Structures		Cu Yd	342	
Reinforcement Bars, Epoxy Coated		Pound	24,130	
Furnishing Steel HP14x73 Piles		Foot	1,830	
Driving Piles		Foot	1,830	
Test Pile Steel HP14x73		Each	1	
Concrete Sealer		Sq Ft	392	
Pipe Underdrain for Structures 6"		Foot	29	
Form Liner		Sq Ft	792	

For details of Bar Splicers, see Sheet 50 of 61.



BAR v50(E) BAR v51(E)

- Notes:
- For plan and elevation, see Sheet 39 of 61.
 - For approach slab details, see Sheets 25 thru 26B of 61.
 - Min. Lap for n52(E) is 2'-1".
 - Min. Lap for n53(E) is 3'-4".
 - For form liner location, see sheet 4 of 61.



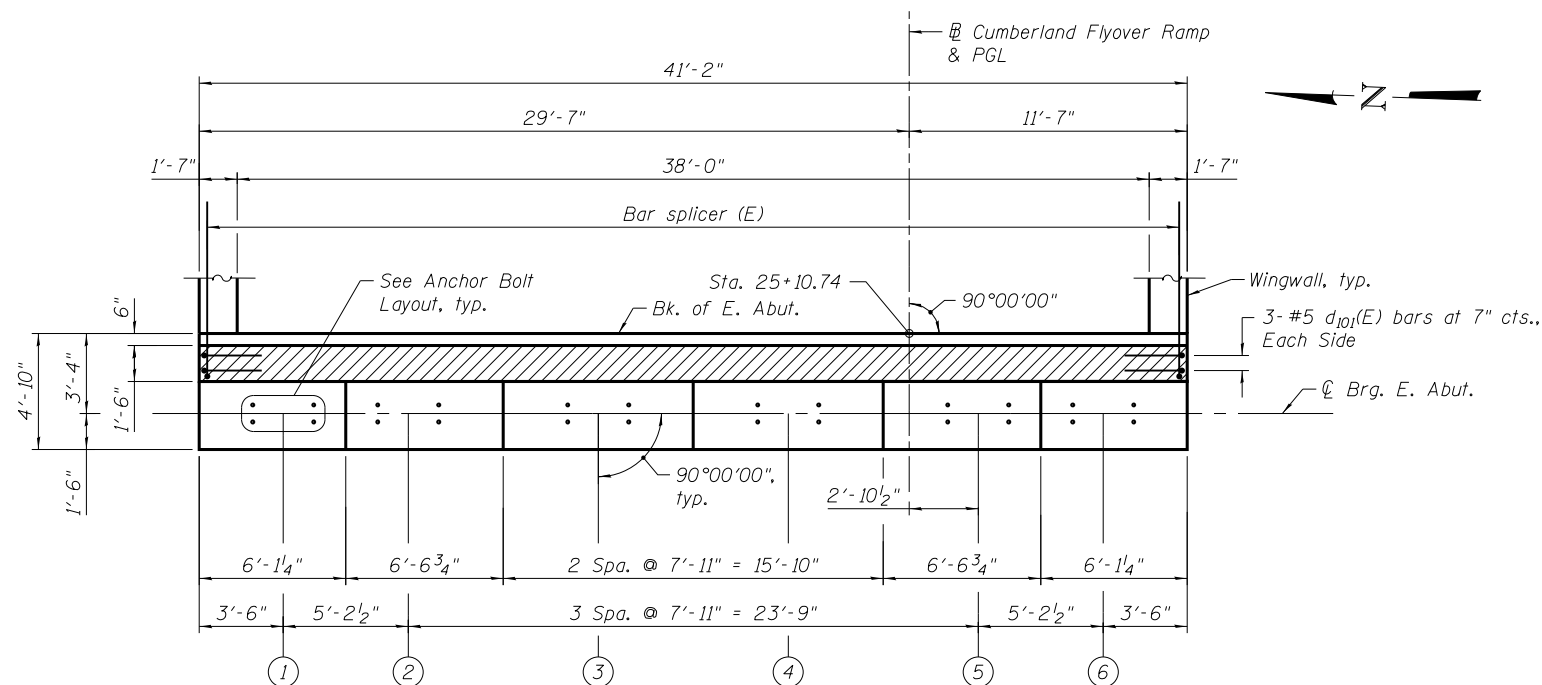
USER NAME = jblakley	DESIGNED - AJN	REVISED
PLOT SCALE = 0.0833' / in.	CHECKED - JFA	REVISED
PLOT DATE = 6/1/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

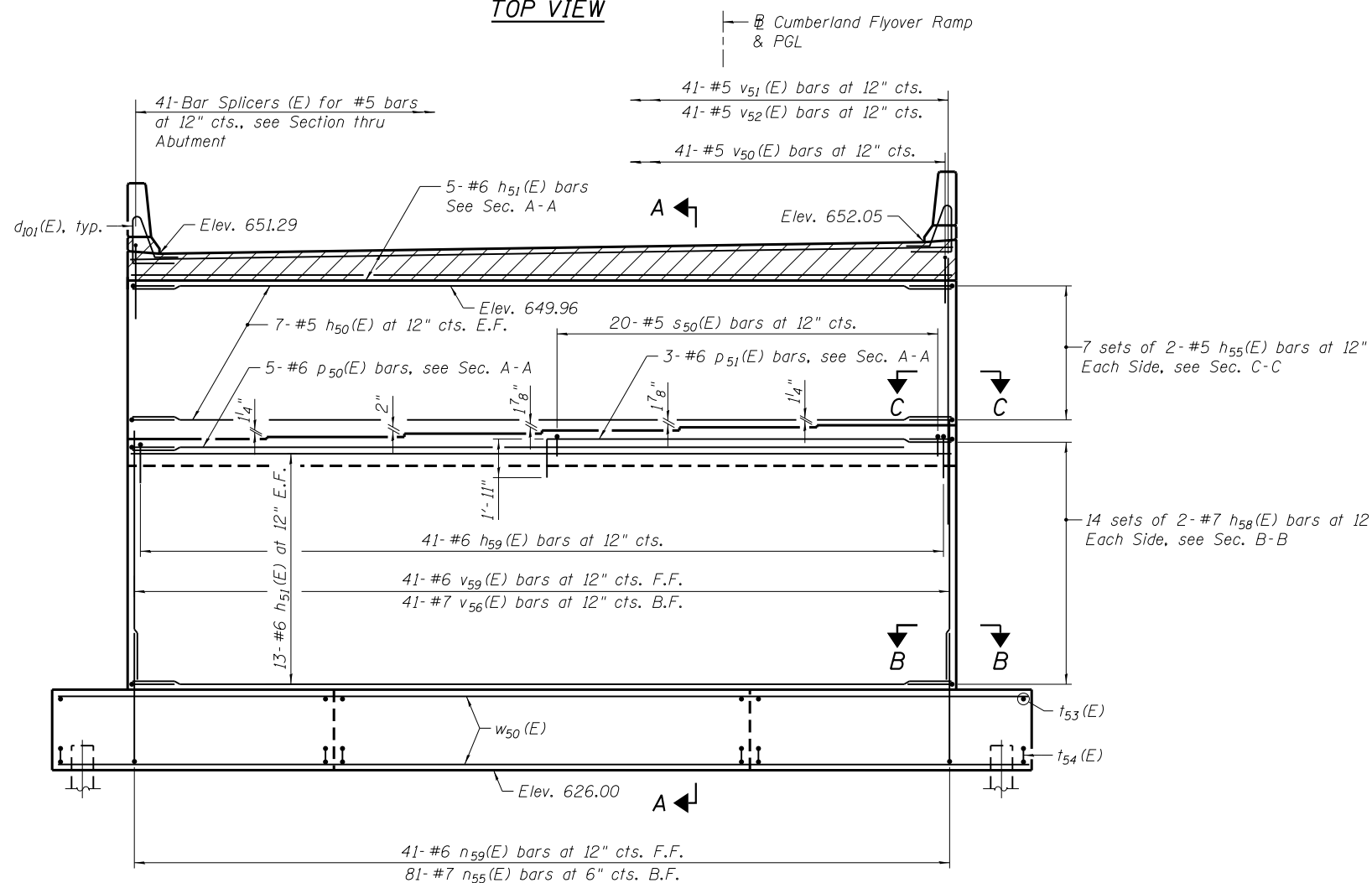
WEST ABUTMENT DETAILS AND BILL OF MATERIAL
BRIDGE NO. 380

SHEET NO. 41 OF 61 SHEETS

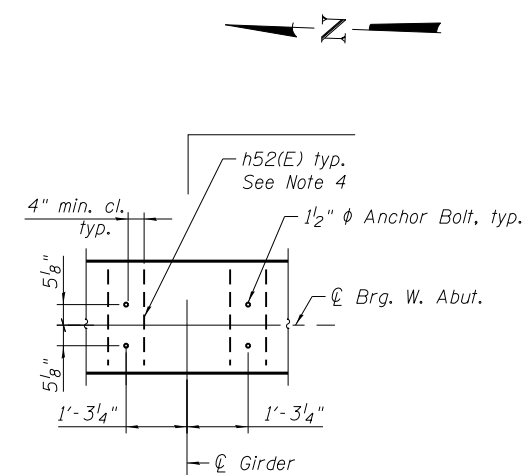
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	364
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	



TOP VIEW



ELEVATION
(Looking East)



ANCHOR BOLT LAYOUT

BEARING SEAT ELEVATION

Girder	Elev.
1	643.22
2	643.32
3	643.48
4	643.64
5	643.80
6	643.90

Notes:

1. For Section A-A see Sheet 43 of 61.
2. For Section B-B and C-C, see Sheet 44 of 61.
3. For Footing layout, see Sheet 43 of 61.
4. Reinforcement spacing caps should be adjusted to maintain 4" clear spacing to anchor bolts.
5. Pour steps monotonically with cap.
6. For Bill of Material and bar bending diagrams, see Sheet 44 of 61.
7. For abutment drainage and aesthetic treatment of wingwalls, see Sheet 4 of 61.
8. Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete to be included with High Performance Concrete Superstructures.



USER NAME = jblakley	DESIGNED - AJN	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0:1.0000 '1' / in.	DRAWN - LK	REVISED
PLOT DATE = 6/1/2016	CHECKED - JFA	REVISED

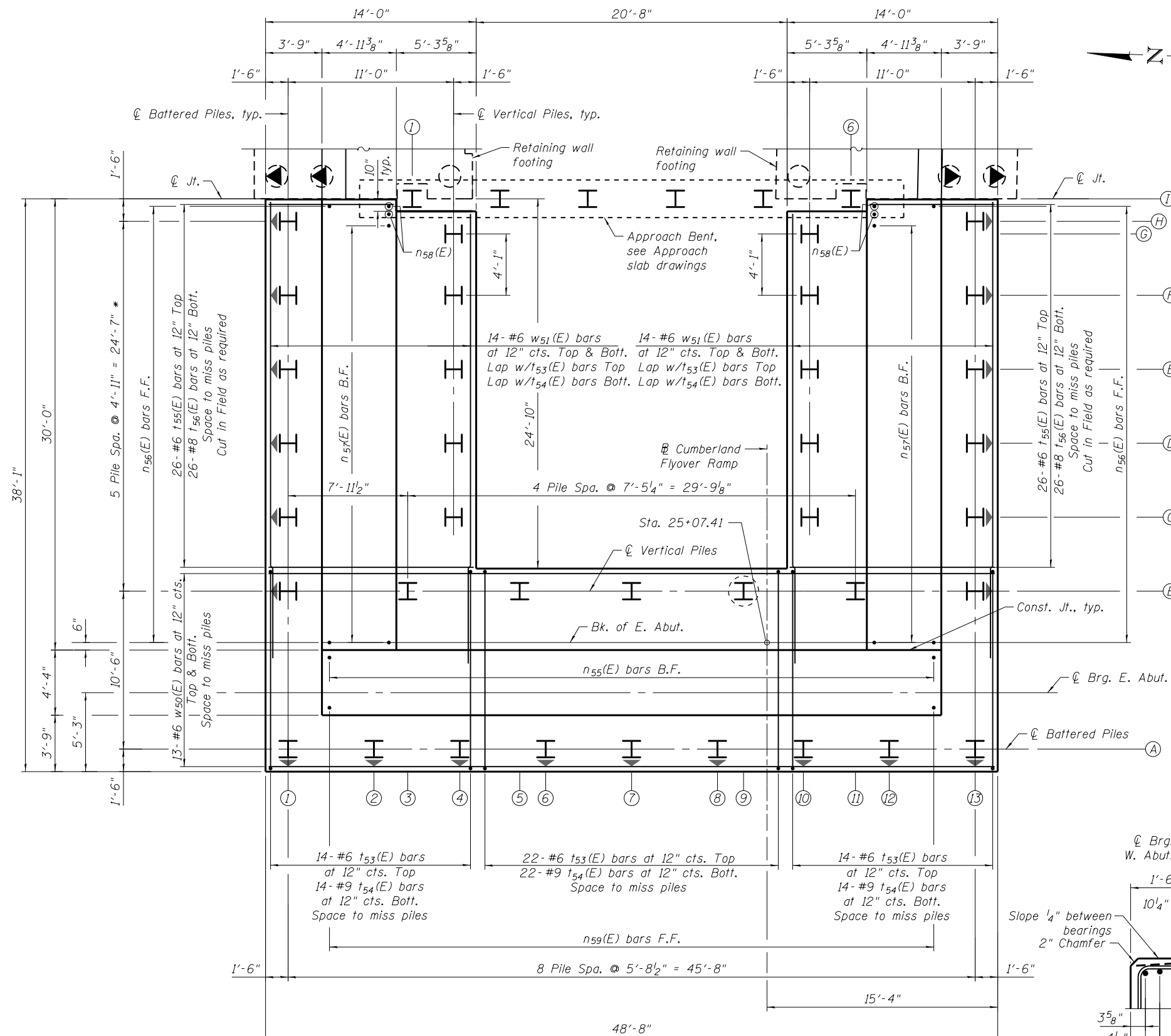
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT PLAN AND ELEVATION
BRIDGE NO. 380**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	365
CONTRACT NO. 60X56				

SHEET NO. 42 OF 61 SHEETS

ILLINOIS FED. AID PROJECT

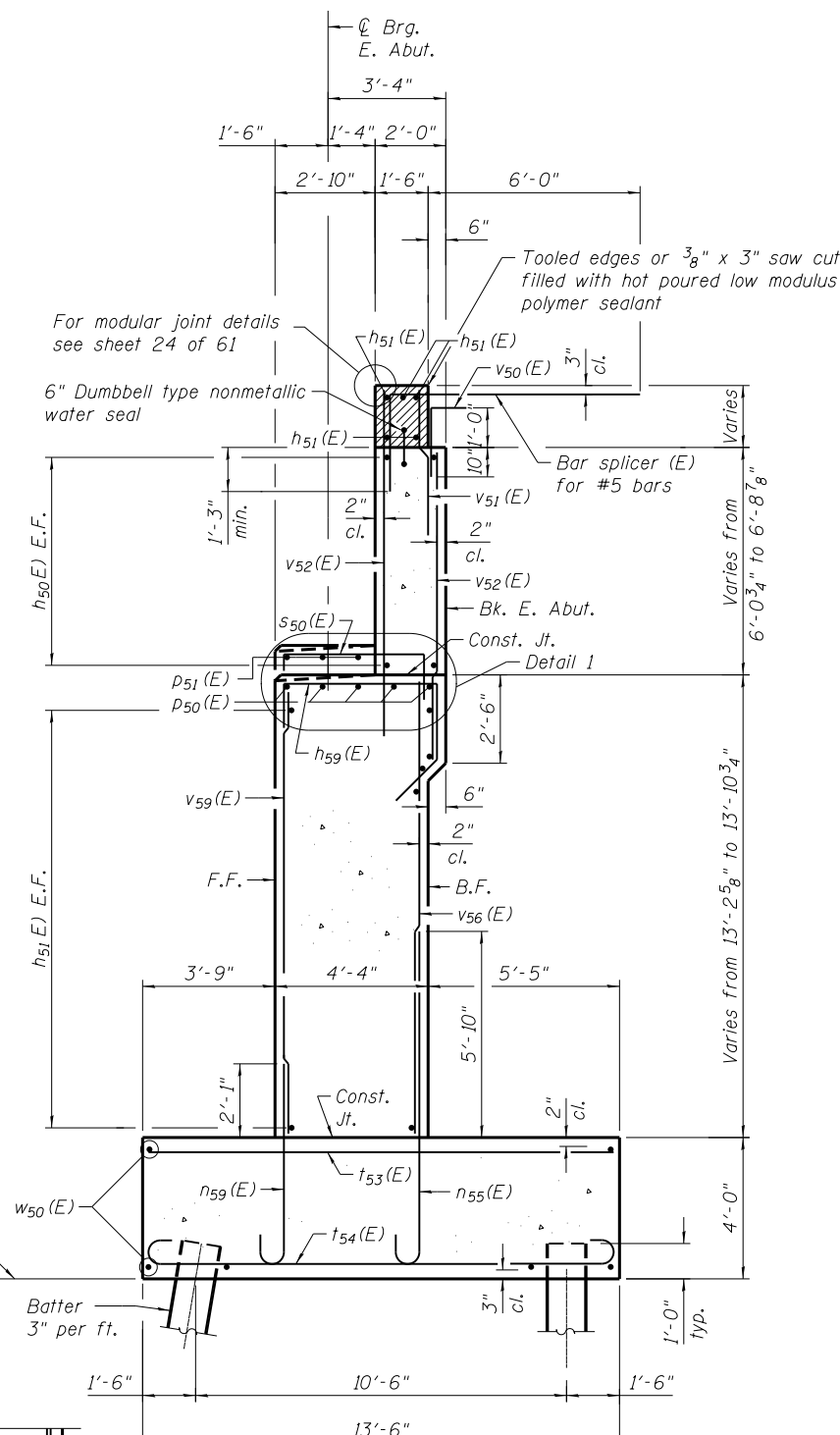


PILE DATA

Type: Steel-HP14x73
 Nominal Required Bearing: 542 kips
 Factored Resistance Available: 298 kips
 Est. Length: 58 ft
 No. Production Piles: 35
 No. Test Piles: 1

FOOTING PLAN

* Unless specified otherwise

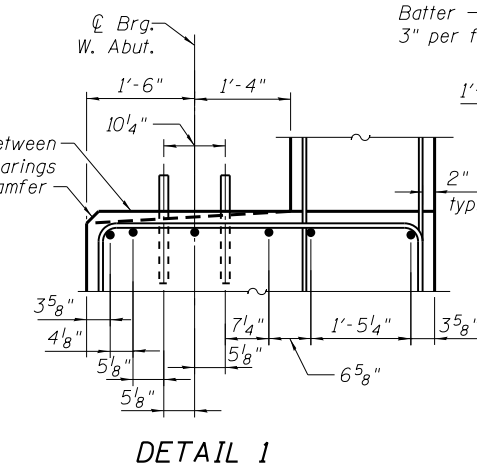


SECTION A-A

LEGEND:

- Battered Pile
- Test Pile

Notes:
 1. For plan and elevation, see Sheet 42 of 61.
 2. For Bill of Material and bar bending diagram, see Sheet 44 of 61.
 3. Concrete sealer to be applied abutment seat and backwall.



DETAIL 1



USER NAME = lkalite	DESIGNED - AJN	REVISED
CHECKED - JFA	REVISED	
DRAWN - LK	REVISED	
CHECKED - JFA	REVISED	

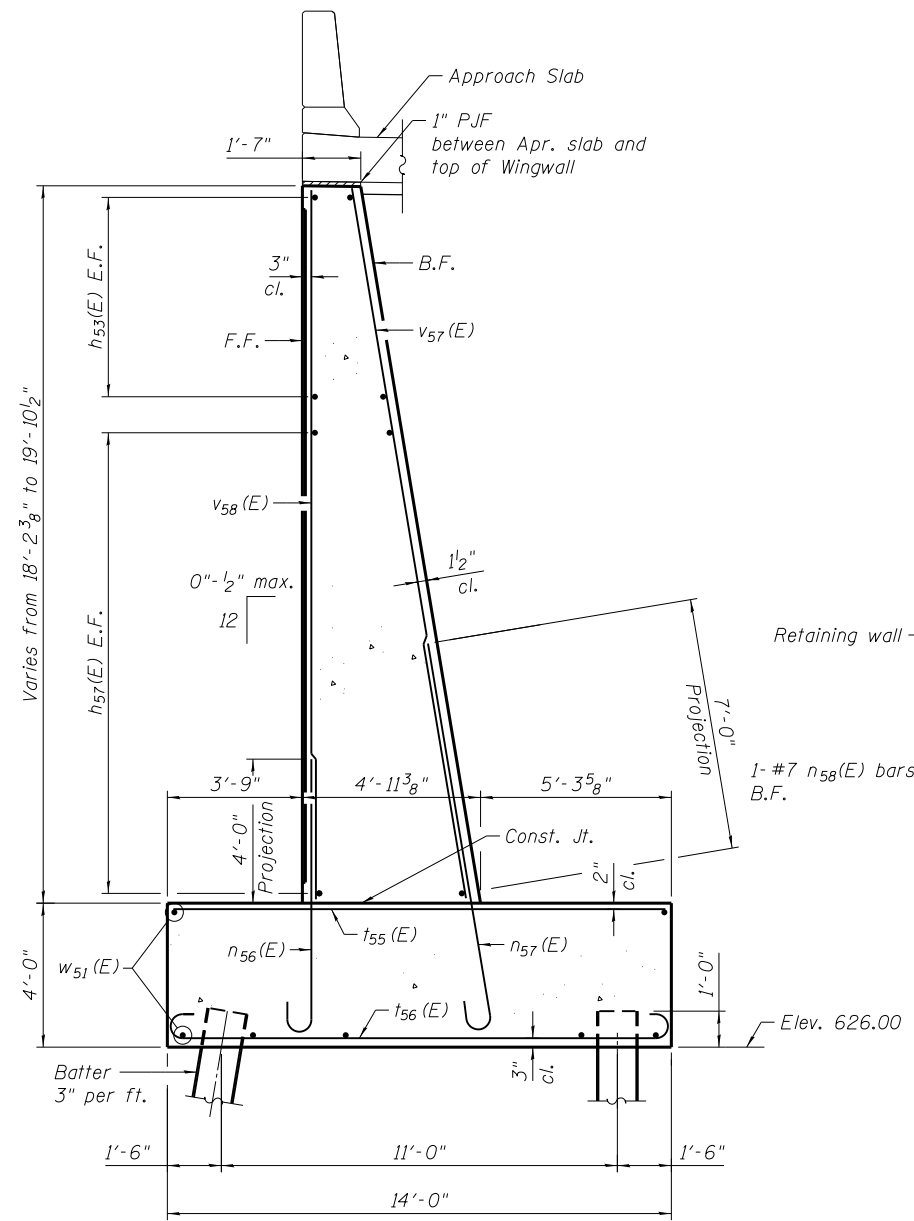
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT DETAILS
 BRIDGE NO. 380**

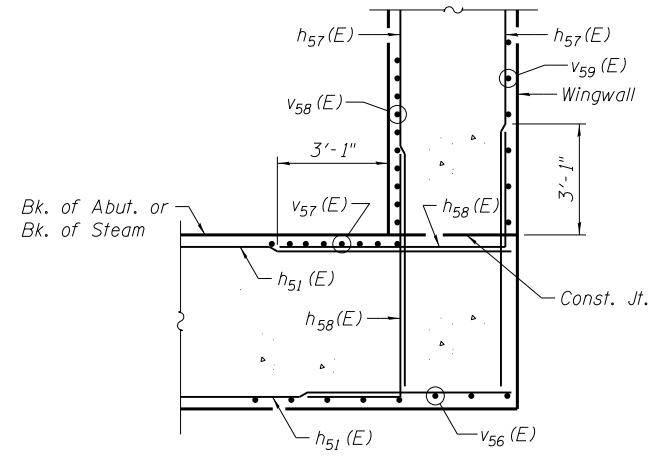
SHEET NO. 43 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	366
CONTRACT NO. 60X56				

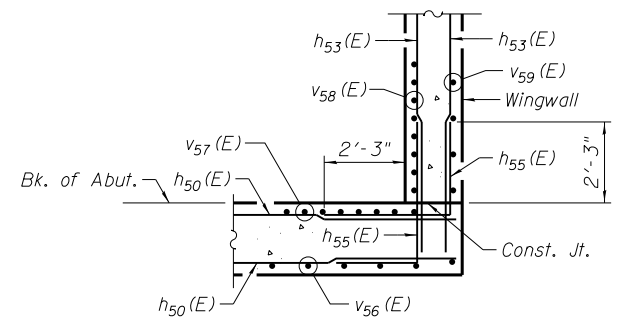
ILLINOIS FED. AID PROJECT



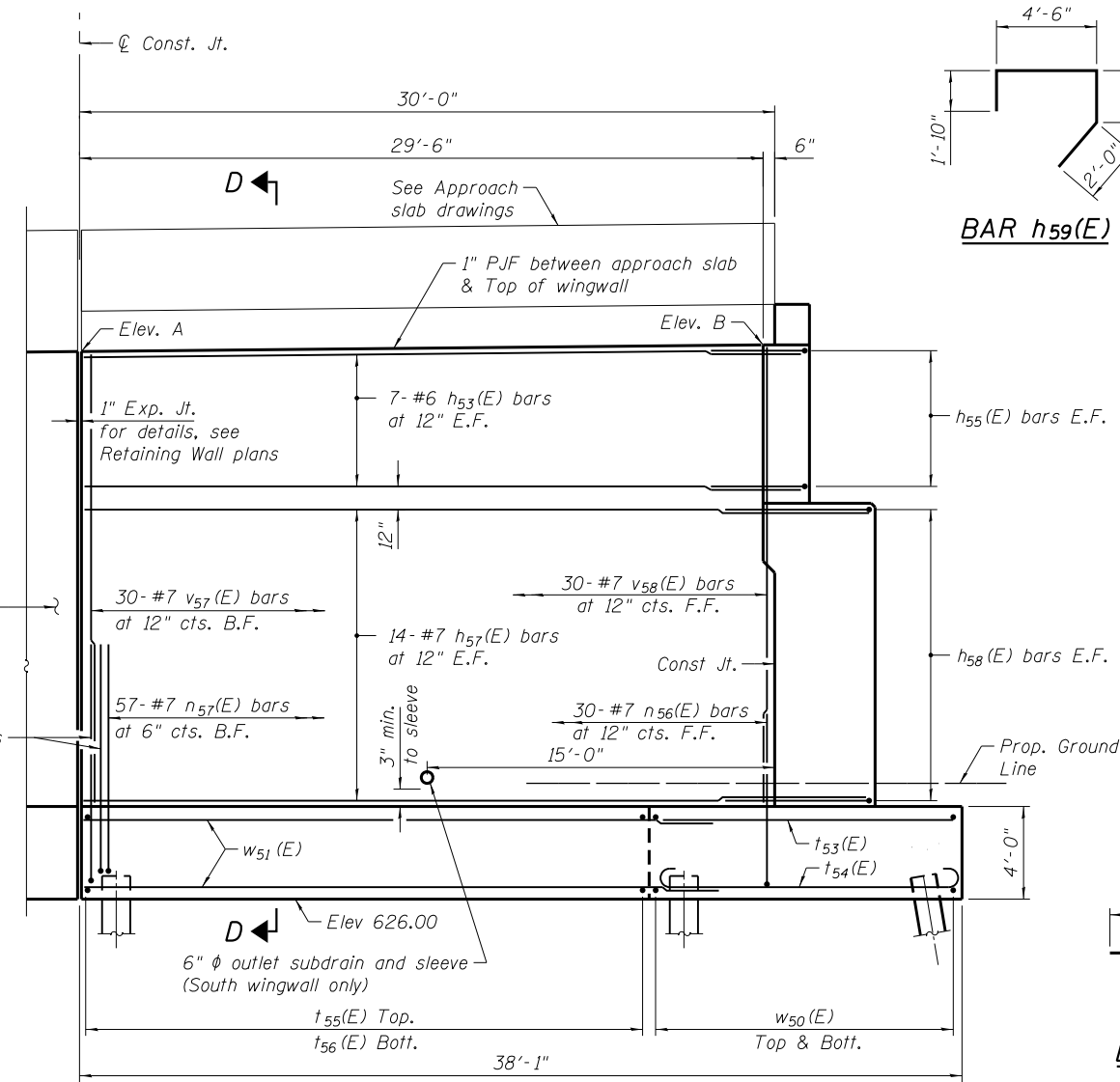
SECTION D-D



SECTION B-B



SECTION C-C

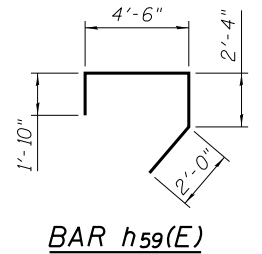


WINGWALL ELEVATION

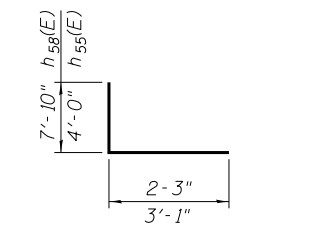
Looking South
N. Wingwall shown, S. Wingwall similar

ELEVATION

Girder	Elev. A	Elev. B
N. WWall	648.20	649.87
S. WWall	648.20	649.87



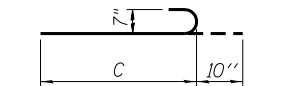
BAR h59(E)



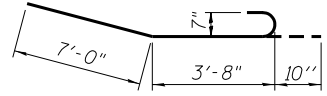
BAR h55(E) & h58(E)

DIM. C

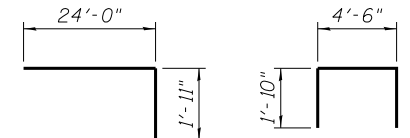
Bar	C
n55(E)	9'-6"
n56(E)	7'-8"
n57(E)	10'-8"
n59(E)	5'-9"



BAR n55(E), n56(E), n57(E) and n59(E)

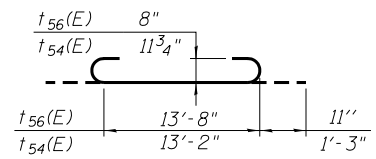


BAR n58(E)

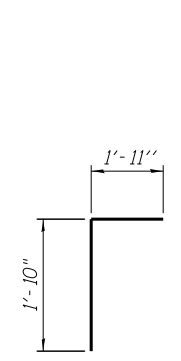


BAR p51(E)

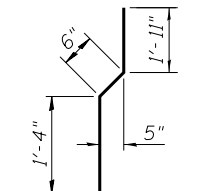
BAR s50(E)



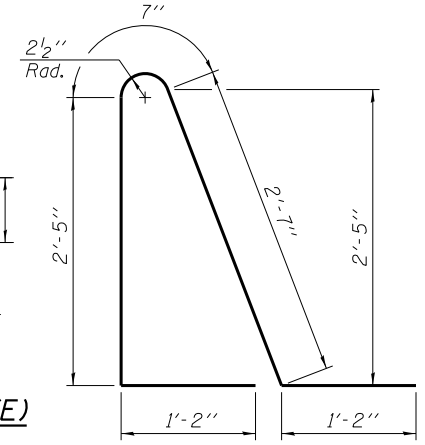
BAR t54(E) & t56(E)



BAR v50(E)



BAR v51(E)



BAR d101(E)

- Notes:
- For plan and elevation, see Sheet 42 of 61.
 - For approach slab details, see Sheets 25 thru 26B of 61.
 - Min. Lap for n57(E) is 3'-4".
 - Min. Lap for n56(E) is 2'-1".
 - Concrete Sealer to be applied to exposed face of north wingwall.
 - For form liner location, see sheet 4 of 61.

