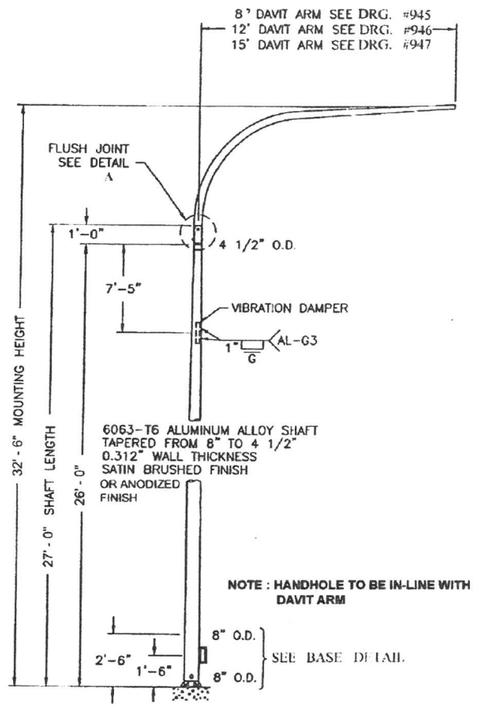
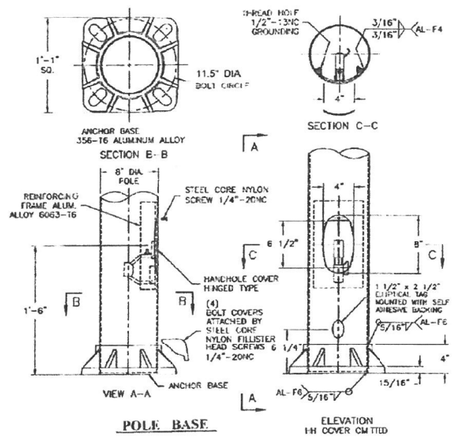
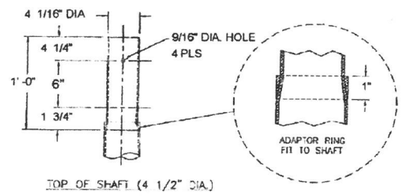


POLE WITH SINGLE DAVIT ARM



POLE BASE



DETAIL A

A	DATE	REVISION

ALUMINUM DAVIT POLE
8" x 4.5" x 27'
FOR BRIDGE PARAPET WALL

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

DRAFTSMAN :	G.M.PADIYAR	DWG. NO. 975
ENGINEER :	O.LETAMENDI	
SUPERVISING ENGINEER :	R.POOL	
ENGINEER OF ELECTRICITY :		
DEPUTY COMMISSIONER :		
SIZE:	SCALE: NONE	DATE: 10/02/13

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HNTB

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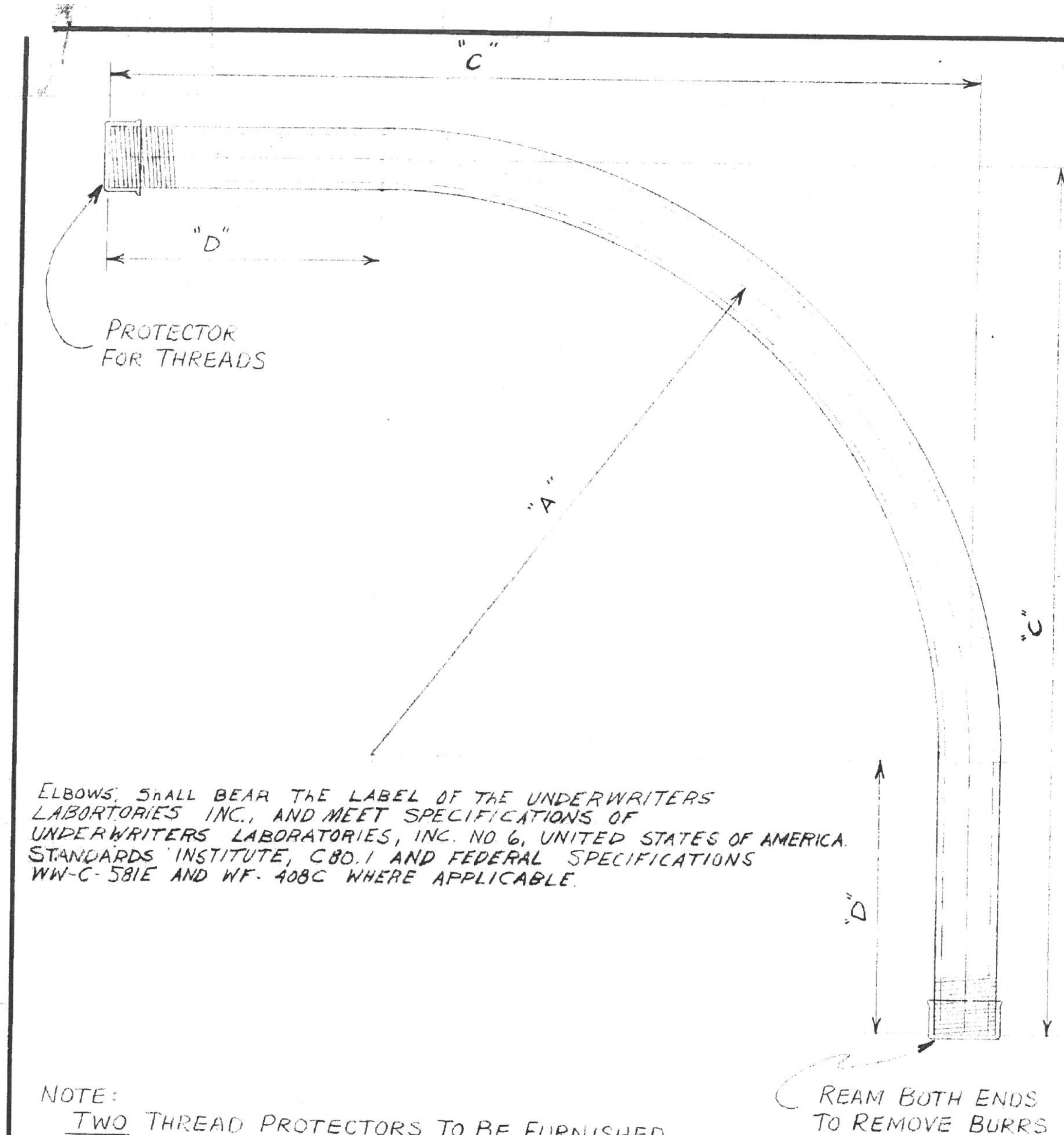
	DRAWN - AA	REVISED -
PLOT SCALE = 1.0000 ' / in.	CHECKED - MCD	REVISED -
PLOT DATE = 3/19/2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CDOT ELECTRICAL DETAILS
EAST RIVER ROAD

SHEET 13 OF 15 SHEETS | STA. 10+00.00 | TO STA. 24+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	101
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			



ELBOWS: SHALL BEAR THE LABEL OF THE UNDERWRITERS LABORTORIES INC., AND MEET SPECIFICATIONS OF UNDERWRITERS LABORATORIES, INC. NO 6, UNITED STATES OF AMERICA STANDARDS INSTITUTE, C80.1 AND FEDERAL SPECIFICATIONS WW-C-581E AND WF-408C WHERE APPLICABLE.

NOTE:
TWO THREAD PROTECTORS TO BE FURNISHED ON EACH ELBOW, PROTECTOR TO COVER A MINIMUM OF TEN THREADS.

TABLE OF DIMENSIONS

CONDUIT SIZE	DIMENSIONS "A"	"C"	"D"	COMMODITY CODE
1¼"	24"	35"	11"	09-4001-0510
1½"	24"	35"	11"	09-4001-0520
2"	24"	35"	11"	09-4001-4126
2½"	24"	35"	11"	09-4001-4128
3"	24"	35"	11"	09-4001-4230
4"	24"	35"	11."	09-4001-0000

B SPECIFICATIONS REVISED
A REVISED DIMENSIONS ON 3" & 4" CONDUIT L.P.

ELBOW, CONDUIT, RIGID GALVANIZED STEEL, LARGE RADIUS

REVISED	
A	7-22-71
B	4-3-79
C	
D	
E	
F	
G	

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

DRAWN: LON PURDY | CHECKED: M.S. | ENGINEER: M. SHINE
ENG. IN CHARGE / SUPT. OF CONST. / DEPUTY COMM.
DRG. NO. 11825
SIZE 8½" x 14" | SCALE: 3/16" | DATE 6-2-71

E-29

HNTB	USER NAME = kanyikwa	DESIGNED - KFA	REVISED -
		DRAWN - AA	REVISED -
	PLOT SCALE = 1.0000 '/ in.	CHECKED - MCD	REVISED -
	PLOT DATE = 3/19/2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CDOT ELECTRICAL DETAILS
EAST RIVER ROAD

SHEET 14 OF 15 SHEETS | STA. 10+00.00 TO STA. 24+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	102

CONTRACT NO. 62A64
ILLINOIS FED. AID PROJECT

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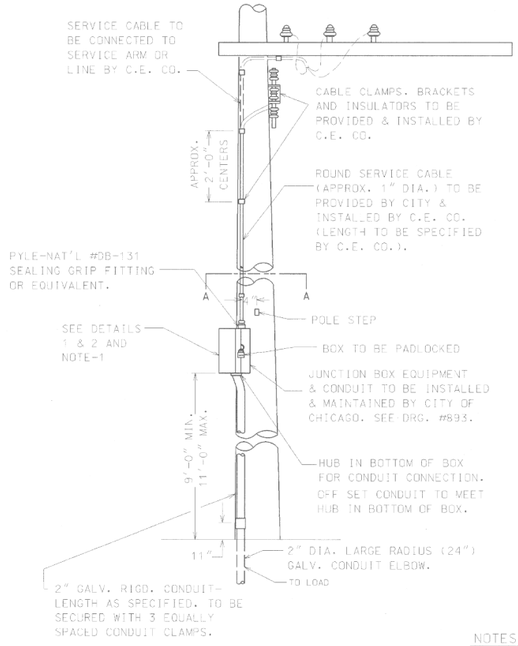
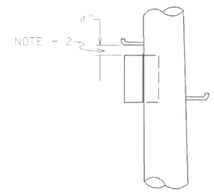
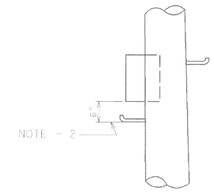




DETAIL-1
BOTTOM POLE STEP ON SIDE OF POLE OPPOSITE JUNCTION BOX.



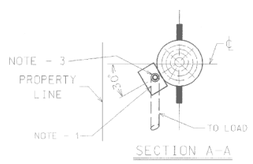
DETAIL-2
BOTTOM POLE STEP ON JUNCTION BOX SIDE OF POLE.

NOTES

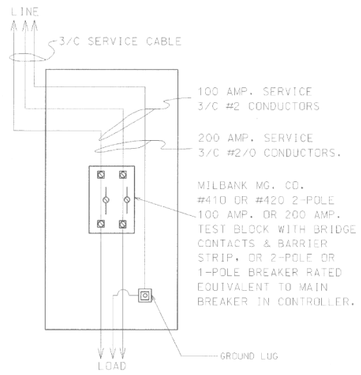
1 - WHERE POSSIBLE THE JUNCTION BOX SHALL BE LOCATED FACING THE PROPERTY LINE.

2 - BOX SHALL HAVE A MINIMUM CLEARANCE OF 4" BELOW POLE STEP, DETAIL-1, OR 6" ABOVE STEP, DETAIL-2.

3 - SERVICE CABLE TO ENTER BOX THROUGH SEALING GRIP FITTING IN TOP.



SECTION A-A



WIRING DIAGRAM OF JUNCTION BOX MOUNTED ON C.E.CO. POLE.

A	9-3-96	REDRAW	MP.
DATE		REVISION	

INSTALLATION OF SERVICE EQUIPMENT ON C.E. CO. WOOD POLES

CITY OF CHICAGO
DEPT. OF STREETS AND SANITATION
BUREAU OF ELECTRICITY
DIVISION OF ELECTRICAL ENGINEERING

DRAFTSMAN:	CHIEF DRAFTSMAN:	ENGINEER:
E. LEMASTER	J. BORE	J. BORE
SUPERVISING ENGINEER: S.P. BERTRAM	ELEC. DESIGN ENGR.	DWG. NO.
ENGINEER OF ELECTRICITY:		11925
GEN'L. SUPT. OF ELECTRICITY:		
DEPUTY COMMISSIONER: Brian S. Murphy		
SIZE:	SCALE:	DATE: 12-26-56

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HNTB

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	DRAWN - AA	REVISED -
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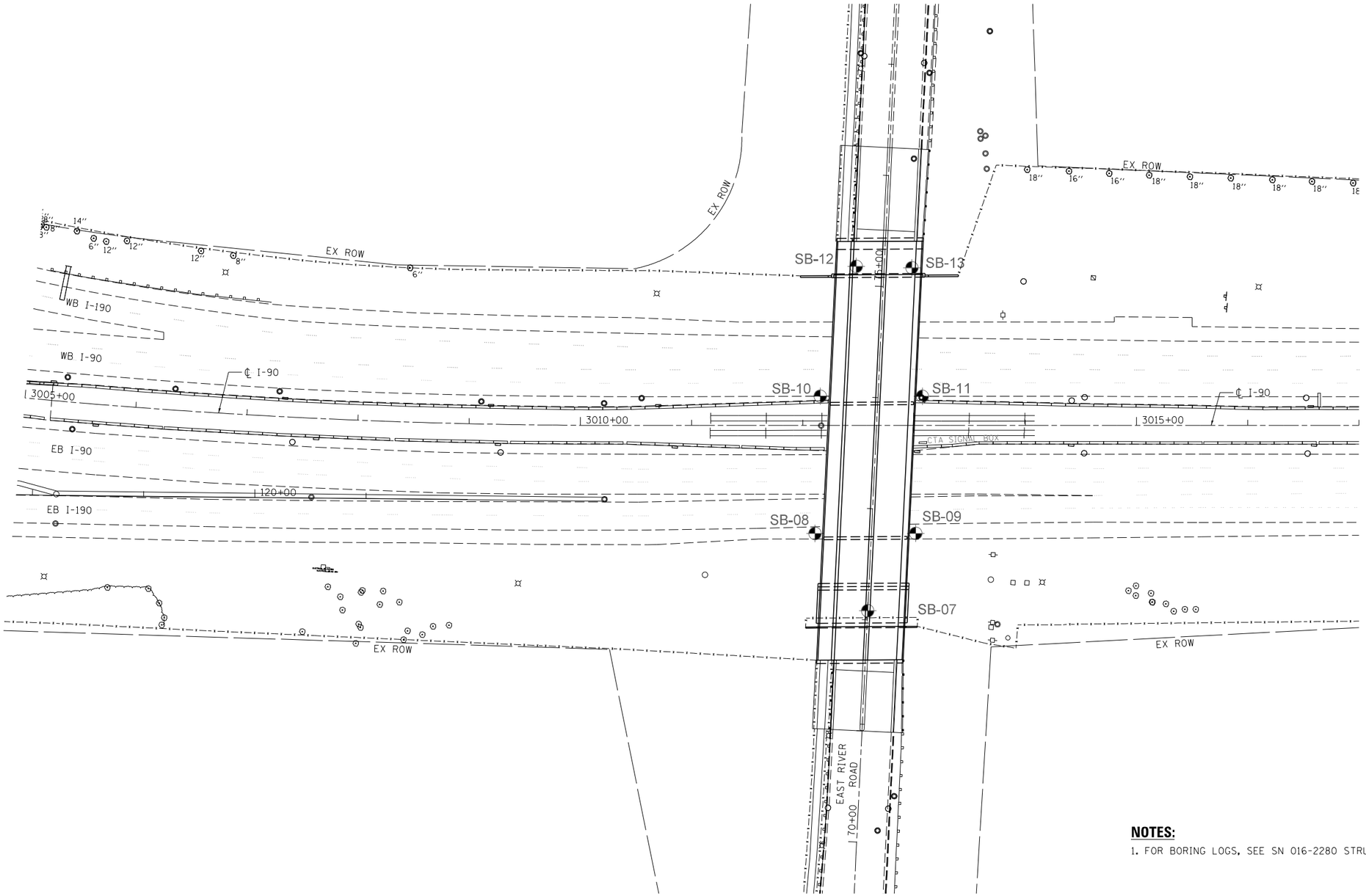
PLOT DATE = 3/19/2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CDOT ELECTRICAL DETAILS
EAST RIVER ROAD

SHEET 15 OF 15 SHEETS | STA. 10+00.00 | TO STA. 24+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	103
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. FOR BORING LOGS, SEE SN 016-2280 STRUCTURE PLANS.

BOR-01

FILE NAME = ...\D162A64-sht-bor-plan-01.dgn

HNTB

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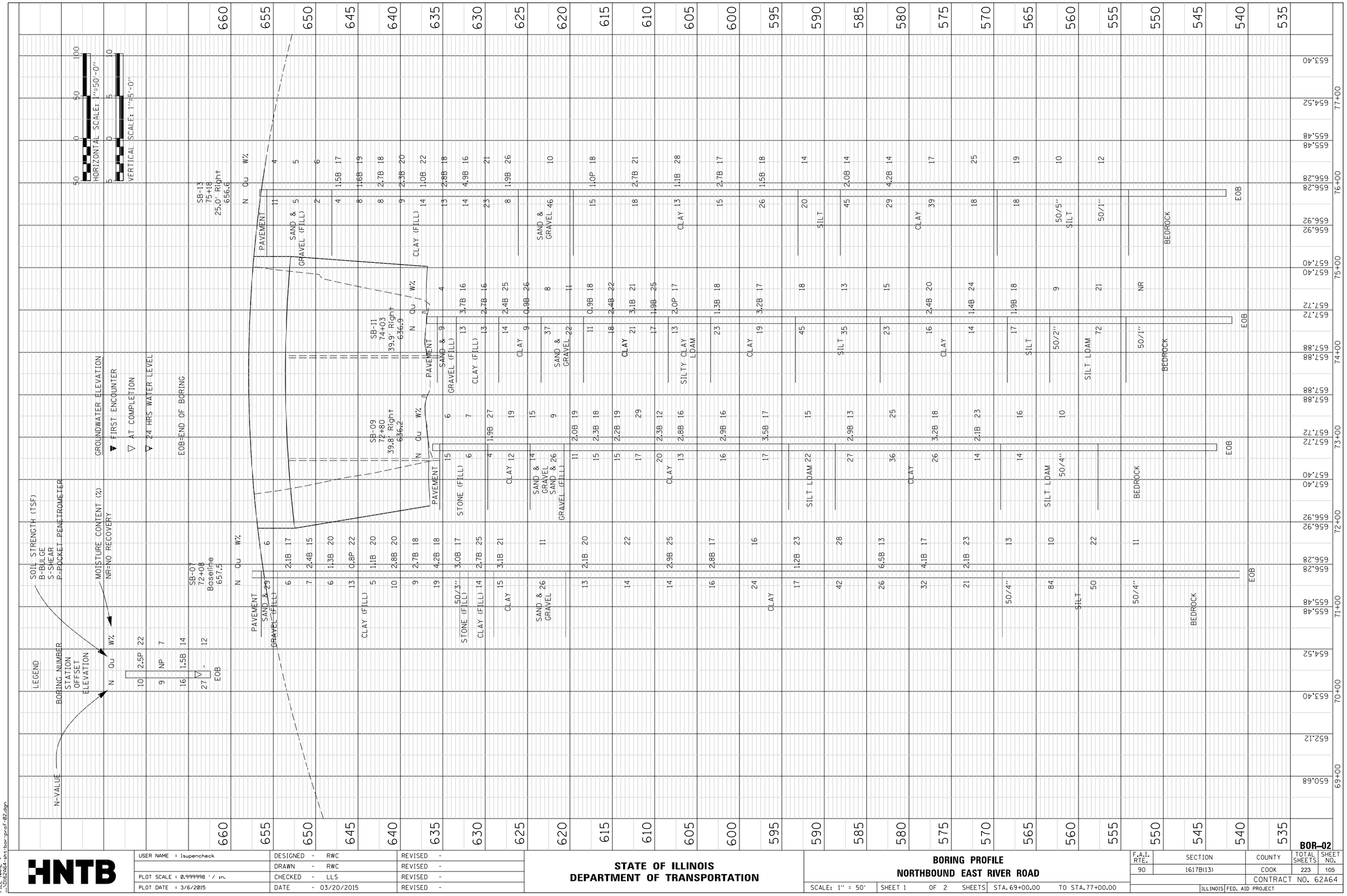
	DRAWN - RWC	REVISED -
PLOT SCALE = 1.0000 ' / in.	CHECKED - LLS	REVISED -
PLOT DATE = 3/20/2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LAYOUT

SCALE: 1'' = 50' | SHEET 1 OF 1 SHEETS | STA. 71+00.00 | TO STA. 76+25.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	104
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			



BOR-02

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PLOT SCALE = 0.999998 ' / in.	CHECKED - LLS	REVISED -	
PLOT DATE = 3/6/2015	DATE - 03/20/2015	REVISED -	

HNTB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING PROFILE
NORTHBOUND EAST RIVER ROAD

SCALE: 1" = 50' | SHEET 1 OF 2 SHEETS | STA. 69+00.00 TO STA. 77+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	105
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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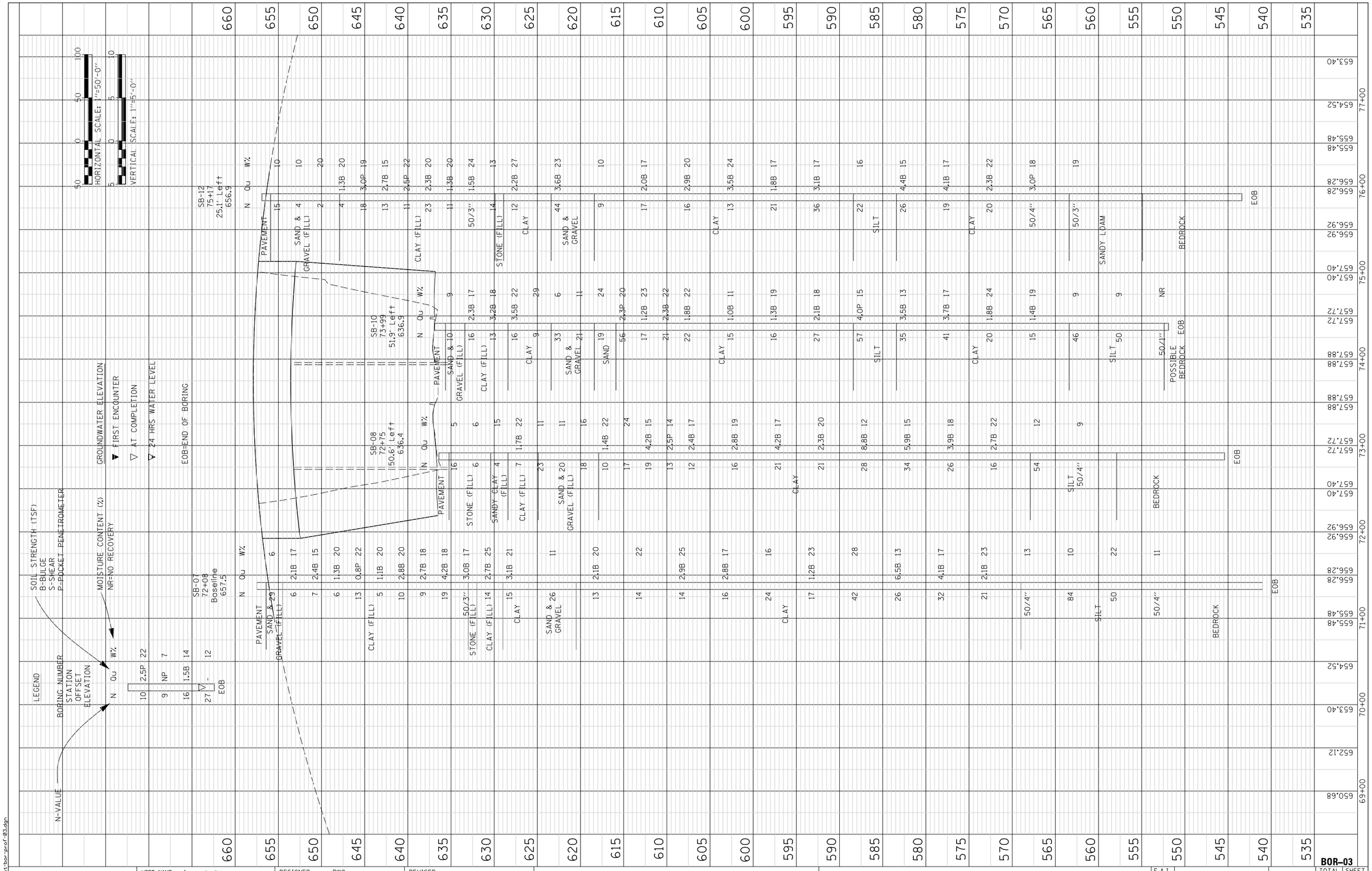

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PLOT DATE = 3/6/2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING PROFILE
SOUTHBOUND EAST RIVER ROAD

SCALE: 1" = 50' | SHEET 2 OF 2 SHEETS | STA. 69+0.00 TO STA. 77+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	106
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

BOR-03

FILE NAME = ...\D1662A64-sht-bor-prof-03.dgn

Bench Mark: Silver survey nail south end of bridge on eastside sta. 72+18.3, 23' right

Existing structure: S.N. 016-2124 built as F.A.I. Route 173 Project BU-265(20) Section 267-1617-15D in 1958. The structure was rehabilitated & widened in 1981 under F.A.I. Route 173 Project IR-000S(12) Section 81-26722-01-GS. The existing bridge has five simple spans which consist of reinforced concrete deck slab resting on 48" PPC I-beams. Span lengths are 34'-6", 84'-9", 40'-0", 67'-0", and 34'-6". The structure width consists of 61'-0" face to face of parapet for vehicular deck and 15'-0" for equestrian deck for a total deck width of 78'-7". The structure has overall length of 266'-1". Traffic to be detoured during Bridge reconstruction. Sign Structure mounted on east and west fascia girder.

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 6th Edition (2012) with 2013 Interim Revisions

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

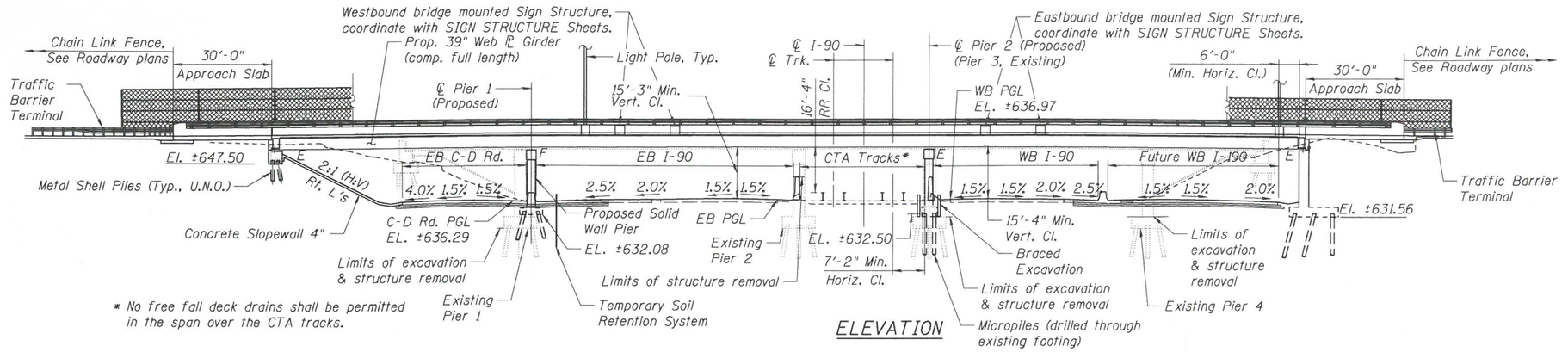
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.060g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.108g
Soil Site Class = C

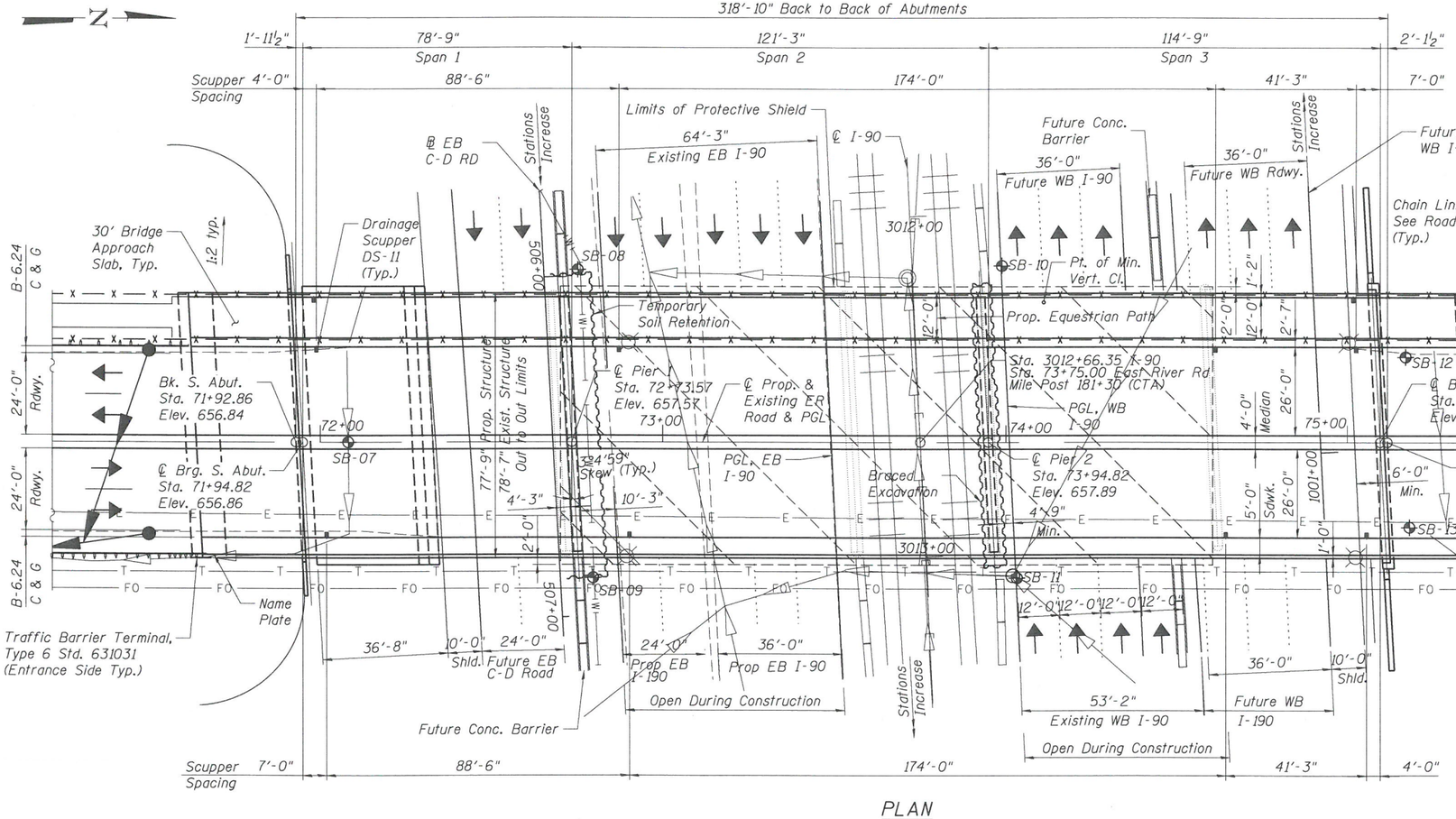
LEGEND

- Soil Boring Locations
- CTA Tracks
- FO — Existing Fiber Optic Line
- E — Existing/(To be relocated) Electric Line
- Existing Storm Sewer
- Proposed Storm Sewer
- W — Existing Water Main
- T — Existing Underground Telephone Line
- Light Pole
- Braced Excavation/Temporary Soil Retention
- Proposed Manhole
- Proposed Catch Basin

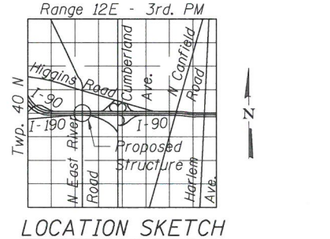


* No free fall deck drains shall be permitted in the span over the CTA tracks.

ELEVATION



PLAN



LOCATION SKETCH

KAMLESH KUMAR 081-007216 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

Signed: [signature]
Date: 07/08/2015
Exp: 11/30/2016
Sheets: 107-109, 111-112, 114-140, 151-161

THAKOR J. BHAGWAKAR 081-003282 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

Signed: [signature]
Date: 7/8/15
Exp: 11/30/2016
Sheets: 110, 113, 141-150

GENERAL PLAN
EAST RIVER ROAD OVER I-90
F.A.I RTE. 90 - SEC. 1617B(13)
COOK COUNTY
STATION 73+75.00
STRUCTURE NO. 016-2280

exp U.S. Services Inc. Chicago, IL BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = lsupencheck	DESIGNED - PK	REVISED
	CHECKED - KK	REVISED
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PLOT DATE = 7/7/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S1 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	107
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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INDEX OF SHEETS

GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ in. ϕ, holes $\frac{15}{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel:
   Grade 50 = 902,450 lb
   Grade 36 = 60,470 lb
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
6. Concrete Sealer shall be applied to the designated areas of the abutment backwall, bridge seats, and front faces of pile caps, and all exposed surface areas of the pier.
7. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8.
8. Slipforming of the parapets is not allowed.
9. Detailed Demolition Plans for work performed on or over C.T.A. R.O.W. shall be submitted to the C.T.A. and the Engineer for review and approval. All track components shall be protected during demolition activities and plywood shall be placed on the third rail to prevent debris from falling on this track. See the special provision "CTA Coordination".
10. The existing bridge railing shall be salvaged and delivered to IDOT's maintenance facility at the following address:

    1101 Biesterfield Road, Elk Groove Village, IL 60007
    Cost to be included with Removal of Existing Structures.

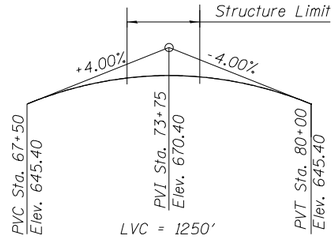
STATION 73+75.00
BUILT 201_ BY
STATE OF ILLINOIS
F.A.I. RTE. 90 -
SEC. 1617B(13)
LOADING HL-93
STRUCTURE NO. 016-2280

NAME PLATE
See Std. 515001

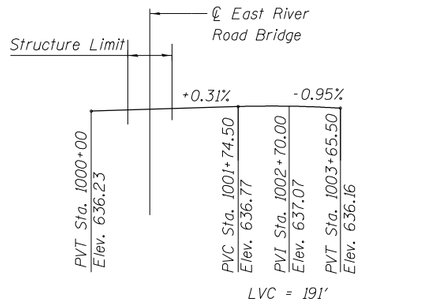
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures *	Each	1		1
Protective Shield	Sq Yd	1,746		1,746
Structure Excavation	Cu Yd		2,496	2,496
Concrete Structures	Cu Yd		897.6	897.6
Concrete Superstructure	Cu Yd	964.3		964.3
Bridge Deck Grooving	Sq Yd	2,010		2,010
Protective Coat	Sq Yd	3,743		3,743
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	10,494		10,494
Reinforcement Bars, Epoxy Coated	Pound	219,220	84,342	303,562
Bridge Fence Railing	Foot	1,129		1,129
Slope Wall 4 Inch	Sq Yd		441	441
Furnishing Metal Shell Piles 12"x0.250"	Foot		4,069	4,069
Driving Piles	Foot		4,069	4,069
Test Pile Metal Shells	Each		3	3
Pile Shoes	Each		187	187
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	158		158
Elastomeric Bearing Assembly, Type I	Each	11		11
Elastomeric Bearing Assembly, Type II	Each	11		11
Anchor Bolts, 1"	Each	66		66
Anchor Bolts, 1¼"	Each	22		22
Concrete Sealer	Sq Ft		1,613	1,613
Geocomposite Wall Drain	Sq Yd		257	257
Drainage Scuppers, DS-11	Each	10		10
Pipe Underdrains for Structures 4"	Foot		262	262
Temporary Soil Retention System	Sq Ft		959	959
Pile Extraction	Each		121	121
Micropile Load Test	Each		1	1
Micropile Proof Load Test	Each		1	1
Drainage System	L Sum	1		1
Braced Excavation	Cu Yd		141	141
Concrete Wearing Surface, 5"	Sq Yd	519		519
Precast Bridge Approach Slab	Sq Ft	4,580		4,580
High Load Multi-Rotational Bearings, Guided Expansion, 400K	Each	11		11
Granular Backfill for Structures	Cu Yd		2,081	2,081
Micropiles	Each		24	24

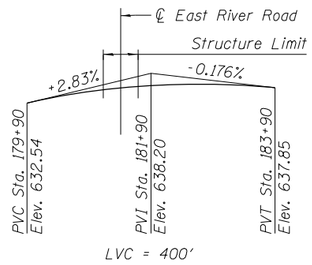
* Includes removal of Slopewall on north and south abutment



PROFILE GRADE - EAST RIVER ROAD BRIDGE



PROFILE GRADE - FUTURE ℄ I-190 WB



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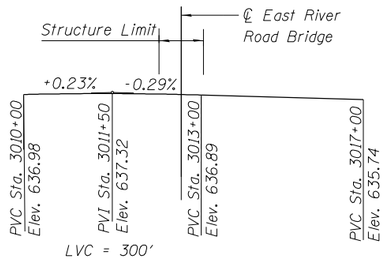
(Preliminary)



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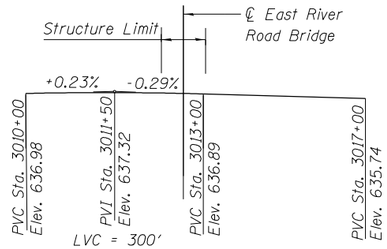
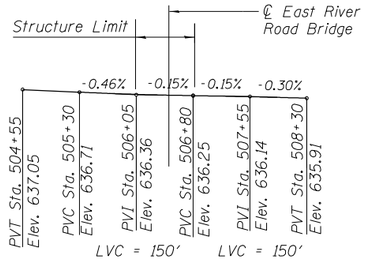


PROFILE GRADE - PROPOSED EB I-90



PROFILE GRADE - PROPOSED EB C-D ROAD

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

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	CHECKED - PK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - STD	REVISED
PLOT DATE = 7/7/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, BILL OF MATERIAL, AND INDEX OF SHEETS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S2 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	108
		CONTRACT NO. 62A64		
		ILLINOIS	FED. AID PROJECT	

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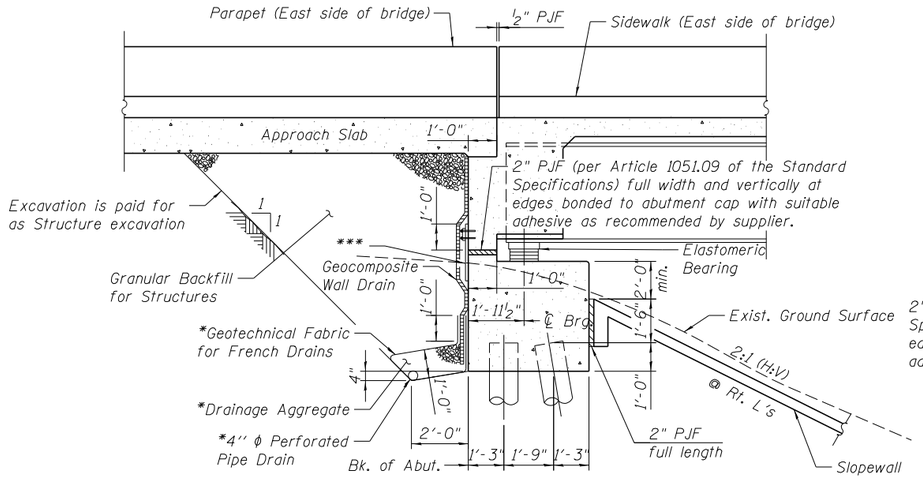
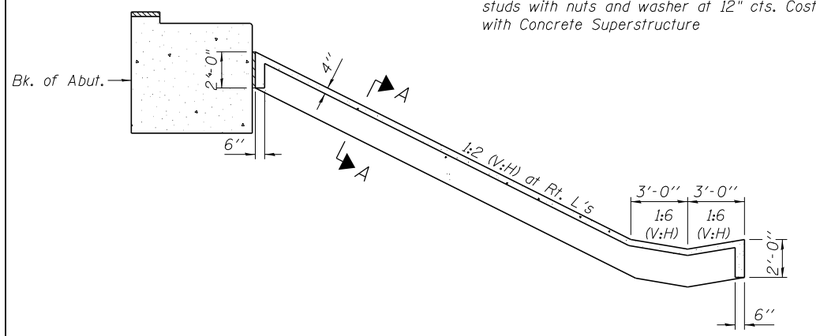


SECTION THRU SOUTH ABUTMENT

(Horiz. dim. @ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures

*** Fabric Reinforced Elastomeric Mat according to Section 1028 of the Std. Specs. Fabric mat shall be 24" wide and attached full width and vertically at edges to the abutment cap with a 3/8" x 5" steel plate and 1/2" ϕ studs with nuts and washer at 12" cts. Cost included with Concrete Superstructure

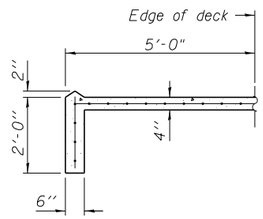


SECTION THRU CONCRETE SLOPEWALL

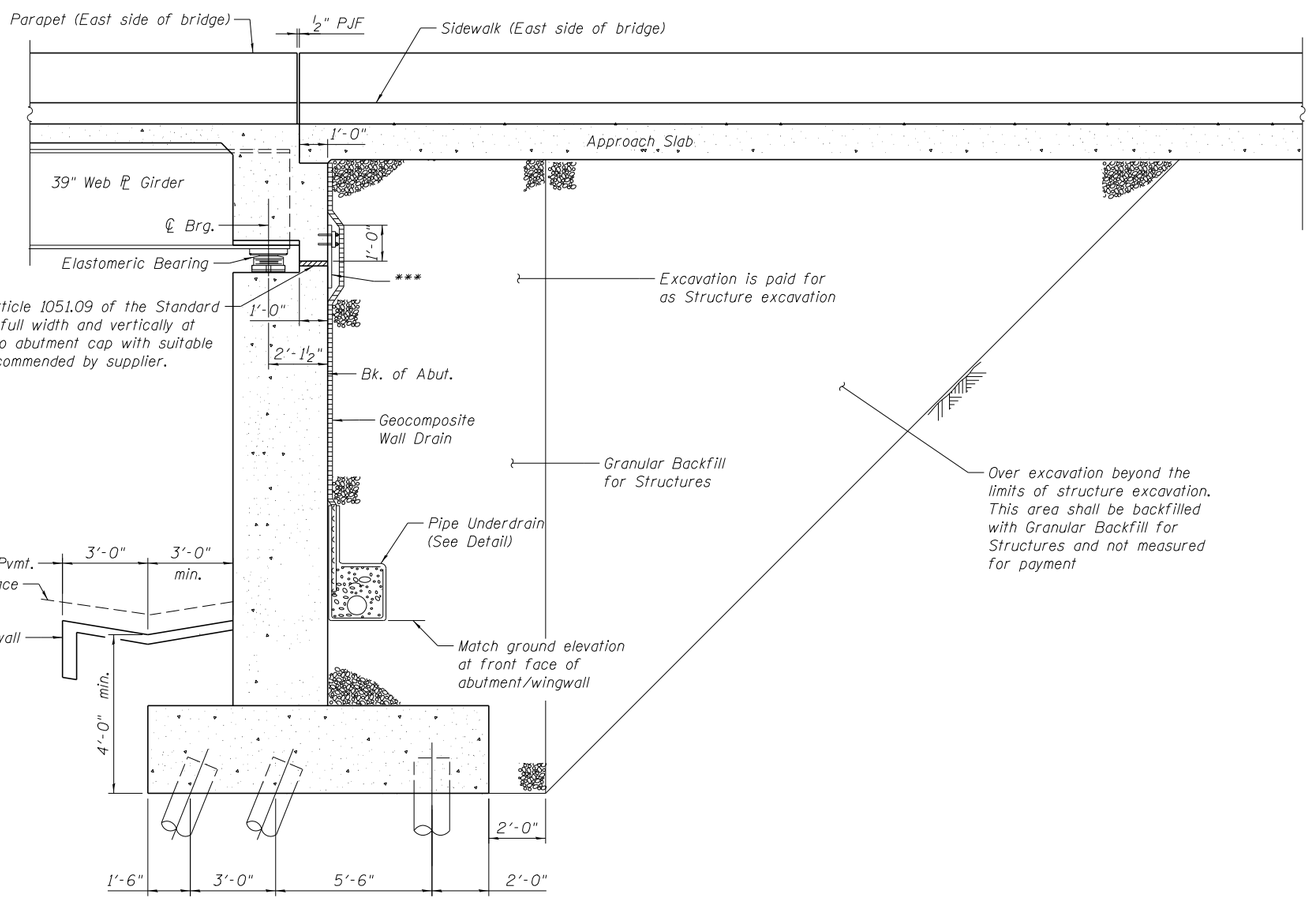
(South Abutment Only)

(Refer sheets S34 thru S43 for Substructure details)

Note:
Slopewall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.



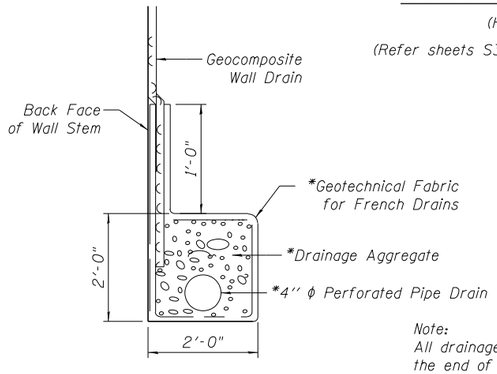
SECTION A-A



SECTION THRU NORTH ABUTMENT

(Horiz. dim. @ Rt. L's)

(Refer sheets S34 thru S43 for Substructure details)



PIPE UNDERDRAIN DETAIL

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Note:
See IDOT Lighting Plans for conduit and junction box attached to abutments

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT AND SLOPEWALL DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S3 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	109
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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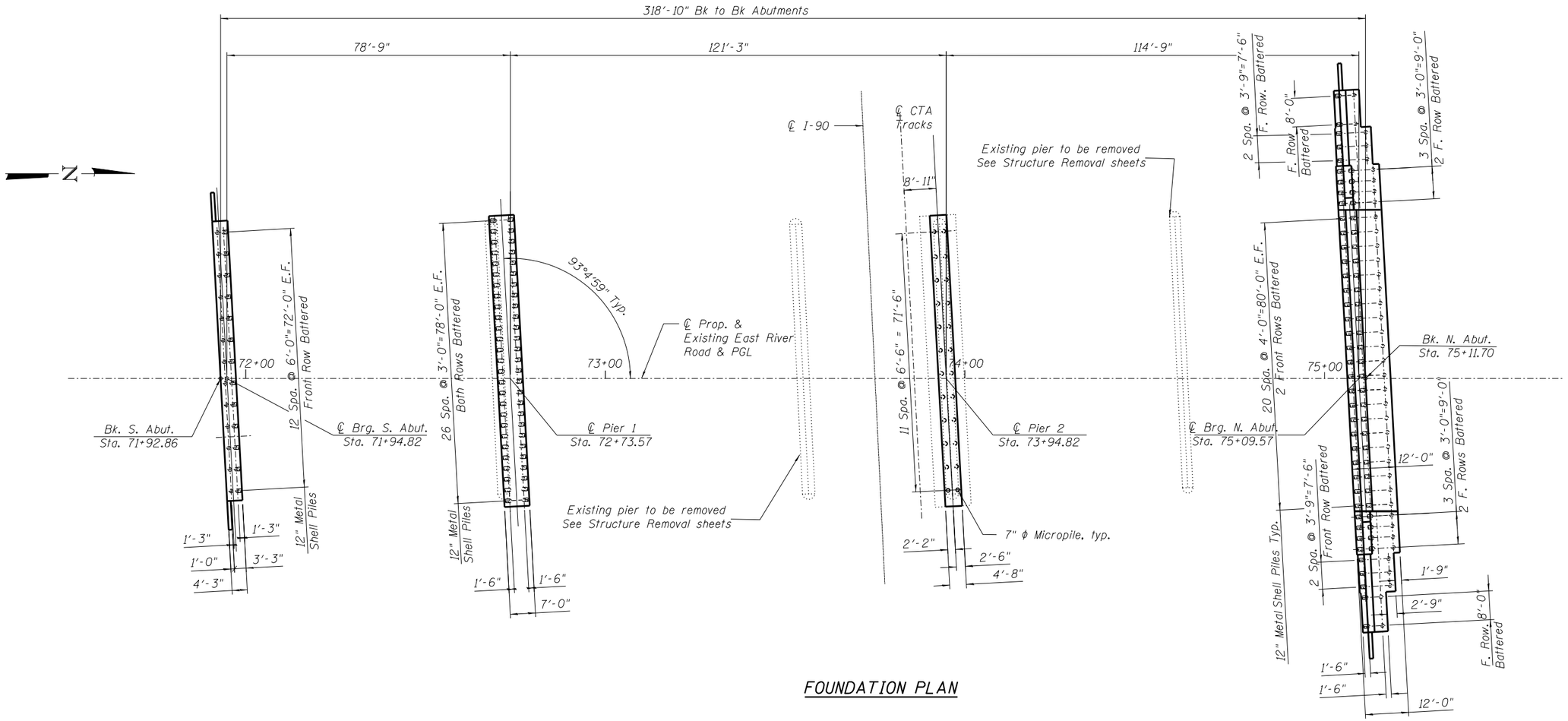

FOUNDATION PLAN

Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = Richard.jew	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
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	PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION PLAN
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S4 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	110
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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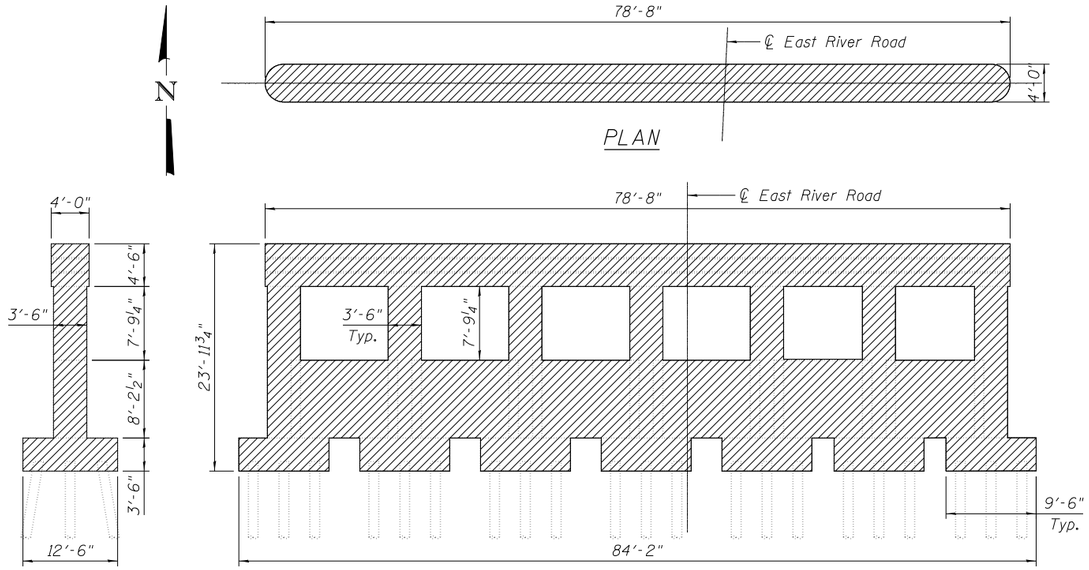
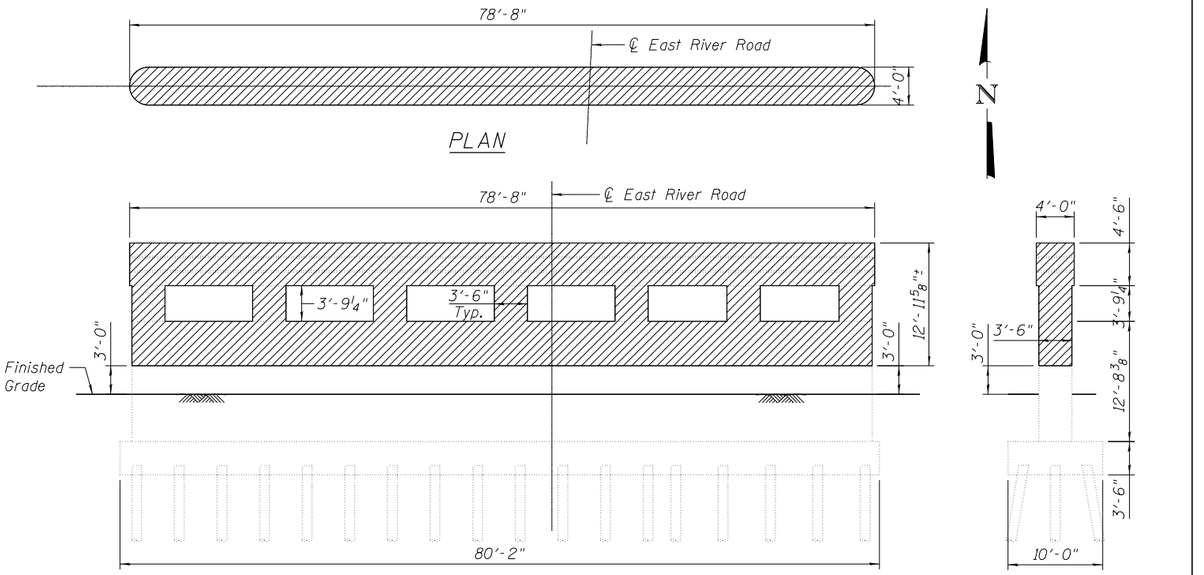
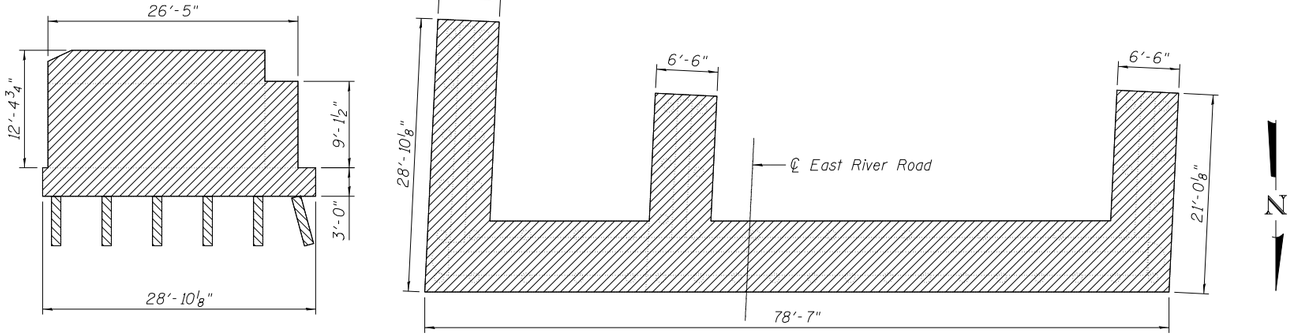


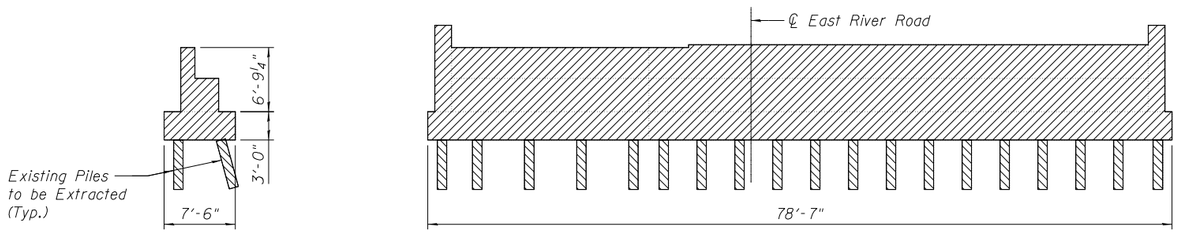
EXISTING PIER 1



EXISTING PIER 2

Contractor shall build a temporary protective shield wall between CTA tracks and pier 2 before demolition/construction. Cost is included in the Removal of Existing Structure.





EXISTING SOUTH ABUTMENT

LEGEND

Substructure Removal

Existing Pile Extraction

Notes:

1. *Refer to existing plans for exact location of foundation elements.*
2. *Verify dimensions in field.*

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		CHECKED - CHECKED	REVISED
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE REMOVAL – 1 OF 2
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S5 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	111
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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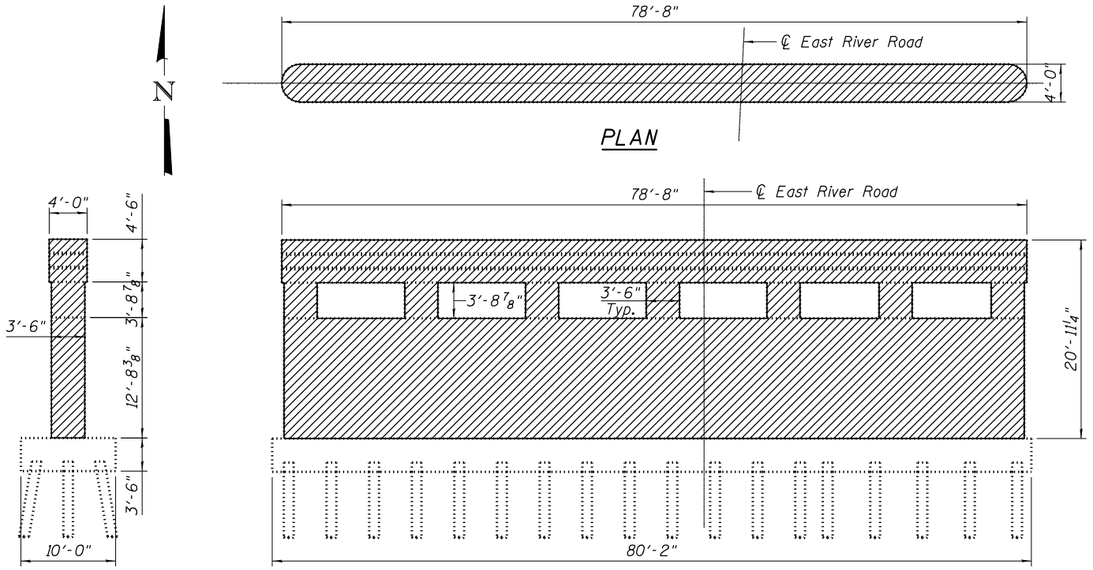
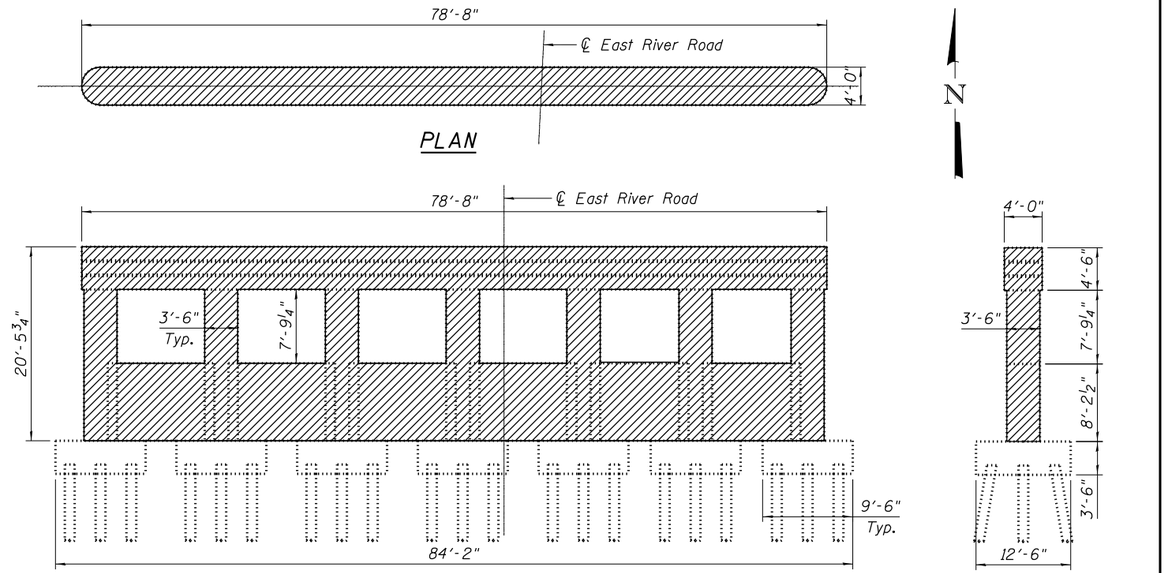
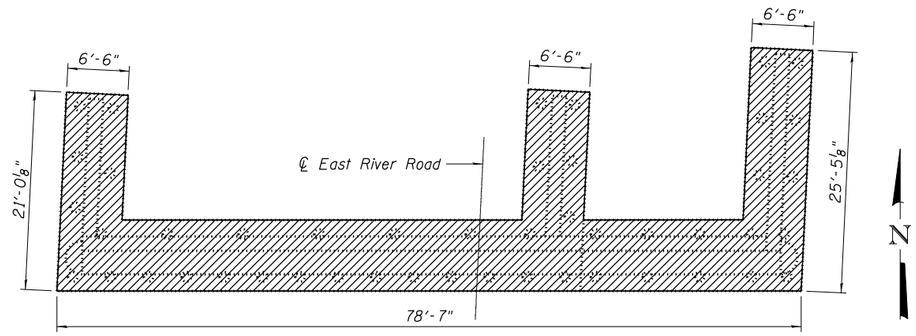


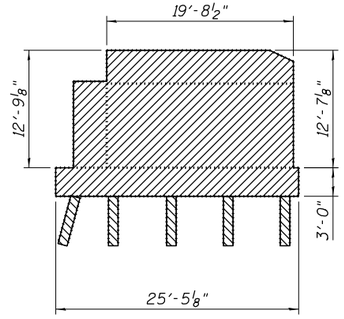
EXISTING PIER 3

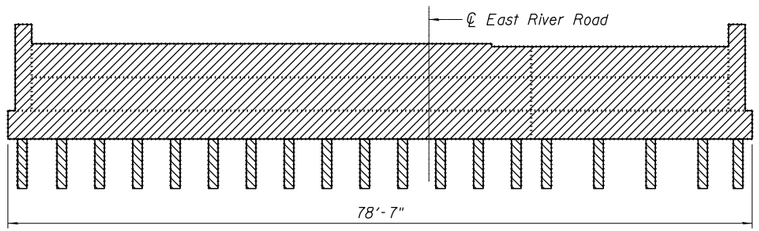
Contractor shall build a temporary protective shield wall between CTA tracks and pier 3 before demolition/construction. Cost is included in the Removal of Existing Structure.

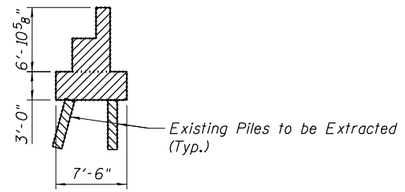


EXISTING PIER 4









EXISTING NORTH ABUTMENT

LEGEND

- Substructure Removal
- Existing Pile Extraction

BILL OF MATERIAL

Item	Unit	Total
Pile Extraction	Each	96
Removal of Existing Structures	Each	1

Notes:

1. *Refer to existing plans for exact location of foundation elements.*
2. *Verify dimensions in field.*

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	CHECKED - CHECKED	REVISED
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PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE REMOVAL – 2 OF 2
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. 56 OF 554 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	112
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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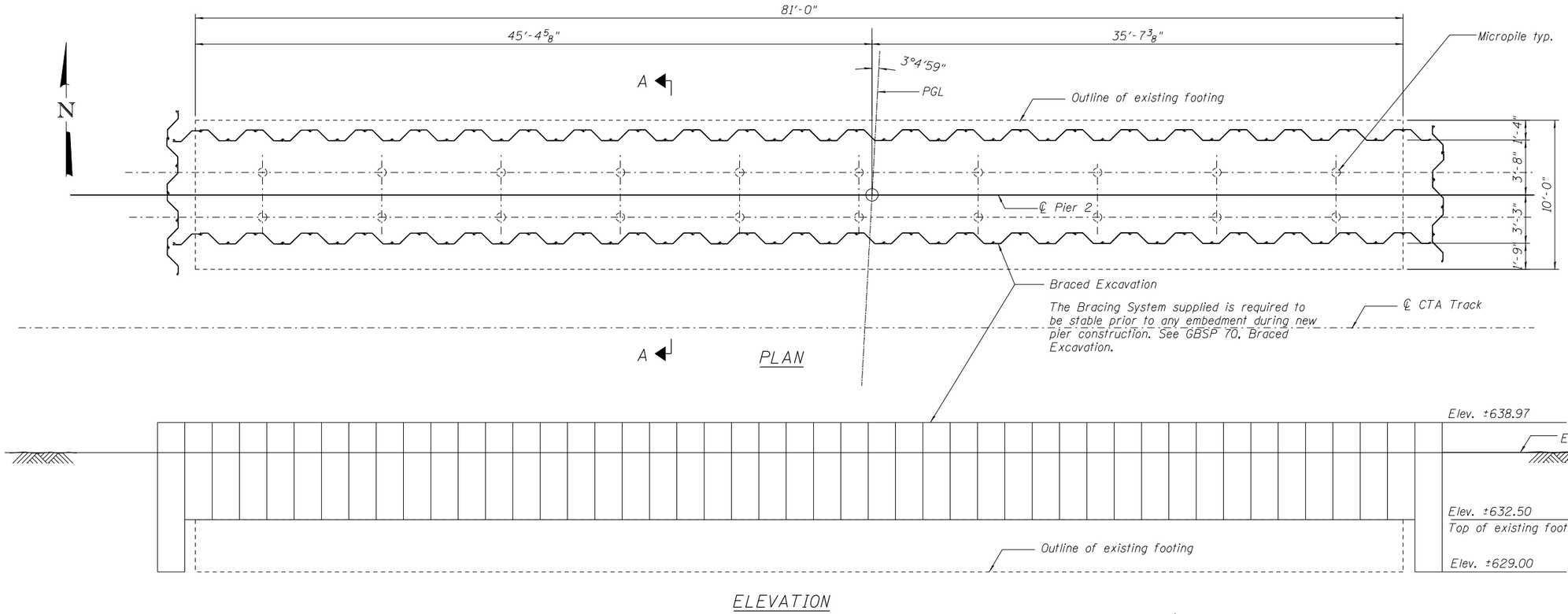
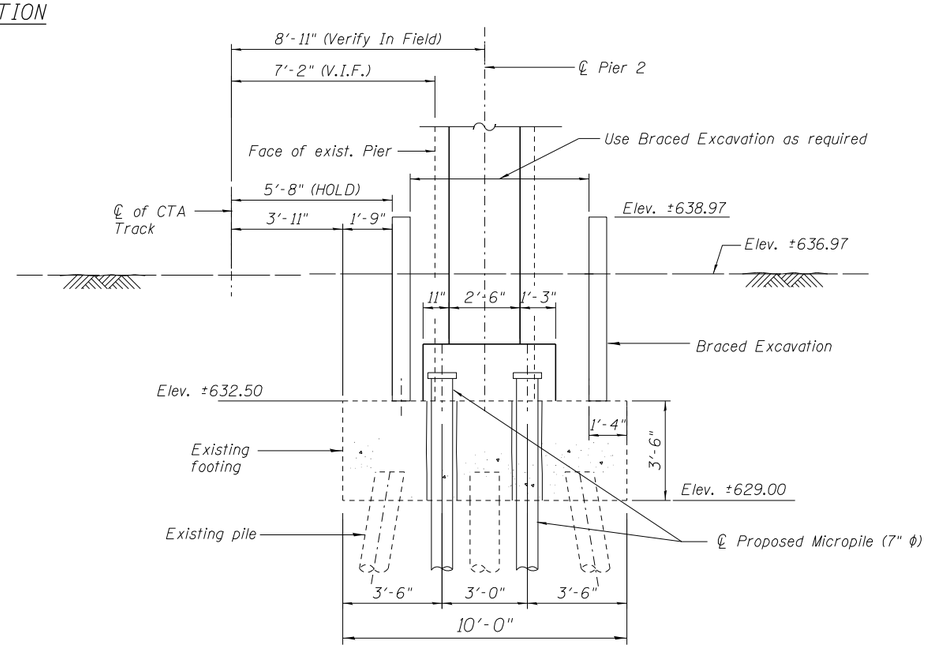


ELEVATION



SECTION A-A

SECTION THRU PIER 2

Notes
For Pier 2 and Micropile Details See Sheet S-41 & S-42.

