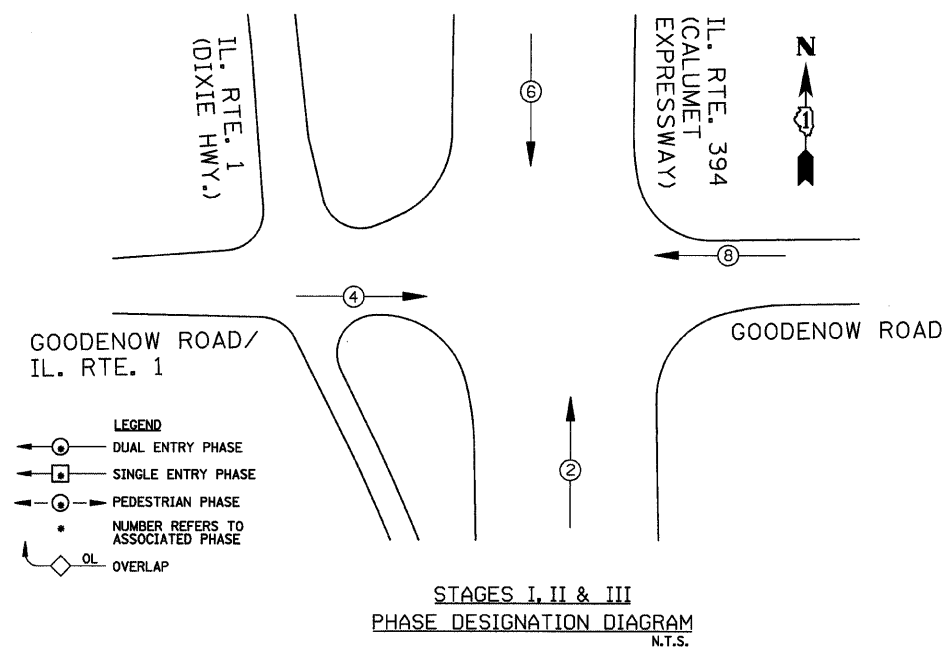


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	101
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

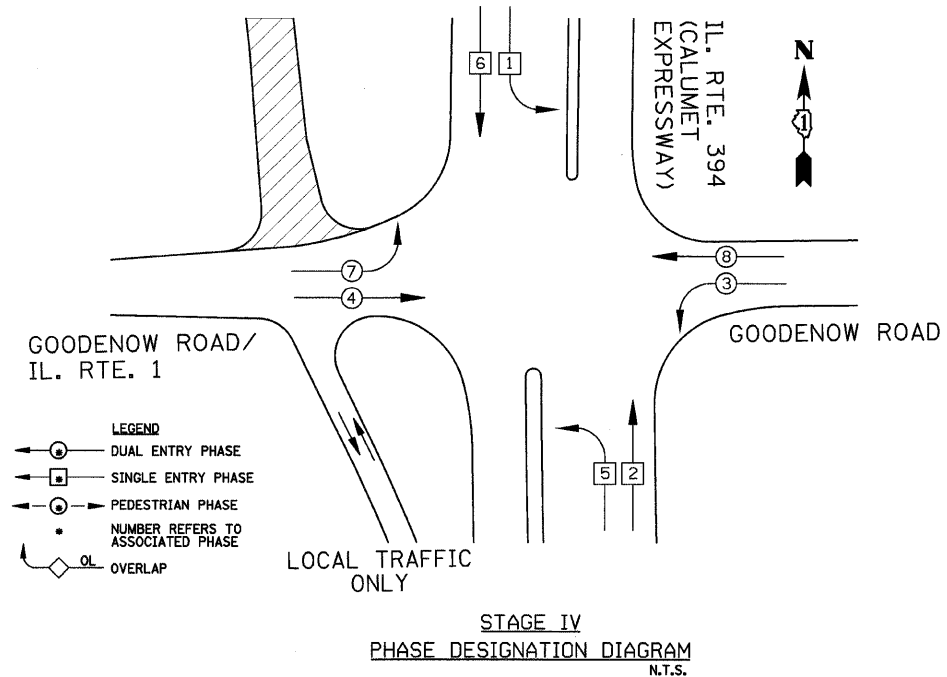
CONTRACT NO. 62542

CONTROLLER SEQUENCE



STAGES I, II & III
PHASE DESIGNATION DIAGRAM
N.T.S.

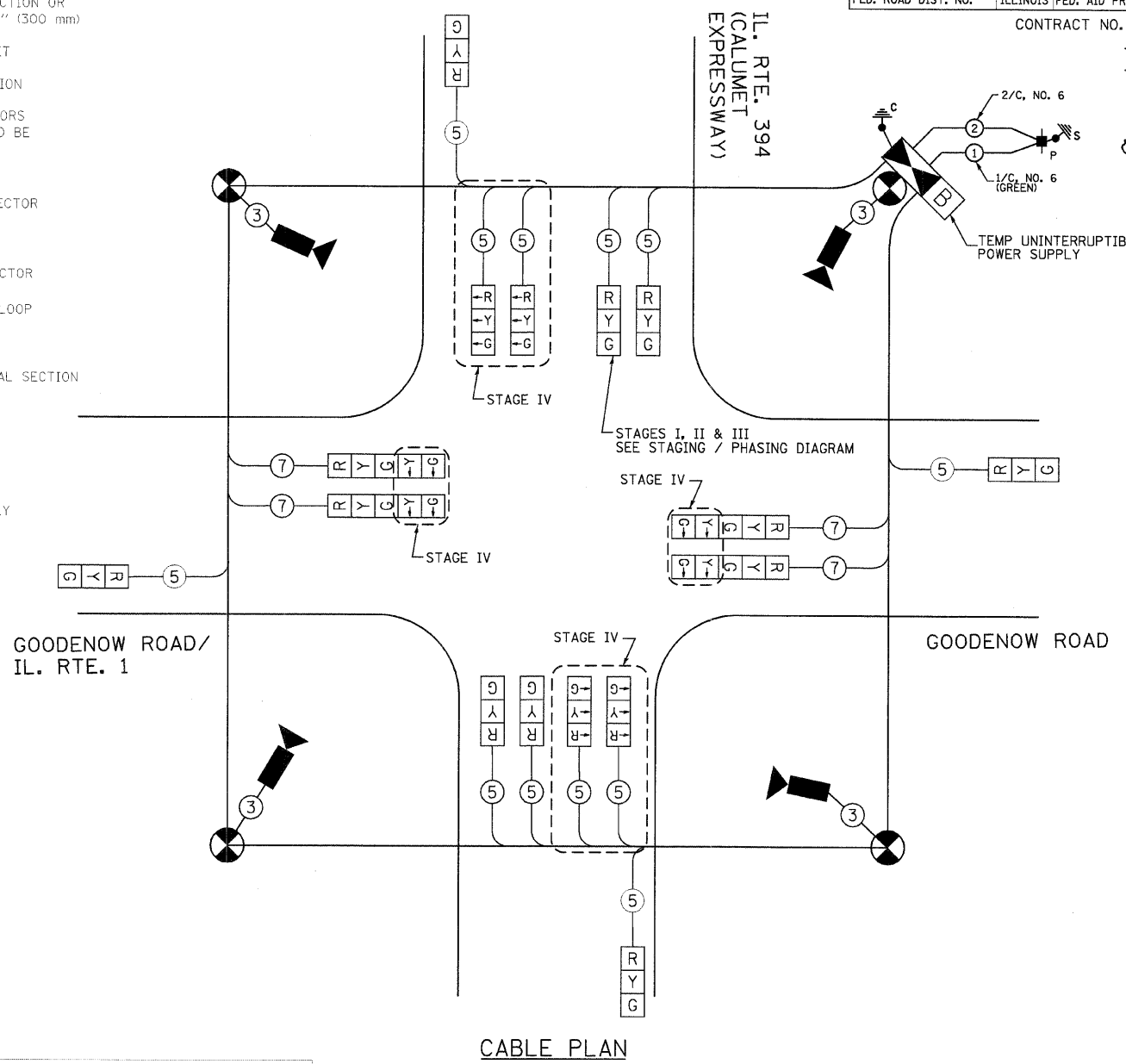
CONTROLLER SEQUENCE



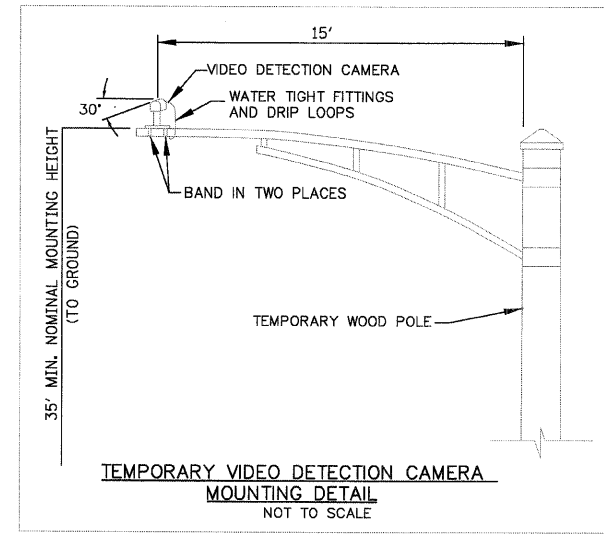
STAGE IV
PHASE DESIGNATION DIAGRAM
N.T.S.

TEMPORARY CABLE DIAGRAM LEGEND

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSH-BUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE SENSOR
- TEMPORARY WOOD POLE
- UNINTERRUPTIBLE POWER SUPPLY
- GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H'), OR CONTROLLER (C)
- GROUND ROD AT POST (P), OR MAST ARM POLE (MA)
- GROUND ROD AT ELECTRIC SERVICE INSTALLATION



CABLE PLAN



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS*	WATTAGE INCAND. LED	OPERATION (%)	TOTAL WATTAGE	
SIGNAL (RED)	14	135	17	0.50	119.00
(YELLOW)	14	135	25	0.25	87.50
(GREEN)	14	135	15	0.25	52.50
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	90	25	1.00		
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER			0.50		
ENERGY COSTS TO: IDOT DISTRICT ONE				TOTAL =	368.6
ENERGY SUPPLY CONTACT: PHIL GASTON PHONE: 708-235-2338 COMPANY: CDM ED					

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' H-2" (60H-0.6m)
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. BUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY SIGNAL CABLE PLAN
IL. RTE. 394 (CALUMET EXP)
AT GOODENOW ROAD
 SCALE: 1:250
 DATE: 08-24-09
 DRAWN BY: RDS
 DESIGNED BY: BAC
 CHECKED BY: JGG

NOTE 1 - SEE LIGHTING PLAN SHEET NO(S). ----- FOR THE STREET LIGHTING CABLE LAYOUT AND LUMINAIRE SIZE AND TYPE AT COMBINATION POLES.

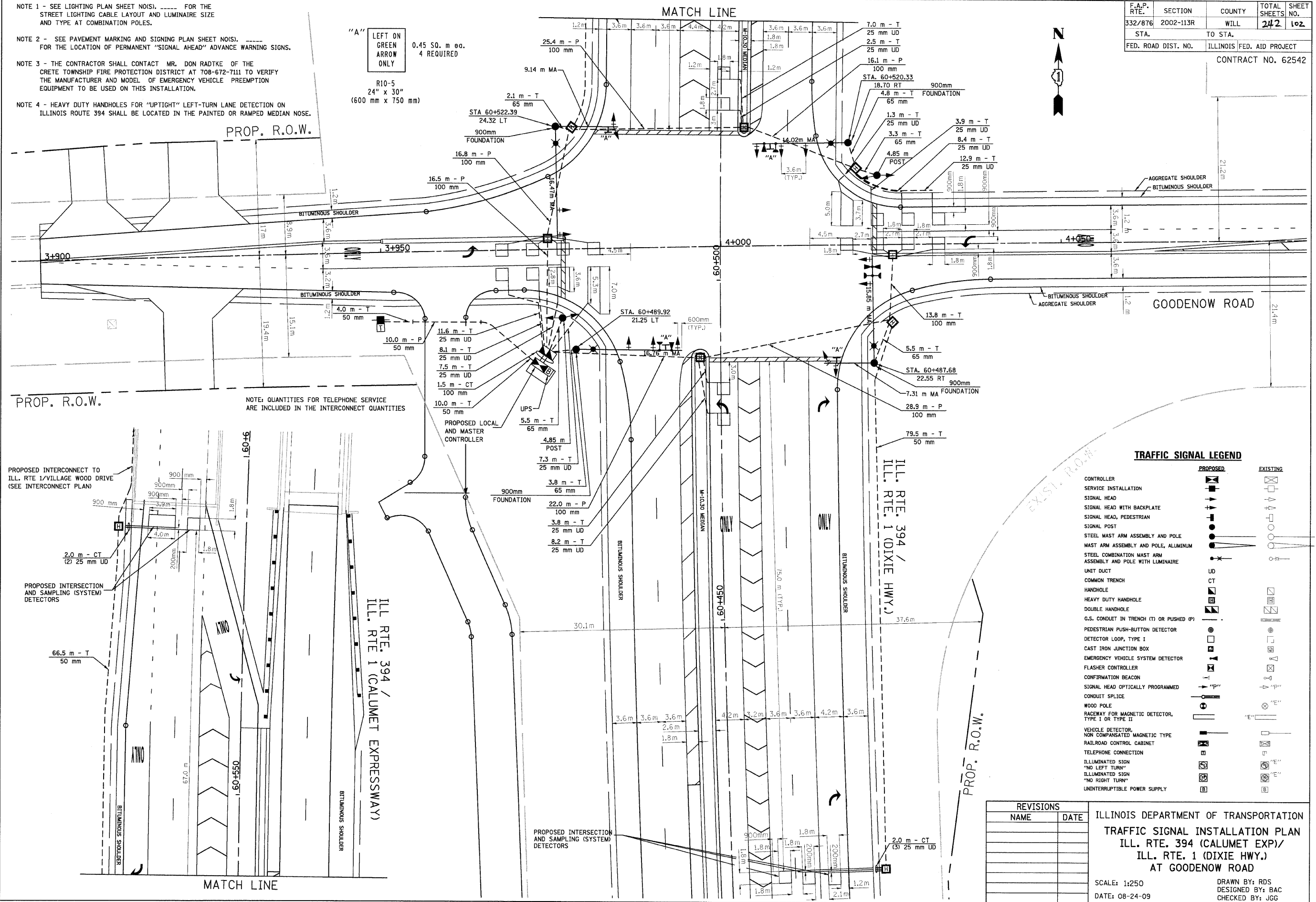
NOTE 2 - SEE PAVEMENT MARKING AND SIGNING PLAN SHEET NO(S). ----- FOR THE LOCATION OF PERMANENT "SIGNAL AHEAD" ADVANCE WARNING SIGNS.

NOTE 3 - THE CONTRACTOR SHALL CONTACT MR. DON RADTKE OF THE CRETE TOWNSHIP FIRE PROTECTION DISTRICT AT 708-672-7111 TO VERIFY THE MANUFACTURER AND MODEL OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT TO BE USED ON THIS INSTALLATION.

NOTE 4 - HEAVY DUTY HANDHOLES FOR "UPTIGHT" LEFT-TURN LANE DETECTION ON ILLINOIS ROUTE 394 SHALL BE LOCATED IN THE PAINTED OR RAMPED MEDIAN NOSE.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	102
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

CONTRACT NO. 62542



TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER	[Symbol]	[Symbol]
SERVICE INSTALLATION	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	[Symbol]
SIGNAL HEAD, PEDESTRIAN	[Symbol]	[Symbol]
SIGNAL POST	[Symbol]	[Symbol]
STEEL MAST ARM ASSEMBLY AND POLE	[Symbol]	[Symbol]
MAST ARM ASSEMBLY AND POLE, ALUMINUM	[Symbol]	[Symbol]
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	[Symbol]	[Symbol]
UNIT DUCT	[Symbol]	[Symbol]
COMMON TRENCH	[Symbol]	[Symbol]
HANDHOLE	[Symbol]	[Symbol]
HEAVY DUTY HANDHOLE	[Symbol]	[Symbol]
DOUBLE HANDHOLE	[Symbol]	[Symbol]
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	[Symbol]	[Symbol]
PEDESTRIAN PUSH-BUTTON DETECTOR	[Symbol]	[Symbol]
DETECTOR LOOP, TYPE I	[Symbol]	[Symbol]
CAST IRON JUNCTION BOX	[Symbol]	[Symbol]
EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
FLASHER CONTROLLER	[Symbol]	[Symbol]
CONFIRMATION BEACON	[Symbol]	[Symbol]
SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	[Symbol]
CONDUIT SPLICE	[Symbol]	[Symbol]
WOOD POLE	[Symbol]	[Symbol]
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	[Symbol]	[Symbol]
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	[Symbol]	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]	[Symbol]
UNINTERRUPTIBLE POWER SUPPLY	[Symbol]	[Symbol]

REVISIONS	
NAME	DATE

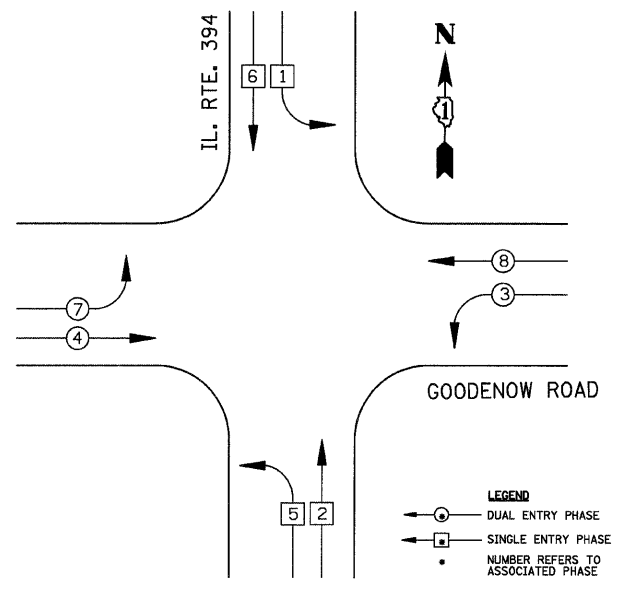
ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL INSTALLATION PLAN
 ILL. RTE. 394 (CALUMET EXP)/
 ILL. RTE. 1 (DIXIE HWY.)
 AT GOODENOW ROAD

SCALE: 1:250
 DATE: 08-24-09

DRAWN BY: RDS
 DESIGNED BY: BAC
 CHECKED BY: JGG

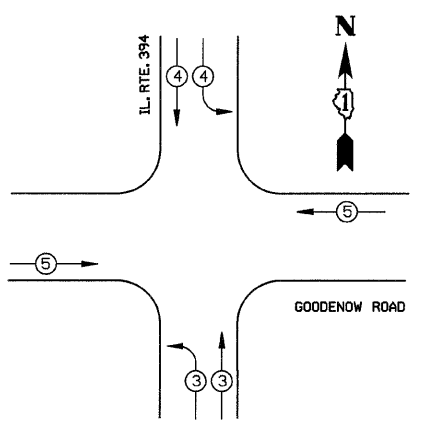
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	103
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62542				

CONTROLLER SEQUENCE



LEGEND
 ○ DUAL ENTRY PHASE
 □ SINGLE ENTRY PHASE
 • NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM



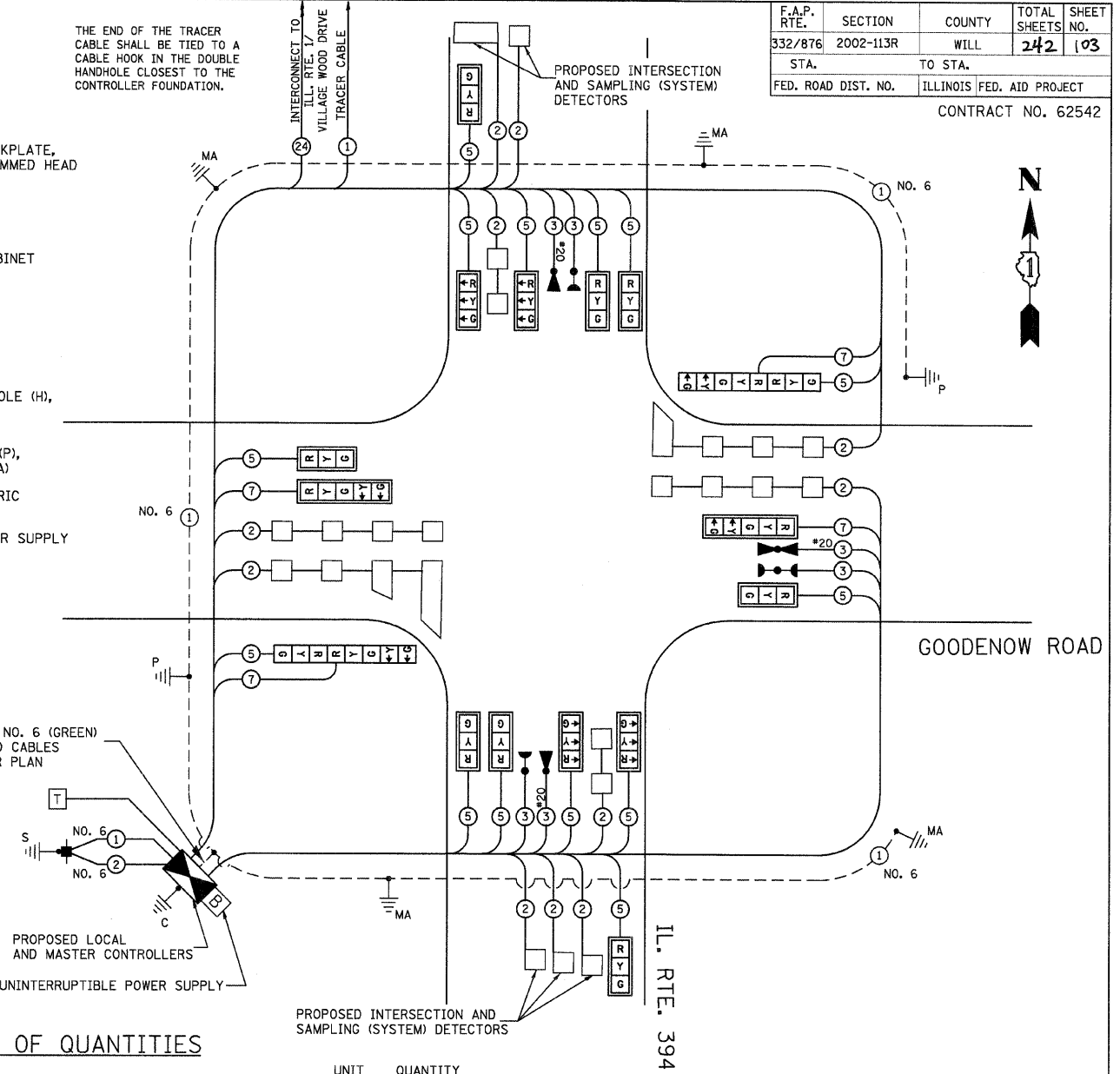
PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

EMERGENCY VEHICLE PREEMPTION SEQUENCE

CABLE PLAN LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED

THE END OF THE TRACER CABLE SHALL BE TIED TO A CABLE HOOK IN THE DOUBLE HANDHOLE CLOSEST TO THE CONTROLLER FOUNDATION.



SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
HEAVY-DUTY HANDHOLE	EACH	9
DOUBLE HANDHOLE	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	14
INDUCTIVE LOOP DETECTOR	EACH	11
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SIGN PANEL-TYPE 1	SQ M	1.68
SIGN PANEL-TYPE 2	SQ M	2.78
CONDUIT IN TRENCH, 50MM DIA., GALVANIZED STEEL	METER	150.0
CONDUIT IN TRENCH, 65MM DIA., GALVANIZED STEEL	METER	25.0
CONDUIT IN TRENCH, 100MM DIA., GALVANIZED STEEL	METER	3.0
CONDUIT PUSHED, 50MM DIA., GALVANIZED STEEL	METER	10.0
CONDUIT PUSHED, 100MM DIA., GALVANIZED STEEL	METER	139.5
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	178.0
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	METER	111.8
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	METER	943.2
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	METER	266.3
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	METER	773.7
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	METER	30.5
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 4.85 METER	EACH	2
CONCRETE FOUNDATION, TYPE A	METER	2.4
CONCRETE FOUNDATION, TYPE C	METER	1.2
CONCRETE FOUNDATION, TYPE E 900MM DIAMETER	METER	18.4
DETECTOR LOOP, TYPE 1	METER	201
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	METER	235.3
ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	METER	111.75
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 14.02 M	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 16.76 M	EACH	1
SERVICE INSTALLATION, POLE MOUNT	EACH	1
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	12
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5-SECTION, BRACKET MOUNTED	EACH	2
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 9.14 METER AND 16.47 METER	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 7.31 METER AND 15.85 METER	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
100% COST TO THE CRETE TOWNSHIP FIRE PROTECTION DISTRICT		

CABLE PLAN

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE INCAND.	OPERATION LED (%)	TOTAL WATTAGE	
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	14	135	25	0.25	87.50
(GREEN)	14	135	15	0.25	52.50
ARROW	16	135	12	0.10	19.20
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO: IDOT DISTRICT ONE				TOTAL =	412.20
ENERGY SUPPLY CONTACT: PHIL GASTON PHONE: 708-235-2338 COMPANY: CDM ED					

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' H, 2" (60mm) - 0.6m
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. BUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

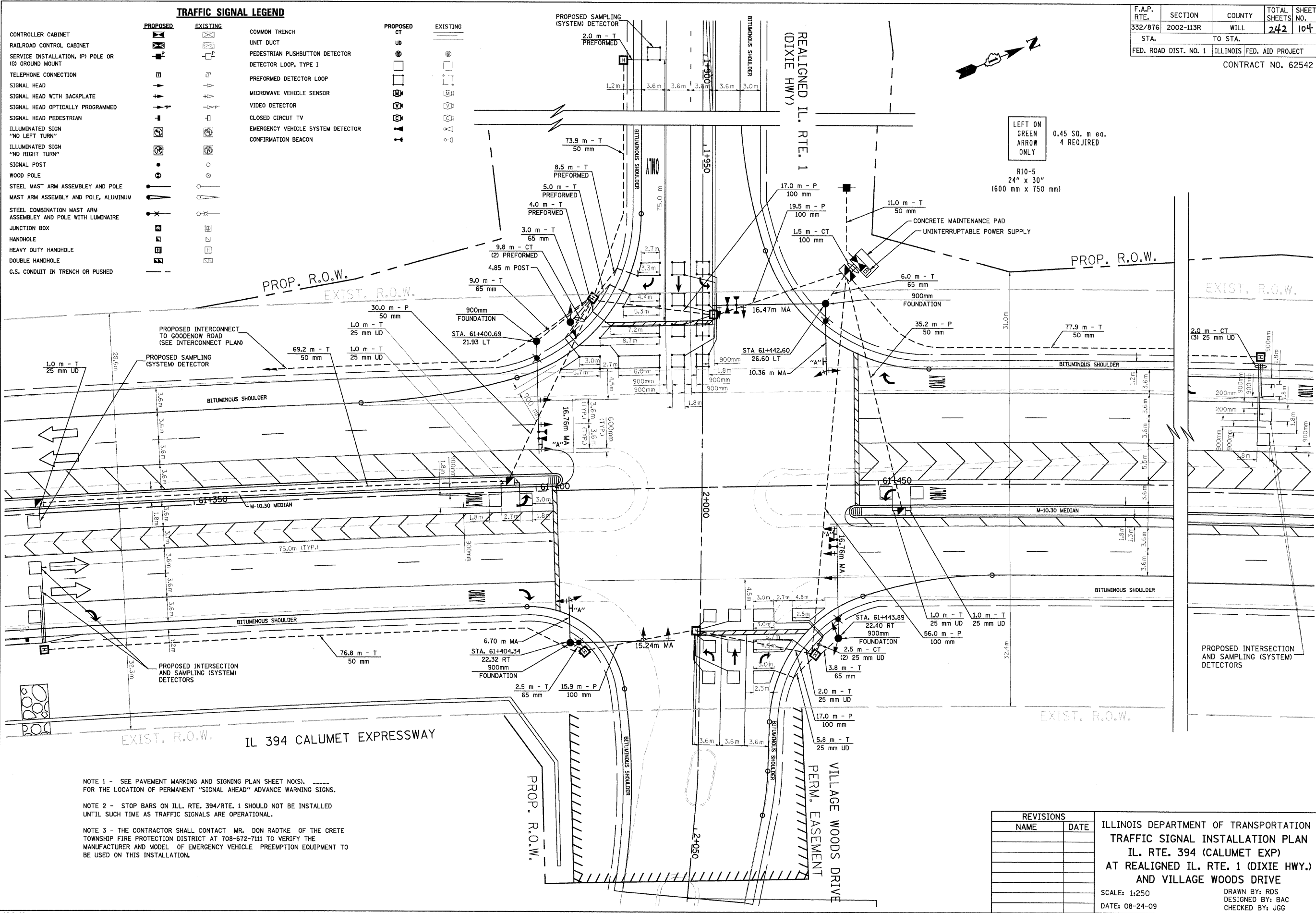
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF QUANTITIES, CABLE PLAN,
 PHASE DESIGNATION DIAGRAM AND
 EMERGENCY VEHICLE SEQUENCE OF OPERATION
 ILL. RTE. 394 (CALUMET EXP) AT GOODENOW ROAD
 SCALE: 1:250
 DATE: 08-24-09
 DRAWN BY: RDS
 DESIGNED BY: BAC
 CHECKED BY: JGG

TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	COMMON TRENCH	PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	UNIT DUCT	CT	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR	UP	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	[Symbol]	DETECTOR LOOP, TYPE 1	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	PREFORMED DETECTOR LOOP	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	MICROWAVE VEHICLE SENSOR	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	VIDEO DETECTOR	[Symbol]	[Symbol]
SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	CLOSED CIRCUIT TV	[Symbol]	[Symbol]
SIGNAL HEAD PEDESTRIAN	[Symbol]	EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	CONFIRMATION BEACON	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]			
SIGNAL POST	[Symbol]			
WOOD POLE	[Symbol]			
STEEL MAST ARM ASSEMBLY AND POLE	[Symbol]			
MAST ARM ASSEMBLY AND POLE, ALUMINUM	[Symbol]			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	[Symbol]			
JUNCTION BOX	[Symbol]			
HANDHOLE	[Symbol]			
HEAVY DUTY HANDHOLE	[Symbol]			
DOUBLE HANDHOLE	[Symbol]			
G.S. CONDUIT IN TRENCH OR PUSHED	[Symbol]			

F.A.P. RTE. 332/876	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 104
STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62542				



LEFT ON GREEN ARROW ONLY
 0.45 S.O. m ea. 4 REQUIRED
 R10-5
 24" x 30"
 (600 mm x 750 mm)

NOTE 1 - SEE PAVEMENT MARKING AND SIGNING PLAN SHEET NO(S). ----- FOR THE LOCATION OF PERMANENT "SIGNAL AHEAD" ADVANCE WARNING SIGNS.

NOTE 2 - STOP BARS ON ILL. RTE. 394/RTE. 1 SHOULD NOT BE INSTALLED UNTIL SUCH TIME AS TRAFFIC SIGNALS ARE OPERATIONAL.

NOTE 3 - THE CONTRACTOR SHALL CONTACT MR. DON RADTKE OF THE CRETE TOWNSHIP FIRE PROTECTION DISTRICT AT 708-672-7111 TO VERIFY THE MANUFACTURER AND MODEL OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT TO BE USED ON THIS INSTALLATION.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC SIGNAL INSTALLATION PLAN
 IL. RTE. 394 (CALUMET EXP)
 AT REALIGNED IL. RTE. 1 (DIXIE HWY.)
 AND VILLAGE WOODS DRIVE

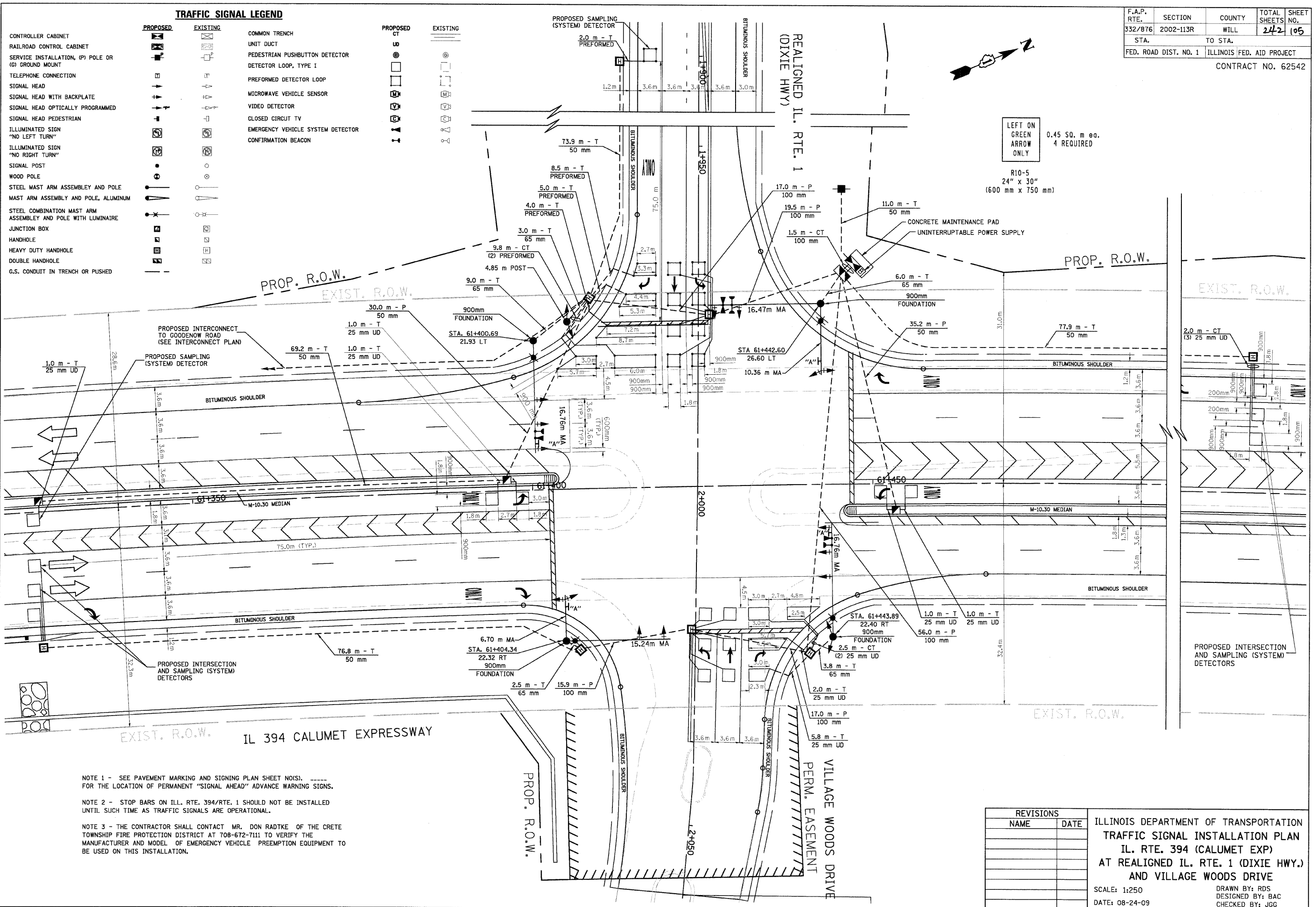
SCALE: 1:250
 DATE: 08-24-09

DRAWN BY: RDS
 DESIGNED BY: BAC
 CHECKED BY: JGG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	105
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62542				

TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	COMMON TRENCH	PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	UNIT DUCT	CT	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	[Symbol]	DETECTOR LOOP, TYPE I	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	PERFORMED DETECTOR LOOP	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	MICROWAVE VEHICLE SENSOR	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	VIDEO DETECTOR	[Symbol]	[Symbol]
SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	CLOSED CIRCUIT TV	[Symbol]	[Symbol]
SIGNAL HEAD PEDESTRIAN	[Symbol]	EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	CONFIRMATION BEACON	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]			
SIGNAL POST	[Symbol]			
WOOD POLE	[Symbol]			
STEEL MAST ARM ASSEMBLY AND POLE	[Symbol]			
MAST ARM ASSEMBLY AND POLE, ALUMINUM	[Symbol]			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	[Symbol]			
JUNCTION BOX	[Symbol]			
HANDHOLE	[Symbol]			
HEAVY DUTY HANDHOLE	[Symbol]			
DOUBLE HANDHOLE	[Symbol]			
G.S. CONDUIT IN TRENCH OR PUSHED	[Symbol]			



NOTE 1 - SEE PAVEMENT MARKING AND SIGNING PLAN SHEET NOIS. ----- FOR THE LOCATION OF PERMANENT "SIGNAL AHEAD" ADVANCE WARNING SIGNS.

NOTE 2 - STOP BARS ON ILL. RTE. 394/RTE. 1 SHOULD NOT BE INSTALLED UNTIL SUCH TIME AS TRAFFIC SIGNALS ARE OPERATIONAL.