**EAST ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d101(E)	6	#5	7'-11"	└
h50(E)	14	#5	40'-10"	—
h51(E)	31	#6	40'-10"	—
h53(E)	28	#6	29'-3"	—
h55(E)	28	#5	6'-3"	└
h57(E)	56	#7	29'-3"	—
h58(E)	56	#7	10'-11"	└
h59(E)	41	#6	10'-8"	—
n55(E)	81	#7	10'-4"	└
n56(E)	60	#7	8'-6"	└
n57(E)	114	#7	11'-6"	└
n58(E)	4	#7	11'-6"	└
n59(E)	41	#6	6'-7"	└
p50(E)	6	#6	40'-10"	—
p51(E)	4	#6	25'-11"	└
s50(E)	20	#5	6'-2"	└
t53(E)	50	#6	13'-2"	—
t54(E)	50	#9	15'-5"	└
t55(E)	52	#6	13'-8"	—
t56(E)	52	#8	15'-6"	└
v50(E)	41	#5	3'-9"	└
v51(E)	41	#5	3'-9"	└
v52(E)	82	#5	9'-11"	—
v56(E)	41	#7	13'-6"	—
v57(E)	60	#7	17'-2"	—
v58(E)	60	#7	18'-6"	—
v59(E)	41	#6	13'-6"	—
w50(E)	26	#6	48'-4"	—
w51(E)	56	#6	27'-7"	—
Structure Excavation			Cu Yd	314
Concrete Structures			Cu Yd	457
Reinforcement Bars, Epoxy Coated			Pound	34,340
Furnishing Steel Piles HP 14x73			Foot	2,030
Driving Piles			Foot	2,030
Test Pile HP 14x73			Each	1
Concrete Sealer			Sq Ft	976
Pipe Underdrains for Structures 6"			Foot	92
Form Liner			Sq Ft	1,143

For details of Bar Splicers, see sheet 50 of 61.



USER NAME = mkutsko	DESIGNED -	REVISED
PLOT SCALE = 0.0833' / in.	CHECKED - JFA	REVISED
PLOT DATE = 6/3/2016	DRAWN - LK	REVISED
	CHECKED - JFA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

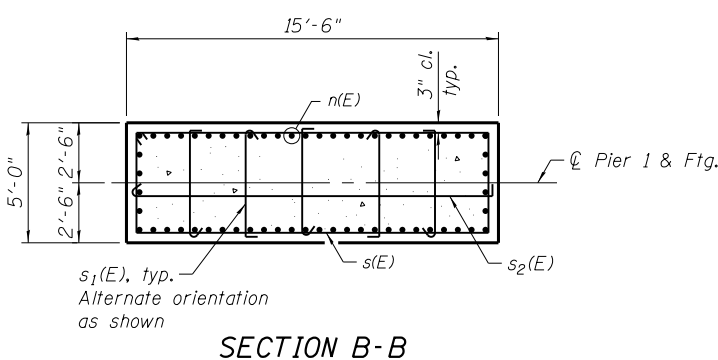
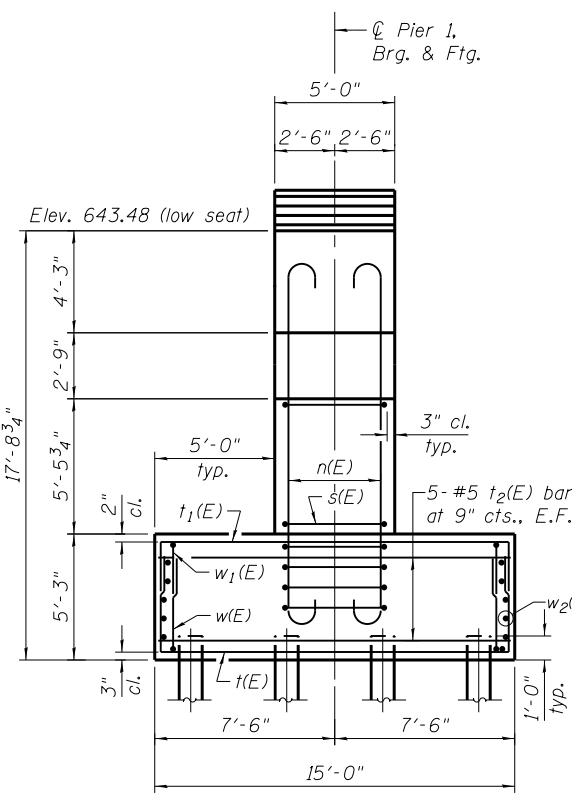
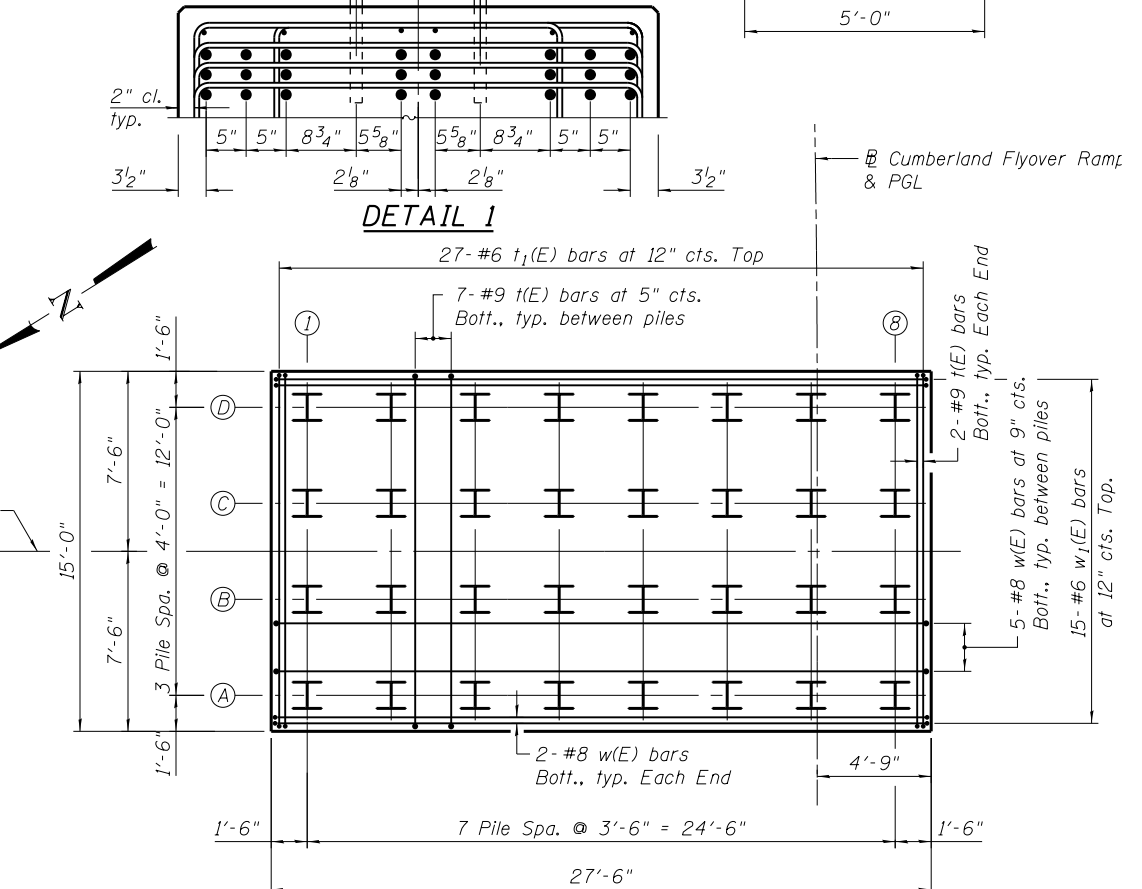
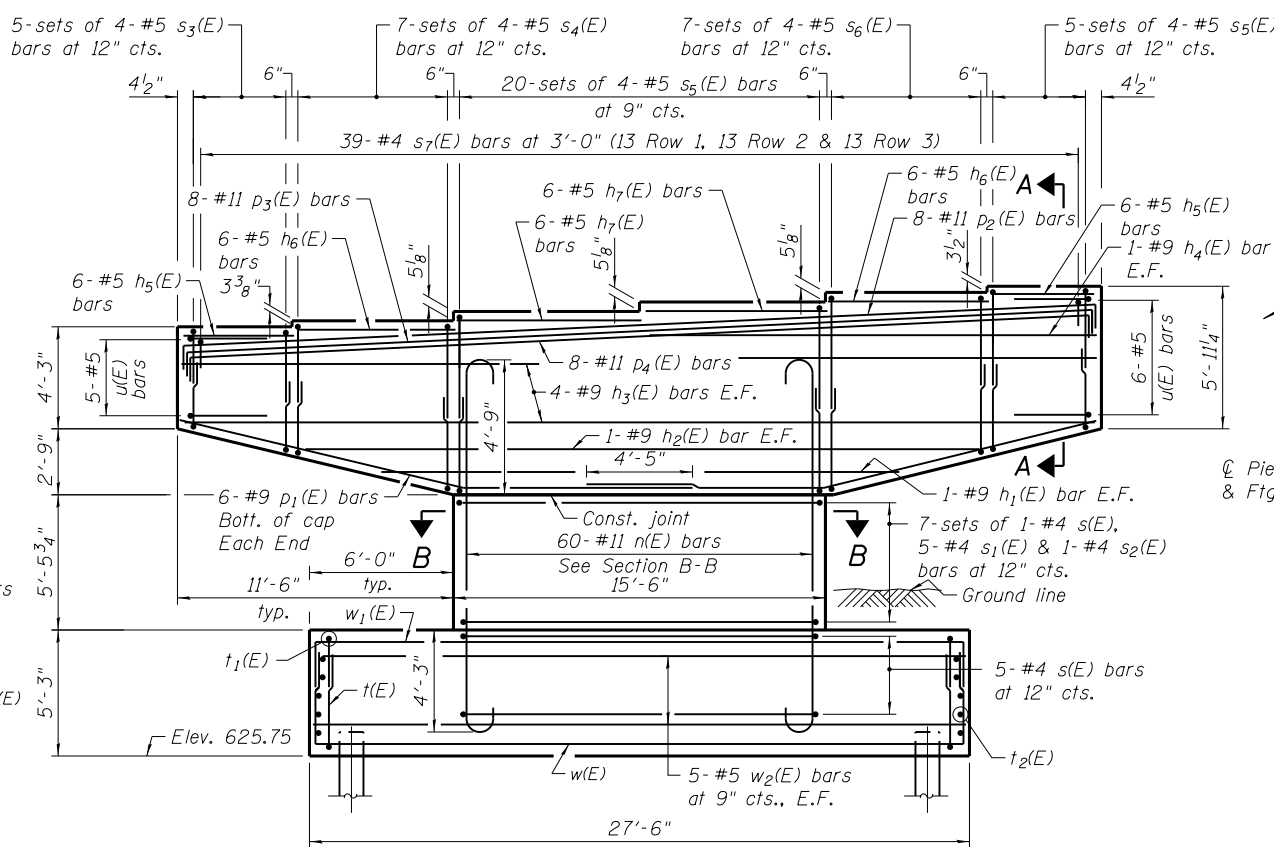
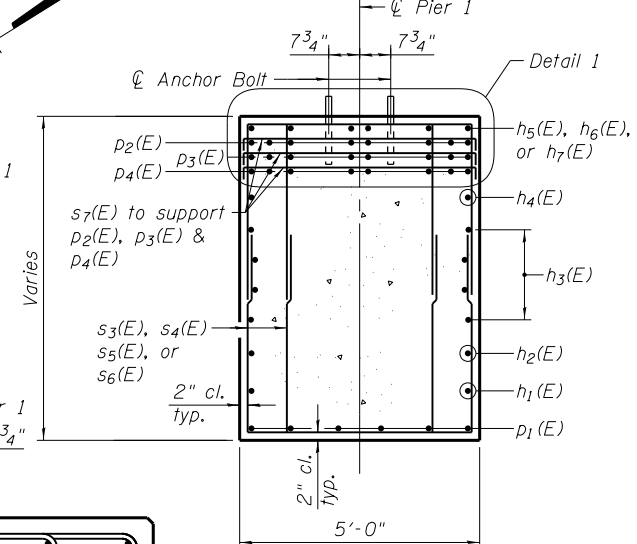
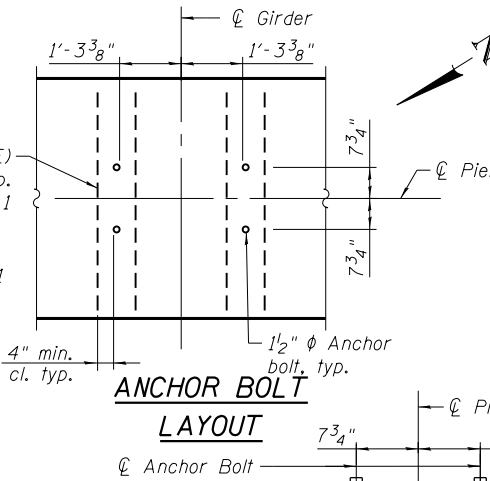
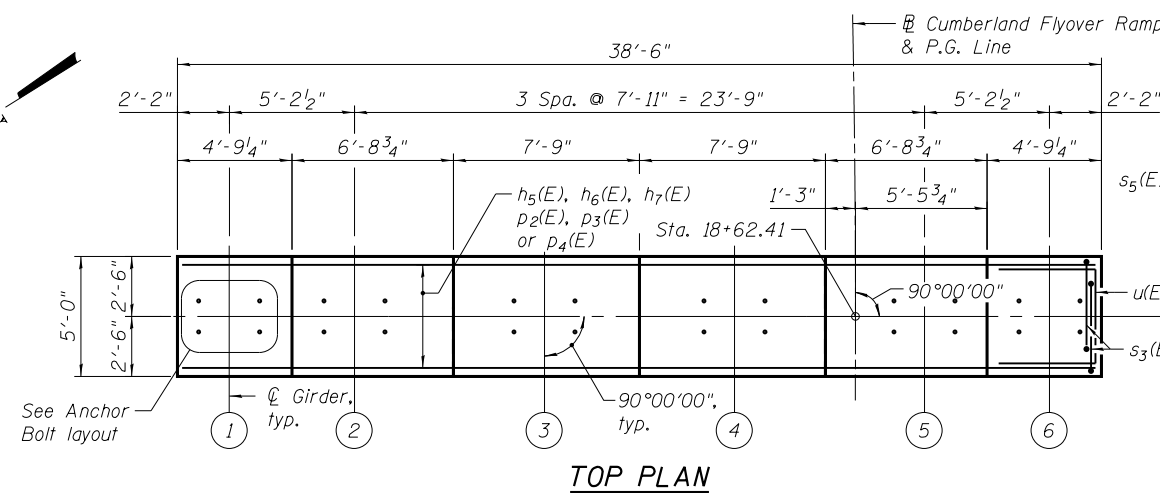
EAST ABUTMENT DETAILS AND BILL OF MATERIAL
BRIDGE NO. 380

SHEET NO. 44 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	367
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

SEAT ELEVATIONS

Girder	Elev.
1	643.48
2	643.76
3	644.19
4	644.62
5	645.04
6	645.33



PILE DATA
 Type: Steel-HP 14x73
 Nominal Required Bearing: 568 kips
 Factored Resistance Available: 312 kips
 Est. Length: 67 ft
 No. Production Piles: 31
 No. Test Piles: 1

- Notes:
1. Reinforcement spacing in cap should be adjusted to maintain 4" clear spacing to anchor bolts.
 2. Pour steps monolithically with cap.
 3. For details of piles, see Sheet 49 of 61.
 4. For Bill of Material and bar bending diagrams, see Sheet 48 of 61.
 5. The pier cap shall be 4,500 psi concrete and is included in the item Concrete Structures (Special). The concrete in the footing and column shall be 3,500 psi and shall be included in the item Concrete Structures.
 6. Min. lap for s3(E), s4(E), s5(E), and s6(E) is 2'-7".
 7. Concrete Sealer to be applied to all exposed faces of pier with the exception of the pier seat.



USER NAME = kcolite	DESIGNED - AJN	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0:0.999998 '1' / in.	DRAWN - LK/AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - JFA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 DETAILS
 BRIDGE NO. 380

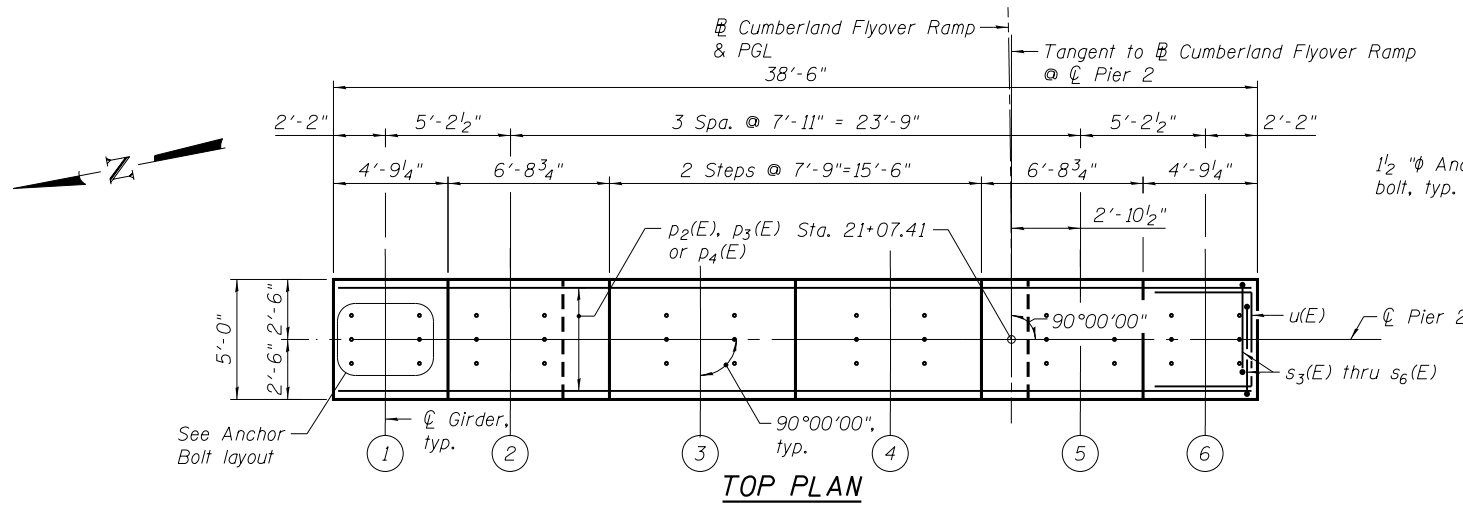
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	368
CONTRACT NO. 60X56				

SHEET NO. 45 OF 61 SHEETS

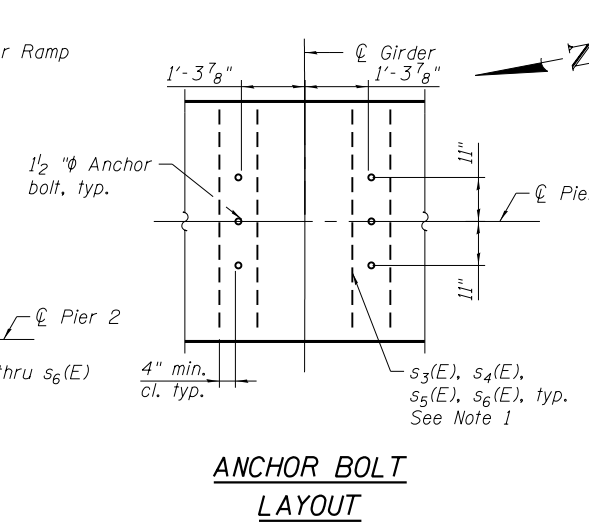
ILLINOIS FED. AID PROJECT

SEAT ELEVATIONS

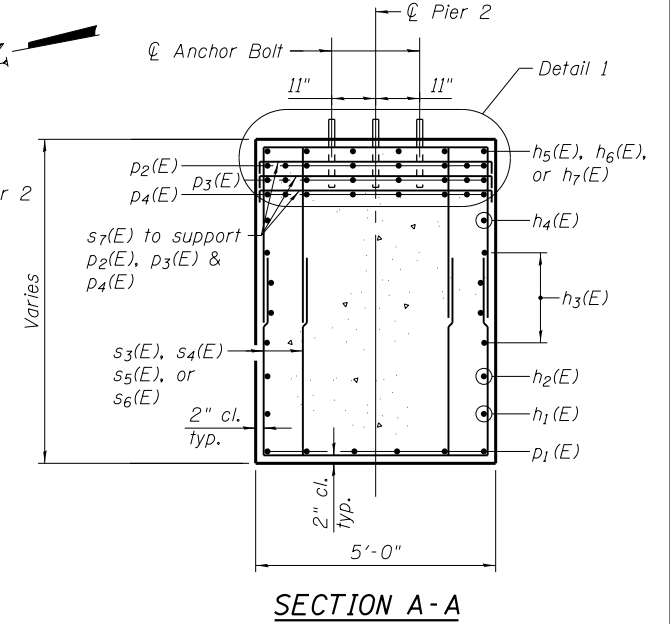
Girder	Elev.
1	650.43
2	650.74
3	651.22
4	651.69
5	652.17
6	652.48



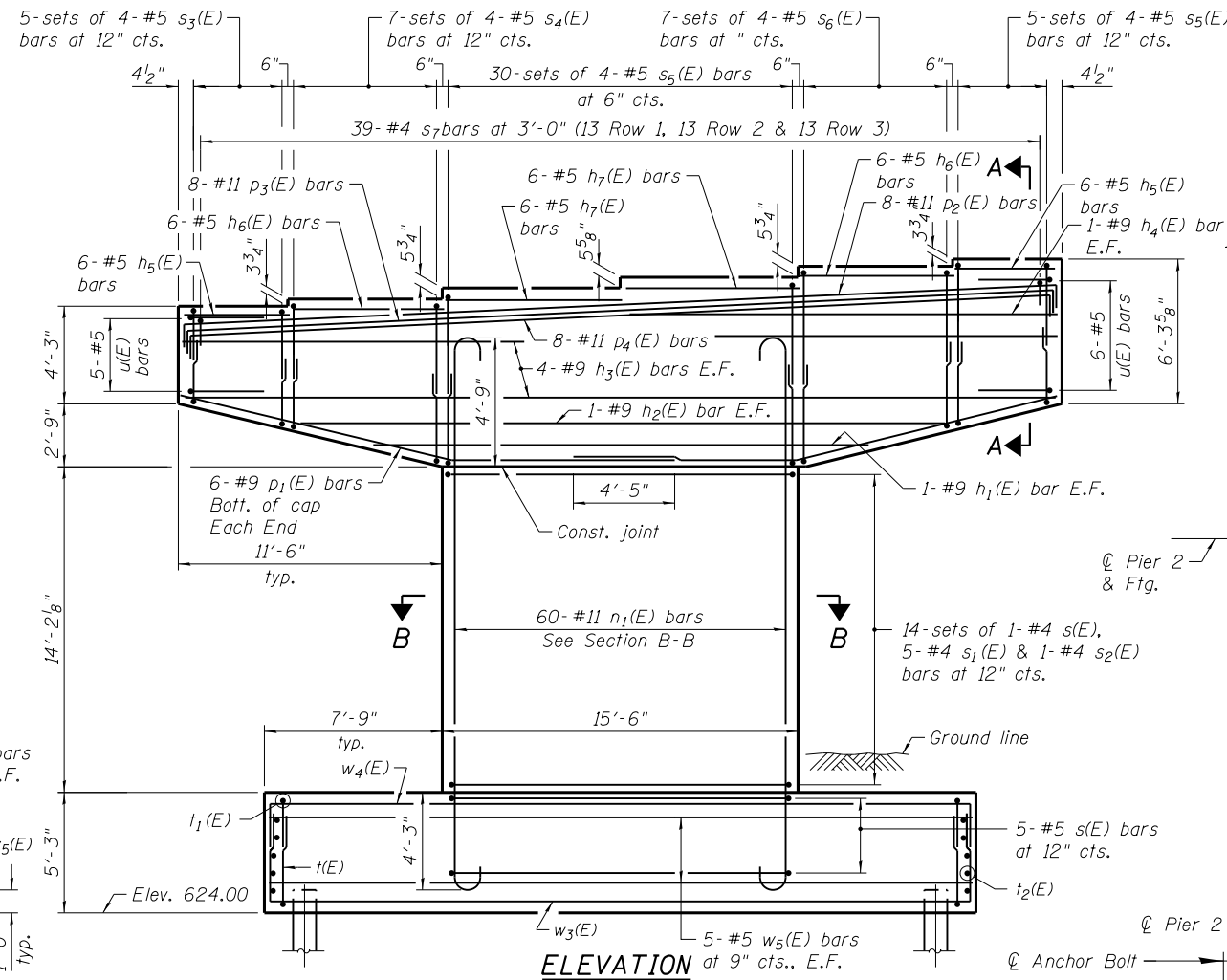
TOP PLAN



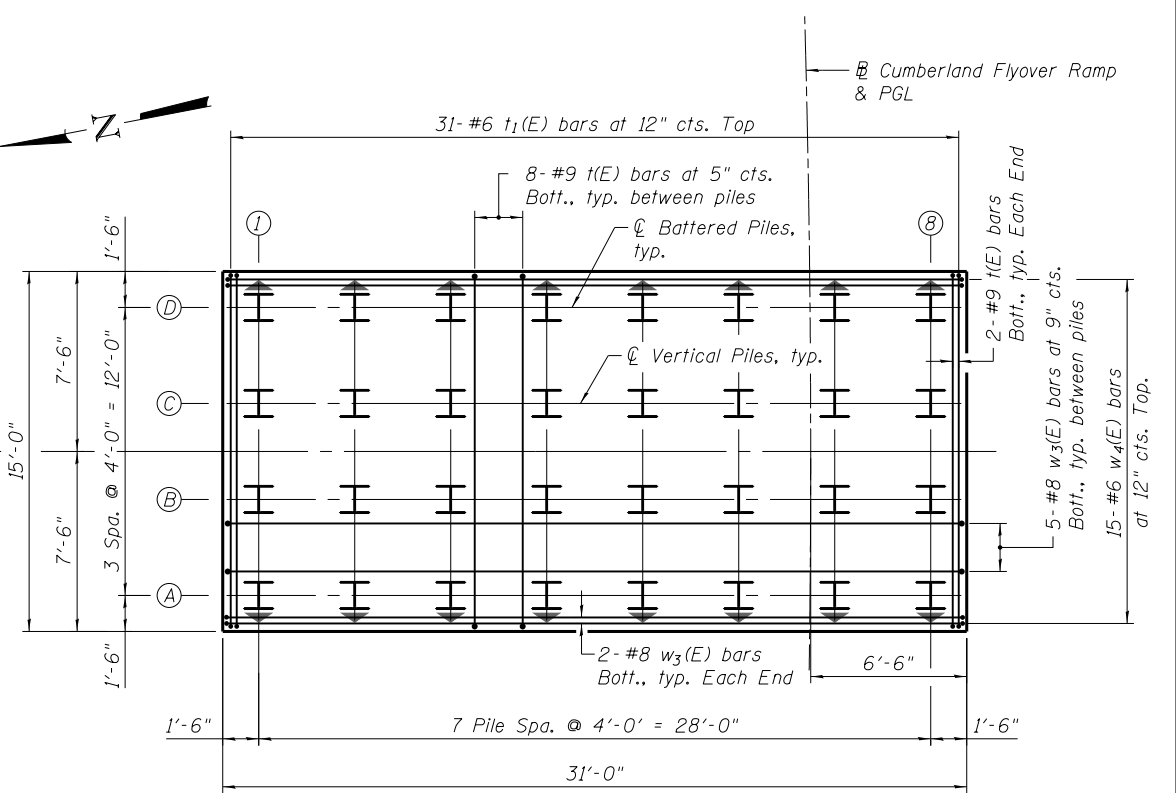
ANCHOR BOLT LAYOUT



SECTION A-A

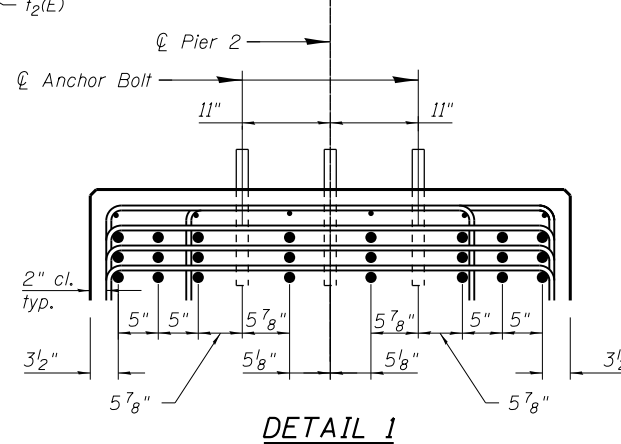


ELEVATION
(Looking East)

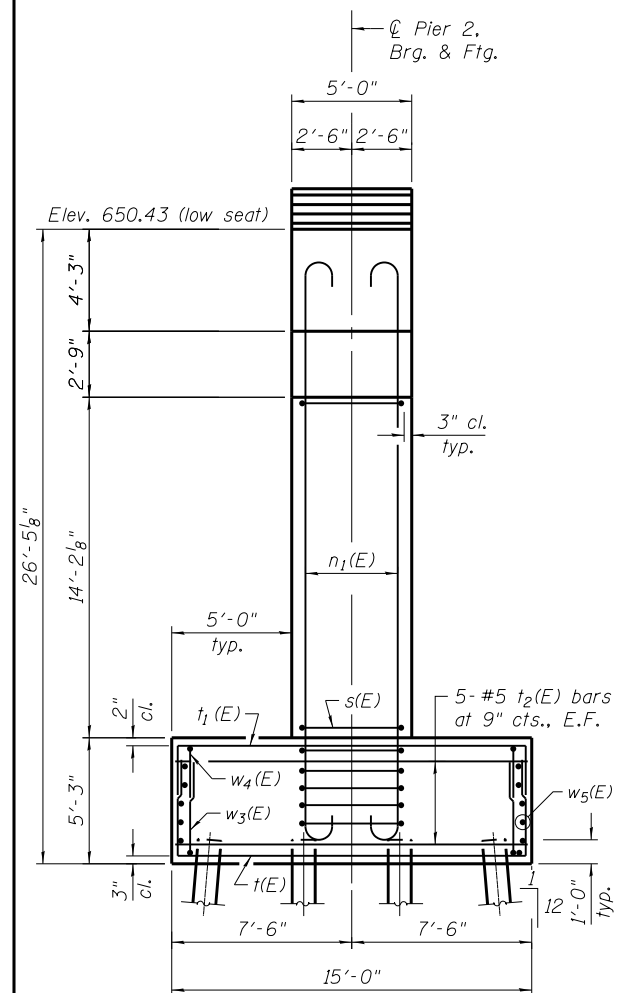


FOOTING PLAN

- Notes:
1. Reinforcement spacing in cap should be adjusted to maintain 4" clear spacing to anchor bolts.
 2. Pour steps monolithically with cap.
 3. For details of piles, see Sheet 49 of 61.
 4. For Bill of Material and bar bending diagrams, see Sheet 48 of 61.
 5. The pier cap shall be 4,500 psi concrete and is included in the item Concrete Structures (Special). The concrete in the footing and column shall be 3,500 psi and shall be included in the item Concrete Structures.
 6. Min. lap for s3(E), s4(E), s5(E), and s6(E) is 2'-7".
 7. Concrete Sealer to be applied to all exposed faces of pier with the exception of the pier seat.



