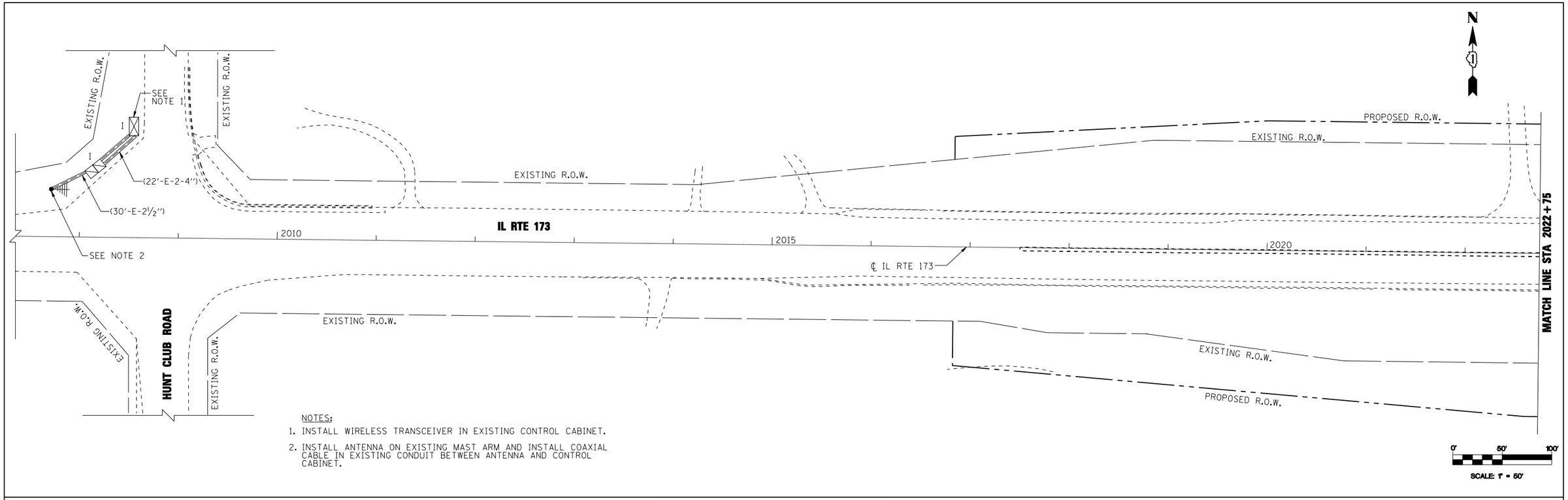
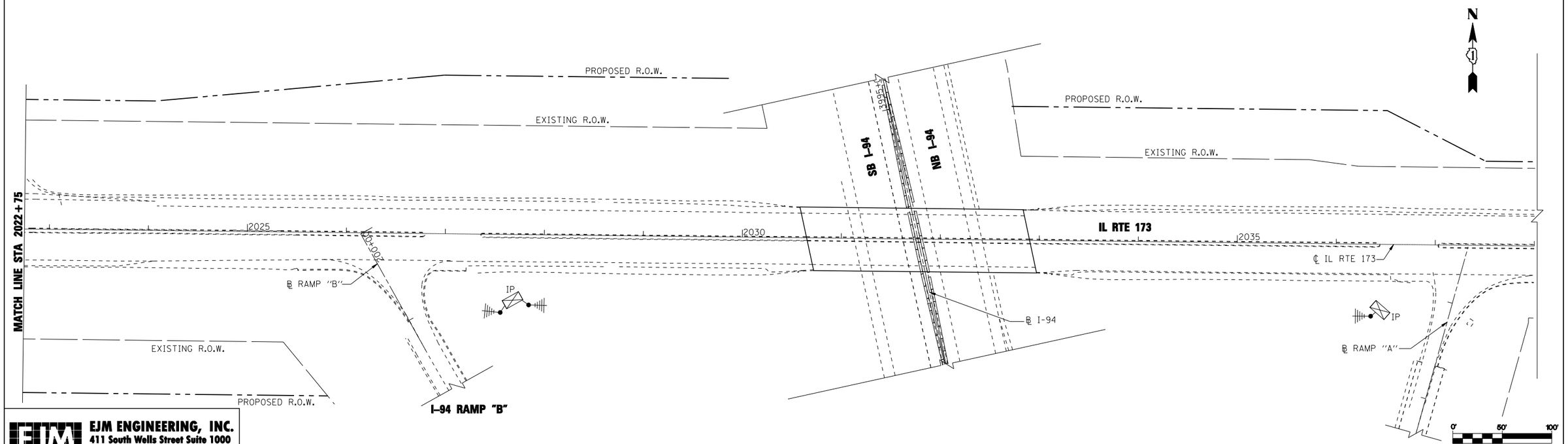


NOTES:

1. INSTALL WIRELESS TRANSCEIVER IN EXISTING CONTROL CABINET.
2. INSTALL ANTENNA ON EXISTING MAST ARM AND INSTALL COAXIAL CABLE IN EXISTING CONDUIT BETWEEN ANTENNA AND CONTROL CABINET.



TS-11

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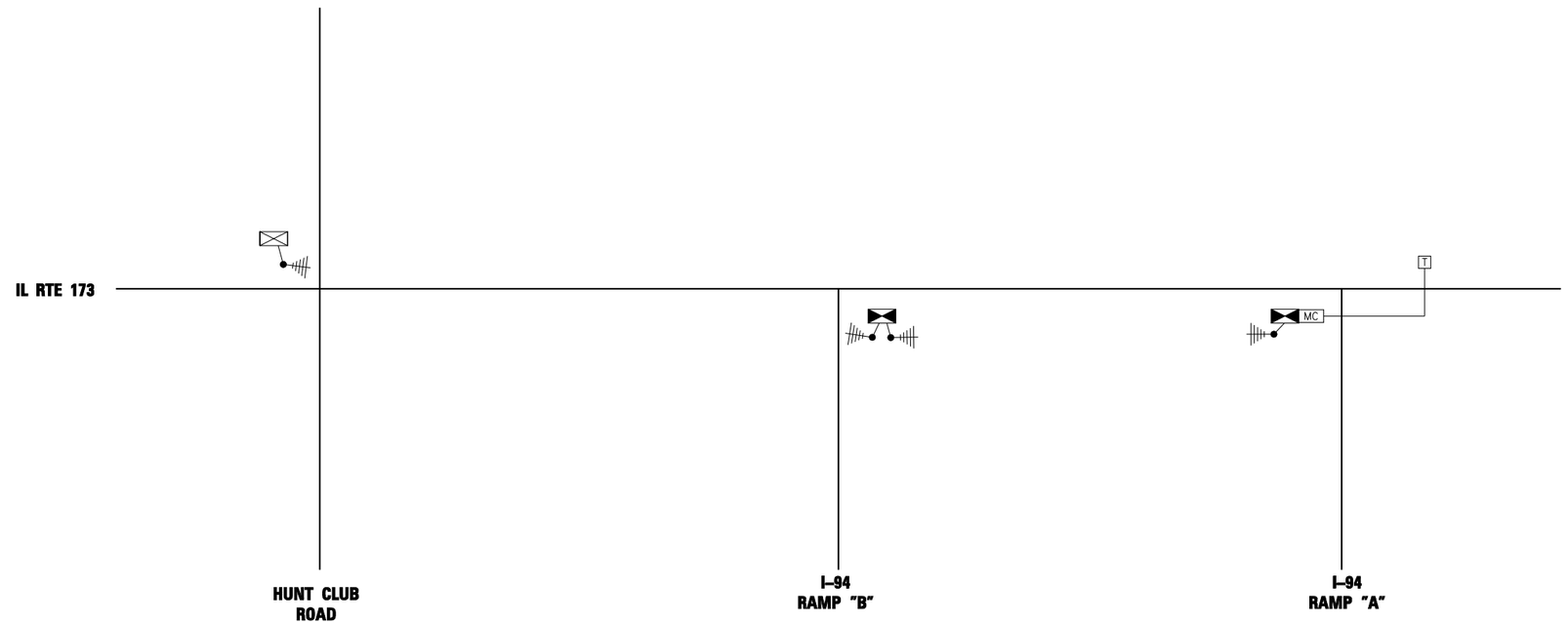
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
IL RTE 173 – HUNT CLUB ROAD TO I-94 RAMP "A"

SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 2007+36 TO STA. 2038+03

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	101
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



INTERCONNECT SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
WIRELESS INTERCONNECT (COMPLETE)	EACH	1
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1

NOTES:

1. ALL WIRELESS TRANSCEIVERS, ANTENNAS, AND COAXIAL CABLE REQUIRED TO PLACE THE WIRELESS INTERCONNECT IN SATISFACTORY OPERATION ARE INCLUDED IN THE COST OF THE ITEM "WIRELESS INTERCONNECT (COMPLETE)."
2. THE CONTRACTOR SHALL MAINTAIN THE WIRELESS INTERCONNECT AND THE INTERSECTION OF IL RTE 173 AT HUNT CLUB ROAD FOR THE FULL DURATION OF THE RUSSELL ROAD BRIDGE CLOSURE DETOUR ROUTE. THIS WORK IS INCLUDED IN THE COST OF THE ITEM "MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION."
3. THE CONTRACTOR IS REQUIRED TO MAINTAIN AND ADJUST CONTROLLER TIMINGS WHILE THE RUSSELL ROAD BRIDGE CLOSURE DETOUR ROUTE IS IN EFFECT, WHICH SHALL BE CONSIDERED AS INCLUDED IN THE COST OF "OPTIMIZE TRAFFIC SIGNAL SYSTEM".

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TS-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC
IL RTE 173 – HUNT CLUB ROAD TO I-94 RAMP "A"

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	102
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

LEGEND

- PROPOSED LIGHTING UNIT
  47.5' M.H., 6' DAVIT ARM., WITH 400W, 240V HPS LUMINAIRE, TYPE III, 6 AMP FUSE
- TEMPORARY LIGHTING UNIT
  50' M.H., 15' MAST ARM., WITH 400W, 240V HPS LUMINAIRE, TYPE III, 6 AMP FUSE
- EXISTING LIGHTING UNIT TO BE REMOVED AND SALVAGED
- TEMPORARY LIGHTING UNIT TO BE
  LEFT IN PLACE AT CONCLUSION OF CONTRACT
- UNDERGROUND RIGID GALVANIZED STEEL CONDUIT (RGC)
  SIZE AS INDICATED IN PLANS
- UNIT DUCT, AS SPECIFIED IN PLANS
- AERIAL CABLE, AS SPECIFIED IN PLANS
- EXISTING AERIAL CABLE
- CONDUIT EMBEDDED IN STRUCTURE, AS SPECIFIED IN PLANS
- TEMPORARY LIGHTING CONTROLLER CABINET,
  240/480V, SINGLE PHASE, 3 WIRE
- WOOD POLE, SIZE AS NOTED
- ELECTRIC UTILITY SERVICE CONNECTION
- GROUND ROD, 5/8'' x 10'
- JUNCTION BOX, SIZE AND TYPE AS NOTED

ABBREVIATIONS

SYMBOL	DESCRIPTION
AC	ALTERNATING CURRENT
A/C	AERIAL CABLE
AFG	ABOVE FINISHED GRADE
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CENTIMETER
CNC	COILABLE NONMETALLIC CONDUIT
CT	CURRENT TRANSFORMER
CP	CONTROL PANEL
DIA	DIAMETER
E	EXISTING UNIT TO REMAIN
ECA	ELECTRIC CABLE ASSEMBLY
FT	FEET OR FOOT
FND MET	FOUNDATION METAL
FU	FUSE
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HPS	HIGH PRESSURE SODIUM
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERE
KW	KILOWATTS
M	METER
M.A.	MAST ARM
M.H.	MOUNTING HEIGHT
NO. #	NUMBER
PH	PHASE
RGC	RIGID GALVANIZED CONDUIT
RGS	RIGID GALVANIZED STEEL
STA	STATION
T	TEMPORARY LIGHTING UNIT
TB	TRANSFORMER BASE
TMP	TEMPORARY
UD	UNIT DUCT
WP	WOOD POLE
XFMR	TRANSFORMER

GENERAL NOTES:

1. THE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ASSOCIATED SUPPLEMENTAL SPECIFICATIONS (LATEST EDITION), AS WELL AS THE NATIONAL ELECTRICAL CODE.
2. ALL LUMINAIRES SHALL BE ORIENTED WITH THE OPTICS PERPENDICULAR TO THE ROADWAY UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE APPLICABLE LUMINAIRE PAY ITEMS.
3. WHEREVER TEMPORARY AERIAL CABLE IS REQUIRED TO CROSS AN EXISTING AND/OR PROPOSED ROADWAY, THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 20 FEET OF VERTICAL CLEARANCE OVER THE ROADWAY AT ALL TIMES.
4. THE TEMPORARY LIGHTING SYSTEM MUST BE INSTALLED AND OPERATIONAL PRIOR TO THE START OF STAGE 2 CONSTRUCTION. UNLESS NOTED OTHERWISE, ALL TEMPORARY LIGHTING EQUIPMENT SHALL BE LEFT IN PLACE AT THE CONCLUSION OF THE CONTRACT AS DENOTED ON THE INTERIM LIGHTING PLAN, AND ITS MAINTENANCE TRANSFERRED TO IDOT. THE INTERIM LIGHTING WILL BE REMOVED AND REPLACED WITH A PERMANENT LIGHTING SYSTEM IN A FUTURE CONTRACT.
5. THE EXISTING LIGHT POLES, MAST ARMS, LUMINAIRES AND BREAKAWAY DEVICES SHALL BE SALVAGED TO IDOT.
6. GROUND RODS ARE INCLUDED IN THE COST OF THE ITEM FOR WHICH THEY ARE INSTALLED, INCLUDING WOOD LIGHT POLES AND THE TEMPORARY LIGHTING CONTROLLER.
7. SETBACKS FOR TEMPORARY LIGHT POLES ARE MEASURED FROM CENTERLINE OF ROADWAY TO CENTER OF TEMPORARY POLE.

LIGHTING SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	68
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	40
CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL	FOOT	80
CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	617
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 14" X 12" X 6"	EACH	4
UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	502
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 2	FOOT	96
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 4 & 1/C NO. 6 GROUND	FOOT	636
AERIAL CABLE, 3-1/C NO. 4 WITH MESSENGER WIRE	FOOT	2575
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	23
LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	21
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	2
REMOVAL OF LIGHTING UNIT, SALVAGE	EACH	8
REMOVAL OF POLE FOUNDATION	EACH	8
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5274
TEMPORARY LIGHTING CONTROLLER	EACH	1
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	2
MAINTENANCE OF LIGHTING SYSTEM	CAL MO	10
JUNCTION BOX, NON-METALLIC, EMBEDDED IN STRUCTURE, 8" X 6" X 6"	EACH	4
LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 6 FT. DAVIT ARM	EACH	2
WOOD POLE, 100 FOOT, CLASS 2	EACH	2
WOOD POLE, 60 FOOT, CLASS 4	EACH	1

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E-01

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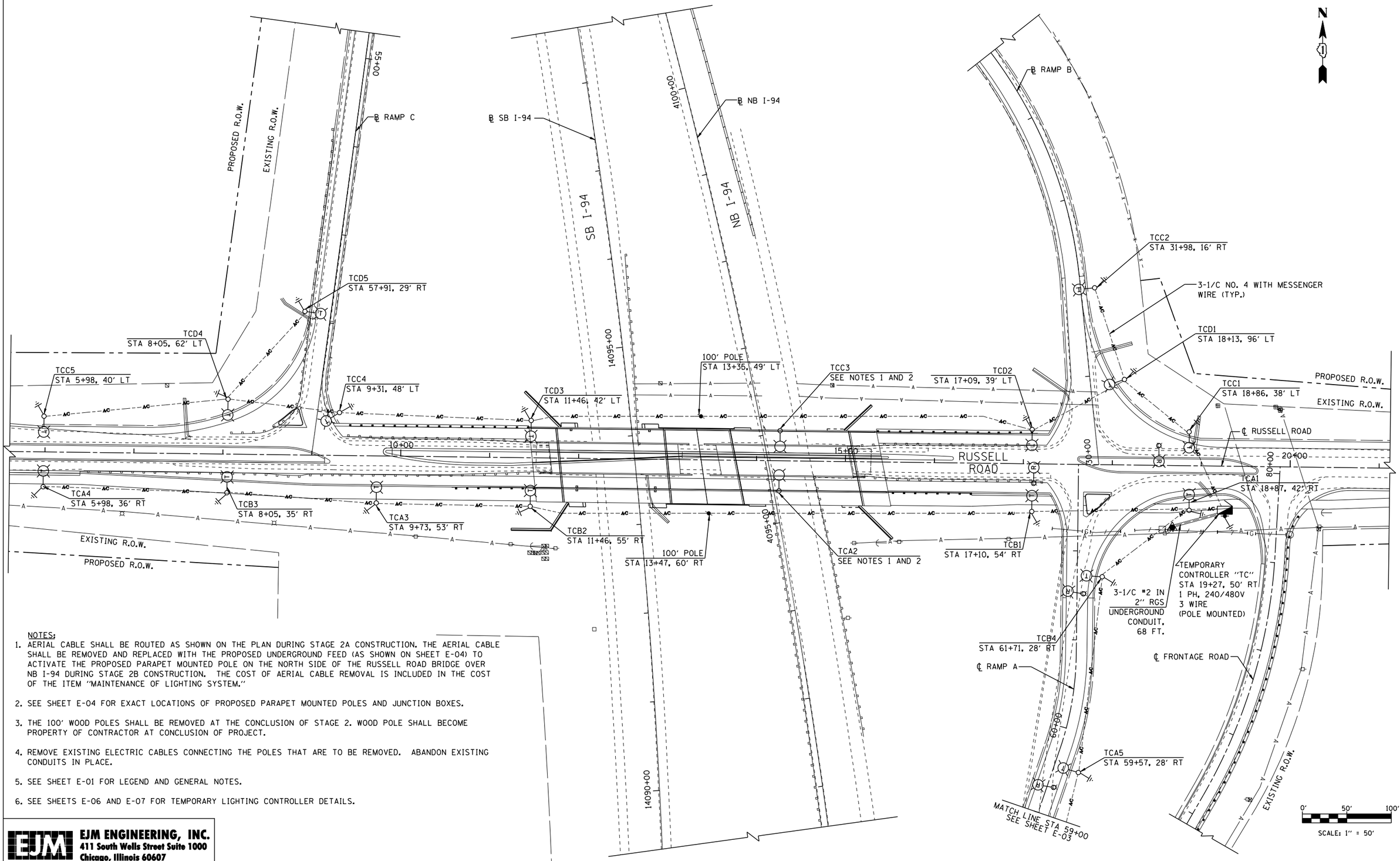
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING GENERAL NOTES AND LEGEND
RUSSELL ROAD

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	103
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



NOTES;

1. AERIAL CABLE SHALL BE ROUTED AS SHOWN ON THE PLAN DURING STAGE 2A CONSTRUCTION. THE AERIAL CABLE SHALL BE REMOVED AND REPLACED WITH THE PROPOSED UNDERGROUND FEED (AS SHOWN ON SHEET E-04) TO ACTIVATE THE PROPOSED PARAPET MOUNTED POLE ON THE NORTH SIDE OF THE RUSSELL ROAD BRIDGE OVER NB I-94 DURING STAGE 2B CONSTRUCTION. THE COST OF AERIAL CABLE REMOVAL IS INCLUDED IN THE COST OF THE ITEM "MAINTENANCE OF LIGHTING SYSTEM."
2. SEE SHEET E-04 FOR EXACT LOCATIONS OF PROPOSED PARAPET MOUNTED POLES AND JUNCTION BOXES.
3. THE 100' WOOD POLES SHALL BE REMOVED AT THE CONCLUSION OF STAGE 2. WOOD POLE SHALL BECOME PROPERTY OF CONTRACTOR AT CONCLUSION OF PROJECT.
4. REMOVE EXISTING ELECTRIC CABLES CONNECTING THE POLES THAT ARE TO BE REMOVED. ABANDON EXISTING CONDUITS IN PLACE.
5. SEE SHEET E-01 FOR LEGEND AND GENERAL NOTES.
6. SEE SHEETS E-06 AND E-07 FOR TEMPORARY LIGHTING CONTROLLER DETAILS.

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E-02

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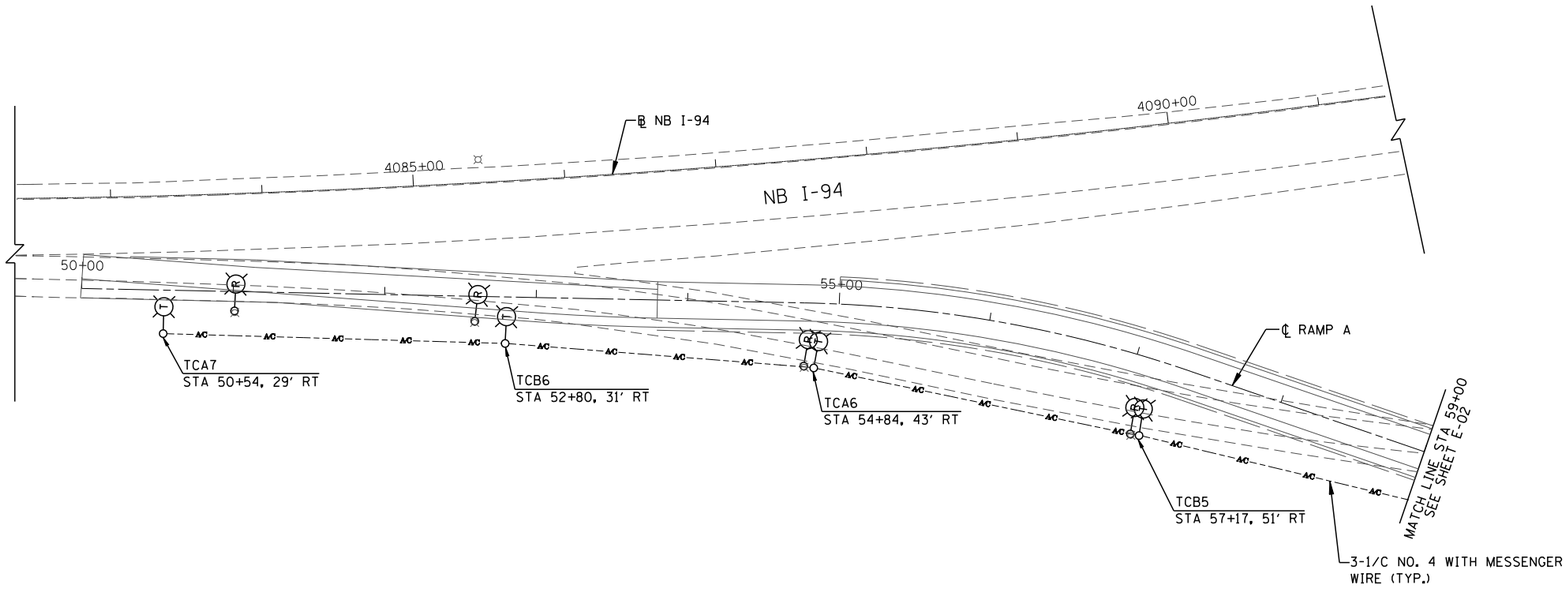
DEPARTMENT OF TRANSPORTATION

REMOVAL AND TEMPORARY LIGHTING PLAN
RUSSELL ROAD

SCALE: 1" = 50' | SHEET NO. 1 OF 2 SHEETS | STA. 6+60 | TO STA. 21+13

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	104
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



NOTES;

1. REMOVE EXISTING ELECTRIC CABLES CONNECTING THE POLES THAT ARE TO BE REMOVED. ABANDON EXISTING CONDUITS IN PLACE.

2. SEE SHEET E-01 FOR LEGEND AND GENERAL NOTES.

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0' 50' 100'
SCALE: 1" = 50'

E-03

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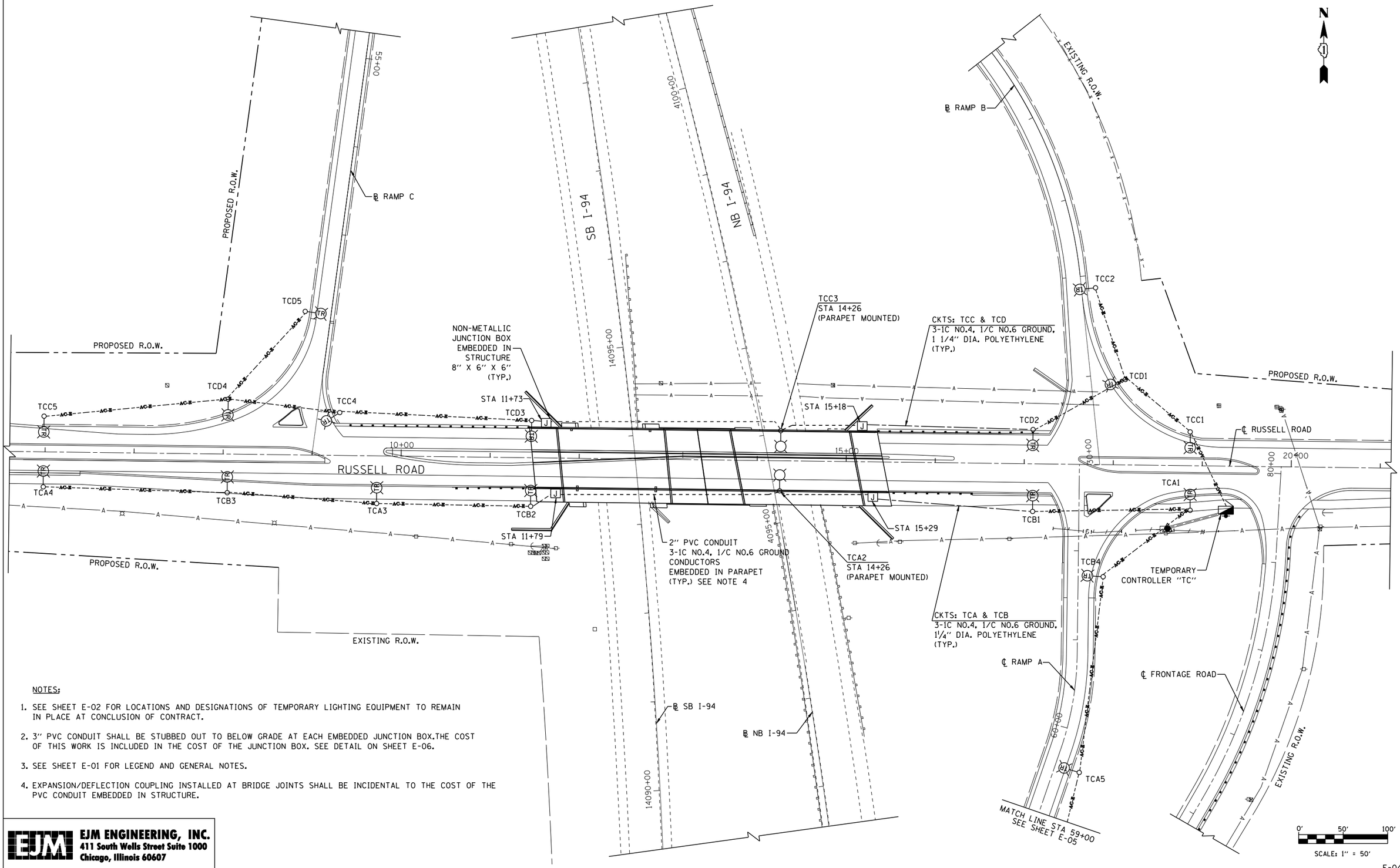
REMOVAL AND TEMPORARY LIGHTING PLAN
I-94 NB EXIT RAMP TO RUSSELL ROAD

SCALE: 1" = 50' | SHEET NO. 2 OF 2 SHEETS | STA. 50+00 TO STA. 59+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	105
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. SEE SHEET E-02 FOR LOCATIONS AND DESIGNATIONS OF TEMPORARY LIGHTING EQUIPMENT TO REMAIN IN PLACE AT CONCLUSION OF CONTRACT.
2. 3" PVC CONDUIT SHALL BE STUBBED OUT TO BELOW GRADE AT EACH EMBEDDED JUNCTION BOX.THE COST OF THIS WORK IS INCLUDED IN THE COST OF THE JUNCTION BOX. SEE DETAIL ON SHEET E-06.
3. SEE SHEET E-01 FOR LEGEND AND GENERAL NOTES.
4. EXPANSION/DEFLECTION COUPLING INSTALLED AT BRIDGE JOINTS SHALL BE INCIDENTAL TO THE COST OF THE PVC CONDUIT EMBEDDED IN STRUCTURE.

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E-04

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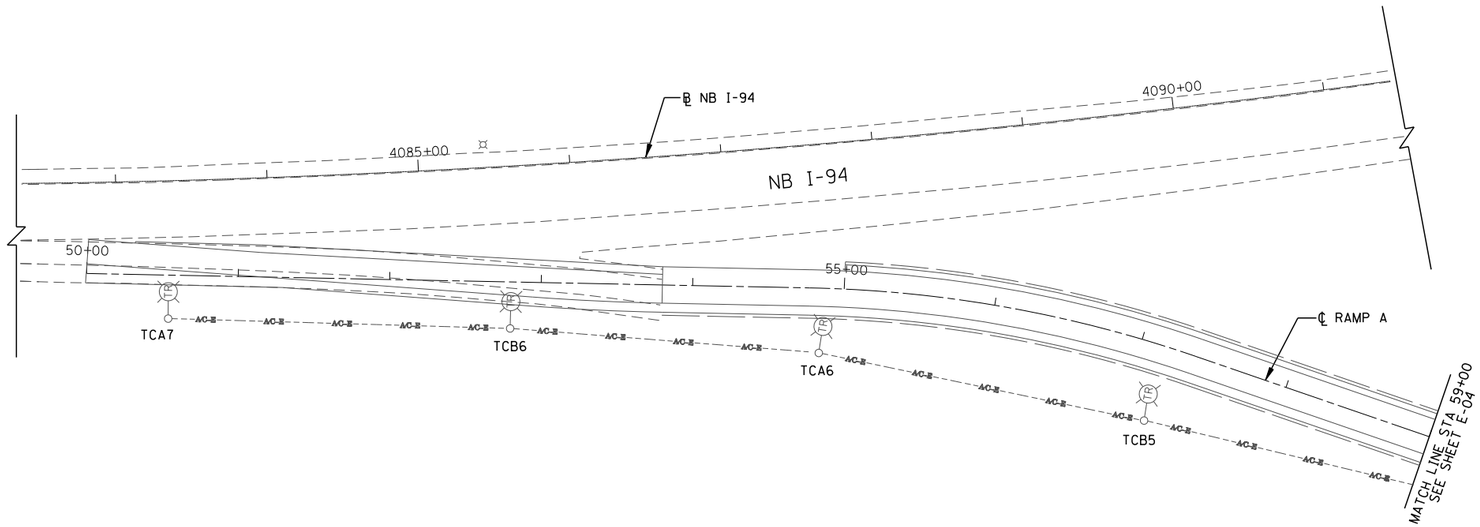
DEPARTMENT OF TRANSPORTATION

PROPOSED INTERIM LIGHTING PLAN
RUSSELL ROAD

SCALE: 1" = 50' | SHEET NO. 1 OF 2 SHEETS | STA. 6+60 | TO STA. 21+13

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	106
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. SEE SHEET E-03 FOR LOCATIONS AND DESIGNATIONS OF TEMPORARY LIGHTING EQUIPMENT TO REMAIN IN PLACE AT CONCLUSION OF CONTRACT.

2. SEE SHEET E-01 FOR LEGEND AND GENERAL NOTES.

0' 50' 100'

SCALE: 1" = 50'

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E-05

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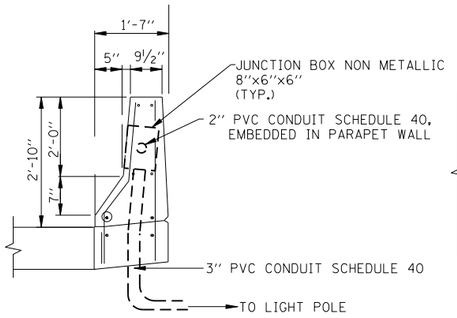
DEPARTMENT OF TRANSPORTATION

PROPOSED INTERIM LIGHTING PLAN
I-94 NB EXIT RAMP TO RUSSELL ROAD

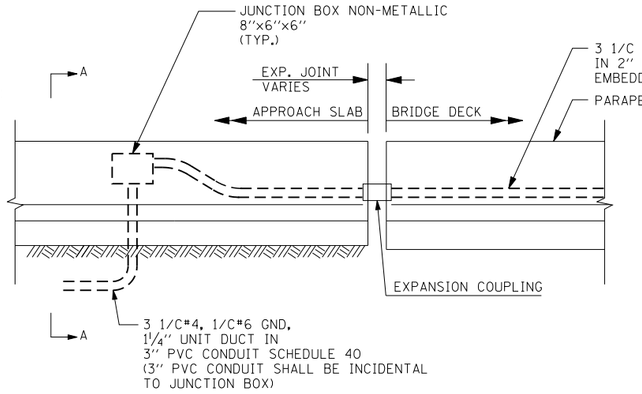
SCALE: 1" = 50' | SHEET NO. 2 OF 2 SHEETS | STA. 50+00 TO STA. 59+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	107
		CONTRACT NO. 60L76		
	ILLINOIS	FED. AID PROJECT		



SECTION A-A

NOT TO SCALE

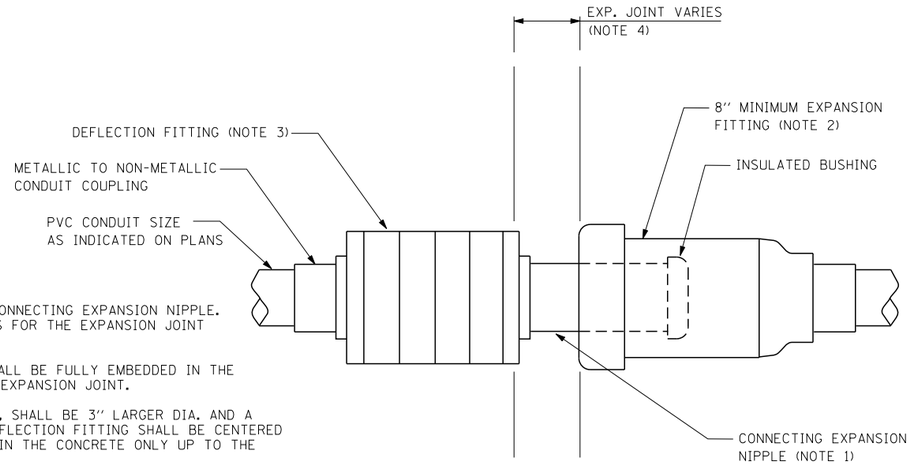


EXPANSION JOINT CONDUIT TRANSITION

NOT TO SCALE

NOTES:

1. PROVIDE REQUIRED LENGTH OF CONNECTING EXPANSION NIPPLE. REFER TO STRUCTURAL DRAWINGS FOR THE EXPANSION JOINT CHARACTERISTICS.
2. THE BARREL OF THE FITTING SHALL BE FULLY EMBEDDED IN THE CONCRETE ON ONE SIDE OF THE EXPANSION JOINT.
3. A CAVITY OPENING, IF REQUIRED, SHALL BE 3" LARGER DIA. AND A MAX. DEPTH OF HALF OF THE DEFLECTION FITTING SHALL BE CENTERED IN THE OPENING AND EMBEDDED IN THE CONCRETE ONLY UP TO THE DEFLECTION FITTING CENTER.
4. REFER TO BRIDGE PLANS FOR EACH EXPANSION JOINT WIDTH, AND OTHER STRUCTURAL DETAILS.



CONDUIT EXPANSION/DEFLECTING COUPLING

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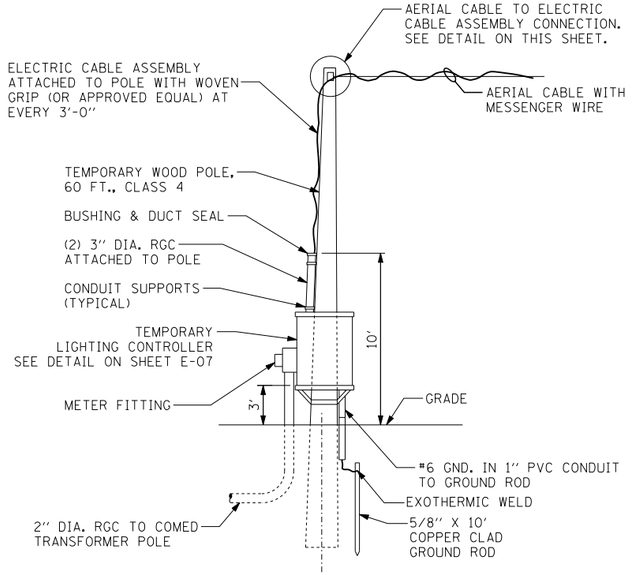


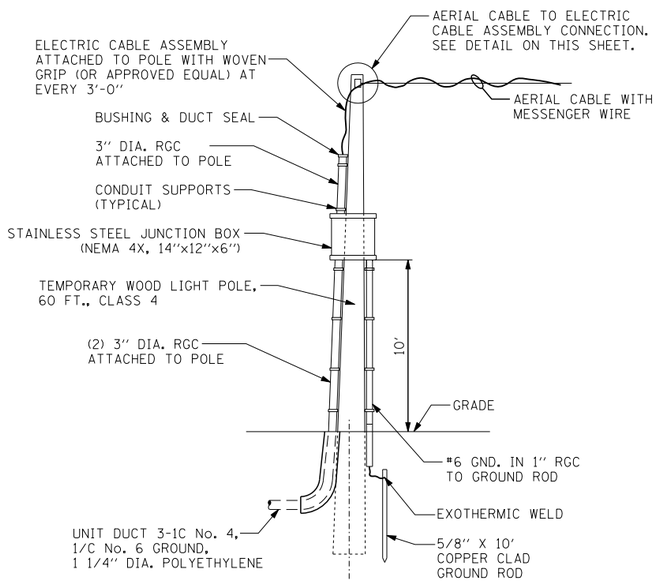
TEMPORARY LIGHTING CONTROLLER

INSTALLATION DETAIL

NOT TO SCALE

NOTES:

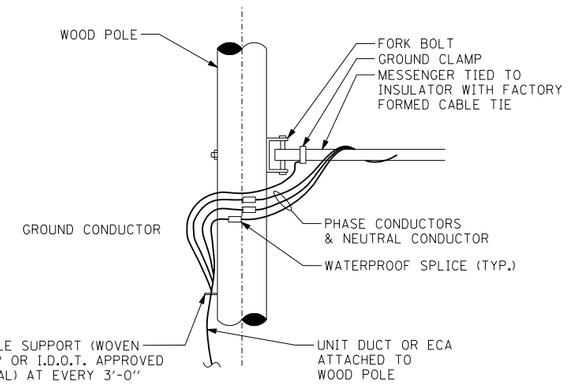
1. ALL CONDUIT ATTACHED TO THE WOOD POLE IS INCLUDED IN THE COST OF THE TEMPORARY LIGHTING CONTROLLER.



AERIAL CABLE TO UNDERGROUND DUCT

TRANSITION DETAIL

NOT TO SCALE



AERIAL CABLE TO ELECTRIC CABLE ASSEMBLY

CONNECTION DETAIL

NOT TO SCALE

NOTES:

1. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.
2. THE COST OF THE GROUND ROD AND GROUND WIRES SHALL BE INCLUDED IN THE COST OF THE WOOD LIGHTING POLE.

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E-06

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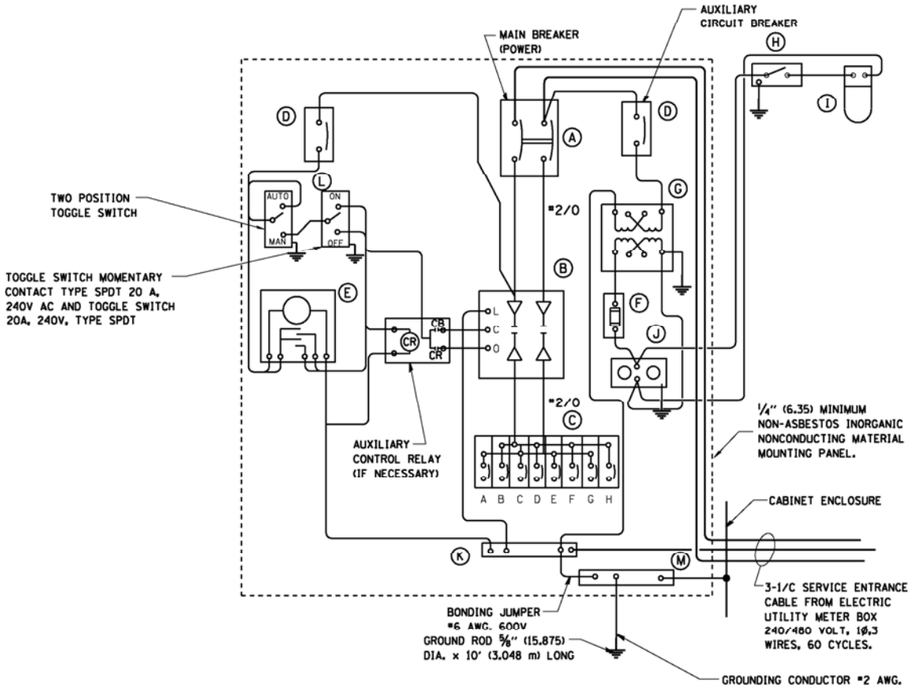
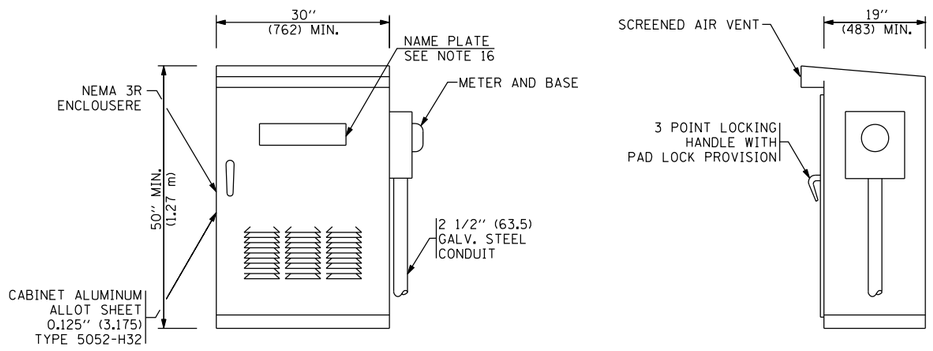
MISCELLANEOUS LIGHTING DETAILS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	108
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



PANEL WIRING DIAGRAM



POLE MOUNTED CONTROLLER CABINET

PANEL EQUIPMENT

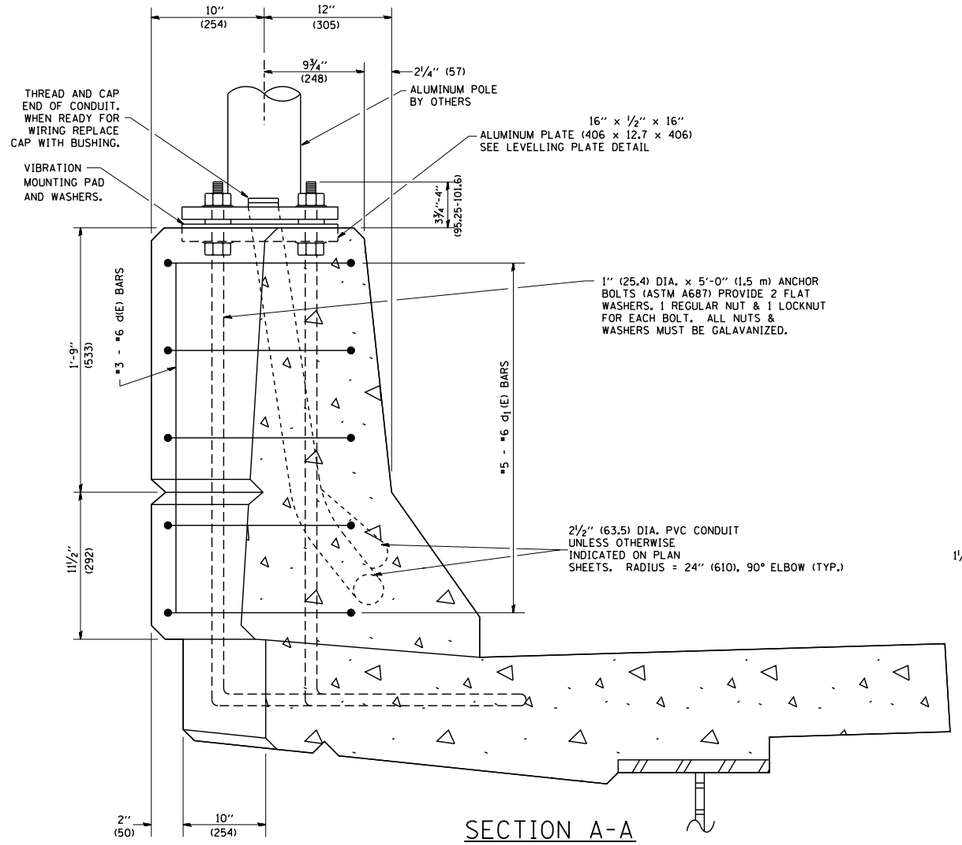
BILL OF MATERIAL

ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100 AMP. FRAME, 100 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 240 VOLT.
C	8	CIRCUIT BREAKERS, 1 POLE, 100AMP. FRAME , 50 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER. 1 POLE, 240 V., 100 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-5000 AMP. AT 240 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER [TIME SWITCH].
F	1	20 A., 120 V. FUSE.
G	1	1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480 / 120 X 240 VOLT, 60 Hz.
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN,
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BOX.
M	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS

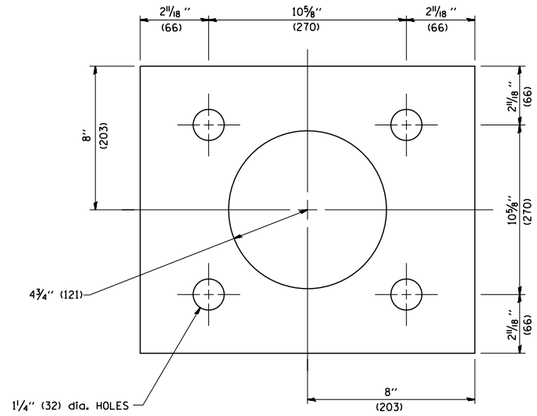
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. NOT USED
3. NOT USED
4. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
5. DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
6. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
7. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
8. CONTROL WIRING TO BE #12 AWG. 600V. TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
9. METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
10. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
11. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
12. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.
    R = RED BL = BLUE W = WHITE
    B = BLACK Y = YELLOW G = GREEN
13. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
14. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
15. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
16. 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.

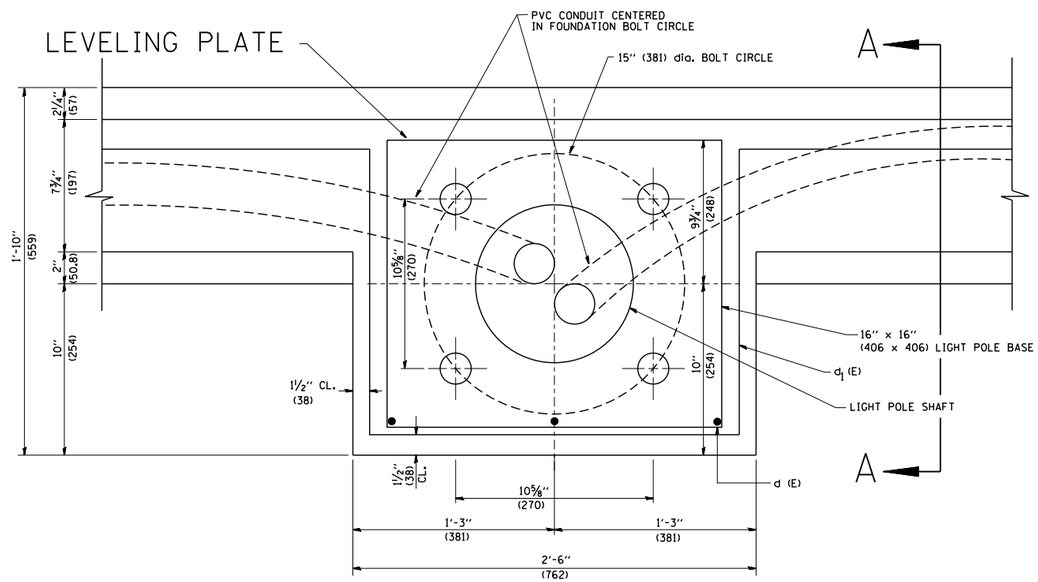
FILE NAME = W:\diststd\22x34\be215.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-20-04	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LIGHTING CONTROLLER SINGLE DOOR			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					94	49-1(HB & HB-1)R	LAKE	225	109
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -						BE-215		CONTRACT NO. 60L76	
	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	



SECTION A-A



LEVELING PLATE DETAIL



PLAN

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. LEVEL LIGHT POLE PLATES, USING THE FLANGE NUTS, PRIOR TO POURING THE PARAPET WALL. THE TOP OF THE PLATE SHALL BE AT THE SAME ELEVATION AS THE FINISHED CONCRETE PARAPET.
3. THE COST OF ANCHOR BOLTS, LEVELLING PLATE AND FOUNDATION IS INCLUDED IN THE COST OF THE BRIDGE STRUCTURE.
4. SEE BRIDGE PLANS FOR ANCHOR BOLT, REINFORCEMENT, AND PARAPET DIMENSION DETAILS.

E-08

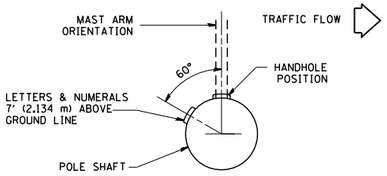
FILE NAME = W:\diststd\22x34\be330.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 04-22-02
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

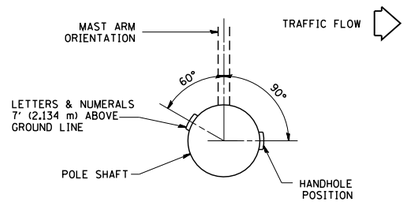
LIGHT POLE MOUNTED ON CONCRETE PARAPET WALL
15" (381 mm) BOLT CIRCLE

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

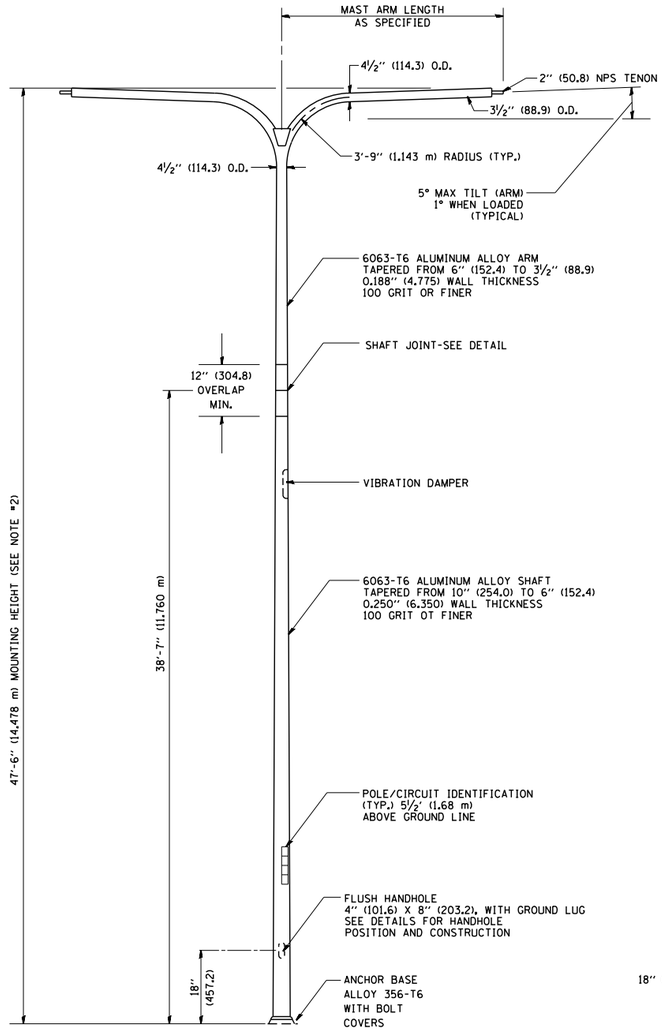
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)	LAKE	225	110
	BE-330	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



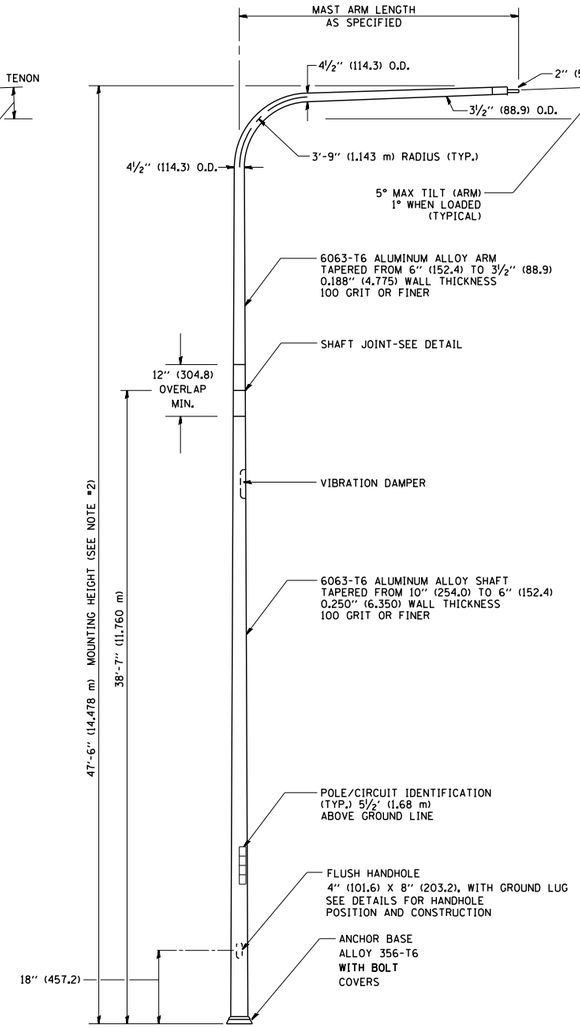
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



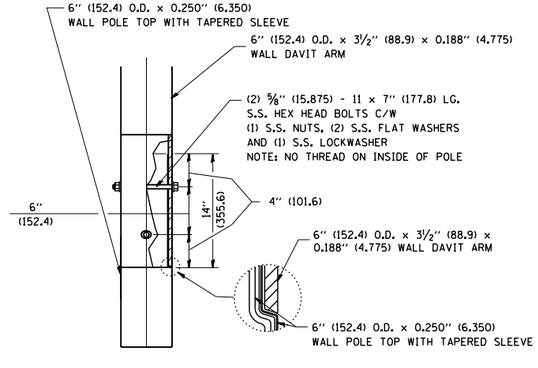
TWIN ARM POLE



SINGLE ARM POLE

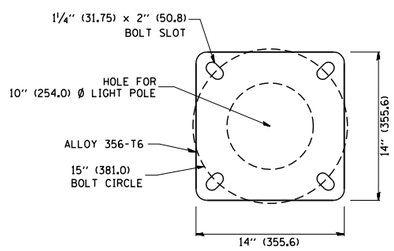
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



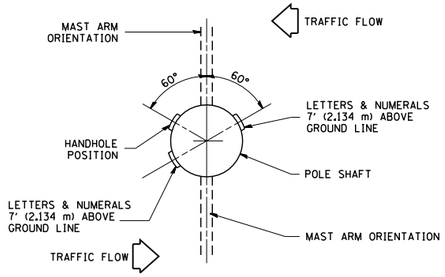
DAVIT ARM CONNECTION

[14" (355.6) OVERLAP SHOWN]

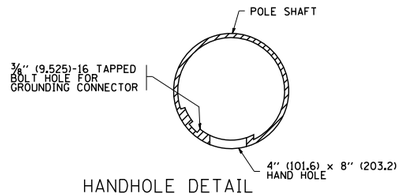


LIGHT POLE BASE PLATE DETAIL

(FOR POLE MOUNTED ON 15 INCH (381.0) BOLT CIRCLE FOUNDATION)



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

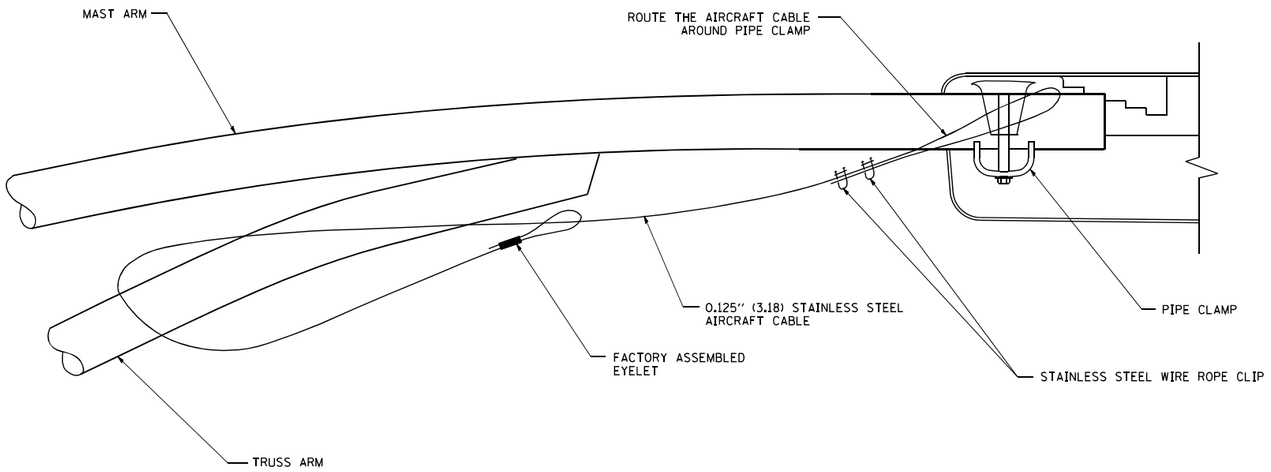


HANDHOLE DETAIL

(N.T.S.)

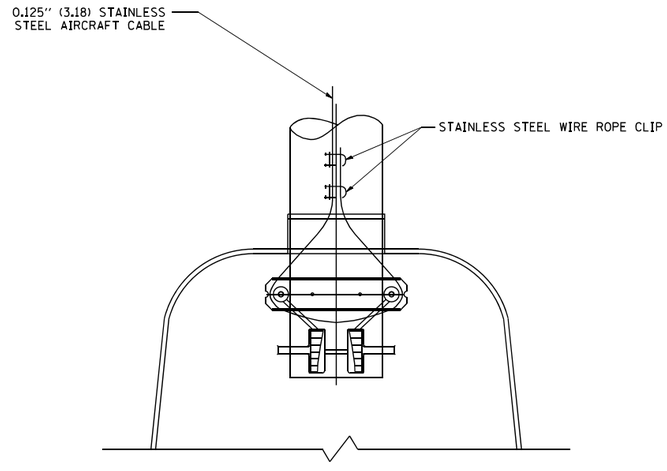
E-09

FILE NAME = W:\diststd\22x34\be410.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - D. DREW 04-02-92	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DAVIT LIGHT POLE 47'-6" (14.478 m) MOUNTING HEIGHT		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - LEY	REVISED - D. DREW 05-07-92				94	49-1(HB & HB-1)R	LAKE	225	111
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - R. TOMSONS 09-06-00					BE-410	CONTRACT NO. 60L76		
	PLOT DATE = 1/4/2008	DATE -	REVISED - R. TOMSONS 09-02-03		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



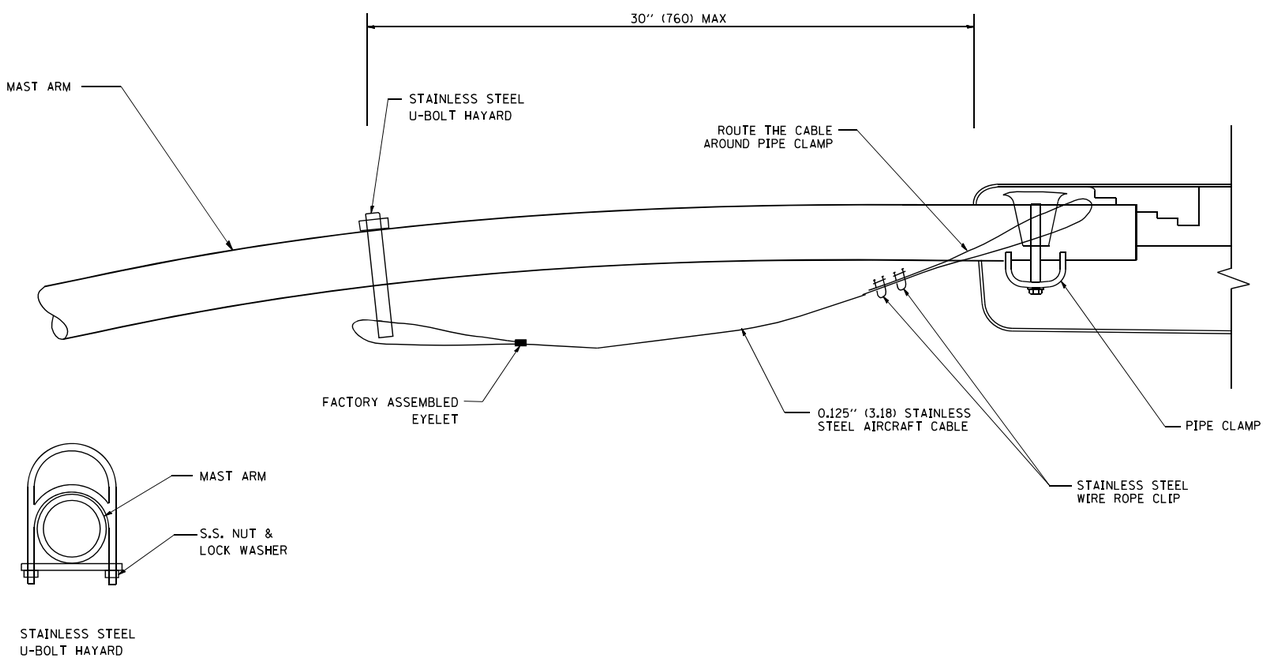
SIDE VIEW (TRUSS ARM)

N.T.S.



BOTTOM VIEW

N.T.S.



SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)

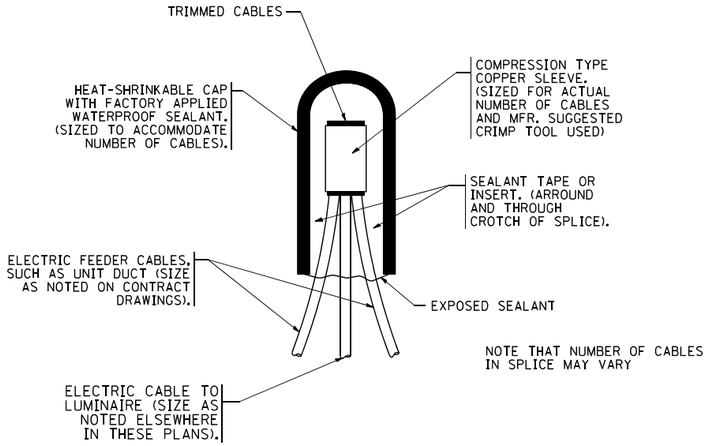
N.T.S.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

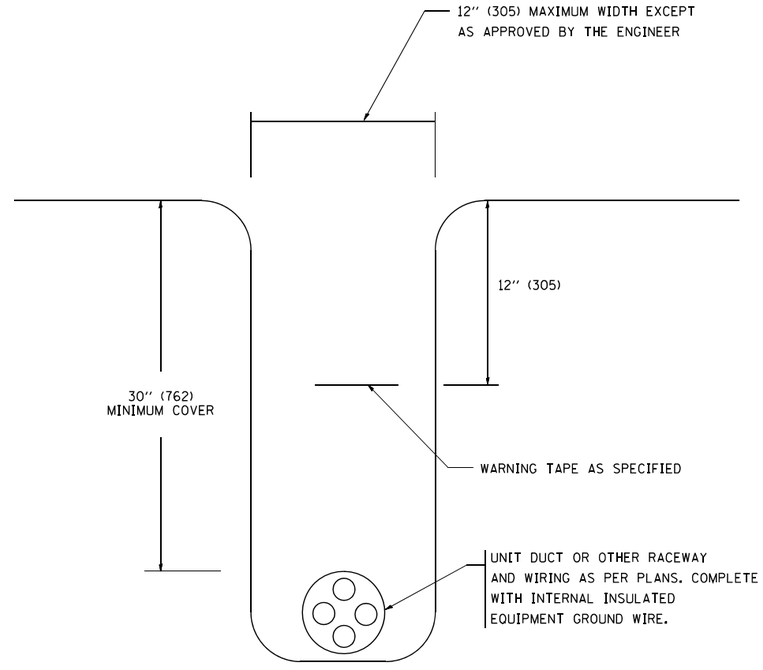
E-09A

FILE NAME = W:\diststd\22x34\be701.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LUMINAIRE SAFETY CABLE ASSEMBLY		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -				94	49-1(HB & HB-1)R	LAKE	225	111A
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -					BE-701	CONTRACT NO. 60L76		
	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



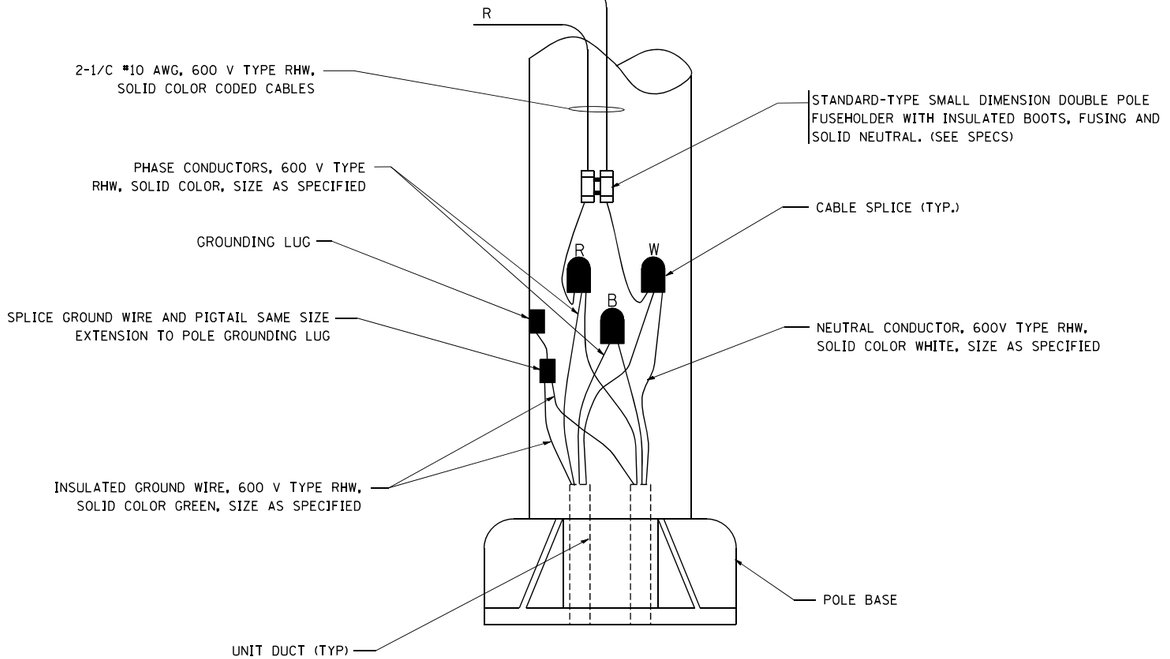
TYPICAL SPLICE DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.

E-09B

FILE NAME = W:\diststd\22x34\be702.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED - 08-08-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**MISC. ELECTRICAL DETAILS SHEET A**
		DRAWN -	REVISED -		
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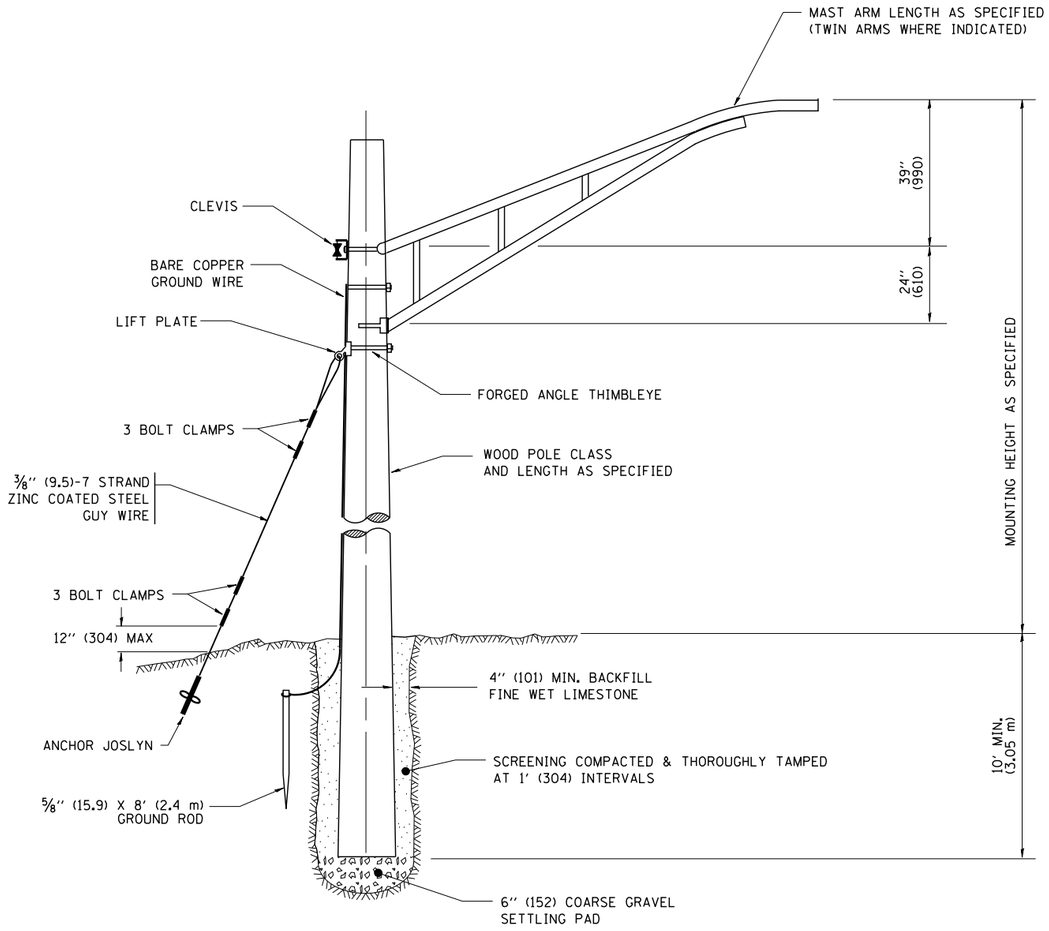
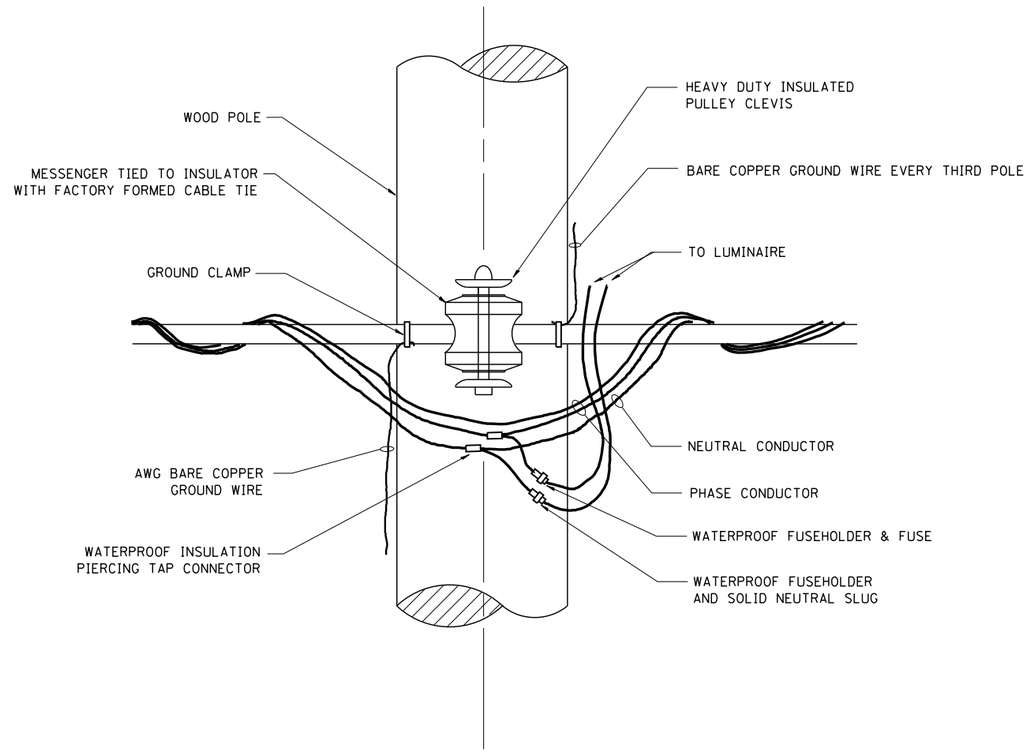
	PLOT DATE = 1/4/2008	DATE -	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	111B
	BE-702	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT				



TEMPORARY LIGHT POLE DETAIL

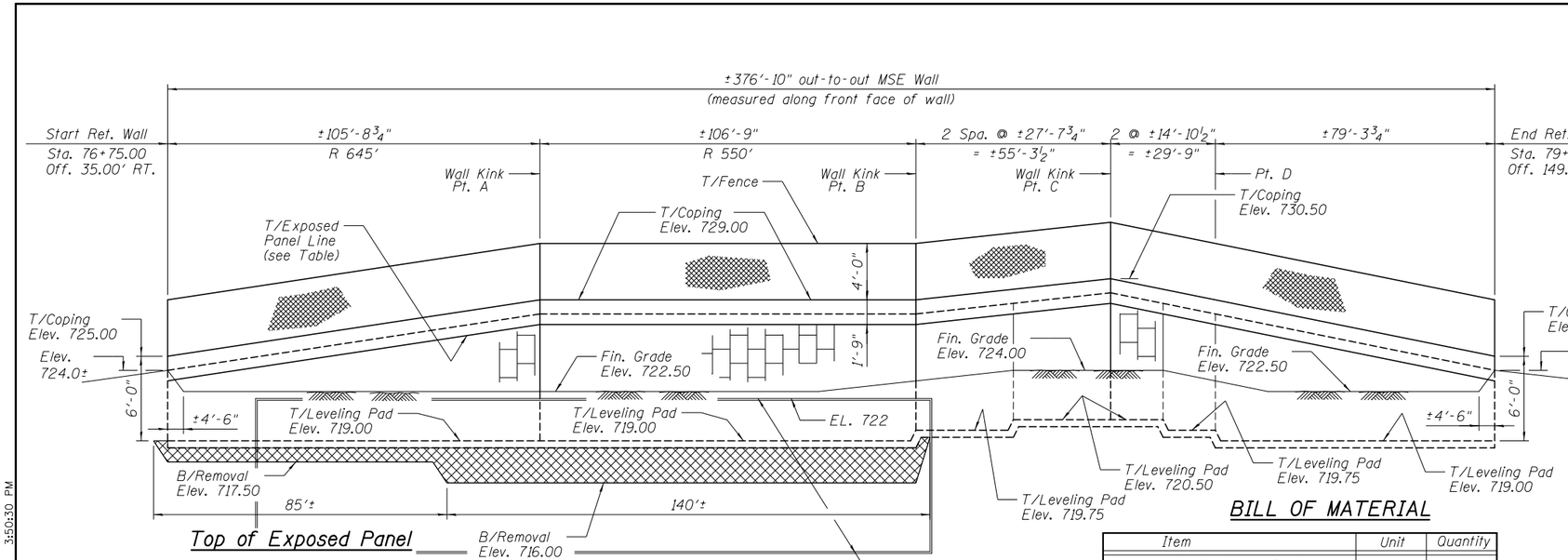


TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

FILE NAME = W:\diststd\22x34\be800.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TEMPORARY LIGHT POLE DETAILS**			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					94	49-1(HB & HB-1)R	LAKE	225	112
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -						**BE-800**		CONTRACT NO. 60L76	
	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	



Top of Exposed Panel

Point	Sta.	Offset	Elev.
Start	76+75.00	35.00' RT.	723.25
A	77+75.00	35.00' RT.	727.25
B	78+75.00	43.00' RT.	727.25
C	79+25.00	41.00' RT.	728.75
D	79+30.50	70.64' RT.	727.25
End	79+37.15	149.68' RT.	723.25

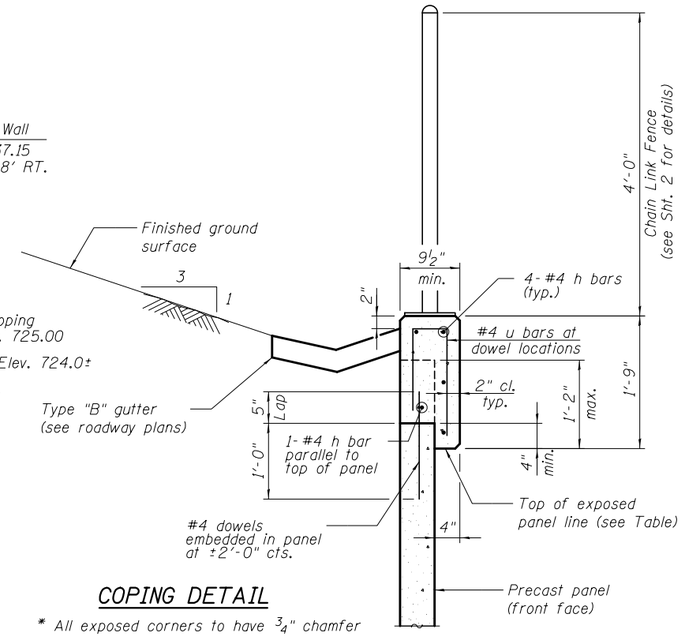
MSE WALL ELEVATION

(Looking along front face of wall)
Scale: 1"=20' (H)
1"=5' (V)

* Panels shall not have rustication surface finish

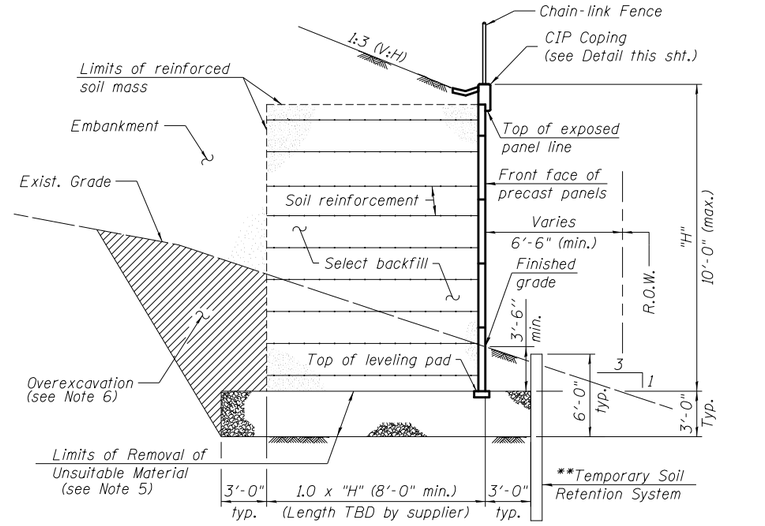
BILL OF MATERIAL

Item	Unit	Quantity
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,710
Structure Excavation	Cu. Yd.	680
Removal and Disposal of Unsuitable Materials	Cu. Yd.	300
Chain Link Fence, 4'	Foot	377
Concrete Gutter, Type B	Foot	377
Temporary Soil Retention System	Sq. Ft.	1,140

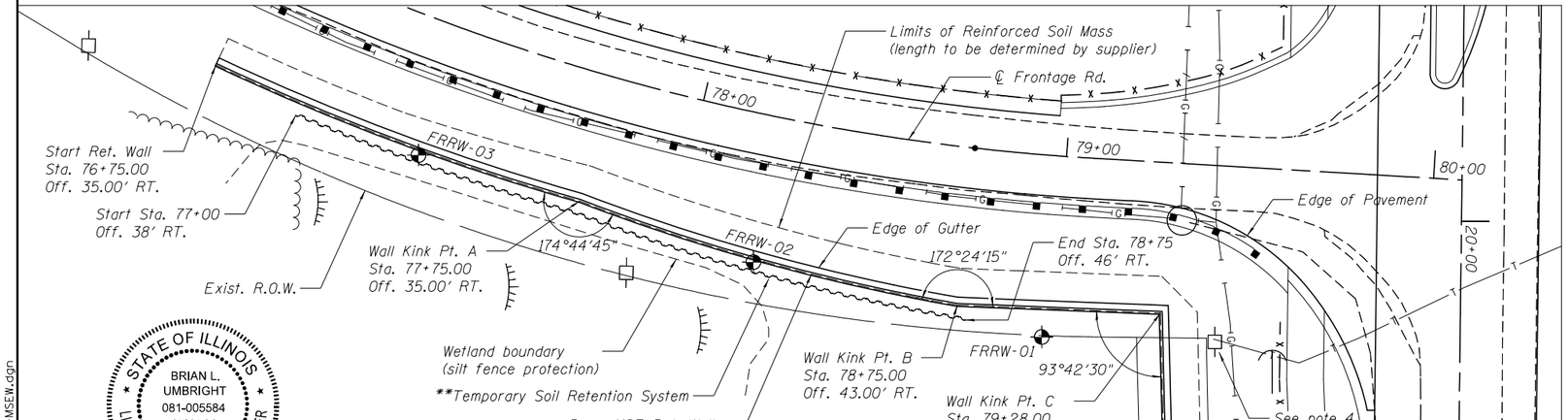


COPING DETAIL

* All exposed corners to have 3/4" chamfer



SECTION THRU MSE WALL



LEGEND

Soil Boring Location
(see Sht. 2 for Logs)

MSE WALL PLAN

Scale: 1"=20'

** Temporary Soil Retention System shall be used, as required, to construct the MSE retaining wall components without disturbance to existing wetlands and to stay within existing right-of-way limits. The pay limits for the top and bottom of retention are estimated at EL. 722 and EL. 716 respectively, see Special Provisions.