NOTE 3 - THE CONTRACTOR SHALL CONTACT MR. DON RADTKE OF THE CRETE TOWNSHIP FIRE PROTECTION DISTRICT AT 708-672-7111 TO VERIFY THE MANUFACTURER AND MODEL OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT TO BE USED ON THIS INSTALLATION.

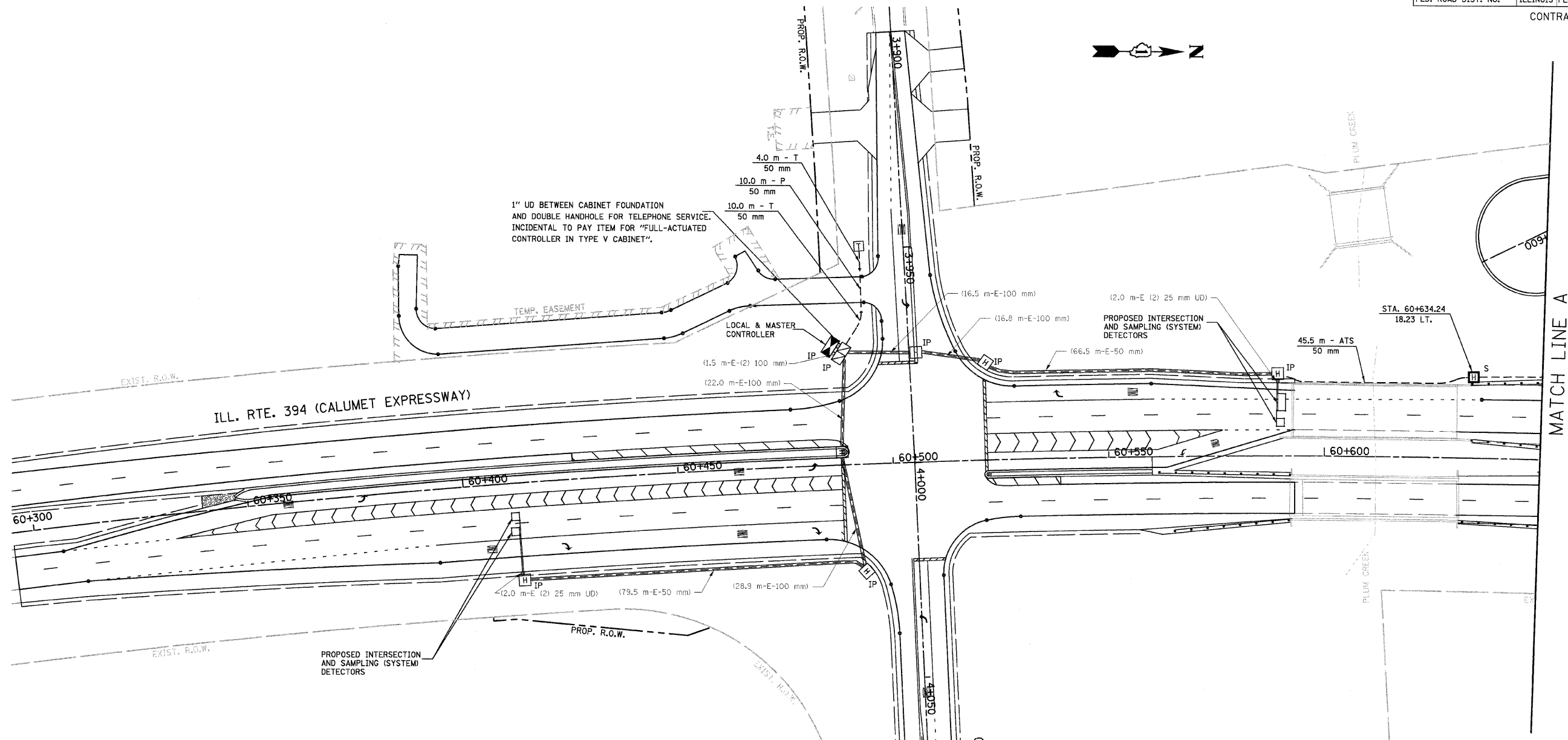
LEFT ON GREEN ARROW ONLY
0.45 SQ. m ea.
4 REQUIRED
R10-5
24" x 30"
(600 mm x 750 mm)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL INSTALLATION PLAN
IL. RTE. 394 (CALUMET EXP)
AT REALIGNED IL. RTE. 1 (DIXIE HWY.)
AND VILLAGE WOODS DRIVE
SCALE: 1:250
DATE: 08-24-09
DRAWN BY: RDS
DESIGNED BY: BAC
CHECKED BY: JGG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	106
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

CONTRACT NO. 62542



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		

RESTORATION OF WORK AREA, RESTORATION OF TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALK, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

REVISIONS	
NAME	DATE

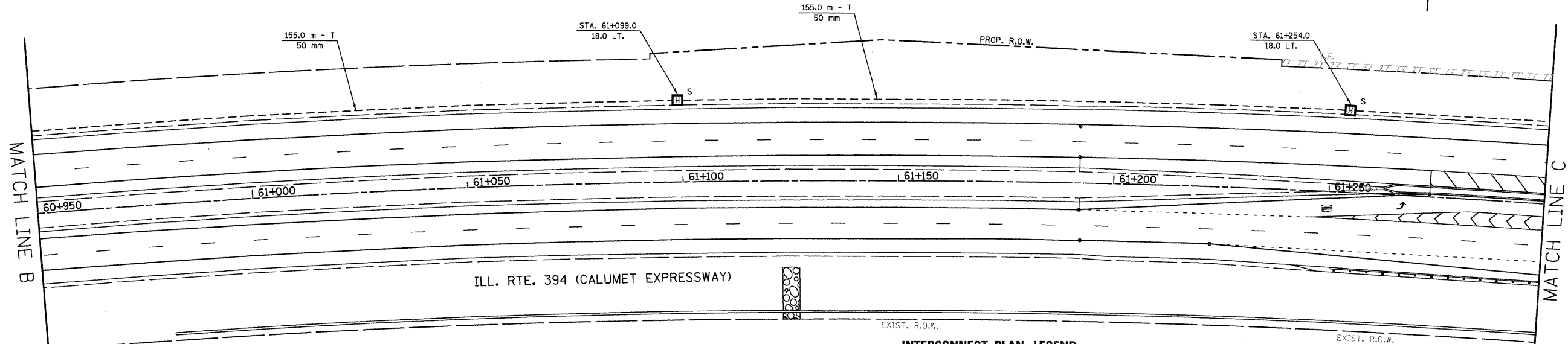
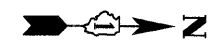
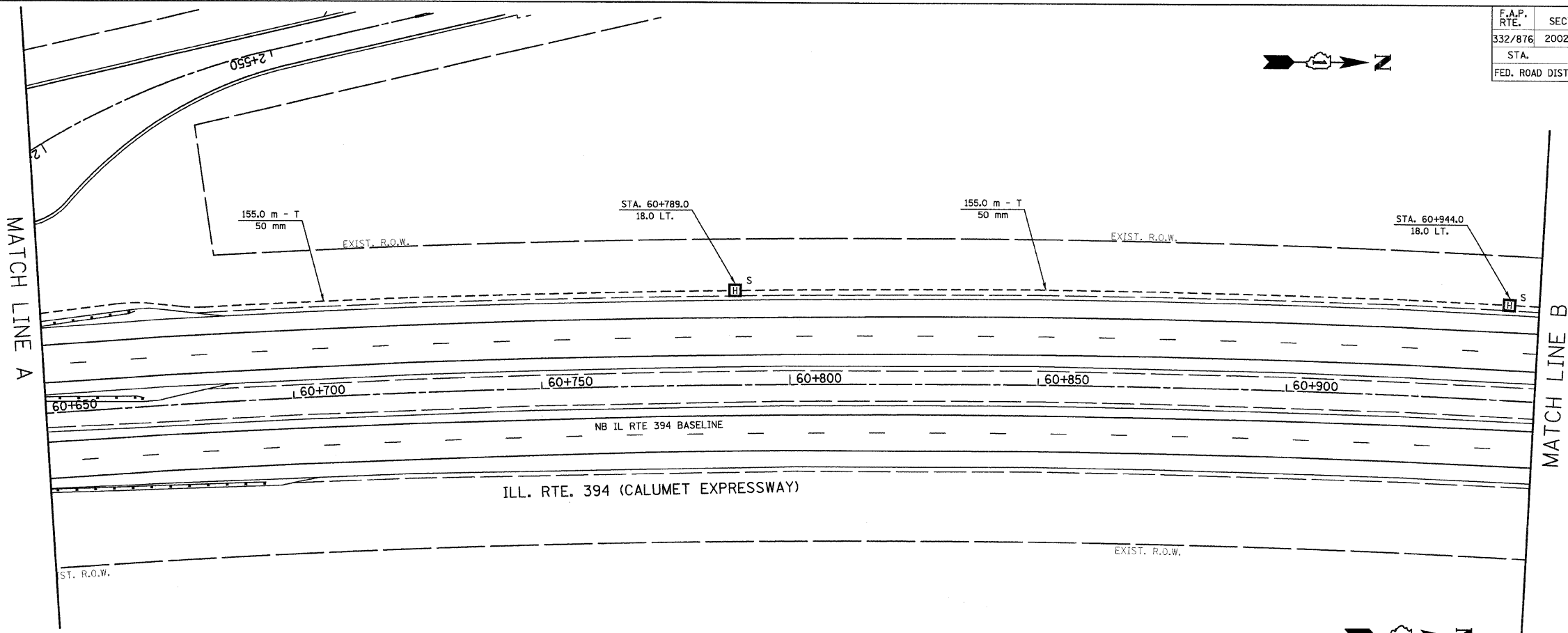
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN (SHEET 1 OF 3)
ILL. RTE. 394 (CALUMET EXPRESSWAY)
FROM GOODENOW ROAD TO
REALIGNED ILL. RTE. 1 (DIXIE HWY.)

SCALE: 1:500
DATE: 08-24-09

DRAWN BY: RDS
DESIGNED BY: BAC
CHECKED BY: JGG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	107
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

CONTRACT NO. 62542



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED SYSTEM		
INTERSECTION	S	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		

RESTORATION OF WORK AREA, RESTORATION OF TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALK, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

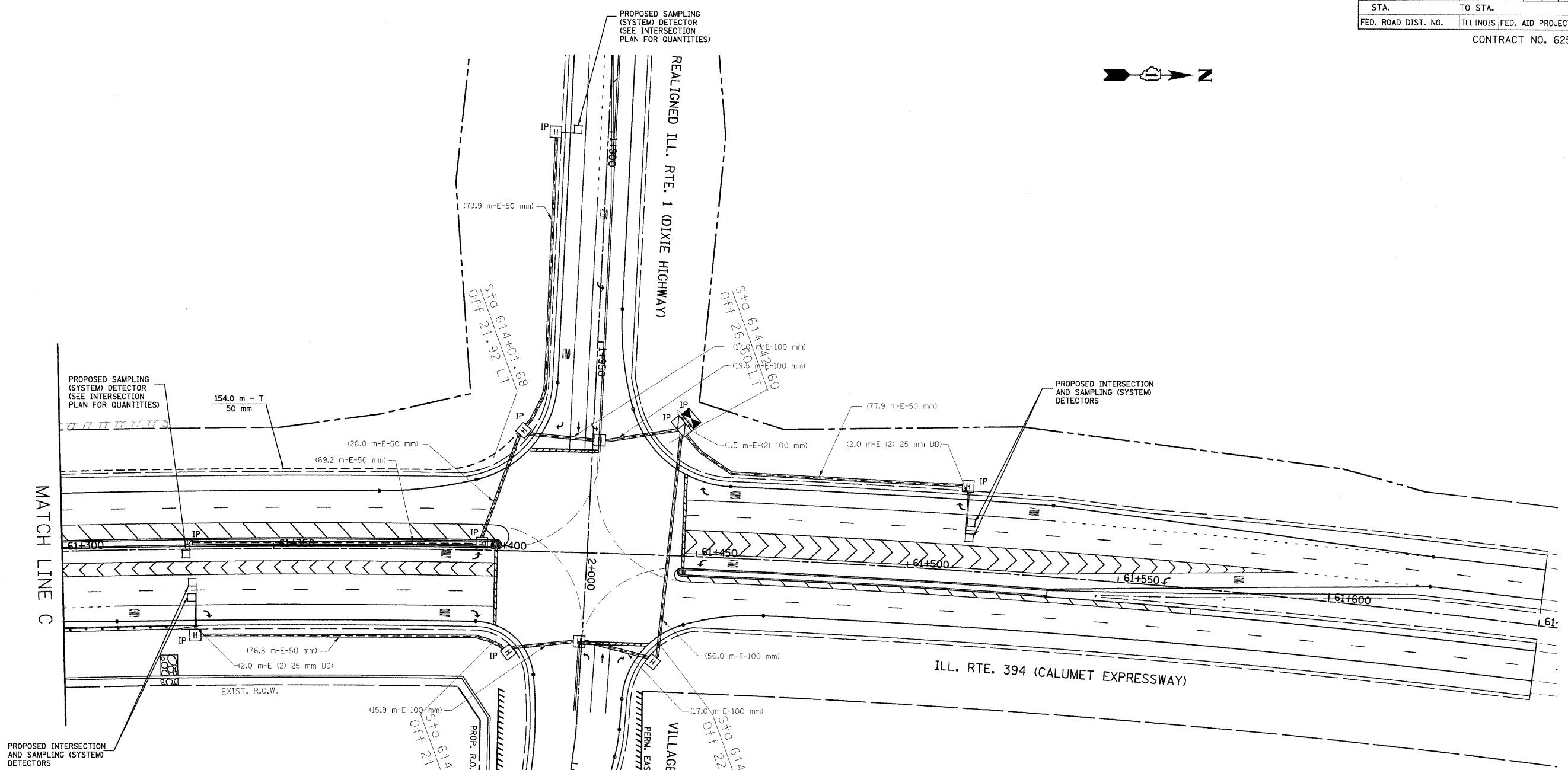
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN (SHEET 2 OF 3)
ILL. RTE. 394 (CALUMET EXPRESSWAY)
FROM GOODENOW ROAD TO
REALIGNED ILL. RTE. 1 (DIXIE HWY.)

SCALE: 1:500
DATE: 08-24-09

DRAWN BY: RDS
DESIGNED BY: BAC
CHECKED BY: JGG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	108
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62542				



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	I
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		

RESTORATION OF WORK AREA, RESTORATION OF TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALK, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

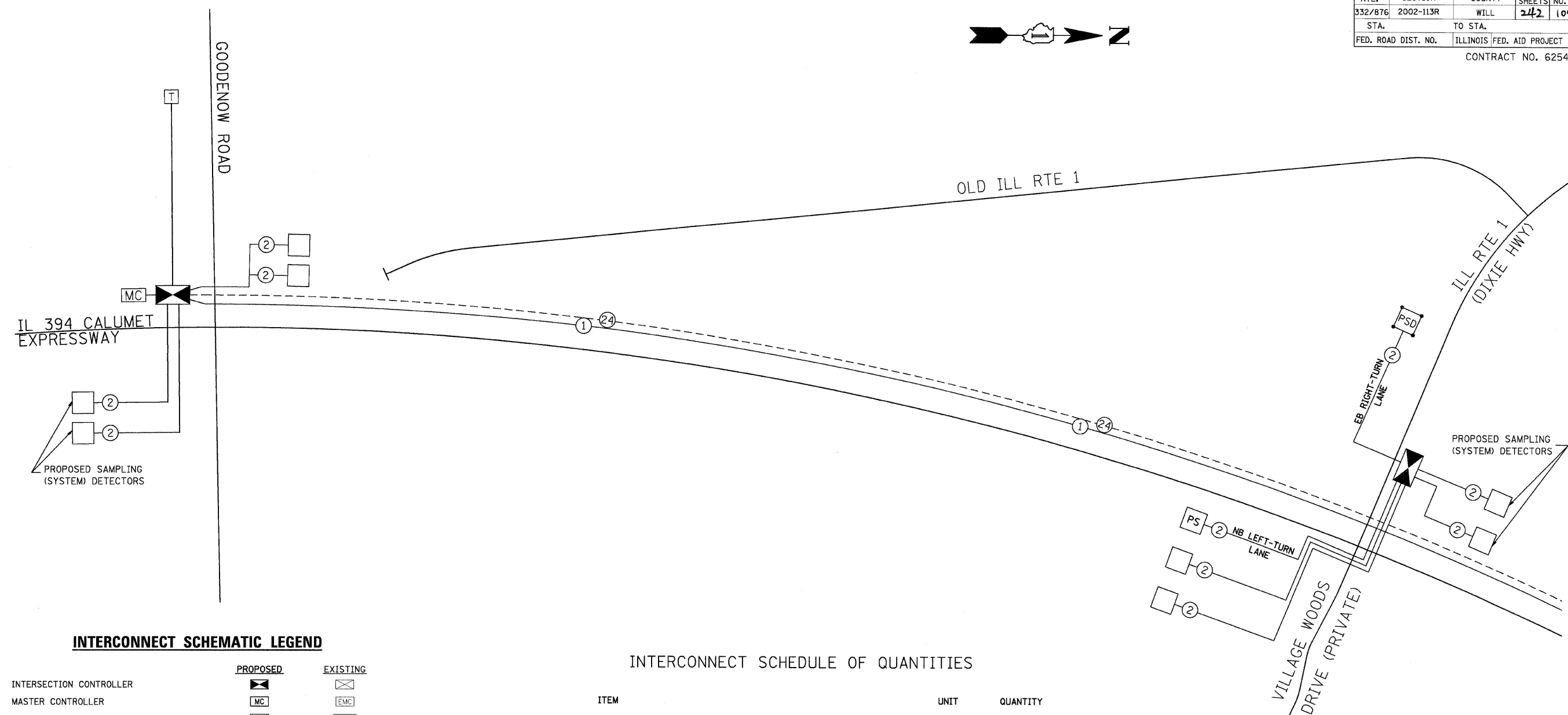
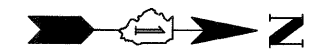
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN (SHEET 3 OF 3)
ILL. RTE. 394 (CALUMET EXPRESSWAY)
FROM GOODENOW ROAD TO
REALIGNED ILL. RTE. 1 (DIXIE HWY.)

SCALE: 1:500
DATE: 08-24-09

DRAWN BY: RDS
DESIGNED BY: BAC
CHECKED BY: JGG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	109
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62542				



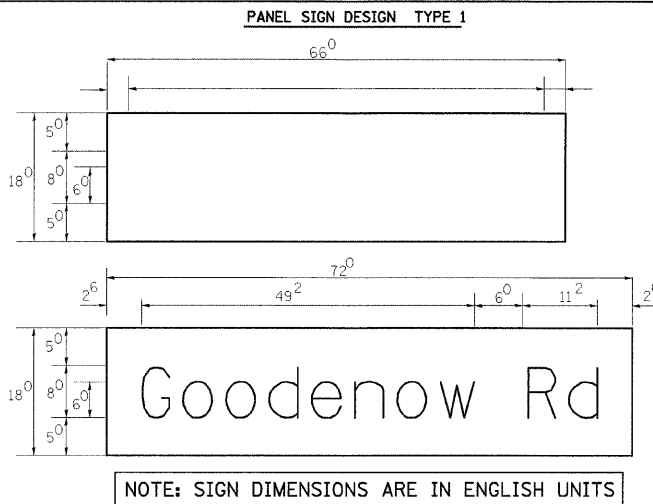
INTERCONNECT SCHEMATIC LEGEND

	PROPOSED	EXISTING
INTERSECTION CONTROLLER		
MASTER CONTROLLER		
MASTER MASTER CONTROLLER		
TELEPHONE CONNECTION		
INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
EXISTING INTERSECTION LOOP DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) DETECTORS		
EXISTING SAMPLING (SYSTEM) DETECTORS; PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.		
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) PREFORMED DETECTORS		
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED		
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED		
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR		
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		

INTERCONNECT SCHEDULE OF QUANTITIES

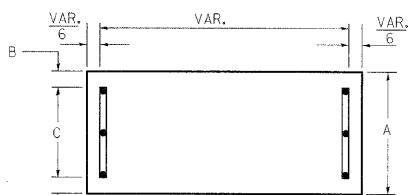
ITEM	UNIT	QUANTITY
HEAVY-DUTY HANDHOLE	EACH	5
MASTER CONTROLLER	EACH	1
CONDUIT IN TRENCH, 50MM DIA., GALVANIZED STEEL	METER	788
CONDUIT PUSHED, 50MM DIA., GALVANIZED STEEL	METER	10
CONDUIT ATTACHED TO STRUCTURE, 50MM DIA., GALVANIZED STEEL	METER	45.5
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	788
ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C	METER	920.4
ELECTRIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	METER	954.4
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II (PER INTERSECTION)	EACH	2

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION INTERCONNECT SCHEMATIC ILL. RTE. 394 (CALUMET EXPRESSWAY) FROM GOODENOW ROAD TO REALIGNED ILL. RTE. 1 (DIXIE HWY.)/ VILLAGE WOODS DRIVE
NAME	DATE	



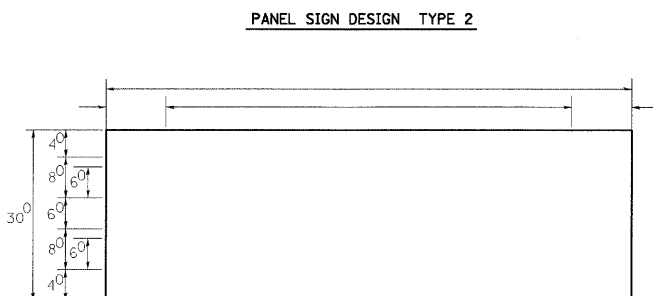
— Sq. M. each
 — Sq. Ft. each
 — Required
 Design Series D
 0.84 Sq. M. each
 — Sq. Ft. each
 2 Required
 Design Series D

SUPPORTING CHANNELS



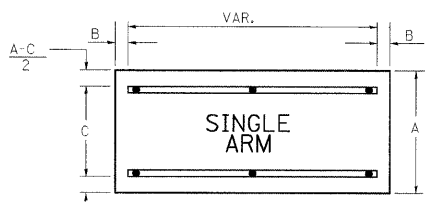
A	B	C
18"	2"	14"

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS



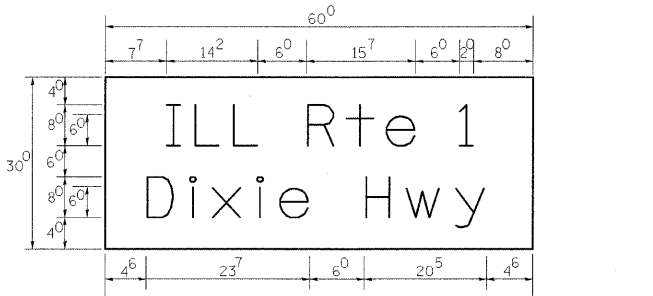
— Sq. M. each
 — Sq. Ft. each
 — Required
 Design Series —
 1.16 Sq. M. each
 — Sq. Ft. each
 2 Required
 Design Series D

SUPPORTING CHANNELS



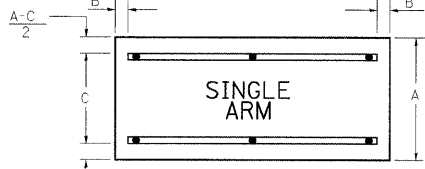
A	B	C
18"	2"	12"
30"	2"	22"

DOUBLE MOUNT ON SW CORNER
 MAAP AT REALIGNED ILL. RTE. 1/
 VILLAGE WOOD DRIVE
 1.39 Sq. M. each
 — Sq. Ft. each
 2 Required
 Design Series C
 DOUBLE MOUNT ON NE CORNER
 MAAP AT REALIGNED ILL. RTE. 1/
 VILLAGE WOOD DRIVE

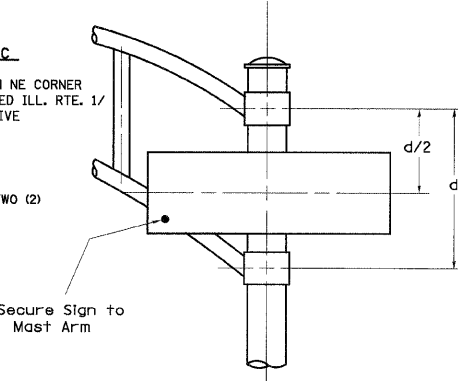


— Sq. M. each
 — Sq. Ft. each
 — Required
 Design Series C

SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"



DUAL ARM
SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
 Shall be used. See Note #5.

Upper Case to Lower Case
 Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2³ DENOTES 3/8"

SERIES	SECOND LETTER													
	a c d e	b h k l	f w	J	s t	v y	x	z						
	g o q	m n p r u												
A W X	12 14	14 15	12 14	06 10	11 14	06 10	11 12	12 14	12 14	16 17				
B	14 15	20 21	14 15	11 12	14 15	12 14	12 14	14 15	14 15	14 15				
C E G	14 15	20 21	12 14	06 10	12 14	12 14	14 15	14 15	14 15	14 15				
D O Q R	14 15	20 21	14 15	06 10	12 14	12 14	14 15	14 15	14 15	14 15				
F	05 06	14 15	06 10	05 06	06 10	06 10	06 10	11 12	11 12	11 12				
H I M N	20 21	22 24	20 21	14 15	16 17	16 17	20 21	20 21	20 21	20 21				
J U	20 21	20 21	16 17	14 15	16 17	16 17	16 17	16 17	20 21	20 21				
K L	11 12	16 17	11 12	05 06	11 12	11 12	11 12	12 14	12 14	12 14				
P	12 14	14 15	12 14	05 06	11 12	11 12	12 14	12 14	12 14	12 14				
S	12 14	16 17	12 14	06 10	12 14	12 14	12 14	12 14	12 14	12 14				
T	11 12	16 17	11 12	06 10	11 12	11 12	11 12	11 12	12 14	12 14				
V	06 10	14 15	06 10	06 10	12 14	12 14	12 14	12 14	12 14	12 14				
Y	05 06	14 15	06 10	05 06	05 07	05 06	06 10	11 12	11 12	11 12				
Z	16 17	22 24	16 17	12 14	16 17	16 17	16 17	16 17	20 21	20 21				

Lower Case to Lower Case
 Spacing Chart 6 Inch Series "C & D"

SERIES	SECOND LETTER													
	a c d e	b h k l	f w	J	s t	v y	x	z						
	g o q	m n p r u												
ad h g i j	16 17	22 24	16 17	12 14	14 15	14 15	16 17	16 17	16 17	16 17				
l m n q u														
b f k o p s	12 14	16 17	11 12	05 06	11 12	11 12	12 14	12 14	12 14	12 14				
c e	12 14	16 17	12 14	06 10	12 14	12 14	12 14	12 14	12 14	12 14				
r	06 10	12 14	06 10	03 03	05 06	05 06	06 10	06 10	06 10	06 10				
t z	12 14	16 17	12 14	06 10	11 12	11 12	12 14	12 14	12 14	12 14				
v y	11 12	14 15	11 12	05 06	06 10	06 10	11 12	11 12	11 12	11 12				
w	11 12	14 15	11 12	05 06	11 12	11 12	11 12	11 12	12 14	12 14				
x	12 14	16 17	11 12	05 06	11 12	11 12	11 12	11 12	12 14	12 14				

Number to Number
 Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER											
	0	1	2	3	4	5	6	7	8	9		
0 9	16 17	16 17	14 15	12 14	14 15	14 15	16 17	12 14	14 15	16 17	16 17	16 17
1	20 21	20 21	20 21	16 17	14 15	20 21	20 21	14 15	20 21	20 21	20 21	20 21
2 3 4	14 15	14 15	14 15	12 14	14 15	14 15	14 15	11 12	16 17	17 14	14 15	14 15
5	14 15	14 15	14 15	11 12	11 12	14 15	14 15	11 12	14 15	14 15	14 15	14 15
6	16 17	14 15	14 15	12 14	14 15	14 15	14 15	11 12	14 15	14 15	14 15	14 15
7	12 14	14 15	14 15	12 14	14 15	05 06	12 14	14 15	11 12	14 15	12 14	14 15
8	16 17	16 17	14 15	12 14	14 15	16 17	12 14	16 17	12 14	16 17	14 15	14 15

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		LETTERS	6 INCH LOWER CASE LETTERS	
	C	D	C	D		C	D
A	36	50	50	65	a	35	42
B	32	40	43	53	b	35	42
C	32	40	43	53	c	35	41
D	32	40	43	53	d	35	42
E	30	35	40	47	e	35	42
F	30	35	40	47	f	23	26
G	32	40	43	53	g	35	42
H	32	40	43	53	h	35	42
I	07	07	11	12	i	11	11
J	30	36	40	50	j	20	22
K	32	41	43	54	k	35	42
L	30	35	40	47	l	11	11
M	37	45	51	61	m	60	70
N	32	40	43	53	n	35	42
O	34	42	45	55	o	36	43
P	32	40	43	53	p	35	42
Q	34	42	45	55	q	35	42
R	32	40	43	53	r	26	32
S	32	40	43	53	s	36	42
T	30	35	40	47	t	27	32
U	32	40	43	53	u	35	42
V	35	44	47	60	v	42	47
W	44	52	60	70	w	55	64
X	34	40	45	53	x	44	51
Y	36	50	50	66	y	46	53
Z	32	40	43	53	z	36	43

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	12	14	15	20
2	32	40	43	53
3	32	40	43	53
4	35	43	47	57
5	32	40	43	53
6	32	40	43	53
7	32	40	43	53
8	32	40	43	53
9	32	40	43	53
0	34	42	45	55

- GENERAL NOTES**
- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
 - ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
 - THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
 - ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
 - SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

- * A.K.T. CORPORATION
- * SCHLAUMBURG, IL
- * TUCKER COMPANY, INC.
- * WAUWATOSA, WI
- * AMERICAN FABRICATION CO.
- * CHICAGO HEIGHTS, IL
- * WESTERN TRAFFIC CONTROL INC.
- * CICERO, IL

- PARTS LISTING**
- SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
 - SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
 - BRACKETS PART #HPN034 (UNIVERSAL)
 - CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

REVISIONS	
NAME	DATE

Illinois Department of Transportation
 DISTRICT 1

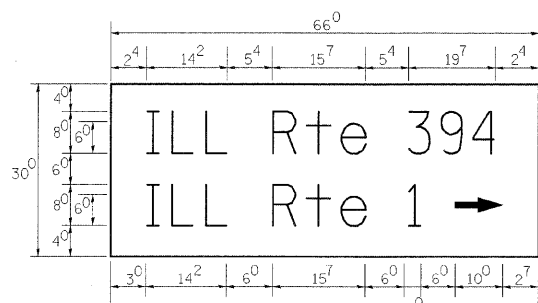
MAST ARM MOUNTED STREET NAME SIGNS

SCALE: VERT. NONE
 HORIZ. NONE
 DATE: 08-24-09

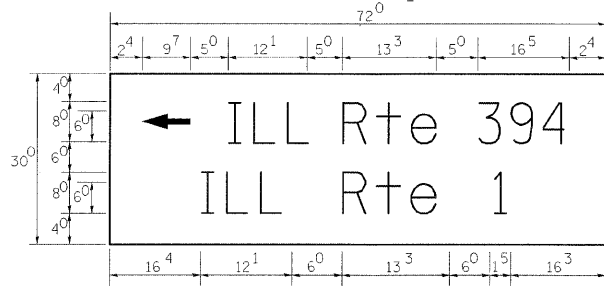
DRAWN BY: RDS
 DESIGNED BY: BAC
 CHECKED BY: JGG

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

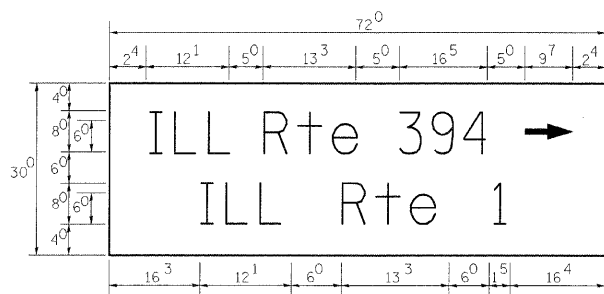
PANEL SIGN DESIGN TYPE 2



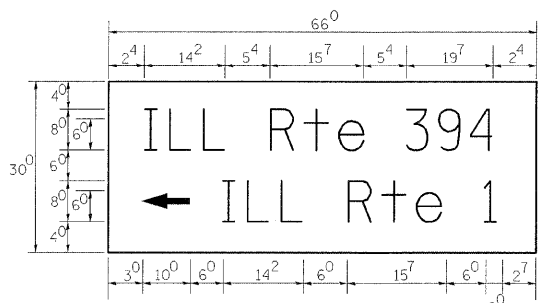
1.28 Sq. M. each
 — Sq. Ft. each
 1 Required
 Design Series D
 MOUNT ON SE CORNER
 MAAP AT ILL. RTE. 1/
 VILLAGE WOODS DRIVE



1.39 Sq. M. each
 — Sq. Ft. each
 1 Required
 Design Series C
 MOUNT ON SE CORNER MAAP
 AT GOODENOW ROAD



1.39 Sq. M. each
 — Sq. Ft. each
 1 Required
 Design Series C
 MOUNT ON NW MAAP CORNER
 AT GOODENOW ROAD



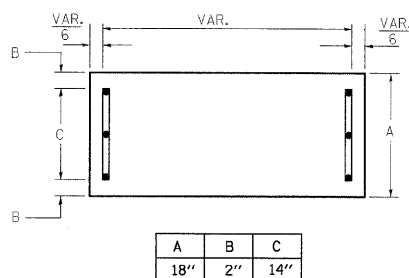
1.28 Sq. M. each
 — Sq. Ft. each
 1 Required
 Design Series D
 MOUNT ON NW CORNER
 MAAP AT ILL. RTE. 1/
 VILLAGE WOODS DRIVE

GENERAL NOTES

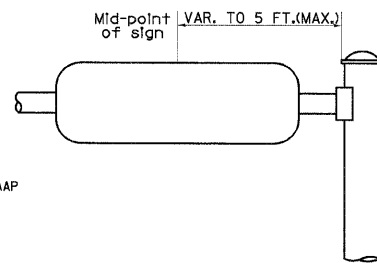
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 - * AMERICAN FABRICATION CO. CHICAGO HEIGHTS, IL
 - * TUCKER COMPANY, INC. WAUWATOSA, WI
 - * WESTERN TRAFFIC CONTROL INC. CICERO, IL

PARTS LISTING
 SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
 SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
 BRACKETS PART #HPN034 (UNIVERSAL)
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
 OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

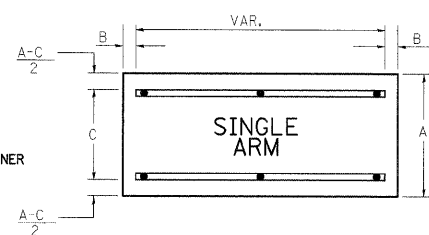
SUPPORTING CHANNELS



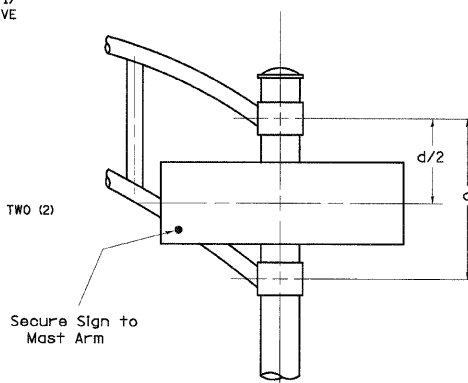
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
 Shall be used. See Note #5.