DETAIL 1



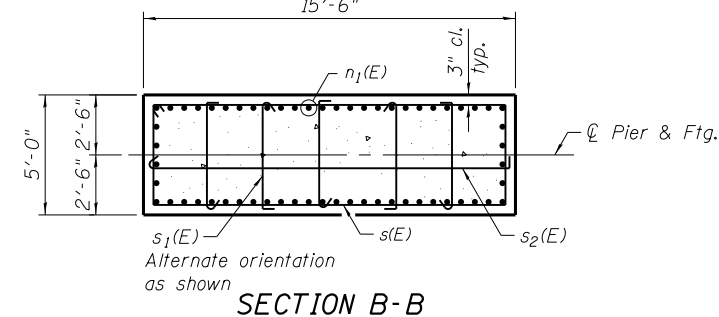
END VIEW

PILE DATA

Type: Steel-HP 14x73
 Nominal Required Bearing: 569 kips
 Factored Resistance Available: 313 kips
 Est. Length: 64 ft
 No. Production Piles: 31
 No. Test Piles: 1

LEGEND:

Battered Pile



SECTION B-B



USER NAME = lkalite	DESIGNED - AJN	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0000000 'ft' / in.	DRAWN - LK/AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - JFA	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

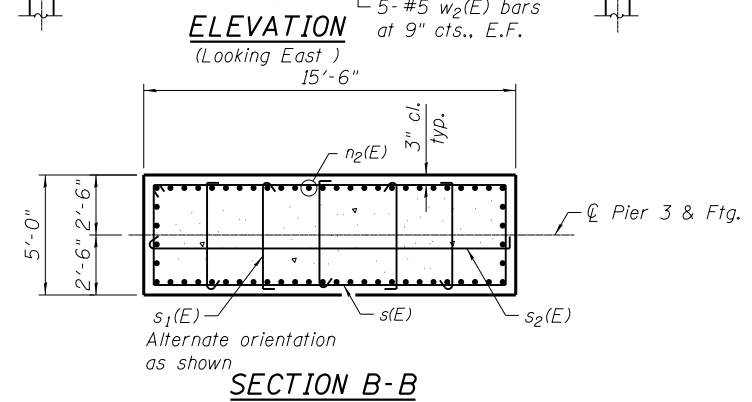
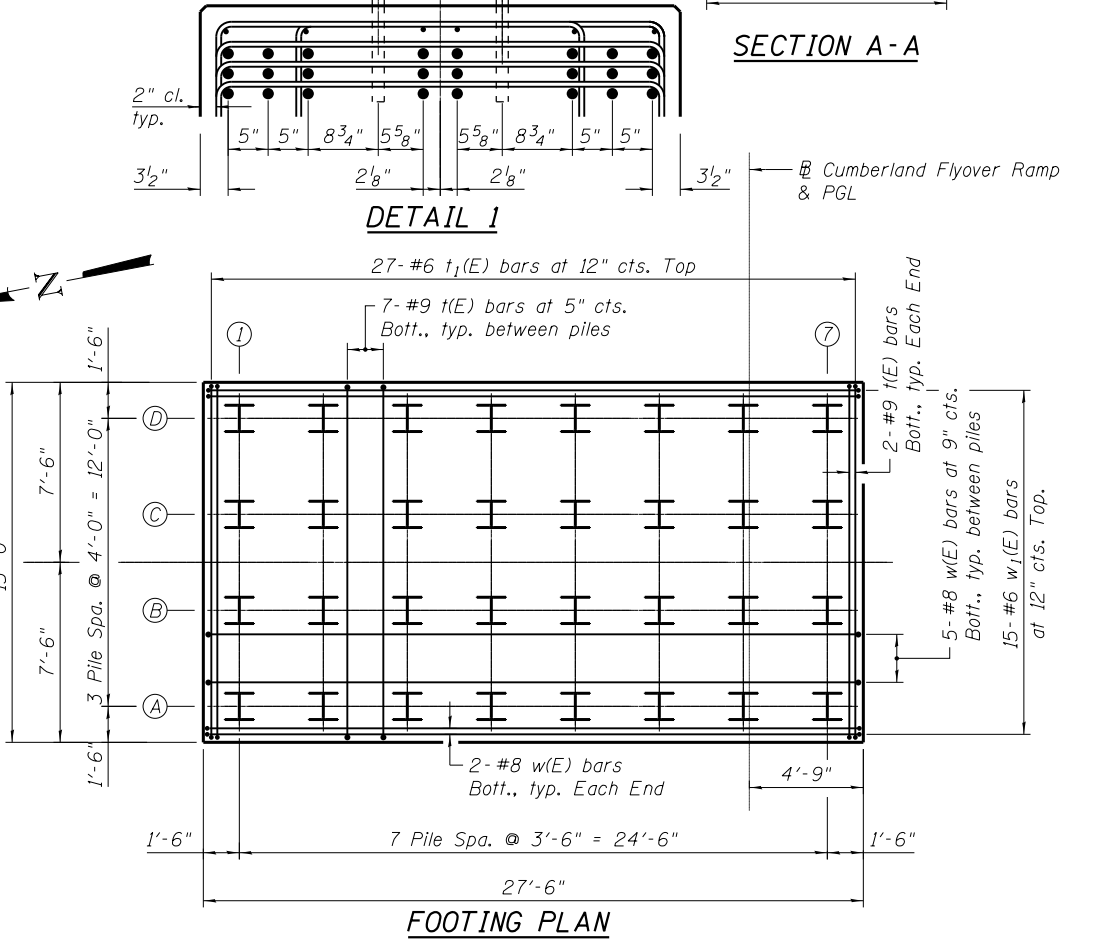
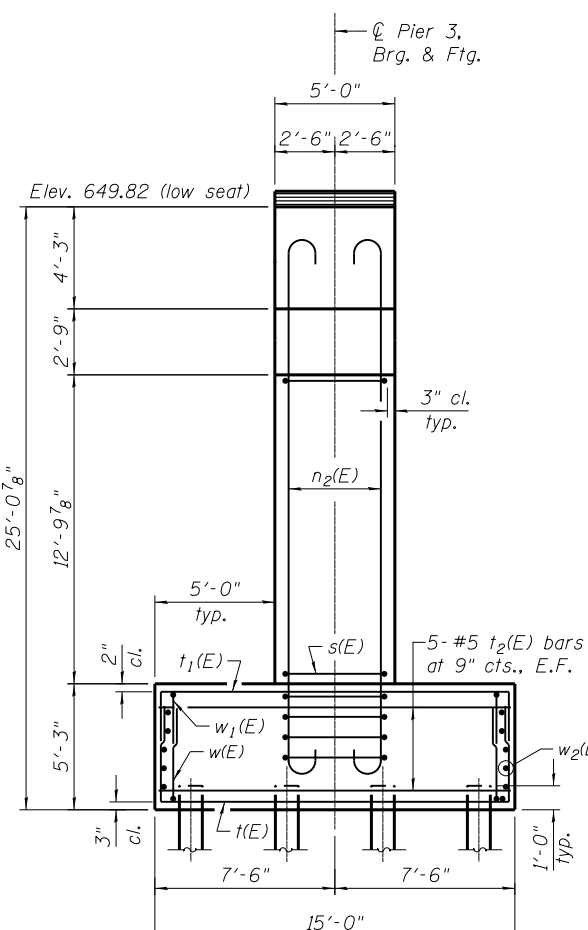
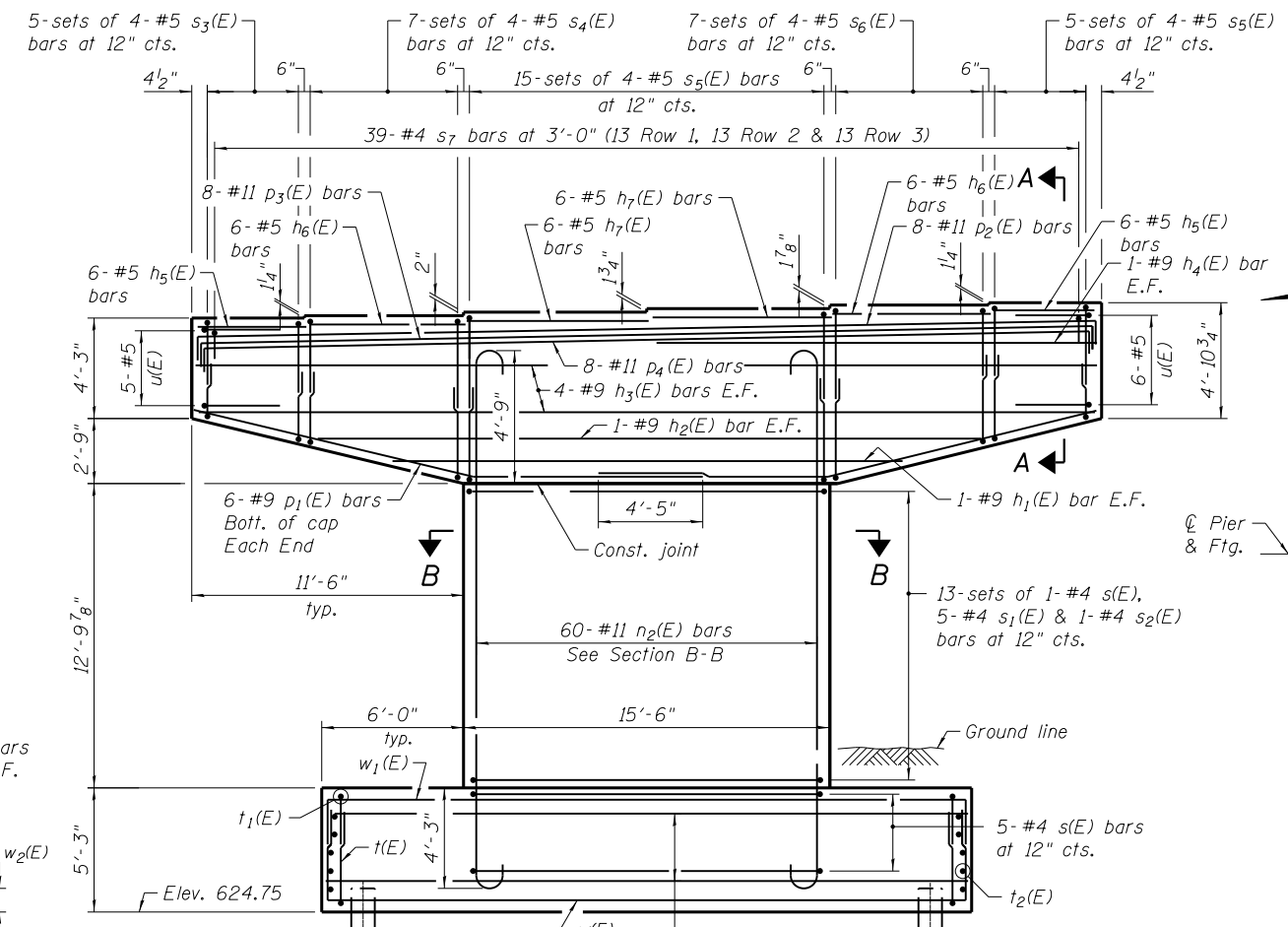
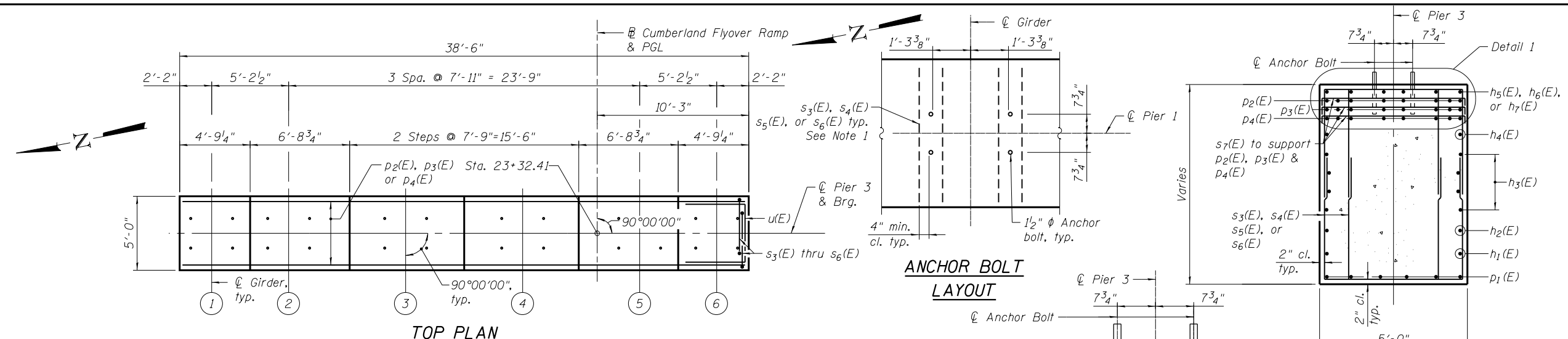
**PIER 2 DETAILS
 BRIDGE NO. 380**

SHEET NO. 46 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	369
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

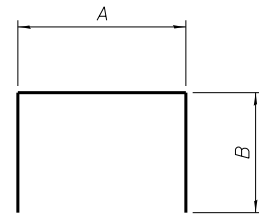
SEAT ELEVATIONS

Girder	Elev.
1	649.82
2	649.93
3	650.09
4	650.24
5	650.40
6	650.50



PILE DATA
 Type: Steel-HP 14x73
 Nominal Required Bearing: 557 kips
 Factored Resistance Available: 306 kips
 Est. Length: 54 ft
 No. Production Piles: 31
 No. Test Piles: 1

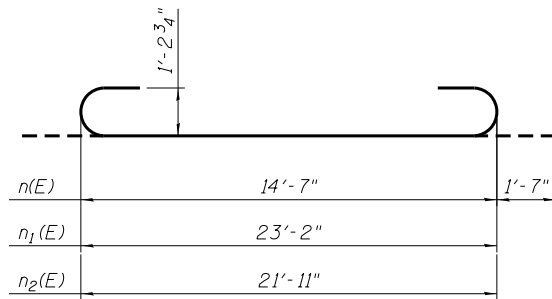
- Notes:**
- Reinforcement spacing in cap should be adjusted to maintain 4" clear spacing to anchor bolts.
 - Pour steps monolithically with cap.
 - For details of piles, see Sheet 49 of 61.
 - For Bill of Material and bar bending diagrams, see Sheet 48 of 61.
 - The pier cap shall be 4,500 psi concrete and is included in the item Concrete Structures (Special). The concrete in the footing and column shall be 3,500 psi and shall be included in the item Concrete Structures.
 - Min. lap for s3(E), s4(E), s5(E), and s6(E) is 2'-7".



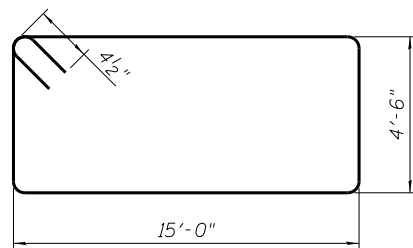
BARS

A & B DIMENSIONS

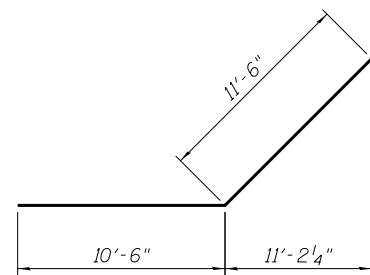
Bar	A	B
p ₂ (E)	37'-9"	2'-0"
p ₃ (E)	37'-3"	2'-0"
p ₄ (E)	36'-9"	2'-0"
s ₃ (E)	3'-10"	4'-0"
s ₄ (E)	3'-10"	5'-3"
s ₅ (E)	3'-10"	5'-6"
s ₆ (E)	3'-10"	5'-9"
s ₇ (E)	4'-8"	10"
t(E)	14'-8"	4'-3"
t ₁ (E)	14'-8"	1'-6"
u(E)	4'-8"	2'-0"
w(E)	27'-2"	4'-9"
w ₁ (E)	27'-2"	1'-0"
w ₃ (E)	30'-8"	4'-9"
w ₄ (E)	30'-8"	1'-0"



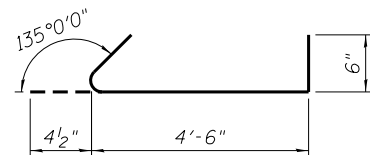
Bar n(E), n₁(E) & n₂(E)



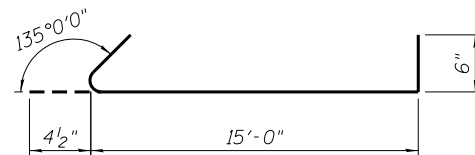
BAR s(E)



BAR p₁(E)



BAR s₁(E)



BAR s₂(E)

**PIER 1
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h ₁ (E)	2	#9	21'-10"	—
h ₂ (E)	2	#9	26'-0"	—
h ₃ (E)	8	#9	29'-6"	—
h ₄ (E)	2	#9	18'-11"	—
h ₅ (E)	12	#5	4'-2"	—
h ₆ (E)	12	#5	6'-3"	—
h ₇ (E)	12	#5	7'-6"	—
n(E)	60	#11	17'-8"	U
p ₁ (E)	12	#9	22'-3"	U
p ₂ (E)	8	#11	41'-9"	U
p ₃ (E)	8	#11	41'-3"	U
p ₄ (E)	8	#11	40'-9"	U
s(E)	12	#4	39'-9"	U
s ₁ (E)	35	#4	5'-5"	U
s ₂ (E)	7	#4	15'-11"	U
s ₃ (E)	20	#5	11'-10"	U
s ₄ (E)	28	#5	14'-4"	U
s ₅ (E)	100	#5	14'-10"	U
s ₆ (E)	28	#5	15'-4"	U
s ₇ (E)	39	#5	6'-4"	U
t(E)	53	#9	23'-2"	U
t ₁ (E)	27	#6	17'-8"	U
t ₂ (E)	10	#5	14'-8"	—
u(E)	11	#5	8'-8"	U
w(E)	19	#8	36'-8"	U
w ₁ (E)	15	#6	29'-2"	U
w ₂ (E)	10	#5	27'-2"	—
Structure Excavation		Cu Yd	129	
Concrete Structures (Special)		Cu Yd	51	
Concrete Structures		Cu Yd	97	
Reinforcement Bars, Epoxy Coated		Pound	24,690	
Furnishing Steel Piles HP 14x73		Foot	2,077	
Driving Piles		Foot	2,077	
Test Pile Steel HP 14x73		Each	1	
Concrete Sealer		Sq Ft	1,134	

**PIER 2
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h ₁ (E)	2	#9	21'-10"	—
h ₂ (E)	2	#9	26'-0"	—
h ₃ (E)	8	#9	29'-6"	—
h ₄ (E)	2	#9	18'-11"	—
h ₅ (E)	12	#5	4'-2"	—
h ₆ (E)	12	#5	6'-3"	—
h ₇ (E)	12	#5	7'-6"	—
n ₁ (E)	60	#11	26'-4"	U
p ₁ (E)	12	#9	22'-3"	U
p ₂ (E)	8	#11	41'-9"	U
p ₃ (E)	8	#11	41'-3"	U
p ₄ (E)	8	#11	40'-9"	U
s(E)	19	#4	39'-9"	U
s ₁ (E)	70	#4	5'-5"	U
s ₂ (E)	14	#4	15'-11"	U
s ₃ (E)	20	#5	11'-10"	U
s ₄ (E)	28	#5	14'-4"	U
s ₅ (E)	140	#5	14'-10"	U
s ₆ (E)	28	#5	15'-4"	U
s ₇ (E)	39	#5	6'-4"	U
t(E)	60	#9	23'-2"	U
t ₁ (E)	31	#6	17'-8"	U
t ₂ (E)	10	#5	14'-8"	—
u(E)	11	#5	8'-8"	U
w ₃ (E)	19	#8	40'-2"	U
w ₄ (E)	15	#6	32'-8"	U
w ₅ (E)	10	#5	30'-8"	—
Structure Excavation		Cu Yd	147	
Concrete Structures (Special)		Cu Yd	52	
Concrete Structures		Cu Yd	134	
Reinforcement Bars, Epoxy Coated		Pound	29,380	
Furnishing Steel Piles HP 14x73		Foot	1,984	
Driving Piles		Foot	1,984	
Test Pile Steel HP 14x73		Each	1	
Concrete Sealer		Sq Ft	1,487	

**PIER 3
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h ₁ (E)	2	#9	21'-10"	—
h ₂ (E)	2	#9	26'-0"	—
h ₃ (E)	8	#9	29'-6"	—
h ₄ (E)	2	#9	18'-11"	—
h ₅ (E)	12	#5	4'-2"	—
h ₆ (E)	12	#5	6'-3"	—
h ₇ (E)	12	#5	7'-6"	—
n ₂ (E)	60	#11	25'-1"	U
p ₁ (E)	12	#9	22'-3"	U
p ₂ (E)	8	#11	41'-9"	U
p ₃ (E)	8	#11	41'-3"	U
p ₄ (E)	8	#11	40'-9"	U
s(E)	18	#4	39'-9"	U
s ₁ (E)	65	#4	5'-5"	U
s ₂ (E)	13	#4	15'-11"	U
s ₃ (E)	20	#5	11'-10"	U
s ₄ (E)	28	#5	14'-4"	U
s ₅ (E)	80	#5	14'-10"	U
s ₆ (E)	28	#5	15'-4"	U
s ₇ (E)	39	#5	6'-4"	U
t(E)	53	#9	23'-2"	U
t ₁ (E)	27	#6	17'-8"	U
t ₂ (E)	10	#5	14'-8"	—
u(E)	11	#5	8'-8"	U
w(E)	19	#8	36'-8"	U
w ₁ (E)	15	#6	29'-2"	U
w ₂ (E)	10	#5	27'-2"	—
Structure Excavation		Cu Yd	108	
Concrete Structures (Special)		Cu Yd	48	
Concrete Structures		Cu Yd	119	
Reinforcement Bars, Epoxy Coated		Pound	27,050	
Furnishing Steel Piles HP 14x73		Foot	1,674	
Driving Piles		Foot	1,674	
Test Pile Steel HP 14x73		Each	1	



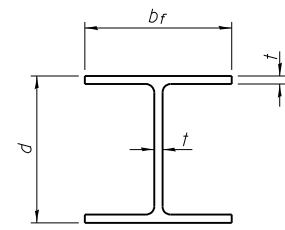
USER NAME = kcolito	DESIGNED - AJN	REVISED
	CHECKED - JFA	REVISED
PLOT SCALE = 0.0833' / in.	DRAWN - AYW	REVISED
PLOT DATE = 7/29/2016	CHECKED - JFA	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER BILL OF MATERIALS
BRIDGE NO. 380**

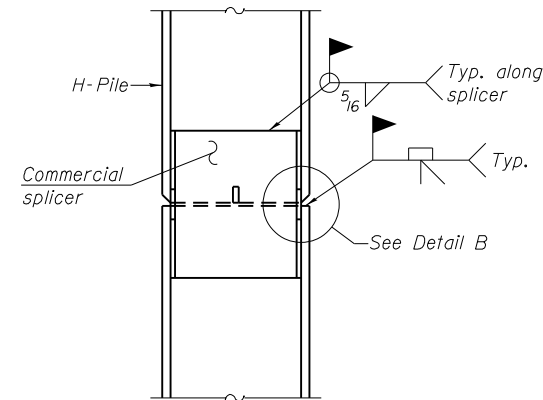
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	371
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 48 OF 61 SHEETS

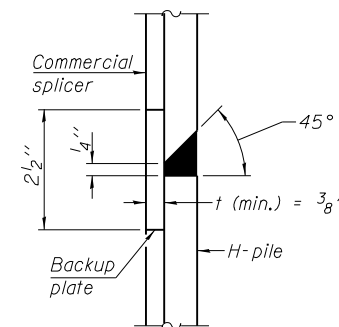


STEEL PILE TABLE

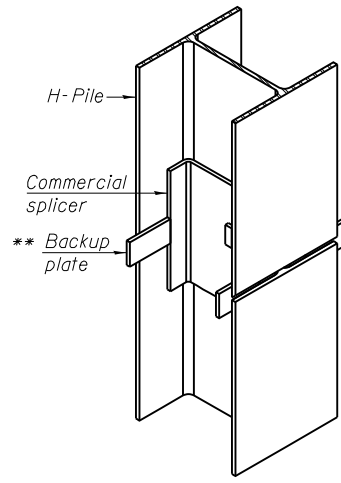
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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

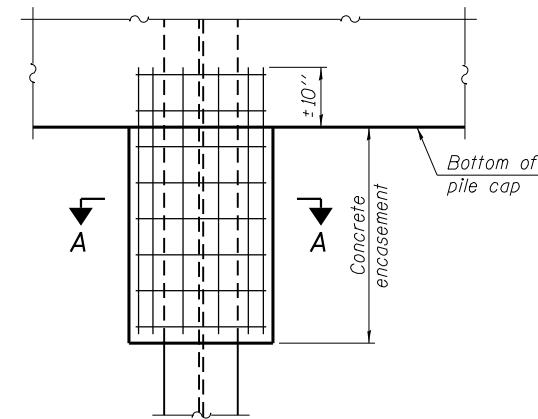


DETAIL "B"



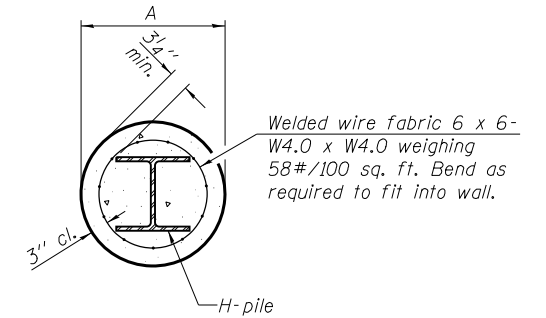
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



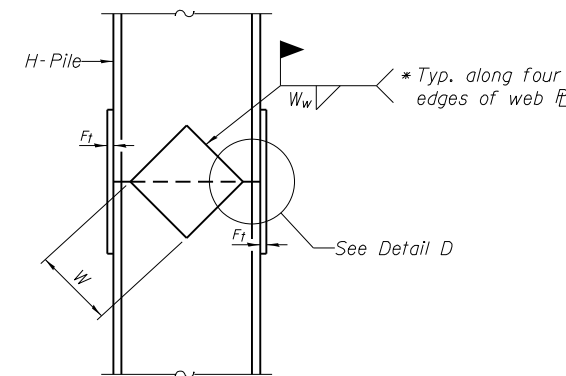
ELEVATION

PILE ENCASEMENT

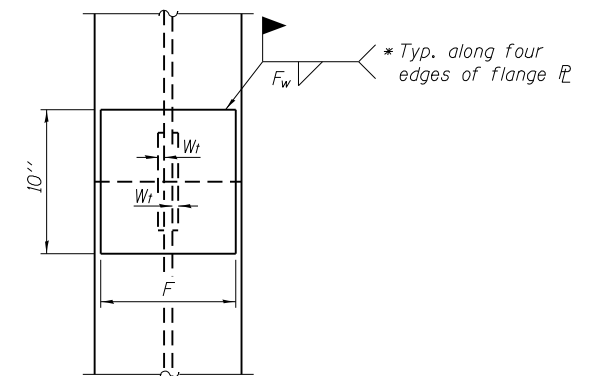


SECTION A-A

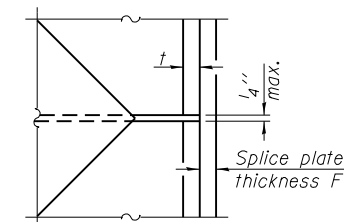
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



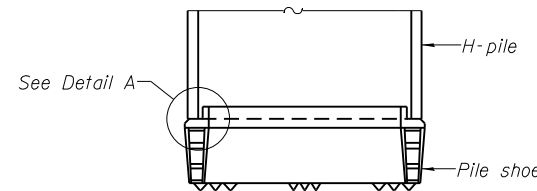
END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

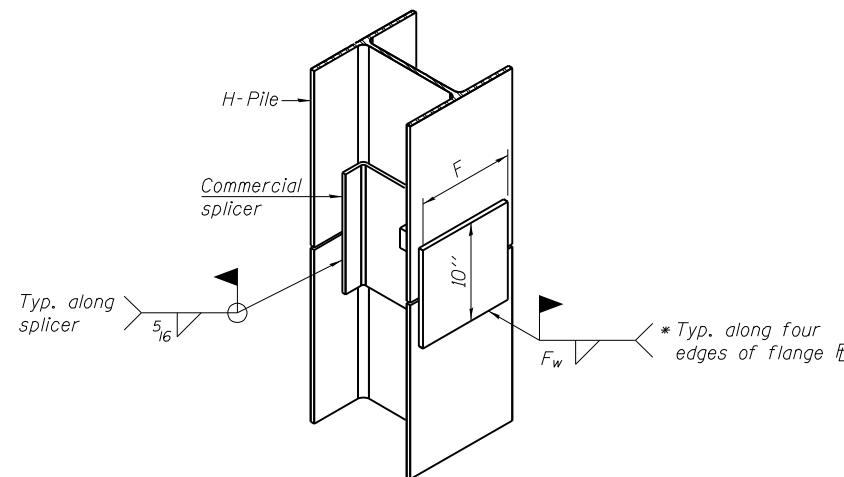
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"	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"



ELEVATION

DETAIL A

H-PILE SHOE ATTACHMENT



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.).

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

F-HP 1-27-12



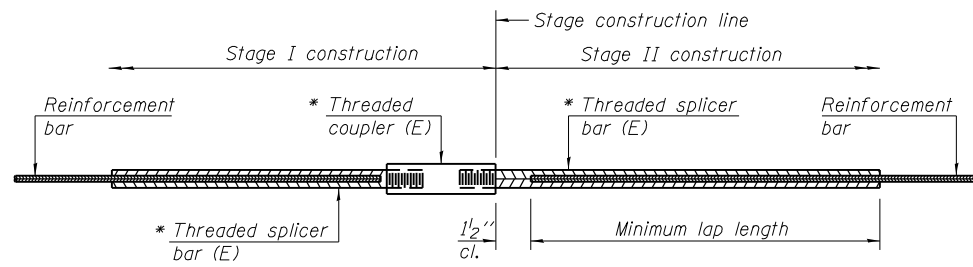
USER NAME = jbiakley	DESIGNED - ---	REVISED
PLOT SCALE = 0.083333' / in.	CHECKED - ---	REVISED
PLOT DATE = 4/1/2016	DRAWN - LK	REVISED
	CHECKED - PCA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAIL
BRIDGE NO. 380

SHEET NO. 49 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	372
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



STANDARD BAR SPLICER ASSEMBLY

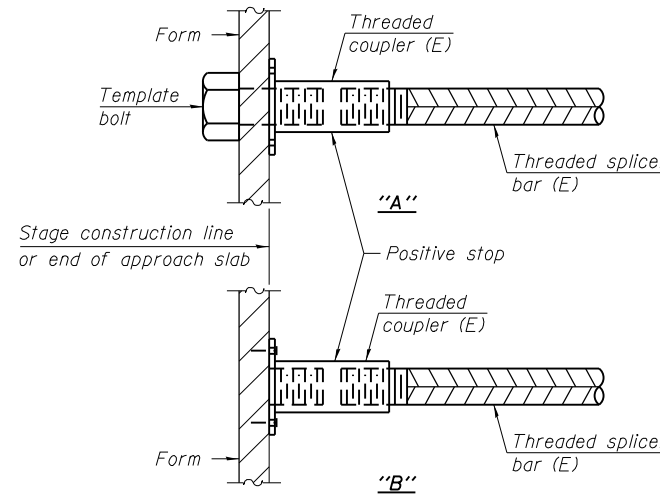
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- 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, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

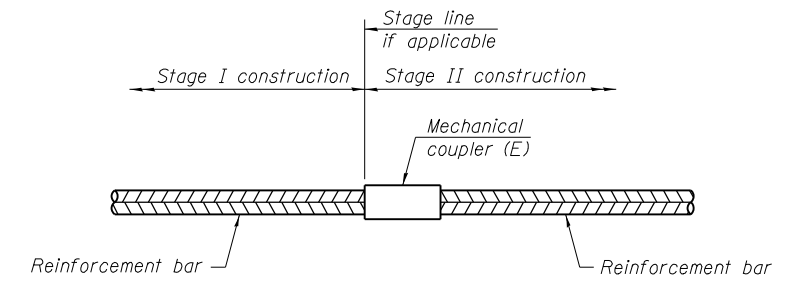
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



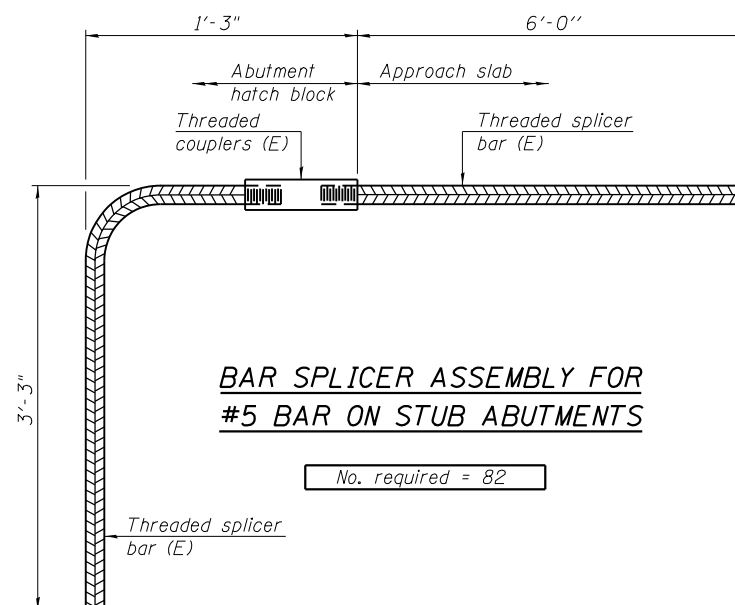
INSTALLATION AND SETTING METHODS

"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 = 82

NOTES

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

BSD-1 8-31-12

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
W. Abut.	A1													
W. Abut.	A2													
W. Abut.	A4													
W. Abut.	A6													
W. Abut.	A8													
W. Abut.	A10													
W. Abut.	A12													
W. Abut.	A13													
W. Abut.	B1													
W. Abut.	B3													
W. Abut.	B5													
W. Abut.	B7													
W. Abut.	B9													
W. Abut.	B11													
W. Abut.	B13													
W. Abut.	C1													
W. Abut.	C3													
W. Abut.	C11													
W. Abut.	C13													
W. Abut.	D1													
W. Abut.	D3													
W. Abut.	D11													
W. Abut.	D13													
W. Abut.	E1													
W. Abut.	E3													
W. Abut.	E11													
W. Abut.	E13													
W. Abut.	F3													
W. Abut.	F11													
W. Abut.	G1													
W. Abut.	G13													

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
Pier 1	A1													
Pier 1	A2													
Pier 1	A3													
Pier 1	A4													
Pier 1	A5													
Pier 1	A6													
Pier 1	A7													
Pier 1	A8													
Pier 1	B1													
Pier 1	B2													
Pier 1	B3													
Pier 1	B4													
Pier 1	B5													
Pier 1	B6													
Pier 1	B7													
Pier 1	B8													
Pier 1	C1													
Pier 1	C2													
Pier 1	C3													
Pier 1	C4													
Pier 1	C5													
Pier 1	C6													
Pier 1	C7													
Pier 1	C8													
Pier 1	D1													
Pier 1	D2													
Pier 1	D3													
Pier 1	D4													
Pier 1	D5													
Pier 1	D6													
Pier 1	D7													
Pier 1	D8													

- Notes:
 1. For Piles driven to refusal, blow count for the last foot shall be recorded in 6" increments.
 2. Pile damage, obstruction, pile rejection, test pile, etc. shall be recorded in Remarks column.
 3. For pile locations, see Sheets 40, 43, 44, 46, and 47 of 61.