A design submittal including on the temporary plan ERS details and calculations will be required for review and acceptance by the Engineer.

Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = lsupencheck	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRACED EXCAVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S7 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	113
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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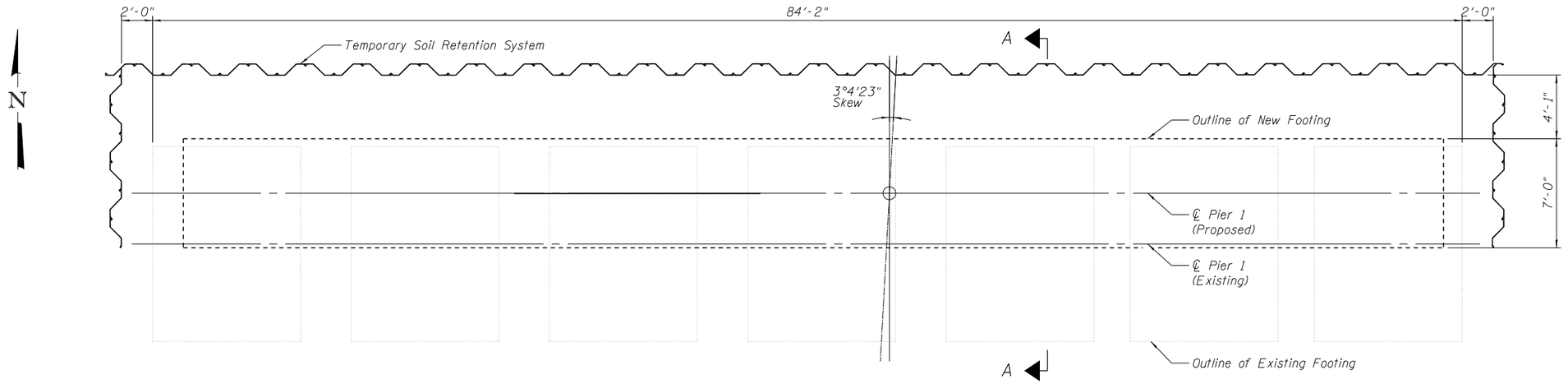
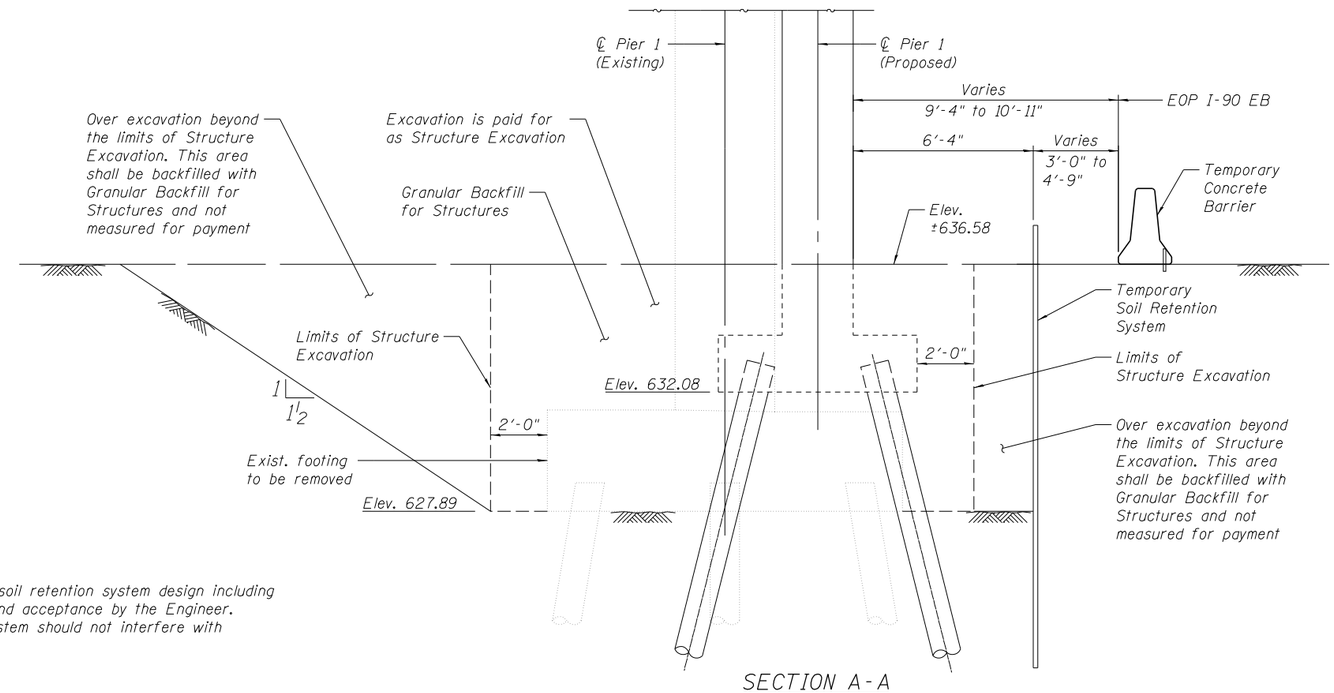


PIER 1 - PLAN



SECTION A-A

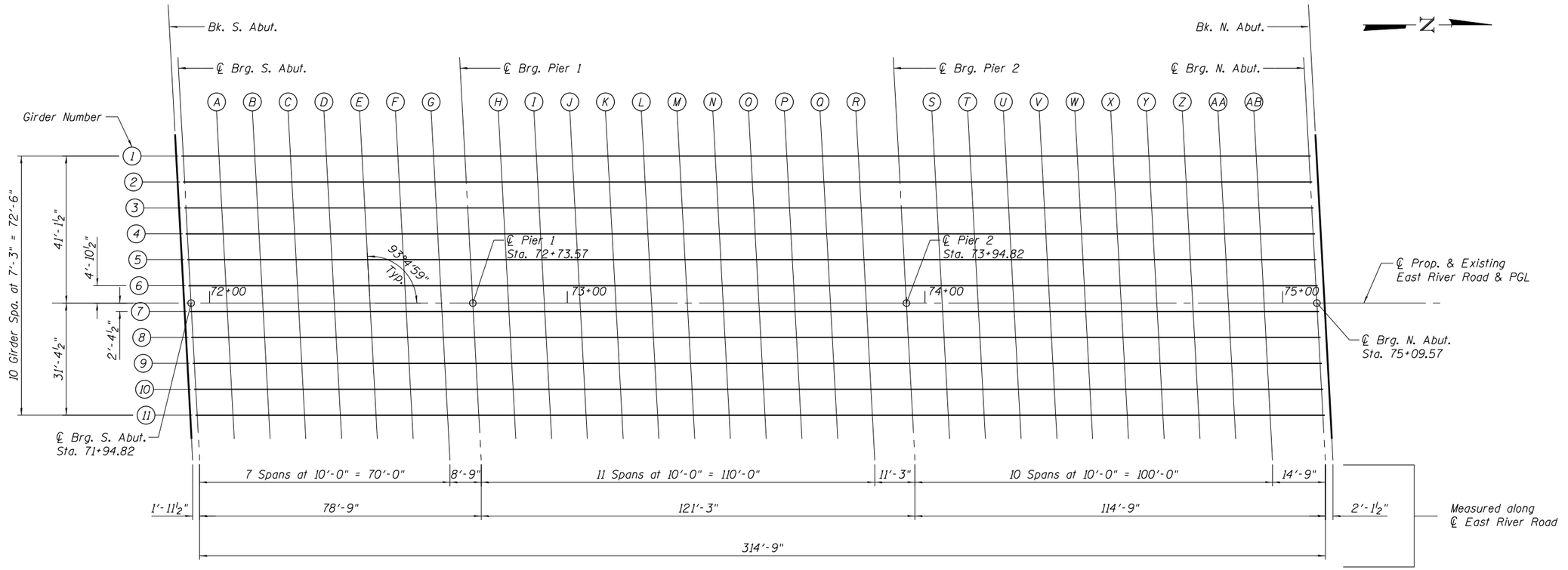
EAST RIVER ROAD BRIDGE

Notes:

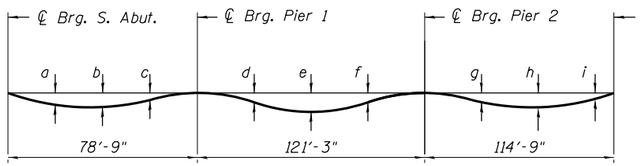
1. *The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.*
2. *The proposed temporary soil retention system should not interfere with the proposed piles.*

BILL OF MATERIAL

Structure Excavation	*Cu. Yd.*	*174*
Granular Backfill for Structures	*Cu. Yd.*	*429*
Temporary Soil Retention System	*Sq. Ft.*	*959*



PLAN



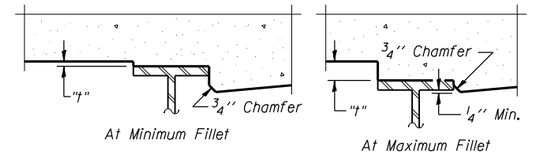
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S9 thru S12.

DEAD LOAD DEFLECTIONS

Location	Interior & West Exterior Girder	East Exterior Girder
a	½"	½"
b	½"	⅝"
c	¼"	¼"
d	¾"	⅞"
e	1"	1¼"
f	½"	½"
g	1"	1¼"
h	2"	2½"
i	1⅝"	2"



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

FILLET HEIGHTS

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USER NAME = KUMARKZ	DESIGNED - KK	REVISED
	CHECKED - PK	REVISED
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PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION LAYOUT
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S8 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	115
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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GIRDER G1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+90.64	-41.125	655.96	655.96
℄ Brg. S. Abut.	71+92.60	-41.125	655.98	655.98
A	72+02.60	-41.125	656.09	656.12
B	72+12.60	-41.125	656.20	656.24
C	72+22.60	-41.125	656.30	656.35
D	72+32.60	-41.125	656.39	656.44
E	72+42.60	-41.125	656.48	656.52
F	72+52.60	-41.125	656.56	656.58
G	72+62.60	-41.125	656.64	656.64
℄ Brg. Pier 1	72+71.35	-41.125	656.70	656.70
H	72+81.35	-41.125	656.76	656.78
I	72+91.35	-41.125	656.82	656.86
J	73+01.35	-41.125	656.87	656.93
K	73+11.35	-41.125	656.91	656.99
L	73+21.35	-41.125	656.95	657.04
M	73+31.35	-41.125	656.98	657.07
N	73+41.35	-41.125	657.01	657.09
O	73+51.35	-41.125	657.03	657.09
P	73+61.35	-41.125	657.04	657.08
Q	73+71.35	-41.125	657.04	657.06
R	73+81.35	-41.125	657.04	657.04
℄ Brg. Pier 2	73+92.60	-41.125	657.03	657.03
S	74+02.60	-41.125	657.02	657.04
T	74+12.60	-41.125	657.00	657.06
U	74+22.60	-41.125	656.97	657.07
V	74+32.60	-41.125	656.94	657.07
W	74+42.60	-41.125	656.90	657.06
X	74+52.60	-41.125	656.85	657.03
Y	74+62.60	-41.125	656.80	656.98
Z	74+72.60	-41.125	656.74	656.90
AA	74+82.60	-41.125	656.67	656.80
AB	74+92.60	-41.125	656.60	656.69
℄ Brg. N. Abut.	75+07.35	-41.125	656.48	656.48
Bk. N. Abut.	75+09.48	-41.125	656.46	656.46

GIRDER G2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+91.03	-33.88	656.11	656.11
℄ Brg. S. Abut.	71+93.00	-33.88	656.13	656.13
A	72+03.00	-33.88	656.25	656.27
B	72+13.00	-33.88	656.35	656.39
C	72+23.00	-33.88	656.45	656.50
D	72+33.00	-33.88	656.55	656.59
E	72+43.00	-33.88	656.64	656.67
F	72+53.00	-33.88	656.72	656.73
G	72+63.00	-33.88	656.79	656.80
℄ Brg. Pier 1	72+71.75	-33.88	656.85	656.85
H	72+81.75	-33.88	656.92	656.93
I	72+91.75	-33.88	656.97	657.01
J	73+01.75	-33.88	657.02	657.08
K	73+11.75	-33.88	657.07	657.14
L	73+21.75	-33.88	657.10	657.19
M	73+31.75	-33.88	657.13	657.22
N	73+41.75	-33.88	657.16	657.24
O	73+51.75	-33.88	657.18	657.24
P	73+61.75	-33.88	657.19	657.23
Q	73+71.75	-33.88	657.19	657.21
R	73+81.75	-33.88	657.19	657.19
℄ Brg. Pier 2	73+93.00	-33.88	657.18	657.18
S	74+03.00	-33.88	657.17	657.19
T	74+13.00	-33.88	657.15	657.20
U	74+23.00	-33.88	657.12	657.21
V	74+33.00	-33.88	657.09	657.22
W	74+43.00	-33.88	657.05	657.20
X	74+53.00	-33.88	657.00	657.17
Y	74+63.00	-33.88	656.95	657.12
Z	74+73.00	-33.88	656.89	657.04
AA	74+83.00	-33.88	656.82	656.95
AB	74+93.00	-33.88	656.75	656.83
℄ Brg. N. Abut.	75+07.75	-33.88	656.63	656.63
Bk. N. Abut.	75+09.87	-33.88	656.61	656.61

GIRDER G3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+91.42	-26.63	656.27	656.27
℄ Brg. S. Abut.	71+93.39	-26.63	656.29	656.29
A	72+03.39	-26.63	656.40	656.42
B	72+13.39	-26.63	656.51	656.55
C	72+23.39	-26.63	656.61	656.65
D	72+33.39	-26.63	656.70	656.75
E	72+43.39	-26.63	656.79	656.82
F	72+53.39	-26.63	656.87	656.89
G	72+63.39	-26.63	656.95	656.95
℄ Brg. Pier 1	72+72.14	-26.63	657.01	657.01
H	72+82.14	-26.63	657.07	657.08
I	72+92.14	-26.63	657.13	657.16
J	73+02.14	-26.63	657.18	657.23
K	73+12.14	-26.63	657.22	657.29
L	73+22.14	-26.63	657.26	657.34
M	73+32.14	-26.63	657.29	657.37
N	73+42.14	-26.63	657.31	657.39
O	73+52.14	-26.63	657.33	657.39
P	73+62.14	-26.63	657.34	657.38
Q	73+72.14	-26.63	657.35	657.36
R	73+82.14	-26.63	657.34	657.35
℄ Brg. Pier 2	73+93.39	-26.63	657.33	657.33
S	74+03.39	-26.63	657.32	657.34
T	74+13.39	-26.63	657.30	657.35
U	74+23.39	-26.63	657.27	657.36
V	74+33.39	-26.63	657.24	657.36
W	74+43.39	-26.63	657.20	657.35
X	74+53.39	-26.63	657.15	657.32
Y	74+63.39	-26.63	657.10	657.27
Z	74+73.39	-26.63	657.04	657.19
AA	74+83.39	-26.63	656.97	657.09
AB	74+93.39	-26.63	656.90	656.98
℄ Brg. N. Abut.	75+08.14	-26.63	656.78	656.78
Bk. N. Abut.	75+10.26	-26.63	656.76	656.76

GIRDER G4

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+91.82	-19.38	656.42	656.42
℄ Brg. S. Abut.	71+93.78	-19.38	656.45	656.45
A	72+03.78	-19.38	656.56	656.58
B	72+13.78	-19.38	656.66	656.70
C	72+23.78	-19.38	656.76	656.81
D	72+33.78	-19.38	656.86	656.90
E	72+43.78	-19.38	656.95	656.98
F	72+53.78	-19.38	657.03	657.04
G	72+63.78	-19.38	657.10	657.10
℄ Brg. Pier 1	72+72.53	-19.38	657.16	657.16
H	72+82.53	-19.38	657.22	657.24
I	72+92.53	-19.38	657.28	657.31
J	73+02.53	-19.38	657.33	657.39
K	73+12.53	-19.38	657.37	657.45
L	73+22.53	-19.38	657.41	657.49
M	73+32.53	-19.38	657.44	657.52
N	73+42.53	-19.38	657.46	657.54
O	73+52.53	-19.38	657.48	657.54
P	73+62.53	-19.38	657.49	657.53
Q	73+72.53	-19.38	657.50	657.51
R	73+82.53	-19.38	657.49	657.50
℄ Brg. Pier 2	73+93.78	-19.38	657.49	657.49
S	74+03.78	-19.38	657.47	657.49
T	74+13.78	-19.38	657.45	657.50
U	74+23.78	-19.38	657.42	657.51
V	74+33.78	-19.38	657.39	657.51
W	74+43.78	-19.38	657.34	657.50
X	74+53.78	-19.38	657.30	657.47
Y	74+63.78	-19.38	657.24	657.42
Z	74+73.78	-19.38	657.18	657.34
AA	74+83.78	-19.38	657.12	657.24
AB	74+93.78	-19.38	657.04	657.12
℄ Brg. N. Abut.	75+08.53	-19.38	656.93	656.93
Bk. N. Abut.	75+10.65	-19.38	656.91	656.91

GIRDER G5

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+92.21	-12.13	656.58	656.58
℄ Brg. S. Abut.	71+94.17	-12.13	656.60	656.60
A	72+04.17	-12.13	656.71	656.74
B	72+14.17	-12.13	656.82	656.86
C	72+24.17	-12.13	656.92	656.96
D	72+34.17	-12.13	657.01	657.06
E	72+44.17	-12.13	657.10	657.13
F	72+54.17	-12.13	657.18	657.20
G	72+64.17	-12.13	657.25	657.26
℄ Brg. Pier 1	72+72.92	-12.13	657.31	657.31
H	72+82.92	-12.13	657.38	657.39
I	72+92.92	-12.13	657.43	657.47
J	73+02.92	-12.13	657.48	657.54
K	73+12.92	-12.13	657.52	657.60
L	73+22.92	-12.13	657.56	657.64
M	73+32.92	-12.13	657.59	657.68
N	73+42.92	-12.13	657.61	657.69
O	73+52.92	-12.13	657.63	657.69
P	73+62.92	-12.13	657.64	657.68
Q	73+72.92	-12.13	657.65	657.66
R	73+82.92	-12.13	657.65	657.65
℄ Brg. Pier 2	73+94.17	-12.13	657.64	657.64
S	74+04.17	-12.13	657.62	657.64
T	74+14.17	-12.13	657.60	657.65
U	74+24.17	-12.13	657.57	657.66
V	74+34.17	-12.13	657.54	657.66
W	74+44.17	-12.13	657.49	657.65
X	74+54.17	-12.13	657.45	657.62
Y	74+64.17	-12.13	657.39	657.56
Z	74+74.17	-12.13	657.33	657.49
AA	74+84.17	-12.13	657.27	657.39
AB	74+94.17	-12.13	657.19	657.27
℄ Brg. N. Abut.	75+08.92	-12.13	657.07	657.07
Bk. N. Abut.	75+11.05	-12.13	657.06	657.06

GIRDER G6

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+92.60	-4.88	656.73	656.73
℄ Brg. S. Abut.	71+94.56	-4.88	656.76	656.76
A	72+04.56	-4.88	656.87	656.89
B	72+14.56	-4.88	656.97	657.01
C	72+24.56	-4.88	657.07	657.12
D	72+34.56	-4.88	657.17	657.21
E	72+44.56	-4.88	657.25	657.29
F	72+54.56	-4.88	657.33	657.35
G	72+64.56	-4.88	657.41	657.41
℄ Brg. Pier 1	72+73.31	-4.88	657.47	657.47
H	72+83.31	-4.88	657.53	657.54
I	72+93.31	-4.88	657.58	657.62
J	73+03.31	-4.88	657.63	657.69
K	73+13.31	-4.88	657.68	657.75
L	73+23.31	-4.88	657.71	657.80
M	73+33.31	-4.88	657.74	657.83
N	73+43.31	-4.88	657.77	657.84
O	73+53.31	-4.88	657.78	657.84
P	73+63.31	-4.88	657.79	657.83
Q	73+73.31	-4.88	657.80	657.82
R	73+83.31	-4.88	657.80	657.80
℄ Brg. Pier 2	73+94.56	-4.88	657.79	657.79
S	74+04.56	-4.88	657.77	657.79
T	74+14.56	-4.88	657.75	657.80
U	74+24.56	-4.88	657.72	657.81
V	74+34.56	-4.88	657.68	657.81
W	74+44.56	-4.88	657.64	657.80
X	74+54.56	-4.88	657.60	657.77
Y	74+64.56	-4.88	657.54	657.71
Z	74+74.56	-4.88	657.48	657.64
AA	74+84.56	-4.88	657.41	657.54
AB	74+94.56	-4.88	657.34	657.42
℄ Brg. N. Abut.	75+09.31	-4.88	657.22	657.22
Bk. N. Abut.	75+11.44	-4.88	657.20	657.20

PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+92.86	0.00	656.84	656.84
℄ Brg. S. Abut.	71+94.82	0.00	656.86	656.86
A	72+04.82	0.00	656.97	657.00
B	72+14.82	0.00	657.08	657.12
C	72+24.82	0.00	657.18	657.22
D	72+34.82	0.00	657.27	657.31
E	72+44.82	0.00	657.36	657.39
F	72+54.82	0.00	657.44	657.45
G	72+64.82	0.00	657.51	657.51
℄ Brg. Pier 1	72+73.57	0.00	657.57	657.57
H	72+83.57	0.00	657.63	657.65
I	72+93.57	0.00	657.69	657.72
J	73+03.57	0.00	657.74	657.79
K	73+13.57	0.00	657.78	657.85
L	73+23.57	0.00	657.82	657.90
M	73+33.57	0.00	657.85	657.93
N	73+43.57	0.00	657.87	657.95
O	73+53.57	0.00	657.89	657.95
P	73+63.57	0.00	657.90	657.93
Q	73+73.57	0.00	657.90	657.92
R	73+83.57	0.00	657.90	657.90
℄ Brg. Pier 2	73+94.82	0.00	657.89	657.89
S	74+04.82	0.00	657.87	657.89
T	74+14.82	0.00	657.85	657.90
U	74+24.82	0.00	657.82	657.91
V	74+34.82	0.00	657.79	657.91
W	74+44.82	0.00	657.74	657.90
X	74+54.82	0.00	657.70	657.87
Y	74+64.82	0.00	657.64	657.81
Z	74+74.82	0.00	657.58	657.74
AA	74+84.82	0.00	657.51	657.64
AB	74+94.82	0.00	657.44	657.52
℄ Brg. N. Abut.	75+09.57	0.00	657.32	657.32
Bk. N. Abut.	75+11.70	0.00	657.30	657.30

GIRDER G7

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+92.99	2.38	656.79	656.79
℄ Brg. S. Abut.	71+94.95	2.38	656.81	656.81
A	72+04.95	2.38	656.93	656.95
B	72+14.95	2.38	657.03	657.07
C	72+24.95	2.38	657.13	657.18
D	72+34.95	2.38	657.22	657.27
E	72+44.95	2.38	657.31	657.34
F	72+54.95	2.38	657.39	657.41
G	72+64.95	2.38	657.46	657.47
℄ Brg. Pier 1	72+73.70	2.38	657.52	657.52
H	72+83.70	2.38	657.58	657.60
I	72+93.70	2.38	657.64	657.67
J	73+03.70	2.38	657.69	657.74
K	73+13.70	2.38	657.73	657.80
L	73+23.70	2.38	657.77	657.85
M	73+33.70	2.38	657.80	657.88
N	73+43.70	2.38	657.82	657.90
O	73+53.70	2.38	657.84	657.90
P	73+63.70	2.38	657.85	657.89
Q	73+73.70	2.38	657.85	657.87
R	73+83.70	2.38	657.85	657.85
℄ Brg. Pier 2	73+94.95	2.38	657.84	657.84
S	74+04.95	2.38	657.82	657.84
T	74+14.95	2.38	657.80	657.85
U	74+24.95	2.38	657.77	657.86
V	74+34.95	2.38	657.74	657.86
W	74+44.95	2.38	657.69	657.85
X	74+54.95	2.38	657.65	657.82
Y	74+64.95	2.38	657.59	657.76
Z	74+74.95	2.38	657.53	657.69
AA	74+84.95	2.38	657.46	657.59
AB	74+94.95	2.38	657.39	657.47
℄ Brg. N. Abut.	75+09.70	2.38	657.27	657.27
Bk. N. Abut.	75+11.83	2.38	657.25	657.25

GIRDER G8

Location	Station	Offset	Theoretical Grade Elavations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+93.38	9.63	656.64	656.64
℄ Brg. S. Abut.	71+95.34	9.63	656.67	656.67
A	72+05.34	9.63	656.78	656.80
B	72+15.34	9.63	656.88	656.92
C	72+25.34	9.63	656.98	657.03
D	72+35.34	9.63	657.08	657.12
E	72+45.34	9.63	657.16	657.19
F	72+55.34	9.63	657.24	657.26
G	72+65.34	9.63	657.31	657.32
℄ Brg. Pier 1	72+74.09	9.63	657.37	657.37
H	72+84.09	9.63	657.44	657.45
I	72+94.09	9.63	657.49	657.52
J	73+04.09	9.63	657.54	657.60
K	73+14.09	9.63	657.58	657.65
L	73+24.09	9.63	657.62	657.70
M	73+34.09	9.63	657.65	657.73
N	73+44.09	9.63	657.67	657.75
O	73+54.09	9.63	657.69	657.75
P	73+64.09	9.63	657.70	657.73
Q	73+74.09	9.63	657.70	657.72
R	73+84.09	9.63	657.70	657.70
℄ Brg. Pier 2	73+95.34	9.63	657.69	657.69
S	74+05.34	9.63	657.67	657.69
T	74+15.34	9.63	657.65	657.70
U	74+25.34	9.63	657.62	657.71
V	74+35.34	9.63	657.58	657.71
W	74+45.34	9.63	657.54	657.70
X	74+55.34	9.63	657.49	657.66
Y	74+65.34	9.63	657.44	657.61
Z	74+75.34	9.63	657.38	657.53
AA	74+85.34	9.63	657.31	657.43
AB	74+95.34	9.63	657.24	657.32
℄ Brg. N. Abut.	75+10.09	9.63	657.12	657.12
Bk. N. Abut.	75+12.22	9.63	657.10	657.10

GIRDER G9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+93.77	16.88	656.50	656.50
℄ Brg. S. Abut.	71+95.73	16.88	656.52	656.52
A	72+05.73	16.88	656.63	656.65
B	72+15.73	16.88	656.74	656.77
C	72+25.73	16.88	656.84	656.88
D	72+35.73	16.88	656.93	656.97
E	72+45.73	16.88	657.01	657.05
F	72+55.73	16.88	657.09	657.11
G	72+65.73	16.88	657.17	657.17
℄ Brg. Pier 1	72+74.48	16.88	657.23	657.23
H	72+84.48	16.88	657.29	657.30
I	72+94.48	16.88	657.34	657.38
J	73+04.48	16.88	657.39	657.45
K	73+14.48	16.88	657.43	657.51
L	73+24.48	16.88	657.47	657.55
M	73+34.48	16.88	657.50	657.58
N	73+44.48	16.88	657.52	657.60
O	73+54.48	16.88	657.53	657.60
P	73+64.48	16.88	657.54	657.58
Q	73+74.48	16.88	657.55	657.57
R	73+84.48	16.88	657.55	657.55
℄ Brg. Pier 2	73+95.73	16.88	657.53	657.53
S	74+05.73	16.88	657.52	657.54
T	74+15.73	16.88	657.50	657.55
U	74+25.73	16.88	657.47	657.56
V	74+35.73	16.88	657.43	657.56
W	74+45.73	16.88	657.39	657.54
X	74+55.73	16.88	657.34	657.51
Y	74+65.73	16.88	657.29	657.46
Z	74+75.73	16.88	657.22	657.38
AA	74+85.73	16.88	657.16	657.28
AB	74+95.73	16.88	657.08	657.16
℄ Brg. N. Abut.	75+10.48	16.88	656.96	656.96
Bk. N. Abut.	75+12.61	16.88	656.94	656.94

GIRDER G10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+94.16	24.13	656.35	656.35
℄ Brg. S. Abut.	71+96.12	24.13	656.37	656.37
A	72+06.12	24.13	656.48	656.51
B	72+16.12	24.13	656.59	656.63
C	72+26.12	24.13	656.69	656.73
D	72+36.12	24.13	656.78	656.82
E	72+46.12	24.13	656.87	656.90
F	72+56.12	24.13	656.95	656.96
G	72+66.12	24.13	657.02	657.02
℄ Brg. Pier 1	72+74.87	24.13	657.08	657.08
H	72+84.87	24.13	657.14	657.15
I	72+94.87	24.13	657.19	657.23
J	73+04.87	24.13	657.24	657.30
K	73+14.87	24.13	657.28	657.36
L	73+24.87	24.13	657.32	657.40
M	73+34.87	24.13	657.35	657.43
N	73+44.87	24.13	657.37	657.45
O	73+54.87	24.13	657.38	657.44
P	73+64.87	24.13	657.39	657.43
Q	73+74.87	24.13	657.40	657.41
R	73+84.87	24.13	657.39	657.40
℄ Brg. Pier 2	73+96.12	24.13	657.38	657.38
S	74+06.12	24.13	657.37	657.39
T	74+16.12	24.13	657.34	657.40
U	74+26.12	24.13	657.31	657.41
V	74+36.12	24.13	657.28	657.41
W	74+46.12	24.13	657.24	657.39
X	74+56.12	24.13	657.19	657.36
Y	74+66.12	24.13	657.13	657.30
Z	74+76.12	24.13	657.07	657.23
AA	74+86.12	24.13	657.00	657.13
AB	74+96.12	24.13	656.93	657.01
℄ Brg. N. Abut.	75+10.87	24.13	656.81	656.81
Bk. N. Abut.	75+13.00	24.13	656.79	656.79

GIRDER G11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	71+94.55	31.38	656.39	656.39
℄ Brg. S. Abut.	71+96.51	31.38	656.41	656.41
A	72+06.51	31.38	656.53	656.55
B	72+16.51	31.38	656.63	656.68
C	72+26.51	31.38	656.73	656.78
D	72+36.51	31.38	656.82	656.87
E	72+46.51	31.38	656.91	656.94
F	72+56.51	31.38	656.98	657.00
G	72+66.51	31.38	657.06	657.06
℄ Brg. Pier 1	72+75.26	31.38	657.12	657.12
H	72+85.26	31.38	657.18	657.19
I	72+95.26	31.38	657.23	657.27
J	73+05.26	31.38	657.28	657.35
K	73+15.26	31.38	657.32	657.41
L	73+25.26	31.38	657.35	657.46
M	73+35.26	31.38	657.38	657.49
N	73+45.26	31.38	657.41	657.50
O	73+55.26	31.38	657.42	657.49
P	73+65.26	31.38	657.43	657.48
Q	73+75.26	31.38	657.43	657.46
R	73+85.26	31.38	657.43	657.43
℄ Brg. Pier 2	73+96.51	31.38	657.42	657.42
S	74+06.51	31.38	657.40	657.43
T	74+16.51	31.38	657.38	657.44
U	74+26.51	31.38	657.35	657.46
V	74+36.51	31.38	657.31	657.47
W	74+46.51	31.38	657.27	657.46
X	74+56.51	31.38	657.22	657.43
Y	74+66.51	31.38	657.17	657.38
Z	74+76.51	31.38	657.10	657.29
AA	74+86.51	31.38	657.04	657.19
AB	74+96.51	31.38	656.96	657.06
℄ Brg. N. Abut.	75+11.26	31.38	656.84	656.84
Bk. N. Abut.	75+13.39	31.38	656.82	656.82

WEST EDGE OF EQUESTRIAN TRAIL

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+61.56	-42.58	655.56
A1	71+71.56	-42.58	655.69
A2	71+81.56	-42.58	655.82
N. End S. Appr Slab	71+91.56	-42.58	655.94
S. End N. Appr Slab	75+08.40	-42.58	656.44
B1	75+18.40	-42.58	656.35
B2	75+28.40	-42.58	656.26
N. End N. Appr Slab	75+38.40	-42.58	656.16

EAST EDGE OF EQUESTRIAN TRAIL

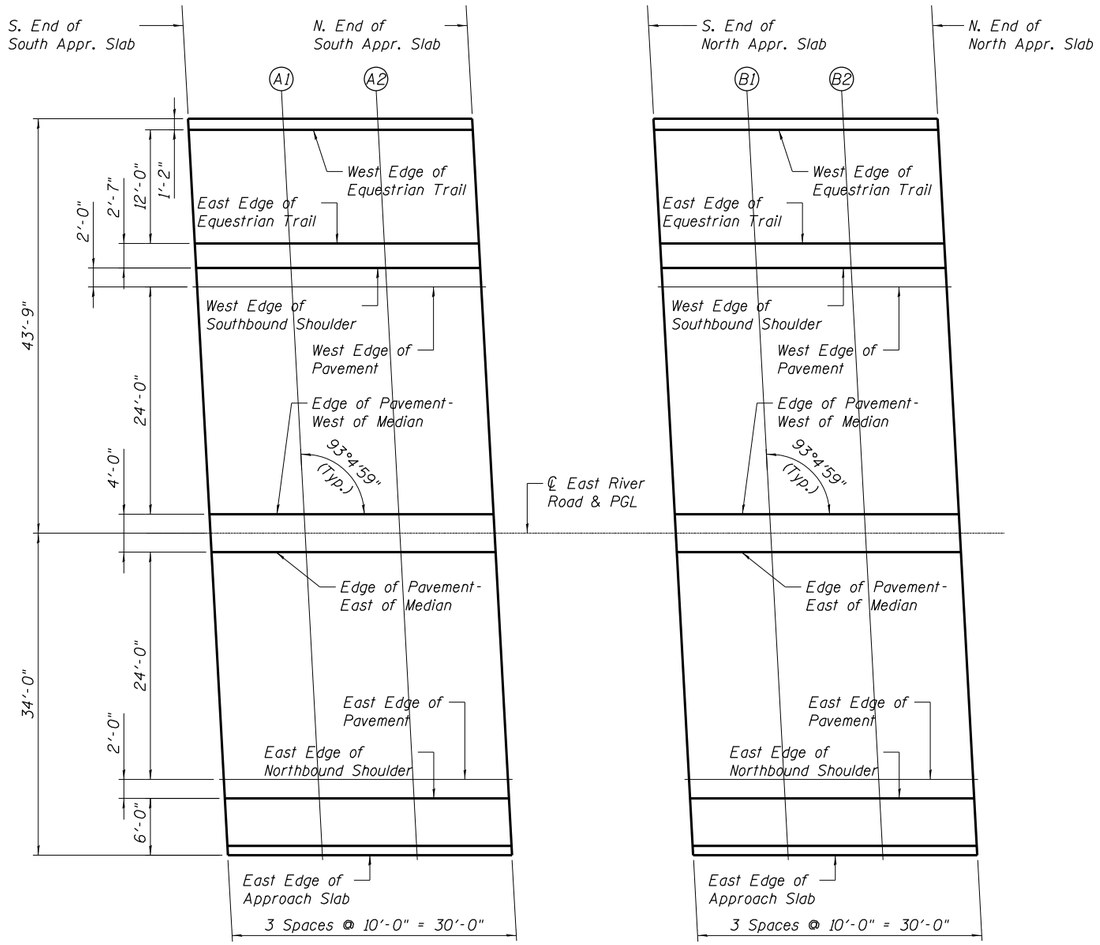
Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+62.21	-30.58	655.81
A1	71+72.21	-30.58	655.95
A2	71+82.21	-30.58	656.07
N. End S. Appr Slab	71+92.21	-30.58	656.19
S. End N. Appr Slab	75+09.05	-30.58	656.69
B1	75+19.05	-30.58	656.60
B2	75+29.05	-30.58	656.50
N. End N. Appr Slab	75+39.05	-30.58	656.40

WEST EDGE OF SOUTHBOUND SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+62.35	-28.00	655.87
A1	71+72.35	-28.00	656.00
A2	71+82.35	-28.00	656.13
N. End S. Appr Slab	71+92.35	-28.00	656.25
S. End N. Appr Slab	75+09.19	-28.00	656.74
B1	75+19.19	-28.00	656.65
B2	75+29.19	-28.00	656.56
N. End N. Appr Slab	75+39.19	-28.00	656.45

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+62.46	-26.00	655.91
A1	71+72.46	-26.00	656.05
A2	71+82.46	-26.00	656.17
N. End S. Appr Slab	71+92.46	-26.00	656.29
S. End N. Appr Slab	75+09.30	-26.00	656.78
B1	75+19.30	-26.00	656.69
B2	75+29.30	-26.00	656.60
N. End N. Appr Slab	75+39.30	-26.00	656.49



EDGE OF PAVEMENT-WEST OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+63.75	-2.00	656.43
A1	71+73.75	-2.00	656.56
A2	71+83.75	-2.00	656.69
N. End S. Appr Slab	71+93.75	-2.00	656.81
S. End N. Appr Slab	75+10.59	-2.00	657.27
B1	75+20.59	-2.00	657.18
B2	75+30.59	-2.00	657.08
N. End N. Appr Slab	75+40.59	-2.00	656.98

PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+63.86	0.00	656.47
A1	71+73.86	0.00	656.61
A2	71+83.86	0.00	656.73
N. End S. Appr Slab	71+93.86	0.00	656.85
S. End N. Appr Slab	75+10.70	0.00	657.31
B1	75+20.70	0.00	657.22
B2	75+30.70	0.00	657.12
N. End N. Appr Slab	75+40.70	0.00	657.02

EDGE OF PAVEMENT-EAST OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+63.97	2.00	656.43
A1	71+73.97	2.00	656.57
A2	71+83.97	2.00	656.69
N. End S. Appr Slab	71+93.97	2.00	656.81
S. End N. Appr Slab	75+10.80	2.00	657.27
B1	75+20.80	2.00	657.18
B2	75+30.80	2.00	657.08
N. End N. Appr Slab	75+40.80	2.00	656.98

EAST EDGE OF PAVEMENT

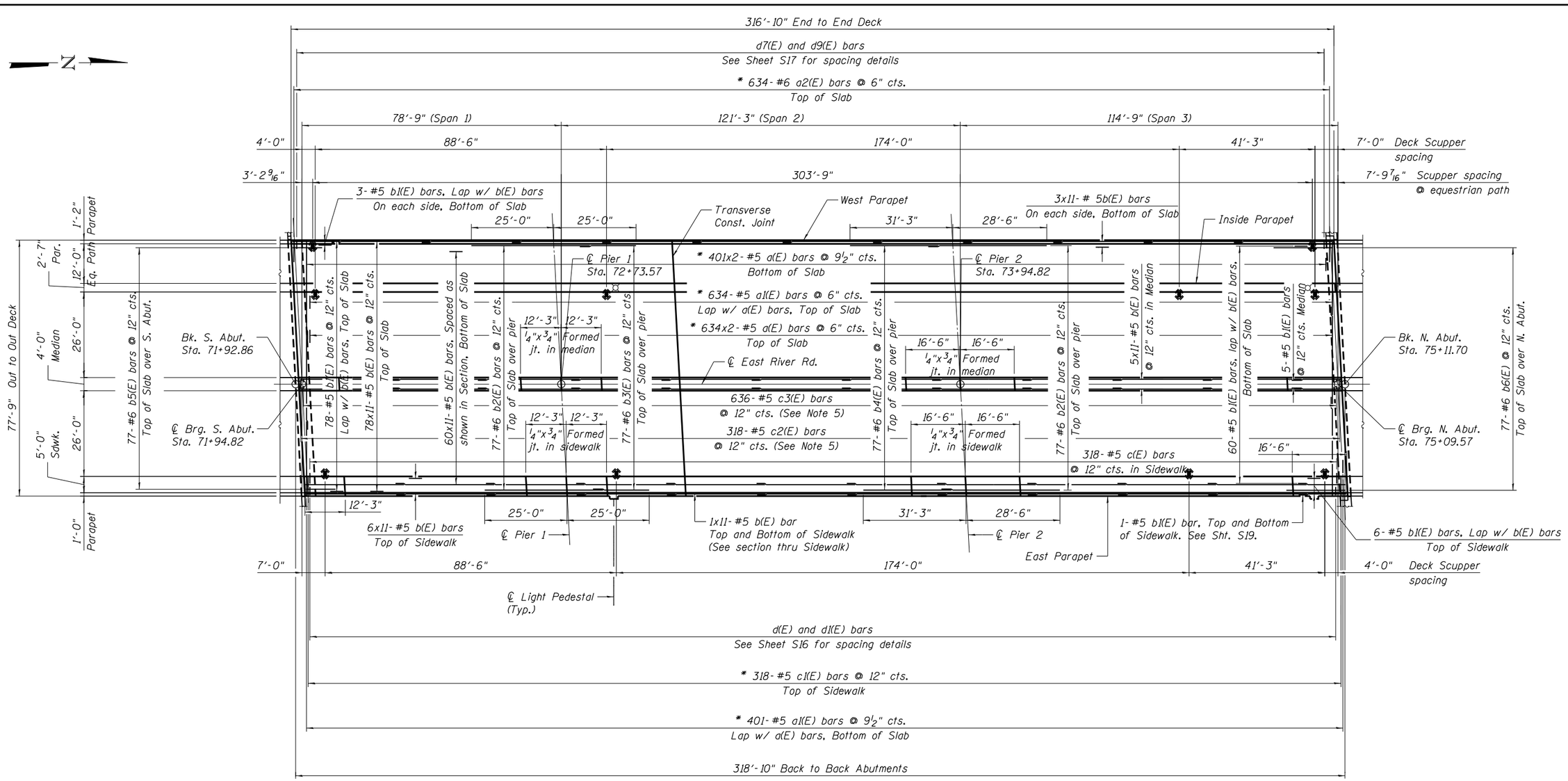
Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+65.26	26.00	655.95
A1	71+75.26	26.00	656.08
A2	71+85.26	26.00	656.21
N. End S. Appr Slab	71+95.26	26.00	656.32
S. End N. Appr Slab	75+12.10	26.00	656.76
B1	75+22.10	26.00	656.67
B2	75+32.10	26.00	656.57
N. End N. Appr Slab	75+42.10	26.00	656.46

EAST EDGE OF NORTHBOUND SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+65.37	28.00	655.91
A1	71+75.37	28.00	656.04
A2	71+85.37	28.00	656.17
N. End S. Appr Slab	71+95.37	28.00	656.28
S. End N. Appr Slab	75+12.20	28.00	656.71
B1	75+22.20	28.00	656.62
B2	75+32.20	28.00	656.53
N. End N. Appr Slab	75+42.20	28.00	656.42

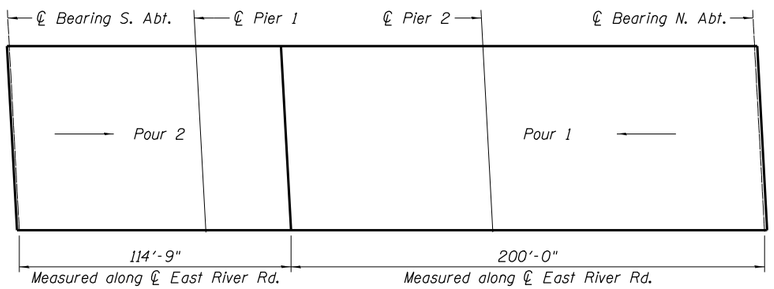
EAST EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr Slab	71+65.69	34.00	656.12
A1	71+75.69	34.00	656.25
A2	71+85.69	34.00	656.38
N. End S. Appr Slab	71+95.69	34.00	656.50
S. End N. Appr Slab	75+12.53	34.00	656.92
B1	75+22.53	34.00	656.83
B2	75+32.53	34.00	656.73
N. End N. Appr Slab	75+42.53	34.00	656.63



DECK PLAN

* Cut bars in field to fit skew and use the remainder of the bars at other end of deck.



DECK POURING SEQUENCE

Notes:

1. When the deck pour is stopped for the day at the transverse bonded construction joint 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.
2. —— Indicates direction of pour

Notes:

1. Work this sheet with sheets S15 thru S19
2. Minimum Bar Laps for Deck Reinforcement:
   #5 = 2'-7"
   #6 = 3'-1"
3. Bars indicated thus 60x11-#5 etc. indicates 60 lines of bars with 11 lengths per line
4. Space bars to miss parapet joints
5. For section through deck and median, see Sheet S15
6. For reinforcement details around drainage scupper, see Sht. S18
7. For layout of street lights on East River Road bridge, see CDOT proposed lighting plan

exp U.S. Services Inc. Chicago, IL. BUILDINGS, EARTH & ENVIRONMENT, ENERGY, INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

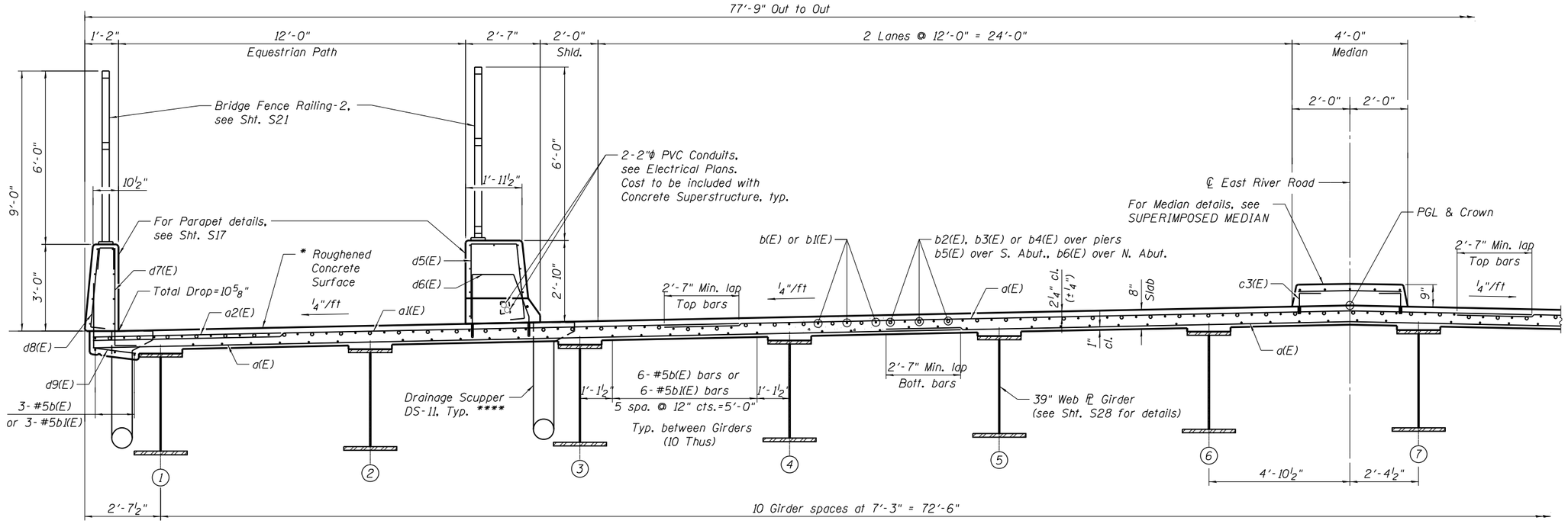
USER NAME = KUMARKZ	DESIGNED - STD	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0:1 ':' / in.	DRAWN - STD	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

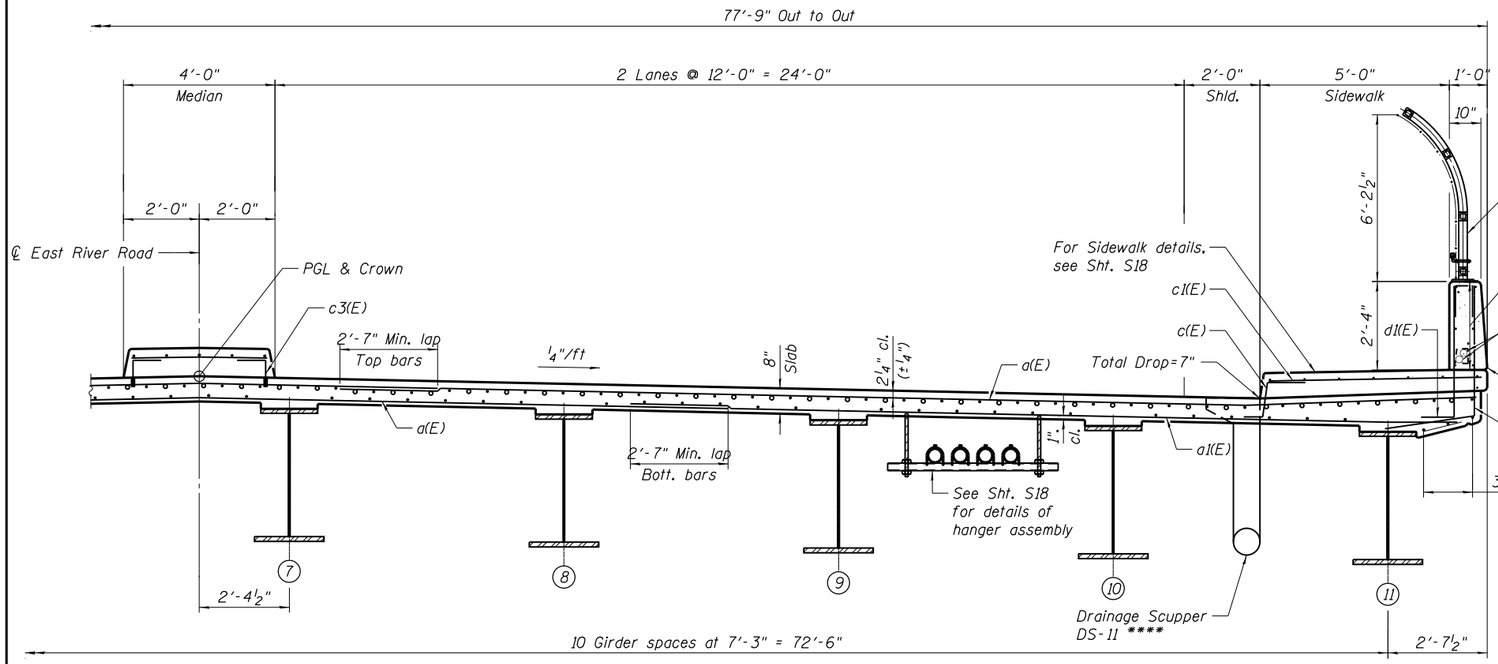
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S14 OF S54 SHEETS

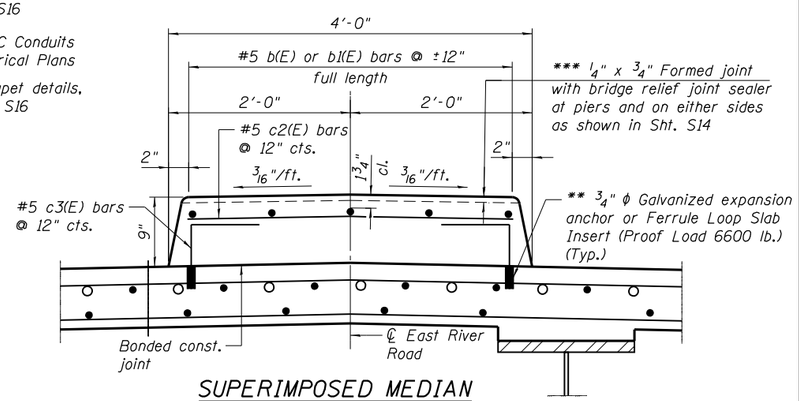
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	121
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-014-DECK.dgn





CROSS SECTION
(Looking Upstation)



SUPERIMPOSED MEDIAN

* Cost to be included with Bridge Deck Grooving.

** The cost of expansion anchors/inserts is included in the cost of Reinforcement Bars, Epoxy Coated.

*** Full width along joint - backer rod not required.

**** Drainage Scuppers shall be attached to a bridge drainage system. See Sheets S44 and S45 for details.

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - STD	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 01 '' / in.	DRAWN - STD	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S15 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	122
		CONTRACT NO. 62A64		
		ILLINOIS	FED. AID PROJECT	

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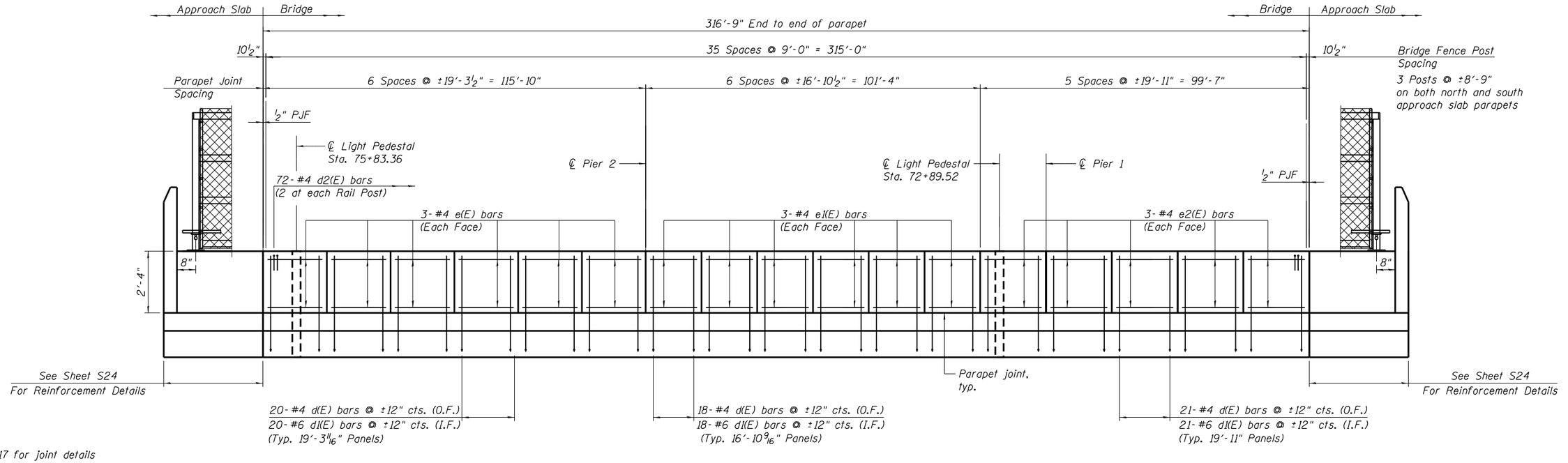
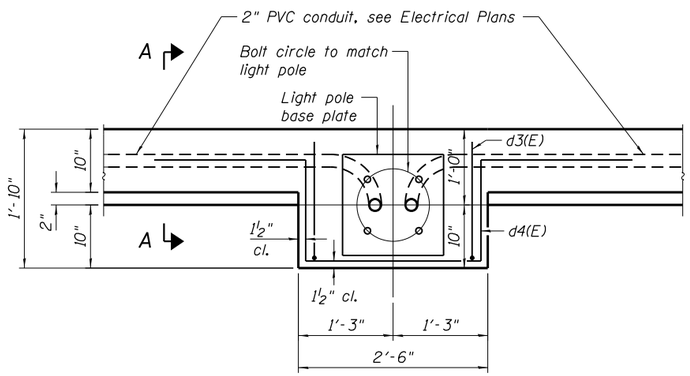


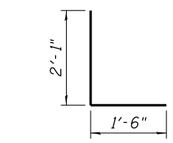
Note:
See Sht. S17 for joint details

EAST PARAPET ELEVATION

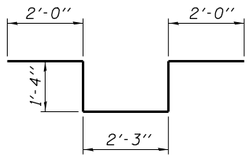
(Looking East)



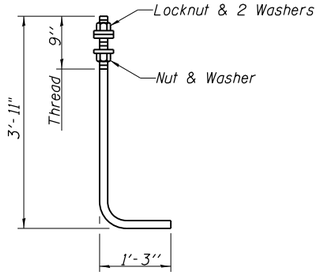
LIGHT PEDESTAL PLAN



BAR d3(E)



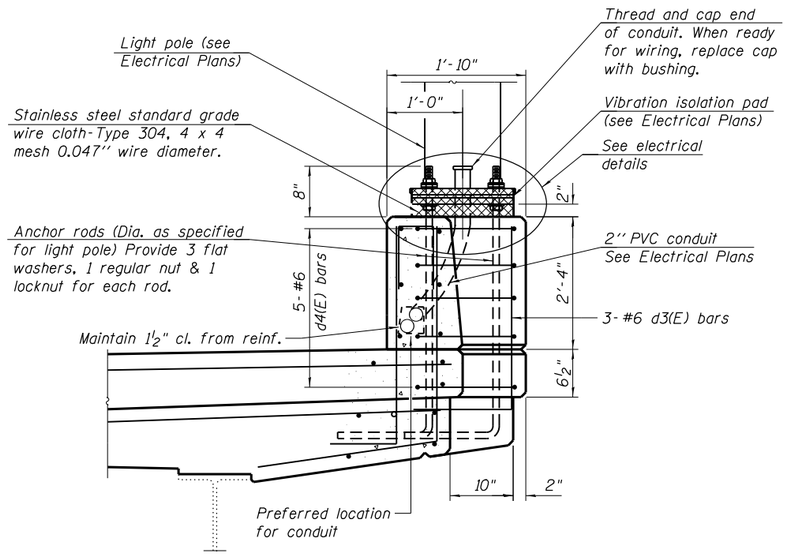
BAR d4(E)



ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105)

Note:
Cost of anchor rods is included with Concrete Superstructure.



SECTION A-A

exp U.S. Services Inc. Chicago, IL. BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - STD	REVISED
		CHECKED - KK	REVISED
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	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S16 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	123
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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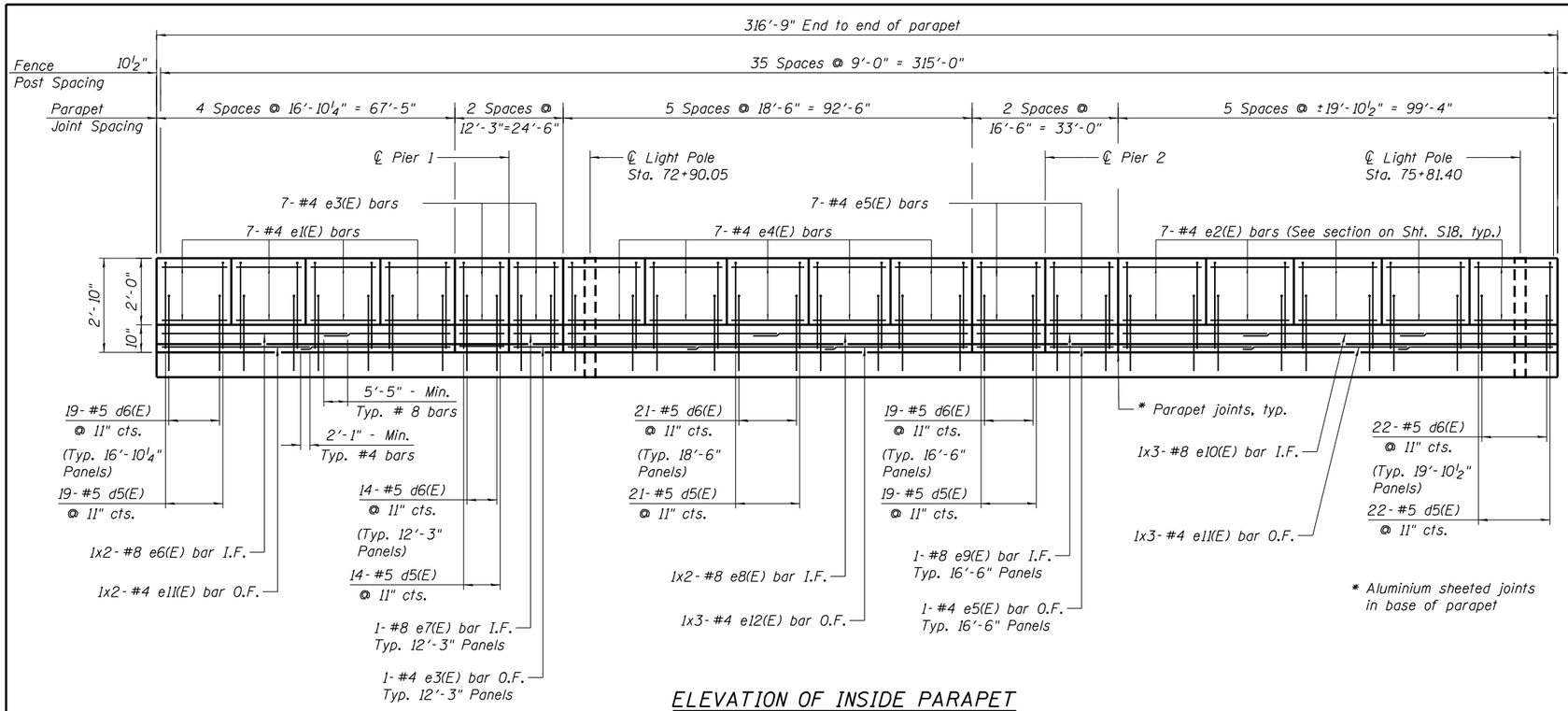
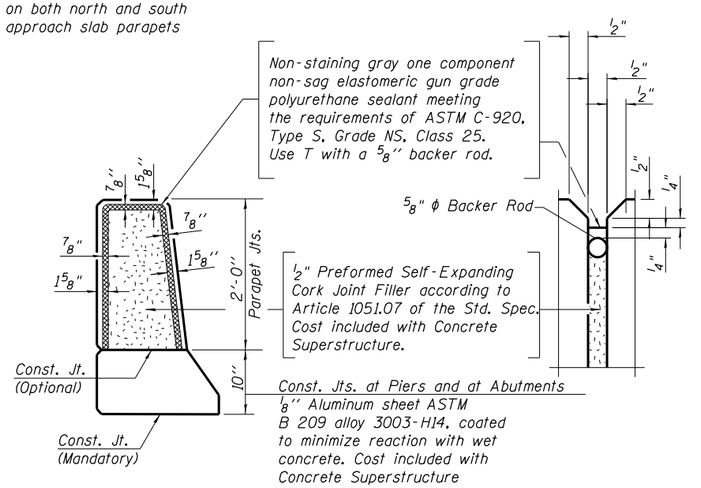
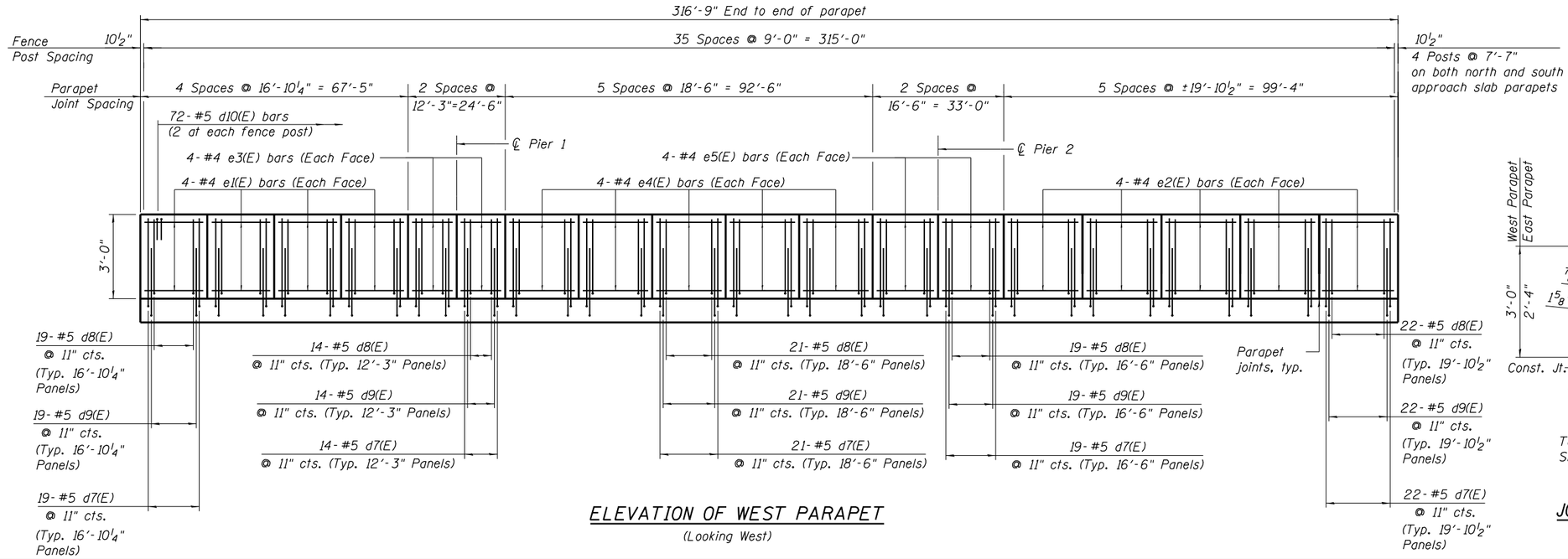


ELEVATION OF INSIDE PARAPET

(Looking West)

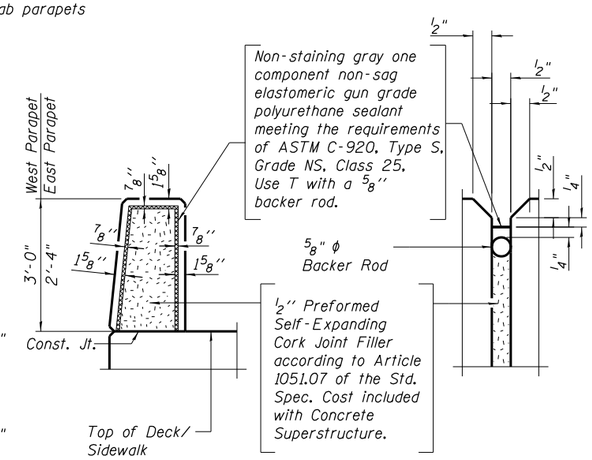


JOINT DETAILS-INSIDE PARAPET



ELEVATION OF WEST PARAPET

(Looking West)



JOINT DETAILS - EAST & WEST PARAPET

exp U.S. Services Inc. Chicago, IL. BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - STD	REVISED
		CHECKED - PK	REVISED
	PLOT SCALE = 0.083333 ' / in.	DRAWN - STD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EQUESTRIAN TRAIL PARAPET ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S17 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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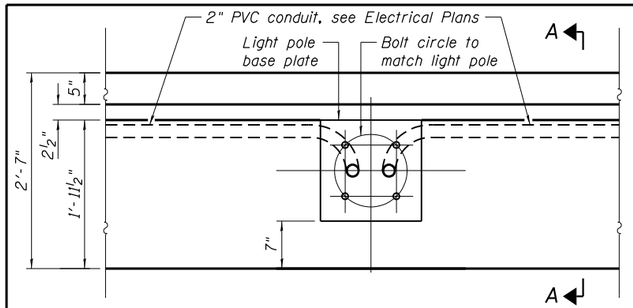
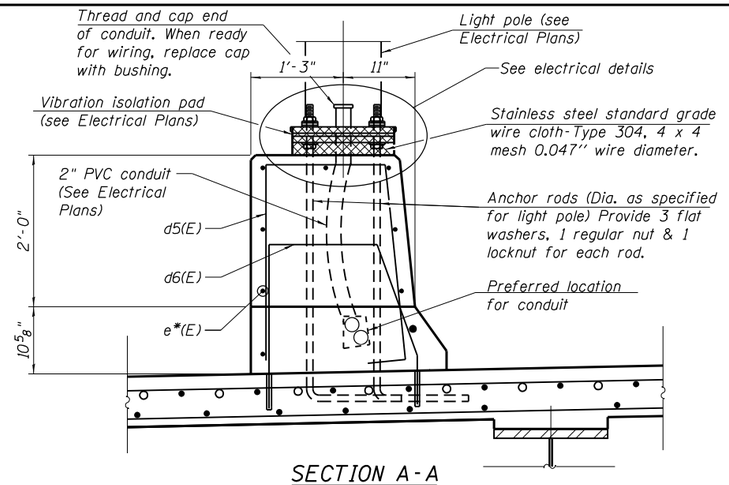
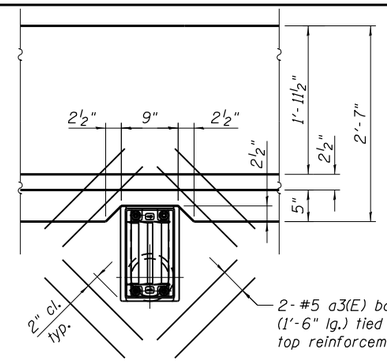


LIGHT POLE MOUNTINGS PLAN
(Inside parapet)

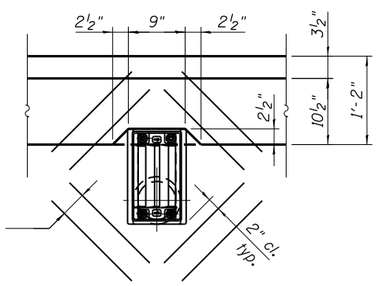


SECTION A-A

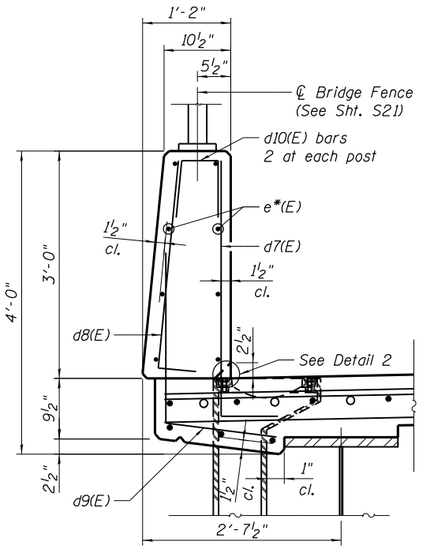


DETAIL 1 - AT SCUPPER LOCATIONS
(Inside parapet)****

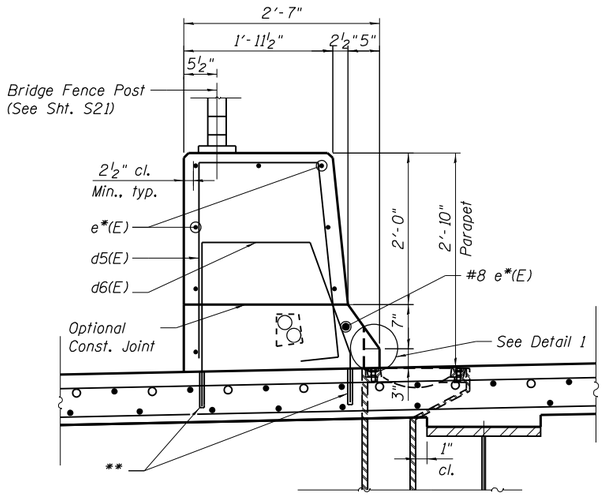
**** Similar reinforcement details at scuppers along sidewalk



DETAIL 2 - AT SCUPPER LOCATIONS
(West parapet)****



SECTION THRU WEST PARAPET

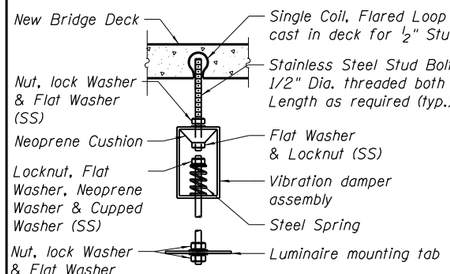


SECTION THRU INSIDE PARAPET

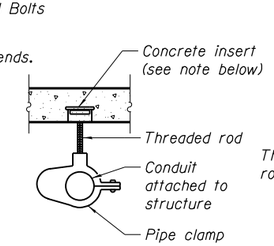
* For bar designations, see Sht. S16 and S17.