Upper Case to Lower Case
 Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2³ DENOTES 3/8

SERIES	SECOND LETTER																													
	a		c		d		e		g		h		i		k		l		m		n		p		r		u			
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D		
A W X	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴
B	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴
C E G	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ⁴	1 ⁵	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴
D O Q R	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ⁴	1 ⁵	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴
F	0 ⁵	0 ⁶	1 ⁴	1 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰
H I M N	2 ⁰	2 ¹	2 ²	2 ⁴	2 ⁰	2 ¹	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	2 ⁰	2 ¹	2 ²	2 ⁴	2 ⁰	2 ¹	2 ²	2 ⁴	2 ⁰	2 ¹	2 ²	2 ⁴	2 ⁰	2 ¹	2 ²	2 ⁴
J U	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁴	1 ⁵
K L	1 ¹	1 ²	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
P	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁴	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
S	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
T	1 ¹	1 ²	1 ⁶	1 ⁷	0 ⁶	1 ⁰	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
V	0 ⁶	1 ⁰	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²	0 ⁶	1 ⁰	1 ¹	1 ²
Y	0 ⁵	0 ⁶	1 ⁴	1 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	1 ⁰
Z	1 ⁶	1 ⁷	2 ²	2 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷

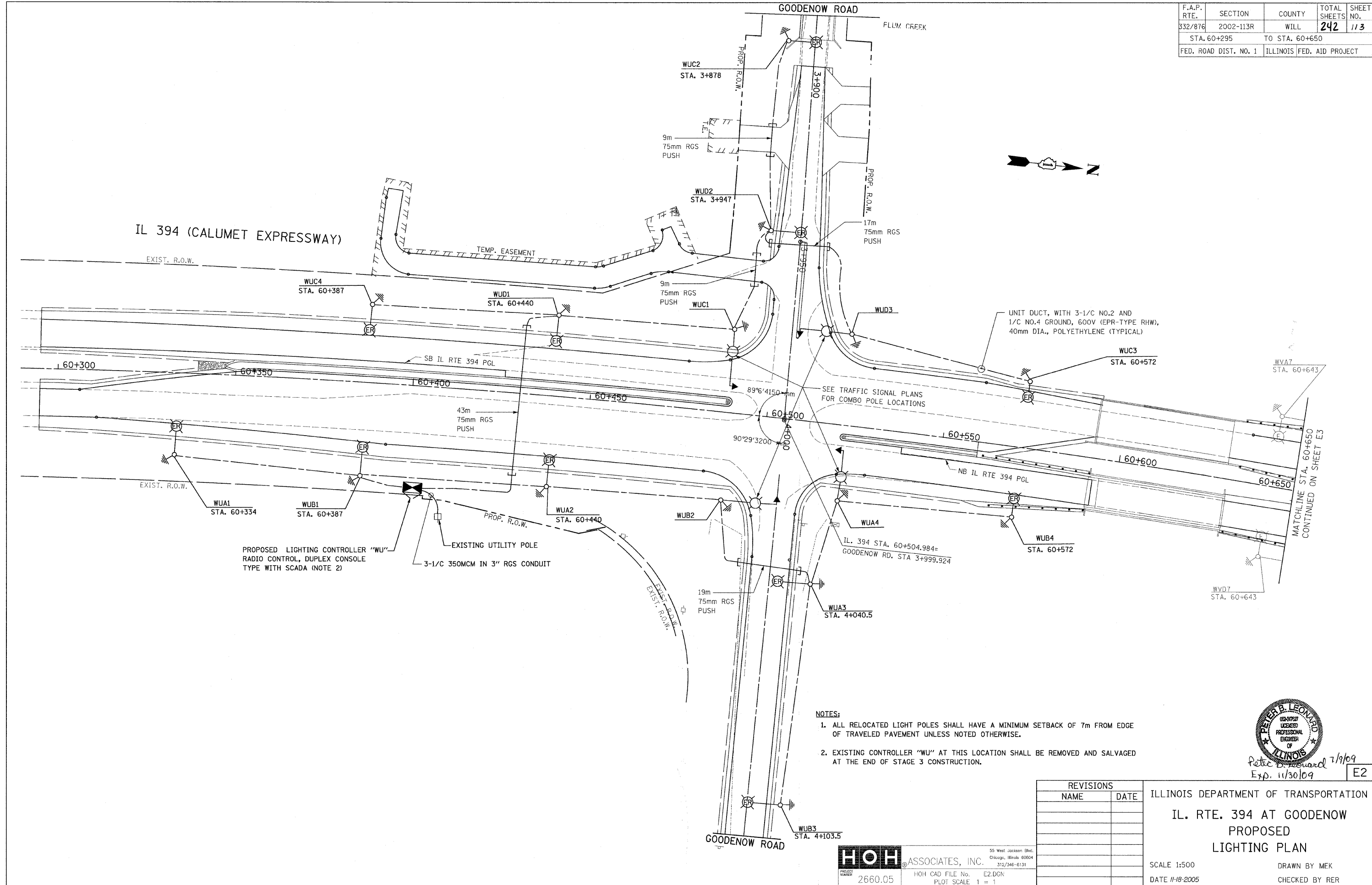
Lower Case to Lower Case
 Spacing Chart 6 Inch Series "C & D"

SERIES	SECOND LETTER																													
	a		c		d		e		g		h		i		k		l		m		n		p		r		u			
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D		
ad h g l j	1 ⁶	1 ⁷	2 ²	2 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷
l m n q u	1 ⁶	1 ⁷	2 ²	2 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷
b f k o p s	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
c e	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
r	0 ⁶	1 ⁰	1 ²	1 ⁴	0 ⁶	1 ⁰	0 ³	0 ³	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁵	0 ⁶
t z	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
v y	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁵	0 ⁶	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰
w	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²
x	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²

Number to Number
 Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER																													
	0		1		2		3		4		5		6		7		8		9											
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D										
0 9	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷
1	2 ⁰	2 ¹	2 ⁰	2 ¹	2 ⁰	2 ¹																								

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	113
STA. 60+295		TO STA. 60+650		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



PROPOSED LIGHTING CONTROLLER "WU"
RADIO CONTROL, DUPLEX CONSOLE
TYPE WITH SCADA (NOTE 2)

EXISTING UTILITY POLE
3-1/C 350MCM IN 3" RGS CONDUIT

UNIT DUCT, WITH 3-1/C NO.2 AND
1/C NO.4 GROUND, 600V (EPR-TYPE RHW),
40mm DIA., POLYETHYLENE (TYPICAL)

- NOTES:
1. ALL RELOCATED LIGHT POLES SHALL HAVE A MINIMUM SETBACK OF 7m FROM EDGE OF TRAVELED PAVEMENT UNLESS NOTED OTHERWISE.
 2. EXISTING CONTROLLER "WU" AT THIS LOCATION SHALL BE REMOVED AND SALVAGED AT THE END OF STAGE 3 CONSTRUCTION.



Peter B. Leonard 7/9/09
Exp. 11/30/09

E2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**IL. RTE. 394 AT GOODENOW
PROPOSED
LIGHTING PLAN**

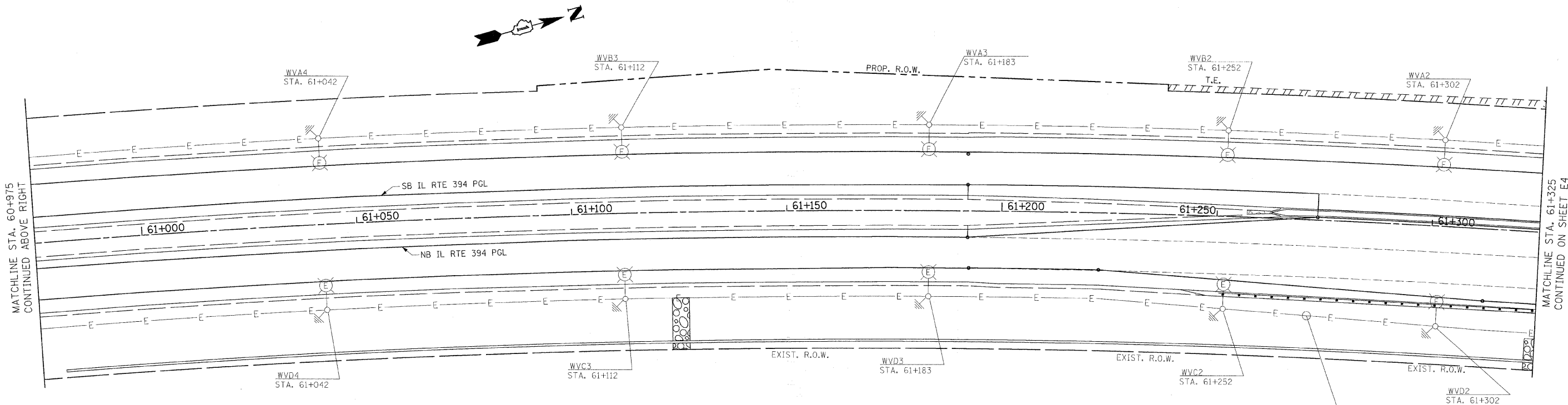
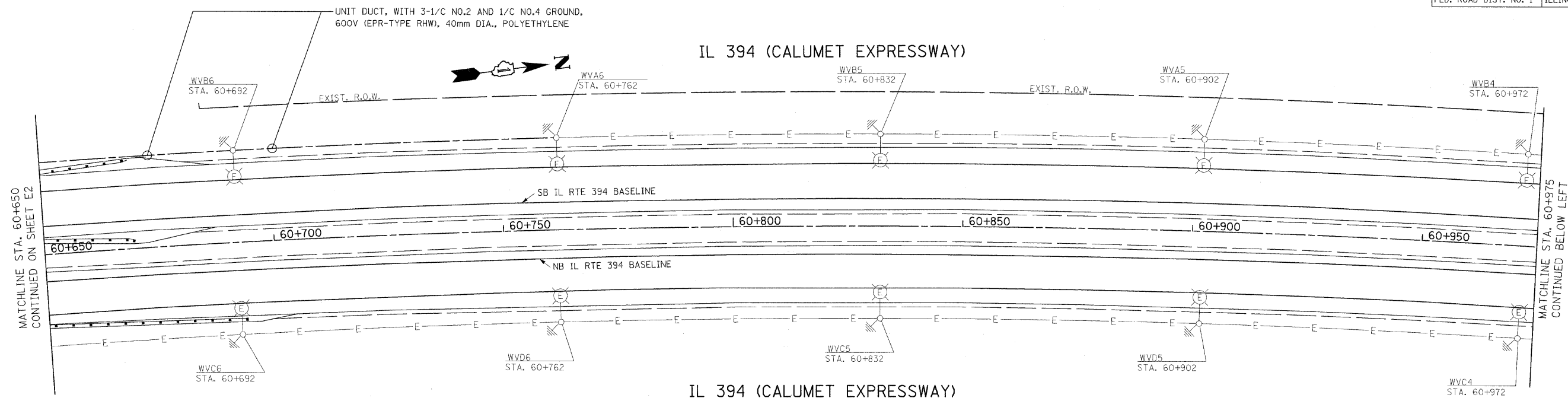
SCALE 1:500
DATE 11/18-2005

DRAWN BY MEK
CHECKED BY REE

HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/546-6131

PROJECT NUMBER 2660.05
HOH CAD FILE No. E2.DGN
PLOT SCALE 1 = 1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	114
STA. 60+975		TO STA. 61+325		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



UNIT DUCT (EXISTING), 3-1/C No. 2, 1-1/C No. 4 GROUND 600V (EPR-TYPE RHW), 1-1/2" DIA. SCHEDULE 40 POLYETHYLENE (TYPICAL).



Peter B. Leonard 7/1/09
Exp. 11/30/09

HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/348-8131

PROJECT NUMBER: 2660.05
HOH CAD FILE No. E3.DGN
PLOT SCALE 1 = 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 394 AT IL. 1
PROPOSED LIGHTING PLAN

SCALE 1:500
DATE 11-18-2005

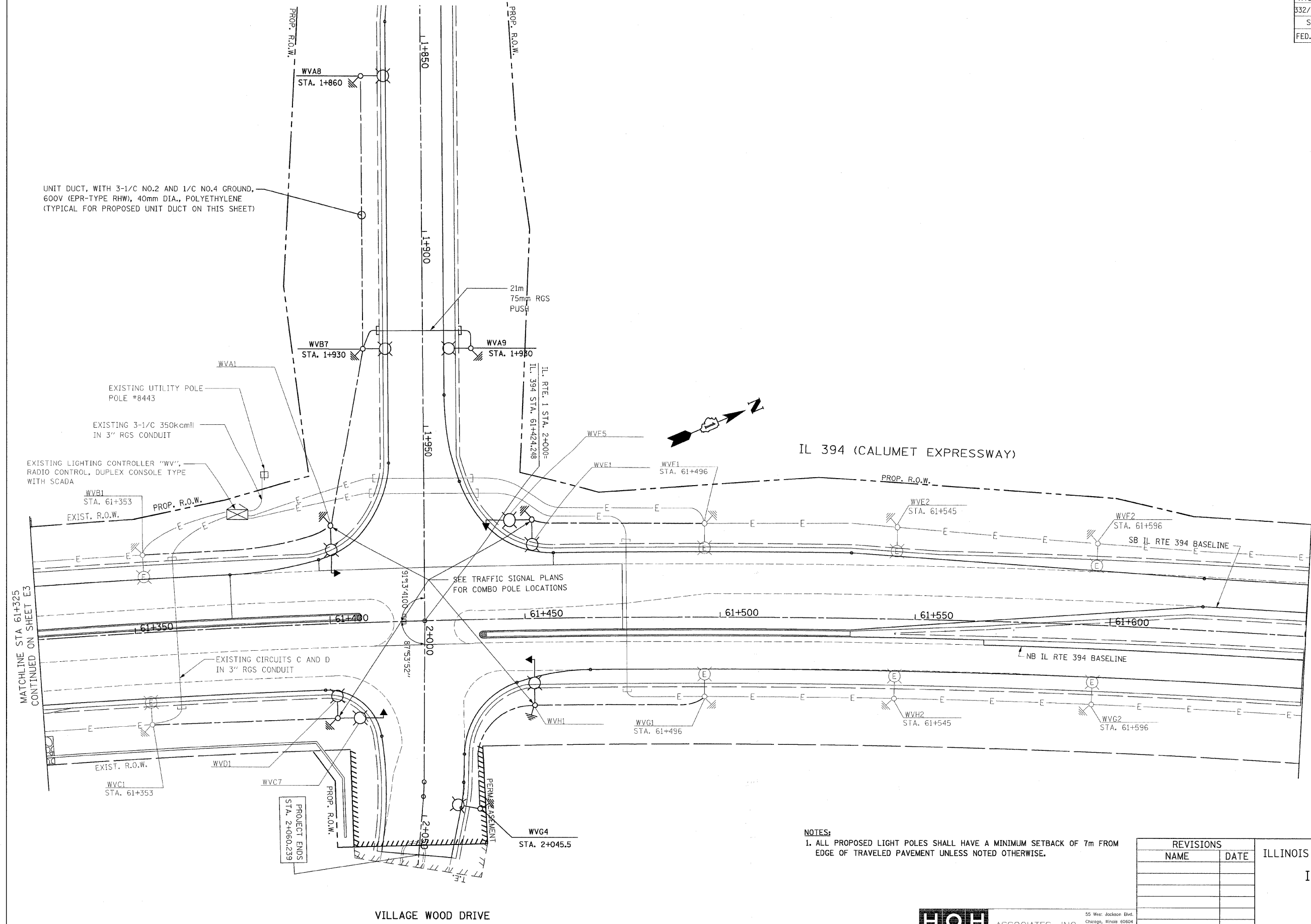
DRAWN BY MEK
CHECKED BY RER

E3

REF: T0P00
REF: pr6

ILLINOIS ROUTE 1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	115
STA. 61+325		TO STA. 61+650		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



UNIT DUCT, WITH 3-1/C NO.2 AND 1/C NO.4 GROUND, 600V (EPR-TYPE RHW), 40mm DIA., POLYETHYLENE (TYPICAL FOR PROPOSED UNIT DUCT ON THIS SHEET)

EXISTING UTILITY POLE POLE #8443

EXISTING 3-1/C 350kcmil IN 3" RGS CONDUIT

EXISTING LIGHTING CONTROLLER "WV", RADIO CONTROL, DUPLEX CONSOLE TYPE WITH SCADA

SEE TRAFFIC SIGNAL PLANS FOR COMBO POLE LOCATIONS

EXISTING CIRCUITS C AND D IN 3" RGS CONDUIT

IL 394 (CALUMET EXPRESSWAY)

VILLAGE WOOD DRIVE

NOTES:
1. ALL PROPOSED LIGHT POLES SHALL HAVE A MINIMUM SETBACK OF 7m FROM EDGE OF TRAVELED PAVEMENT UNLESS NOTED OTHERWISE.



Peter B. Leonard 7/19/09
Exp. 11/30/109

E4

REVISIONS	
NAME	DATE

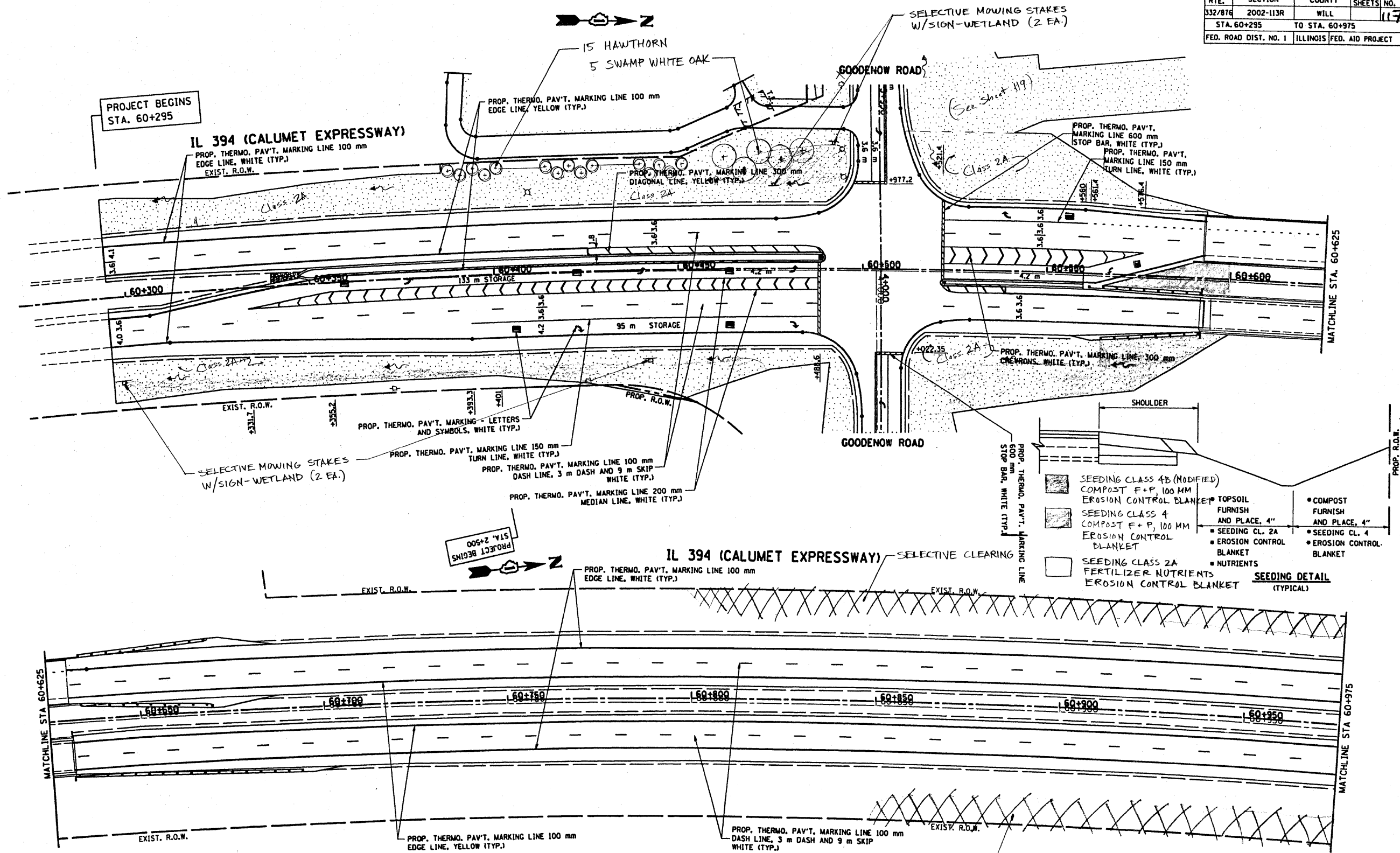
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 394 AT IL. 1
PROPOSED
LIGHTING PLAN
SCALE 1:500
DATE 11-18-2005
DRAWN BY MEK
CHECKED BY RER

HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/246-8131

PROJECT NUMBER: 2660.05
HOH CAD FILE No.: E4.DGN
PLOT SCALE: 1 = 1

DATE-TIME
DGN-SPEC
USER

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL		117
STA. 60+295		TO STA. 60+975		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



LEGEND

- SOODING SALT TOLERANT
- SEEDING CLASS 2A
- SEEDING CLASS 4
- EROSION CONTROL BLANKET (SEE SEEDING DETAIL THIS PAGE)

REVISIONS

NAME	DATE
S. Lipkie	8/09

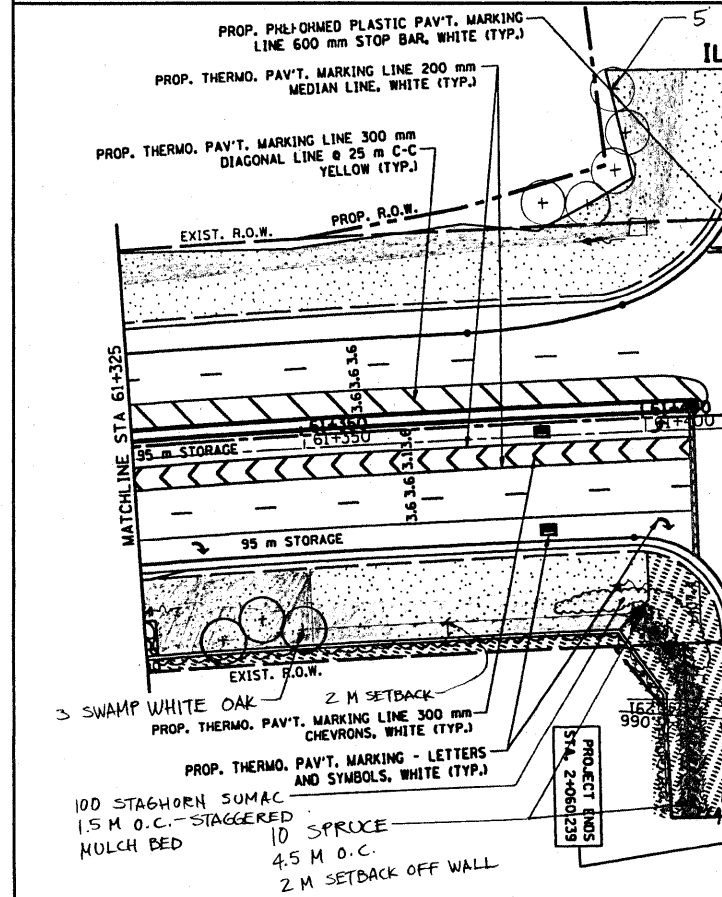
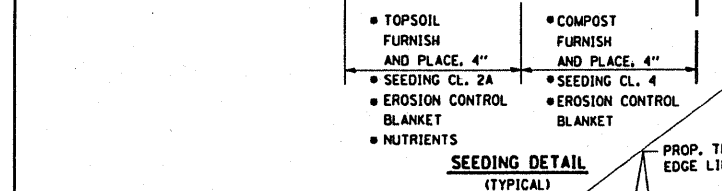
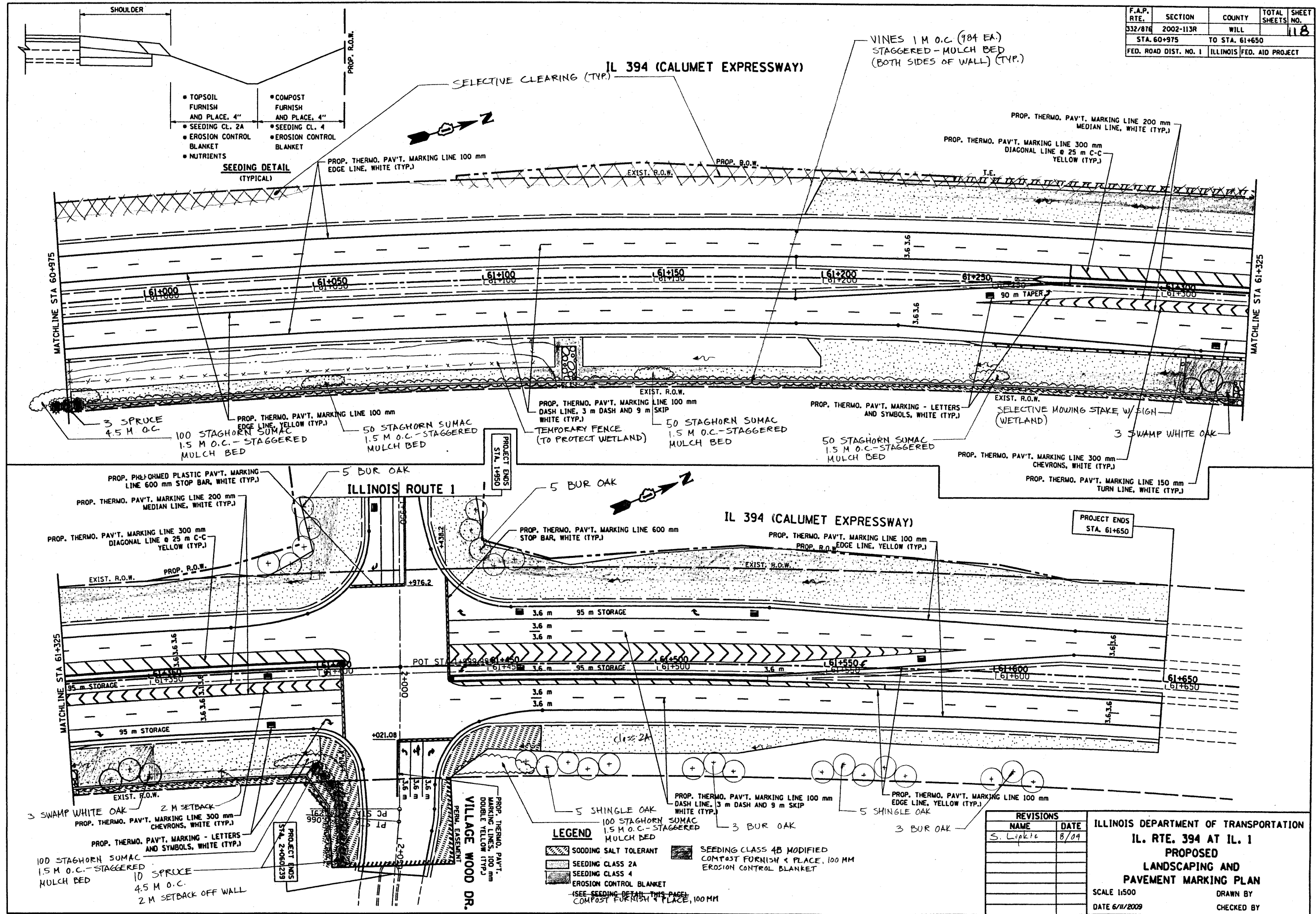
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 394 AT IL. 1
PROPOSED
LANDSCAPING AND
PAVEMENT MARKING PLAN

SCALE 1:500
 DATE 6/11/2009

DRAWN BY
 CHECKED BY

REF-PWKS
REF-PW6

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	118	
STA. 60+975		TO STA. 61+650		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



LEGEND

	SODDING SALT TOLERANT		SEEDING CLASS 4B MODIFIED COMPOST FURNISH & PLACE, 100 MM EROSION CONTROL BLANKET
	SEEDING CLASS 2A		
	SEEDING CLASS 4		
	EROSION CONTROL BLANKET		

(SEE SEEDING DETAIL, THIS PAGE)
COMPOST FURNISH & PLACE, 100 MM

REVISIONS

NAME	DATE
S. Lopk16	8/09

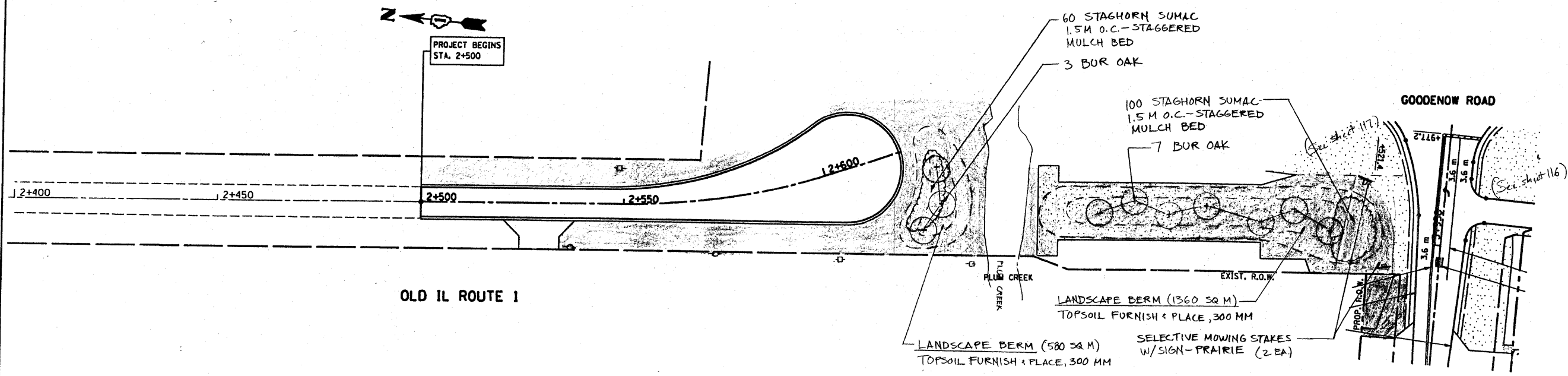
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 394 AT IL. 1
PROPOSED LANDSCAPING AND PAVEMENT MARKING PLAN
 SCALE 1:500
 DATE 6/11/2009
 DRAWN BY
 CHECKED BY

6/11/2009
 c:\pw_swork\DOT\LEYSAY\0103660\sh_pmk.dgn
 leysa

REF-PMT

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/874	2002-113R	WILL		119
STA. 60+295		TO STA. 60+975		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

290 N 5 089 14 062

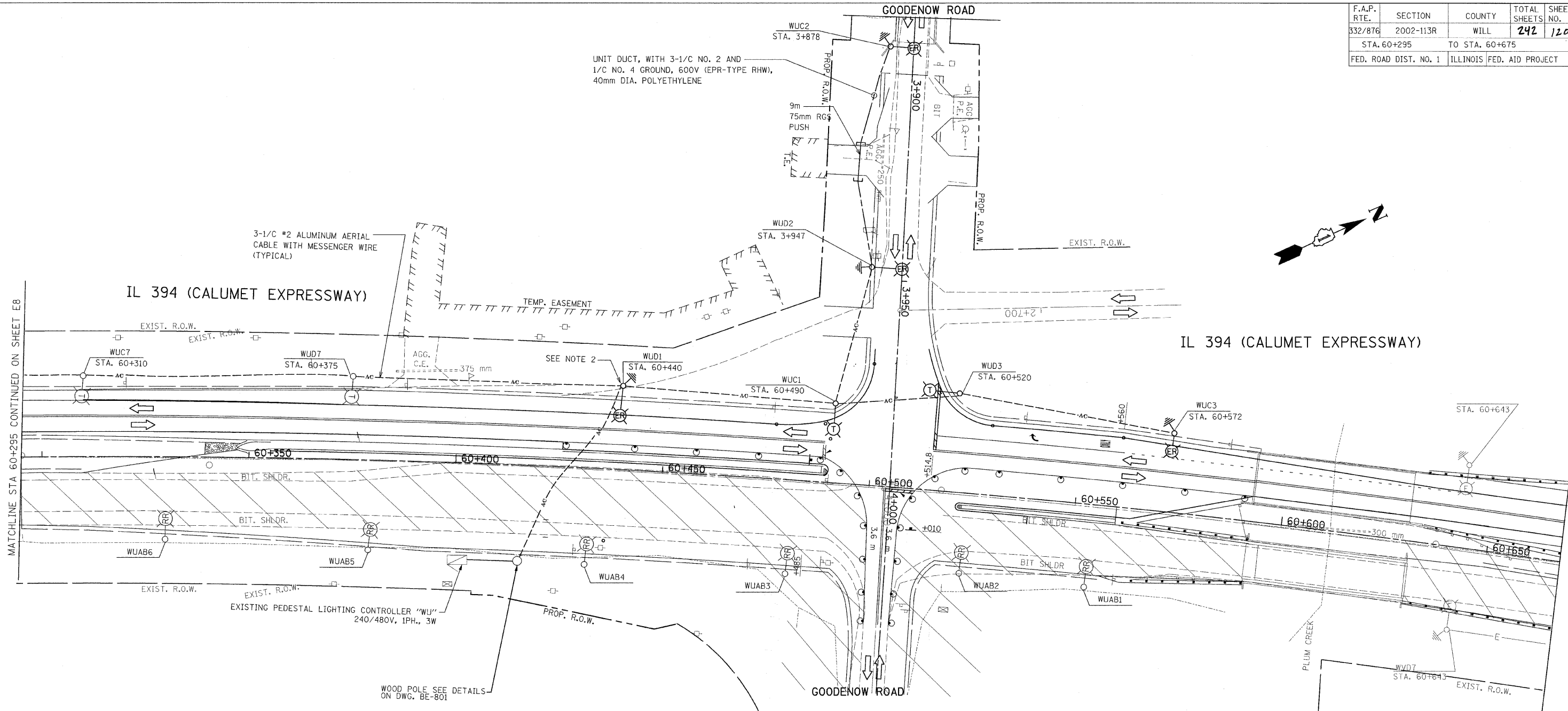


- LEGEND**
- SODDING SALT TOLERANT
 - SEEDING CLASS 2A
 - SEEDING CLASS 4
 - EROSION CONTROL BLANKET
 - (SEE SEEDING DETAIL THIS PAGE)
 - COMPOST FURNISH & PLACE, 100 M

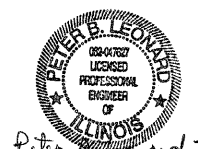
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL. RTE. 394 AT IL. 1 PROPOSED LANDSCAPING AND PAVEMENT MARKING PLAN SCALE 1:500 DATE 6/11/2009
NAME	DATE	
S. Lipke	8/09	DRAWN BY CHECKED BY

6/11/2009
c:\pw_work\PM\DOT\LEYSAN\0103660\sh_pmt.dgn
lgy5a

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	120
STA. 60+295		TO STA. 60+675		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



- NOTES:**
1. ALL TEMPORARY LIGHT POLES SHALL HAVE A MINIMUM SETBACK OF 9M FROM THE EDGE OF TRAVELED PAVEMENT UNLESS NOTED OTHERWISE.
 2. CONNECT AERIAL CABLES TO POLE WUD1 TO POWER TEMPORARY LIGHTING ON THE WEST SIDE OF I-394. SEE DETAIL 2 ON DWG. E11.
 3. ALL PERMANENT LIGHTING (RELOCATED POLES) AND NEW TEMPORARY WOOD POLES SHALL BE OPERATIONAL AND APPROVED BY THE ENGINEER PRIOR TO THE REMOVAL OF THE TEMPORARY LIGHTING FROM STAGE 2.
 4. REFERENCE DRAWING E2 FOR PROPOSED LIGHTING PLAN.
 5. INSTALL PROPOSED LIGHTING CONTROLLER AT THE END OF STAGE 3 CONSTRUCTION. FINAL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE PROPOSED LIGHTING PLANS TO THE SATISFACTION OF THE ENGINEER.