USER NAME = jblakley	DESIGNED - --	REVISED
	CHECKED - --	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PILE DRIVING RECORDS - 1
 BRIDGE NO. 380

SHEET NO. 51 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	374
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
Pier 2	A1													
Pier 2	A2													
Pier 2	A3													
Pier 2	A4													
Pier 2	A5													
Pier 2	A6													
Pier 2	A7													
Pier 2	A8													
Pier 2	B1													
Pier 2	B2													
Pier 2	B3													
Pier 2	B4													
Pier 2	B5													
Pier 2	B6													
Pier 2	B7													
Pier 2	B8													
Pier 2	C1													
Pier 2	C2													
Pier 2	C3													
Pier 2	C4													
Pier 2	C5													
Pier 2	C6													
Pier 2	C7													
Pier 2	C8													
Pier 2	D1													
Pier 2	D2													
Pier 2	D3													
Pier 2	D4													
Pier 2	D5													
Pier 2	D6													
Pier 2	D7													
Pier 2	D8													

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
Pier 3	A1													
Pier 3	A2													
Pier 3	A3													
Pier 3	A4													
Pier 3	A5													
Pier 3	A6													
Pier 3	A7													
Pier 3	A8													
Pier 3	B1													
Pier 3	B2													
Pier 3	B3													
Pier 3	B4													
Pier 3	B5													
Pier 3	B6													
Pier 3	B7													
Pier 3	B8													
Pier 3	C1													
Pier 3	C2													
Pier 3	C3													
Pier 3	C4													
Pier 3	C5													
Pier 3	C6													
Pier 3	C7													
Pier 3	C8													
Pier 3	D1													
Pier 3	D2													
Pier 3	D3													
Pier 3	D4													
Pier 3	D5													
Pier 3	D6													
Pier 3	D7													
Pier 3	D8													

Notes:
 1. For notes, see Sheet 51 of 61.



USER NAME = jblakley	DESIGNED - --	REVISED
	CHECKED - --	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PILE DRIVING RECORDS - 2
 BRIDGE NO. 380

SHEET NO. 52 OF 61 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	375
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
E. Abut.	A1													
E. Abut.	A2													
E. Abut.	A4													
E. Abut.	A6													
E. Abut.	A7													
E. Abut.	A8													
E. Abut.	A10													
E. Abut.	A12													
E. Abut.	A13													
E. Abut.	B1													
E. Abut.	B3													
E. Abut.	B5													
E. Abut.	B7													
E. Abut.	B9													
E. Abut.	B11													
E. Abut.	B13													
E. Abut.	C1													
E. Abut.	C4													
E. Abut.	C10													
E. Abut.	C13													
E. Abut.	D1													
E. Abut.	D4													
E. Abut.	D10													
E. Abut.	D13													
E. Abut.	E1													
E. Abut.	E4													
E. Abut.	E10													
E. Abut.	E13													
E. Abut.	F1													
E. Abut.	F4													
E. Abut.	F10													
E. Abut.	F13													
E. Abut.	G4													
E. Abut.	G10													
E. Abut.	H1													
E. Abut.	H13													

PILE DRIVING RECORD

TYPE & SIZE OF PILE USED: _____ DATE PILES DRIVEN: _____ MONTH YEAR
 PILE DRIVING EQUIPMENT USED: _____
 ENERGY RATING: _____
 HAMMER USED: TYPE _____ STROKE _____ WEIGHT _____
 FORMULA USED TO CALCULATE CAPACITY: _____
 PILE DRIVING CONTRACTOR: _____ CM: _____

PILE LOCATION	PILE NO.	GROUND SURFACE ELEV.	CUT-OFF ELEV.	PENE-TRATED LENGTH (Ft)	DRIVING DATA FOR THE FINAL 5 FEET - BLOWS								CAPACITY TONS	REMARKS
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"	6" to 0"			
W. Approach	H1													
W. Approach	H2													
W. Approach	H3													
W. Approach	H4													
W. Approach	H5													
W. Approach	H6													
E. Approach	I1													
E. Approach	I2													
E. Approach	I3													
E. Approach	I4													
E. Approach	I5													
E. Approach	I6													

Notes:
 1. For notes, see Sheet 51 of 61.



USER NAME = jblakley	DESIGNED - --	REVISED
	CHECKED - --	REVISED
PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED
PLOT DATE = 4/1/2016	CHECKED - PCA	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PILE DRIVING RECORDS - 3
 BRIDGE NO. 380

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	376
				CONTRACT NO. 60X56
ILLINOIS FED. AID PROJECT				

PAGE 1 of 1
DATE November 19, 2013
LOGGED BY TB
OBA JOB No. 13657

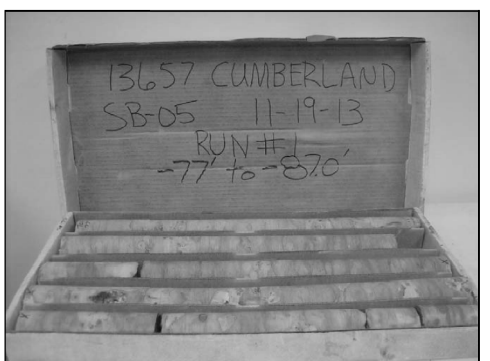
ROCK CORE LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. 016-5006 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station 19+00.62 Core Diameter 2.0 in
BORING NO. SB-05 Top of Rock Elev. 554.5
Station 23+80 Begin Core Elev. 554.0
Offset 36.7' L
Ground Surface Elev. 631.0

DEPTH (ft)	RECOVERY (%)	RECOVERY (min)	RECOVERY (tsf)	RECOVERY (pcf)
1	97.5	86	3.1	1130
2				
3				
4				
5				
6				
7				
8				
9				
10				

Run 1 (-77.0' to -87.0')
Silurian System
Niagaran Series Dolomite
Light gray, horizontal bedding; large vug at -83.1'; cherty zones @ -79.0', -79.6', -81.2', -81.8', -83.3', -83.7', -84.4', -84.7', -85.1', -83.1' & -85.9'



Color pictures of the cores xx. Cores will be stored for examination for xx.
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

PAGE 1 of 3
DATE November 20, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-06
Station 24+77
Offset 8.6' L
Ground Surface Elev. 630.8

DEPTH (ft)	RECOVERY (%)	RECOVERY (min)	RECOVERY (tsf)	RECOVERY (pcf)
3				
4	1.0P	19		
5				
6	NP	9		
7				
8				
9	NP	7		
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

CLAY-gray-stiff to hard
CLAY-gray-stiff to hard
SAND & GRAVEL-brown-loose to medium dense
CLAY-gray-stiff to hard
SILT-gray-medium to very dense (A-4)
CLAY-gray-hard

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed

PAGE 2 of 3
DATE November 20, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-06
Station 24+77
Offset 8.6' L
Ground Surface Elev. 630.8

DEPTH (ft)	RECOVERY (%)	RECOVERY (min)	RECOVERY (tsf)	RECOVERY (pcf)
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

CLAY-gray-hard
SILT to SANDY SILT-gray-very dense
CLAY-gray-stiff wet
SILT to SANDY SILT-gray-very dense

Driller's Observation: Possible Bedrock
Run 1 (-76.0' to -86.0')
Silurian System
Niagaran Series Dolomite
Continued on next page
100% Recovery RQD=68%

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed

Notes:
1. For location of soil boring, see sheet 1 of 61.

PAGE 3 of 3
DATE November 20, 2013
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-06
Station 24+77
Offset 8.6' L
Ground Surface Elev. 630.8

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOIST (%)	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOIST (%)
-85				-105			
-90				-110			
-95				-115			
-100				-120			

Run 1 (-76.0' to -86.0')
Silurian System
Niagaran Series Dolomite
Light gray, horizontal bedding; highly fractured from -77.2' to -78.6'; cherty zones @ -76.6', -77.2', from -80.6' to -81.0', -81.4' to -81.7' and -84.6' to -85.0'
100% Recovery RQD=68%

544.8

END OF BORING @ -86.0'
4.0" Hollow Stem to -10.0'
Rotary Drilling Started at -10.0'

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonelastic D-Disturbed

PAGE 1 of 1
DATE November 20, 2013
LOGGED BY TB
OBA JOB No. 13657

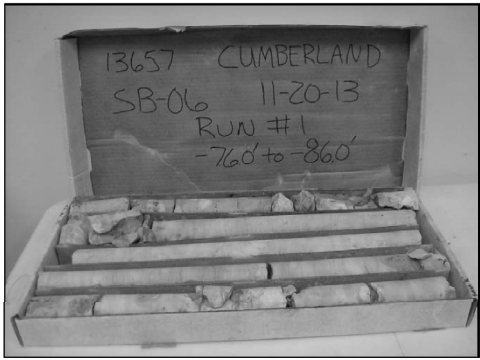
ROCK CORE LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover Ramp
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-06
Station 24+77
Offset 8.6' L
Ground Surface Elev. 630.8

DEPTH (ft)	CORRECTION (%)	RECOVERY (%)	ROD DIAM. (in)	CORRECTION (min/ft)	STRENGTH (tsf)
1	100	68	1.2	730	-79.0'

Run 1 (-76.0' to -86.0')
Silurian System
Niagaran Series Dolomite
Light gray, horizontal bedding; highly fractured from -77.2' to -78.6'; cherty zones @ -76.6', -77.2', from -80.6' to -81.0', -81.4' to -81.7' and -84.6' to -85.0'



Color pictures of the cores xx Cores will be stored for examination for xx
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

PAGE 1 of 3
DATE June 2, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-14
Station 16+14
Offset 9.0' L
Ground Surface Elev. 630.7

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOIST (%)	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOIST (%)
8				7			
9				9			
6				5			
9	4.65			5			
5				12			
7				7			
7				10			
4				6			
6				7			
10				14			
7				5			
7				7			
12				12			
6				9			
9				12			
6				6			
8				8			
10				10			

CLAY w/ GRAVEL - brown & black - (FILL)
stiff to very stiff 609.7

SILT - gray - medium dense 607.2

CLAY w/ SAND & GRAVEL - brown - hard - Appears to be FILL
stiff 624.7

CLAY, race sand & gravel - brown - hard 602.2

SILT - gray - dense to very dense 619.7

CLAY - gray - stiff to very stiff 590.7

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonelastic D-Disturbed TV-Torvane (ast)

Notes:
1. For location of soil boring, see sheet 1 of 61.

PAGE 2 of 3

SOIL BORING LOG

DATE June 2, 2014
LOGGED BY TB
OBA JOB No. 13657

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./WILMINGTON HTS., IL 60090
(847)388-1441 • FAX (847) 388-2376

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006 SURFACE WATER ELEV. n/a
STATION 19+00.62 STREAM BED ELEV. n/a

BORING NO. SB-14 GROUNDWATER ELEVATION:
STATION 16+14 FIRST ENCOUNTER Dry to -10.0'
OFFSET 9.0' L UPON COMPLETION NA
GROUND SURFACE ELEV. 630.7 AFTER n/a HRS. n/a

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)
CLAY-gray-stiff to hard							
SILT-gray-very dense							
11		118		30			
13				50/	NP	16	
-45	18	4.18	13	-65	3"		
12		114		50/			
17				5"	NP	25	
-50	27	4.18	17	-70			
8		109		22			
9				50/	D	12	
-55	15	2.68	20	-75	4"		
570.7				-80			
553.2							
Driller's Observation: Possible Bedrock							
7		99					
9							
-60	14	1.58	26	-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

PAGE 3 of 3

SOIL BORING LOG

DATE June 2, 2014
LOGGED BY TB
OBA JOB No. 13657

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./WILMINGTON HTS., IL 60090
(847)388-1441 • FAX (847) 388-2376

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006 SURFACE WATER ELEV. n/a
STATION 19+00.62 STREAM BED ELEV. n/a

BORING NO. SB-14 GROUNDWATER ELEVATION:
STATION 16+14 FIRST ENCOUNTER Dry to -10.0'
OFFSET 9.0' L UPON COMPLETION NA
GROUND SURFACE ELEV. 630.7 AFTER n/a HRS. n/a

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)
Run 1 (-79.0' to -89.0') Silurian System Niagaran Series Dolomite Light gray, horizontal bedding; horizontal fractures w/cherty inclusions throughout entire length of core.							
-85				-105			
100% Water loss at -81.5' 90% Recovery RQD=23%							
-90				-110			
END OF BORING @ -89.0' 4.0' Hollow Stem to -10.0' Rotary Drilling Started at -10.0' 3.0' Casing to -79.0'							
-95				-115			
-100				-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

PAGE 1 of 1

ROCK CORE LOG

DATE June 2, 2014
LOGGED BY TB
OBA JOB No. 13657

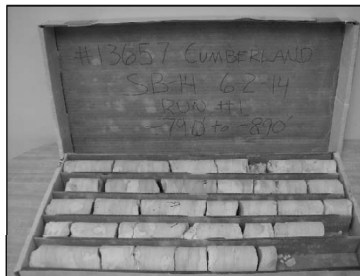
O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./WILMINGTON HTS., IL 60090
(847)388-1441 • FAX (847) 388-2376

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. 016-5006 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
STATION 19+00.62 Core Diameter 2.0 in
BORING NO. SB-14 Top of Rock Elev. 553.2 ft
STATION 16+14 Begin Core Elev. 551.7 ft
OFFSET 9.0' L
GROUND SURFACE ELEV. 630.7

DEPTH (ft)	RECOVERY (%)	CORRECTION (%)	RETENTION (%)	STRENGTH (min /tsf)
1	90	23	NA	550
-5				620
-10				

Run 1 (-79.0' to -89.0')
Silurian System
Niagaran Series Dolomite
Light gray, horizontal bedding; horizontal fractures w/cherty inclusions
throughout entire length of core.



Color pictures of the cores xx Cores will be stored for examination for xx
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Notes:
1. For location of soil boring, see sheet 1 of 61.

HNTB	USER NAME = jbiakley	DESIGNED - PCA	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS - 4 BRIDGE NO. 380	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 0.083333' / in.	CHECKED - PCA	REVISED			190	1517R-1(13)	COOK	580	380
	PLOT DATE = 4/1/2016	DRAWN - LK	REVISED			CONTRACT NO. 60X56				
		CHECKED -	REVISED			ILLINOIS FED. AID PROJECT				

SHEET NO. 57 OF 61 SHEETS

FILE NAME = p:\hntb\356.hntb.org\p\Great.Lakes\Documents\Chicago Projects\30120 1-190 Cumberland\Design\CADD.Contract.60X56\CADD.Sheets\380-60X56-057-B0R4.dgn

PAGE 1 of 3
DATE June 5, 2014
LOGGED BY JW
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006 Station 19+00.62
BORING NO. SB-15 Station 18+62 Offset 9.0' L
Ground Surface Elev. 633.0

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	
0				Black TOPSOIL (FILL)	0				
6		16		CLAY-brown & black-very stiff (FILL)	6		9	115	
7			9						
10	3.5B	20			12	3.0B	17		
629.5				CLAY-brown-very stiff (Possible Fill)	6		6	109	
5		107			5		9		
8					9		12	2.4B	17
-5	10	2.9B	21		-25	12	2.4B	17	
5			96		4		4	114	
5					6		6		
9	2.5P	24			11	1.7B	18		
624.5				SAND & GRAVEL-brown-medium dense	6		4		
7					6		6		
-10	9	NP	8		-30	18	NP	17	
622.0				CLAY-gray-stiff to very stiff	4		116		
6					6	1.2B	17		
5			116		5		28		
7				7		41			
-15	11	2.2B	16	-35	50/	NP	18		
6			100	4"					
9									
14	1.8B	21							
614.5				SILTY CLAY-gray-stiff to very stiff	8		109		
10					10		50/	NP	18
-20	16	3.5B	20		-40	5"			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

PAGE 2 of 3
DATE June 5, 2014
LOGGED BY JW
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006 Station 19+00.62
BORING NO. SB-15 Station 18+62 Offset 9.0' L
Ground Surface Elev. 633.0

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)
				SILT-gray-medium dense to very dense				
				LEAN CLAY-gray-very stiff to hard	12		128	
					15			
					-45	18	4.7B	13
589.5				LEAN CLAY-gray-very stiff to hard	12		116	
					17			
					-50	19	3.2B	17
				SILT-gray-very dense	30			
					33			
					-65	34	NP	11
				SILT-gray-very dense	50/	NP	11	
					5"			
					-70			
				SILT-gray-very dense	21			
					25			
					-75	25	NP	25
				SILT-gray-very dense	50/	D	13	
					5"			
					-80			
				SILT-gray-very dense	553.5			
					10			
					-60	12	D	32

Driller's Observation: Possible Bedrock

Run 1 (-81.5' to -91.5')
Silurian System
Niagara Series Dolomite
Light to medium gray, slightly weathered;
horizontal bedding; w/horizontal fractures
& cherty inclusions throughout entire
length of core
50% water loss @ -87.0'
98% Recovery RQD=28%

END OF BORING @ -91.5'
4.0" Hollow Stem to -10.0'
Rotary Drilling Started at -10.0'
3.0" Casing to -81.5'

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

PAGE 3 of 3
DATE June 5, 2014
LOGGED BY JW
OBA JOB No. 13657

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006 Station 19+00.62
BORING NO. SB-15 Station 18+62 Offset 9.0' L
Ground Surface Elev. 633.0

DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BULGE (in)	UCS (tsf)	MOISTURE (%)
				SILT-gray-medium dense to very dense				
				LEAN CLAY-gray-very stiff to hard	12		128	
					15			
					-45	18	4.7B	13
589.5				LEAN CLAY-gray-very stiff to hard	12		116	
					17			
					-50	19	3.2B	17
				SILT-gray-very dense	30			
					33			
					-65	34	NP	11
				SILT-gray-very dense	50/	NP	11	
					5"			
					-70			
				SILT-gray-very dense	21			
					25			
					-75	25	NP	25
				SILT-gray-very dense	50/	D	13	
					5"			
					-80			
				SILT-gray-very dense	553.5			
					10			
					-60	12	D	32

Driller's Observation: Possible Bedrock

Run 1 (-81.5' to -91.5')
Silurian System
Niagara Series Dolomite
Light to medium gray, slightly weathered;
horizontal bedding; w/horizontal fractures
& cherty inclusions throughout entire
length of core
50% water loss @ -87.0'
98% Recovery RQD=28%

END OF BORING @ -91.5'
4.0" Hollow Stem to -10.0'
Rotary Drilling Started at -10.0'
3.0" Casing to -81.5'

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

Notes:
1. For location of soil boring, see sheet 1 of 61.

PAGE 1 of 1
DATE June 5, 2014
LOGGED BY JW
OBA JOB No. 13657


ROCK CORE LOG

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2378

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. 016-5006 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station 19+00.62 Core Diameter 2.0 in
BORING NO. SB-15 Top of Rock Elev. 553.5 ft
Station 18+62 Begin Core Elev. 551.5 ft
Offset 9.0' L
Ground Surface Elev. 633.0

DEPTH (ft)	RECOVERY (%)	RECOVERY (min/ft)	RECOVERY (tsf)	REMARKS
1	98	28	NA	Run 1 (-81.5' to -91.5') Silurian System Niagaran Series Dolomite Light to medium gray; slightly weathered; horizontal bedding; w/horizontal fractures & cherty inclusions throughout entire length of core
990				



Color pictures of the cores xx. Cores will be stored for examination for xx.
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

PAGE 1 of 3
DATE June 9, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2378

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-16
Station 21+07
Offset 9.0' L
Ground Surface Elev. 629.9

DEPTH (ft)	UCS (tsf)	MOISTURE (%)	REMARKS
0			Black TOPSOIL FILL
5	108		CLAY-gray-soft to medium stiff
6	2.6B	16	sampled to -22.5' but hole became crooked offset 10'/blind drill to -23.5'
3	108		SANDY CLAY LOAM-brown-stiff (Possible Fill)
3	1.1B	18	
5			SAND & GRAVEL-brown-medium dense
9	NP	10	
11			CLAY-gray-hard
5	118		SILT-gray-stiff to very stiff
6	3.4B	17	
10			CLAY-gray-very stiff to hard
12	1.25P	22	
4	113		
8			CLAY-gray-very stiff to hard
10	3.25P	18	
5			SILT-gray-medium dense
50/4"	2.0P	15	hit boulder @ -17.5'
5			CLAY-gray-very stiff to hard
8			
11	NP	23	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

PAGE 2 of 3
DATE June 9, 2014
LOGGED BY TB
OBA JOB No. 13657

SOIL BORING LOG

O'BRIEN & ASSOCIATES, INC. CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)388-1441 • FAX(847) 388-2378

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-16
Station 21+07
Offset 9.0' L
Ground Surface Elev. 629.9

DEPTH (ft)	UCS (tsf)	MOISTURE (%)	REMARKS
14	125		SILT w/GRAVEL-gray-very dense
17			
23	8.9B	13	
7			CLAY-gray-hard
18			
20	6.1B	15	
12	114		SILT w/GRAVEL-gray-very dense
19			
29	5.1B	16	
5	102		
8			CLAY-gray-very stiff to hard
12	2.4B	21	
554.9			Driller's Observation: Possible Bedrock
9			SILT w/GRAVEL-gray-very dense
20	5.7S		
32	14%	12	
60	29	NP	10

Run 1 (-77.0' to -87.0') see next page

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonplastic D-Disturbed TV-Torvane (pcf)

Notes:
1. For location of soil boring, see sheet 1 of 61.

PAGE 3 of 3
DATE June 9, 2014
LOGGED BY TB
OBA JOB No. 13657

OBA
O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1335 E. DAVIS ST./PARKINGTON HTS. IL 60009
(847)398-1441 • FAX(847) 398-2376

SOIL BORING LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-16
Station 21+07
Offset 9.0' L
Ground Surface Elev. 629.9

DEPTH H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev.		Stream Bed Elev.		Groundwater Elevation:	
				(ft)	(/6") (tsf) (%)	(ft)	(/6") (tsf) (%)	(ft)	(/6") (tsf) (%)
				n/a		n/a		621.9	
								NA	
								n/a	
Run 1 (-77.0' to -87.0')									
Silurian System									
Niagaran Series Dolomite									
Light to medium gray; slightly weathered; horizontal bedding; w/horizontal fractures & cherty inclusions throughout entire length of core									
no water loss during coring									
95% Recovery RQD=68%									
				-85					-105
END OF BORING @ -87.0'									
4.0" Hollow Stem to -10.0'									
Rotary Drilling Started at -10.0'									
				-90					-110
				-95					-115
				-100					-120

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recover NP-Nonelastic D-Disturbed TV-Torvane (gsf)

PAGE 1 of 1
DATE June 9, 2014
LOGGED BY TB
OBA JOB No. 13657

OBA
O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1335 E. DAVIS ST./PARKINGTON HTS. IL 60009
(847)398-1441 • FAX(847) 398-2376

ROCK CORE LOG

ROUTE I-190 DESCRIPTION I-190 Cumberland Flyover "Supplemental Structural Boring"
SECTION xx LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash

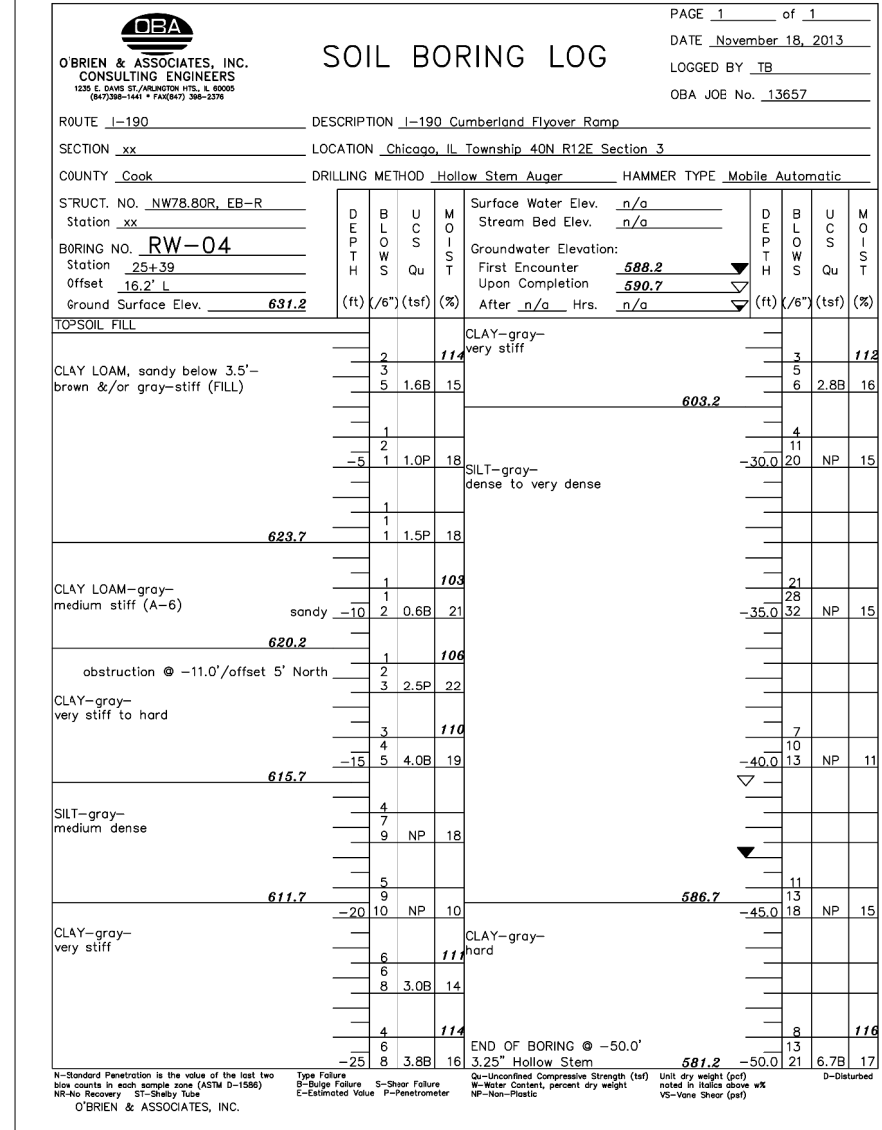
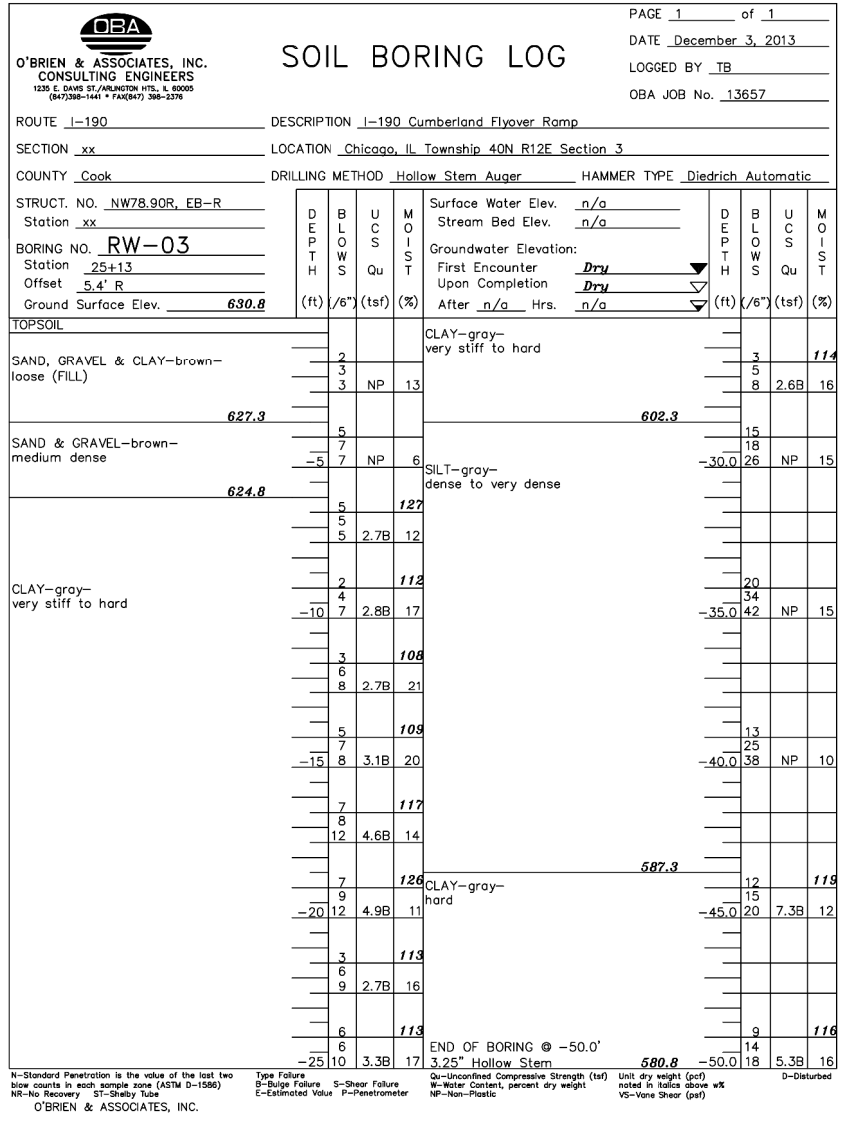
STRUCT. NO. 016-5006
Station 19+00.62
BORING NO. SB-16
Station 21+07
Offset 9.0' L
Ground Surface Elev. 629.9

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 554.9 ft
Begin Core Elev. 552.9 ft

DEPTH H S	C O R E #	R E C O V E R Y %	R O C K D I A M E T E R %	C O R E L E N G T H (min /ft)	S T R E N G T H (tsf)
Run 1 (-77.0' to -87.0')					
Silurian System					
Niagaran Series Dolomite					
Light to medium gray; slightly weathered; horizontal bedding; w/horizontal fractures & cherty inclusions throughout entire length of core					
					670
					-5
					-10

Color pictures of the cores xx Cores will be stored for examination for xx
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Notes:
1. For location of soil boring, see sheet 1 of 61.



Notes:
 1. For location of soil boring, see sheet 1 of 61.