** Core and set #5 d5(E) bar according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6".

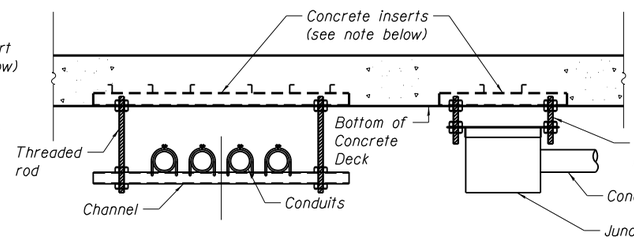
Note:
Space bars d7(E), d9(E), b(E) and b1(E) to miss the scuppers



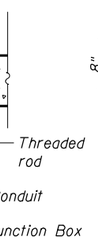
NEW BRIDGE DECK INSTALLATION



SINGLE CONDUIT



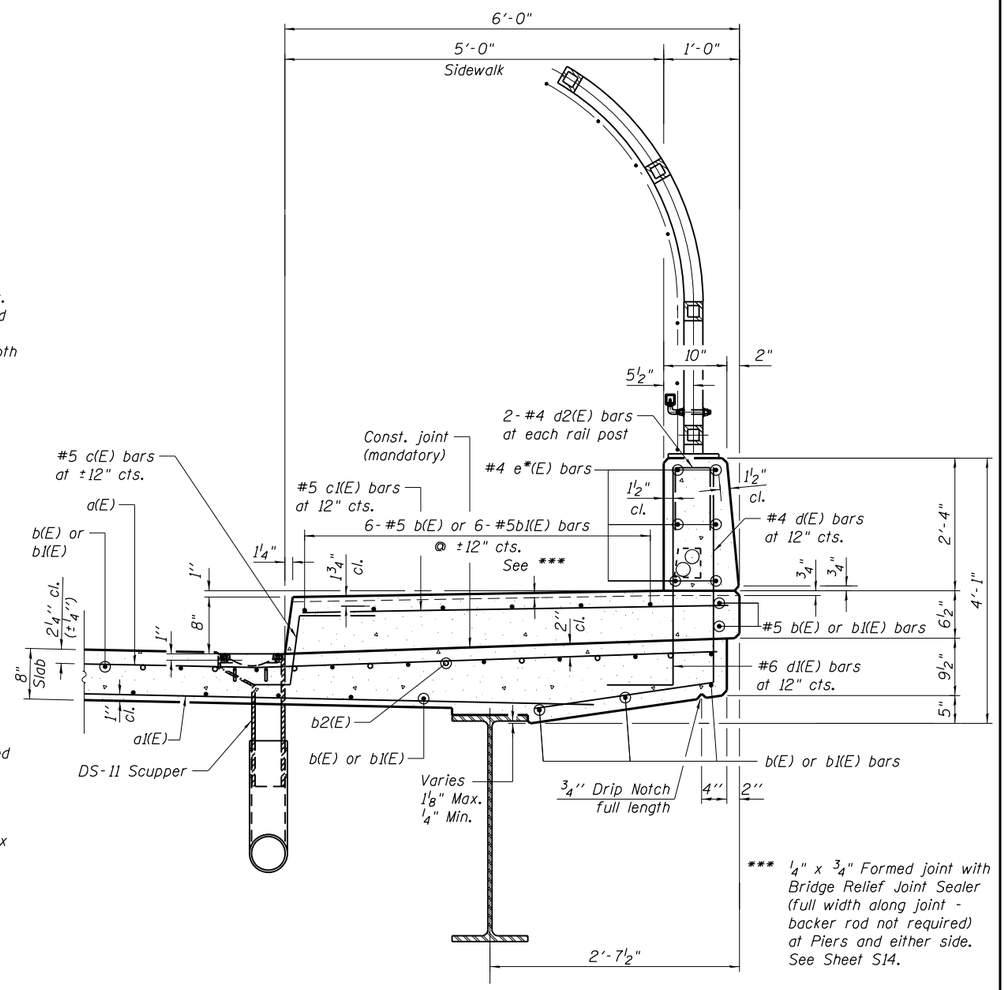
MULTIPLE CONDUITS



JUNCTION BOX

HANGER ASSEMBLIES FOR LIGHTING ITEMS ATTACHED TO CONCRETE DECK

Notes:
1. See Underpass Lighting Plans for installation location of Underpass Lighting Luminaires.
2. The Contractor shall use approved single coil flared loop inserts when suspended mounting an Underpass Luminaire to a new bridge deck. The flared loop inserts must be cast into the concrete deck. The Contractor is responsible for locating and coordinating the insert locations for mounting the Underpass Lighting System as shown on the Lighting Plans.
3. The cost of installation of such inserts shall be included with Concrete Superstructure.



SECTION THRU SIDEWALK

*** ¼" x ¾" Formed joint with Bridge Relief Joint Sealer (full width along joint - backer rod not required) at Piers and either side. See Sheet S14.

exp U.S. Services Inc. Chicago, IL. BUILDINGS, EARTH & ENVIRONMENT, ENERGY, INDUSTRIAL, INFRASTRUCTURE, SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - STD	REVISED
		CHECKED - KK	REVISED
	PLOT SCALE = 0:1 ' ' / in.	DRAWN - STD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S18 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	125
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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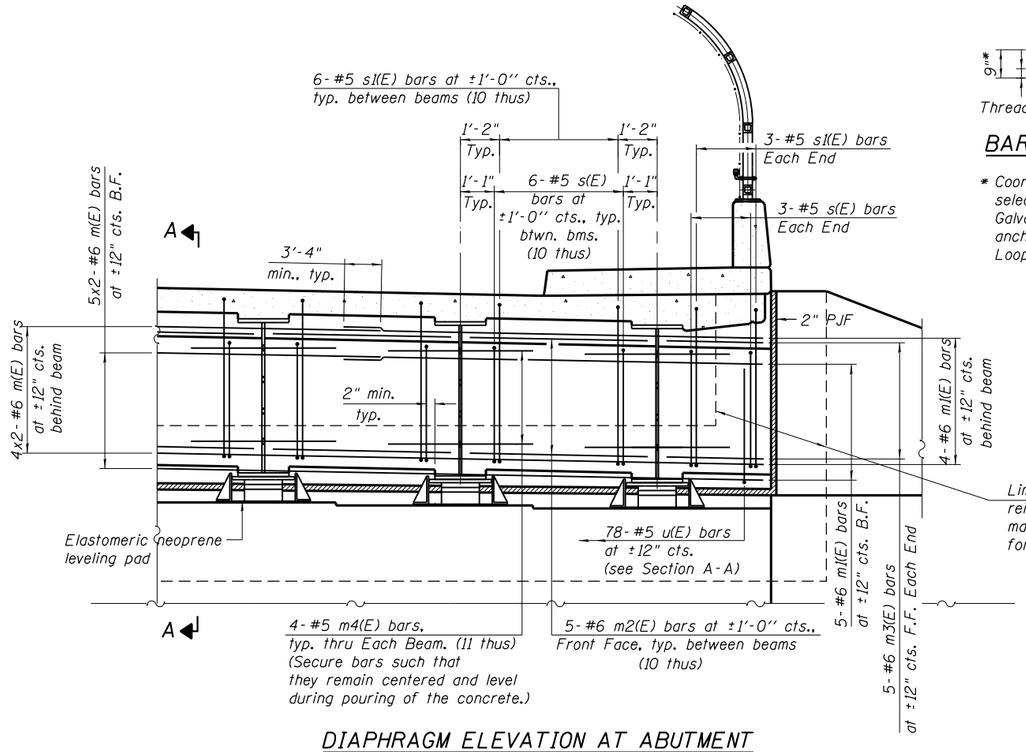
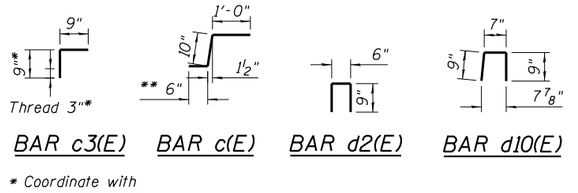


DIAPHRAGM ELEVATION AT ABUTMENT

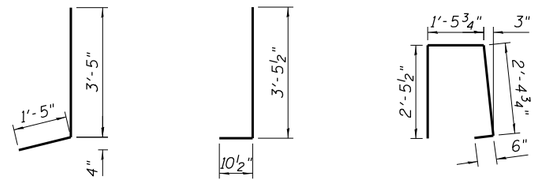
(N. Abt. shown, S. Abt. similar)



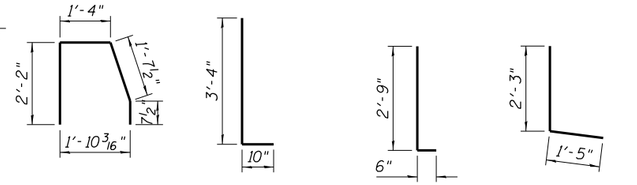
BAR c3(E) BAR c(E) BAR d2(E) BAR d10(E)

** In lieu of bottom leg, c(E) bars, may be cored and set according to Article 509.06 of the Standard Specifications. Cored holes shall be roughned or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".

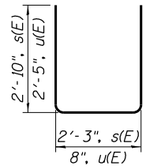
* Coordinate with selected type of Galvanized expansion anchor or Ferrule Loop Slab Insert



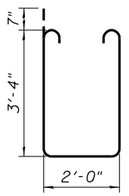
BAR d(E) BAR d1(E) BAR d5(E)



BAR d6(E) BAR d7(E) BAR d8(E) BAR d9(E)



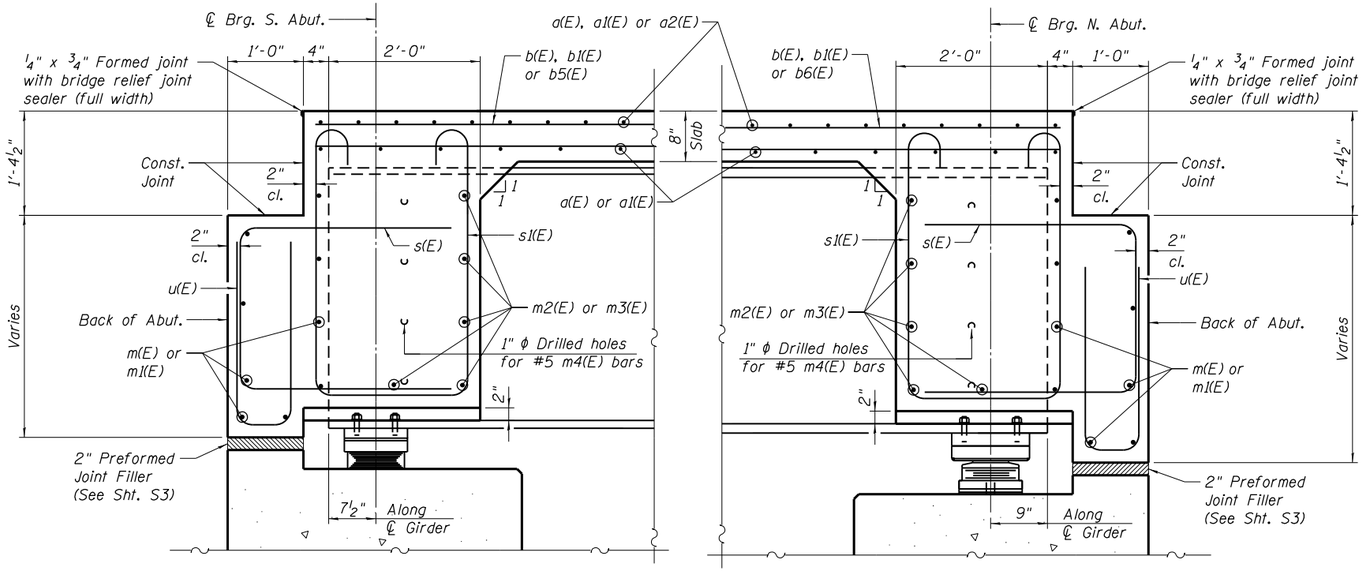
BAR s(E) & u(E)



BAR s1(E)

BAR LIST

Bar	No.	Size	Length	Shape
a(E)	2070	#5	30'-0"	—
a1(E)	1035	#5	22'-3"	—
a2(E)	634	#6	6'-6"	—
a3(E)	80	#5	1'-6"	—
b(E)	1727	#5	30'-0"	—
b1(E)	157	#5	15'-0"	—
b2(E)	154	#6	36'-0"	—
b3(E)	77	#6	17'-1"	—
b4(E)	77	#6	26'-10"	—
b5(E)	77	#6	9'-6"	—
b6(E)	77	#6	18'-0"	—
c(E)	318	#5	2'-4"	⌐
c1(E)	318	#5	5'-7"	—
c2(E)	318	#5	3'-4"	—
c3(E)	636	#5	1'-6"	⌐
d(E)	332	#4	4'-10"	J
d1(E)	332	#6	4'-4"	J
d2(E)	72	#4	2'-0"	⊓
d3(E)	9	#6	3'-7"	L
d4(E)	15	#6	8'-11"	⊔
d5(E)	357	#5	6'-10"	⊓
d6(E)	357	#5	5'-9"	⊓
d7(E)	357	#5	4'-2"	L
d8(E)	357	#5	3'-3"	L
d9(E)	357	#5	3'-8"	L
d10(E)	72	#5	2'-1"	⊓
e(E)	36	#4	19'-0"	—
e1(E)	96	#4	16'-6"	—
e2(E)	105	#4	19'-7"	—
e3(E)	32	#4	11'-11"	—
e4(E)	75	#4	18'-2"	—
e5(E)	32	#4	16'-2"	—
e6(E)	2	#8	36'-3"	—
e7(E)	2	#8	11'-11"	—
e8(E)	2	#8	48'-10"	—
e9(E)	2	#8	16'-2"	—
e10(E)	3	#8	36'-8"	—
e11(E)	5	#4	37'-7"	—
e12(E)	3	#4	32'-3"	—
m(E)	36	#6	30'-0"	—
m1(E)	18	#6	23'-9"	—
m2(E)	100	#6	6'-11"	—
m3(E)	20	#6	2'-3"	—
m4(E)	88	#5	4'-0"	—
s(E)	132	#5	7'-11"	U
s1(E)	132	#5	9'-10"	U
u(E)	156	#5	5'-6"	U



SECTION A-A

(South Abutment)
(Dimensions at right L's except as noted)

SECTION A-A

(North Abutment)
(Dimensions at right L's except as noted)

BILL OF MATERIAL

Item	Unit	Total
Concrete Superstructures	Cu. Yd.	925.0
Reinforcement Bars, Epoxy Coated	Pound	198,020
Bridge Deck Grooving	Sq. Yd.	1690
Protective Coat	Sq. Yd.	3147

exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

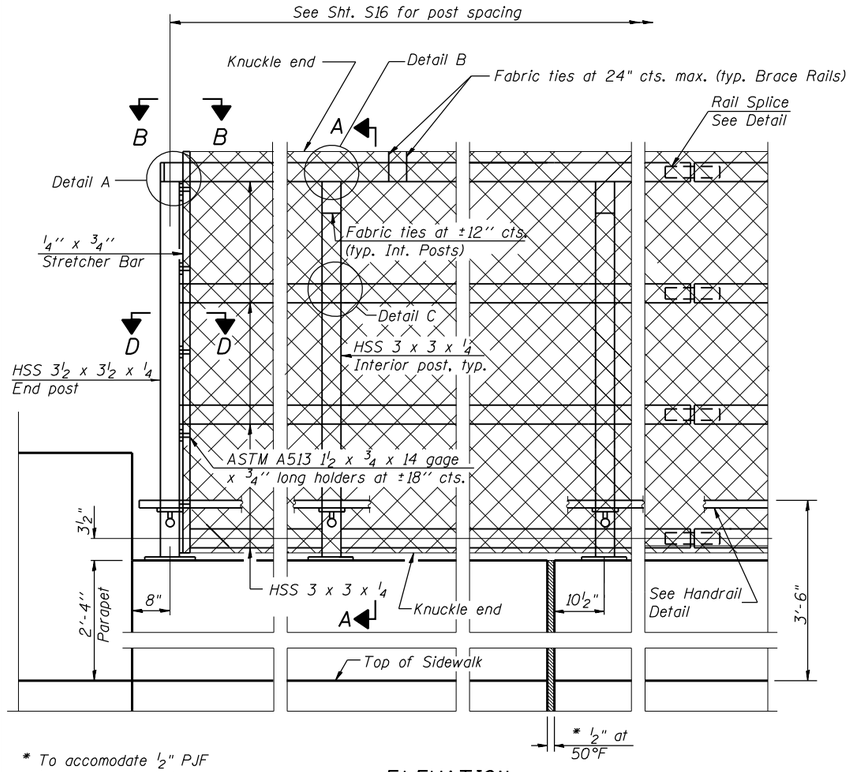
USER NAME = KUMARKZ	DESIGNED - STD	REVISED	
	CHECKED - KK	REVISED	
PLOT SCALE = 0:1 ' / in.	DRAWN - STD	REVISED	
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK BAR DETAILS & BILL OF MATERIALS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S19 OF S54 SHEETS

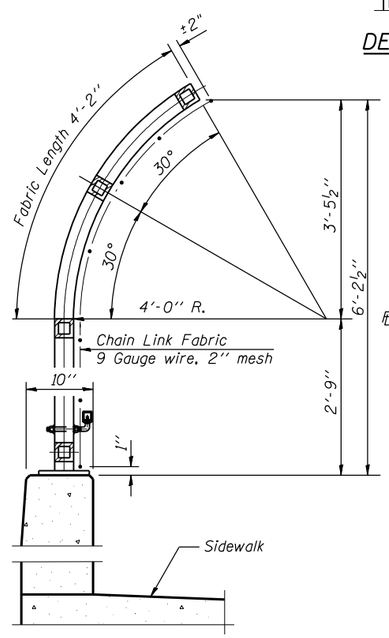
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	126
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-019-DECK.dgn

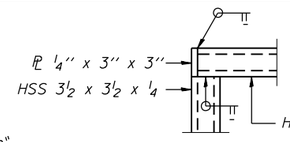


ELEVATION
(Inside Face)

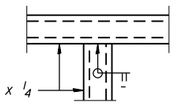
* To accomodate 1/2" PJF in parapet at abutment.



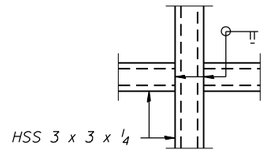
SECTION A-A



DETAIL A



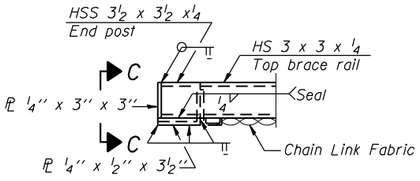
DETAIL B



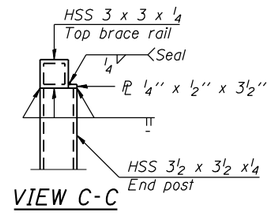
DETAIL C

Note:

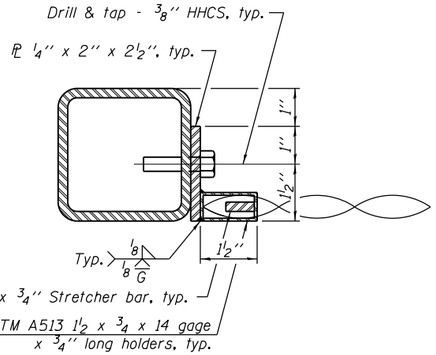
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



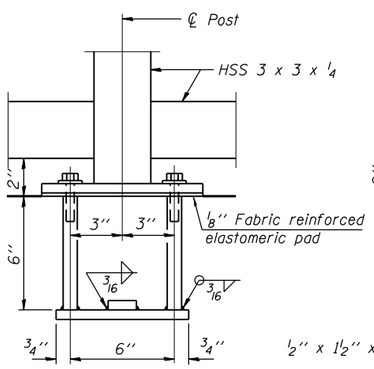
VIEW B-B

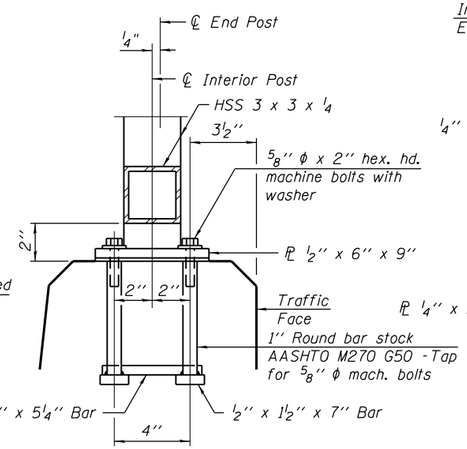


VIEW C-C



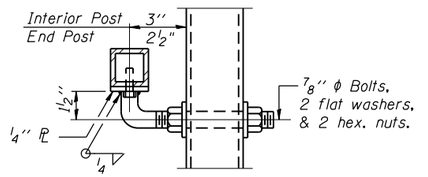
SECTION D-D

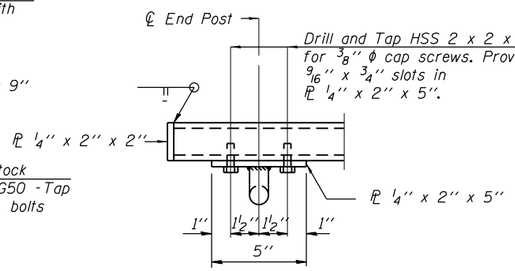




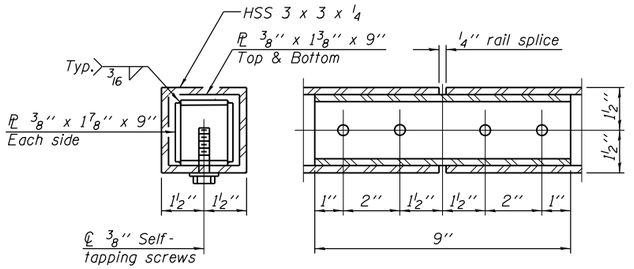
ANCHOR BOLT DETAILS

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

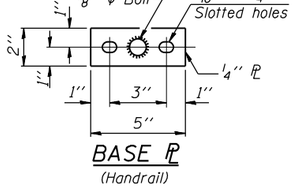




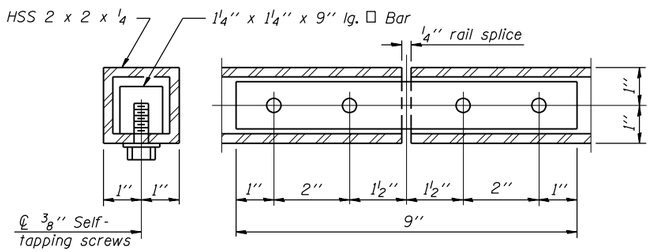
HANDRAIL DETAIL



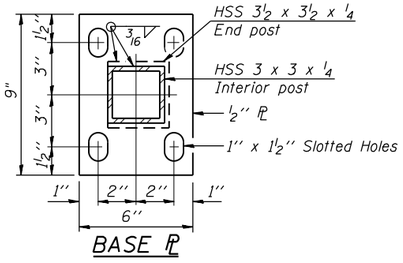
RAIL SPLICE



BASE PL
(Handrail)



HANDRAIL SPLICE



BASE PL

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	376

exp U.S. Services Inc. Chicago, IL. BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE. SUSTAINABILITY

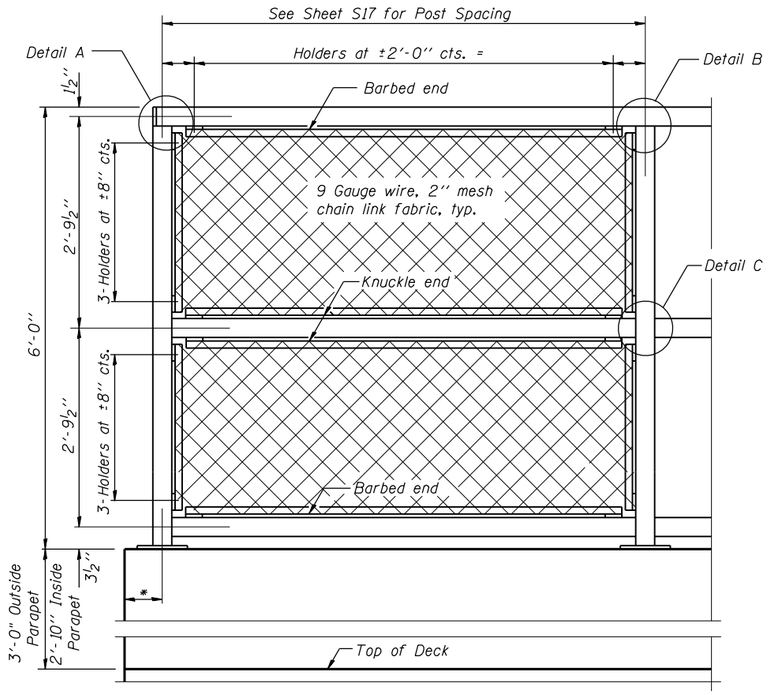
USER NAME = KUMARKZ	DESIGNED - MM	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING - 1
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S20 OF S54 SHEETS

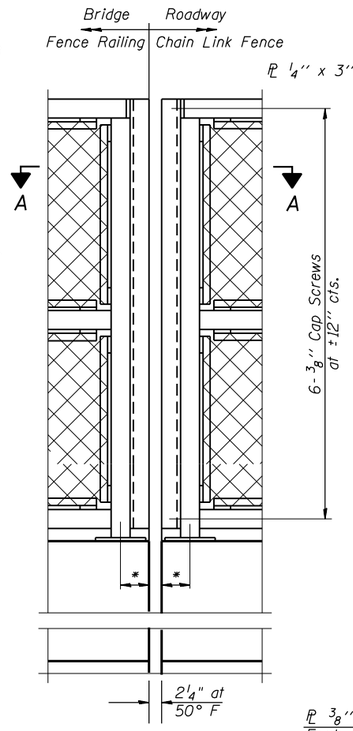
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	127
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.orgsPWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-020-Super.dgn

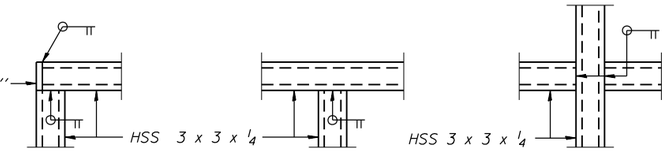


ELEVATION
(Inside Face)

* See Sht. S24



ELEVATION
(At Expansion Joint-
Bridge Approach
Slab & Roadway)

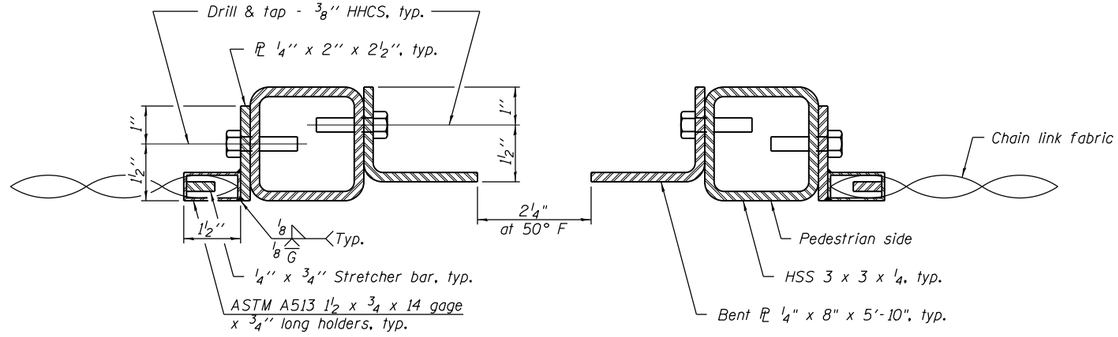


DETAIL A

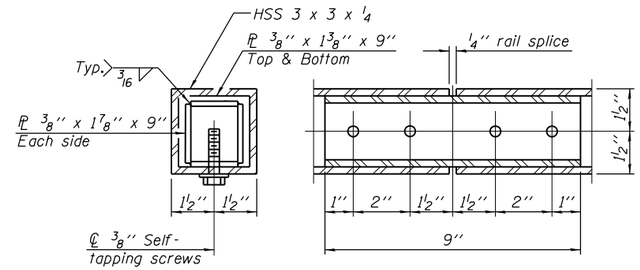
DETAIL B

DETAIL C

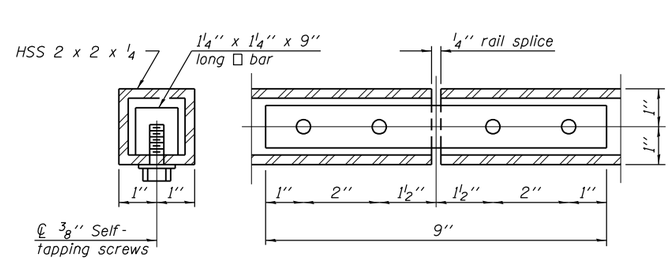
NOTE:
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



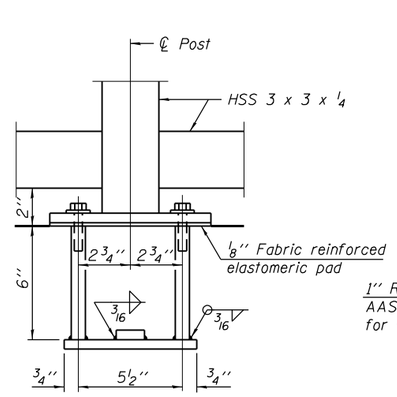
SECTION A-T

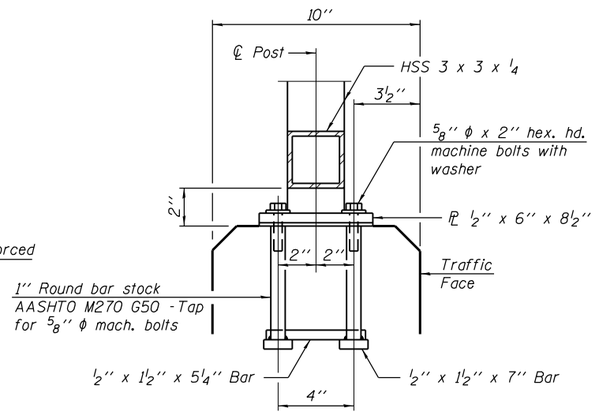


RAIL SPLICE



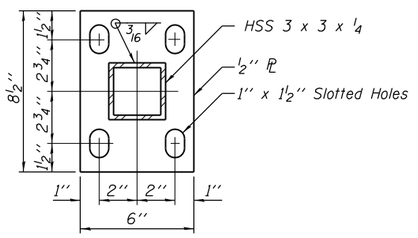
HANDRAIL SPLICE



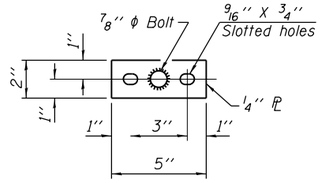


ANCHOR BOLT DETAILS

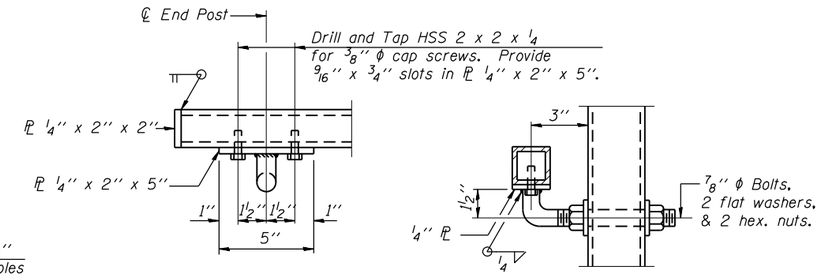
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



BASE PL



BASE PL
(Handrail)



HANDRAIL DETAIL

HANDRAIL NOT REQUIRED

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	753

exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

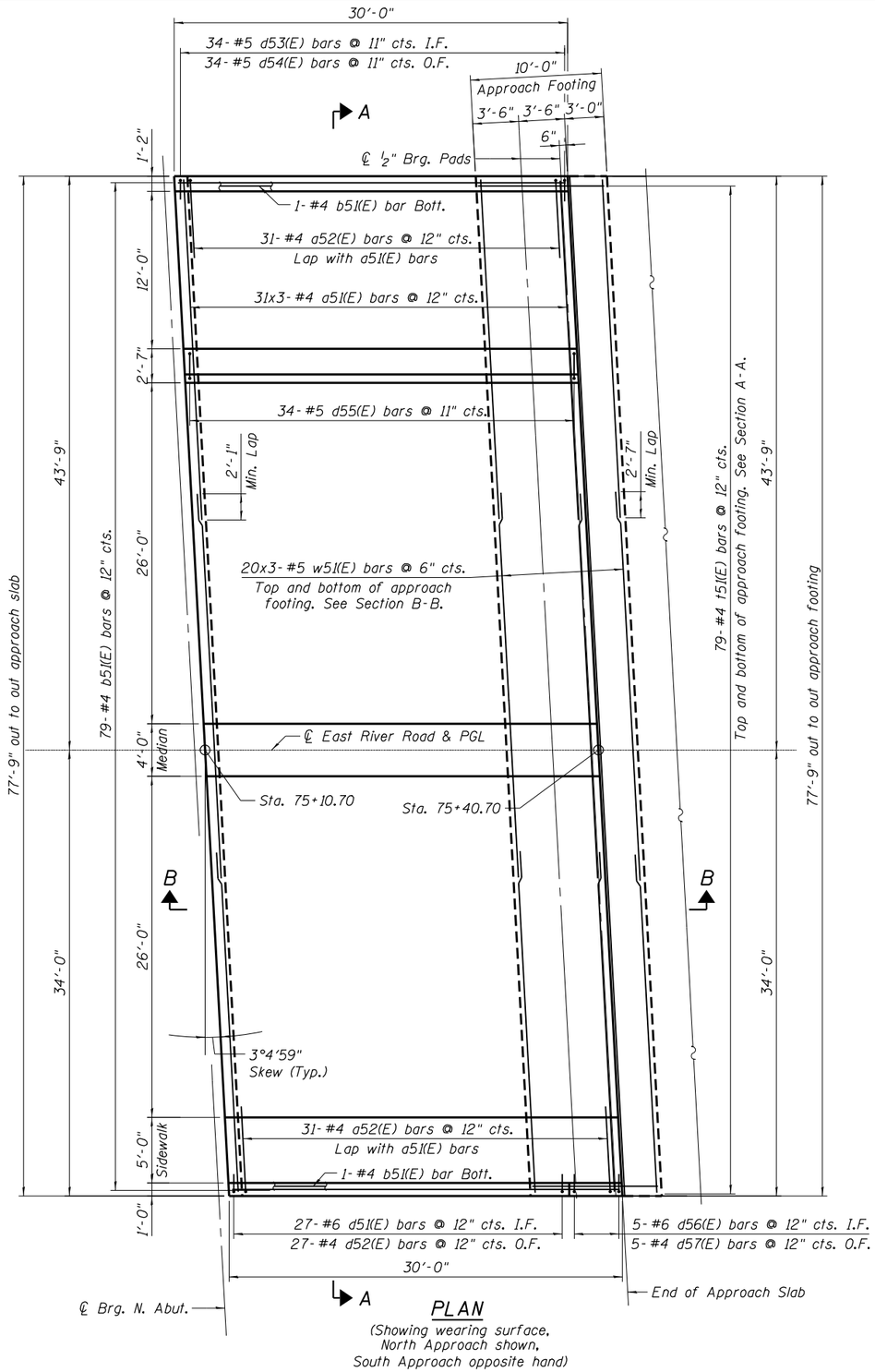
USER NAME = KUMARKZ	DESIGNED - MM	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING – 2
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S21 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	128
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

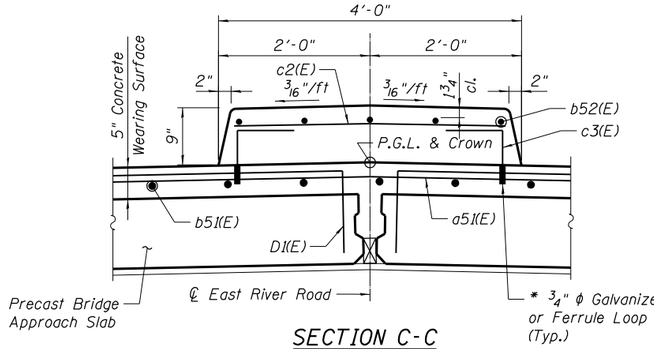
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-021-Super.dgn



PLAN

(Showing wearing surface, North Approach shown, South Approach opposite hand)

N

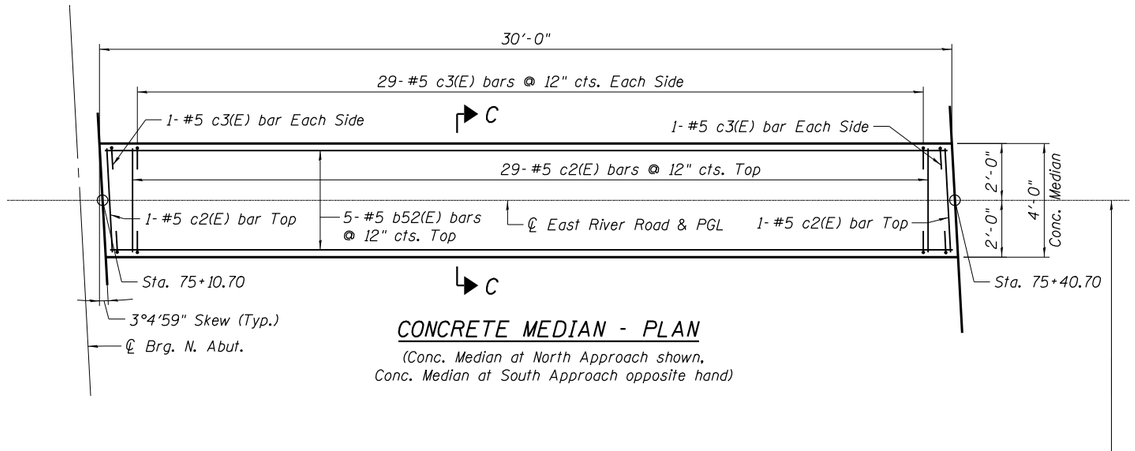


SECTION C-C

Notes:

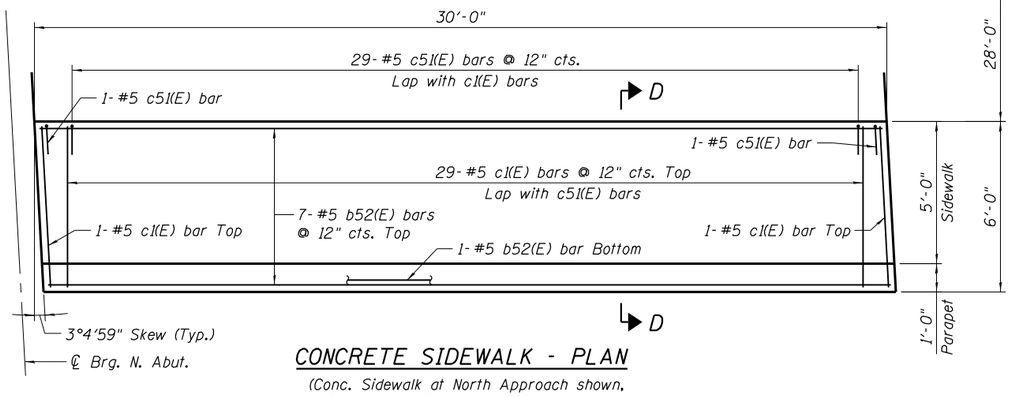
1. For sections A-A & B-B, see Sht. S23.
2. For section D-D, see Sht. S24.
3. Bars indicated thus 31x2-#4 etc. indicates 31 lines of bars with 2 lengths per line.
4. For bar list and bill of material, see Sht. S26.

* The cost of expansion anchors/inserts is included in the cost of Reinforcement Bars, Epoxy Coated.



CONCRETE MEDIAN - PLAN

(Conc. Median at North Approach shown, Conc. Median at South Approach opposite hand)



CONCRETE SIDEWALK - PLAN

(Conc. Sidewalk at North Approach shown, Conc. Sidewalk at South Approach opposite hand)

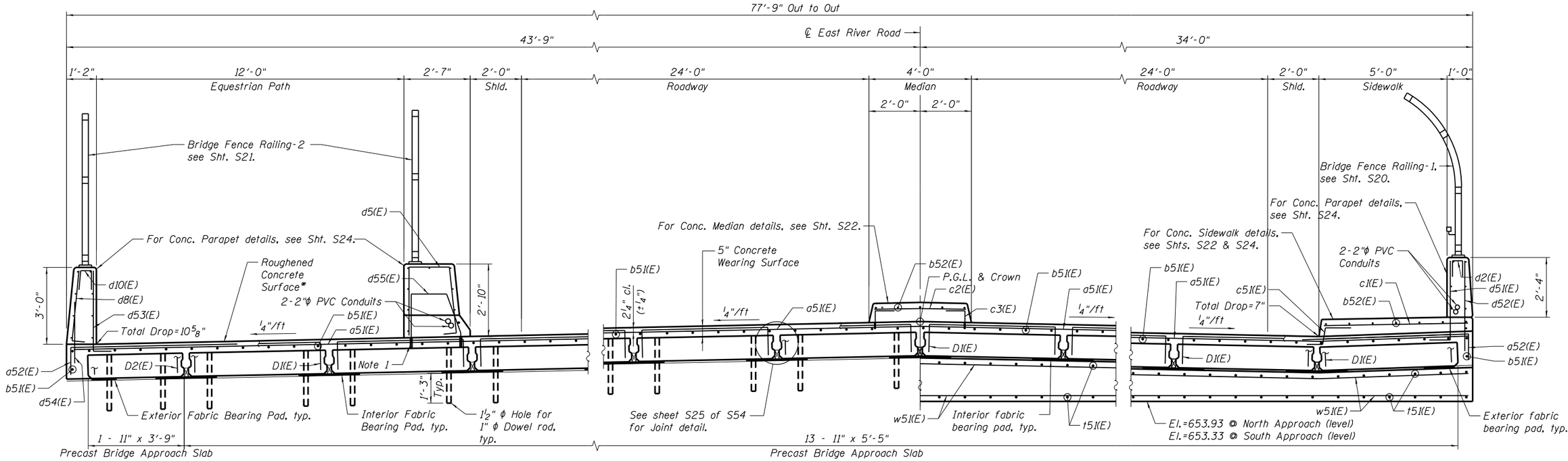
exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - FD	REVISED
		CHECKED - KK	REVISED
	PLOT SCALE = 0:1 ':' / in.	DRAWN - FD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S22 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	129
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-022-APPSLAB.dgn

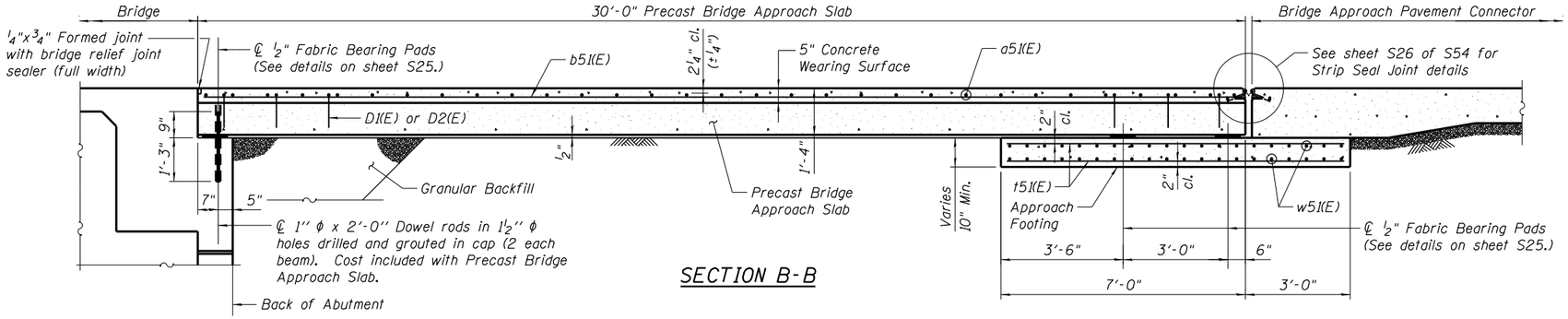


* Cost to be included with Bridge deck grooving

NEAR ABUTMENT

SECTION A-A

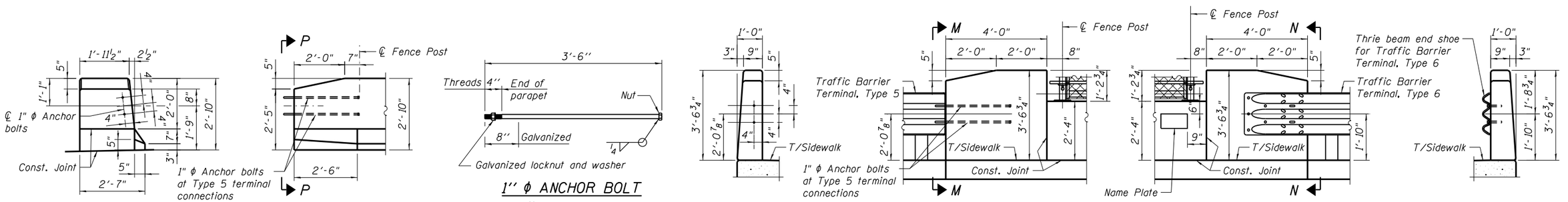
AT APPROACH FOOTING



SECTION B-B

Notes:

1. Core and set #5d55(E) bar according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 5".



SECTION P-P

PARTIAL ELEVATION
(South End of Inside Parapet shown)

1" ϕ ANCHOR BOLT
(Cost included with Concrete Superstructure)

SECTION M-M

PARTIAL ELEVATION
(North End of East Parapet shown)

PARTIAL ELEVATION
(South End of East Parapet shown)

SECTION N-N

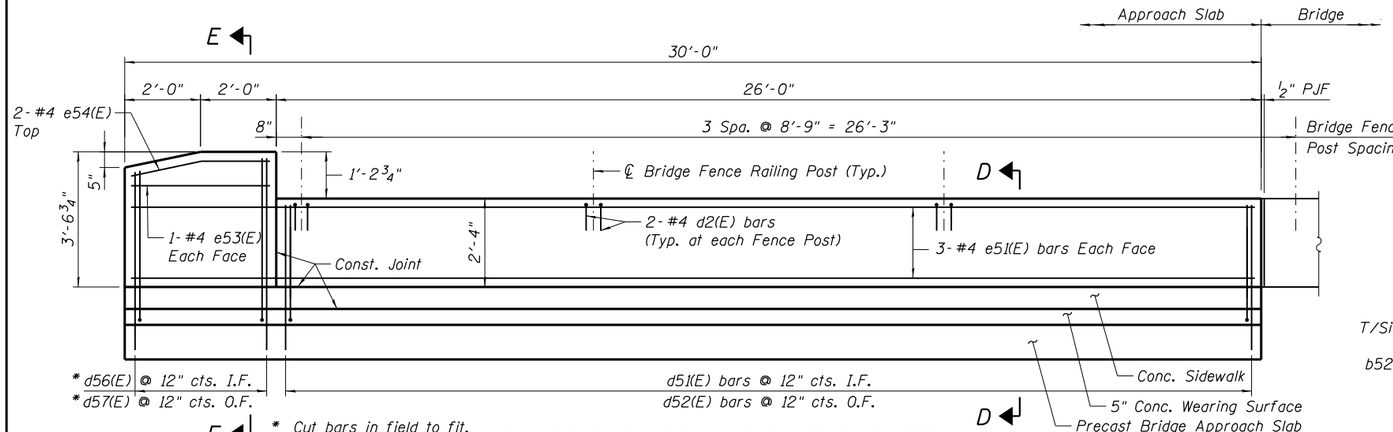
exp U.S. Services Inc. Chicago, IL. BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - FD	REVISED
		CHECKED - KK	REVISED
	PLOT SCALE = 0:1 '1' / in.	DRAWN - FD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS - 1 OF 4
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S23 OF S54 SHEETS

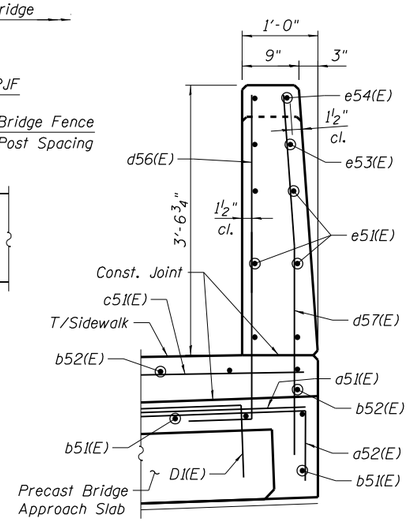
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	130
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-023-APPSLAB.dgn

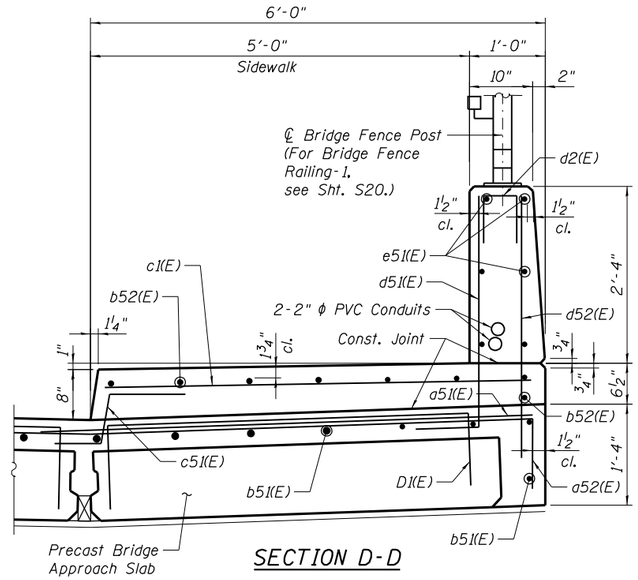


INSIDE ELEVATION OF EAST PARAPET

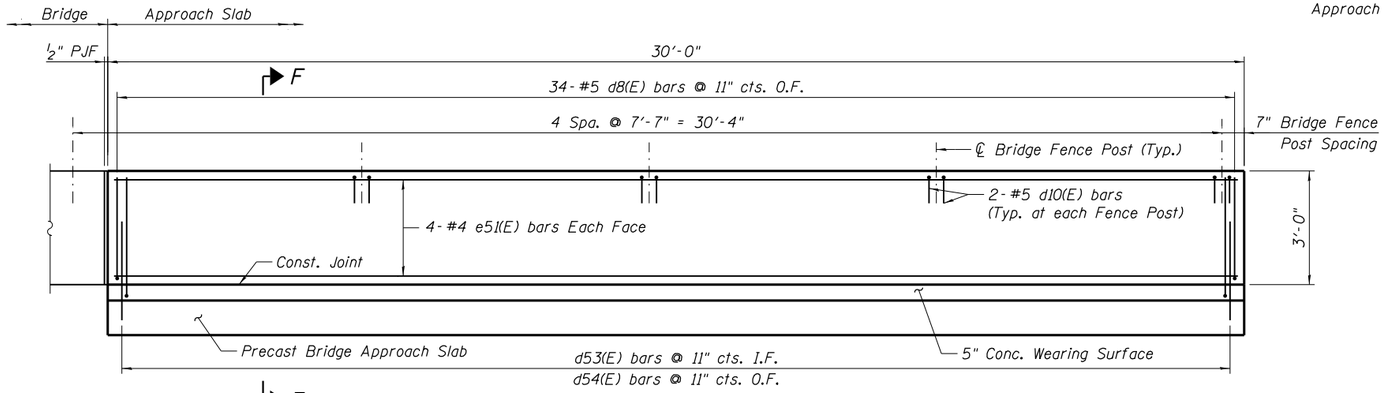
(Looking East, Parapet at North Approach shown, Parapet at South Approach opposite hand)



SECTION E-E

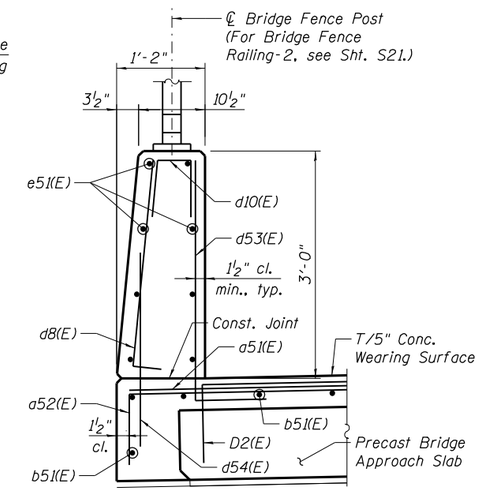


SECTION D-D

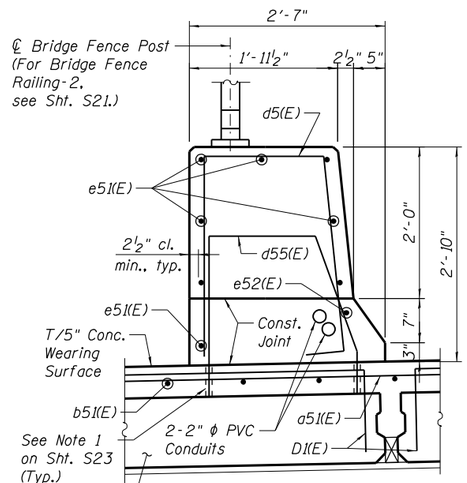


INSIDE ELEVATION OF WEST PARAPET

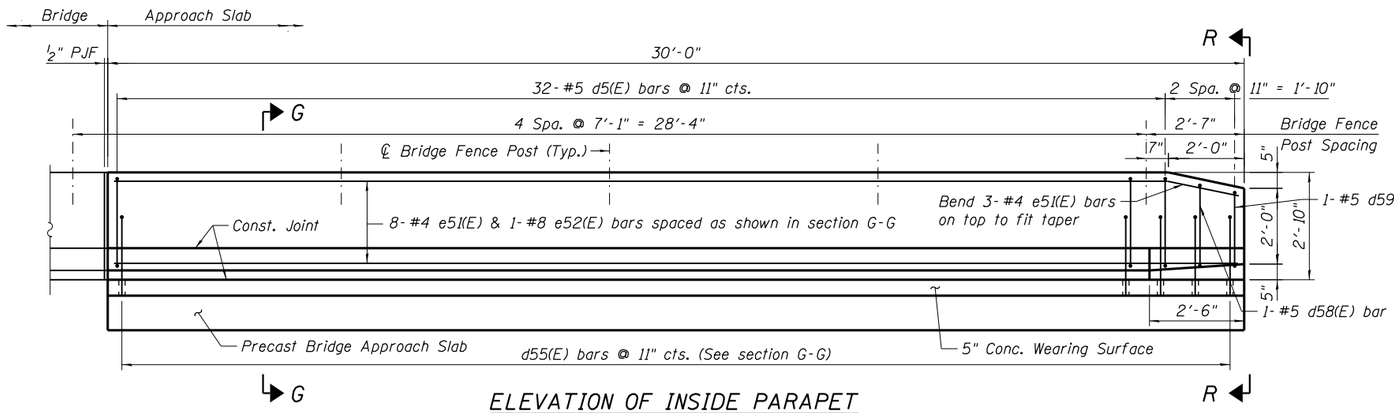
(Looking West, Parapet at North Approach shown, Parapet at South Approach opposite hand)



SECTION F-F

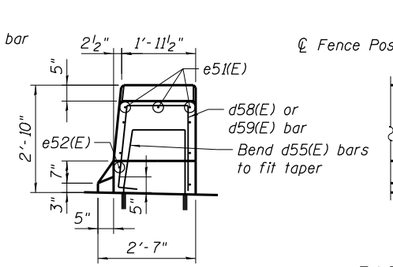


SECTION G-G

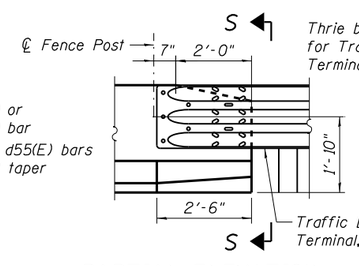


ELEVATION OF INSIDE PARAPET

(Looking West, Parapet at North Approach shown, Parapet at South Approach opposite hand)

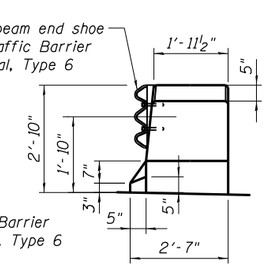


SECTION R-R



PARTIAL ELEVATION

(North End of Inside Parapet shown)



SECTION S-S

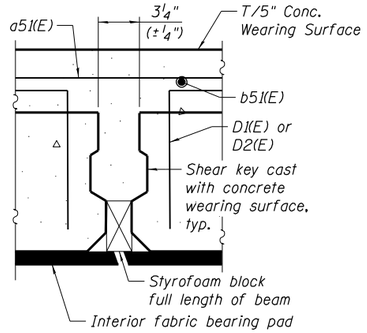
exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - FD	REVISED
		CHECKED - KK	REVISED
	PLOT SCALE = 0:1 '1' / in.	DRAWN - FD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

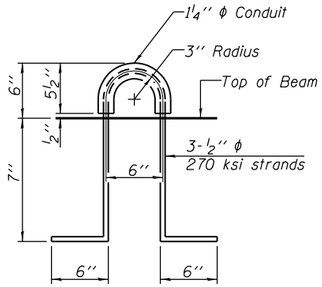
BRIDGE APPROACH SLAB DETAILS – 2 OF 4
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S24 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	131
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

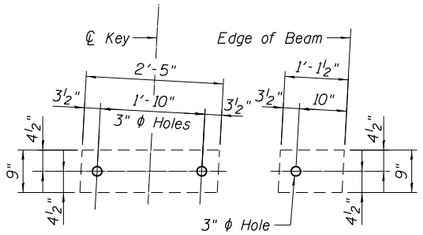
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-024-APPSLAB.dgn



SECTION THRU SHEAR KEY JOINT



LIFTING LOOP DETAIL



INTERIOR EXTERIOR

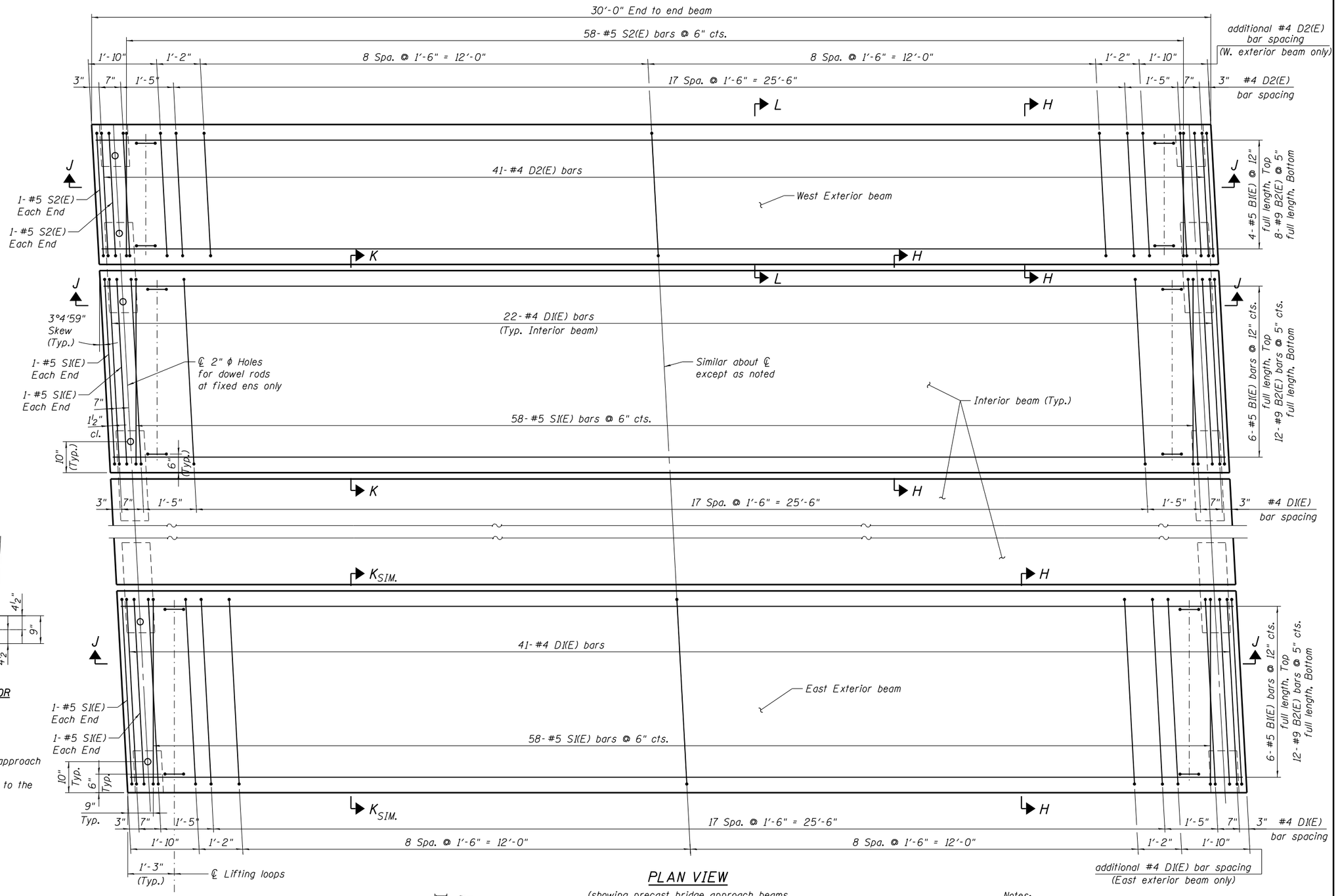
FABRIC BEARING PAD

Notes:

All bearing pads shall be ½'' thick.

Omit holes for fabric bearing pads at approach slab footing end of beams.

Expansion bearing pad shall be bonded to the approach slab footing.



PLAN VIEW

(showing precast bridge approach beams at north approach)
(precast bridge approach beams at south approach - opposite hand)

Notes:

1. For sections H-H thru L-L, see Sht. S26.
2. For bar list and bill of material, see Sht. S26.

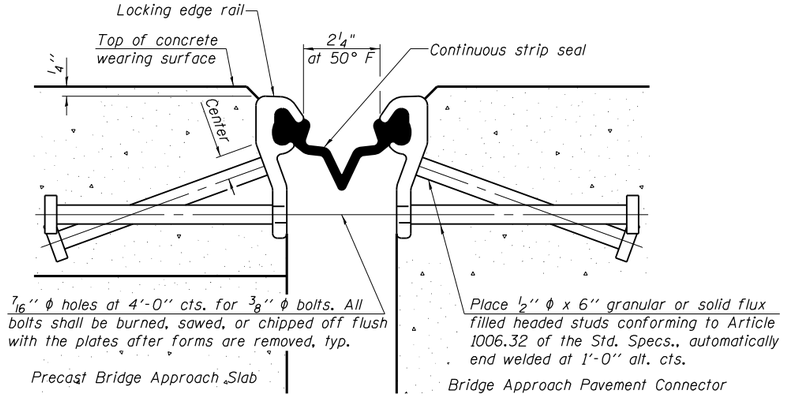
exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY	USER NAME = KUMARKZ	DESIGNED - FD	REVISED
		CHECKED - KK	REVISED
	PLOT SCALE = 01 '-' / in.	DRAWN - FD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 3 OF 4
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S25 OF S54 SHEETS

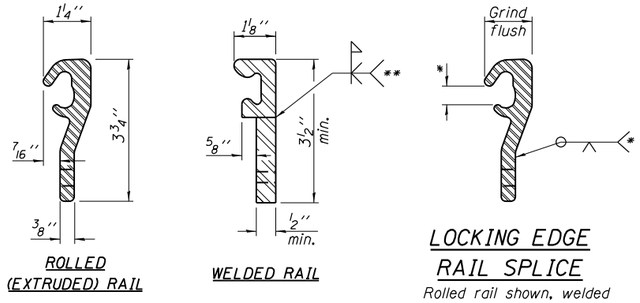
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	132
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-025-APPSLAB.dgn



SECTION THRU STRIP SEAL JOINT

(at rt. angles)



LOCKING EDGE RAIL

* Omit weld at seal opening.

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

Notes:

The precast bridge approach slab shall be according to Section 504 of the Standard Specifications and shall be paid for at the contract unit price per square foot for Precast Bridge Approach Slab.

Cast-in-place substitution of Precast Bridge Approach Slab is not allowed.

Parapet concrete shall be paid for as Concrete Superstructure.

Parapet and wearing surface reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.

Approach footing concrete shall be paid for as Concrete Structures.

The top surface of precast bridge approach slabs shall be roughened to a depth of 1/4" according to the IDOT "Manual for Fabrication of Precast Prestressed Concrete Products."

After precast bridge approach slab has been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and allowed to cure fully prior to grouting the longitudinal shear keys.

Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Bridge Approach Slab.

A minimum 2 1/2" ϕ lifting pins shall be used to engage the lifting loops during handling.

Compressive strength of precast concrete, f'c shall be 6,000 psi.

For additional parapet details, see sheet S24 of S54.

Any concrete poured monolithically with the wearing surface, such as curbs, will not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5".

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The strip seal shall extend 6" beyond the edge of the approach slab on each end. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

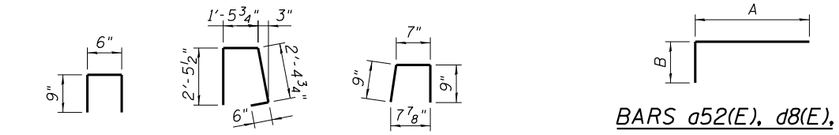
The inside of the Locking Edge Rail groove shall be free of weld residue.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

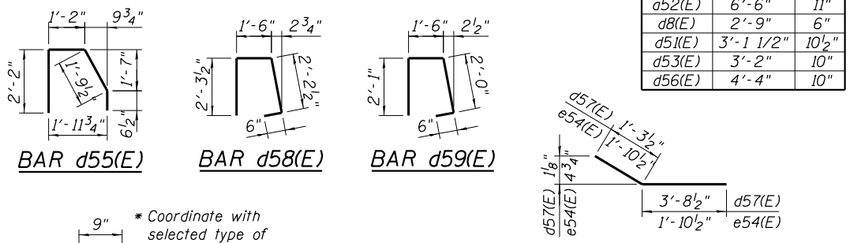
The manufacturer's recommended installation methods shall be followed.