Peter B. Leonard 7/9/09
Exp. 11/30/09

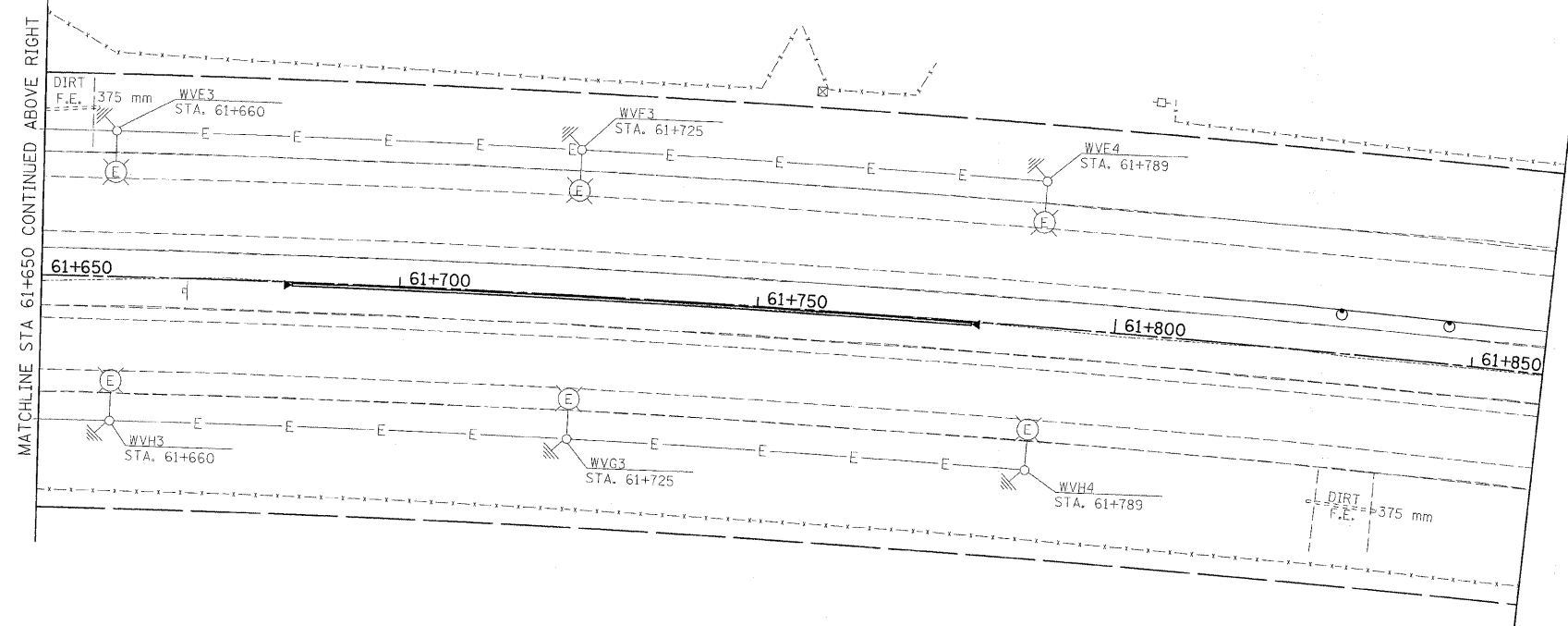
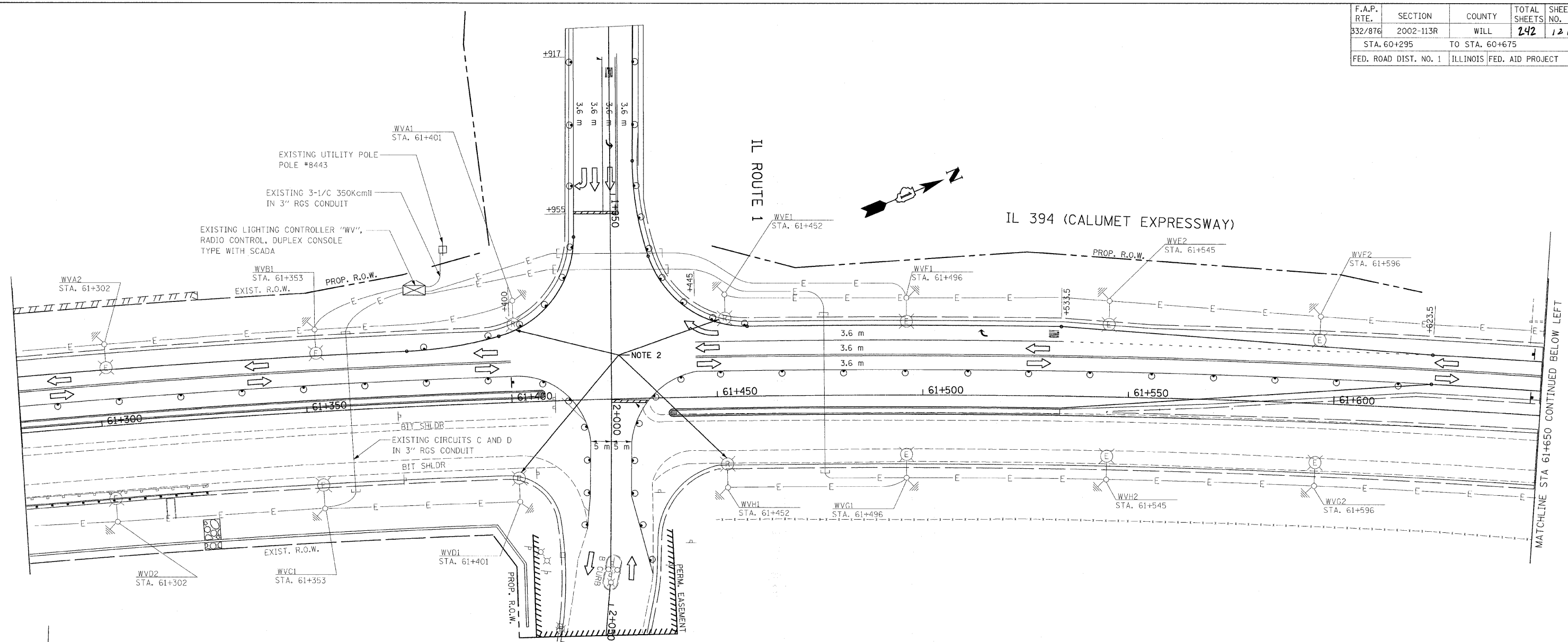
HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/346-8151
PROJECT NUMBER: 2660.05
H0H CAD FILE No. E9.DGN
PLOT SCALE 1 = 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**IL. RTE. 394 AT GOODENOW
STAGE 3
LIGHTING PLAN**
SCALE 1:500
DATE 12-6-2005
DRAWN BY MEK
CHECKED BY RER

E9

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	121
STA. 60+295		TO STA. 60+675		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



- NOTES:**
1. REFERENCE DRAWINGS E3 AND E4 FOR PROPOSED LIGHTING PLAN.
 2. FOUR (4) EXISTING INTERSECTION POLES AND FOUR (4) EXISTING HELIX LIGHTING FOUNDATIONS SHALL BE REMOVED AND SALVAGED, THE COST OF WHICH SHALL BE INCLUDED UNDER THE PAY ITEM, "REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE."



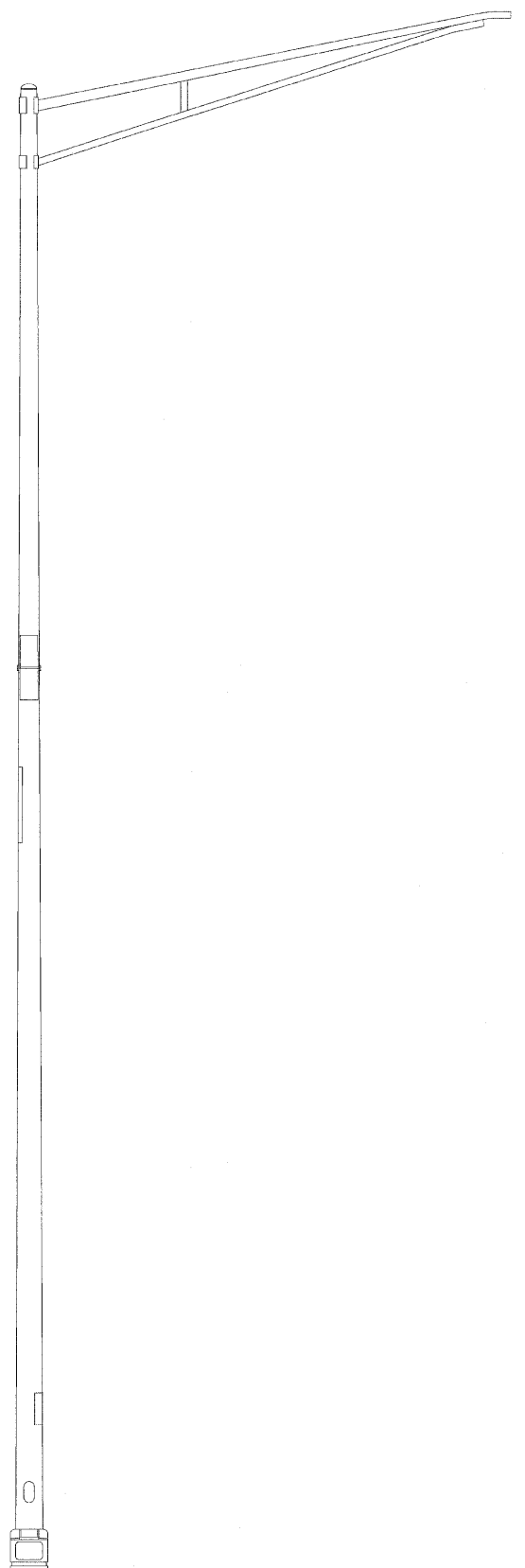
Peter B. Leonard 7/9/09
Exp. 11/30/09

HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/546-8131
PROJECT NUMBER: 2660.05
HOH CAD FILE No. E10.DGN
PLOT SCALE 1 = 1

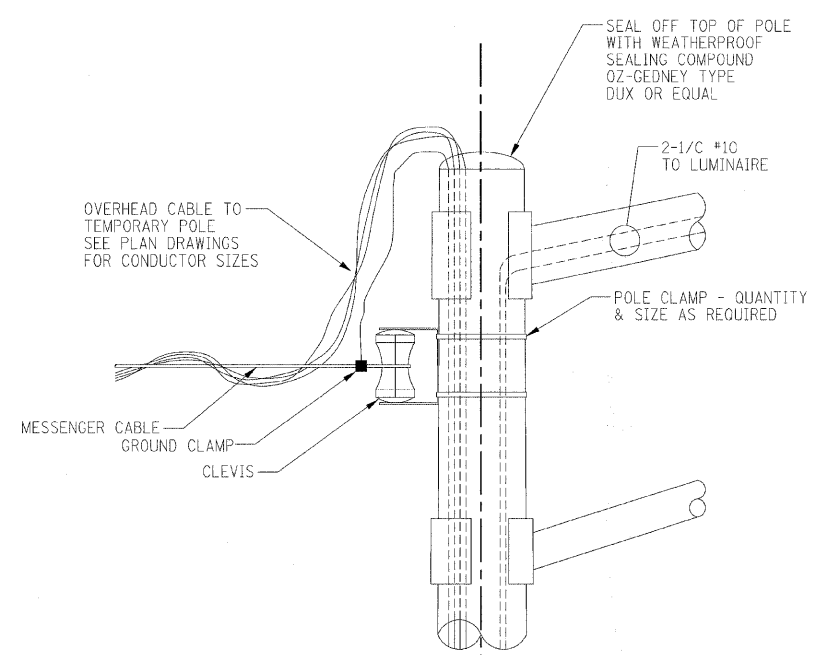
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 394 AT IL. 1
STAGE 3
LIGHTING PLAN
SCALE 1:500
DATE 12-6-2005
DRAWN BY MEK
CHECKED BY RER

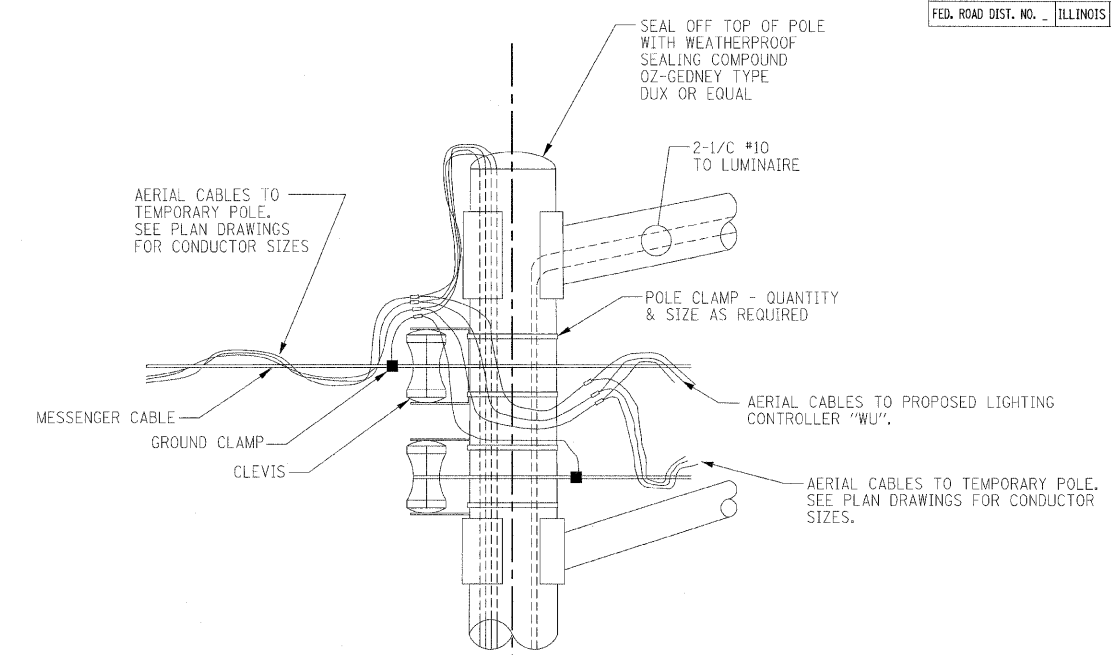
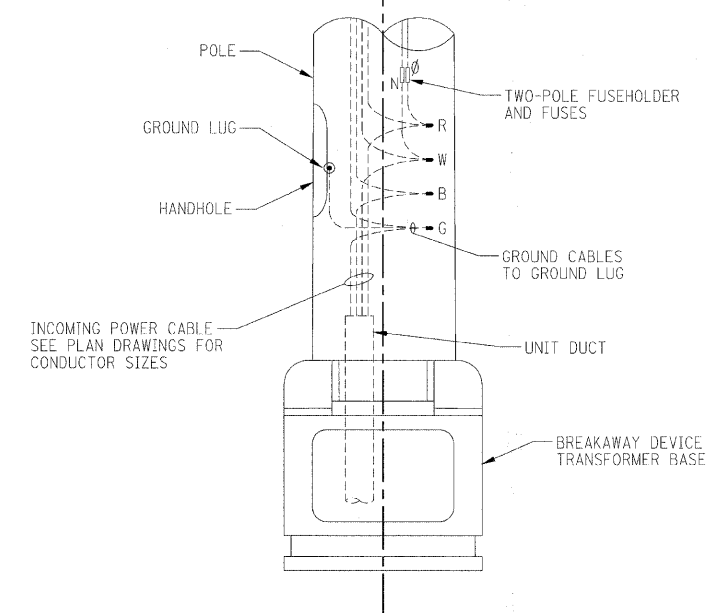
E10



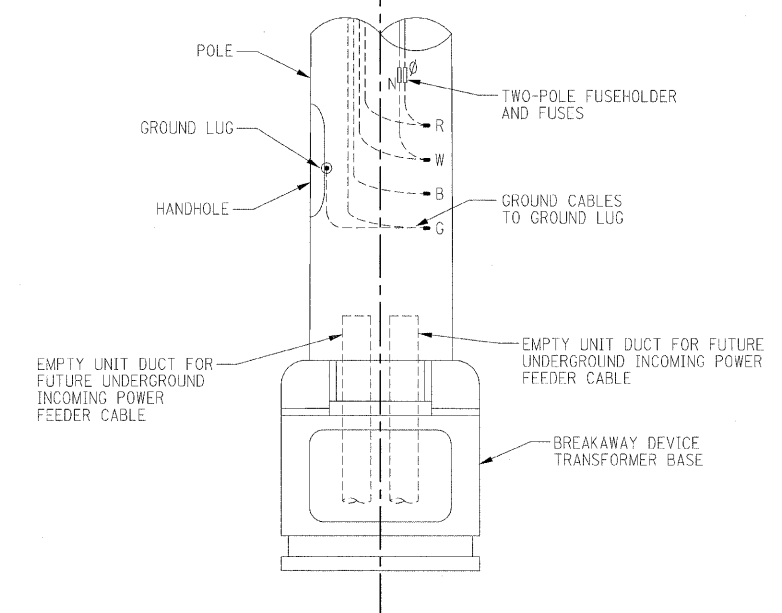
ALUMINUM LIGHT POLE
ON BREAKAWAY TRANSFORMER BASE
FOR COMPLETE DESCRIPTION
SEE DRAWING BE-400



DETAIL 1
UNDERGROUND POWER FEEDER CABLE
WIRING CONNECTIONS



DETAIL 2
OVERHEAD POWER FEEDER CABLE
WIRING CONNECTIONS



Peter B. Leonard 7/19/09
Exp. 11/30/09

E11

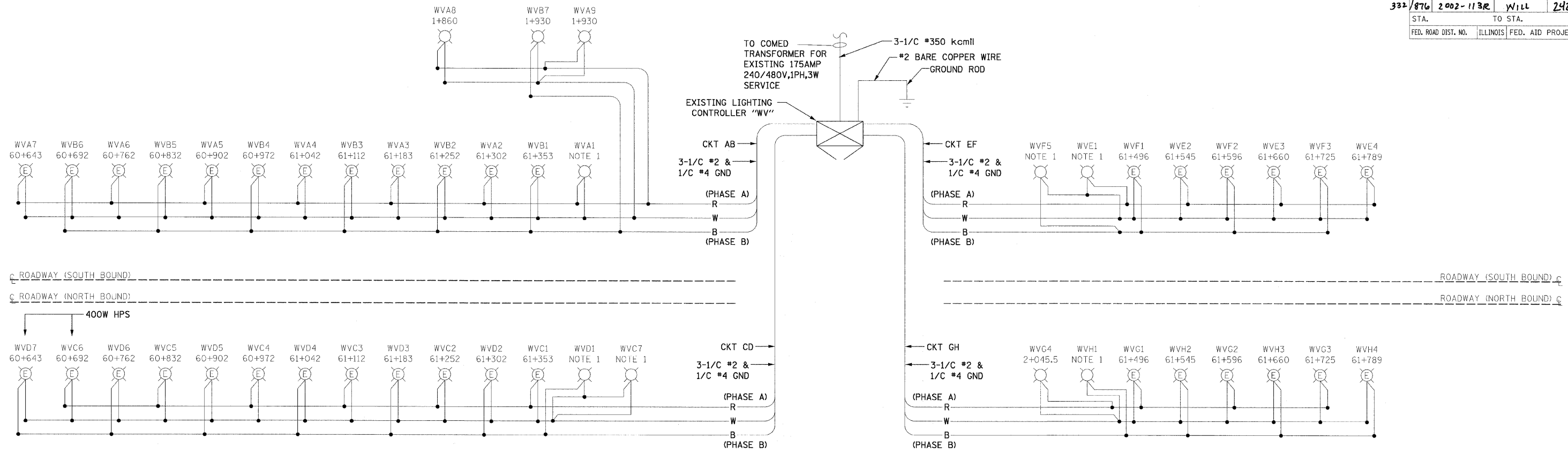
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE.394 AT IL. 1/ GOODENOW
LIGHTING DETAILS
TEMPORARY WIRING

SCALE: NONE
DATE: 1-3-2006

DRAWN BY: JEH
CHECKED BY: RER

HOH ASSOCIATES, INC.
55 West Jackson Blvd.
Chicago, Illinois 60604
312/246-8131
HOH CAD FILE No. E10.DGN
PLOT SCALE 1 = 1
2660.05



LOAD TABULATION FOR LIGHTING CONTROLLER "WV" @ RELOCATED IL 1

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	9 FIXTURES @ 1.53A	13.77		70A, 1 POLE
B	7 FIXTURES @ 1.53A		10.71	70A, 1 POLE
C	6 FIXTURES @ 1.53A, 1 FIXTURE @ 1.97A	11.15		70A, 1 POLE
D	6 FIXTURES @ 1.53A, 1 FIXTURE @ 1.97A		11.15	70A, 1 POLE
E	4 FIXTURES @ 1.53A	6.12		70A, 1 POLE
F	4 FIXTURES @ 1.53A		6.12	70A, 1 POLE
G	4 FIXTURES @ 1.53A	6.12		70A, 1 POLE
H	4 FIXTURES @ 1.53A		6.12	70A, 1 POLE
PHASE TOTALS (AMPS)		37.16	34.1	
TOTAL CONNECTED LOAD (AMPS)		71.26		

NOTE:
1. SEE TRAFFIC SIGNAL PLANS FOR COMBO POLE LOCATIONS.

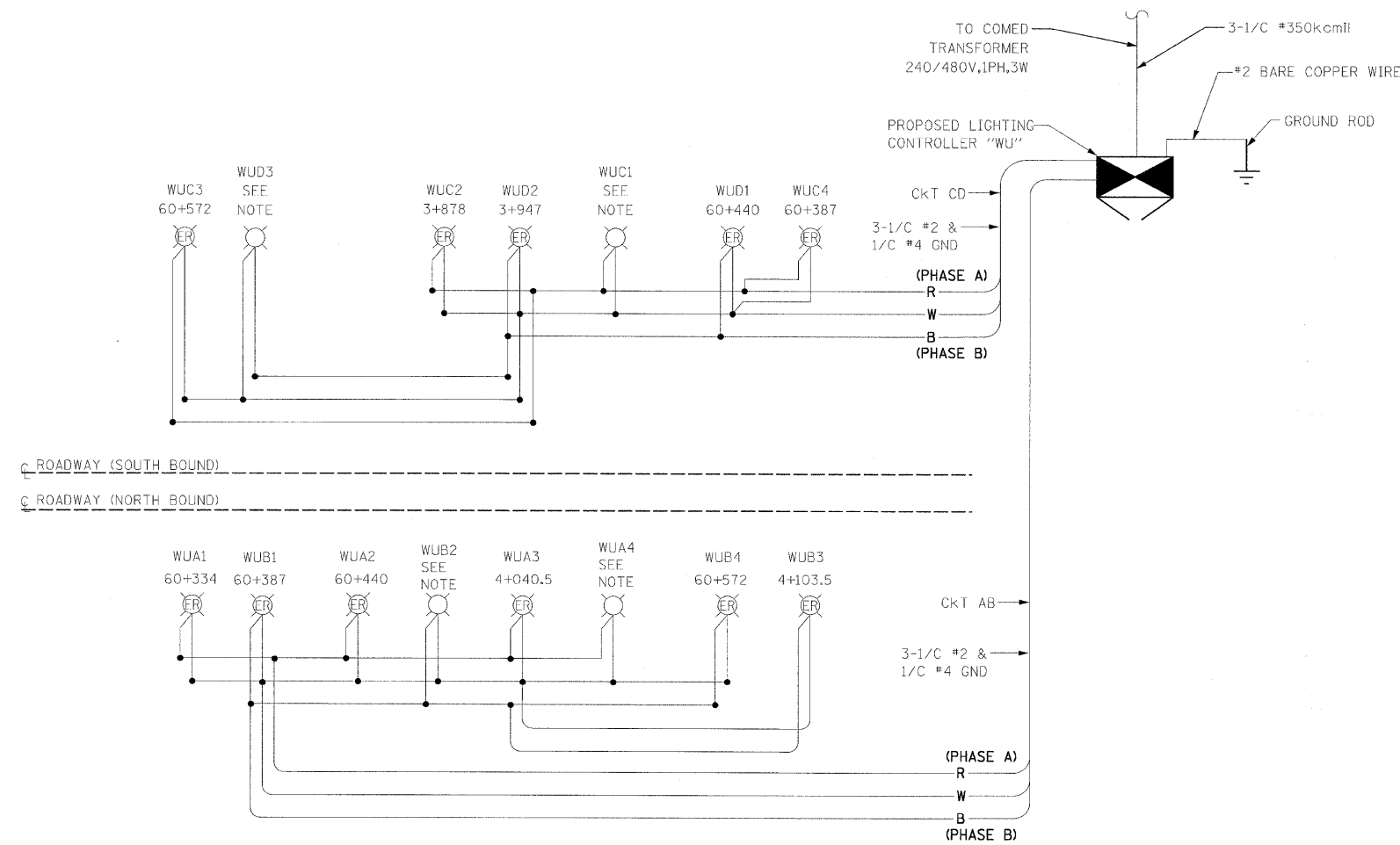
- LEGEND**
- ⊙ EXISTING 310W HPS LUMINAIRE UNLESS OTHERWISE NOTED
 - ⊘ PROPOSED 310W HPS LUMINAIRE UNLESS OTHERWISE NOTED
 - B BLACK PHASE CONDUCTOR
 - W WHITE NEUTRAL CONDUCTOR
 - R RED PHASE CONDUCTOR
 - G GREEN GROUND CONDUCTOR



Peter B. Leonard 7/9/09
Exp. 11/30/09

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE.394 AT IL. 1
SINGLE LINE DIAGRAM
EXISTING CONTROLLER "WV"

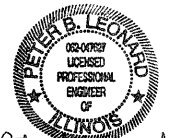


ROADWAY (SOUTH BOUND)
ROADWAY (NORTH BOUND)

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	4 FIXTURES @ 1.53A	6.12		70A, 1 POLE
B	4 FIXTURES @ 1.53A		6.12	70A, 1 POLE
C	4 FIXTURES @ 1.53A	6.12		70A, 1 POLE
D	3 FIXTURES @ 1.53A		4.59	70A, 1 POLE
E				70A, 1 POLE
F				70A, 1 POLE
G				70A, 1 POLE
H				70A, 1 POLE
PHASE TOTALS		12.24	10.71	
CONNECTED LOAD		22.95		

NOTE:
1. SEE TRAFFIC SIGNAL PLANS FOR COMBO POLE LOCATIONS.

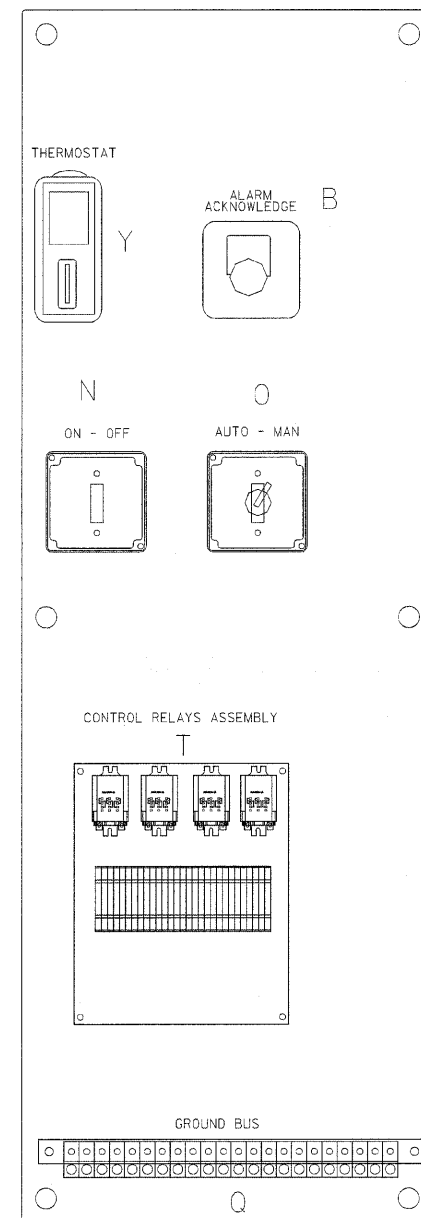
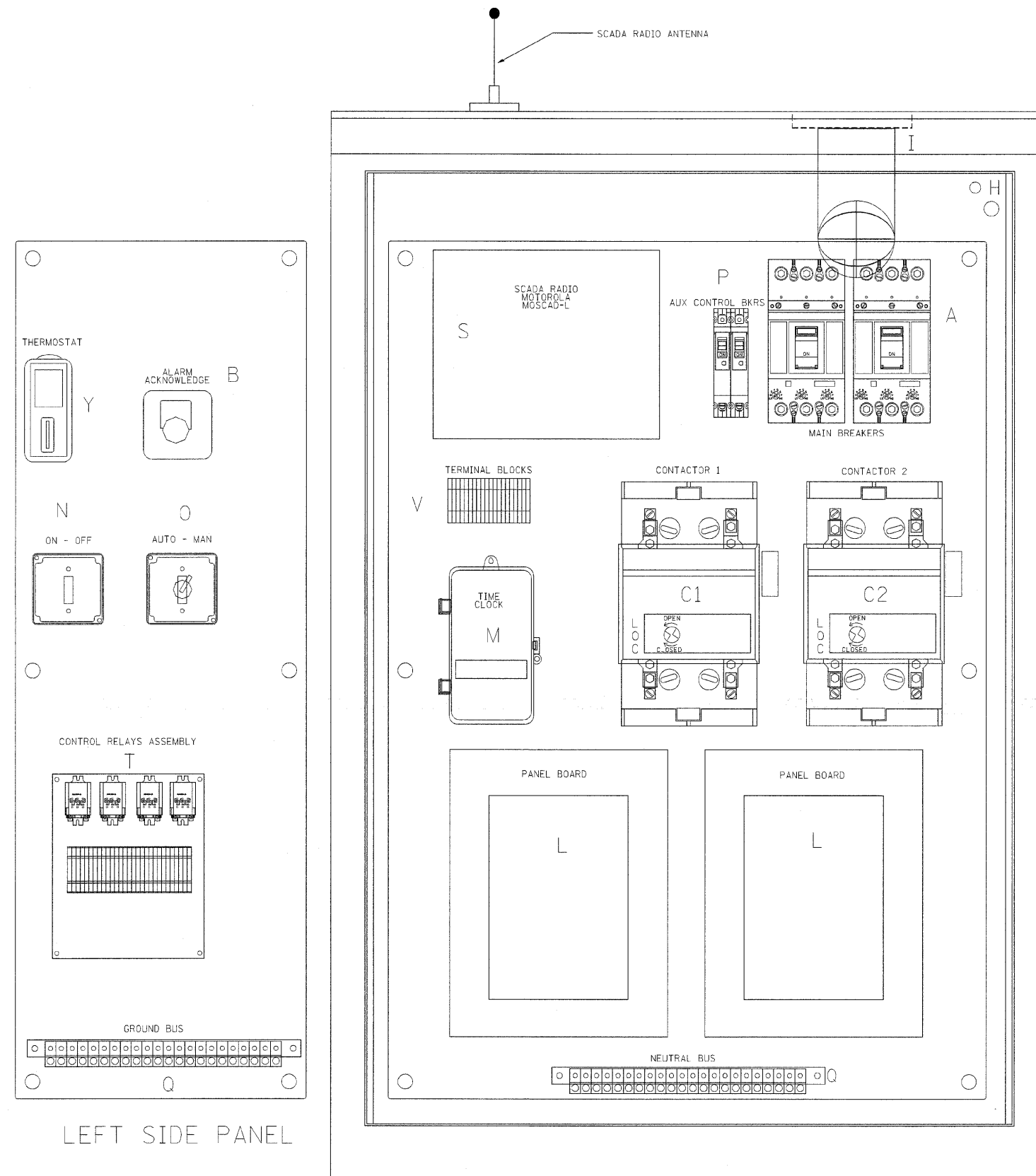
- LEGEND**
- ⊗ PROPOSED LIGHTING UNIT
 - ⊕ EXISTING LIGHTING UNIT TO BE REINSTALLED
 - B BLACK PHASE CONDUCTOR
 - W WHITE NEUTRAL CONDUCTOR
 - R RED PHASE CONDUCTOR
 - G GREEN GROUND CONDUCTOR



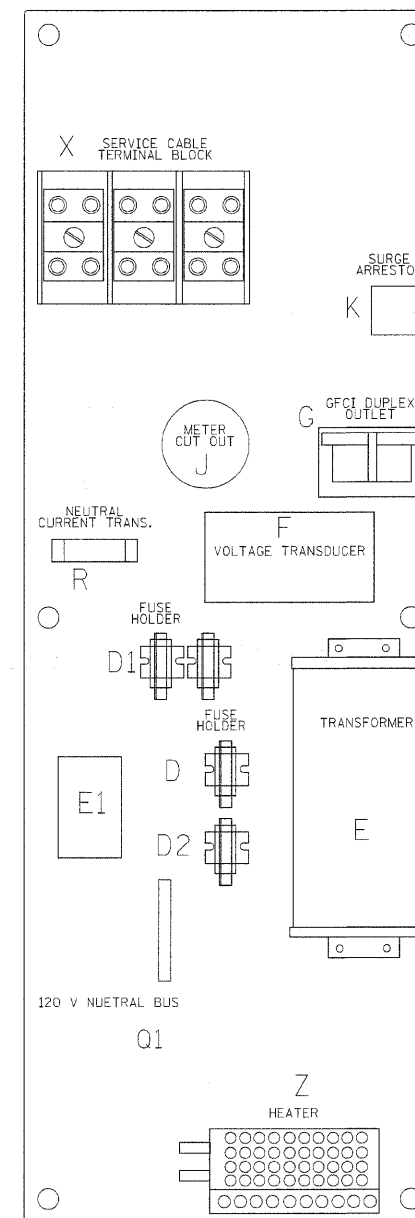
Peter B. Leonard 7/9/09
Exp. 11/30/09

E13

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p>IL. RTE.394 AT GOODENOW SINGLE LINE DIAGRAM PROPOSED CONTROLLER "WU"</p> <p>SCALE: NONE DATE: 11-30-2005</p> <p>DRAWN BY KWO CHECKED BY RER</p>



LEFT SIDE PANEL



RIGHT SIDE PANEL

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2*	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900IKS11BH13, 2 POSITION SWITCH IN 900IKY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 *6 AND 8 *12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T*	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X*	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET

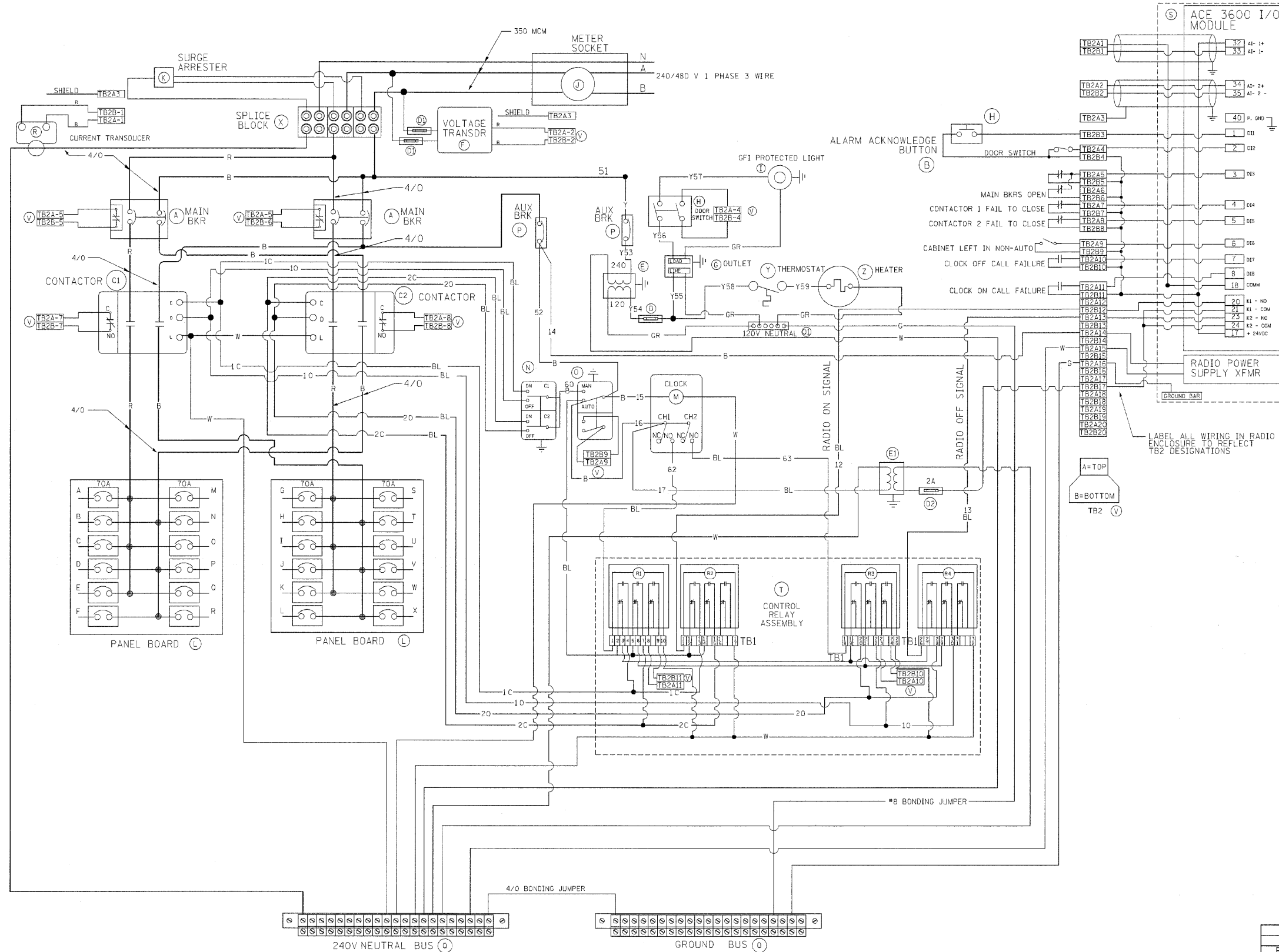
REVISIONS	
NAME	DATE
R. TOMSONS	8/19/04
R. TOMSONS	5/11/09

ILLINOIS DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, RADIO CONTROL
DUPLEX TYPE WITH SCADA
BE-205 SHT 1 OF 4

SCALE: NONE

DRAWN BY CAD
CHECKED BY
BE 205



BILL OF MATERIALS		
ITEM #	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20A FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK- 2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120-24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20GG-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900KSI1BH13, 2 POSITION SWITCH IN 900KVI ENCLOSURE
P	2	BREAKER IP 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 1/0 AND #6 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA ACE 3600
T	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SPLICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