NOTES:

1. Stations and Offsets are measured from ℄ of Frontage Rd. to front face of MSE wall panel.
2. MSE Wall supplier shall be responsible for design of precast wall panels & soil reinforcement.
3. Allowable Soil Bearing Capacity for the MSE Wall = 2.0 Ksf.
4. Utility pole to be relocated (by others), see Special Provisions.
5. Backfill with select fill used in MSE Wall (cost included with MSE Retaining Wall).
6. Overexcavation beyond the limits of structure excavation. This area not measured for payment. Backfill overexcavation with same material as used for select fill.
7. Contractor to use caution around and not damage existing gas lines when excavating for and installing the reinforced soil mass at the north end of the wall.

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED: Brian L. Umbright
DATE: December 1, 2011
EXPIRES: November 30, 2012

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

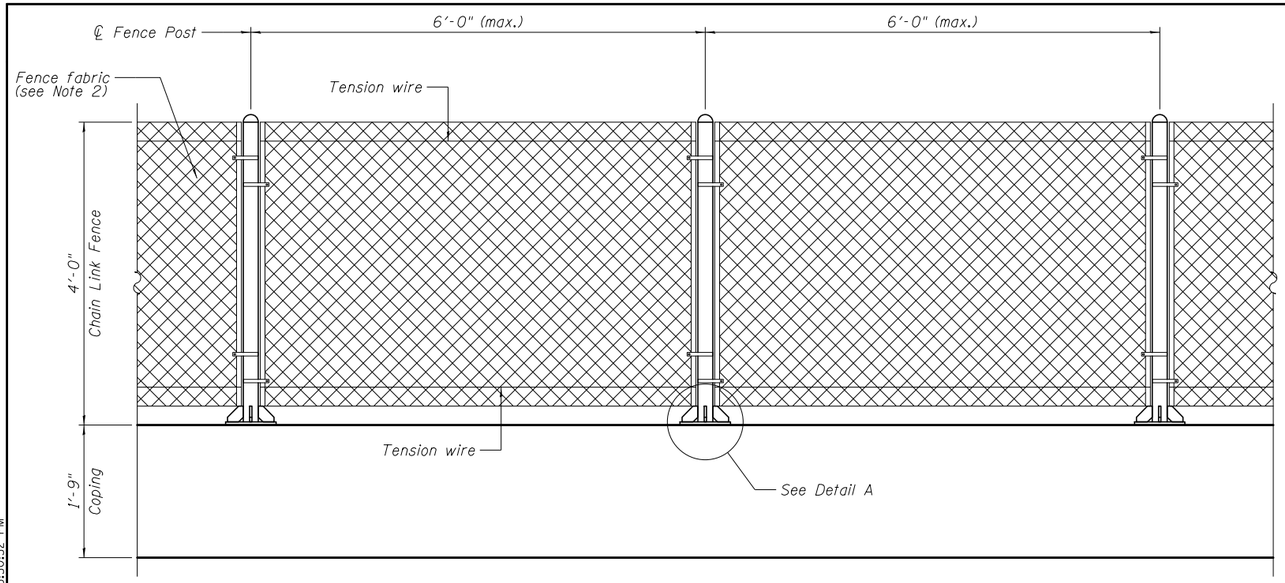
FILE NAME =	USER NAME =	DESIGNED - RTA	REVISED -
		CHECKED - BLU	REVISED -
	PLOT SCALE =	DRAWN - RTA	REVISED -
	PLOT DATE =	CHECKED - BLU	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL - PLAN & ELEVATION
STRUCTURE NO. 049-W043
SHEET NO. 1 OF 2 SHEETS

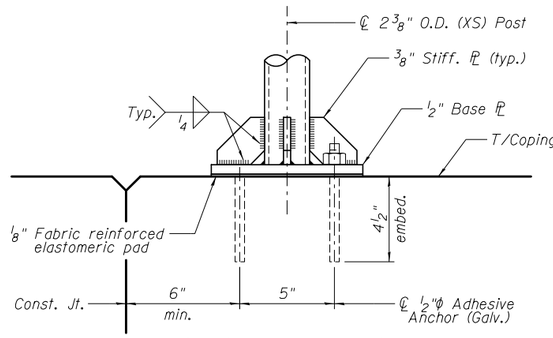
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	113
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

S:\IDOT\05_CADD\60L76 Russell Rdwy\60L76 Sheets\60L76-001-MSEW.dgn
1/27/2012 3:50:30 PM

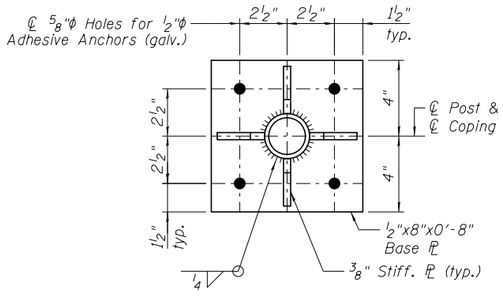


CHAIN LINK FENCE ELEVATION

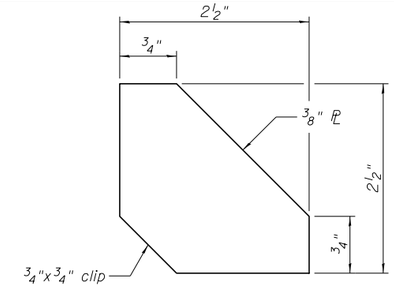
Note: Truss rods and braces are required at terminal (pull) posts per IDOT Standard Spec. 664. These are not shown above for clarity.



DETAIL A - ELEV.



DETAIL A - PLAN



TYP. STIFFENER PLATE

Note: Contractor shall adjust stiffener plate dimensions as required along sloped portions of wall such that the fence posts remain vertical.

NOTES:

1. See Sht. 1 for MSE Wall Plan & Elevation and details of coping.
2. Chain link fence, other than posts, shall be in accordance with Section 664 and Article 1006.27 of the Standard Specifications. All non-aluminum material shall be hot dipped galvanized in accordance with Article 509.05 of the Standard Specifications.
3. Base plates, stiffeners and adhesive anchors for mounting fence posts on wall coping shall be included in the cost of Chain Link Fence.
4. Adhesive anchors shall be Hilti HIT-HY 150 MAX Adhesive Anchors, or an approved equal, and shall be galvanized according to AASHTO M 232.
5. The fence post connection must resist a horizontal loading of 300 lbs. applied at the top of the fencing. The forces these elements induce on the wall must be accounted for in the wall design.
6. The Contractor may, with the Engineer's approval, adjust the size of base plate and location of the adhesive anchors as necessary to miss the coping reinforcement.

PAGE 1 of 1

SOIL BORING LOG

DATE 10/18/2011
LOGGED BY RJ
GSI JOB No. 1019.3

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job• D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hand Auger HAMMER TYPE Manual
STRUCT. NO. n/a
Station n/a
BORING NO. FRRW-01
Station 78•97
Offset 49.5' Right
Ground Surface Elev. 723.8
Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
			100	
	PS	3.2B	18	
			103	CLAY LOAM-brown- very stiff to hard (A-6)
	PS	6.2B	14	
-5			*101*	
717.8	PS	6.2B	17	
	PS	2.9B	23	CLAY-gray-very stiff (A-6)
714.8				
-10				End Of Boring @ -9.0' Hand Auger

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, PS-1 inch inside diameter push sample.

PAGE 1 of 1

SOIL BORING LOG

DATE 10/18/2011
LOGGED BY RJ
GSI JOB No. 1019.3

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job• D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hand Auger HAMMER TYPE Manual
STRUCT. NO. n/a
Station n/a
BORING NO. FRRW-02
Station 78•22
Offset 40.0' Right
Ground Surface Elev. 722.0
Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 717.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
721.7				3.0" TOPSOIL
	PS	0.25B	24	CLAY LOAM-brown- soft (A-6) Possible Fill
720.0				
	PS		NR	SILTY CLAY-brown & gray- soft (A-6) Wet
-5			*81*	
716.0	PS	0.25P	30	
	PS	2.8B	22	CLAY-gray-very stiff (A-6)
713.0				
-10				End Of Boring @ -9.0' Hand Auger

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, PS-1 inch inside diameter push sample.

PAGE 1 of 1

SOIL BORING LOG

DATE 10/18/2011
LOGGED BY RJ
GSI JOB No. 1019.3

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job• D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hand Auger HAMMER TYPE Manual
STRUCT. NO. n/a
Station n/a
BORING NO. FRRW-03
Station 77•32
Offset 36.5' Right
Ground Surface Elev. 722.0
Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 714.0
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
721.8			*85*	2.0" TOPSOIL
721.0				SILTY CLAY-brown & gray (Fill)
	PS	1.8B	25	ORGANIC CLAY-dark brown to black- stiff (A-6) Wet
719.5				
	PS	0.4B	26	SILTY CLAY-brown & gray- soft (A-6) Wet
718.0			*102*	
-5				
	PS	5.5B	16	CLAY LOAM-brown-hard (A-6)
			99	
714.0	PS	5.0B	14	
			79	CLAY-gray-stiff (A-6)
712.0 -10	PS	1.2B	17	
				End Of Boring @ -10.0' Hand Auger

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, PS-1 inch inside diameter push sample.

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		CHECKED - BLU	REVISED -
	PLOT SCALE =	DRAWN - RTA	REVISED -
	PLOT DATE =	CHECKED - BLU	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL – FENCE DETAILS & SOIL BORING LOGS
STRUCTURE NO. 049-W043
SHEET NO. 2 OF 2 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	114
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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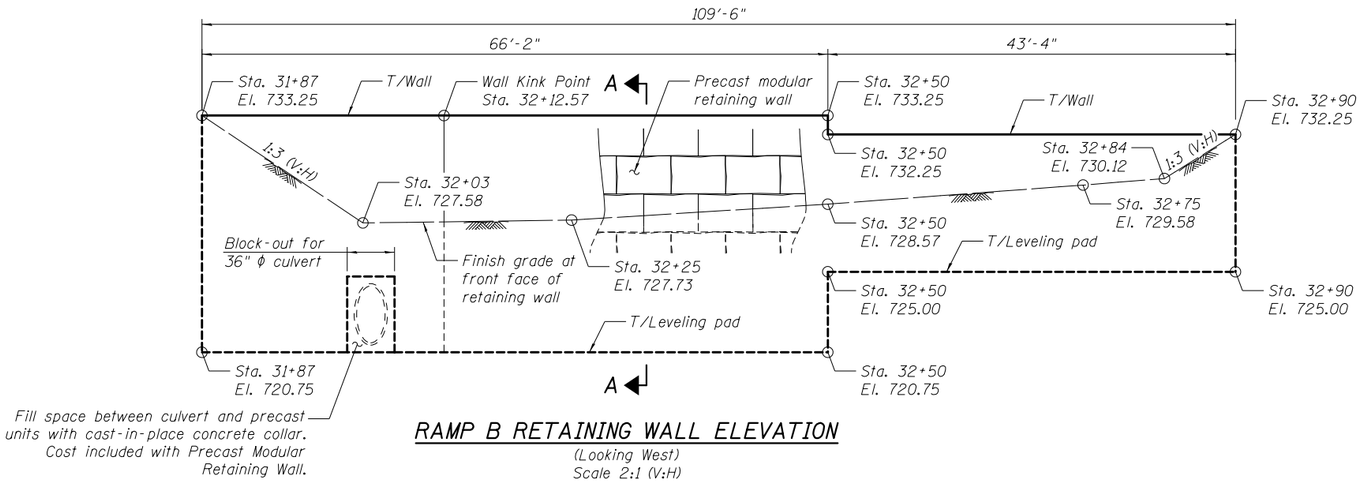
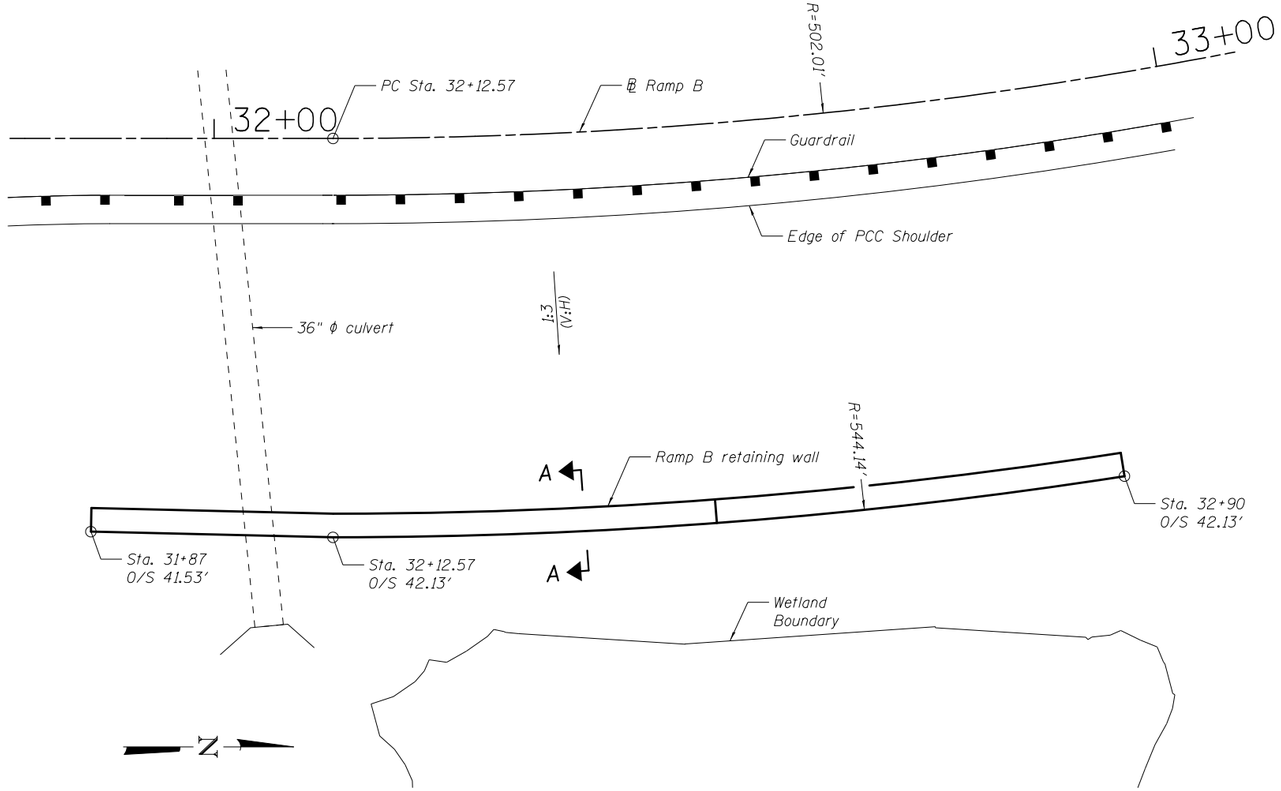
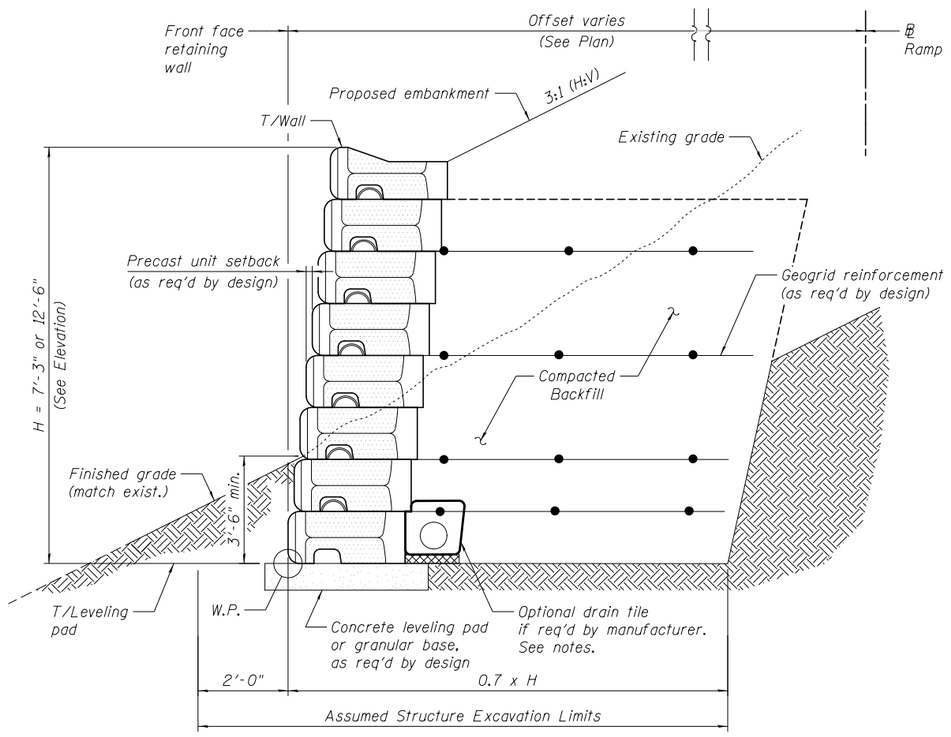


RAMP B RETAINING WALL ELEVATION

(Looking West)
Scale 2:1 (V:H)



RAMP B RETAINING WALL PLAN



SECTION A-A

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED: Brian L. Umbright
DATE: January 12, 2012
EXPIRES: November 30, 2012

NOTES

1. Precast Modular Retaining Wall shall be an IDOT approved system. See special provision.
2. The aesthetic surface and color of the precast modular retaining wall shall be approved by IDOT prior to ordering materials or starting construction.
3. A rodent shield shall be provided for all pipe underdrains outleting to daylight, if pipe underdrain is required per manufacturer requirements. Cost of rodent shield and pipe underdrain shall be included with Precast Modular Retaining Wall.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Modular Retaining Wall	Sq. Ft.	1,142
Structure Excavation	Cu. Yd.	284

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	PLOT DATE =	CHECKED - MRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAMP B RETAINING WALL (SN 049-W044)
PLAN, ELEVATION, & DETAILS
SHEET NO. 2A OF 2 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	114A
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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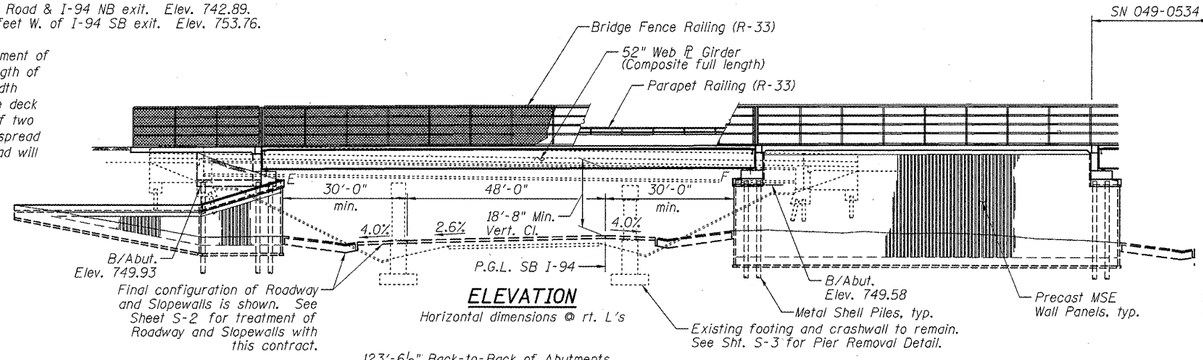
Bench Marks: Chiseled "□" on light pole foundation at S.W. corner Russell Road & I-94 NB exit. Elev. 742.89.
Chiseled "□" on N. curb of Russell Road approximately 90 feet W. of I-94 SB exit. Elev. 753.76.

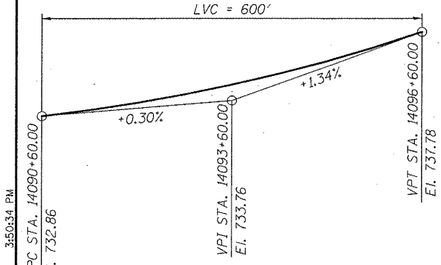
Existing Structure: S.N. 049-0089 was built in 1959 by the Illinois Department of Transportation. The existing structure has three simple spans, with a length of 147'-10 3/4" from back-to-back of abutments, and a constant out-to-out width of 35'-2". The superstructure consists of a 9" thick reinforced concrete deck built composite with 42" deep PPC I-beams. The substructure consists of two stub abutments on concrete piles and two multi-column shoulder piers on spread footings. The existing bridge is to be removed and replaced. Russell Road will be closed to traffic during construction of new bridge.

No Salvage.

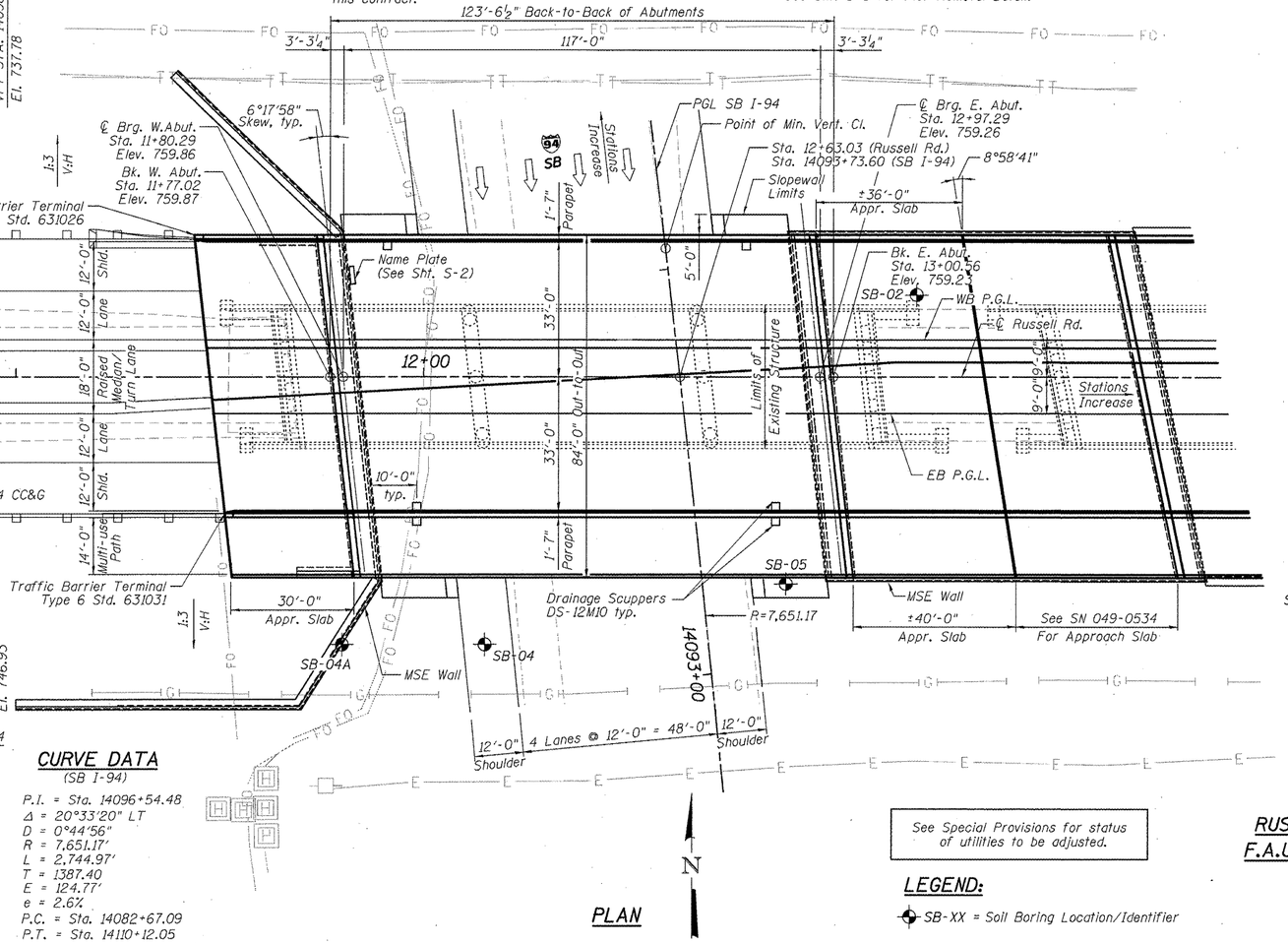
SN 049-0534



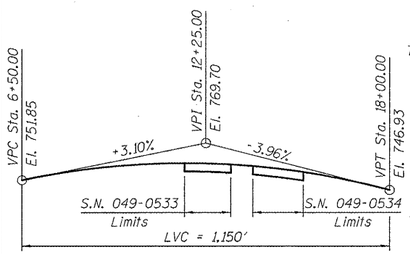
ELEVATION
Horizontal dimensions ℄ rt. L's



PROFILE GRADE
(SB I-94)



PLAN



PROFILE GRADE
(Russell Rd.)

CURVE DATA
(SB I-94)

P.I. = Sta. 14096+54.48
Δ = 20°33'20" LT
D = 0°44'56"
R = 7,651.17'
L = 2,744.97'
T = 1387.40
E = 124.77'
e = 2.6%
P.C. = Sta. 14082+67.09
P.T. = Sta. 14110+12.05

See Special Provisions for status of utilities to be adjusted.

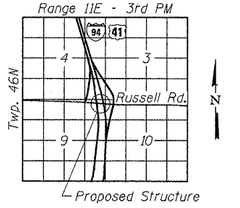
LEGEND:
SB-XX = Soil Boring Location/Identifier

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

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

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.074g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.117g
Soil Site Class = D



LOCATION SKETCH

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED: Brian L. Umbright
DATE: December 13, 2011
EXPIRES: November 30, 2012

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

GENERAL PLAN & ELEVATION
RUSSELL ROAD OVER SOUTHBOUND I-94
F.A.U. RTE. 1199 - SEC. 49-1(HB & HB-1)R
LAKE COUNTY
STATION 12+63.03
STRUCTURE NO. 049-0533

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	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	115
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, Mechanically Galvanized bolts. Bolts $\frac{3}{4}$" ϕ, holes $\frac{15}{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel =

AASHTO M 270 Grade 36 = 26,580 lb.
AASHTO M 270 Grade 50 = 318,150 lb.

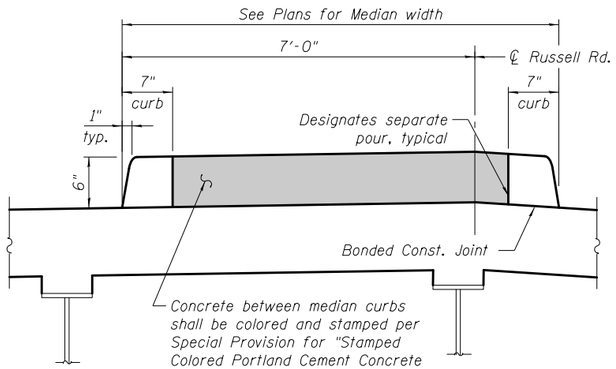
No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Concrete Sealer shall be applied to all exposed surfaces of the abutment backwalls, bridge seats, and pile caps.

The Organic Zinc Rich Primer/Epoxy/Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop-applied, with the exception of the exterior surfaces and bottom of the bottom flange of the fascia beams, masked-off connection surfaces, and field-installed fasteners, all of which shall be touched-up and finish-coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish-Brown, Munsell No. 2.5YR 3/4. See Standard Specification 506.

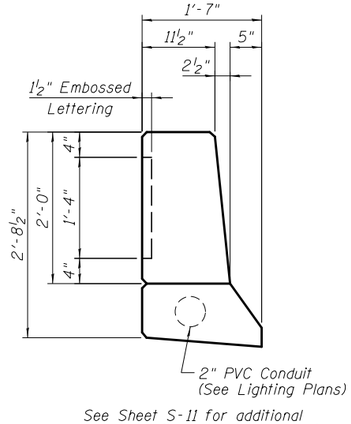


Notes:
- Bridge section shown, approach section similar
- Reinforcement omitted for clarity (see Plans)

STAMPED CONCRETE MEDIAN DETAIL

(Looking East)

INDEX OF SHEETS



See Sheet S-11 for additional parapet details and reinforcement

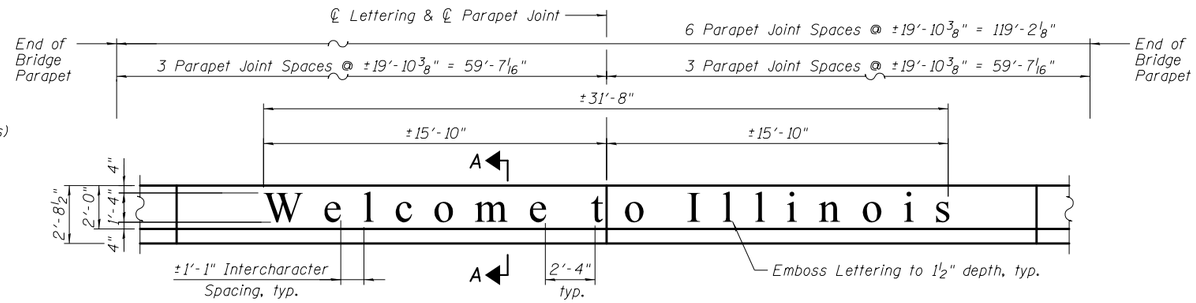
SECTION A-A

(Looking East)

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Removal of Existing Structures No. 1	Each	1	-	1
	Protective Shield	Sq. Yd.	288	-	288
	Structure Excavation	Cu. Yd.	-	2,159	2,159
	Concrete Structures	Cu. Yd.	68.1	198.3	266.4
	Bridge Deck (Shrinkage Reducing Admixure)	Cu. Yd.	265.9	-	265.9
	Concrete Superstructure	Cu. Yd.	425.3	-	425.3
	Bridge Deck Grooving	Sq. Yd.	1,147	-	1,147
	Protective Coat	Sq. Yd.	1,943	-	1,943
*	Erecting Structural Steel	L. Sum	0.45	-	0.45
	Stud Shear Connectors	Each	2,376	-	2,376
	Reinforcement Bars, Epoxy Coated	Pound	166,530	15,960	182,490
	Bar Splicers	Each	-	172	172
	Bridge Fence Railing (Sidewalk)	Foot	189	-	189
	Parapet Railing	Foot	186	-	186
	Furnishing Metal Shell Piles 12" x 0.250"	Foot	-	2,489	2,489
	Driving Piles	Foot	-	2,489	2,489
	Test Pile Metal Shells	Each	-	2	2
	Pile Shoes	Each	-	44	44
	Name Plates	Each	1	-	1
	Preformed Joint Strip Seal	Foot	174	-	174
*	Erecting Elastomeric Bearing Assembly, Type I	Each	11	-	11
	Anchor Bolts, 1"	Each	44	-	44
	Concrete Sealer	Sq. Ft.	-	1,528	1,528
	Drainage Scuppers, DS-12M10	Each	6	-	6
	Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	-	9,009	9,009
	Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.	-	539	539

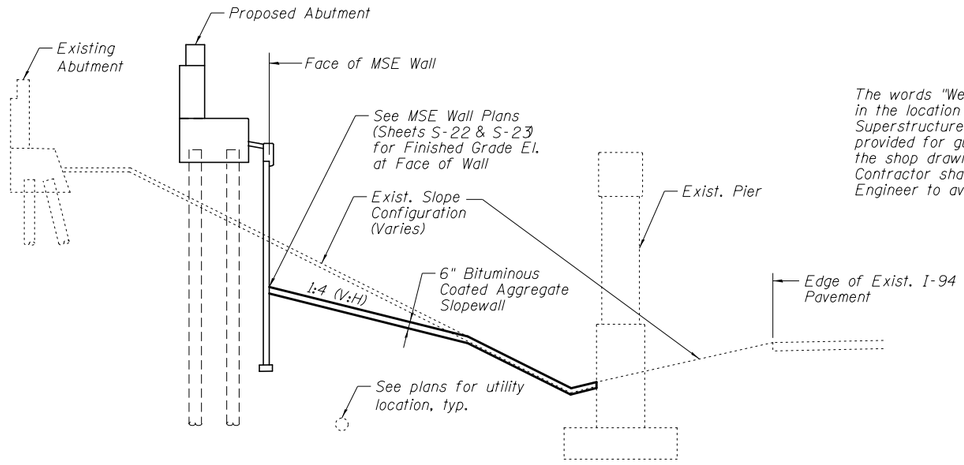
*Note that these items are being furnished through a separate fabrication contract.



EMBOSSED LETTERING DETAIL

(Outside Face of North Parapet over SB I-94)

The words "Welcome to Illinois" shall be embossed in the concrete parapets in the location and letter style shown in this detail. Cost included in "Concrete Superstructure". Layout dimensions and intercharacter spacing has been provided for guidance. The Contractor shall provide a lettering layout with the shop drawing submittal for review and approval by the Engineer. The Contractor shall coordinate any adjustments to location and spacing with the Engineer to avoid parapet joints. See Special Provision for "Parapet Lettering".



SLOPEWALL DETAILS

Provide bolt holes per Highway Standard (for attachment to precast MSE Wall panels)

STATION 12+63.03
BUILT 201_ BY
STATE OF ILLINOIS
F.A.U. RTE. 1199 SEC. 49-1 (HB & HB-1)R
LOADING HL-93
STRUCTURE NO. 049-0533

NAME PLATE

See Std. 515001

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	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 049-0533
SHEET NO. S-2 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	116
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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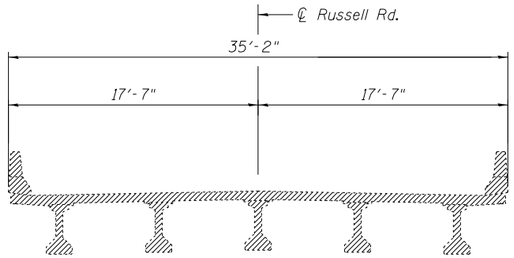
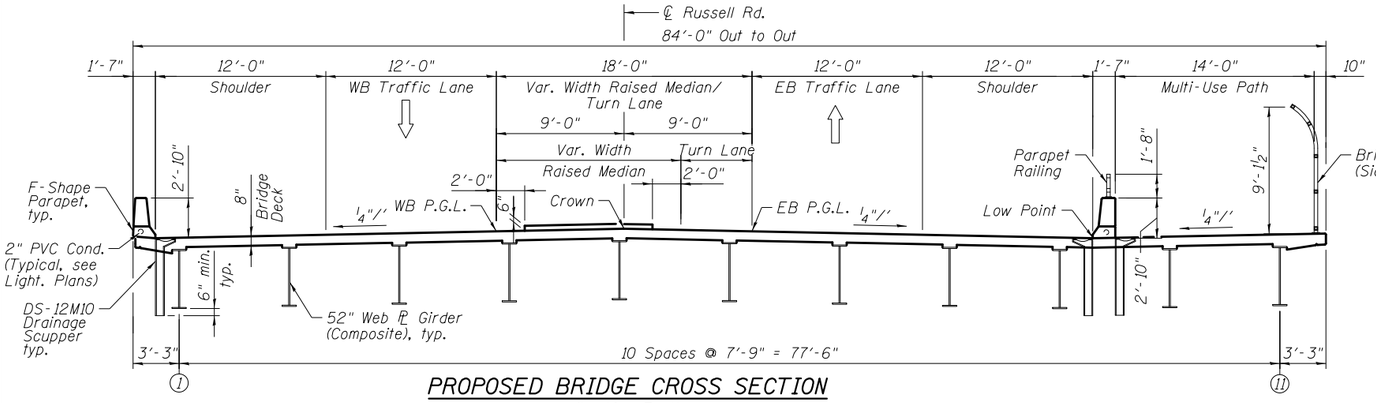


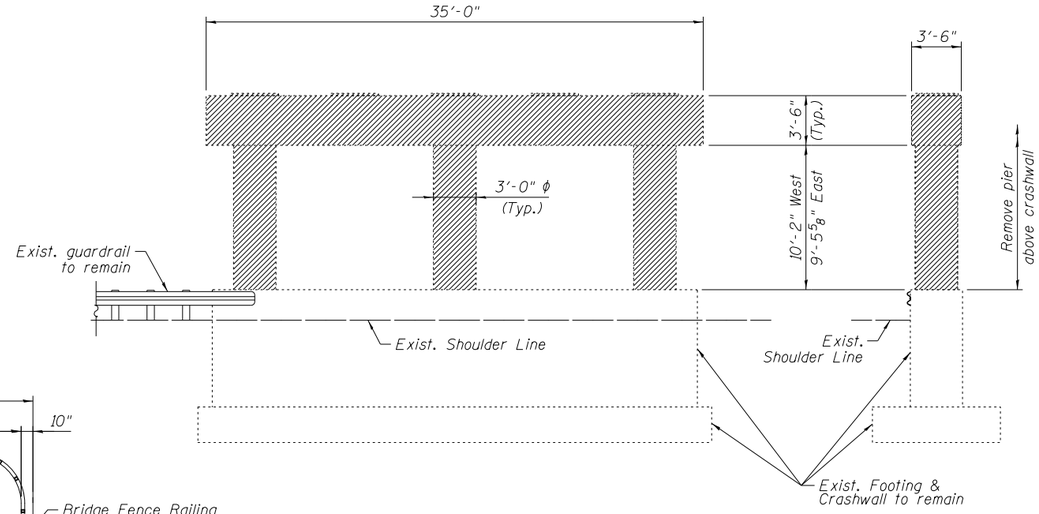
EXISTING BRIDGE CROSS SECTION

(Looking East)



PROPOSED BRIDGE CROSS SECTION

(Looking East)

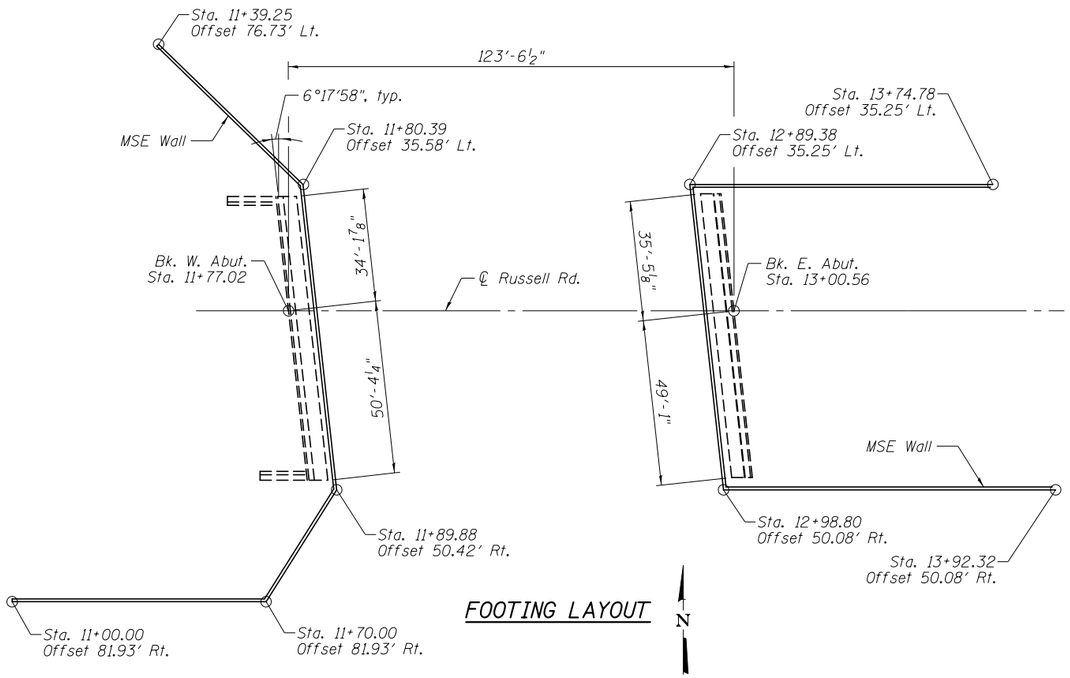


PIER REMOVAL DETAIL

(Elevation View, East & West Piers Similar)

Note:

The existing bridge will be closed to traffic for removal and reconstruction during Stages 1A, 1B, & 2A. The proposed bridge will be completed and open to traffic prior to Stage 2B. See Roadway Plans for further information regarding Maintenance of Traffic and Staging.



FOOTING LAYOUT

LEGEND

: Structure removal limits

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	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING & DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-3 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	117
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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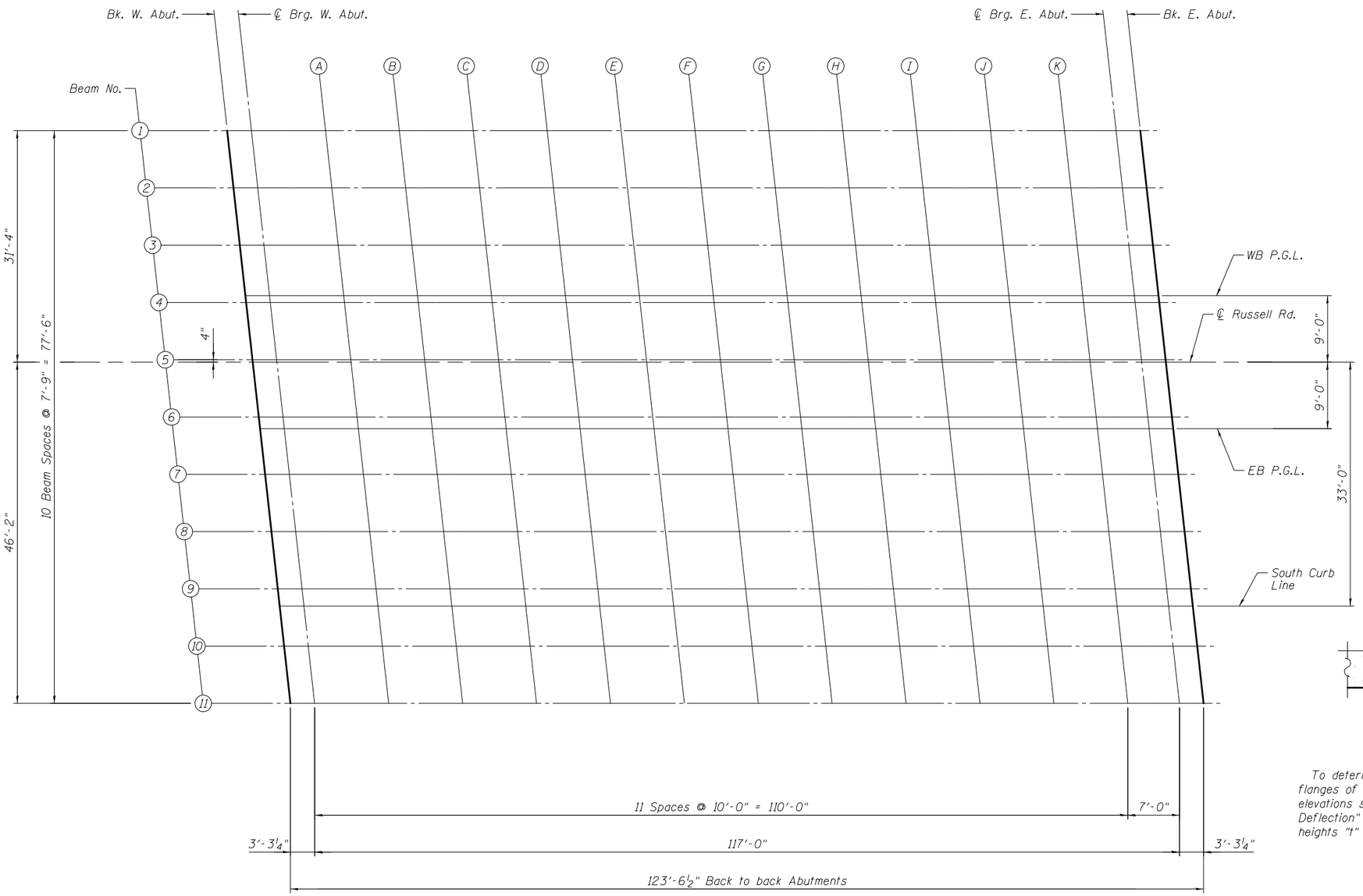
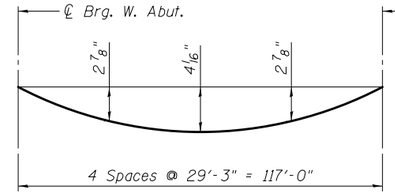


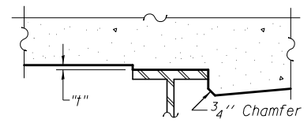
PLAN



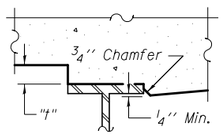
DEAD LOAD DEFLECTION DIAGRAM

(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 S-5 thru S-7



At Minimum Fillet



At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S-5 thru S-7, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

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Chicago, Illinois
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		CHECKED - MRM	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I
STRUCTURE NO. 049-0533
SHEET NO. S-4 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	118
		CONTRACT NO. 60L76		
	ILLINOIS	FED. AID PROJECT		

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BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+73.56	-31.33	759.22	759.22
℄ W. Abut.	11+76.83	-31.33	759.22	759.22
A	11+86.83	-31.33	759.20	759.29
B	11+96.83	-31.33	759.18	759.35
C	12+06.83	-31.33	759.15	759.39
D	12+16.83	-31.33	759.11	759.41
E	12+26.83	-31.33	759.07	759.40
F	12+36.83	-31.33	759.03	759.36
G	12+46.83	-31.33	758.97	759.30
H	12+56.83	-31.33	758.91	759.20
I	12+66.83	-31.33	758.85	759.07
J	12+76.83	-31.33	758.78	758.93
K	12+86.83	-31.33	758.70	758.76
℄ Brg. E. Abut.	12+93.83	-31.33	758.64	758.64
Bk. E. Abut.	12+97.10	-31.33	758.61	758.61

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+74.42	-23.58	759.38	759.38
℄ W. Abut.	11+77.69	-23.58	759.38	759.38
A	11+87.69	-23.58	759.36	759.45
B	11+97.69	-23.58	759.34	759.51
C	12+07.69	-23.58	759.31	759.55
D	12+17.69	-23.58	759.27	759.57
E	12+27.69	-23.58	759.23	759.56
F	12+37.69	-23.58	759.18	759.52
G	12+47.69	-23.58	759.13	759.45
H	12+57.69	-23.58	759.07	759.35
I	12+67.69	-23.58	759.00	759.23
J	12+77.69	-23.58	758.93	759.08
K	12+87.69	-23.58	758.85	758.92
℄ Brg. E. Abut.	12+94.69	-23.58	758.79	758.79
Bk. E. Abut.	12+97.96	-23.58	758.77	758.77

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+75.27	-15.83	759.54	759.54
℄ W. Abut.	11+78.54	-15.83	759.54	759.54
A	11+88.54	-15.83	759.52	759.61
B	11+98.54	-15.83	759.49	759.67
C	12+08.54	-15.83	759.47	759.71
D	12+18.54	-15.83	759.43	759.73
E	12+28.54	-15.83	759.39	759.71
F	12+38.54	-15.83	759.34	759.68
G	12+48.54	-15.83	759.29	759.61
H	12+58.54	-15.83	759.23	759.51
I	12+68.54	-15.83	759.16	759.38
J	12+78.54	-15.83	759.09	759.24
K	12+88.54	-15.83	759.01	759.07
℄ Brg. E. Abut.	12+95.54	-15.83	758.95	758.95
Bk. E. Abut.	12+98.81	-15.83	758.92	758.92

WESTBOUND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+76.03	-9.00	759.68	759.68
℄ W. Abut.	11+79.30	-9.00	759.68	759.68
A	11+89.30	-9.00	759.66	759.75
B	11+99.30	-9.00	759.64	759.81
C	12+09.30	-9.00	759.61	759.85
D	12+19.30	-9.00	759.57	759.86
E	12+29.30	-9.00	759.53	759.85
F	12+39.30	-9.00	759.48	759.81
G	12+49.30	-9.00	759.42	759.75
H	12+59.30	-9.00	759.36	759.65
I	12+69.30	-9.00	759.30	759.52
J	12+79.30	-9.00	759.22	759.37
K	12+89.30	-9.00	759.14	759.21
℄ Brg. E. Abut.	12+96.30	-9.00	759.08	759.08
Bk. E. Abut.	12+99.57	-9.00	759.06	759.06

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+76.13	-8.08	759.70	759.70
℄ W. Abut.	11+79.40	-8.08	759.70	759.70
A	11+89.40	-8.08	759.68	759.77
B	11+99.40	-8.08	759.65	759.83
C	12+09.40	-8.08	759.62	759.87
D	12+19.40	-8.08	759.59	759.88
E	12+29.40	-8.08	759.55	759.87
F	12+39.40	-8.08	759.50	759.83
G	12+49.40	-8.08	759.44	759.76
H	12+59.40	-8.08	759.38	759.66
I	12+69.40	-8.08	759.31	759.54
J	12+79.40	-8.08	759.24	759.39
K	12+89.40	-8.08	759.16	759.23
℄ Brg. E. Abut.	12+96.40	-8.08	759.10	759.10
Bk. E. Abut.	12+99.67	-8.08	759.07	759.07

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+76.98	-0.33	759.86	759.86
℄ W. Abut.	11+80.25	-0.33	759.86	759.86
A	11+90.25	-0.33	759.84	759.93
B	12+00.25	-0.33	759.81	759.99
C	12+10.25	-0.33	759.78	760.03
D	12+20.25	-0.33	759.75	760.04
E	12+30.25	-0.33	759.70	760.03
F	12+40.25	-0.33	759.65	759.99
G	12+50.25	-0.33	759.60	759.92
H	12+60.25	-0.33	759.54	759.82
I	12+70.25	-0.33	759.47	759.69
J	12+80.25	-0.33	759.40	759.55
K	12+90.25	-0.33	759.32	759.38
℄ Brg. E. Abut.	12+97.25	-0.33	759.26	759.26
Bk. E. Abut.	13+00.52	-0.33	759.23	759.23

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II
STRUCTURE NO. 049-0533
SHEET NO. S-5 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	119
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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℄ RUSSELL ROAD

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+77.02	0.00	759.87	759.87
℄ W. Abut.	11+80.29	0.00	759.86	759.86
A	11+90.29	0.00	759.84	759.94
B	12+00.29	0.00	759.82	759.99
C	12+10.29	0.00	759.79	760.03
D	12+20.29	0.00	759.75	760.05
E	12+30.29	0.00	759.71	760.04
F	12+40.29	0.00	759.66	760.00
G	12+50.29	0.00	759.61	759.93
H	12+60.29	0.00	759.54	759.83
I	12+70.29	0.00	759.48	759.70
J	12+80.29	0.00	759.40	759.55
K	12+90.29	0.00	759.32	759.39
℄ Brg. E. Abut.	12+97.29	0.00	759.26	759.26
Bk. E. Abut.	13+00.56	0.00	759.23	759.23

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+77.84	7.42	759.71	759.71
℄ W. Abut.	11+81.11	7.42	759.71	759.71
A	11+91.11	7.42	759.69	759.78
B	12+01.11	7.42	759.66	759.84
C	12+11.11	7.42	759.63	759.88
D	12+21.11	7.42	759.59	759.89
E	12+31.11	7.42	759.55	759.88
F	12+41.11	7.42	759.50	759.84
G	12+51.11	7.42	759.45	759.77
H	12+61.11	7.42	759.38	759.67
I	12+71.11	7.42	759.32	759.54
J	12+81.11	7.42	759.24	759.39
K	12+91.11	7.42	759.16	759.23
℄ Brg. E. Abut.	12+98.11	7.42	759.10	759.10
Bk. E. Abut.	13+01.38	7.42	759.07	759.07

EASTBOUND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+78.01	9.00	759.68	759.68
℄ W. Abut.	11+81.28	9.00	759.67	759.67
A	11+91.28	9.00	759.65	759.75
B	12+01.28	9.00	759.63	759.80
C	12+11.28	9.00	759.60	759.84
D	12+21.28	9.00	759.56	759.86
E	12+31.28	9.00	759.52	759.84
F	12+41.28	9.00	759.47	759.80
G	12+51.28	9.00	759.41	759.73
H	12+61.28	9.00	759.35	759.63
I	12+71.28	9.00	759.28	759.51
J	12+81.28	9.00	759.21	759.36
K	12+91.28	9.00	759.13	759.19
℄ Brg. E. Abut.	12+98.28	9.00	759.07	759.07
Bk. E. Abut.	13+01.55	9.00	759.04	759.04

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+78.69	15.17	759.55	759.55
℄ W. Abut.	11+81.96	15.17	759.54	759.54
A	11+91.96	15.17	759.52	759.62
B	12+01.96	15.17	759.50	759.67
C	12+11.96	15.17	759.47	759.71
D	12+21.96	15.17	759.43	759.73
E	12+31.96	15.17	759.39	759.71
F	12+41.96	15.17	759.34	759.67
G	12+51.96	15.17	759.28	759.60
H	12+61.96	15.17	759.22	759.50
I	12+71.96	15.17	759.15	759.37
J	12+81.96	15.17	759.07	759.22
K	12+91.96	15.17	758.99	759.06
℄ Brg. E. Abut.	12+98.96	15.17	758.93	758.93
Bk. E. Abut.	13+02.23	15.17	758.90	758.90

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+79.55	22.92	759.39	759.39
℄ W. Abut.	11+82.82	22.92	759.38	759.38
A	11+92.82	22.92	759.36	759.45
B	12+02.82	22.92	759.34	759.51
C	12+12.82	22.92	759.30	759.55
D	12+22.82	22.92	759.26	759.56
E	12+32.82	22.92	759.22	759.55
F	12+42.82	22.92	759.17	759.51
G	12+52.82	22.92	759.11	759.44
H	12+62.82	22.92	759.05	759.33
I	12+72.82	22.92	758.98	759.20
J	12+82.82	22.92	758.91	759.05
K	12+92.82	22.92	758.82	758.89
℄ Brg. E. Abut.	12+99.82	22.92	758.76	758.76
Bk. E. Abut.	13+03.09	22.92	758.73	758.73

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+80.41	30.67	759.22	759.22
℄ W. Abut.	11+83.68	30.67	759.22	759.22
A	11+93.68	30.67	759.20	759.29
B	12+03.68	30.67	759.17	759.35
C	12+13.68	30.67	759.14	759.38
D	12+23.68	30.67	759.10	759.40
E	12+33.68	30.67	759.05	759.38
F	12+43.68	30.67	759.00	759.34
G	12+53.68	30.67	758.95	759.27
H	12+63.68	30.67	758.88	759.17
I	12+73.68	30.67	758.81	759.04
J	12+83.68	30.67	758.74	758.89
K	12+93.68	30.67	758.66	758.72
℄ Brg. E. Abut.	13+00.68	30.67	758.59	758.59
Bk. E. Abut.	13+03.95	30.67	758.56	758.56

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS III
STRUCTURE NO. 049-0533
SHEET NO. S-6 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	120
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+80.66	33.00	759.17	759.17
℄ W. Abut.	11+83.93	33.00	759.17	759.17
A	11+93.93	33.00	759.15	759.24
B	12+03.93	33.00	759.12	759.30
C	12+13.93	33.00	759.09	759.33
D	12+23.93	33.00	759.05	759.35
E	12+33.93	33.00	759.00	759.33
F	12+43.93	33.00	758.95	759.29
G	12+53.93	33.00	758.90	759.22
H	12+63.93	33.00	758.83	759.12
I	12+73.93	33.00	758.76	758.99
J	12+83.93	33.00	758.69	758.84
K	12+93.93	33.00	758.60	758.67
℄ Brg. E. Abut.	13+00.93	33.00	758.54	758.54
Bk. E. Abut.	13+04.20	33.00	758.51	758.51

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+81.26	38.42	759.29	759.29
℄ W. Abut.	11+84.53	38.42	759.28	759.28
A	11+94.53	38.42	759.26	759.35
B	12+04.53	38.42	759.23	759.41
C	12+14.53	38.42	759.20	759.44
D	12+24.53	38.42	759.16	759.46
E	12+34.53	38.42	759.11	759.44
F	12+44.53	38.42	759.06	759.40
G	12+54.53	38.42	759.01	759.33
H	12+64.53	38.42	758.94	759.22
I	12+74.53	38.42	758.87	759.10
J	12+84.53	38.42	758.79	758.94
K	12+94.53	38.42	758.71	758.78
℄ Brg. E. Abut.	13+01.53	38.42	758.65	758.65
Bk. E. Abut.	13+04.80	38.42	758.62	758.62

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	11+82.12	46.17	759.45	759.45
℄ W. Abut.	11+85.39	46.17	759.44	759.44
A	11+95.39	46.17	759.42	759.51
B	12+05.39	46.17	759.39	759.57
C	12+15.39	46.17	759.36	759.60
D	12+25.39	46.17	759.32	759.61
E	12+35.39	46.17	759.27	759.60
F	12+45.39	46.17	759.22	759.56
G	12+55.39	46.17	759.16	759.48
H	12+65.39	46.17	759.10	759.38
I	12+75.39	46.17	759.03	759.25
J	12+85.39	46.17	758.95	759.10
K	12+95.39	46.17	758.87	758.93
℄ Brg. E. Abut.	13+02.39	46.17	758.80	758.80
Bk. E. Abut.	13+05.66	46.17	758.77	758.77

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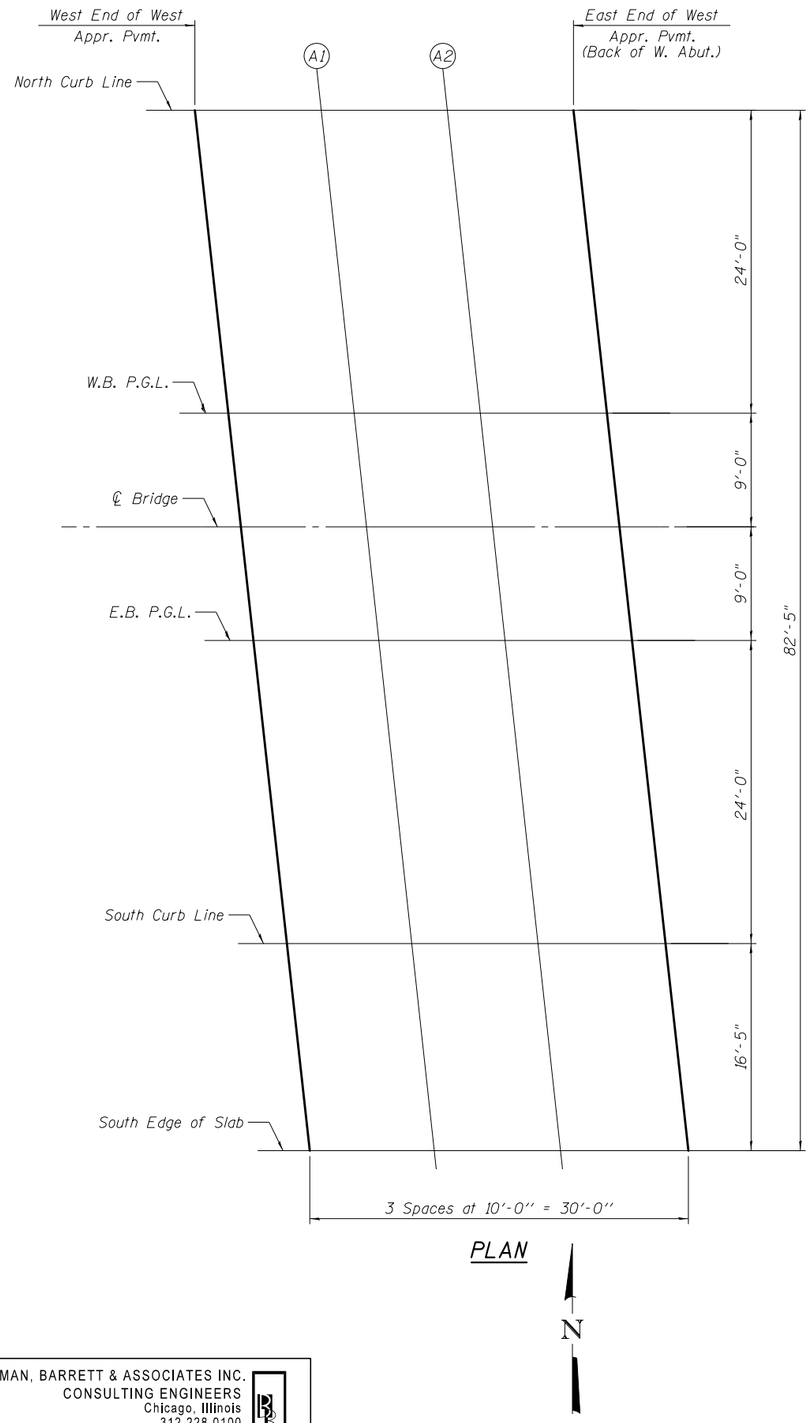
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS IV
STRUCTURE NO. 049-0533
SHEET NO. S-7 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	121
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



PLAN

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+43.89	-33.00	759.19
A1	11+53.89	-33.00	759.19
A2	11+63.89	-33.00	759.19
East End of West Appr. Pvmt.	11+73.89	-33.00	759.18

EB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+48.52	9.00	759.69
A1	11+58.52	9.00	759.69
A2	11+68.52	9.00	759.69
East End of West Appr. Pvmt.	11+78.52	9.00	759.68

W.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+46.53	-9.00	759.69
A1	11+56.53	-9.00	759.69
A2	11+66.53	-9.00	759.69
East End of West Appr. Pvmt.	11+76.53	-9.00	759.68

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+51.17	33.00	759.19
A1	11+61.17	33.00	759.19
A2	11+71.17	33.00	759.19
East End of West Appr. Pvmt.	11+81.17	33.00	759.17

BRIDGE CENTERLINE

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+47.53	0.00	759.88
A1	11+57.53	0.00	759.88
A2	11+67.53	0.00	759.88
East End of West Appr. Pvmt.	11+77.53	0.00	759.87

SOUTH EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
West End of West Appr. Pvmt.	11+52.98	49.42	759.54
A1	11+62.98	49.42	759.53
A2	11+72.98	49.42	759.53
East End of West Appr. Pvmt.	11+82.98	49.42	759.51

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	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0533
SHEET NO. S-8 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	122
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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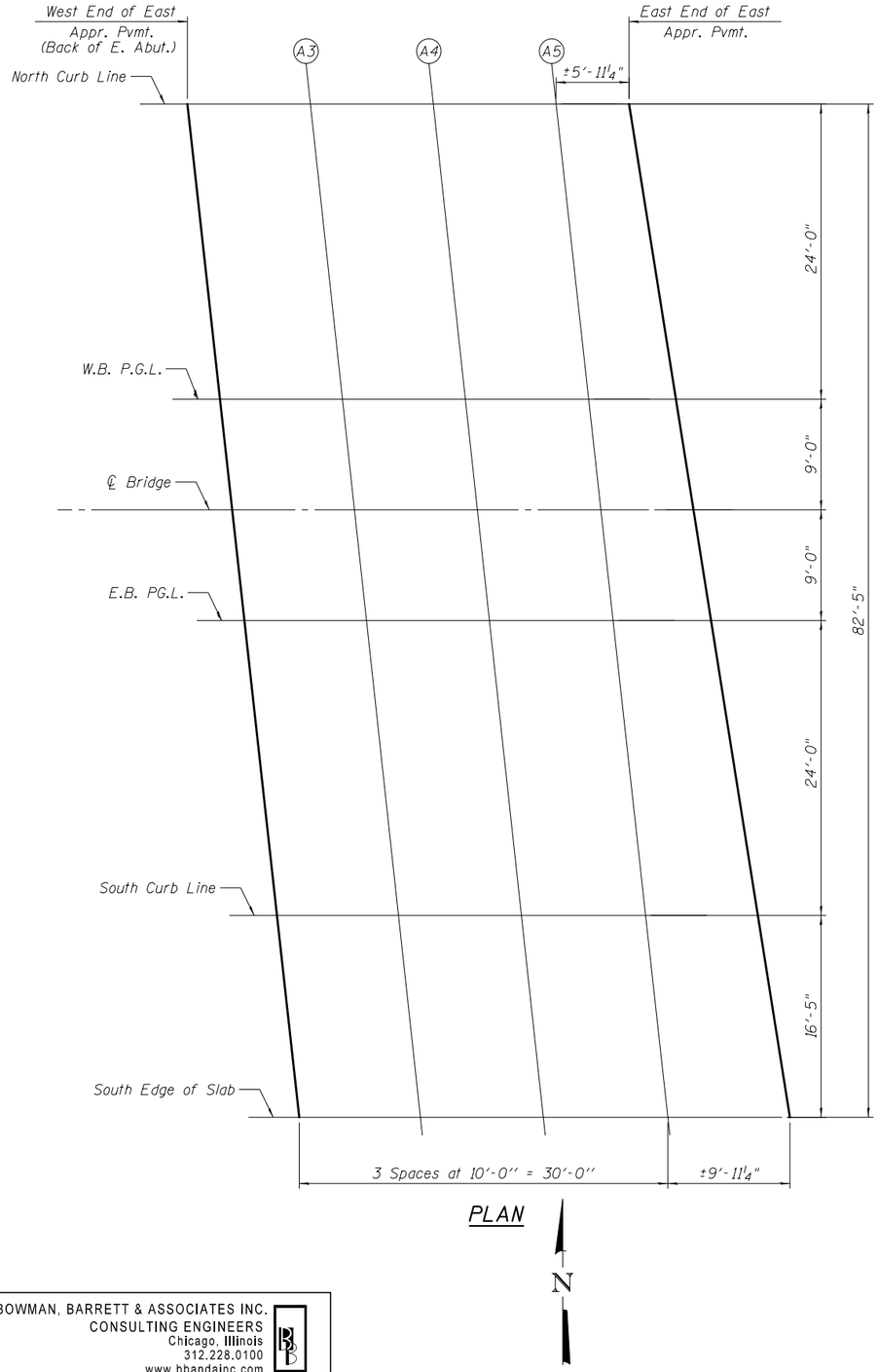

PLAN

N

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	12+96.42	-33.00	758.58
A3	13+06.42	-33.00	758.49
A4	13+16.42	-33.00	758.40
A5	13+26.42	-33.00	758.30
East End of East Appr. Pvmt.	13+32.43	-33.00	758.23

WB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	12+99.07	-9.00	759.06
A3	13+09.07	-9.00	758.97
A4	13+19.07	-9.00	758.87
A5	13+29.07	-9.00	758.77
East End of East Appr. Pvmt.	13+36.22	-9.00	758.69

BRIDGE CENTERLINE

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	13+00.06	0.00	759.24
A3	13+10.06	0.00	759.15
A4	13+20.06	0.00	759.05
A5	13+30.06	0.00	758.94
East End of East Appr. Pvmt.	13+37.65	0.00	758.86

EB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	13+01.06	9.00	759.04
A3	13+11.06	9.00	758.95
A4	13+21.06	9.00	758.85
A5	13+31.06	9.00	758.75
East End of East Appr. Pvmt.	13+39.07	9.00	758.66

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	13+03.70	33.00	758.52
A3	13+13.70	33.00	758.42
A4	13+23.70	33.00	758.32
A5	13+33.70	33.00	758.22
East End of East Appr. Pvmt.	13+42.86	33.00	758.11

SOUTH EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
West End of East Appr. Pvmt.	13+05.52	49.42	758.84
A3	13+15.52	49.42	758.75
A4	13+25.52	49.42	758.65
A5	13+35.52	49.42	758.54
East End of East Appr. Pvmt.	13+45.45	49.42	758.43

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	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0533
SHEET NO. S-9 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	123
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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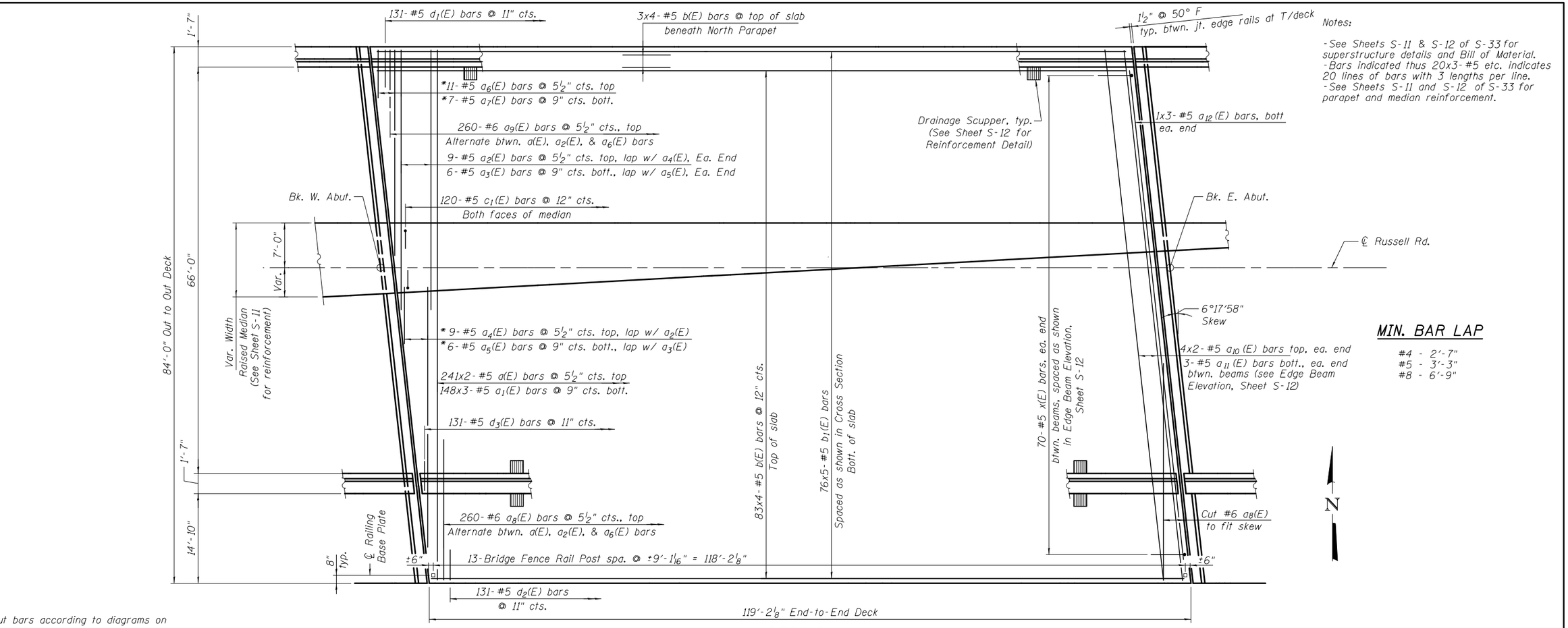
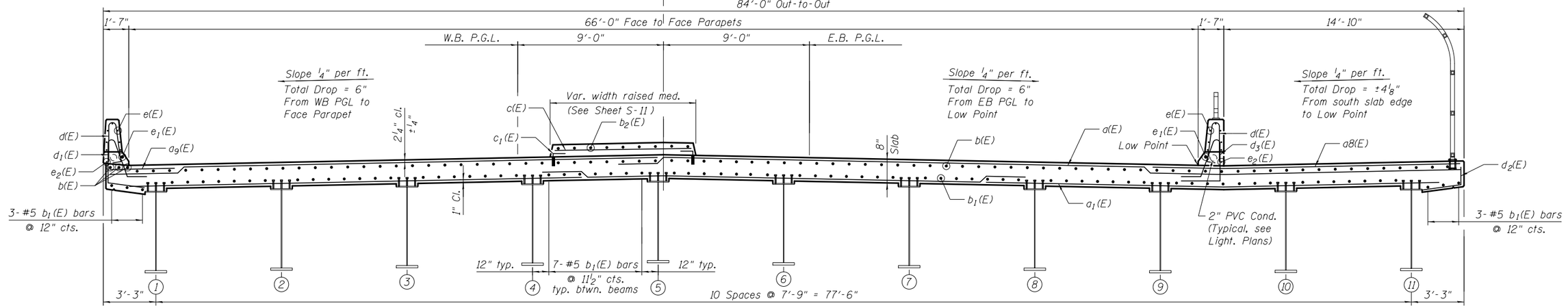


* Cut bars according to diagrams on Sheet S-12 and use remainder at other end of deck.