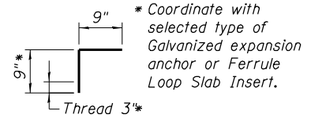
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant

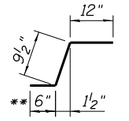


Bar	A	B
a52(E)	6'-6"	11"
d8(E)	2'-9"	6"
d51(E)	3'-1 1/2"	10 1/2"
d53(E)	3'-2"	10"
d56(E)	4'-4"	10"





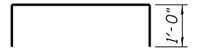
* Coordinate with selected type of Galvanized expansion anchor or Ferrule Loop Slab Insert.

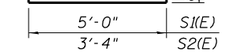


** In lieu of bottom leg, c5(E) bars may be cored and set according to Article 509.06 of the Standard Specifications. Cored holes shall be roughned or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 5".

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a51(E)	186	#4	27'-4"	
a52(E)	124	#4	7'-5"	
b51(E)	162	#4	29'-8"	
b52(E)	26	#5	29'-8"	
c1(E)	62	#5	5'-7"	
c2(E)	62	#5	3'-4"	
c3(E)	124	#5	1'-6"	
c51(E)	62	#5	2'-4"	
d2(E)	12	#4	2'-0"	
d5(E)	64	#5	6'-10"	
d8(E)	68	#5	3'-3"	
d10(E)	16	#5	2'-1"	
d51(E)	54	#6	4'-0"	
d52(E)	54	#4	3'-10"	
d53(E)	68	#5	4'-0"	
d54(E)	68	#5	3'-0"	
d55(E)	68	#5	5'-8"	
d56(E)	10	#6	5'-2"	
d57(E)	10	#4	5'-0"	
d58(E)	2	#5	6'-6"	
d59(E)	2	#5	6'-1"	
e51(E)	44	#4	29'-8"	
e52(E)	2	#8	29'-8"	
e53(E)	4	#4	3'-8"	
e54(E)	4	#4	3'-9"	
t51(E)	316	#4	9'-8"	
w51(E)	240	#5	27'-8"	
Concrete Structures			Cu. Yd.	77.6
Concrete Superstructure			Cu. Yd.	39.3
Bridge Deck Grooving			Sq. Yd.	320
Protective Coat			Sq. Yd.	596
Reinforcement Bars, Epoxy Coated			Pound	21200
Preformed Joint Strip Seal			Foot	158
Concrete Wearing Surface, 5"			Sq. Yd.	519
Precast Bridge Approach Slab			Sq. Ft.	4580





BAR LIST EACH INTERIOR BEAM

(For information only)

Bar	No.	Size	Length	Shape
B1(E)	6	#5	29'-8"	
B2(E)	12	#9	29'-8"	
D1(E)	22	#4	7'-0"	
S1(E)	62	#5	12'-4"	

BAR LIST EACH WEST EXTERIOR BEAM

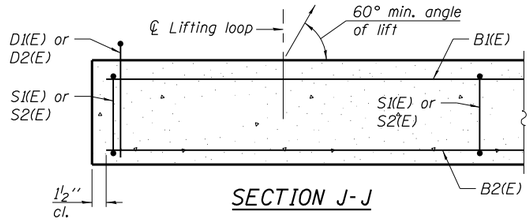
(For information only)

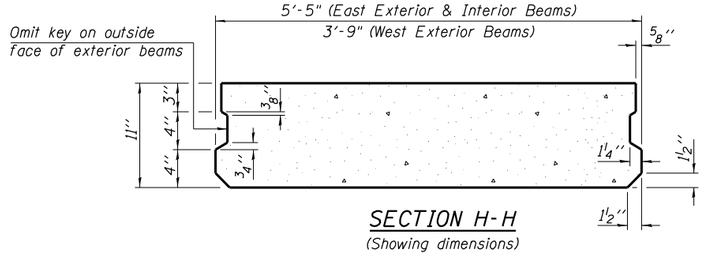
Bar	No.	Size	Length	Shape
B1(E)	4	#5	29'-8"	
B2(E)	8	#9	29'-8"	
D2(E)	41	#4	5'-4"	
S2(E)	62	#5	9'-0"	

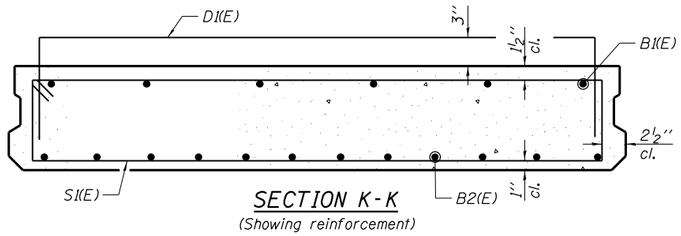
BAR LIST EACH EAST EXTERIOR BEAM

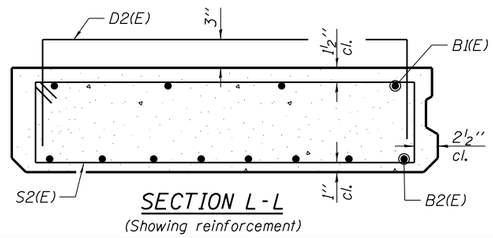
(For information only)

Bar	No.	Size	Length	Shape
B1(E)	6	#5	29'-8"	
B2(E)	12	#9	29'-8"	
D1(E)	41	#4	7'-0"	
S1(E)	62	#5	12'-4"	









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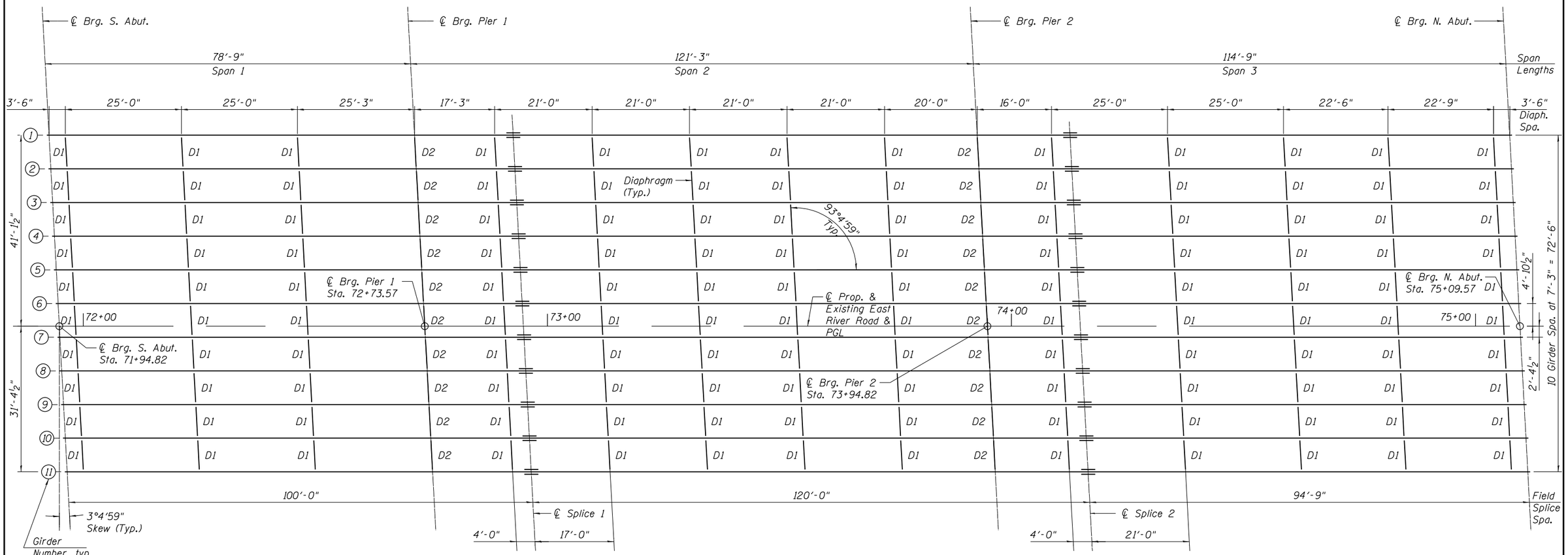
		CHECKED - KK	REVISED
	PLOT SCALE = 0:1 ' / in.	DRAWN - FD	REVISED
	PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 4 OF 4
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S26 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	133
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-026-APPSLAB.dgn



FRAMING PLAN

(Dimensions measured along ℄ Girder)

Notes:

1. All structural steel for girders and splices except fill plates shall conform to the requirements of AASHTO M270, Grade 50.
2. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - PK	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - STD	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S27 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	134
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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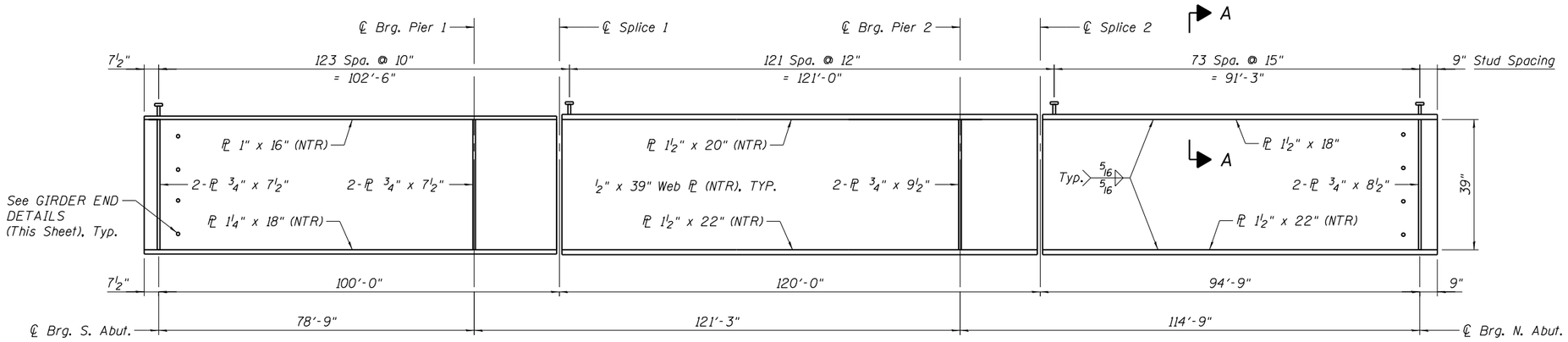
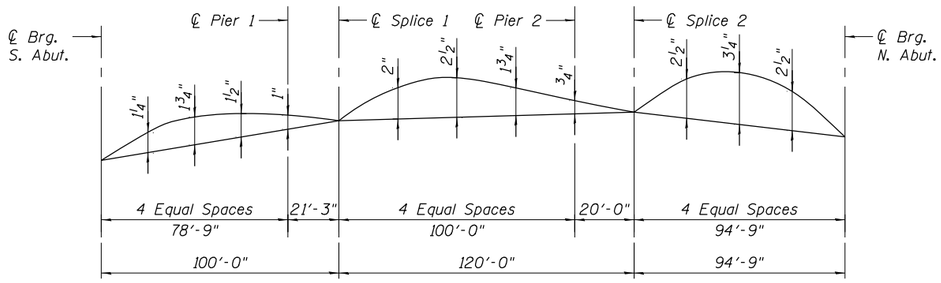
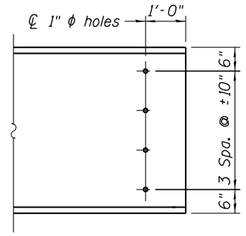


GIRDER ELEVATION

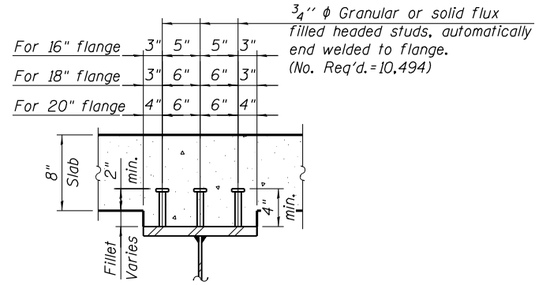


TYPICAL CAMBER DIAGRAM



GIRDER END DETAILS

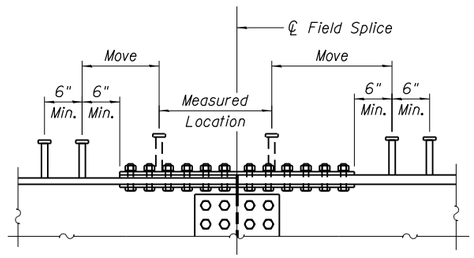
(Typ. at both ends; other details not shown for clarity)



SECTION A-A

TOP OF WEB ELEVATIONS (FOR FABRICATION ONLY)

	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11
℄ Brg. S. Abut.	655.15	655.30	655.46	655.61	655.77	655.92	655.98	655.83	655.69	655.54	655.39
℄ Brg. Pier 1	655.86	656.01	656.17	656.32	656.48	656.63	656.68	656.53	656.39	656.24	656.10
℄ Field Splice 1	655.95	656.10	656.25	656.41	656.56	656.71	656.77	656.62	656.47	656.32	656.18
℄ Brg. Pier 2	656.15	656.30	656.45	656.60	656.75	656.90	656.96	656.80	656.65	656.50	656.36
℄ Field Splice 2	656.12	656.27	656.42	656.57	656.72	656.87	656.92	656.77	656.61	656.46	656.32
℄ Brg. N. Abut.	655.61	655.76	655.90	656.05	656.20	656.35	656.40	656.24	656.09	655.93	655.78



SHEAR CONNECTOR DETAIL AT SPLICES

Do not place shear connectors on splice plates. Move row of studs to 6" beyond nearest edge of splice plate from the measured location.

Notes:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
2. All structural steel for girders and splices except fill plates shall conform to the requirements of AASHTO M270, Grade 50.

exp U.S. Services Inc. Chicago, IL. BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - PK	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - PK	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S28 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	135
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-028-GirderElev.dgn

INTERIOR GIRDER MOMENT TABLE

		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	17,685	17,685	28,273	28,273	26,901
$I_c(n)$	(in^4)	43,693		57,219		57,020
$I_c(3n)$	(in^4)	31,604		42,450		41,790
$I_c(cr)$	(in^4)		22,658		33034	
S_s	(in^3)	958	776	1,395	1,301	1,382
$S_c(n)$	(in^3)	1,272		1,723		1,725
$S_c(3n)$	(in^3)	1,170		1,594		1,594
$S_c(cr)$	(in^3)		1,147		1,684	
DC1	(k/')	0.997	0.997	1.085	1.085	1.072
M_{DC1}	('k)	371	874	700	1,590	1,013
DC2	(k/')	0.270	0.270	0.270	0.270	0.270
M_{DC2}	('k)	103	244	170	408	263
DW	(k/')	0.344	0.344	0.344	0.344	0.344
M_{DW}	('k)	131	311	217	520	336
M_{L+IM}	('k)	1,029	1,178	1,328	1,520	1,555
M_u (Strength I)	('k)	2,590	3,926	3,737	5,938	4,820
$\phi_f M_n$	('k)	5,955	4,903	7,689	6,794	7,681
f_s DC1	(ksi)	4.6	13.5	6.0	14.7	8.8
f_s DC2	(ksi)	1.1	2.6	1.3	2.9	2.0
f_s DW	(ksi)	1.3	3.3	1.6	3.7	2.5
f_s (L+IM)	(ksi)	9.7	12.3	9.2	10.8	10.8
f_s (Service II)	(ksi)	19.7	35.4	21.0	35.4	27.4
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)					
$\phi_f F_n$	(ksi)					
V_f	(k)	16.6	28.1	22.1	29.5	19.1

INTERIOR GIRDER REACTION TABLE

		S. Abut.	Pier 1	Pier 2	N. Abut.
R_{DC1}	(k)	61.7	105.8	143.7	80.7
R_{DC2}	(k)	12.2	28.8	36.8	16.6
R_{DW}	(k)	14.7	36.6	46.8	20.4
R_{L+IM}	(k)	85.0	151.3	167.5	93.6
R_{Total}	(k)	173.5	322.5	394.8	211.3

Note: Reaction at abutments include unfactored dead and live load effects from approach slab.

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 $in.^3$).

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

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

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

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

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

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

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

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

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 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 (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

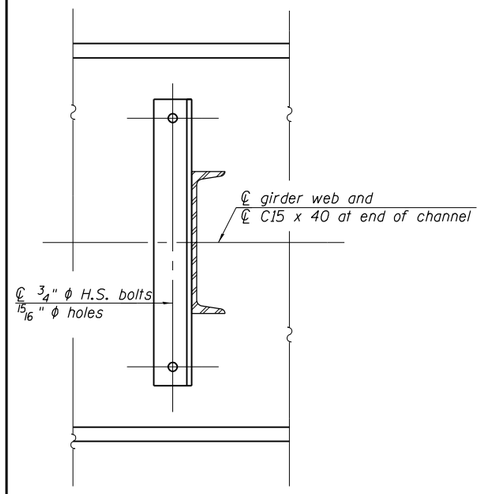
$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

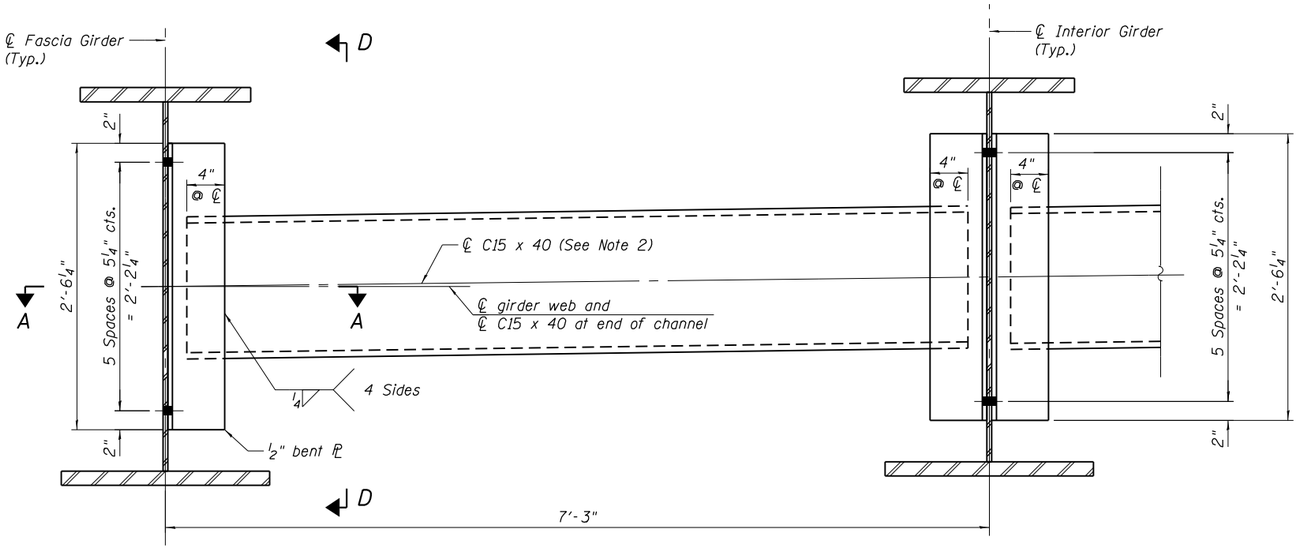
$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

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

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

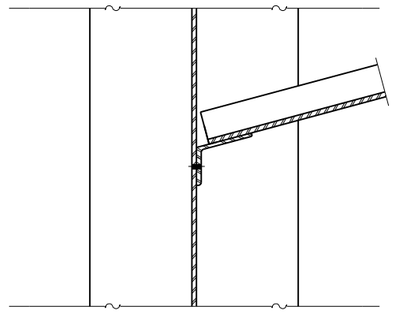


SECTION D-D



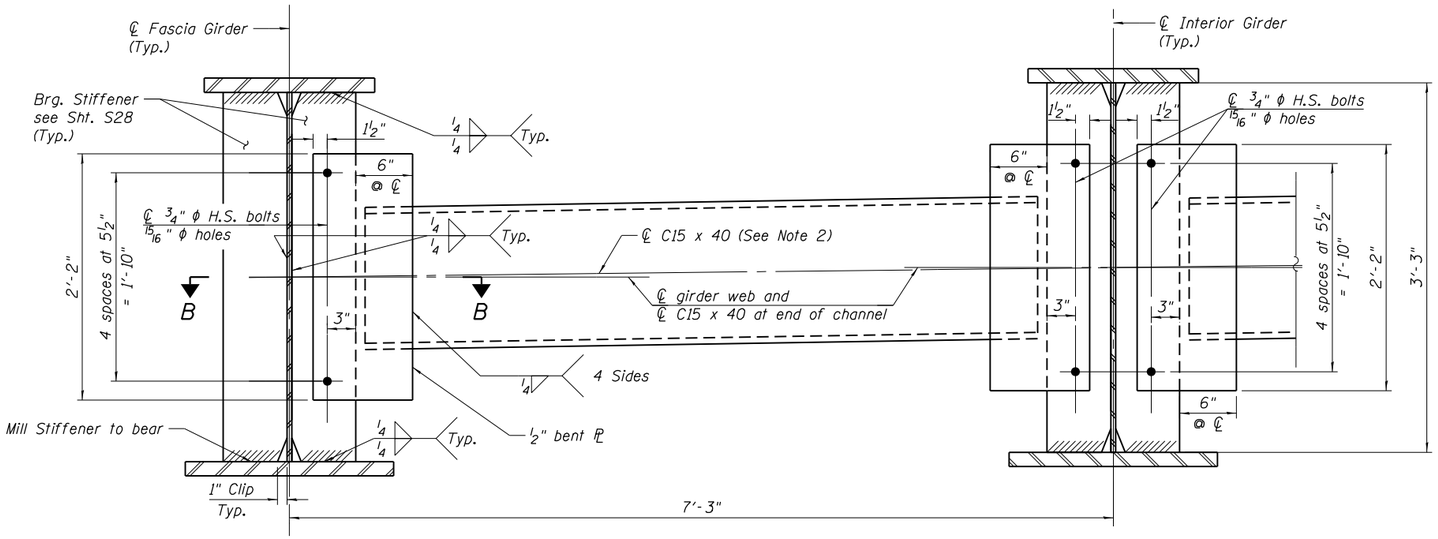
TYP. DIAPHRAGM, D1

(130 thus)



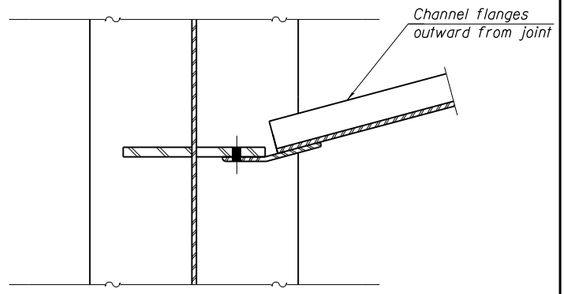
SECTION A-A

(Skew 3°4'59")



TYP. DIAPHRAGM, D2

(20 thus)



SECTION B-B

(Skew 3°4'59")

Notes:

1. Two hardened washers required for each set of oversized holes.
2. Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
3. Work this sheet with Sht. S27 & S28

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Chicago, IL
BUILDINGS. EARTH & ENVIRONMENT. ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

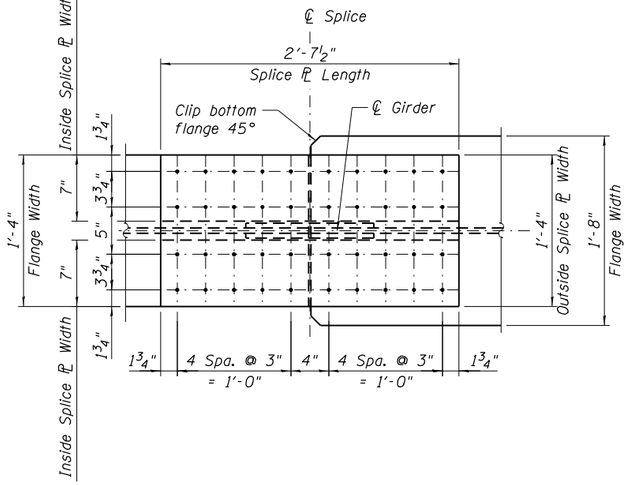
USER NAME = KUMARKZ	DESIGNED - STD	REVISED
	CHECKED - PK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - STD	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

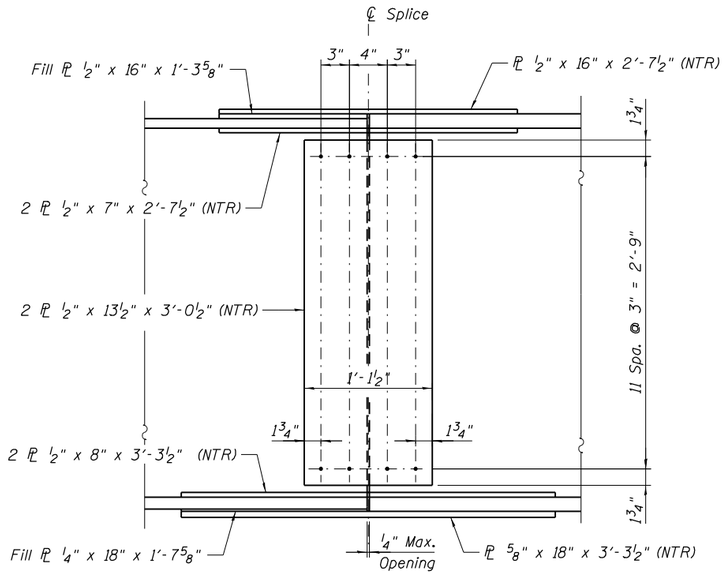
STEEL DIAPHRAGM DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO.S30 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	137
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

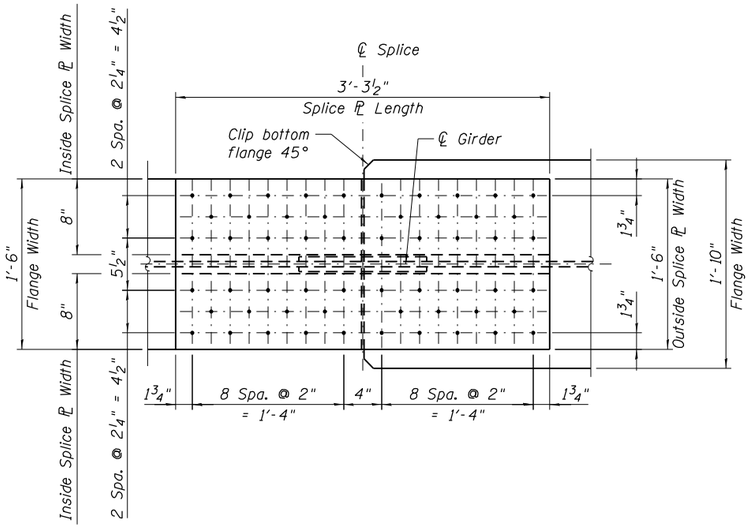
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-030-SteelDetail.dgn



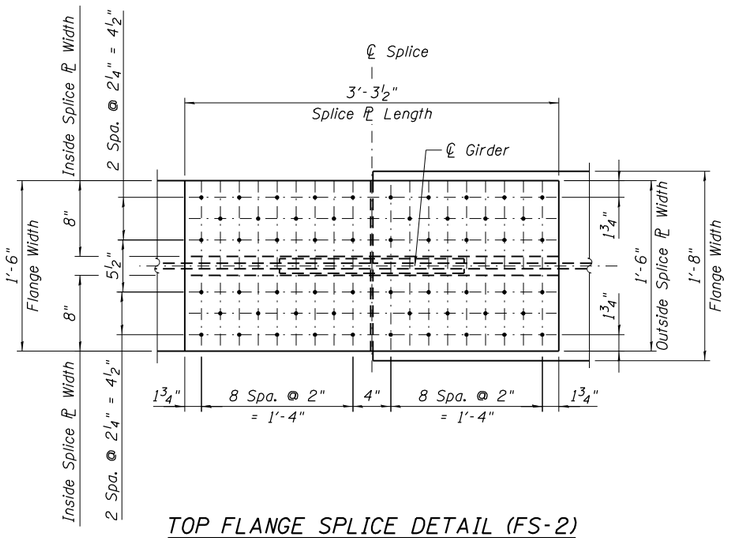
TOP FLANGE SPLICE DETAIL (FS-1)



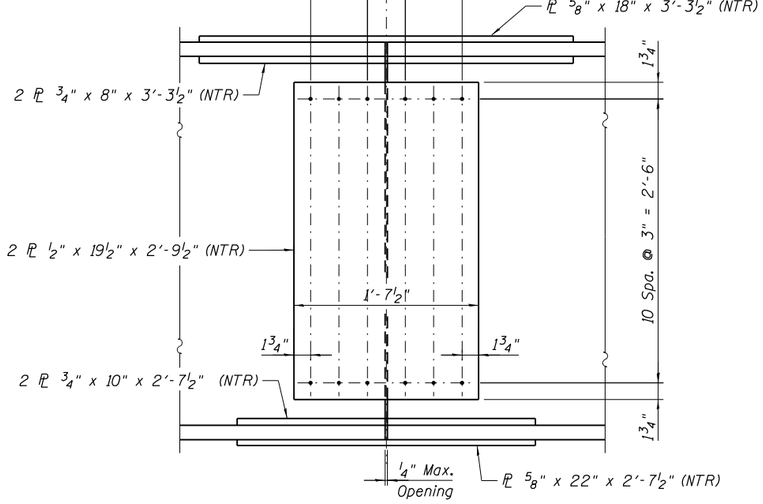
WEB SPLICE DETAIL (FS-1)



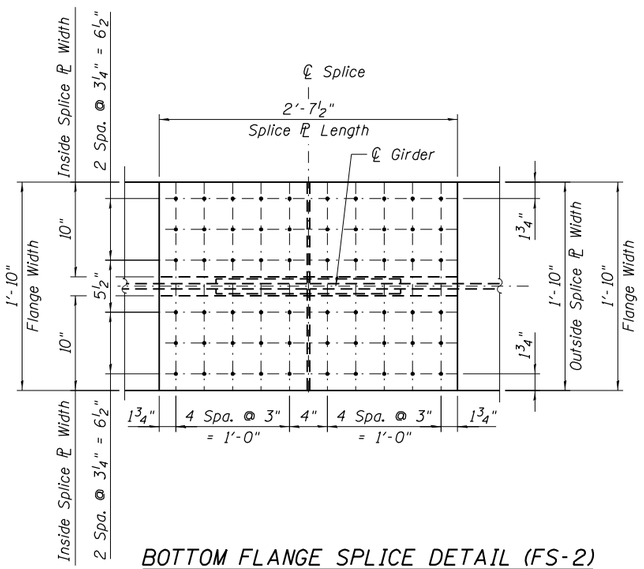
BOTTOM FLANGE SPLICE DETAIL (FS-1)



TOP FLANGE SPLICE DETAIL (FS-2)



WEB SPLICE DETAIL (FS-2)



BOTTOM FLANGE SPLICE DETAIL (FS-2)

Notes:

1. *Load carrying components designated "NTR" shall conform to the impact Testing Requirement, Zone 2.*
2. *All structural steel for girders and splices except fill plates shall conform to the requirements of AASHTO M270, Grade 50.*

exp U.S. Services Inc. Chicago, IL
BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - PK	REVISED
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PLOT SCALE = 0.083333 ' / in.	DRAWN - PK	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIELD SPLICE DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S31 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	138
		CONTRACT NO. 62A64		
		ILLINOIS FED. AID PROJECT		

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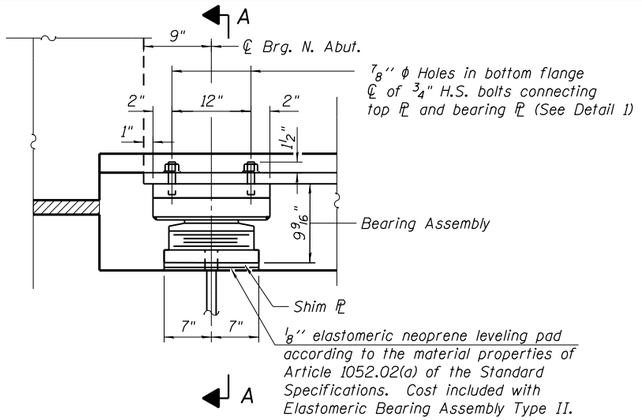
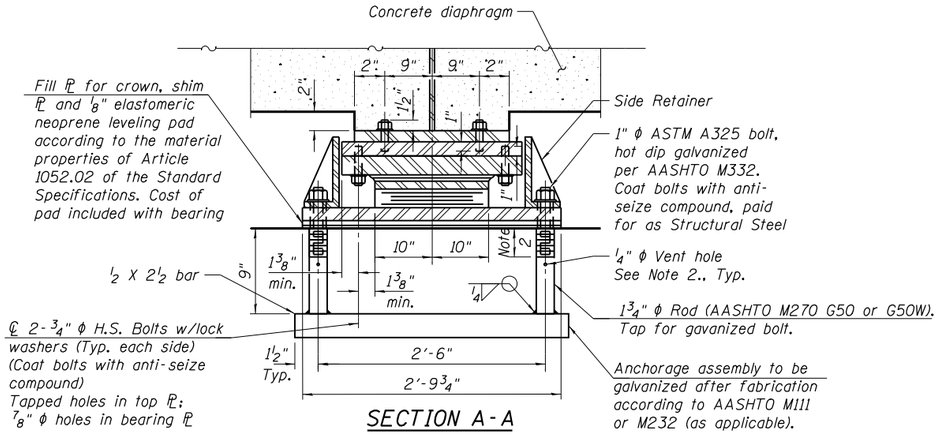
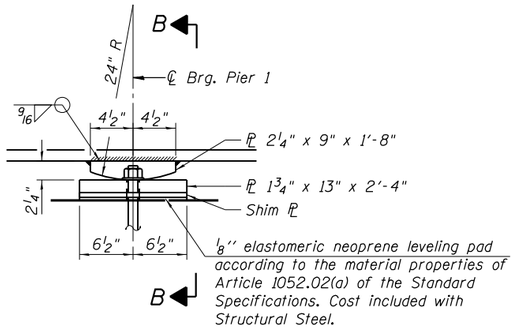


ELEVATION AT N. ABUT.

(Looking East)



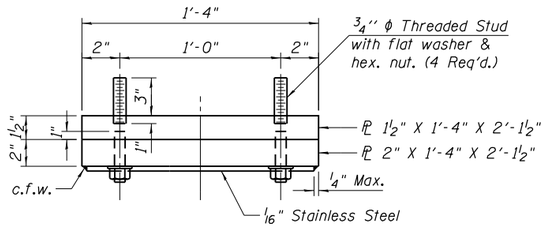
SECTION A-A



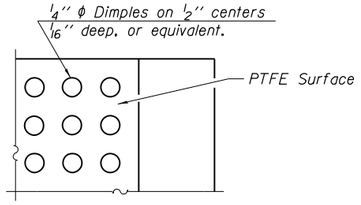
ELEVATION AT PIER 1

TYPE II ELASTOMERIC EXPANSION BEARINGS AT NORTH ABUTMENT

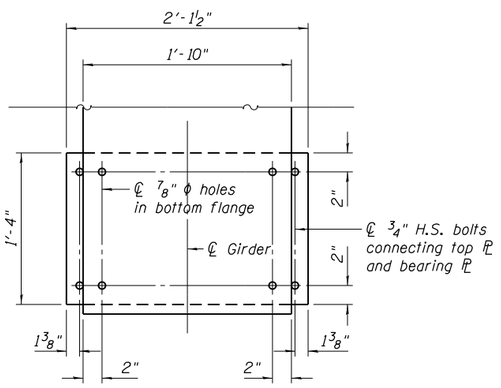
(11 Required thus)



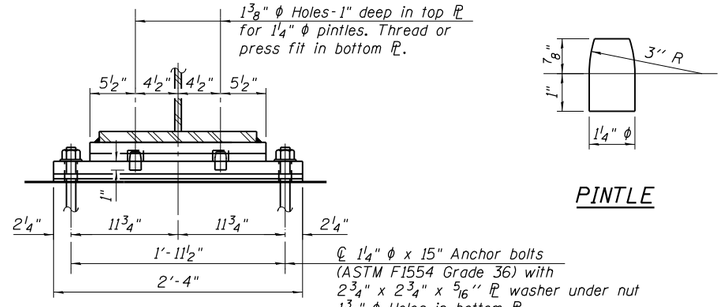
TOP BEARING ASSEMBLY



PLAN - PTFE SURFACE



DETAIL 1

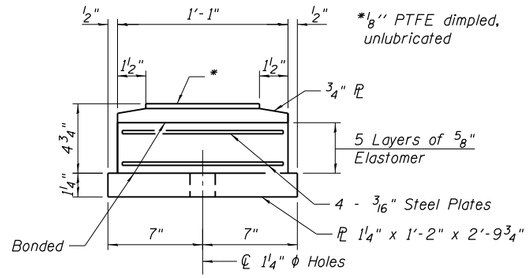


SECTION B-B

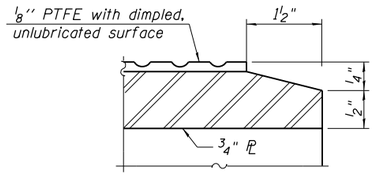
PINTLE

FIXED BEARING AT PIER 1

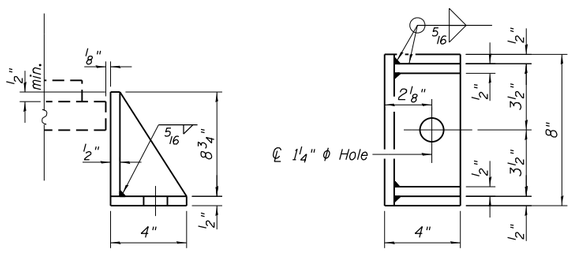
(11 Required thus)



BOTTOM BEARING ASSEMBLY

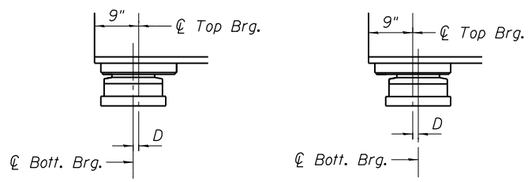


SECTION THRU PTFE



SIDE RETAINER

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



BELOW 50°F.

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

ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXPANSION BEARINGS

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

Notes:

1. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50 or similar.
2. Bolt engagement 1 1/4" min., 1 5/8" max., allowing up to 3/8" adjustment shims. Tap full threads in rod 1 3/4" deep. Provide 1/4" ϕ galvanizing vent hole below full thread.
3. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
4. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
5. Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
6. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
7. Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
8. The 1/8" PTFE sheet shall be bonded directly to the top steel plate 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.
9. Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
10. Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
11. Fixed bearing assemblies, including pintles, shim plates adjusting shims and elastomeric neoprene leveling pads, included in Furnishing and Erecting Structural Steel.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	11
Anchor Bolts, 1 1/4"	Each	22

exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

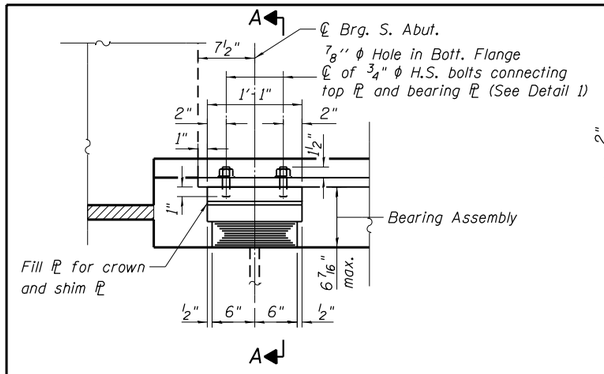
USER NAME = KUMARKZ	DESIGNED - STD	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 '/ in.	DRAWN - STD	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

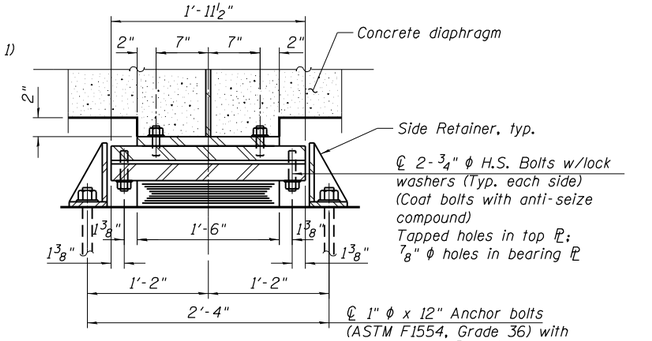
BEARING DETAILS – 1 OF 2
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S32 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	139
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-032-BEARING.dgn



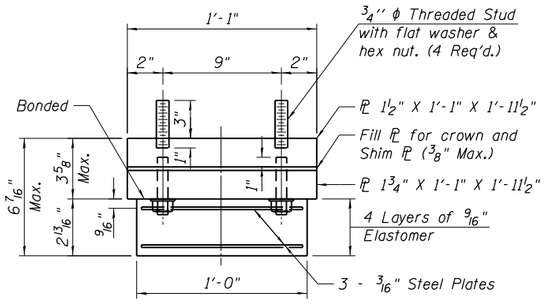
ELEVATION AT ABUT.



SECTION A-A

TYPE I ELASTOMERIC EXPANSION BEARINGS AT SOUTH ABUTMENT

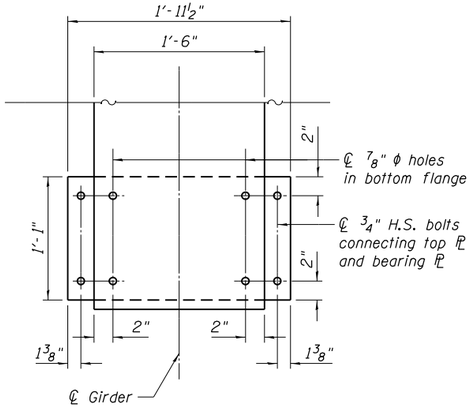
(11 Required thus)



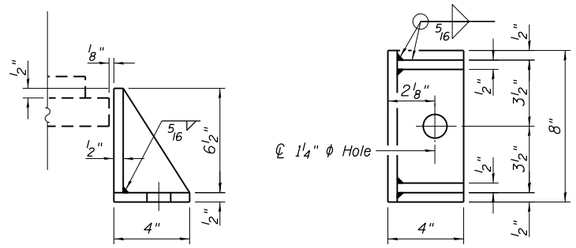
BEARING ASSEMBLY

Note:

Shim plates shall not be placed under Bearing Assembly.

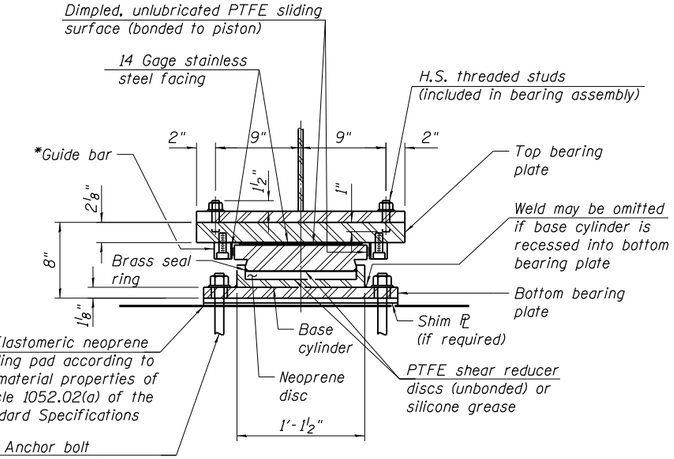


DETAIL 1



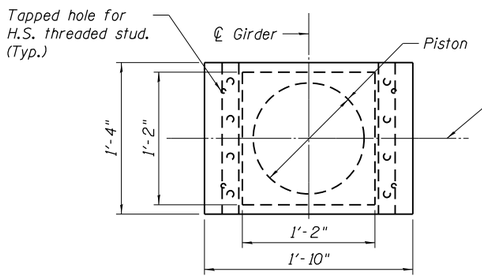
SIDE RETAINER

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

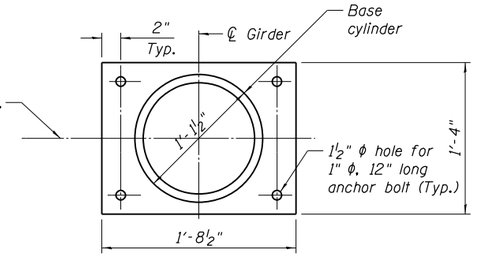


GUIDED EXPANSION HLMR BEARING AT PIER 2

(11 Required thus)



TOP BEARING ℙ AND PISTON PLAN



BOTTOM BEARING ℙ AND BASE CYLINDER PLAN

* As alternate 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.

DESIGN DATA

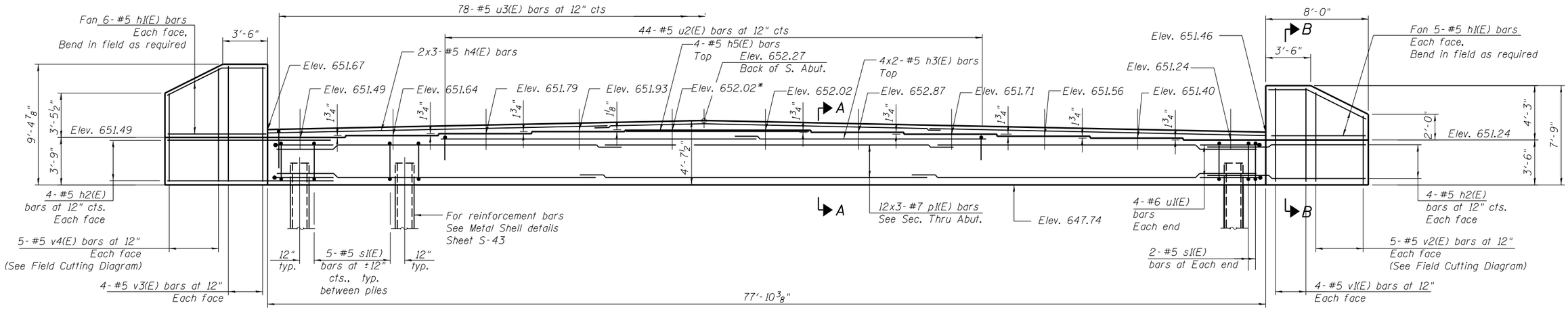
Location	Pier 2
Type	Guided Expansion
Service Vertical Design Load (kips)	373
Factored Horizontal Design Load (kips)	75
Factored Design Rotation (rad)	0.01
Total Required Movement (in)	1.9

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	11
High Load Multi-Rotational Bearings, Guided Expansion, 400k	Each	11
Anchor Bolts, 1"	Each	66

Notes:

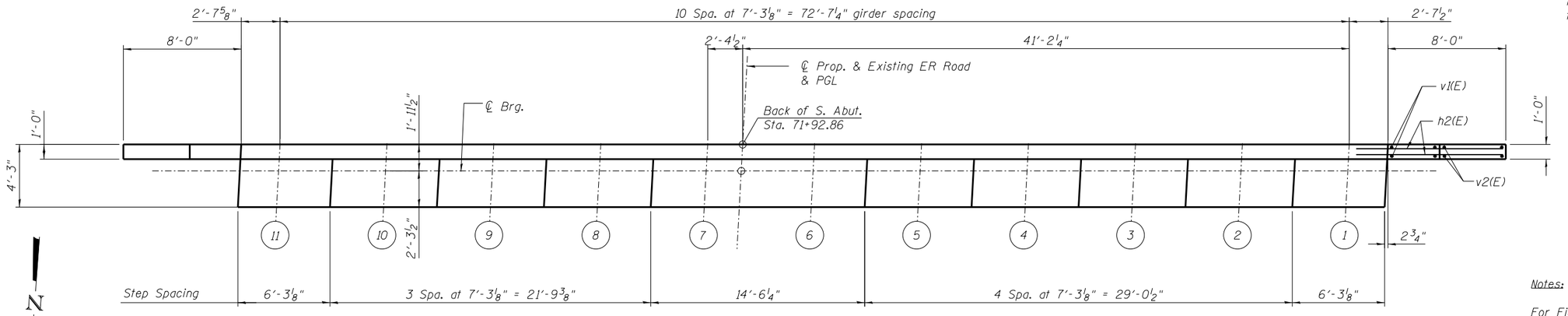
1. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
2. Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
3. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
4. Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
5. Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
6. The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270 Grade 50
7. Threaded studs, nuts & washers shall be Type 3 weathering material.
8. Coordinate threaded stud locations with girder fabricator.



ELEVATION

Looking South

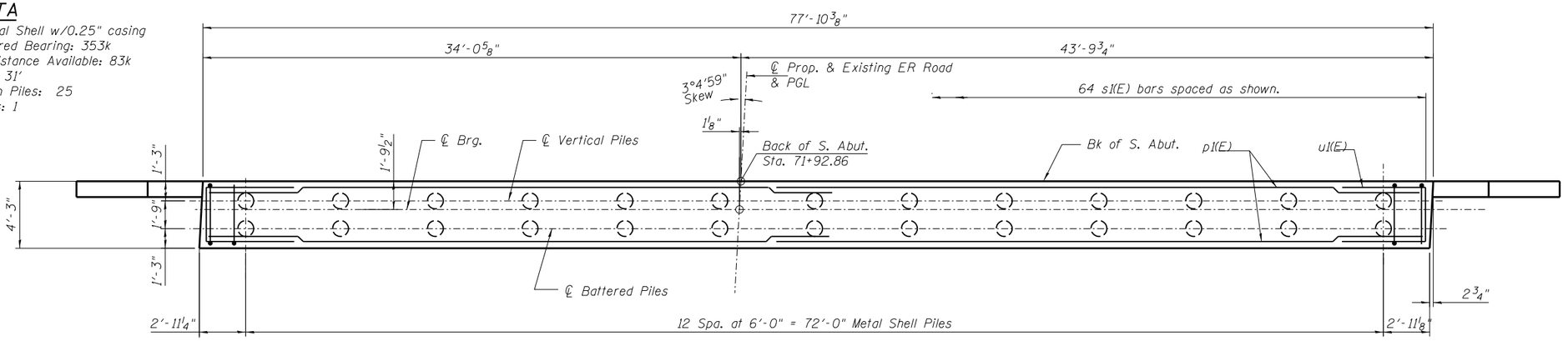
* Provide steel fill plate to elevate Brg. height to 652.02



TOP VIEW - SOUTH ABUTMENT

PILE DATA

Type: 12" Metal Shell w/0.25" casing
Nominal Required Bearing: 353k
Factored Resistance Available: 83k
Est. Length: 31'
No. Production Piles: 25
No. Test Piles: 1



PILE PLAN

Notes:

For Field Cutting Diagram
See Sheet S-35.

For Sections A-A & B-B
See Sheet S-35

For Bill Of Material
See Sheet S-35.

MIN. BAR LAP

#5 bar=3'-5"
#7 bar=5'-2"
#8 bar=6'-9"

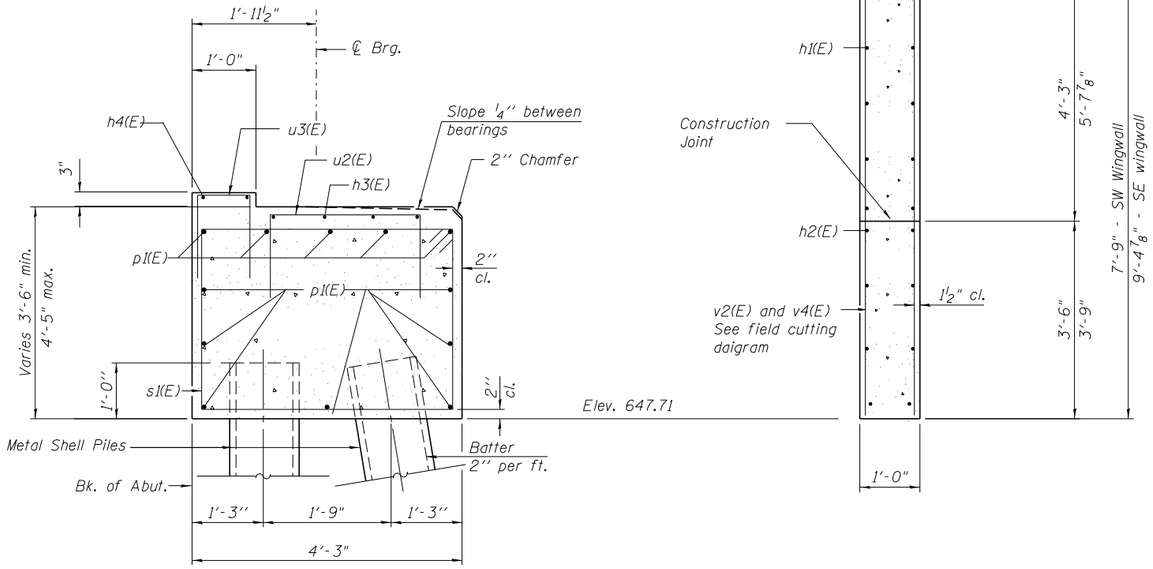
Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = Richard.jew	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
	PLOT SCALE = 0:1.0000 ' / in.	DRAWN - RJ	REVISED
	PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT PLAN AND ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S34 OF S54 SHEETS

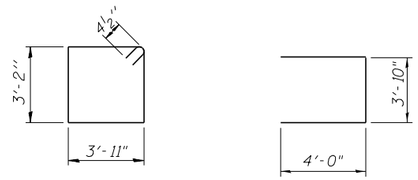
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	141
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-034-SABUT1.dgn



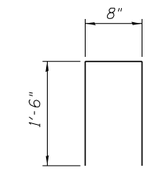
SECTION A-A
SECTION THRU S. ABUTMENT

SECTION B-B

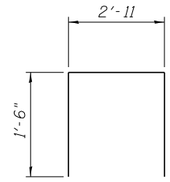


BARS s1(E)

BAR u1(E)



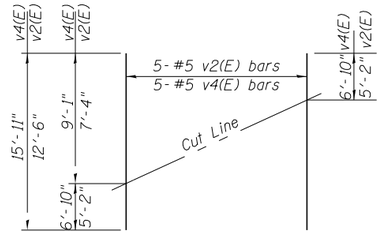
BAR U3(E)



BAR U2(E)

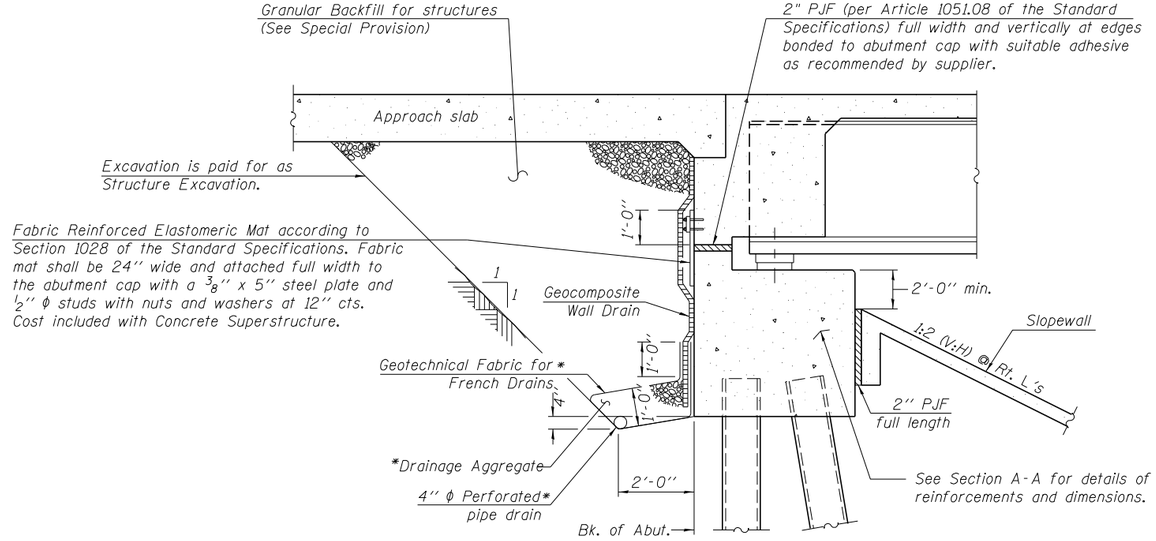
SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	22	#5	7'-8"	
h2(E)	16	#5	13'-3"	
h3(E)	8	#5	26'-8"	
h4(E)	6	#5	27'-9"	
h5(E)	4	#5	14'-2"	
p1(E)	36	#7	29'-4"	
s1(E)	64	#4	15'-6"	
u1(E)	8	#6	11'-10"	
u2(E)	44	#5	5'-11"	
u3(E)	78	#5	3'-8"	
v1(E)	8	#5	7'-5"	
v2(E)	5	#5	12'-6"	
v3(E)	8	#5	9'-1"	
v4(E)	5	#5	15'-11"	
Structure Excavation		Cu. Yd.	223	
Concrete Structures		Cu. Yd.	52	
Reinforcement Bars, Epoxy Coated		Pound	4610	
Furnishing - Metal Shell Piles, 12"x0.25		Foot	775	
Driving Piles		Foot	775	
Test Pile, Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	428	
Pile Shoes		Each	26	
Pipe Underdrain for structure 4"		Foot	94	
Geocomposite Wall Drain		Sq. Yd.	61	
Granular Backfill for structure		Cu. Yd.	70	



FIELD CUTTING DIAGRAM

Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.

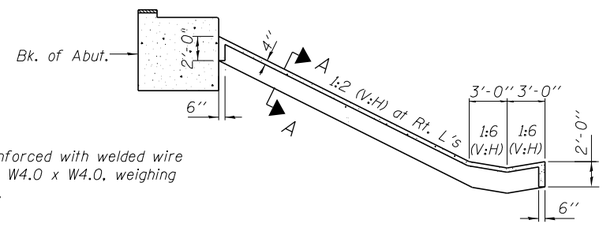


TYPICAL SECTION THRU SOUTH ABUTMENT DETAILS

(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

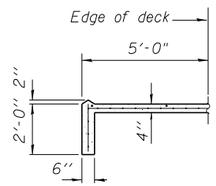
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



Note:
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

SECTION THRU CONCRETE SLOPEWALL

(South Abutment Only)



SECTION A-A

Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = lsupencheck	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
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	PLOT DATE = 7/7/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S35 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	142
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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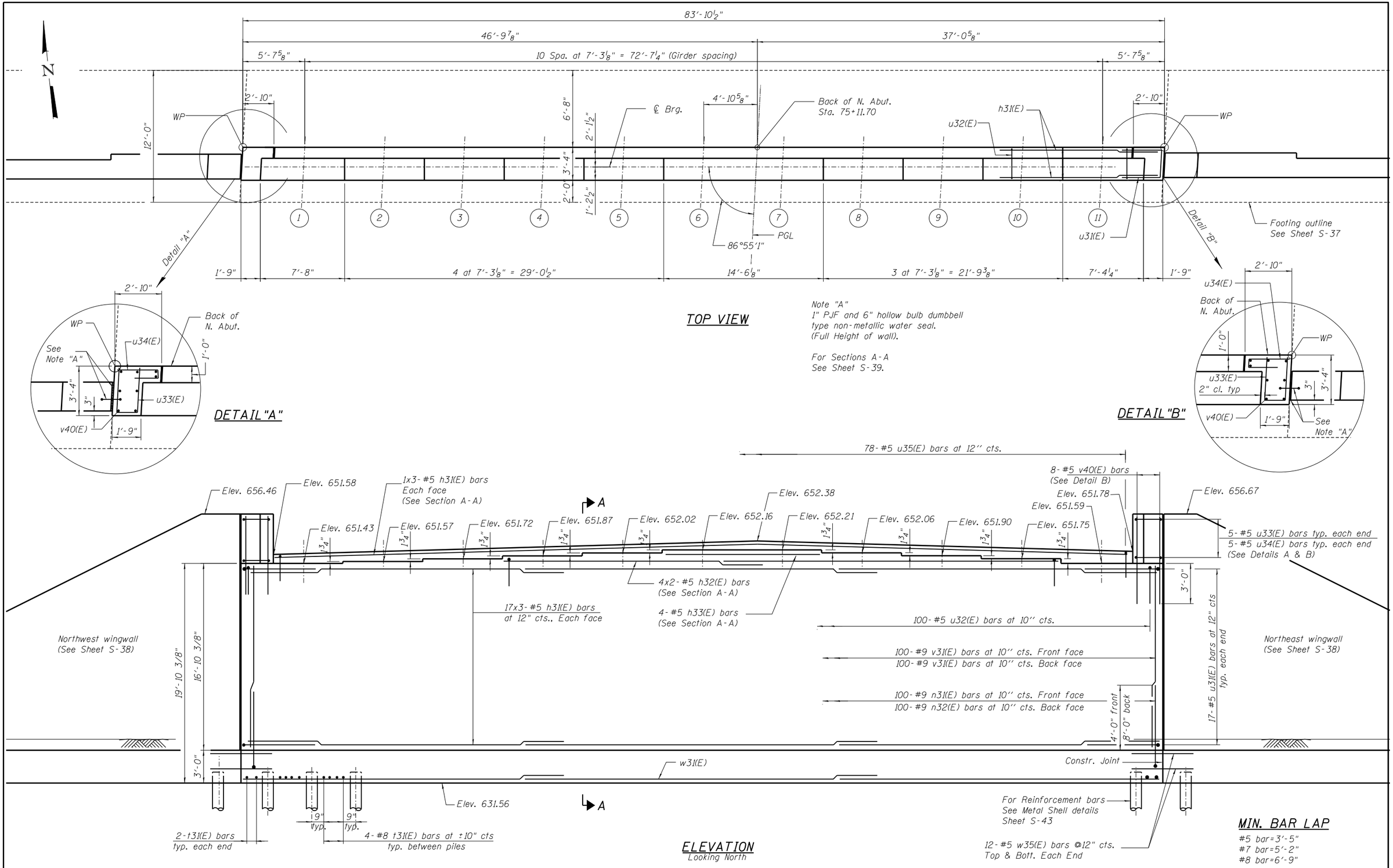

Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = Richard.jew	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
	PLOT SCALE = 0:1 ':' / in.	DRAWN - RJ	REVISED
	PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT PLAN AND ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S36 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	143
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

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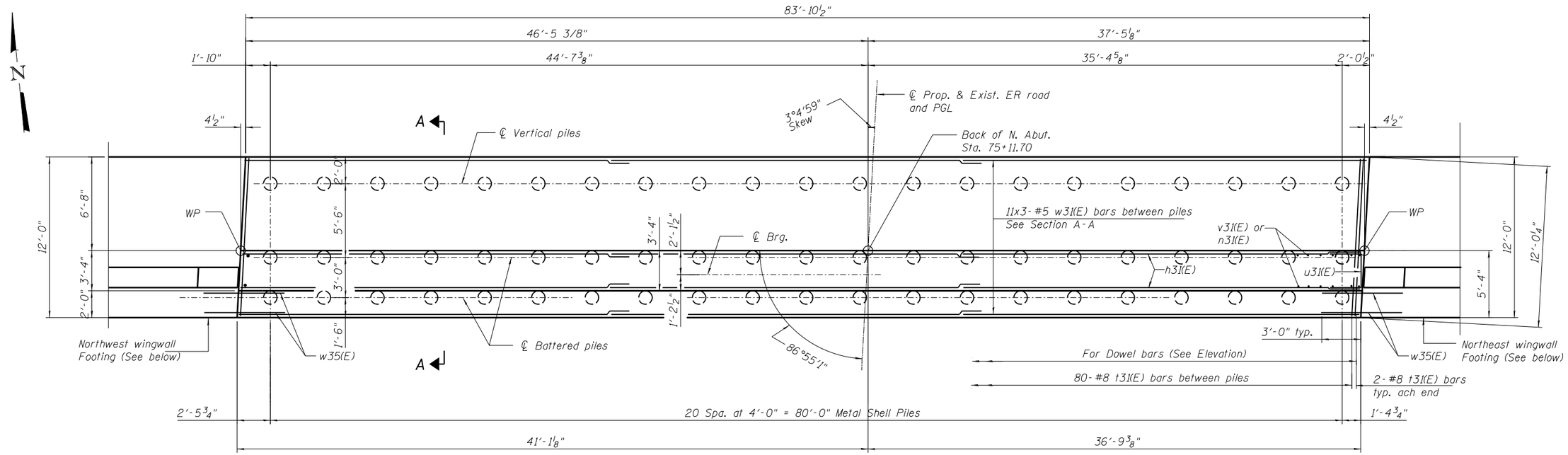
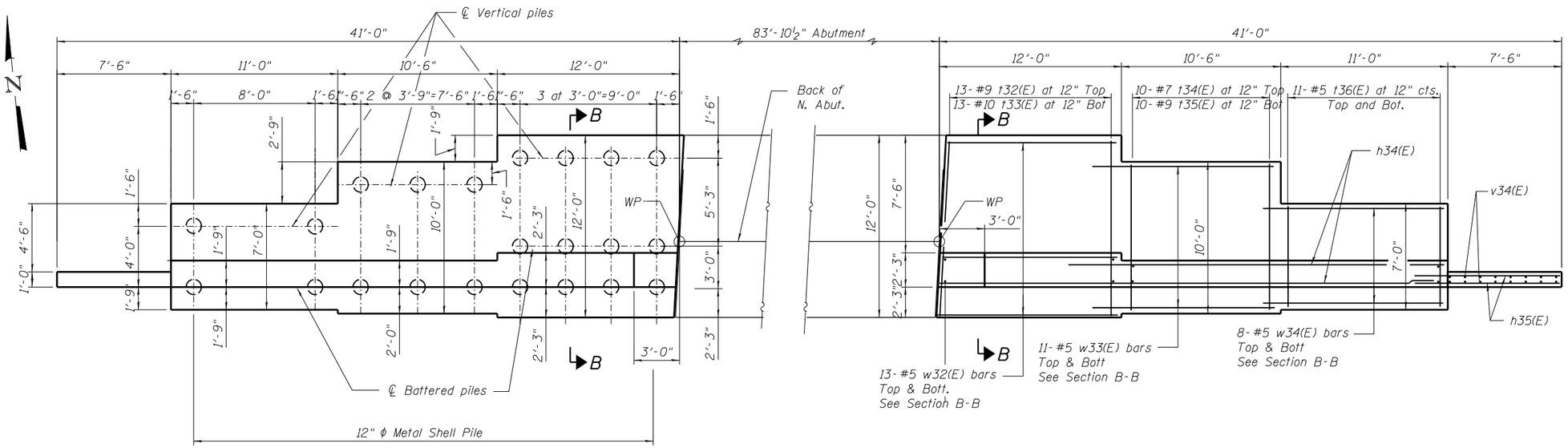


NORTH ABUTMENT FOOTING PLAN



NORTHWEST WINGWALL FOOTING PLAN

Shown dimensions

NORTHEAST WINGWALL FOOTING PLAN

Shown reinforcement bars

PILE DATA

At Abutment
Type: 12" ϕ Metal Shell Pile
Nominal Required Bearing: 353k
Factored Resistance Available: 149k
Est. Length: 21'
No. Production Piles: 62
No. Test Piles: 1

At Wingwalls
Type: 12" ϕ Metal Shell Pile
Nominal Required Bearing: 353k
Factored Resistance Available: 149k
Est. Length: 26'
No. Production Piles: 44
No. Test Piles: None

Notes:
For Section A-A
See Sheet S39.

For Section B-B
See Sheet S38.