REVISIONS	
NAME	DATE
R. TOMSONS	8/19/04
R. TOMSONS	5/11/09

ILLINOIS DEPARTMENT OF TRANSPORTATION
 LIGHTING CONTROLLER, RADIO CONTROL
 DUPLEX TYPE WITH SCADA
 BE-205 SHT 2 OF 4

SCALE: NONE
 DRAWN BY
 CHECKED BY
 BE 205

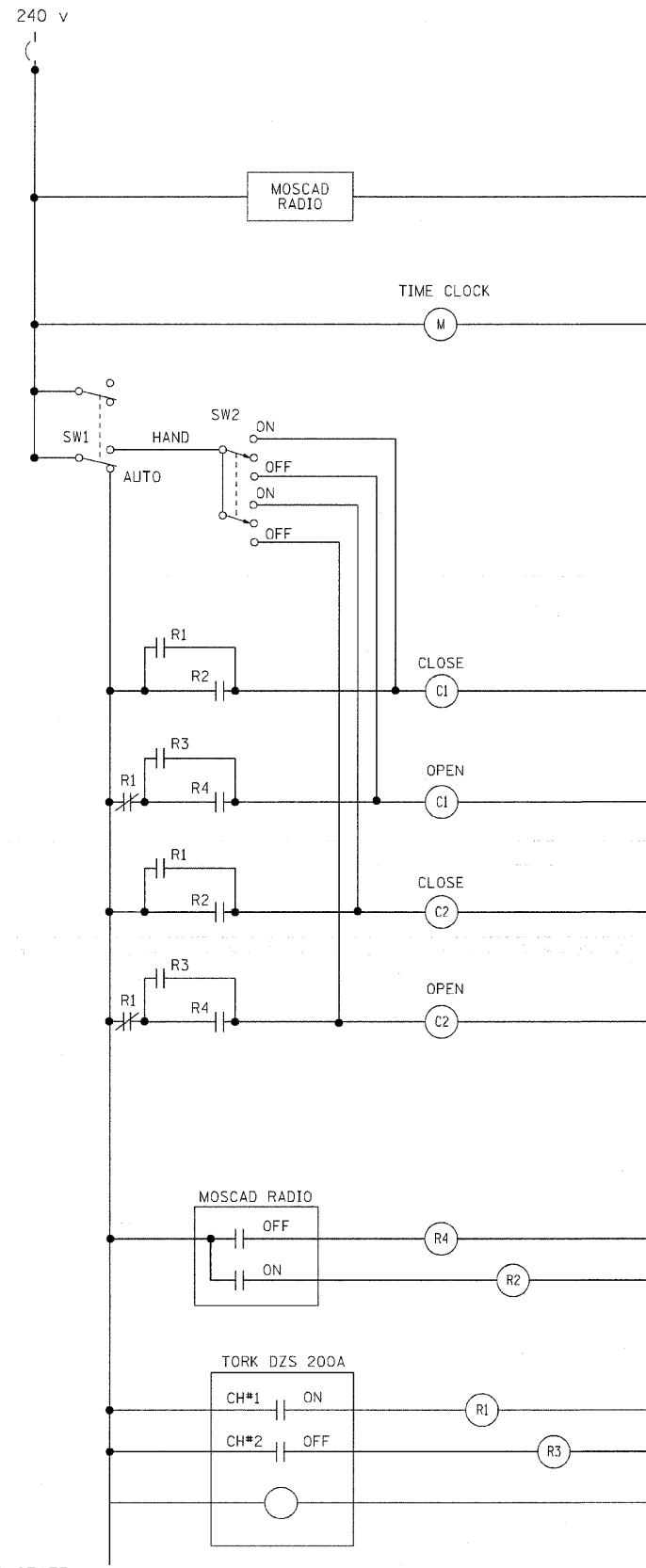
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	Will	242	128
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES

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

R - RED	Y - YELLOW
B - BLACK	W - WHITE
BL - BLUE	G - GREEN
	GR - GREY
- MOSCAD I/O WIRING SHALL BE:
 - DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.
 - ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.
 - AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

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

ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD
MIXED I/O MODULE MODEL NUMBER V436

REVISIONS	
NAME	DATE
R. TOMSONS	8/19/04
R. TOMSONS	5/11/09

ILLINOIS DEPARTMENT OF TRANSPORTATION
LIGHTING CONTROLLER, RADIO CONTROL
DUPLIX TYPE WITH SCADA
BE-205 SHT 4 OF 4

SCALE: NONE

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CHECKED BY

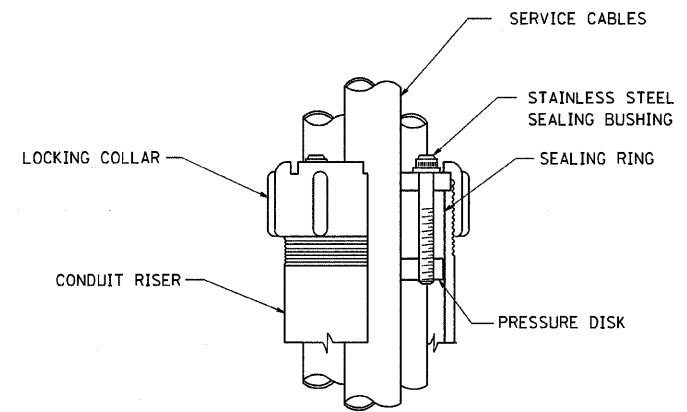
CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	129
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

APPLICATION

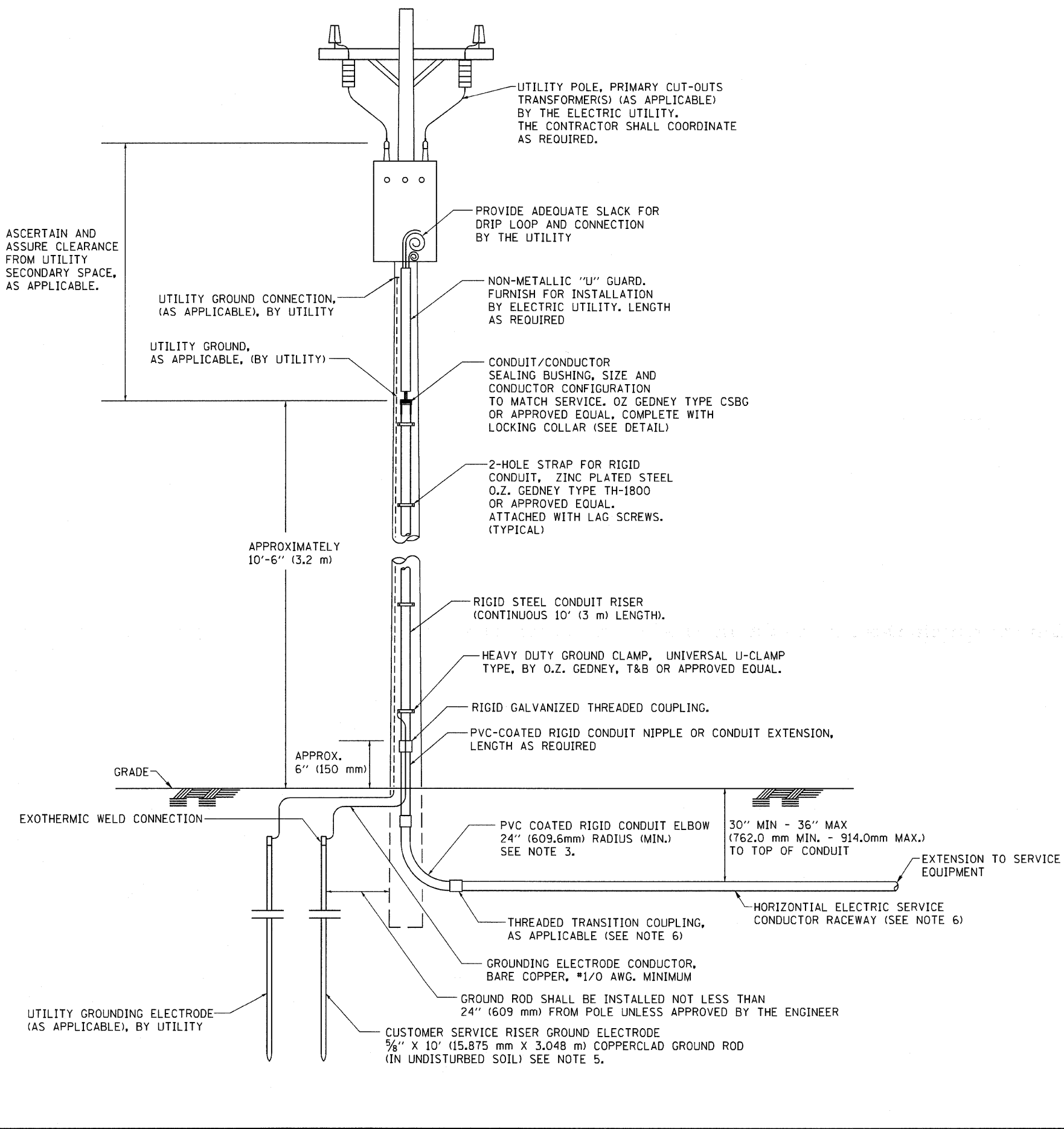
THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

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



SEALING BUSHING DETAIL



REVISIONS	
NAME	DATE

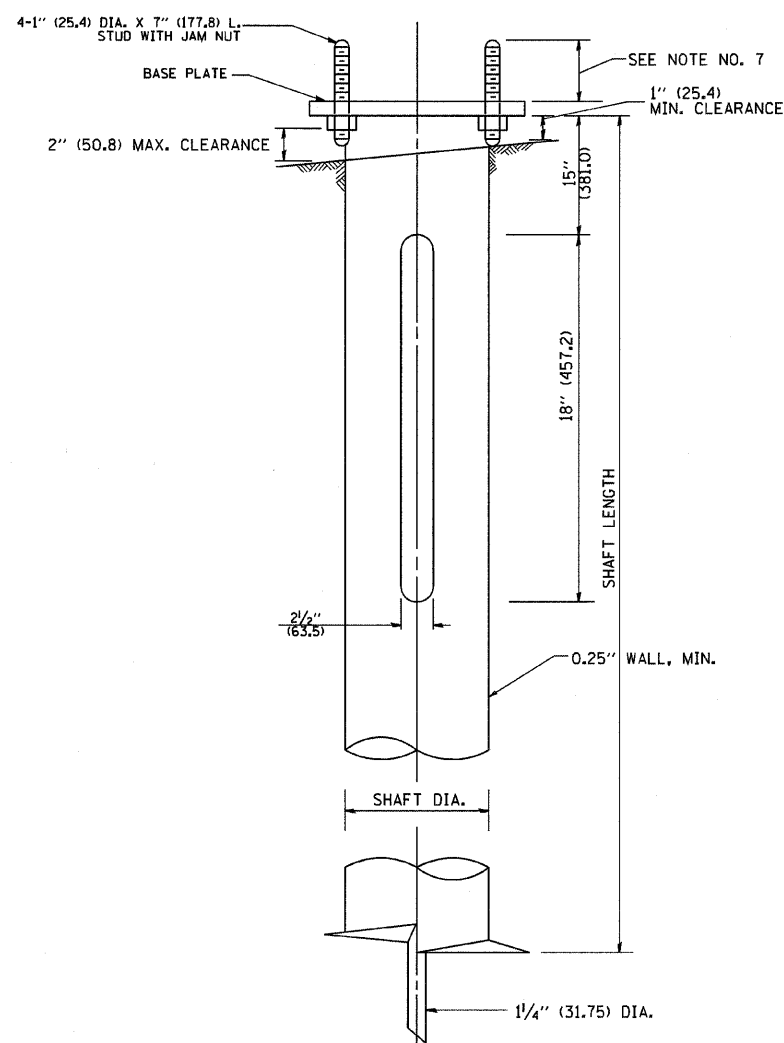
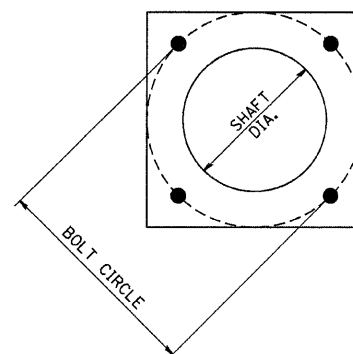
ILLINOIS DEPARTMENT OF TRANSPORTATION

**ELECTRIC SERVICE INSTALLATION
AERIAL, REMOTE DISCONNECT
BE - 220**

SCALE: NONE
DATE: 1/9/2007

DRAWN BY
CHECKED BY MEA

PLT DATE = 1/9/2007
 FILE NAME = c:\projects\adastad\ba220.dgn
 USER NAME = abriched



NOTES:

1. ALL DIMENSION IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. ALL MATERIAL SHALL BE GALVINIZED ACCORDING TO AASHTO M111, UNLESS OTHERWISE SPECIFIED.
3. ALL WELDS SHALL BE CONTINUOUS AND NOT LESS THAN 1/4" (6.35 mm) FILLET WELDS. THE WELDED FOUNDATION SHALL BE CAPABLE OF WITHSTANDING 10,000 FT/LBS (13558.18 n.m) OF INSTALLATION TORQUE APPLIED ABOUT THE AXIS OF THE FOUNDATION.
4. THE HELIX FOUNDATION SHAFT SHALL BE INSTALLED VERTICAL AND THE BASE PLATE SHALL BE IN LEVEL. THE BREAKAWAY COUPLINGS AND HARDWARE SHALL NOT BE USED TO ALIGN THE POLE INSTALLATION.
5. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE INSTALLATION OF THE LIGHT POLE.
6. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF THE BASE PLATE WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS.
7. ANY VOIDS WITHIN THE METAL FOUNDATION SHALL BE FILLED WITH FINE AGGREGATE.
8. METAL FOUNDATIONS SHALL BE INSTALLED IN UNDISTURBED SOIL. PREDRILLING A PILOT HOLE AND/OR BACKFILLING AROUND THE FOUNDATION IS NOT ALLOWED.
9. THE METAL FOUNDATION SHALL NOT BE INSTALLED TO A TORQUE WHICH EXCEEDS THE MANUFACTURER'S MAXIMUM TORQUE RATING NOR SHALL IT BE INSTALLED TO AN INSTALLATION TORQUE VALUE OF LESS THAN 3,500 FT LB (4,750 KNM). METAL FOUNDATIONS THAT ARE NOT INSTALLED TO FULL INSTALLATION DEPTH OR DO NOT ACHIEVE THE MINIMUM INSTALLATION TORQUE SHALL BE REMOVED AND REPLACED WITH A CONCRETE FOUNDATION AT NO ADDITIONAL COST.
10. THE BASEPLATE SHALL BE PERPENDICULAR TO THE SHAFT AXIS ($\pm 1^\circ$) AND THE HOLE CENTERLINE SHALL BE CONCENTRIC (± 0.188) TO THE SHAFT AXIS.
11. THE PILOT POINT AND SHAFT AXIS SHALL BE CONCENTRIC (± 0.125) AND IN LINE ($\pm 2^\circ$).
12. THE BASEPLATE SHALL BE STAMPED WITH THE MANUFACTURERS NAME AND DATE OF MANUFACTURE.

HELIX FOUNDATION SIZE

POLE MOUNTING HEIGHT	BOLT CIRCLE	SHAFT DIAMETER	SHAFT LENGTH	BASEPLATE
30 FT.	11 1/2"	8 5/8"	6 FT.	12"x12"x1"
31 FT.-35 FT.	11 1/2"	8 5/8"	6 FT.	12"x12"x1"
36 FT.-40 FT.	15"	8 5/8"	6 FT.	15"x15"x1 1/4"
41 FT.-45 FT.	15"	8 5/8"	6 FT.	15"x15"x1 1/4"
46 FT.-50 FT.	15"	10"	8 FT.	15"x15"x1 1/4"

METAL HELIX FOUNDATION MATERIALS

ITEM	MATERIAL REQUIREMENT
BASEPLATE	AASHTO M 270M, GRADE 36 (M270M, GRADE 250)
SHAFT	ASTM A 252, GRADE 2 (PHOSPHOROUS 0.04% MAXIMUM, SULFUR 0.05% MAXIMUM)
HELIX SCREW	AASHTO M 183 (ASTM A 635)
PILOT POINT	AASHTO M 270 (ASTM A 575)
ANCHOR RODS/STUDS	AASHTO M 314 (ASTM F 1554)
HEXAGON NUTS	AASHTO M 291M (ASTM A 563) GRADE DH, OR AASHTO M 292 (ASTM A 194) GRADE 2H
WASHERS	AASHTO M 293 (ASTM F 436)

BE-305

ILLINOIS DEPARTMENT OF TRANSPORTATION

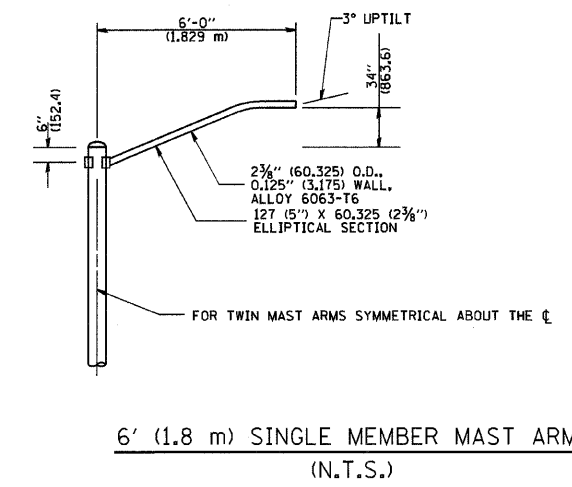
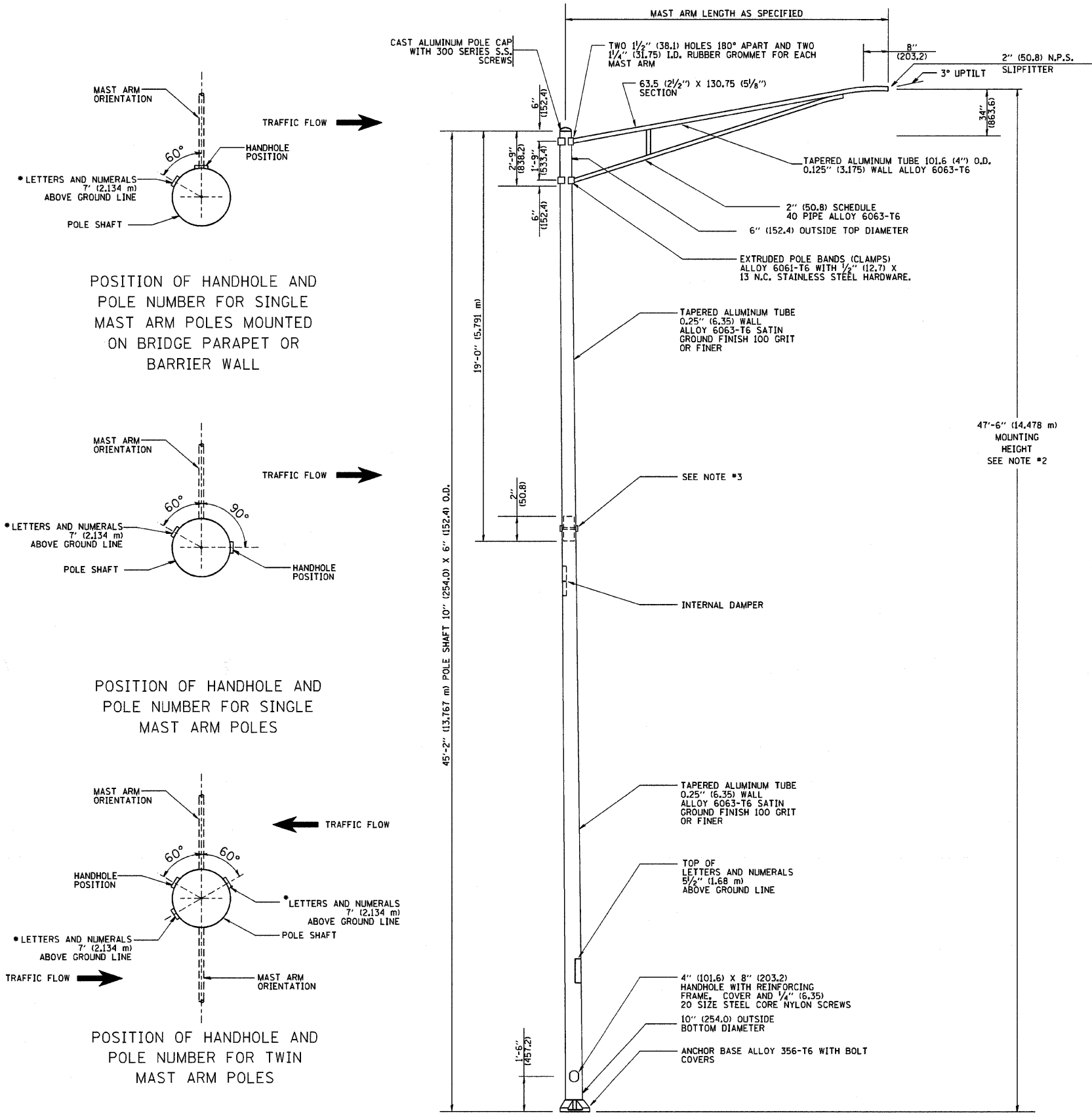
LIGHT POLE FOUNDATION, METAL

REVISIONS	
NAME	DATE
CREATED	02/27/07

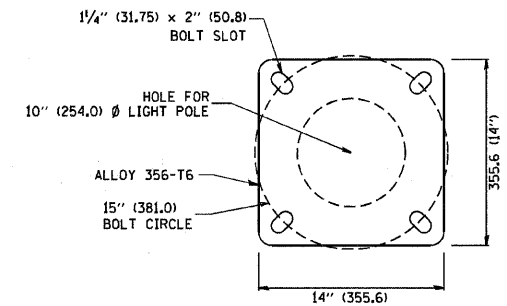
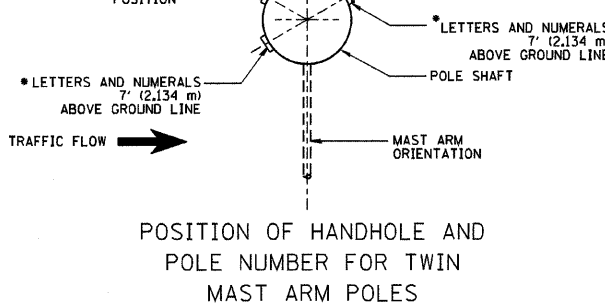
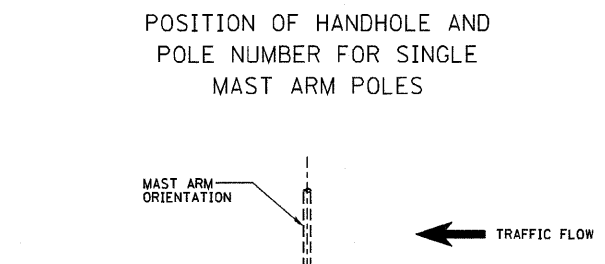
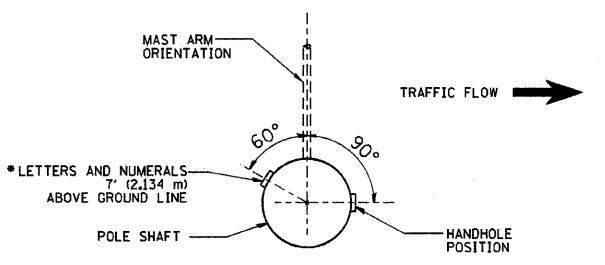
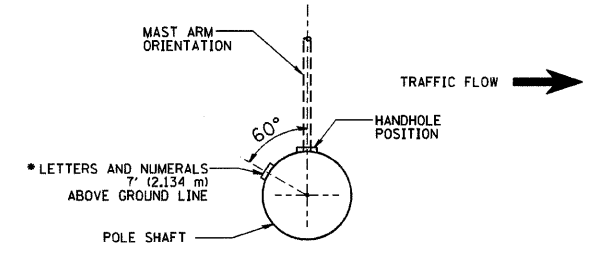
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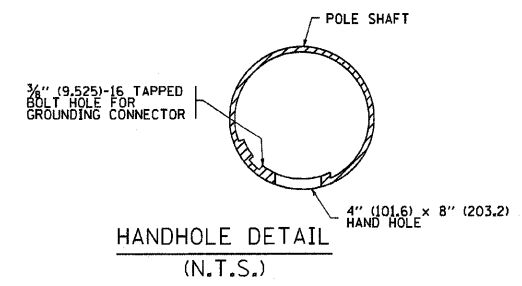
CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	131
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



- 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.



LIGHT POLE BASE PLATE DETAIL
15 INCH (381.0) BOLT CIRCLE



REVISIONS	
NAME	DATE
R. TOMSONS	9-6-00
R. TOMSONS	8-12-03

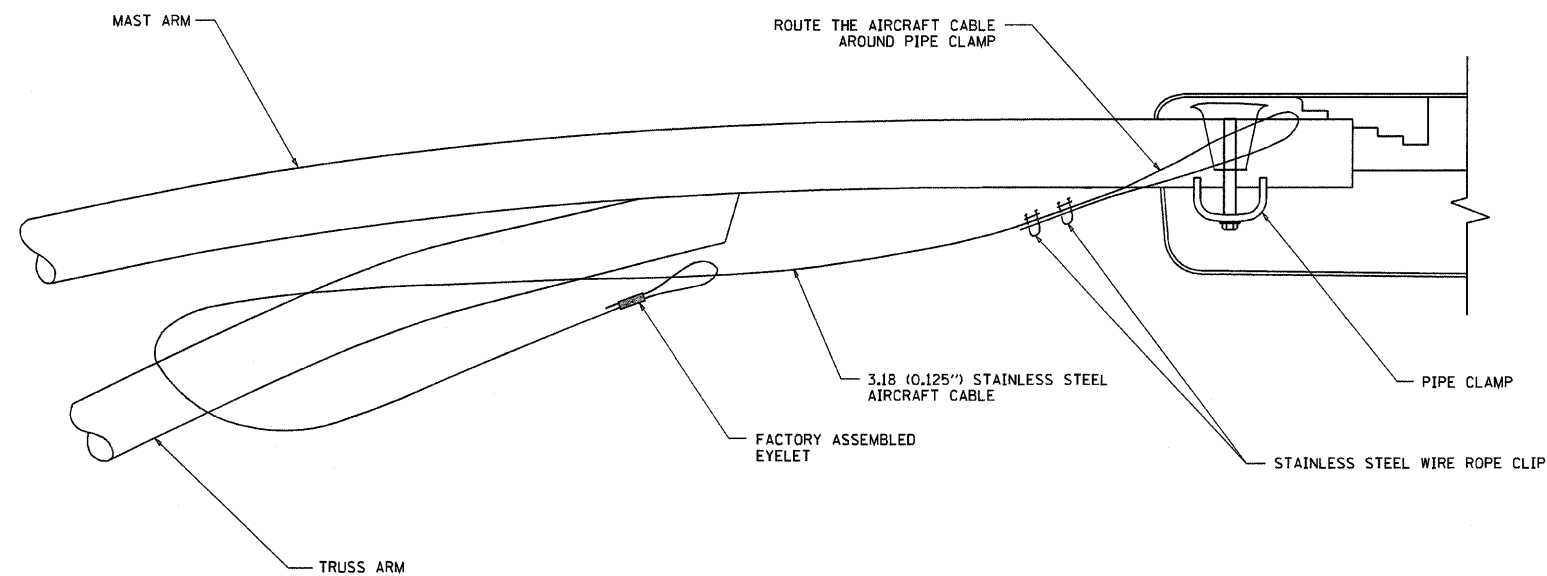
ILLINOIS DEPARTMENT OF TRANSPORTATION
ALUMINUM LIGHT POLE
 47'-6" (14.478 m)
 MOUNTING HEIGHT

SCALE: NONE
 DATE: 1/10/2007

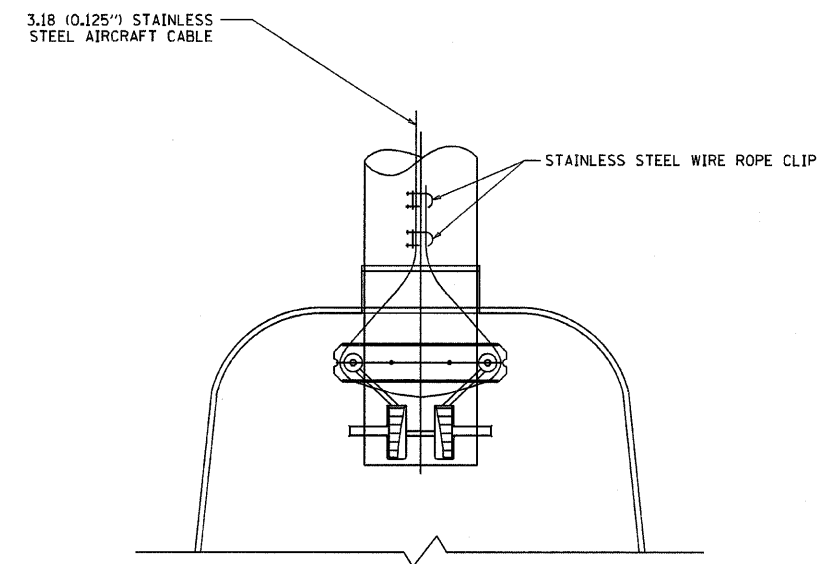
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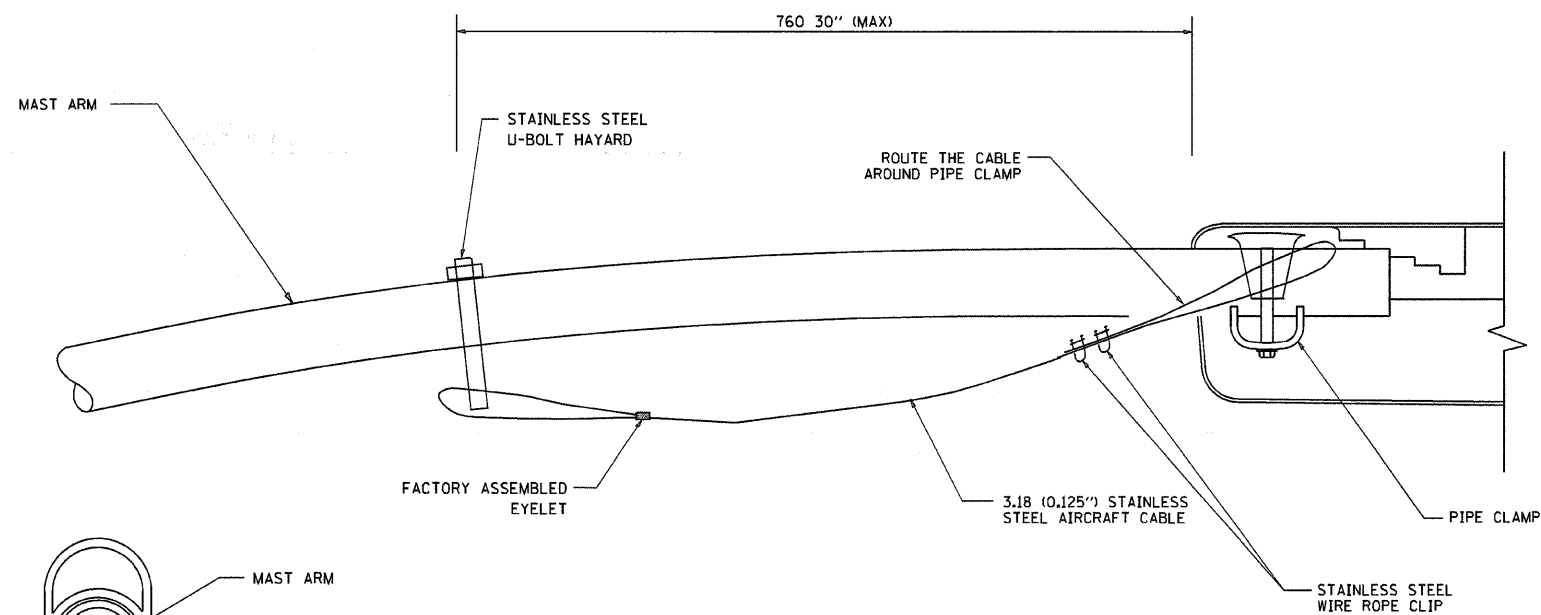
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	132
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



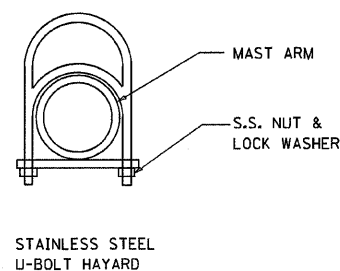
SIDE VIEW (TRUSS ARM)
N.T.S.