HNTB	USER NAME = jblakley	DESIGNED - PCA	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS - 8 BRIDGE NO. 380	F.A.I. RTE. = 190	SECTION = 1517R-1(13)	COUNTY = COOK	TOTAL SHEETS = 580	SHEET NO. = 384
	PLOT SCALE = 0.083333' / in.	DRAWN - LK	REVISED			CONTRACT NO. 60X56				
	PLOT DATE = 4/1/2016	CHECKED -	REVISED			SHEET NO. 61 OF 61 SHEETS				
	ILLINOIS FED. AID PROJECT									

BENCH MARK:

BM #7:

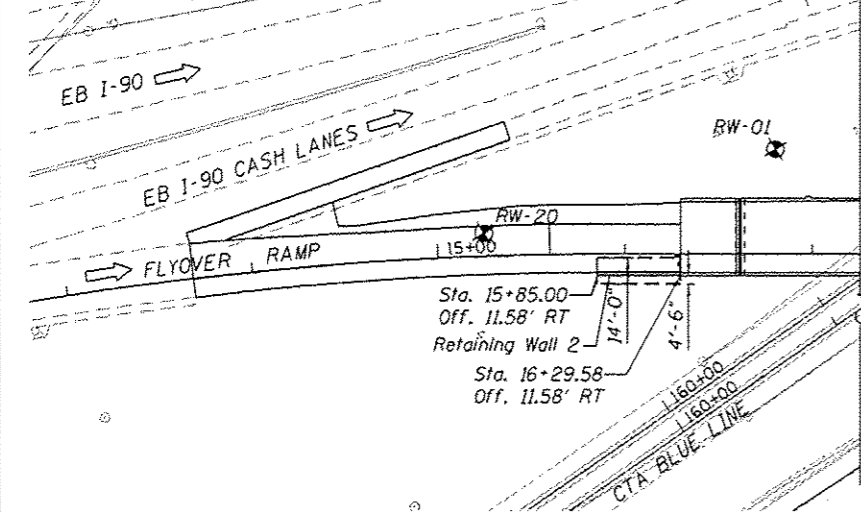
Chiseled Square cut in north east corner of wingwall at south west quadrant of I-190 and Mannheim Rd., EL 642.47.

TBM #1:

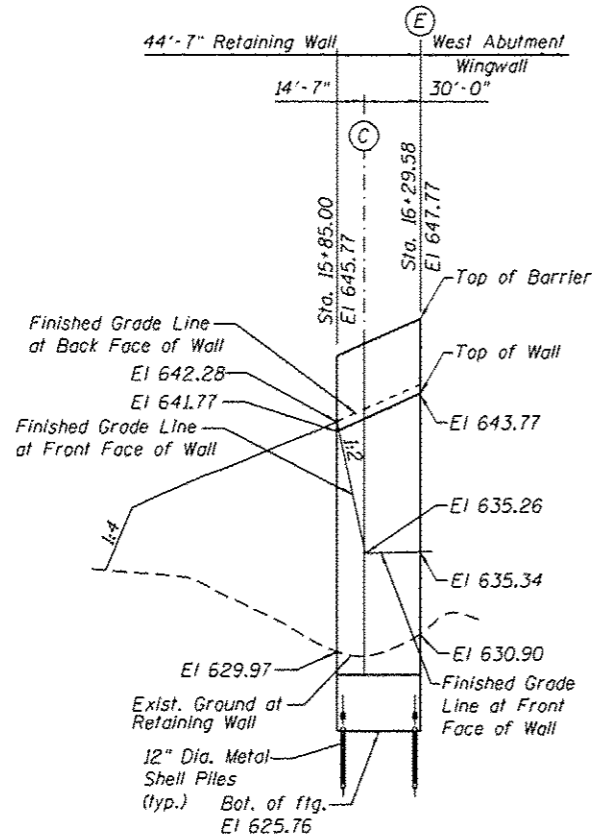
Square cut on south side of traffic control signal mast arm concrete base on south side of EB I-190 between Mannheim Road Bridge and CN Railroad Bridge. EL 612.97.

EXISTING STRUCTURE:

None
Traffic Control Required.



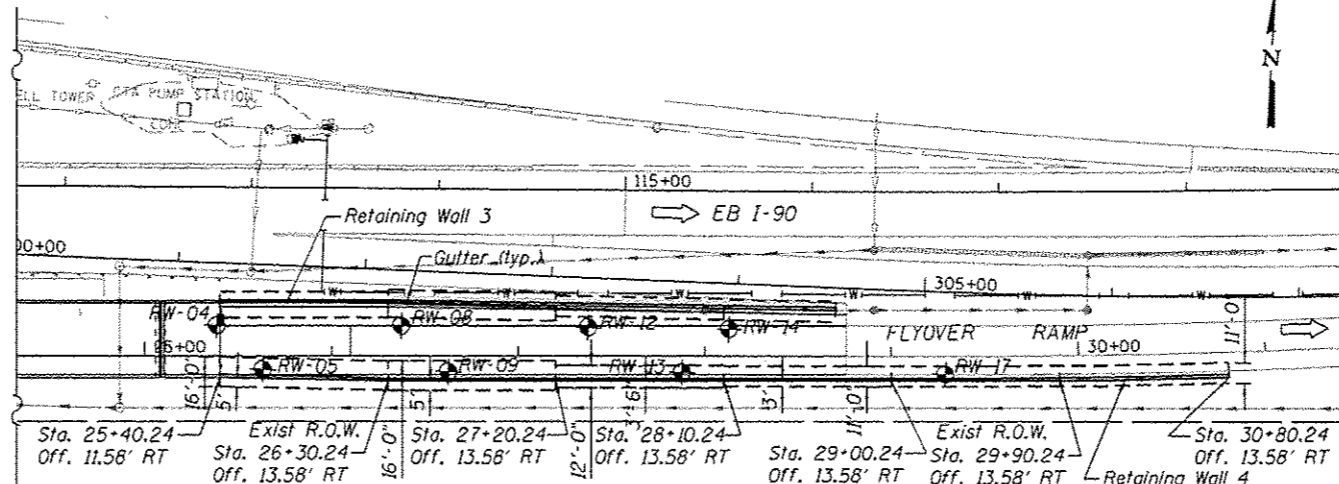
PLAN - RETAINING WALL 2



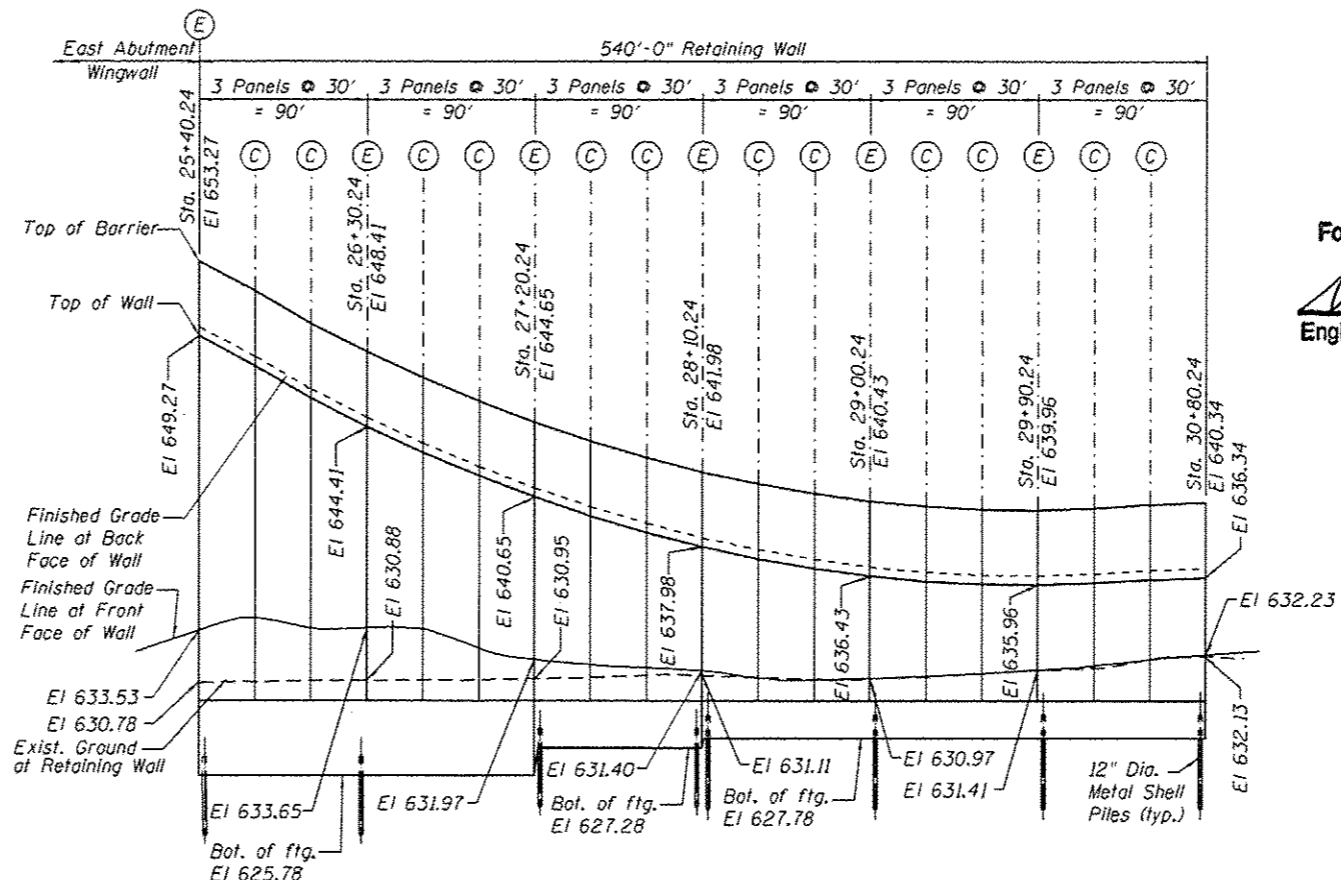
FRONT FACE ELEVATION - RETAINING WALL 2
NW78.70R, EB(R)
(Looking North)

PROPOSED STRUCTURE:

3 cast-in-place concrete cantilever retaining walls supported on metal shell piles. 1 retaining wall on the west ramp for the Cumberland Flyover, length is 44'-7". 2 retaining walls on the east ramp, lengths 540'-0" and 330'-0". Varying stem height from 3'-2 5/8" to 19'-5 3/4".



PLAN - RETAINING WALL 4



FRONT FACE ELEVATION - RETAINING WALL 4
NW78.90R, EB(R)
(Looking North)

LEGEND:

- ⊕ - Construction Joint
- ⊕ - Expansion Joint
- ⊕ - Soil Boring Location
- - Direction of Traffic

ABBREVIATIONS:

- B Bottom
- BF Back Face
- @ Base Line
- EF Each Face
- EW Each Way
- EL Elevation
- FF Front Face
- Ftg Footing
- LT Left
- RT Right
- SB South Bound
- Sta Station
- T Top

DESIGN SPECIFICATIONS:

2015 AASHTO LRFD Bridge Design Specifications (7th Edition)
Illinois Department of Transportation Bridge Manual, January 2012
Illinois Tollway Structure Design Manual, March 2014
Illinois Tollway Geotechnical Manual, March 2014

CONSTRUCTION SPECIFICATIONS:

Illinois Department of Transportation Guide Bridge Special Provisions (GBSP'S)
Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction Issued March 2014
Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions adopted January 1, 2015
Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted January 1, 2012

DESIGN STRESSES:

Field units
f'c = 3,500 psi (Class SI Concrete)
fy = 60,000 psi (Reinforcement)

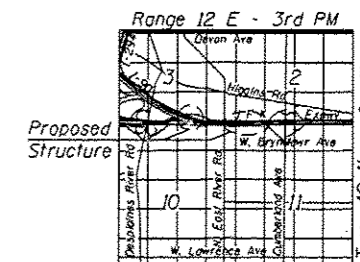
APPROVED
For Structural Adequacy Only

David C. Ruppel
Engineer of Bridges & Structures



Amal Shrivastava

DATE LICENSE EXPIRES ON 11/30/2016 SHEETS



LOCATION SKETCH

GENERAL PLAN AND ELEVATION (1 OF 2)
RETAINING WALLS
SECTION 1517R-1(13)
COOK COUNTY
STATION 15+85.00 TO STATION 16+29.58
STATION 25+40.24 TO STATION 30+80.24



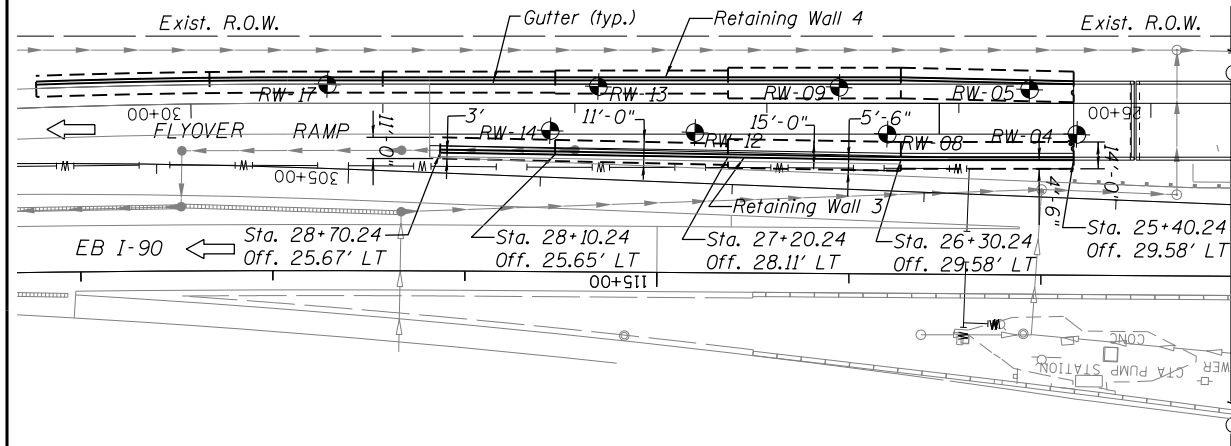
USER NAME - USER#	DESIGNED - NS	REVISIONS
CHECKED - SK		
DRAWN - RM		
CHECKED - NS		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

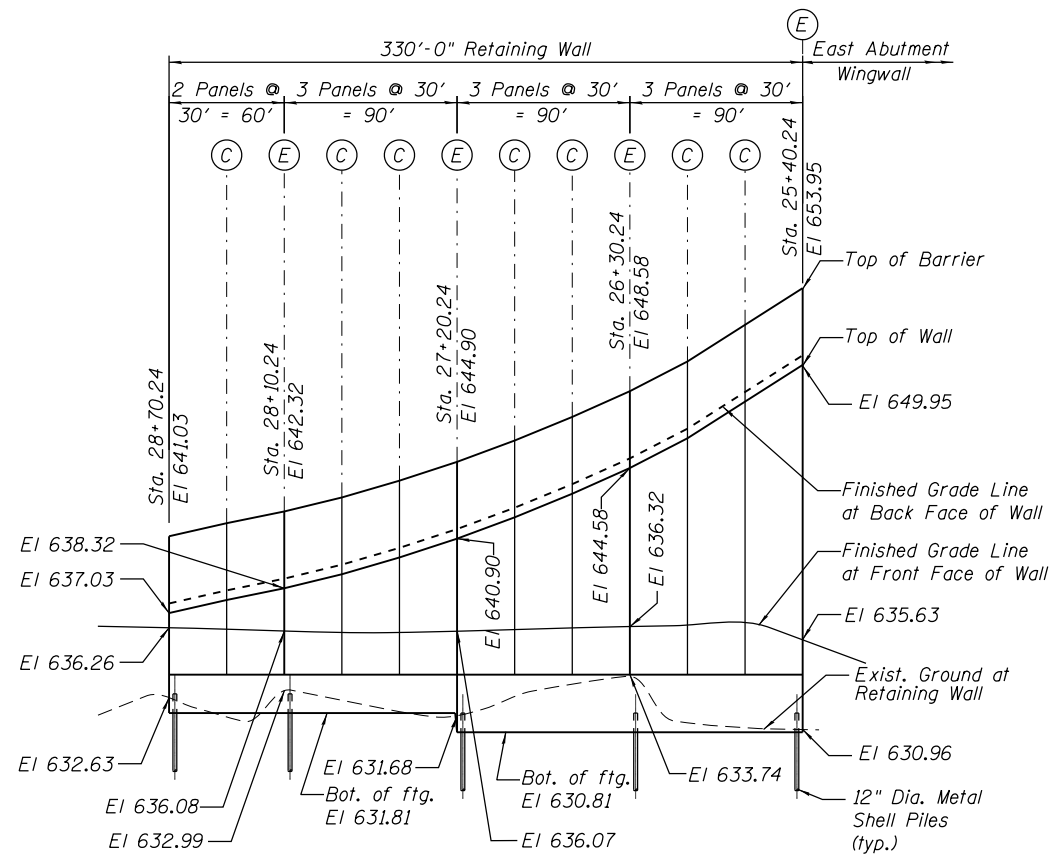
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	385
CONTRACT NO. 60X56			ILLINOIS FED. AID PROJECT	

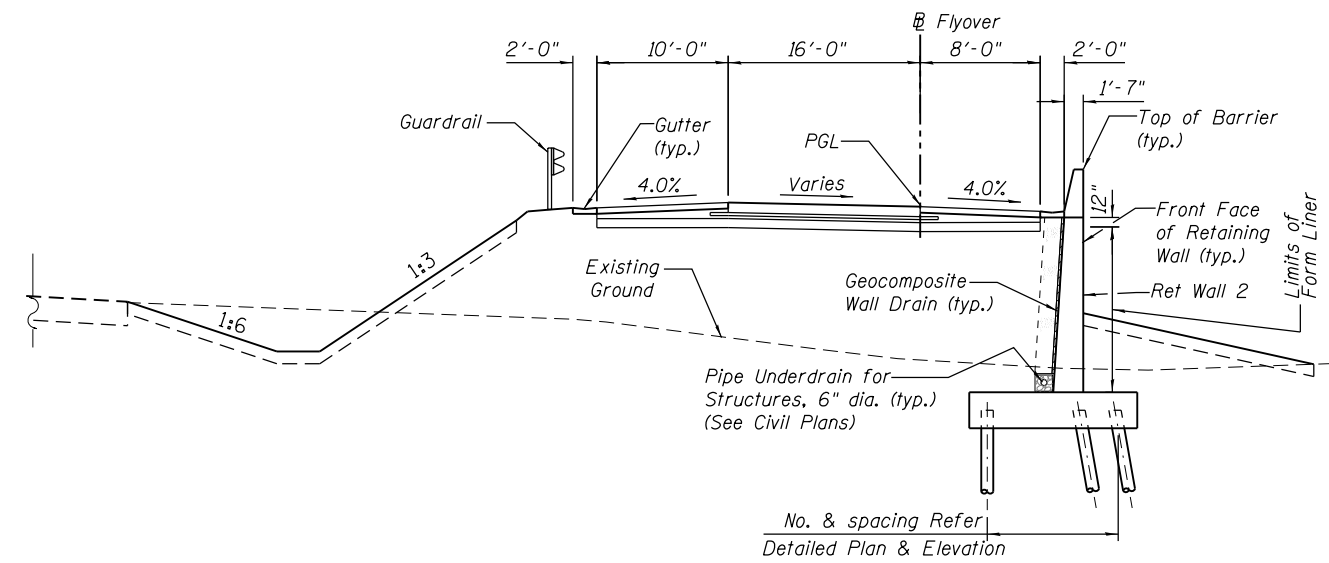
SHEET NO. 1 OF 31 SHEETS



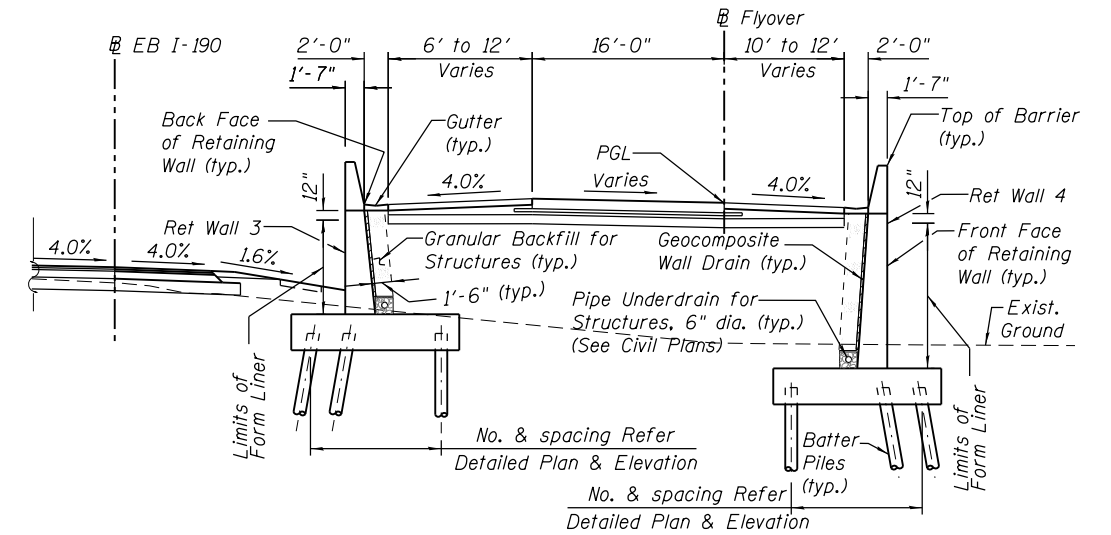
PLAN - RETAINING WALL 3



FRONT FACE ELEVATION - RETAINING WALL 3
NW78.80R, EB(R)
(Looking South)

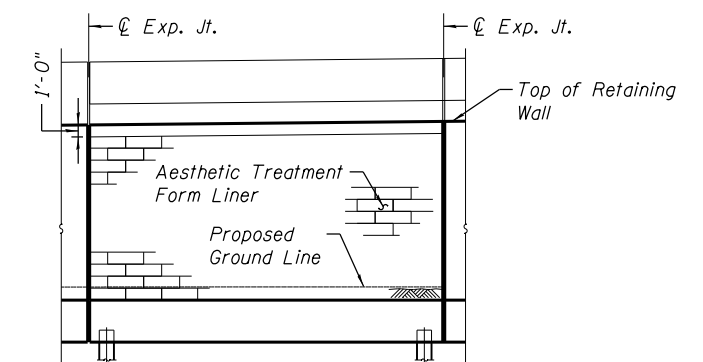


TYPICAL CROSS SECTION - RETAINING WALLS 2
(Looking East)



TYPICAL CROSS SECTION - RETAINING WALLS 3 & 4
(Looking East)

Note: All batter piles shown shall be at 3" horizontal to 12" vertical batter.



ELEVATION OF FORM LINER

GENERAL PLAN AND ELEVATION (2 OF 2)
RETAINING WALLS
SECTION 1517R-1(13)
COOK COUNTY
STATION 14+49.58 TO STATION 16+29.58
STATION 25+40.24 TO STATION 28+70.24



USER NAME = *USER*	DESIGNED - NS	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 5/27/2016	DRAWN - RM	REVISED
	CHECKED - NS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

SHEET NO. 2 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	386
			CONTRACT NO. 60X56	
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

CAST-IN-PLACE CONCRETE

All exposed Concrete edges shall have a 3/4"x45° Chamfer, Except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below the finished ground level.

REINFORCEMENT BARS

- Reinforcement bars designated "(E)" shall be epoxy coated.
- Reinforcement Bars, Epoxy Coated shall conform to the requirements of A.A.S.H.T.O. M-31 (ASTM A615) Grade 60, Deformed Bars.
- Reinforcement bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures" ACI 315.
- Reinforcement Bar Splices shall be in accordance with the following table, Unless otherwise shown on the Drawing.

CLASS "B" SPLICE (GRADE 60 BARS)

SIZE	f' C=3,500 PSI (BASIC)	f' C=3,500 PSI (TOP)
#4	2'-5"	2'-11"
#5	3'-4"	3'-9"
#6	4'-9"	5'-4"
#7	5'-6"	6'-3"
#8	7'-2"	8'-2"
#9	9'-2"	10'-4"
#10	10'-2"	11'-6"
#11	12'-6"	14'-2"

- Reinforcement bar bending dimensions are out to out.
- Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
- Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2 inches for all other surfaces unless otherwise shown.

CONSTRUCTION

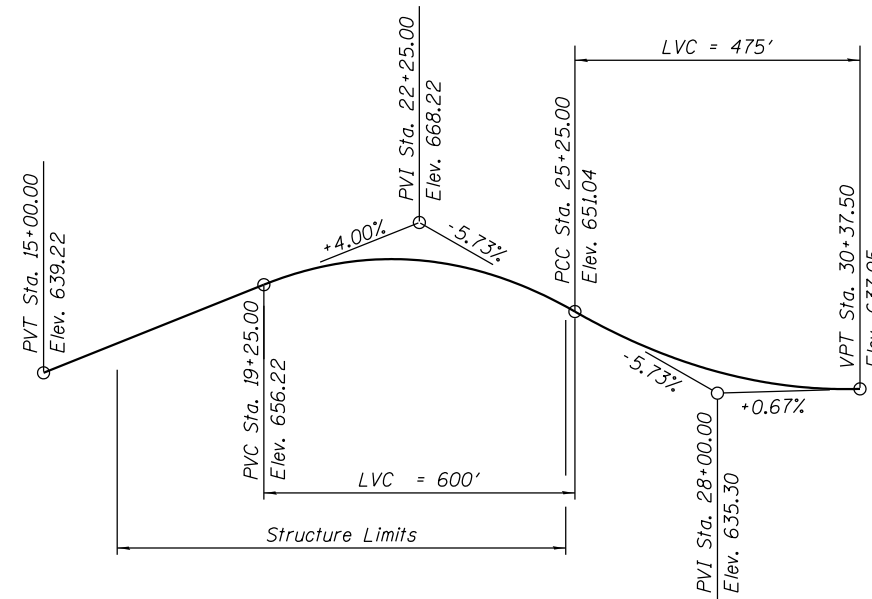
- The Contractor shall not scale any dimensions from contract plans for construction purposes. Scales shown are for reference only.
- No Construction joints, except those shown on the plans, will be allowed unless approved by the Engineer. All construction joints shall be bonded.
- Temporary soil retention system, sheeting, bracing or cofferdams shall be constructed at the locations shown on the plans and/or as required for the excavation to protect the adjacent from settling or falling into the excavated areas.
- Protective coat shall be applied to the top and traffic face of all barriers of the Wall.
- When excavating for the wall's footing, the Contractor shall use a method that will result in minimal disturbance to the underlying soil.
- Geocomposite wall drain is to be continuous over the entire length of the back face of the retaining wall.
- The Contractor shall be responsible for the protection of all underground or surface utilities even though they may not be shown in the plans. Any utility that is damaged during construction shall be repaired or replaced to the satisfaction of the Engineer. This work will be at the Contractor's expense.
- The Contractor shall coordinate work with utilities in advance of working in the vicinity of their facilities, and allow sufficient time for them to perform adjustments to their facilities in accordance with the Contractor's schedule. Coordination efforts shall be included in the cost of the contract bid price.
- The Contractor must call the IDOT electrical maintenance Contractor to locate IDOT facility cables.

CONSTRUCTION (CONTINUED)

- The 6" perforated pipe underdrain shall be situated within a block of granular backfill, which shall be wrapped completely in geotechnical filter fabric. A 1'-6" lap will be used where the fabric must be lapped. Cost of Geotechnical fabric shall be included with Pipe Underdrain, 6". Granular backfill for structures will be paid for separately.
- The stability of the existing embankment shall be monitored during driving of piles since potentially liquefiable soils were encountered at and below the top of the existing embankment. All soft areas are to be tested and evaluated according to IDOT's subgrade stability manual. The contractor shall take all necessary precautions to prevent the instability of the embankment.
- All retaining walls which are to be supported on piling have "Pile Installation Tables" that should be recorded in the field book. These tables are for record purposes and must be filled in by the construction section Engineer during pile installation or driving. The "Pile Location" and "Pile Number" columns must also be filled in during pile installation or driving.
- Station and offsets are measured from SB Cumberland Flyover Ramp to the front face of the retaining wall.
- For the Proposed Sewer location in the vicinity of the Retaining Walls, See Civil Plans.
- The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
- No concrete cutting will be permitted until the cutting limits have been outlined by the Contractor and approved by the Engineer.
- It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
- It shall be the Contractor's responsibility to verify the location of all fiber optic cables and other utilities prior to starting construction and no pile should be driven within 2'-0" clearance. The Contractor shall initiate the location process for the fiber optic cable by completing a "Request Tollway Utilities Locate" form filled in online at the Tollway website under "Doing Business" at least four (4) business days prior to starting any underground operations, excavations or digging of any type in the general area of the fiber optic cable.
- Whenever any material is deposited into a drainage system or drainage structures, the deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage system and structures shall be free from dirt and debris deposited during the various construction operations.

ABBREVIATIONS

P.G.L.	Profile Grade Line	O.F.	Profile Grade Line
N.B.L.	North Bound Lanes	P.J.F.	North Bound Lanes
S.B.L.	South Bound Lanes	P.J.S.	South Bound Lanes
S.	South Abutment	BK/	Back of
Abut		B/	Bottom of
N.	North Abutment	T/	Top of
Abut		Prop.	Proposed
E.F.	Each Face	Exist.	Existing
F.F.	Front face		
B.F.	Back Face		
I.F.	Inside Face		



PROFILE GRADE @ CUMBERLAND FLYOVER RAMP

CURVE DATA CUMBFY-02

PI STA. = 20+67.96
 Δ = 33° 47' 31" (LT)
 D = 8° 44' 03"
 R = 656.00'
 T = 199.26'
 L = 386.90'
 E = 29.59'
 e = 6.0%
 P.C. STA. = 18+68.71
 P.T. STA. = 22+55.60

INDEX OF SHEETS

Sht. No.	Sht. Title
1	General Plan and Elevation (1 of 2)
2	General Plan and Elevation (2 of 2)
3	General Notes
4	Detailed Plan and Elevation (1 of 4)
5	Detailed Plan and Elevation (2 of 4)
6	Detailed Plan and Elevation (3 of 4)
7	Detailed Plan and Elevation (4 of 4)
8	Wall Section & Details (1 of 4)
9	Wall Section & Details (2 of 4)
10	Wall Section & Details (3 of 4)
11	Wall Section & Details (4 of 4)
12	Reinforcement Details & Bill of Material
13	Metal Shell Pile Details
14	Light Pole Foundation Detail
15	Soil Boring Logs (1 of 4)
16	Soil Boring Logs (2 of 4)
17	Soil Boring Logs (3 of 4)
18	Soil Boring Logs (4 of 4)
19	Pile Driving Records (1 of 13)
20	Pile Driving Records (2 of 13)
21	Pile Driving Records (3 of 13)
22	Pile Driving Records (4 of 13)
23	Pile Driving Records (5 of 13)
24	Pile Driving Records (6 of 13)
25	Pile Driving Records (7 of 13)
26	Pile Driving Records (8 of 13)
27	Pile Driving Records (9 of 13)
28	Pile Driving Records (10 of 13)
29	Pile Driving Records (11 of 13)
30	Pile Driving Records (12 of 13)
31	Pile Driving Records (13 of 13)

TOTAL BILL OF MATERIAL

PAY ITEM DESCRIPTION	UNIT	TOTAL	RECORD QUANTITY
* Granular Backfill For Structures	Cu Yd	844	
Structure Excavation	Cu Yd	2,512	
Concrete Structure	Cu Yd	2,090	
Concrete Superstructure	Cu Yd	180	
Protective Coat	Sq Yd	845	
Reinforcement Bars, Epoxy Coated	Pound	264,214	
Furnishing Metal Shell Piles 12"x0.179"	Foot	17,331	
Driving Piles	Foot	17,331	
Test Pile Metal Shells	Each	7	
Geocomposite Wall Drain	Sq Yd	2,075	
* Pipe Underdrain for Structures, 6"	Foot	1,106	
Form Liner	Sq Ft	9,501	

* Special Provision Required



USER NAME = *USER*	DESIGNED - NS	REVISED
	CHECKED - SK	REVISED
PLOT SCALE = *SCALE*	DRAWN - DB	REVISED
PLOT DATE = 5/27/2016	CHECKED - NS	REVISED

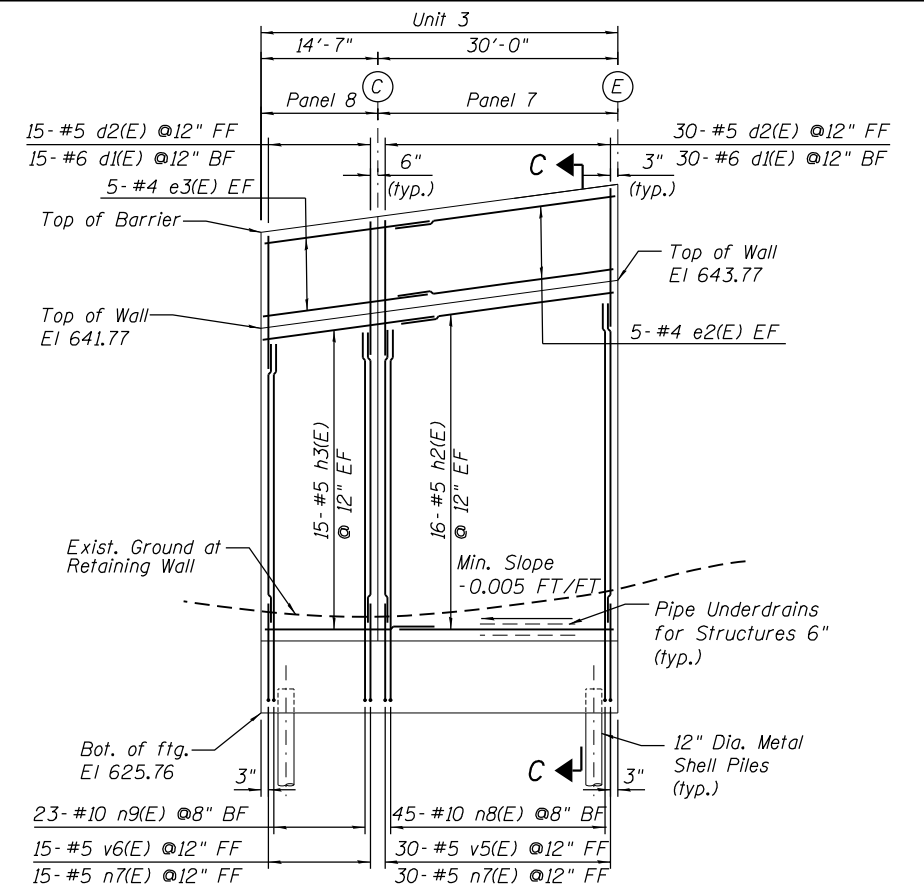
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)**

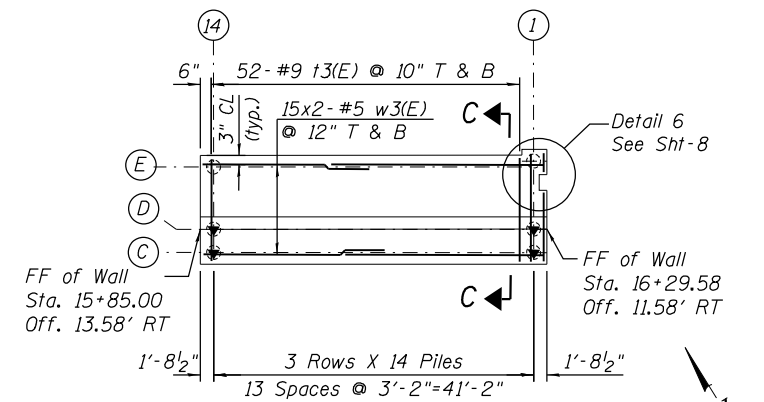
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	387
CONTRACT NO. 60X56				

SHEET NO. 3 OF 31 SHEETS

ILLINOIS FED. AID PROJECT



FRONT FACE ELEVATION - RETAINING WALL 2
NW78.70R, EB(R)
 (Looking North)



FOOTING & PILE PLAN - RETAINING WALL 2

NOTES:

1. For General Notes, see Sheet 1.
2. For Step Details, see Sheet 8.
3. For Section A-A, B-B & C-C see Sheet 9.
4. For Bar Schedule and Bending Diagrams, see Sheet 12.
5. For Expansion Joint and Construction Joint Details, see Sheet 8.
6. For Minimum lap lengths of reinforcements for walls and footings, refer Sheet 3.
7. Batter Piles slope at 3"/ft.
8. Reinforcement bars need to be locally adjusted around the piles to avoid interference.