Globetrotters® Engineering Corporation
ENGINEERS ARCHITECTS
300 South Wacker Drive
Chicago, Illinois 60606

USER NAME = Richard.jew	DESIGNED - RD	REVISED
	CHECKED - TB	REVISED
PLOT SCALE = 01 '' / in.	DRAWN - RJ	REVISED
PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT FOOTING PLAN
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S37 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	144
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

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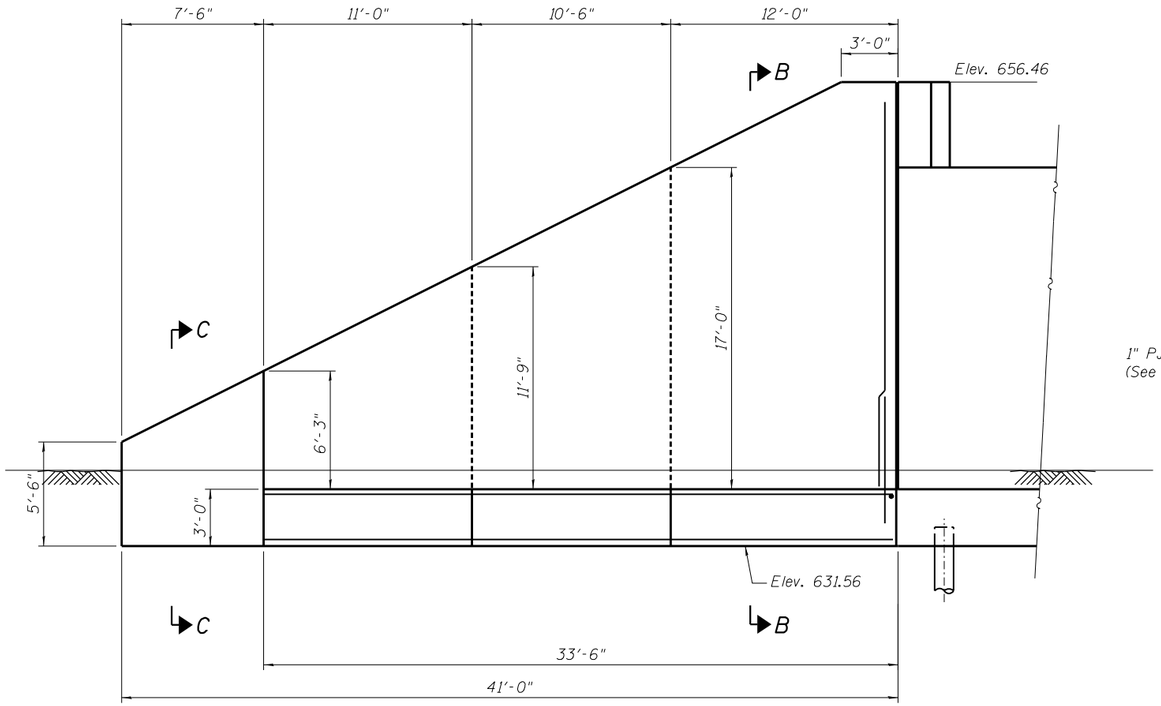
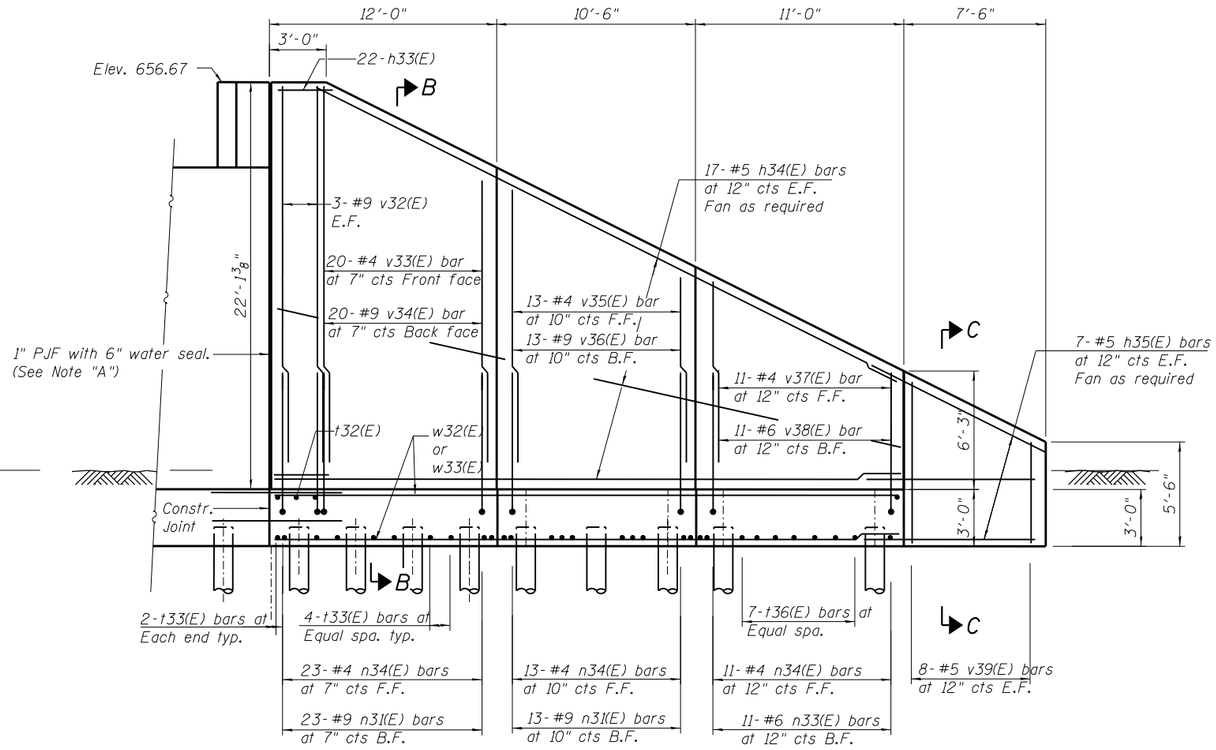


NORTHWEST WINGWALL ELEVATION

Looking North-Shown dimensions
Northeast wingwall similar

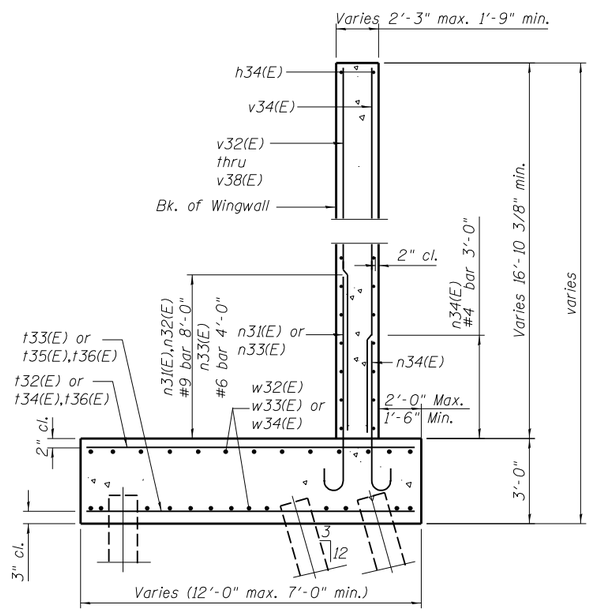


NORTHEAST WINGWALL ELEVATION

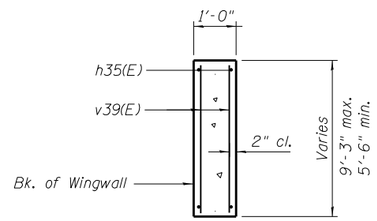
Looking North-Shown reinforcement bars
Northwest wingwall similar

Order h 34(E),h35(E), v33(E) and v34(E)
bars full length cut in field
use remainder of bars in opposite face

Note "A"
1" PJF and 6" hollow bulb dumb bell
type non-metallic water seal.
(Full Height of wall).
Cost included with Concrete Structure.



SECTION B-B
SECTION THRU WINGWALL



SECTION C-C
SECTION THRU WINGWALL

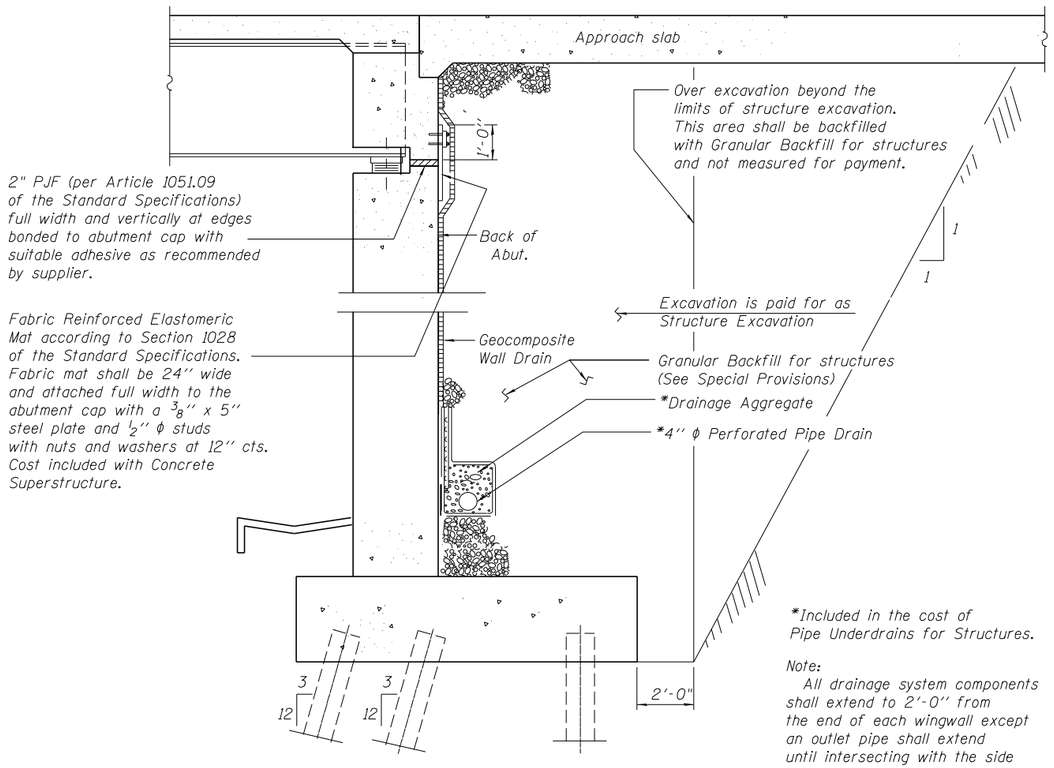
Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = Richard.jew	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
	PLOT SCALE = 0:1 ':' / in.	DRAWN - RJ	REVISED
	PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT WINGWALL ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S38 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	145
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-038-NABUT3.dgn

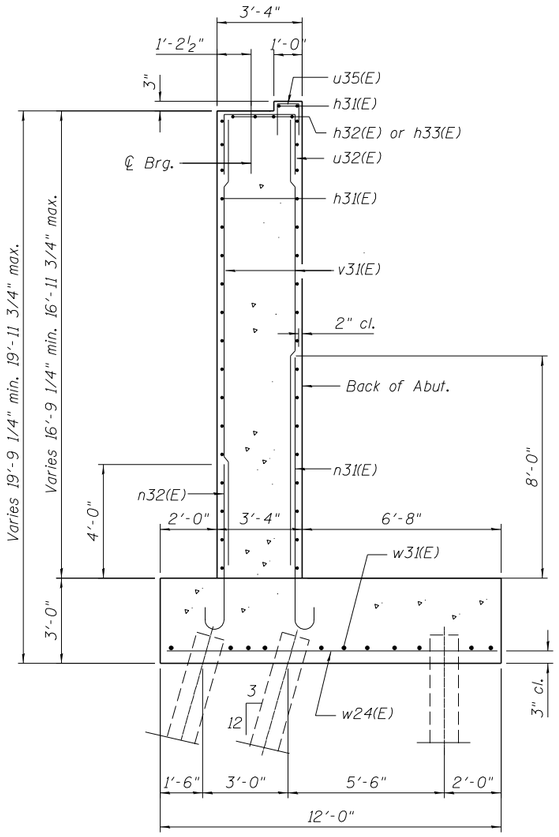


*Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

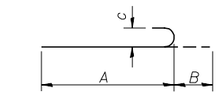
SECTION A-A
TYPICAL SECTION THRU ABUTMENT DETAILS

For Perforated Pipe Drain details
See Sheet S3.

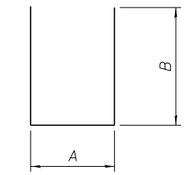


SECTION A-A
SECTION THRU ABUTMENT

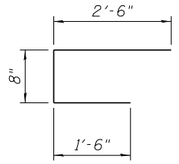
(Horiz. dim. @ right angles)



BARS n31(E), n32(E) and n33(E)

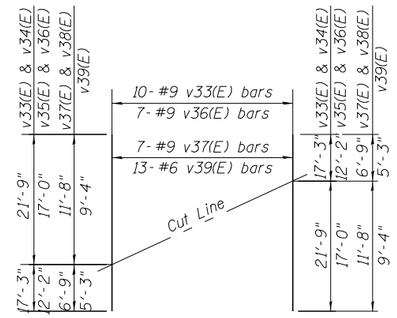


BARS u31(E), u32(E), u33(E), u35(E)



BAR u34(E)

Bar	A	B	C
n31(E)	10'-0"	1'-3"	11 3/4"
n32(E)	6'-0"	1'-3"	11 3/4"
n33(E)	5'-6"	8"	6"
n34(E)	4'-6"	6"	5"
u31(E)	2'-8"	3'-6"	-
u32(E)	2'-11"	2'-9"	-
u33(E)	1'-5"	2'-8"	-
u35(E)	8"	1-6"	-
			-
			-
			-



FIELD CUTTING DIAGRAM

Order v33(E) thru v39(E) bars full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h31(E)	102	#5	29'-8"	
h32(E)	8	#5	26'-7"	
h33(E)	44	#5	3'-0"	
h34(E)	68	#4	33'-2"	
h35(E)	28	#4	10'-6"	
n31(E)	172	#9	11'-3"	
n32(E)	172	#9	7'-3"	
n33(E)	22	#6	6'-2"	
n34(E)	94	#4	5'-0"	
t31(E)	84	#8	11'-8"	
t32(E)	26	#9	11'-8"	
t33(E)	26	#10	11'-8"	
t34(E)	20	#7	19-8"	
t35(E)	20	#9	9'-8"	
t36(E)	44	#5	6'-8"	
u31(E)	34	#5	9'-8"	
u32(E)	100	#5	8'-5"	
u33(E)	10	#5	6'-9"	
u34(E)	10	#5	4'-8"	
u35(E)	78	#5	3'-8"	
v31(E)	200	#9	16'-5"	
v32(E)	12	#9	21'-8"	
v33(E)	40	#4	39'-0"	
v34(E)	40	#9	39'-0"	
v35(E)	26	#4	29'-2"	
v36(E)	26	#9	29'-2"	
v37(E)	22	#4	18'-5"	
v38(E)	22	#6	18'-5"	
v39(E)	32	#5	14'-7"	
v40(E)	16	#5	7'-10"	
w31(E)	33	#5	29'-8"	
w32(E)	52	#5	11'-8"	
w33(E)	44	#5	13'-0"	
w34(E)	32	#5	13'-6"	
w35(E)	48	#5	6'-0"	
Structure Excavation			Cu. Yd.	1792
Concrete Structures			Cu. Yd.	424
Reinforcement Bars, Epoxy Coated			Pound	51368
Furnishing - Metal Shell Piles, 12"x0.25"			Foot	2446
Driving Piles			Foot	2446
Test Pile, Metal Shells			Each	1
Concrete Sealer			Sq. Ft.	1185
Pile Shoes			Each	107
Pipe Underdrain for structure 4"			Foot	168
Geocomposite Wall Drain			Sq. Yd.	196
Granular Backfill for structure			Cu. Yd.	1582

For details of metal piles see sheet S43.

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USER NAME = lsupencheck	DESIGNED - RD	REVISED
	CHECKED - TB	REVISED
PLOT SCALE = 0.1 '1' / in.	DRAWN - RJ	REVISED
PLOT DATE = 7/7/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT WINGWALL DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S39 OF S54 SHEETS

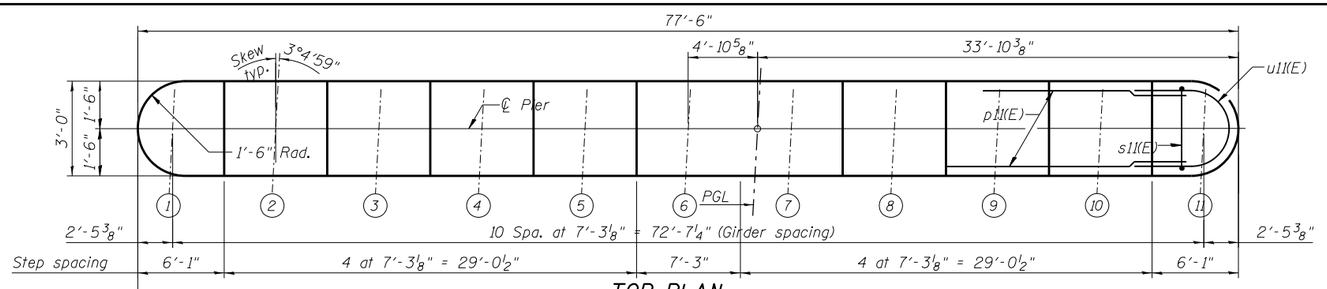
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	146
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-039-NABUT4.dgn

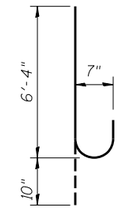
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet S-43

PILE DATA

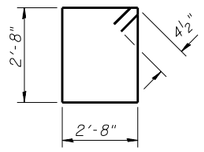
Type: 12"φ Metal Shell piles w/0.25" casing
Nominal Required Bearing: 353k
Factored Resistance Available: 78k
Est. Length: 16'
No. Production Piles: 53
No. Test Piles: 1



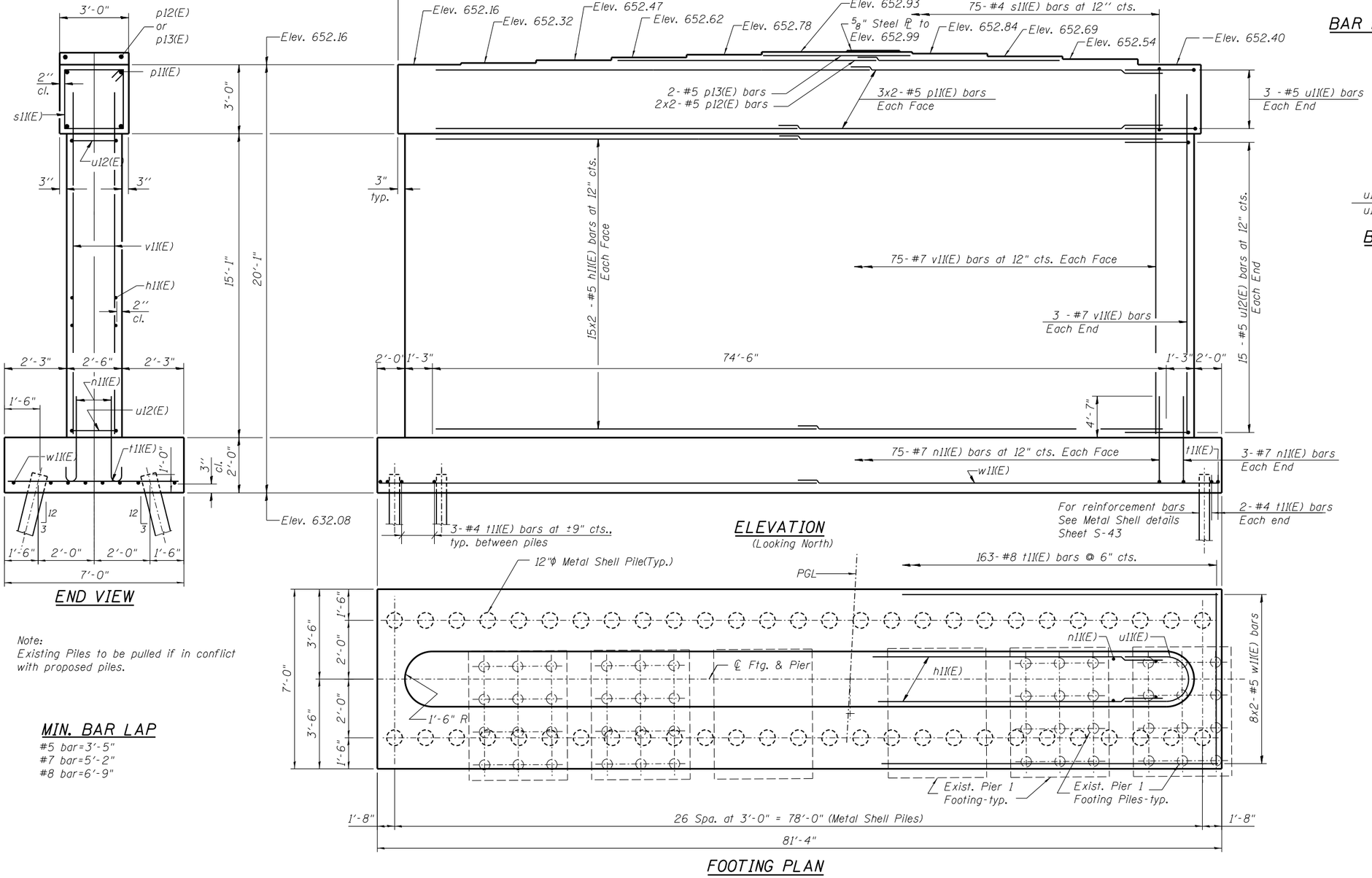
TOP PLAN



BAR n11(E)

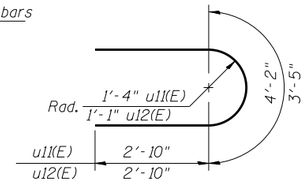


BAR s11(E)



END VIEW

ELEVATION
(Looking North)



BARS u11(E) & u12(E)

Note:
Existing Piles to be pulled if in conflict with proposed piles.

MIN. BAR LAP

#5 bar=3'-5"
#7 bar=5'-2"
#8 bar=6'-9"

FOOTING PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h11(E)	60	#5	39'-2"	——
n11(E)	163	#7	7'-2"	⊃
p11(E)	12	#5	39'-2"	——
p12(E)	4	#5	28'-8"	——
p13(E)	2	#5	14'-2"	——
s11(E)	75	#4	11'-7"	□
t11(E)	82	#8	6'-8"	——
u11(E)	6	#5	9'-10"	⊃⊂
u12(E)	30	#5	9'-1"	⊃⊂
v11(E)	156	#7	17'-3"	——
w11(E)	16	#5	42'-4	——
Structure Excavation		Cu. Yd.	156	
Concrete Structures		Cu. Yd.	179	
Reinforcement Bars, Epoxy Coated		Pound	14014	
Furnishing Metal Shell Piles 12"x0.25",		Foot	848	
Driving Piles		Foot	848	
Test Pile, metal Shells		Each	1	
Pile Shoes		Each	54	
Pile Extraction		Each	20	

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USER NAME = Richard.jew	DESIGNED - RD	REVISED 12-8-2014 Center Piles
	CHECKED - TB	REVISED
PLOT SCALE = 0.0833 ' / in.	DRAWN - RJ / AR	REVISED
PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – PLAN AND ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S4O OF S54 SHEETS

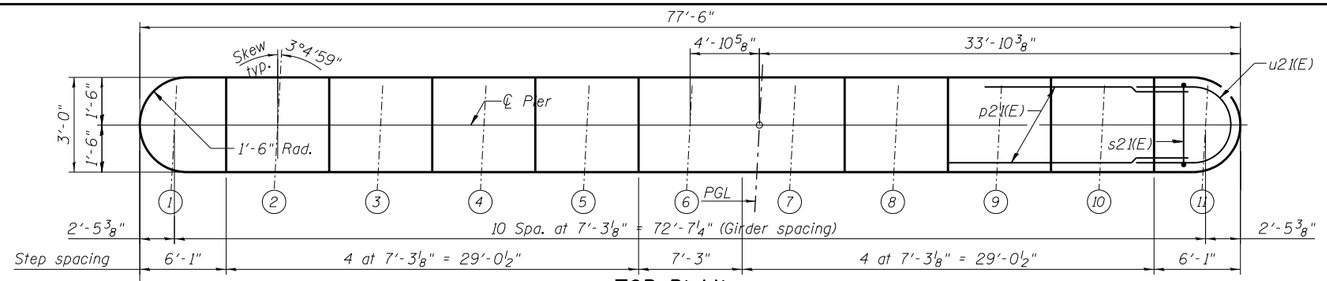
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	147
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-040-Pier1.dgn

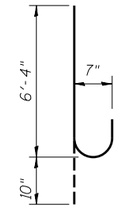
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet S-42.

MICRO PILE DATA

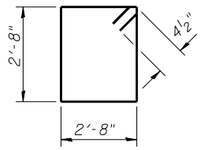
Type: 7"ϕ Micropile w/APIn-80 steel casing
Nominal Load Capacity/Micro Pile=300k
Factored Resistance Available: 179K
Est. Length: 85'
No. Production Piles: 24



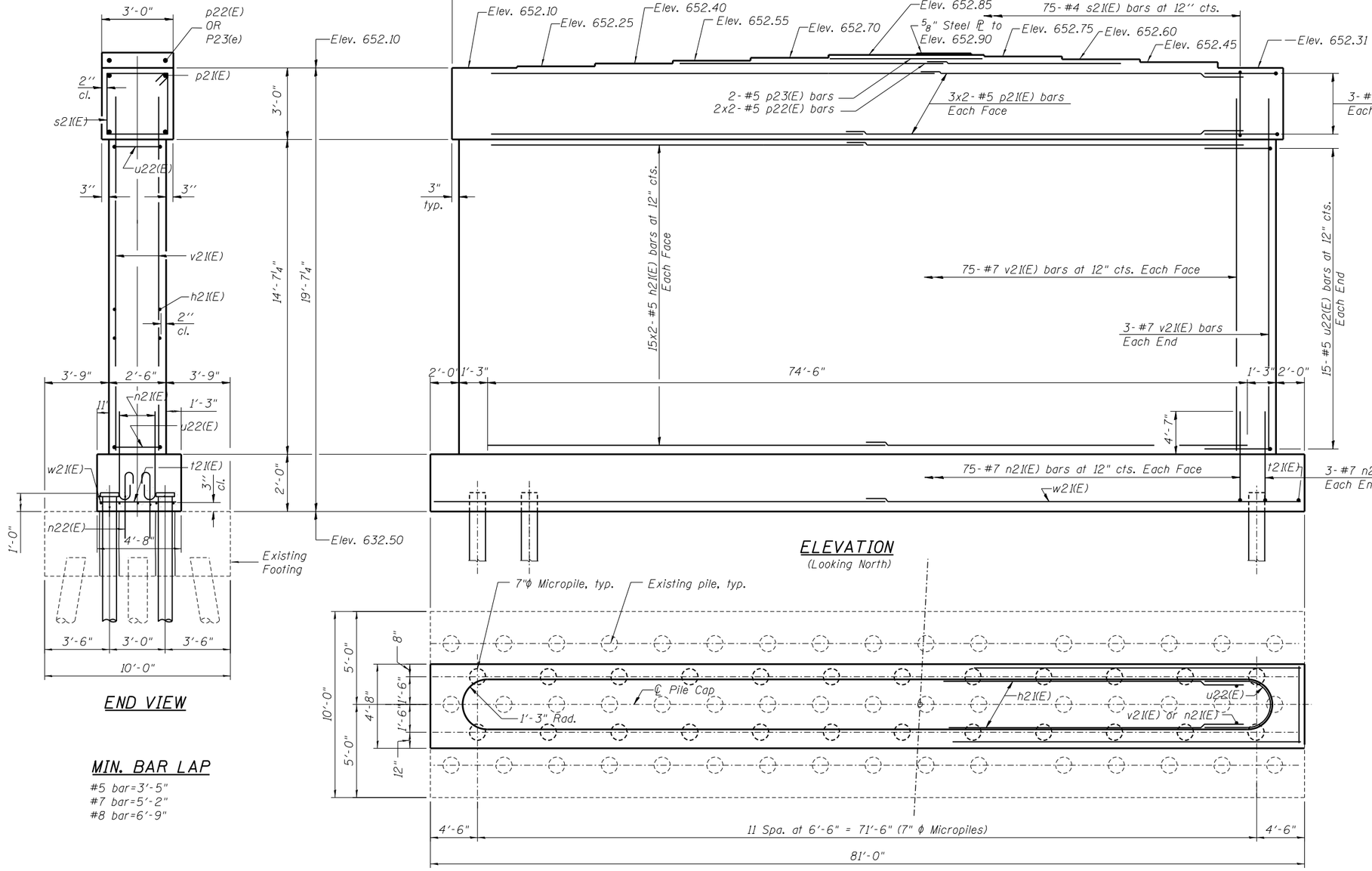
TOP PLAN



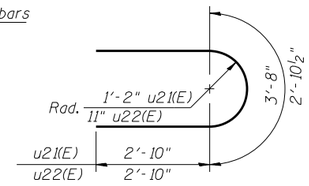
BAR n21(E)



BAR s21(E)



ELEVATION
(Looking North)



BARS u21(E) & u22(E)

END VIEW

MIN. BAR LAP

#5 bar=3'-5"
#7 bar=5'-2"
#8 bar=6'-9"

FOOTING PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h21(E)	60	#5	39'-2"	——
n21(E)	156	#7	7'-2"	⊃
n22(E)	160	#6	5'-2"	⊃
p21(E)	12	#5	39'-2"	——
p22(E)	4	#5	28'-8"	——
p23(E)	2	#5	14'-2"	——
s21(E)	75	#4	11'-7"	□
t21(E)	81	#8	4'-4"	——
u21(E)	6	#5	9'-4"	⊃
u22(E)	30	#5	8'-7"	⊃
v21(E)	156	#7	17'-0"	——
w21(E)	10	#5	42'-4	——

Structure Excavation	Cu. Yd.	151
Concrete Structures	Cu. Yd.	165
Reinforcement Bars, Epoxy Coated	Pound	14350
Micropiles	Each	24
Micropile Proof Load	Each	1
Pile Extraction	Each	5
Micropile Load Test	Each	1
Braced Excavation	Cu. Yd.	141

Note:
Existing Piles to be pulled if in conflict with proposed micropiles being drilled thru the existing footing.

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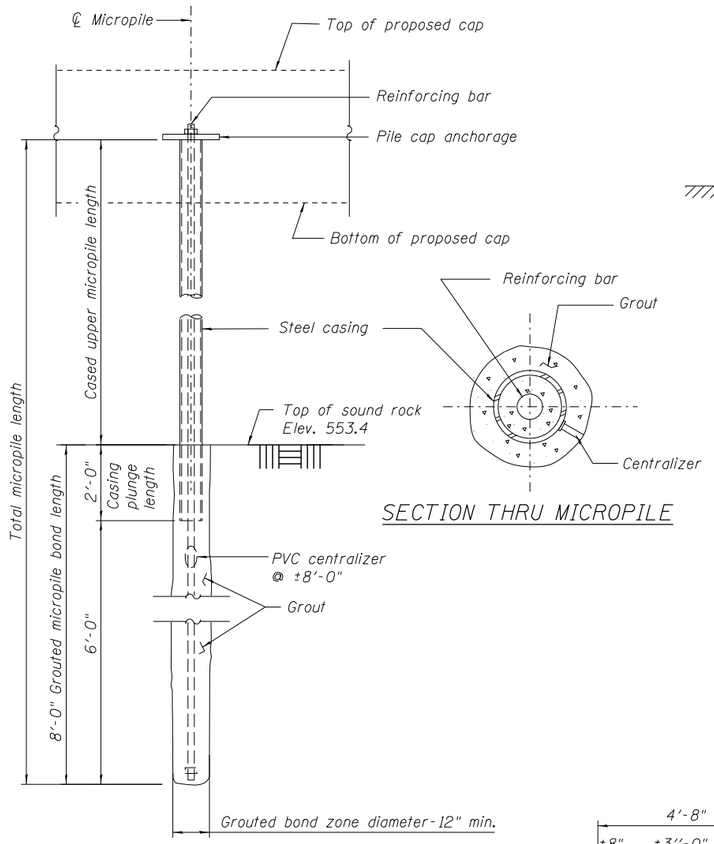
USER NAME = Richard.jew	DESIGNED - RD	REVISED
	CHECKED - TB	REVISED
PLOT SCALE = 0.0833 ' / in.	DRAWN - RJ /AR	REVISED
PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 – PLAN AND ELEVATION
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S41 OF S54 SHEETS

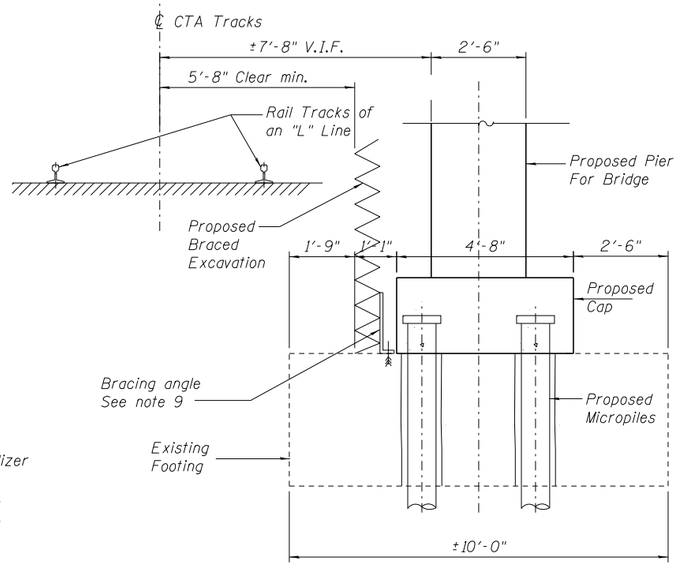
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	148
		CONTRACT NO. 62A64		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-041-Pier2.dgn

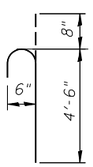


PIER 2 MICROPILES

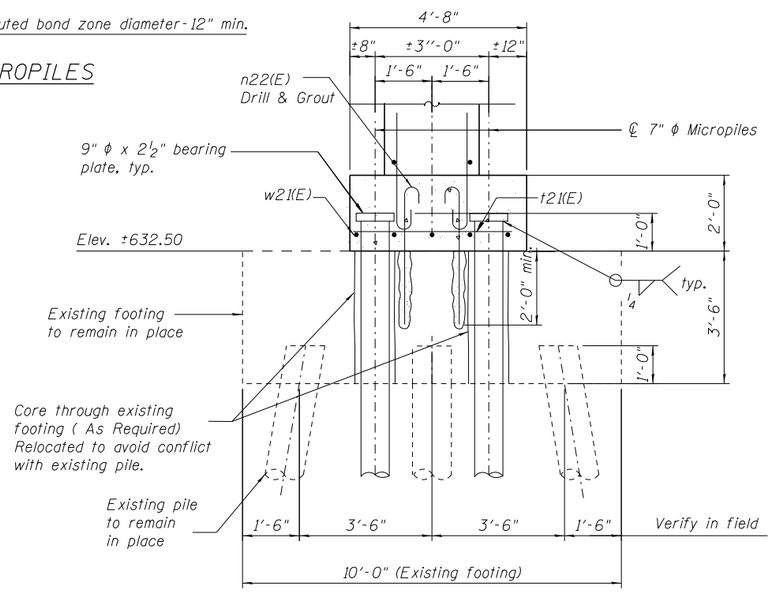
SECTION THRU MICROPILE



SECTION THRU FOOTING AT PIER 2
BRACED EXCAVATION DETAIL



BAR n22(E)



SECTION THRU FOOTING AT PIER 2
MICROPILE DETAIL

FOUNDATION NOTES:

1. Use micropile foundations at Pier 2. The proposed bottom of pile cap (P.C.E.) and estimated tip elevations are:

Substructure	P.C.E. (Feet)	Foundation Type	Estimated Micropile/Pile Tip elevation (Feet)
Pier 2	±632.5	Micropiles	539.4

2. Use a 12 Inch (minimum) diameter rock socket for micropiles at Pier 2. Encase the micropiles in a 7 5/8-inch minimum outside diameter steel casing with a 1/2-inch minimum wall thickness. Provide an 8-foot minimum rock socket length. Refer to the Micropile Details.

3. Based on recent borings, bedrock is anticipated to be encountered at Elev. 553.4. This material is anticipated to be a Silurian System, Niagaran Series Dolomite, light gray with horizontal features down to Elev. 541.9.

4. The Contractor is permitted to submit an alternate micropile design for the foundation at Pier 2 subject to approval by the Engineer. According to IDOT Special Provisions and LRFD 10.5.5.2.4-2, the structural capacity of the micropiles to be tested will need to be increased such that the peak test tension and compression loadings applied to the micropiles will not exceed 80% of its structural capacity including steel yielding in tension, steel yielding or buckling in compression, or grout crushing in compression.

5. All micropile loads are given at B/Cap level.

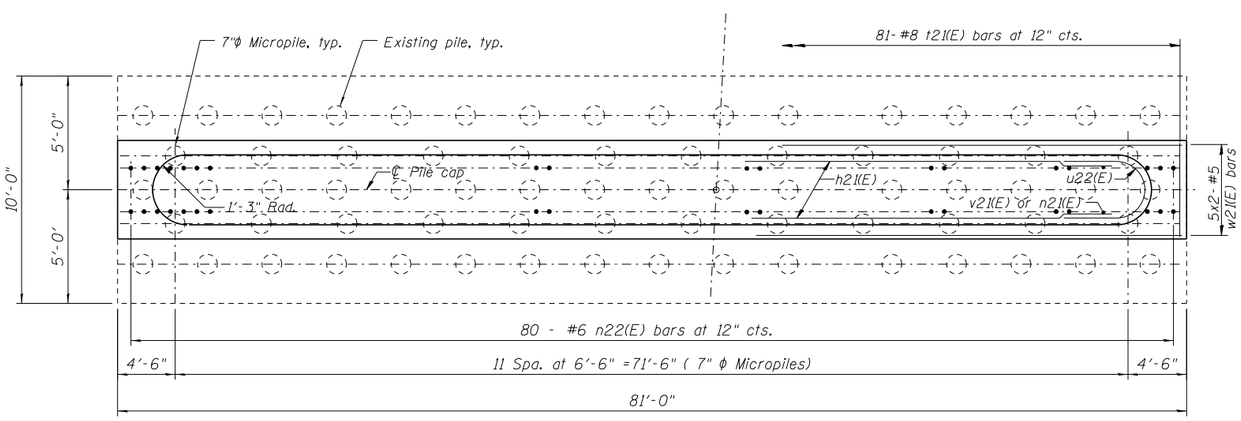
6. Contractor to verify micropile design. Micropile Steel Casing shall be API N-80 pile. The layout of 7"ϕ Micropiles as shown in plan on Sht. S-41 is a recommendation, not a design directive. The Final Design is the Responsibilty of the Contract Engineer, taking into accounts all of the Geotechnical Report, per O'Brien and Associates, and based upon approval of the Engineer. The Existing Piles are to remain in place and in use to support lateral loading on the Pier. The casings of the Proposed Micropiles will be placed through cored holes of the Existing Footing to support the vertical loading.

7. Pier micropiles shall have no joints in the pipe casing from cap anchorage to 20 feet below B/Cap.

8. Contractor shall verify a competent bedrock by obtaining a core 10' below the bottom of the Micropile.

9. Braced Excavation shall include installation of a temporary bracing system, Track Access Outages, partial demo to the existing pier system, excavation and backfilling to the existing grade according to section 502 of the Standard Specification and Guide Bridge Special Provison No. 70. See Sheet S-7.

10. Reinforcement in Micropile shall be grade 75 all thread No. 14 bars.



FOUNDATION PLAN

Globetrotters® Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606	USER NAME = lsupencheck	DESIGNED - RD	REVISED
		CHECKED - TB	REVISED
	PLOT SCALE = 0:1 ':' / in.	DRAWN - RJ / AR	REVISED
	PLOT DATE = 7/1/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

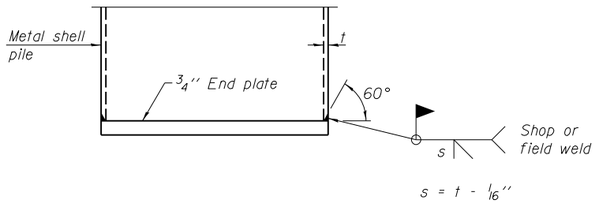
PIER 2 – MICROPILE DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S42 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	149
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

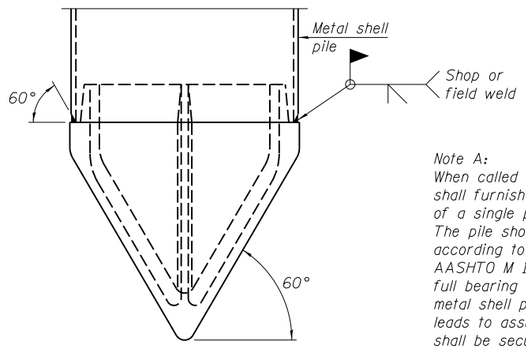
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-042-McPile.dgn

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



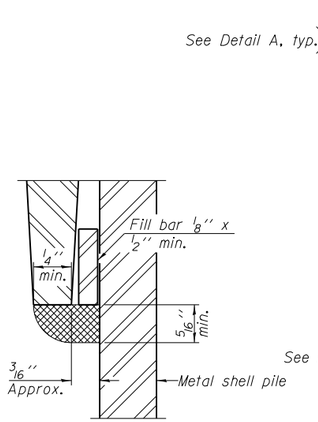
END PLATE ATTACHMENT



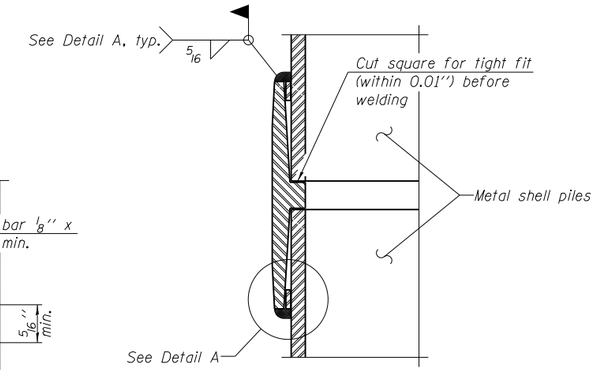
Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over 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.

METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

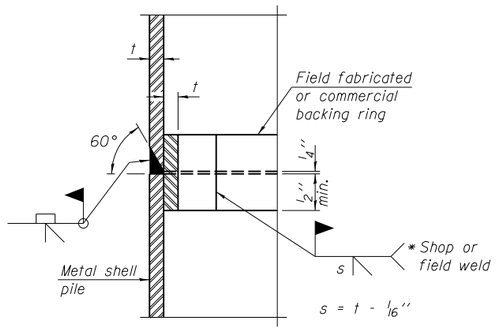


DETAIL A



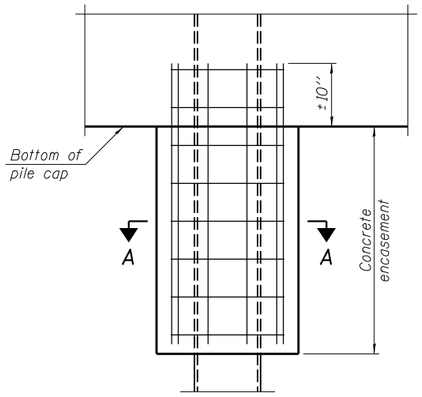
Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

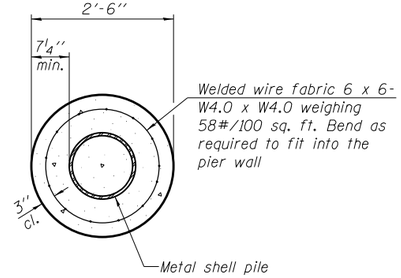


COMPLETE PENETRATION WELD SPLICE

* 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.



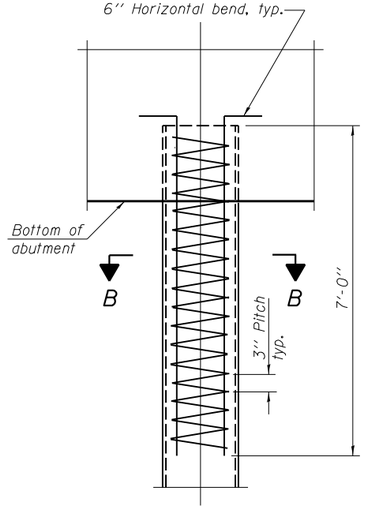
ELEVATION



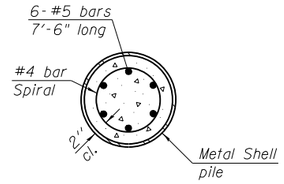
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



ELEVATION



SECTION B-B

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

METAL SHELL REINFORCEMENT AT SOUTH AND NORTH ABUTMENTS AND PIER 1

F-MS 1-27-12

Globetrotters® Engineering Corporation
ENGINEERS ARCHITECTS
300 South Wacker Drive
Chicago, Illinois 60606

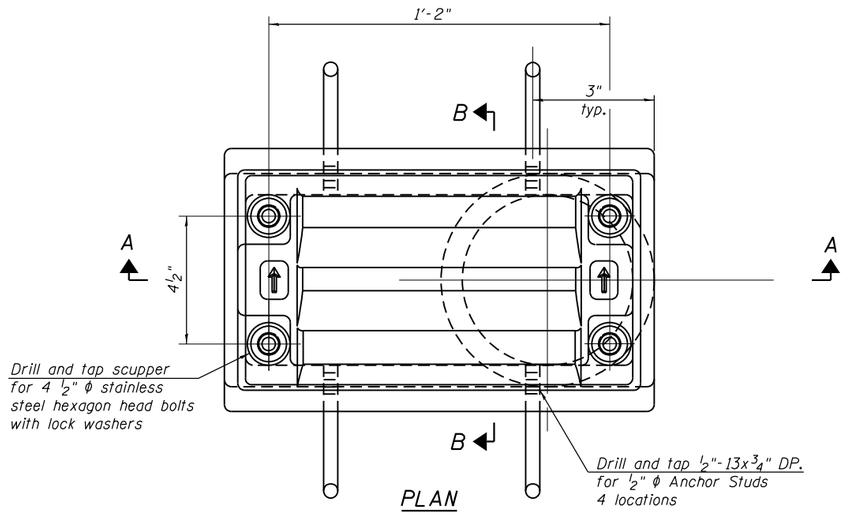
USER NAME = Richard.jew	DESIGNED - RD	REVISED
	CHECKED - TB	REVISED
PLOT SCALE = 0:1.0000 ' / in.	DRAWN - RJ	REVISED
PLOT DATE = 3/6/2015	CHECKED - RD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

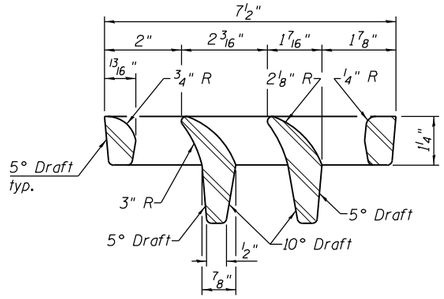
METAL SHELL SHOE DETAILS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S43 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	150
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

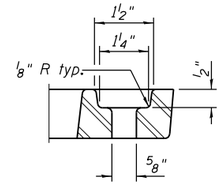
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-043-Mpile.dgn



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

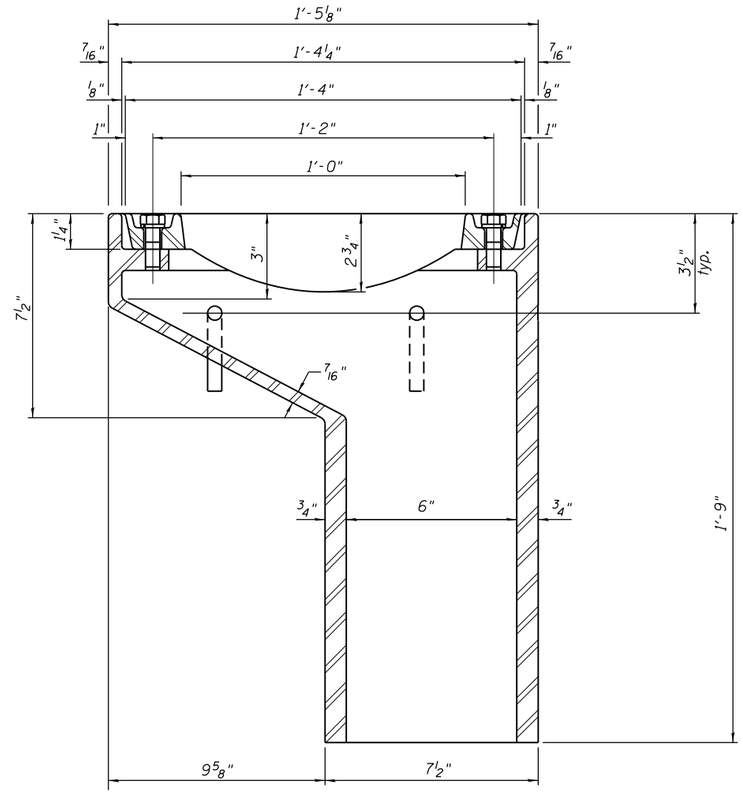
Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

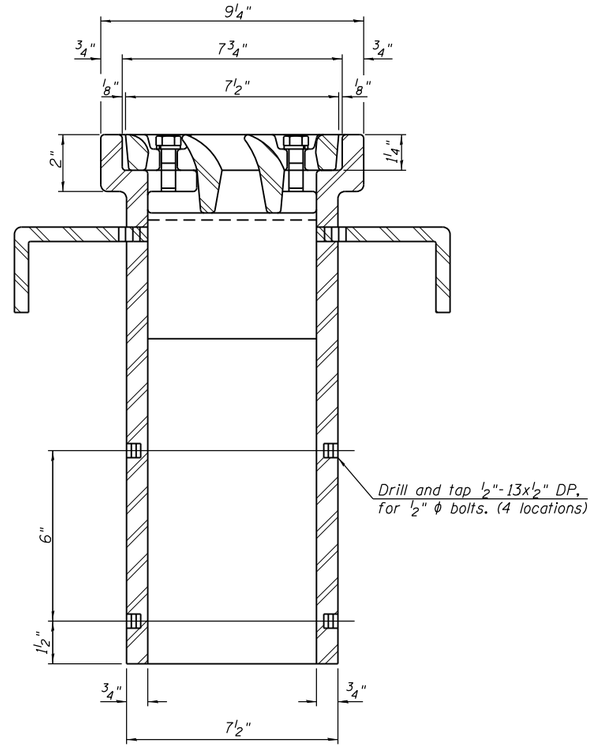
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

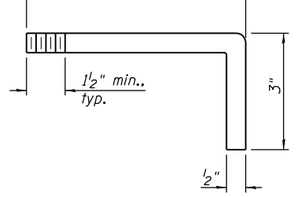


SECTION A-A

See sheet S18 of S54 for scupper location relative to parapet.



SECTION B-B



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	10

exp U.S. Services Inc. Chicago, IL. BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

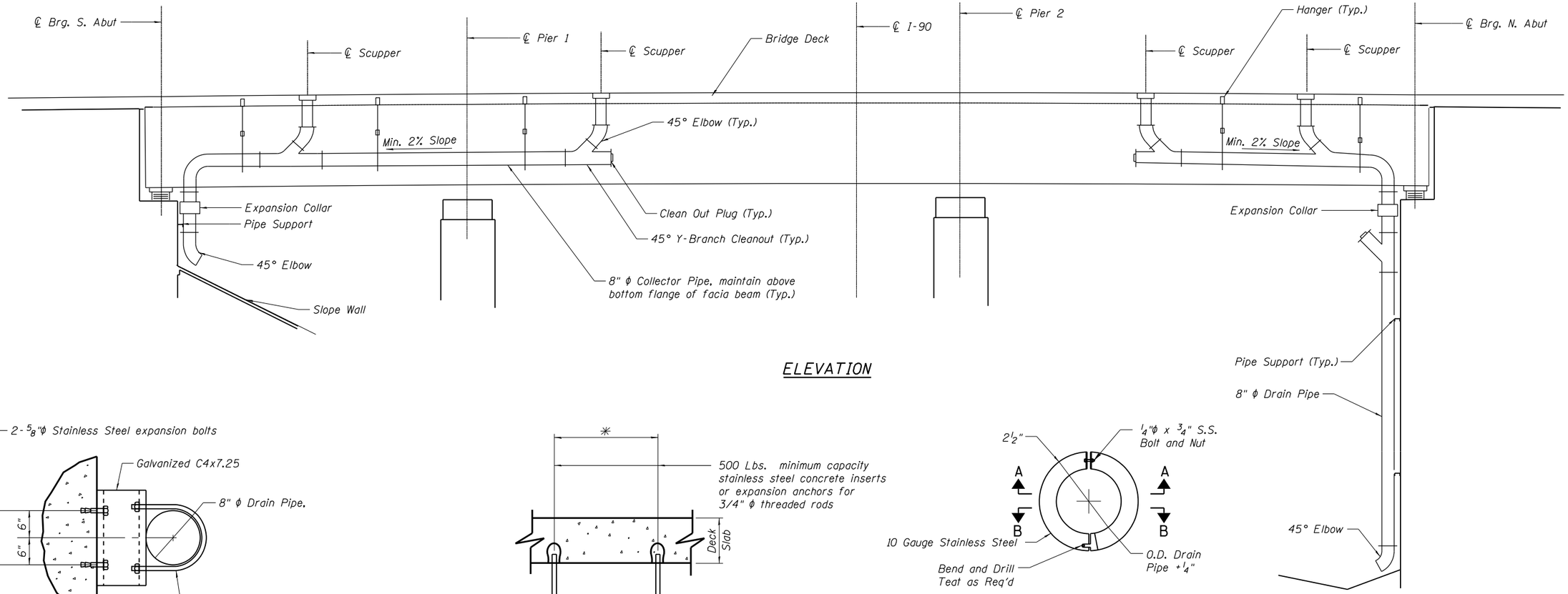
USER NAME = KUMARKZ	DESIGNED - MM	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

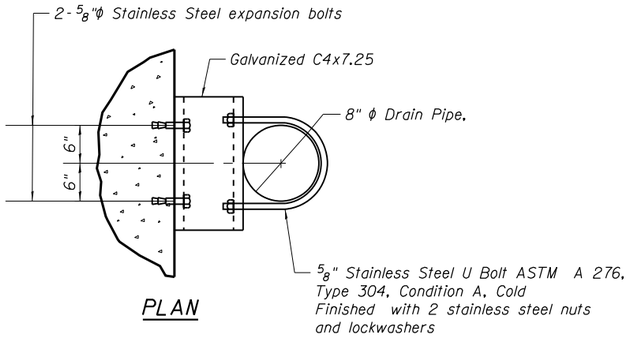
DRAINAGE SCUPPERS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S44 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	151
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

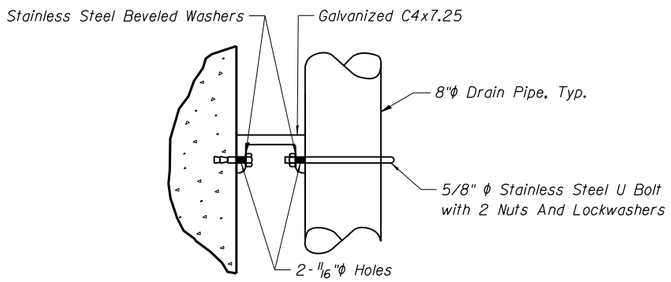
FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-044-Drainage.dgn



ELEVATION



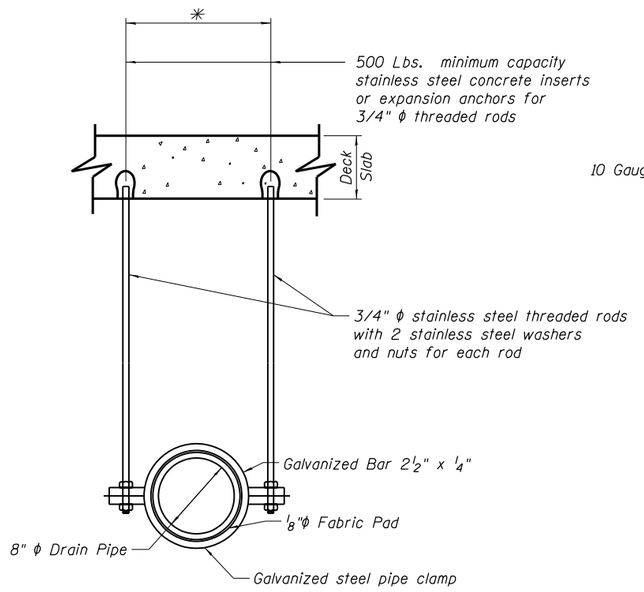
PLAN



ELEVATION

DETAIL A - VERTICAL DRAIN PIPE SUPPORT DETAIL

(Use to support vertical pipe runs along proposed abutment face)



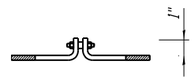
TYPICAL SECTION

DETAIL D - COLLECTOR PIPE HANGER DETAIL

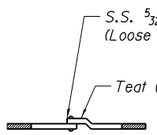
* Dimension as required by pipe clamp

PLAN

(Looking Down)



SECTION A-A



SECTION B-B

EXPANSION COLLAR DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage System	L. Sum	1

Notes:

1. Pipe hangers shall be provided for all horizontal (collection) drain pipes at each fitting, cleanout, or change in direction and at intermediate points not more than 5'-0" on centers.
2. Collection pipe hangers shall have a load capacity of not less than 500 lbs. and shall be designed so as not to apply excessive compressive stress to the pipe. See Detail D for Collector pipe hanger details. Steel straps, bars and plates shall meet the requirements of AASHTO M270, Grade 36 or 50.
3. Pipe supports shall be provided for all vertical (downspout) drain pipes at points not more than 12'-0" on centers. Structural steel shapes shall meet the requirements of AASHTO M270, Grade 36.
4. All pipe hangers, supports and hardware shall be hot-dipped galvanized after fabrication in accordance with AASHTO M232 (ASTM A153) unless otherwise noted. All bolts, nuts, and washers shall be stainless steel. Stainless steel bolts shall conform to the requirements of ASTM A193, Class 1, Grade B8, Type 304. Stainless steel nuts shall conform to the requirements of ASTM A194, Grade 8 or 8F, 303 or 304, and stainless steel washers shall conform to ASTM A240, Type 302 or 304.
5. All drain pipes and fittings shall be 8" ϕ reinforced fiberglass in accordance with the special provision "Drainage System".
6. Hanger dimensions shall be adjusted in the field by the Engineer to fit existing conditions and to maximize slope.
7. For scupper locations see Sheet S1

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Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - MM	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DRAINAGE SYSTEMS
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S45 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	152
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-045-Drainage.dgn

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)398-1441 * FAX(847) 398-2376

SOIL BORING LOG

PAGE 1 of 3
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-07
Station 72+08
Offset Centerline
Ground Surface Elev. 657.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				13.0" CONCRETE
				656.3
	12			SAND & GRAVEL FILL-brown-
	16			medium dense
	13	NP	6	
				654.5
	4		*111*	CLAY-brown & gray-
	3			stiff to very stiff (FILL)
-5	3	2.1B	17	
	1		*119*	
	3			
	4	2.4B	15	
	1		*107*	
	3			
-10	3	1.3B	20	
	5			
	6			
	7	0.75P	22	
	2		*109*	
	2			
-15	3	1.1B	20	
	5		*109*	
	5			
	5	2.8B	20	
	3		*114*	
	3			
-20	6	2.7B	18	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-brown & gray-
				hard (FILL)
				633.9
-25	50	NP	13	ASPHALT & STONE FILL
	/3"			632.9
	5		*99*	CLAY-mottled dark gray-
	6			very stiff, wet
	8	2.7B	25	
	4		*107*	629.9
	6			CLAY-brown & gray-
-30	9	3.1B	21	very stiff
				626.9
	12			SAND & GRAVEL-gray-
	13			medium dense
-35	13	NP	11	
				620.5
	4		*110*	CLAY-gray-
	5			very stiff
-40	8	2.1B	20	

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

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 2 of 3
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-07
Station 72+08
Offset Centerline
Ground Surface Elev. 657.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray-
				very stiff
	4			
-45	6	2.0P	22	
	3		*100*	
	5			
wet	9	2.9B	25	
				604.5
	4		*116*	CLAY LOAM-gray-
	6			very stiff to hard
-55	10	2.8B	17	
	7			
	10			
-60	14	4.5+P	16	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY LOAM-gray-
				very stiff to hard
				595.0
	5		*105*	CLAY w/Silt lenses & seams-gray-
	9			very stiff
-65	8	2.0P	23	
				589.5
	7			SANDY LOAM to SANDY CLAY
	19			LOAM-gray-dense wet
-70	23	1.0P	28	
				584.0
	8		*126*	CLAY-gray-
	11			very stiff to hard
-75	15	6.5B	13	
	9		*115*	
	12			
-80	20	4.1B	17	

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

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 3 of 3
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-07
Station 72+08
Offset Centerline
Ground Surface Elev. 657.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray-
				very stiff to hard
				SILT-gray-
				very dense
	6		*104*	
	9			
-85	12	2.1B	23	
				569.0
	5			SILT-gray-
	50			very dense
-90	/4"	NP	13	
	14			
	34			w/fractured stone
-95	50	NP	10	
				551.5
				Driller's Observation: Possible Bedrock
				Run 1 (-106.5' to -116.5')
				Silurian System
				Niagaran Series Dolomite
				Light gray; horizontal bedding;
				numerous horizontal fractures full depth;
				cherty zones @ -108.4', -109.5',
				-109.9', -110.7', from -111.5' to
				-111.9', -113.0' to -113.4' and
				-114.6' to -114.9'
				98% Recovery RQD=29%
				541.0
				END OF BORING @ -116.5'
				4.0" Hollow Stem to -10.0'
				Rotary Drilling Started at -10.0'
	50			
	/4"	NP	11	
-105				
-110				
-115				
-120				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	50			
	/4"	NP	11	
-105				
-110				
-115				
-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 Recovery NP-Nonplastic D-Disturbed

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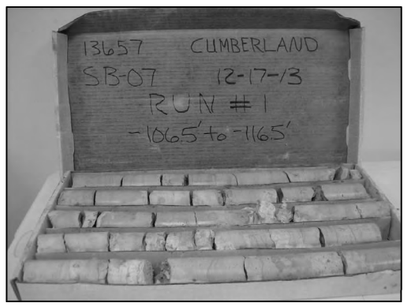
ROCK CORE LOG

PAGE 1 of 1
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station 73+25 Core Diameter 2.0 in
BORING NO. SB-07 Top of Rock Elev. 551.5
Station 72+08 Begin Core Elev. 551.0
Offset Centerline
Ground Surface Elev. 657.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	98	29	2.9	780 @ -112.0

Run 1 (-106.5' to -116.5')
Silurian System
Niagaran Series Dolomite
Light gray; horizontal bedding; numerous horizontal fractures full depth; cherty zones @ -108.4', -109.5', -109.9', -110.7'; from -111.5' to -111.9'; -113.0' to -113.4' and -114.6' to -114.9'



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)

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CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 1 of 3
DATE December 13, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-08
Station 72+75
Offset 50.6'L
Ground Surface Elev. 636.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	25		
	11		
-5	5	NP	5
	4		
	4		
-5	2	NP	6
	2		
	2		
	2	NP	15
	3		101
-10	3		
	4	1.7B	22
	3		
	10		
	13	NP	11
	7		
	10		
-15	10	NP	11
	7		
	8		
	10	NP	16
	3		107
	3		
-20	7	1.4B	22
	4		
	7		
-25	11	2.5P	15
	6		
	7	2.5P	14
	4		116
	5		
-30	7	2.4B	17
	4		112
	6		
-35	10	2.8B	19
	5		115
	8		
-40	13	4.2B	17

10.0" ASPHALT, 4.0" STONE FILL
635.2
CRUSHED STONE, apparent FA-6 gradation-loose to medium dense (FILL)
630.4
SANDY CLAY LOAM-gray-very loose (FILL)
628.4
CLAY-brown & gray-stiff
624.9
SANDY LOAM-brown-medium dense
622.9
SAND GRAVEL-gray-medium dense
617.9
CLAY-gray-stiff to very stiff
597.9
CLAY-gray-very stiff to 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 Recovery NP-Nonplastic D-Disturbed

O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 2 of 3
DATE December 13, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-08
Station 72+75
Offset 50.6'L
Ground Surface Elev. 636.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		
	7		
	10	1.75P	24
	4		120
	8		
-45	12	2.3B	20
	5		128
	11		
-50	17	8.8B	12
	9		121
	13		
-55	21	5.9B	15
	8		113
	11		
-60	15	3.9B	18
	4		106
	6		
-65	10	2.7B	22
	5		
	11		
-70	43	NP	12
	50		
	50/4"		
-75		NP	9

CLAY-gray-very stiff to hard
567.9
SILTY LOAM-gray-very dense
557.9
Driller's Observation: Possible Bedrock see next page
-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 Recovery NP-Nonplastic D-Disturbed

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - TB	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 2 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. 547 OF 554 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	154
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-047-BOR.dgn

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 3 of 3
DATE December 13, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-08
Station 72+75
Offset 50.6'L
Ground Surface Elev. 636.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-85			
-90			
545.4			
-95			
-100			
-105			
-110			
-115			
-120			

Run 1 (-81.0' to -91.0')
Silurian System
Niagaran Series Dolomite
Medium gray; horizontal bedding; slightly weathered; moderately fractured throughout; cherty zones @ -82.6', from -83.1' to -83.9', -85.0', -85.5', -86.1', -87.4', -87.8' & -89.3'

92% Recovery RQD=56%

END OF BORING @ -91.0'
3.25" 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 Recovery NP-Nonplastic D-Disturbed

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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(847)398-1441 * FAX(847) 398-2376

ROCK CORE LOG

PAGE 1 of 1
DATE December 13, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-08
Station 72+75
Offset 50.6'L
Ground Surface Elev. 636.4

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 557.9
Begin Core Elev. 555.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
-5	1	92	56		740 @ -87.3'
-10					

Run 1 (-81.0' to -91.0')
Silurian System
Niagaran Series Dolomite
Medium gray; horizontal bedding; slightly weathered; moderately fractured throughout; cherty zones @ -82.6'; from -83.1' to -83.9', -85.0', -85.5', -86.1', -87.4', -87.8' & -89.3'

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

O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 1 of 3
DATE December 16, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-09
Station 72+80
Offsst 39.8'R
Ground Surface Elev. 636.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
635.4	8		
	7		
	8	NP	6
	5		
-5	3	NP	7
629.7	2		95
	1		
CLAY-brown & gray- stiff to very stiff wet	3	1.9B	27
	5		
-10	6	3.5P	19
624.7	2		
	7		
SAND & GRAVEL-gray- medium dense	7	NP	15
	9		
	13		
-15	13	NP	9
620.7			
	6		112
CLAY-gray- very stiff	5		
	6	2.0B	19
	3		111
	5		
-20	10	2.3B	18

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	3		112
	6		
	9	2.2B	19
	5		
wet -25	7		
	10	1.0P	29
	4		127
	8		
	12	2.3B	12
	6		118
	5		
-30	8	2.8B	16
	3		118
	6		
-35	10	2.9B	16
	4		115
	7		
-40	10	3.5B	17

CLAY-gray- stiff to very stiff

CRUSHED STONE, apparent FA-6 gradction-loose to medium dense (FILL)

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

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Chicago, IL
BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - TB	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 3 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S48 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	155
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-048-BOR.dgn

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SOIL BORING LOG

PAGE 2 of 3
DATE December 16, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-09
Station 72+80
Offset 39.8'R
Ground Surface Elev. 636.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAY-gray- stiff to very stiff
594.2				
	6			SILTY LOAM-gray- medium dense
-45	12 10	NP	15	
588.7				
	5		125	CLAY-gray- very stiff
	11			
-50	16	2.9B	13	
	13			
	15			
wet -55	21	D	25	SILT-gray- very dense
	6		113	
	11			
-60	15	3.2B	18	
569.2				SILTY LOAM-gray- medium dense
	5			
	6			
-70	8	NP	16	
562.7				SILT-gray- very dense
	48 50/4"			
-75		NP	10	
557.7				Driller's Observation: Possible Bedrock
-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 Recovery NP-Nonplastic D-Disturbed

O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 3 of 3
DATE December 16, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-09
Station 72+80
Offset 39.8'R
Ground Surface Elev. 636.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Driller's Observation: Possible Bedrock
553.7				
				Run 1 (-82.5' to -92.5') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; moderately fractured in upper 2.0'; 4.0" vertical fracture @ -83.4'; cherty zones from -83.7' to -83.9', -84.9, -88.4'; -88.7', -89.2', -89.8', -90.7' & -91.8'
-85				
				100% Recovery RQD=68%
-90				
543.7				
				END CF BORING @ -92.5' 3.25" Hollow Stem to -10.0' Rotary Drilling Started at -10.0'
-95				
-100				
-105				
-110				
-115				
-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 Recovery NP-Nonplastic D-Disturbed

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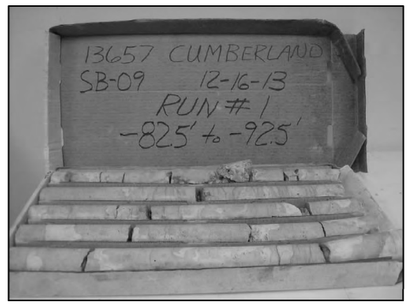
ROCK CORE LOG

PAGE 1 of 1
DATE December 16, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station 73+25 Core Diameter 2.0 in
BORING NO. SB-09 Top of Rock Elev. 557.7
Station 72+80 Begin Core Elev. 553.7
Offset 39.8'R
Ground Surface Elev. 636.2