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 3.18 (0.125 inch) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

LUMINAIRE SAFETY
CABLE ASSEMBLY

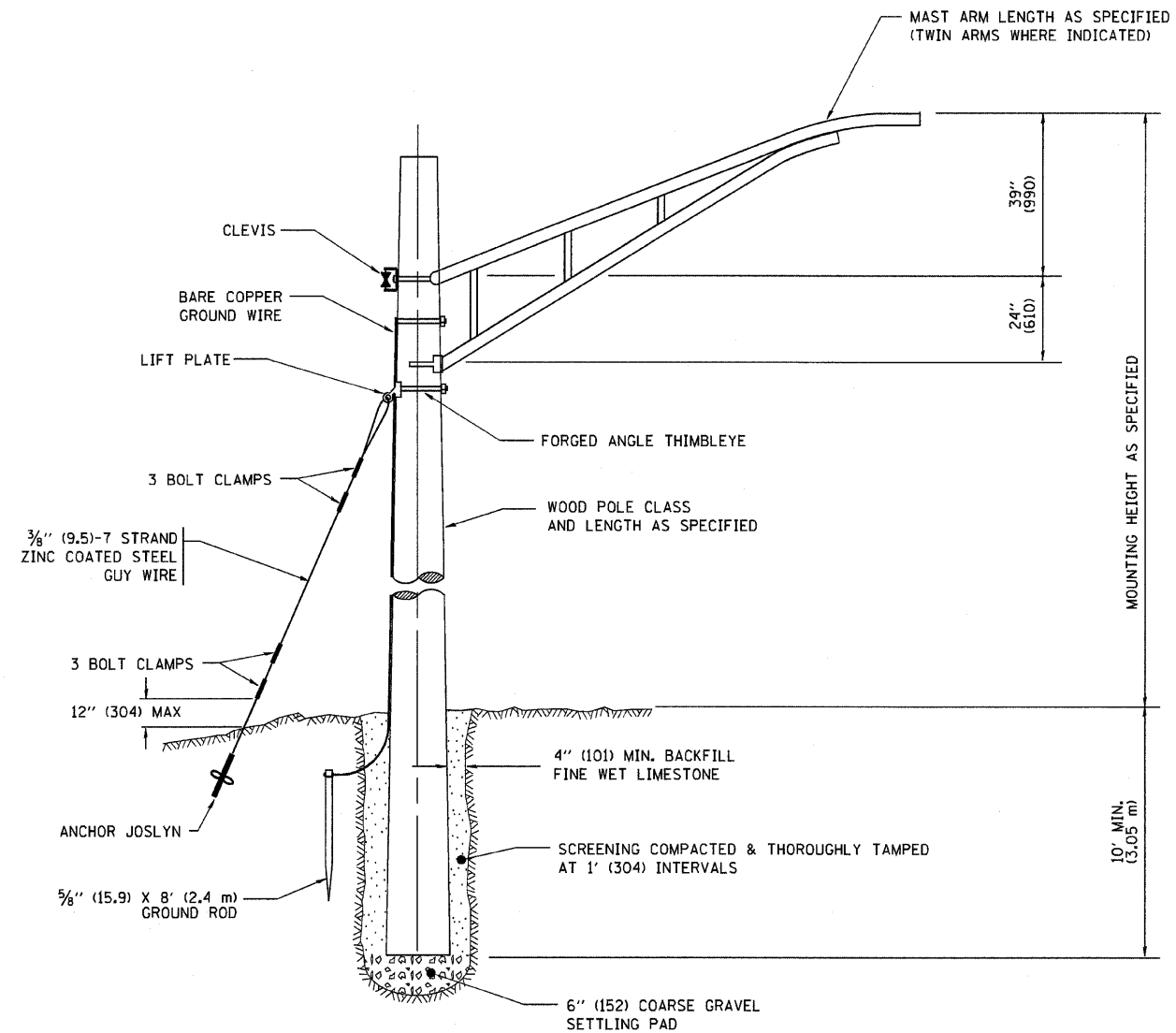
SCALE: VERT.
HORIZ.
DATE: 2/15/2006

DRAWN BY
CHECKED BY
BE-701

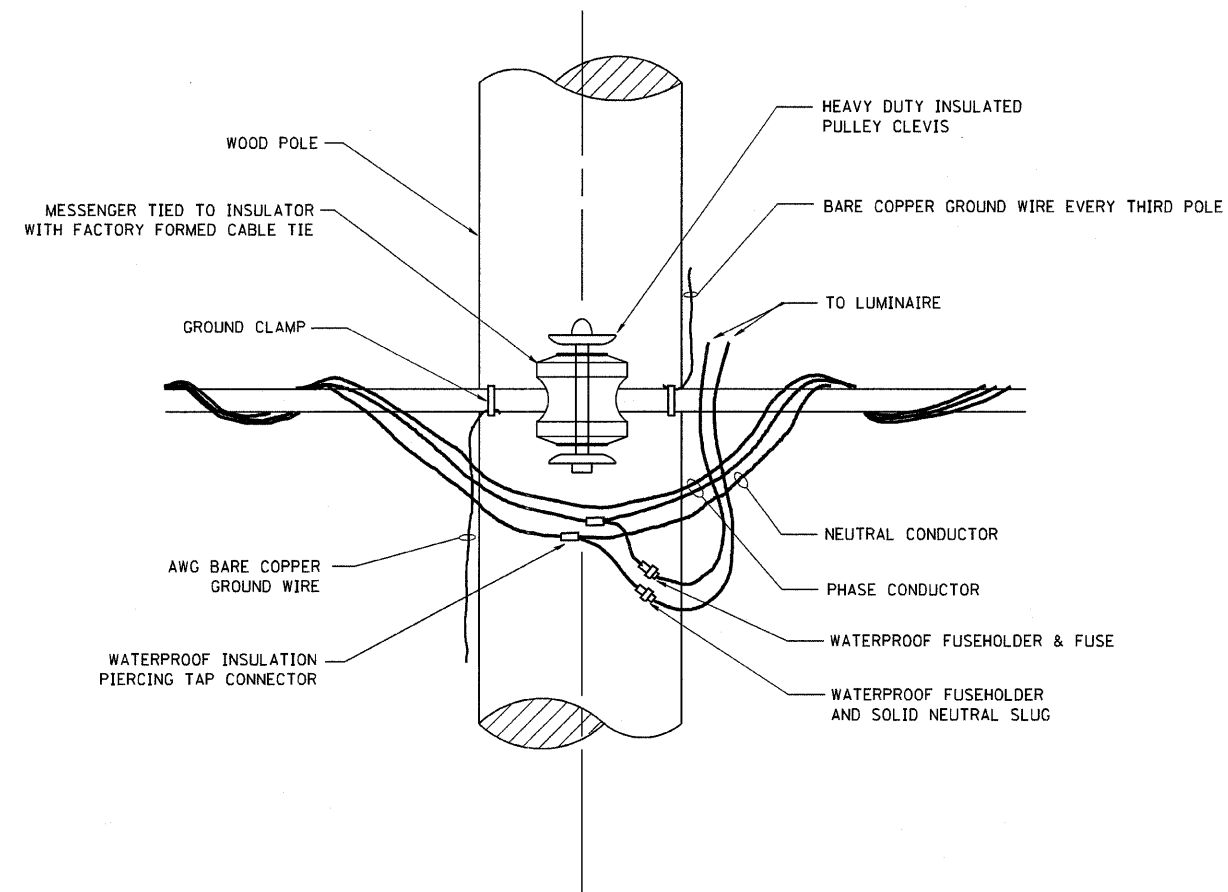
REVISION DATE:

PLOT DATE: 2/15/2006
FILE NAME: m:\asst\luc\701.dgn
SCALE: 30.000 / IN.
USER NAME: spatterson

CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	134
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



TEMPORARY LIGHT POLE DETAIL



TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

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

PLOT DATE = 4/15/2007
 FILE NAME = C:\Users\jv\Documents\2002-113R\1134.dgn
 PLOT SCALE = 1/8" = 1'-0"
 USER NAME = jv

REVISIONS	
NAME	DATE
	08/08/03

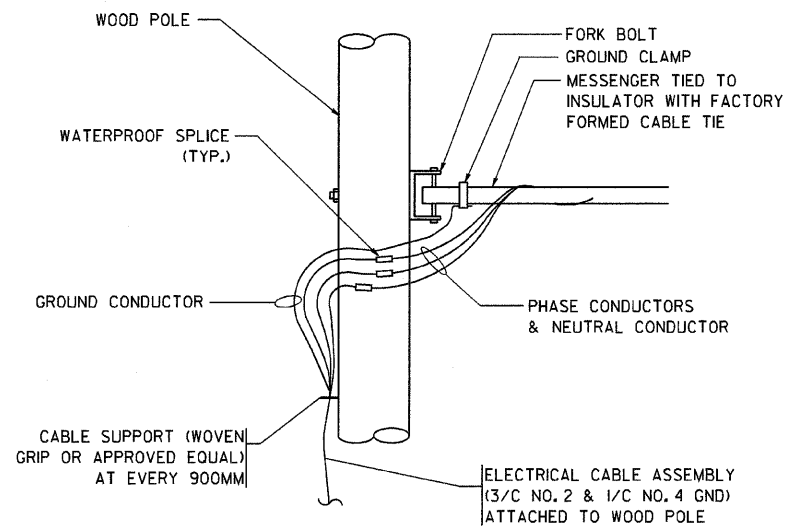
ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHT POLE
 DETAILS

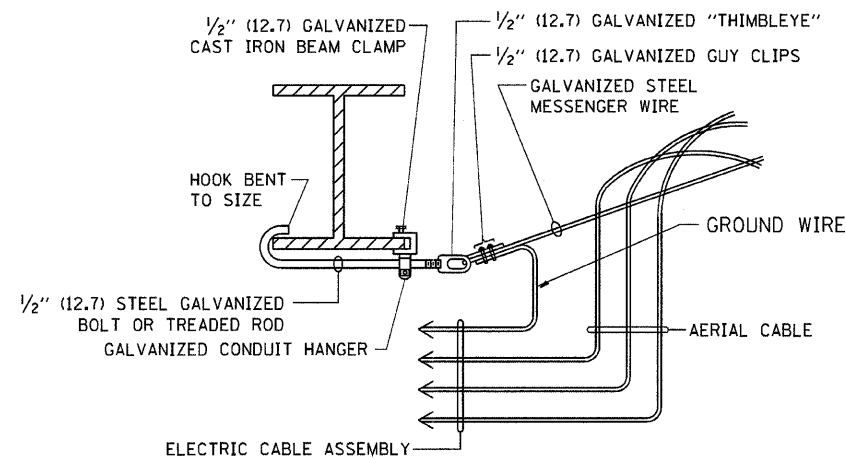
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 HORIZ.

DRAWN BY
 CHECKED BY
 BE-800

CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	135
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



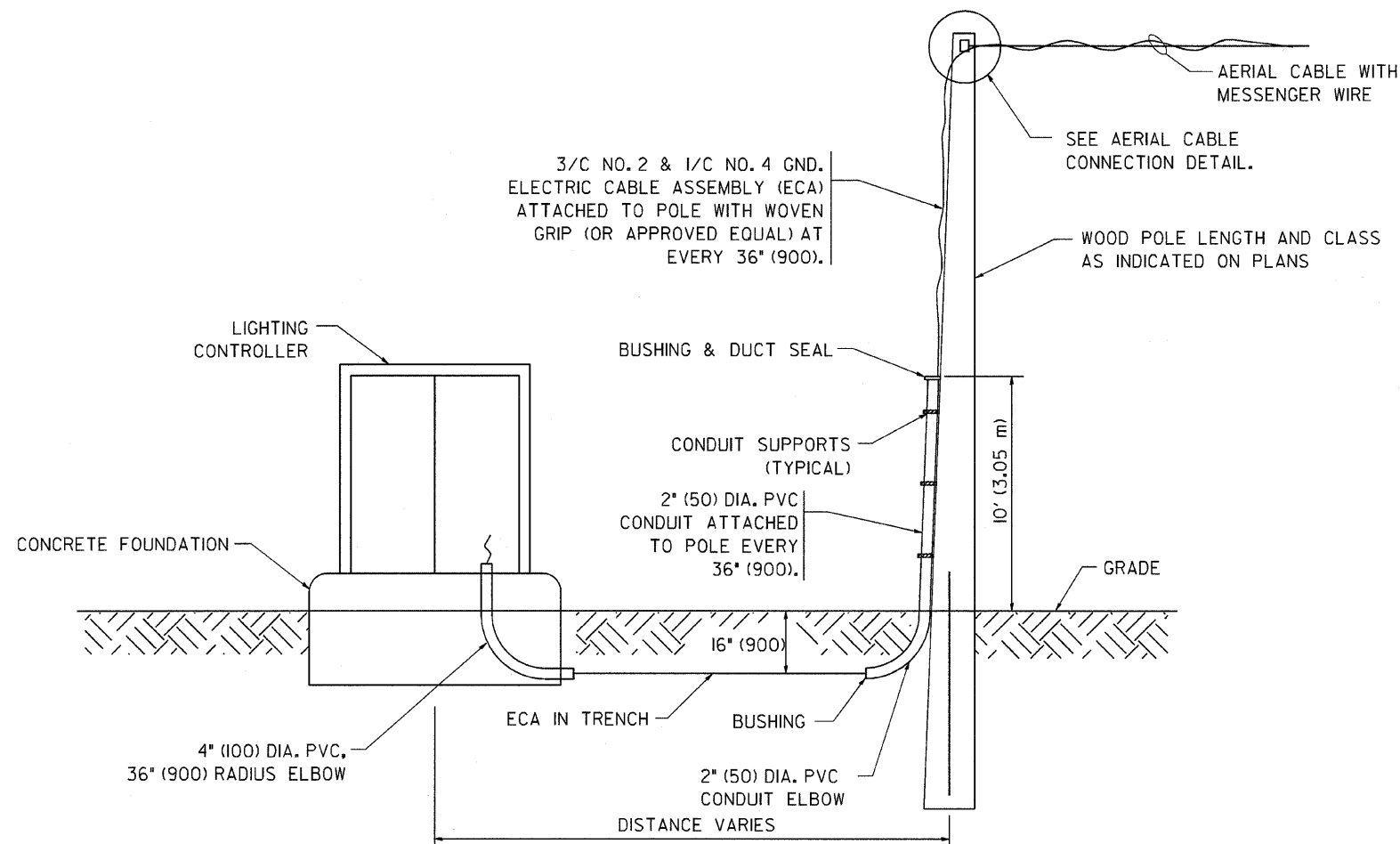
AERIAL CABLE CONNECTION DETAIL
N.T.S.



AERIAL CABLE ATTACHED TO STRUCTURE
NOT TO SCALE

NOTES:

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



WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL
N.T.S.

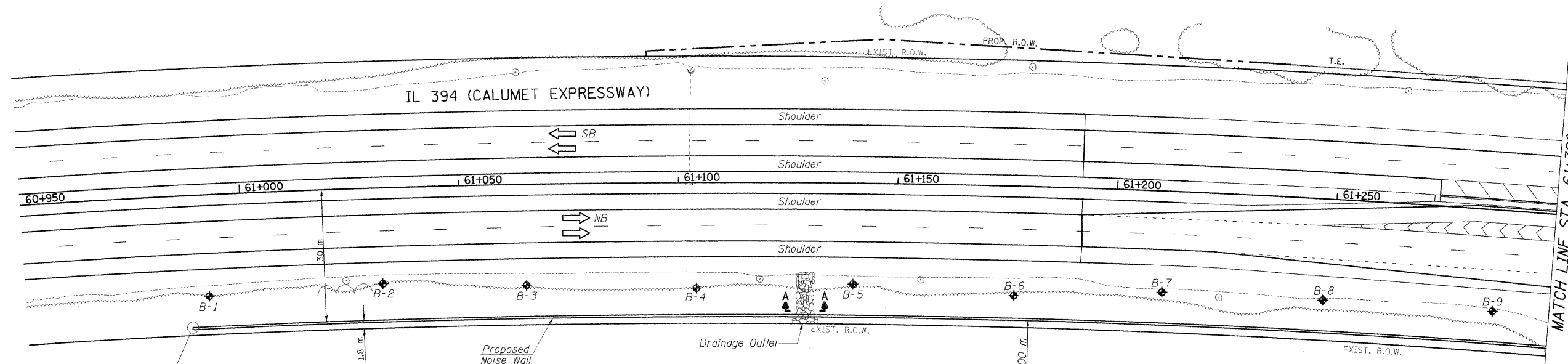
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
	08/08/03	<p>TEMPORARY AERIAL CABLE INSTALLATION</p> <p>SCALE: VERT. NONE HORIZ.</p> <p>DRAWN BY CHECKED BY BE-801</p>

PLOT DATE = 4/18/2007
FILE NAME = K:\data\sub\be801.dgn
USER NAME = BBA001 / IN
USER MAKE = BBA001

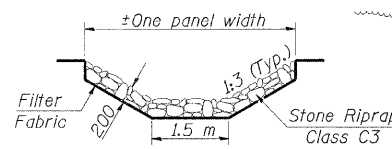
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	136
STA. 60+950		TO STA. 61+300		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SHEET NO. 1 OF 10

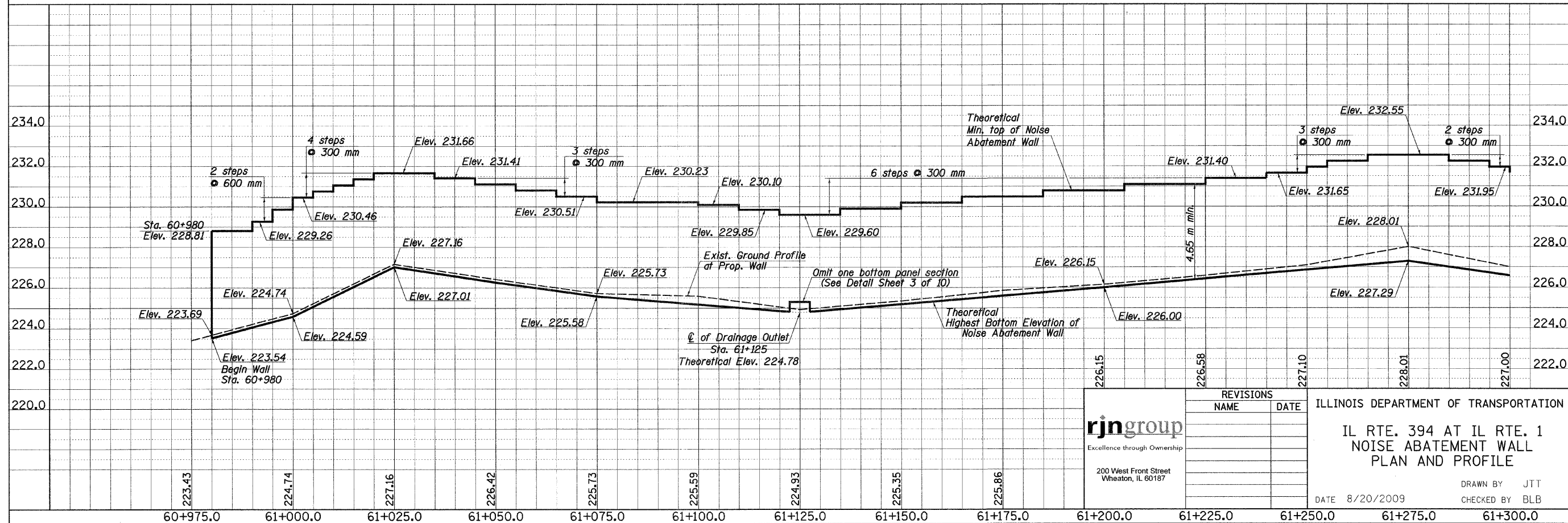
BY	DATE
FINAL SURVEY PLOTTED	
NOTE BOOK TEMPLATE AREAS CHECKED	
NO.	



NOISE WALL - PLAN



SECTION A-A



NOISE WALL - ELEVATION

rjngroup
Excellence through Ownership
200 West Front Street
Wheaton, IL 60187

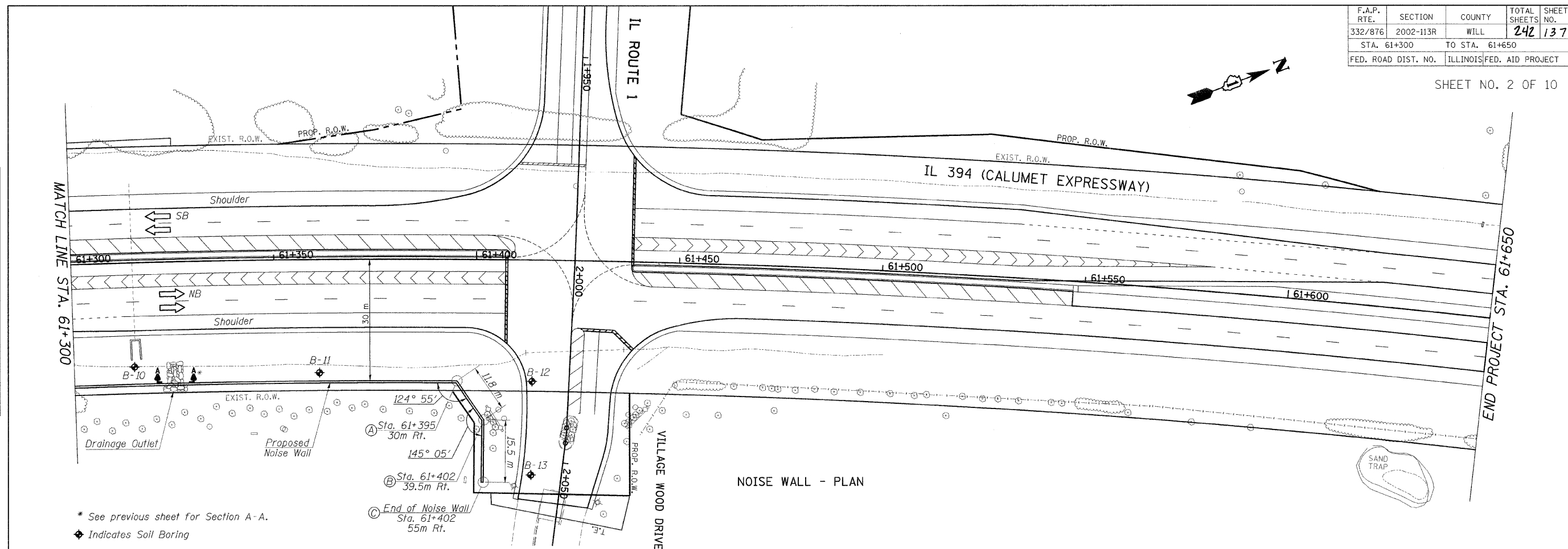
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE. 394 AT IL RTE. 1
NOISE ABATEMENT WALL
PLAN AND PROFILE
DATE 8/20/2009
DRAWN BY JTT
CHECKED BY BLB

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332/876	2002-113R	WILL	242	137
STA. 61+300		TO STA. 61+650		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

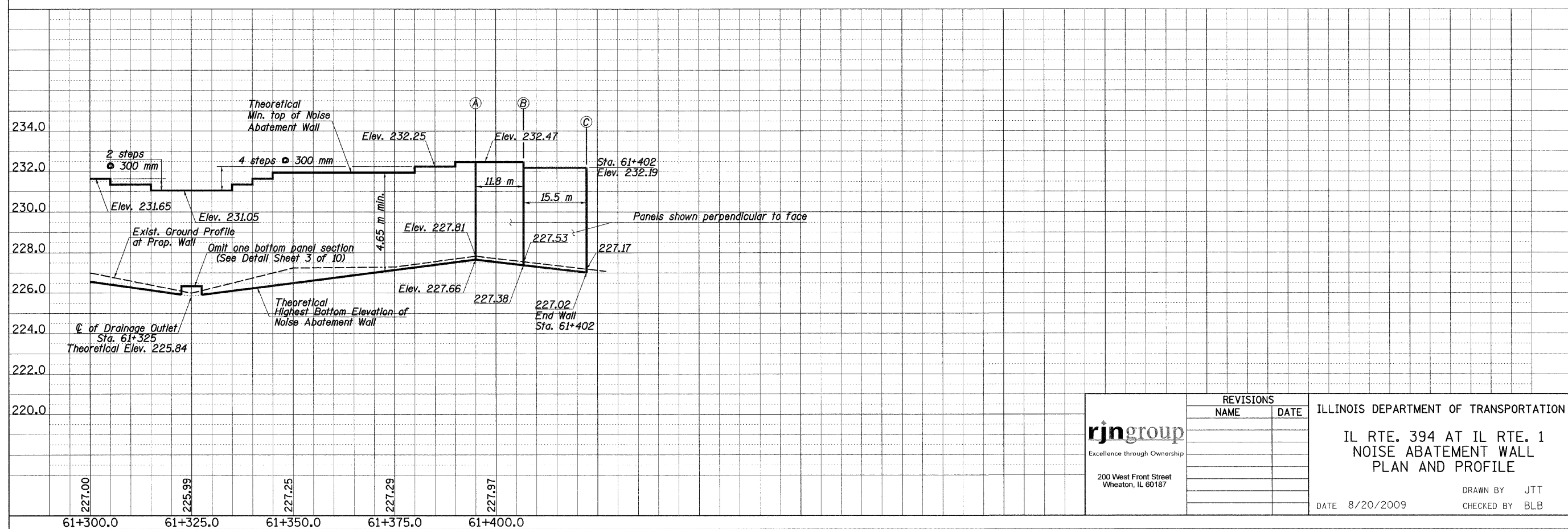
SHEET NO. 2 OF 10

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



NOISE WALL - PLAN

* See previous sheet for Section A-A.
 ♦ Indicates Soil Boring



NOISE WALL - ELEVATION

rjngroup
 Excellence through Ownership
 200 West Front Street
 Wheaton, IL 60187

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 IL RTE. 394 AT IL RTE. 1
 NOISE ABATEMENT WALL
 PLAN AND PROFILE
 DATE 8/20/2009
 DRAWN BY JTT
 CHECKED BY BLB

NOTES:

- For Noise Abatement Wall locations, see Sheets 1 and 2 of 10.
- Select clearing of undesirable trees and brush shall be utilized on either side of the noise wall according to IDOT Standard Specification Section 201. Cost is included with payment for Noise Abatement Wall, Ground Mounted.
- Compost and topsoil shall be thoroughly rototilled to a depth of 250 mm prior to planting.
- Mulch cover shall be placed over compost according to IDOT Standard Specification Section 253.11, except that no weed barrier fabric is required. Cost of mulch cover and associated items is included with payment for Noise Abatement Wall, Ground Mounted.
- Pre-emergent Granular Herbicide shall be placed in mulched beds according to the Special Provision for Weed Control, Pre-Emergent Granular Herbicide. Cost included with payment for Noise Abatement Wall, Ground Mounted.
- Existing ground lines and utilities are subject to normal construction variations. It shall be the Contractor's responsibility to verify ground elevations in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The panel texturing shall be used for all panels. The panels shall be colored with a light brown stain and the posts painted a matching color. Samples of panel texturing and coloring shall be submitted to the Department for approval in accordance with the Noise Abatement Wall, Ground Mounted Special Provision.
- Riprap shall be placed according to IDOT Standard Specification Section 281. The cost of Riprap and associated items is included with payment for Noise Abatement Wall, Ground Mounted.
- Filter Fabric for use with Riprap shall be placed according to IDOT Standard Specification Section 282. The cost of Filter Fabric for use with Riprap is included with payment for Noise Abatement Wall, Ground Mounted.
- Drilled Shafts shall be constructed according to Section 516 of the Standard Specifications, except that the cost of Drilled Shafts and associated items is included with payment for Noise Abatement Wall, Ground Mounted.
- All dimensions are in millimeters (mm) except as noted.

SOIL PROPERTIES:

Cohesive - $C = 150 \text{ kPa}$ (Shall be reduced to 45 kPa above elevation ± 223 from Station 61+340 to 61+385)

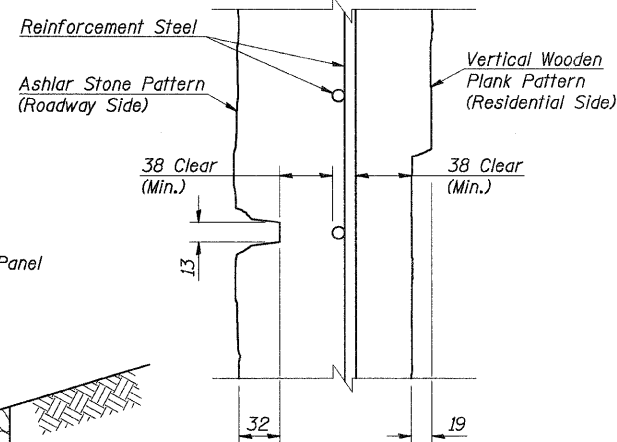
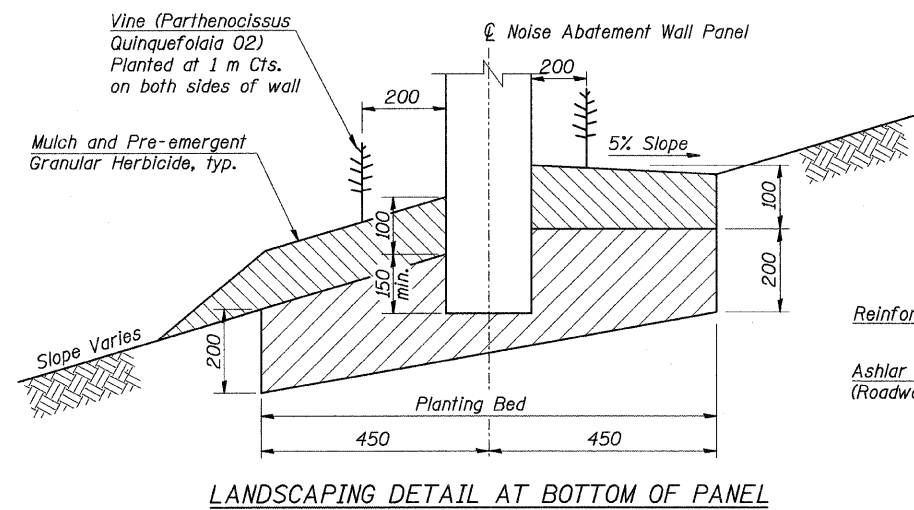
Factor of Safety - 2.0 (Shear Strength)

Notes: The design methods will require modifications when sloped ground or saturated conditions are encountered.

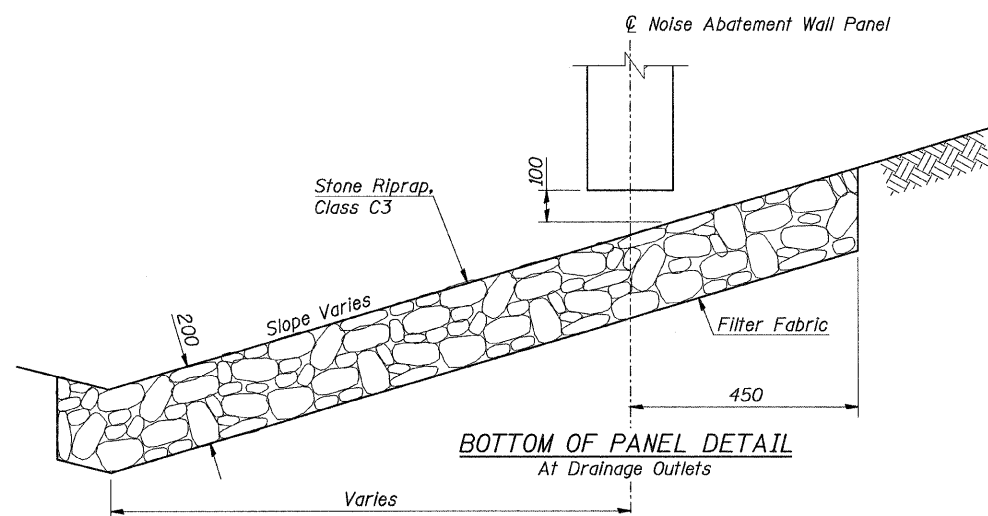
The depth of soil at the ground surface equal to $1\frac{1}{2}$ times the foundation diameter shall be neglected in the foundation analysis.

BILL OF MATERIAL

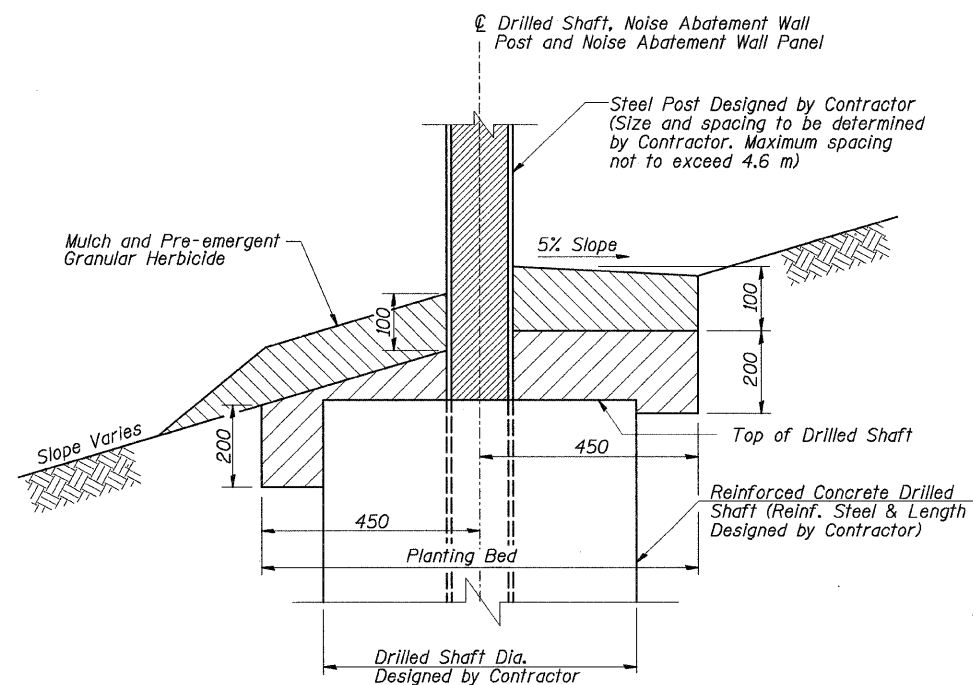
Item	Unit	Total
Noise Abatement Wall, Ground Mounted	Sq. M.	2210



CROSS SECTION PRECAST PANEL



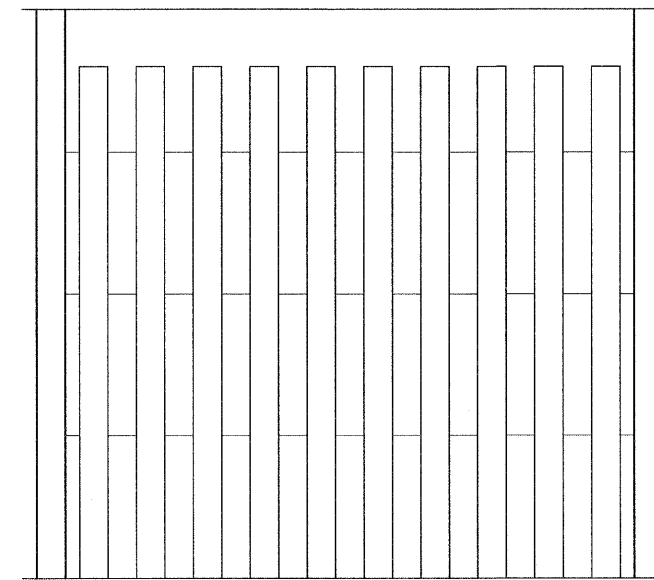
BOTTOM OF PANEL DETAIL At Drainage Outlets



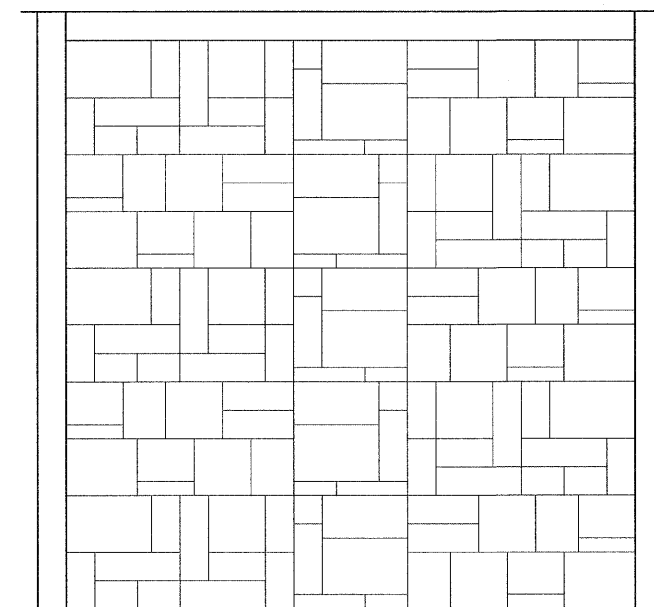
LANDSCAPING DETAIL AT FOUNDATION

LEGEND

Topsail, 200 mm Furnish & Place	
Compost, 100 mm Furnish & Place	



PRESSED IN VERTICAL PLANK PATTERN (Residential Side)



FORMED ASHLAR STONE PATTERN (Roadway Side)

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Wheaton, IL 60187

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE. 394 AT IL RTE. 1
NOISE ABATEMENT WALL
DETAILS
DATE 8/20/2009
DRAWN BY JMT
CHECKED BY BLB



SOIL BORING LOG

Page 1 of 1

Date 3/1/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart

SECTION 2002-113R LOCATION SEC. 33, TWP. 34, RNG. 14, 3rd PM

COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO. Station	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. Stream Bed Elev.	m	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. Stream Bed Elev.	m
BORING NO. B-5 Station 61+140 Offset 23.00m Rt CL Ground Surface Elev. 224.48 m					Groundwater Elev.: First Encounter Upon Completion 218.5 m After Hrs.							
Topsoil					Very Stiff Gray SILTY CLAY (continued)							
224.17							3					
Brown SILTY CLAY (sample taken from auger)							5	240	14			
223.87				22			6	B				
Stiff Mottled Black-Brown-Gray SILTY CLAY w trace pebbles												
		3										
		3	163	28								
		3	S@									
			15%									
	-1.5											
		2										
		3	144	22								
		3	B									
Grades to Very Stiff												
		4										
		4	326	18								
		6	B									
Grades to Brown												
	-3.0											
		4										
		7	431	16								
		9	B									
		5										
		5	326	14								
		7	B									
Grades to Brown and Gray												
	-4.5											
		3										
		6	307	15								
		6	B									
Very Stiff Gray SILTY CLAY												
219.30												
		3										
		5	297	16								
		7	B									
	-6.0											

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

BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 3/1/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart

SECTION 2002-113R LOCATION SEC. 33, TWP. 34, RNG. 14, 3rd PM

COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO. Station	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. Stream Bed Elev.	m	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. Stream Bed Elev.	m
BORING NO. B-6 Station 61+177 Offset 25.00m Rt CL Ground Surface Elev. 225.21 m					Groundwater Elev.: First Encounter Upon Completion 219.9 m After Hrs.							
Topsoil					Very Stiff Gray SILTY CLAY (continued)							
224.90												
Brown SILTY CLAY (sample taken from auger)												
224.60				23								
Hard Mottled Brown-Gray SILTY CLAY w trace pebbles												
		9										
		10	431	15								
		14	P									
	-1.5											
		6										
		9	661	16								
		10	S@									
			15%									
Hard Brown SILTY CLAY												
223.07												
		6										
		8	738	17								
		10	B									
Grades to Brown and Gray, Very Stiff												
	-3.0											
		4										
		7	575	17								
		9	B									
		4										
		5	460	18								
		7	B									
Grades to Brown and Gray, Very Stiff												
	-4.5											
		3										
		4	240	16								
		5	S@									
			15%									
Very Stiff Gray SILTY CLAY												
220.03												
		2										
		4	220	18								
		5	B									
	-6.0											

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

BBS, from 137 (Rev. 8-99)

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL RTE. 394 AT IL RTE. 1 NOISE ABATEMENT WALL SOIL BORINGS DRAWN BY JTT CHECKED BY BLB DATE 8/20/2009
	NAME	DATE	



SOIL BORING LOG

Page 1 of 1

Date 3/17/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart
 SECTION 2002-113R LOCATION .SEC. 33, TWP. 34, RNG. 14, 3rd PM
 COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO. Station	D E P T H S	B L O W S	U C S Qu	M O I S T U R E (%)	Surface Water Elev. _____ m	Stream Bed Elev. _____ m	Groundwater Elev.: First Encounter _____ m	Upon Completion _____ m	After _____ Hrs.	D E P T H S	B L O W S	U C S Qu	M O I S T U R E (%)
Topsil													
Brown SILTY CLAY (sample taken from auger)													
Medium Stiff Mottled Black-Brown-Gray SILTY CLAY													
Grades to Hard													
Grades to Very Stiff 50mm Silt Seam @ 2.6m													
Stiff to Very Stiff Gray SILTY CLAY w/some Fine Sand and trace pebbles													
75mm Sand & Silt Seam @ 4.7m Grades w/more SILT													
End of Boring													

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

BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 3/17/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart
 SECTION 2002-113R LOCATION .SEC. 33, TWP. 34, RNG. 14, 3rd PM
 COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO. Station	D E P T H S	B L O W S	U C S Qu	M O I S T U R E (%)	Surface Water Elev. _____ m	Stream Bed Elev. _____ m	Groundwater Elev.: First Encounter _____ m	Upon Completion _____ m	After _____ Hrs.	D E P T H S	B L O W S	U C S Qu	M O I S T U R E (%)
Topsil													
Brown SILTY CLAY (sample taken from auger)													
Hard Mottled Black-Brown-Gray SILTY CLAY													
Grades w/trace pebbles													
Grades to Brown w/trace Gray													
Very Stiff Gray SILTY CLAY w/ trace pebbles													
End of Boring													

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

BBS, from 137 (Rev. 8-99)

F.A.P.	SECTION	COUNTY	SHEET NO.	SHEET NO.
332/876	2002-113R	WILL	242	142
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO.
7 of 10

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL RTE. 394 AT IL RTE. 1 NOISE ABATEMENT WALL SOIL BORINGS DATE 8/20/2009 DRAWN BY JTT CHECKED BY BLB
	NAME	DATE	