PILE PLAN LEGEND:

- Straight Pile
- ⊙ Batter Pile



USER NAME = *USER*	DESIGNED - JC	REVISED
	CHECKED - SK	REVISED
PLOT SCALE = *SCALE*	DRAWN - AA	REVISED
PLOT DATE = 3/31/2016	CHECKED - NS	REVISED

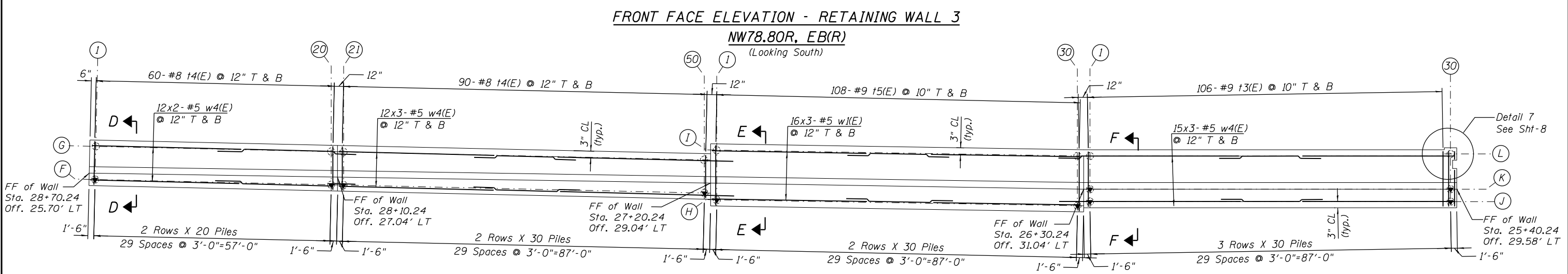
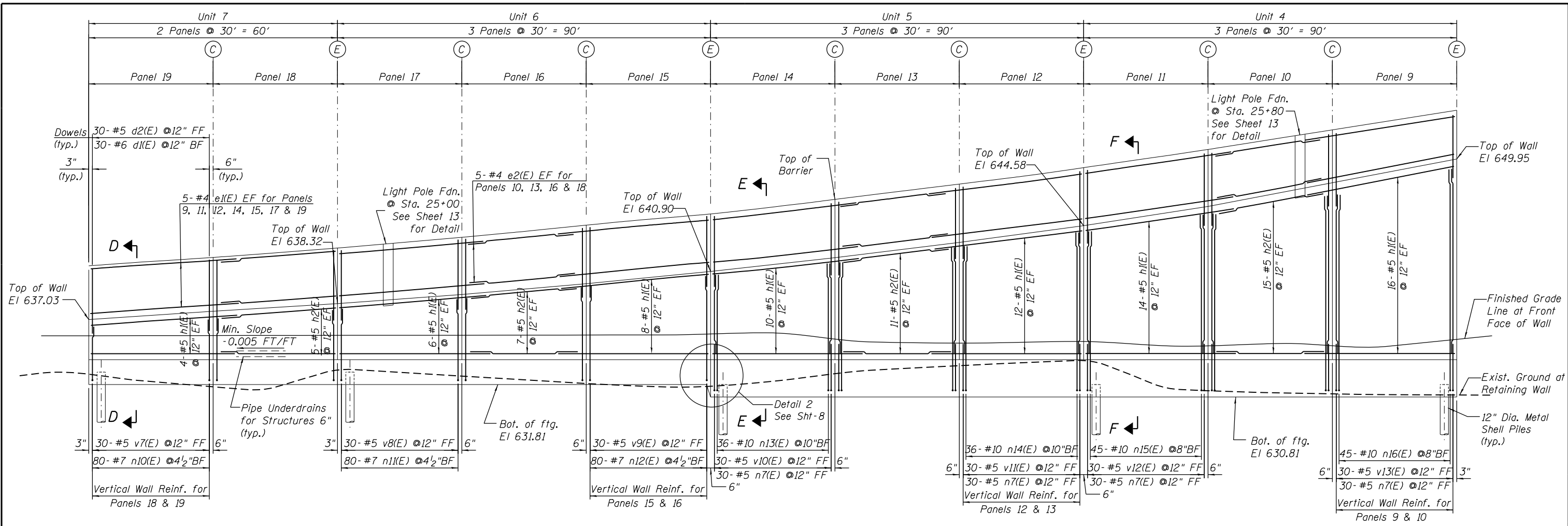
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DETAILED PLAN & ELEVATION (1 OF 4)
 CUMBERLAND FLYOVER RAMP RETAINING WALLS
 NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	388
CONTRACT NO. 60X56				

SHEET NO. 4 OF 31 SHEETS

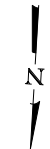
ILLINOIS FED. AID PROJECT



- NOTES:**
1. For General Notes, see Sheet 1.
 2. For Step Details, see Sheet 8.
 3. For Section D-D, E-E & F-F see Sheet 10.
 4. For Bar Schedule and Bending Diagrams, see Sheet 12.
 5. For Expansion Joint and Construction Joint Details, see Sheet 8.
 6. For Minimum lap lengths of reinforcements for walls and footings, refer Sheet 3.
 7. Batter Piles slope at 3"/ft.
 8. Reinforcement bars need to be locally adjusted around the piles to avoid interference.

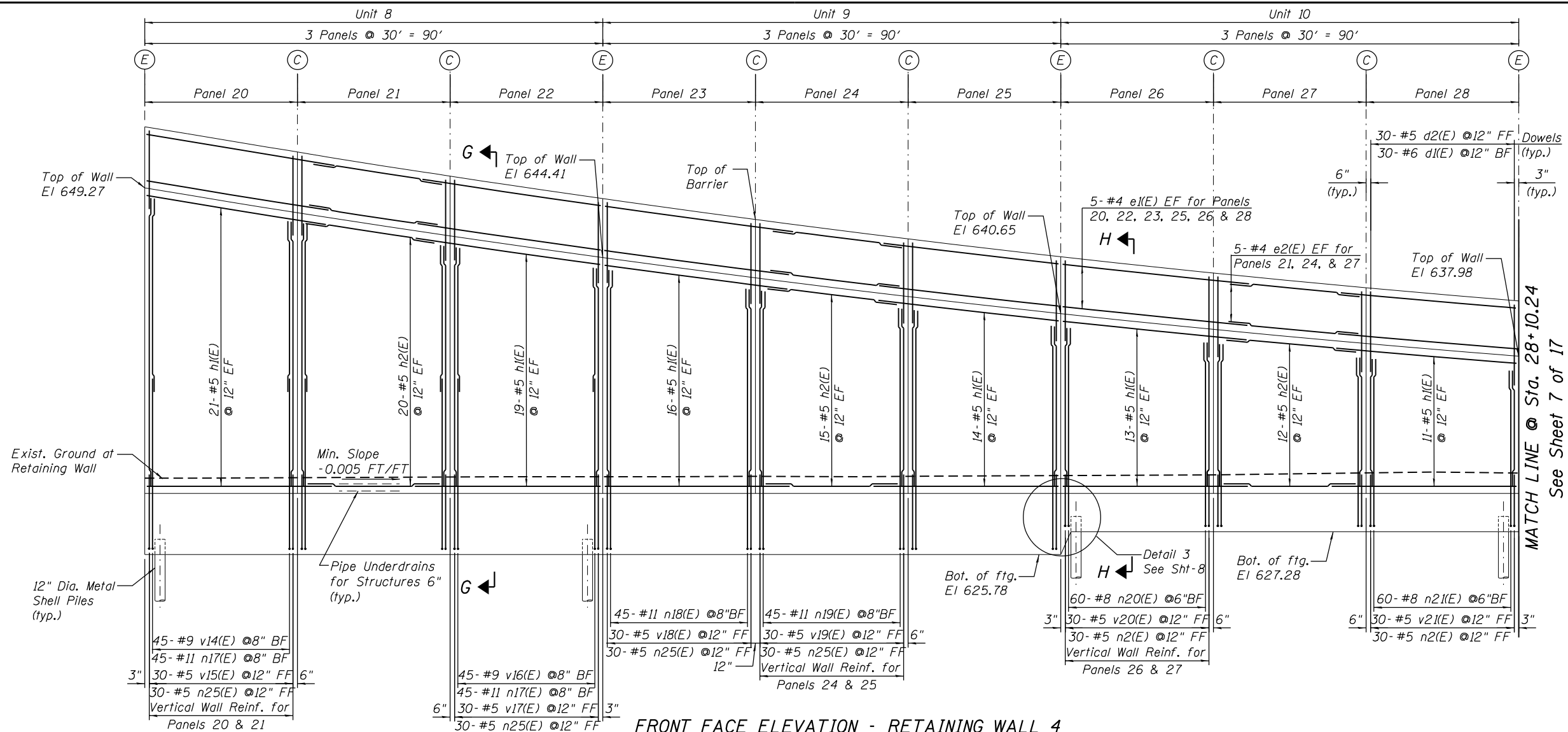
- PILE PLAN LEGEND:**
- Straight Pile
 - ◐ Batter Pile

FOOTING & PILE PLAN - RETAINING WALL 3

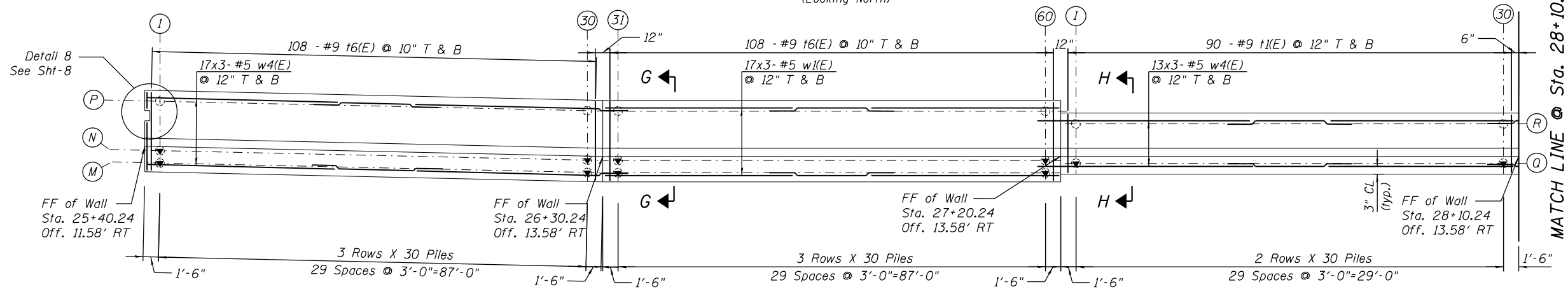


<p>DELTA ENGINEERING GROUP, LLC USER NAME = *USER* PLOT SCALE = *SCALE* PLOT DATE = 3/31/2016</p>	DESIGNED - JC CHECKED - SK DRAWN - AA CHECKED - NS	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILED PLAN & ELEVATION (2 OF 4) CUMBERLAND FLYOVER RAMP RETAINING WALLS NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)	F.A.I. RTE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 389
	SHEET NO. 5 OF 31 SHEETS					CONTRACT NO. 60X56			

FILE NAME = p:\hntb\356.hntb.org\G\Great.Lakes\Documents\Chicago Projects\30120 1-190 Cumberland\Design\CADD.Contract.60X56\CADD.Sheets\DI60X56-sh-retwall E1ev-02.dgn



FRONT FACE ELEVATION - RETAINING WALL 4
NW78.90R, EB(R)
 (Looking North)



FOOTING & PILE PLAN - RETAINING WALL 4

NOTES:

1. For General Notes, see Sheet 1.
2. For Step Details, see Sheet 8.
3. For Section G-G & H-H see Sheet 11.
4. For Bar Schedule and Bending Diagrams, see Sheet 12.
5. For Expansion Joint and Construction Joint Details, see Sheet 8.
6. For Minimum lap lengths of reinforcements for walls and footings, refer Sheet 3.
7. Batter Piles slope at 3"/ft.
8. Reinforcement bars need to be locally adjusted around the piles to avoid interference.

PILE PLAN LEGEND:

- Straight Pile
- ◐ Batter Pile

MATCH LINE @ Sta. 28+10.24
See Sheet 7 of 17

MATCH LINE @ Sta. 28+10.24
See Sheet 7 of 17

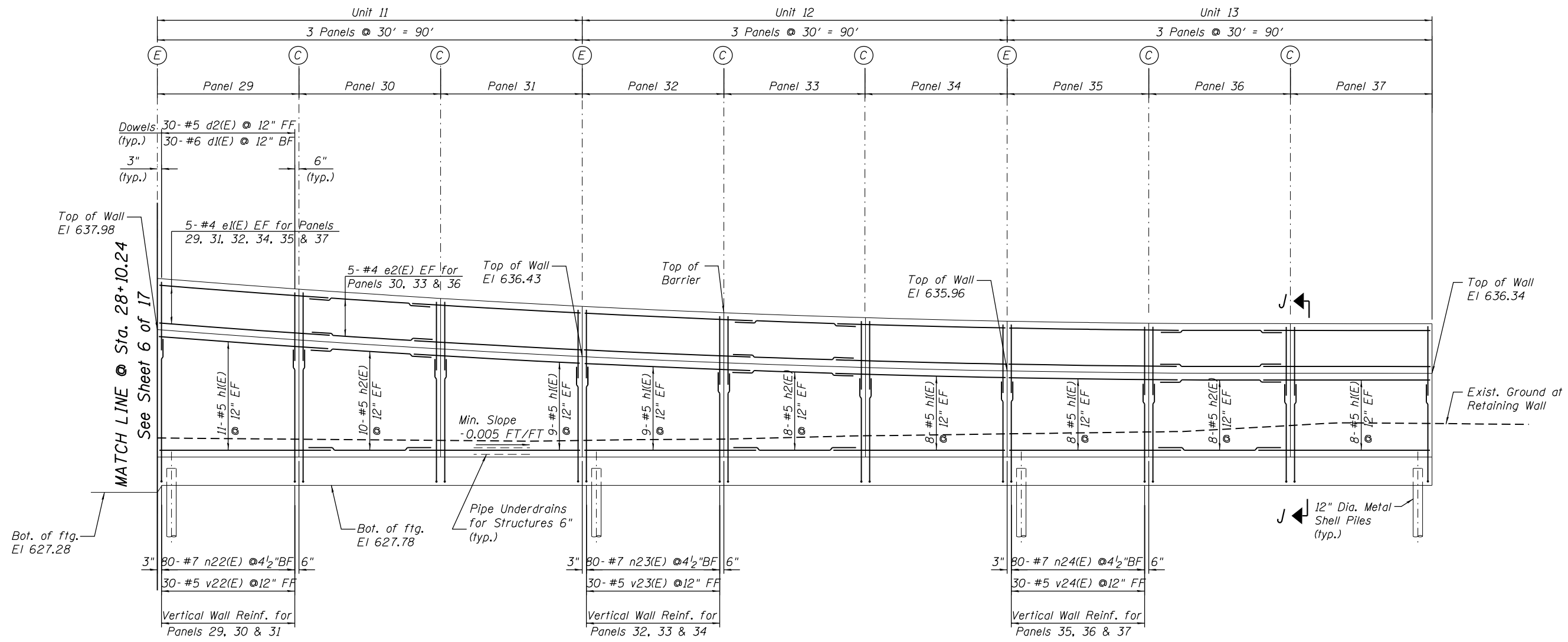


USER NAME = *USER*	DESIGNED - JC	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 3/31/2016	DRAWN - AA	REVISED
	CHECKED - NS	REVISED

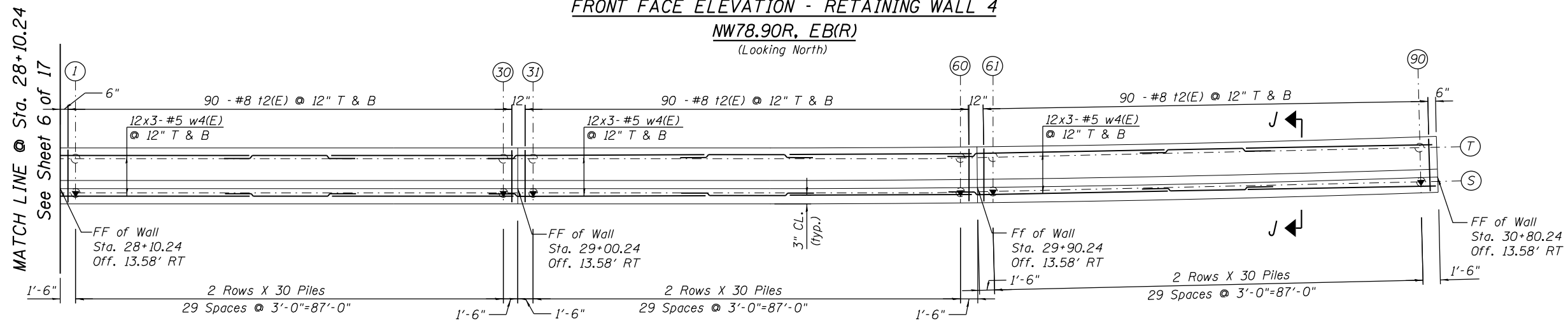
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILED PLAN & ELEVATION (3 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	390
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				



FRONT FACE ELEVATION - RETAINING WALL 4
NW78.90R, EB(R)
 (Looking North)



NOTES:

1. For General Notes, see Sheet 1.
2. For Step Details, see Sheet 8.
3. For Section J-J see Sheet 11.
4. For Bar Schedule and Bending Diagrams, see Sheet 12.
5. For Expansion Joint and Construction Joint Details, see Sheet 8.
6. For Minimum lap lengths of reinforcements for walls and footings, refer Sheet 3.
7. Batter Piles slope at 3"/ft.
8. Reinforcement bars need to be locally adjusted around the piles to avoid interference.

PILE PLAN LEGEND:

- Straight Pile
- ▼ Batter Pile

FOOTING & PILE PLAN - RETAINING WALL 4



USER NAME = *USER*	DESIGNED - JC	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 3/31/2016	DRAWN - AA	REVISED
	CHECKED - NS	REVISED

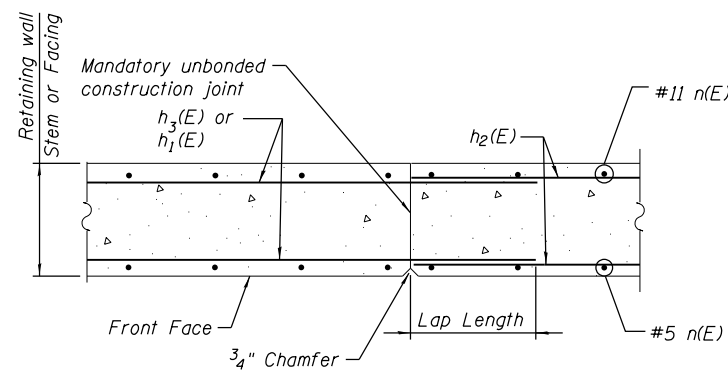
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILED PLAN & ELEVATION (4 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

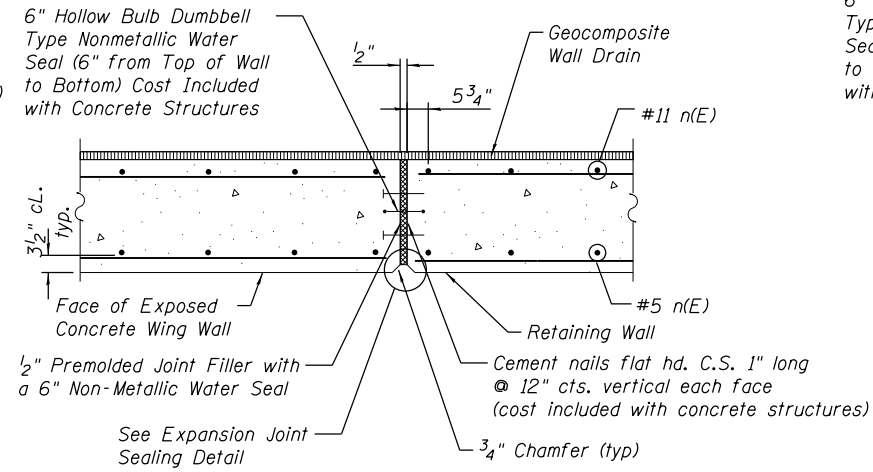
F.A.I. RTE. 190	SECTION 1517R-1(13)	COUNTY COOK	TOTAL SHEETS 580	SHEET NO. 391
CONTRACT NO. 60X56				