DECK PLAN



CROSS SECTION

(Looking East)

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	PLOT SCALE = N.T.S.	DRAWN - LAM	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE PLAN & CROSS SECTION
STRUCTURE NO. 049-0533
SHEET NO. S-10 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	124
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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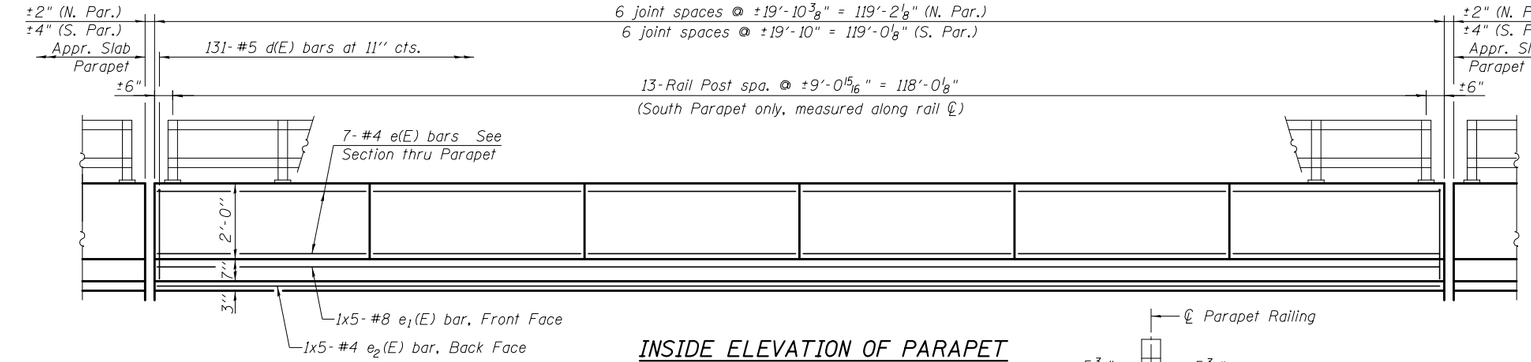
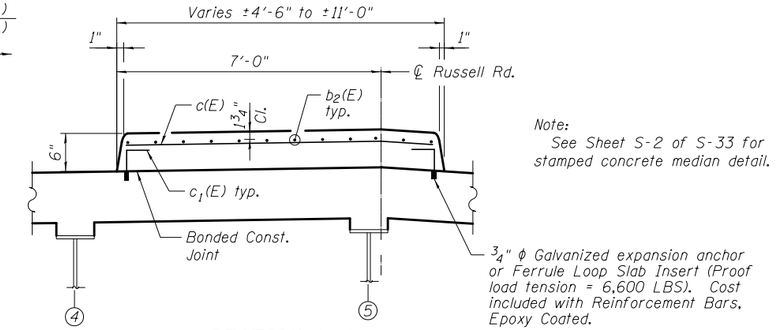


INSIDE ELEVATION OF PARAPET

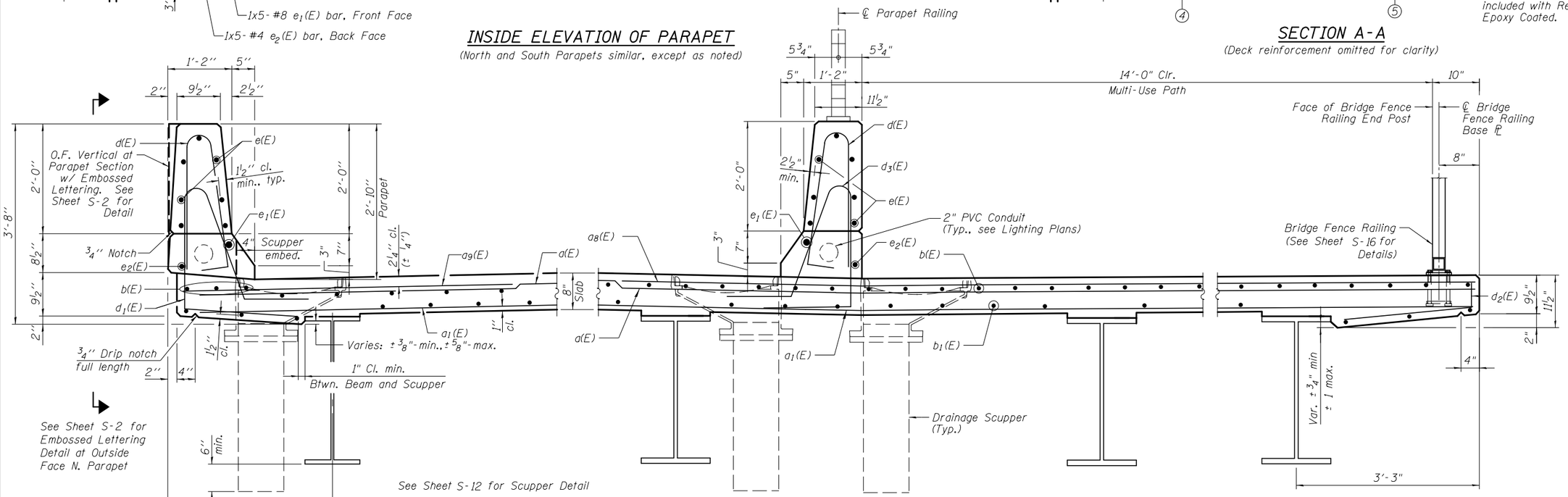
(North and South Parapets similar, except as noted)



Note:
See Sheet S-2 of S-33 for stamped concrete median detail.

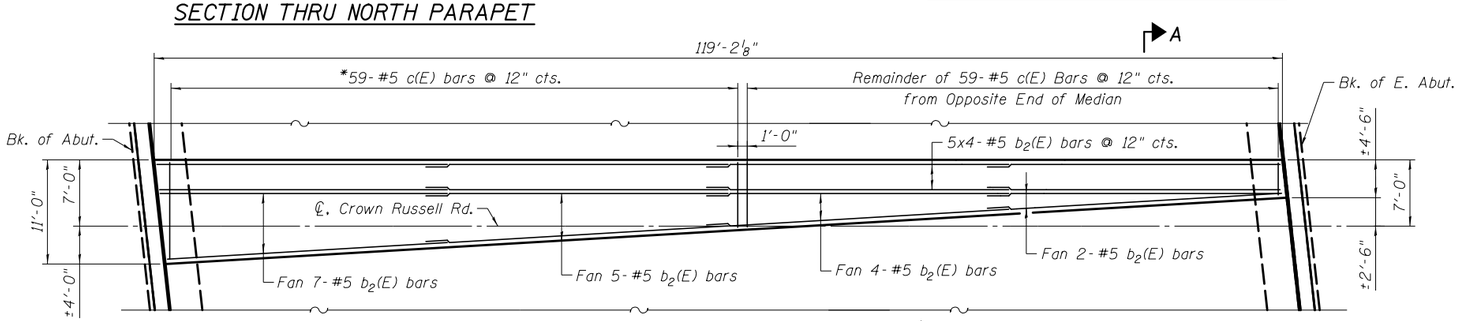
SECTION A-A

(Deck reinforcement omitted for clarity)



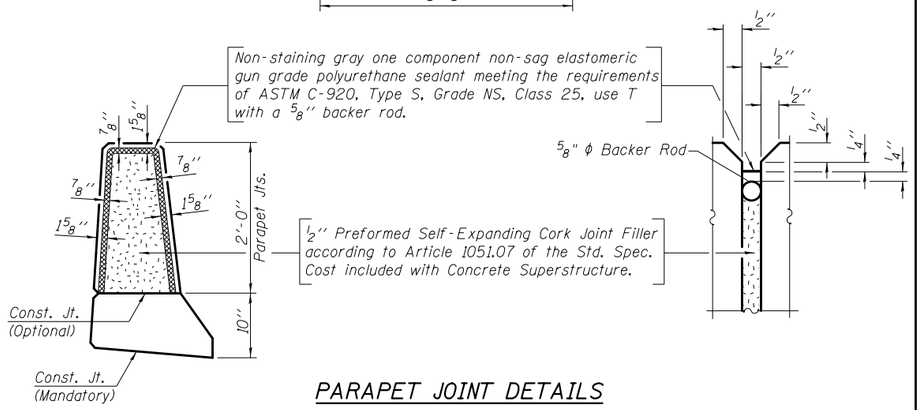
SECTION THRU NORTH PARAPET

SECTION THRU SOUTH PARAPET



*Cut bars according to diagram on Sheet S-12 and use remainder on opposite end of median.

MEDIAN PLAN



PARAPET JOINT DETAILS

Notes:
Drainage scuppers shall be located clear of all diaphragms.

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	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS I
STRUCTURE NO. 049-0533
SHEET NO. S-11 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	125
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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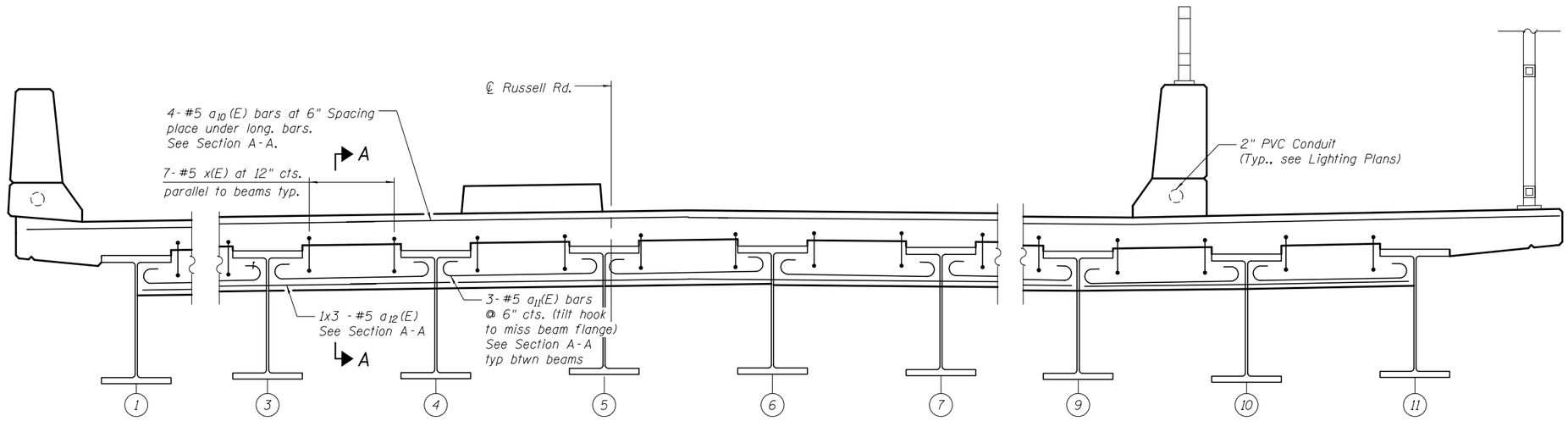
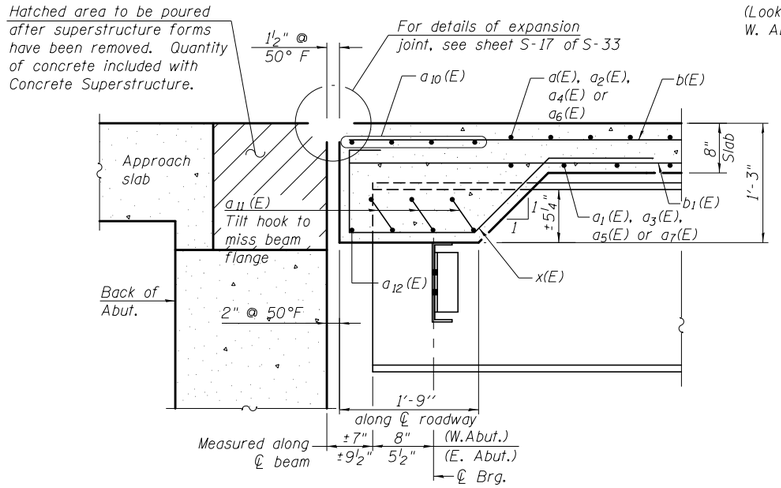


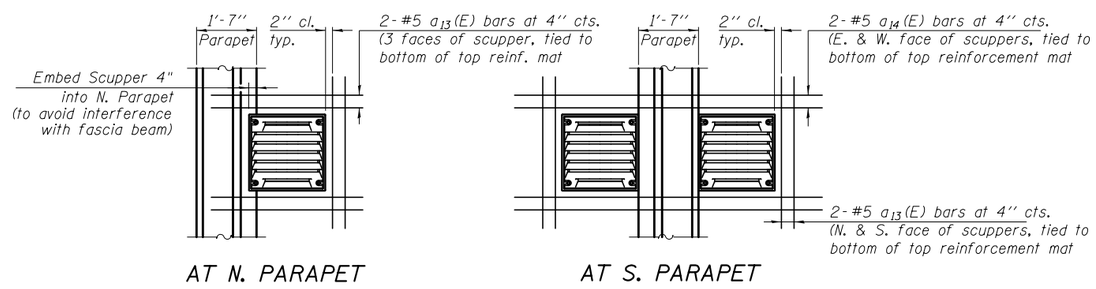
EDGE BEAM ELEVATION

(Looking East at E. Abut. Edge Beam; W. Abut. Edge Beam, similar)



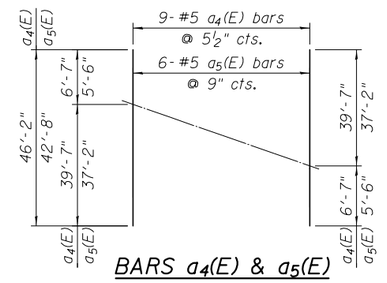
Horizontal dimensions at rt. L's u.n.o.

SECTION A-A

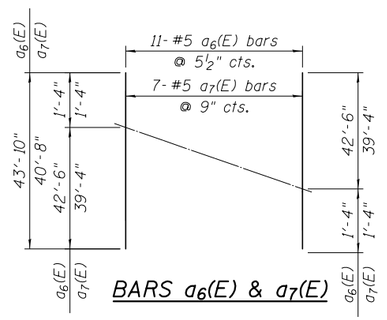


SCUPPER REINFORCEMENT DETAILS

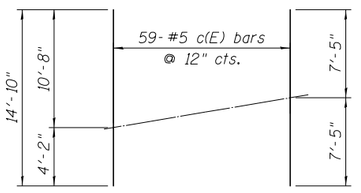
Note:
Cut longitudinal reinforcement to clear drainage scuppers.



BARS $a_4(E)$ & $a_5(E)$



BARS $a_6(E)$ & $a_7(E)$



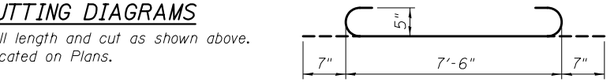
BAR c(E)

*CUTTING DIAGRAMS

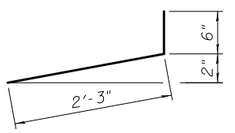
*Order bars full length and cut as shown above. Place as indicated on Plans.

SUPERSTRUCTURE BILL OF MATERIAL

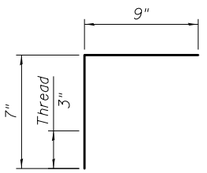
	Bar	No.	Size	Length	Shape
	a(E)	482	#5	43'-5"	
	a_1(E)	444	#5	30'-0"	
	a_2(E)	18	#5	43'-5"	
	a_3(E)	12	#5	43'-5"	
*	a_4(E)	9	#5	46'-2"	
*	a_5(E)	6	#5	42'-8"	
*	a_6(E)	11	#5	43'-10"	
*	a_7(E)	7	#5	40'-8"	
	a_8(E)	260	#6	21'-6"	
	a_9(E)	260	#6	6'-6"	
	a_{10}(E)	16	#5	43'-8"	
	a_{11}(E)	60	#5	8'-8"	
	a_{12}(E)	6	#5	27'-10"	
	a_{13}(E)	20	#5	4'-0"	
	a_{14}(E)	8	#5	8'-0"	
	b(E)	344	#5	32'-3"	
	b_1(E)	380	#5	26'-6"	
	b_2(E)	38	#5	32'-6"	
*	c(E)	59	#5	14'-10"	
	c_1(E)	240	#5	1'-4"	
	d(E)	262	#5	5'-7"	
	d_1(E)	131	#5	7'-10"	
	d_2(E)	131	#5	2'-9"	
	d_3(E)	131	#5	6'-10"	
	e(E)	84	#4	19'-6"	
	e_1(E)	10	#8	29'-2"	
	e_2(E)	10	#4	25'-10"	
	x(E)	140	#5	6'-5"	
	Reinforcement Bars Epoxy Coated		Pound	82,670	
	Bridge Deck (Shrinkage Reducing Admixture)		Cu. Yd.	265.9	
	Concrete Superstructure		Cu. Yd.	62.4	
	Bridge Deck Grooving		Sq. Yd.	719	
	Protective Coat		Sq. Yd.	1227	



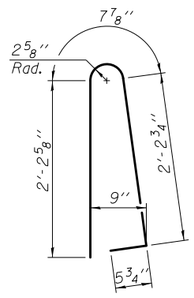
BAR a_{11}(E)



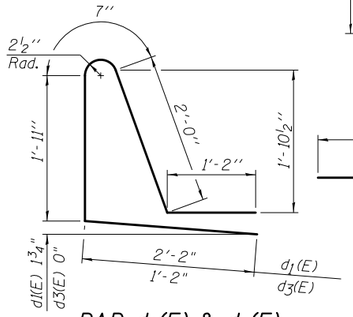
BAR d_2(E)



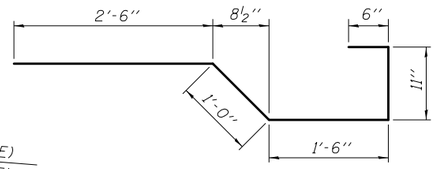
BAR c_1(E)



BAR d(E)



BAR d_1(E) & d_3(E)



BAR x(E)

Notes:

1. Bars Indicated 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
2. All edges shall have standard ¾" chamfer except as noted.
3. Bridge Deck (Shrinkage Reducing Admixture) refers to all bridge deck, fillet, and edge beam concrete. Concrete Superstructure refers to all median, parapet, and hatch block concrete.

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SUPERSTRUCTURE DETAILS II
STRUCTURE NO. 049-0533
SHEET NO. S-12 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	126
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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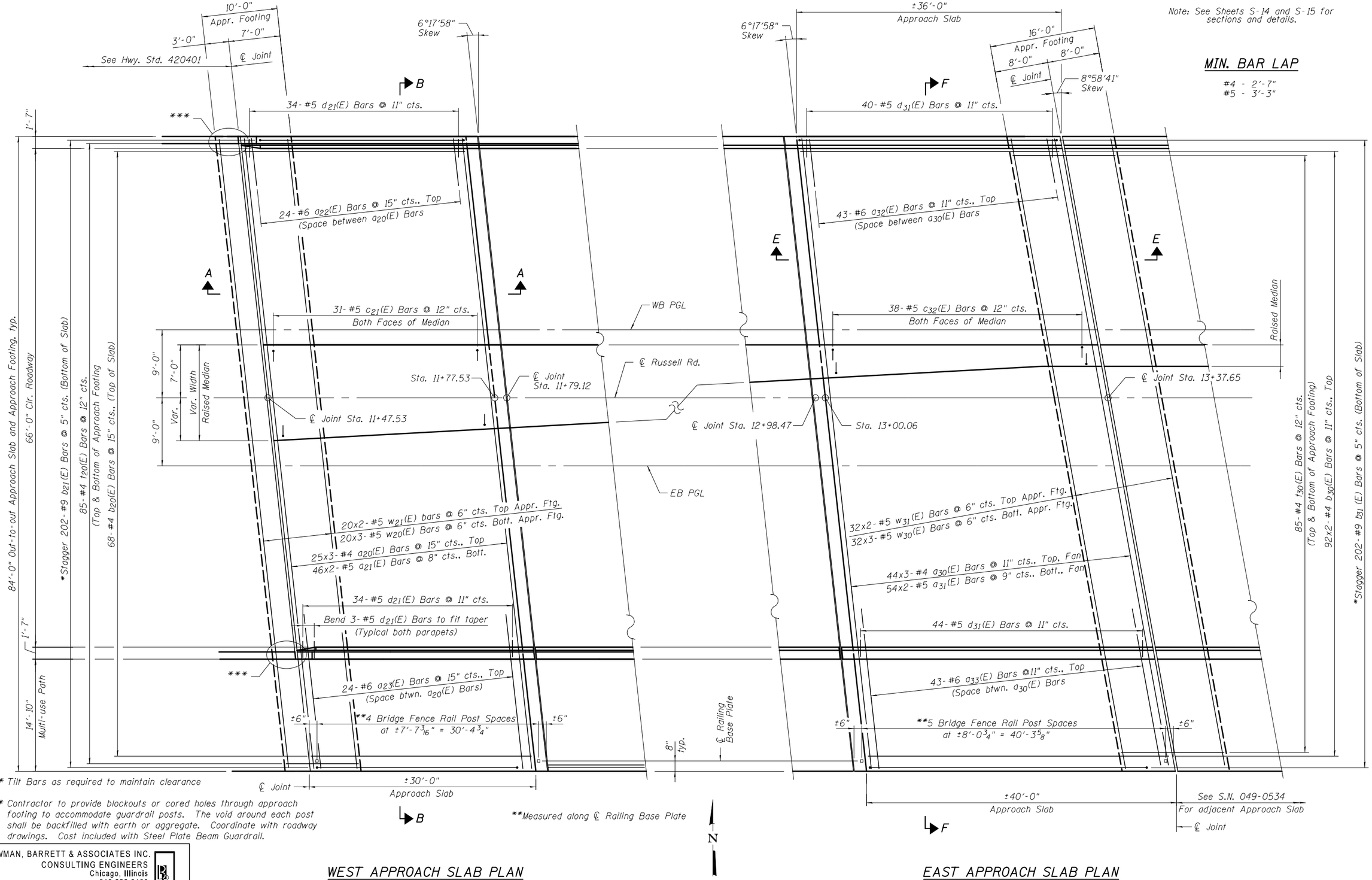
Note: See Sheets S-14 and S-15 for sections and details.

MIN. BAR LAP

#4 - 2'-7"
#5 - 3'-3"



* Tilt Bars as required to maintain clearance

*** Contractor to provide blockouts or cored holes through approach footing to accommodate guardrail posts. The void around each post shall be backfilled with earth or aggregate. Coordinate with roadway drawings. Cost included with Steel Plate Beam Guardrail.

**Measured along ℄ Railing Base Plate

WEST APPROACH SLAB PLAN

EAST APPROACH SLAB PLAN

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DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB PLANS
STRUCTURE NO. 049-0533
SHEET NO. S-13 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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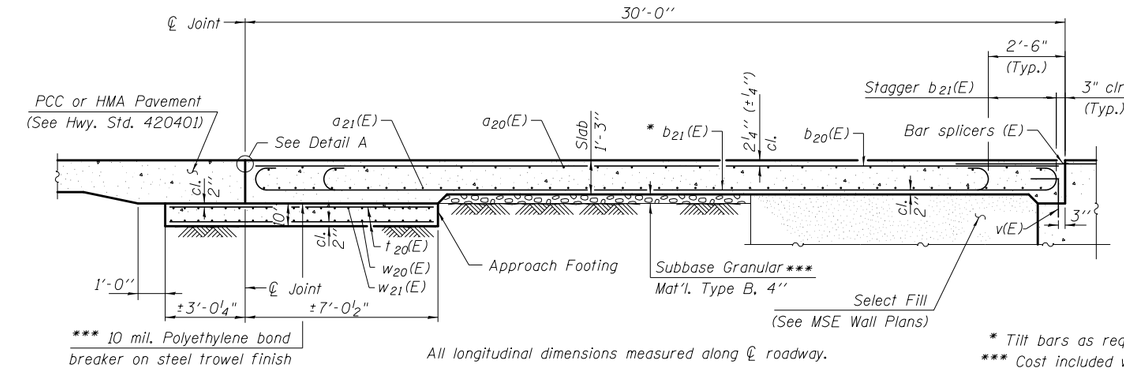
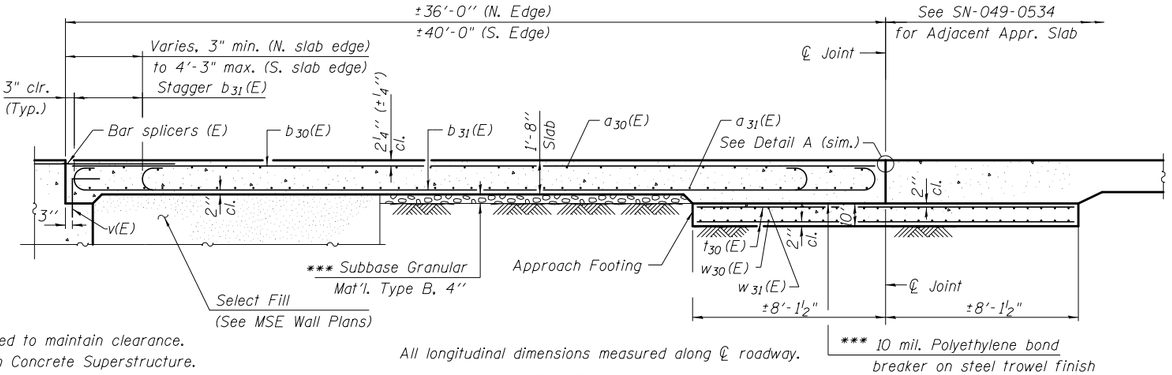
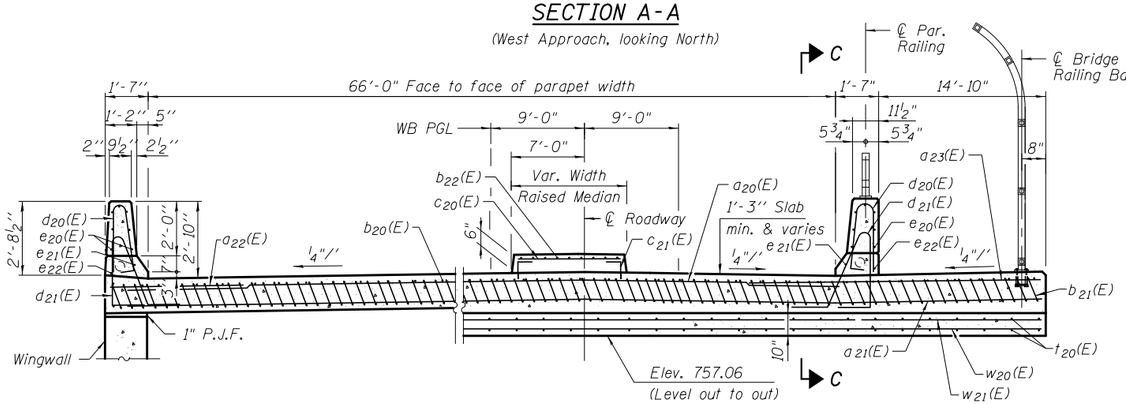
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



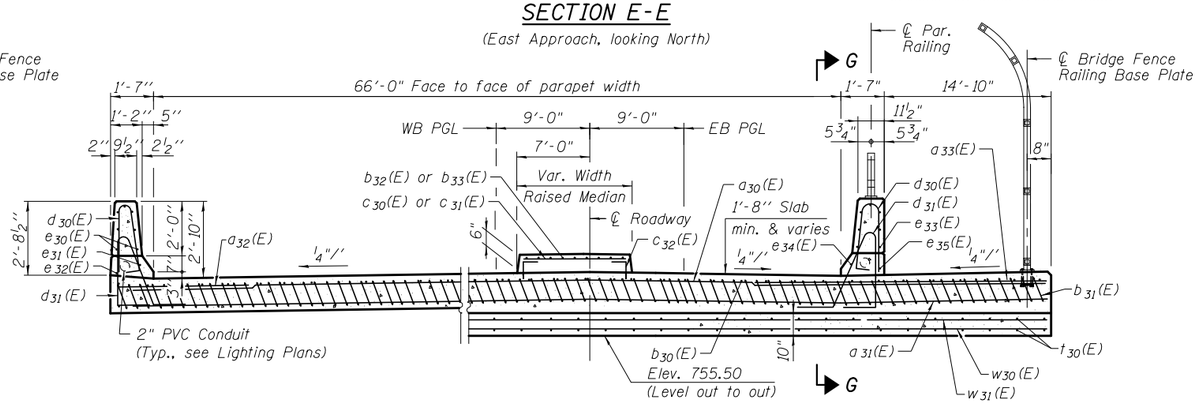


* Tilt bars as required to maintain clearance.
*** Cost included with Concrete Superstructure.

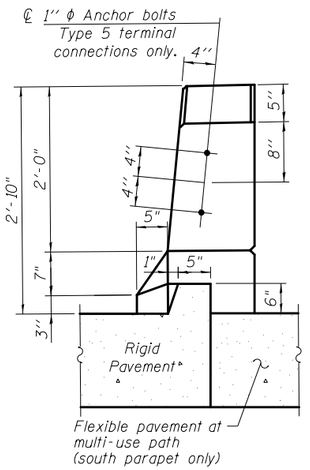
SECTION A-A
(West Approach, looking North)



SECTION E-E
(East Approach, looking North)



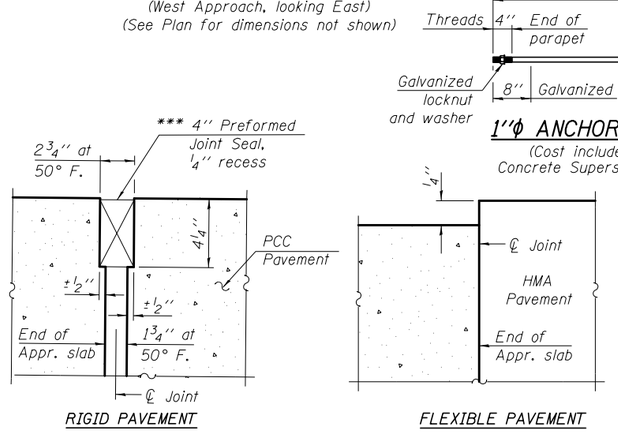
NEAR ABUTMENT



VIEW D-D

AT APPROACH FOOTING

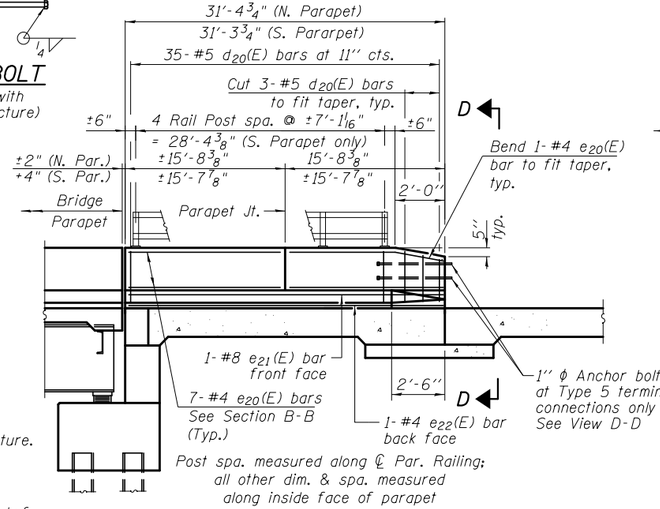
SECTION B-B
(West Approach, looking East)
(See Plan for dimensions not shown)



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

DETAIL A

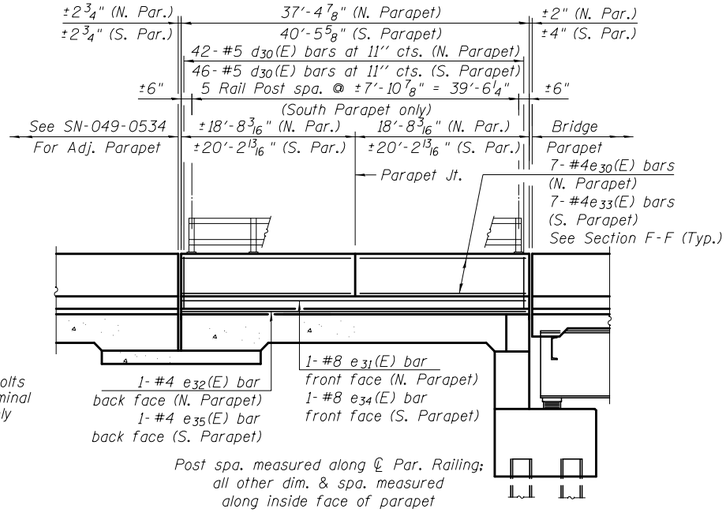
NEAR ABUTMENT



VIEW C-C
(Showing inside elevation of S. Parapet at W. Approach, N. Parapet similar except as noted)

AT APPROACH FOOTING

SECTION F-F
(East Approach, looking East)
(See Plan for dimensions not shown)



VIEW G-G
(Showing inside elevation of S. Parapet at E. Approach, N. Parapet similar except as noted)

Notes:
- Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
- Approach footing concrete shall be paid for as Concrete Structures.
- Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
- For v(E) bar details, see Sheets S-25 & S-26 of S-33
- The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
- For bar splicer details, see Sheets S-25, S-26, & S-29 of S-33
- Cost of excavation for approach footing included with Concrete Structures.
- See Sheet S-15 for Preformed Joint Seal Details at Approach Slabs.

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DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS I
STRUCTURE NO. 049-0533
SHEET NO. S-14 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	128
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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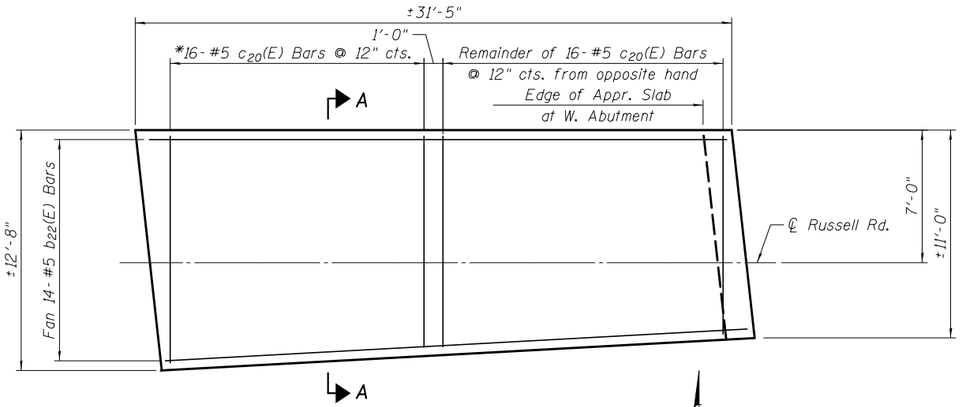
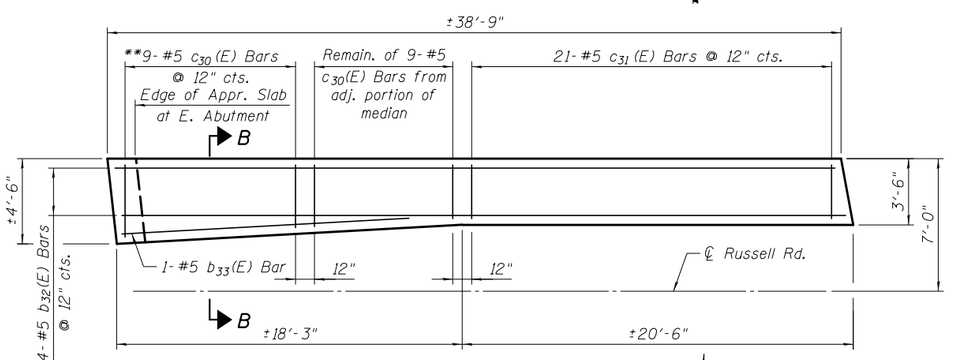


MEDIAN PLAN - WEST APPROACH SLAB

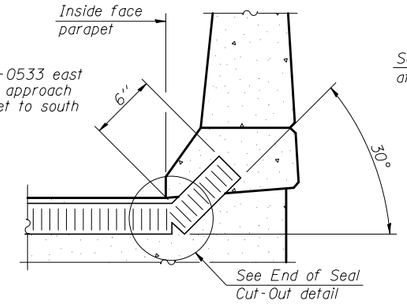
* Cut Bars according to diagram this Sheet and use remainder on opposite end of median



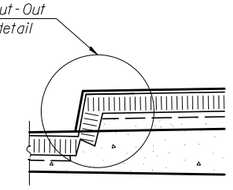
MEDIAN PLAN - EAST APPROACH SLAB

** Cut Bars according to diagram this Sheet and use remainder on adjacent portion of median

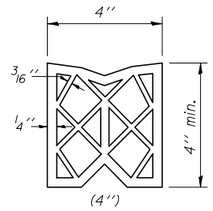
Note:
At south parapet between SN 049-0533 east approach slab & SN 049-0534 west approach slab, run PJS continuous thru parapet to south edge of slab.



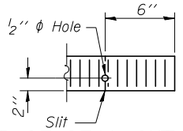
AT PARAPET/CURB



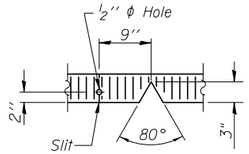
AT MEDIAN



PREFORMED JOINT SEAL

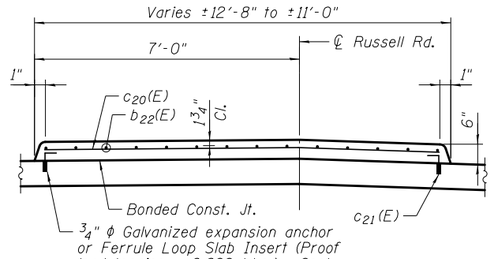


END OF SEAL CUT-OUT



SEAL CUT-OUT AT MEDIAN

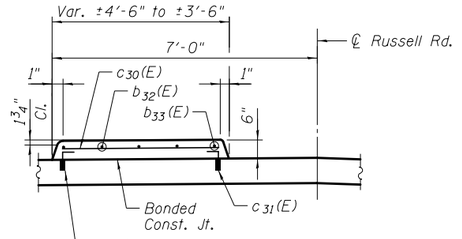
PREFORMED JOINT SEAL DETAILS



3/4" ϕ Galvanized expansion anchor or Ferrule Loop Slab Insert (Proof load tension = 6,600 Lbs.). Cost included with Reinforcement Bars, Epoxy Coated.

SECTION A-A

Note:
See Sheet S-2 of S-33 for stamped concrete median detail.



3/4ϕ Galvanized expansion anchor or Ferrule Loop Slab Insert (Proof load tension = 6,600 Lbs.). Cost included with Reinforcement Bars, Epoxy Coated.

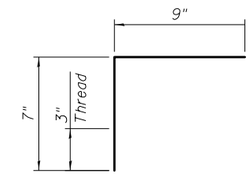
SECTION B-B

WEST APPROACH BILL OF MATERIAL

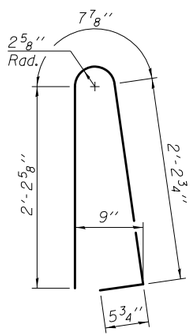
	Bar	No.	Size	Length	Shape
	$a_{20}(E)$	75	#4	29'-10"	
	$a_{21}(E)$	92	#5	43'-10"	
	$a_{22}(E)$	24	#6	6'-6"	
	$a_{23}(E)$	24	#6	21'-6"	
	$b_{20}(E)$	68	#4	29'-8''	
	$b_{21}(E)$	202	#9	29'-9''	
	$b_{22}(E)$	14	#5	31'-0"	
*	$c_{20}(E)$	16	#5	23'-0"	
	$c_{21}(E)$	64	#5	1'-4"	
	$d_{20}(E)$	70	#5	5'-7''	
	$d_{21}(E)$	68	#5	7'-11''	
	$e_{20}(E)$	28	#4	15'-4"	
	$e_{21}(E)$	2	#8	31'-0"	
	$e_{22}(E)$	2	#4	31'-0"	
	$t_{20}(E)$	170	#4	9'-8''	
	$w_{20}(E)$	60	#5	30'-3"	
	$w_{21}(E)$	40	#5	43'-9"	
	Concrete Superstructure		Cu. Yd.	139.3	
	Concrete Structures		Cu. Yd.	26.1	
	Reinforcement Bars, Epoxy Coated		Pound	35,700	
	Bridge Deck Grooving		Sq. Yd.	183	
	Protective Coat		Sq. Yd.	324	

EAST APPROACH BILL OF MATERIAL

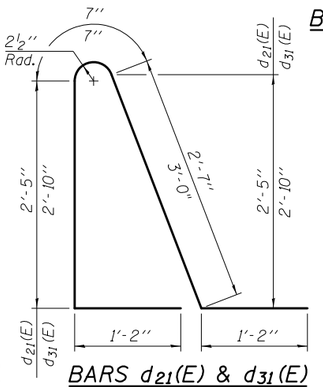
	Bar	No.	Size	Length	Shape
	$a_{30}(E)$	132	#4	30'-0"	
	$a_{31}(E)$	108	#5	43'-10"	
	$a_{32}(E)$	43	#6	6'-6"	
	$a_{33}(E)$	43	#6	21'-6"	
	$b_{30}(E)$	184	#4	21'-2''	
	$b_{31}(E)$	202	#9	38'-0"	
	$b_{32}(E)$	4	#5	38'-6''	
	$b_{33}(E)$	1	#5	17'-6"	
*	$c_{30}(E)$	9	#5	7'-4"	
	$c_{31}(E)$	21	#5	3'-2"	
	$c_{32}(E)$	76	#5	1'-4"	
	$d_{30}(E)$	88	#5	5'-7''	
	$d_{31}(E)$	84	#5	8'-9"	
	$e_{30}(E)$	14	#4	18'-4"	
	$e_{31}(E)$	1	#8	37'-0"	
	$e_{32}(E)$	1	#4	37'-0"	
	$e_{33}(E)$	14	#4	20'-0"	
	$e_{34}(E)$	1	#8	40'-4"	
	$e_{35}(E)$	1	#4	40'-4"	
	$t_{30}(E)$	170	#4	15'-8"	
	$w_{30}(E)$	96	#5	30'-4"	
	$w_{31}(E)$	64	#5	43'-10"	
	Concrete Superstructure		Cu. Yd.	223.6	
	Concrete Structures		Cu. Yd.	42.0	
	Reinforcement Bars, Epoxy Coated		Pound	48,160	
	Bridge Deck Grooving		Sq. Yd.	245	
	Protective Coat		Sq. Yd.	392	



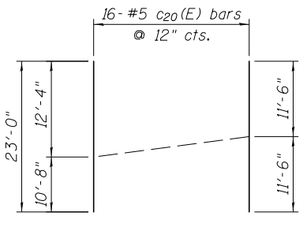
BARS $c_{21}(E)$ & $c_{32}(E)$



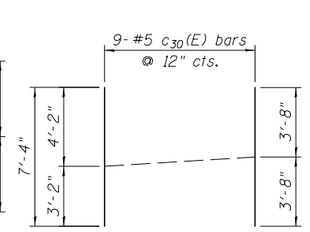
BARS $d_{20}(E)$ & $d_{30}(E)$



BARS $d_{21}(E)$ & $d_{31}(E)$



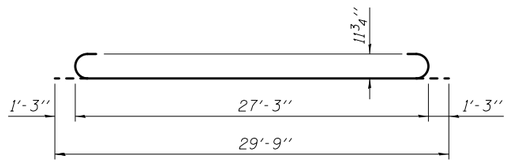
BAR $c_{20}(E)$



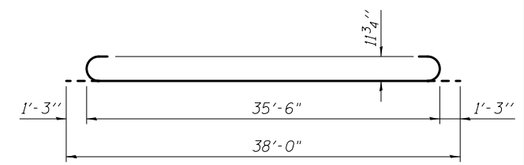
BAR $c_{30}(E)$

Order Bars full length and cut as shown above. Place as indicated on Median Plan.

*CUTTING DIAGRAMS



BAR $b_{21}(E)$



BAR $b_{31}(E)$

BOWMAN, BARRETT & ASSOCIATES INC.
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312.228.0100
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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS II
STRUCTURE NO. 049-0533
SHEET NO. S-15 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	129
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

3/7/2012 4:21:08 PM
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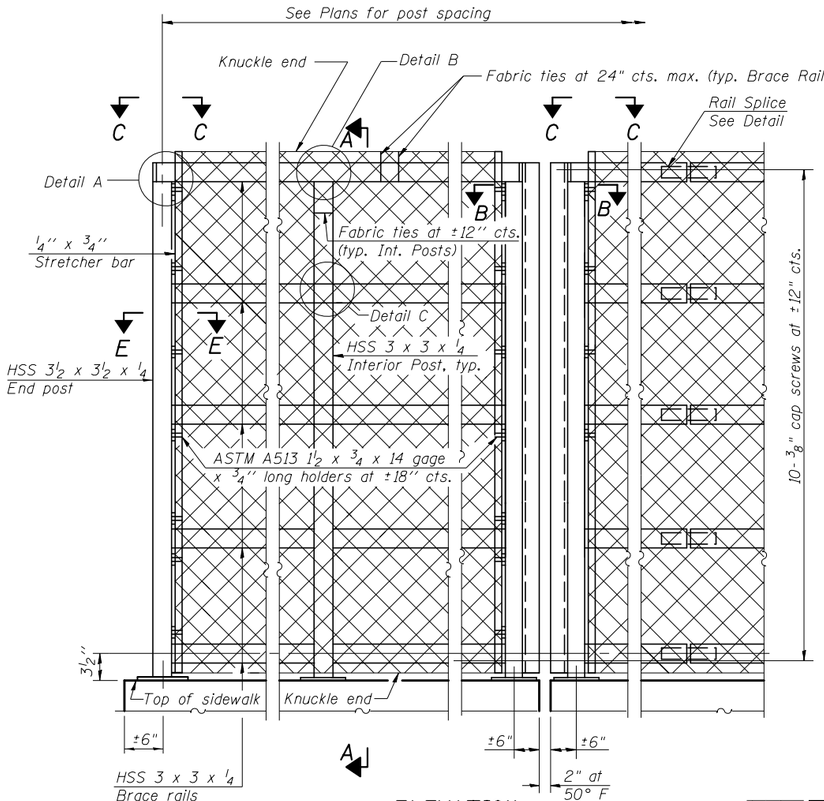
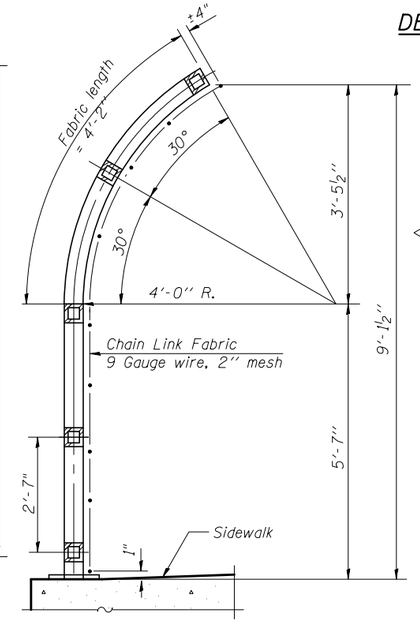
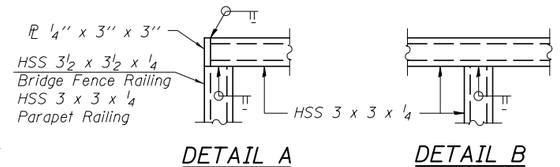


ELEVATION
(Inside Face)

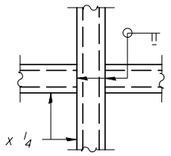


SECTION A-A



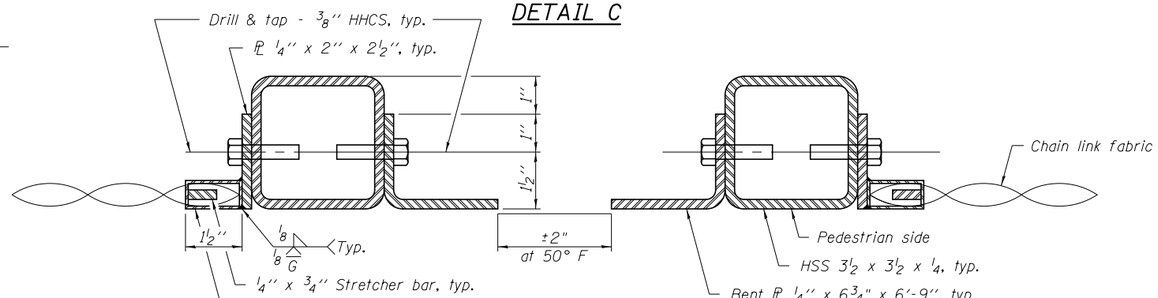
DETAIL A

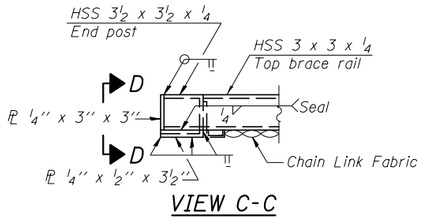
DETAIL B



DETAIL C

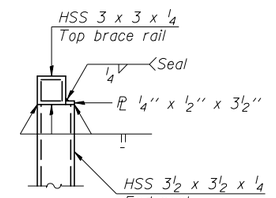
Note:
The color and finish of railing components shall be as outlined in the Special Provision for Bridge Fence Railing (Sidewalk) and Parapet Railing.



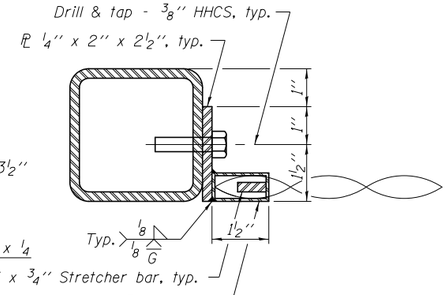


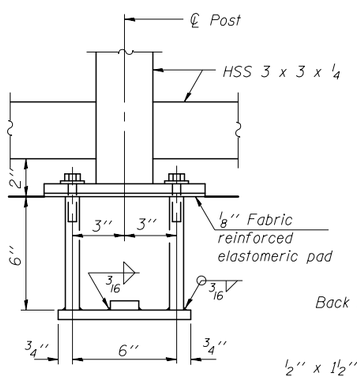
VIEW C-C

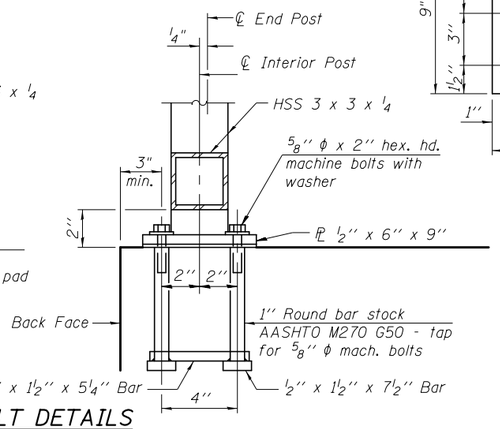
SECTION B-B
(At Expansion Joint)



VIEW D-D

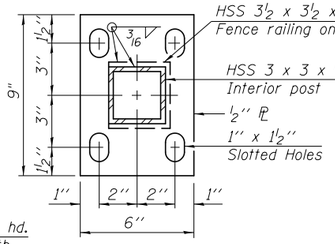




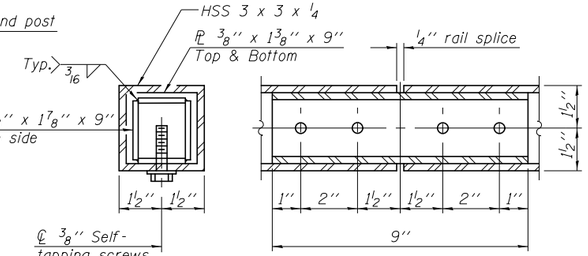


ANCHOR BOLT DETAILS

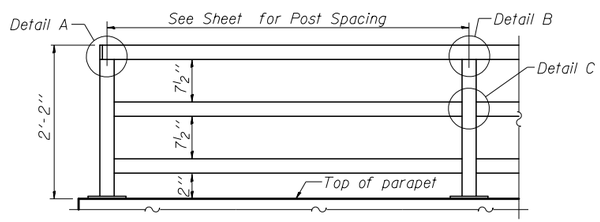
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



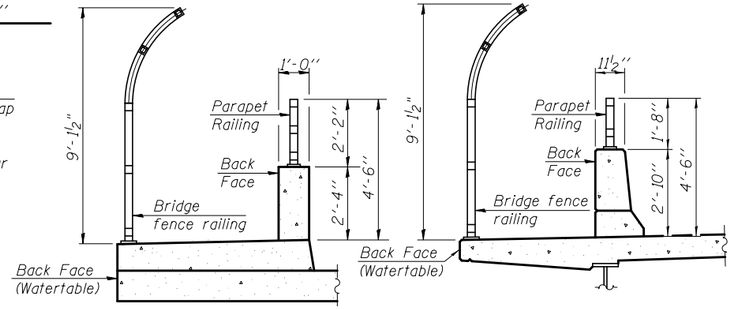
BASE PL



RAIL SPLICE

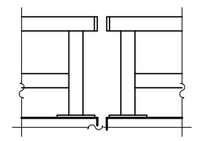


PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)

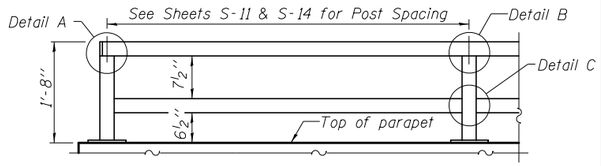


SECTION THRU SIDEWALK

SECTION THRU DECK



PARAPET RAILING ELEVATION AT EXPANSION JOINT
(Two element rail shown - Three element rail similar)



PARAPET RAILING ELEVATION
(Inside face of two element rail)

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing (Sidewalk)	Foot	189
Parapet Railing	Foot	186

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

R-33 7-1-10 (10'-0" Maximum Post Spacing)

FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 2/9/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING, SIDEWALK MOUNTED
STRUCTURE NO. 049-0533
SHEET NO. S-16 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	130
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

2/9/2012 12:19:03 PM
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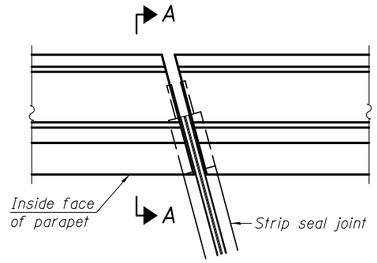
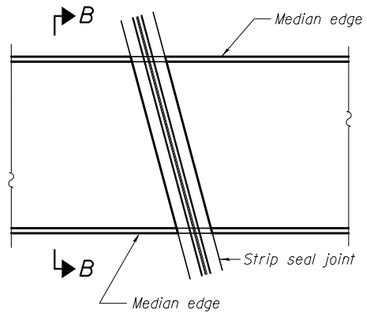


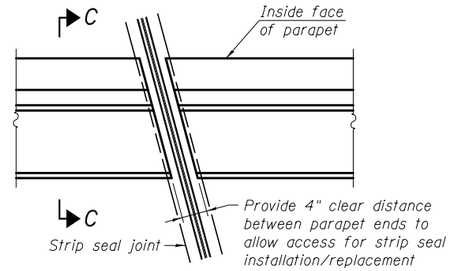
PLAN

(At exterior parapet, skew < 30°)



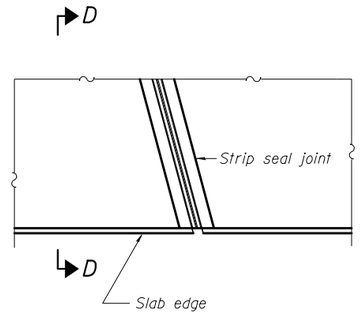
PLAN

(At raised median, skew < 30°)



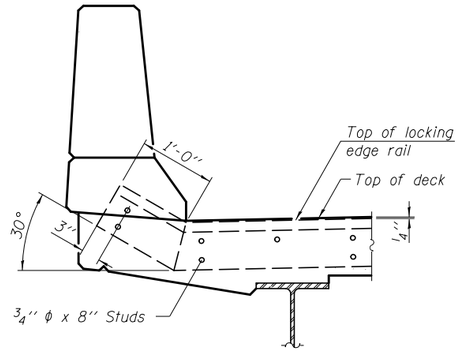
PLAN

(At interior parapet, skew < 30°)

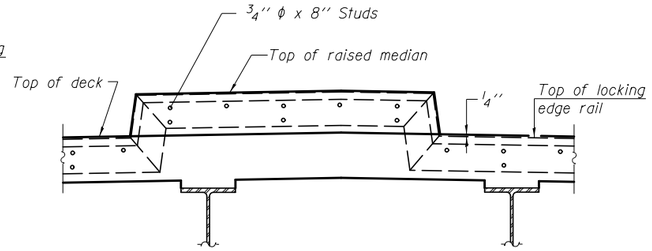


PLAN

(At slab edge, skew < 30°)

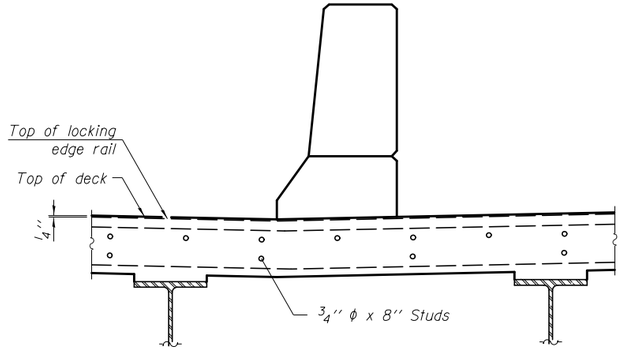


SECTION A-A

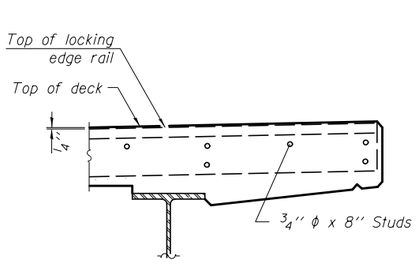


SECTION B-B

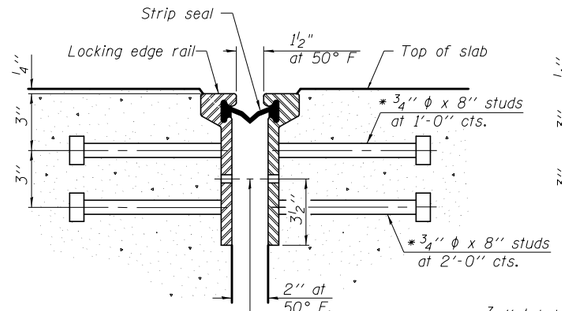
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION C-C

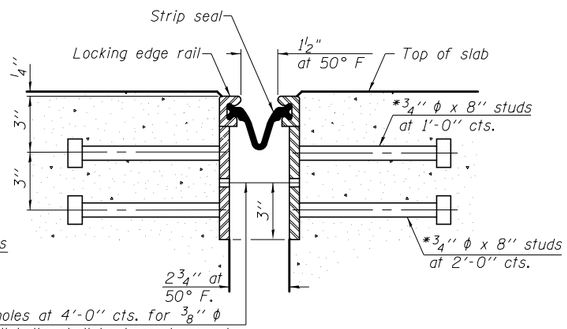


SECTION D-D



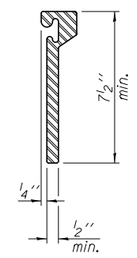
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



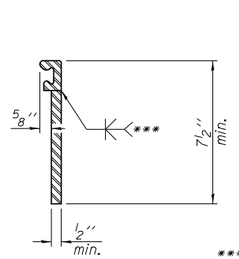
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

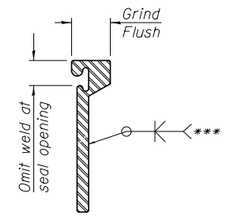


ROLLED EXTRUDED RAIL

WELDED RAIL



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



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

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

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	174

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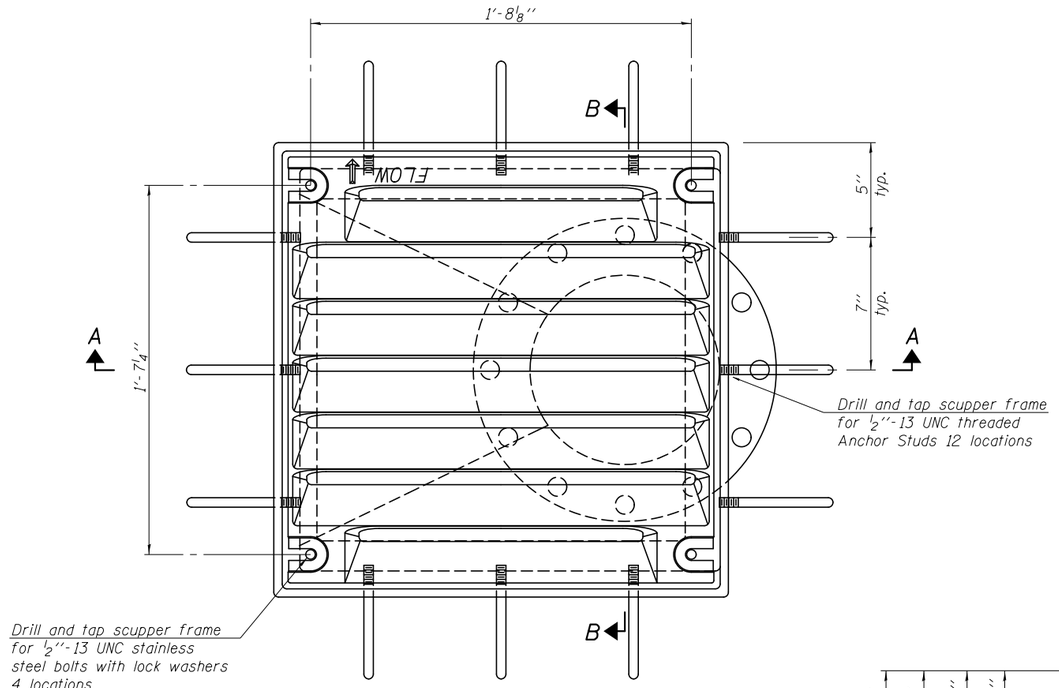
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

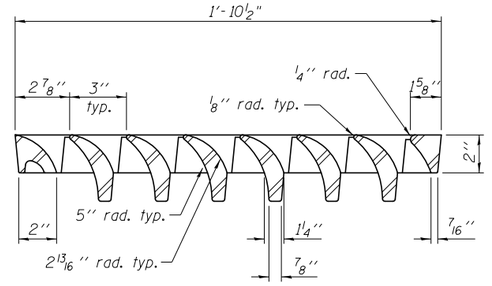
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 049-0533
SHEET NO. S-17 OF S-33 SHEETS

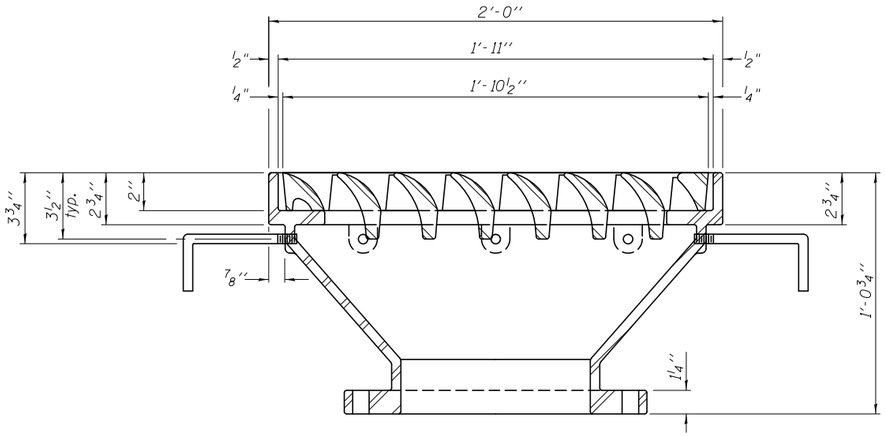
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	131
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



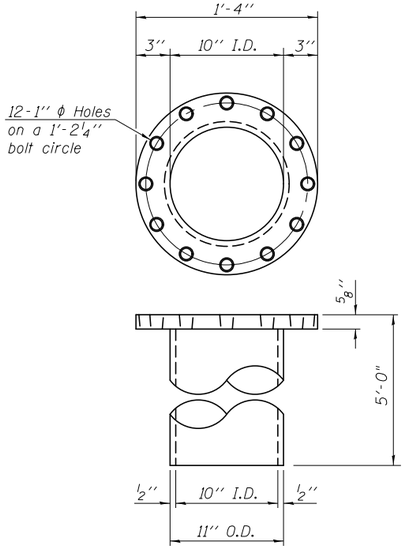
PLAN



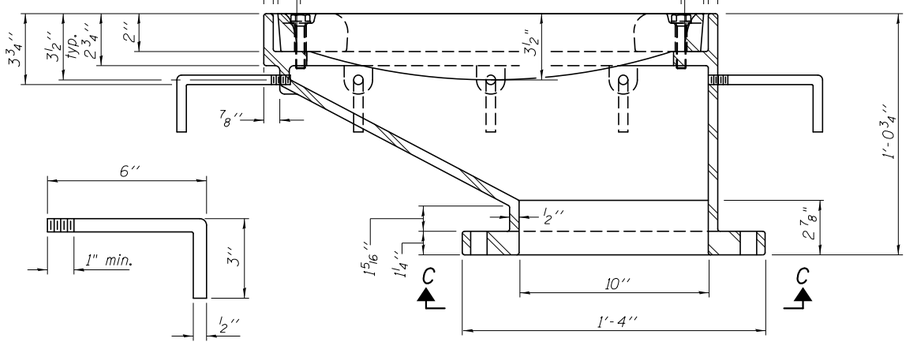
VANE GRATE DETAIL



SECTION B-B

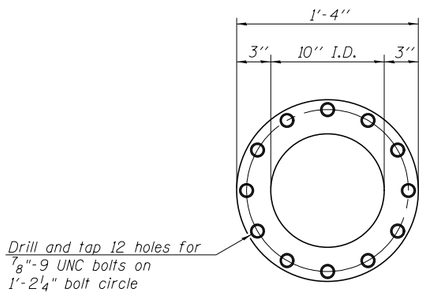


DOWNSPOUT

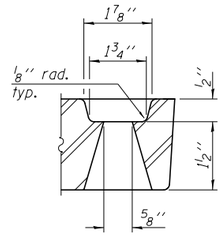


SECTION A-A

ANCHOR STUD DETAIL



VIEW C-C



GRATE 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.

All castings shall conform to the requirements of AASHTO M 306.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

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, Downspout, 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-12M10.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12M10	Each	6

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DS-12M10 7-1-10

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	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-12M10
STRUCTURE NO. 049-0533
SHEET NO. S-18 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	132
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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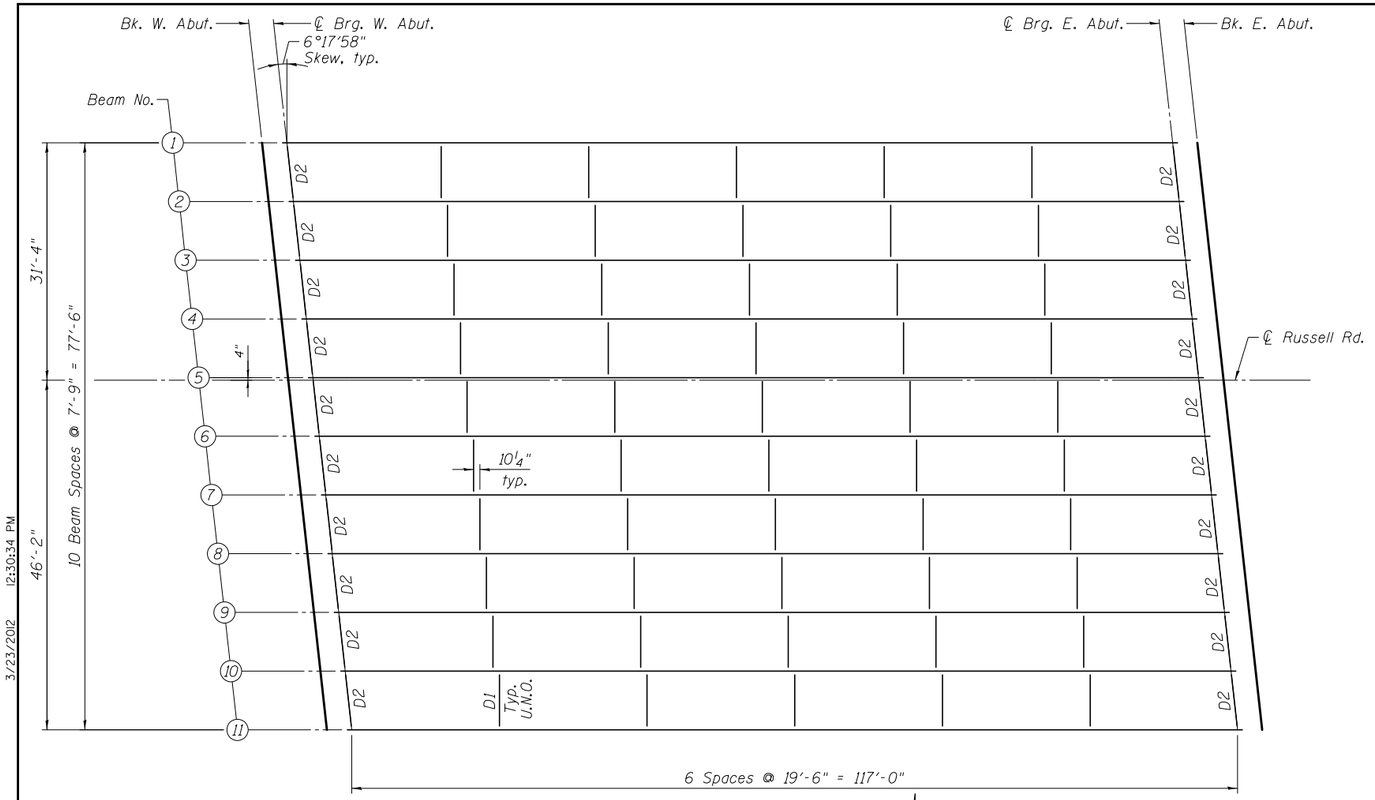
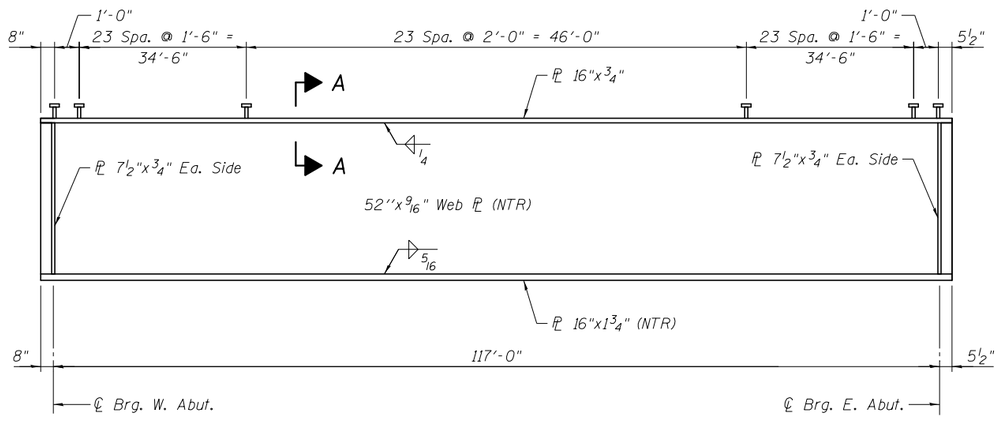


FRAMING PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp. I
I_s	(in^4)	32,425
$I_{c(n)}$	(in^4)	88,804
$I_{c(3n)}$	(in^4)	62,252
$I_{c(cr)}$	(in^4)	-
S_s	(in^3)	1,512
$S_{c(n)}$	(in^3)	2,081
$S_{c(3n)}$	(in^3)	1,903
$S_{c(cr)}$	(in^3)	-
DC1	(k/')	1.08
M_{DC1}	('k)	1,876
DC2	(k/')	0.155
M_{DC2}	('k)	265
DW	(k/')	0.325
M_{DW}	('k)	556
M_{L+IM}	('k)	2,239
M_u (Strength I)	('k)	7,430
$\phi_f M_n$	('k)	9,925
f_s DC1	(ksi)	14.89
f_s DC2	(ksi)	1.67
f_s DW	(ksi)	3.51
f_s (L+IM)	(ksi)	12.91
f_s (Service II)	(ksi)	36.85
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	48.56
$\phi_f F_n$	(ksi)	-
V_f	(k)	28.4

INTERIOR GIRDER REACTION TABLE			
		W. Abut.	E. Abut.
R_{DC1}	(k)	65.2	65.2
R_{DC2}	(k)	9.6	8.6
R_{DW}	(k)	18.7	19.3
R_{L+IM}	(k)	106.5	106.5
R_{Total}	(k)	199.9	199.5

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 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 (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 plus impact loads as calculated below (ksi).
$M_{L+IM} / S_{c(3n)}$ 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).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{sL+IM}$

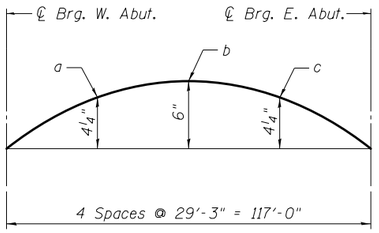
$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).

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

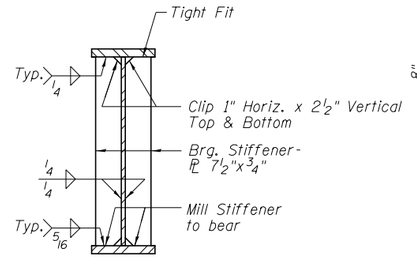
TOP OF WEB ELEVATIONS

(For Fabrication only)

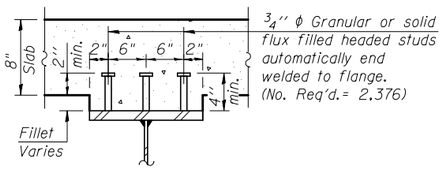
Beam	℄ Brg. W. Abut.	a	b	c	℄ Brg. E. Abut.
1	758.40	758.61	758.61	758.33	757.83
2	758.56	758.77	758.77	758.48	757.98
3	758.72	758.93	758.93	758.64	758.14
4	758.88	759.09	759.09	758.79	758.29
5	759.04	759.25	759.24	758.95	758.44
6	758.89	759.10	759.09	758.79	758.29
7	758.73	758.93	758.93	758.63	758.12
8	758.57	758.77	758.76	758.46	757.95
9	758.41	758.60	758.59	758.29	757.78
10	758.47	758.66	758.65	758.35	757.84
11	758.63	758.82	758.81	758.51	757.99



CAMBER DIAGRAM



SECTION AT ABUTMENT



SECTION A-A

NOTES:

Webs, Flanges, and Bearing Stiffeners to be AASHTO M270 Grade 50 Steel.