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
	1	100	68	2.3	660 @ -85.8'	Run 1 (-82.5' to -92.5') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; moderately fractured in upper 2.0'; 4.0" vertical fracture @-83.4'; cherty zones from -83.7' to -83.9', -84.9, -88.4', -88.7', -89.2', -89.8', -90.7' & -91.8'
-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)

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Chicago, IL
BUILDINGS. EARTH & ENVIRONMENT. ENERGY. INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - TB	REVISED	
	CHECKED - KK	REVISED	
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED	
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 4 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. 549 OF 554 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	156
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-049-BOR.dgn

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SOIL BORING LOG

PAGE 1 of 3
DATE December 18, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-10
Station 73+99
Offset 51.9L
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				5.0" ASPHALT, 10.0" CONCRETE
635.6				
	7			
	4			SAND & GRAVEL FILL-brown-
	6	NP	9	medium dense
633.4				
	5		*111*	CLAY FILL-brown, gray & black-
-5	7			very stiff
	9	2.3B	17	
	4		*110*	
	5			
	8	3.2B	18	
628.4				
	4		*100*	CLAY -brown & gray-
	6			stiff to very stiff
-10	10	3.5B	22	
	3			
	4			
wet	5	1.0P	29	
623.4				
	12			SAND & GRAVEL-gray-
	14			dense to medium dense
-15	19	NP	6	
	9			
	10			
	11	NP	11	
618.4				
	7			SAND-gray-
	8			medium dense
-20	11	NP	24	
615.9				SAND-gray-
	13			medium dense
	27			
	29	2.3P	20	CLAY-gray-
	5		*104*	stiff to very stiff (A-6)
-25	9	2.5P	23	
	7		*106*	
	10			
	11	2.3B	22	
	7		*105*	
	9			
-30	13	1.8B	22	
603.4				
	5			SANDY LOAM-gray-
	7			medium dense (A-4)
-35	8	NP	11	
598.9				
	6		*112*	CLAY-gray-
	7			stiff (A-6)
-40	9	1.3B	19	

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

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SOIL BORING LOG

PAGE 2 of 3
DATE December 18, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-10
Station 73+99
Offset 51.9L
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				CLAY-gray-
				stiff (A-6)
593.4				
	7		*114*	SILTY CLAY LOAM-gray-
	12			very stiff (A-6)
-45	15	2.1B	18	
588.4				
	14			SILT-gray-
	25			very dense
-50	32	NP	15	
583.4				
	8		*123*	CLAY-gray-
	14			stiff to very stiff
-55	21	3.5B	13	
	8		*115*	
	15			
-60	26	3.7B	17	
				CLAY-gray-
				stiff to very stiff
	8		*103*	
	10			
-65	10	1.8B	24	
568.4				
	6		*112*	SILTY CLAY LOAM-gray-
	7			stiff (A-6)
-70	8	1.4B	19	
563.4				
	9			SANDY LOAM w/intermittent boulders-
	14			gray-dense to very dense (A-4)
-75	32	NP	9	
	9			
	16			
-80	34	NP	9	

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

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CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 3 of 3
DATE December 18, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-10
Station 73+99
Offset 51.9L
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SANDY LOAM w/intermittent boulders-
				gray-dense to very dense (A-4)
552.4				
	50/1"		NR	
Driller's Observation: Possible Bedrock -85				
				END OF BORING @ -85.0'
				4.0" Hollow Stem to -10.0'
				Rotary Drilling Started at -10.0'
-90				
-95				
-100				
-105				
-110				
-115				
-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 Recovery NP-Nonplastic D-Disturbed

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SOIL BORING LOG

PAGE 1 of 3
DATE December 17, 2013
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OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-11
Station 74+03
Offset 39.9'R
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.9'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
5.0" ASPHALT, 10.0" CONCRETE			
635.7			
	7		
SAND & GRAVEL FILL-brown-loose	5		
	4	NP	4
633.4			
	5		*113*
CLAY FILL-brown, gray & black-very stiff	6		
-5	7	3.7B	16
	5		*113*
	5		
	8	2.7B	16
628.4			
	5		*97*
CLAY-brown & gray-stiff to very stiff wet	6		
-10	8	2.4B	25
	3		*100*
	4		
	5	1.25P	26
623.4			
	14		
SAND & GRAVEL-brown-dense	18		
-15	19	NP	8
620.4			
	8		
	11		
SAND & GRAVEL-gray-medium dense	11	NP	11
618.4			
	9		*113*
CLAY-gray-stiff to very stiff	6		
-20	5	1.0P	18

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff (A-6)			
	5		*105*
	7		
	11	2.4B	22
	6		*107*
	9		
-25	12	3.1B	21
	5		*101*
	7		
wet	10	1.9B	25
608.4			
	5		
SILTY CLAY LOAM-gray-very stiff (A-6)	6		
-30	7	2.0P	17
603.4			
CLAY-gray-stiff to very stiff	5		*113*
	7		
-35	16	1.3B	18
	5		*115*
	7		
-40	12	3.2B	17

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

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 2 of 3
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-11
Station 74+03
Offset 39.9'R
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff			
593.4			
	11		
SILTY LOAM-gray-dense (A-6)	18		
-45	27	NP	18
	10		
	16		
-50	19	NP	13
583.4			
	6		*120*
CLAY-gray-stiff to very stiff	8		
-55	15	2.4B	15
	4		*110*
	7		
-60	9	1.4B	20

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff			
	4		*103*
	6		
-65	8	1.9B	24
568.4			
	5		
SILTY CLAY LOAM-gray-medium dense (A-6)	7		
-70	10	NP	18
563.4			
	50/2"	NP	9
CLAY LOAM w/rock fragments-gray-very dense (A-4)			
-75			
	42		
	43		
-80	29	NP	21

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

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SOIL BORING LOG

PAGE 3 of 3
DATE December 17, 2013
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ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-11
Station 74+03
Offset 39.9'R
Ground Surface Elev. 636.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY LOAM w/rock fragments-gray-very dense (A-4)			
554.4			
	50/1"		
Driller's Observation: Possible Bedrock			
551.9 -85			
Run 1 (-85.0' to -95.0') Silurian System Niagaran Series Dolomite Light gray; numerous horizontal fractures throughout core; cherty zones @ -85.5', -87.6', -88.1, -88.6', -from -89.2' to -89.5', -90.0', -90.6', -91.2', -92.7', -93.6 & from -94.3' to -94.7'- 100% Recovery RQD=24%			
-90			
541.9 -95			
END OF BORING @ -95.0' 4.0" Hollow Stem to -10.0' Rotary Drilling Started at -10.0'			
-100			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-105			
-110			
-115			
-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 Recovery NP-Nonplastic D-Disturbed

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)398-1441 * FAX(847) 398-2376

ROCK CORE LOG

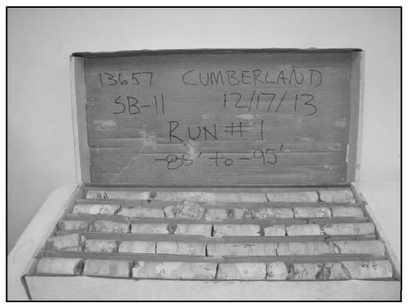
PAGE 1 of 1
DATE December 17, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124 CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Station 73+25 Core Diameter 2.0 in
BORING NO. SB-11 Top of Rock Elev. 554.4
Station 74+03 Begin Core Elev. 551.9
Offset 39.9'R
Ground Surface Elev. 636.9

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	100	24		830 @ -86.0'

Run 1 (-85.0' to -95.0')
Silurian System
Niagaran Series Dolomite
Light gray, numerous horizontal fractures throughout core; cherty zones @ -85.5', -87.6', -88.1, -88.6'; -from -89.2' to -89.5'; -90.0', -90.6', -91.2', -92.7', -93.6 & from -94.3' to -94.7'

100% Recovery RQD=24%



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)

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SOIL BORING LOG

PAGE 1 of 3
DATE December 10, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124 Surface Water Elev. n/a
Station 73+25 Stream Bed Elev. n/a
BORING NO. SB-12 Groundwater Elevation:
Station 75+17 First Encounter Dry to -10.0'
Offset 25.1'L Upon Completion NA
Ground Surface Elev. 656.9 After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
0			
	6		
	8		
	7	NP	10
	3		
	2		
-5	2	NP	10
	1		
	1		
	1	NP	20
647.9	1		106
-10	1		
	3	1.3B	20
	3		
	8		
	10	3.0P	19
	5		121
	6		
-15	7	2.7B	15
	4		
	5		
	6	2.5P	22
	4		110
	6		
-20	17	2.3B	20

12.0" CONCRETE
655.9
SAND-brown-
very loose to medium dense (FILL)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		109
	5		
	6	1.3B	20
632.4	2		
-25	4		
	50/3"	NP	24
631.4			
	5		
	6		
	8	2.5P	24
628.9	4		95
-30	4		
	8	2.2B	27
623.4	22		
-35	23		
	21	NP	10
618.4	7		105
-40	4		
	5	3.6B	23

CLAY-trace topsoil-brown, gray & black-
stiff to very stiff (FILL)
CLAY-mottled gray to dark gray-
very stiff, wet
SAND-gray-
dense
CLAY-brown & gray-
very stiff

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

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 2 of 3
DATE December 10, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124 Surface Water Elev. n/a
Station 73+25 Stream Bed Elev. n/a
BORING NO. SB-12 Groundwater Elevation:
Station 75+17 First Encounter Dry to -10.0'
Offsst 25.1'L Upon Completion NA
Ground Surface Elev. 656.9 After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
0			
613.4			
	5		115
	7		
-45	10	2.0B	17
	4		109
	6		
-50	10	2.9B	20
	4		102
	5		
-55	8	3.5B	24
	5		116
	9		
-60	12	1.8B	17

CLAY-gray-
very stiff
CLAY-gray-
very stiff
SILT-gray-
medium dense
CLAY-gray-
very stiff to hard

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	13		116
-65	16		
	20	3.1B	17
588.4	7		
	10		
-70	12	NP	16
583.4	9		121
	11		
-75	15	4.4B	15
	9		122
	14		
-80	21	3.6B	14

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

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Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - TB	REVISED	
	CHECKED - KK	REVISED	
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED	
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 7 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S52 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	159
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-052-BOR.dgn

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SOIL BORING LOG

PAGE 3 of 3
DATE December 10, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-12
Station 75+17
Offset 25.1'L
Ground Surface Elev. 656.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.9'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray- very stiff to hard			
	7		115
-85	9 10	4.1B	17
	7		107
-90	9 11	2.3B	22
563.4			
SANDY LOAM-gray- very dense			
	50		
-95	/4"	NP	18
	20		
	46 50		
-100	/3"	NP	19

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SANDY LOAM-gray- very dense			
554.9			
Driller's Observation: Possible Bedrock			
553.4			
Run 1 (-103.5' to -113.5') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; 5.0" vertical fracture @ -110.8', highly fractured in bottom foot; cherty zones @ -105.5', -106.3', -108.0 & from -111.7' to -112.4'			
-105			
100% Recovery RQD=53%			
-110			
543.4			
END OF BORING @ -113.5' 3.25" Hollow Stem to -10.0' Rotary Drilling Started at -10.0'			
-115			
-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 Recovery NP-Nonplastic D-Disturbed

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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ROCK CORE LOG

PAGE 1 of 1
DATE December 10, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-12
Station 75+17
Offset 25.1'L
Ground Surface Elev. 656.9

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 554.9
Begin Core Elev. 553.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	100	53	3.5	1080 @ -106.7
Run 1 (-103.5' to -113.5') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; 5.0" vertical fracture @ -110.8', highly fractured in bottom foot; cherty zones @ -105.5', -106.3', -108.0 & from -111.7' to -112.4'					
-105					
-110					

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

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 1 of 3
DATE December 9, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-13
Station 75+18
Offsst 25.0'R
Ground Surface Elev. 656.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -15.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" CONCRETE			
656.0			
	7		
SAND-brown very oose to medium dense (FILL)	6		
	5	NP	4
	2		
	1		
-5	4	NP	5
	1		
	1		
	1	NP	6
648.1			
	1		115
	2		
-10	2	1.5B	17
CLAY-trace topsoil-brown, gray & black- stiff to very stiff (FILL)			
	2		111
	3		
	5	1.6B	19
	3		113
	4		
-15	4	2.7B	18
	2		110
	4		
	5	2.3B	20
	3		
	6		
-20	8	1.0B	22

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	2		
CLAY-trace topsoil-brown, gray & black- stiff to very stiff (FILL)	5		
	8	2.75P	18
	3		116
hard -25	4 10	4.9B	16
	7		
	10		
	13		21
	3		99
wet -30	3 5	1.9B	26
626.1			
SAND & GRAVEL-gray- dense			
	20		
	23		
-35	23	NP	10
619.6			
CLAY-gray- stiff to very stiff			
	4		
	7		
-40	8	1.0P	18

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

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

USER NAME = KUMARKZ	DESIGNED - TB	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 8 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S53 OF S54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	160
		CONTRACT NO. 62A64		
		ILLINOIS FED. AID PROJECT		

FILE NAME = pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-053-BOR.dgn

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SOIL BORING LOG

PAGE 2 of 3
DATE December 9, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-13
Station 75+18
Offset 25.0'R
Ground Surface Elev. 656.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -15.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- stiff to very stiff
				593.1
	4		108	
	7			SILT-gray- medium dense
-45	11	2.7B	21	
				588.1
	3		96	
	5			CLAY-gray- hard
wet -50	8	1.1B	28	
	3		115	
	6			
-55	9	2.7B	17	
	6		114	
	9			
-60	17	1.5B	18	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- stiff to very stiff
	11			
	9			
-65	11	NP	14	
	12		123	
	17			
-70	28	4.5P	14	
	7		122	
	12			
-75	17	4.2B	14	
	10		115	
	16			
-80	23	4.25P	17	

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

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CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 3 of 3
DATE December 9, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook DRILLING METHOD Rotary Wash HAMMER TYPE Mobile Automatic
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-13
Station 75+18
Offset 25.0'R
Ground Surface Elev. 656.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -15.0'
Upon Completion NA
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- hard
				569.6
	5			SILTY LOAM-gray- medium dense to very dense
-85	10	D	25	
	5			
	7			
-90	11	NP	19	
	33			
	50/5"		10	
-95				
	50/1"		12	
-100				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM-gray- medium dense to very dense
				554.1
				Driller's Observation: Possible Bedrock
				552.6
-105				Run 1 (-104.0' to -114.0') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; highly fractured from -112.0' to -112.7'; 2.5" transverse fracture @ -110.2'; vuggy zones @ -108.7', -110.2' & -113.1'
				96% Recovery RQD=69%
-110				
				542.6
			10	END OF BORING @ -114.0' 3.25" Hollow Stem to -15.0' Rotary Drilling Started at -15.0'
-115				
-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 Recovery NP-Nonplastic D-Disturbed

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ROCK CORE LOG

PAGE 1 of 1
DATE December 9, 2013
LOGGED BY TB
OBA JOB No. 13657

ROUTE 190 DESCRIPTION I-190 Cumberland Flyover "East River Road Over I-90"
SECTION (1517R-1&1617B)13 LOCATION Chicago, IL Township 40N R12E Section 3
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. 016-2124
Station 73+25
BORING NO. SB-13
Station 75+18
Offsst 25.0'R
Ground Surface Elev. 656.6

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 554.1
Begin Core Elev. 552.6

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	
	1	96	69	2.3	890 @ -106.3	Run 1 (-104.0' to -114.0') Silurian System Niagaran Series Dolomite Light gray; horizontal bedding; highly fractured from -112.0' to -112.7'; 2.5" transverse fracture @ -110.2'; vuggy zones @ -108.7', -110.2' & -113.1'
-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)

exp U.S. Services Inc.
Chicago, IL
BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

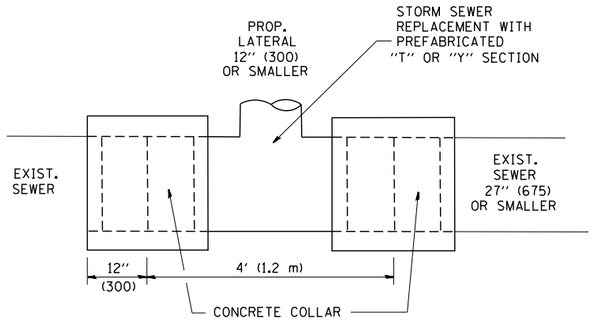
USER NAME = KUMARKZ	DESIGNED - TB	REVISED
	CHECKED - KK	REVISED
PLOT SCALE = 0.083333 ' / in.	DRAWN - MM	REVISED
PLOT DATE = 3/6/2015	CHECKED - KK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - 9 OF 9
EAST RIVER ROAD BRIDGE
STRUCTURE NO. 016-2280
SHEET NO. S54 OF S54 SHEETS

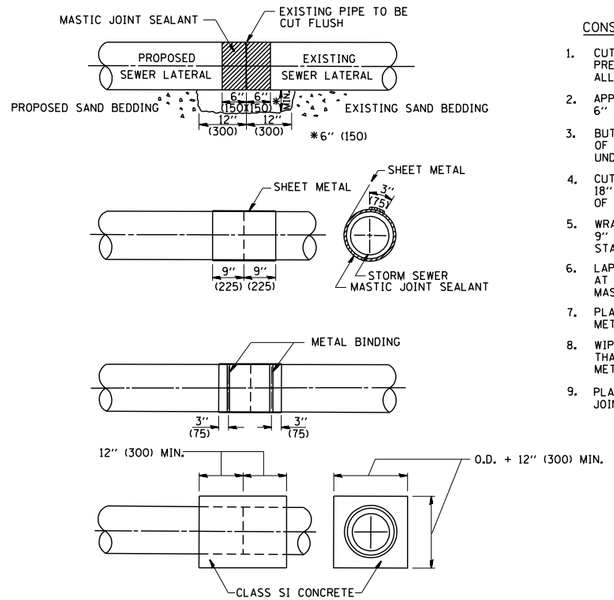
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	161
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			

FILE NAME = pw:\\hntbw356.hntb.orgsPWGreat_Lakes\Documents\Chicago Projects\30120 I-190 Cumberland\Design\CADD_Contract_62A64\CADD_Sheets\0162280-62A64-054-BOR.dgn



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER

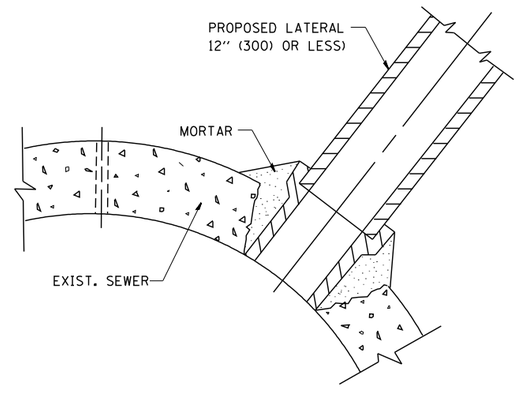


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.

II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:

A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".

B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

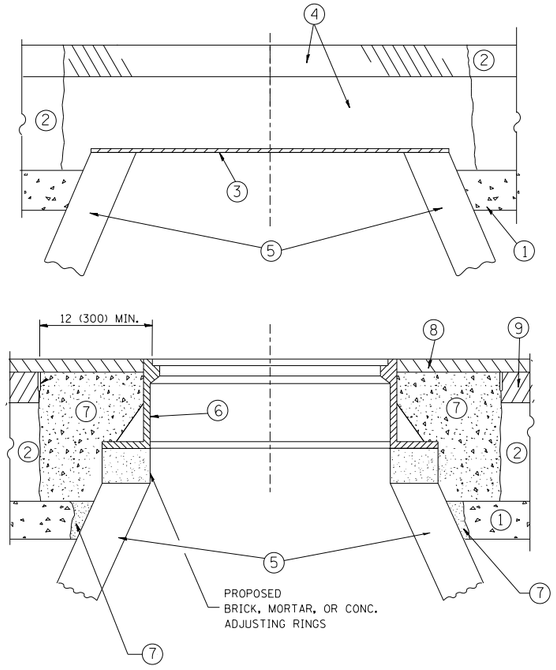
REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\bd07.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. SHAH 09-09-94								223	162
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94						BD500-01 (BD-7)		CONTRACT NO.	
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1½ (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE 2 (AFTER PAVEMENT MILLING)

A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

*UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

(1) SUB-BASE GRANULAR MATERIAL
(2) EXISTING PAVEMENT
(3) 36 (900) DIAMETER METAL PLATE
(4) PROPOSED CRUSHED STONE AND HMA SURFACE MIX
(5) EXISTING STRUCTURE
(6) FRAME AND LID (SEE NOTES)
(7) CLASS PP-1* CONCRETE
(8) PROPOSED HMA SURFACE COURSE
(9) PROPOSED HMA BINDER COURSE

NOTES:

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT:

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME = c:\pw_work\pwidot\bauerdl\d0108315\bd08.dgn	USER NAME = bauerdl	DESIGNED - R. SHAH	REVISED - R. WIEDEMAN 05-14-04
		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 1968.5000 ' / m	CHECKED -	REVISED - R. BORO 03-09-11
	PLOT DATE = 12/6/2011	DATE - 10-25-94	REVISED - R. BORO 12-06-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS FOR
FRAMES AND LIDS ADJUSTMENT WITH MILLING

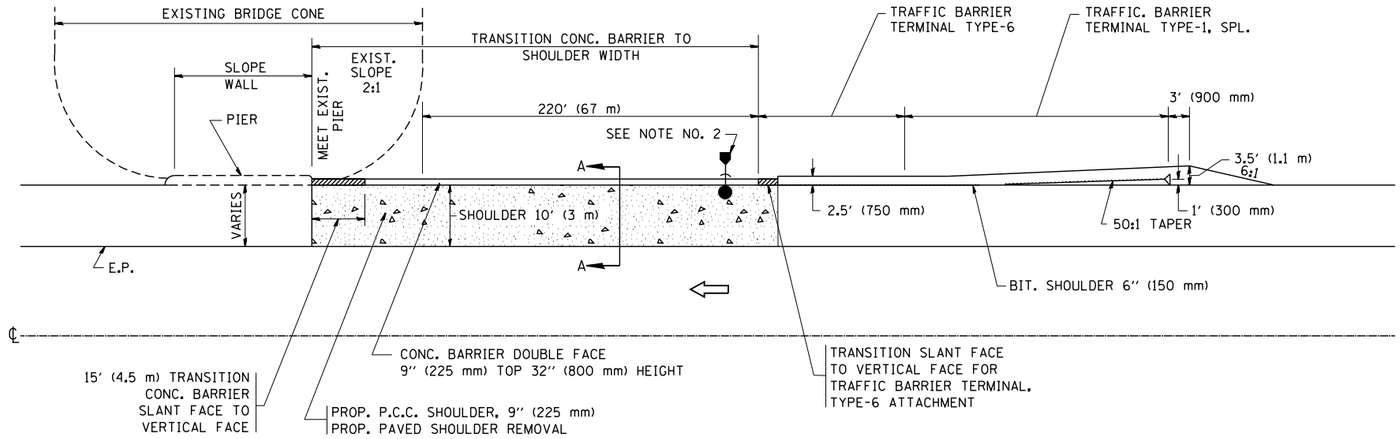
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	163

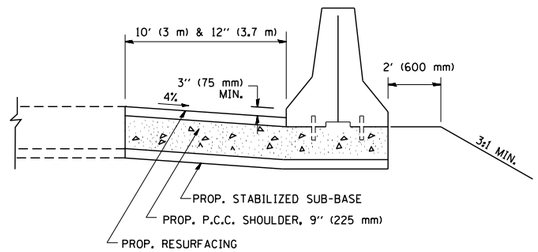
BD600-03 (BD-8) CONTRACT NO.

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

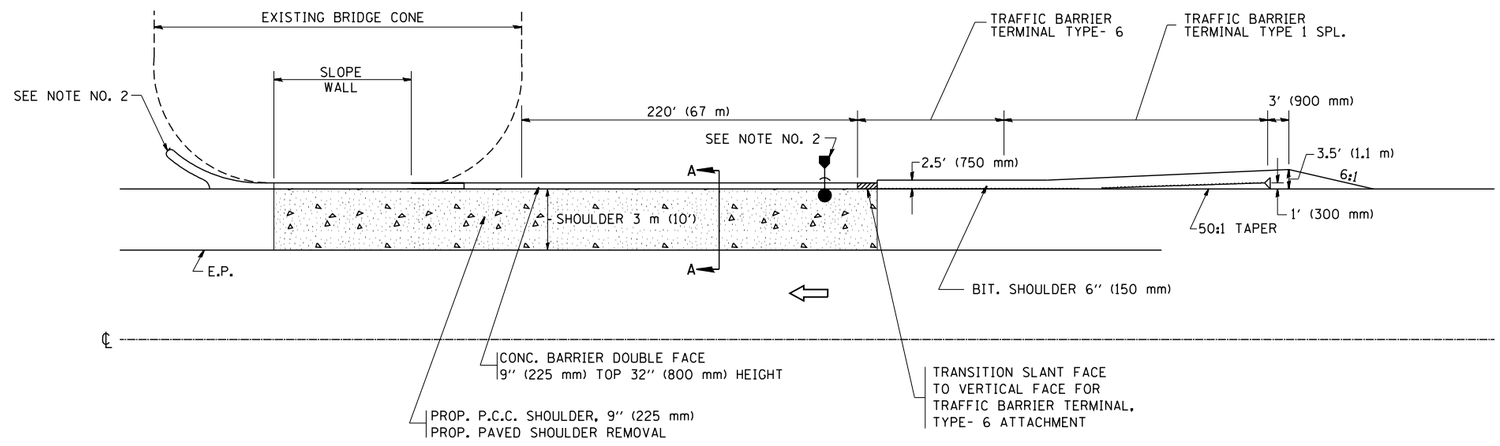
bd08.dgn 12/6/2011 10:53:13 AM Users\bauerdl



CONC. BARRIER ADJACENT TO SLOPE WALL WITH PIER (DITCH SECTION)



SECTION A-A



CONC. BARRIER ADJACENT TO SLOPE WALL WITHOUT PIER (DITCH SECTION)

NOTE:

1. SEE STATE STANDARD 630201 FOR STABILIZATION FOR GUARDRAIL.
*2. THE GUTTER OUTLET AND CATCH BASIN LOCATION IS DEPENDENT ON DIRECTION OF FLOW.
3. USE CONC. BARRIER SINGLE FACE IF CLEARANCE BETWEEN PIER AND SHOULDER IS LESS THAN 27" (685 mm).
4. SEE STATE STANDARD 637001 FOR CONCRETE BARRIER.

* CATCH BASIN TYPE C, TYPE 24 FRAME AND GRATE
* STORM SEWERS, 12" (300 mm)
* END SECTIONS, 12" (300 mm)

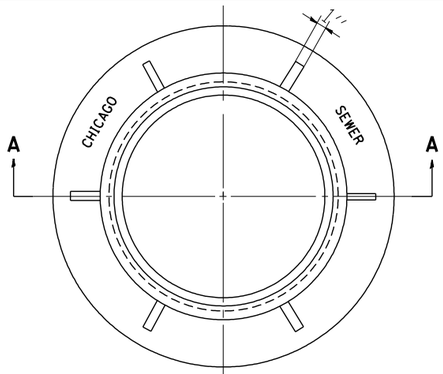
FILE NAME = W:\diststd\22x34\bd29.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE - 10-18-02	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

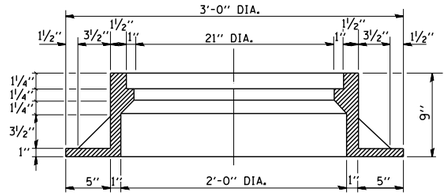
CONCRETE BARRIER PIER AND SLOPE WALL PROTECTION DETAIL

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	164
BD600-08 (BD29)		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PLAN

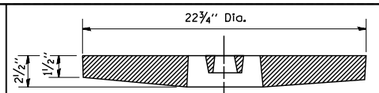


SECTION A-A

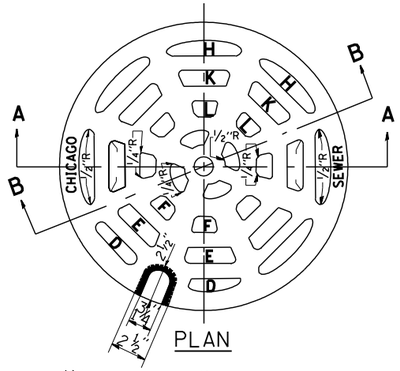
NOTE: METAL PLATES MUST BE FURNISHED FOR PERFORMED LIDS ON MANHOLES

CHICAGO STANDARD MANHOLE FRAME

SCALE: 1½"=1'-0"
MATERIAL: CAST IRON



SECTION B-B



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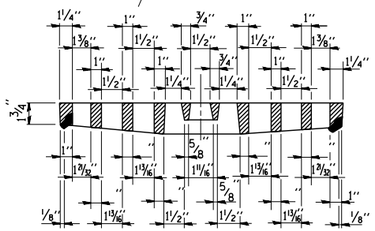
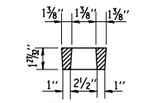


SECTION A-A

PERFORMED LID FOR CATCH BASINS & MANHOLES

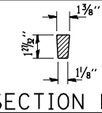
SCALE: 2"=1'-0"
MATERIAL: CAST IRON



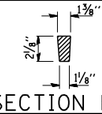
SECTION D-D

SECTION E-E

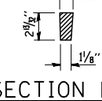
SECTION F-F



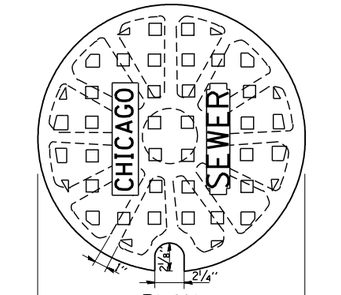
SECTION H-H



SECTION K-K



SECTION L-L



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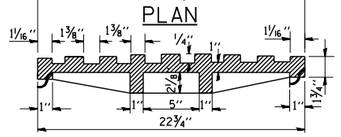
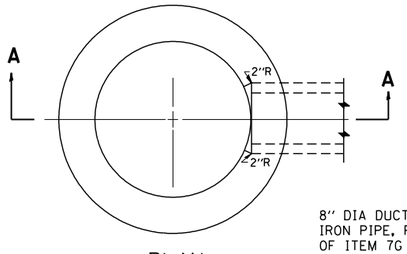


SECTION

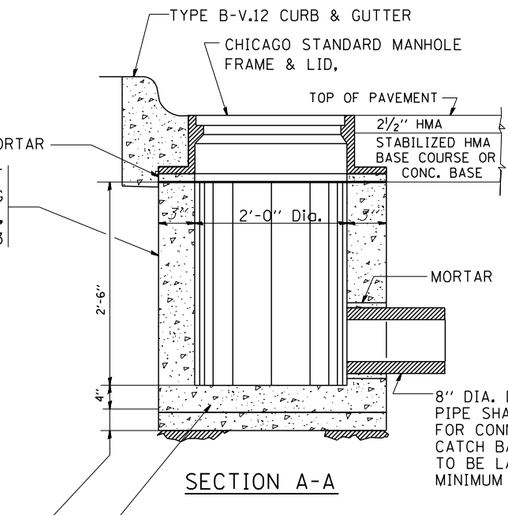
SOLID LID FOR MANHOLES

SCALE: NONE
MATERIAL: CAST IRON



PLAN
(FRAME & LID NOT SHOWN)

8" DIA DUCTILE IRON PIPE, PART OF ITEM 7G



SECTION A-A

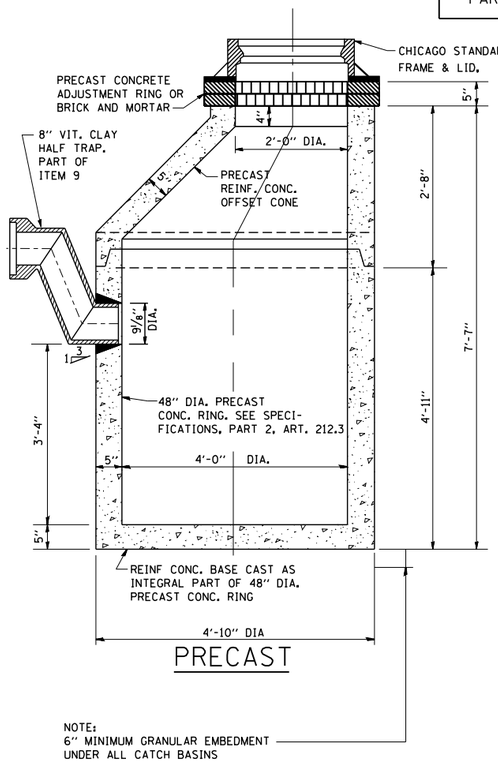
STANDARD INLETS

SCALE 1"= 1'-0"
ITEM 12

THIS INLET DETAIL IS SOMETIMES REFERRED TO AS "CHICAGO STANDARD INLET, TYPE A"

NOTE:
INLETS SHALL NOT BE CONSTRUCTED UNLESS IT IS IMPOSSIBLE TO CONSTRUCT A CATCH BASIN. THE CONTRACTOR SHALL HAVE THE DEPARTMENT OF SEWERS APPROVAL BEFORE CONSTRUCTING INLETS.

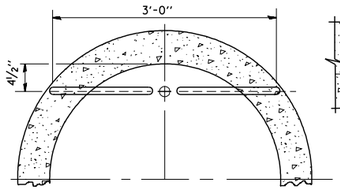
CITY OF CHICAGO
DEPARTMENT OF SEWERS
ENGINEERING DIVISION



PRECAST

STANDARD CATCH BASINS

SCALE: ¾"= 1'-0"
ITEM 9



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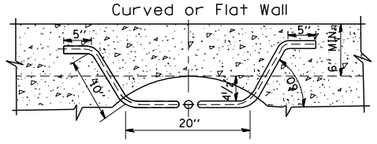

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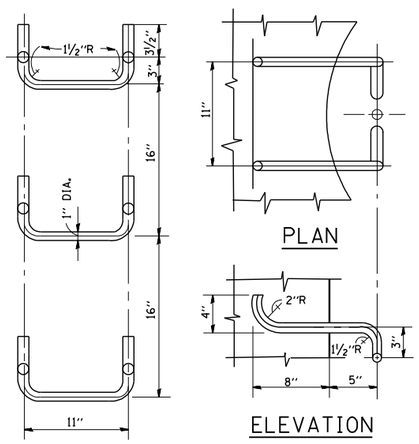
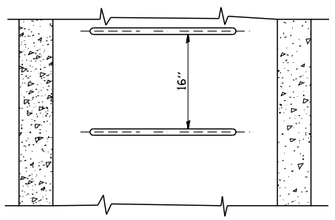


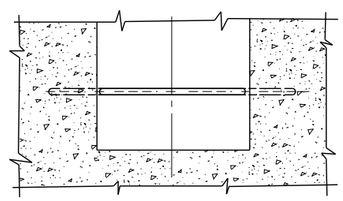
SPACING

PLAN

ELEVATION



ELEVATION
TYPE X
SCALE: 1"=1'-0"



ELEVATION
TYPE Y
SCALE: 1"=1'-0"

HANDHOLD-TYPE Z RUNG

Scale: 1½"=1'-0"

STANDARD LADDER RUNGS

ALL LADDER RUNGS SHALL BE ALUMINUM OR GALVANIZED WROUGHT IRON AS SPECIFIED IN THE SPECIFICATIONS, PART 2, ARTICLE 214.2. RUNGS SHALL BE 1" DIAMETER OR OF A SHAPE HAVING AN EQUIVALENT CROSS-SECTIONAL AREA.

FILE NAME = W:\diststd\22x34\bd47.dgn	USER NAME = gaglianobt	DESIGNED - M. GOMEZ	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE - 01-25-01	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
CATCH BASIN, INLET AND MANHOLE DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

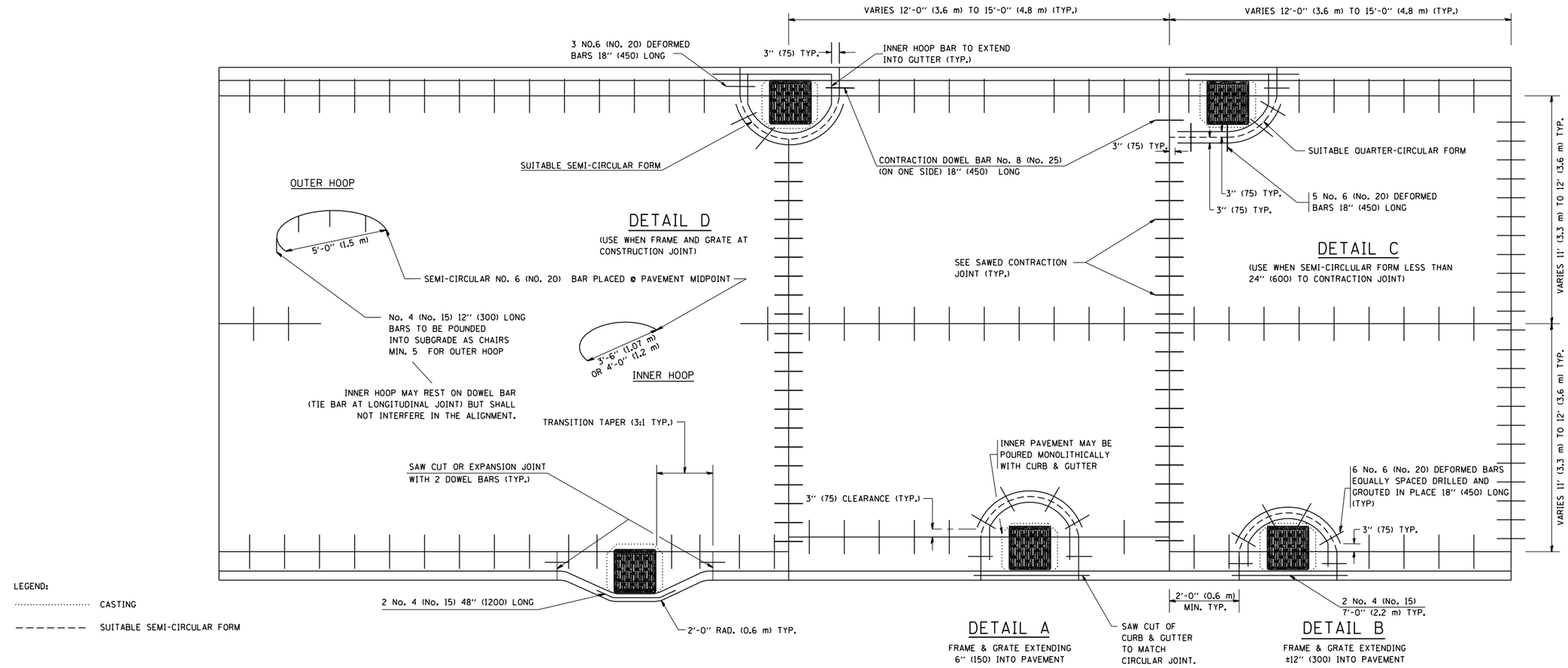
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	165
	BD600-13 (BD47)		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

FRAME EXTENSION INTO PAVEMENT	INNER HOOP REINFORCEMENT DIAMETER	SEMI CIRCULAR FORM DIAMETER	OUTER HOOP REINFORCEMENT DIAMETER
UP TO 8" (200)	3'-6" (1.1 m)	4'-0" (1.2 m)	5'-0" (1.5 m)
> 8" (200) TO 14" (360)	4'-0" (1.2 m)	4'-6" (1.4 m)	5'-0" (1.5 m)

DESIGNER NOTE:
THIS DETAIL IS TO BE USED WHEN THE GUTTER FLAG IS LESS THAN 24"

NOTES :

1. THE ROUNDOUT AND ADDED REINFORCEMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PAVEMENT.
2. TRANSVERSE JOINTS MAY BE MOVED TO ACCOMMODATE ROUNDOUT, EDGE OF CIRCULAR JOINT SHALL BE MINIMUM 12" (300) FROM TRANSVERSE JOINT. RELOCATED TRANSVERSE JOINT SHALL BE CONTINUOUS FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
3. SEMI-CIRCULAR FORM SHALL BE REMOVED PRIOR TO DRILL AND GROUT OF TIE BARS.
4. ALL REINFORCED BARS SHALL BE EPOXY COATED.
5. DRILL AND GROUT IS PREFERRED, HOWEVER TIE BARS CAN BE POURED IN PLACE IF CLEARANCE IS PROVIDED TO OUTER EDGE OF FRAME. MINIMUM 2" (50) CLEARANCE.
6. WOOD SHIMS SHALL BE USED TO ADJUST ALL FRAMES. AFTER ADJUSTING MORTAR HAS CURED, THE WOOD SHIMS SHALL BE REMOVED AND THE VOIDS UNDER THE FRAMES FILLED WITH NON SHRINK GROUT.
7. HOOP REINFORCEMENT SHALL BE ONE PIECE CONSTRUCTION.
8. CIRCULAR FRAMES AND GRATES MAY BE SUBSTITUTED.
9. CURB DOWELS MUST BE PLACED LEVEL & TRUE TO ALLOW CONTRACTION MOVEMENT.



TRANSITION CURB & AND GUTTER INTO PARKWAY
(PREFERRED BECAUSE PAVING OF MAINLINE NOT AFFECTED.)

ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS) UNLESS OTHERWISE NOTED

FILE NAME = W:\diststd\22x34\bd48.dgn	USER NAME = gaglianobt	DESIGNED - A. ABBAS	REVISED - T. MATOUSEK 08-28-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PCC PAVEMENT ROUNDOUTS AT CURB AND GUTTER
		DRAWN - TOM MATOUSEK	REVISED - T. MATOUSEK 10-02-00		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED - T. MATOUSEK 04-25-02		
	PLOT DATE = 1/4/2008	DATE - 01-04-99	REVISED - P. LAFLEUR 08-27-02		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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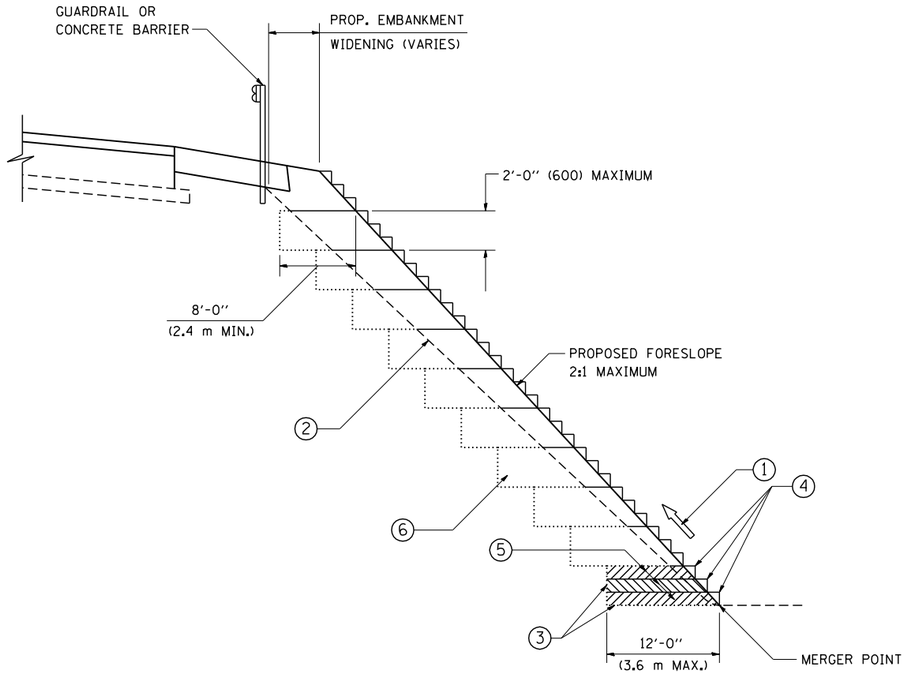
	BD-48	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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		DRAWN - CADD	REVISED -
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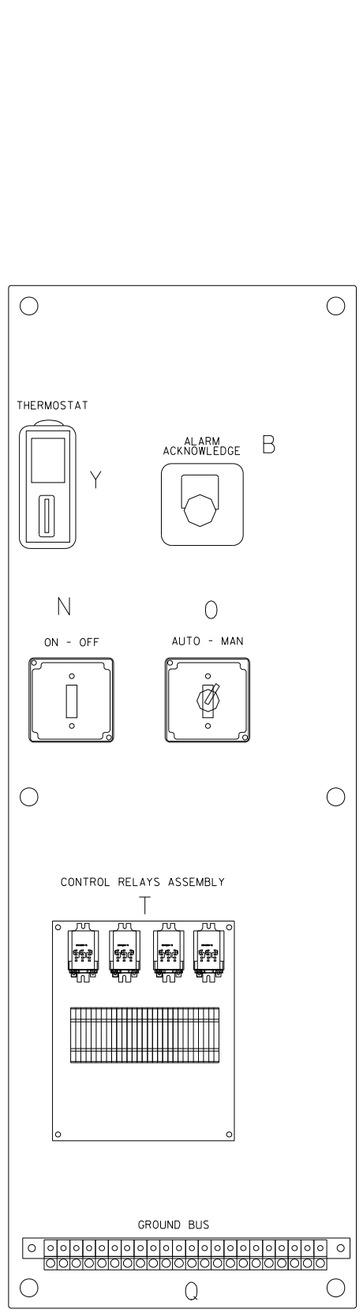
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

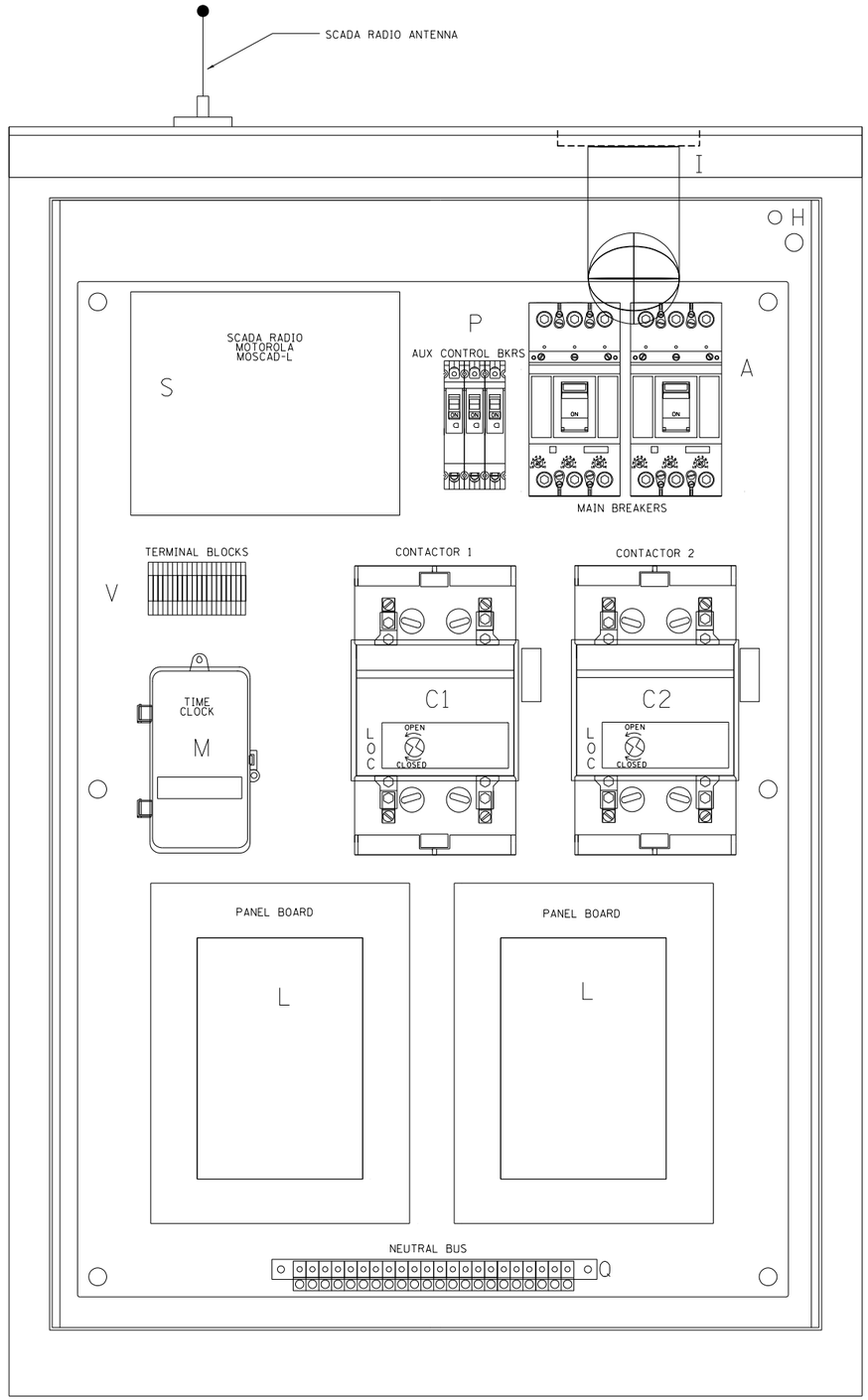
BENCHING DETAIL
FOR EMBANKMENT WIDENING

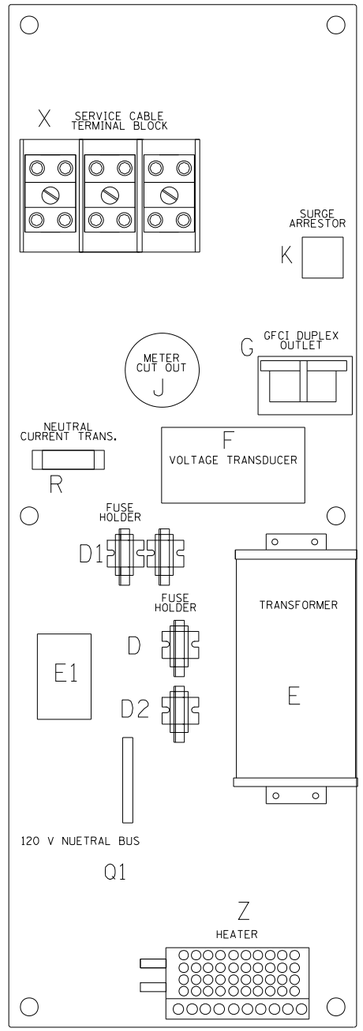
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	167
	BD-51	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



LEFT SIDE PANEL





RIGHT SIDE PANEL

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2 *	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-½ FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T *	1	CONTROL RELAY ASSEMBLEY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4). QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X *	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET

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		DRAWN -	REVISED - R. TOMSONS 05-11-09
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	168
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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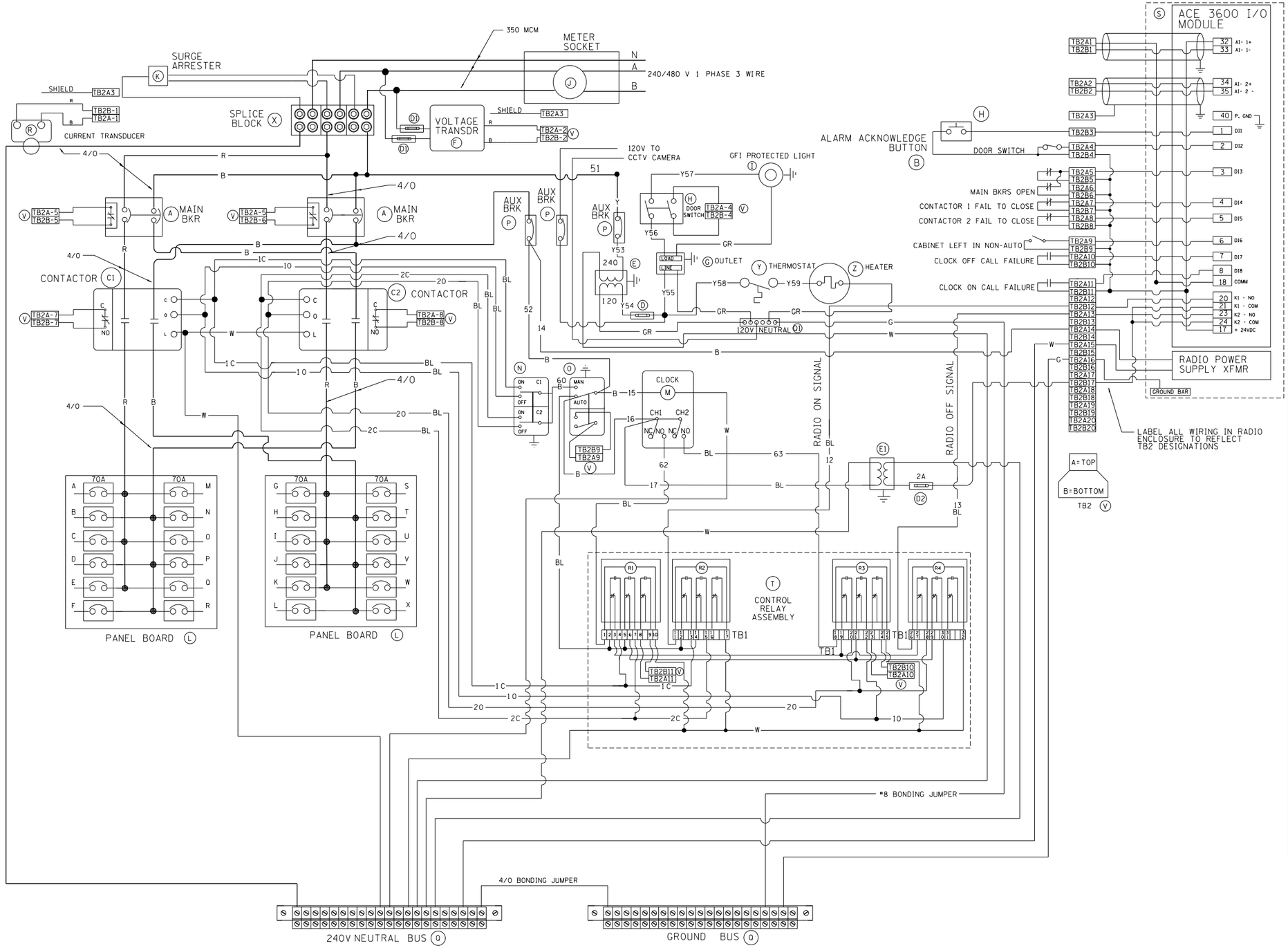

BILL OF MATERIALS

ITEM *	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20A FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-½ FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK- 2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120-24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20GQ-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
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O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 1/0 AND #6 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA ACE 3600
T	1	CONTROL RELAY ASSEMBLEY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

*

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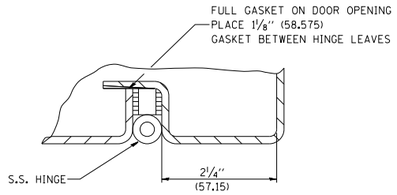
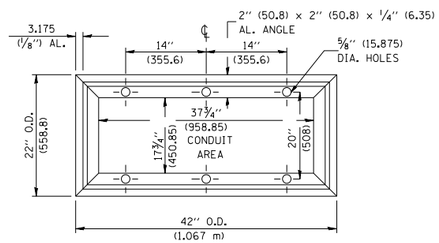
	PLOT SCALE = 50.000 ' / in.	DRAWN -	REVISED - R. TOMSONS 05-11-09						223	169
	PLOT DATE = 3/29/2012	CHECKED -	REVISED - R. TOMSONS 03-10-10				BE-205		CONTRACT NO.	
		DATE -	REVISED - R. TOMSONS 03-29-12		SCALE: NONE SHEET NO. 2 OF 4 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

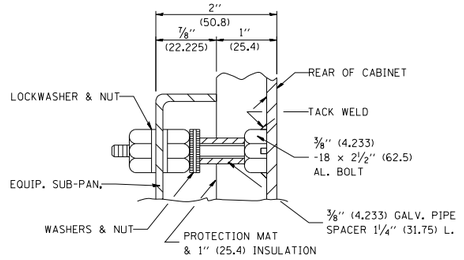
be09.dgn 3/29/2012 11:15:24 AM Users\drivakosgn



DETAIL "Y"



BASE MTG. DETAIL



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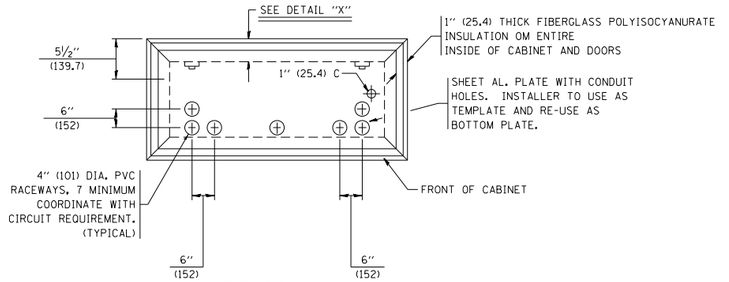

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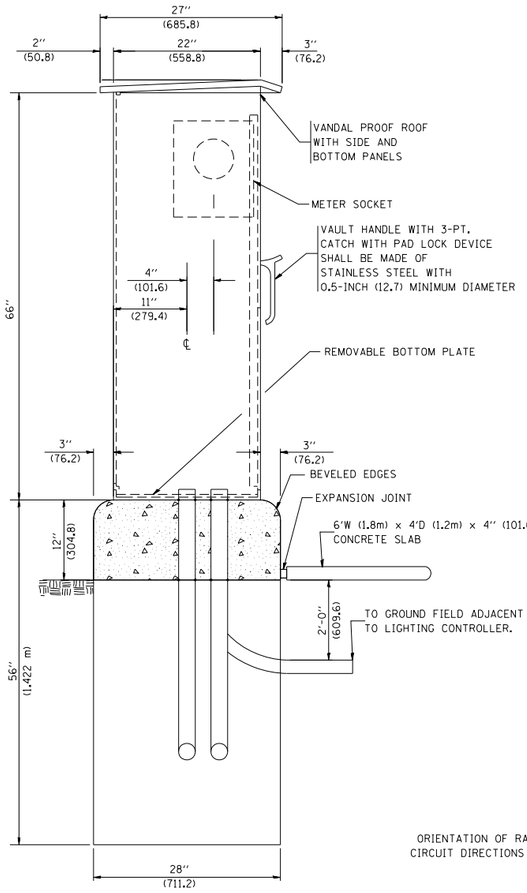
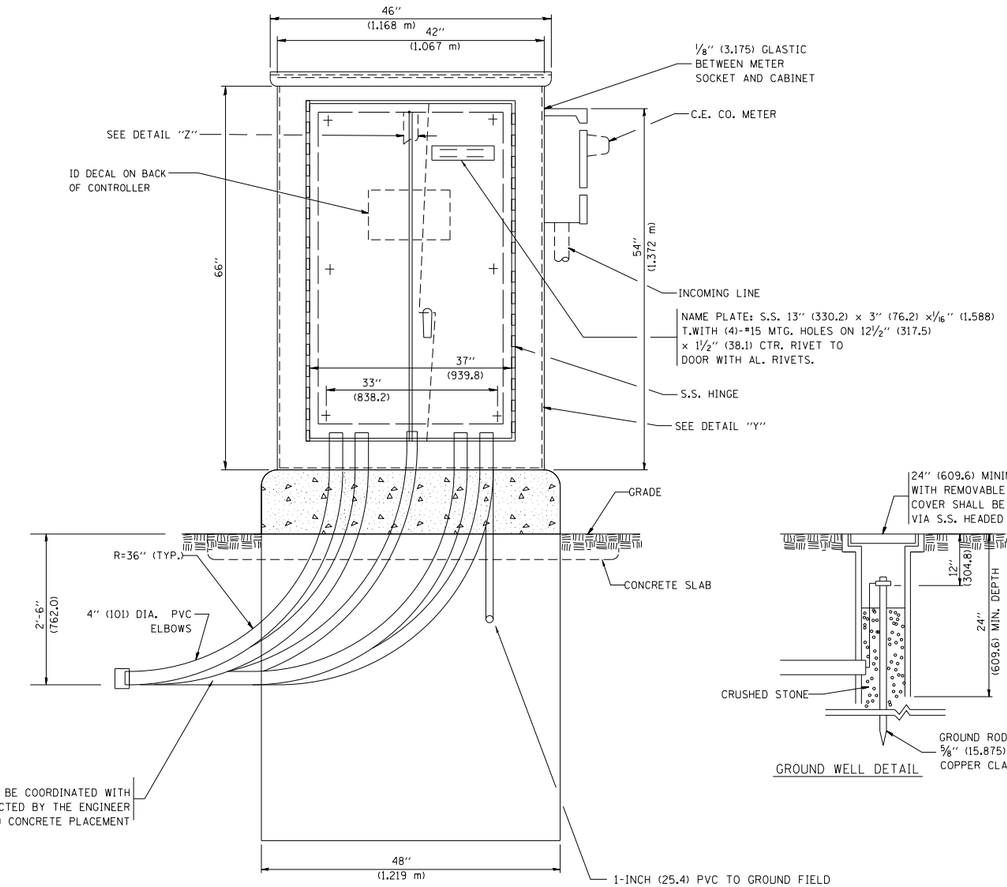
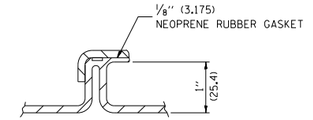


LEFT SIDE ELEVATION



FRONT ELEVATION



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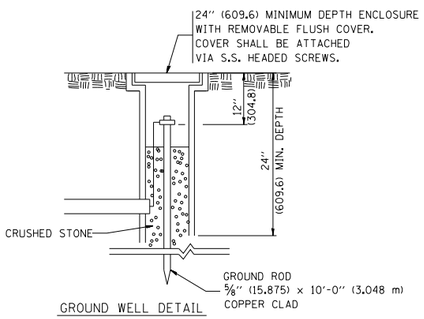
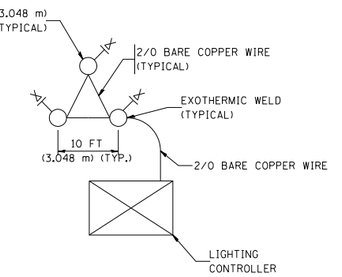


GROUND WELL DETAIL



GROUND FIELD DETAIL
(N.T.S.)

THE CONTRACTOR SHALL
VERIFY EXACT LOCATION
WITH THE ENGINEER

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		DRAWN -	REVISED - R. TOMSONS 05-11-09
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	170
	BE-205		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

NOTES

1. CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM #3003H14, FORMED AND ARC WELDED.
2. ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
3. NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
4. ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
5. CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
6. ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
7. THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
8. METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
9. CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
10. ALL DEVICES SHALL BE FRONT REMOVABLE.
11. TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
12. SET LATITUDE TO 42 DEGREES. SET CH.1 TO 23 MINUTES AFTER ASTRONOMICAL SUNSET, 50 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +28 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS.)
13. BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
14. ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
15. ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
16. ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW, SCADA WIRING SHALL BE #18.
17. ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
18. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

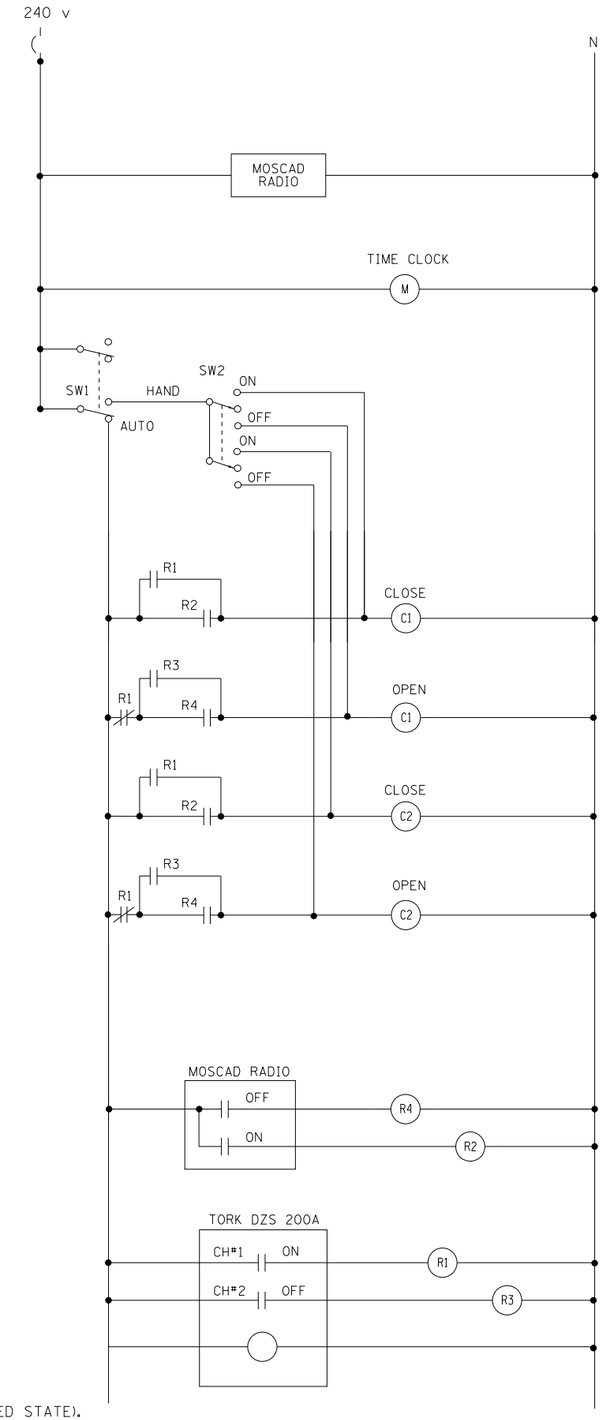
    R - RED Y - YELLOW
    B - BLACK W - WHITE
    BL- BLUE G - GREEN
    G - GREY

19. MOSCAD I/O WIRING SHALL BE:

    DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.

    ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.

    AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
20. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
21. SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
22. A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDGE
2	DIGITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAIN(S) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR 1 OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CABINET IN NON-AUTO
7	DIGITAL INPUT 7	BACK-UP CLOCK OFF CALL
8	DIGITAL INPUT 8	BACK-UP CLOCK ON CALL
17	24 V+	24+VDC
18	DI COMMON	COMMON
21	K1 C	K1 COMMON
22	K1 NO	LIGHTS ON CALL
24	K2 C	K2 COMMON
25	K2 NO	LIGHTS OFF CALL
32	ANALOG INPUT 1 (+)	CABINET NEUTRAL CURRENT
33	ANALOG INPUT 1 (-)	CABINET NEUTRAL CURRENT
34	ANALOG INPUT 2 (+)	CABINET SERVICE VOLTAGE
35	ANALOG INPUT 2 (-)	CABINET SERVICE VOLTAGE
40	P. GROUND	GROUND

ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD

MIXED I/O MODULE MODEL NUMBER V436

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04	**STATE OF ILLINOIS**	**LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pw_work\pwidot\drivakosgn\d0108315\be205.dgn		DRAWN -	REVISED - R. TOMSONS 05-11-09	**DEPARTMENT OF TRANSPORTATION**					223	171
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10				**BE-205**	CONTRACT NO.		
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12		SCALE: NONE SHEET NO. 4 OF 4 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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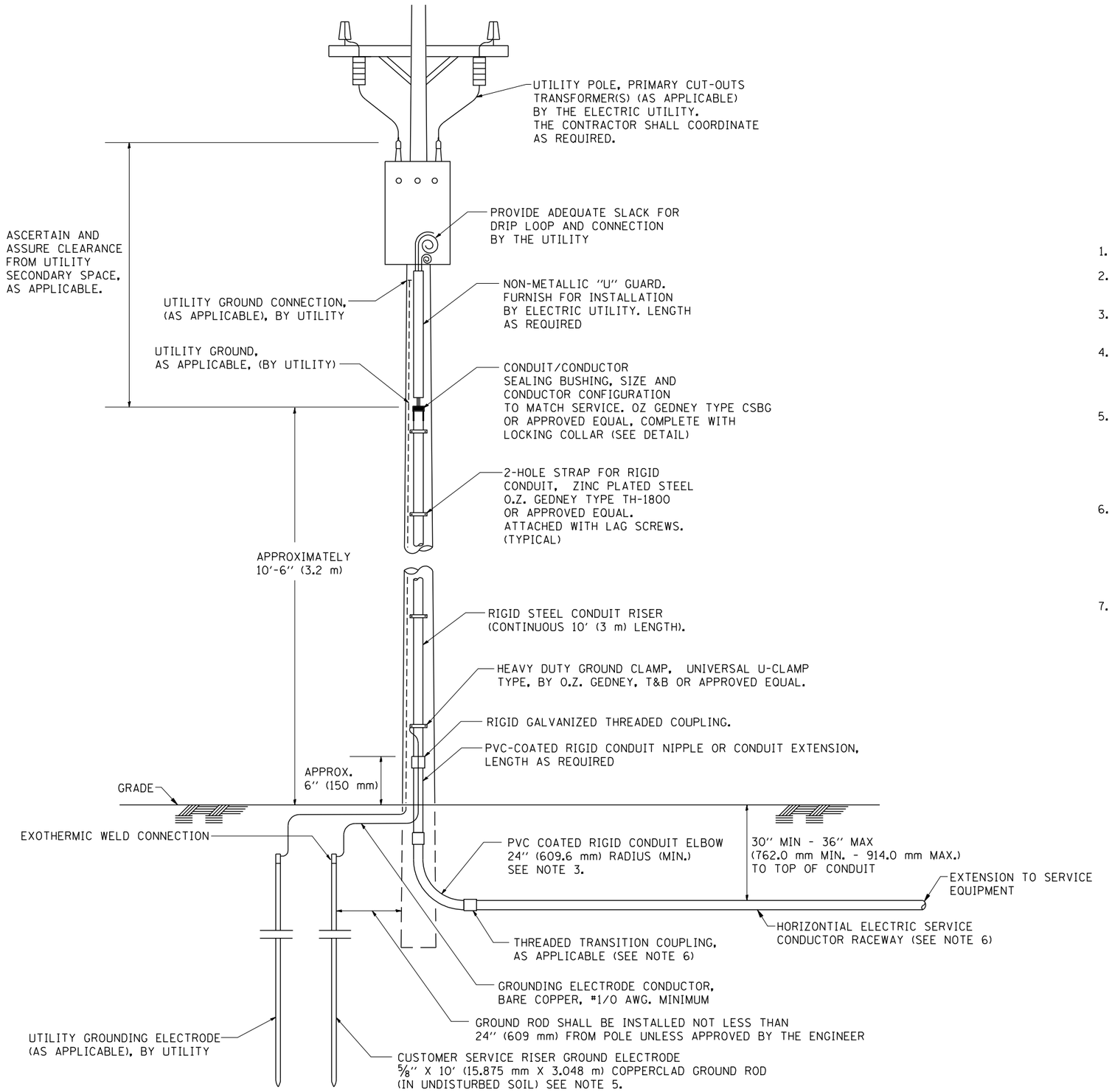
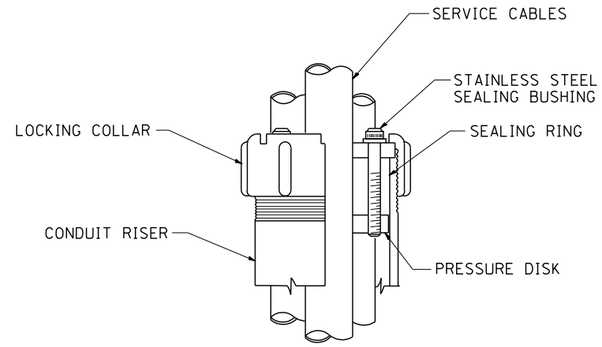


APPLICATION

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

1. SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
6. THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALIC TO NON METALIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
7. PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



SEALING BUSHING DETAIL

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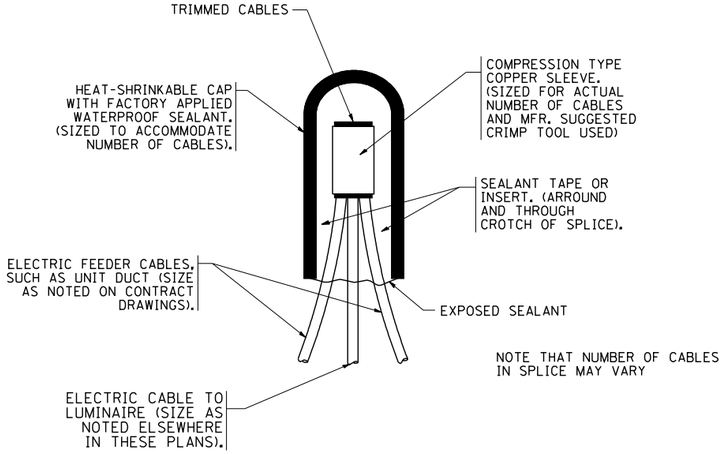
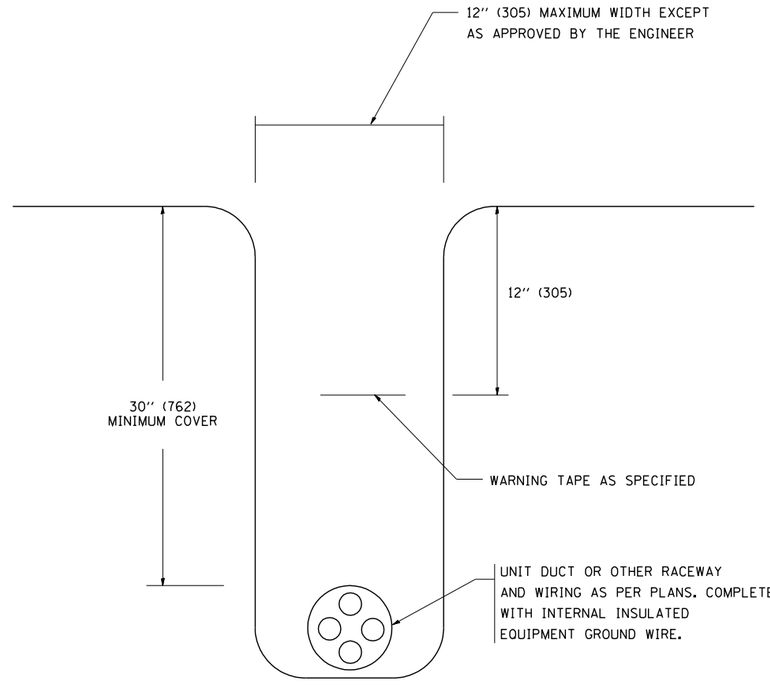
		DRAWN -	REVISED -				COUNTY
	PLOT SCALE = 50.0000 '/ IN.	CHECKED - MEA	REVISED -				TOTAL SHEETS: 223
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. / TO STA.		SHEET NO.: 172
							CONTRACT NO.
						FED. ROAD DIST. NO. 1	ILLINOIS / FED. AID PROJECT



TYPICAL SPLICE DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

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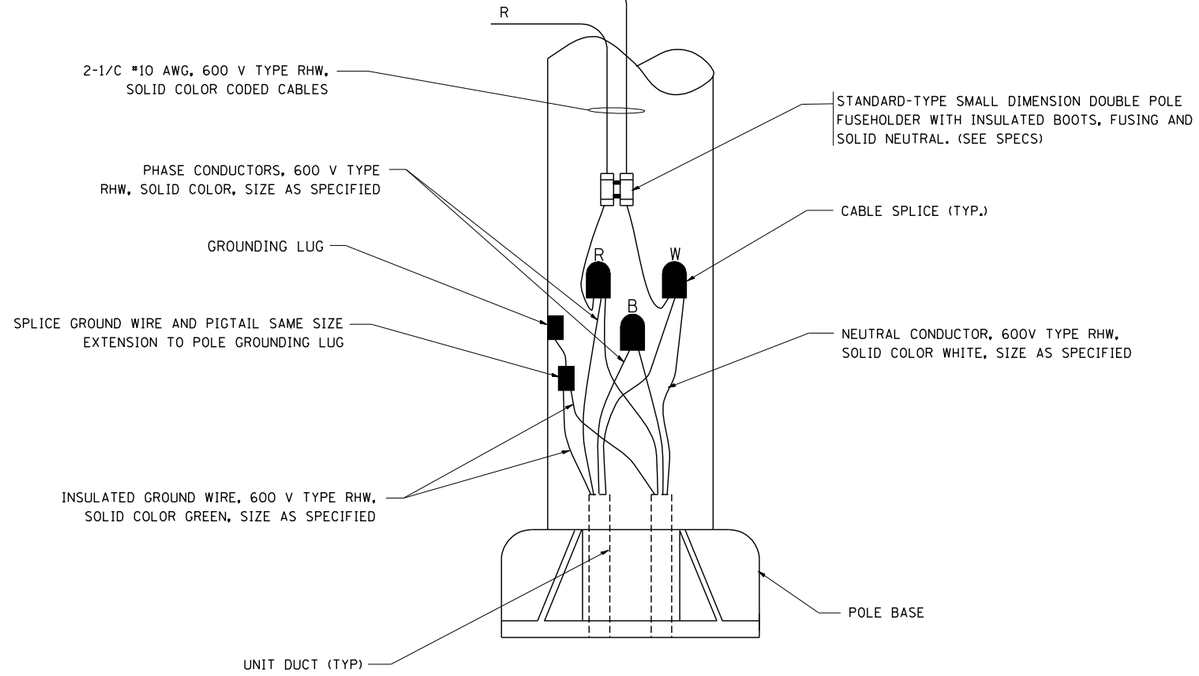

POLE WIRING DETAIL

N.T.S.

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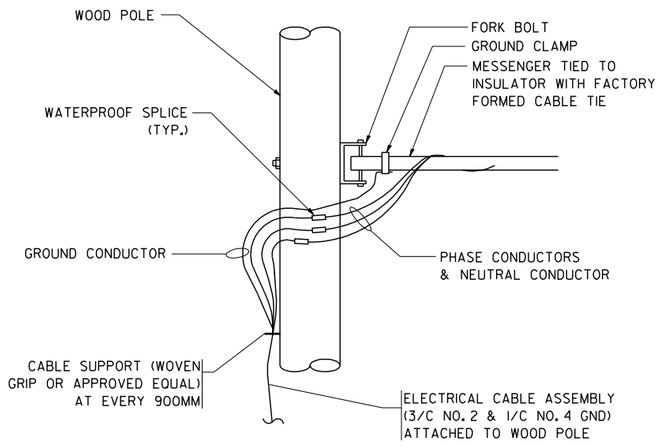
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISC. ELECTRICAL DETAILS
SHEET A

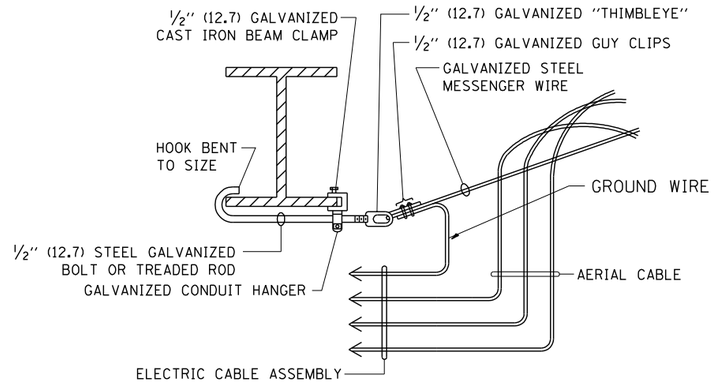
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	173
	BE-702		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



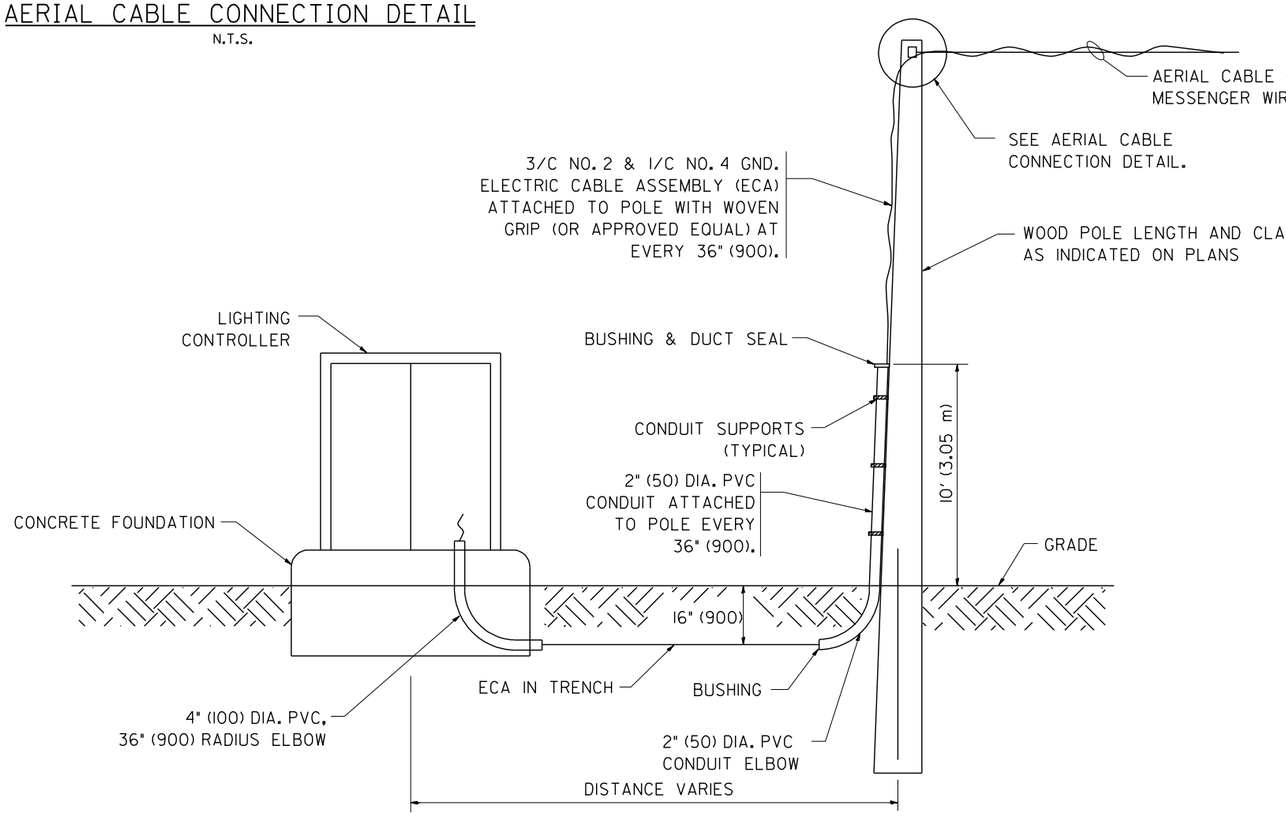
AERIAL CABLE CONNECTION DETAIL

N.T.S.



AERIAL CABLE ATTACHED TO STRUCTURE

NOT TO SCALE



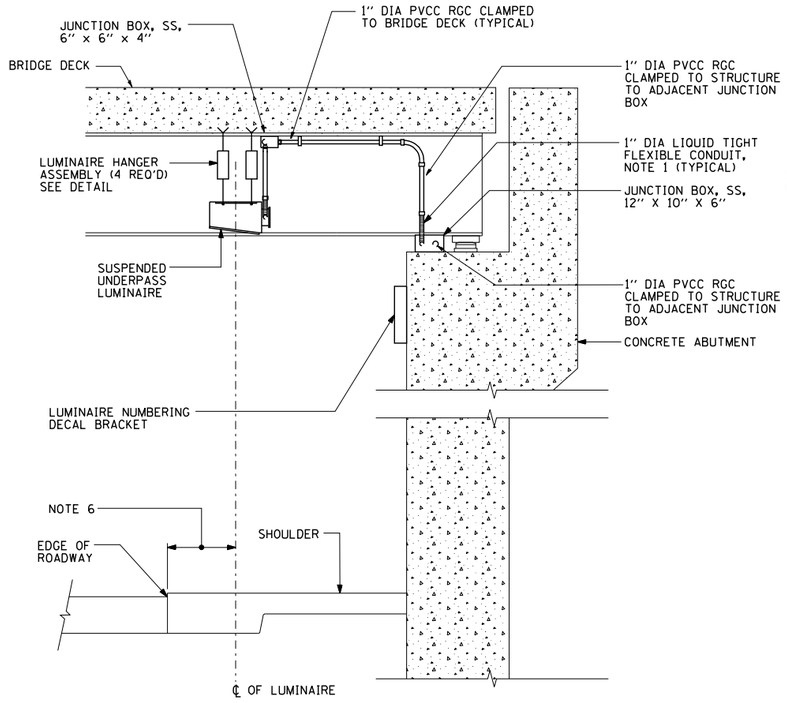
WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL

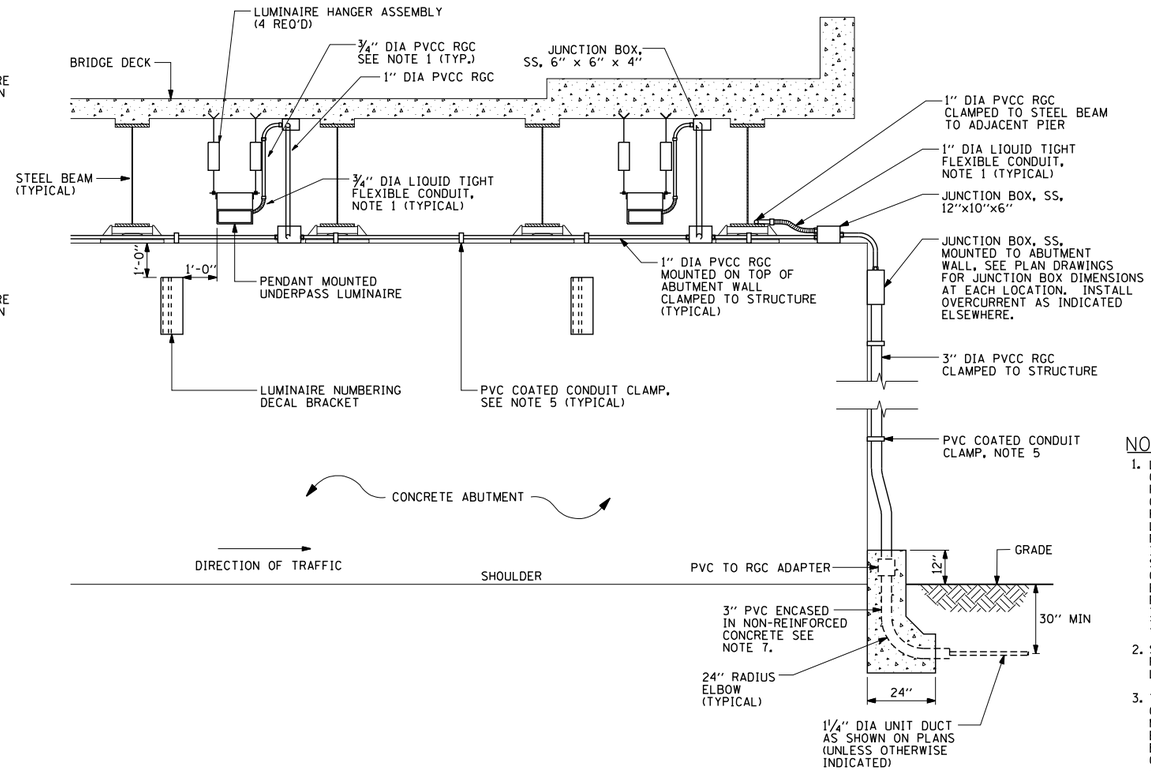
N.T.S.

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

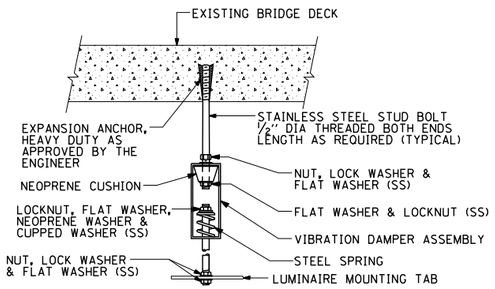
FILE NAME = W:\diststd\22x34\be801.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TEMPORARY AERIAL CABLE INSTALLATION**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						223	174
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -				BE-801	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.		FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	



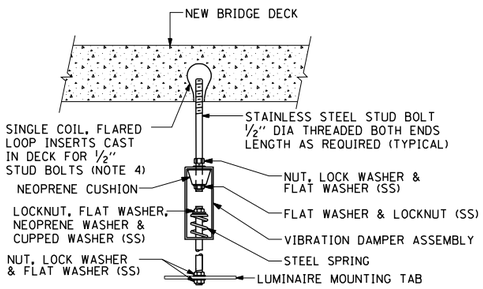


NOTES:

1. LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT ¾" DIA. CONDUIT AND ¾" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
2. SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
3. THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
4. THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
5. SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
6. ALL UNDERPASS LUMINAIRES MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS
7. THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
8. ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.

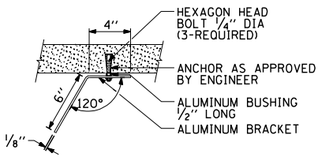


EXISTING BRIDGE DECK INSTALLATION



NEW BRIDGE DECK INSTALLATION

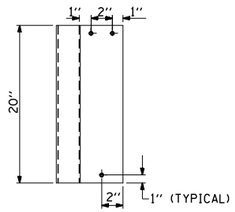
TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS



TOP VIEW

LUMINAIRE NUMBERING DECAL BRACKET

NOT TO SCALE



ELEVATION

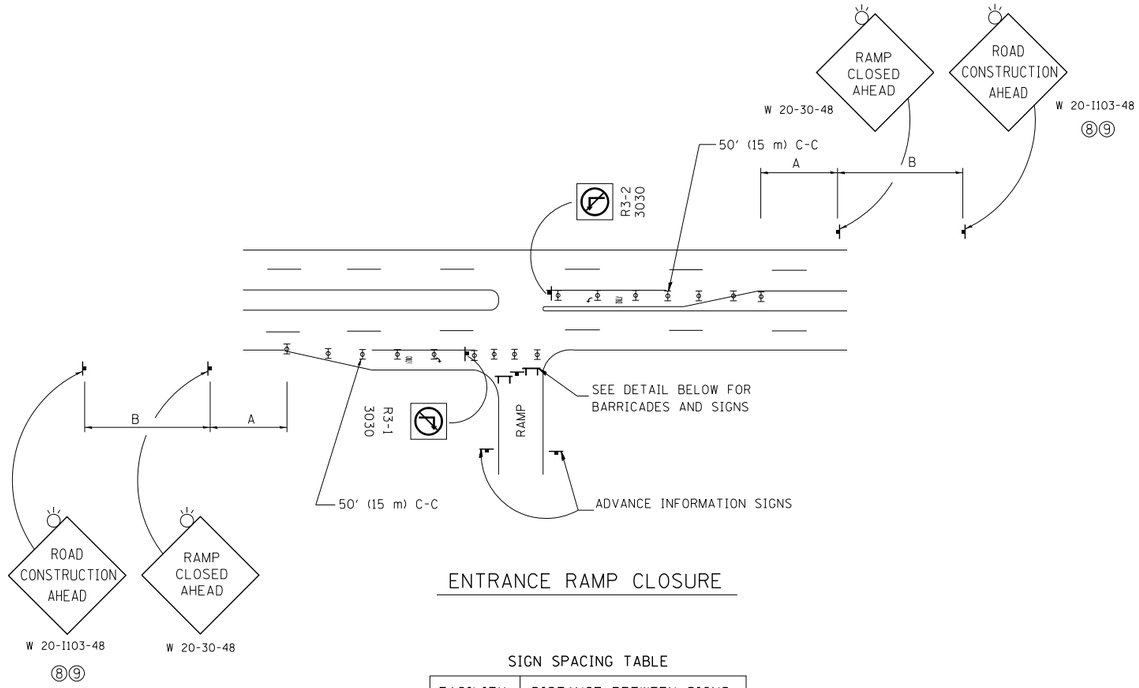
PVC COATED CONDUIT BEAM CLAMP

NOT TO SCALE

PVC COATED CONDUIT CLAMP

NOT TO SCALE

FILE NAME = W:\diststd\22x34\be900.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 12-12-05	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUSPENDED MOUNT UNDERPASS LUMINAIRE INSTALLATION DETAILS**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						223	175
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -				BE-900		CONTRACT NO.	
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

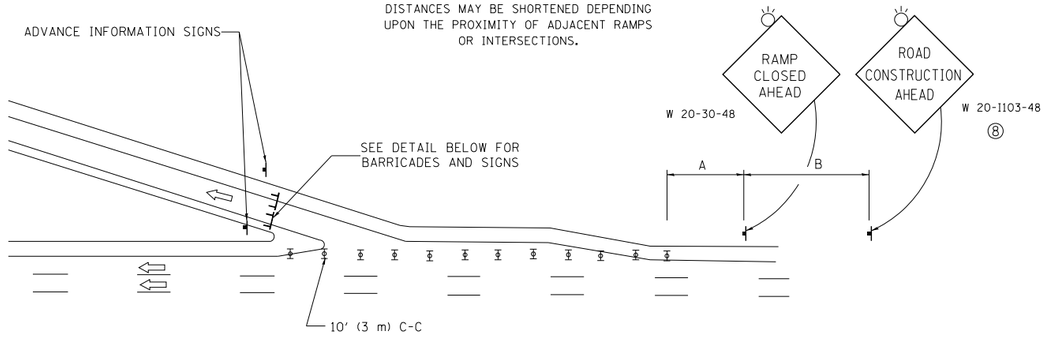


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS A	DISTANCE BETWEEN SIGNS B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

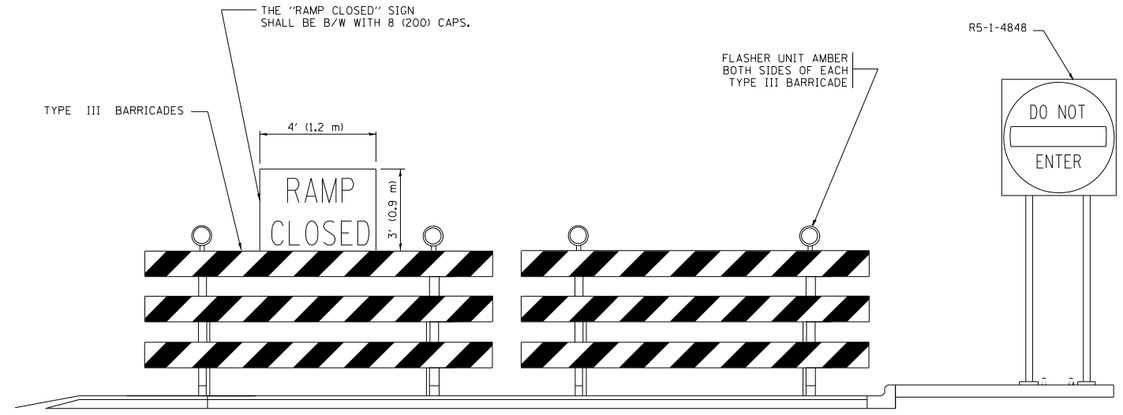


EXIT RAMP CLOSURE

SYMBOLS

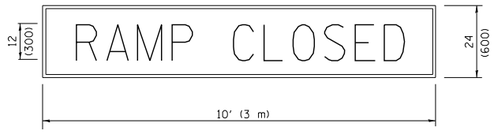
TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

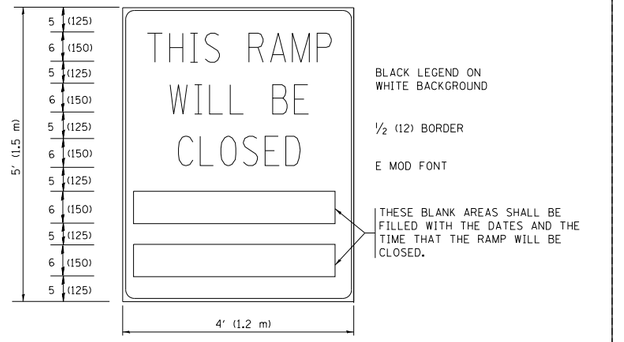
RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

GENERAL NOTES:

1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEEDED BY A W20-7 FLAGGER WARNING SIGN.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH
8. ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
9. ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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		DRAWN -	REVISED - SPB 01-07
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - SPB 12-09
	PLOT DATE = 7/8/2013	DATE - 02-83	REVISED - MD 06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

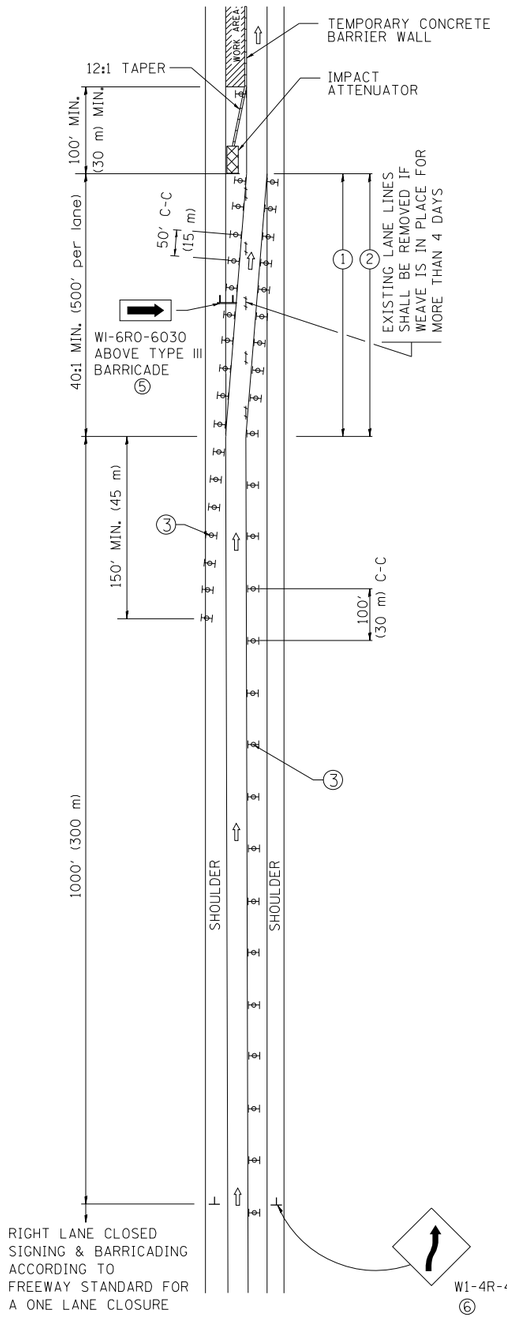
ENTRANCE AND EXIT RAMP CLOSURE DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

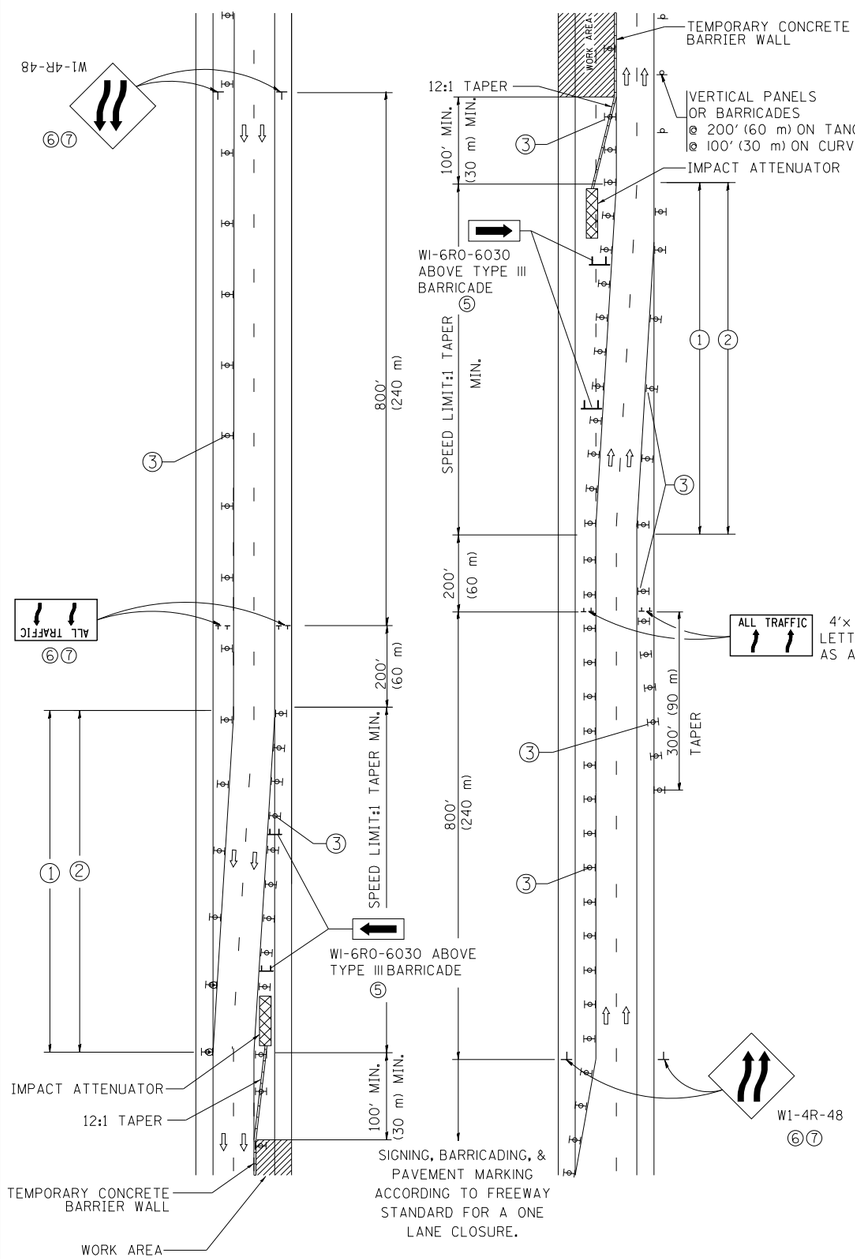
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	176
	TC-08		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

tc08.dgn 7/8/2013 7:18:03 AM User:footemj

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

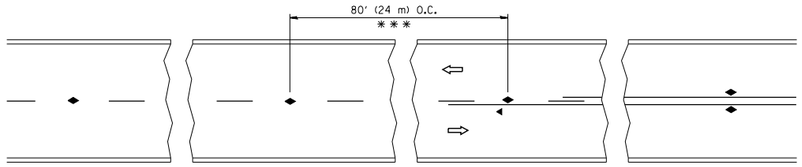
FILE NAME = c:\pw_work\pwidot\footemj\d0108315\tc09.dgn	USER NAME = footemj	DESIGNED - DWS	REVISED - JAF 02-06
		DRAWN -	REVISED - SPB 01-07
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - SPB 12-09
	PLOT DATE = 7/1/2013	DATE - 02-87	REVISED - MD 06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

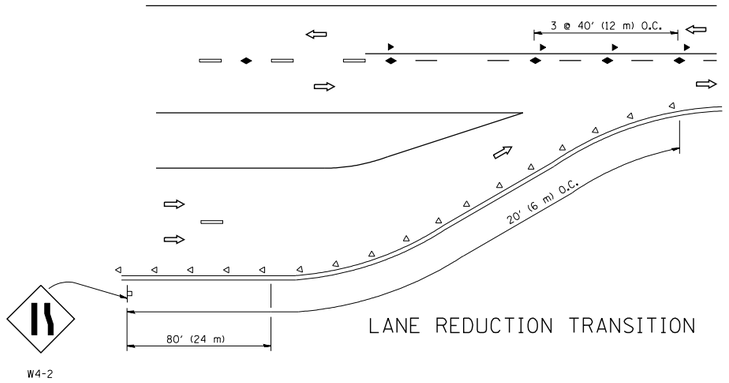
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	177
	TC-09	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

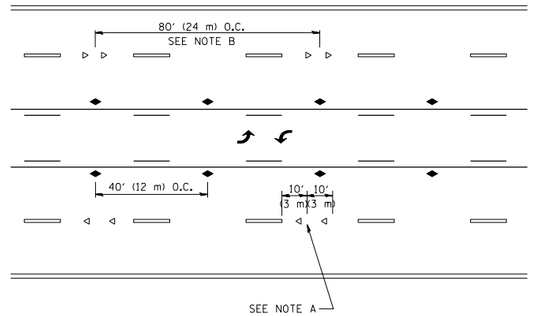


* * * REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

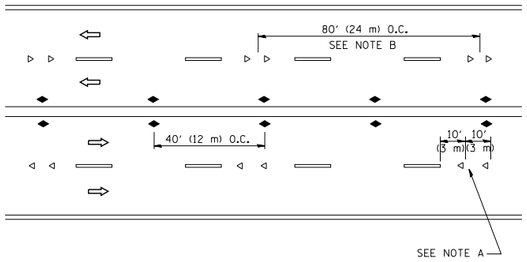
TWO-LANE/TWO-WAY



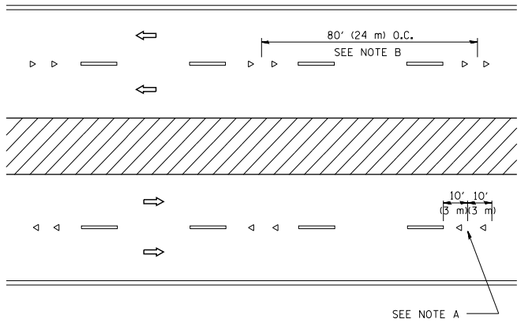
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

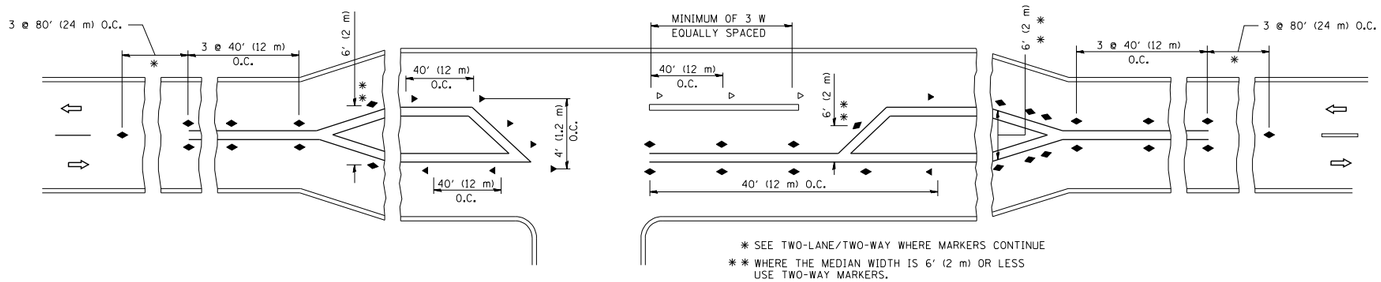
LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

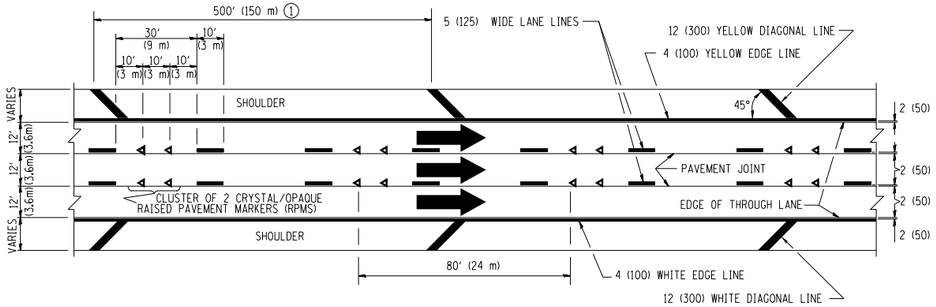
** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = c:\pw_work\pwidot\leysa\d0108315\tc11.dgn	USER NAME = leysa	DESIGNED -	REVISED - T. RAMMACHER 09-19-94	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)**
		DRAWN -	REVISED - T. RAMMACHER 03-12-99		
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - T. RAMMACHER 01-06-00		
	PLOT DATE = 3/2/2011	DATE -	REVISED - C. JUCIUS 09-09-09		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

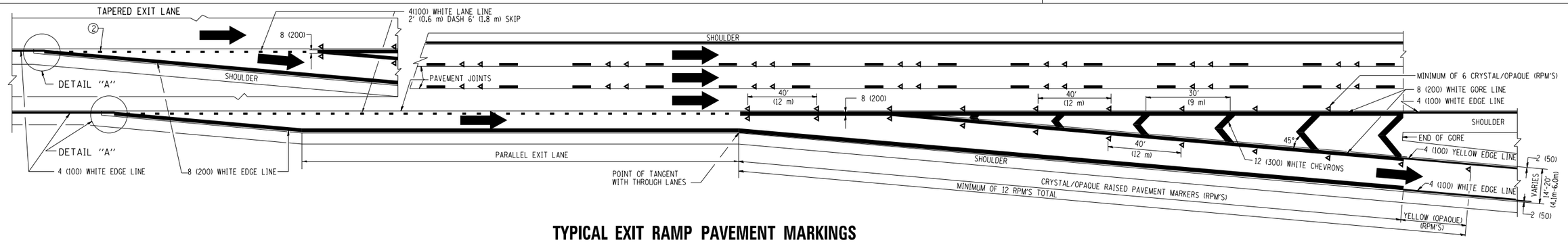
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	178
	TC-11	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



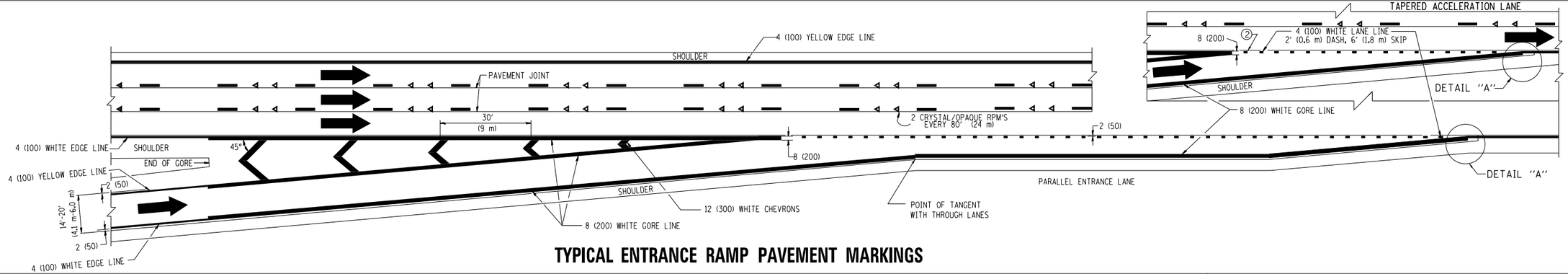
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

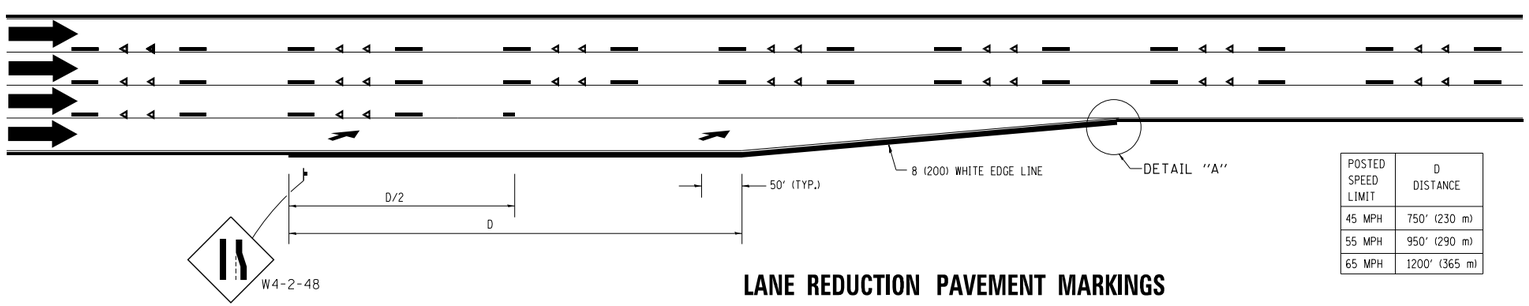
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE; INLAID OR GROOVED IN SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENT PROJECTS.
3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS ON PCC PROJECTS.



TYPICAL EXIT RAMP PAVEMENT MARKINGS

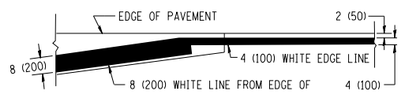


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)

LANE REDUCTION PAVEMENT MARKINGS



DETAIL "A"

NOTES:

① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.

② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

FILE NAME = ct\pw_work\pwidot\footemj\d0108315\tc12.dgn	USER NAME = footemj	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06
		DRAWN -	REVISED - S.P.B. 01-07
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - S.P.B. 01-10
	PLOT DATE = 7/8/2013	DATE - 01-90	REVISED - M.D. 05-13

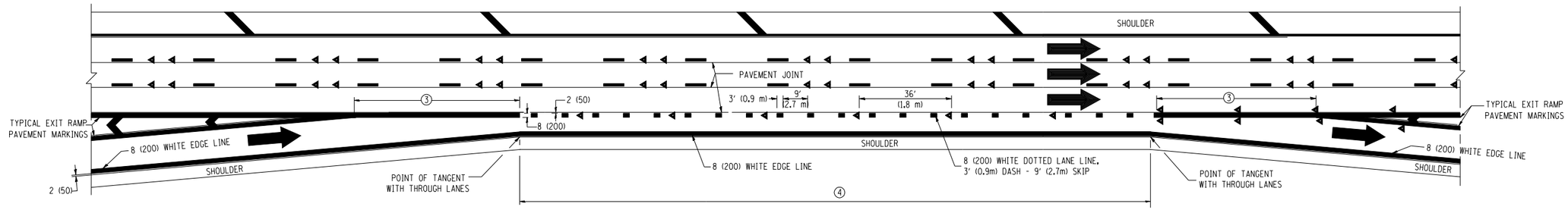
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

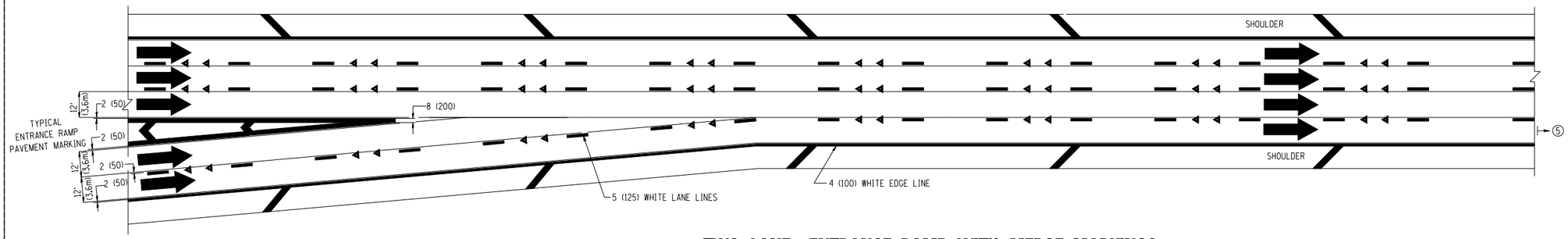
SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	179
	TC-12	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

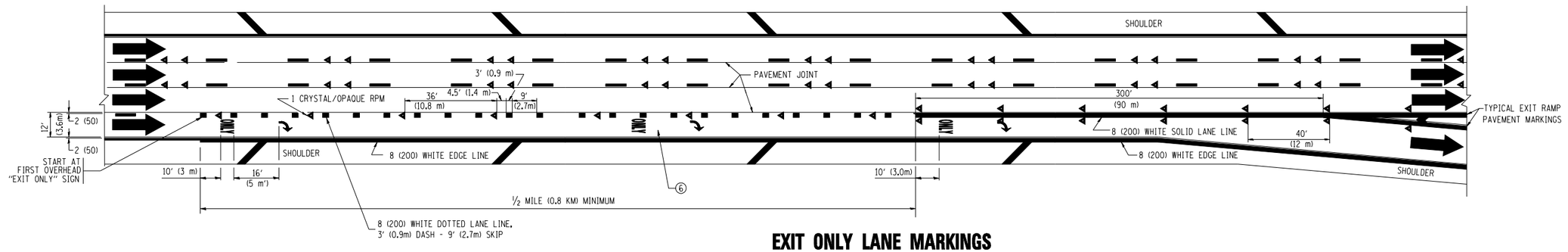
tc12.dgn 7/8/2013 8:14:39 AM User=footemj



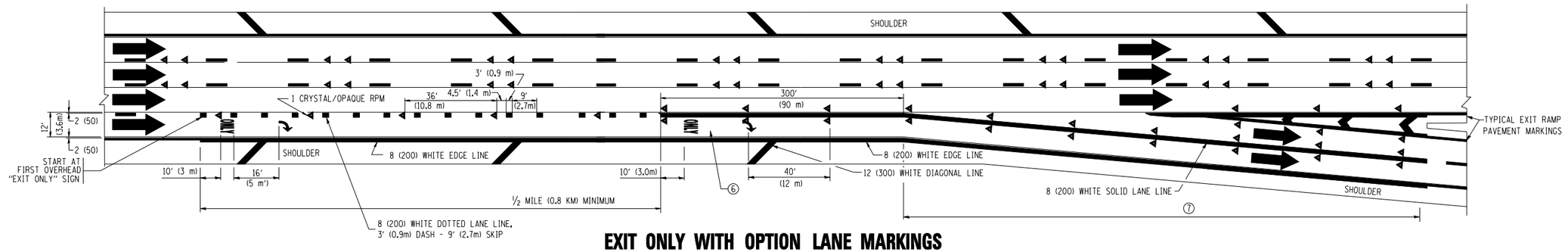
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

NOTES

③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).

④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.

⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.

⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.

⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

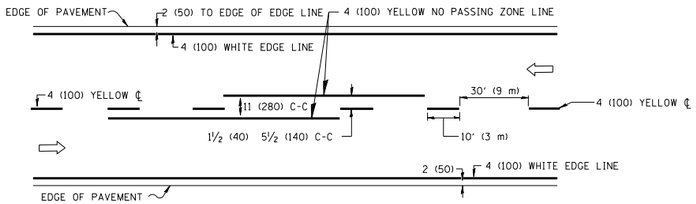
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0108315\tc12.dgn	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE - 01-90	REVISED - S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

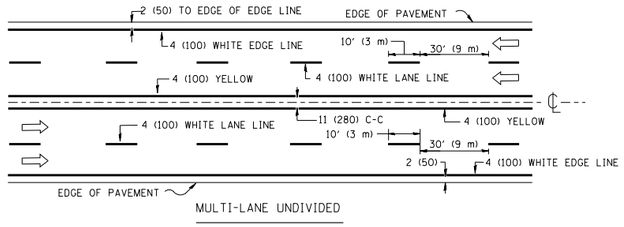
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

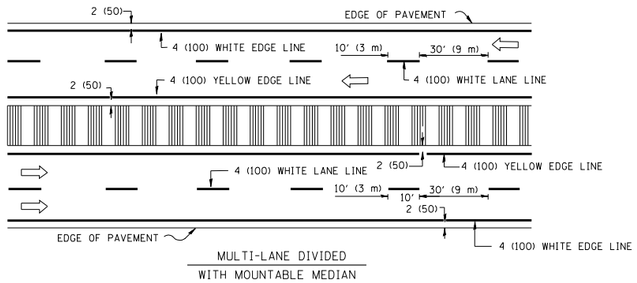
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	180
	TC-12	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



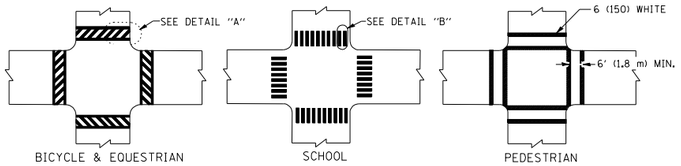
MULTI-LANE UNDIVIDED

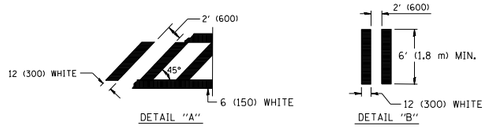


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

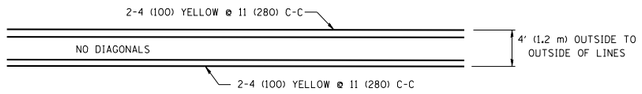
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

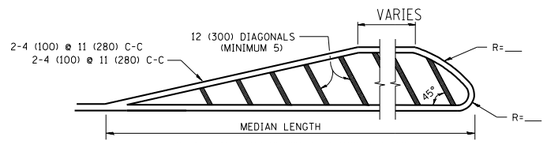




TYPICAL CROSSWALK MARKING



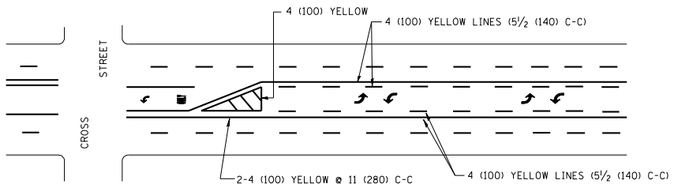
4' (1.2 m) WIDE MEDIANS ONLY



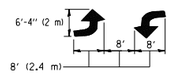
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

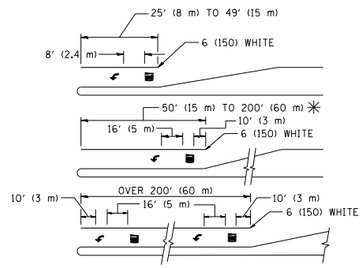


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

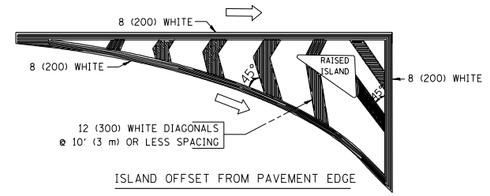


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m²) **ONLY** AREA = 20.8 SQ. FT. (1.9 m²)

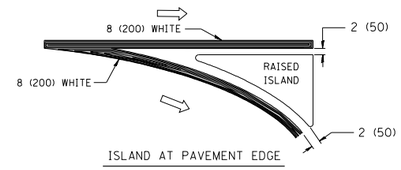
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 ø 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 ø 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 ø 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 ø 6 (150) 12 (300) ø 45° 12 (300) ø 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT, OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 ø 4 (100) WITH 12 (300) DIAGONALS ø 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS ø 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m²) EACH "X"=54.0 SQ. FT. (5.0 m²)
SHOULDER DIAGONALS	12 (300) ø 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

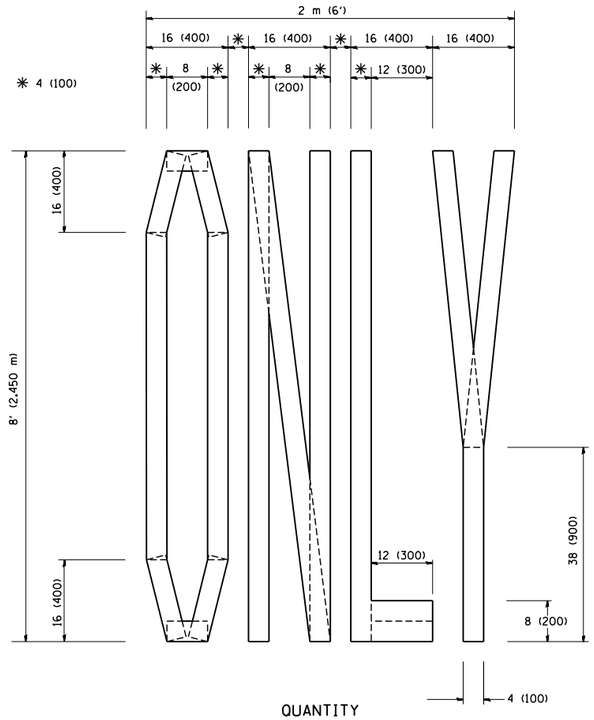
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0108315\tc13.dgn	USER NAME = drivakosgn	DESIGNED - EVERS	REVISED -T. RAMMACHER 10-27-94
		DRAWN -	REVISED -C. JUCIUS 09-09-09
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

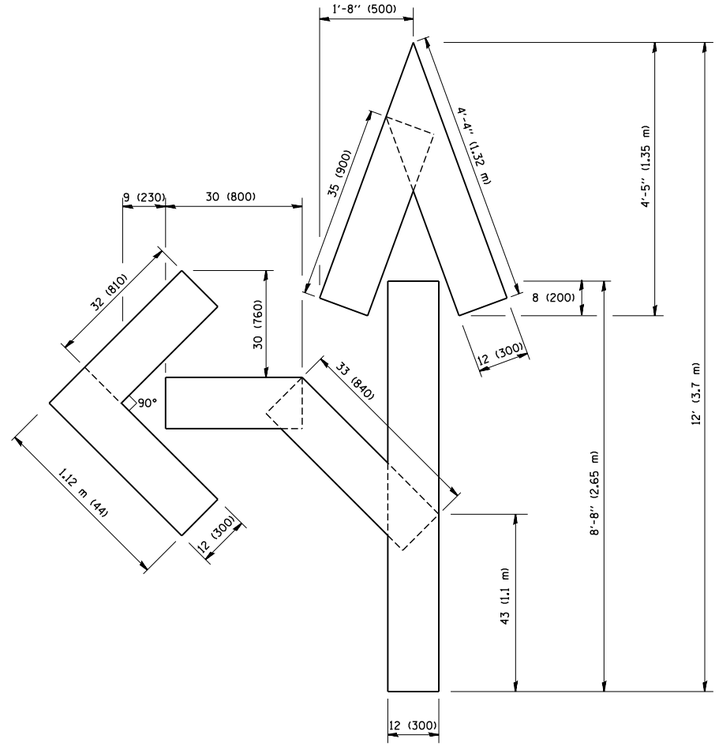
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

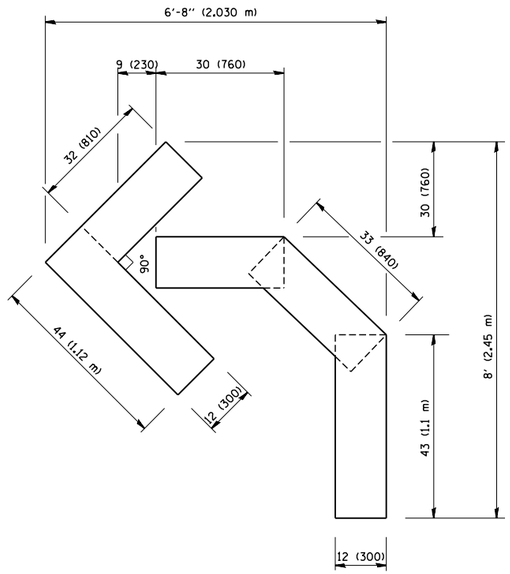
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	181
	TC-13		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



QUANTITY
4 (100) LINE = 64.1 ft. (19.7 m)
21.1 sq. ft. (1.97 sq. m)



QUANTITY
4 (100) LINE = 82.5 ft. (25.3 m)
27.5 sq. ft. (2.53 sq. m)



QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = W:\diststd\22x34\tc16.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96
		DRAWN -	REVISED -T. RAMMACHER 11-04-97
	PLOT SCALE = 50.0000 '/ IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

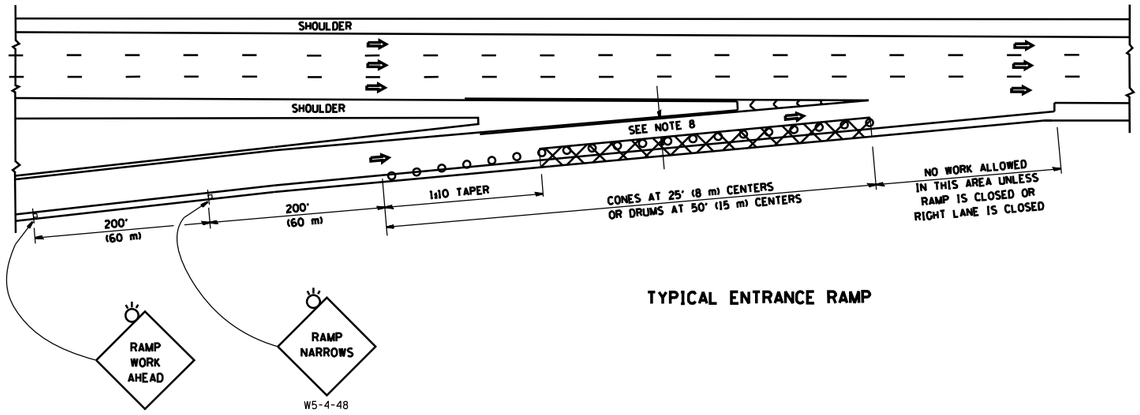
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING

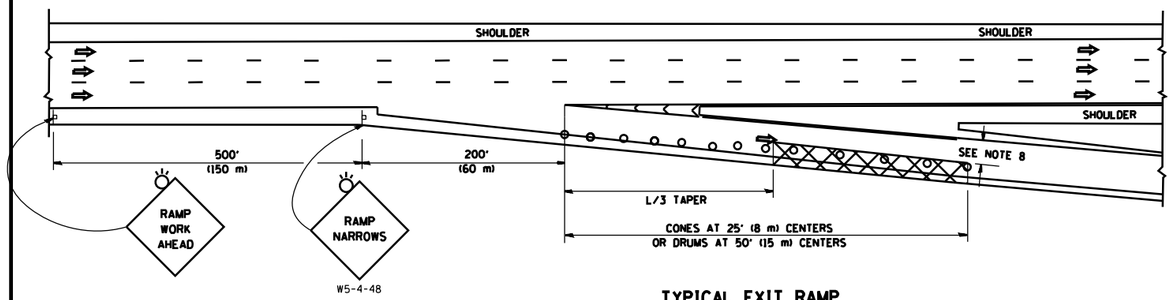
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	182
	TC-16		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

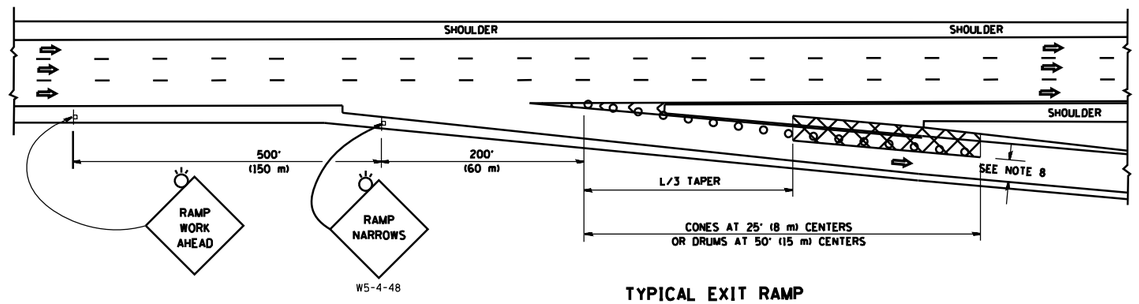
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP

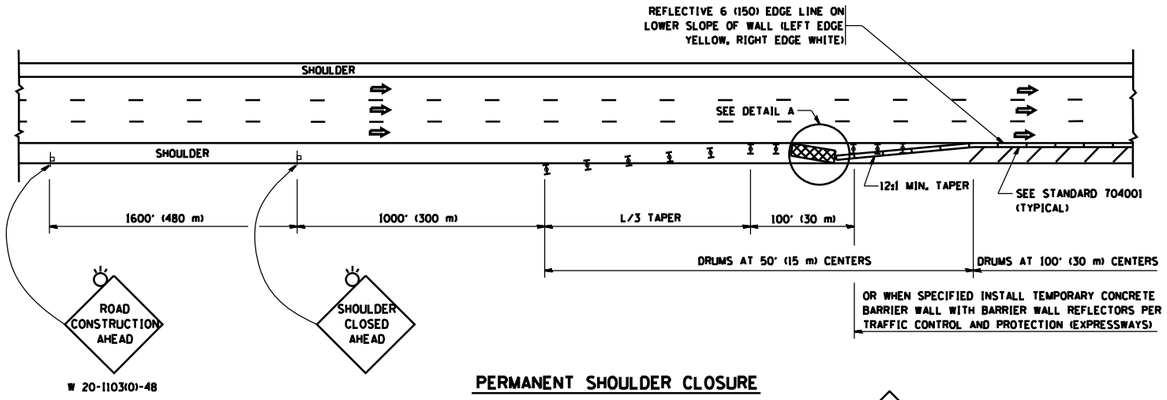


TYPICAL EXIT RAMP

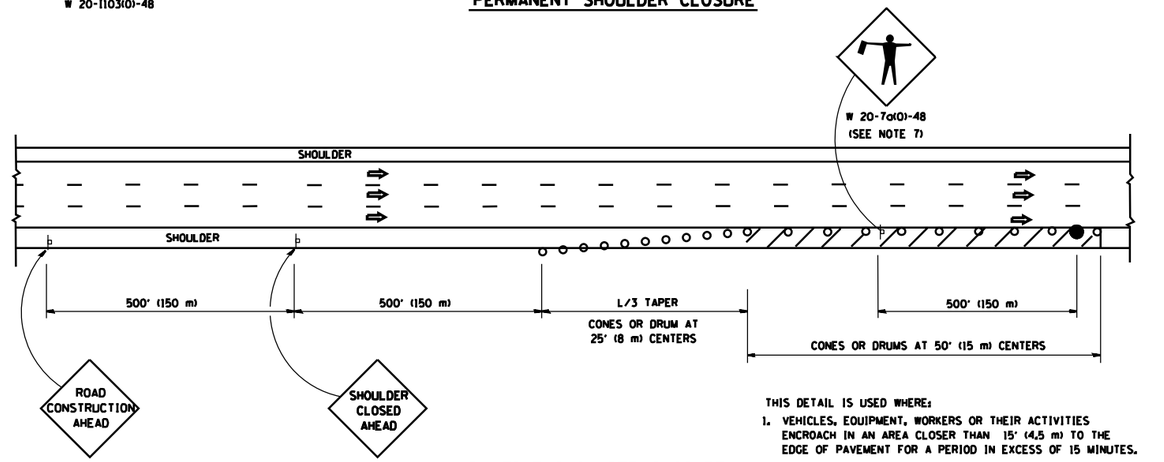


TYPICAL EXIT RAMP

SHOULDER CLOSURE DETAILS



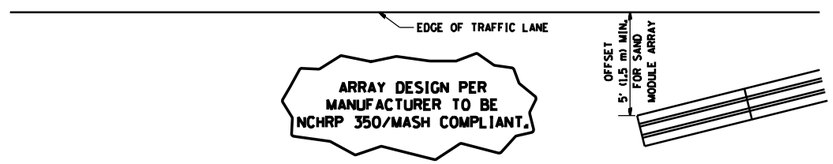
PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
IMPACT ATTENTUATOR, TEMPORARY
(SEE NOTE 5)

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
	METRIC	ENGLISH
45 mph (80 km/h) OR GREATER:	L=0.65(WXS)	L=(WXS)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
   16' MIN. WIDTH CURVE SECTION.