SHEET NO. 7 OF 31 SHEETS

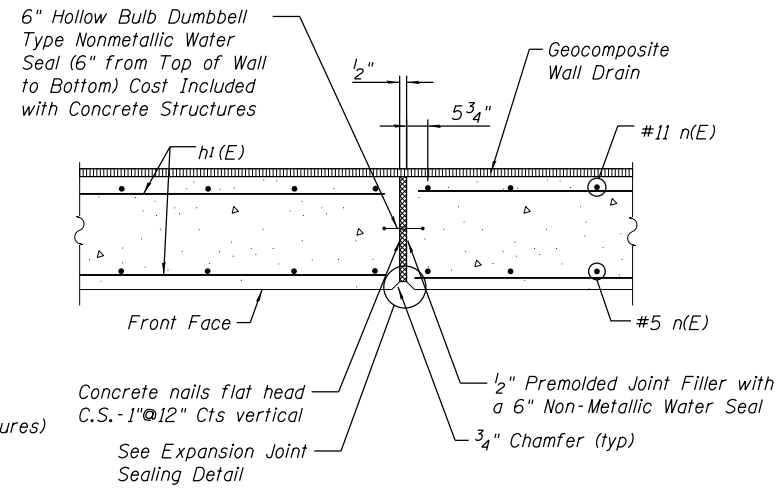
ILLINOIS FED. AID PROJECT



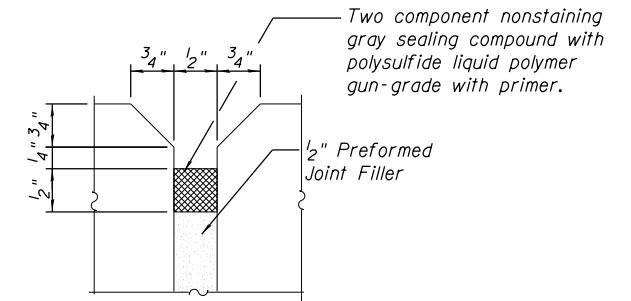
WALL CONSTRUCTION JOINT DETAIL



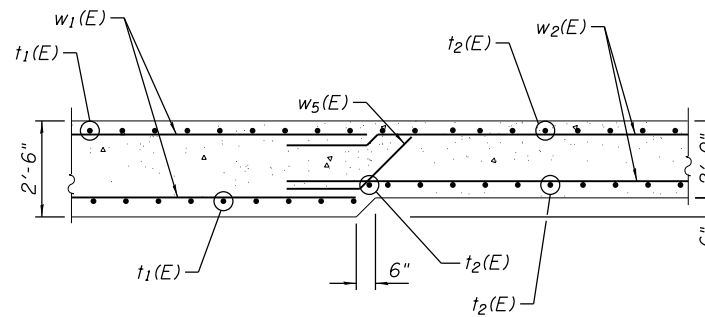
EXPANSION JOINT DETAIL AT WING WALL



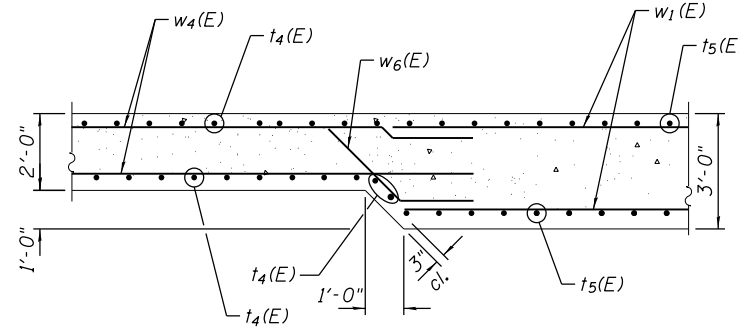
WALL EXPANSION JOINT DETAIL



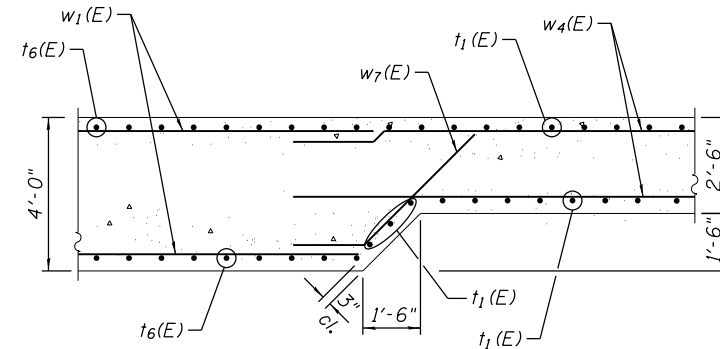
EXPANSION JOINT SEALING DETAIL



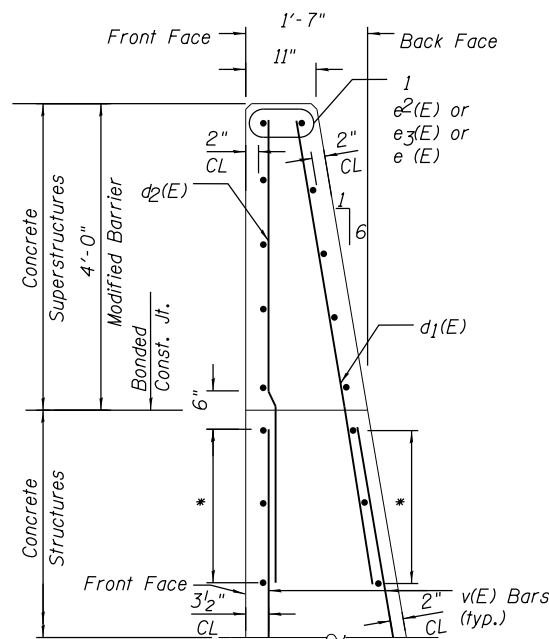
DETAIL 1



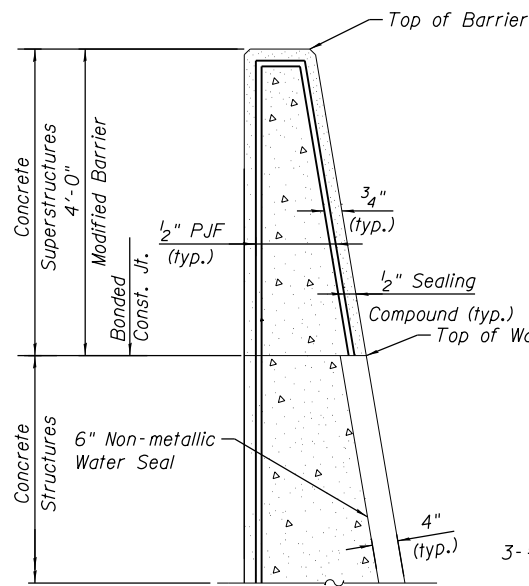
DETAIL 2



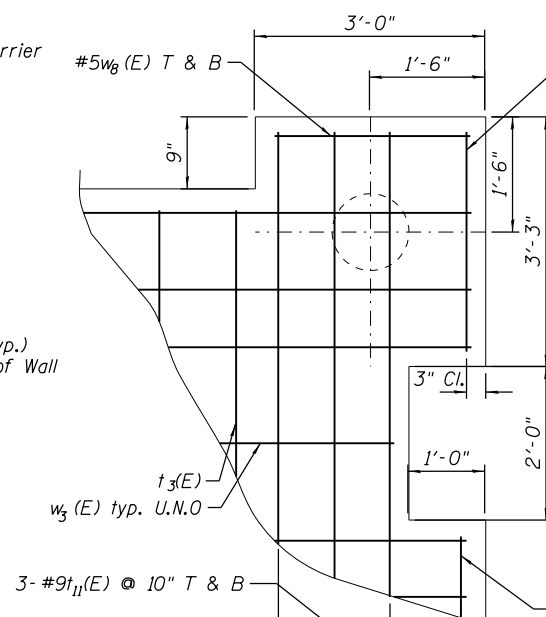
DETAIL 3



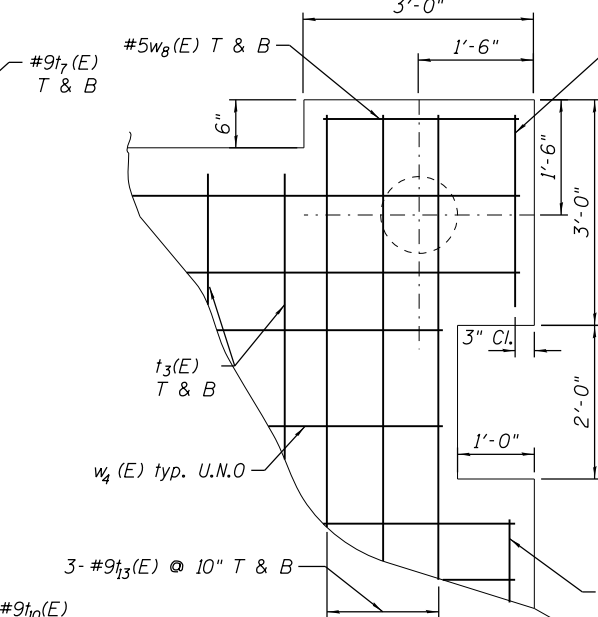
REINFORCEMENT



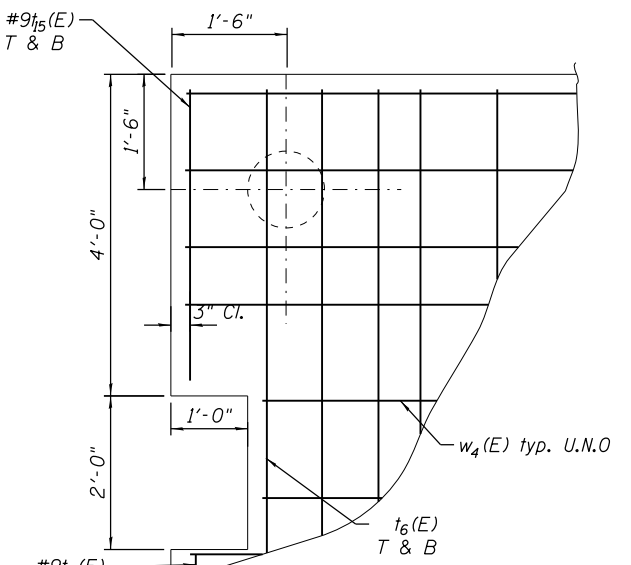
EXPANSION JOINT



DETAIL 6



DETAIL 7



DETAIL 8

* For minimum lap length of reinforcement, see sheet 3



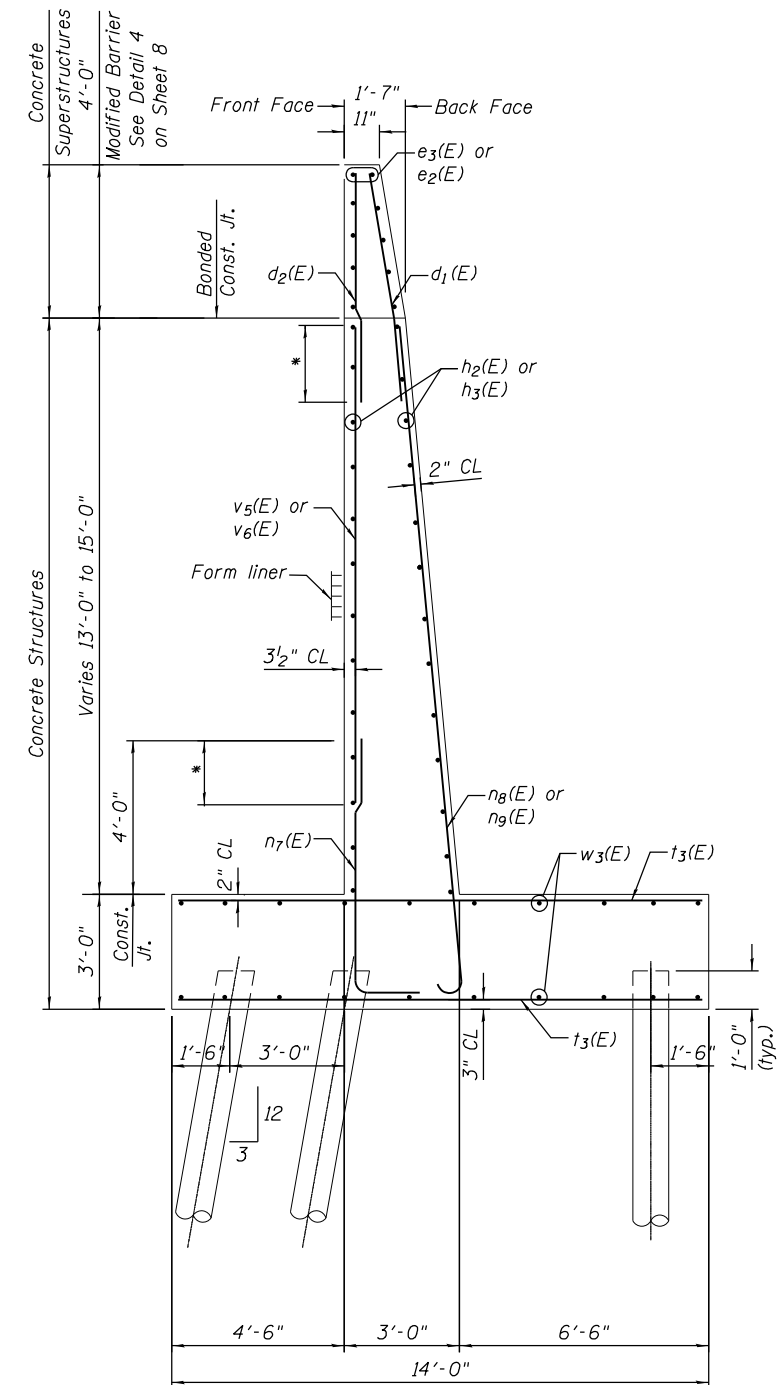
USER NAME = *USER*	DESIGNED - JC	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 5/27/2016	DRAWN - DB	REVISED
	CHECKED - NS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL SECTION & DETAILS (1 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	392
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 8 OF 31 SHEETS



**Section C-C
Retaining Wall 2**

Sta. 15+85.00 to Sta. 16+29.58
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 67 Kips
 Factored Resistance Available = 80 Kips
 Estimated Pile Length = 21'
 No. Req'd = 41+1 Test Pile

* For minimum lap lengths of reinforcement, see Sheet 3



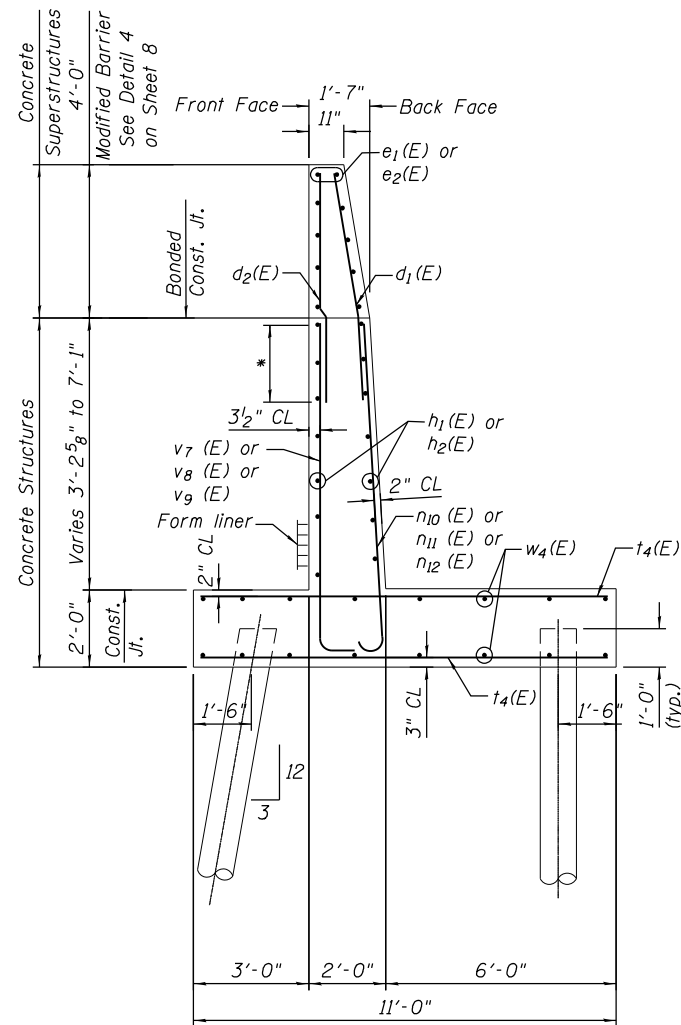
USER NAME = *USER*	DESIGNED - JC	REVISED
	CHECKED - SK	REVISED
PLOT SCALE = *SCALE*	DRAWN - AA	REVISED
PLOT DATE = 3/31/2016	CHECKED - NS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL SECTION & DETAILS (2 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.80R EB(R) & NW78.90R EB(R)**

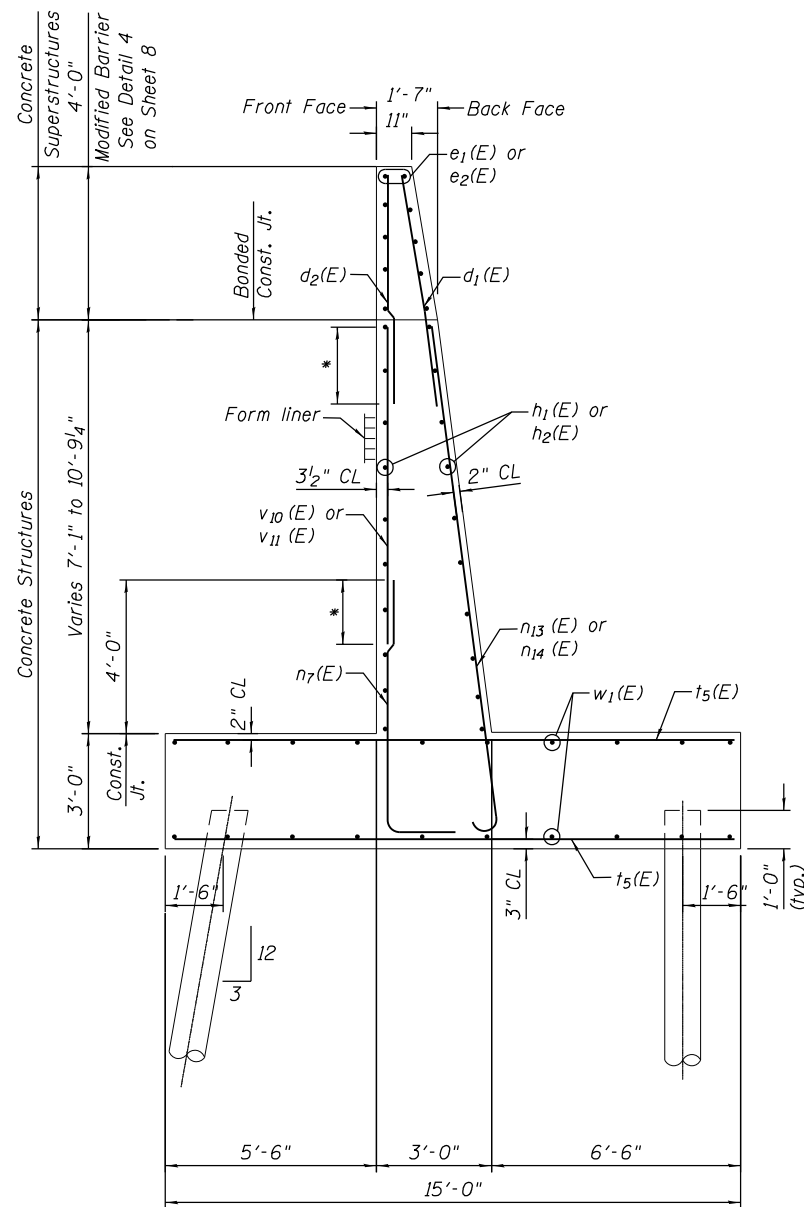
SHEET NO. 9 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	393
			CONTRACT NO. 60X56	
ILLINOIS FED. AID PROJECT				



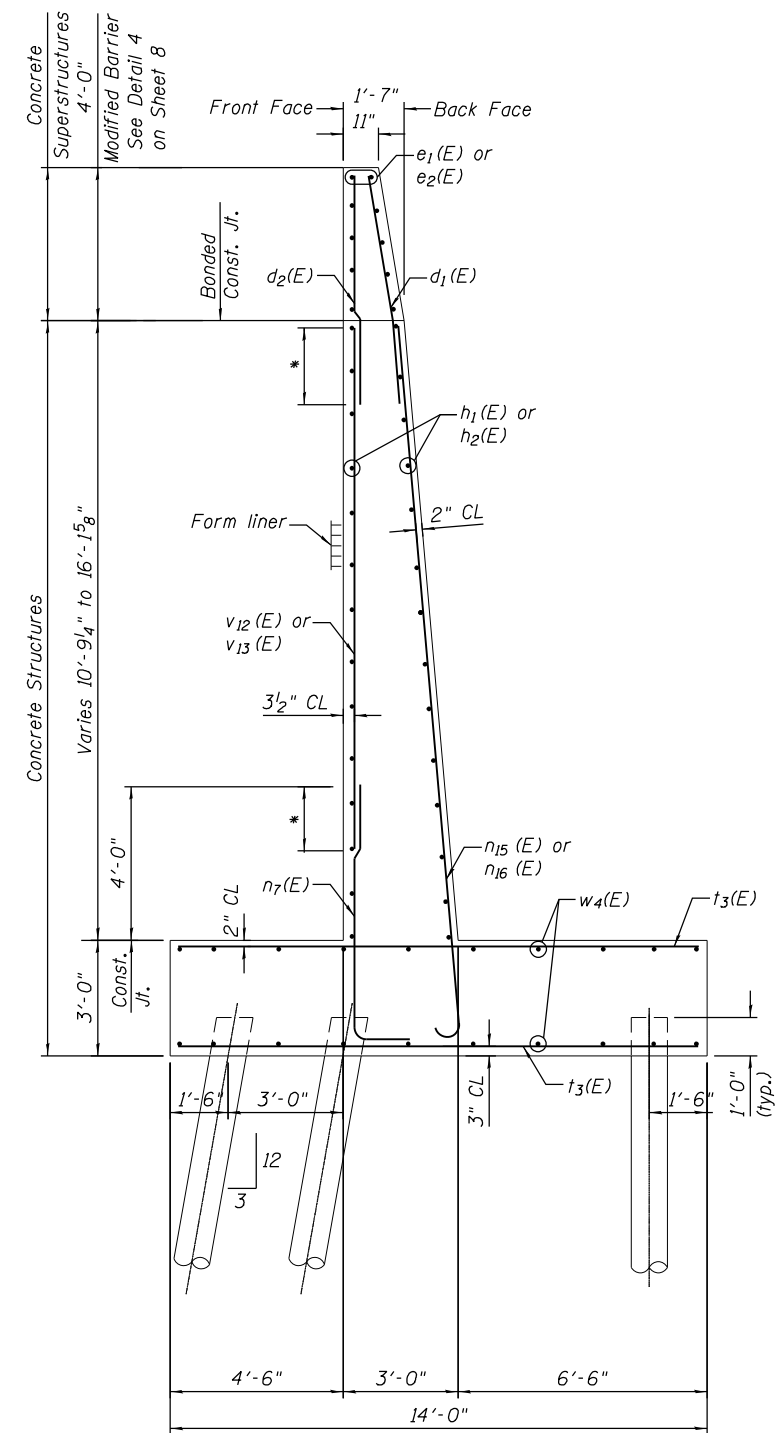
Section D-D
Retaining Wall 3

Sta. 28+70.24 to Sta. 27+20.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 62 Kips
 Factored Resistance Available = 73 Kips
 Estimated Pile Length = 25'
 No. Req'd = 99+1 Test Pile



Section E-E
Retaining Wall 3

Sta. 27+20.24 to Sta. 26+30.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 73 Kips
 Factored Resistance Available = 73 Kips
 Estimated Pile Length = 25'
 No. Req'd = 59+1 Test Pile



Section F-F
Retaining Wall 3

Sta. 26+30.24 to Sta. 25+40.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 67 Kips
 Factored Resistance Available = 80 Kips
 Estimated Pile Length = 27'
 No. Req'd = 89+1 Test Pile

* For minimum lap lengths of reinforcement, see Sheet 3



USER NAME = *USER*	DESIGNED - JC	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 3/31/2016	DRAWN - AA	REVISED
	CHECKED - NS	REVISED

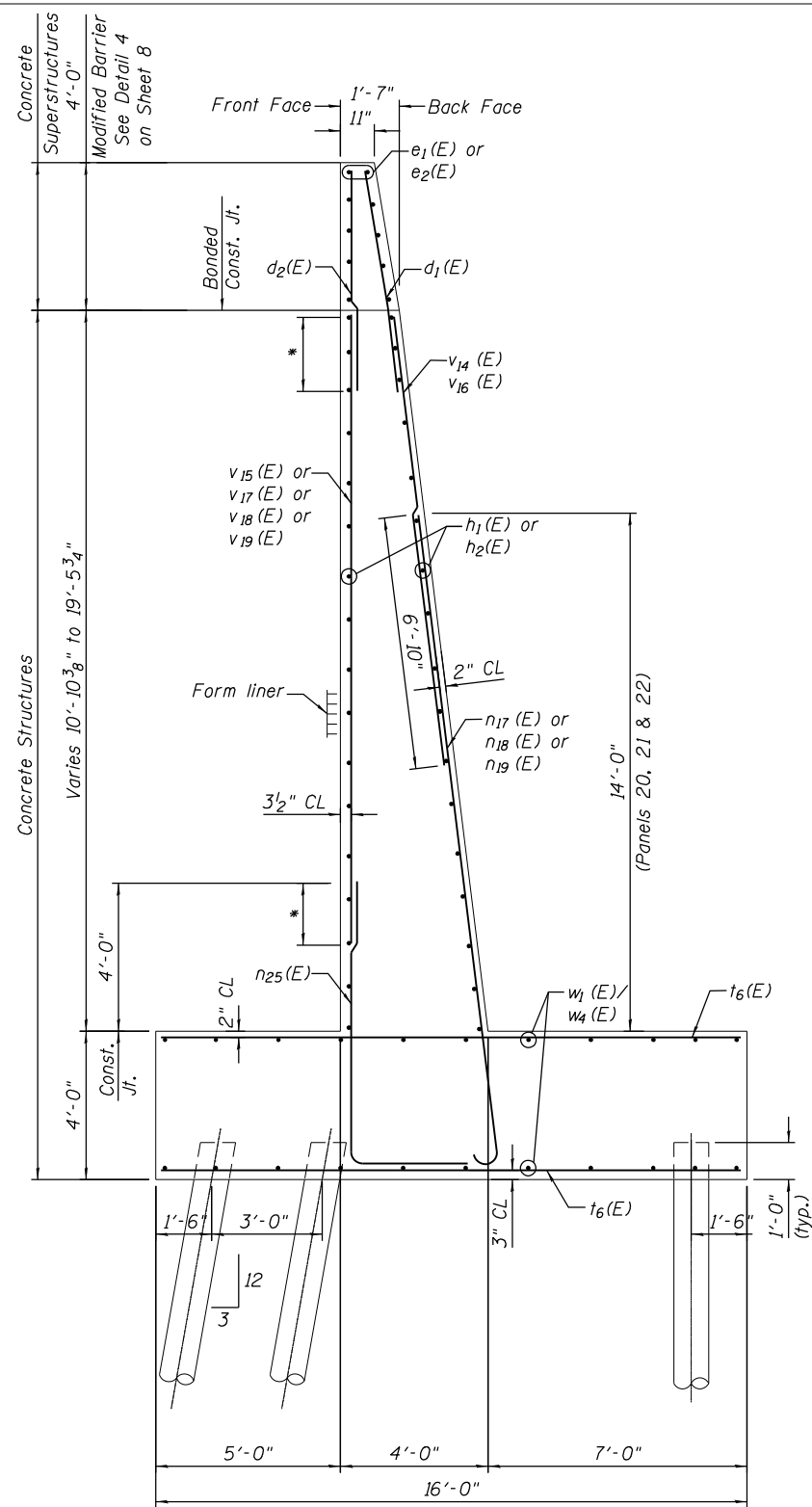
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTION & DETAILS (3 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	394
CONTRACT NO. 60X56				

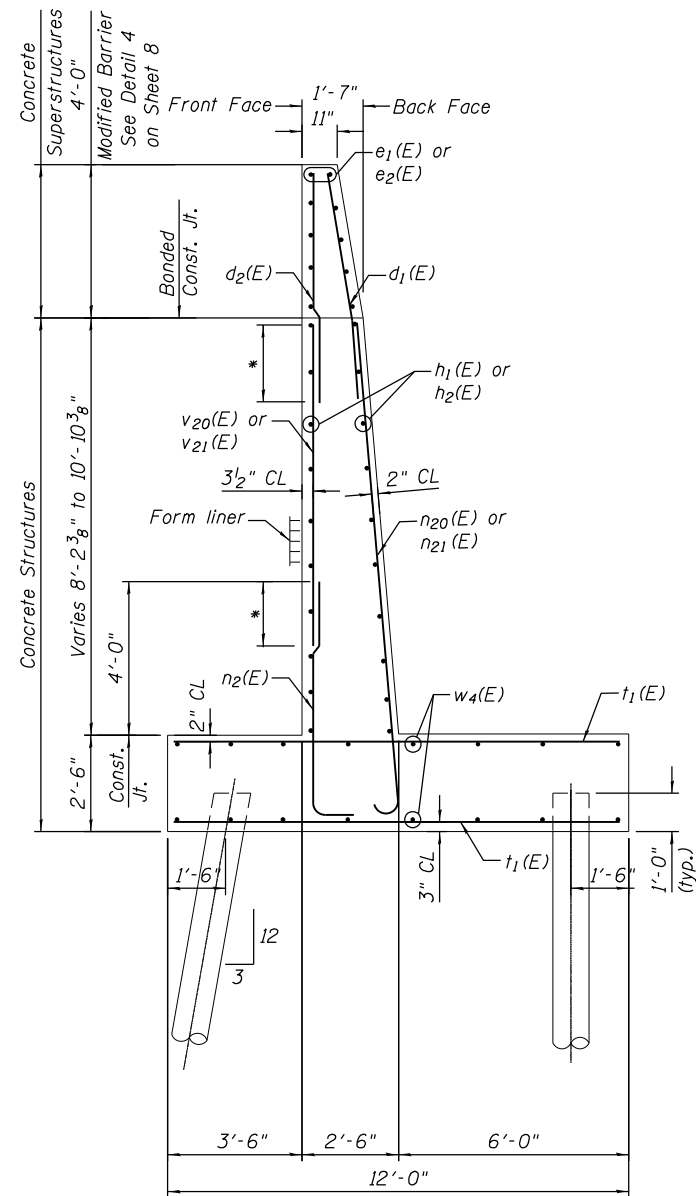
SHEET NO. 10 OF 31 SHEETS

ILLINOIS FED. AID PROJECT



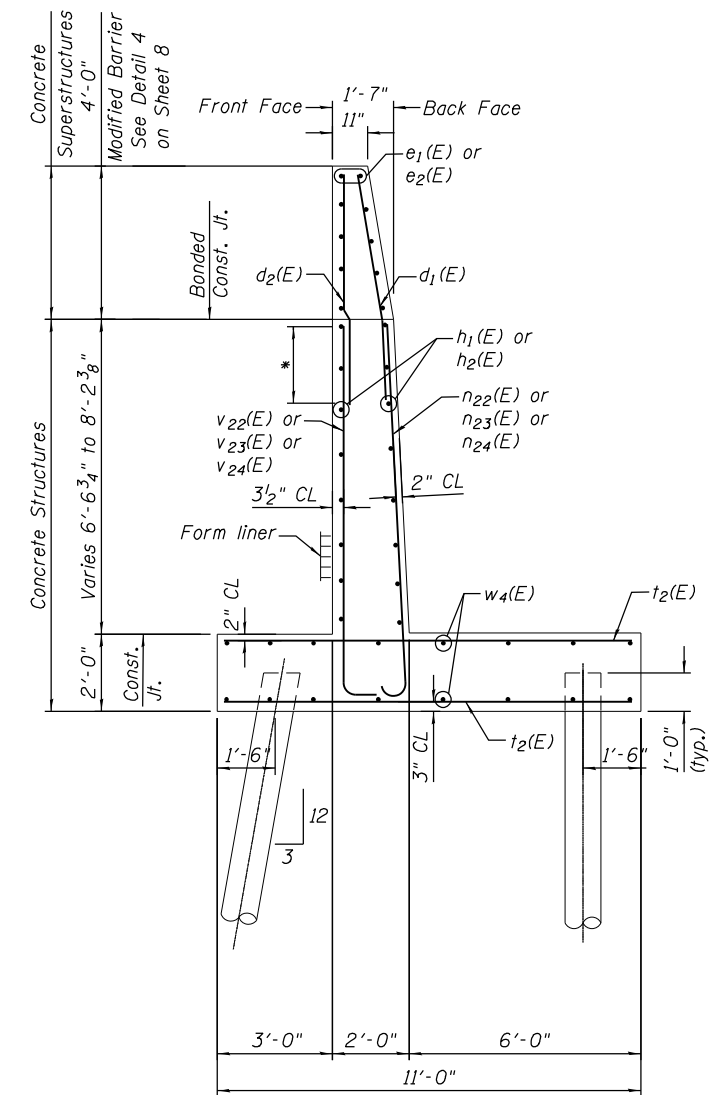
Section G-G
Retaining Wall 4

Sta. 25+40.24 to Sta. 27+20.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 87 Kips
 Factored Resistance Available = 89 Kips
 Estimated Pile Length = 22'
 No. Req'd = 179+1 Test Pile



Section H-H
Retaining Wall 4

Sta. 27+20.24 to Sta. 28+10.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 82 Kips
 Factored Resistance Available = 85 Kips
 Estimated Pile Length = 24'
 No. Req'd = 59+1 Test Pile



Section J-J
Retaining Wall 4

Sta. 28+10.24 to Sta. 30+80.24
 Pile Type: 12" Metal Shell Cast-in-Place
 Concrete Piles with wall thickness = 0.179"
 Nominal Required Bearing = 67 Kips
 Factored Resistance Available = 67 Kips
 Estimated Pile Length = 22'
 No. Req'd = 179+1 Test Pile

* For minimum lap lengths of reinforcement, see Sheet 3



USER NAME = *USER*	DESIGNED - JC	REVISED
PLOT SCALE = *SCALE*	CHECKED - SK	REVISED
PLOT DATE = 3/31/2016	DRAWN - AA	REVISED
	CHECKED - NS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

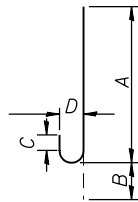
WALL SECTION & DETAILS (4 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	395
CONTRACT NO. 60X56				
ILLINOIS FED. AID PROJECT				

SHEET NO. 11 OF 31 SHEETS

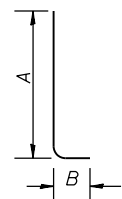
**WALL 2
BILL OF MATERIAL**

Bar	A	B	C	D
n8(E)	17'-9"	1'-5"	3 3/4"	1'-1 1/4"
n9(E)	16'-5"	1'-5"	3 3/4"	1'-1 1/4"
n10(E)	6'-3"	10"	3"	7"
n11(E)	7'-0"	10"	3"	7"
n12(E)	8'-10"	10"	3"	7"
n13(E)	10'-11"	1'-5"	3 3/4"	1'-1 1/4"
n14(E)	13'-7"	1'-5"	3 3/4"	1'-1 1/4"
n15(E)	15'-1"	1'-5"	3 3/4"	1'-1 1/4"
n16(E)	18'-8"	1'-5"	3 3/4"	1'-1 1/4"
n17(E)	18'-0"	1'-7"	4 1/4"	1'-2 3/4"
n18(E)	18'-5"	1'-7"	4 1/4"	1'-2 3/4"
n19(E)	17'-0"	1'-7"	4 1/4"	1'-2 3/4"
n20(E)	13'-1"	11"	3"	8"
n21(E)	11'-3"	11"	3"	8"
n22(E)	9'-11"	10"	3"	7"
n23(E)	8'-5"	10"	3"	7"
n24(E)	7'-11"	10"	3"	7"



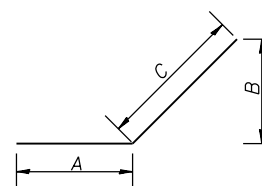
BAR n8(E) thru n24(E)

Note: Bars shall be cut-to-fit as required



Bar	A	B
n2(E)	6'-6"	12"
n7(E)	7'-0"	12"
n25(E)	8'-0"	12"

BAR n2(E), n7(E) & n25(E)



Bar	A	B	C
w5(E)	2'-7"	1'-5"	2'-10"
w6(E)	2'-7"	2'-6"	3'-7"
w7(E)	2'-7"	3'-6"	4'-1"

BAR w5(E), w6(E) & w7(E)

**WALL 3
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d1(E)	330	#6	7'-2"	---
d2(E)	330	#5	6'-1"	---
d3(E)	6	#6	7'-7"	---
e1(E)	70	#4	32'-0"	---
e2(E)	40	#4	29'-8"	---
e4(E)	14	#6	7'-0"	---
h1(E)	140	#5	32'-7"	---
h2(E)	76	#5	29'-8"	---
n7(E)	180	#5	8'-0"	---
n10(E)	160	#7	7'-1"	---
n11(E)	80	#7	7'-10"	---
n12(E)	160	#7	9'-8"	---
n13(E)	36	#10	12'-4"	---
n14(E)	72	#10	15'-0"	---
n15(E)	45	#10	16'-6"	---
n16(E)	90	#10	20'-1"	---
t3(E)	212	#9	13'-6"	---
t4(E)	300	#8	10'-6"	---
t5(E)	216	#9	14'-6"	---
t10(E)	2	#9	9'-0"	---
t2(E)	2	#9	2'-6"	---
t3(E)	6	#9	14'-0"	---
v7(E)	60	#5	7'-6"	---
v8(E)	30	#5	8'-4"	---
v9(E)	60	#5	10'-1"	---
v10(E)	30	#5	5'-11"	---
v11(E)	60	#5	8'-5"	---
v12(E)	30	#5	10'-0"	---
v13(E)	60	#5	13'-9"	---
w1(E)	96	#5	31'-9"	---
w4(E)	210	#5	32'-7"	---
w6(E)	12	#5	6'-2"	---
w8(E)	2	#5	2'-6"	---

Description	Unit	Qty
Structure Excavation	Cu Yd	573
Concrete Structures	Cu Yd	673
Concrete Superstructures	Cu Yd	64
Reinforcement Bars, Epoxy Coated	Pound	88,286
Furnishing Metal Shell Piles 12"x0.179"	Foot	6,671
Driving Piles	Foot	6,671
Test Pile Metal Shells	Each	3
Geocomposite Wall Drain	Sq Yd	861
Pipe Underdrain	Foot	395
Form Liner	Sq Ft	3033
Granular Backfill for Structures	Cu Yd	263

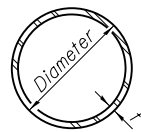
**WALL 4
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d1(E)	540	#6	7'-2"	---
d2(E)	540	#5	6'-1"	---
e1(E)	120	#4	32'-0"	---
e2(E)	60	#4	29'-8"	---
h1(E)	294	#5	32'-7"	---
h2(E)	146	#5	29'-8"	---
n2(E)	90	#5	7'-6"	---
n17(E)	135	#11	19'-7"	---
n18(E)	45	#11	20'-0"	---
n19(E)	90	#11	18'-7"	---
n20(E)	120	#8	14'-0"	---
n21(E)	60	#8	12'-2"	---
n22(E)	240	#7	10'-9"	---
n23(E)	240	#7	9'-3"	---
n24(E)	240	#7	8'-9"	---
n25(E)	180	#5	9'-0"	---
t1(E)	180	#9	11'-6"	---
t2(E)	540	#8	10'-6"	---
t6(E)	432	#9	15'-6"	---
t4(E)	2	#9	9'-6"	---
t5(E)	2	#9	3'-6"	---
v14(E)	90	#9	12'-4"	---
v15(E)	60	#5	17'-2"	---
v16(E)	45	#9	9'-0"	---
v17(E)	30	#5	13'-10"	---
v18(E)	30	#5	12'-4"	---
v19(E)	60	#5	10'-11"	---
v20(E)	60	#5	8'-6"	---
v21(E)	30	#5	6'-8"	---
v22(E)	90	#5	11'-2"	---
v23(E)	90	#5	9'-8"	---
v24(E)	90	#5	9'-2"	---
w1(E)	102	#5	31'-9"	---
w4(E)	396	#5	32'-7"	---
w5(E)	12	#5	5'-5"	---
w7(E)	13	#5	6'-8"	---