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
STRUCTURE NO. 049-0533
SHEET NO. S-19 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	133
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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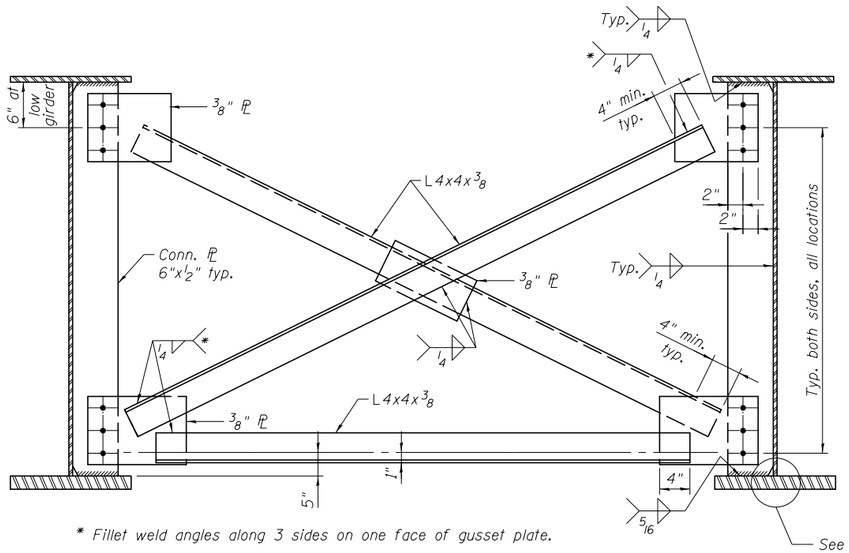
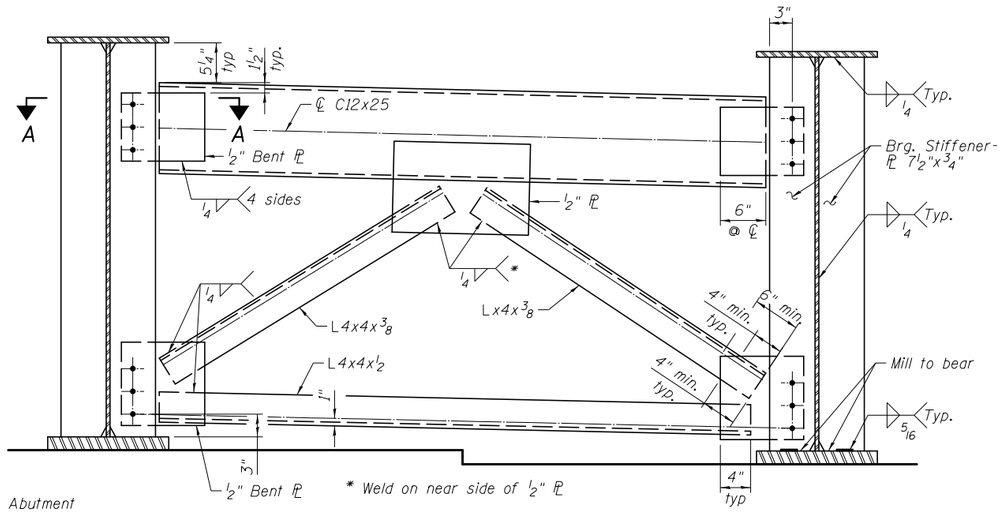


* Fillet weld angles along 3 sides on one face of gusset plate.

INTERIOR CROSS FRAME D1

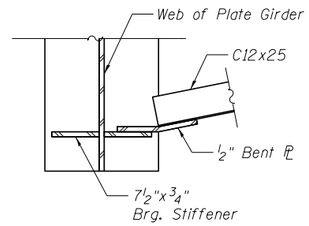
(50 Required)



* Weld on near side of 1/2" PL

END CROSS FRAME D2

(20 Required)



SECTION A-A

NOTES:

Two hardened washers required for each set of oversized holes.

Place end cross frames with channel flanges and outstanding angle legs outward from abutment backwall.

All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.

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	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-20 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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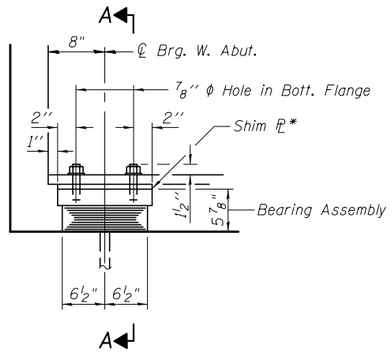
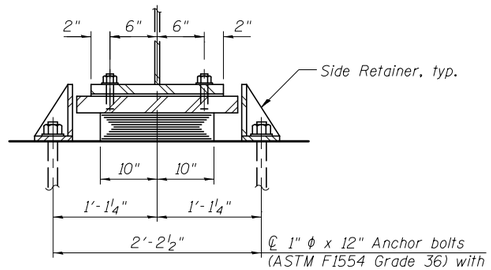
	ILLINOIS	FED. AID PROJECT		



ELEVATION AT WEST ABUT.

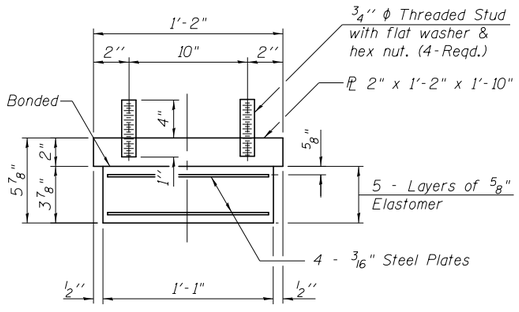


SECTION A-A

* 5/8" Shim PL required at Beam 10 bearings. Provide 1/8" adjusting shims as necessary at other locations.

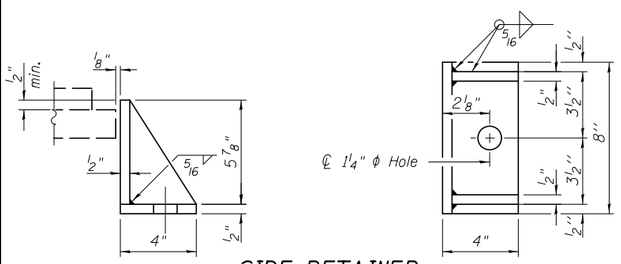
℄ 1" ϕ x 12" Anchor bolts (ASTM F1554 Grade 36) with 2 1/4" x 2 1/4" x 5/16" PL washer under nut

TYPE I ELASTOMERIC EXP. BRG.
(11 Required)



BEARING ASSEMBLY

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



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

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

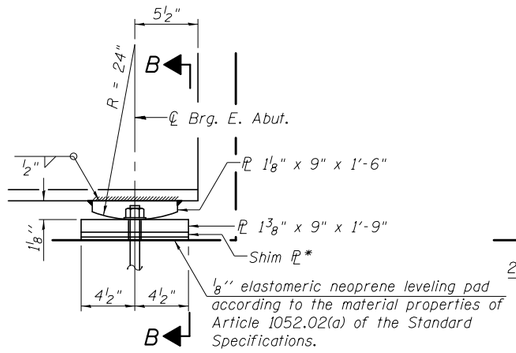
All bearing assembly plates and pintles shall be AASHTO M270 Grade 50 steel.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

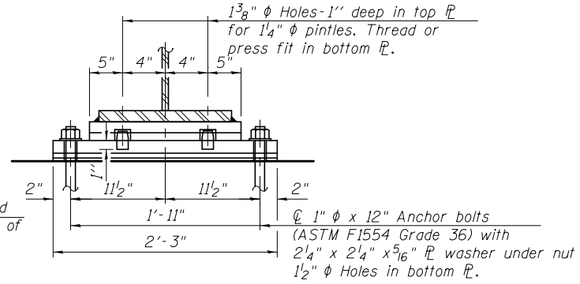
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Furnishing Elastomeric Bearing Assembly, Type I.

Furnishing of the fixed bearing assemblies, including shim plates and neoprene pads, shall be included in the cost of Furnishing Structural Steel.

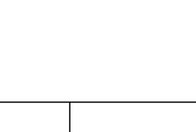


ELEVATION AT EAST ABUT.



SECTION B-B

FIXED BEARING
(11 Required)



PINTLE

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly, Type I	Each	11
Anchor Bolts, 1"	Each	44

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		CHECKED - MRM	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - LAM	REVISED -
	PLOT DATE = 3/23/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-21 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	135
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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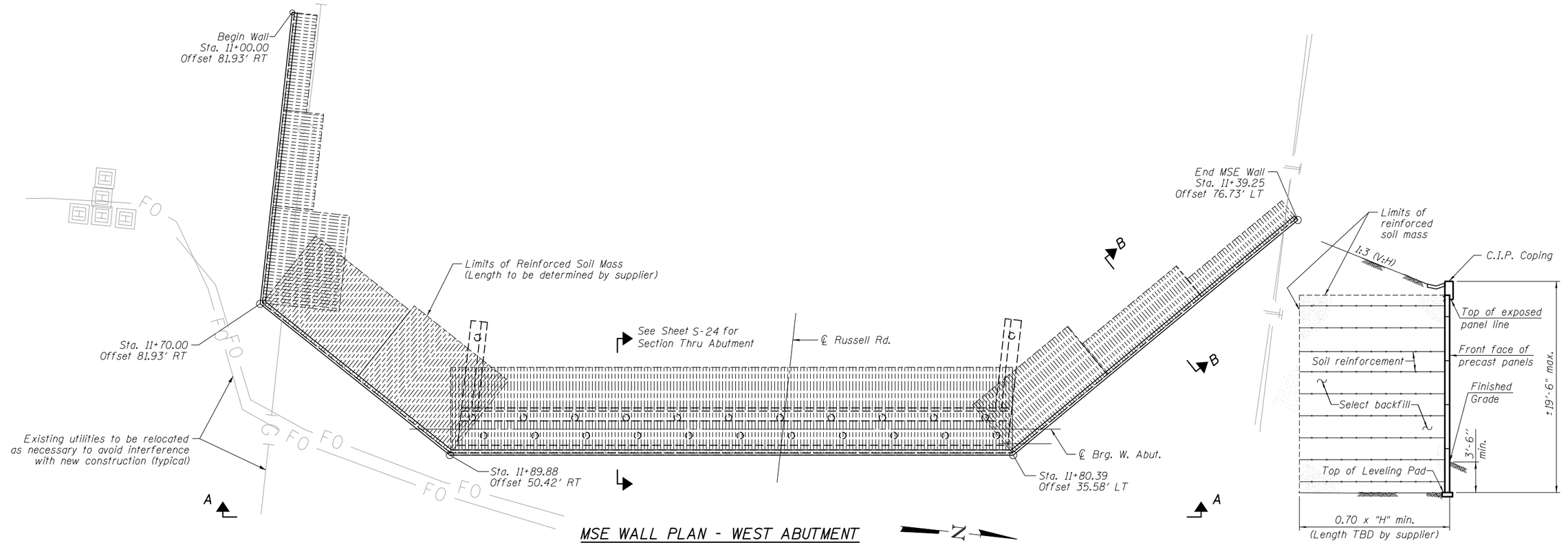
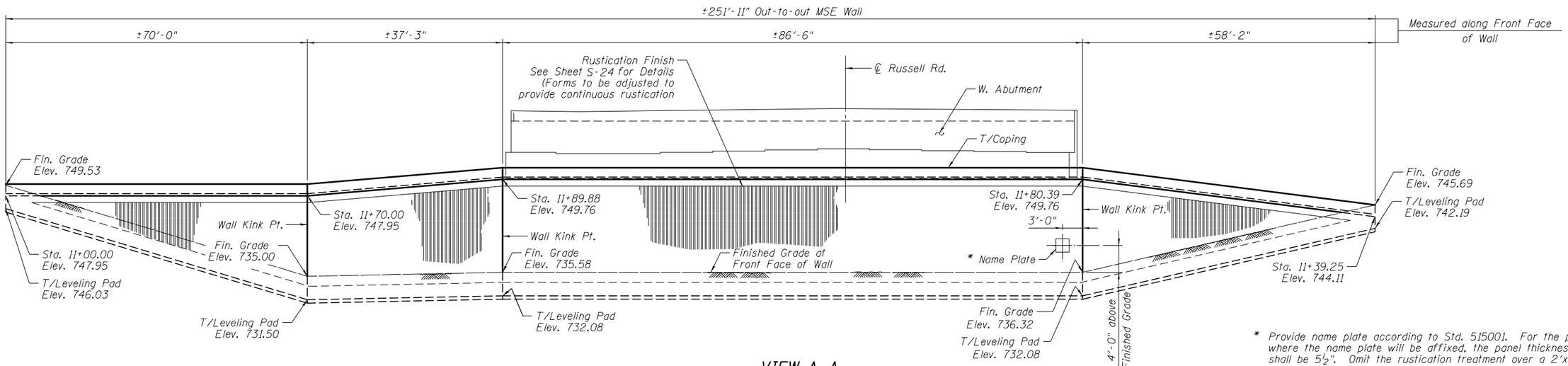


MSE WALL PLAN - WEST ABUTMENT

All offsets measured to MSE Wall Front Face, perpendicular to ℄ Russell Rd.

SECTION B-B



* Provide name plate according to Std. 515001. For the panel where the name plate will be affixed, the panel thickness shall be 5½". Omit the rustication treatment over a 2'x2' square where the name plate will be located. Cost included with Mechanically Stabilized Earth Retaining Wall.

VIEW A-A
MSE WALL ELEVATION - WEST ABUTMENT

(Looking West)

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		CHECKED - TL		REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR		REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL, WEST ABUTMENT
STRUCTURE NO. 049-0533
SHEET NO. S-22 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	136
		CONTRACT NO. 60L76		
S-22	S-33	ILLINOIS FED. AID PROJECT		

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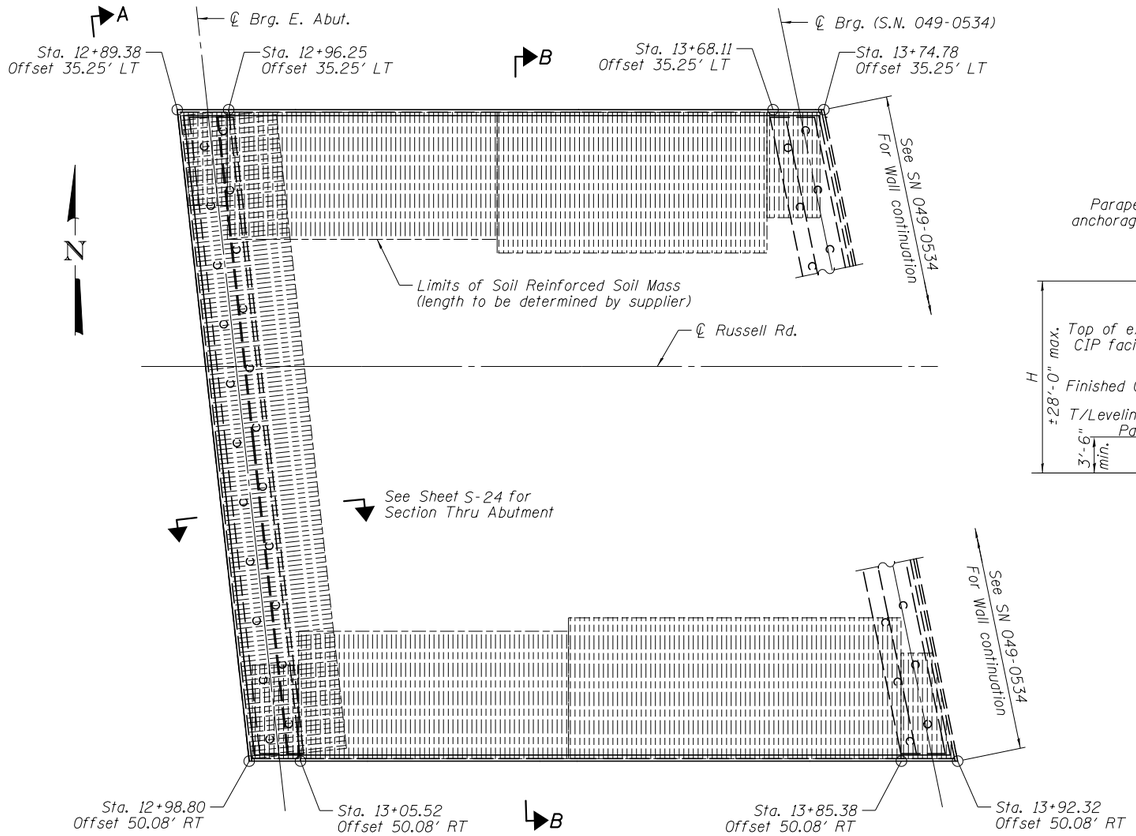
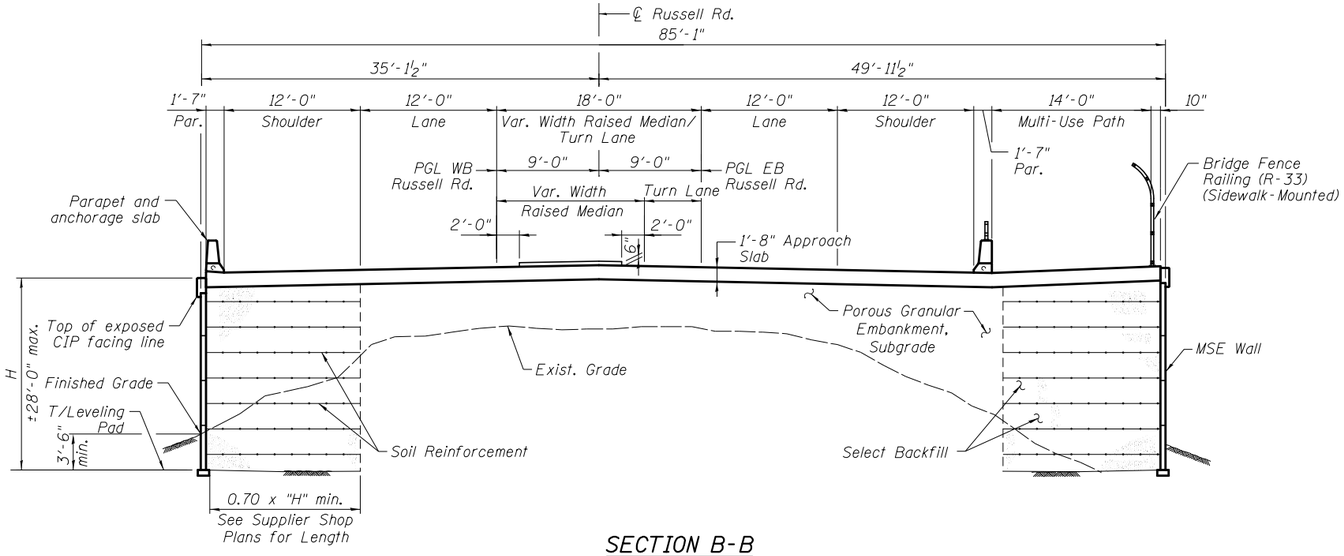
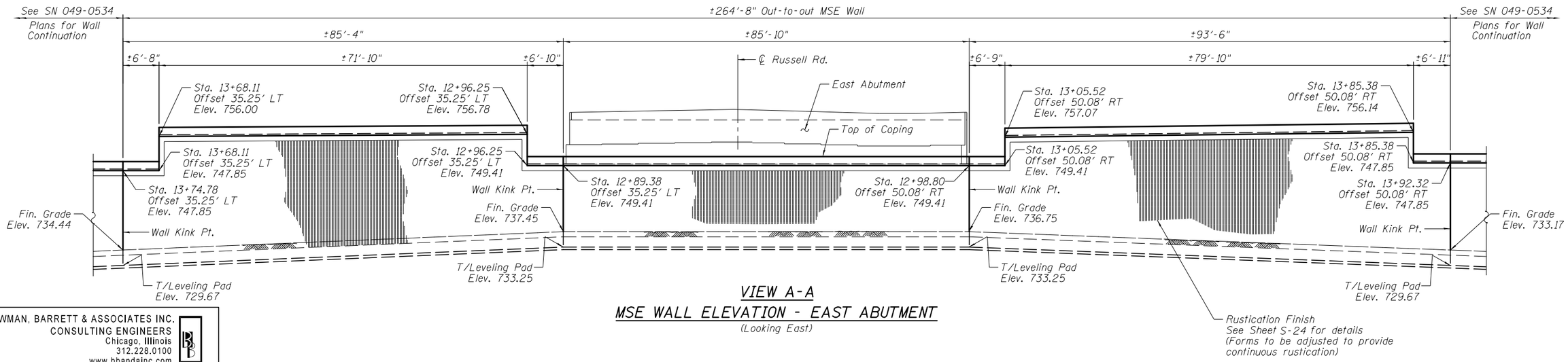


MSE WALL PLAN - EAST ABUTMENT

All offsets measured to MSE Wall Front Face,
perpendicular to ℄ Russell Rd.



SECTION B-B



VIEW A-A
MSE WALL ELEVATION - EAST ABUTMENT

(Looking East)

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	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALLS, EAST ABUTMENT
STRUCTURE NO. 049-0533
SHEET NO. S-23 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	137
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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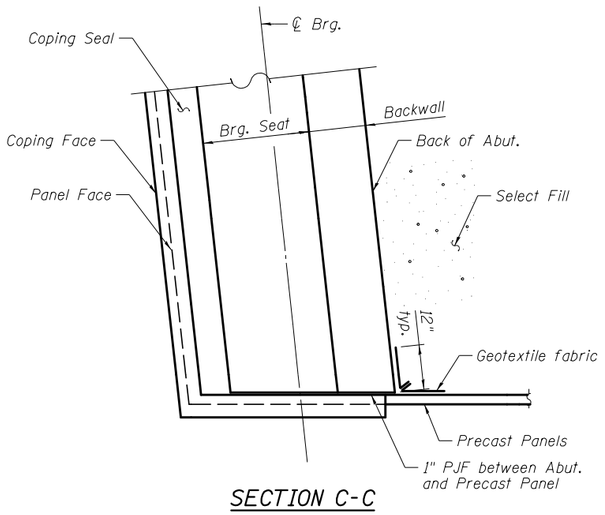
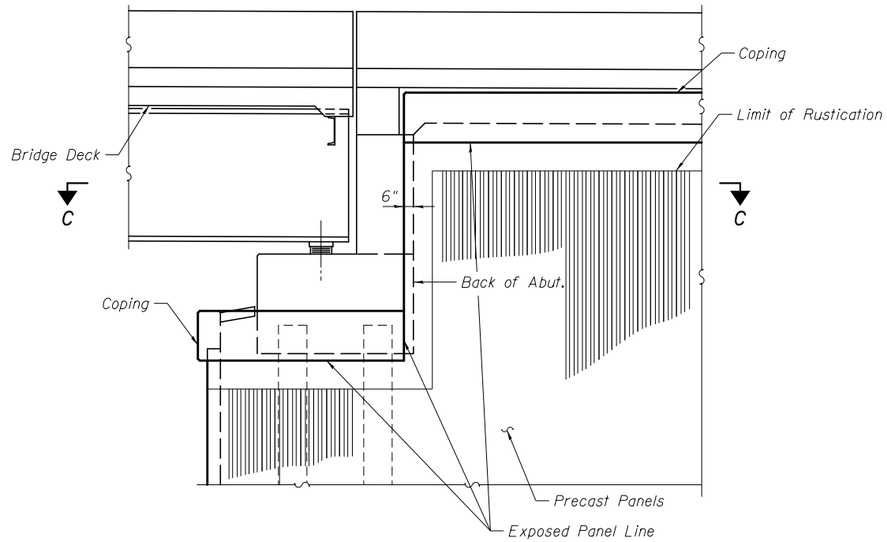
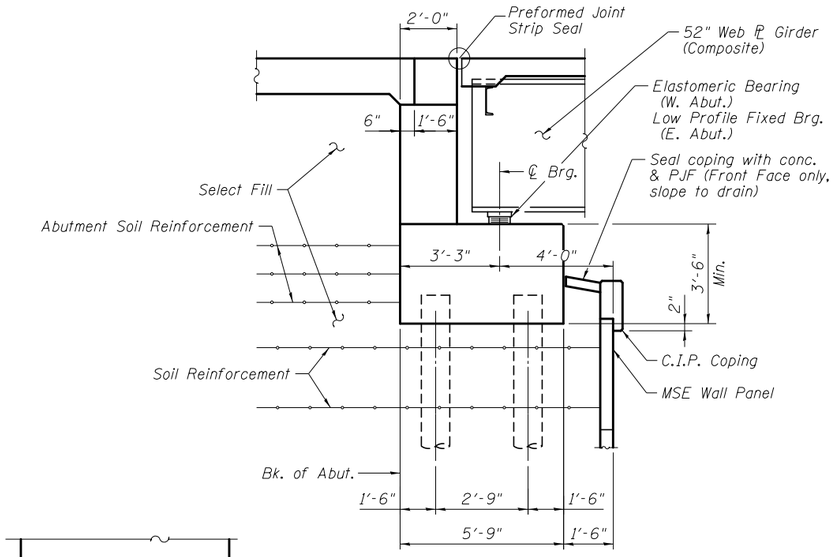


SECTION C-C

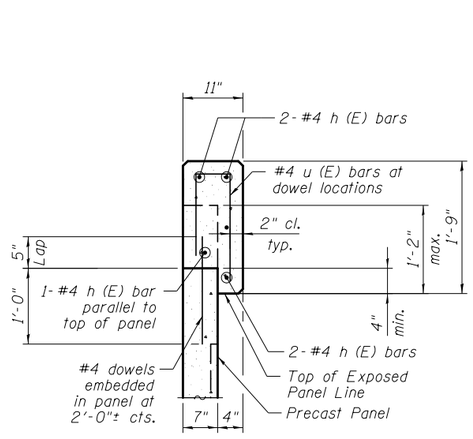


END VIEW OF EAST ABUTMENT

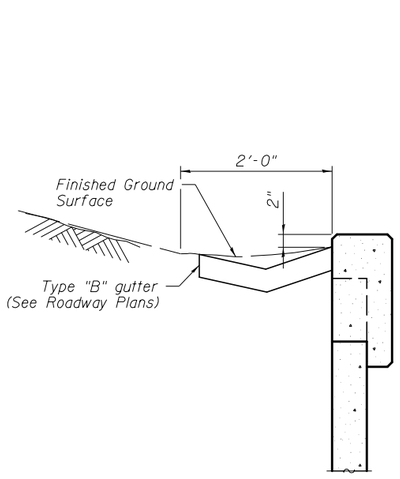


SECTION THRU ABUTMENT

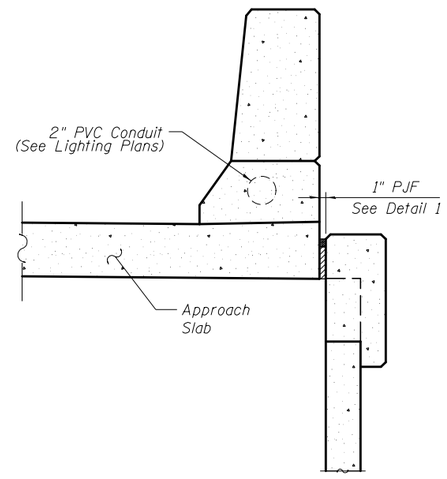
(Horizontal Dimensions @ Rt. L's)



TYPICAL

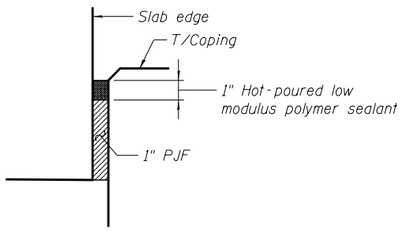


AT FLARED MSE WALLS

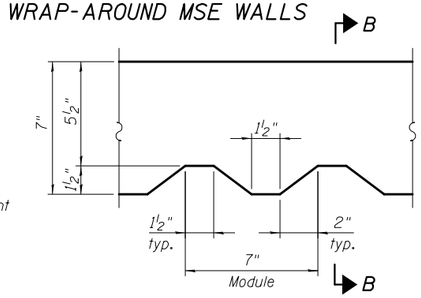


AT WRAP-AROUND MSE WALLS

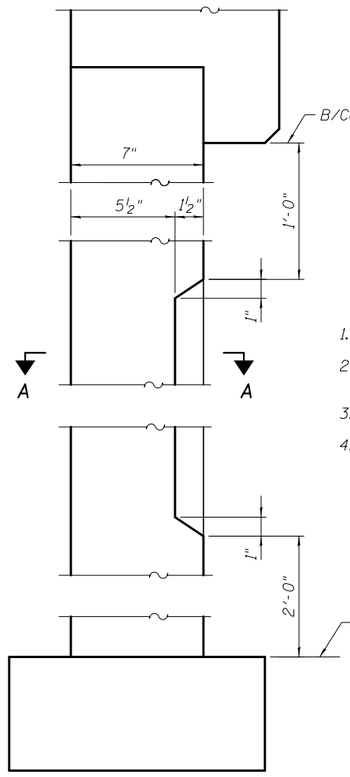
COPING DETAILS



DETAIL 1



SECTION A-A



SECTION B-B

RUSTICATION DETAILS

NOTES:

1. Offsets measured from ℄ of Russell Rd.
2. MSE Wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 2.0 kip/ft of abutment.
3. Allowable Soil Bearing Capacity for the MSE Wall = 4.0 Ksf.
4. No precoring required at the abutments. Piles shall be driven prior to placement of the reinforced select backfill. After driving piles, the piles should be coated with coal tar epoxy from the bottom of the select fill to 1 inch above the base of the abutments. The cost of coal tar epoxy coating shall be included with the cost of Furnishing Steel Piles HP

BILL OF MATERIAL

Item	Unit	Quantity
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	9,009
Structure Excavation	Cu. Yd.	2,159

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	PLOT DATE = 3/23/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-24 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	138
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

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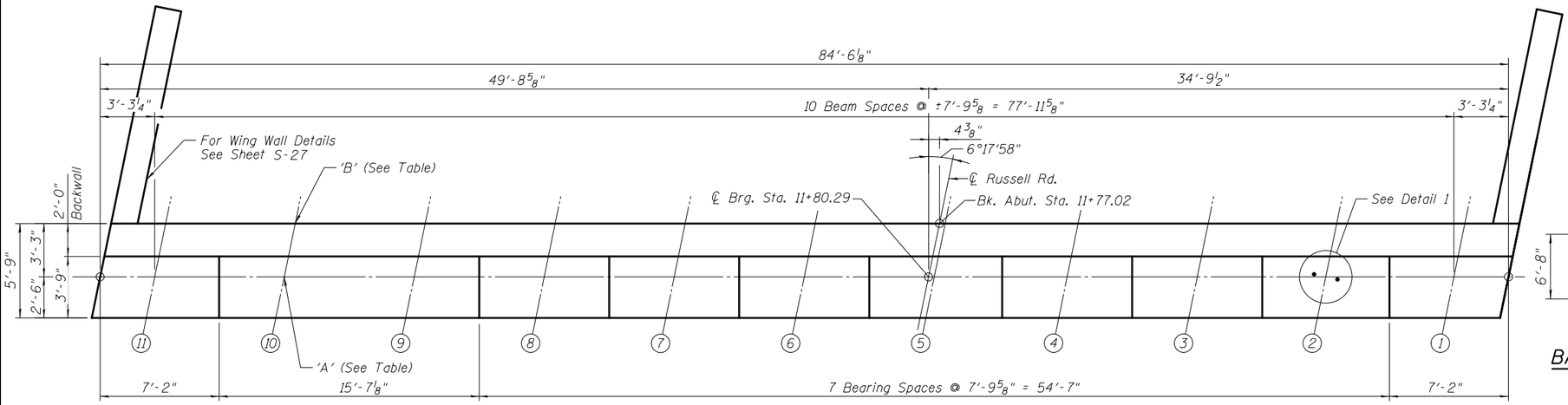
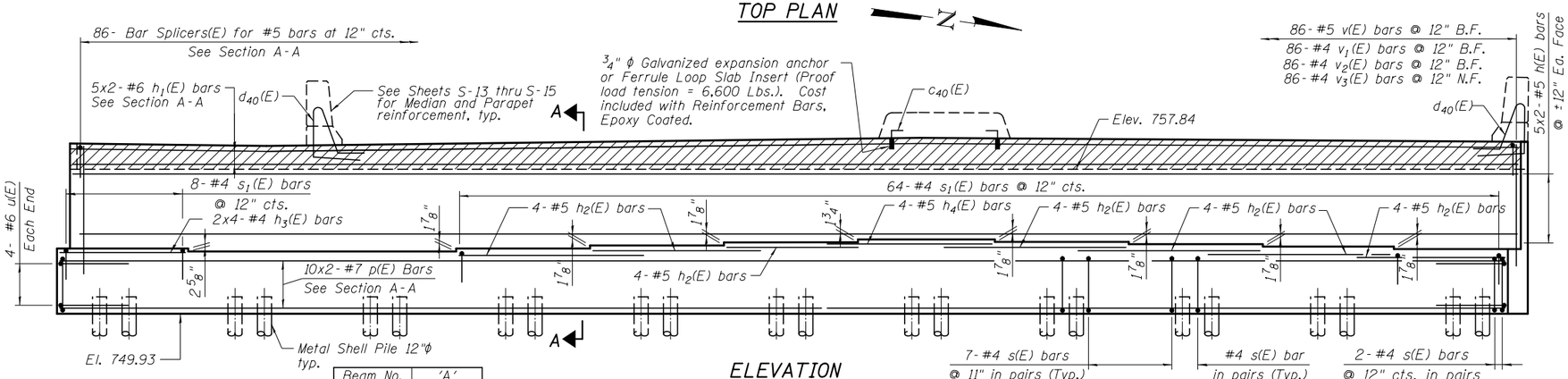


TOP PLAN

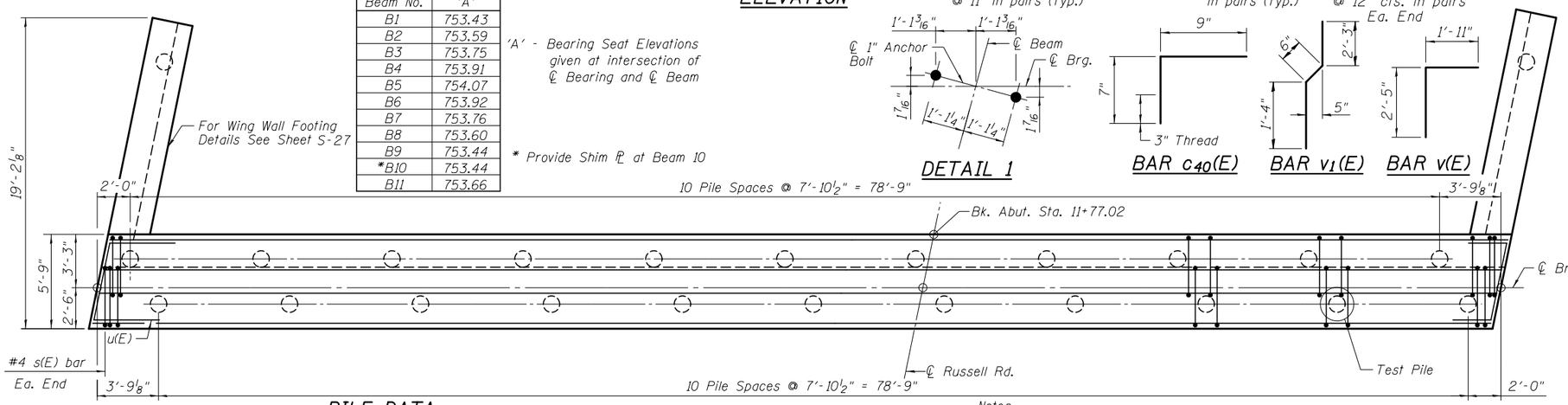


ELEVATION

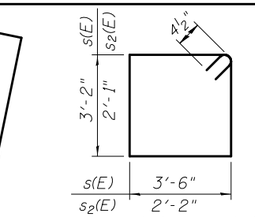
Beam No.	'A'
B1	753.43
B2	753.59
B3	753.75
B4	753.91
B5	754.07
B6	753.92
B7	753.76
B8	753.60
B9	753.44
*B10	753.44
B11	753.66

'A' - Bearing Seat Elevations given at intersection of ℄ Bearing and ℄ Beam

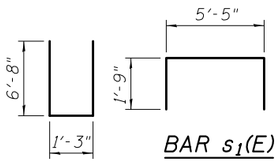
* Provide Shim ℄ at Beam 10



FOOTING PLAN

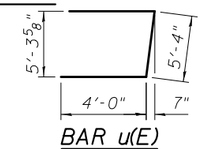


BARS s(E) & s2(E)

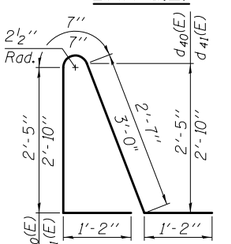


BAR s1(E)

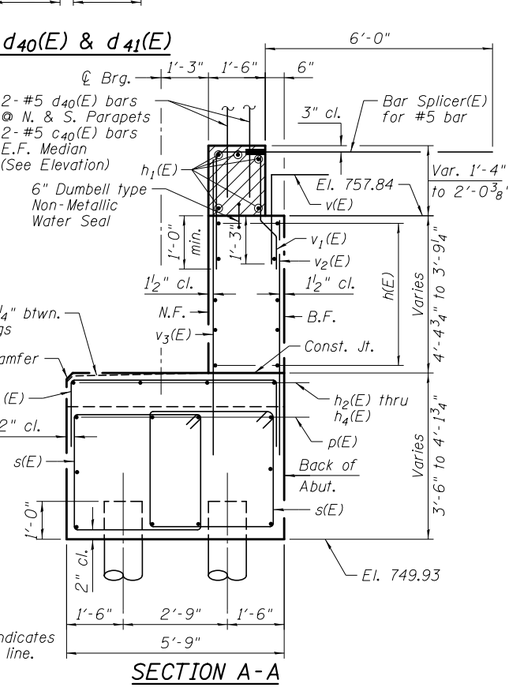
BAR n(E)



BAR u(E)



BAR d40(E) & d41(E)



BAR c40(E)

BAR v1(E)

BAR v(E)

DETAIL 1

PILE DATA

Type: Metal Shell Pile-12" ϕ w/ 0.250" walls
Nominal Required Bearing: 290 Kips
Factored Resistance Available: 160 Kips
Est. Length: 58'
No. Production Piles: 23
No. Test Piles: 1

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure, Sht. S-12 of S-33.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

N.F. - denotes Near Face
B.F. - denotes Back Face

Bars indicated thus 2x4-#6 etc. indicates 2 lines of bars with 4 lengths per line.

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$c_{40}(E)$	4	#5	1'-4"	
$d_{40}(E)$	4	#5	7'-11"	
h(E)	20	#5	43'-8"	
$h_1(E)$	10	#6	43'-11"	
$h_2(E)$	28	#5	11'-0"	
$h_3(E)$	8	#5	5'-6"	
$h_4(E)$	4	#5	7'-6"	
$h_5(E)$	28	#4	15'-0"	
n(E)	28	#6	14'-7"	
p(E)	20	#7	44'-7"	
$p_1E)$	12	#7	17'-0"	
s(E)	172	#4	14'-1"	
$s_1(E)$	72	#4	8'-11"	
$s_2(E)$	28	#4	9'-3"	
u(E)	8	#6	13'-4"	
v(E)	86	#5	4'-4"	
$v_1(E)$	86	#4	4'-3"	
$v_2(E)$	86	#4	4'-10"	
$v_3(E)$	86	#4	6'-6"	
Concrete Structures		Cu. Yd.	108.9	
Reinforcement Bars, Epoxy Coated		Pound	8,810	
Furnishing Metal Shell Piles 12"x 0.250"		Foot	1,334	
Driving Piles		Foot	1,334	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	23	
Concrete Sealer		Sq. Ft.	795	

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		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - MRM	REVISED -

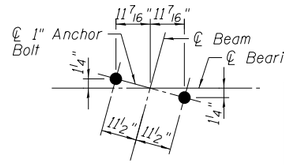
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 049-0533
SHEET NO. S-25 OF S-33 SHEETS

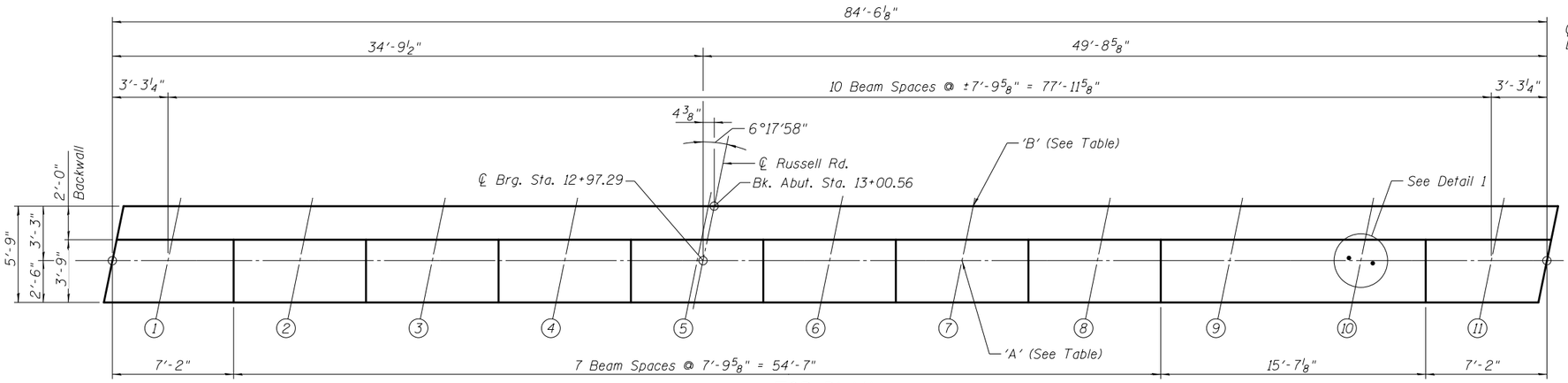
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	139
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

EAST ABUTMENT BILL OF MATERIAL

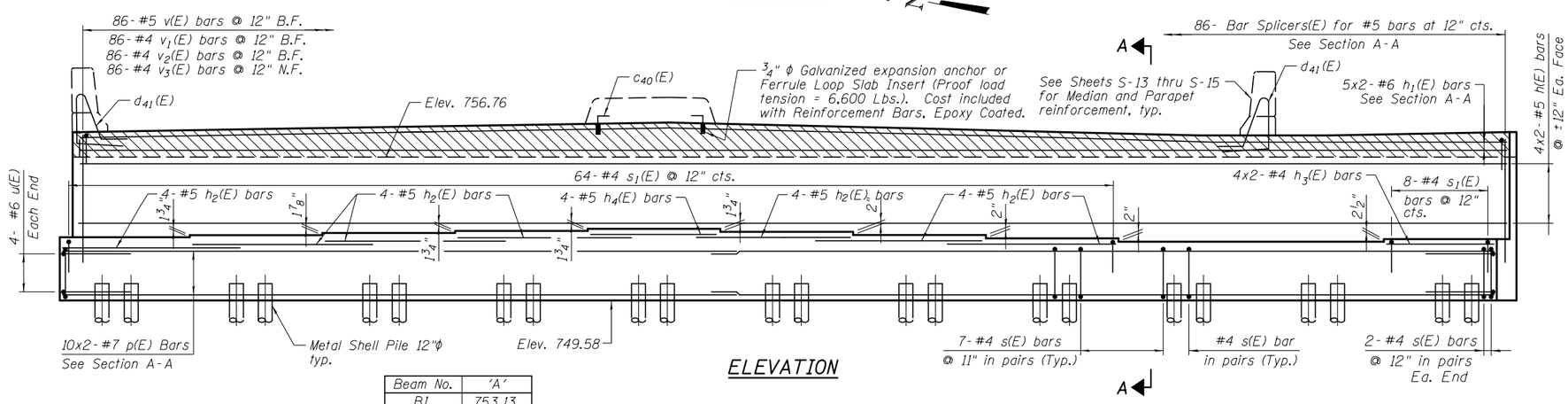
Bar	No.	Size	Length	Shape
$c_{40}(E)$	4	#5	1'-4"	
$d_{41}(E)$	4	#5	8'-9"	
$h(E)$	16	#5	43'-8"	
$h_1(E)$	10	#6	43'-11"	
$h_2(E)$	28	#5	11'-0"	
$h_3(E)$	8	#5	5'-0"	
$h_4(E)$	4	#5	7'-6"	
$p(E)$	20	#7	44'-7"	
$s(E)$	172	#4	14'-1"	
$s_1(E)$	72	#4	8'-11"	
$u(E)$	8	#6	13'-4"	
$v(E)$	86	#5	4'-4"	
$v_1(E)$	86	#4	4'-3"	
$v_2(E)$	86	#4	4'-10"	
$v_3(E)$	86	#4	6'-6"	
Concrete Structures			Cu. Yd.	89.4
Reinforcement Bars, Epoxy Coated			Pound	7,150
Furnishing Metal Shell Piles 12"x 0.250"			Foot	1,155
Driving Piles			Foot	1,155
Test Pile Metal Shells			Each	1
Pile Shoes			Each	21
Concrete Sealer			Sq. Ft.	733



DETAIL 1



TOP PLAN



ELEVATION

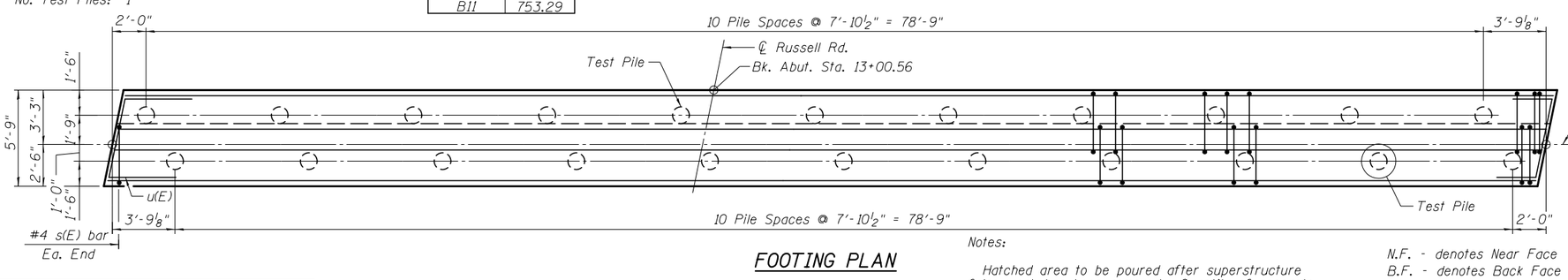
Beam No.	'A'
B1	753.13
B2	753.28
B3	753.44
B4	753.59
B5	753.74
B6	753.59
B7	753.42
B8	753.25
B9	753.08
*B10	753.08
B11	753.29

'A' - Bearing Seat Elevations given at intersection ℄ Bearing and ℄ Beam

* Provide Shim ℄ at Beam 10

PILE DATA

Type: Metal Shell Pile-12" ϕ w/ 0.250" walls
Nominal Required Bearing: 290 Kips
Factored Resistance Available: 160 Kips
Est. Length: 55'
No. Production Piles: 21
No. Test Piles: 1



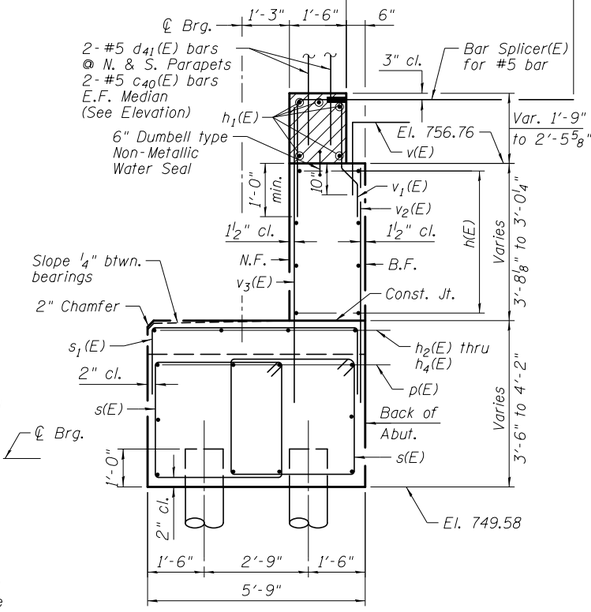
FOOTING PLAN

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure, Sht. S-12 of S-33.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.



SECTION A-A

N.F. - denotes Near Face
B.F. - denotes Back Face

For Bar Bending Details, see Sheet S-25.

Bars indicated thus 2x4-#6 etc. indicates 2 lines of bars with 4 lengths per line.

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REVISED -

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EAST ABUTMENT
STRUCTURE NO. 049-0533
SHEET NO. S-26 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	140
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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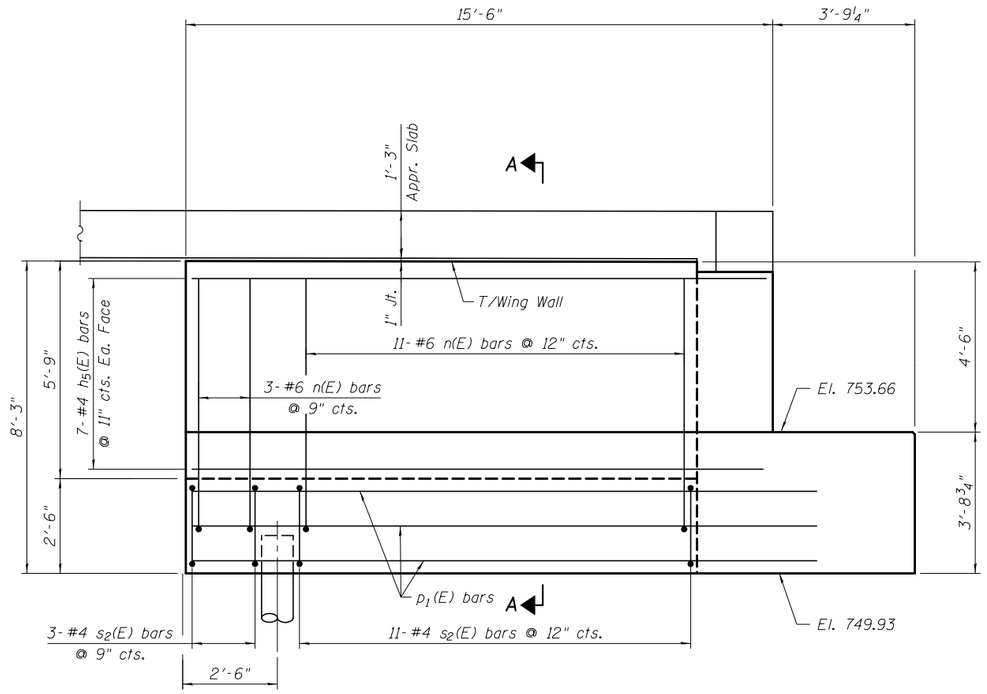
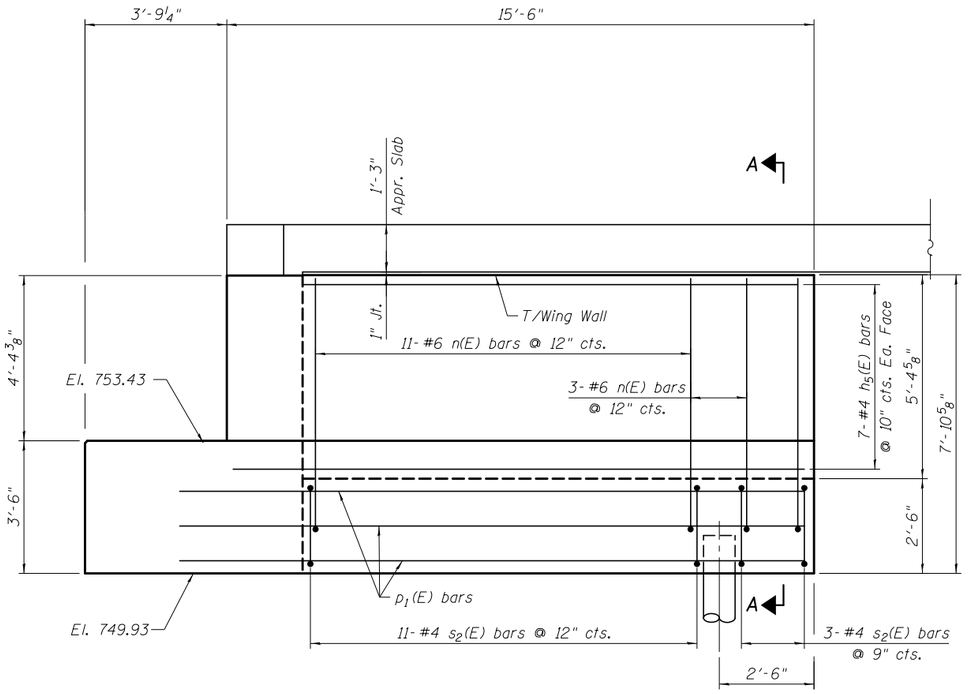
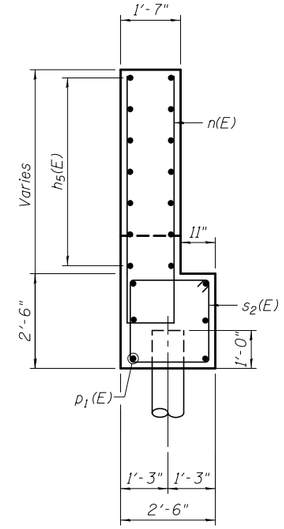


SOUTHWEST WINGWALL - ELEVATION



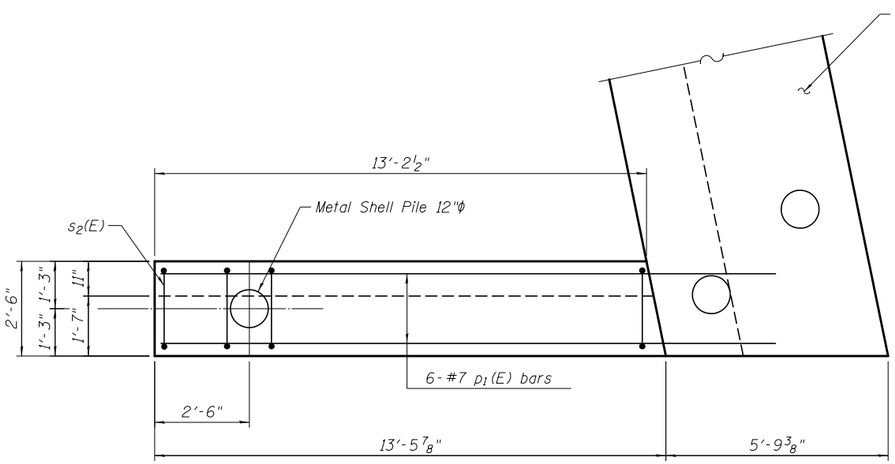
NORTHWEST WINGWALL - ELEVATION



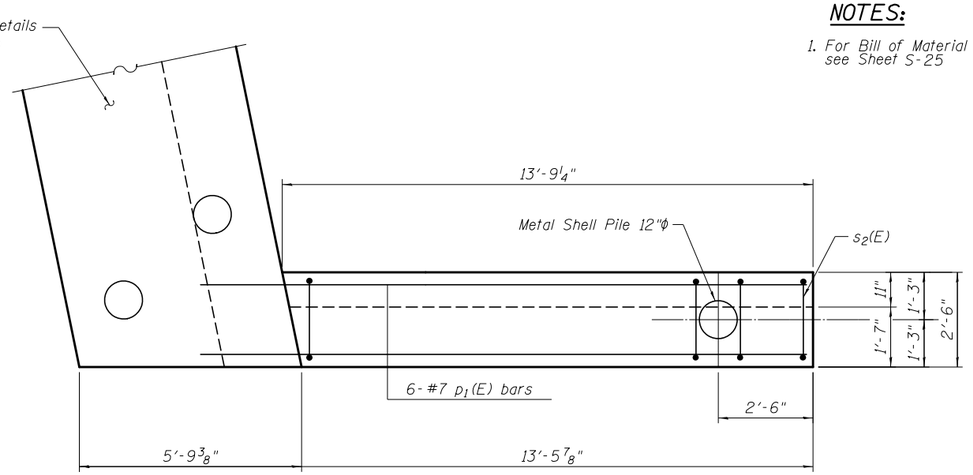
SECTION A-A

NOTES:

1. For Bill of Material and Bar Bending Details see Sheet S-25



SOUTHWEST WINGWALL - PLAN



NORTHWEST WINGWALL - PLAN

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FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - MRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-27 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	141
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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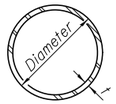
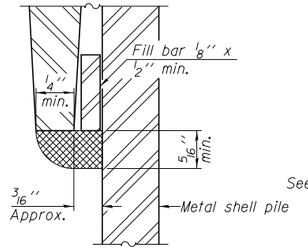
S:\IDOT\05_CADD\60L76 Russell Rdwy\60L76 Sheets\0490533-60L76-028-AD.dgn

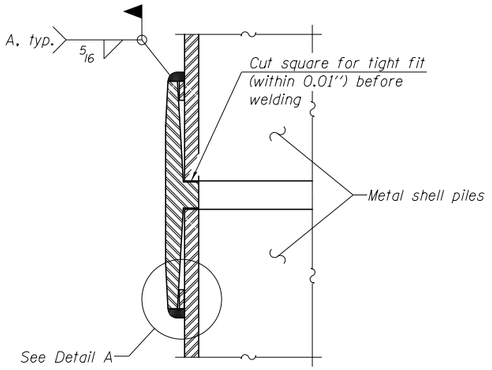


METAL SHELL PILE TABLE

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

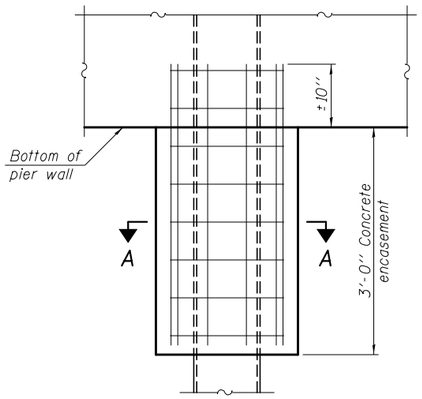


DETAIL A

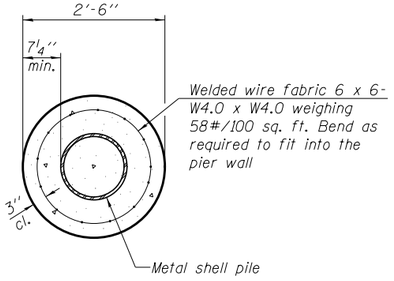


Notes:
The 1/8'' x 1/2'' min. fill bar may be constructed of 2 bars with a 1/8'' max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



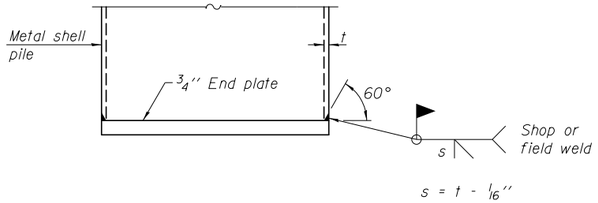
ELEVATION



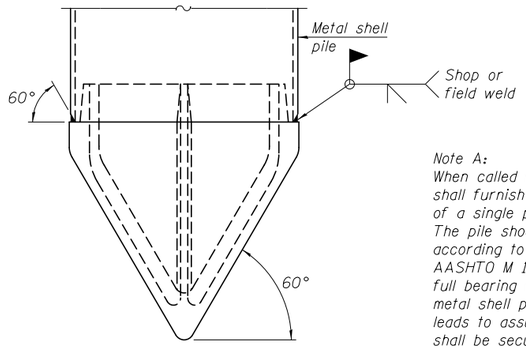
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



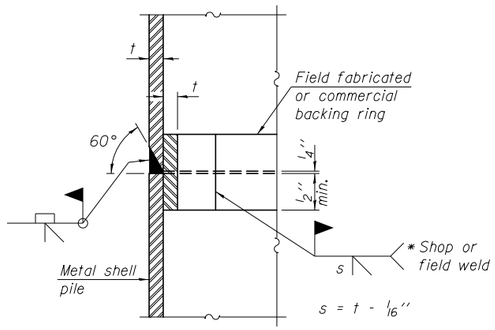
END PLATE ATTACHMENT



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.

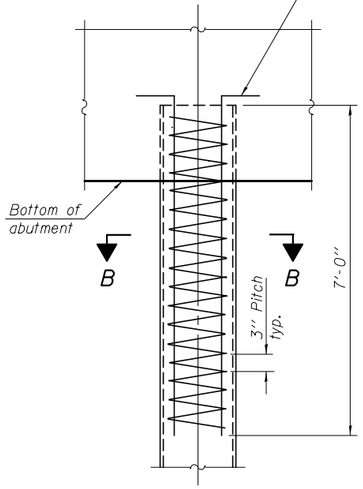
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

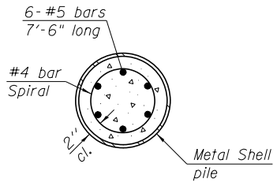


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

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F-MS 7-1-10

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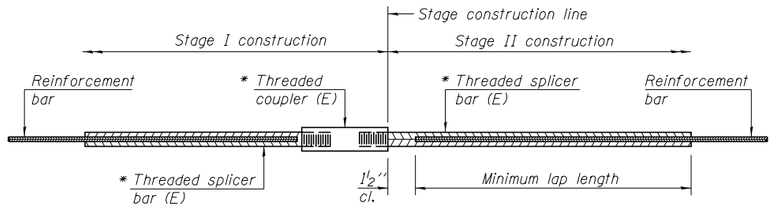
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-28 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	142
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

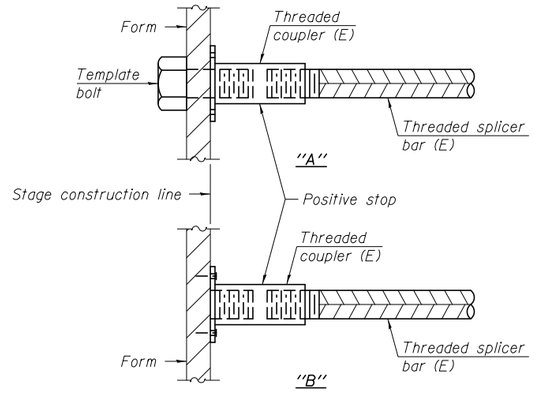
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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

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

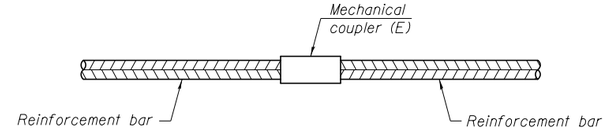
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



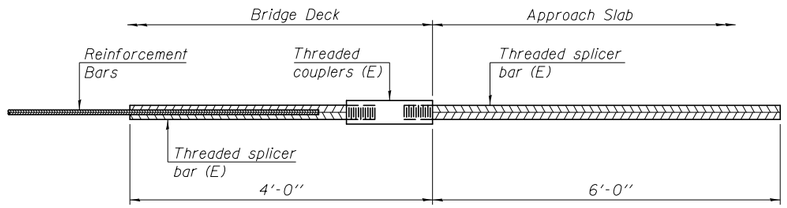
INSTALLATION AND SETTING METHODS

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



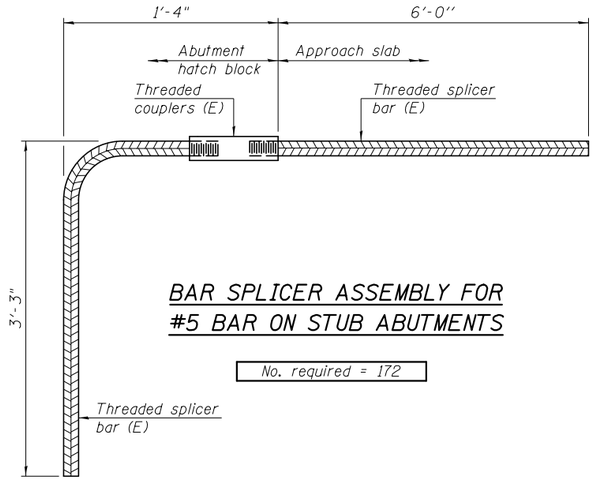
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 172

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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BSD-1 7-1-10

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	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 049-0533
SHEET NO. S-29 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	143
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

SOIL BORING LOG

PAGE 1 of 3
DATE 6/23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-01
Station 10+64
Offset 12' Left
Ground Surface Elev. 755.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				9.5" ASPHALT 754.7
	3		96	
	4			
−5	5	2.6B	18	CLAY LOAM-brown & gray-stiff to hard (A-6) Fill
	3		119	
	5			Bott. W. Abut. El. 749.93
−5	5	6.1B	16	
				CLAY LOAM-brown & gray-stiff to hard (A-6) Fill
	5		111	
	9			
	9	3.0B	17	
	3		96	
	5			
−10	6	3.1B	25	CLAY-brown & gray-very stiff to hard (A-6)
	4		98	
	6			
	8	1.3B	24	
	3		102	
	4			
−15	5	2.75B	24	
	3		106	
	3			
	4	1.9B	22	
	2		105	
	3			
−20	3	1.0B	23	CLAY-gray-stiff to hard (A-6)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	5		110	
	7			
−25	10	2.1B	20	
	10		109	
	8			
	8	2.6B	20	
730.0				
	4		121	
	9			
	12	7.1B	14	
	8		119	
	13			
−30	20	5.8B	16	
	8		119	
	12			
−35	16	2.5P	18	
	8			
	12			
−35	16	2.5P	18	
	3		105	
716.5				
	6			
−40	12	5.3B	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

SOIL BORING LOG

PAGE 2 of 3
DATE 6/23/2011
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GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-01
Station 10+64
Offset 12' Left
Ground Surface Elev. 755.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	5		121	
	7			
−45	9	1.4B	15	
				CLAY-gray-stiff to hard (A-6)
	4		119	
	5			
−50	10	3.9B	15	
	5		119	
	8			
−55	11	3.9B	16	
	3		107	
	5			
−60	7	1.8B	21	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3		110	
	4			
−65	6	1.9B	20	
				CLAY-gray-stiff to hard (A-6)
	2		101	
	3			
−70	6	1.4B	25	
	2		102	
	3			
−75	4	1.0B	24	
	3		106	
	6			
−80	8	2.0B	22	

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

SOIL BORING LOG

PAGE 3 of 3
DATE 6/23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-01
Station 10+64
Offset 12' Left
Ground Surface Elev. 755.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3		107	
	4			
−85	7	2.3B	22	
				CLAY-gray-stiff to hard (A-6)
	4		106	
	6			
−90	8	1.6B	22	
	4		108	
	6			
−95	7	1.7B	21	
	5		111	
	8			
655.5 −100	11	2.7B	19	

End Of Boring @ −100.0
Hollow Stem Augers To −10.0'
Rotary Drilling To Completion
10.0' Of 4.0"ø Casing Used
CME Automatic Hammer

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

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	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
STRUCTURE NO. 049-0533
SHEET NO. S-30 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	144
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 3
DATE 6/22-23/2011
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GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				13.5" CONCRETE
750.1				
	14			Bott. E. Abut. El. 749.58
	16			
	13	NP	5	SAND & GRAVEL-brown-medium dense (Fill)
	8			
	7			
-5	7	NP	4	
745.7				
	5			
	5			
	7	2.5P	15	
	3		*110*	
	6			
-10	6	2.4B	20	CLAY LOAM-brown & gray-stiff to very stiff (A-6) Fill
	3		*113*	
	3			
	3	2.25B	18	
	5		*112*	
	7			
-15	9	1.9B	19	
	5			
	5			
	5	2.5P	26	
	3			
	4			
-20	7	2.0P	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7			
	15			
	20	2.5P	19	CLAY LOAM-brown & gray-stiff to very stiff (A-6) Fill
	5			
	7			
-25	14	2.0P	29	
725.7				
	10		*121*	
	17			
	22	5.4B	15	CLAY-brown & gray-hard (A-6)
	12			
	19			
-30	26	4.5P	16	
719.2				
				CLAY-gray-stiff to very stiff (A-6)
	5		*109*	
	7			
-35	11	3.4B	20	
	4		*121*	
	6			
-40	8	1.3B	15	

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

SOIL BORING LOG

PAGE 2 of 3
DATE 6/22-23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	8		*115*	
	10			
-45	12	1.6B	17	CLAY-gray-stiff to very stiff (A-6)
	4		*116*	
	6			
-50	8	1.8B	17	
	3		*100*	
	5			
-55	6	1.7B	25	
	4		*104*	
	6			
-60	6	1.4B	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7		*123*	
	7			
-65	11	1.8B	14	CLAY-gray-stiff to very stiff (A-6)
	4			
	4			
-70	6	-	26	
	5		*107*	
	7			
-75	7	2.9B	21	
	4		*109*	
	4			
-80	6	3.1B	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

SOIL BORING LOG

PAGE 3 of 3
DATE 6/22-23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray-stiff to very stiff (A-6)
	4		*101*	
	5			
-85	6	1.0B	22	
664.2				
	8		*94*	
	10			
-90	12	1.4B	29	
				CLAY-gray-stiff (A-6/A-7) Wet
	3		*87*	
	4			
-95	5	1.0B	35	
	4		*91*	
	4			
-100	5	1.0B	31	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
-105				
-110				
-115				
-120				

End Of Boring @ -100.0
Hollow Stem Augers To -10.0'
Rotary Drilling To Completion
10.0' Of 4.0"ø Casing Used
CME Automatic Hammer

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

BOWMAN, BARRETT & ASSOCIATES INC.
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Chicago, Illinois
312.228.0100
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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
STRUCTURE NO. 049-0533
SHEET NO. S-31 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	145
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE 6/24/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199
SECTION 49-1(HB&HB-1)R
COUNTY Lake
DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-04
Station 12+15
Offset 66' Right
Ground Surface Elev. 732.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
730.9			
15.0" TOPSOIL-black	AS	–	22
	2		*88*
SILTY CLAY-dark brown-stiff (A-6) Wet	2		
	4	1.0B	26
729.2			
	3		*112*
	4		
–5	6	3.4B	17
CLAY-brown & gray-very stiff to hard (A-6)	4		*113*
	9		
	11	6.3B	16
	4		*117*
	9		
–10	17	7.2B	14
721.7			
	5		*110*
	8		
	10	4.1B	20
CLAY-gray-stiff to hard (A-6)	3		*122*
	5		
–15	7	2.8B	14
	4		*116*
	6		
	7	2.25B	17
	2		*118*
	3		
–20	4	1.1B	16

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to hard (A-6) 711.7			
SILTY LOAM-gray-medium dense (A-4)	2		
	3		
	7	NP	21
709.2			
	3		*116*
	5		
–25	6	2.25B	17
	5		*107*
	7		
	9	1.0B	17
CLAY-gray-stiff (A-6)	3		*115*
	5		
–30	5	1.5B	17
	5		*115*
	7		
	9	1.5B	17
	3		*116*
	5		
–35	5	1.0B	17
	2		*116*
	3		
–40	3	1.1B	25

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

SOIL BORING LOG

PAGE 2 of 2
DATE 6/24/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199
SECTION 49-1(HB&HB-1)R
COUNTY Lake
DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-04
Station 12+15
Offset 66' Right
Ground Surface Elev. 732.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff (A-6)			
	3		*106*
	5		
–45	5	1.4B	22
685.2			
	2		*96*
	3		
–50	4	1.3B	28
CLAY-gray-stiff (A-6/A-7) Wet	2		*105*
	4		
–55	5	1.2B	23
	4		*101*
	5		
–60	6	1.9B	25

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff (A-6/A-7) Wet			
	3		
	5		
–65	6	–	31
665.2			
CLAY-gray-stiff to very stiff (A-6)	3		
	6		
–70	8	1.1B	18
	4		*108*
	7		
–75	10	2.25B	21
	4		*109*
	6		
–80	8	2.3B	20
End Of Boring @ –80.0			
Hollow Stem Augers To –10.0'			
Rotary Drilling To Completion			
10.0' Of 4.0"ø Casing Used			
CME Automatic Hammer 652.2			

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

SOIL BORING LOG

PAGE 1 of 1
DATE 7/8/2011
LOGGED BY RJ
GSI JOB No. 10193

ROUTE FAI 94
SECTION 49-1(HB&HB-1)R
COUNTY Lake
DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078 & 049-0089
Station 12+63
BORING NO. SB-04A
Station 11+80
Offset 66' Right
Ground Surface Elev. 734.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
734.3			
4.0" TOPSOIL-black	AS	–	18
CLAY LOAM-brown-stiff (A-6) Fill			
	AS	1.5P	16
–5	AS	4.5P	15
CLAY LOAM-brown & gray-very stiff to hard (A-6)			
	AS	2.5P	15
725.7	AS	2.5P	22
Auger Refusal @ –9.0'			
End Of Boring			
Hand Auger			
–10			
–15			
–20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
–25			
–30			
–35			
–40			

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

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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
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	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLI BORING LOGS III
STRUCTURE NO. 049-0533
SHEET NO. S-32 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	146
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 2
DATE 6/27/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-05
Station 12+89
Offset 51' Right
Ground Surface Elev. 733.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 725.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)	Material
732.4				12.0" TOPSOIL-block
	AS	–	15	
	2		106	
	4			
	4	1.7B	19	CLAY-brown & gray-stiff (A-6) Fill
	5	1.9S@		
–5	5	12.7%	19	
725.4				SILTY CLAY-brown & gray-medium stiff (A-6)
–10	2	0.75P	23	
722.9				CLAY LOAM-brown-stiff to very stiff (A-6)
	5		114	
	6			
	11	2.7B	16	
	7		114	
	7			
–15	9	2.6B	15	
715.4				CLAY-gray-stiff to hard (A-6)
	9		113	
	16			
	18	1.8B	18	
	6		115	
	9			
–20	12	5.7B	16	
	7		109	
	10			
	17	4.0B	19	CLAY-gray-stiff to hard (A-6)
	4		117	
	6			
–25	9	1.6B	15	
707.9				CLAY-gray-stiff (A-6/A-7) Wet
	3		93	
	5			
	7	1.7B	30	
705.4				CLAY-gray-stiff (A-6)
	5		115	
	5			
–30	9	1.5B	15	
	5		111	
	8			
	13	2.1B	16	
	3		114	
	5			
–35	7	1.0B	16	
	2		111	
	3			
–40	5	1.3B	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

SOIL BORING LOG

PAGE 2 of 2
DATE 6/27/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0089
Station 12+63
BORING NO. SB-05
Station 12+89
Offset 51' Right
Ground Surface Elev. 733.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 725.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)	Material
				CLAY-gray-stiff (A-6)
691.4				
	2		92	
	3			
–45	5	1.2B	30	CLAY-gray-stiff (A-6/A-7) Wet
	2		97	
	3			
–50	4	1.7B	27	
681.4				CLAY-gray-stiff to very stiff (A-6)
	2		103	
	3			
–55	5	1.6B	23	
	2		104	
	3			
–60	5	1.7B	23	
	3		105	
	4			
–65	5	2.1B	22	CLAY-gray-stiff to very stiff (A-6)
	4		105	
	6			
–70	6	1.5B	23	
	3		102	
	4			
–75	5	1.2B	21	
653.4				End Of Boring @ –80.0
	4		106	Hollow Stem Augers To –10.0'
	4			Rotary Drilling To Completion
–80	7	1.1B	22	10.0' Of 4.0"ø Casing Used
				CME Automatic Hammer

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

SOIL BORING LOG

PAGE 1 of 2
DATE 6/28/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-06
Station 14+24
Offset 52' Right
Ground Surface Elev. 729.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 724.7
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)	Material
728.9				10.0" ASPHALT
	3			
	4			
	4	NP	5	SAND-brown-very loose to loose (A-3) Apparent Fill
724.7	2			
–5	2	NP	7	
	6		112	
	10			
	13	7.3B	17	CLAY LOAM-brown & gray-hard (A-6)
	5		111	
	8			
–10	13	8.4B	18	
716.7				Sand seams from –13.5' to –15.0'.
	5		111	
	11			
	14	6.2B	18	
	5			
	13			
–15	11	–	17	CLAY-gray-stiff to very stiff (A-6)
	8			
	18			
	17	2.2SP	15	
	18		118	
	11			
–20	6	2.8B	14	
	5		115	
	7			
	10	1.8B	17	CLAY-gray-stiff to very stiff (A-6)
	3		114	
	3			
–25	7	1.7B	17	
	3		121	
	4			
	6	1.7B	12	
	5			
	6			
–30	6		NR	
697.7				CLAY-gray-medium stiff to stiff (A-6)
	3			
	4			
–35	5	0.75P	27	
	2		102	
	4			
–40	5	1.1B	24	

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

SOIL BORING LOG

PAGE 2 of 2
DATE 6/28/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-06
Station 14+24
Offset 52' Right
Ground Surface Elev. 729.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 724.7
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)	Material
				CLAY-gray-medium stiff to stiff (A-6)
667.7				
	2		100	
	3			
–45	5	1.7B	25	CLAY-gray-stiff (A-6/A-7) Wet
	3		97	
	4			
–50	6	1.7B	21	
662.7				CLAY-gray-medium stiff to stiff (A-6)
	2		105	
	3			
–55	7	1.0P	13	
	4		92	
	5			
–60	5	11.3%	23	
	4		105	
	6			
–65	4	1.25P	32	
	3		97	
	3			
–70	7	1.5B	22	CLAY LOAM-gray-stiff (A-6)
657.7				
	4		92	
	6			
–75	6	1.5B	29	CLAY-gray-stiff (A-6/A-7) Wet
	2		104	
	3			
–80	5	1.4B	27	
649.7				End Of Boring @ –80.0
	3		97	Hollow Stem Augers To –10.0'
	4			Rotary Drilling To Completion
–85	5	1.4B	27	10.0' Of 4.0"ø Casing Used
				CME Automatic Hammer

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

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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 1/27/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS IV
STRUCTURE NO. 049-0533
SHEET NO. S-33 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	147
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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1/27/2012 3:50:55 PM

Bench Mark: BM_RR_01: Square cut on light pole foundation at SW corner of Russell Rd. and I-94 NB exit Elev. 742.887.
BM_RR_02: Square cut on north curb Russell Rd. ± 90 ft west of I-94 SB exit Elev. 753.758.