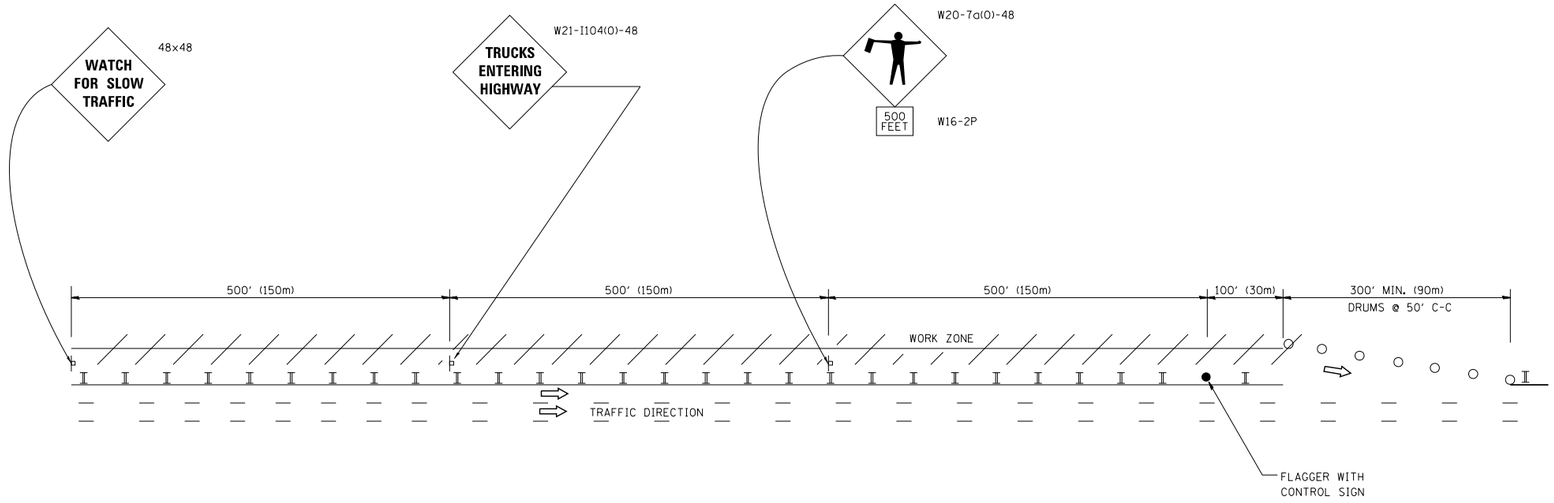
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = c:\pw_work\pwidot\leysa\d0108315\tc17.dgn	USER NAME = leysa	DESIGNED -	REVISED - J.A.F. 12-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES
		DRAWN - D.W.S.	REVISED - S.P.B. 01-07		
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - S.P.B. 12-09		
	PLOT DATE = 4/17/2014	DATE - 11-96	REVISED - M.D. 06-13		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

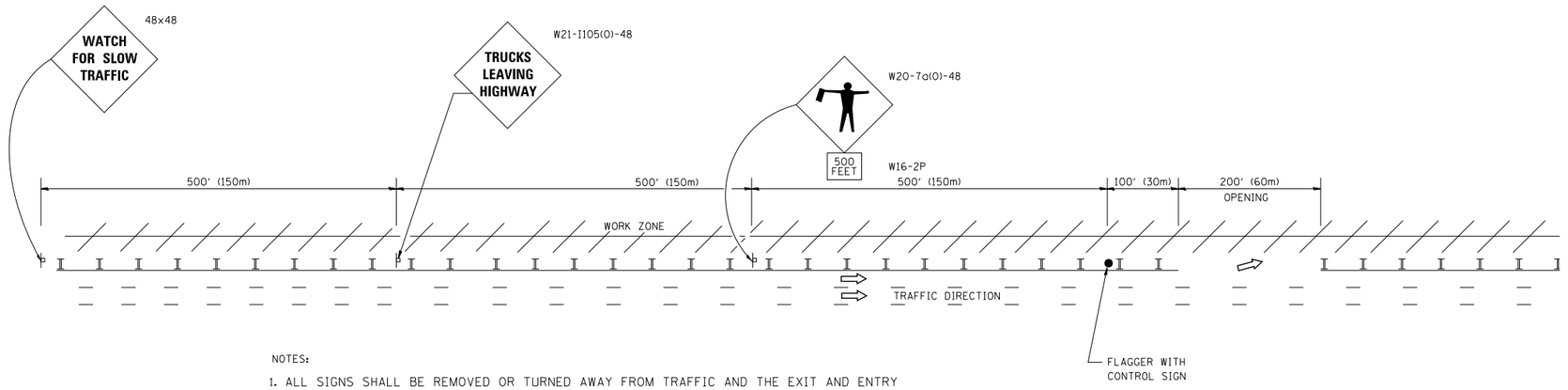
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	183
	TC-17		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMPS.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME = c:\pw_work\pwidot\footemj\d0108315\tc18.dgn	USER NAME = footemj	DESIGNED -	REVISED - J.A.F. 02-06	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**FREEWAY/EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS ON FREEWAYS/EXPRESSWAYS**
		DRAWN -	REVISED - S.P.B. 01-07		
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - S.P.B. 12-09		
	PLOT DATE = 7/8/2013	DATE -	REVISED - M.D. 06-13		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	184
	TC-18	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

tc18.dgn 7/8/2013 7:27:10 AM User:footemj

ROUTE MARKERS

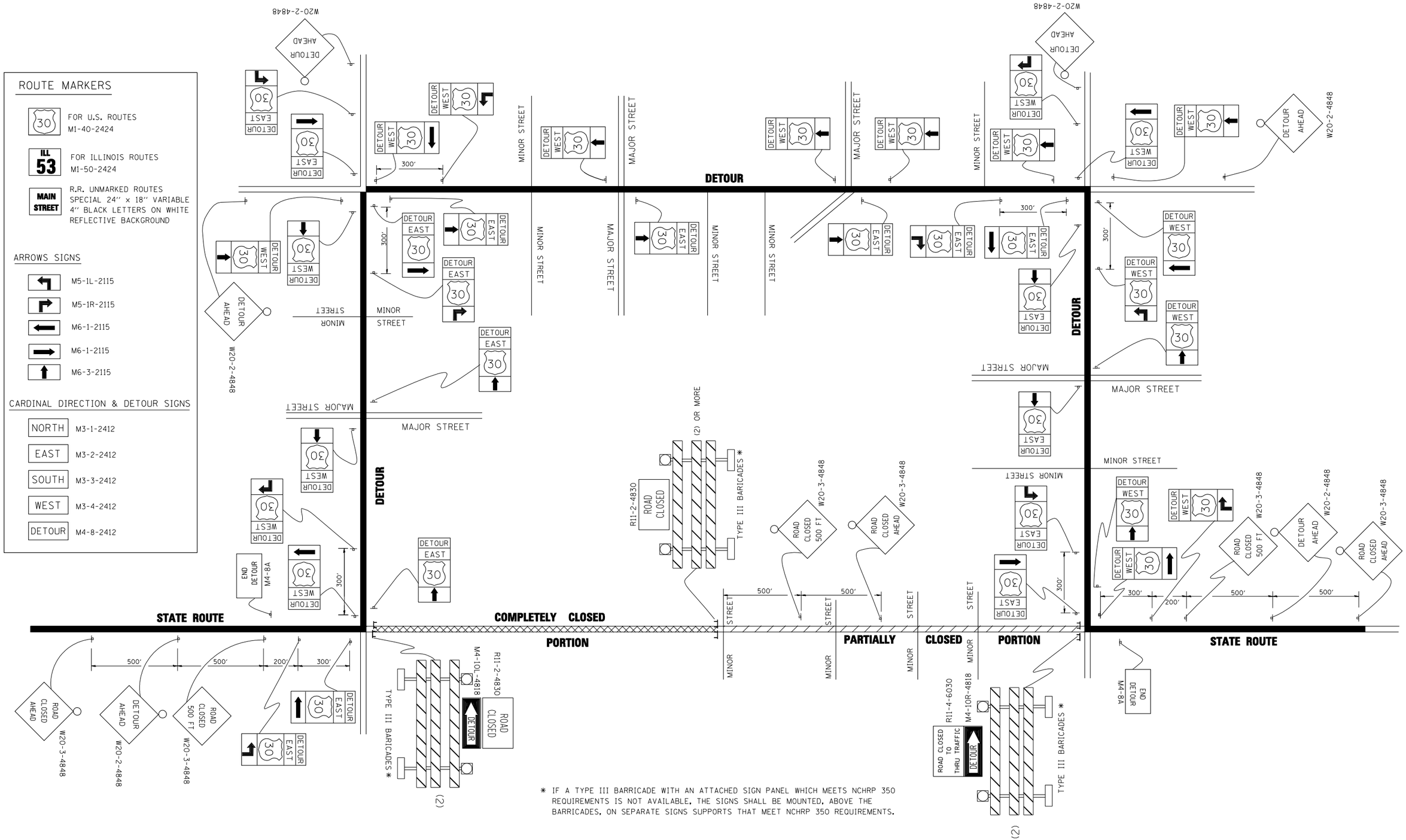
- 30 — FOR U.S. ROUTES M1-40-2424
- ILL 53 — FOR ILLINOIS ROUTES M1-50-2424
- MAIN STREET — R.R. UNMARKED ROUTES SPECIAL 24" x 18" VARIABLE 4" BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

ARROWS SIGNS

- M5-1L-2115
- M5-1R-2115
- M6-1-2115
- M6-1-2115
- M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

- NORTH M3-1-2412
- EAST M3-2-2412
- SOUTH M3-3-2412
- WEST M3-4-2412
- DETOUR M4-8-2412



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

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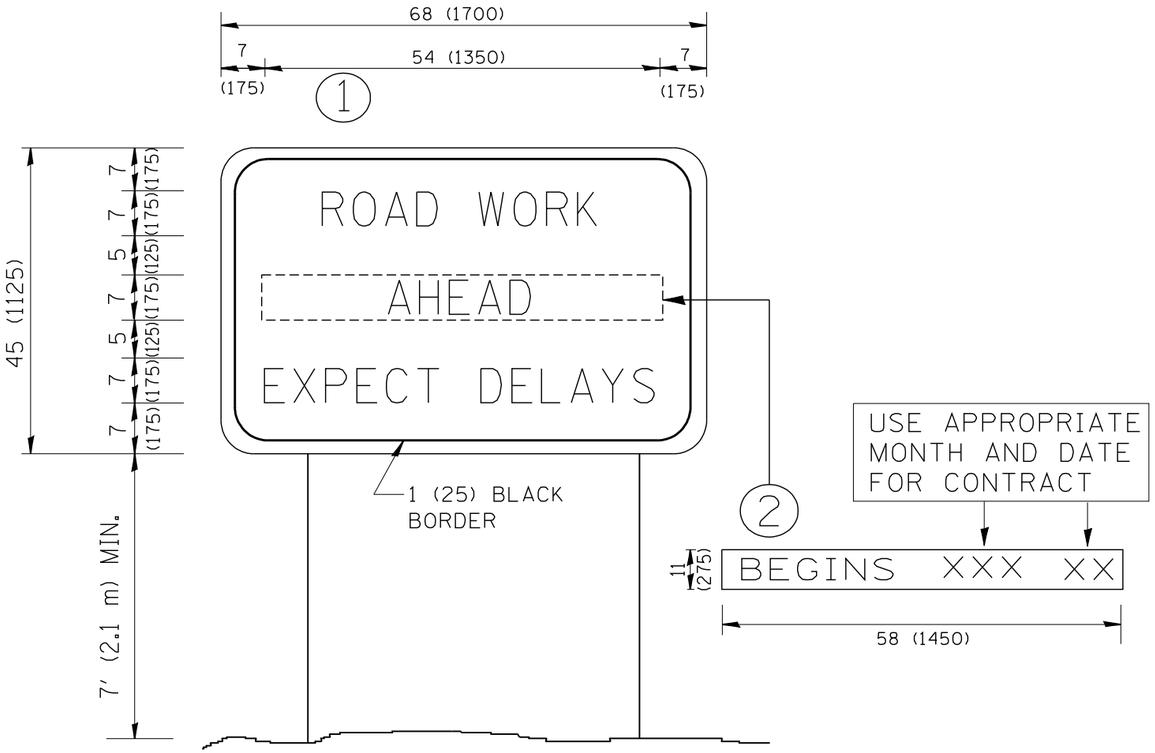
		DRAWN -	REVISED - R. BORO 09-14-09
	PLOT SCALE = 49.9999 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/14/2009	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING
FOR CLOSING STATE HIGHWAYS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	185
	TC-21		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE ''ROAD CONSTRUCTION AHEAD'' SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR ''TEMPORARY INFORMATION SIGNING'' FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

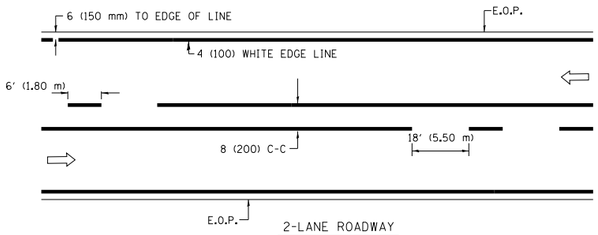
FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

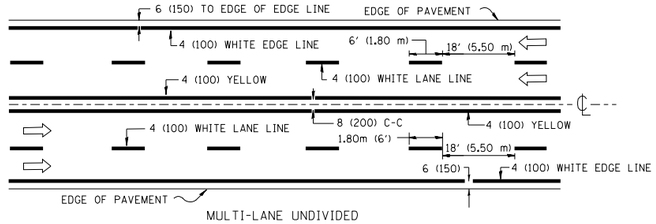
ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

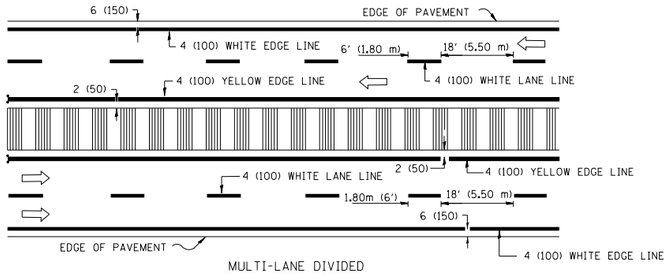
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	186
	TC-22	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



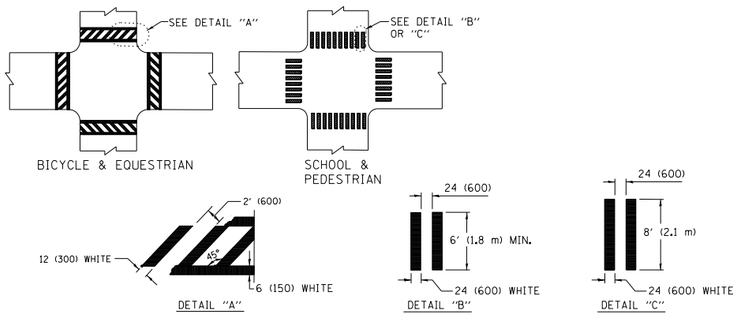
MULTI-LANE UNDIVIDED



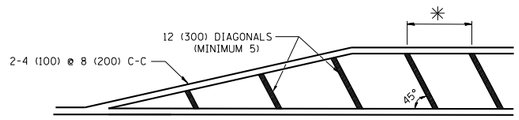
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING



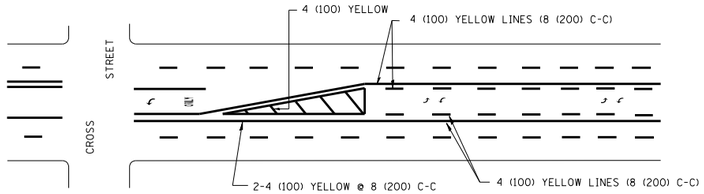
TYPICAL CROSSWALK MARKING



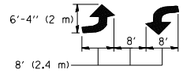
* FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

* DIAGONAL LINE SPACING: 20' (6.1 m) C-C

PAINTED MEDIANS

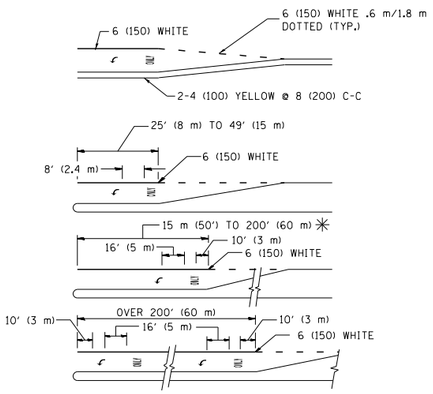


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

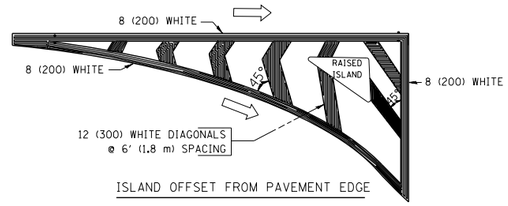


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.8 SQ. FT. (1.47 m^2) **ONLY** AREA = 22.9 SQ. FT. (2.13 m^2)

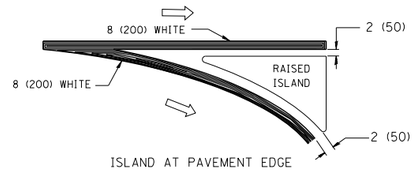
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	6' (1.80 m) LINE WITH 18' (5.50 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	8 (200) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	8 (200) C-C
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	6' (1.80 m) LINE WITH 18' (5.50 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4 m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4 m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	6' (1.8 m) LINE WITH 18' (5.50 m) SPACE FOR SKIP-DASH; 8 (200) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL & PEDESTRIAN)	12 (300) @ 45° 24 (600) @ 90°	SOLID SOLID	WHITE WHITE	2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45°	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	8 (200) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 20' (6.1 m) (LESS THAN 30 MPH (50 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STREET MARKING STANDARDS, PRINTED BY CITY OF CHICAGO, DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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		DRAWN -	REVISED - K. ENG 02-28-12
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	187
	TC-24	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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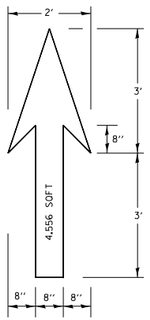
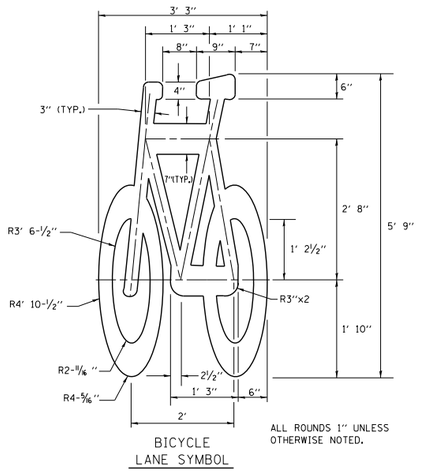




BICYCLE
LANE SYMBOL

ALL ROUNDS 1" UNLESS OTHERWISE NOTED.

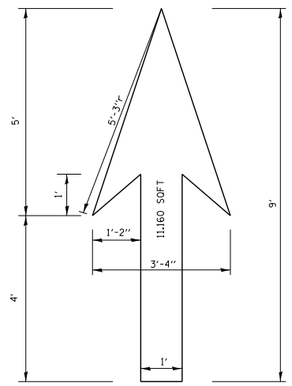
NOTE:

1.) FOR BIKE LANE SYMBOLS ONLY, USE PRE-FORMED THERMOPLASTIC WITH A MINIMUM THICKNESS OF 90 MILS, MINIMUM SKID RESISTANCE VALUE OF 60 BPN, & A MINIMUM INDEX OF REFRACTION OF 1.50.

2.) THE RESIDENT ENGINEER SHALL CONTACT MR. BEN GOMBERG AT 312-744-8093 AT LEAST ONE CALENDAR WEEK PRIOR TO INSTALLING BIKE LANE SYMBOLS.

TYPICAL BIKE LANE SYMBOLS
DRAWING #28

DRAWING #29



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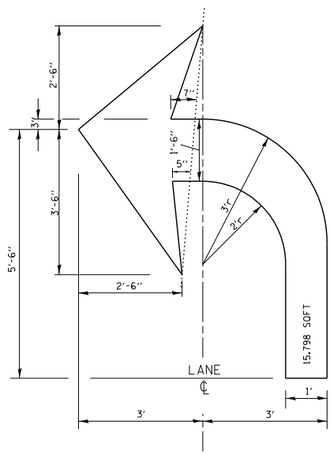

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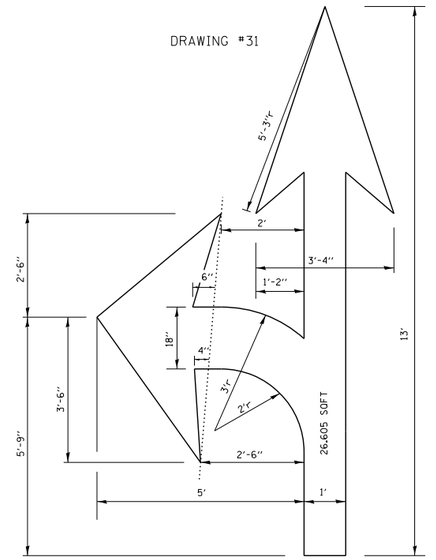

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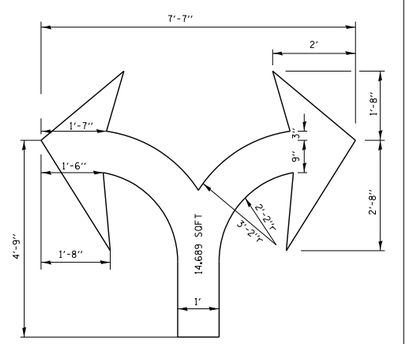

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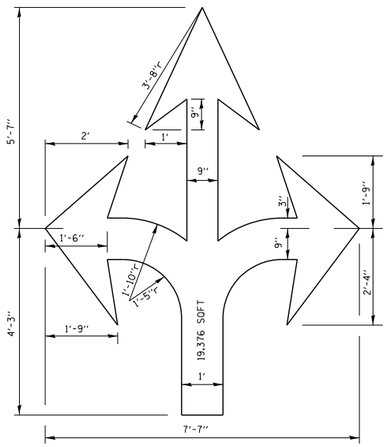

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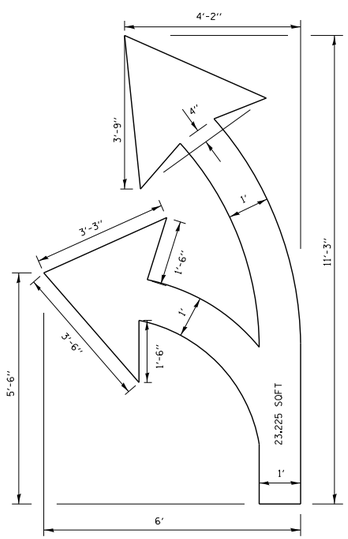

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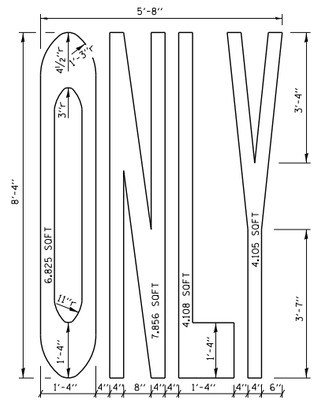

NOTE:
ALL MARKINGS SHALL BE SOLID WHITE UNLESS OTHERWISE NOTED IN THE PLANS

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		DRAWN -	REVISED - K. ENG 02-28-12		**TYPICAL PAVEMENT MARKINGS**
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED -		SCALE: NONE | SHEET NO. 2 OF 3 SHEETS | STA. | TO STA.
	PLOT DATE = 3/29/2012	DATE -	REVISED -		FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			223	188
	TC-24		CONTRACT NO.	

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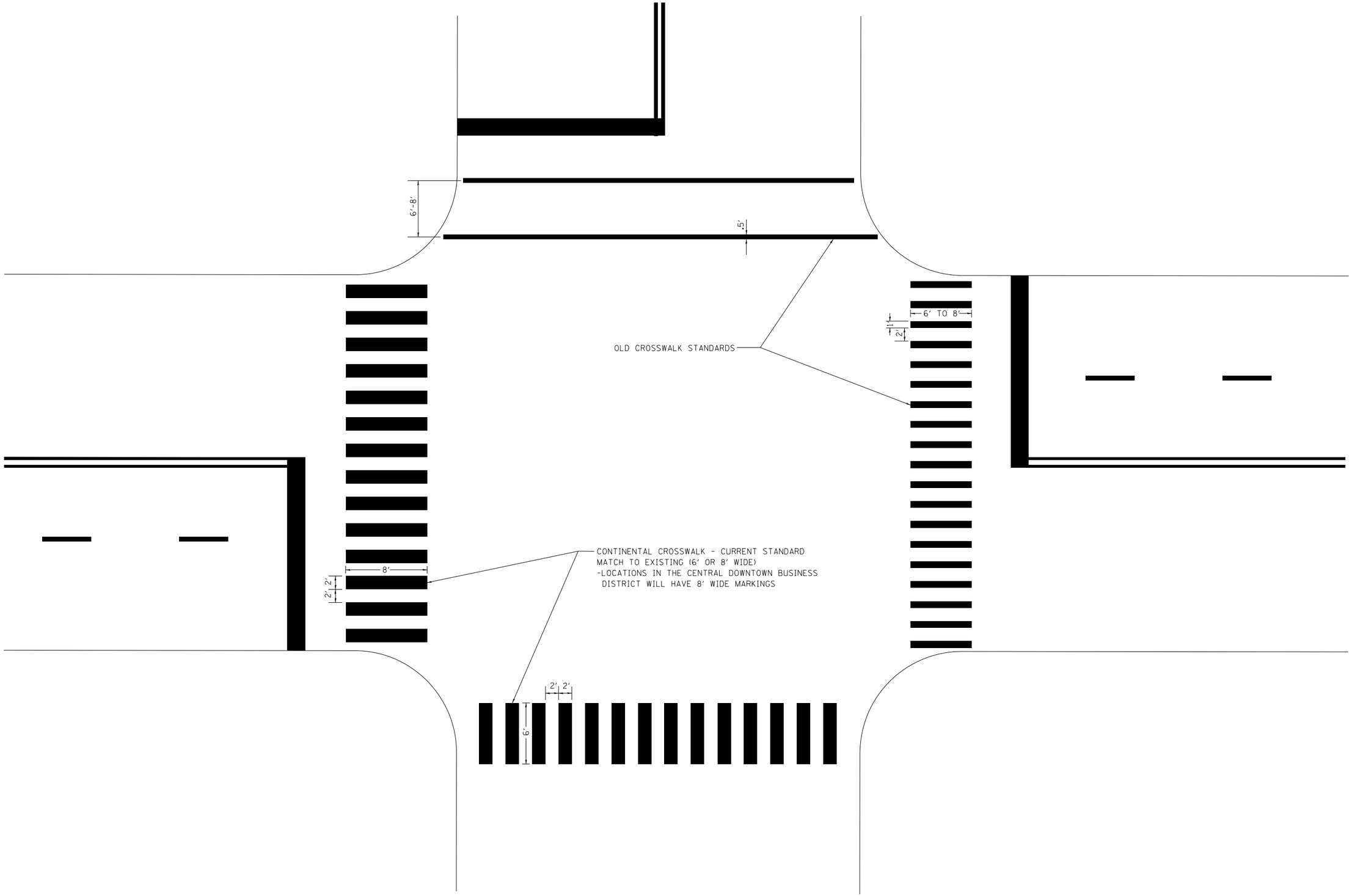

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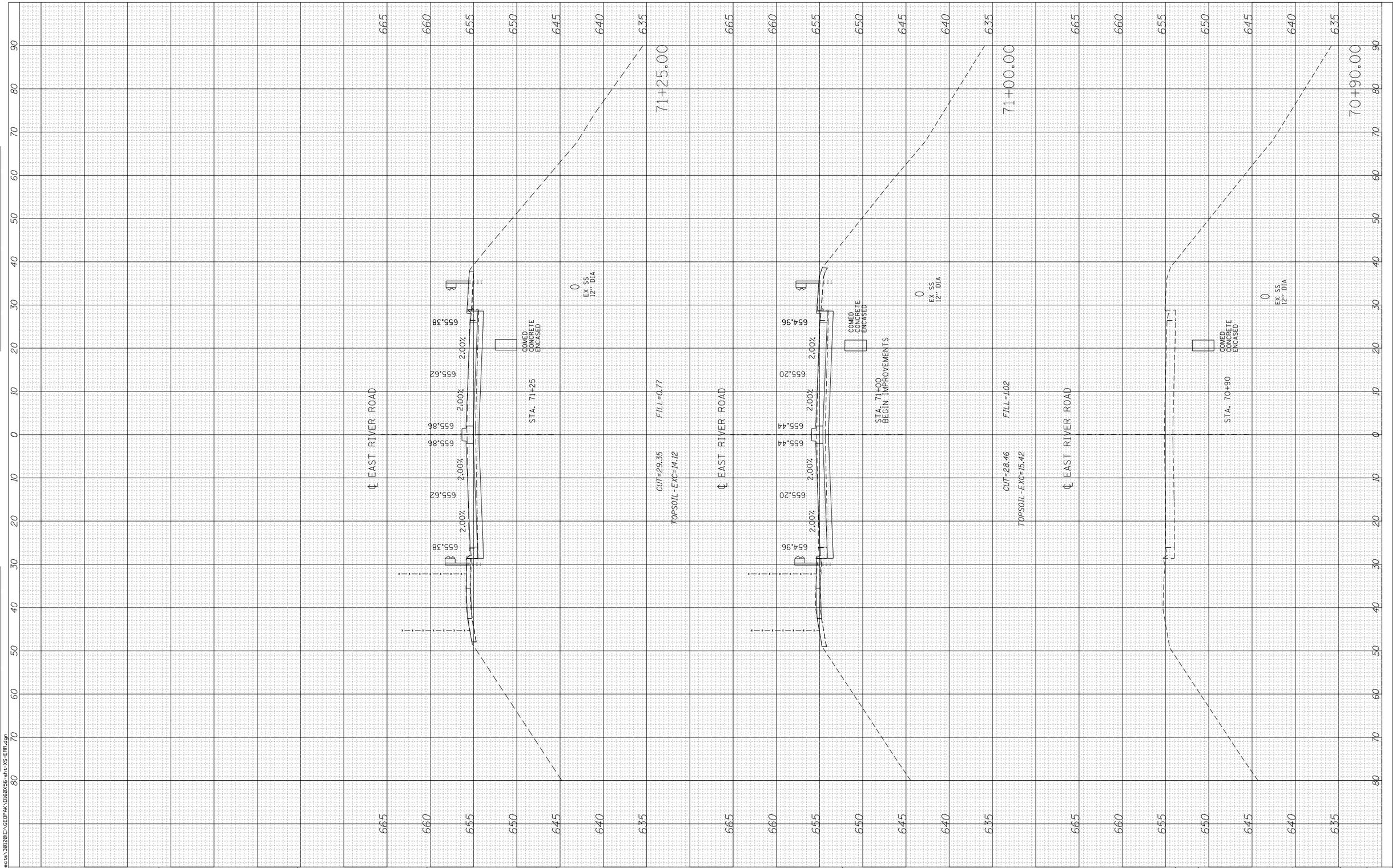
		DRAWN -	REVISED - K. ENG 02-28-12								223	189
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED -						**TC-24**		CONTRACT NO.	
	PLOT DATE = 3/29/2012	DATE -	REVISED -		SCALE: NONE	SHEET NO. 3 OF 3 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

tc24.dgn 3/29/2012 9:59:00 AM User:drivakosgn

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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HNTB

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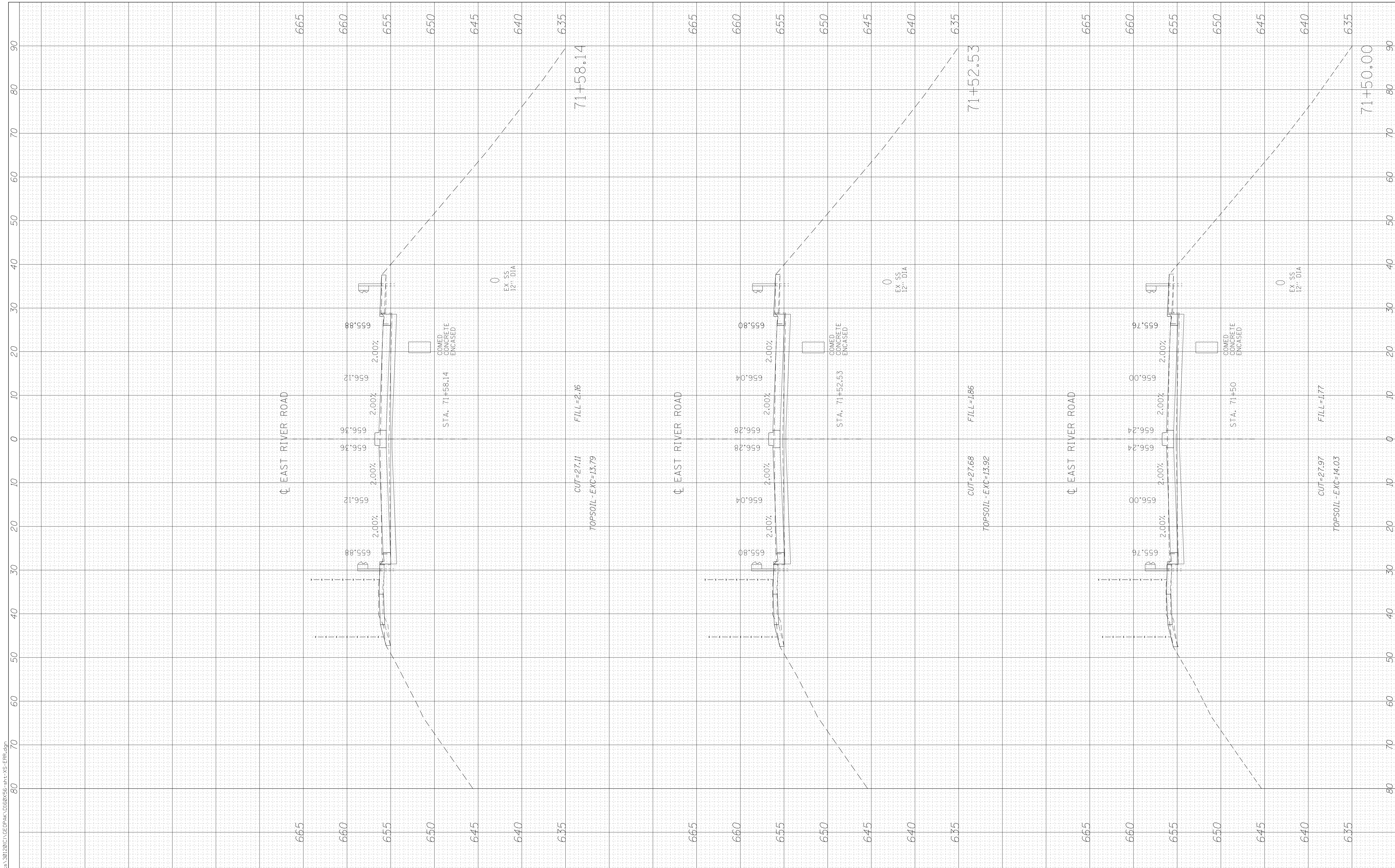
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED -	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
EAST RIVER ROAD

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 70+90.00 | TO STA. 71+25.00

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	190
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK NO. — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — BY — DATE

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HNTB	USER NAME = lsupencheck	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 10:1	CHECKED -	REVISED -
	PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

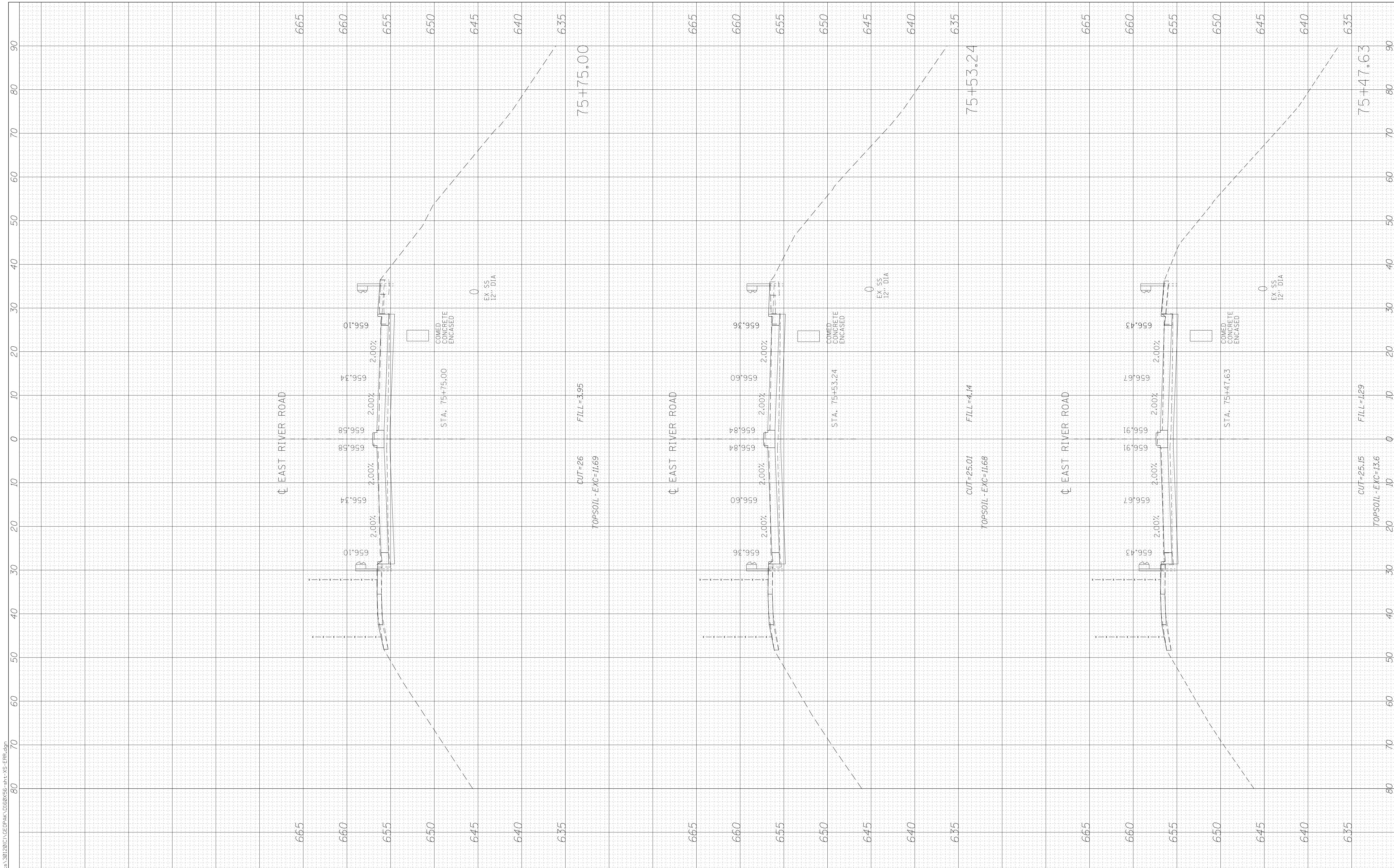
CROSS-SECTIONS
EAST RIVER ROAD

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 71+50.00 TO STA. 71+58.14

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	191

CONTRACT NO. 62A64

ILLINOIS FED. AID PROJECT



FINAL SURVEY		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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HNTB

USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED -	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS–SECTIONS
EAST RIVER ROAD

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 75+47.63 TO STA. 75+75.00

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	192

CONTRACT NO. 62A64

ILLINOIS FED. AID PROJECT

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
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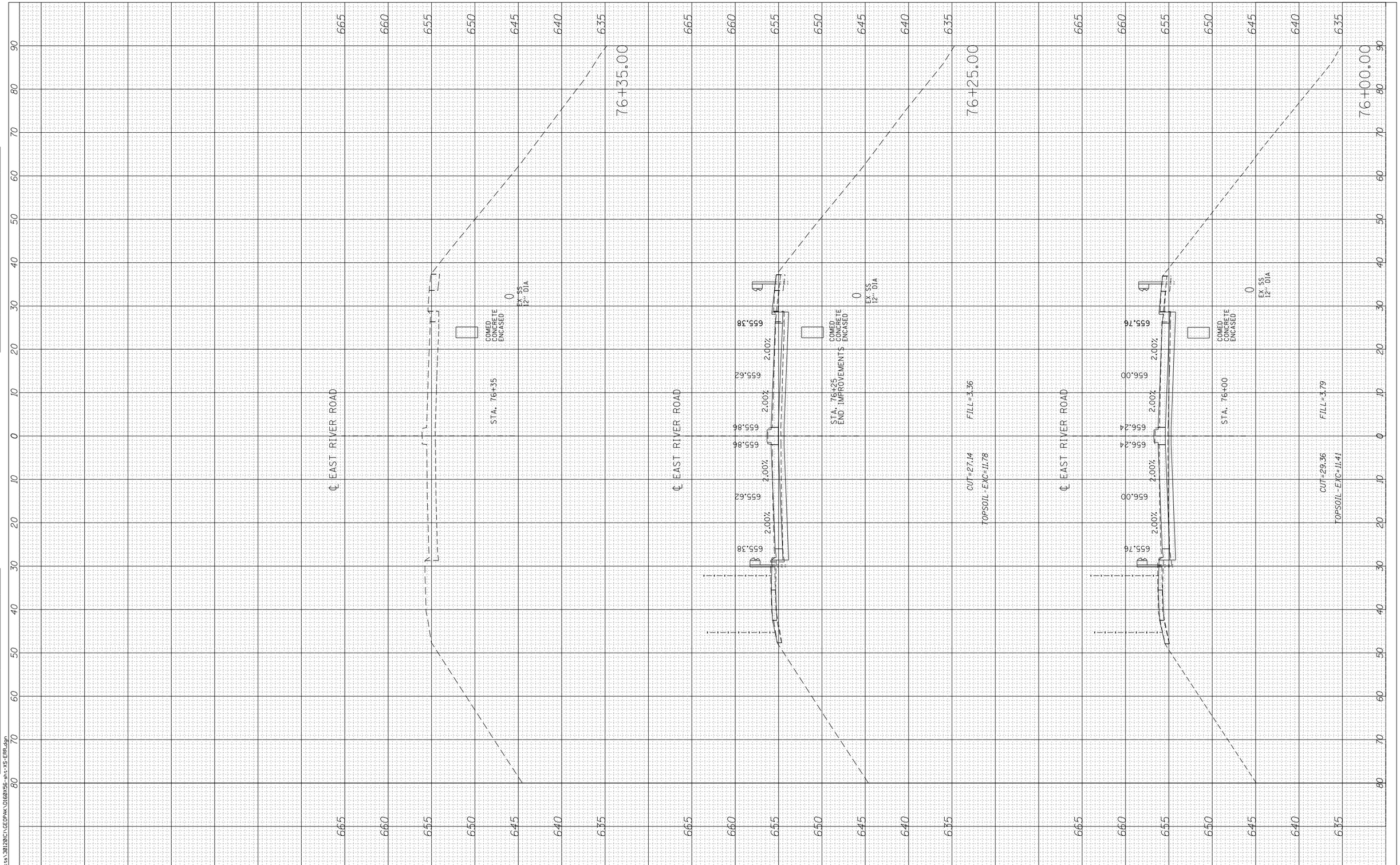

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HNTB

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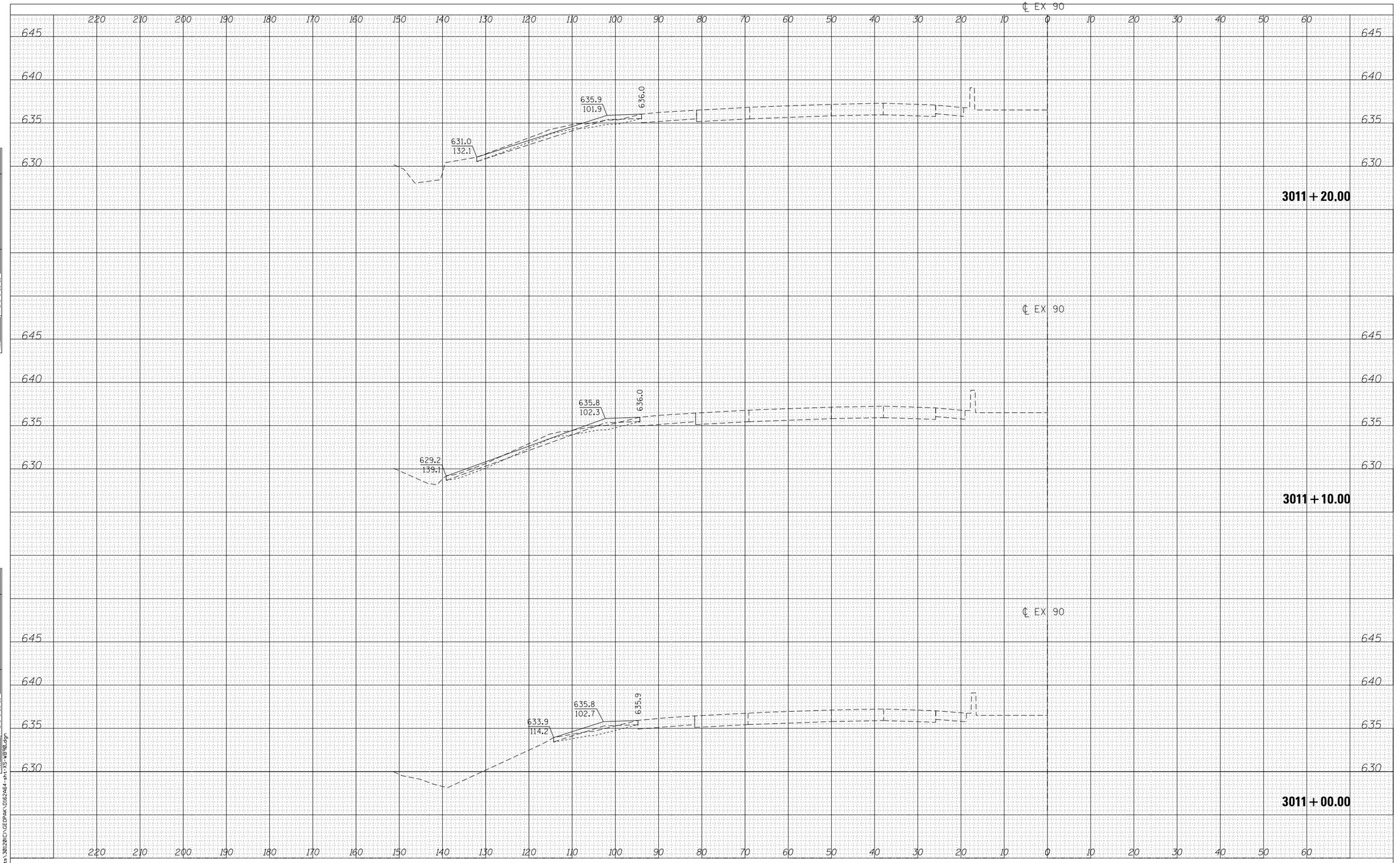
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED -	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
EAST RIVER ROAD

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 76+00.00 TO STA. 76+35.00

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	193
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			



FINAL SURVEY	NOTE BOOK	NO.	BY	DATE
SURVEYED				
PLOTTED				
TEMPLATE				
AREAS				
AREAS CHECKED				

ORIGINAL SURVEY	NOTE BOOK	NO.	BY	DATE
SURVEYED				
PLOTTED				
TEMPLATE				
AREAS				
AREAS CHECKED				

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HNTB

USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3011+00.00 TO STA. 3011+20.00

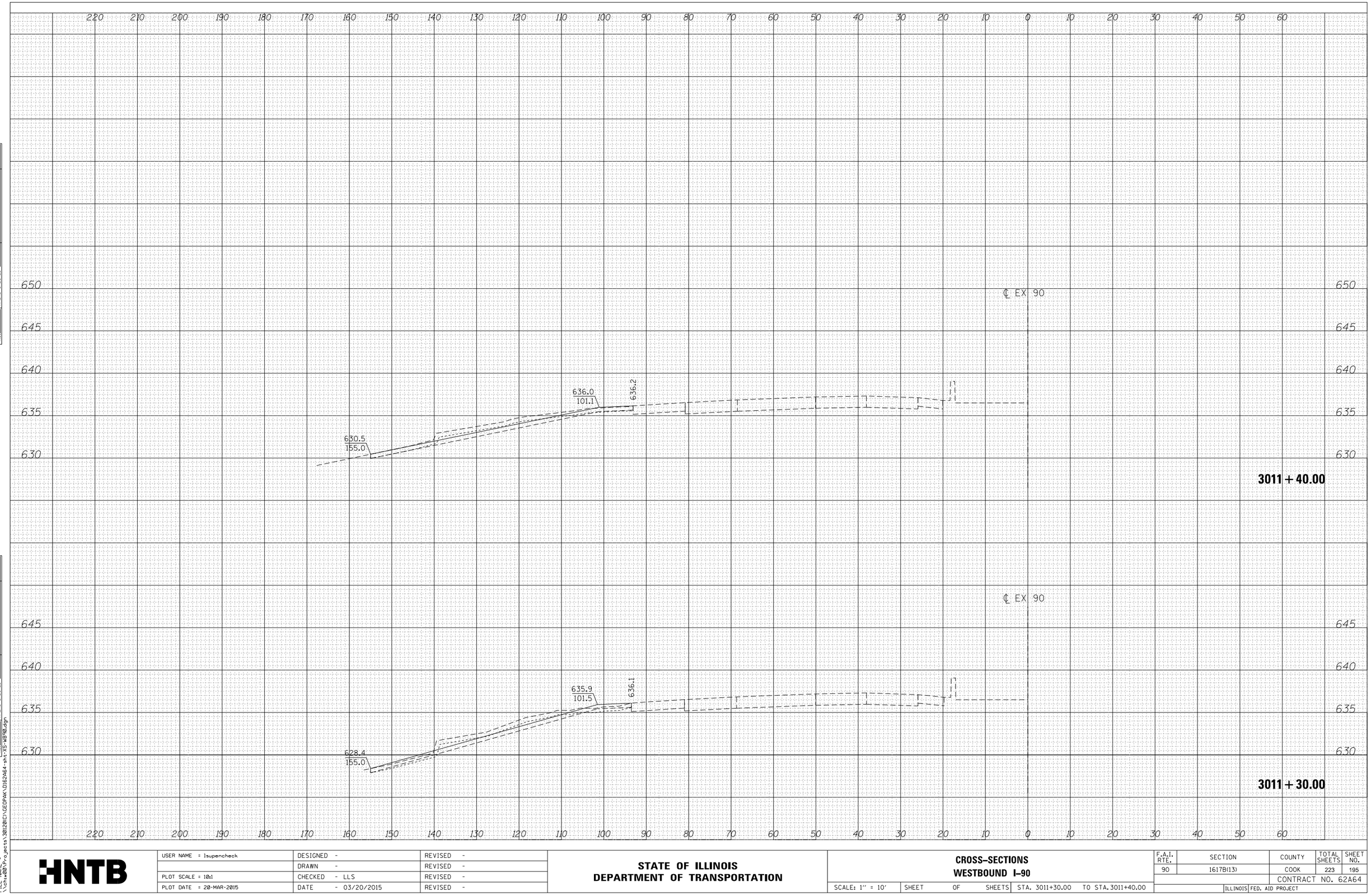
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	194
		CONTRACT NO. 62A64		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE



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PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3011+30.00 TO STA. 3011+40.00

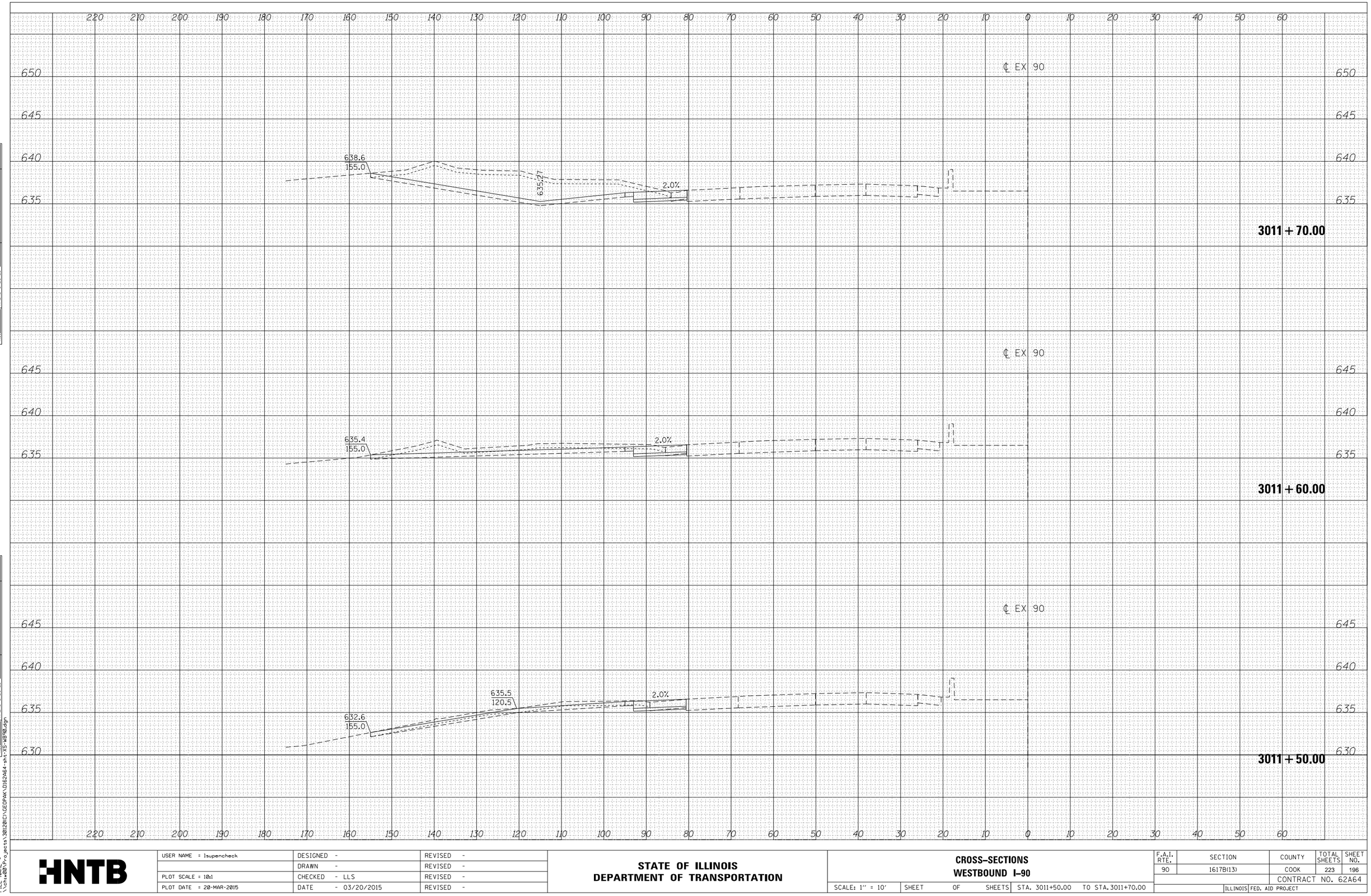
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	195
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



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PLOT SCALE = 10:1	CHECKED - LLS	REVISED -	
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -	

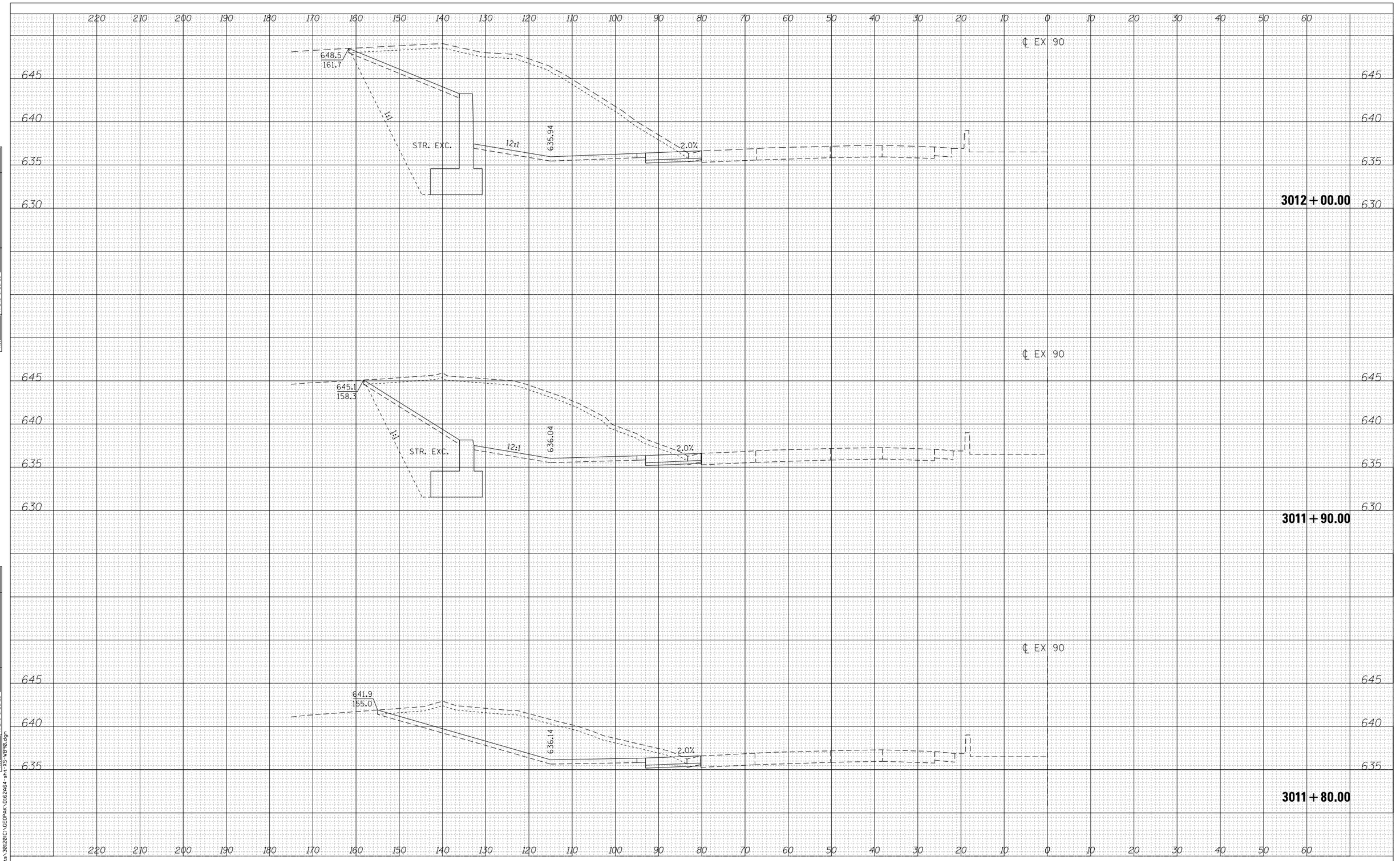
HNTB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3011+50.00 TO STA. 3011+70.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	196
		CONTRACT NO. 62A64		
		ILLINOIS FED. AID PROJECT		



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
NOTE BOOK	AREAS	
NO.	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
NOTE BOOK	AREAS	
NO.	AREAS CHECKED	

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HNTB

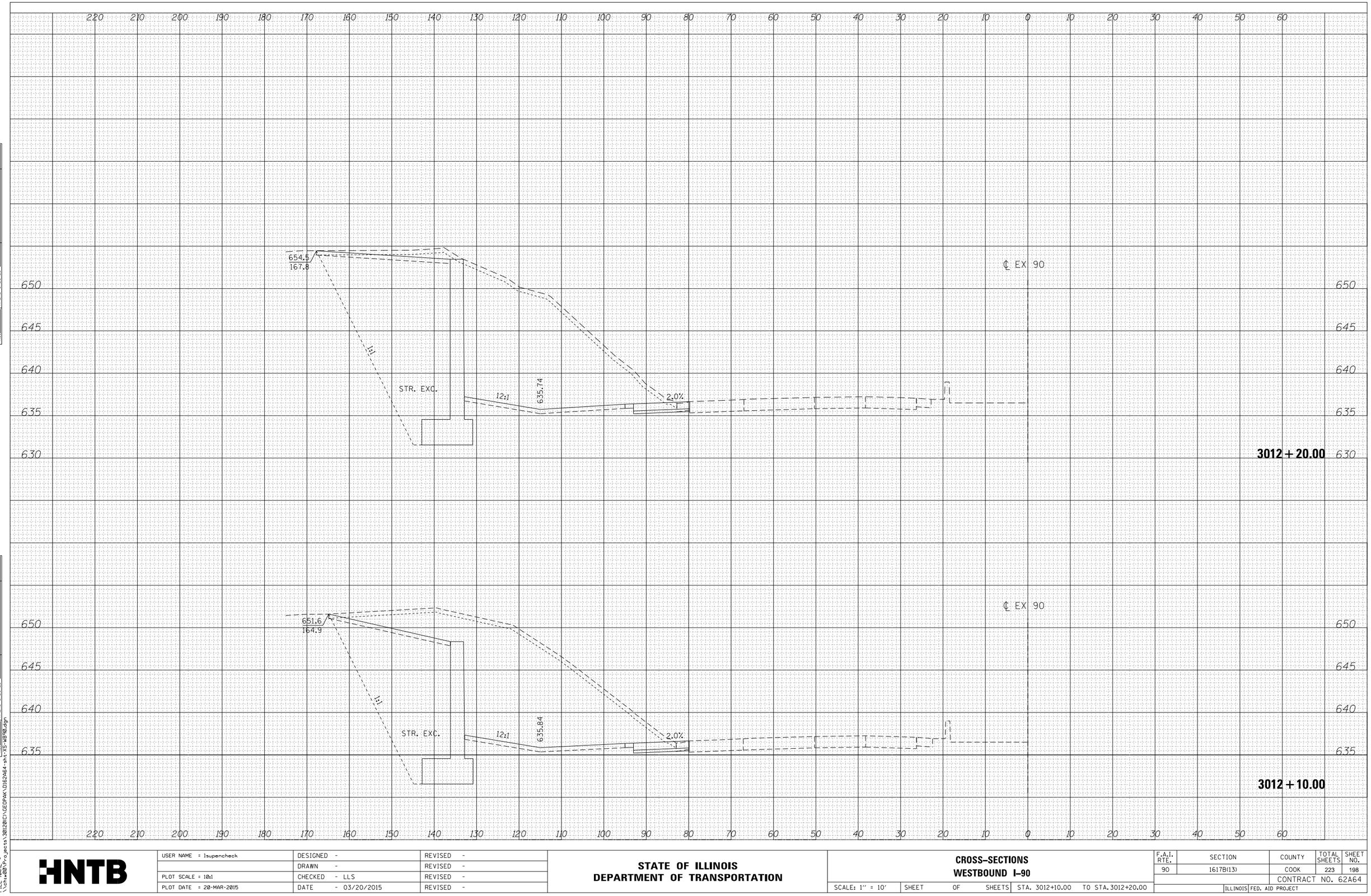
USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3011+80.00 TO STA. 3012+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	197
		CONTRACT NO. 62A64		
	ILLINOIS FED. AID PROJECT			



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SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED
BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO.
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED
BY — DATE

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HNTB

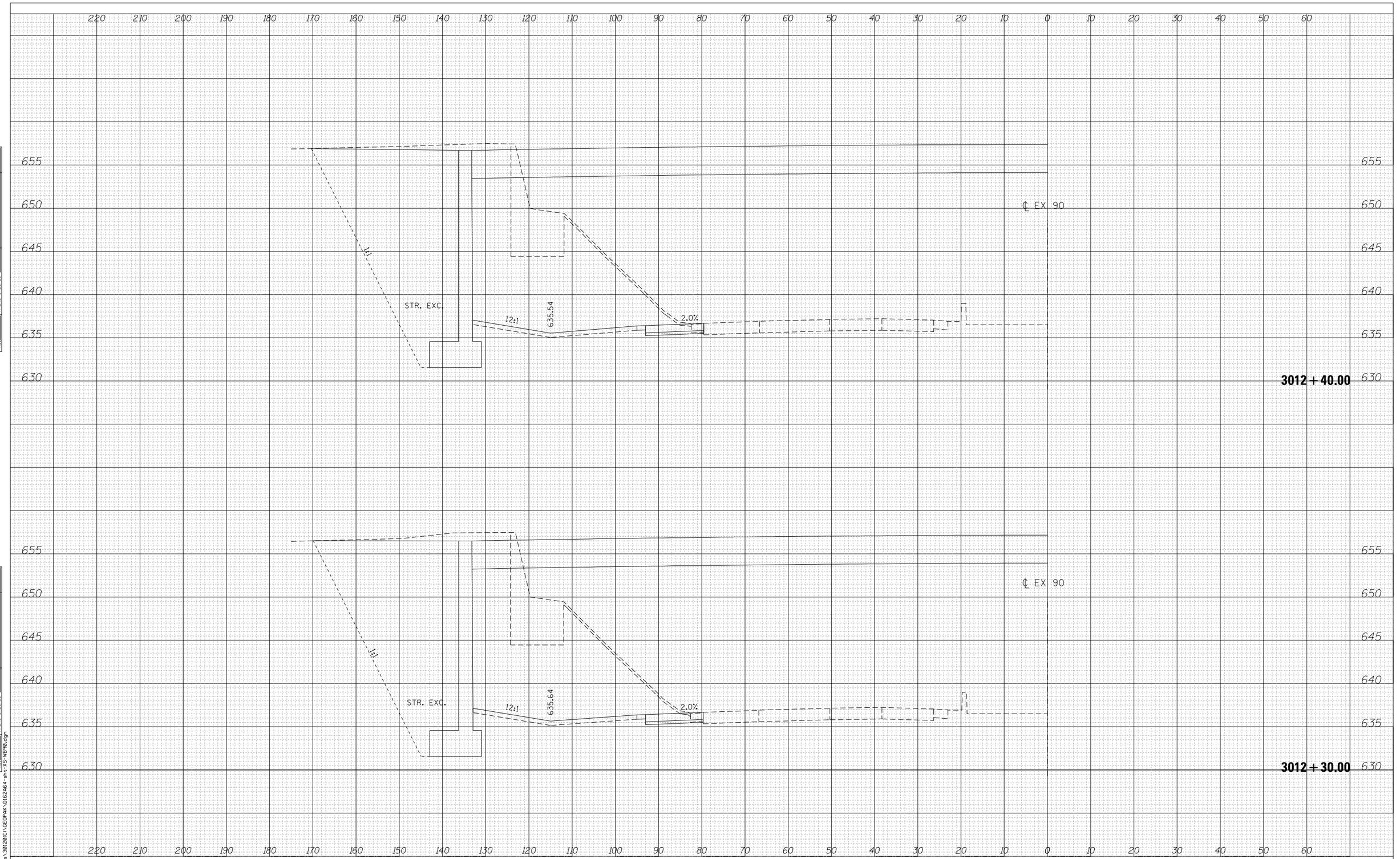
USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3012+10.00 TO STA. 3012+20.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	198
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

FILE NAME = \\chi002\P-projects\30120IC\GEOPAK\DI62A64-sht-XS-WB90.dgn

HNTB

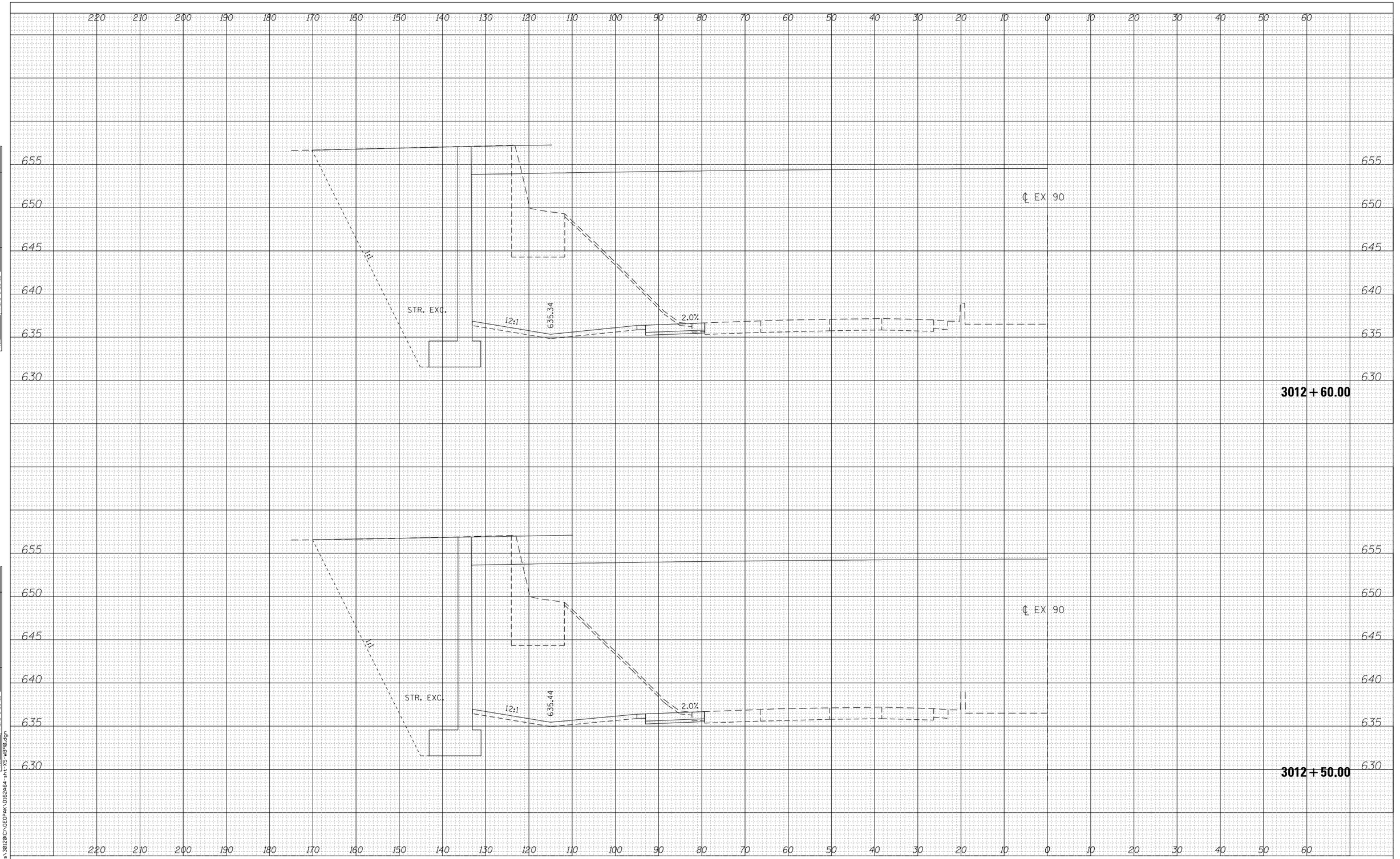
USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3012+30.00 TO STA. 3012+40.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	199
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		DATE

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USER NAME = lsupencheck	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10:1	CHECKED - LLS	REVISED -
PLOT DATE = 20-MAR-2015	DATE - 03/20/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS-SECTIONS
WESTBOUND I-90

SCALE: 1" = 10' | SHEET OF SHEETS | STA. 3012+50.00 TO STA. 3012+60.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	1617B(13)	COOK	223	200
		CONTRACT NO. 62A64		
	ILLINOIS	FED. AID PROJECT		