Description	Unit	Qty
Structure Excavation	Cu Yd	1,744
Concrete Structures	Cu Yd	1,288
Concrete Superstructures	Cu Yd	106
Reinforcement Bars, Epoxy Coated	Pound	159,523
Furnishing Metal Shell Piles 12"x0.179"	Foot	9,757
Driving Piles	Foot	9,757
Test Pile Metal Shells	Each	3
Geocomposite Wall Drain	Sq Yd	1116
Pipe Underdrain	Foot	614
Form Liner	Sq Ft	5813
Granular Backfill for Structures	Cu Yd	533

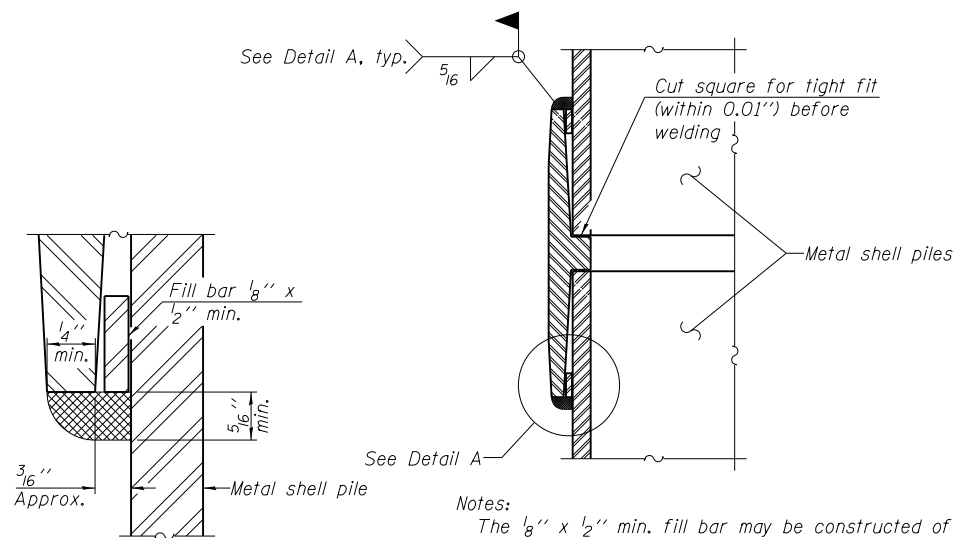
Bar	No.	Size	Length	Shape
d1(E)	45	#6	7'-2"	---
d2(E)	45	#5	6'-1"	---
e2(E)	10	#4	29'-8"	---
e3(E)	10	#4	16'-5"	---
h2(E)	32	#5	29'-8"	---
h3(E)	30	#5	16'-11"	---
n7(E)	45	#5	8'-0"	---
n8(E)	45	#10	18'-2"	---
n9(E)	23	#10	17'-10"	---
t3(E)	104	#9	13'-6"	---
t7(E)	2	#9	2'-9"	---
t10(E)	2	#9	9'-0"	---
t11(E)	6	#9	14'-3"	---
v5(E)	30	#5	12'-8"	---
v6(E)	15	#5	11'-4"	---
w3(E)	60	#5	23'-4"	---
w8(E)	2	#5	2'-6"	---

Description	Unit	Qty
Structure Excavation	Cu Yd	193
Concrete Structures	Cu Yd	128
Concrete Superstructures	Cu Yd	9
Reinforcement Bars, Epoxy Coated	Pound	16,404
Furnishing Metal Shell Piles 12"x0.179"	Foot	905
Driving Piles	Foot	905
Test Pile Metal Shells	Each	1
Geocomposite Wall Drain	Sq Yd	98
Pipe Underdrain	Foot	97
Form Liner	Sq Ft	655
Granular Backfill for Structures	Cu Yd	48



METAL SHELL PILE TABLE

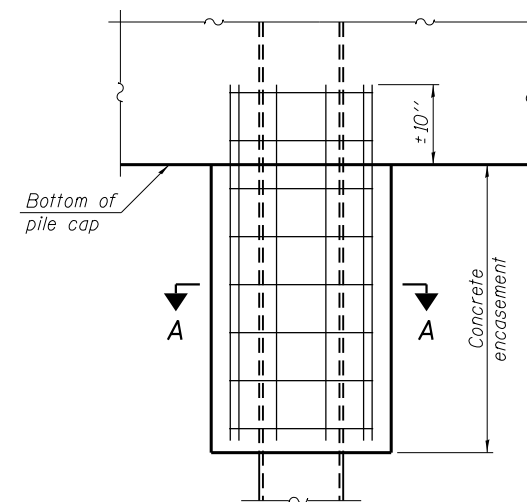
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



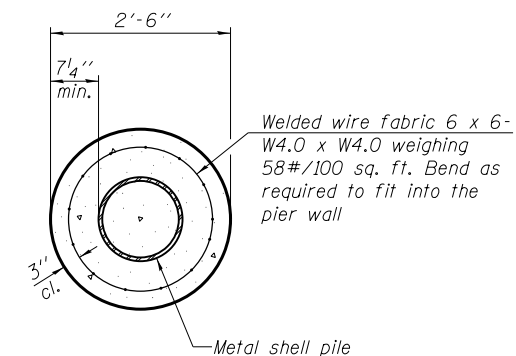
DETAIL A

Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



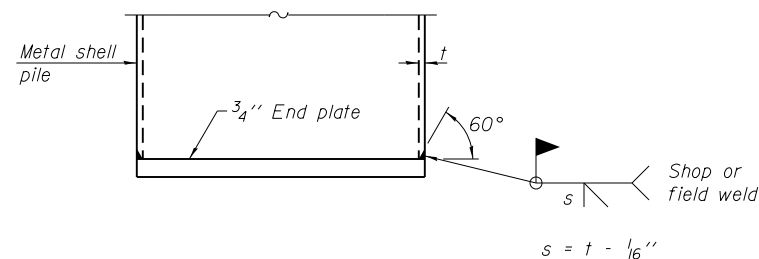
ELEVATION



SECTION A-A

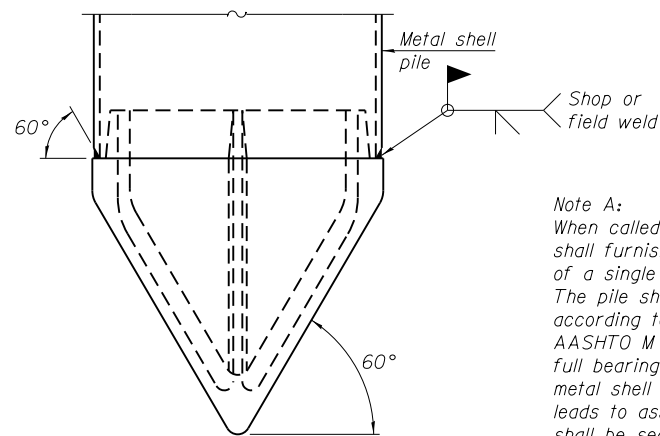
Note:
 Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



END PLATE ATTACHMENT

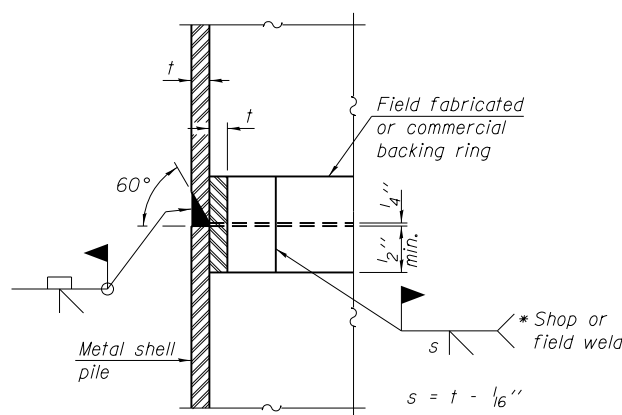
$s = t - \frac{1}{16}''$



METAL SHELL PILE SHOE ATTACHMENT

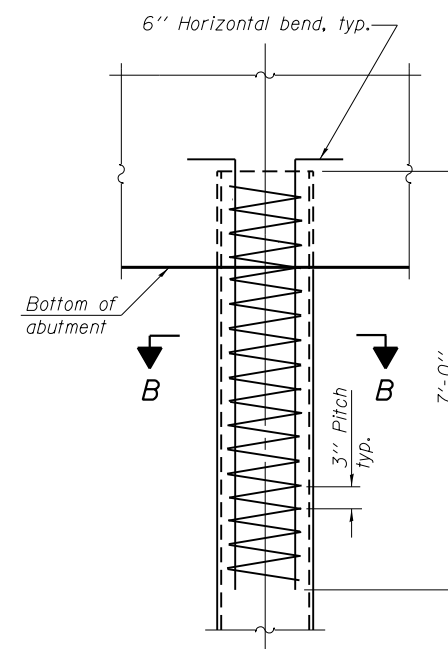
(See Note A)

Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

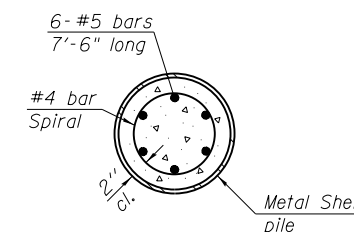


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS

1-27-12



USER NAME = *USER*	DESIGNED - SK	REVISED
	CHECKED - DB	REVISED
PLOT SCALE = *SCALE*	DRAWN - NS	REVISED
PLOT DATE = 5/27/2016	CHECKED -	REVISED

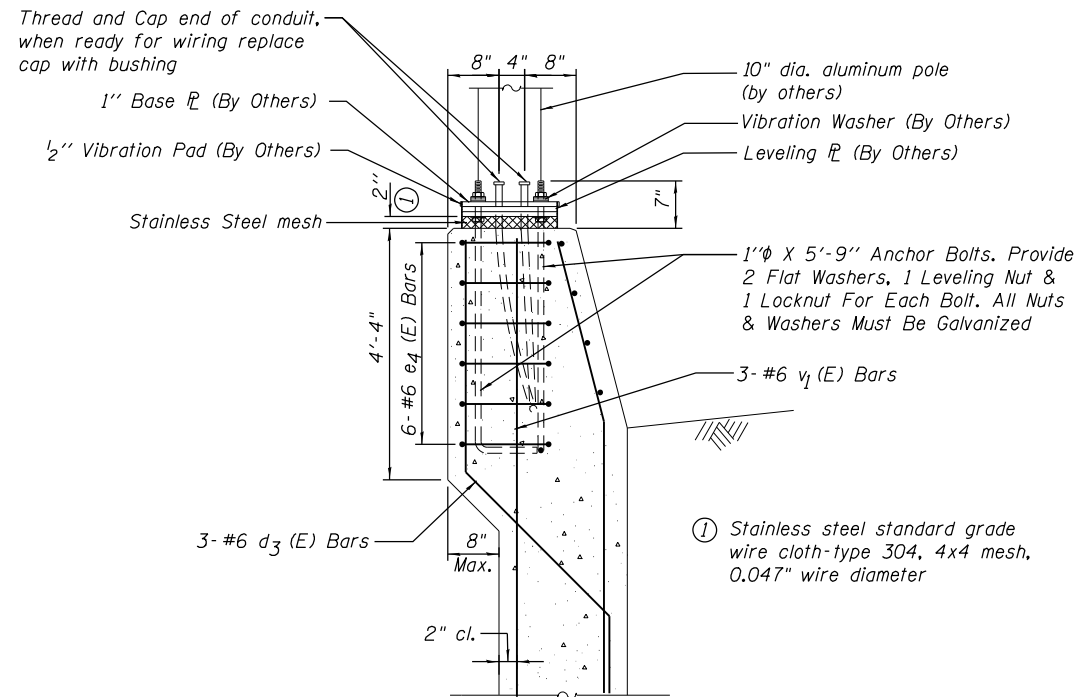
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**METAL SHELL PILE DETAILS
 CUMBERLAND FLYOVER RAMP RETAINING WALLS
 NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	397
CONTRACT NO. 60X56				

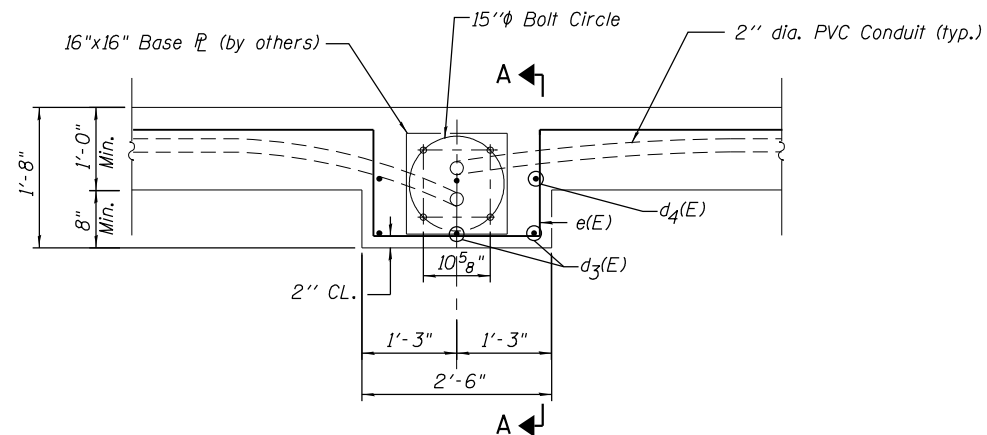
SHEET NO. 13 OF 31 SHEETS

ILLINOIS FED. AID PROJECT

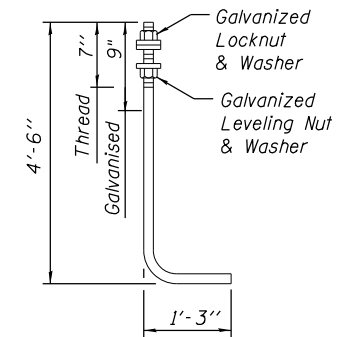


SECTION A-A

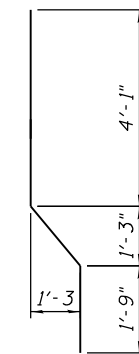
Note:
Cost of anchor bolts is included in the cost of concrete structures pay item. 2" dia. pvc conduit shall be paid for separately.



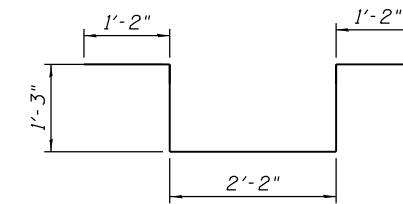
PARAPET MOUNTED LIGHT POLE DETAIL
(Partial plan at Top of Wall)



1" DIA. ANCHOR BOLT
(ASTM F 1554 GRADE 105)



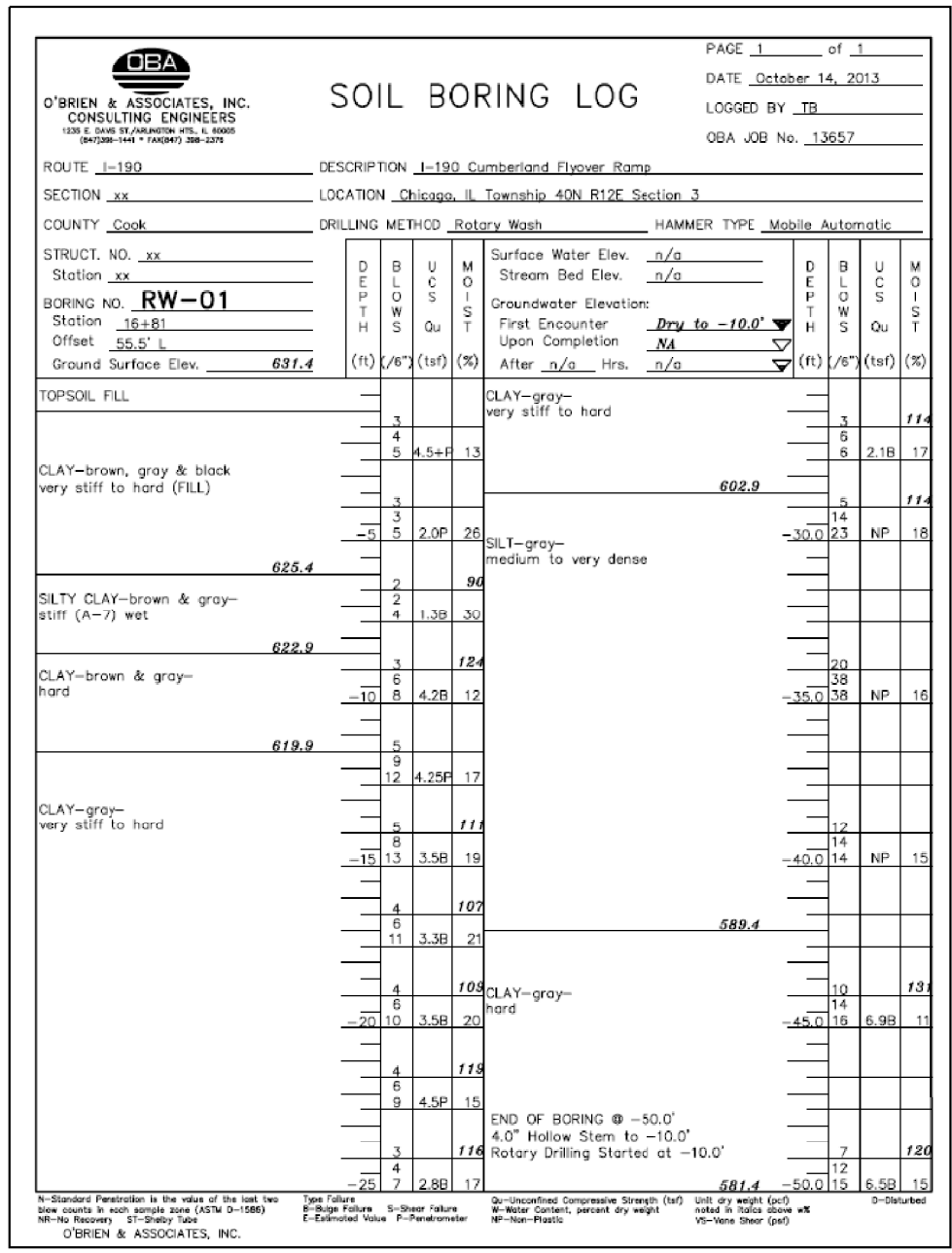
BAR d₃ (E)



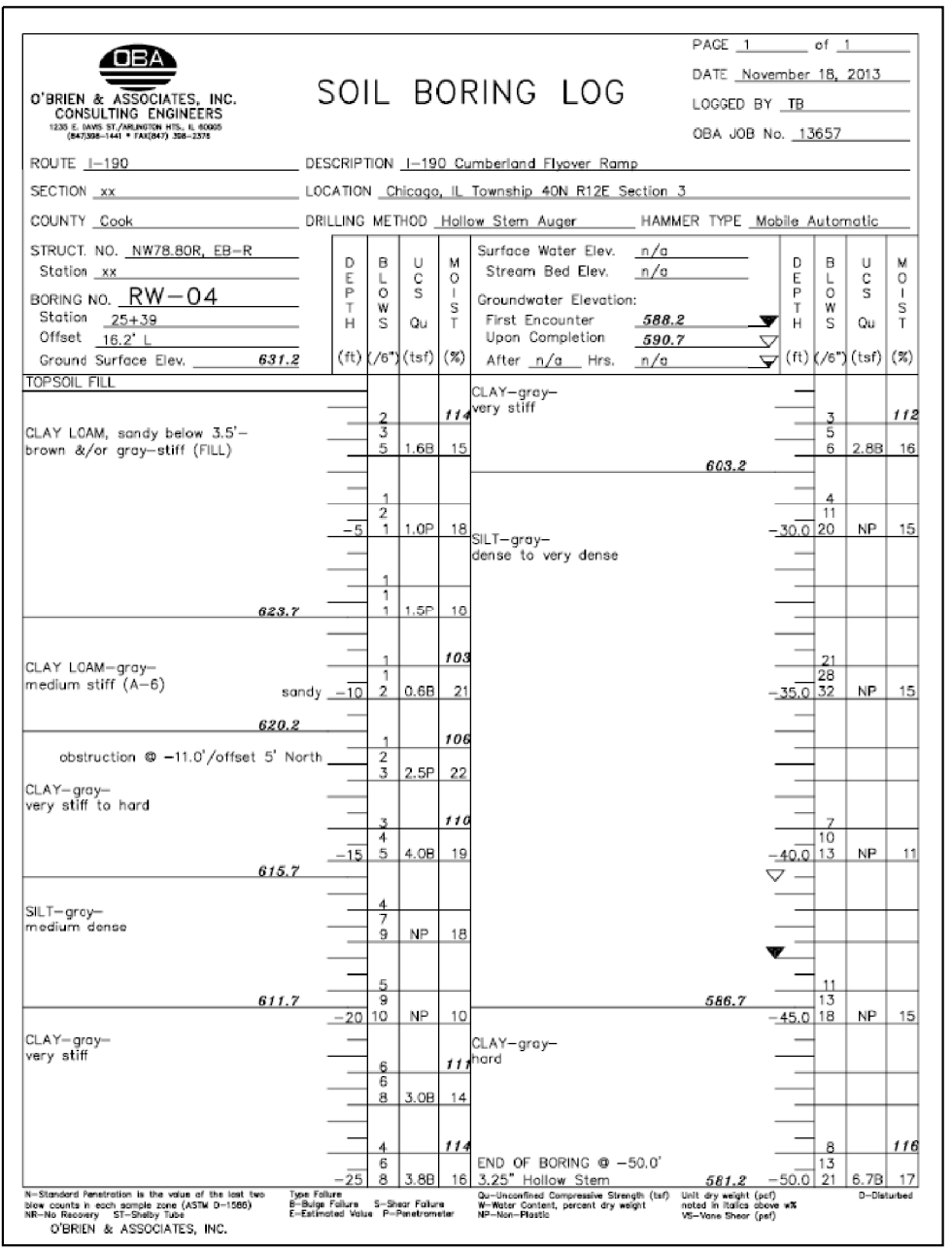
BAR e₄ (E)

NOTES:

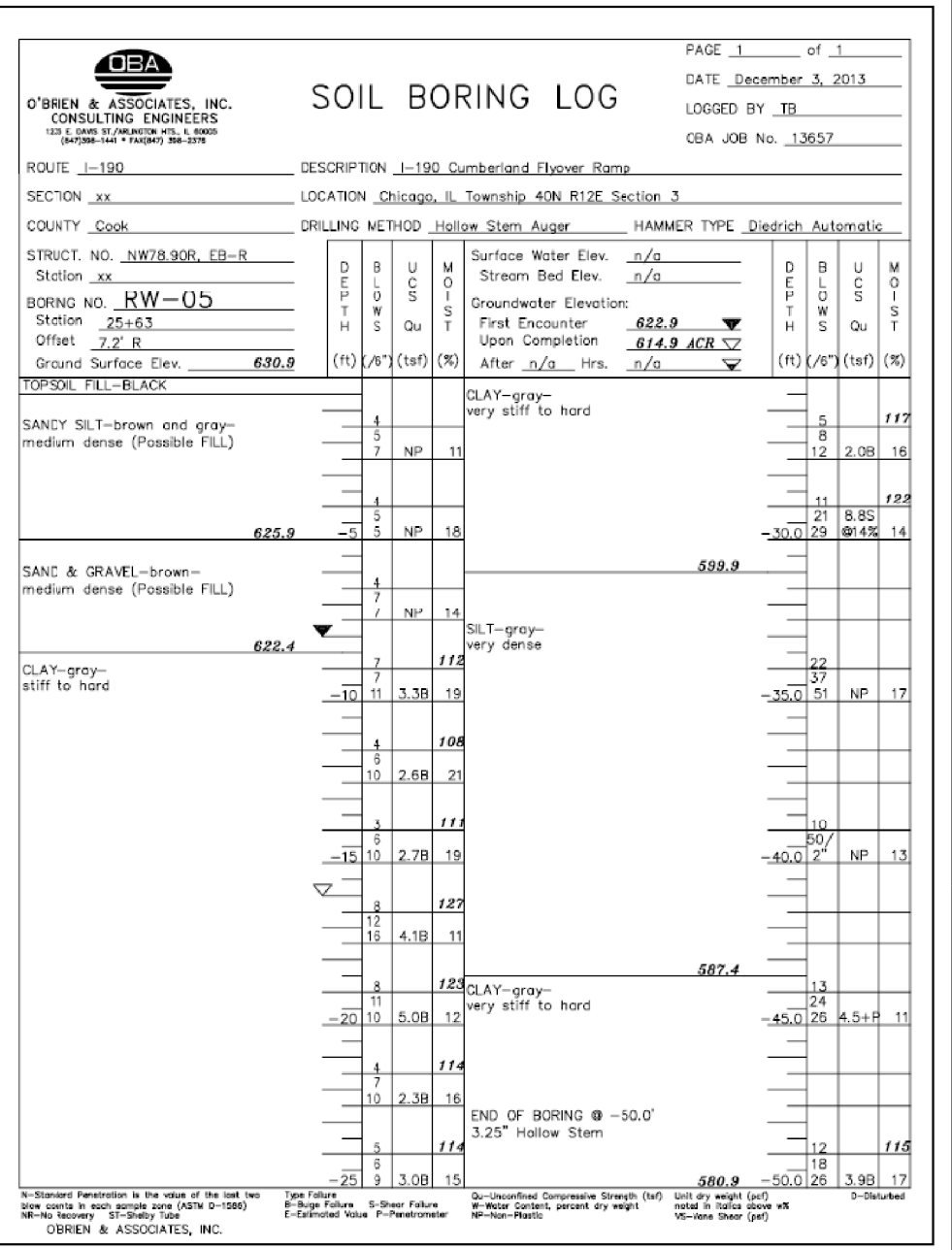
1. For Bar Bending Details, See Sheet 12.
2. For Location of Light Poles & additional details, See Electrical Drawings.



RW-01
STATION 16+81,
OFFSET 55.5' LT



RW-04
STATION 25+39,
OFFSET 16.2' LT



RW-05
STATION 25+63,
OFFSET 7.2' RT

SOIL BORING LOG									
O'Brien & Associates, Inc. CONSULTING ENGINEERS 1233 E. DAVIS ST., ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2378				PAGE 1 of 1 DATE November 21, 2013 LOGGED BY TB OBA JOB No. 13657					
ROUTE 1-190	DESCRIPTION I-190 Cumberland Flyover Ramp								
SECTION xx	LOCATION Chicago, IL Township 40N R12E Section 3								
COUNTY Cook	DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic								
STRUCT. NO. NW78.80R, EB-R	SURFACE WATER ELEV. n/g STREAM BED ELEV. n/g								
BORING NO. RW-08	GROUNDWATER ELEVATION: FIRST ENCOUNTER 608.6 UPON COMPLETION 621.6 ACR								
Station 26+37	OFFSET 16.0' L								
Ground Surface Elev. 631.6	(ft)		(/6")		(tsf)		(%)		
Black TOPSOIL FILL									
SANDY CLAY LOAM—brown—very loose (FILL)	1				17				115
	2				17B				112
	1				20				118
	-5		1		0		20		119
	625.6				599.9				120
SANDY CLAY LOAM—gray—very loose (Possible FILL)	1				20				121
	623.1				13				122
SAND & GRAVEL—gray—loose	1		NP		13				123
	620.6				106				124
CLAY—gray—very stiff	2				22				125
	616.1				21				126
	-15		5		2.2B		21		127
	616.1				NP		15		128
SILT—gray—medium dense	4				24				129
	613.1				13				130
	-20		8		NP		13		131
	607.6				106				132
CLAY—gray—stiff to very stiff	3				18				133
	581.9				4.5P		18		134

RW-08
STATION 26+37,
OFFSET 16.0' LT

SOIL BORING LOG									
O'Brien & Associates, Inc. CONSULTING ENGINEERS 1233 E. DAVIS ST., ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2378				PAGE 1 of 1 DATE December 2, 2013 LOGGED BY TB OBA JOB No. 13657					
ROUTE 1-190	DESCRIPTION I-190 Cumberland Flyover Ramp								
SECTION xx	LOCATION Chicago, IL Township 40N R12E Section 3								
COUNTY Cook	DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic								
STRUCT. NO. NW78.90R, EB-R	SURFACE WATER ELEV. n/g STREAM BED ELEV. n/g								
BORING NO. RW-09	GROUNDWATER ELEVATION: FIRST ENCOUNTER 619.6 UPON COMPLETION 626.1 ACR								
Station 26+62	OFFSET 8.4' R								
Ground Surface Elev. 631.1	(ft)		(/6")		(tsf)		(%)		
Black TOPSOIL FILL									
SANDY CLAY LOAM—brown—very stiff (Possible FILL)	2				15				115
	5				2.0P		15		116
	627.6				7				117
SAND & GRAVEL—brown—medium dense	6				7				118
	625.1				12				119
SAND & GRAVEL—gray—medium dense	7				12				120
	623.1				12				121
SILT—gray—medium dense to dense	2				19				122
	112				107				123
CLAY—gray—very stiff	4				21				124
	619.9				20				125
	-10		8		3.0B		19		126
	615.4				26				127
	-15		9		3.0B		18		128
	613.1				13				129
SILT—gray—medium dense	9				13				130
	127.8				12				131
	-20		8		3.3B		16		132
CLAY—gray—stiff to very stiff	5				17				133
	117				11				134
	-45.0		10		NP		12		135
	613.1				17				136
	-25		9		2.2B		17		137
	581.1				4.2B		15		138

RW-09
STATION 26+62,
OFFSET 8.4' RT

SOIL BORING LOG									
O'Brien & Associates, Inc. CONSULTING ENGINEERS 1233 E. DAVIS ST., ARLINGTON HTS., IL 60005 (847)398-1441 • FAX(847) 398-2378				PAGE 1 of 1 DATE November 22, 2013 LOGGED BY TB OBA JOB No. 13657					
ROUTE 1-190	DESCRIPTION I-190 Cumberland Flyover Ramp								
SECTION xx	LOCATION Chicago, IL Township 40N R12E Section 3								
COUNTY Cook	DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic								
STRUCT. NO. NW78.80R, EB-R	SURFACE WATER ELEV. n/g STREAM BED ELEV. n/g								
BORING NO. RW-12	GROUNDWATER ELEVATION: FIRST ENCOUNTER Dry UPON COMPLETION Dry								
Station 27+37	OFFSET 15.2' L								
Ground Surface Elev. 631.4	(ft)		(/6")		(tsf)		(%)		
4.0" TOPSOIL FILL									
SANDY CLAY—brown—medium stiff	2				17				119
	2				0.5P		17		120
	627.9				2				121
SANDY CLAY LOAM—gray—medium dense	1				22				122
	625.4				20				123
LOAM—gray—very loose (A-4)	1				20				124
	599.9				14				125
SILT—gray—very dense	1				22				126
	619.9				20				127
CLAY LOAM—gray—very soft to medium stiff	0				26				128
	615.4				11				129
	-15		0		<0.25 P		26		130
	615.4				22				131
CLAY—gray—very stiff to hard	4				22				132
	588.9				12				133
	-45.0		16		10.0S		12		134
	617.6				12				135
CLAY—gray—hard	5				12				136
	127				11				137
	-20		7		2.8S		12		138
	613.1				11				139
	-45.0		20		5.9B		12		140
	613.1				11				141
	-25		9		4.5+R		11		142
	581.4				13				143

RW-12
STATION 27+37,
OFFSET 15.2' LT

<p>DELTA ENGINEERING GROUP, LLC FILE NAME = p:\hntb\356.hntb.org\Great Lakes\Documents\Chicago Projects\30120 1-190 Cumberland\Design\CADD.Contracts\60X56\CADD.Sheets\DI60X56-sh-retwallsoil-04.dgn</p>	USER NAME : #USER#	DESIGNED - NS	REVISED	
	PLOT SCALE : #SCALE#	CHECKED - SK	REVISED	
	PLOT DATE : 3/31/2016	DRAWN - RM	REVISED	
		CHECKED - NS	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS (2 OF 4)
CUMBERLAND FLYOVER RAMP RETAINING WALLS
NW78.70R EB(R), NW78.80R EB(R) & NW78.90R EB(R)
SHEET NO. 16 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
190	1517R-1(13)	COOK	580	400
		CONTRACT NO. 60X56		
ILLINOIS FED. AID PROJECT				