Existing Structure : S.N. 049-0078 was built in 1959 with two lane roadway under FAI-94 Section 49-1 HB at Sta. 14+52.377. The existing structure has three simple spans, with a length of 151'-5¼" back-to-back of abutments, and a constant out-to-out width of 35'-2". The superstructure consists of a 9" thick reinforced concrete deck built composite with 42" deep PPC I-beams. The substructure consists of two stub abutments on concrete piles and two multi-column shoulder piers on spread footings.

The existing bridge is to be removed and replaced. Traffic shall be maintained using a detour.

No Salvage.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.074g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.117g
Soil Site Class = D

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

LOADING HL-93

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

DESIGN STRESSES

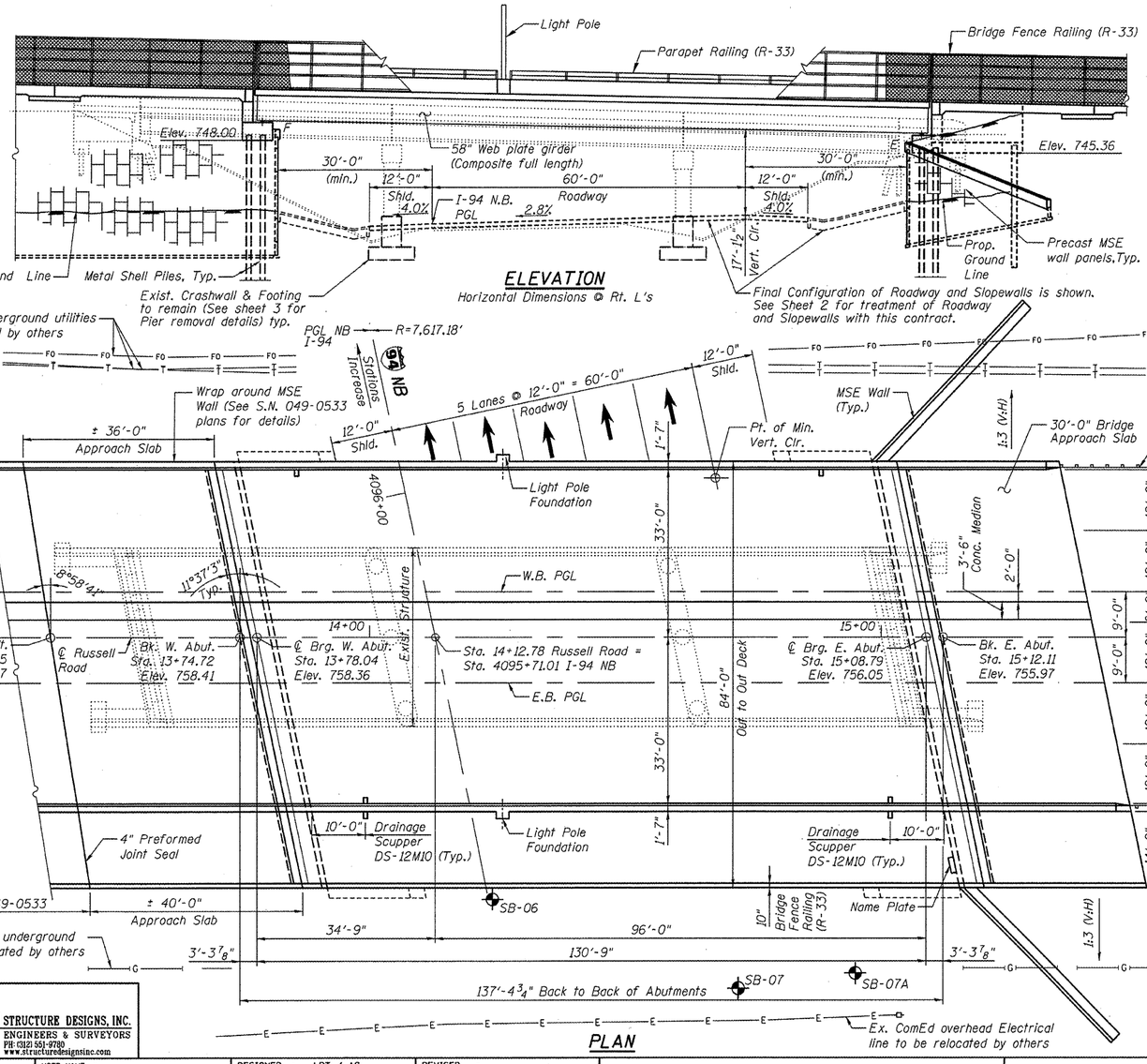
FIELD UNITS

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

CURVE DATA

(NB I-94)

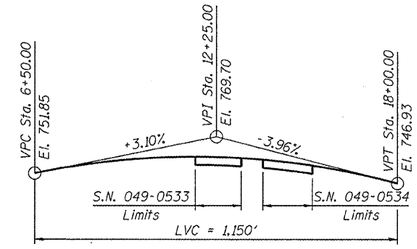
P.I. = Sta. 4094+52.48
Δ = 15° 57' 58" (LT)
D = 0° 45' 08"
R = 7,617.18'
L = 2,122.61'
T = 1,068.23'
E = 74.54'
e = 2.8%
P.C. STA. = 4083+84.25
P.T. STA. = 4105+06.86



ELEVATION

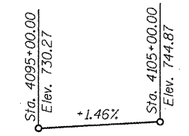
Horizontal Dimensions @ Rt. L's

PLAN



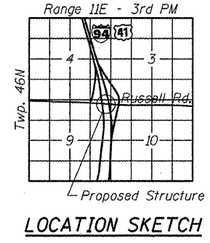
PROFILE GRADE

(Russell Rd.)



PROFILE GRADE

(Northbound I-94)



LOCATION SKETCH

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED:
DATE: December 13, 2011
EXPIRES: November 30, 2012
SHEETS: 3, 11-13 & 20-31

LICENSED STRUCTURAL ENGINEER
OLUFEMI A. OLADEINDE
081-005196
CHICAGO
STATE OF ILLINOIS

Signed: 01/16/2012
OLUFEMI A. OLADEINDE, P.E., S.E. Date
LICENSE EXPIRES 11-30-2012
SHEETS: 1, 2, 4-10 & 14-19

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STATION 14+12.78
BUILT 201_ BY
STATE OF ILLINOIS
FAU RTE. 1199
SEC. 49-1(HB & HB-1)R
LOADING HL-93
STR. NO. 049-0534

NAME PLATE

See Std. 515001

GENERAL PLAN & ELEVATION
RUSSELL ROAD OVER NORTHBOUND I-94
F.A.U. RTE. 1199 - SEC. 49-1(HB & HB-1)R
LAKE COUNTY
STATION 14+12.78
STRUCTURE NO. 049-0534

FILE NAME =	USER NAME =	DESIGNED - LRT / AG	REVISED -
		CHECKED - OAO / LRT	REVISED -
	PLOT SCALE =	DRAWN - TCS / AG	REVISED -
	PLOT DATE =	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	148
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

...\0490534-60L76-001-GPE.dgn 1/16/2012 3:59:42 PM

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^{3}/_{4}$ in. ϕ, holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.

2. Calculated weight of Structural Steel :
   AASHTO M 270, Grade 36 = 26,650 Lbs.
   AASHTO M 270, Grade 50 = 401,760 Lbs.

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

4. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

5. Reinforcement bars designated (E) shall be epoxy coated.

6. Concrete Sealer shall be applied to the designated areas of the exposed surfaces of backwalls, bridge seats, and front faces of pile caps.

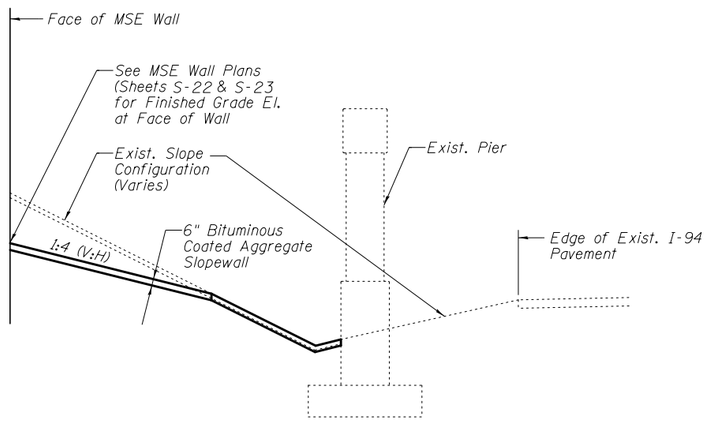
7. The Organic Zinc Rich Primer/Epoxy/Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surfaces and bottom of the bottom flange of the fascia beams, masked-off connection surfaces, and field-installed fasteners, all of which shall be touched up and finish-coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish-Brown, Munsell No. 2.5YR 3/4.

TOTAL BILL OF MATERIAL

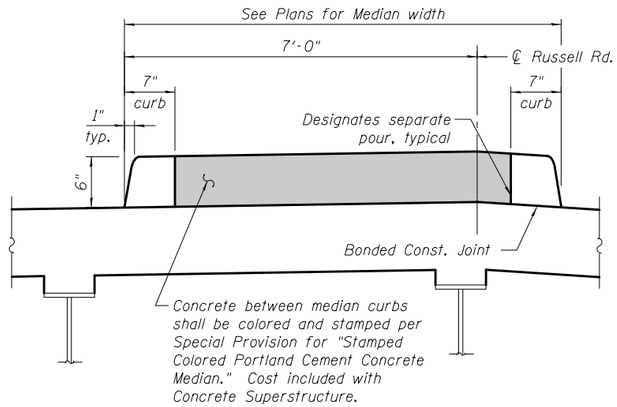
	ITEM	UNITS	SUPER	SUB	TOTAL
	Removal of Existing Structures No. 2	Each	1	-	1
	Protective Shield	Sq. Yd.	240	-	240
	Structure Excavation	Cu. Yd.	-	1040	1040
	Concrete Structures	Cu. Yd.	26.5	210.3	236.8
	Concrete Superstructure	Cu. Yd.	696.6	-	696.6
	Bridge Deck Grooving	Sq. Yd.	1,294	-	1,294
	Protective Coat	Sq. Yd.	2,057	-	2,057
*	Erecting Structural Steel	L. Sum	0.55	-	0.55
	Stud Shear Connectors	Each	2,772	-	2,772
	Reinforcement Bars, Epoxy Coated	Pound	170,710	16380	187,090
	Bar Splicers	Each	-	172	172
	Bridge Fence Railing (Sidewalk)	Foot	204	-	204
	Parapet Railing	Foot	201	-	201
	Furnishing Metal Shell Piles 12" X 0.250"	Foot	-	2338	2338
	Driving Piles	Foot	-	2338	2338
	Test Pile Metal Shells	Each	-	2	2
	Pile Shoes	Each	-	44	44
	Name Plates	Each	-	1	1
	Preformed Joint Strip Seal	Foot	174	-	174
*	Erecting Elastomeric Bearing Assembly, Type I	Each	11	-	11
	Anchor Bolts, 1''	Each	44	-	44
	Concrete Sealer	Sq. Ft.	-	1647	1647
	Drainage Scuppers, DS-12M10	Each	6	-	6
	Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	-	3640	3640
	Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.	-	680	680

* Note that these items are being furnished through a separate fabrication contract.

INDEX OF SHEETS



SLOPEWALL DETAILS



Notes:
- Bridge section shown, approach section similar
- Reinforcement omitted for clarity (see Plans)

STAMPED CONCRETE MEDIAN DETAIL

(Looking East)

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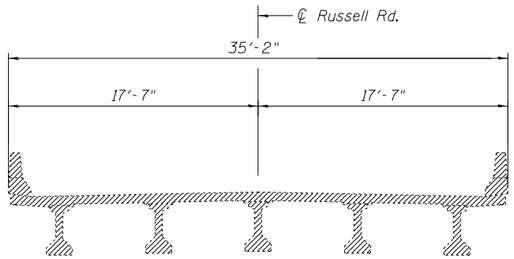
	PLOT DATE = 3/7/2012	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

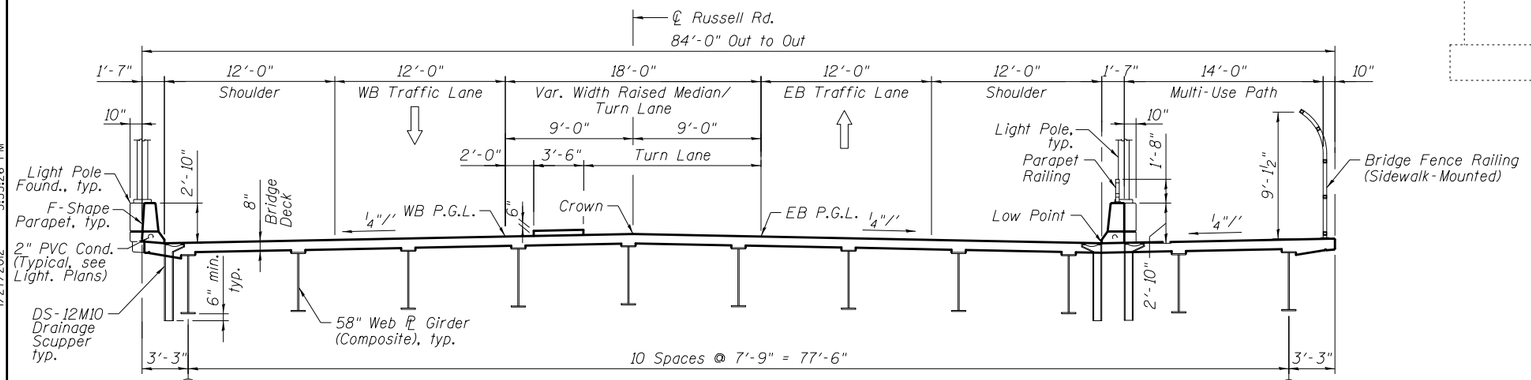
GENERAL DATA
STRUCTURE NO. 049-0534
SHEET NO. 2 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	149
		CONTRACT NO. 60L76		
		ILLINOIS	FED. AID PROJECT	



EXISTING BRIDGE CROSS SECTION

(Looking East)

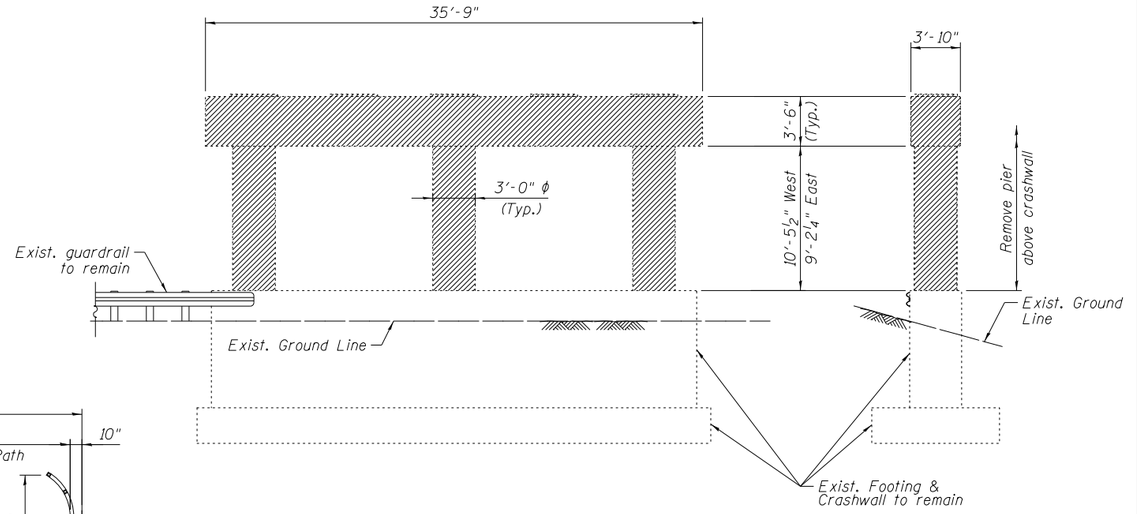


PROPOSED BRIDGE CROSS SECTION

(Looking East)

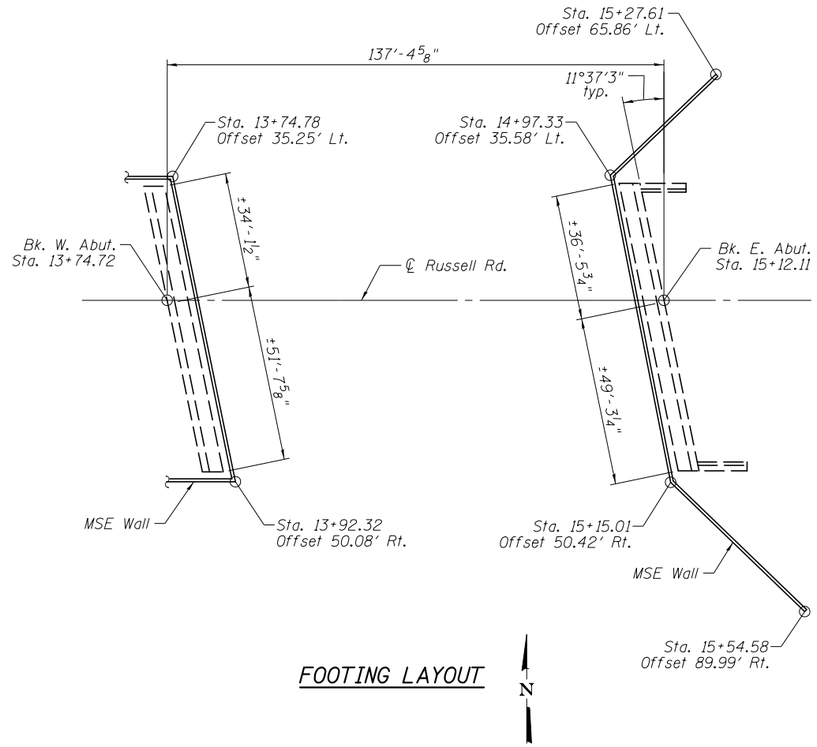
Note:

The existing bridge will be closed to traffic for removal and reconstruction during Stages 1A, 1B, & 2A. The proposed bridge will be completed and open to traffic prior to Stage 2B. See Roadway Plans for further information regarding Maintenance of Traffic and Staging.



PIER REMOVAL DETAIL

(Elevation View, East & West Piers Similar)



FOOTING LAYOUT

LEGEND

: Structure removal limits

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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

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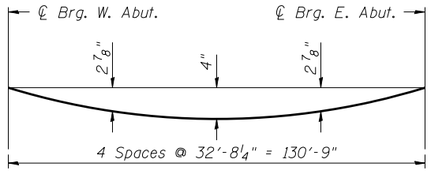
		CHECKED - TL	REVISED -
	PLOT SCALE =	DRAWN - MTR	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING & DETAILS
STRUCTURE NO. 049-0534
SHEET NO. S-3 OF S-31 SHEETS

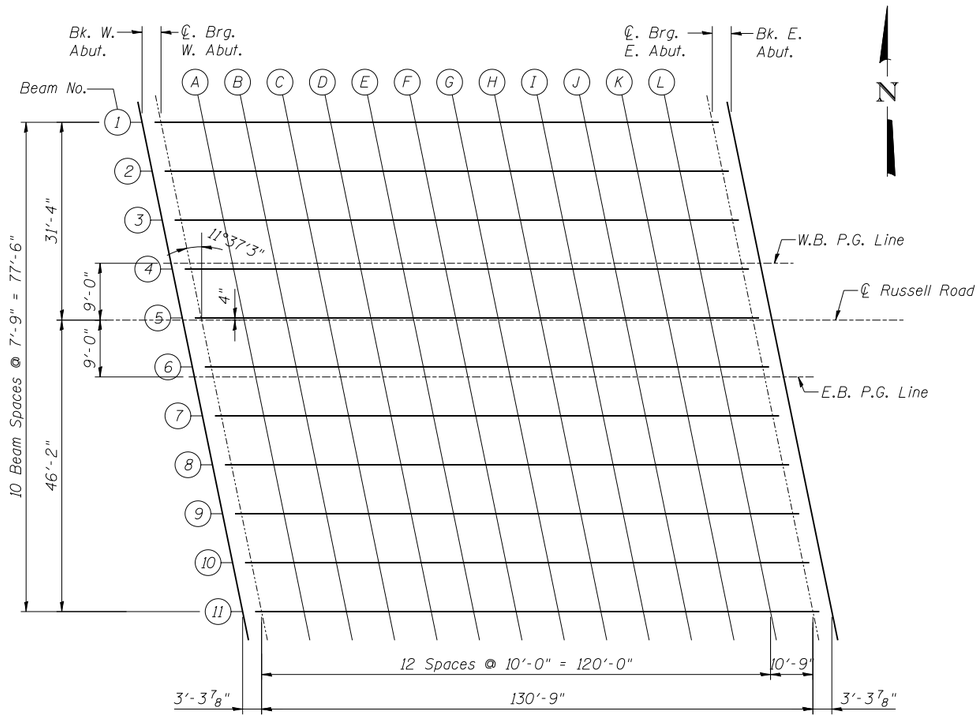
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	150
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



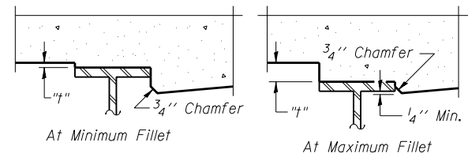
DEAD LOAD DEFLECTION DIAGRAM

(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 below & sheet 05 & 06.



PLAN



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

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+68.28	-31.33	757.84	757.84
℄. BRG. W. ABUT.	13+71.60	-31.33	757.80	757.80
A	13+81.60	-31.33	757.66	757.74
B	13+91.60	-31.33	757.52	757.67
C	14+01.60	-31.33	757.37	757.59
D	14+11.60	-31.33	757.22	757.49
E	14+21.60	-31.33	757.05	757.37
F	14+31.60	-31.33	756.89	757.22
G	14+41.60	-31.33	756.72	757.05
H	14+51.60	-31.33	756.54	756.85
I	14+61.60	-31.33	756.35	756.63
J	14+71.60	-31.33	756.16	756.38
K	14+81.60	-31.33	755.96	756.12
L	14+91.60	-31.33	755.76	755.84
℄. BRG. E. ABUT.	15+02.35	-31.33	755.53	755.53
BK. E. ABUT.	15+05.67	-31.33	755.46	755.46

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+69.87	-23.58	757.98	757.98
℄. BRG. W. ABUT.	13+73.19	-23.58	757.94	757.94
A	13+83.19	-23.58	757.80	757.88
B	13+93.19	-23.58	757.66	757.81
C	14+03.19	-23.58	757.51	757.73
D	14+13.19	-23.58	757.35	757.62
E	14+23.19	-23.58	757.19	757.50
F	14+33.19	-23.58	757.02	757.35
G	14+43.19	-23.58	756.85	757.18
H	14+53.19	-23.58	756.67	756.98
I	14+63.19	-23.58	756.48	756.76
J	14+73.19	-23.58	756.29	756.51
K	14+83.19	-23.58	756.09	756.25
L	14+93.19	-23.58	755.89	755.97
℄. BRG. E. ABUT.	15+03.94	-23.58	755.66	755.66
BK. E. ABUT.	15+07.26	-23.58	755.59	755.59

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+71.52	-15.58	758.13	758.13
℄. BRG. W. ABUT.	13+74.84	-15.58	758.08	758.08
A	13+84.84	-15.58	757.94	758.02
B	13+94.84	-15.58	757.80	757.95
C	14+04.84	-15.58	757.65	757.87
D	14+14.84	-15.58	757.49	757.76
E	14+24.84	-15.58	757.33	757.64
F	14+34.84	-15.58	757.16	757.49
G	14+44.84	-15.58	756.99	757.32
H	14+54.84	-15.58	756.80	757.12
I	14+64.84	-15.58	756.62	756.89
J	14+74.84	-15.58	756.42	756.65
K	14+84.84	-15.58	756.22	756.38
L	14+94.84	-15.58	756.02	756.10
℄. BRG. E. ABUT.	15+05.59	-15.58	755.79	755.79
BK. E. ABUT.	15+08.91	-15.58	755.72	755.72

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SHEET 1 OF 3
STRUCTURE NO. 049-0534
SHEET NO. 4 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	151
		CONTRACT NO. 60L76		
	ILLINOIS	FED. AID PROJECT		

WEST BOUND P.G. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+72.87	-9.00	758.24	758.24
℄. BRG. W. ABUT.	13+76.19	-9.00	758.20	758.20
A	13+86.19	-9.00	758.06	758.14
B	13+96.19	-9.00	757.92	758.07
C	14+06.19	-9.00	757.76	757.98
D	14+16.19	-9.00	757.61	757.88
E	14+26.19	-9.00	757.44	757.75
F	14+36.19	-9.00	757.27	757.61
G	14+46.19	-9.00	757.10	757.43
H	14+56.19	-9.00	756.92	757.23
I	14+66.19	-9.00	756.73	757.00
J	14+76.19	-9.00	756.53	756.76
K	14+86.19	-9.00	756.33	756.49
L	14+96.19	-9.00	756.13	756.21
℄. BRG. E. ABUT.	15+06.94	-9.00	755.90	755.90
BK. E. ABUT.	15+10.26	-9.00	755.83	755.83

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+73.06	-8.08	758.26	758.26
℄. BRG. W. ABUT.	13+76.38	-8.08	758.22	758.22
A	13+86.38	-8.08	758.08	758.15
B	13+96.38	-8.08	757.93	758.08
C	14+06.38	-8.08	757.78	758.00
D	14+16.38	-8.08	757.62	757.90
E	14+26.38	-8.08	757.46	757.77
F	14+36.38	-8.08	757.29	757.62
G	14+46.38	-8.08	757.11	757.45
H	14+56.38	-8.08	756.93	757.25
I	14+66.38	-8.08	756.74	757.02
J	14+76.38	-8.08	756.55	756.77
K	14+86.38	-8.08	756.35	756.51
L	14+96.38	-8.08	756.14	756.23
℄. BRG. E. ABUT.	15+07.13	-8.08	755.91	755.91
BK. E. ABUT.	15+10.45	-8.08	755.84	755.84

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+74.65	-0.33	758.40	758.40
℄. BRG. W. ABUT.	13+77.97	-0.33	758.36	758.36
A	13+87.97	-0.33	758.22	758.29
B	13+97.97	-0.33	758.07	758.22
C	14+07.97	-0.33	757.92	758.14
D	14+17.97	-0.33	757.76	758.03
E	14+27.97	-0.33	757.59	757.91
F	14+37.97	-0.33	757.42	757.75
G	14+47.97	-0.33	757.25	757.58
H	14+57.97	-0.33	757.06	757.38
I	14+67.97	-0.33	756.88	757.15
J	14+77.97	-0.33	756.68	756.90
K	14+87.97	-0.33	756.48	756.64
L	14+97.97	-0.33	756.27	756.35
℄. BRG. E. ABUT.	15+08.72	-0.33	756.04	756.04
BK. E. ABUT.	15+12.04	-0.33	755.97	755.97

℄ RUSSELL ROAD

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+74.72	0.00	758.41	758.41
℄. BRG. W. ABUT.	13+78.04	0.00	758.36	758.36
A	13+88.04	0.00	758.22	758.30
B	13+98.04	0.00	758.08	758.23
C	14+08.04	0.00	757.92	758.14
D	14+18.04	0.00	757.77	758.04
E	14+28.04	0.00	757.60	757.91
F	14+38.04	0.00	757.43	757.76
G	14+48.04	0.00	757.25	757.58
H	14+58.04	0.00	757.07	757.38
I	14+68.04	0.00	756.88	757.16
J	14+78.04	0.00	756.69	756.91
K	14+88.04	0.00	756.48	756.64
L	14+98.04	0.00	756.28	756.36
℄. BRG. E. ABUT.	15+08.79	0.00	756.05	756.05
BK. E. ABUT.	15+12.11	0.00	755.97	755.97

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+76.25	7.42	758.23	758.23
℄. BRG. W. ABUT.	13+79.57	7.42	758.19	758.19
A	13+89.57	7.42	758.05	758.12
B	13+99.57	7.42	757.90	758.05
C	14+09.57	7.42	757.75	757.96
D	14+19.57	7.42	757.59	757.86
E	14+29.57	7.42	757.42	757.73
F	14+39.57	7.42	757.25	757.58
G	14+49.57	7.42	757.07	757.40
H	14+59.57	7.42	756.89	757.20
I	14+69.57	7.42	756.70	756.97
J	14+79.57	7.42	756.50	756.72
K	14+89.57	7.42	756.30	756.46
L	14+99.57	7.42	756.09	756.17
℄. BRG. E. ABUT.	15+10.32	7.42	755.86	755.86
BK. E. ABUT.	15+13.64	7.42	755.79	755.79

EAST BOUND P.G. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+76.57	9.00	758.19	758.19
℄. BRG. W. ABUT.	13+79.89	9.00	758.15	758.15
A	13+89.89	9.00	758.01	758.09
B	13+99.89	9.00	757.86	758.01
C	14+09.89	9.00	757.71	757.93
D	14+19.89	9.00	757.55	757.82
E	14+29.89	9.00	757.38	757.69
F	14+39.89	9.00	757.21	757.54
G	14+49.89	9.00	757.03	757.36
H	14+59.89	9.00	756.85	757.16
I	14+69.89	9.00	756.66	756.93
J	14+79.89	9.00	756.46	756.68
K	14+89.89	9.00	756.26	756.42
L	14+99.89	9.00	756.05	756.13
℄. BRG. E. ABUT.	15+10.64	9.00	755.82	755.82
BK. E. ABUT.	15+13.96	9.00	755.75	755.75

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SHEET 2 OF 3
STRUCTURE NO. 049-0534
SHEET NO. 5 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	152
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+77.84	15.17	758.05	758.05
℄. BRG. W. ABUT.	13+81.16	15.17	758.00	758.00
A	13+91.16	15.17	757.86	757.94
B	14+01.16	15.17	757.71	757.87
C	14+11.16	15.17	757.56	757.78
D	14+21.16	15.17	757.40	757.67
E	14+31.16	15.17	757.23	757.54
F	14+41.16	15.17	757.06	757.39
G	14+51.16	15.17	756.88	757.21
H	14+61.16	15.17	756.70	757.01
I	14+71.16	15.17	756.50	756.78
J	14+81.16	15.17	756.31	756.53
K	14+91.16	15.17	756.10	756.26
L	15+01.16	15.17	755.89	755.98
℄. BRG. E. ABUT.	15+11.91	15.17	755.66	755.66
BK. E. ABUT.	15+15.23	15.17	755.59	755.59

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+79.43	22.92	757.87	757.87
℄. BRG. W. ABUT.	13+82.75	22.92	757.82	757.82
A	13+92.75	22.92	757.68	757.75
B	14+02.75	22.92	757.53	757.68
C	14+12.75	22.92	757.37	757.59
D	14+22.75	22.92	757.21	757.48
E	14+32.75	22.92	757.04	757.35
F	14+42.75	22.92	756.87	757.20
G	14+52.75	22.92	756.69	757.02
H	14+62.75	22.92	756.50	756.82
I	14+72.75	22.92	756.31	756.59
J	14+82.75	22.92	756.11	756.34
K	14+92.75	22.92	755.91	756.07
L	15+02.75	22.92	755.70	755.78
℄. BRG. E. ABUT.	15+13.50	22.92	755.47	755.47
BK. E. ABUT.	15+16.82	22.92	755.39	755.39

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+81.03	30.67	757.68	757.68
℄. BRG. W. ABUT.	13+84.35	30.67	757.64	757.64
A	13+94.35	30.67	757.49	757.57
B	14+04.35	30.67	757.34	757.49
C	14+14.35	30.67	757.19	757.40
D	14+24.35	30.67	757.02	757.30
E	14+34.35	30.67	756.85	757.17
F	14+44.35	30.67	756.68	757.01
G	14+54.35	30.67	756.50	756.83
H	14+64.35	30.67	756.31	756.63
I	14+74.35	30.67	756.12	756.40
J	14+84.35	30.67	755.92	756.14
K	14+94.35	30.67	755.72	755.87
L	15+04.35	30.67	755.50	755.59
℄. BRG. E. ABUT.	15+15.10	30.67	755.27	755.27
BK. E. ABUT.	15+18.42	30.67	755.20	755.20

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+82.62	38.42	757.72	757.72
℄. BRG. W. ABUT.	13+85.94	38.42	757.68	757.68
A	13+95.94	38.42	757.53	757.61
B	14+05.94	38.42	757.38	757.53
C	14+15.94	38.42	757.22	757.44
D	14+25.94	38.42	757.06	757.33
E	14+35.94	38.42	756.89	757.20
F	14+45.94	38.42	756.72	757.05
G	14+55.94	38.42	756.53	756.87
H	14+65.94	38.42	756.35	756.66
I	14+75.94	38.42	756.15	756.43
J	14+85.94	38.42	755.95	756.18
K	14+95.94	38.42	755.75	755.90
L	15+05.94	38.42	755.53	755.62
℄. BRG. E. ABUT.	15+16.69	38.42	755.30	755.30
BK. E. ABUT.	15+20.01	38.42	755.22	755.22

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	13+84.21	46.17	757.86	757.86
℄. BRG. W. ABUT.	13+87.53	46.17	757.82	757.82
A	13+97.53	46.17	757.67	757.75
B	14+07.53	46.17	757.52	757.67
C	14+17.53	46.17	757.36	757.58
D	14+27.53	46.17	757.20	757.47
E	14+37.53	46.17	757.03	757.34
F	14+47.53	46.17	756.85	757.18
G	14+57.53	46.17	756.67	757.00
H	14+67.53	46.17	756.48	756.79
I	14+77.53	46.17	756.28	756.56
J	14+87.53	46.17	756.08	756.30
K	14+97.53	46.17	755.87	756.03
L	15+07.53	46.17	755.66	755.74
℄. BRG. E. ABUT.	15+18.28	46.17	755.42	755.42
BK. E. ABUT.	15+21.60	46.17	755.35	755.35

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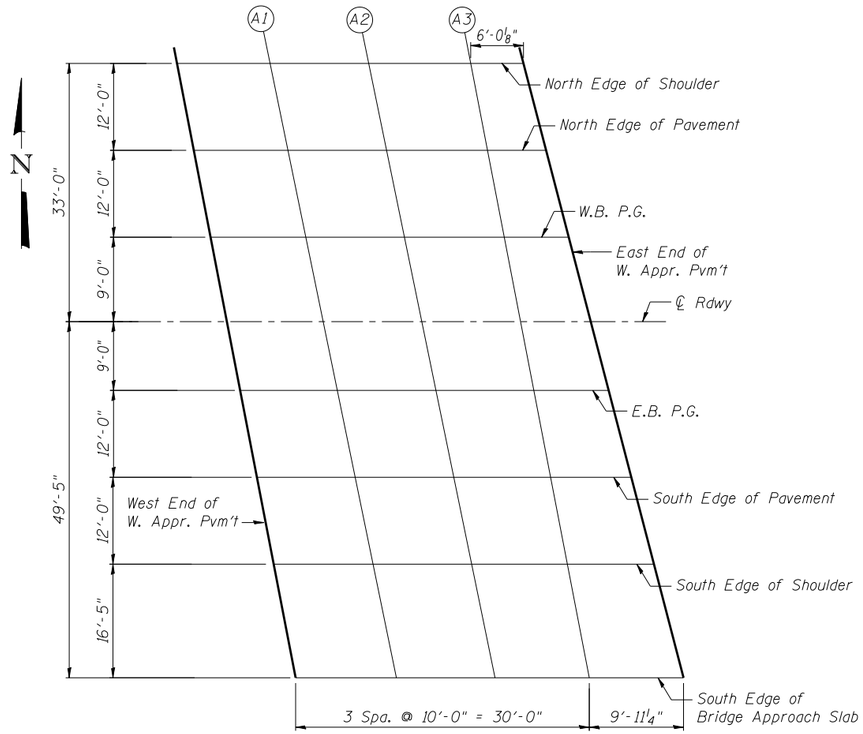
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS SHEET 3 OF 3
STRUCTURE NO. 049-0534
SHEET NO. 6 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	153
		CONTRACT NO. 60L76		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+32.44	-33.00	758.24
A1	13+42.44	-33.00	758.12
A2	13+52.44	-33.00	758.01
A3	13+62.44	-33.00	757.88
E. End West Appr. Pavt't	13+68.45	-33.00	757.80



PLAN
West Approach

WEST BOUND PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+36.23	-9.00	758.69
A1	13+46.23	-9.00	758.58
A2	13+56.23	-9.00	758.46
A3	13+66.23	-9.00	758.33
E. End West Appr. Pavt't	13+73.38	-9.00	758.24

EAST BOUND PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+39.07	9.00	758.66
A1	13+49.07	9.00	758.55
A2	13+59.07	9.00	758.42
A3	13+69.07	9.00	758.30
E. End West Appr. Pavt't	13+77.08	9.00	758.19

SOUTH EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+45.46	49.42	758.43
A1	13+55.46	49.42	758.31
A2	13+65.46	49.42	758.18
A3	13+75.46	49.42	758.05
E. End West Appr. Pavt't	13+85.39	49.42	757.91

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+37.65	0.00	758.87
A1	13+47.65	0.00	758.75
A2	13+57.65	0.00	758.63
A3	13+67.65	0.00	758.50
E. End West Appr. Pavt't	13+75.23	0.00	758.40

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavt't	13+42.86	33.00	758.12
A1	13+52.86	33.00	758.00
A2	13+62.86	33.00	757.88
A3	13+72.86	33.00	757.74
E. End West Appr. Pavt't	13+82.01	33.00	757.62

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0534
SHEET NO. 7 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	154
		CONTRACT NO. 60L76		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+04.82	-33.00	755.45
A4	15+14.82	-33.00	755.23
A5	15+24.82	-33.00	755.00
E. End East Appr. Pavt't	15+34.82	-33.00	754.77

WEST BOUND PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+09.75	-9.00	755.84
A4	15+19.75	-9.00	755.62
A5	15+29.75	-9.00	755.39
E. End East Appr. Pavt't	15+39.75	-9.00	755.16

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+11.60	0.00	755.99
A4	15+21.60	0.00	755.76
A5	15+31.60	0.00	755.54
E. End East Appr. Pavt't	15+41.60	0.00	755.30

EAST BOUND PROFILE GRADE

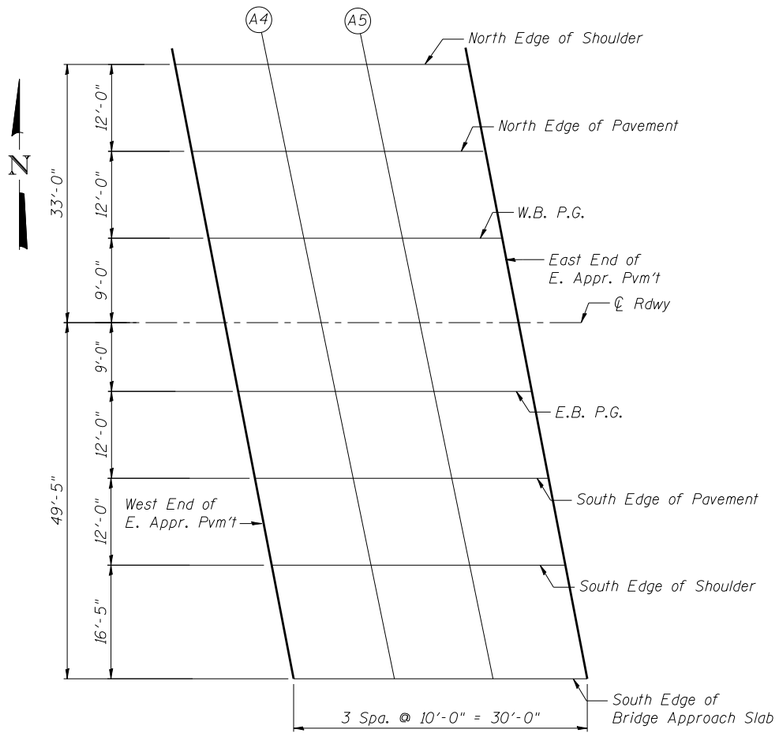
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+13.45	9.00	755.76
A4	15+23.45	9.00	755.53
A5	15+33.45	9.00	755.30
E. End East Appr. Pavt't	15+43.45	9.00	755.07

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+18.38	33.00	755.15
A4	15+28.38	33.00	754.92
A5	15+38.38	33.00	754.69
E. End East Appr. Pavt't	15+48.38	33.00	754.45

SOUTH EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pavt't	15+21.76	49.42	755.41
A4	15+31.76	49.42	755.19
A5	15+41.76	49.42	754.95
E. End East Appr. Pavt't	15+51.76	49.42	754.71



PLAN
East Approach

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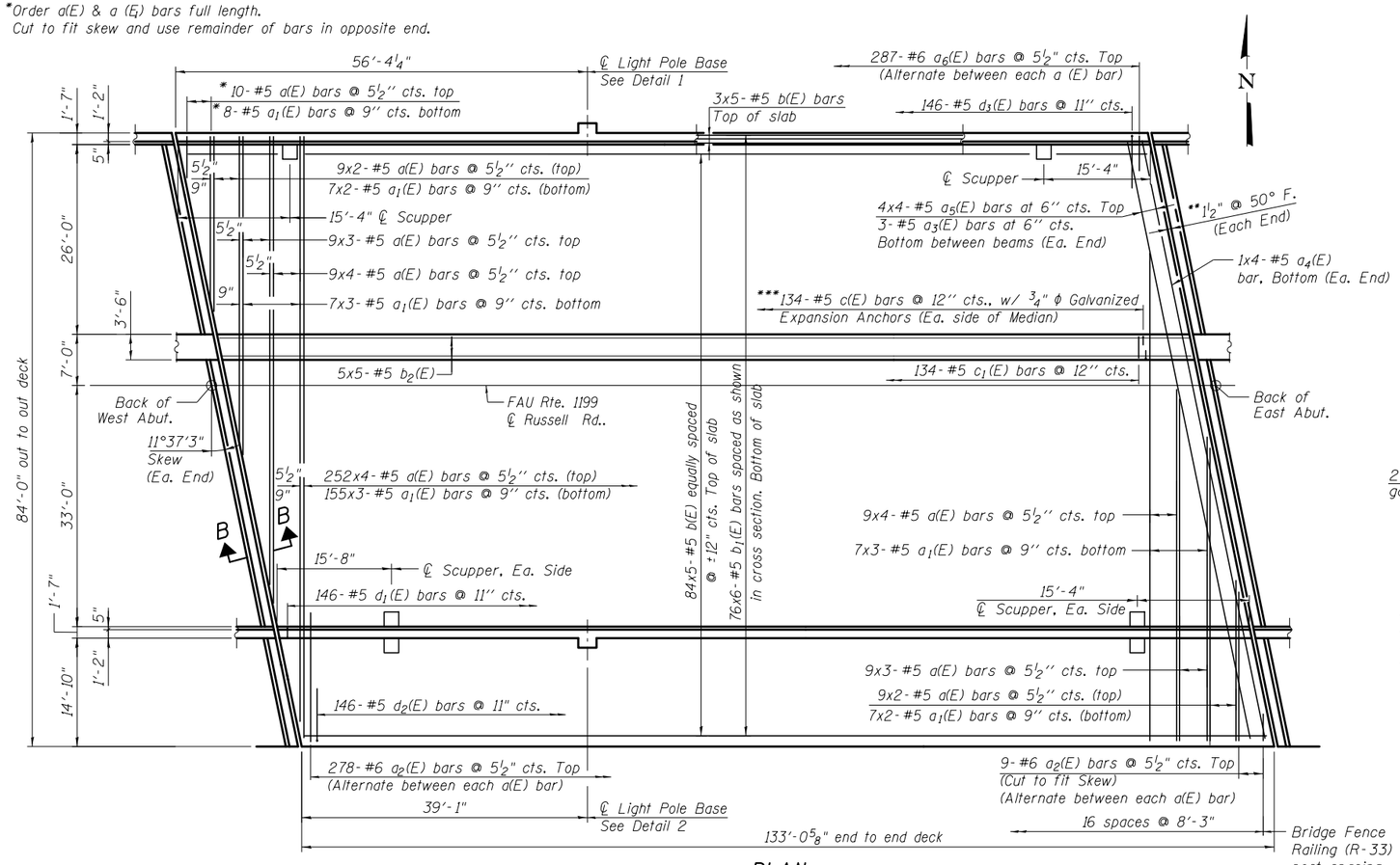
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

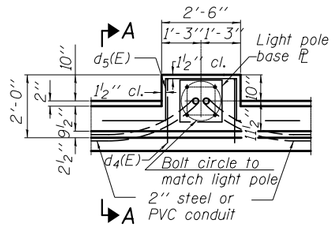
TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0534
SHEET NO. 8 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	155
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

*Order d(E) & a (E) bars full length.
Cut to fit skew and use remainder of bars in opposite end.

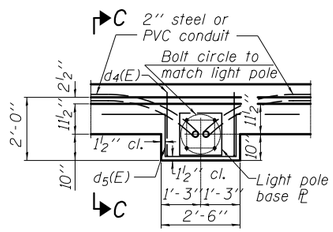


PLAN



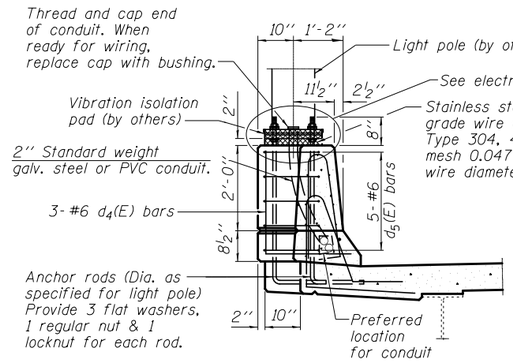
DETAIL 1

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

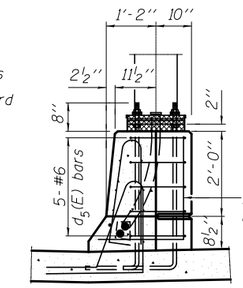


DETAIL 2

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

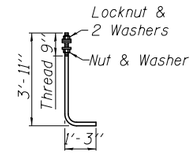


SECTION A-A



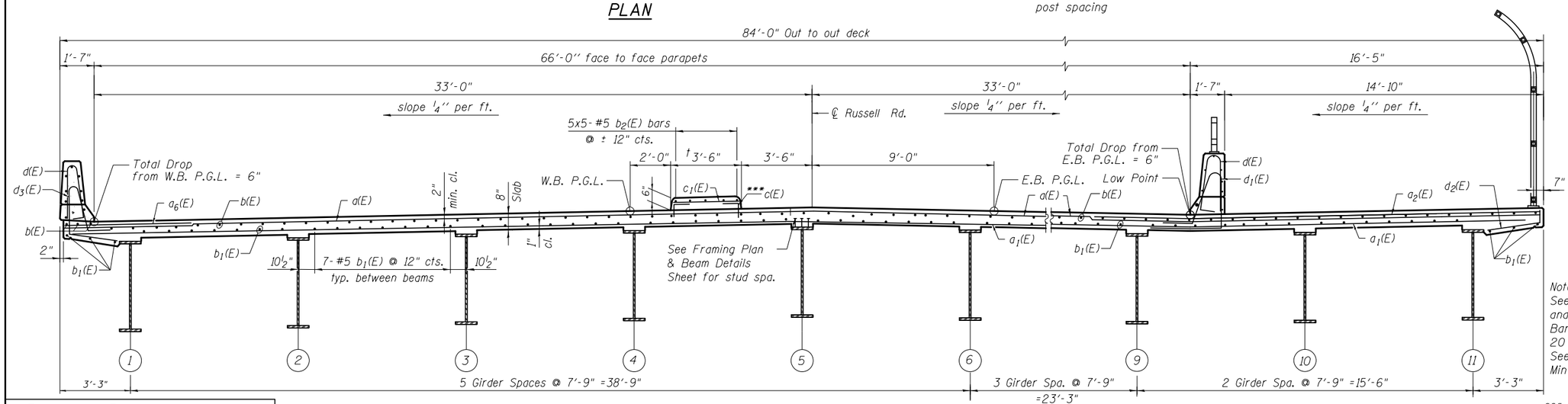
SECTION C-C

(Details Similar to Section A-A)



ANCHOR ROD

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



† See Sheet S-2 of S-31 for stamped concrete median detail.

CROSS SECTION

(Looking East)

** Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

Notes:
See Sheet 10 of 31 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 10 of 31 for parapet reinforcement.
Min Bar lap #5 = 3'-3"

*** c(E) bars with 3/4" ϕ Galvanized Expansion Anchors Each side of Median. The cost of expansion anchors is included in the cost of Reinforcement Bars, Epoxy Coated.

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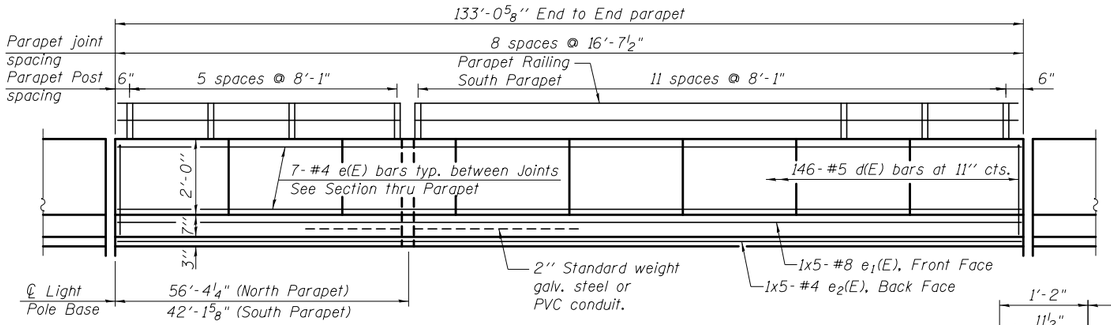
	PLOT DATE = 3/7/2012	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

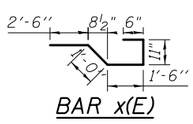
SUPERSTRUCTURE
STRUCTURE NO. 049-0534
SHEET NO. 9 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	156
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



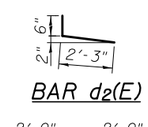
INSIDE ELEVATION OF PARAPET

(North parapet)
(South parapet similar except as noted)

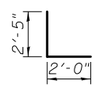


BAR x(E)

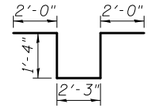
BAR c(E)



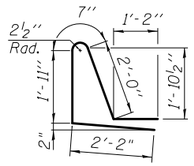
BAR d2(E)



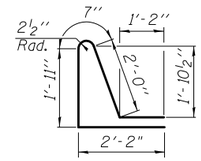
BAR d4(E)



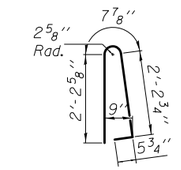
BAR d5(E)



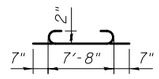
BAR d3(E)



BAR d1(E)



BAR d(E)



a3(E) BAR

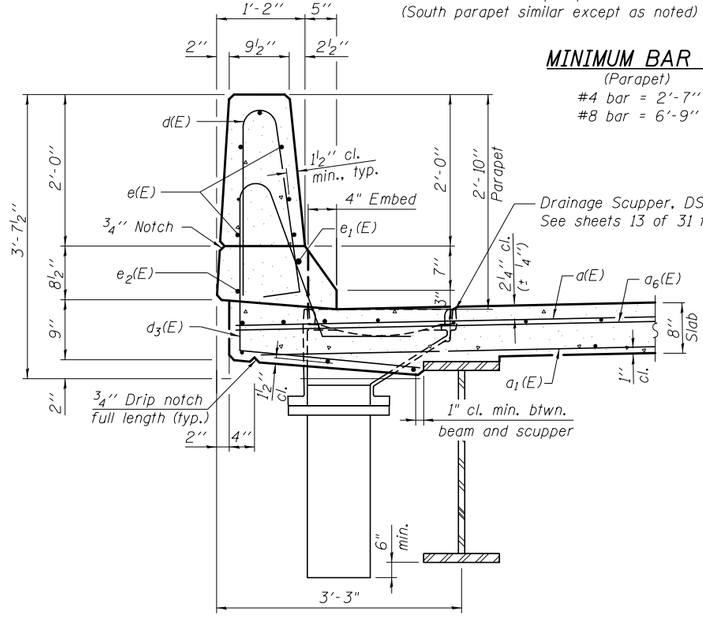
SUPERSTRUCTURE BILL OF MATERIAL

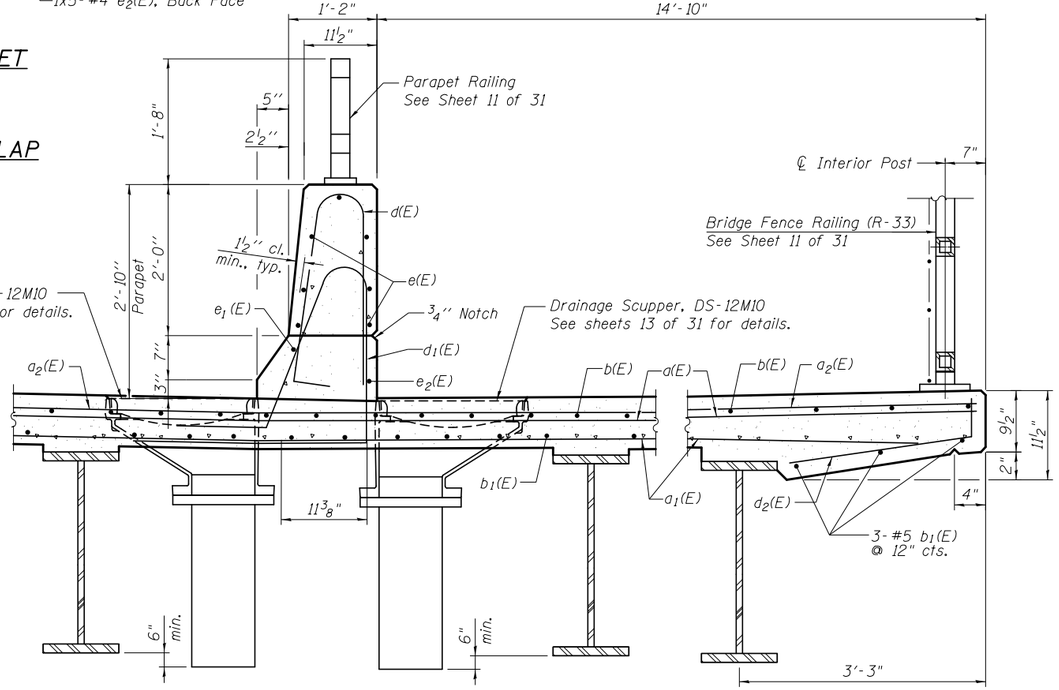
Bar	No.	Size	Length	Shape
a(E)	1180	#5	23'-6"	
a1(E)	543	#5	30'-0"	
a2(E)	287	#6	22'-3"	
a3(E)	60	#5	8'-10"	
a4(E)	8	#5	23'-9"	
a5(E)	32	#5	24'-0"	
a6(E)	287	#6	6'-6"	
a8(E)	20	#5	4'-0"	
a9(E)	8	#5	8'-0"	
b(E)	435	#5	29'-3"	
b1(E)	456	#5	25'-0"	
b2(E)	25	#5	29'-3"	
c(E)	268	#5	1'-3 1/2"	
c1(E)	134	#5	3'-1"	
d(E)	292	#5	5'-7"	
d1(E)	146	#5	7'-10"	
d2(E)	146	#5	2'-9"	
d3(E)	146	#5	7'-10"	
d4(E)	6	#6	4'-5"	
d5(E)	10	#6	8'-11"	
e(E)	112	#4	16'-4 1/2"	
e1(E)	10	#8	32'-0"	
e2(E)	10	#4	28'-9"	
x(E)	152	#5	6'-5"	
Reinforcement Bars, Epoxy Coated			Pound	94,700
Concrete Superstructure			Cu. Yds.	339.0
Bridge Deck Grooving			Sq. Yd.	842
Protective Coat			Sq. Yd.	1,341

Bars indicated thus 1 x 5 - #8 etc. indicates 1 line of bars with 5 lengths per line.

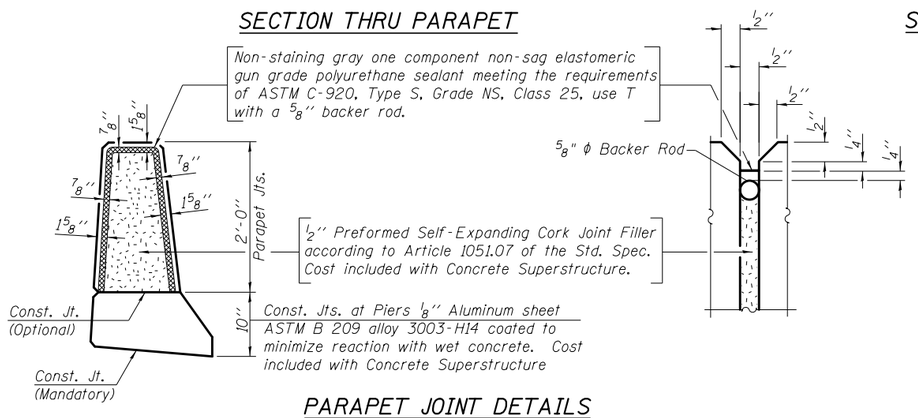
MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-7"
#8 bar = 6'-9"



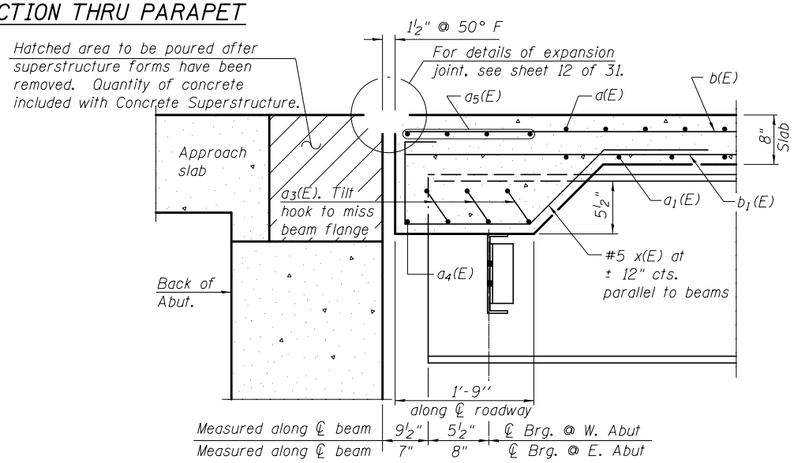


SECTION THRU PARAPET

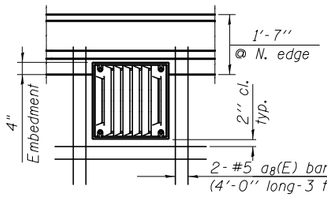


PARAPET JOINT DETAILS

SECTION THRU PARAPET

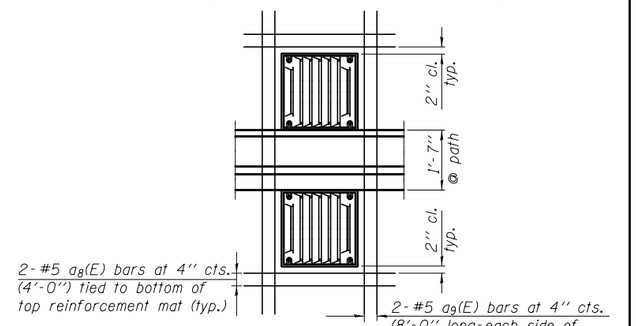


SECTION B-B



PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

S D I S RUC URE DESIGNS, INC.
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FILE NAME =	USER NAME =	DESIGNED - LRT / AG	REVISED -
		CHECKED - OAO / LRT	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - TCS / AG	REVISED -
	PLOT DATE = 3/23/2012	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

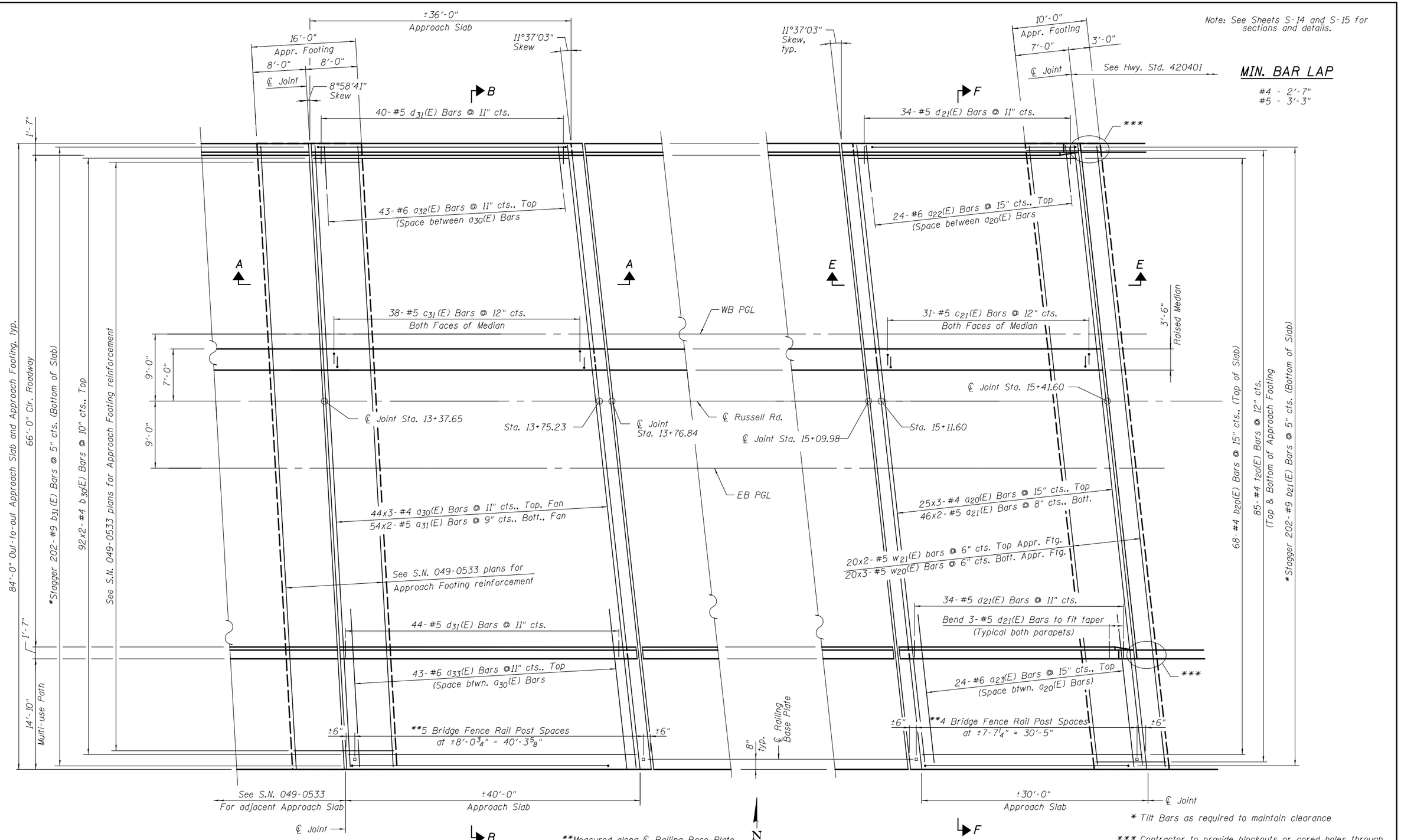
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 049-0534
SHEET NO. 10 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	157
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

Note: See Sheets S-14 and S-15 for sections and details.

MIN. BAR LAP

#4 - 2'-7"
#5 - 3'-3"



**Measured along ℄ Railing Base Plate

* Tilt Bars as required to maintain clearance

*** Contractor to provide blockouts or cored holes through approach footing to accommodate guardrail posts. The void around each post shall be backfilled with earth or aggregate. Coordinate with roadway drawings. Cost included with Steel Plate Beam Guardrail.

WEST APPROACH SLAB PLAN

EAST APPROACH SLAB PLAN

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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB PLANS
STRUCTURE NO. 049-0534
SHEET NO. S-11 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	158
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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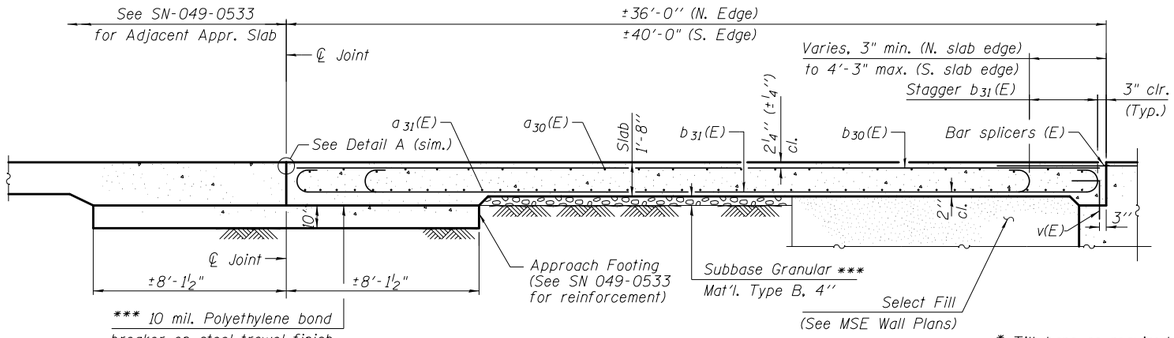
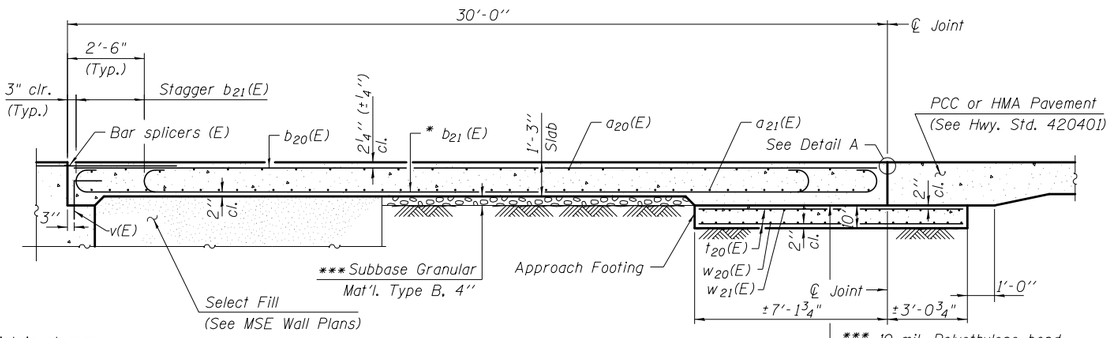


All longitudinal dimensions measured along ℄ roadway.

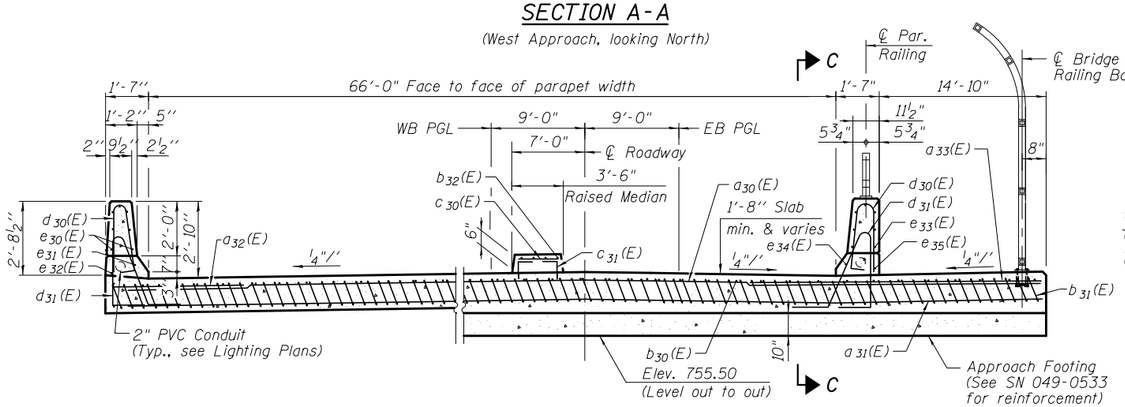
* Tilt bars as required to maintain clearance.
*** Cost included with Concrete Superstructure.



All longitudinal dimensions measured along ℄ roadway.

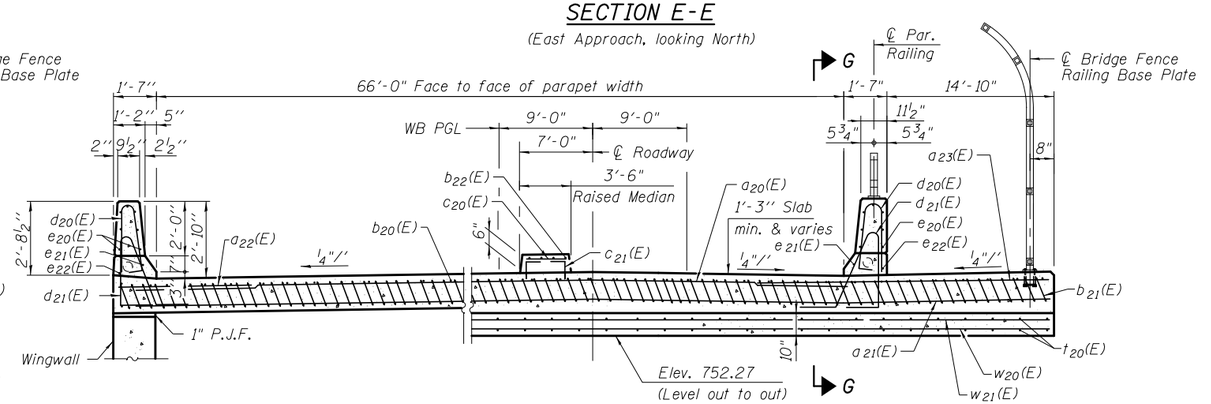
SECTION A-A

(West Approach, looking North)



SECTION E-E

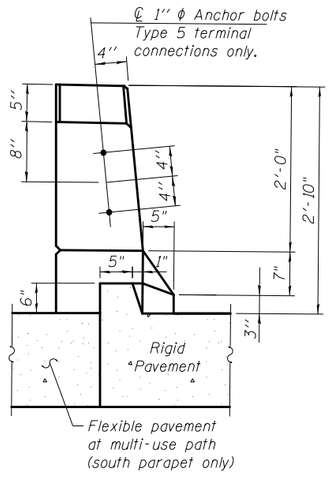
(East Approach, looking North)



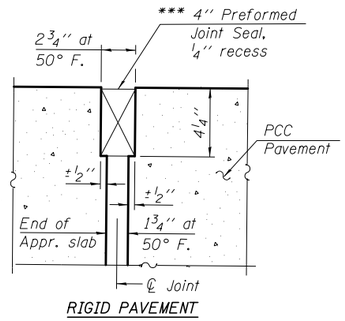
NEAR ABUTMENT — AT APPROACH FOOTING — NEAR ABUTMENT — AT APPROACH FOOTING

SECTION B-B

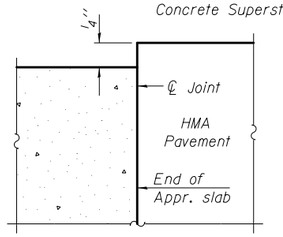
(West Approach, looking East)
(See Plan for dimensions not shown)



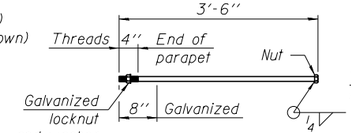
VIEW D-D



RIGID PAVEMENT



FLEXIBLE PAVEMENT



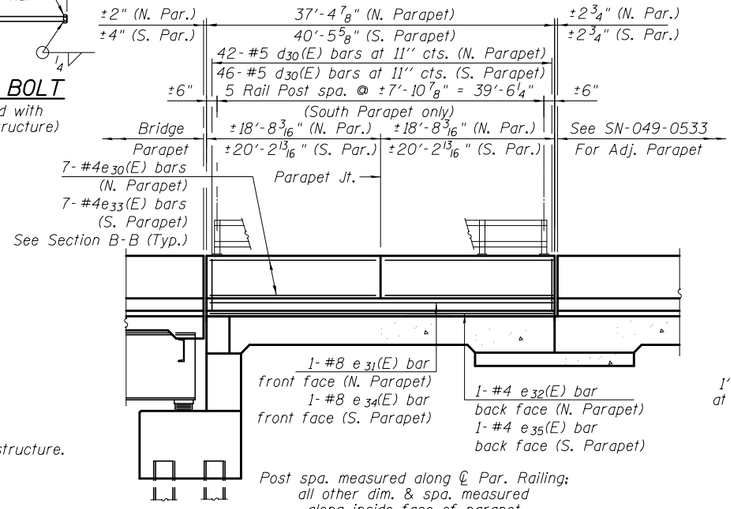
1″ϕ ANCHOR BOLT

(Cost included with
Concrete Superstructure)

DETAIL A

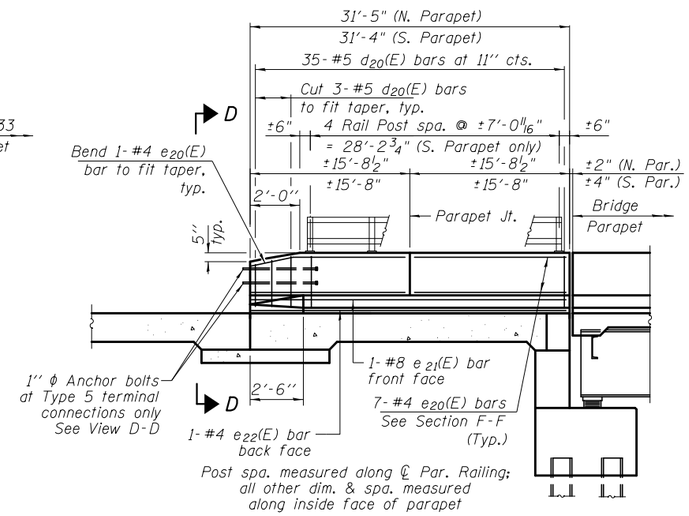
SECTION F-F

(East Approach, looking East)
(See Plan for dimensions not shown)



VIEW C-C

(Showing inside elevation of S. Parapet at
W. Approach, N. Parapet similar except as noted)



VIEW G-G

(Showing inside elevation of S. Parapet at
E. Approach, N. Parapet similar except as noted)

Notes:

Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet S-23 & S-24 of S-31.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheets S-23, S-24, & S-27 of S-31.
Cost of excavation for approach footing included with Concrete Structures.
See Sheet S-13 for Preformed Joint Seal Details at Approach Slabs.

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		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - EBP	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS I
STRUCTURE NO. 049-0534
SHEET NO. S-12 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	159
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

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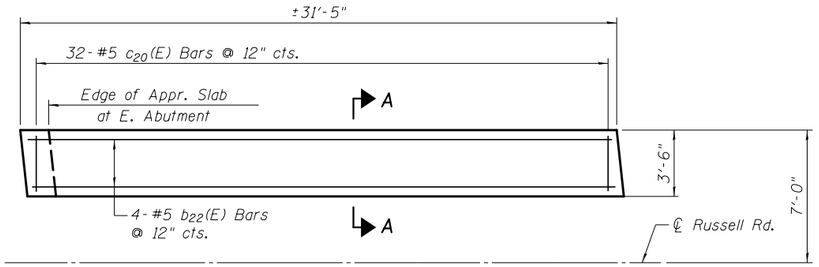
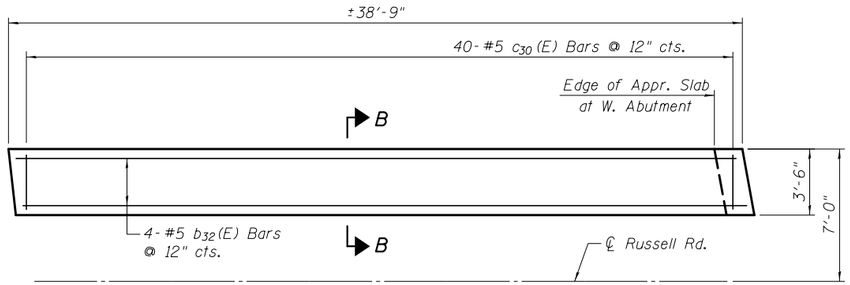
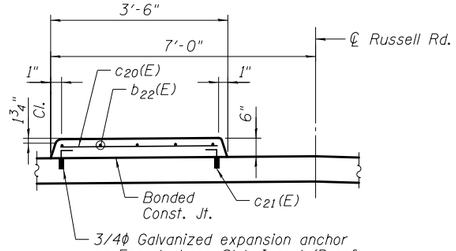


MEDIAN PLAN - EAST APPROACH SLAB



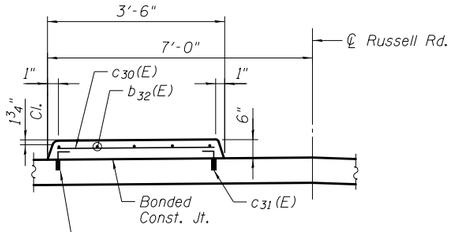
MEDIAN PLAN - WEST APPROACH SLAB



3/4ϕ Galvanized expansion anchor or Ferrule Loop Slab Insert (Proof load tension = 6,600 Lbs.). Cost included with Reinforcement Bars, Epoxy Coated.

SECTION A-A

Note:
See Sheet S-2 of S-31 for stamped concrete median detail.



3/4ϕ Galvanized expansion anchor or Ferrule Loop Slab Insert (Proof load tension = 6,600 Lbs.). Cost included with Reinforcement Bars, Epoxy Coated.

SECTION B-B

Note:
See Sheet S-2 of S-31 for stamped concrete median detail.

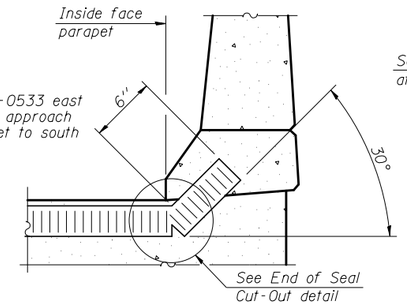
EAST APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{20}(E)	75	#4	31'-3"	
a_{21}(E)	92	#5	44'-4"	
a_{22}(E)	24	#6	6'-6"	
a_{23}(E)	24	#6	21'-6"	
b_{20}(E)	68	#4	29'-8"	
b_{21}(E)	202	#9	29'-9"	
b_{22}(E)	4	#5	31'-0"	
c_{20}(E)	32	#5	3'-2"	
c_{21}(E)	64	#5	1'-4"	
d_{20}(E)	70	#5	5'-7"	
d_{21}(E)	68	#5	7'-11"	
e_{20}(E)	28	#4	15'-4"	
e_{21}(E)	2	#8	31'-0"	
e_{22}(E)	2	#4	31'-0"	
t_{20}(E)	170	#4	9'-8"	
w_{20}(E)	60	#5	30'-8"	
w_{21}(E)	40	#5	44'-4"	
Concrete Superstructure		Cu. Yd.	138.8	
Concrete Structures		Cu. Yd.	26.5	
Reinforcement Bars, Epoxy Coated		Pound	35,540	
Bridge Deck Grooving		Sq. Yd.	205	
Protective Coat		Sq. Yd.	324	

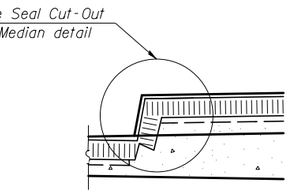
WEST APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{30}(E)	132	#4	30'-3"	
a_{31}(E)	108	#5	44'-4"	
a_{32}(E)	43	#6	6'-6"	
a_{33}(E)	43	#6	21'-6"	
b_{30}(E)	184	#4	21'-2"	
b_{31}(E)	202	#9	38'-0"	
b_{32}(E)	4	#5	38'-4"	
c_{30}(E)	40	#5	3'-2"	
c_{31}(E)	76	#5	1'-4"	
d_{30}(E)	88	#5	5'-7"	
d_{31}(E)	84	#5	8'-9"	
e_{30}(E)	14	#4	18'-4"	
e_{31}(E)	1	#8	37'-0"	
e_{32}(E)	1	#4	37'-0"	
e_{33}(E)	14	#4	20'-0"	
e_{34}(E)	1	#8	40'-4"	
e_{35}(E)	1	#4	40'-4"	
Concrete Superstructure		Cu. Yd.	218.8	
Reinforcement Bars, Epoxy Coated		Pound	40,470	
Bridge Deck Grooving		Sq. Yd.	247	
Protective Coat		Sq. Yd.	392	

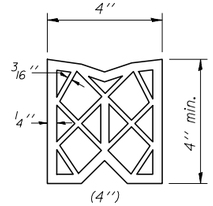
Note:
At south parapet between SN 049-0533 east approach slab & SN 049-0534 west approach slab, run PJS continuous thru parapet to south edge of slab.



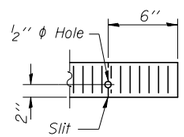
AT PARAPET/CURB



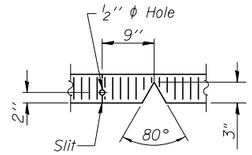
AT MEDIAN



PREFORMED JOINT SEAL

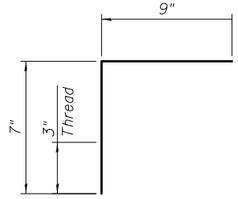


END OF SEAL CUT-OUT

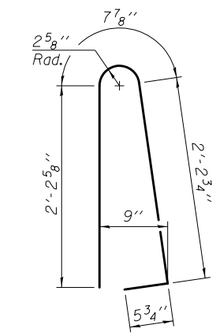


SEAL CUT-OUT AT MEDIAN

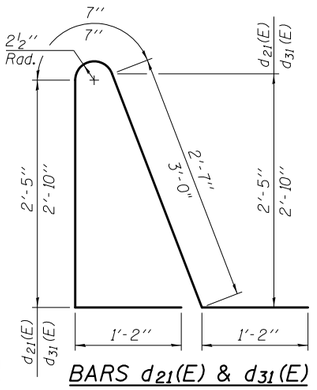
PREFORMED JOINT SEAL DETAILS



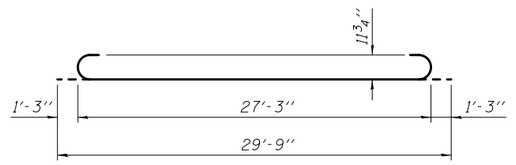
BARS c_{21}(E) & c_{32}(E)



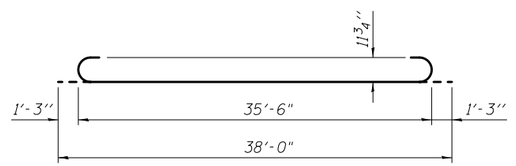
BARS d_{20}(E) & d_{30}(E)



BARS d_{21}(E) & d_{31}(E)



BAR b_{21}(E)



BAR b_{31}(E)

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		CHECKED - TL	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - MTR	REVISED -
	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS II
STRUCTURE NO. 049-0534
SHEET NO. S-13 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	160
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

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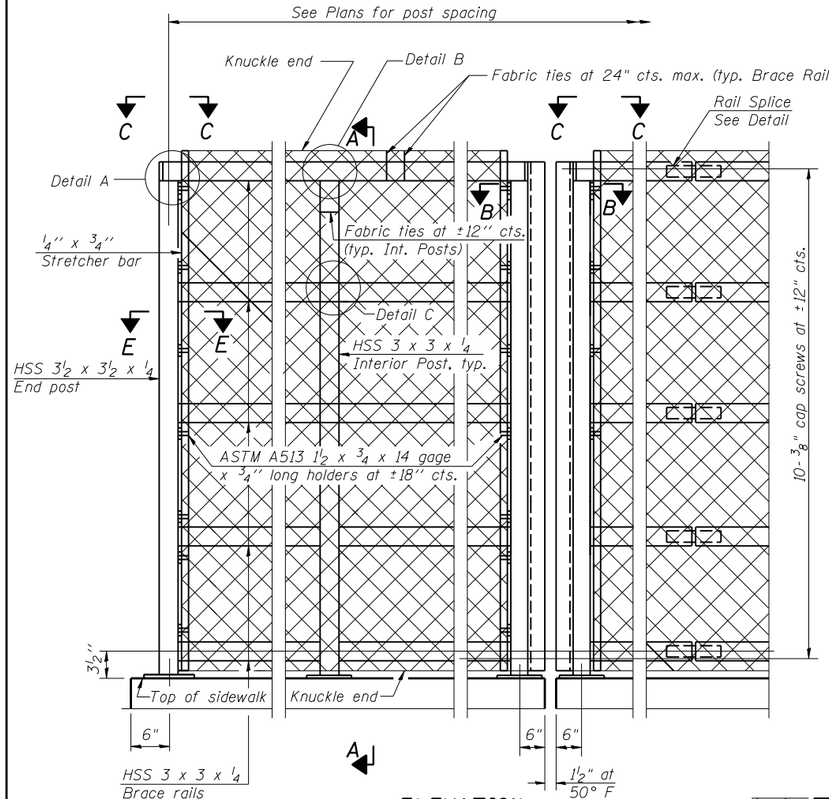
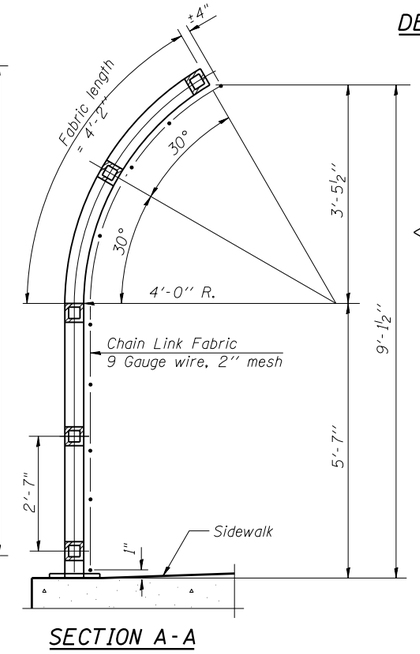
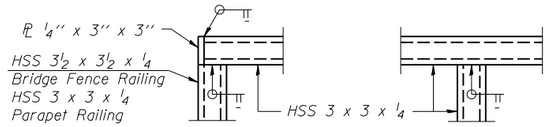


ELEVATION
(Inside Face)

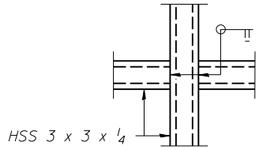


SECTION A-A



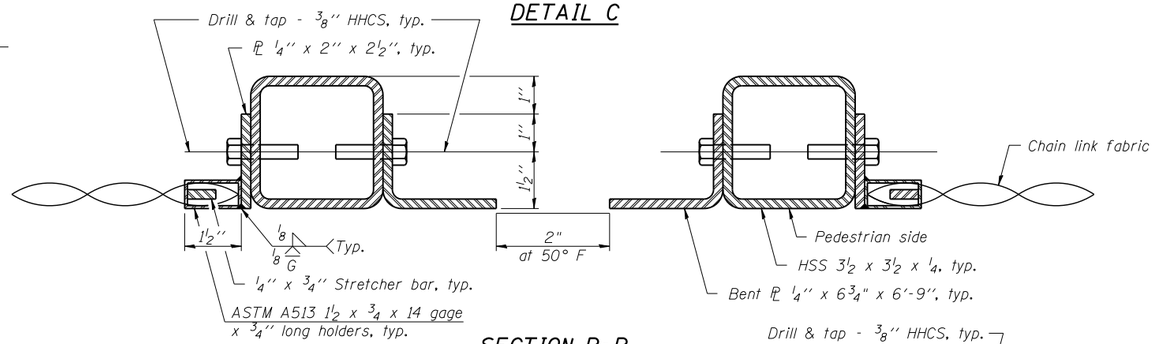
DETAIL A

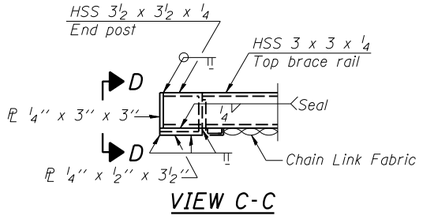
DETAIL B



DETAIL C

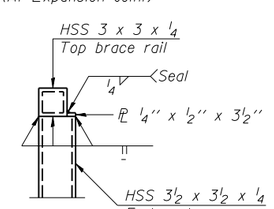
Note:
The color and finish of railing components shall be as outlined in the Special Provision for Bridge Fence Railing (Sidewalk) and Parapet Railing.



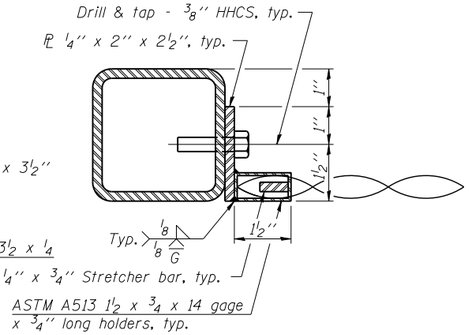


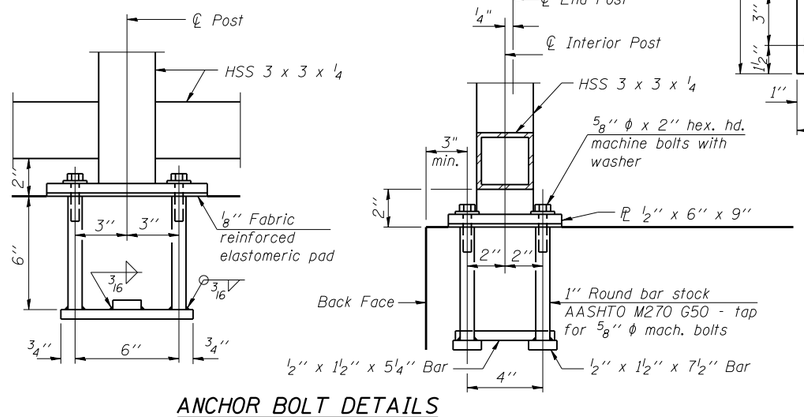
VIEW C-C

SECTION B-B
(At Expansion Joint)



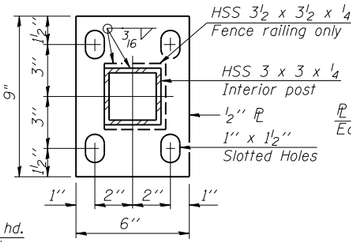
VIEW D-D



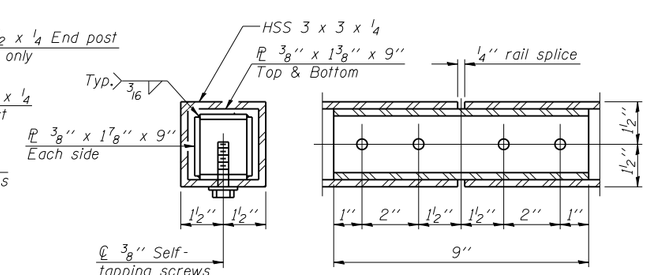


ANCHOR BOLT DETAILS

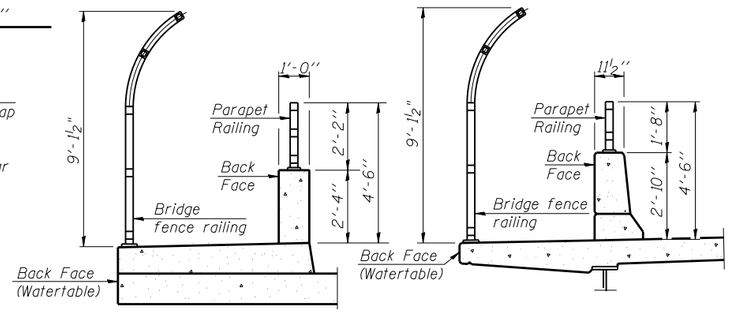
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



BASE PL

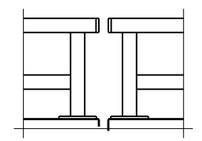


RAIL SPLICE



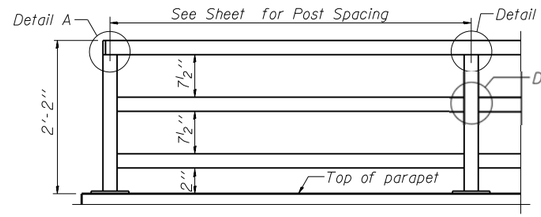
SECTION THRU SIDEWALK

SECTION THRU DECK

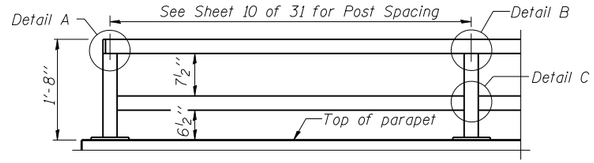


PARAPET RAILING ELEVATION AT EXPANSION JOINT
(Two element rail shown - Three element rail similar)

SECTION E-E



PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)



PARAPET RAILING ELEVATION
(Inside face of two element rail)

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing (Sidewalk)	Foot	204
Parapet Railing	Foot	201

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R-33 7-1-10 (10'-0" Maximum Post Spacing)

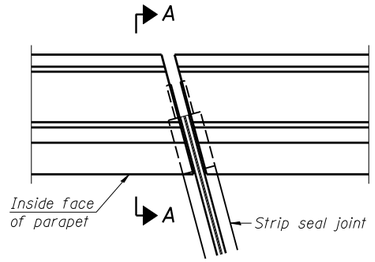
FILE NAME =	USER NAME =	DESIGNED - LRT / AG	REVISED -
		CHECKED - OAO / LRT	REVISED -
	PLOT SCALE =	DRAWN - TCS / AG	REVISED -
	PLOT DATE =	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING, SIDEWALK MOUNTED
STRUCTURE NO. 049-0534
SHEET NO. 14 OF 31 SHEETS

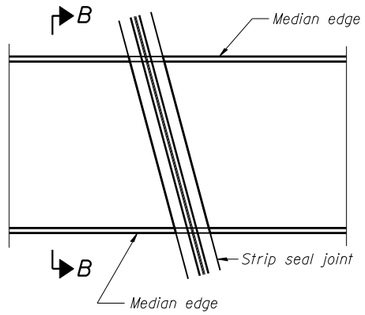
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	161
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

...\0490534-60L76-011-Bridge Rail Details.dgn 1/16/2012 4:06:24 PM



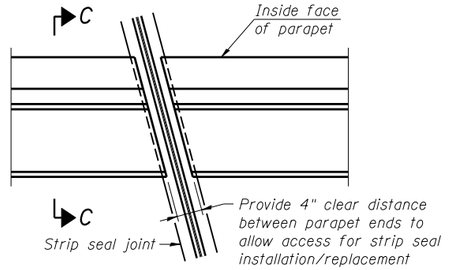
PLAN

(At exterior parapet, skew < 30°)



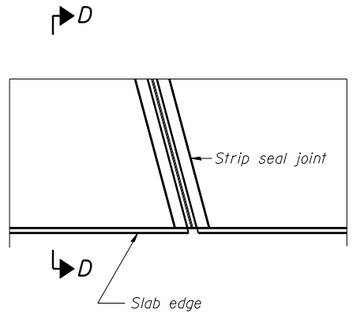
PLAN

(At raised median, skew < 30°)



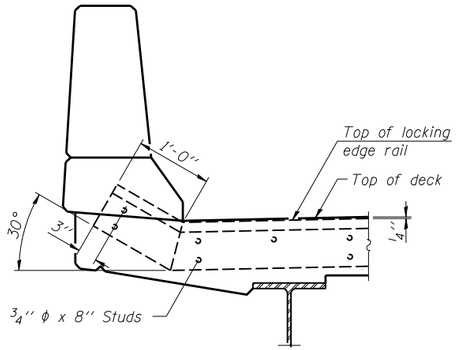
PLAN

(At interior parapet, skew < 30°)

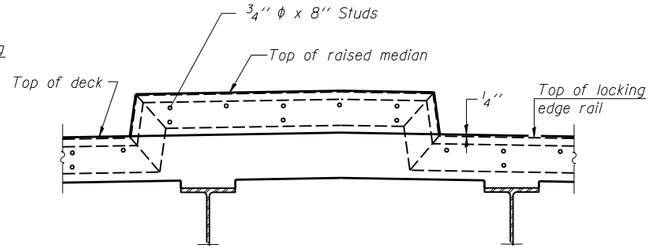


PLAN

(At slab edge, skew < 30°)

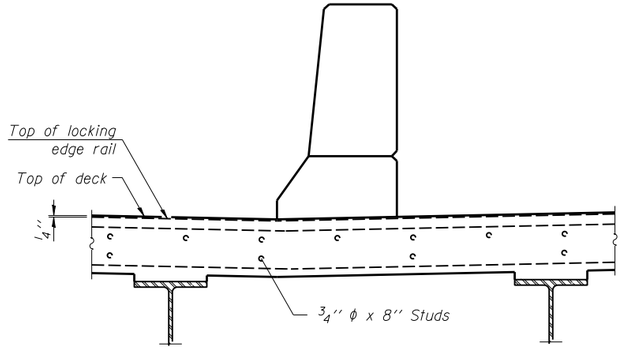


SECTION A-A

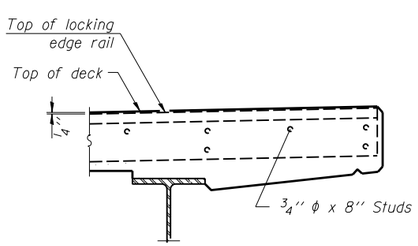


SECTION B-B

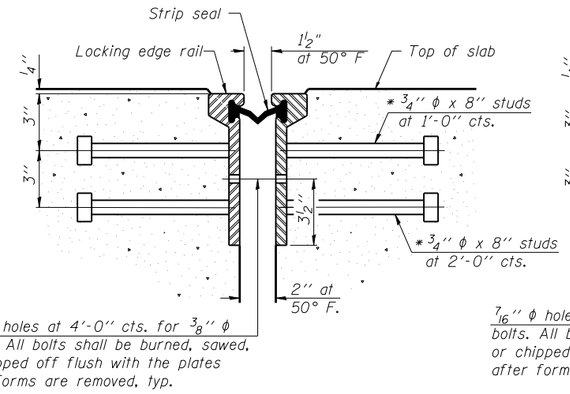
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION C-C

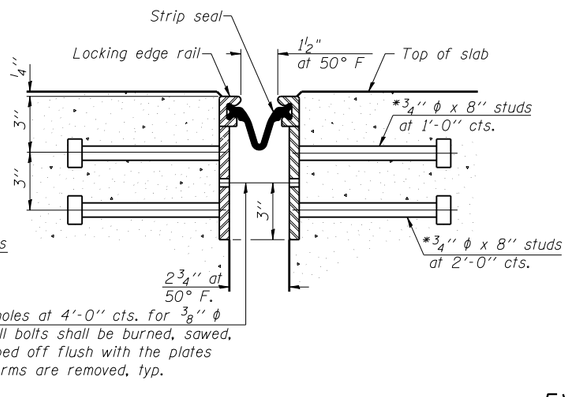


SECTION D-D



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

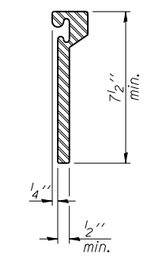
SECTION THRU ROLLED RAIL JOINT



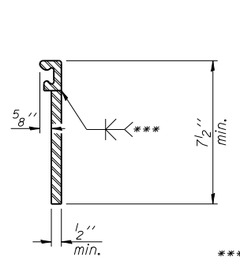
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

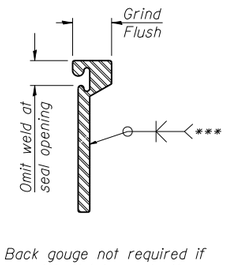
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



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

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	174

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	PLOT SCALE =	DRAWN - TCS / AG	REVISED -
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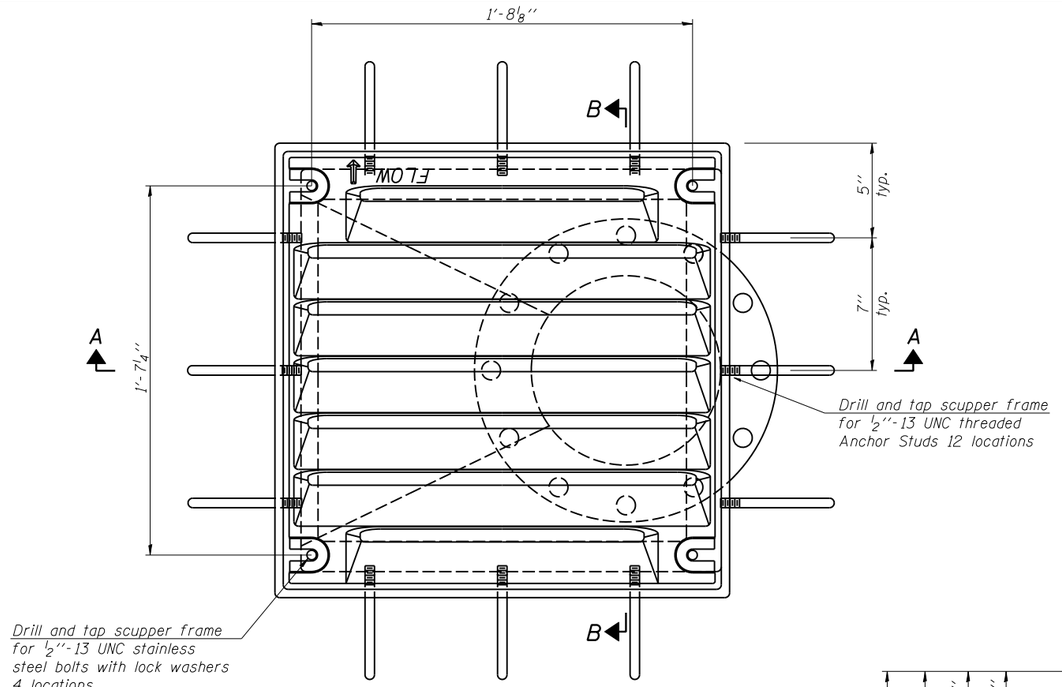
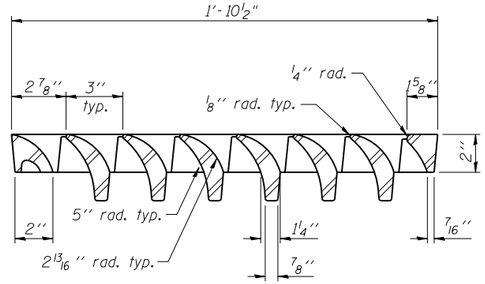
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 049-0534
SHEET NO. 15 OF 31 SHEETS

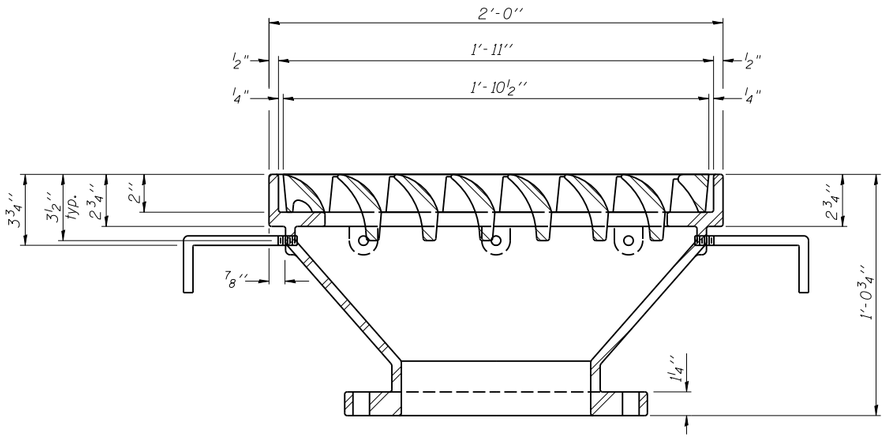
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	162
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



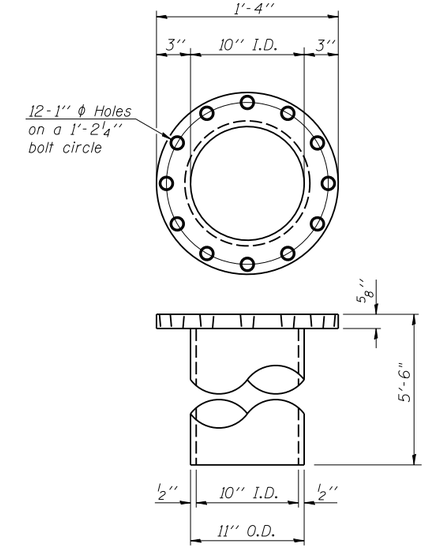
PLAN



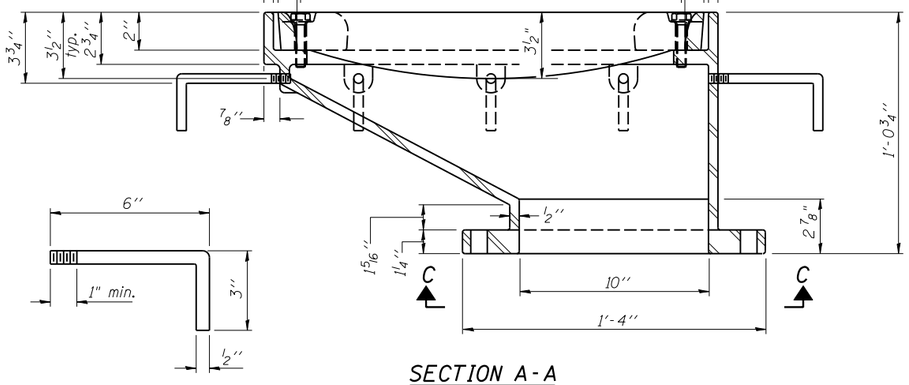
VANE GRATE DETAIL



SECTION B-B

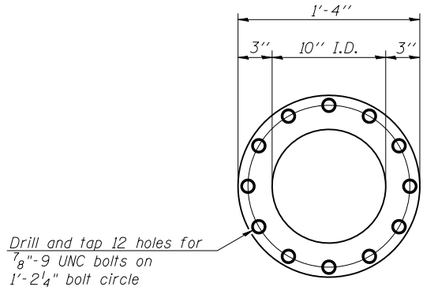


DOWNSPOUT

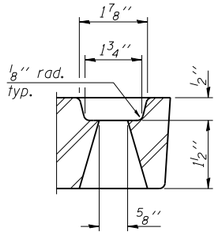


SECTION A-A

ANCHOR STUD DETAIL



VIEW C-C



GRATE 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.

All castings shall conform to the requirements of AASHTO M 306.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

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, Downspout, 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-12M10.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12M10	Each	6

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DS-12M10 7-1-10

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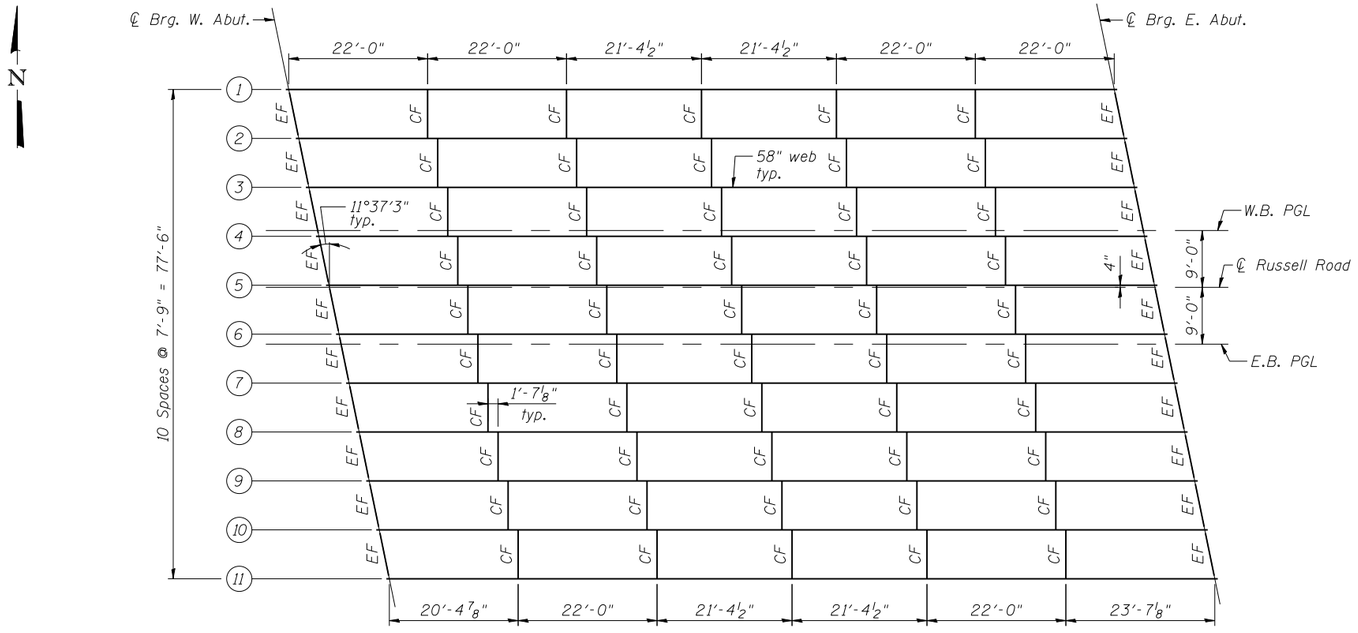
	PLOT SCALE =	DRAWN - TCS / AG	REVISED -
	PLOT DATE =	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-12M10
STRUCTURE NO. 049-0534
SHEET NO. 16 OF 31 SHEETS

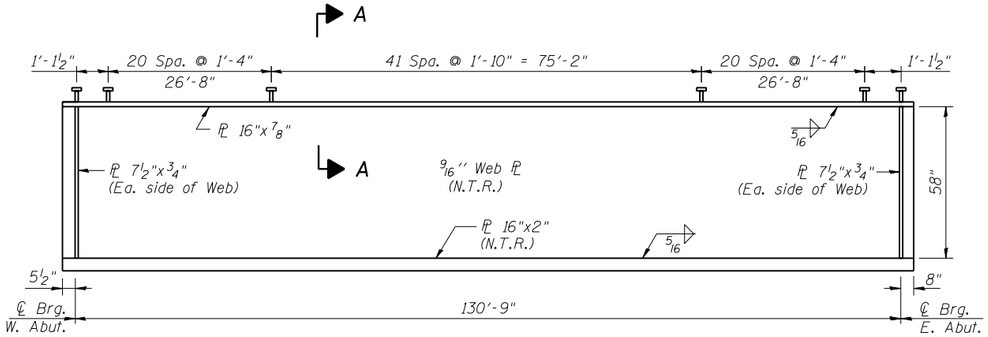
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	163
		CONTRACT NO. 60L76		
		ILLINOIS	FED. AID PROJECT	



FRAMING PLAN

INTERIOR GIRDER REACTION TABLE		
		Abut.
R_{DC1}	(k)	72.3
R_{DC2}	(k)	7.7
R_{DW}	(k)	24.5
R_{L+IM}	(k)	104.2
R_{Total}	(k)	208.7

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp.
I_s	(in^4)	46,272
$I_c(n)$	(in^4)	117,268
$I_c(3n)$	(in^4)	82,144
S_s	(in^3)	1925.4
$S_c(n)$	(in^3)	2578.6
$S_c(3n)$	(in^3)	2354.3
DC1	(k/′)	1.093
M_{DC1}	(′k)	2336.3
DC2	(k/′)	0.116
M_{DC2}	(′k)	248.7
DW	(k/′)	0.367
M_{DW}	(′k)	785.3
M_{L+IM}	(′k)	2425.9
M_u (Strength I)	(′k)	8654
$\phi_f M_n$	(′k)	11,745
f_s DC1	(ksi)	14.56
f_s DC2	(ksi)	1.30
f_s DW	(ksi)	4.0
f_s (L+IM)	(ksi)	14.7
f_s (Service II)	(ksi)	34.60
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	
$\phi_f F_n$	(ksi)	50
V_f	(k)	29.8



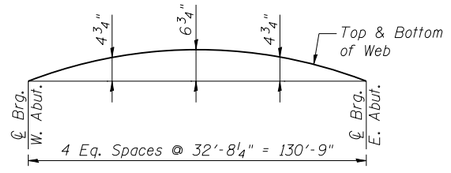
GIRDER ELEVATION

"N.T.R" denotes plates to which notch toughness requirements are applicable. All plate Girders including Webs, Top and Bottom flanges and stiffeners are to be AASHTO M270 Grade 50.

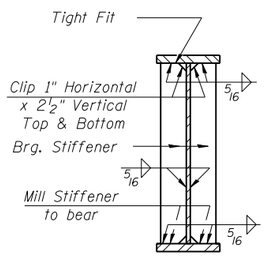
TOP OF WEB ELEVATIONS

(For Fabrication Only)

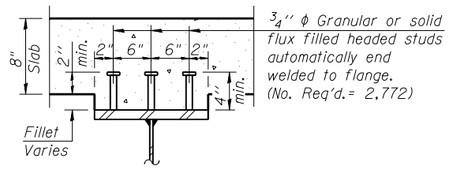
Beam Number	℄ Brg. W. Abut.	℄ Brg. E. Abut.
1	756.97	754.70
2	757.11	754.83
3	757.25	754.96
4	757.39	755.08
5	757.53	755.21
6	757.36	755.03
7	757.17	754.83
8	756.99	754.64
9	756.81	754.44
10	756.85	754.47
11	756.99	754.59



CAMBER DIAGRAM



SECTION AT ABUTMENT



SECTION A-A

NOTES:

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

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).

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

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

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

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

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

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

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

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

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

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 plus impact loads as calculated below (ksi). $M_{L+IM} / S_c(3n)$ 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). $1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{sL+IM}$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).

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

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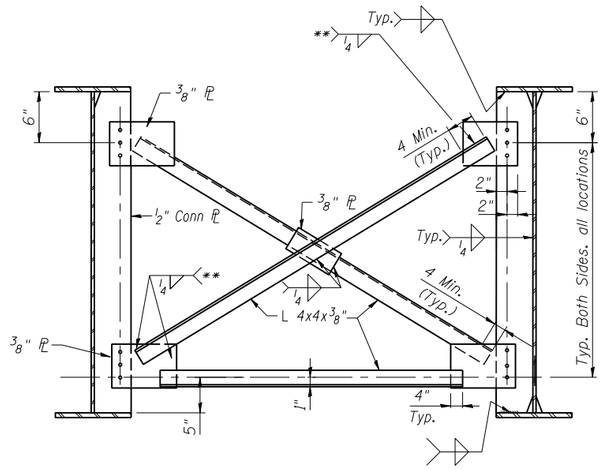
	PLOT SCALE =	DRAWN - TCS / AG	REVISED -
	PLOT DATE =	CHECKED - AG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & BEAM DETAILS
STRUCTURE NO. 049-0534
SHEET NO. 17 OF 31 SHEETS

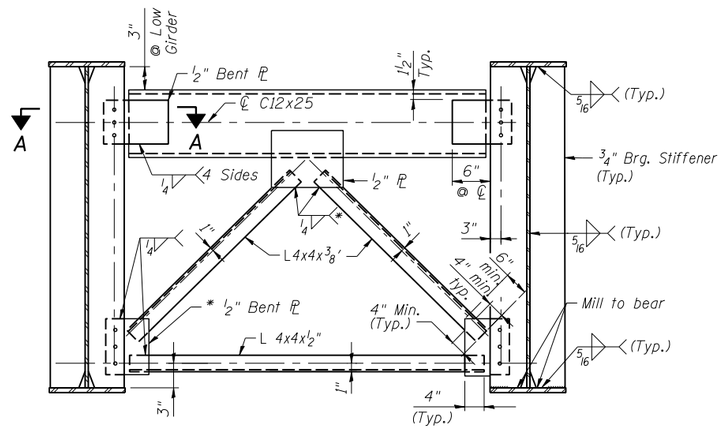
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	164
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



TYPICAL INTERIOR CROSS FRAMES (CF)

(50 Required)

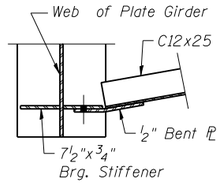
** Fillet weld angles along 3 sides on one face of gusset plate



END CROSS FRAMES (EF)

(20 Required)

* Weld on near side of 1/2" plate



SECTION A-A

Notes:

Two Hardened Washers Required for Each set of Oversized Holes.

Place diaphragm with channel flanges and outstanding angle legs outward from abutment backwall.

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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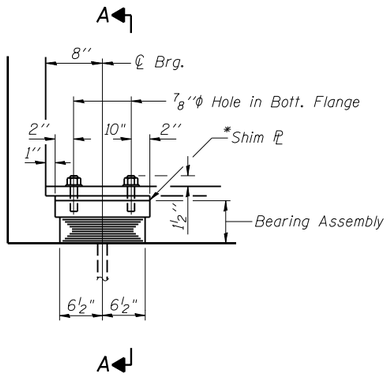
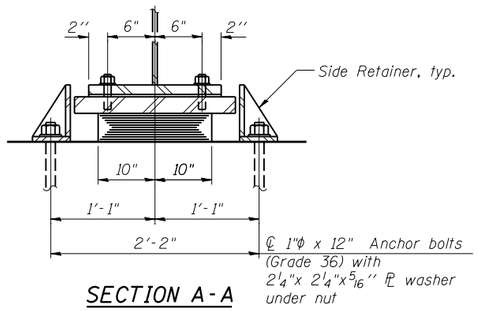
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS FRAME DETAILS
STRUCTURE NO. 049-0534
SHEET NO. 18 OF 31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	165
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

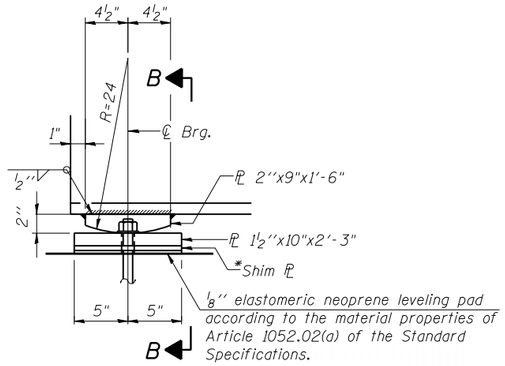


ELEVATION AT EAST ABUT.

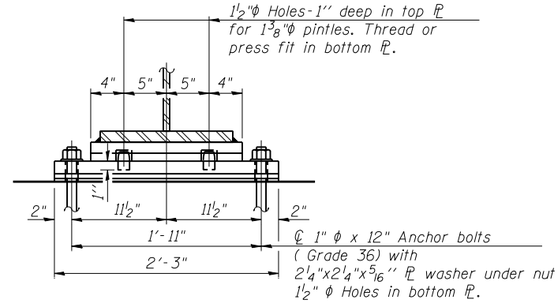


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



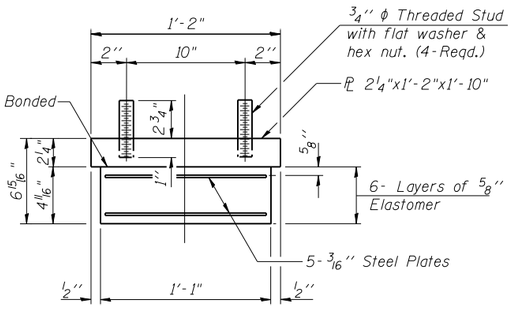
ELEVATION AT WEST ABUT.



SECTION B-B

FIXED BEARING

(AASHTO M270 Grade 50)



BEARING ASSEMBLY

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

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

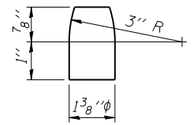
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Furnishing Elastomeric Bearing Assembly, Type I.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50

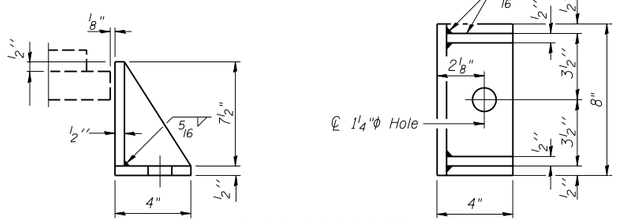
Furnishing of the fixed bearing assemblies including shim plates & neoprene pads, shall be included in the cost of Furnishing Structural Steel.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



PINTLE

*3/8" thick Shim PL required at W. Abut. Beam 10 Bearing.
1/4" thick Shim PL required at E. Abut. Beam 10 Bearing.
Provide 1/8" adjusting shims as necessary at other locations.



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly, Type I	Each	11
Anchor Bolts, 1"	Each	44

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I-2E-1

7-1-10

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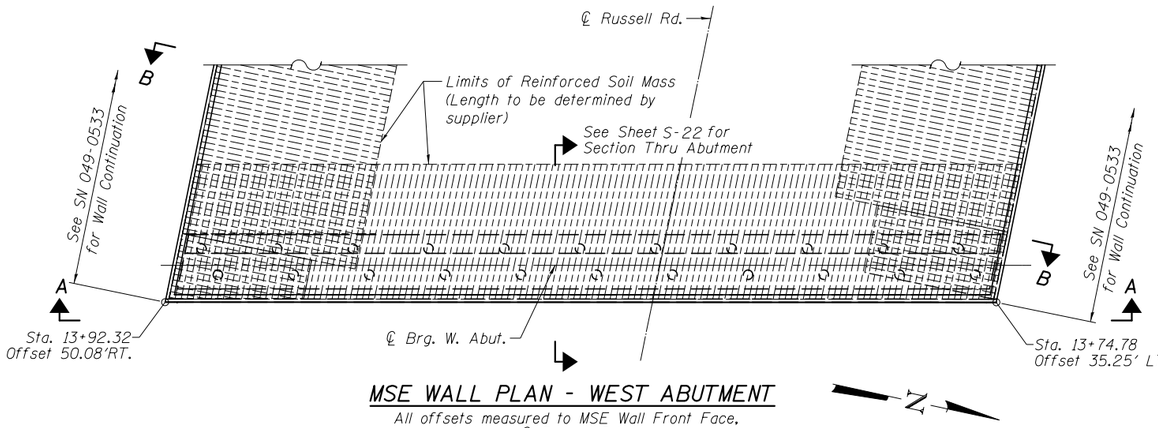
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 049-0534
SHEET NO. 19 OF 31 SHEETS

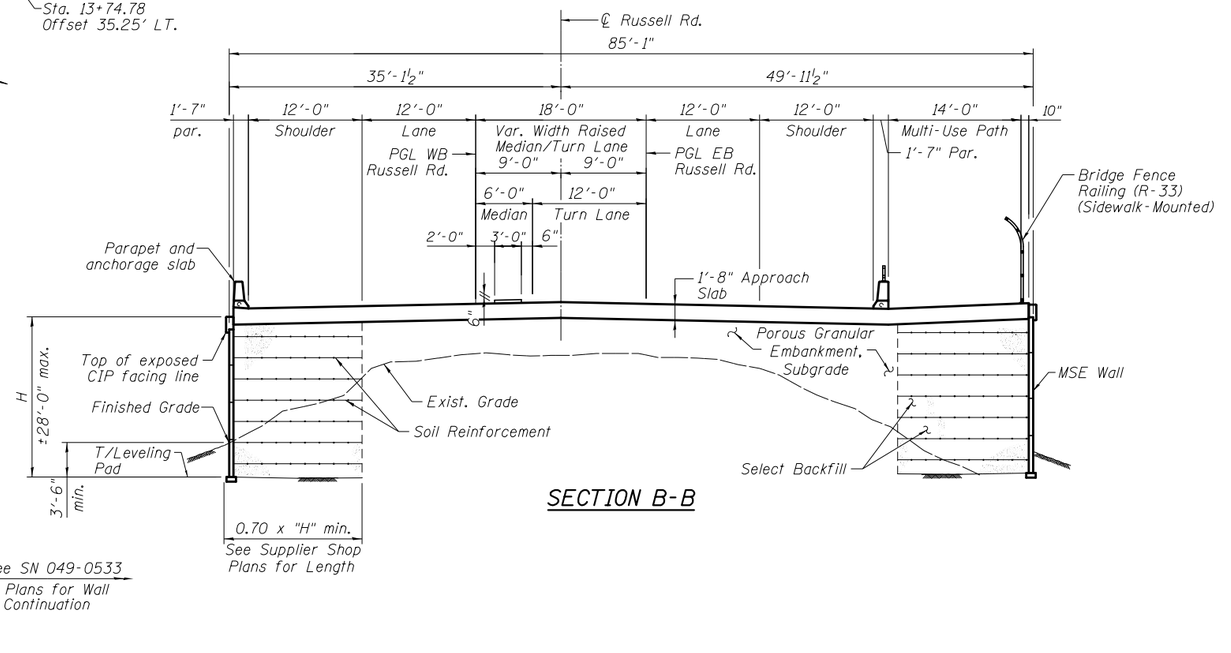
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	166
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

...\0490534-60L76-016-Bearing details.dgn 1/20/2012 8:49:04 AM

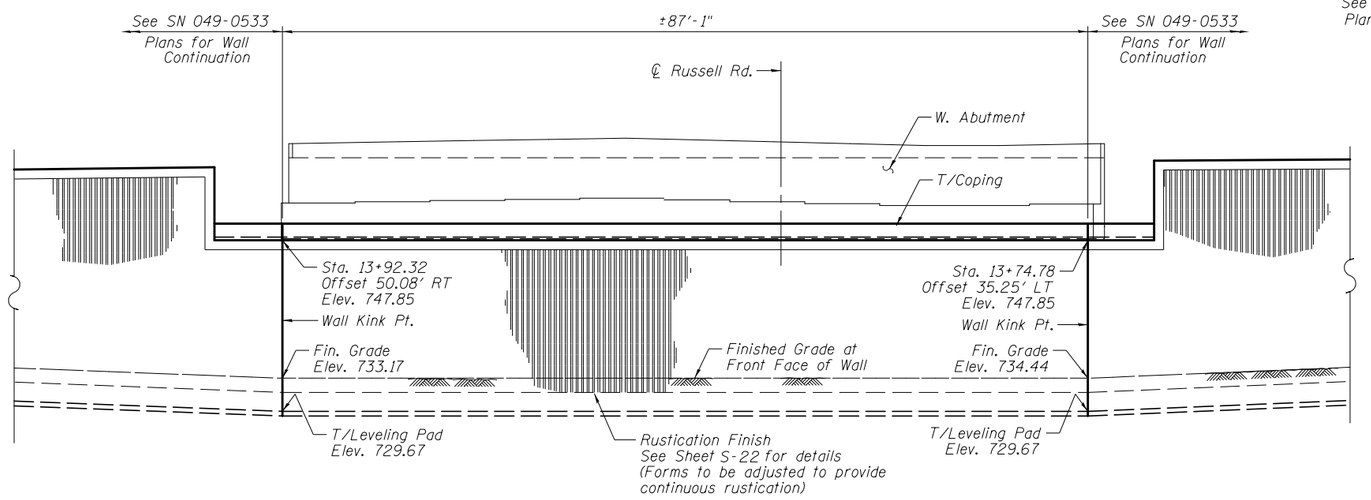


MSE WALL PLAN - WEST ABUTMENT

All offsets measured to MSE Wall Front Face, perpendicular to ℄ Russell Rd.



SECTION B-B



VIEW A-A

MSE WALL ELEVATION - WEST ABUTMENT

(Looking West)

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	PLOT DATE = 3/7/2012	CHECKED - SF	REVISED -

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MSE WALLS, WEST ABUTMENT
STRUCTURE NO. 049-0534
SHEET NO. S-20 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	167
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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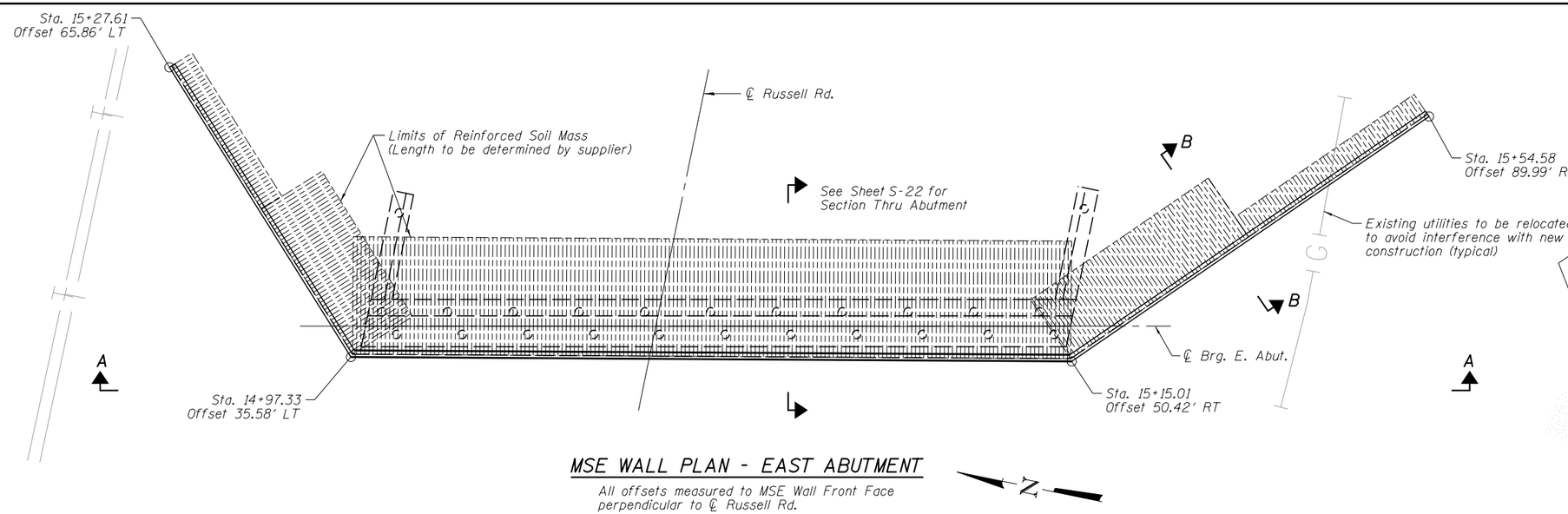
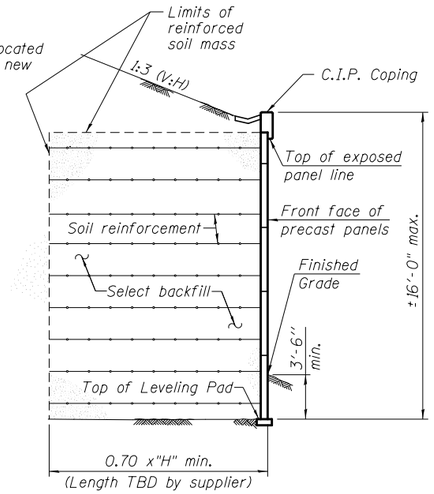
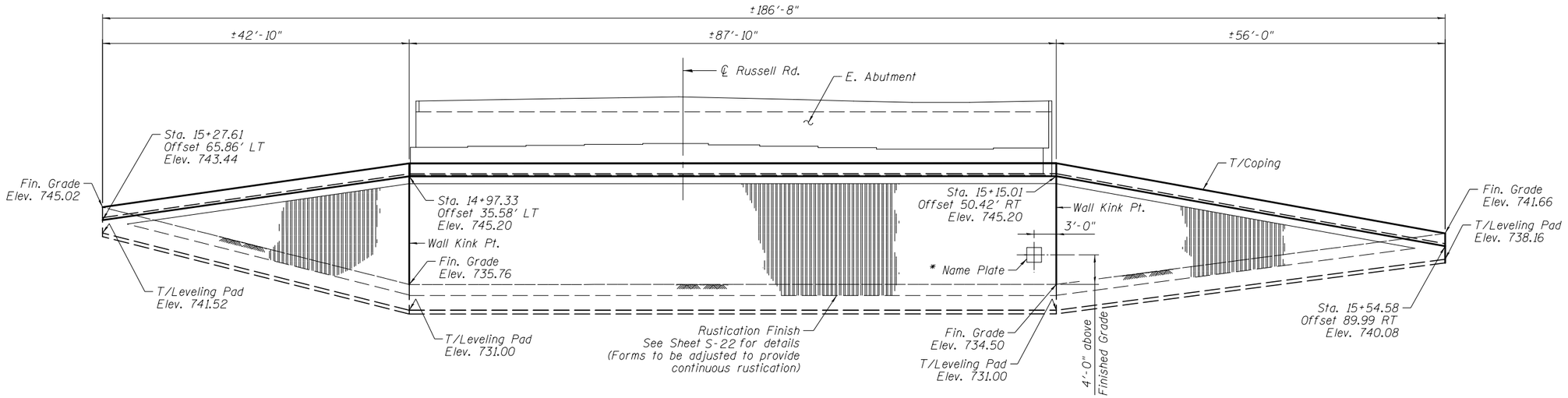


MSE WALL PLAN - EAST ABUTMENT

All offsets measured to MSE Wall Front Face perpendicular to ℄ Russell Rd.



SECTION B-B



VIEW A-A
MSE WALL ELEVATION - EAST ABUTMENT

(Looking East)

* Provide name plate according to Std. 515001. For the panel where the name plate will be affixed, the panel thickness shall be 5½". Omit the rustication treatment over a 2'x2' square where the name plate will be located. Cost included with Mechanically Stabilized Earth Retaining Wall.

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DEPARTMENT OF TRANSPORTATION

MSE WALL, EAST ABUTMENT
STRUCTURE NO. 049-0534
SHEET NO. S-21 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	168
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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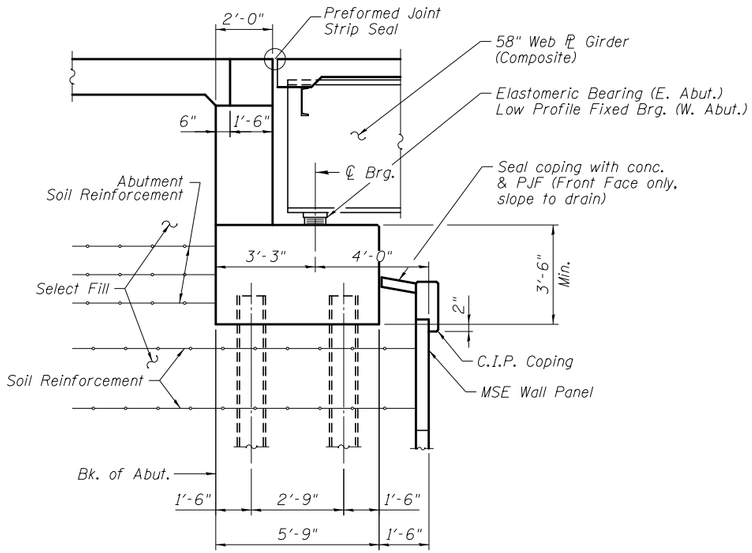
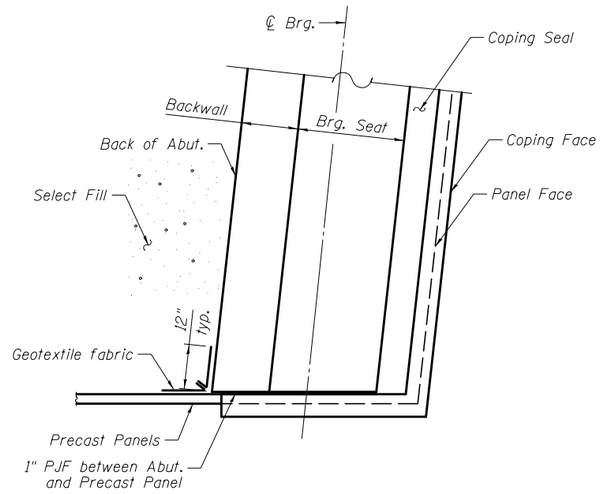
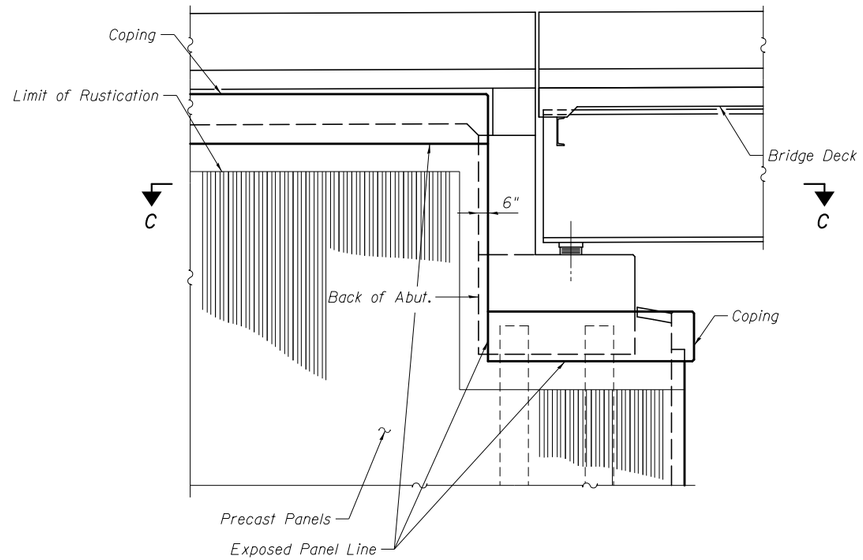


SECTION THRU ABUTMENT

(Horizontal Dimensions @ Rt. L's)

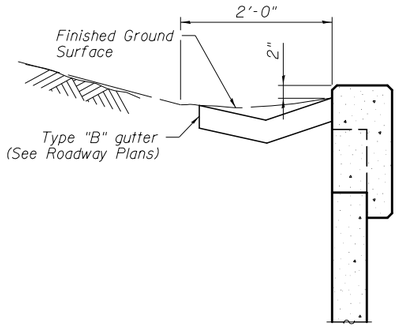


SECTION C-C

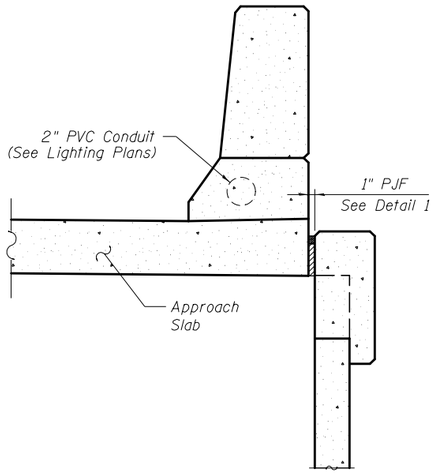


END VIEW OF WEST ABUTMENT

TYPICAL

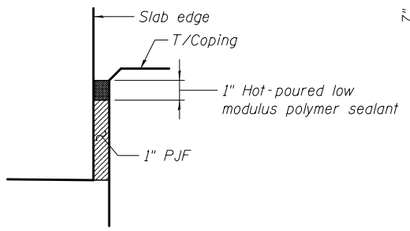


AT FLARED MSE WALLS

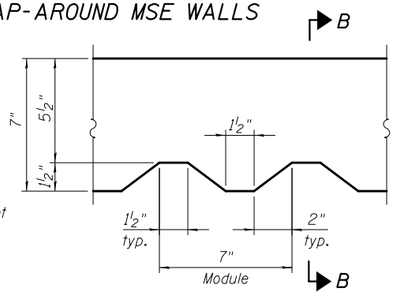


AT WRAP-AROUND MSE WALLS

COPING DETAILS



DETAIL 1



SECTION A-A

SECTION B-B

NOTES:

1. Offsets measured from ℄ of Russell Rd.
2. MSE Wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 2.0 kip/ft of abutment.
3. Allowable Soil Bearing Capacity for the MSE Wall = 4.0 Ksf.
4. No precoring required at the abutments. Piles shall be driven prior to placement of the reinforced select backfill. After driving piles, the piles should be coated with coal tar epoxy from the bottom of the select fill to 1 inch above the base of the abutments. The cost of coal tar epoxy coating shall be included with the cost of Furnishing Steel Piles HP

BILL OF MATERIAL

Item	Unit	Quantity
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	3,640
Structure Excavation	Cu. Yd.	1,040

RUSTICATION DETAILS

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DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
STRUCTURE NO. 049-0534
SHEET NO. S-22 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	169
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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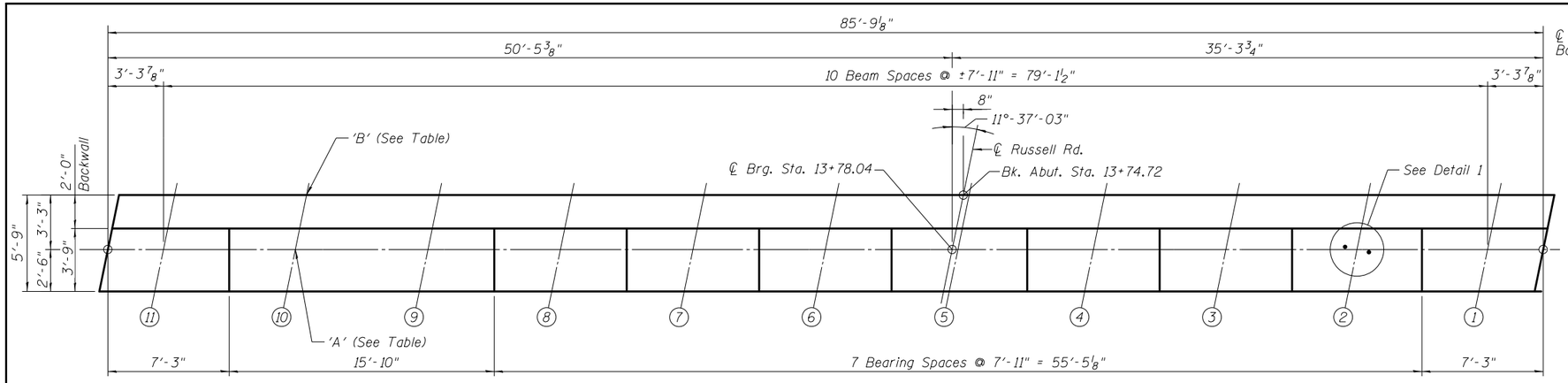
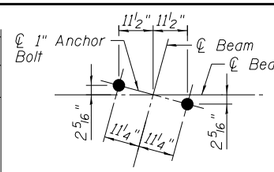


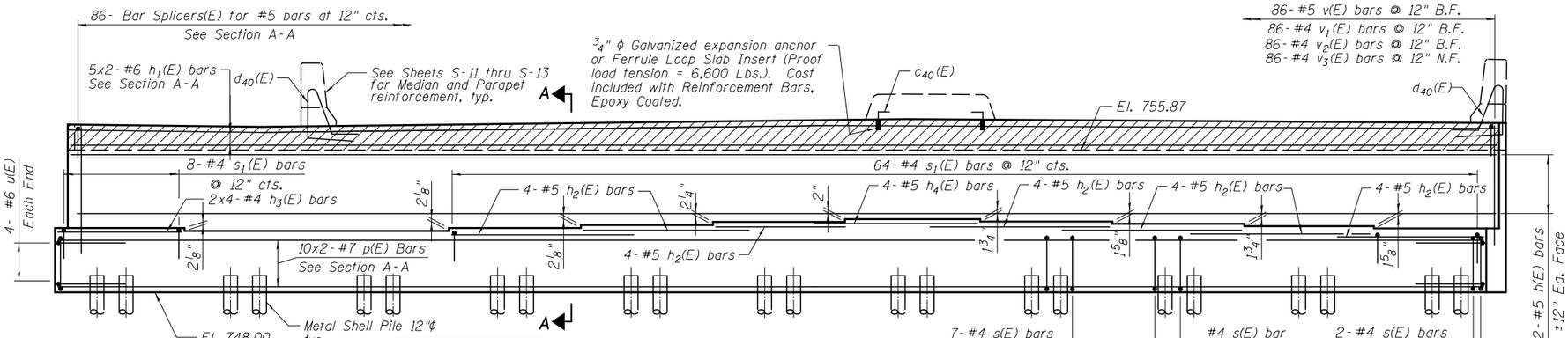
TOP PLAN



DETAIL 1

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$c_{40}(E)$	4	#5	1'-4"	
$d_{40}(E)$	4	#5	8'-9"	
h(E)	20	#5	44'-3"	
$h_1(E)$	10	#6	44'-6"	
$h_2(E)$	28	#5	11'-0"	
$h_3(E)$	8	#5	5'-6"	
$h_4(E)$	4	#5	7'-6"	
p(E)	20	#7	45'-0"	
s(E)	172	#4	14'-1"	
$s_1(E)$	72	#4	8'-11"	
u(E)	8	#6	13'-5"	
v(E)	86	#5	4'-4"	
$v_1(E)$	86	#4	4'-3"	
$v_2(E)$	86	#4	5'-4"	
$v_3(E)$	86	#4	7'-0"	
Concrete Structures			Cu. Yd.	95.5
Reinforcement Bars, Epoxy Coated			Pound	7,430
Furnishing Metal Shell Piles 12"x 0.250"			Foot	1,050
Driving Piles			Foot	1,050
Test Pile Metal Shells			Each	1
Pile Shoes			Each	21
Concrete Sealer			Sq. Ft.	799



ELEVATION

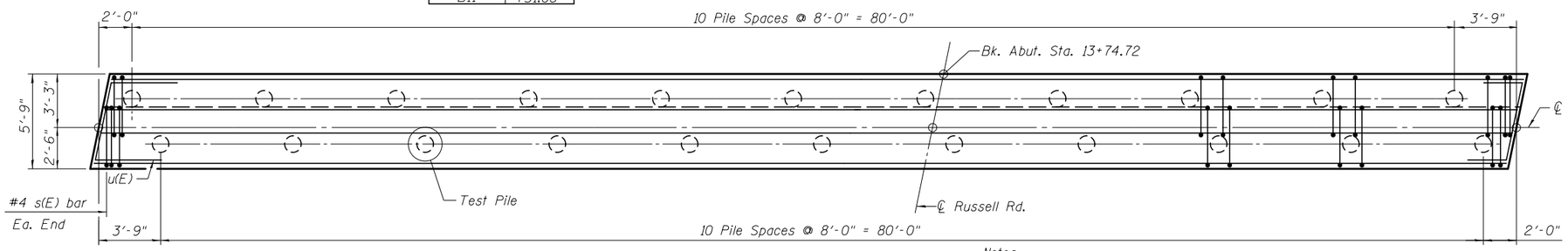
Beam No.	'A'
B1	751.66
B2	751.80
B3	751.94
B4	752.08
B5	752.22
B6	752.05
B7	751.86
B8	751.68
B9	751.50
*B10	751.50
B11	751.68

'A' - Bearing Seat Elevations given at intersection ℄ Bearing and ℄ Beam

* Provide Shim ℄ at Beam 10

PILE DATA

Type: Metal Shell Pile-12" ϕ w/ 0.250" walls
Nominal Required Bearing: 290 Kips
Factored Resistance Available: 160 Kips
Est. Length: 50'
No. Production Piles: 21
No. Test Piles: 1



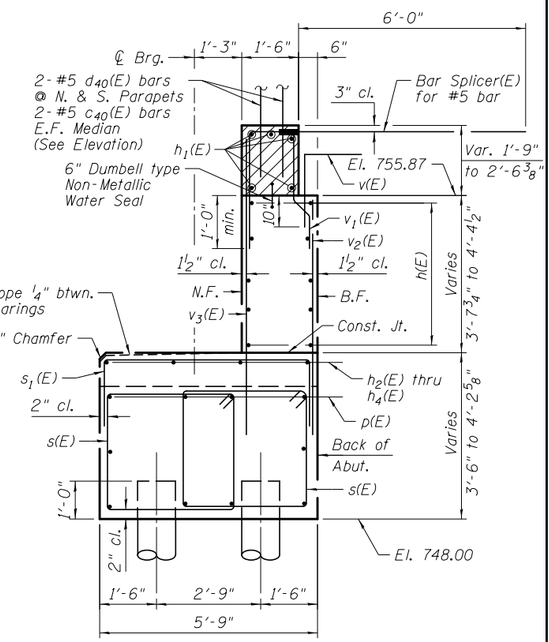
FOOTING PLAN

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure, Sht. S-10 of S-31.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.



SECTION A-A

N.F. - denotes Near Face
B.F. - denotes Back Face

For Bar Bending Details, see Sheet S-24.

Bars indicated thus 2x4-#6 etc. indicates 2 lines of bars with 4 lengths per line.

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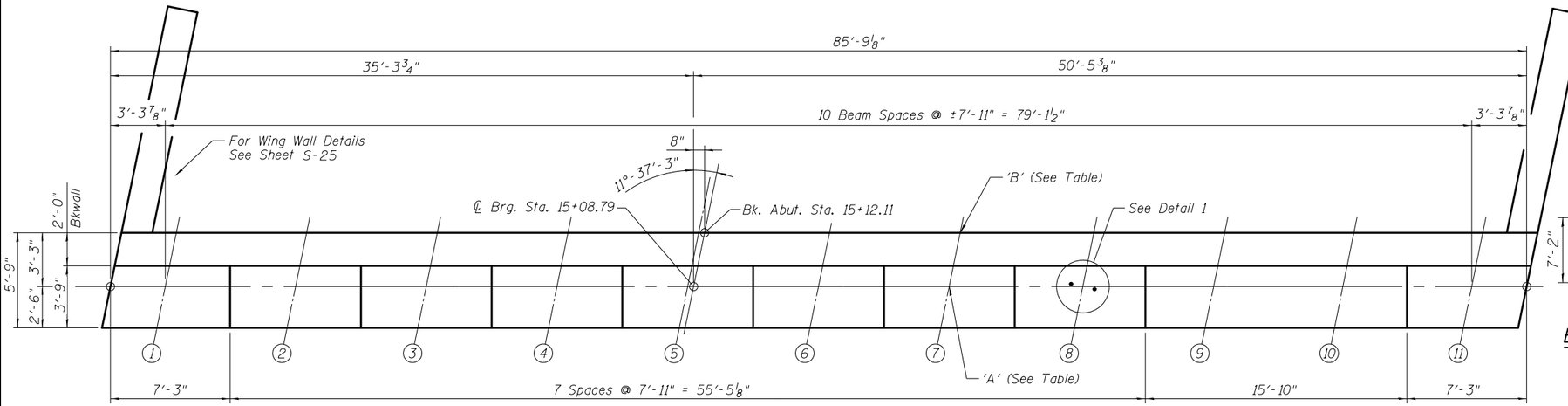
	PLOT SCALE =	DRAWN - MTR	REVISED -
	PLOT DATE =	CHECKED - MRM	REVISED -

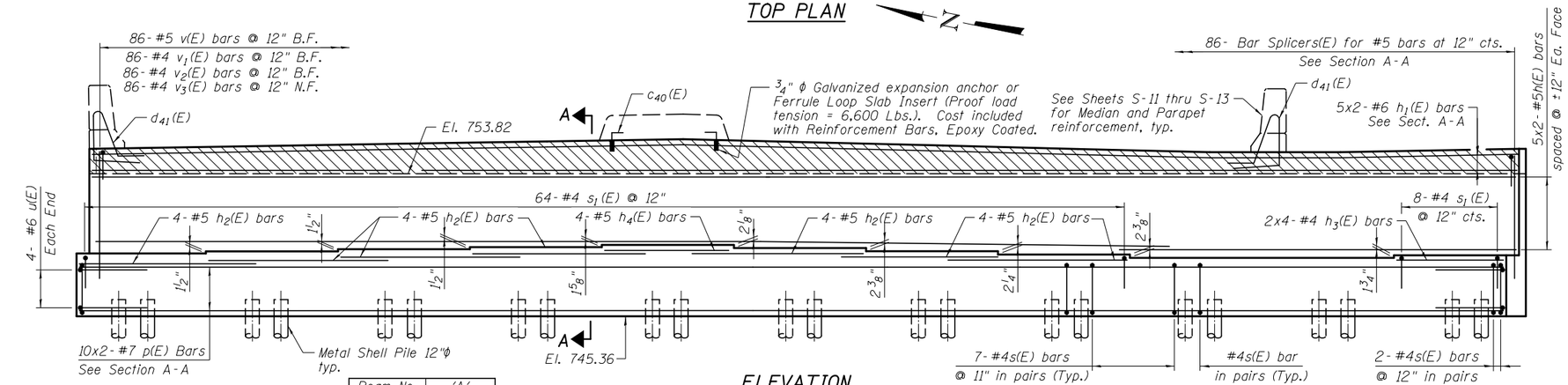
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 049-0534
SHEET NO. S-23 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	170
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



TOP PLAN

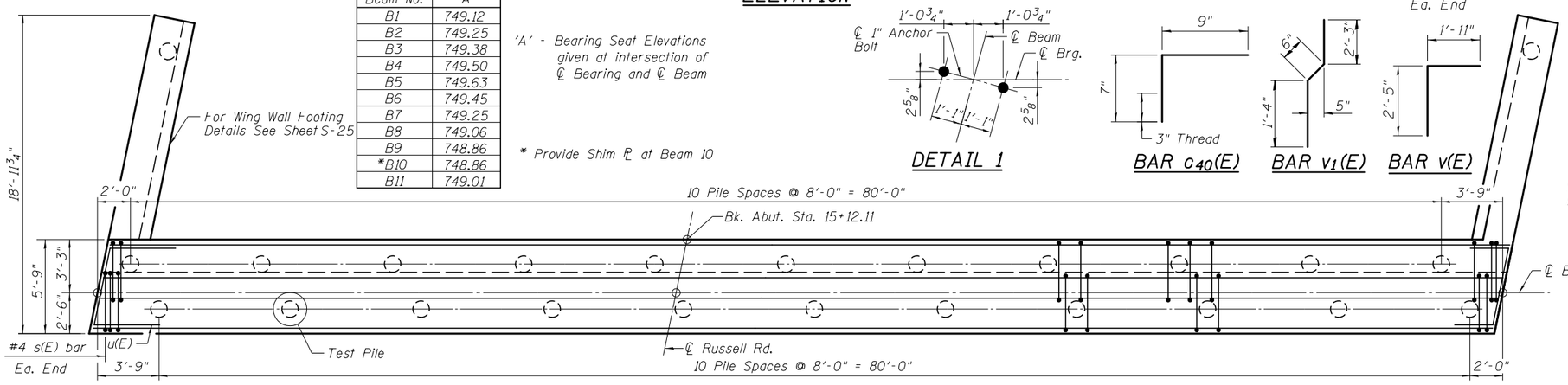


ELEVATION

Beam No.	'A'
B1	749.12
B2	749.25
B3	749.38
B4	749.50
B5	749.63
B6	749.45
B7	749.25
B8	749.06
B9	748.86
*B10	748.86
B11	749.01

'A' - Bearing Seat Elevations given at intersection of ℄ Bearing and ℄ Beam

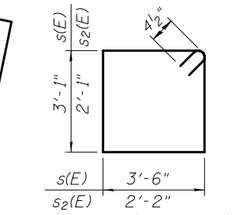
* Provide Shim ℄ at Beam 10



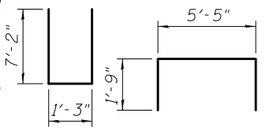
PILE DATA

Type: Metal Shell Pile-12" ϕ w/ 0.250" walls
Nominal Required Bearing: 290 Kips
Factored Resistance Available: 160 Kips
Est. Length: 56'
No. Production Piles: 23
No. Test Piles: 1

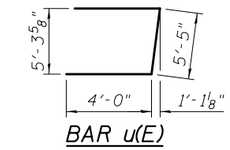
FOOTING PLAN



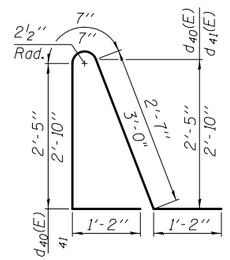
BARS s(E) & s2(E)



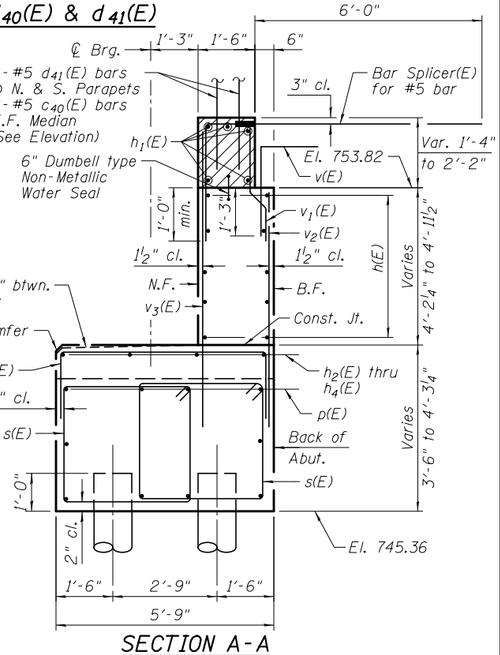
BAR n(E) BAR s1(E)



BAR u(E)



BAR d40(E) & d41(E)



SECTION A-A

EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
c40(E)	4	#5	1'-4"	⌜
d41(E)	4	#5	7'-11"	◿
h(E)	20	#5	44'-3"	—
h1(E)	10	#6	44'-6"	—
h2(E)	28	#5	11'-0"	—
h3(E)	8	#5	5'-6"	—
h4(E)	4	#5	7'-6"	—
h5(E)	28	#4	15'-0"	—
n(E)	28	#6	15'-7"	⊔
p(E)	20	#7	45'-0"	—
p1(E)	12	#7	17'-0"	—
s(E)	172	#4	14'-1"	⌐
s1(E)	72	#4	8'-11"	⌐
s2(E)	28	#4	9'-3"	⌐
u(E)	8	#6	13'-5"	⌟
v(E)	86	#5	4'-4"	⌜
v1(E)	86	#4	4'-3"	⌜
v2(E)	86	#4	5'-4"	—
v3(E)	86	#4	7'-0"	—
Concrete Structures		Cu. Yd.		114.8
Reinforcement Bars, Epoxy Coated		Pound		8,950
Furnishing Metal Shell Piles 12"x 0.250"		Foot		1,288
Driving Piles		Foot		1,288
Test Pile Metal Shells		Each		1
Pile Shoes		Each		23
Concrete Sealer		Sq. Ft.		848

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

N.F. - denotes Near Face
B.F. - denotes Back Face

Bars indicated thus 2x4-#6 etc. indicates 2 lines of bars with 4 lengths per line.

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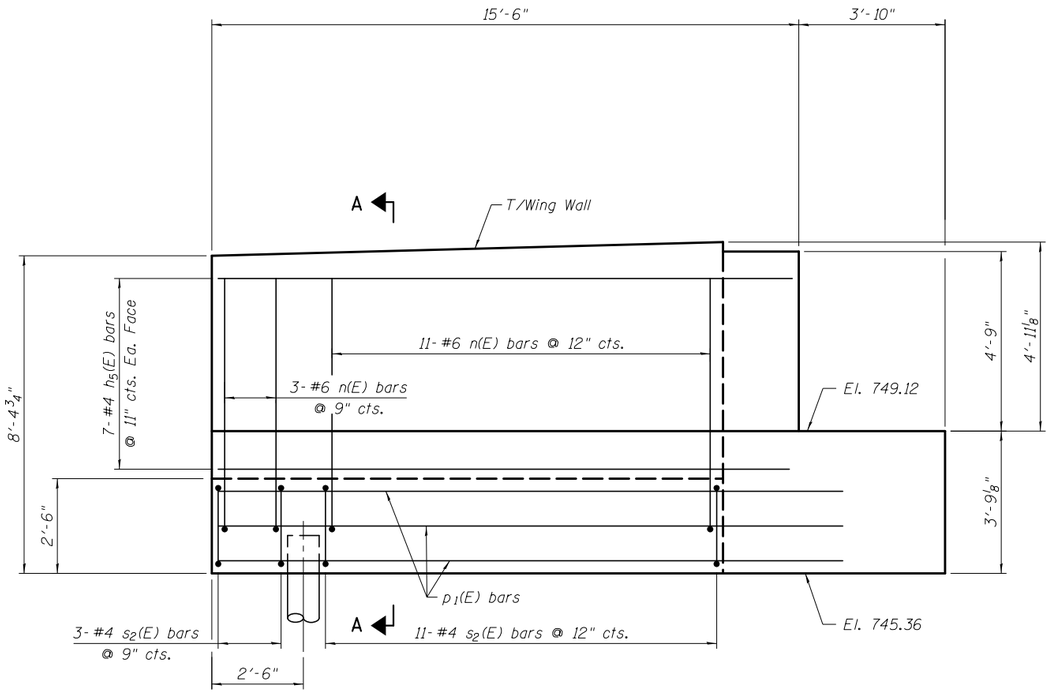
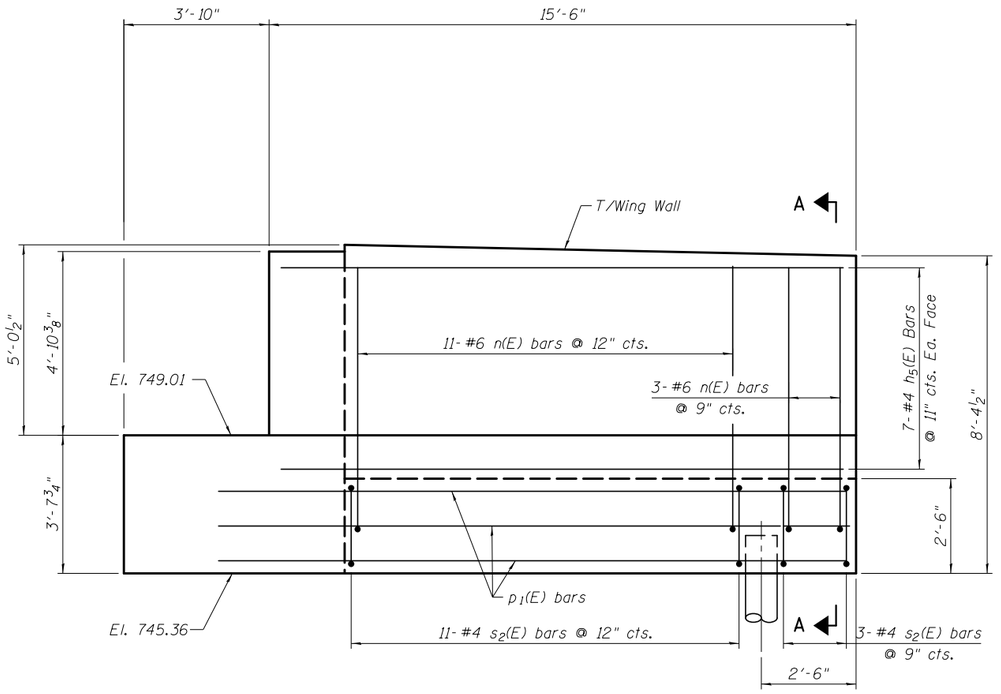
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 049-0534
SHEET NO. S-24 OF S-31 SHEETS

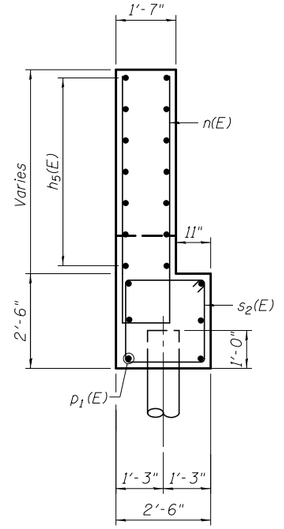
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	171
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		



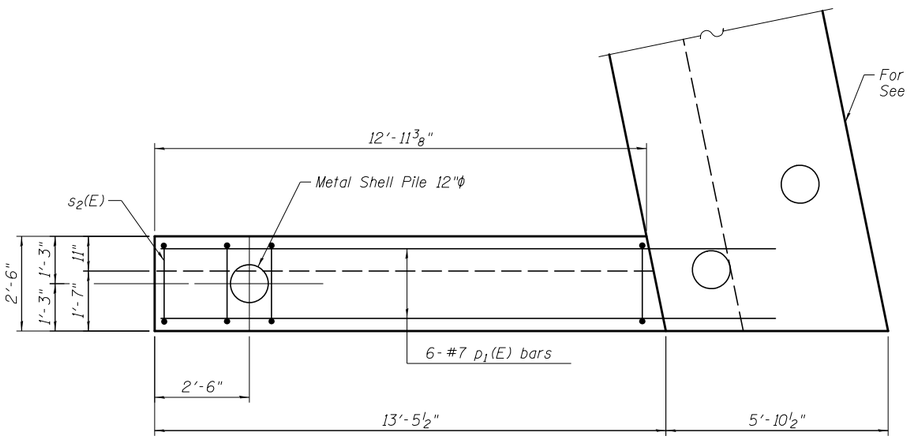
NORTHEAST WINGWALL - ELEVATION



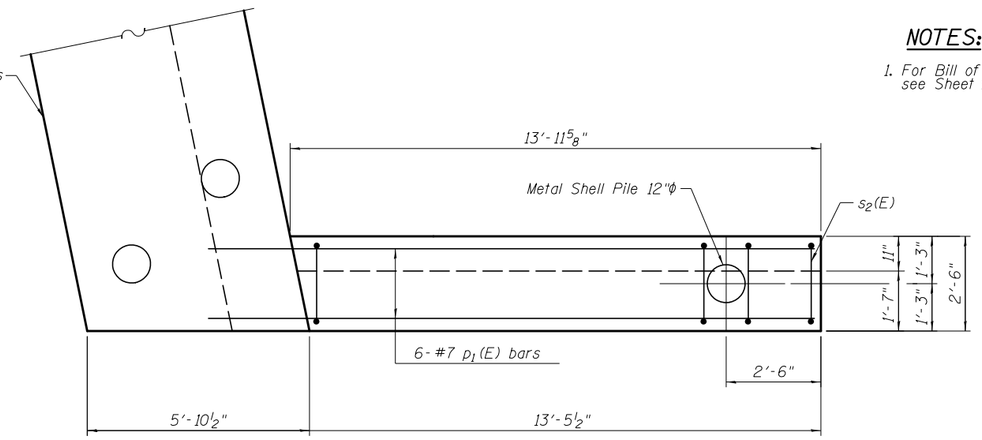
SOUTHEAST WINGWALL - ELEVATION



SECTION A-A



NORTHEAST WINGWALL - PLAN



SOUTHEAST WINGWALL - PLAN

NOTES:

1. For Bill of Material and Bar Bending Details see Sheet S-24

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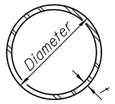
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

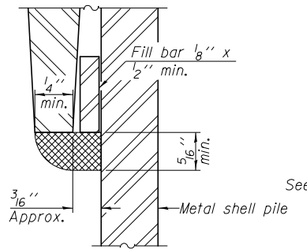
ABUTMENT DETAILS
STRUCTURE NO. 049-0534
SHEET NO. S-25 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	172
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

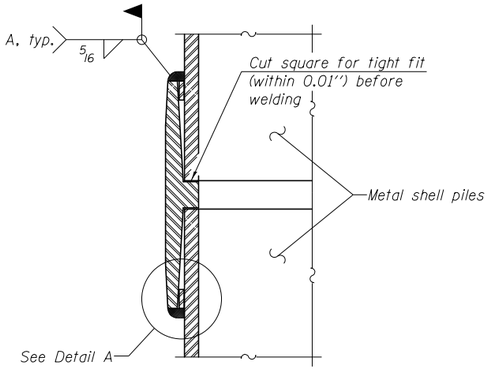


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3/ft.$)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361

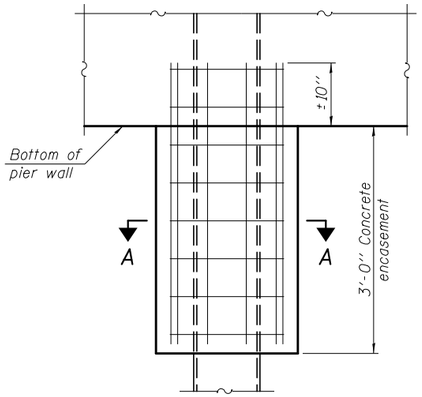


DETAIL A

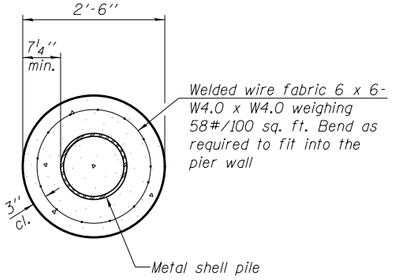


Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



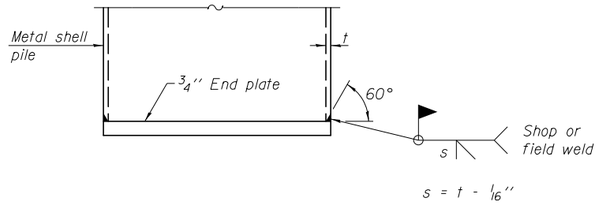
ELEVATION



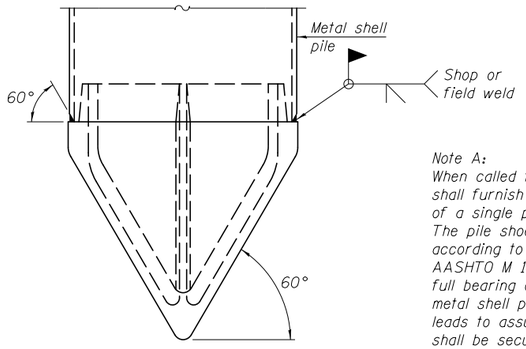
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



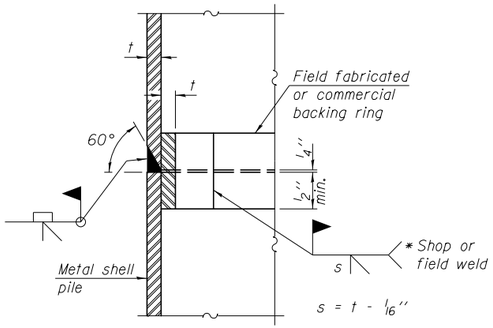
END PLATE ATTACHMENT



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.

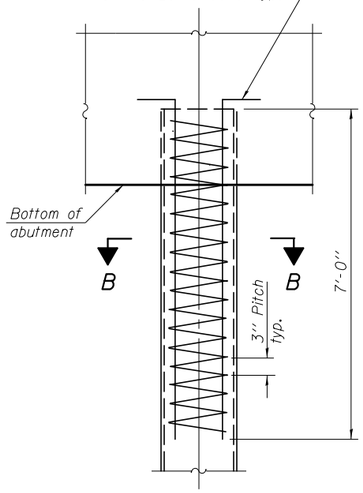
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

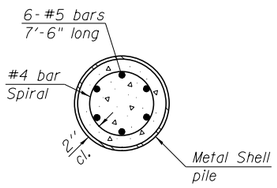


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

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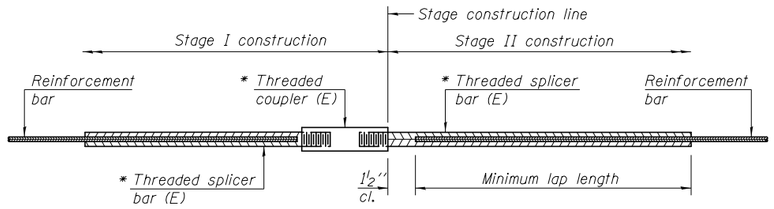
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 049-0534
SHEET NO. S-26 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	173
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

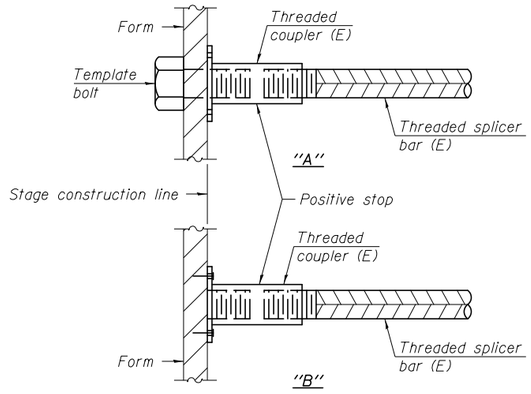
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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

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

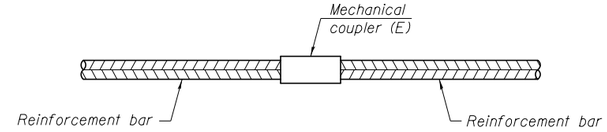
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



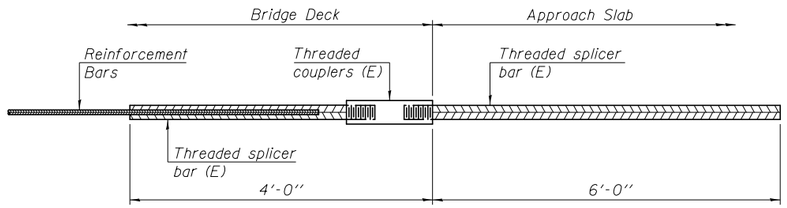
INSTALLATION AND SETTING METHODS

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



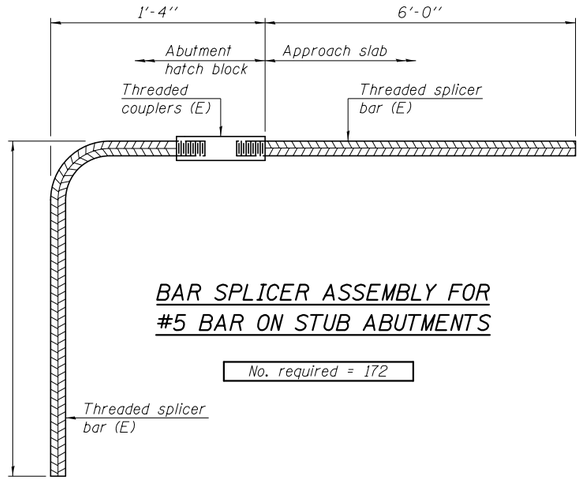
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 172

NOTES

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

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DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 049-0534
SHEET NO. S-27 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	174
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

SOIL BORING LOG

PAGE 1 of 3
DATE 6/22-23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				13.5" CONCRETE
				750.1
	14			
	16			Bott. W. Abut. El. 748.00
	13	NP	5	CLAY LOAM-brown & gray-stiff to very stiff (A-6) Fill
				SAND & GRAVEL-brown-medium dense (Fill)
	8			
	7			
-5	7	NP	4	
				745.7
	5			
	5			
	7	2.5P	15	
				CLAY-brown & gray-hard (A-6)
	3		*110*	
	6			
-10	6	2.4B	20	CLAY LOAM-brown & gray-stiff to very stiff (A-6) Fill
	3		*113*	
	3			
	3	2.25B	18	
	5		*112*	
	7			
-15	9	1.9B	19	
				CLAY-gray-stiff to very stiff (A-6)
	5			
	5			
	5	2.5P	26	
	3			
	4			
-20	7	2.0P	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7			
	15			
	20	2.5P	19	CLAY LOAM-brown & gray-stiff to very stiff (A-6) Fill
	5			
	7			
-25	14	2.0P	29	
				725.7
	10		*121*	
	17			
	22	5.4B	15	CLAY-brown & gray-hard (A-6)
	12			
	19			
-30	26	4.5P	16	
				719.2
	5		*109*	
	7			
-35	11	3.4B	20	CLAY-gray-stiff to very stiff (A-6)
	4		*121*	
	6			
-40	8	1.3B	15	

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

SOIL BORING LOG

PAGE 2 of 3
DATE 6/22-23/2011
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GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	8		*115*	
	10			
-45	12	1.6B	17	
				CLAY-gray-stiff to very stiff (A-6)
	4		*116*	
	6			
-50	8	1.8B	17	
	3		*100*	
	5			
-55	6	1.7B	25	
	4		*104*	
	6			
-60	6	1.4B	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7		*123*	
	7			
-65	11	1.8B	14	
				CLAY-gray-stiff to very stiff (A-6)
	4			
	4			
-70	6	–	26	
	5		*107*	
	7			
-75	7	2.9B	21	
	4		*109*	
	4			
-80	6	3.1B	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

SOIL BORING LOG

PAGE 3 of 3
DATE 6/22-23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0089 & 049-0078
Station 12+63 & 14+13
BORING NO. SB-02
Station 13+21
Offset 20' Left
Ground Surface Elev. *751.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to 10'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray-stiff to very stiff (A-6)
	4		*101*	
	5			
-85	6	1.0B	22	
				664.2
	8		*94*	
	10			
-90	12	1.4B	29	
				CLAY-gray-stiff (A-6/A-7) Wet
	3		*87*	
	4			
-95	5	1.0B	35	
				End Of Boring @ -100.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer
	4		*91*	
	4			
651.2-100	5	1.0B	31	

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

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CONSULTING ENGINEERS
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FILE NAME =	USER NAME =	DESIGNED - MRM	REVISED -
		CHECKED - TL	REVISED -
	PLOT SCALE =	DRAWN - MTR	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
STRUCTURE NO. 049-0534
SHEET NO. S-28 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	175
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 3
DATE 6/23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-03
Station 15+61
Offset 10' Left
Ground Surface Elev. 747.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				2.0" ASPHALT, 10.0" CONCRETE
				746.6
	8			Bott. E. Abut. El. 745.36
	4			SAND & GRAVEL-brown loose (Fill)
	3	NP	8	
				744.6
	2			CLAY LOAM-brown & gray- stiff to very stiff (A-6) Fill
	3			
-5	3	2.0P	23	
	4			
	4			
	8	3.75P	22	
	4			
	8			
-10	8	3.5P	17	
	2		*105*	
	3			
	5	1.8B	23	
	4			
	5			
-15	8	3.5P	16	
	3		*111*	
	4			
	4	1.6B	19	
	6			
	6			
-20	7	–	25	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4		*124*	CLAY LOAM-brown & gray- stiff to very stiff (A-6) Fill
	8			
	8	3.8B	13	
	3		*93*	
-25	4	1.8B	26	
				722.1
	5		*115*	CLAY-brown & gray- stiff to hard (A-6)
	5			
	7	4.1B	17	
	3		*114*	
-30	6	1.9B	18	
				715.6
	10		*122*	CLAY-gray-hard (A-6)
	11			
-35	11	4.5P	14	
	3			
	11			
-40	6	–	18	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4		*124*	
	8			
	8	3.8B	13	
	3		*93*	
-45	4	1.1B	28	CLAY-gray-stiff (A-6/A-7) Wet
	4			
	5		*115*	
	5			
	7	4.1B	17	
	4		*114*	
-50	4	–	28	
	4			
	4			
-55	4	1.4B	26	
	3		*98*	
	4			
	4	1.0B	28	
	3		*98*	
	4			
-60	5	1.0B	28	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3		*100*	
-65	6	1.4B	25	CLAY-gray-stiff (A-6/A-7) Wet
	4			
	4			
	4			
	4			
	4			
-70	4	–	31	
				675.6
	4		*105*	CLAY-gray- stiff to very stiff (A-6)
	6			
-75	8	1.4B	22	
	3		*98*	
	4			
	6	1.5P	22	
	3		*98*	
	4			
-80	5	1.0B	28	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	6		*110*	CLAY-gray- stiff to very stiff (A-6)
	6			
-85	8	2.5B	20	
	5		*95*	
	7			
-90	9	1.4B	29	
	5		*94*	CLAY-gray- stiff to very stiff (A-6/A-7) Wet
	6			
-95	10	2.0B	28	
	5		*93*	
	5			End Of Boring @ -100.0
-100	5	1.2B	30	Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-105			
-110			
-115			
-120			

659.6
647.6

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

SOIL BORING LOG

PAGE 2 of 3
DATE 6/23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-03
Station 15+61
Offset 10' Left
Ground Surface Elev. 747.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

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

SOIL BORING LOG

PAGE 3 of 3
DATE 6/23/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-03
Station 15+61
Offset 10' Left
Ground Surface Elev. 747.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
STRUCTURE NO. 049-0534
SHEET NO. S-29 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	176
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

SOIL BORING LOG

PAGE 1 of 2
DATE 6/28/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-06
Station 14+24
Offset 52' Right
Ground Surface Elev. *729.7*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *724.7*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				10.0" ASPHALT *728.9*
	3		*115*	
	4			
	4	NP	5	
				SAND-brown-very loose to loose (A-3) Apparent Fill
	3		*114*	
	2			
724.7 −5	2	NP	7	CLAY-gray- stiff to very stiff (A-6)
	6		*112*	
	10			
	13	7.3B	17	
				CLAY LOAM-brown & gray- hard (A-6)
	5		*111*	
	8			
−10	13	8.4B	18	
	5		*111*	
	11			
	14	6.2B	18	
716.7				
	5			
				Sand seams from −13.5' to −15.0'.
	13			
−15	11	–	17	
				CLAY-gray- stiff to very stiff (A-6)
	8			
	18			
	17	2.25P	15	
	18		*118*	
	11			
−20	6	2.8B	14	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	5		*115*	
	7			
	10	1.8B	17	
	3		*114*	
	4			
−25	7	1.7B	17	CLAY-gray- stiff to very stiff (A-6)
	3		*121*	
	4			
	6	1.7B	12	
	5			
	6			
−30	6		NR	
697.7				
	3			
	4			
−35	5	0.75P	27	CLAY-gray- medium stiff to stiff (A-6)
	2		*102*	
	4			
−40	5	1.1B	24	

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

SOIL BORING LOG

PAGE 2 of 2
DATE 6/28/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-06
Station 14+24
Offset 52' Right
Ground Surface Elev. *729.7*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *724.7*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- medium stiff to stiff (A-6)
667.7				
	2		*100*	
	3			
−45	5	1.7B	25	CLAY-gray-stiff (A-6/A-7) Wet
662.7				
	2		*105*	
	3			
−50	6	1.7B	21	CLAY-gray- medium stiff to stiff (A-6)
657.7				
	4		*92*	
	5			
−55	7	1.0P	13	
				CLAY-gray-stiff (A-6/A-7) Wet
	2		*104*	
	4	0.7S@		
−60	5	11.3%	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3			
	4			
−65	4	1.25P	32	CLAY-gray-stiff (A-6/A-7) Wet
662.7				
	4		*105*	
	6			
−70	7	1.25B	22	CLAY LOAM-gray-stiff (A-6)
657.7				
	4		*92*	
	6			
−75	6	1.5B	29	
				CLAY-gray-stiff (A-6/A-7) Wet
				End Of Boring @ −80.0
				Hollow Stem Augers To −10.0'
	2		*97*	Rotary Drilling To Completion
	4			10.0' Of 4.0"ø Casing Used
649.7 −80	5	1.4B	27	CME Automatic Hammer

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

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		CHECKED - TL	REVISED -
	PLOT SCALE =	DRAWN - MTR	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS III
STRUCTURE NO. 049-0534
SHEET NO. S-30 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	177
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE 6/29/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-07
Station 14+72
Offset 69' Right
Ground Surface Elev. 729.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 720.9
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
729.9				8.0" ASPHALT, 4.0" SAND & GRAVEL
728.9	3			
	6			CLAY LOAM-dark brown & gray-
	11	–	8	medium dense (Fill)
726.9				
	2		*111*	CLAY-gray-
	4			stiff to very stiff (A-6)
–5	5	3.1B	18	
	8		*109*	CLAY LOAM-dark brown & gray-
	13			very stiff to hard (A-6)
	13	7.6B	18	
720.9	3			
	5			Clayey SAND & GRAVEL-
–10	5	–	14	brown & gray-medium dense (A-2)
719.4	3		*124*	
	4			
	7	2.25B	13	CLAY-gray-
	58		*114*	stiff to very stiff (A-6)
	18			
–15	43	2.7B	13	
	3		*114*	
	5			
	7	1.7B	16	
	3		*112*	
	4			
–20	6	2.1B	17	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	2		*112*	
	4			
	6	1.6B	17	
	4		*113*	CLAY-gray-
	5			stiff to very stiff (A-6)
–25	6	1.5B	17	
	3		*111*	
	4			
	5	1.4B	18	
701.9	4		*101*	
	6			
–30	6	0.7B	25	
	4		*100*	CLAY-gray-
	6			medium stiff to stiff (A-6) Wet
–35	8	1.1B	25	
	1		*100*	
	3			
–40	3	1.2B	25	

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

SOIL BORING LOG

PAGE 2 of 2
DATE 6/29/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI Rte. 1199 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078
Station 14+13
BORING NO. SB-07
Station 14+72
Offset 69' Right
Ground Surface Elev. 729.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 720.9
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	2		*105*	CLAY-gray-
	4			medium stiff to stiff (A-6) Wet
–45	6	1.3B	23	
	2			
	3			
–50	5	0.75P	26	
	1		*101*	
	2			
–55	4	1.2B	25	
672.9				
	3		*88*	CLAY-gray-stiff (A-6/A-7) Wet
	4			
–60	4	1.3B	34	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3		*90*	
	4			
–65	6	1.5B	32	
				CLAY-gray-stiff (A-6/A-7) Wet
	3		*93*	
	4			
–70	5	1.4B	30	
	3		*100*	
	4			
–75	6	1.9B	26	
	3		*95*	End Of Boring @ –80.0
	5			Hollow Stem Augers To –10.0'
	7	1.8B	27	Rotary Drilling To Completion
				10.0' Of 4.0"ø Casing Used
				CME Automatic Hammer
–80				649.9

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

SOIL BORING LOG

PAGE 1 of 1
DATE 7/8/2011
LOGGED BY RJ
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 049-0078 & 049-0089
Station 14+13
BORING NO. SB-07A
Station 14+95
Offset 66' Right
Ground Surface Elev. 731.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
731.3				3.0" TOPSOIL-black
	AS	–	17	
	AS	2.75P	25	
				CLAY LOAM-brown & gray-
				very stiff to hard (A-6)
–5	AS	4.0P	18	
	AS	4.5P	18	
723.6				
				Auger Refusal @ –8.0'
				End Of Boring
–10				Hand Auger
–15				
–20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
–25			
–30			
–35			
–40			

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

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		CHECKED - TL	REVISED -
	PLOT SCALE =	DRAWN - MTR	REVISED -
	PLOT DATE =	CHECKED - SF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS IV
STRUCTURE NO. 049-0534
SHEET NO. S-31 OF S-31 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1199	49-1(HB & HB-1)R	LAKE	225	178
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

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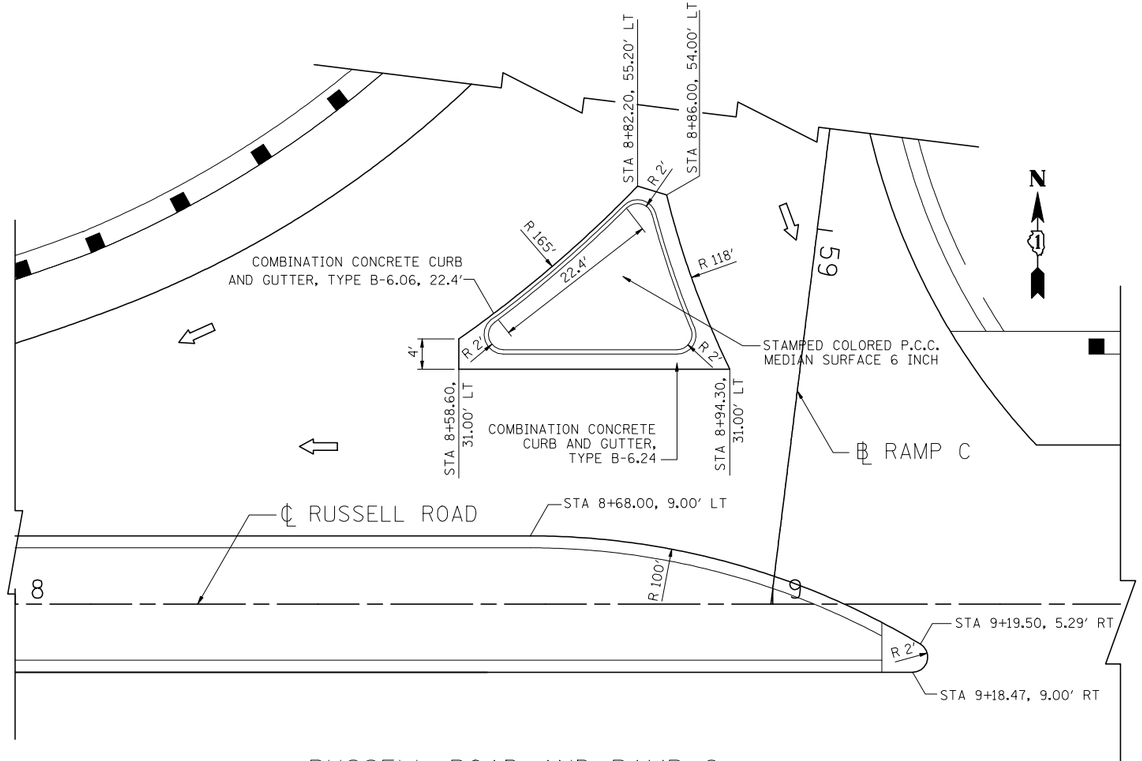
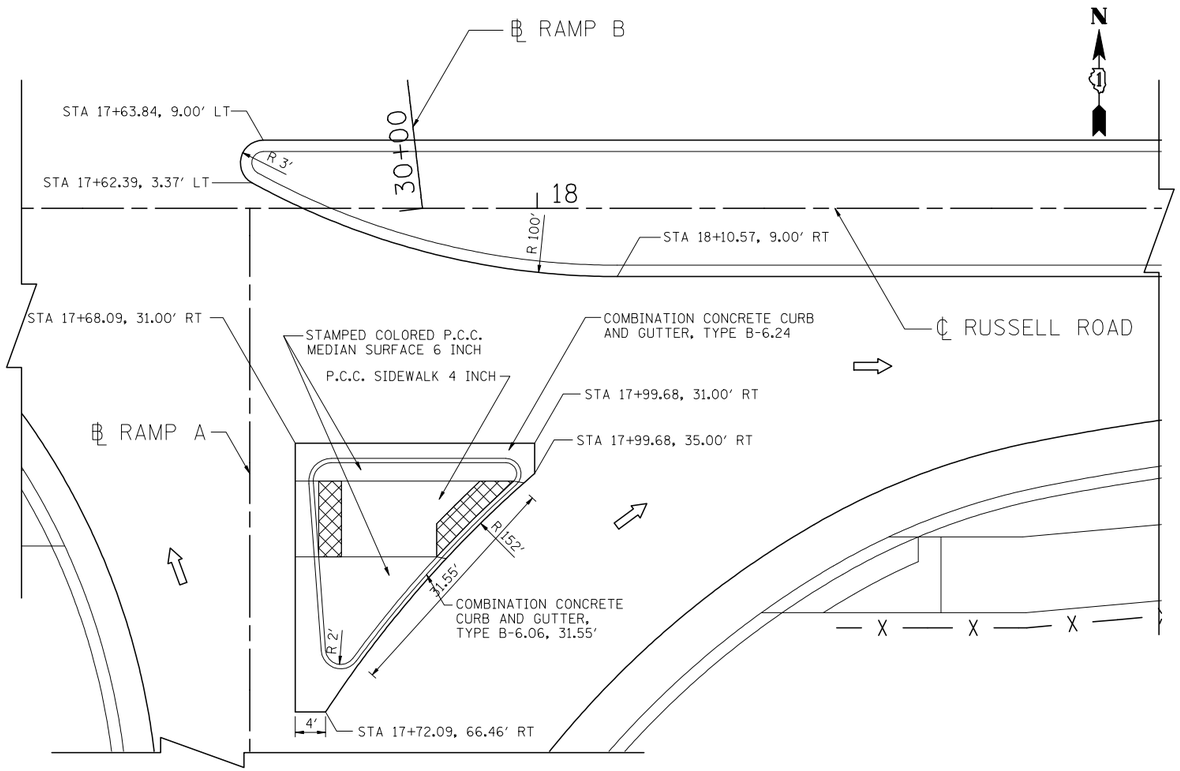


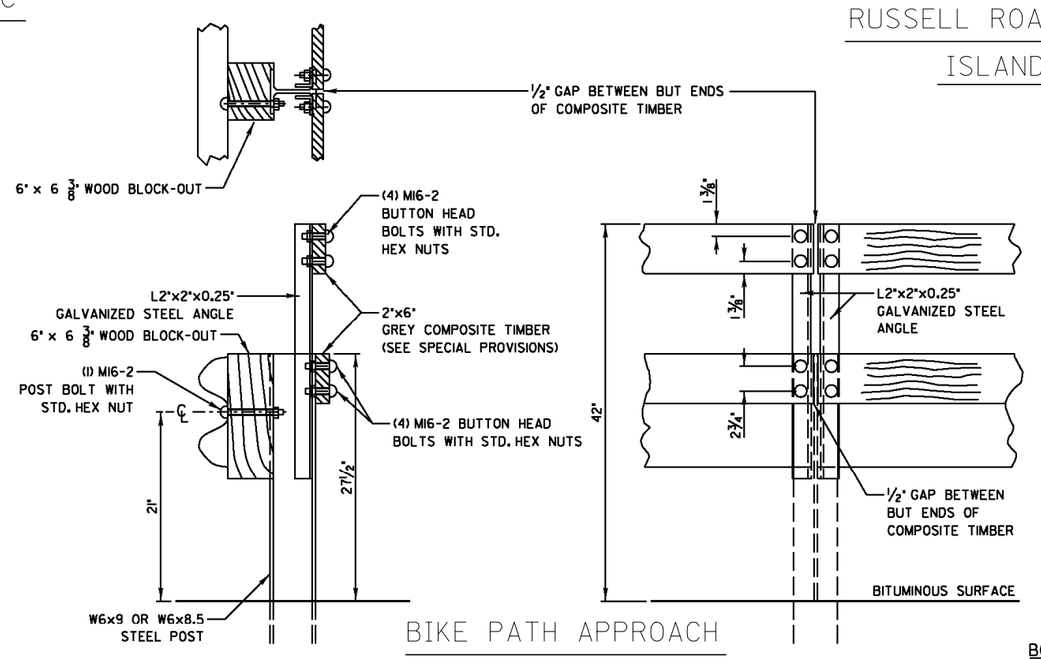
RUSSELL ROAD AND RAMP C

ISLAND DETAIL



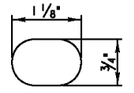
RUSSELL ROAD AND RAMP A

ISLAND DETAIL



BIKE PATH APPROACH

GUARDRAIL ADJUSTMENT



BOLT HOLE DETAIL

DUE TO EXPANSION AND CONTRACTION OF THE COMPOSITE TIMBER, THE LOCATION OF THE BOLTS WITH RESPECT TO THE SLOTTED BOLT HOLES IN THE COMPOSITE TIMBER WILL BE DEPENDANT ON THE AMBIENT TEMPERATURE AT PLACEMENT. CONSULT THE MANUFACTURER FOR BOLT HOLE LOCATION IN THE COMPOSITE TIMBER AND BOLT LOCATION IN THE SLOTTED BOLT HOLE.

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

FILE NAME = $FILES$	USER NAME = default	DESIGNED - RGR	REVISED -
		DRAWN - RGR	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 3/7/2012	DATE - 03/09/2012	REVISED -

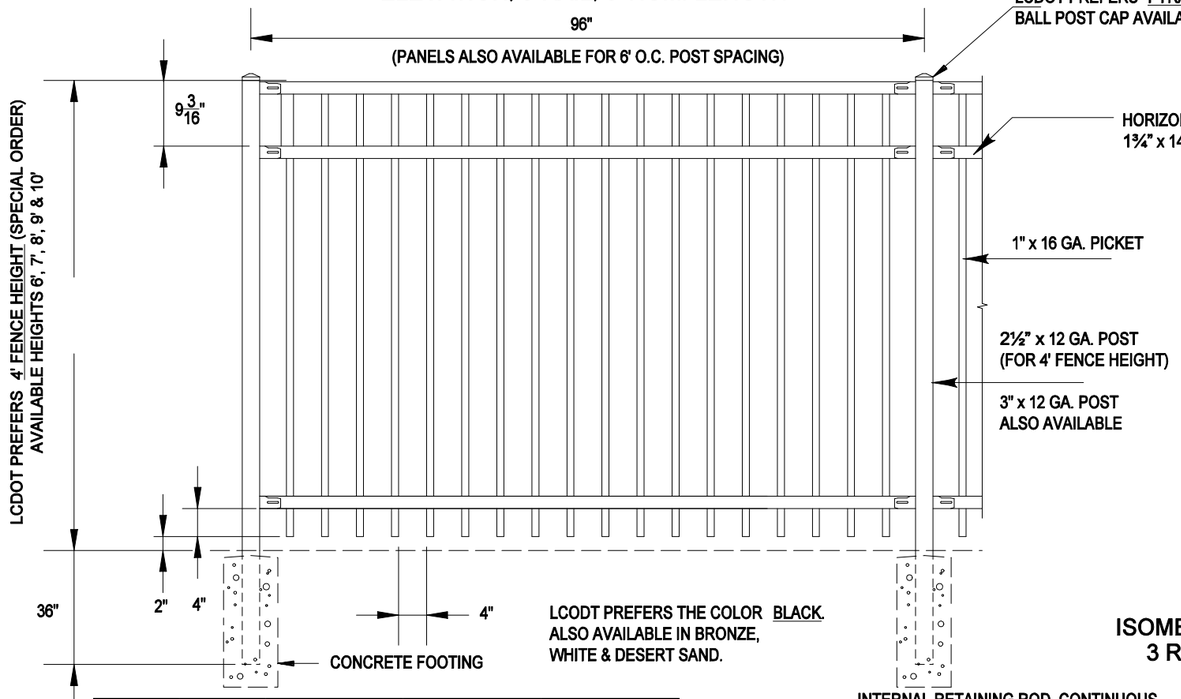
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CIVIL DETAILS

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

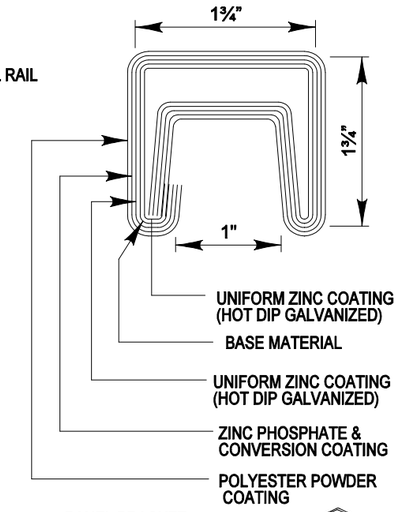
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	179
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

ELEVATION, 3-RAIL, 8' NOM. LENGTH

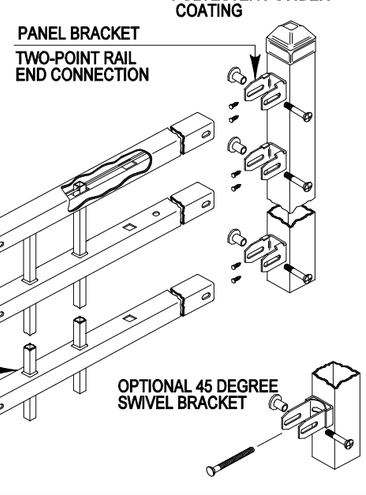


Post Selection for Fence Height 6' - 10'				
Wind Loading				
Fence Height (FT)	Rail Length (FT)	Post Size	Wind Load Capacity Factor (PSF)	Typical Wind Load Capacity (mph)
6	6	2 ½" x 12 GA.	45.5	133.0
		3" x 12 GA.	54.6	146.0
	8	2 ½" x 12 GA.	34.2	116.0
		3" x 12 GA.	41.0	127.0
7	6	2 ½" x 12 GA.	33.4	114.0
		3" x 12 GA.	40.0	125.0
	8	2 ½" x 12 GA.	25.0	99.0
		3" x 12 GA.	30.0	108.0
8	6	2 ½" x 12 GA.	25.6	100.0
		3" x 12 GA.	30.7	110.0
	8	2 ½" x 12 GA.	19.2	87.0
		3" x 12 GA.	23.0	95.0
		4" x 12 GA.	30.6	110.0
9	6	4" x 12 GA.	32.0	113.0
10	6	4" x 12 GA.	28.7	107.0

CROSS SECTION OF HORIZONTAL RAIL



ISOMETRIC, 3 RAIL



GATES: SPECIFY OPENING WIDTHS
SINGLE _____ QUANTITY_____
DOUBLE _____ QUANTITY_____

LakeCounty
Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

REVISIONS	DATE
Text Update	7/15/11

ORNAMENTAL FENCE THREE RAIL (ONE MFGR'S DETAILS)

LC6601

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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 3/7/2012	DATE - 03/09/2012	REVISED -

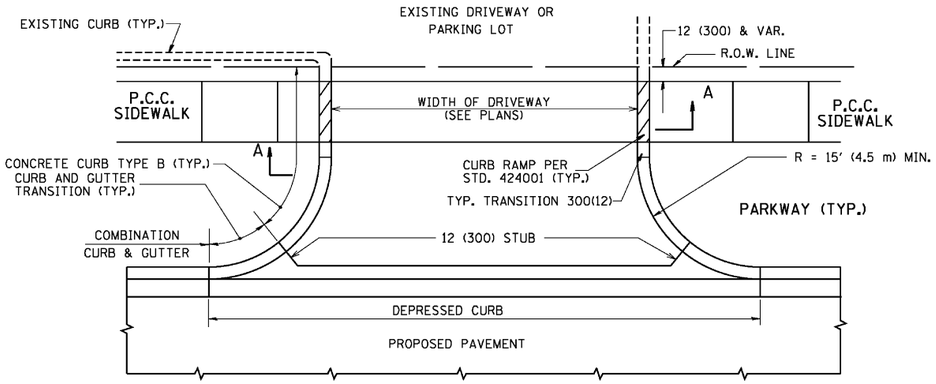
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CIVIL DETAILS

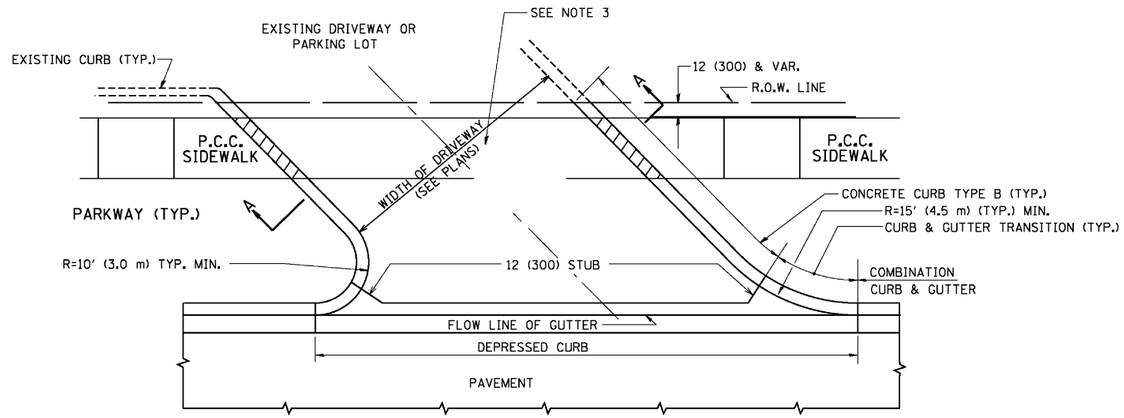
SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	179A
		CONTRACT NO. 60L76		
		ILLINOIS FED. AID PROJECT		

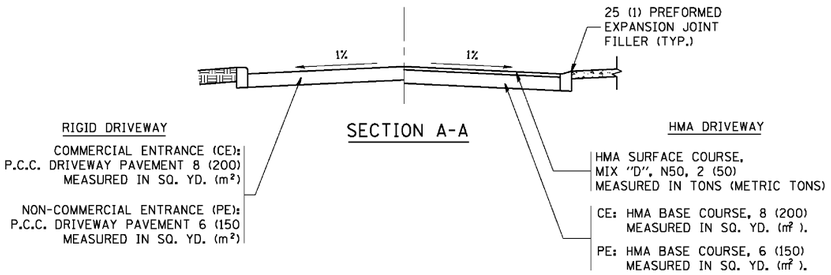
S:\IDB\WDS_CADD\60L76 Russell Rdwy\60L76 Sheets\IDB60L76-sht-civil details.dgn

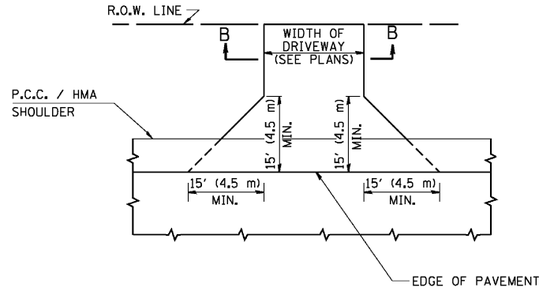


WITH CONCRETE CURB, TYPE B

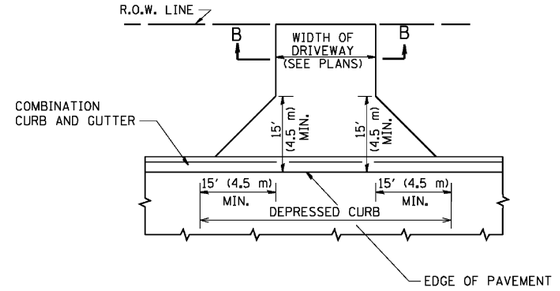


WITH CONCRETE CURB, TYPE B

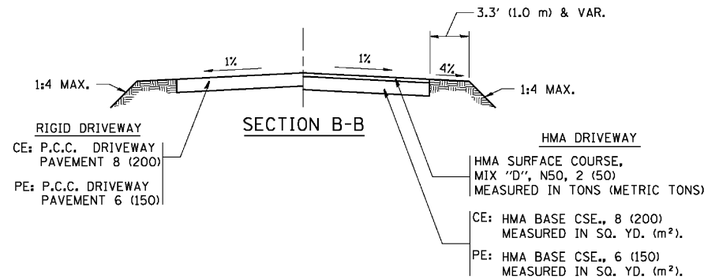




ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE,
MIX "D", N50, 2 (50)
MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200)
MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

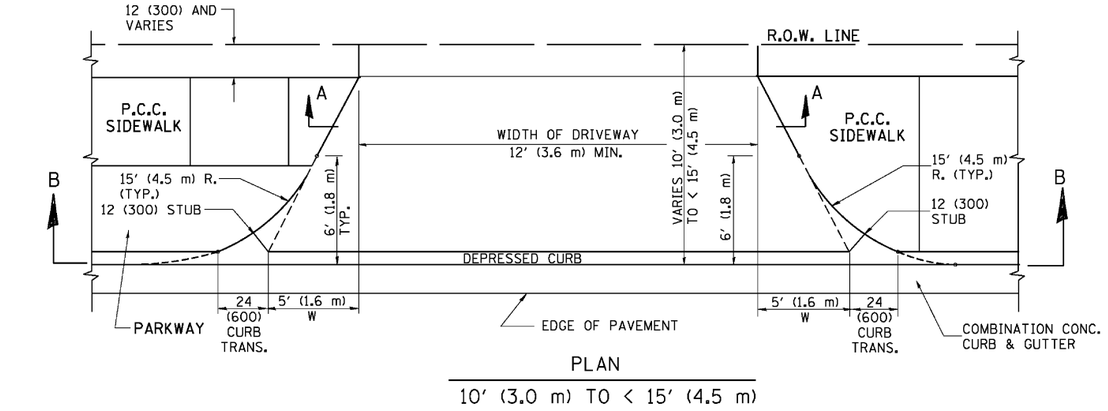
COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

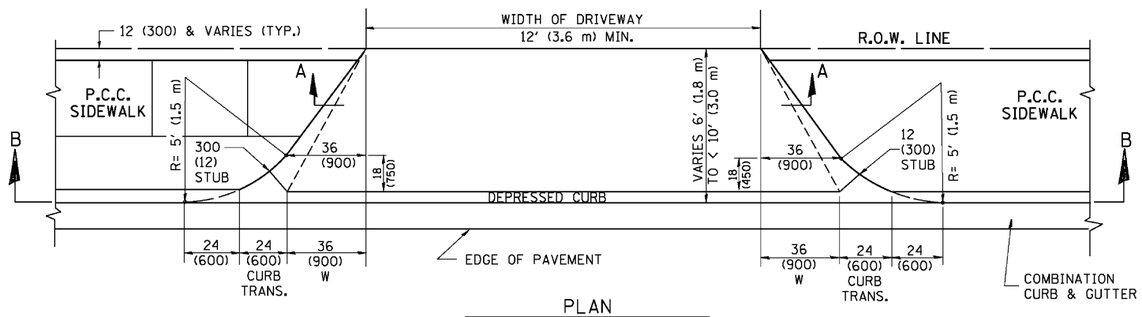
FILE NAME = c:\pw_work\pwidot\leysa\d0108315\bd01.dgn	USER NAME = leysa	DESIGNED - R. SHAH	REVISED - P. LaFLUER 04-15-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. BORO 01-01-07			94	49-1(HB & HB-1)R	LAKE	225	180
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 06-11-08				BD0156-07 (BD-01)		CONTRACT NO. 60L76	
	PLOT DATE = 9/6/2011	DATE - 11-04-95	REVISED - R. BORO 09-06-11		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. NA / TO STA. NA		FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	

bd01.dgn 9/6/2011 11:50:24 AM Steve Leysa



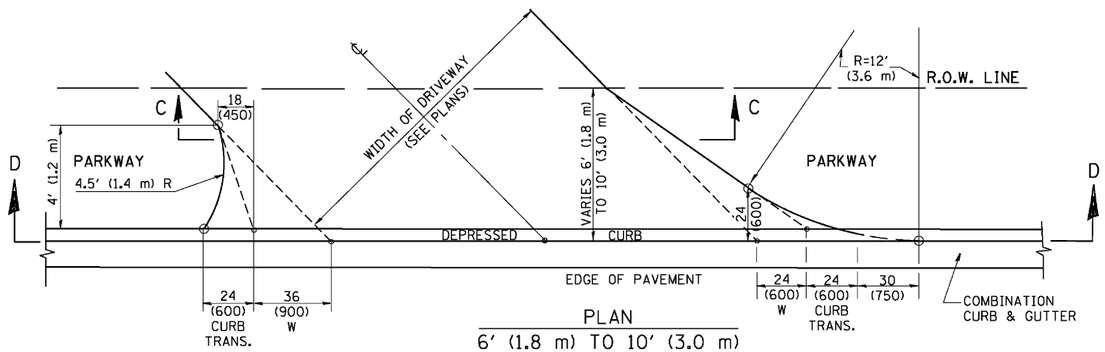
PLAN

10' (3.0 m) TO < 15' (4.5 m)



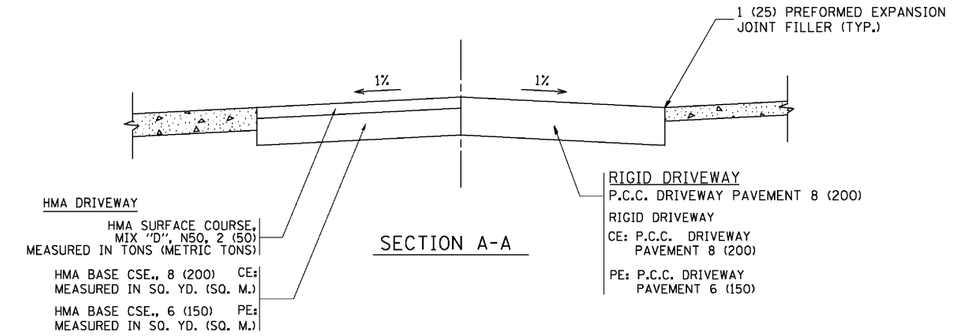
PLAN

6' (1.8 m) TO < 10' (3.0 m)

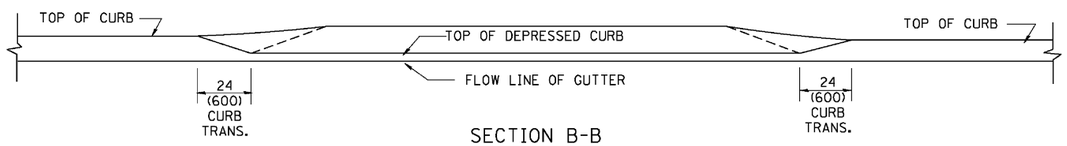


PLAN

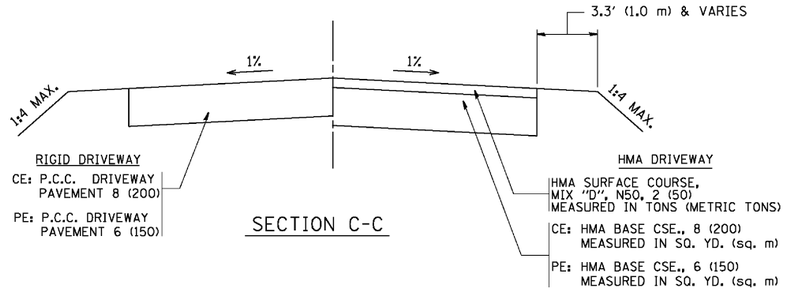
6' (1.8 m) TO 10' (3.0 m)



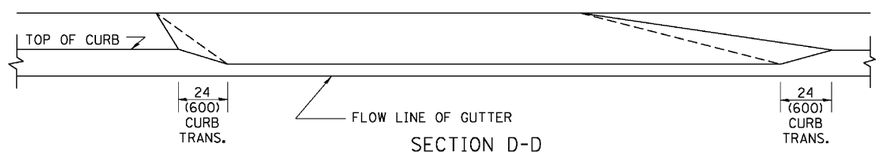
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

THE 1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

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

FILE NAME = c:\pw_work\pwidot\leysa\d0188315\bd02.dgn	USER NAME = leysa	DESIGNED - R. SHAH	REVISED - M. GOMEZ 04-06-01
		DRAWN -	REVISED - P. LaFLEUR 04-15-03
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 01-01-07
	PLOT DATE = 10/28/2011	DATE - 11-06-95	REVISED - R. BORO 09-06-11

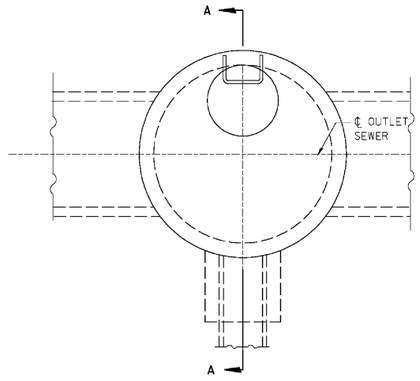
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

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

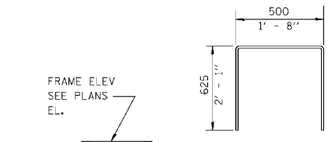
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	181
	BD400-02 (BD-02)	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
94	49-1(HB & HB-1)R	LAKE	225	182
STA. NA		TO STA. NA		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	60L76	

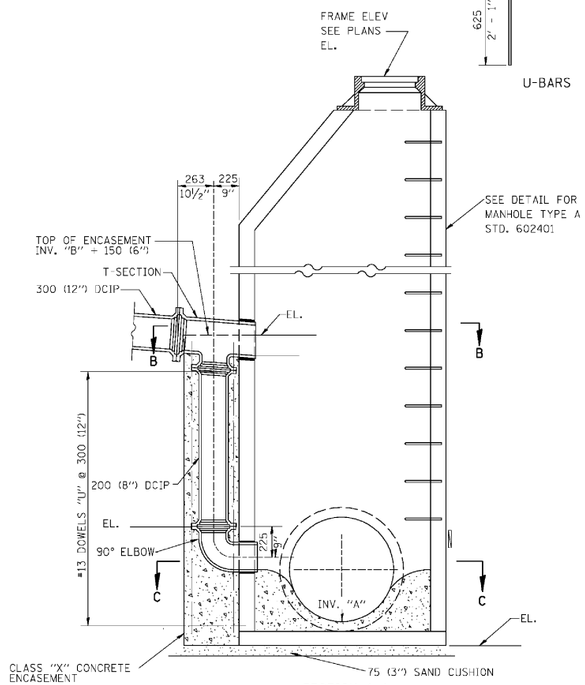


PLAN
FOR LOCATION SEE DRAINAGE PLANS

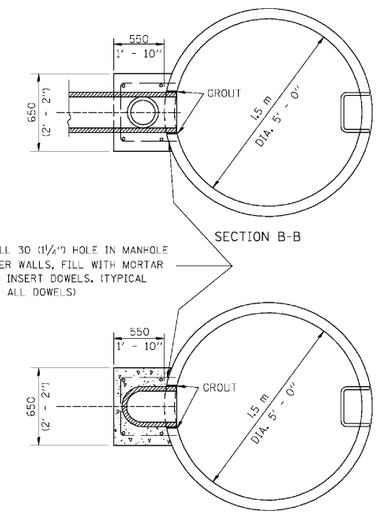
ENCASEMENT DETAILS				
DROP M.H. LOCATION STA., OFFSET				
INV. "A"				
INLET PIPE				
INV. "B"				
INV. "C"				
A				
B				
"V" BAR LENGTH				
NO. OF "U" BARS				
REINF. BARS				
CLASS "SI" CONC. CUBIC METER (CU. YD.)				



U-BARS



SECTION A-A



SECTION B-B

DRILL 30 (1¼") HOLE IN MANHOLE RISER WALLS, FILL WITH MORTAR AND INSERT DOWELS. (TYPICAL FOR ALL DOWELS)

SECTION C-C

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

TYPE A1-1 MANHOLE WITH 1 DROP AND DEPTH UP TO 3 m (10')
TYPE A1-2 " " 1 " " " FROM 3 m TO 1.5 m (10' TO 15')
TYPE A1-3 " " 1 " " " FROM 1.5 m TO 6 m (15' TO 20')
TYPE A1-4 " " 1 " " " OVER 6 m (20')

TYPE A2-1 MANHOLE WITH 2 DROPS AND DEPTH UP TO 3 m (10')
TYPE A2-2 " " 2 " " " FROM 3 m TO 1.5 m (10' TO 15')
TYPE A2-3 " " 2 " " " FROM 1.5 m TO 6 m (15' TO 20')
TYPE A2-4 " " 2 " " " OVER 6 m (20')

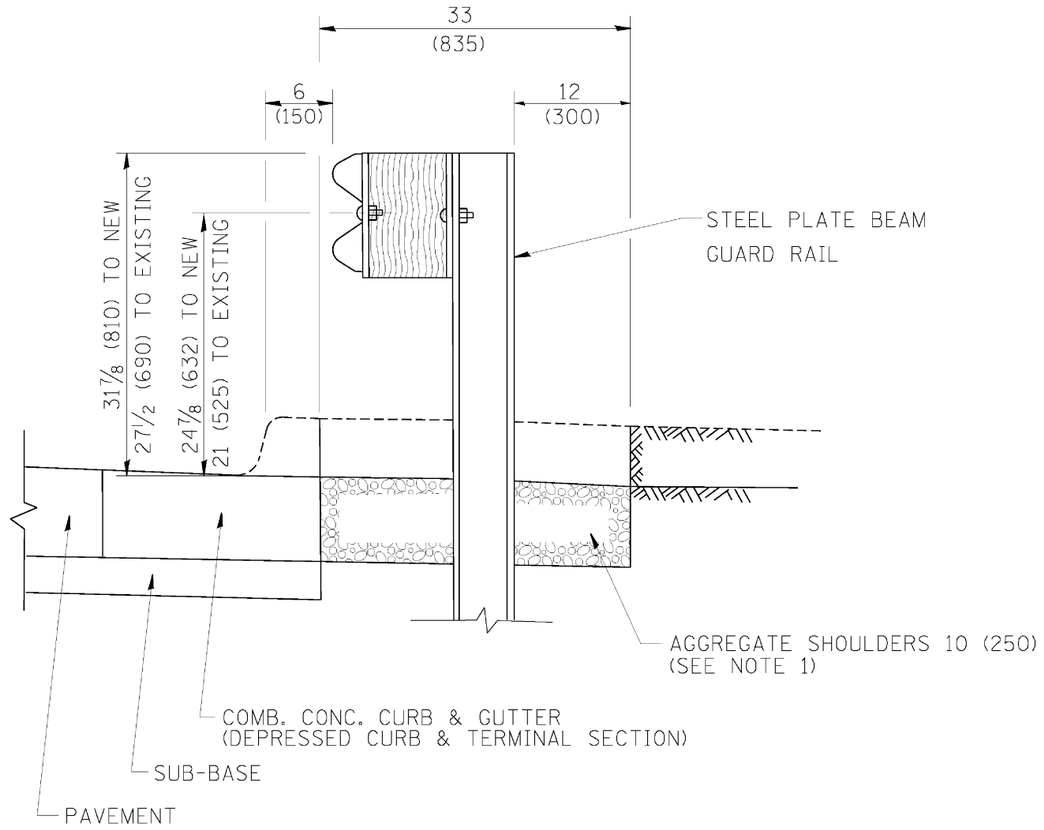
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DROP MANHOLE DETAILS

SCALE: NONE
DATE 10/18/2002
DRAWN BY jls
CHECKED BY
BD600-05 (BD-16)
REVISION DATE:

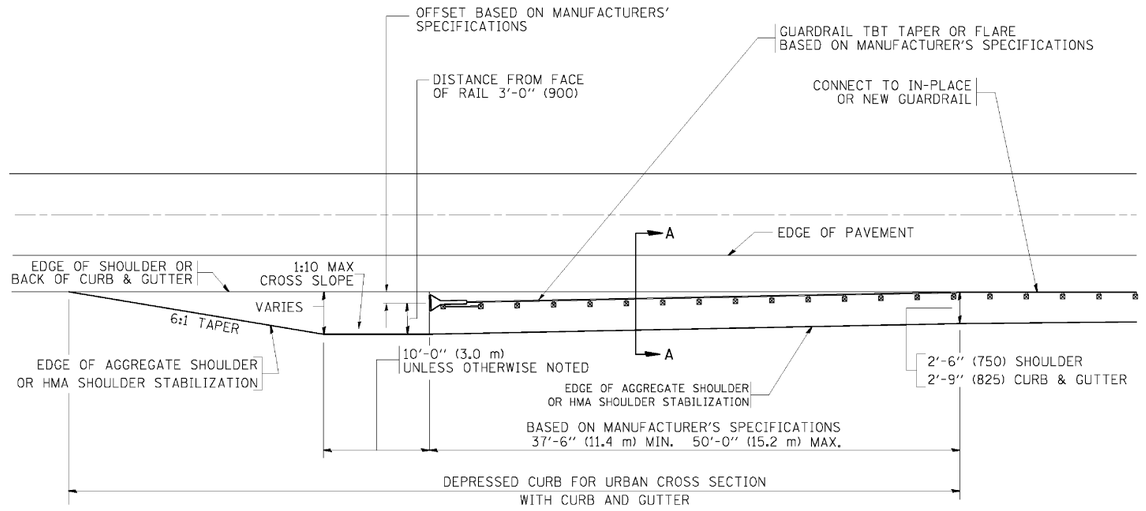
10/18/2002
c:\projects\dist\std\bd16.dgn
V1-BD16



SECTION A-A

NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER [FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL

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

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		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED - R. BORO 12-08-2008
	PLOT DATE = 9/21/2009	DATE - 09-22-90	REVISED - R. BORO 09-14-2009

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

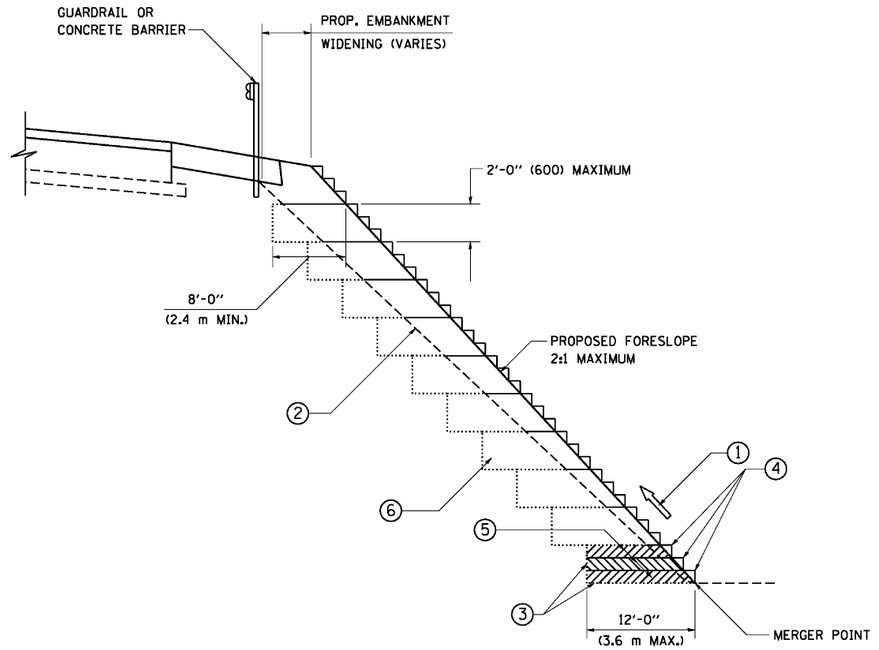
DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL.

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	183
	BD600-10 (BD 34)	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60L76

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	184
STA.	NA	TO STA.	NA	
FED. ROAD DIST. NO.	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.

REVISIONS	
NAME	DATE
	06/16/04

ILLINOIS DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT
WIDENING

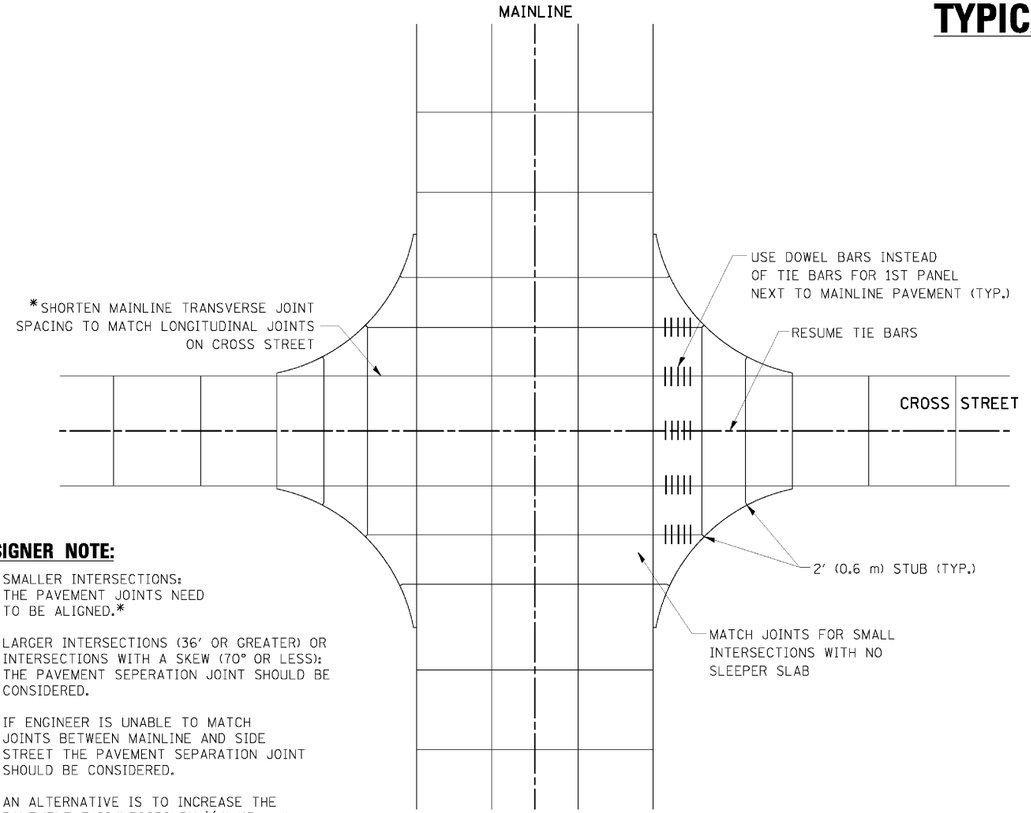
SCALE: VERT. NONE
HORIZ.

DRAWN BY: CADD
CHECKED BY: S.E.B.

BD-51

PLOT DATE = 3/5/2007
FILE NAME = k:\district\bd51.dgn
PLOT SCALE = 50.0000 ' / IN.
USER NAME = baueedl

TYPICAL APPLICATION

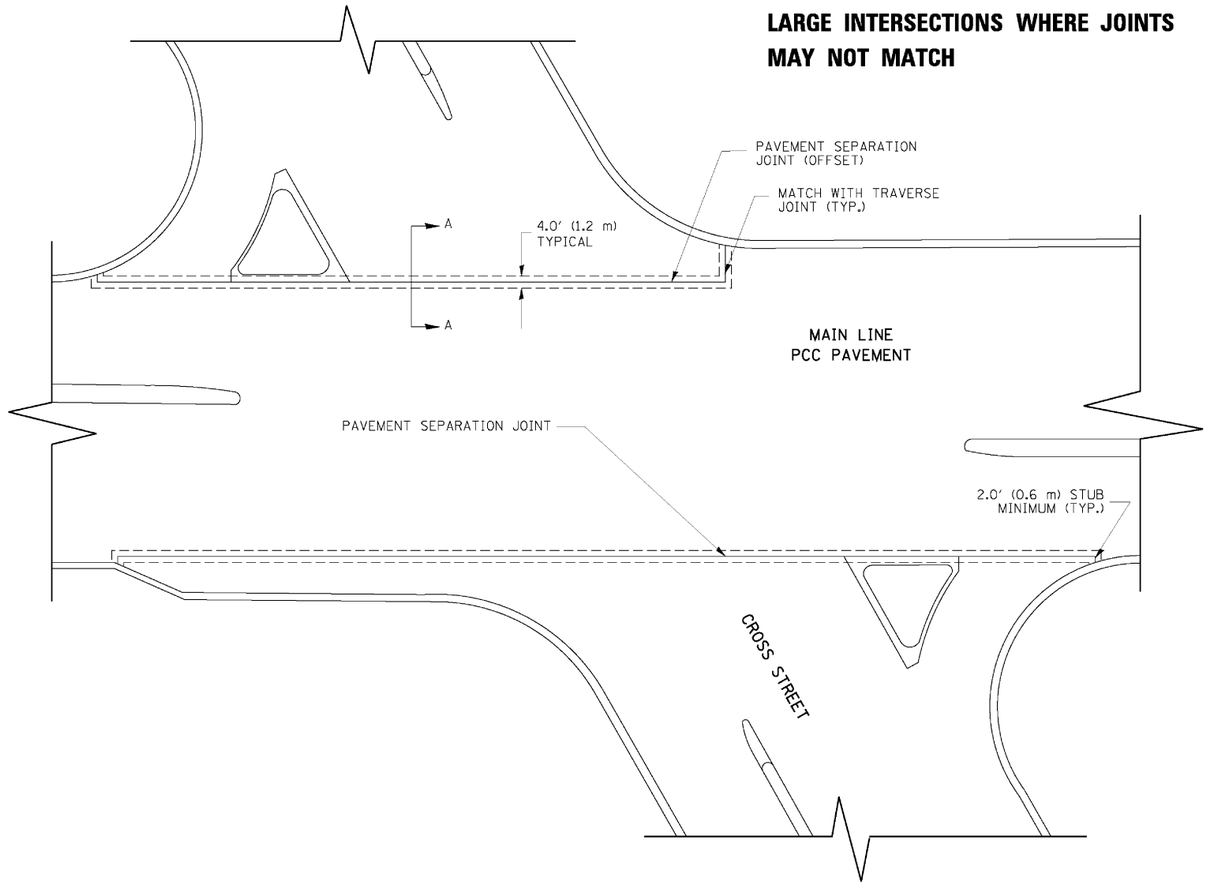


PLAN

DESIGNER NOTE:

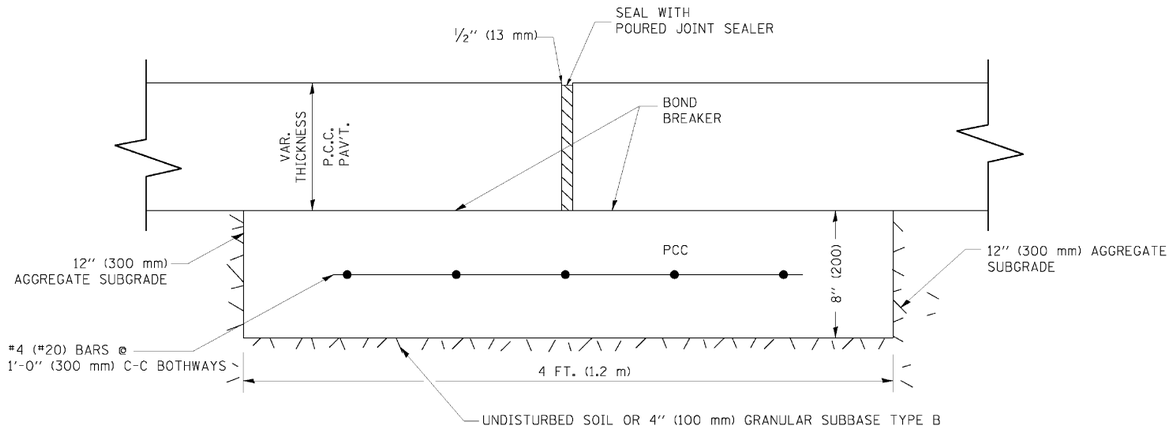
1. SMALLER INTERSECTIONS: THE PAVEMENT JOINTS NEED TO BE ALIGNED.*
2. LARGER INTERSECTIONS (36' OR GREATER) OR INTERSECTIONS WITH A SKEW (70° OR LESS): THE PAVEMENT SEPERATION JOINT SHOULD BE CONSIDERED.
3. IF ENGINEER IS UNABLE TO MATCH JOINTS BETWEEN MAINLINE AND SIDE STREET THE PAVEMENT SEPARATION JOINT SHOULD BE CONSIDERED.
4. AN ALTERNATIVE IS TO INCREASE THE PAVEMENT THICKNESSES BY 1/2" (13 mm) FOR THE LENGTH OF THE AFFECTED PANELS AT THE INTERSECTION.
5. FOR LARGE INTERSECTIONS (6 LANES OR MORE) WHERE JOINTS CAN BE MATCHED, USE #8 (25) DOWEL BARS INSTEAD OF #8 (25) TIE BARS AT EDGE OF MAINLINE PAVEMENT WHEN NO PAVEMENT SEPARATION JOINTS USED.

THE USE OF CROSS STREET PAVEMENT SEPARATION JOINTS FOR SKEWED OR LARGE INTERSECTIONS WHERE JOINTS MAY NOT MATCH



NOTE:

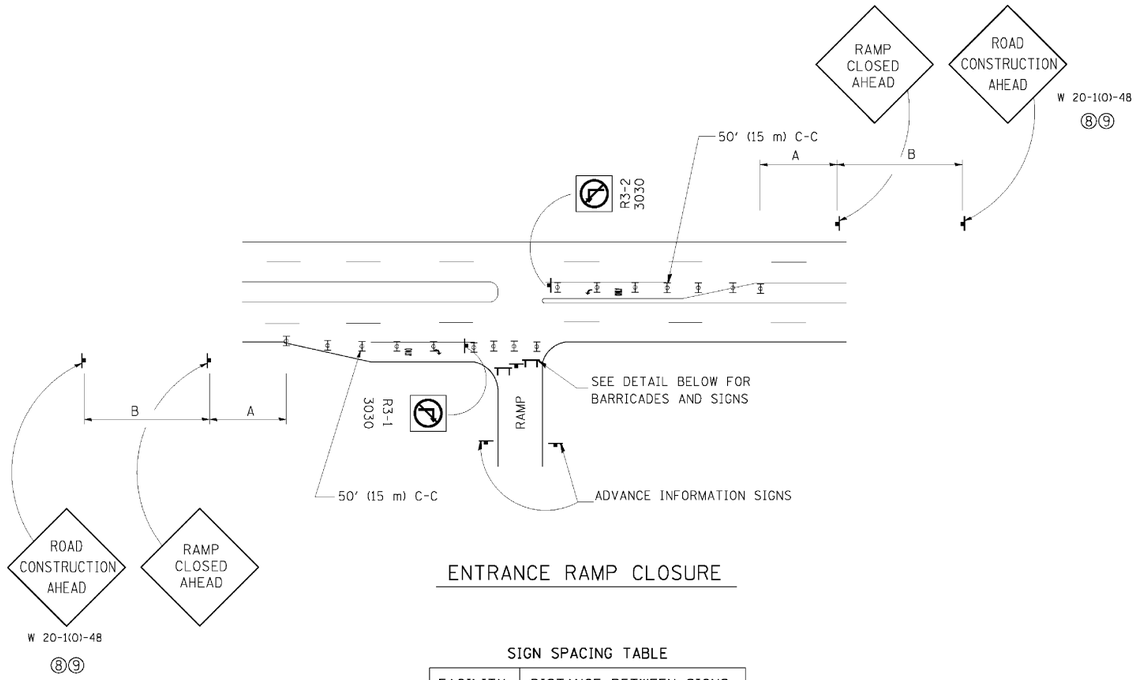
1. JOINT FILLER SHALL CONSIST OF A SHEET OF 1/2" (13 mm) BITUMINOUS PREFORMED FIBER JOINT FILLER CONFORMING TO ARTICLE 1051.03 OF THE STANDARD SPECIFICATIONS.
2. THE JOINT SHALL BE SEALED WITH A HOT POUR JOINT SEALER CONFORMING TO ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS.
3. A SINGLE LAYER OF FELT ROOFING PAPER SHALL SERVE AS A BOND BREAKER.
4. JOINT SHALL CONTINUE THROUGH COMBINATION CURB & GUTTER OR PCC SHOULDER.
5. PAVEMENT SEPARATION JOINT IS TO BE PAID FOR AS "SLEEPER SLAB" AND IS TO BE MEASURED IN PLACE BY THE LINEAL FOOT.
6. BOND BREAKER AND 1/2" (13 mm) JOINT AND FILLER SHALL BE INCIDENTAL TO THE PAY ITEM "SLEEPER SLAB".



PROPOSED SECTION A-A

FILE NAME = bd52.dgn	USER NAME = layaa	DESIGNED -	REVISED - CADD 06-18-10	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF PAVEMENT SEPARATION JOINT FOR JOINTED PCC PAVEMENTS AT INTERSECTIONS
		DRAWN -	REVISED -		
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. NA TO STA. NA
	PLOT DATE = 2/25/2011	DATE -	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	184A
	BD52	CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

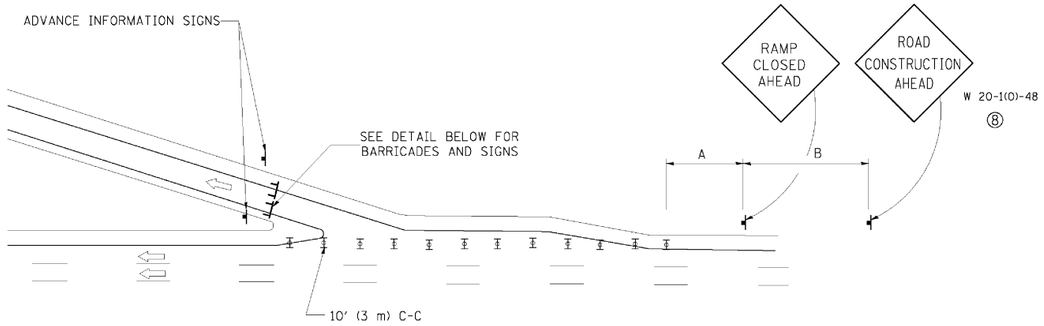


ENTRANCE RAMP CLOSURE

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 ≥45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	150' (45 m)	150' (45 m)

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

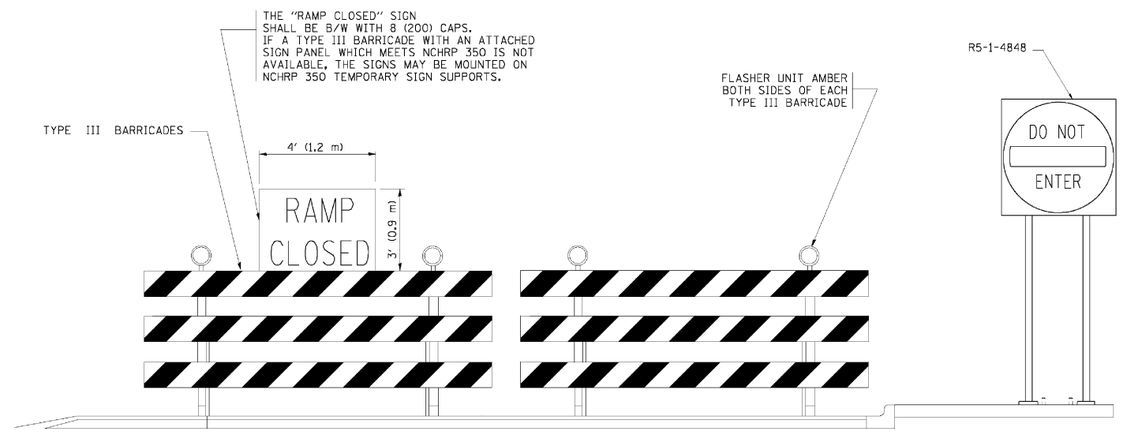


EXIT RAMP CLOSURE

SYMBOLS

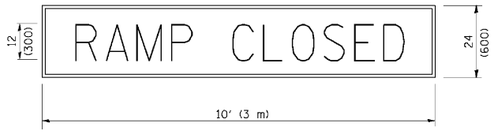
TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH FLASHING LIGHT



DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN

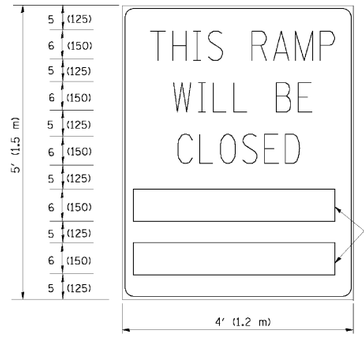


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND

1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND

½ (12) BORDER

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

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

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.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
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 TWENTY FOUR 24 HOURS 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 MAY BE OMITTED ON CLOSURES LESS THAN 24 HOURS IN DURATION.

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

FILE NAME = W:\diststd\22x34\tc08.dgn	USER NAME = layso	DESIGNED - DWS	REVISED - DWS/JAF 12-02
		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 1/26/2010	DATE - 02-83	REVISED - SPB 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

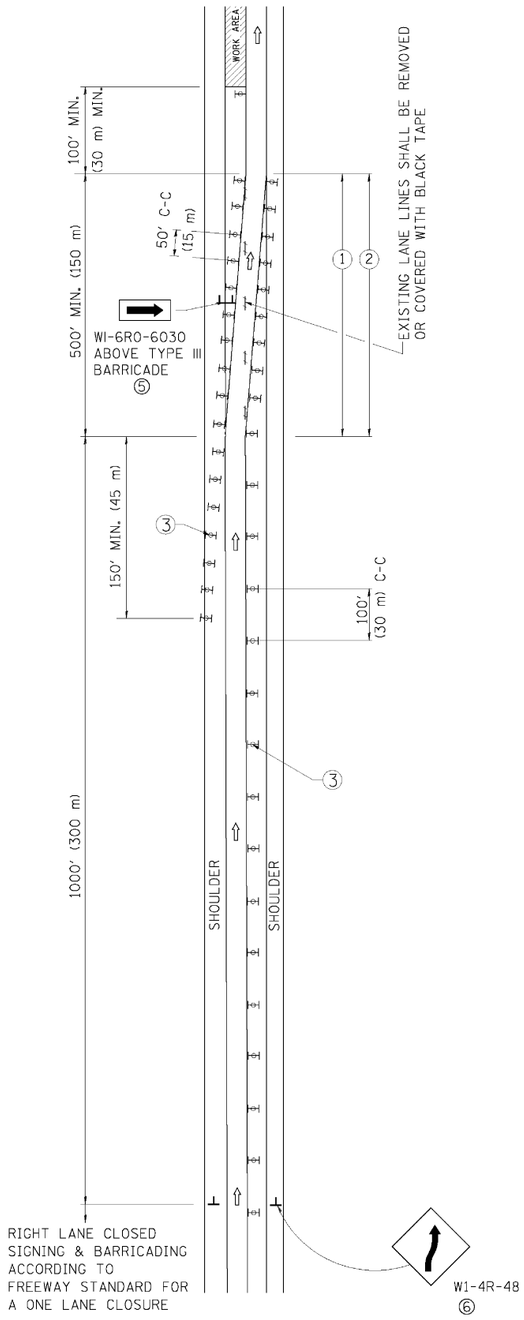
FREEWAY ENTRANCE AND EXIST RAMP CLOSURE DETAILS

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

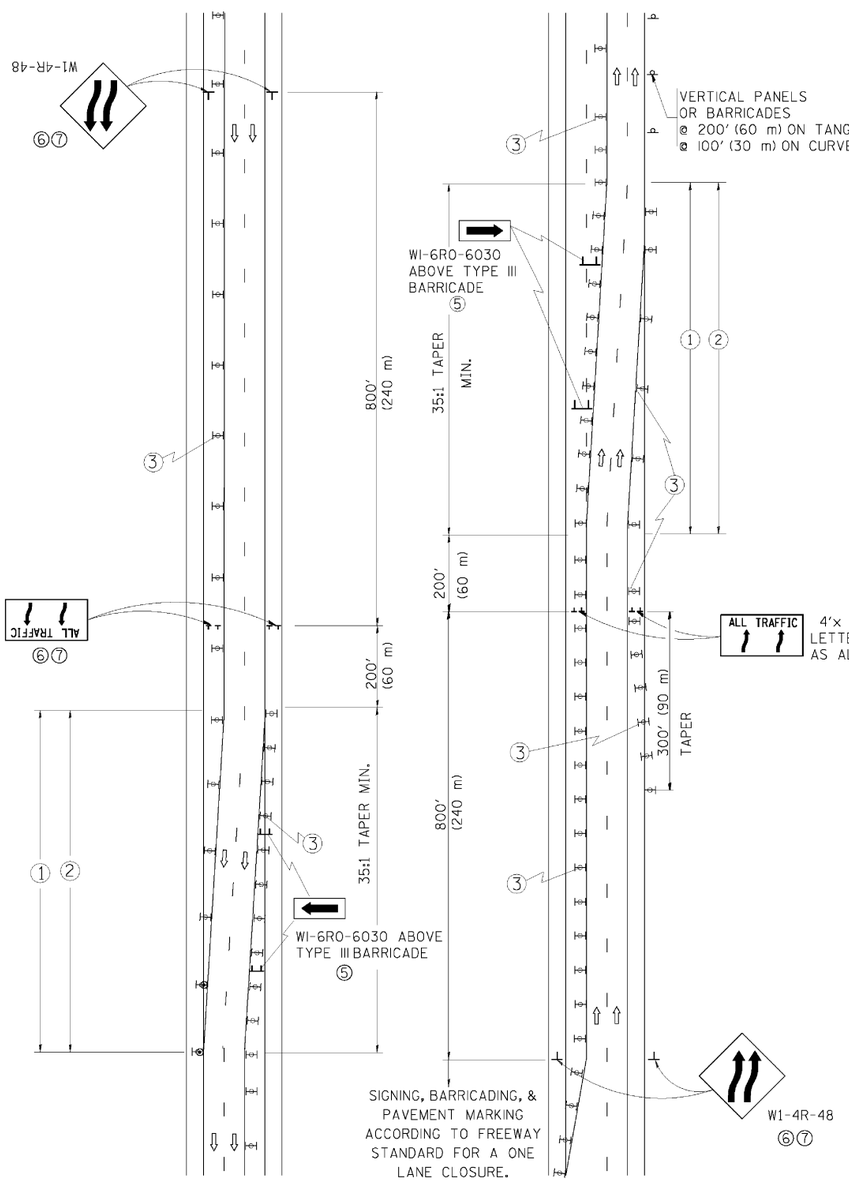
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	185
	TC-08	CONTRACT NO. 60L76		

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

SINGLE LANE WEAVE



MULTI-LANE WEAVE



ALL TRAFFIC — 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS 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 IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS. 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

W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

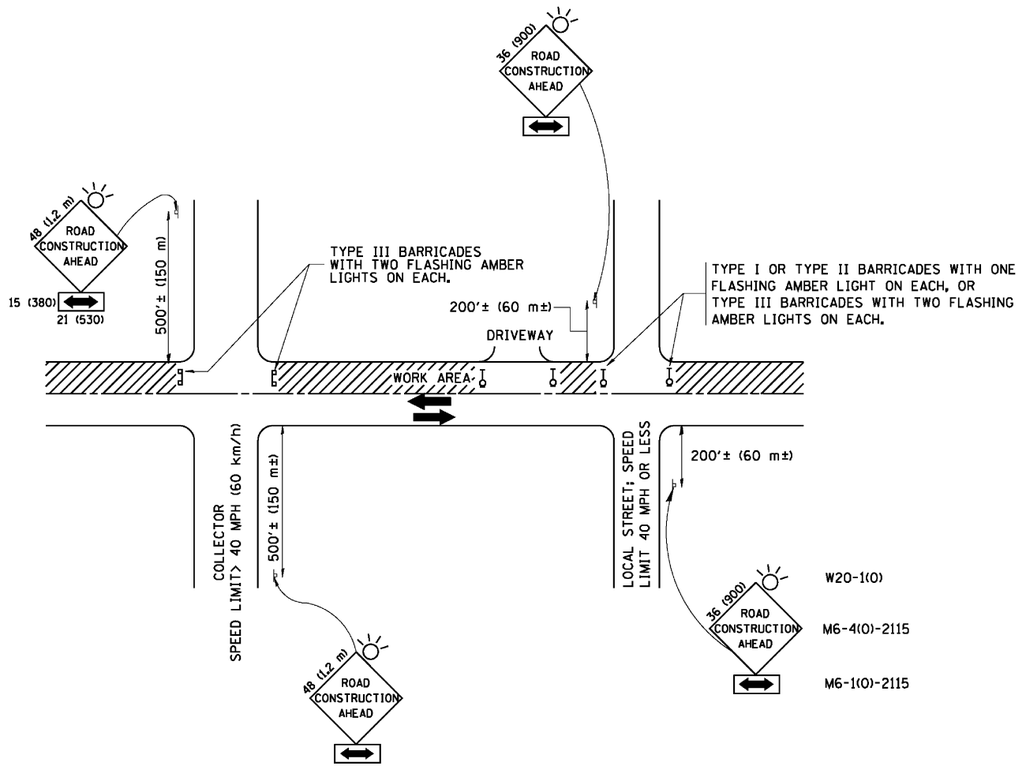
FILE NAME = W:\diststd\22x34\ts09.dgn	USER NAME = leyaa	DESIGNED - DWS	REVISED - JAF 01-03
		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 1/26/2010	DATE - 02-87	REVISED - SPB 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	186
	TC-09	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

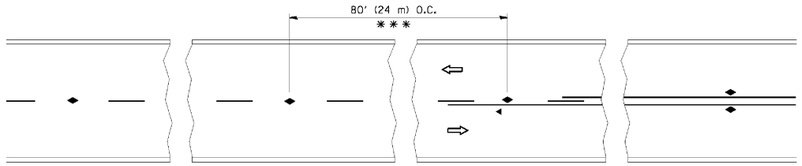
FILE NAME = W:\diststd\22x34\tc10.dgn	USER NAME = gaglianabt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED -T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

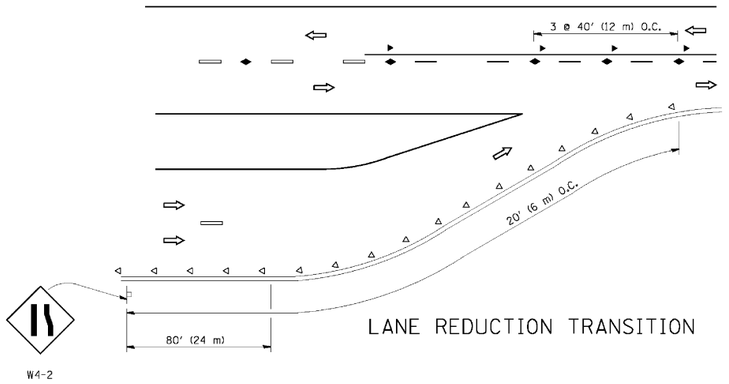
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	187
	TC-10	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

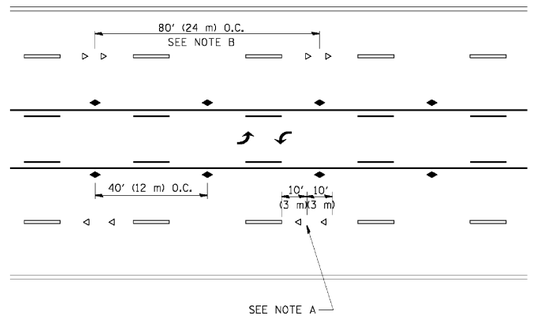


* * * REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

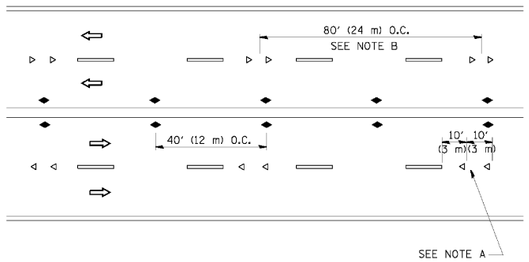
TWO-LANE/TWO-WAY



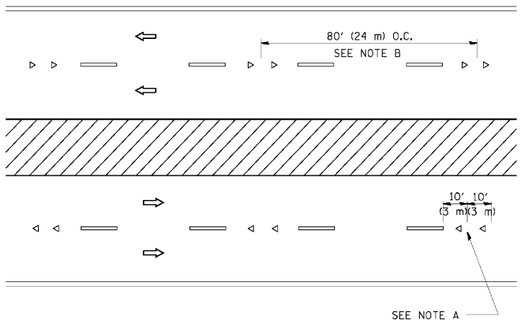
LANE REDUCTION TRANSITION



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

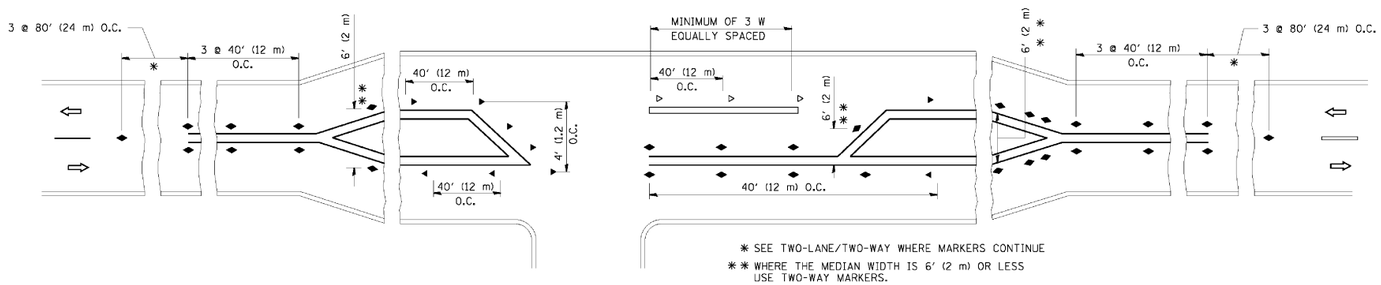
LANE MARKER NOTES

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 SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



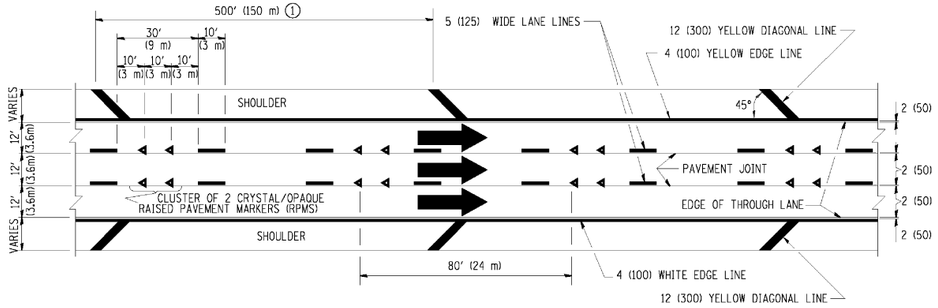
* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

* * 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.

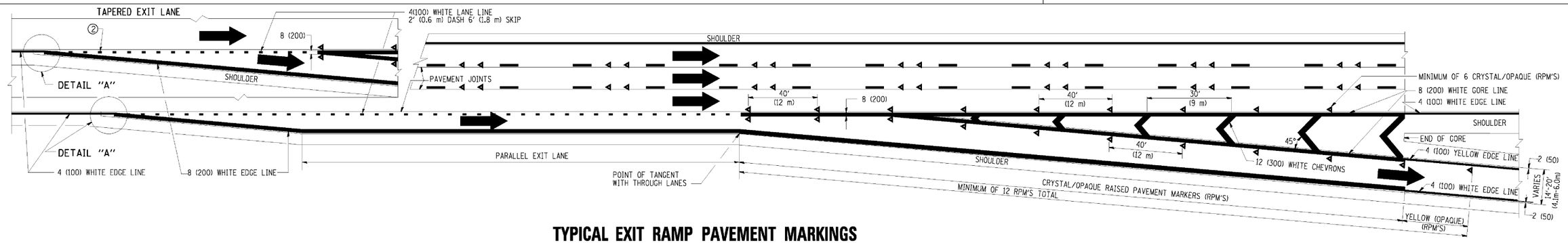
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0108315\tc11.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - T. RAMMACHER 09-19-94	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)**				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - T. RAMMACHER 03-12-99						94	49-1(HB & HB-1)R	LAKE	225	188
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - T. RAMMACHER 01-06-00							**TC-11**		CONTRACT NO. 60L76	
	PLOT DATE = 9/9/2009	DATE -	REVISED - C. JUCIUS 09-09-09		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. NA	TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



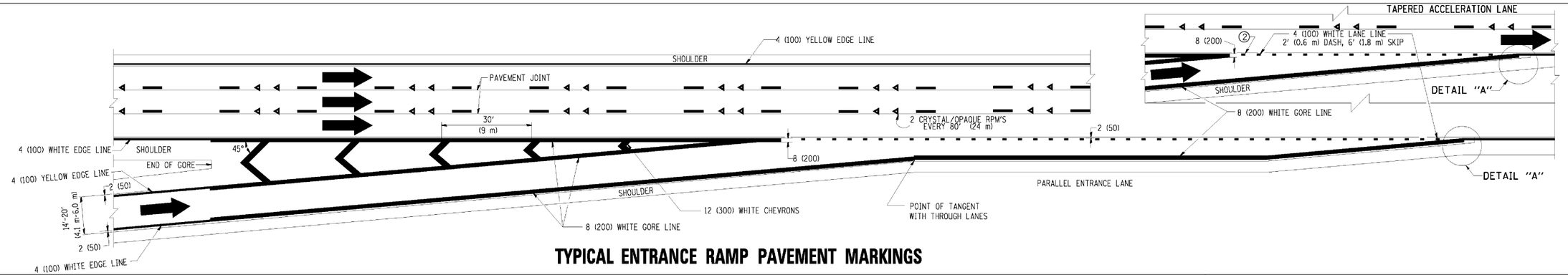
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

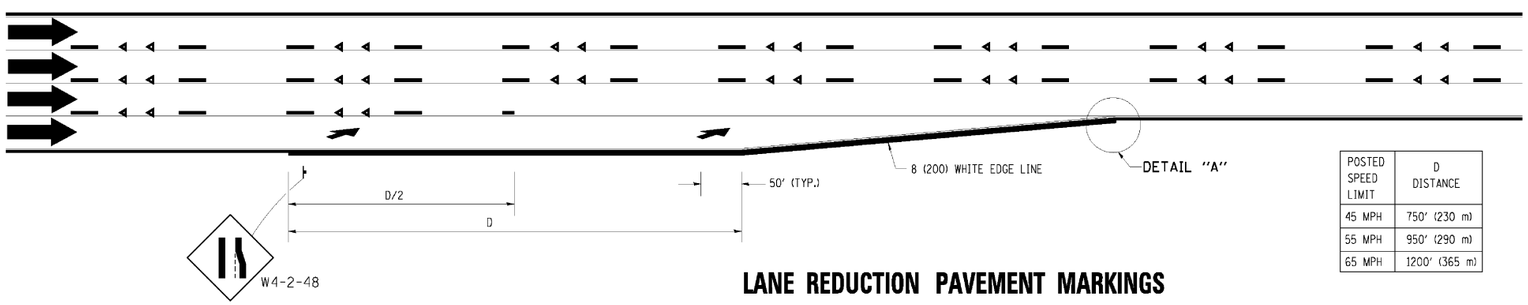
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES ON BITUMINOUS PAVEMENT.
3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS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



TYPICAL EXIT RAMP PAVEMENT MARKINGS

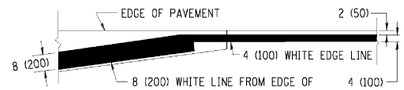


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



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

LANE REDUCTION PAVEMENT MARKINGS



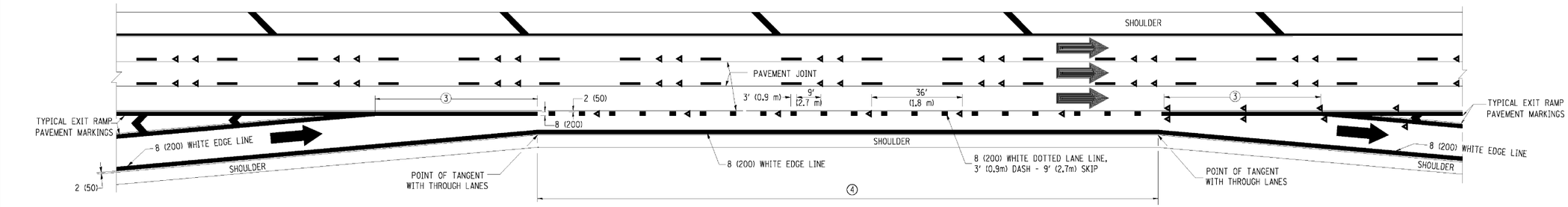
DETAIL "A"

NOTES:

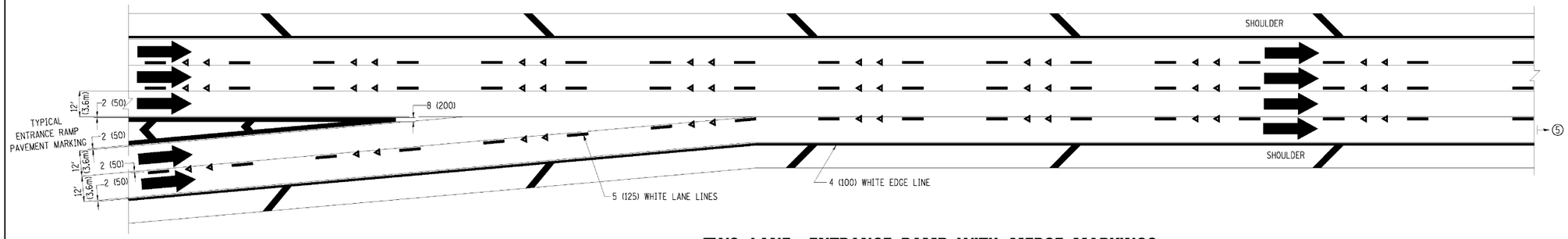
① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.

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

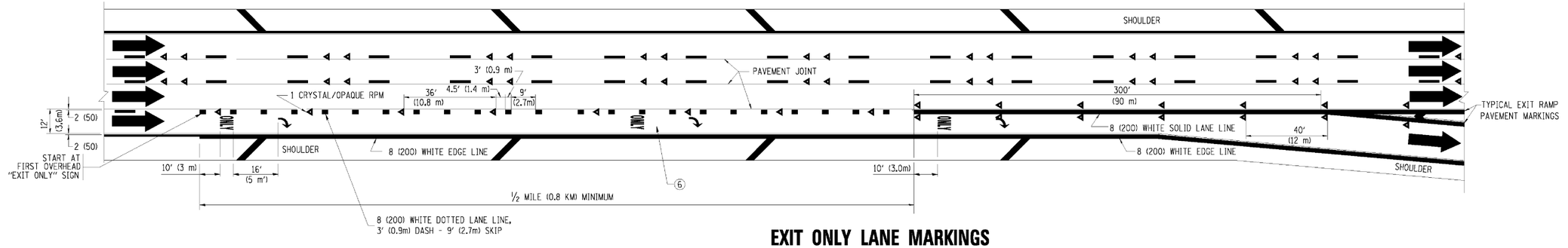
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0120315\tc12.dgn	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS**			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - J.A.F. 02-06					94	49-1(HB & HB-1)R	LAKE	225	189
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07						**TC-12**		CONTRACT NO. 60L76	
	PLOT DATE = 1/22/2010	DATE - 01-90	REVISED - S.P.B. 01-10		SCALE: NONE	SHEET NO. 1 OF 2 SHEETS	STA. NA TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



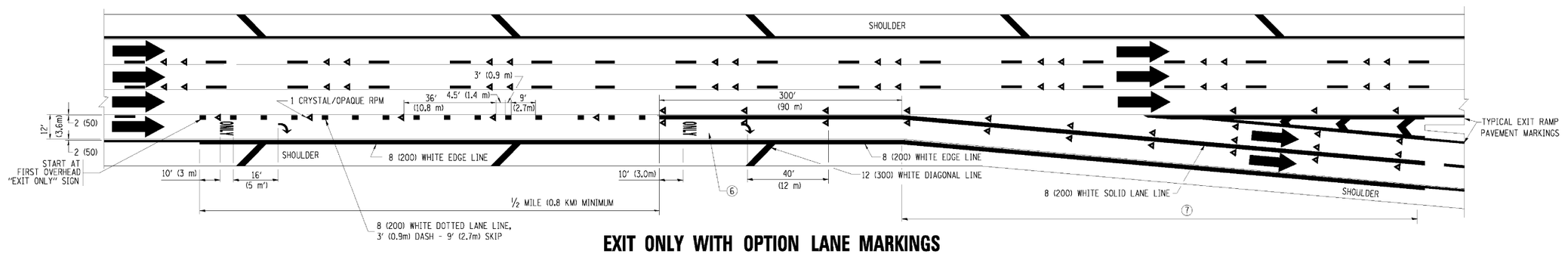
AUXILIARY LANE MARKINGS



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.

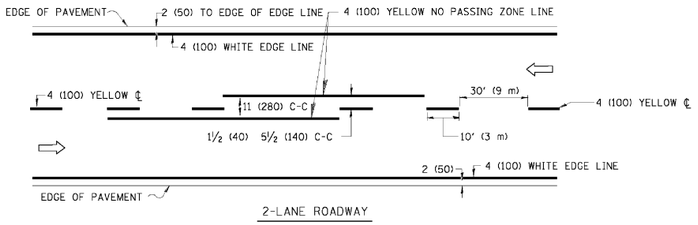
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0108315\tc12.dgn	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE - 01-90	REVISED - S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

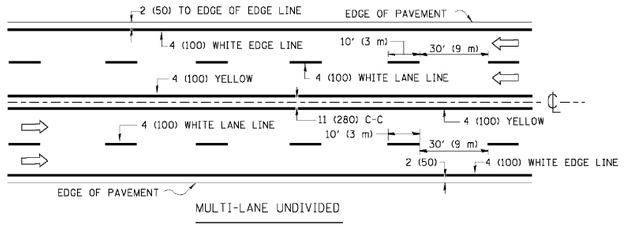
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

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

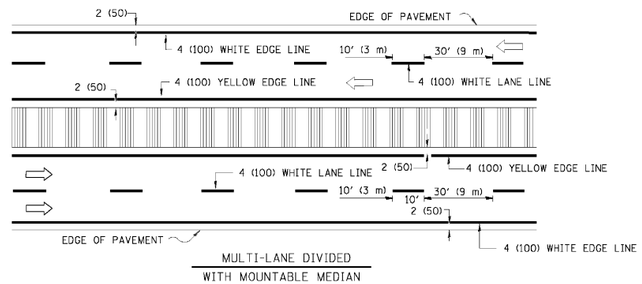
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	190
	TC-12	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



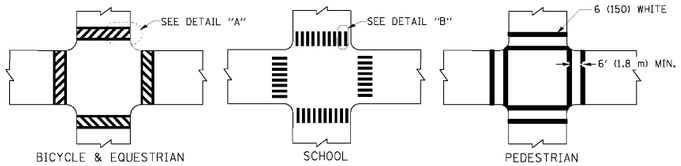
MULTI-LANE UNDIVIDED

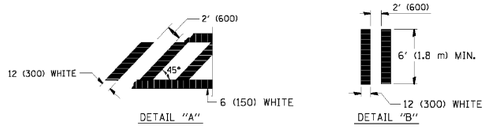


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

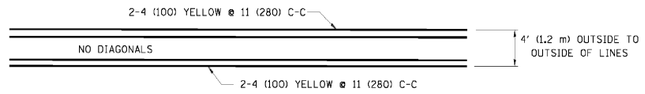
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

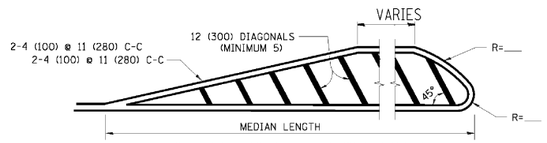




TYPICAL CROSSWALK MARKING



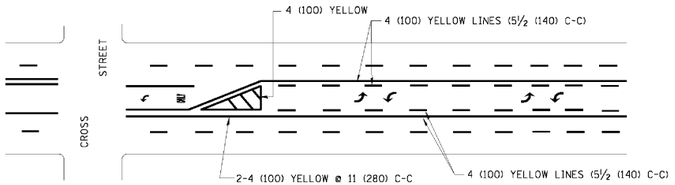
4' (1.2 m) WIDE MEDIANS ONLY



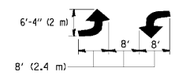
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

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

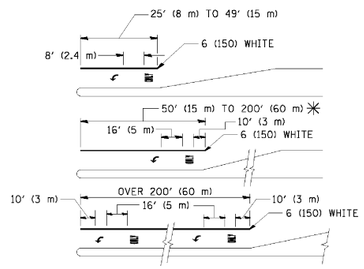


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

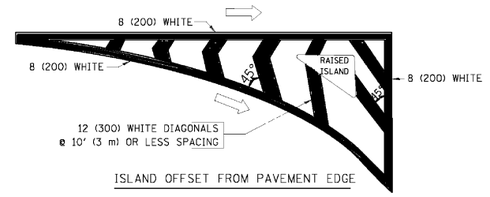


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) **ONLY** AREA = 20.8 SQ. FT. (1.9 m^2)

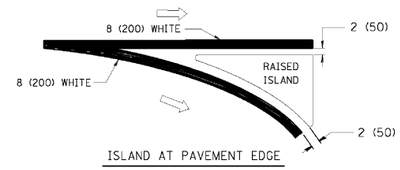
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

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	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 ℄ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 ℄ 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 ℄ 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 ℄ 6 (150) 12 (300) ℄ 45° 12 (300) ℄ 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 ℄ 4 (100) WITH 12 (300) DIAGONALS ℄ 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 ℄ 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 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) ℄ 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.

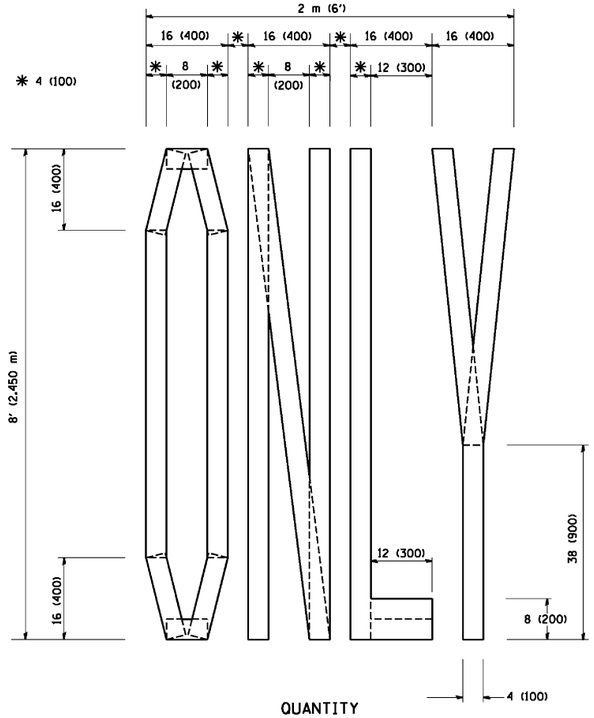
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0128315\tc13.dgn	USER NAME = drivakosgn	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
		DRAWN -	REVISED - C. JUCIUS 09-09-09
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

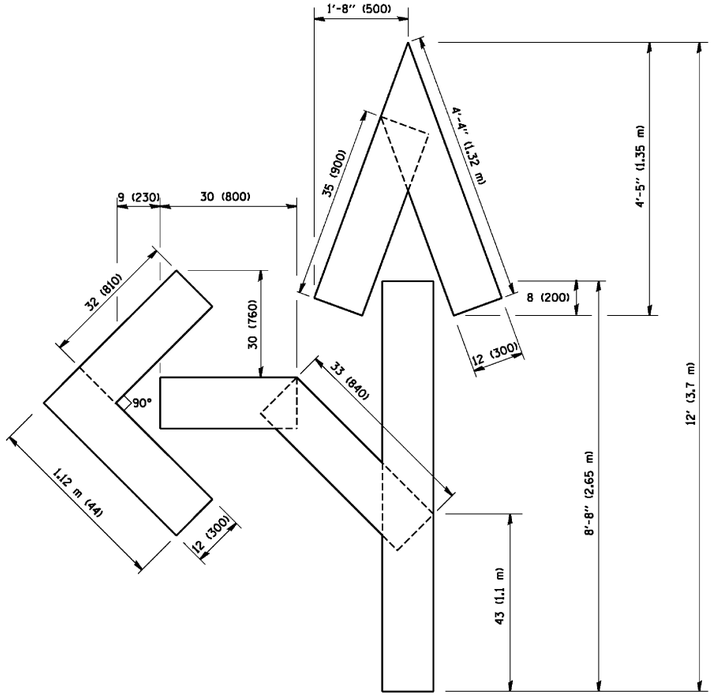
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

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

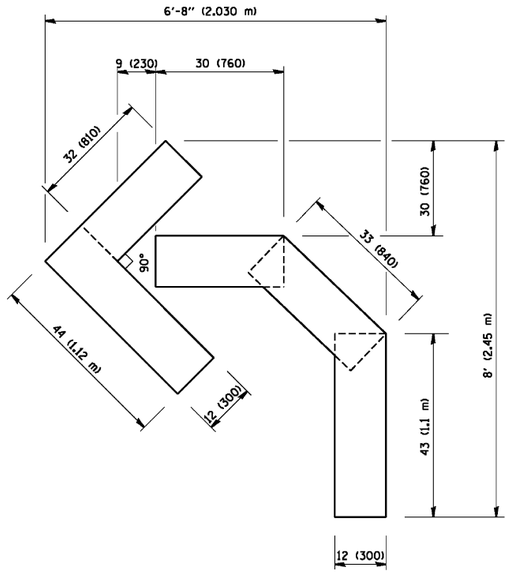
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	191
	TC-13	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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)

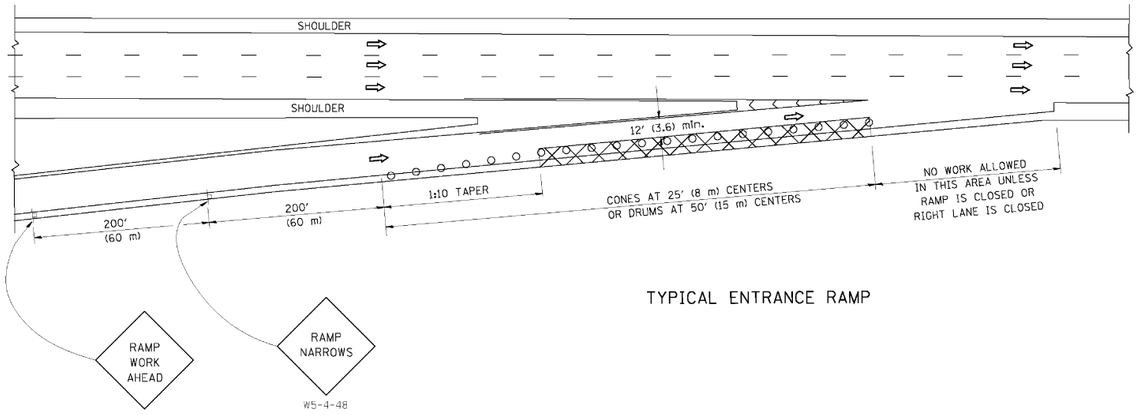


QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)

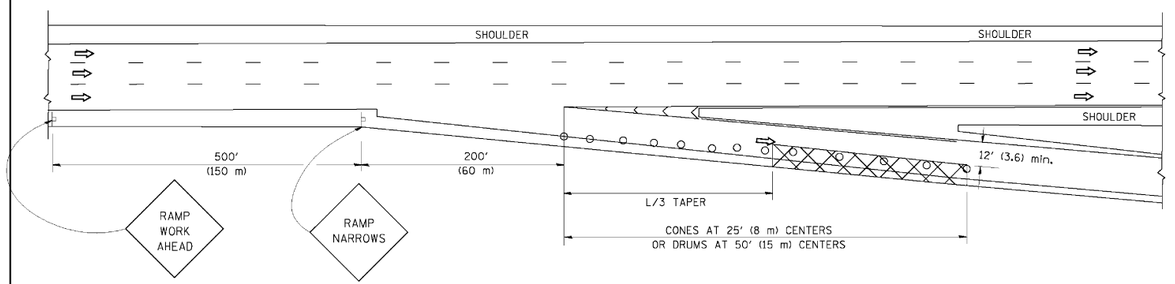
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = W:\diststd\22x34\tc16.dgn	USER NAME = geglenabt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -T. RAMMACHER 11-04-97			94	49-1(HB & HB-1)R	LAKE	225	192
	PLOT SCALE = 50.0000 '/ IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98				**TC-16**		**CONTRACT NO. 60L76**	
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. NA TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

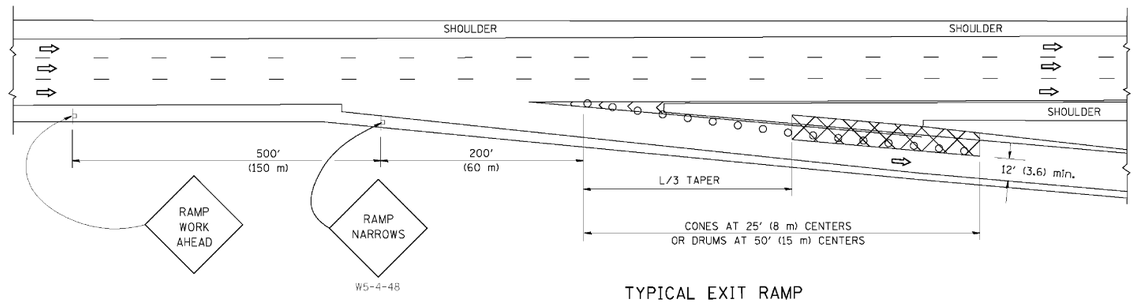
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

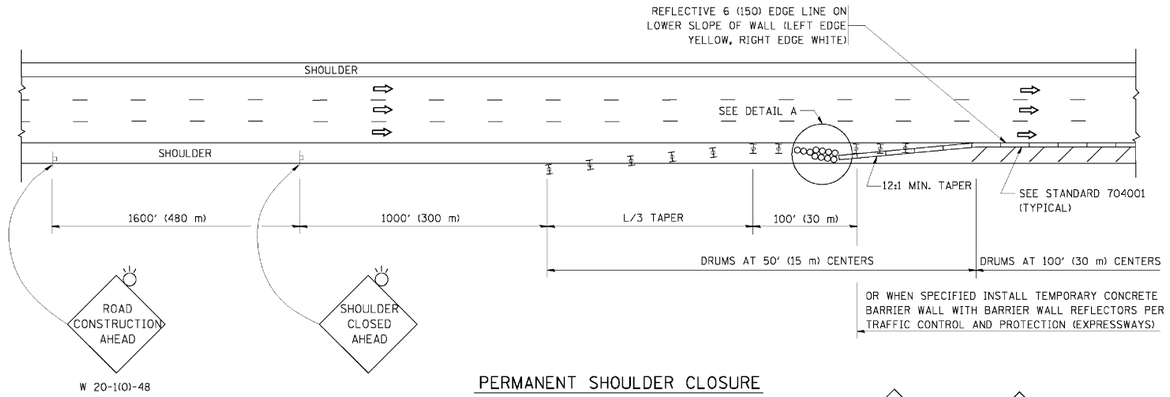
SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER:	METRIC	ENGLISH
	L=0.65(W)(S)	L=(W)(S)

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

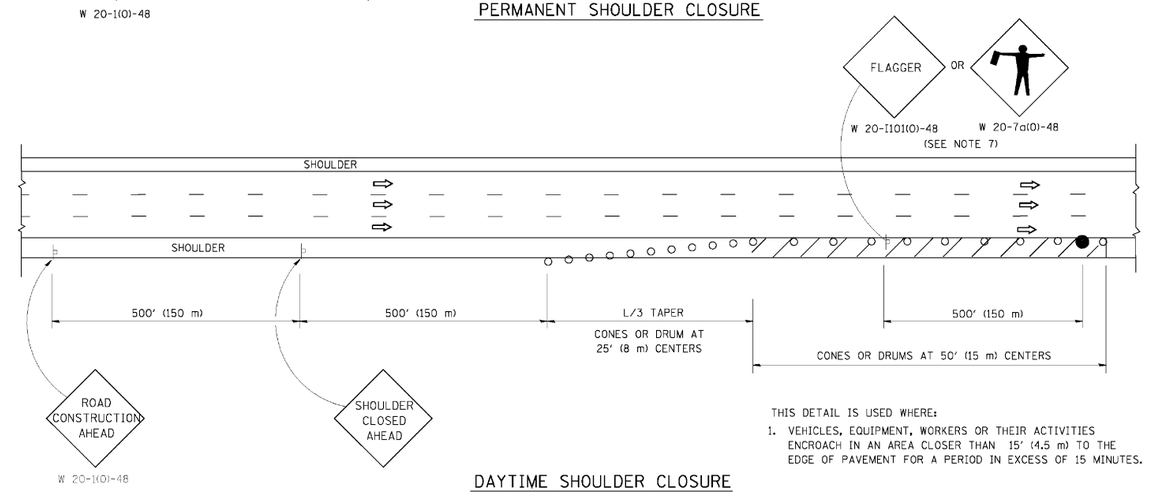
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO 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.
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.

SHOULDER CLOSURE DETAILS



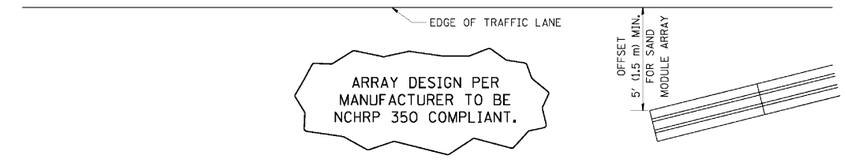
PERMANENT SHOULDER CLOSURE



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.

DAYTIME SHOULDER CLOSURE



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

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

FILE NAME = W:\diststd\22x34\tc17.dgn	USER NAME = leyso	DESIGNED -	REVISED - 04-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES**		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - D.W.S.	REVISED - J.A.F. 12-06				94	49-1(HB & HB-1)R	LAKE	225	193
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07					**TC-17**	CONTRACT NO. 60L76		
	PLOT DATE = 1/26/2010	DATE - 11-96	REVISED - S.P.B. 12-09		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. NA	TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT

DO NOT USE

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 2/10/2012	DATE - 01/25/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: | SHEET NO. OF SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	194
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			

S:\110\105_CADD\60L76 Russell Rdwy\60L76 Sheets\DI60L76-sht-cvrl details.dgn

ROUTE MARKERS

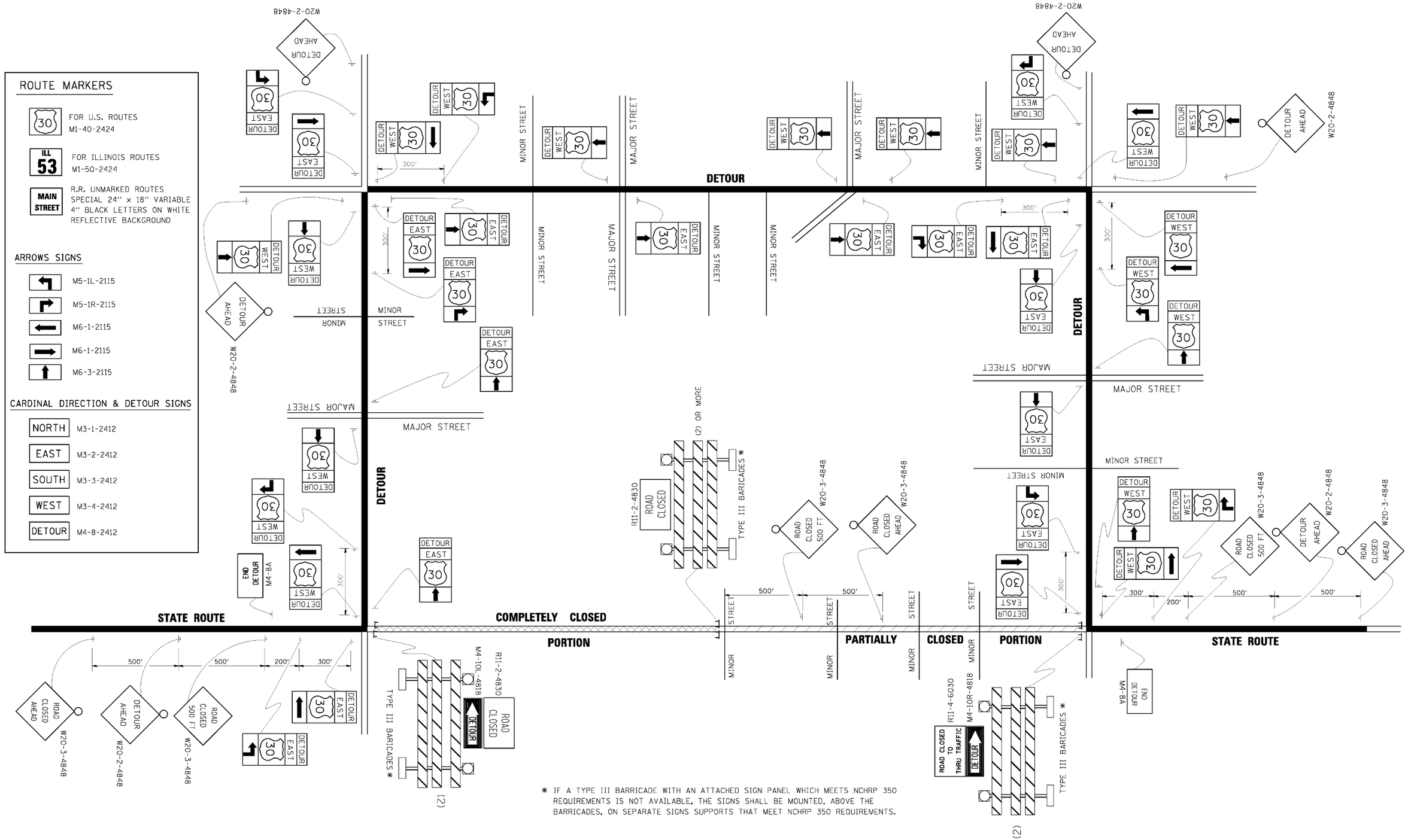
- 30 — FOR U.S. ROUTES M1-40-2424
- ILL 53 — FOR ILLINOIS ROUTES M1-50-2424
- MAIN STREET — R.R. UNMARKED ROUTES SPECIAL 24" x 18" VARIABLE 4" BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

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.

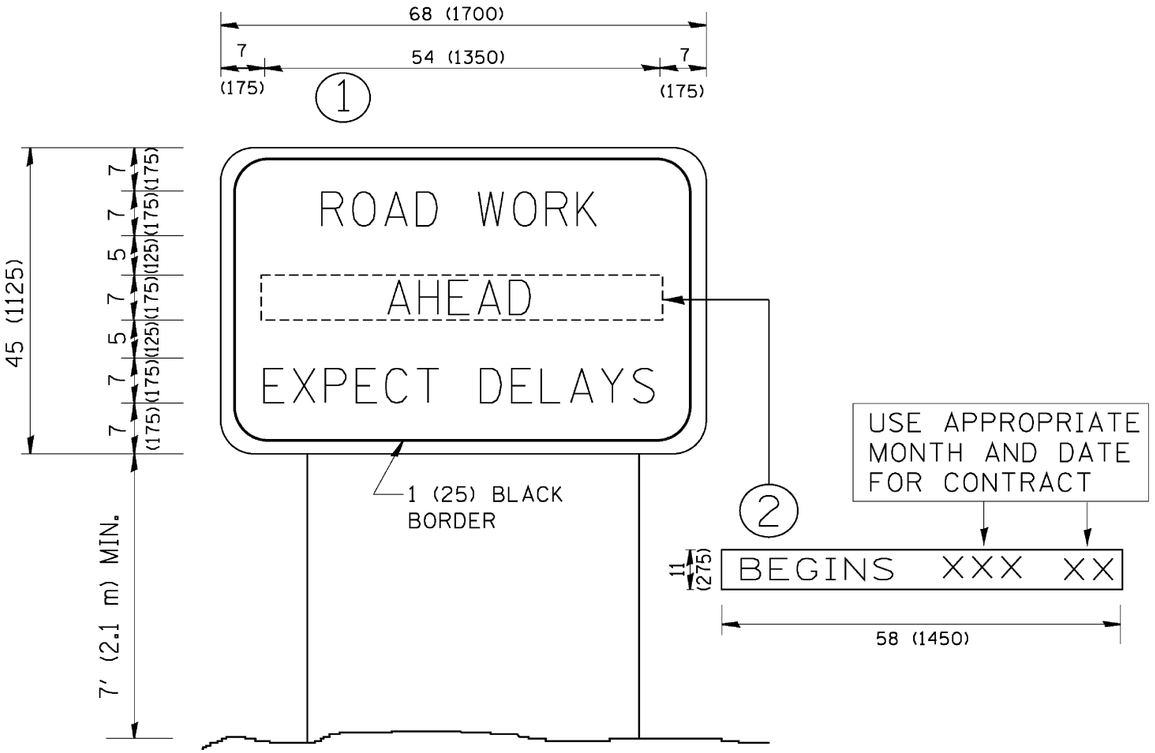
FILE NAME = c:\pw_work\PWIDOT\DRIVAKOSGN\d0108315\tc21.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
		DRAWN -	REVISED - R. BORO 09-14-09
	PLOT SCALE = 49.9999 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/14/2009	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING
FOR CLOSING STATE HIGHWAYS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	195
	TC-21	CONTRACT NO. 60L76		
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\to22.dgn	USER NAME = gaglianabt	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. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	196
	TC-22	CONTRACT NO. 60L76		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

CONTRACT NO.

STA. TO STA.

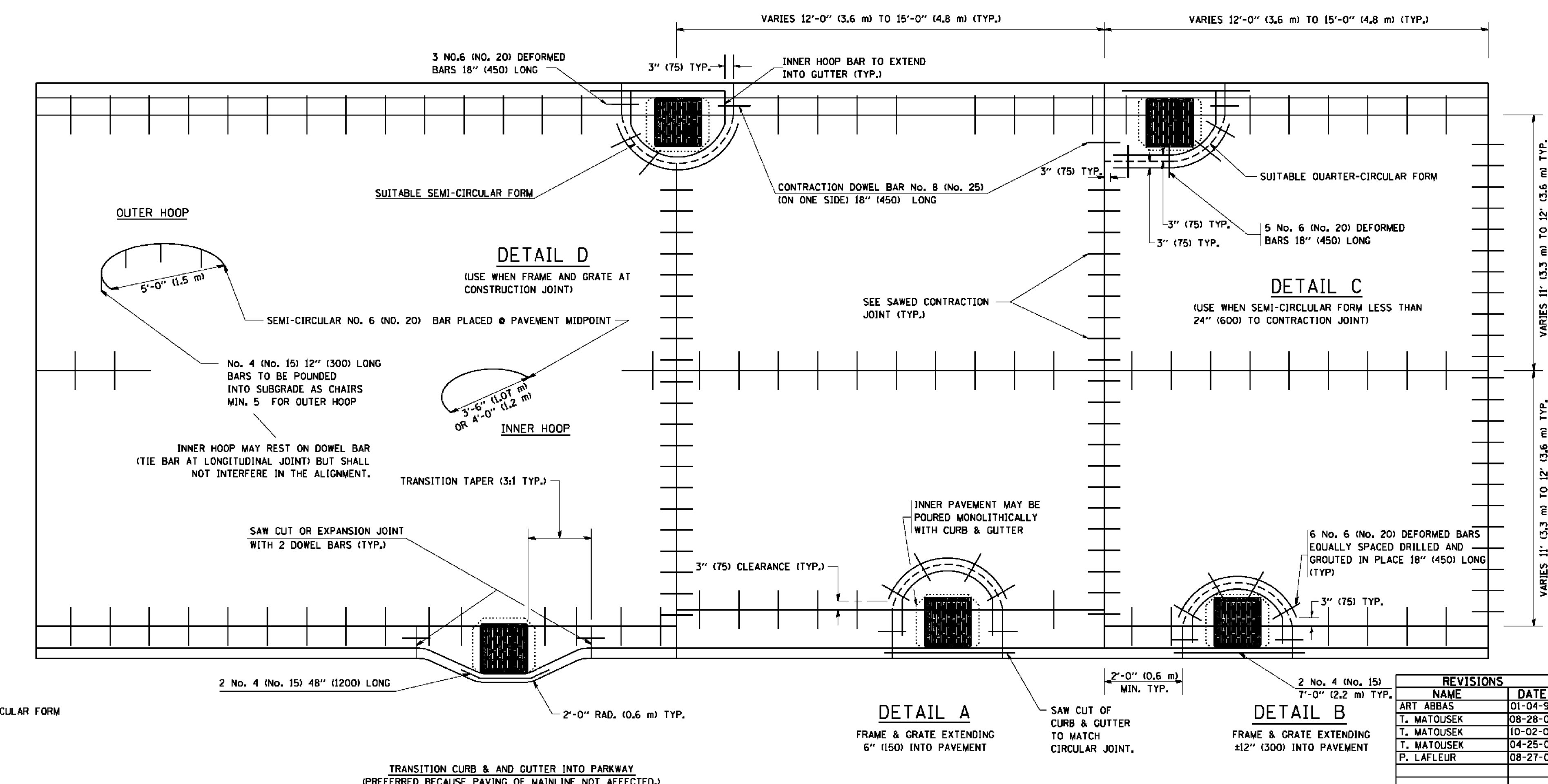
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

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.



LEGEND:
·················· CASTING
– – – – – – – SUITABLE SEMI-CIRCULAR FORM

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

REVISIONS	
NAME	DATE
ART ABBAS	01-04-99
T. MATOUSEK	08-28-00
T. MATOUSEK	10-02-00
T. MATOUSEK	04-25-02
P. LAFLEUR	08-27-02

ILLINOIS DEPARTMENT OF TRANSPORTATION

PCC PAVEMENT ROUNDOUTS AT CURB AND GUTTER

SCALE: VERT. HORIZ. NONE

DRAWN BY: TOM MATOUSEK
CHECKED BY: A. ABBAS

BD-48

PLOT DATE = 8/14/2007
FILE NAME = K:\cdissstd\bd48.dgn
PLOT SCALE = 4\9999 / IN.
USER NAME = bauerdl

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Chicago, Illinois
312.228.0100
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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 3/8/2012	DATE - 03/09/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

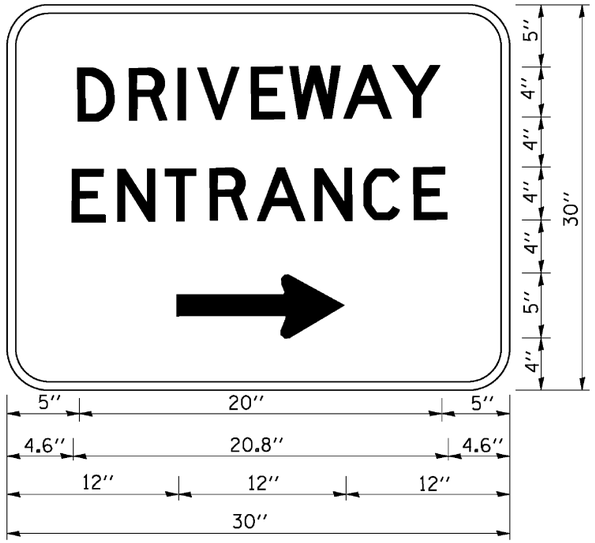
SCALE: SHEET NO. OF SHEETS STA. NA TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	197

CONTRACT NO. 60L76

ILLINOIS FED. AID PROJECT

S:\1101\05_CADD\60L76 Russell Rdwy\60L76 Sheets\0160L76-sht-civil details.dgn



3.0'' RADIUS, 0.5'' BORDER, WHITE ON GREEN; REFLECTORIZED
''DRIVEWAY'' D; ''ENTRANCE'' D; STANDARD ARROW CUSTOM 12.0'' x 5.0''

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM ''TEMPORARY INFORMATION SIGNING''.

FILE NAME = W:\diststd\22x34\to26.dgn	USER NAME = gaglianabt	DESIGNED -	REVISED - C. JUCIUS 02-15-07	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DRIVEWAY ENTRANCE SIGNING			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					94	49-1(HB & HB-1)R	LAKE	225	198
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -						TC-26		CONTRACT NO. 60L76	
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. NA TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

745
740
735

EX. ROW

7.7%

2.0%

1.5%

BURIED TELEPHONE (1.25")

100

BURIED TELEPHONE 2(4")

BURIED TELEPHONE (1")

STA 1+73.69

745
740
735

EX. ROW

2.0%

10.7%

2.0%

14%

UNDERGROUND GASLINE

STA 1+57.16

745
740
735
730
725

CUT: 197.12
FILL: 0.00
TOPSOIL: 86.00

℄ RUSSELL ROAD

EX. ROW

16.5%

2.0%

3.0%

-1.5%

-2.0%

9.1%

2.0%

EX. ROW

BURIED TELEPHONE (1.25")

100

BURIED TELEPHONE 2(4")

BURIED TELEPHONE (1")

UNDERGROUND GASLINE

00

FIBER OPTIC CABLE 2(4")

STA 1+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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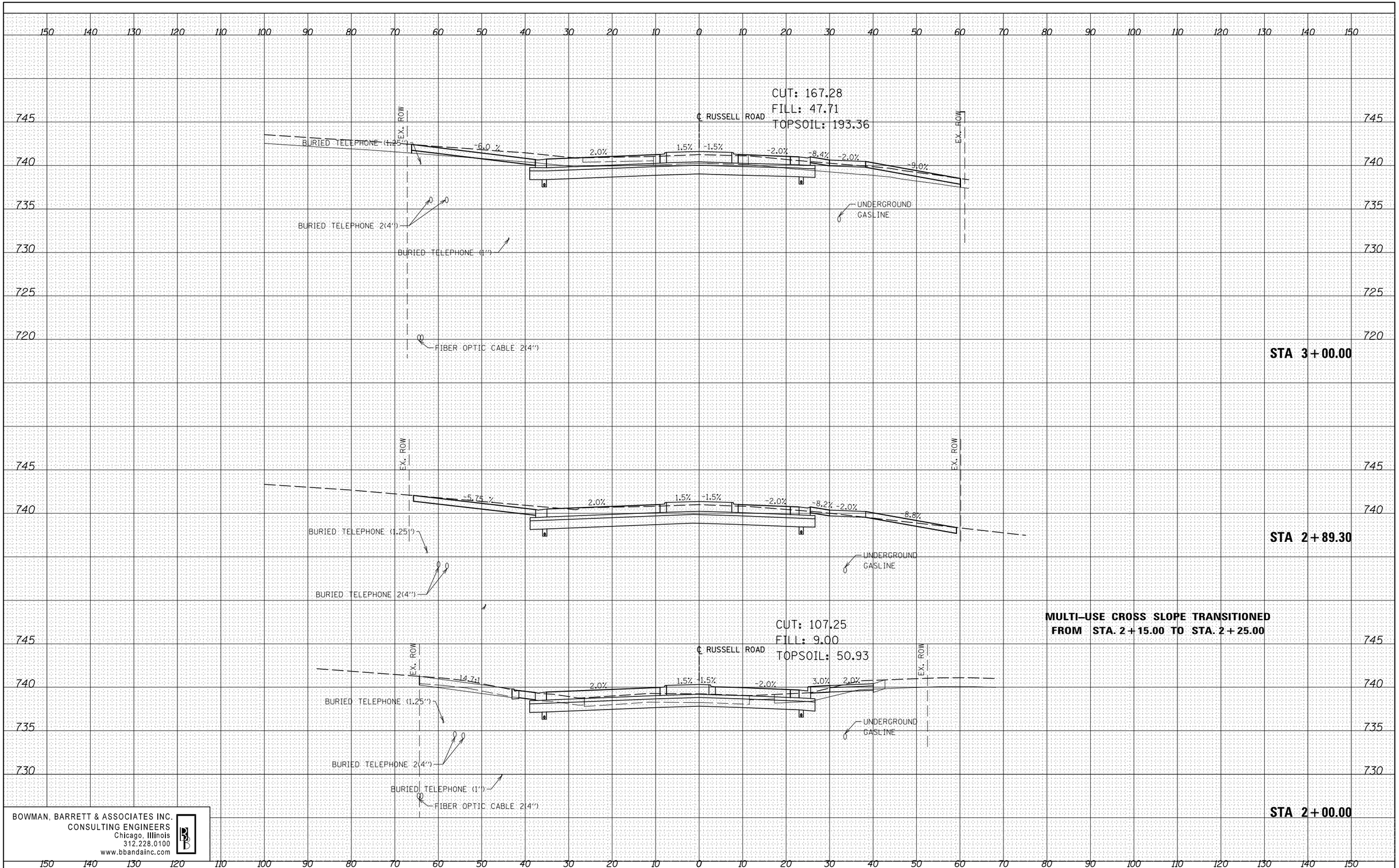
FILE NAME = $FILE1$	USER NAME = default	DESIGNED - PTG	REVISED -
		DRAWN - PTG	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 2/10/2012	DATE - 01/25/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RUSSELL ROAD
CROSS SECTION SHEET

SCALE: | SHEET NO. 1 OF 27 SHEETS | STA. 1+00.00 | TO STA. 1+73.69

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	199
		CONTRACT NO. 60L76		
	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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FILE NAME = $FILE1$	USER NAME = default	DESIGNED - PTG	REVISED -
		DRAWN - PTG	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - RGR	REVISED -
	PLOT DATE = 2/10/2012	DATE - 01/25/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RUSSELL ROAD
CROSS SECTION SHEET

SCALE: | SHEET NO. 2 OF 27 SHEETS | STA. 2+00.00 TO STA. 3+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1(HB & HB-1)R	LAKE	225	200
		CONTRACT NO. 60L76		
	ILLINOIS FED. AID PROJECT			