SOIL BORING LOG

Page 1 of 1

Date 3/18/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart

SECTION 2002-113R LOCATION SEC. 33, TWP. 34, RNG. 14, 3rd PM

COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	_____ m	E	L	C	O
	P	O	S	I	Stream Bed Elev.	P	O	S	I
	T	W	S	T	Groundwater Elev.:	T	W	S	T
BORING NO.	H	S	Qu	T	First Encounter	H	S	Qu	T
Station	(150	(mm)	(kPa)	(%)	_____ m	(150	(mm)	(kPa)	(%)
Offset	mm)				Upon Completion	mm)			
Ground Surface Elev.	(m)				After _____ Hrs.	(m)			
Topsoil	227.15				Very Stiff Gray SILTY CLAY (continued)	3			
Brown SILTY CLAY (sample taken from auger)				19		5	278	17	
	226.69				End of Boring	6	S@	15%	
Very Stiff to Hard Mottled Brown-Gray SILTY CLAY		4							
		7	651	16					
		8	S@						
			15%						
	-1.5								
		5							
		8	393	16					
		10	S@						
			10%						
Grades to Brown wtrace pebbles		4							
		7	536	17					
		11	B						
	-3.0								
		4							
		6	335	18					
		9	B						
75mm Silt Seam @ 4.0m		4							
		5	287	16					
		8	B						
	-4.5								
		5							
		5	489	18					
		8	S@						
			15%						
Very Stiff Gray SILTY CLAY	222.12								
		2							
		5	230	17					
		6	B						
	-6.0								

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

BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 3/18/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart

SECTION 2002-113R LOCATION SEC. 33, TWP. 34, RNG. 14, 3rd PM

COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	_____ m	E	L	C	O
	P	O	S	I	Stream Bed Elev.	P	O	S	I
	T	W	S	T	Groundwater Elev.:	T	W	S	T
BORING NO.	H	S	Qu	T	First Encounter	H	S	Qu	T
Station	(150	(mm)	(kPa)	(%)	_____ m	(150	(mm)	(kPa)	(%)
Offset	mm)				Upon Completion	mm)			
Ground Surface Elev.	(m)				After _____ Hrs.	(m)			
Topsoil	226.25				Stiff to Hard Gray SILTY CLAY w/ trace pebbles (continued)	2			
Brown and Black SILTY CLAY				17		4	163	17	
	225.79			27		7	B		
Hard Mottled Brown-Gray SILTY CLAY wtrace Fine Sand		4			Grades wmore Sand				
		7	498	17		4			
		8	S@			6	359	14	
			15%			8	P		
	-1.5								
Grades to Brown wtrace pebbles		6				4			
		8	709	12		6	287	14	
		10	B			8	B		
					End of Boring				
	218.32								
		5							
		8	479	16					
		10	S@						
			15%						
	-3.0								
50mm Silt Seam @ 3.4m		4							
		7	498	17					
		9	B						
Stiff to Hard Gray SILTY CLAY w/ trace pebbles	222.74								
		3							
		5	249	20					
		6	S@						
			10%						
	-4.5								
Grades to Mottled Green-Gray 150mm Sandy Loam Seam @ 4.9m		4							
		6	412	15					
		7	B						
75mm Silt Seam @ 5.3m		3							
Grades to Gray		4	201	18					
		6	B						
	-6.0								

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

BBS, from 137 (Rev. 8-99)

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL RTE. 394 AT IL RTE. 1 NOISE ABATEMENT WALL SOIL BORINGS DRAWN BY JTT CHECKED BY BLB DATE 8/20/2009
	NAME	DATE	



Illinois Department
of Transportation
Division of Highways
Illinois Dept. of Transportation

SOIL BORING LOG

Page 1 of 1

Date 3/21/03

ROUTE FAP 332, ILL. RTE. 394 DESCRIPTION Noise Wall, IL 394 & Village Woods Drive LOGGED BY J. Stewart

SECTION 2002-113R LOCATION SEC. 33, TWP. 34, RNG. 14, 3rd PM

COUNTY Will DRILLING METHOD CME 750, 3.25" ID HSA HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station _____
BORING NO. B-13
Station 61+414
Offset 52.99m Rt CL
Ground Surface Elev. 227.42 m

D	B	U	M	Surface Water Elev.	D	B	U	M
E	L	C	O	_____ m	E	L	C	O
P	O	S	I	Stream Bed Elev.	P	O	S	I
T	W	S	S	_____ m	T	W	S	S
H	S	Qu	T	Groundwater Elev.:	H	S	Qu	T
(m)	(mm)	(kPa)	(%)	First Encounter _____ m	(m)	(150 mm)	(kPa)	(%)
				Upon Completion DRY _____ m				
				After _____ Hrs. _____ m				

Soil Description	Depth (m)	Blow Count (N)	Failure Mode	Soil Description	Depth (m)	Blow Count (N)	Failure Mode
Topsoil	227.19			Very Stiff Gray SILTY CLAY (continued)	4		
Stiff Dark Green SILTY CLAY			21		5	364	17
				End of Boring	8	B	
		1					
		3	125				
		3	B				
	226.05						
Very Stiff to Hard mottled Gray and Brown SILTY CLAY	-1.5				-7.5		
		3					
		5	374				17
		7	S @ 12%				
		5					
		7	699				17
		8	B				
	-3.0				-3.0		
Grades w trace pebbles		2					
		4	220				22
		7	B				
		6					
Grades to Brown		8	795				16
		12	B				
	-4.5				-4.5		
		5					
		9	594				18
		13	B				
	222.24						
Very Stiff Gray SILTY CLAY		4					
		6	354				17
		8	B				
	-6.0				-6.0		

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

BBS, from 137 (Rev. 8-99)

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL RTE. 394 AT IL RTE. 1 NOISE ABATEMENT WALL SOIL BORINGS DATE 8/20/2009
	NAME	DATE	
		DRAWN BY JTT CHECKED BY BLB	

Benchmark: Chiseled "□" on NW wingwall of S.N. 099-0183 (Southbound bridge). Elev. 728.94.

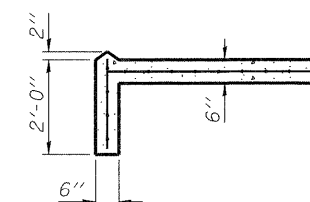
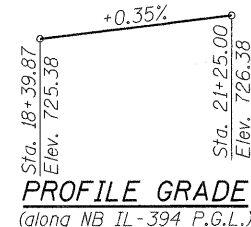
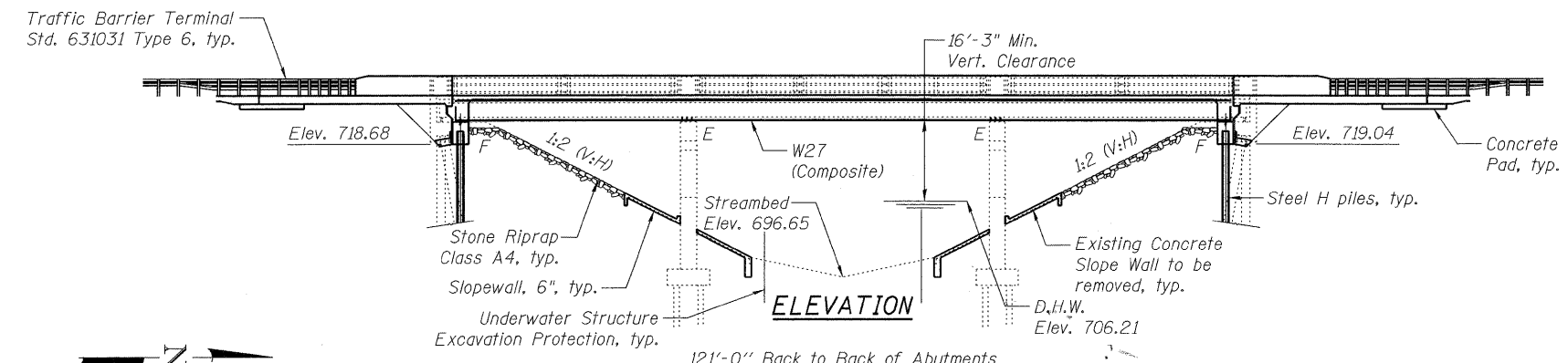
Existing Structure: The existing structure, number 099-0147, originally built in 1949 as F.A. Route 122, section 9-B. The structure was rehabilitated in 1974 as F.A. Route 122, section 0910-B. The existing structure consists of three span bridge, with reinforced concrete deck on continuous wide flange steel beams supported by pile bent abutments and multi-column piers. The existing structure is 128 ft back-to-back of abutments and 34.25 ft out-to-out of deck. Traffic will be crossed over to the southbound bridge (S.N. 099-0183) during construction.

Salvage: No salvage

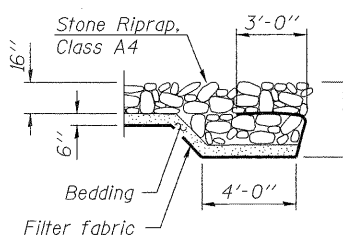
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

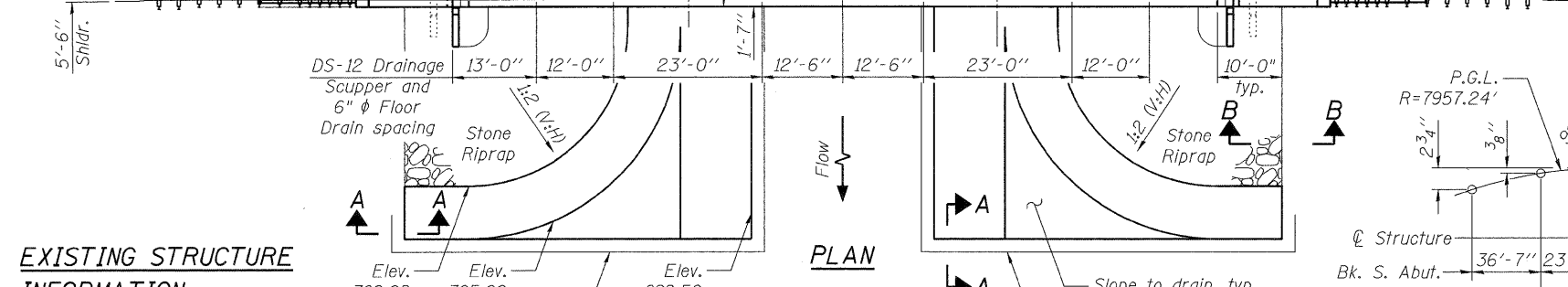
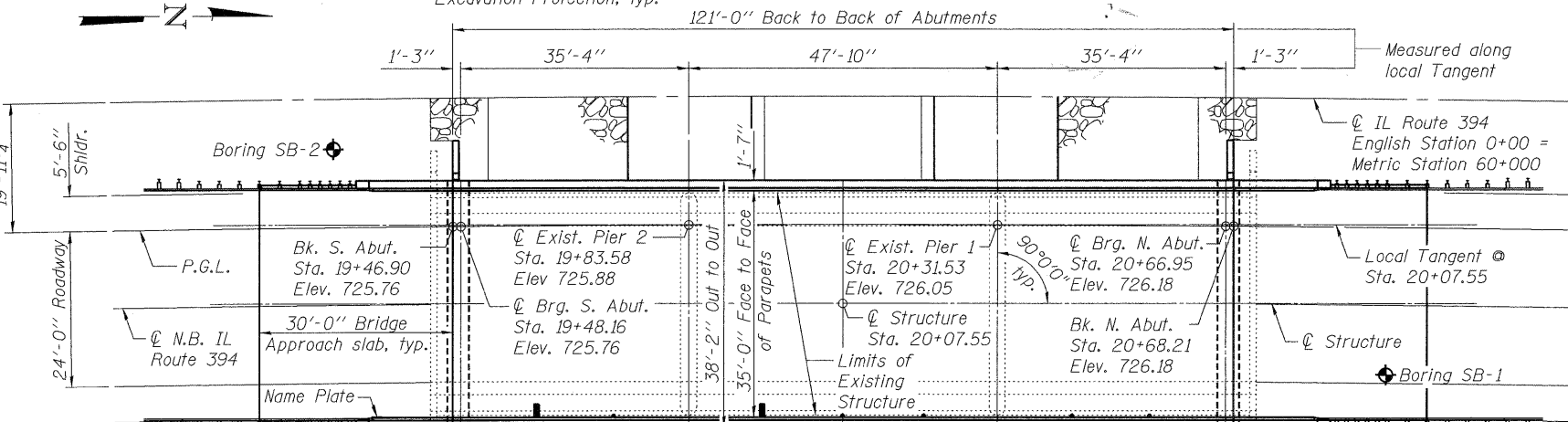
1. General Plan & Elevation
2. General Notes, Total Bill of Material and Section thru Abutment
3. Footing Layout
4. Top of Slab Elevations-1
5. Top of Slab Elevations-2
6. Top of Slab Elevations-3
7. Top of South Approach Slab Elevations
8. Top of North Approach Slab Elevations
9. Superstructure
10. Superstructure Details
11. Integral Abutment Diaphragm Details
12. Drainage Scupper Details
13. Framing Plan
14. Structural Steel Details
15. Bearing Details
16. South Abutment
17. North Abutment
18. Pier 2 Repairs
19. Pier 1 Repairs
20. HP Pile Details
21. Bar Splicer Assembly Details
22. Cantilever Forming Brackets
23. Bridge Approach Slab Details-1
24. Bridge Approach Slab Details-2
25. Soil Boring Logs-1
26. Soil Boring Logs-2



SECTION A-A



SECTION B-B



EXISTING STRUCTURE INFORMATION

Inventory: HS 20.6
Operating: HS 32.2
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

LOADING HL-93
Allow 25#/sq. ft. For future wearing surface.

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)
 $f_y = 36,000$ psi (M270 Grade 36)

EXISTING
 $f_c = 1,200$ psi (Concrete, Superstructure)
 $f_c = 800$ psi (Concrete, Substructure)
 $f_s = 20,000$ psi (Reinforcement)
 $n = 10$

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.095
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.157
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area=9.20 sq.mi. Low Grade Elev.=726.34 Exist./Prop. @ Sta. 20+07.55		Flood		Q		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.	
Freq. Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
10	350	129	129	705.60	0.20	0.20	705.80	705.80			
Design	50	500	153	706.21	0.26	0.26	706.47	706.47			
Base	100	540	161	706.41	0.28	0.28	706.69	706.69			
Overtopping	>500	-	-	-	-	-	-	-	-	-	
Max. Calc.	500	720	183	706.92	0.36	0.36	707.28	707.28			

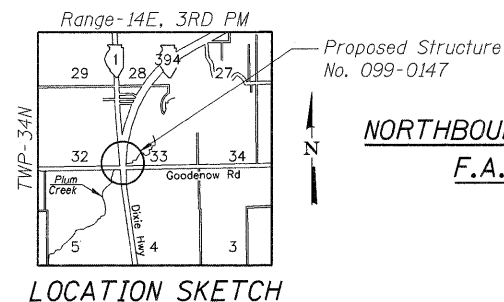
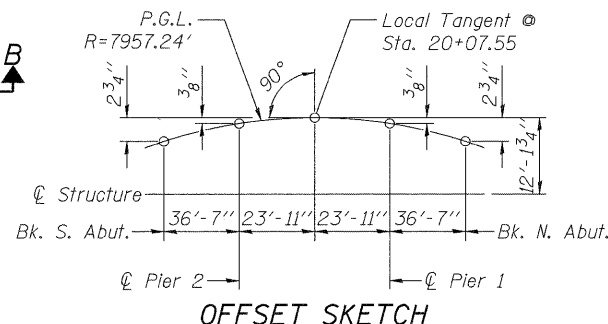
Max. H.W.E.: 709.0 (ft.) Date: 10/1954 Low Chord Elev.: 723.43

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	718.68	695.50	695.50	719.04

CURVE DATA

(@ IL Route 394)
 $\Delta = 39^\circ 01' 56''$ (RT)
 $D = 0.718^\circ$
 $T = 2827.40'$
 $L = 5434.40'$
 $E = 486.25'$
 $R = 7977.22'$
 $S.E. = 1.56\%$
 $P.C. = Sta. 2+74.87$
 $P.T. = Sta. 57+09.27$
 $P.I. = Sta. 31+02.27$



LOCATION SKETCH

APPROVED FOR STRUCTURAL ADEQUACY ONLY
Ghulam M. Kamal
KAMAL
081-006522
ENGINEER OF BRIDGES AND STRUCTURES

9/23/09

Ghulam M. Kamal
Licensed Structural Engineer
State of Illinois
Lic. No. 081-006522
Expires: 11-30-2010

STATION 20+07.55
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A. RTE. 332 SEC. 9B-1
LOADING HL-93
STR. NO. 099-0147

NAME PLATE

Locate Name Plate at Southeast Corner of Bridge (See Std. 515001)

Note:
Existing name plate shall be cleaned and relocated next to the new name plate. Cost included with name plates.

GENERAL PLAN
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
F.A.P. ROUTE 332 - SECTION 2002-113R

WILL COUNTY
STATION 20+07.55
STRUCTURE NO. 099-0147

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	332	2002-113R	WILL	26	146
26 SHEETS		SN-099-0147			
	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		CONTRACT NO. 62542

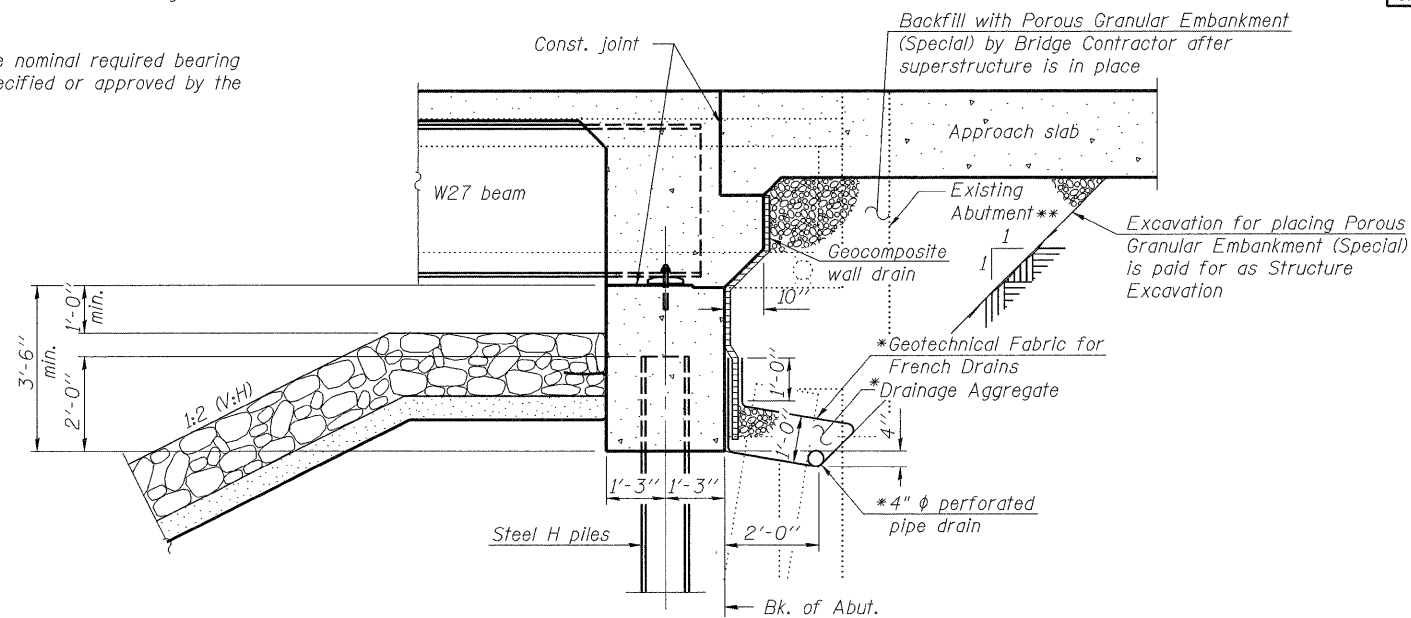
Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 810 Chicago, IL 60604-2002

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES:

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 72,550 pounds (AASHTO, M270, Grade 50), = 8,180 pounds (AASHTO, M270, Grade 36).
- 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. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 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 that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all 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 Special Provision for "Cleaning and Painting New Metal Structures".
- "Slip forming" of the concrete parapets is not allowed.
- The Contractor shall submit Structural Assessment Report(s) as required for the Contractor's means and methods of construction. "See Special Provisions"
- If the Contractor elects to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- The SSPC OPI Painting Contractor Certification is required for this contract.
- The Contractor shall Submit Structural Assessment Report(s) as required for the Contractor's means and methods of construction. See Special Provisions.



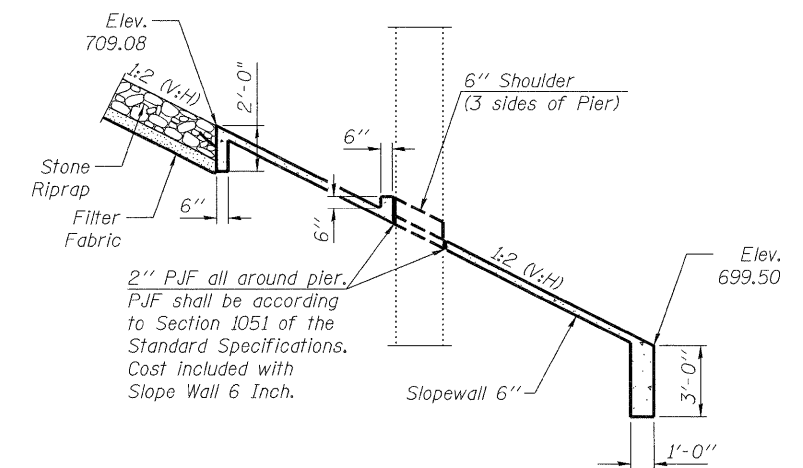
SECTION THRU INTEGRAL ABUTMENT

- * Included in the cost of Pipe Underdrains for Structures, 4".
- ** Remove Backwall and Abutment including top portion of Precast Concrete Piles to elevation 717.0. "Cost included with Removal of Existing Sub-Structures".

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Porous Granular Embankment, Special	Cu Yd	-	120	120
Stone Riprap, Class A4	Sq Yd	-	547	547
Filter Fabric	Sq Yd	-	547	547
Approach Slab Removal	Sq Yd	231	-	231
Removal of Existing Superstructures	Each	1	-	1
Slope Wall Removal	Sq Yd	-	459	459
Removal of Existing Sub-Structures	Each	-	2	2
Structure Excavation	Cu Yd	-	80	80
Floor Drains	Each	5	-	5
Concrete Structures	Cu Yd	-	61.9	61.9
Concrete Superstructure	Cu Yd	284	-	284
Bridge Deck Grooving	Sq Yd	471	-	471
Concrete Encasement	Cu Yd	-	4.2	4.2
Protective Coat	Sq Yd	575	-	575
Furnishing and Erecting Structural Steel	L Sum	0.8	-	0.8
Stud Shear Connectors	Each	3,078	-	3,078
Reinforcement Bars, Epoxy Coated	Pound	66,350	10,760	77,110
Bar Splicers	Each	70	-	70
Slope Wall 6 Inch	Sq Yd	-	517	517
Furnishing Steel Piles HP10x42	Foot	-	365	365
Driving Piles	Foot	-	365	365
Test Pile Steel HP10x42	Each	-	2	2
Name Plates	Each	1	-	1
Elastomeric Bearing Assembly, Type I	Each	12	-	12
Anchor Bolts, 1"	Each	24	-	24
Anchor Bolts, 1/4"	Each	24	-	24
Geocomposite Wall Drain	Sq Yd	-	48	48
Pipe Underdrains for Structures 4"	Foot	-	119	119
Drainage Scuppers, DS-12	Each	2	-	2
Structural Repair of Concrete (Depth Equal To or Less Than 5")	Sq Ft	-	84	84
Underwater Structure Excavation Protection - Location 1	Each	-	0.5	0.5
Underwater Structure Excavation Protection - Location 2	Each	-	0.5	0.5



**SECTION THRU
CONCRETE SLOPEWALL**

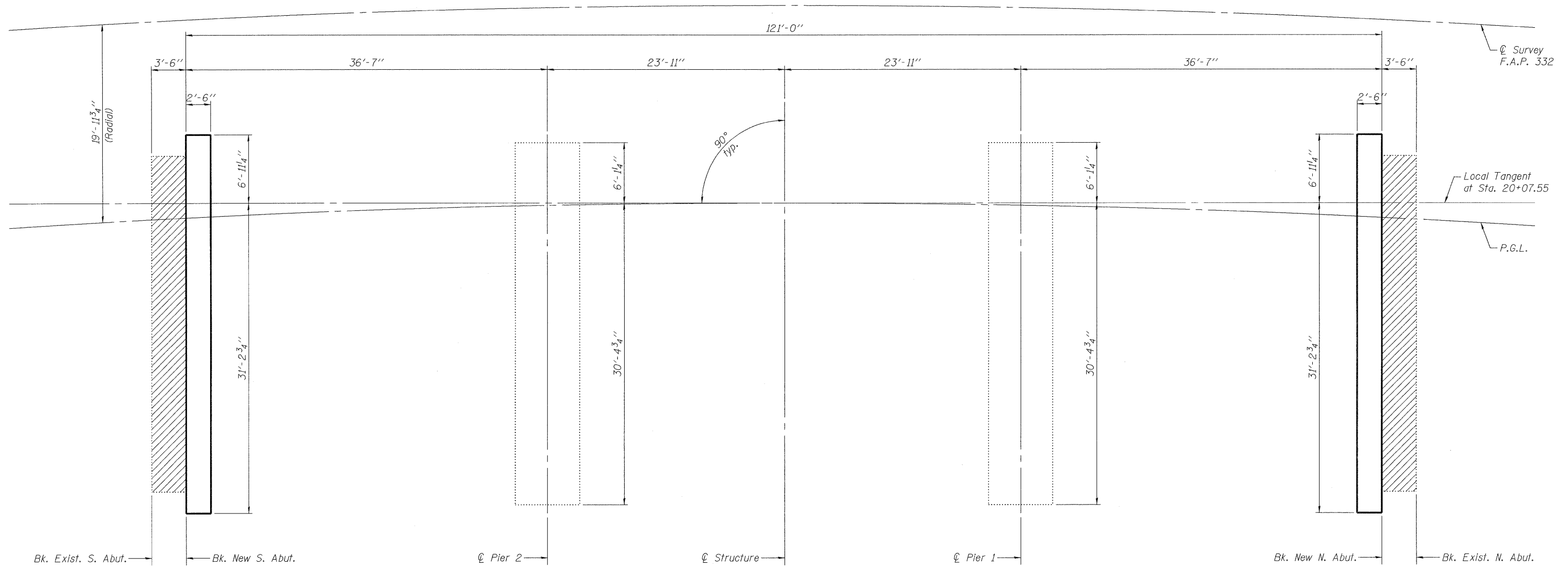
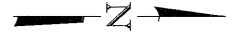
Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

**GENERAL NOTES, TOTAL BILL OF MATERIAL
AND SECTION THRU INTEGRAL ABUTMENT
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55**

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

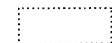
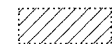

SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL		147
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

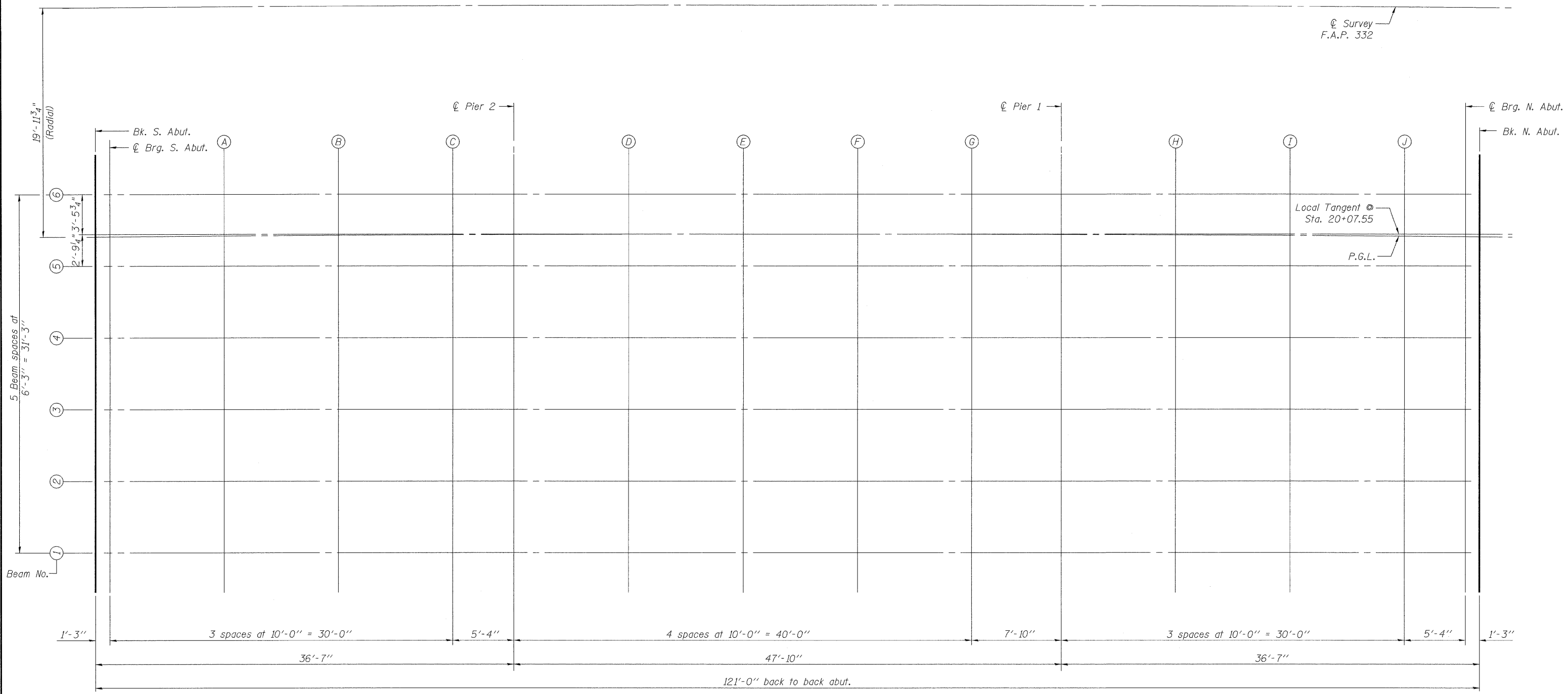
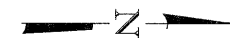
ITEM	UNIT	QUANTITY
Removal of Existing Sub-Structures	Each	2

-  Existing Structure
-  Removal of Existing Sub-Structures
-  New Construction

FOOTING LAYOUT
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 3 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	148
Delta Engineering, Inc. CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS 111 W. Jackson Blvd. Suite 900 Chicago, IL 60604-2001			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



PLAN

TOP OF SLAB ELEVATIONS-1
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK



SHEET NO. 4 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 149
	SN-099-0147			CONTRACT NO. 62542	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.69	27.54	725.32	725.32
☉ Brg. S. Abut.	19+47.94	27.55	725.33	725.33
A	19+58.00	27.62	725.36	725.37
B	19+68.06	27.68	725.40	725.40
C	19+78.12	27.72	725.43	725.43
☉ Brg. Pier 2	19+83.49	27.74	725.45	725.45
D	19+93.55	27.76	725.49	725.49
E	20+03.61	27.77	725.52	725.54
F	20+13.65	27.77	725.56	725.57
G	20+23.71	27.76	725.59	725.60
☉ Brg. Pier 1	20+31.59	27.74	725.62	725.62
H	20+41.65	27.70	725.65	725.66
I	20+51.71	27.65	725.69	725.70
J	20+61.77	27.59	725.73	725.73
☉ Brg. N. Abut.	20+67.13	27.55	725.75	725.75
Bk. N. Abut.	20+68.39	27.54	725.75	725.75

BEAM 2

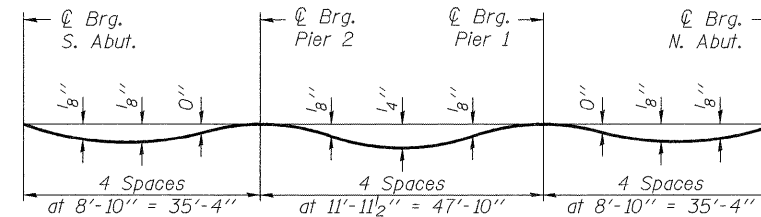
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.74	21.30	725.42	725.42
☉ Brg. S. Abut.	19+47.99	21.30	725.43	725.43
A	19+58.04	21.37	725.46	725.47
B	19+68.09	21.43	725.49	725.50
C	19+78.15	21.47	725.53	725.53
☉ Brg. Pier 2	19+83.51	21.49	725.55	725.55
D	19+93.56	21.51	725.58	725.59
E	20+03.61	21.52	725.62	725.64
F	20+13.64	21.52	725.65	725.67
G	20+23.70	21.51	725.69	725.69
☉ Brg. Pier 1	20+31.57	21.49	725.72	725.72
H	20+41.62	21.45	725.75	725.76
I	20+51.67	21.40	725.79	725.80
J	20+61.73	21.34	725.82	725.83
☉ Brg. N. Abut.	20+67.09	21.30	725.84	725.84
Bk. N. Abut.	20+68.34	21.30	725.85	725.85

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.78	15.05	725.52	725.52
☉ Brg. S. Abut.	19+48.04	15.05	725.52	725.52
A	19+58.08	15.12	725.56	725.56
B	19+68.13	15.18	725.59	725.60
C	19+78.17	15.22	725.63	725.63
☉ Brg. Pier 2	19+83.53	15.24	725.65	725.65
D	19+93.57	15.26	725.68	725.69
E	20+03.62	15.27	725.72	725.73
F	20+13.64	15.27	725.75	725.77
G	20+23.68	15.26	725.79	725.79
☉ Brg. Pier 1	20+31.55	15.24	725.81	725.81
H	20+41.60	15.20	725.85	725.85
I	20+51.64	15.15	725.89	725.89
J	20+61.68	15.09	725.92	725.93
☉ Brg. N. Abut.	20+67.04	15.05	725.94	725.94
Bk. N. Abut.	20+68.30	15.05	725.95	725.95

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.83	8.80	725.62	725.62
☉ Brg. S. Abut.	19+48.08	8.81	725.62	725.62
A	19+58.12	8.87	725.66	725.66
B	19+68.16	8.93	725.69	725.70
C	19+78.19	8.97	725.72	725.73
☉ Brg. Pier 2	19+83.55	8.99	725.74	725.74
D	19+93.58	9.01	725.78	725.79
E	20+03.62	9.02	725.81	725.83
F	20+13.63	9.02	725.85	725.86
G	20+23.67	9.01	725.88	725.89
☉ Brg. Pier 1	20+31.53	8.99	725.91	725.91
H	20+41.57	8.95	725.95	725.95
I	20+51.61	8.90	725.98	725.99
J	20+61.64	8.84	726.02	726.02
☉ Brg. N. Abut.	20+66.99	8.81	726.04	726.04
Bk. N. Abut.	20+68.25	8.80	726.04	726.04

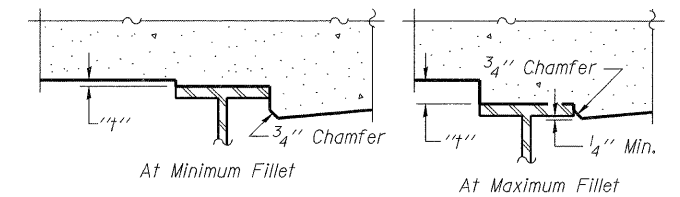


DEAD LOAD DEFLECTION DIAGRAM

(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.



FILLET HEIGHTS

To determine "f": 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 "f" above top flange of beams.

TOP OF SLAB ELEVATIONS-2

**NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55**

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

Note:

The stations provided in these tables are measured along the ☉ Survey F.A.P. 332.

The offsets provided in these tables are measured from the Northbound Profile Grade Line.

Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 W. Jackson Blvd., Suite 810 Chicago, IL 60604-2028

SHEET NO. 5 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	150
	SN-099-0147			CONTRACT NO. 62542	
	FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.88	2.55	725.72	725.72
⊕ Brg. S. Abut.	19+48.13	2.56	725.72	725.72
A	19+58.16	2.62	725.75	725.76
B	19+68.19	2.68	725.79	725.79
C	19+78.22	2.72	725.82	725.82
⊕ Brg. Pier 2	19+83.56	2.74	725.84	725.84
D	19+93.59	2.76	725.88	725.88
E	20+03.62	2.77	725.91	725.93
F	20+13.63	2.77	725.95	725.96
G	20+23.66	2.76	725.98	725.99
⊕ Brg. Pier 1	20+31.51	2.74	726.01	726.01
H	20+41.54	2.70	726.04	726.05
I	20+51.57	2.65	726.08	726.09
J	20+61.60	2.59	726.12	726.12
⊕ Brg. N. Abut.	20+66.95	2.56	726.14	726.14
Bk. N. Abut.	20+68.20	2.55	726.14	726.14

PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.90	0.00	725.76	725.76
⊕ Brg. S. Abut.	19+48.15	0.00	725.76	725.76
A	19+58.20	0.00	725.80	725.80
B	19+68.24	0.00	725.83	725.84
C	19+78.29	0.00	725.87	725.87
⊕ Brg. Pier 2	19+83.57	0.00	725.88	725.88
D	19+93.62	0.00	725.92	725.93
E	20+03.67	0.00	725.95	725.97
F	20+13.69	0.00	725.99	726.01
G	20+23.72	0.00	726.02	726.03
⊕ Brg. Pier 1	20+31.51	0.00	726.05	726.05
H	20+41.53	0.00	726.09	726.09
I	20+51.56	0.00	726.12	726.13
J	20+61.58	0.00	726.16	726.16
⊕ Brg. N. Abut.	20+66.93	0.00	726.18	726.18
Bk. N. Abut.	20+68.18	0.00	726.18	726.18

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+46.93	-3.71	725.81	725.81
⊕ Brg. S. Abut.	19+48.18	-3.70	725.82	725.82
A	19+58.20	-3.63	725.85	725.86
B	19+68.22	-3.57	725.89	725.89
C	19+78.24	-3.53	725.92	725.92
⊕ Brg. Pier 2	19+83.58	-3.51	725.94	725.94
D	19+93.60	-3.49	725.97	725.98
E	20+03.63	-3.48	726.01	726.03
F	20+13.62	-3.48	726.04	726.06
G	20+23.65	-3.49	726.08	726.09
⊕ Brg. Pier 1	20+31.50	-3.51	726.11	726.11
H	20+41.52	-3.55	726.14	726.15
I	20+51.54	-3.60	726.18	726.19
J	20+61.56	-3.66	726.21	726.22
⊕ Brg. N. Abut.	20+66.90	-3.70	726.23	726.23
Bk. N. Abut.	20+68.15	-3.71	726.24	726.24

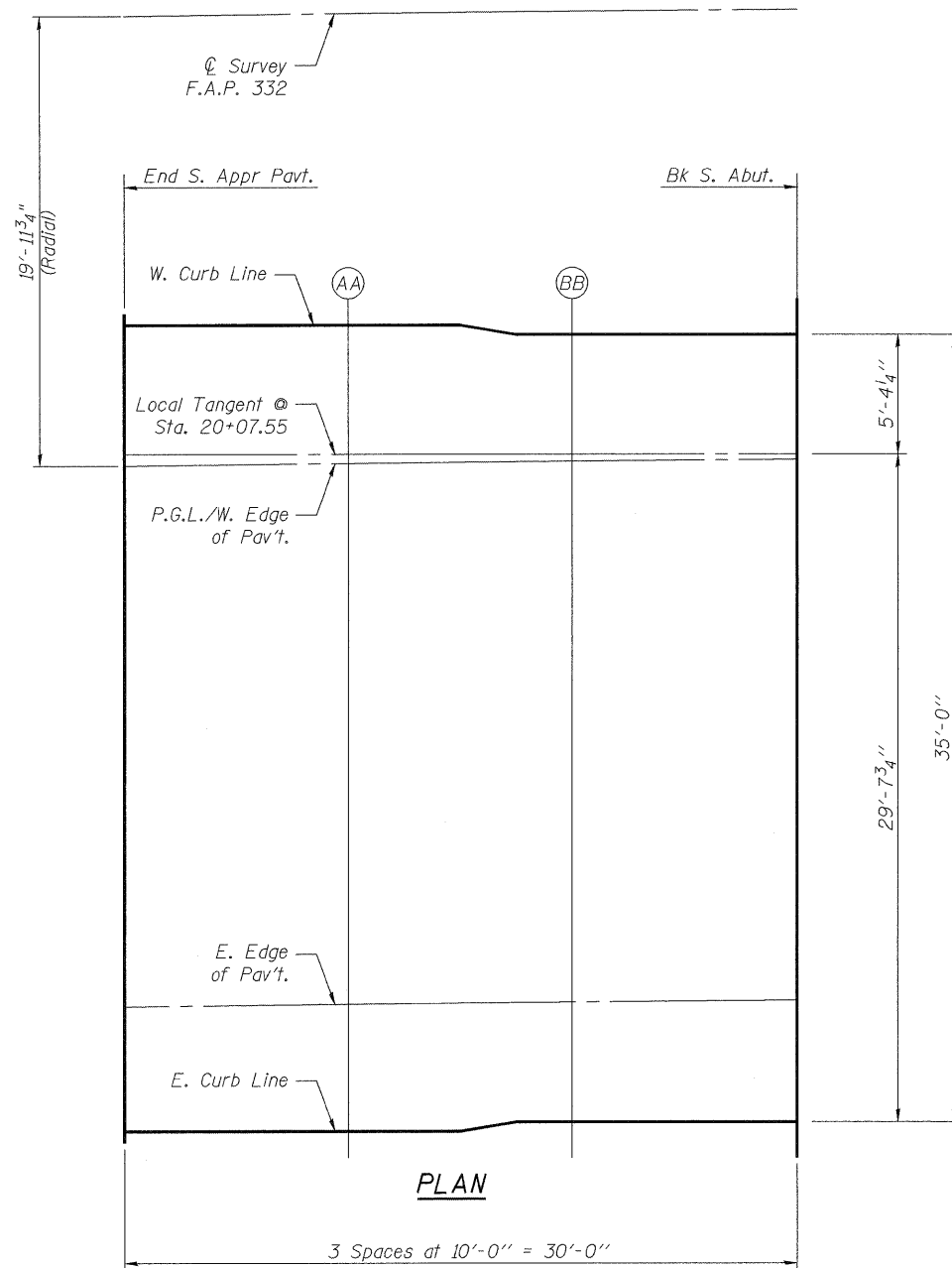
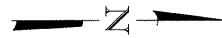
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

TOP OF SLAB ELEVATIONS-3
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	151
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't	19+16.89	-6.27	725.75
AA	19+26.91	-6.16	725.78
BB	19+36.92	-5.65	725.81
Bk. S. Abut.	19+46.94	-5.57	725.84

P.G.L. / WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't	19+16.82	0.00	725.65
AA	19+26.85	0.00	725.69
BB	19+36.87	0.00	725.72
Bk. S. Abut.	19+46.90	0.00	725.76

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't	19+16.55	24.02	725.27
AA	19+26.60	24.02	725.31
BB	19+36.66	24.02	725.34
Bk. S. Abut.	19+46.71	24.01	725.38

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't	19+16.48	29.56	725.19
AA	19+26.54	29.67	725.22
BB	19+36.61	29.35	725.26
Bk. S. Abut.	19+46.67	29.43	725.30

PLAN

3 Spaces at 10'-0" = 30'-0"

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

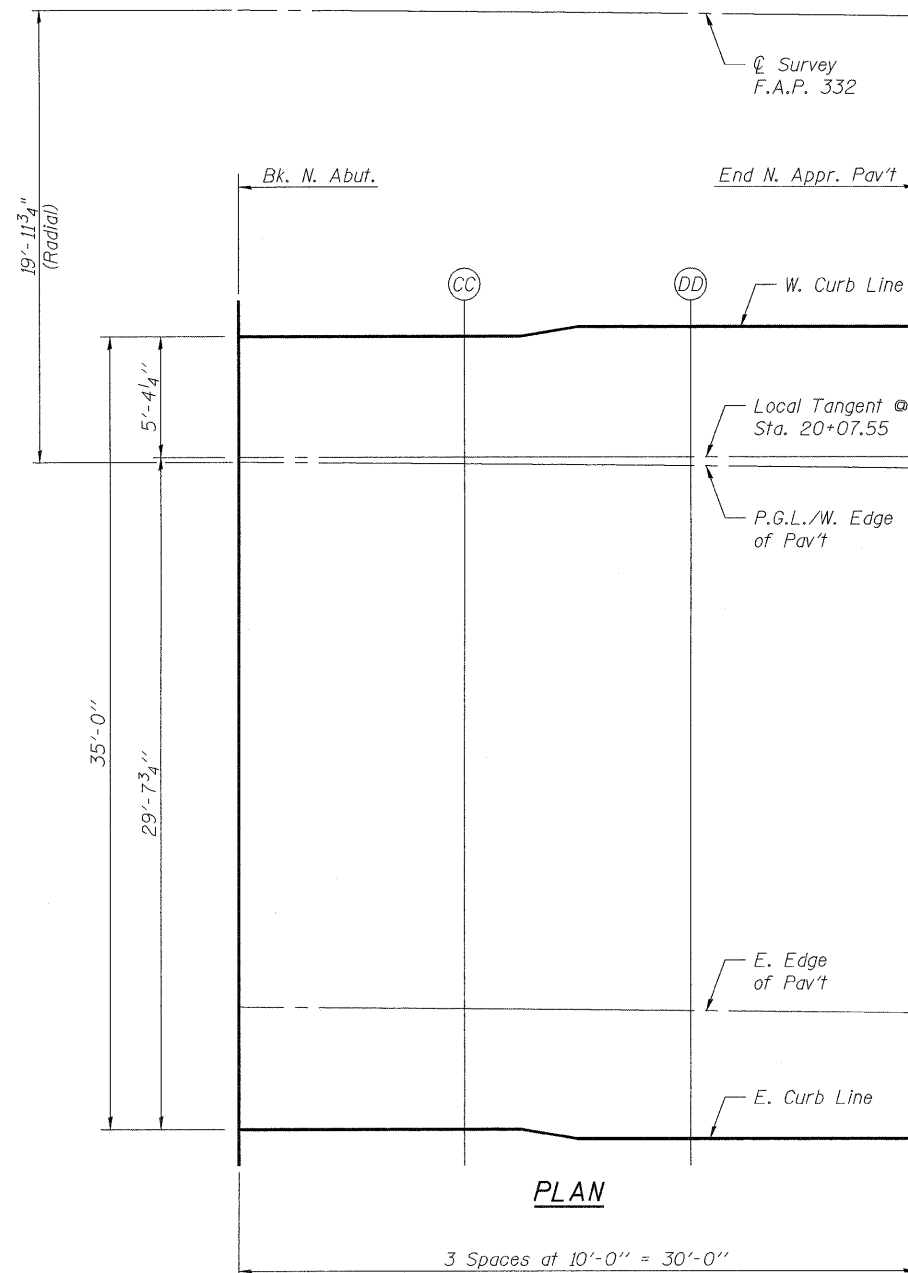
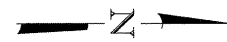
Note:
The stations provided in these tables are measured along the \odot Survey F.A.P. 332.
The offsets provided in these tables are measured from the Northbound Profile Grade Line.

TOP OF SOUTH APPROACH SLAB ELEVATIONS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 7 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	152
	SN-099-0147			CONTRACT NO. 62542	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	20+68.14	-5.57	726.27
CC	20+78.16	-5.65	726.30
DD	20+88.17	-6.16	726.35
End N. Appr. Pav't	20+98.19	-6.27	726.38

P.G.L. / WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	20+68.18	0.00	726.18
CC	20+78.21	0.00	726.22
DD	20+88.23	0.00	726.25
End N. Appr. Pav't	20+98.26	0.00	726.29

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	20+68.36	24.01	725.81
CC	20+78.42	24.02	725.84
DD	20+88.48	24.02	725.88
End N. Appr. Pav't	20+98.53	24.02	725.91

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	20+68.41	29.43	725.72
CC	20+78.47	29.35	725.76
DD	20+88.53	29.67	725.79
End N. Appr. Pav't	20+98.60	29.56	725.82

Note:

The stations provided in these tables are measured along the Survey F.A.P. 332.
The offsets provided in these tables are measured from the Northbound Profile Grade Line.

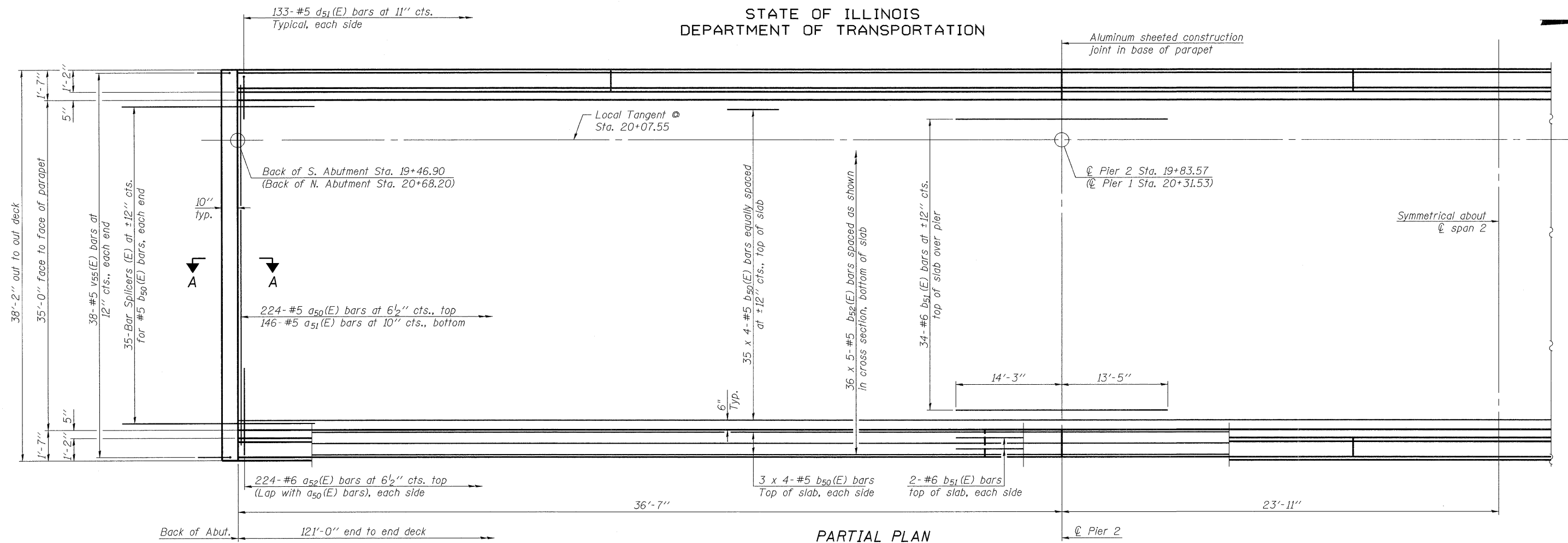
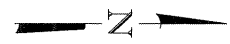
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

TOP OF NORTH APPROACH SLAB ELEVATIONS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 8 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 153
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

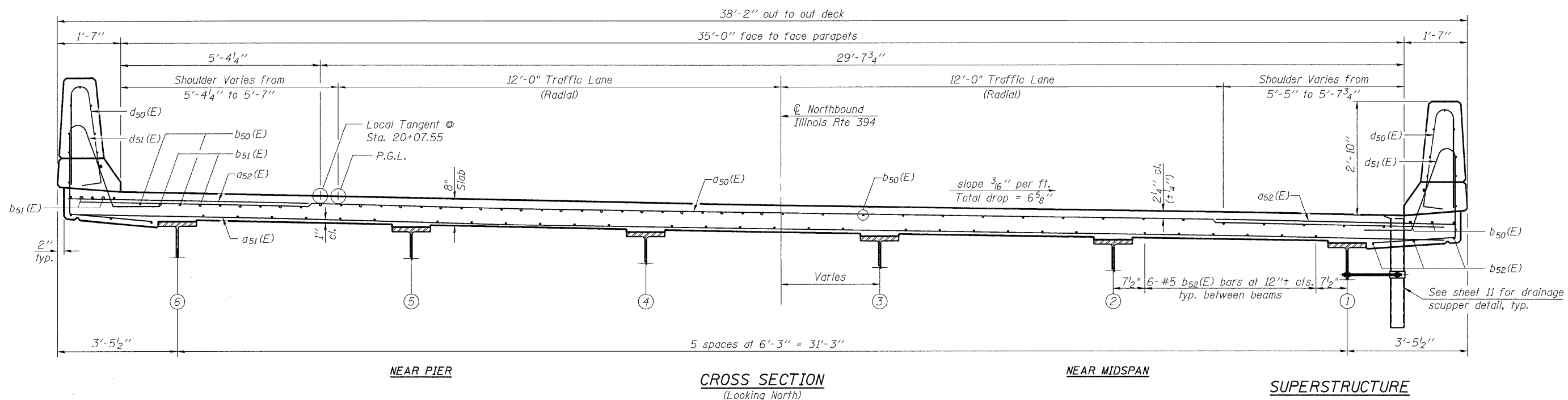


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL PLAN

MINIMUM BAR LAP
#5 bar = 1'-8"



CROSS SECTION
(Looking North)

SUPERSTRUCTURE
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

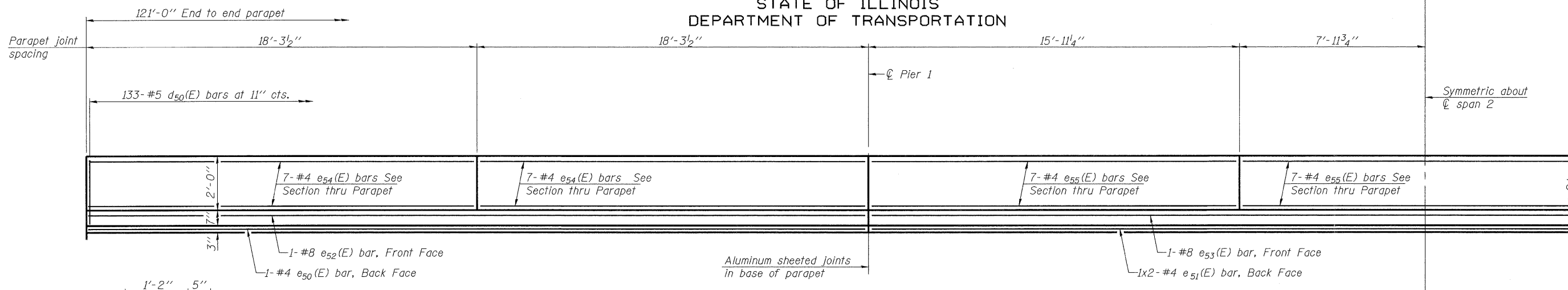
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

Notes:
See Sheet 10 of 26 for superstructure details and Bill of Material.
Bars indicated thus 32x4-#5 etc. indicates 32 lines of bars with 4 lengths per line.
See Sheet 10 of 26 for parapet reinforcement.
See Sheet 11 of 26 for Scupper and Floor Drain locations.

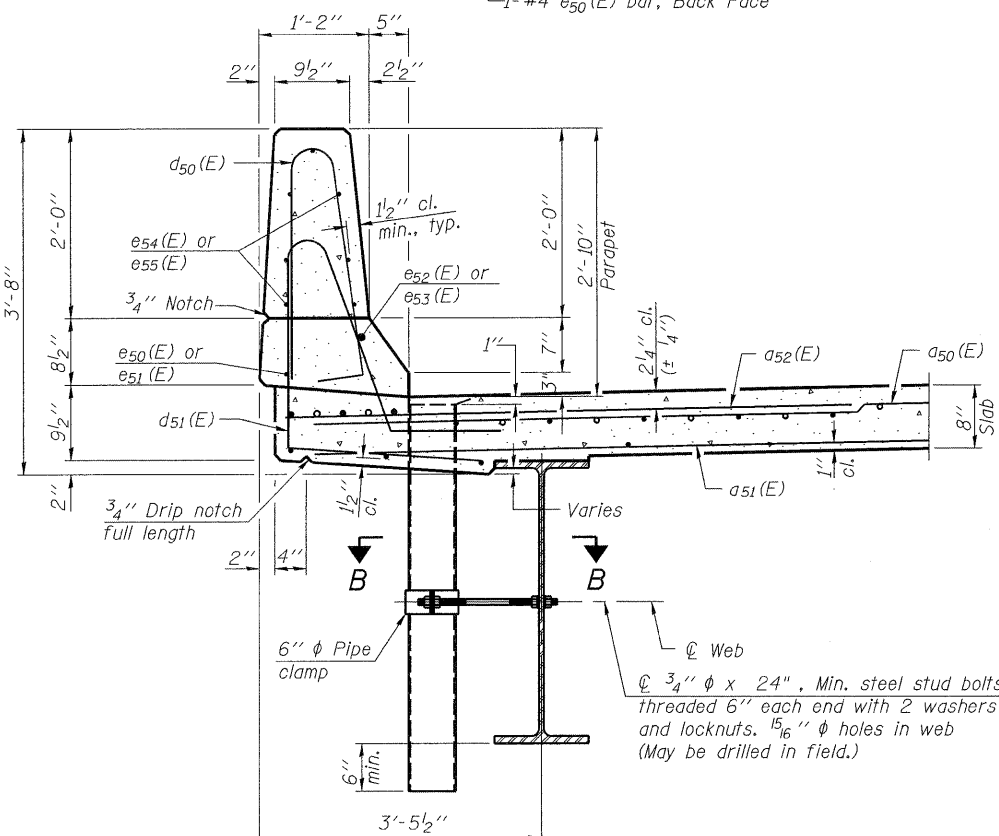


SHEET NO. 9 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 154
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

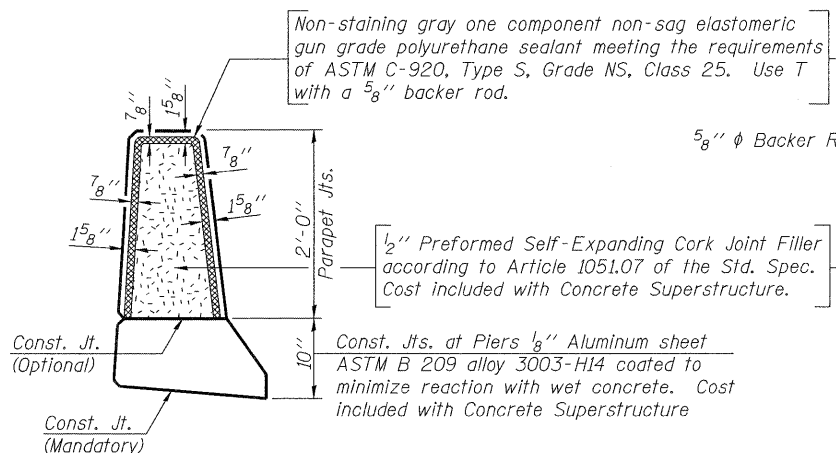
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET



PARAPET JOINT DETAILS

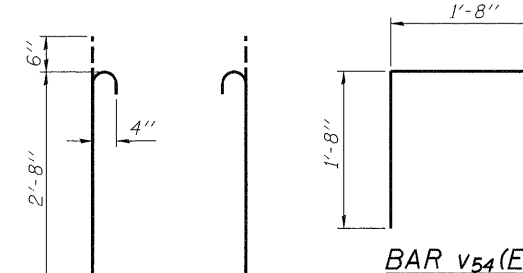
Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Drains shall be located clear of all diaphragms.

MINIMUM BAR LAP
#4 bar = 1'-8"

SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a50(E)	224	#5	37'-7"	—
a51(E)	146	#5	36'-11"	—
a52(E)	448	#6	6'-0"	—
a53(E)	16	#5	2'-0"	—
b50(E)	164	#5	31'-6"	—
b51(E)	76	#6	27'-8"	—
b52(E)	180	#5	25'-6"	—
d50(E)	266	#5	5'-7"	⌒
d51(E)	266	#5	8'-2"	⌒
e50(E)	4	#4	36'-4"	—
e51(E)	4	#4	24'-8"	—
e52(E)	4	#8	36'-4"	—
e53(E)	2	#8	47'-7"	—
e54(E)	56	#4	18'-0"	—
e55(E)	42	#4	15'-8"	—
s50(E)	72	#4	8'-6"	⌒
s51(E)	82	#5	5'-5"	⌒
m50(E)	24	#6	9'-0"	—
m51(E)	10	#6	37'-11"	—
m52(E)	10	#6	6'-0"	—
m53(E)	4	#6	3'-2"	—
v55(E)	76	#5	3'-4"	⌒
Reinforcement Bars, Epoxy Coated		Pound	40,480	
Concrete Superstructure		Cu. Yds.	169	
Bar Splicers		Each	70	

BAR s51(E)

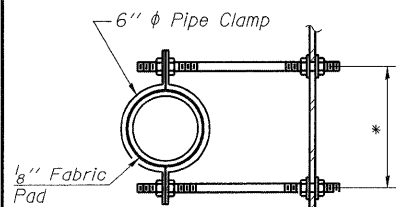


BAR s50(E)

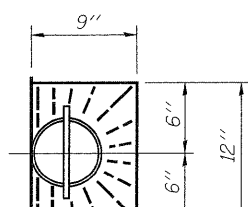
BAR v54(E)

SUPERSTRUCTURE DETAILS

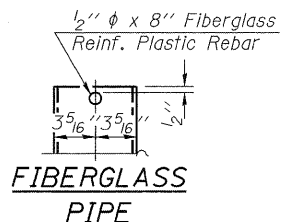
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55



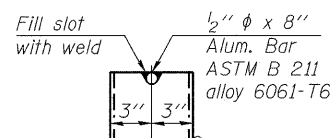
SECTION B-B
*Dimension as required by Pipe Clamp



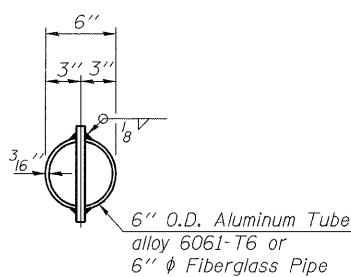
TOP PLAN



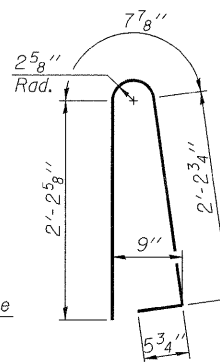
FIBERGLASS PIPE



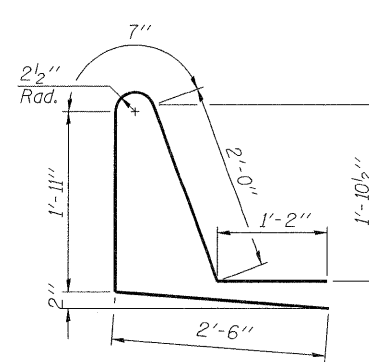
ALUMINUM TUBE



TOP PLAN
(Showing Aluminum Tube)



BAR d50(E)

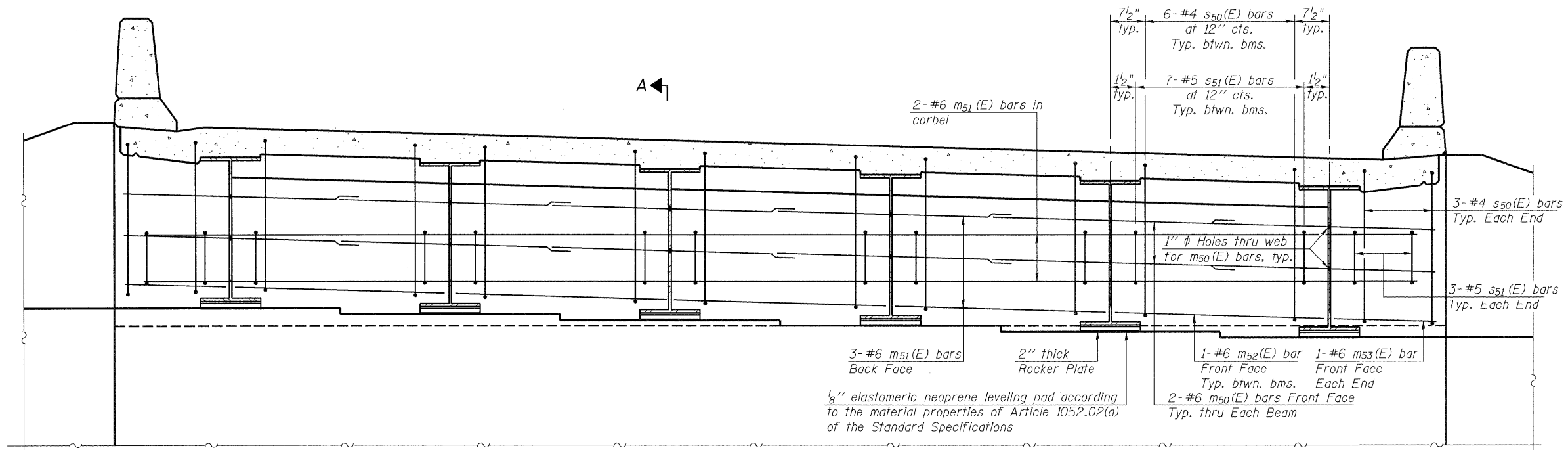


BAR d51(E)

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

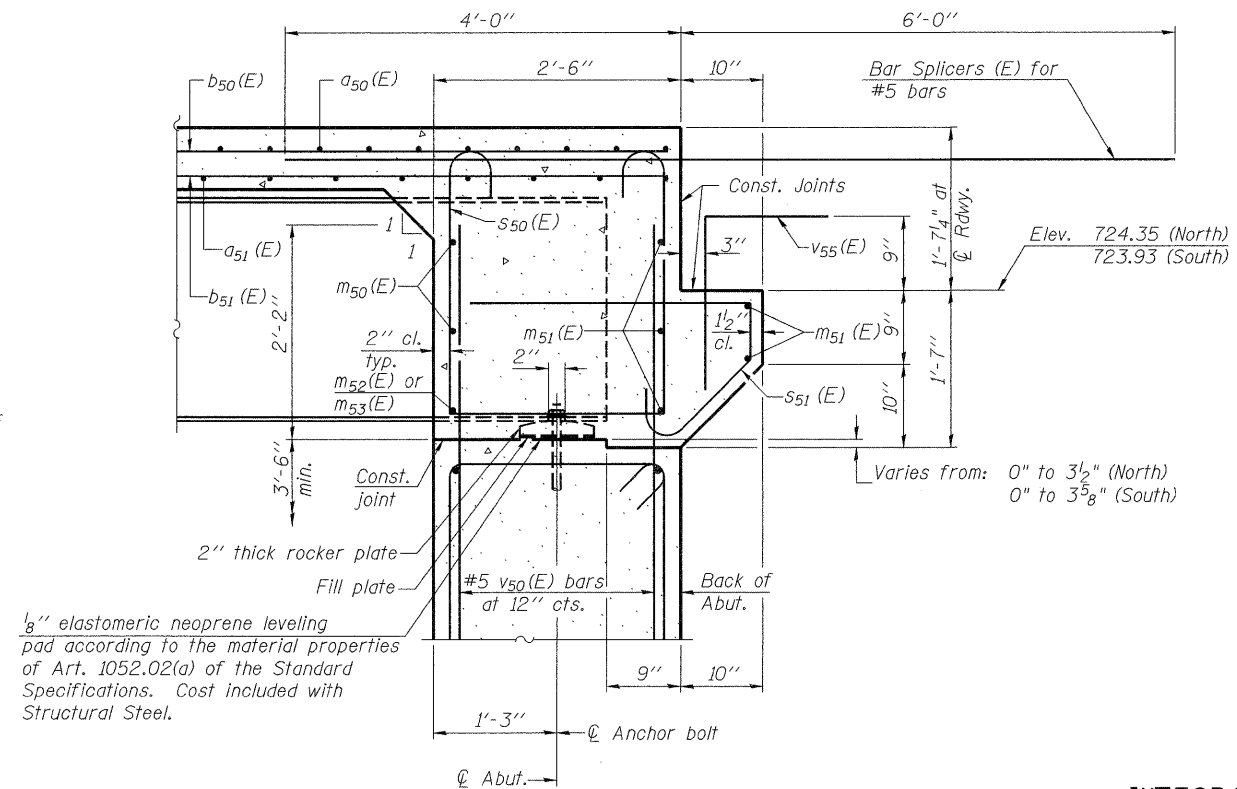
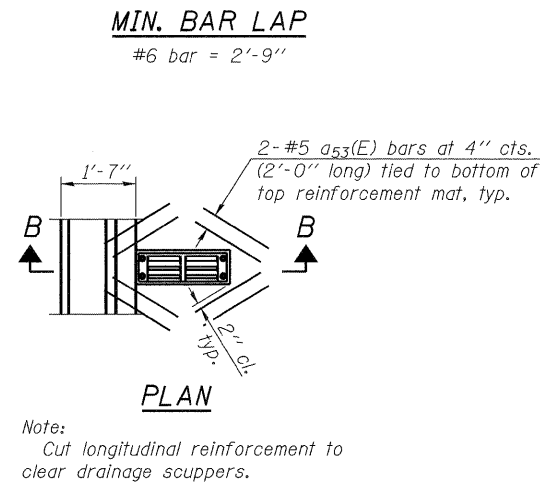
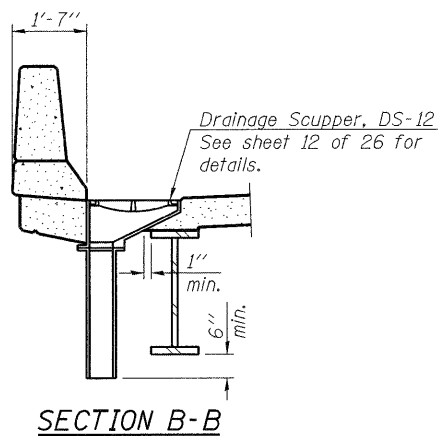
SHEET NO. 10 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 155
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 26.
Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 26.
For details of bars $s^{50}(E)$ & $s^{51}(E)$ see sheet 10 of 26.



SECTION A-A

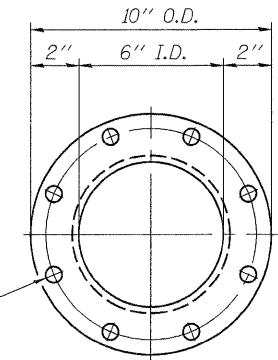
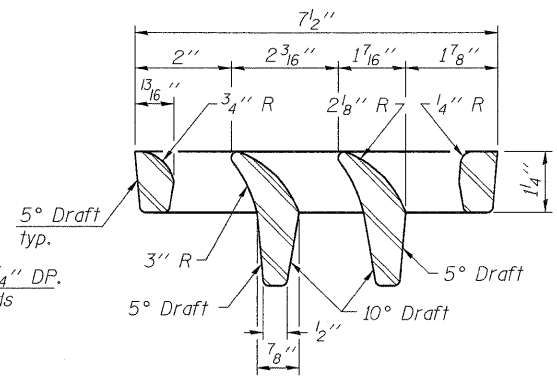
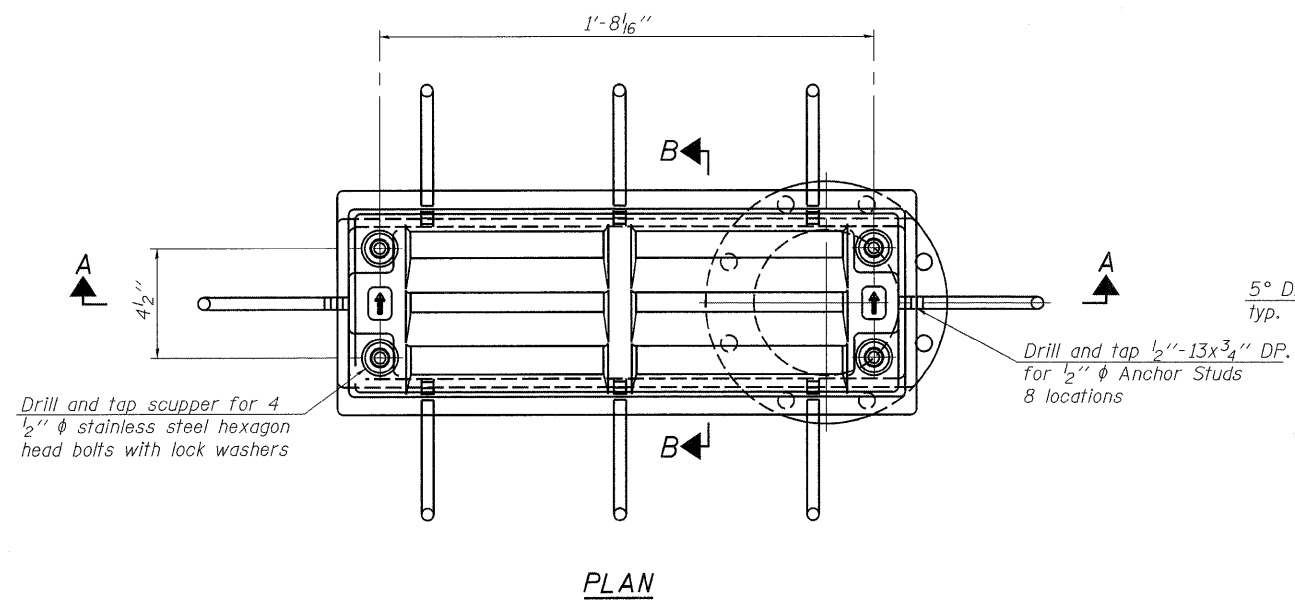
INTEGRAL ABUTMENT DIAPHRAGM DETAILS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

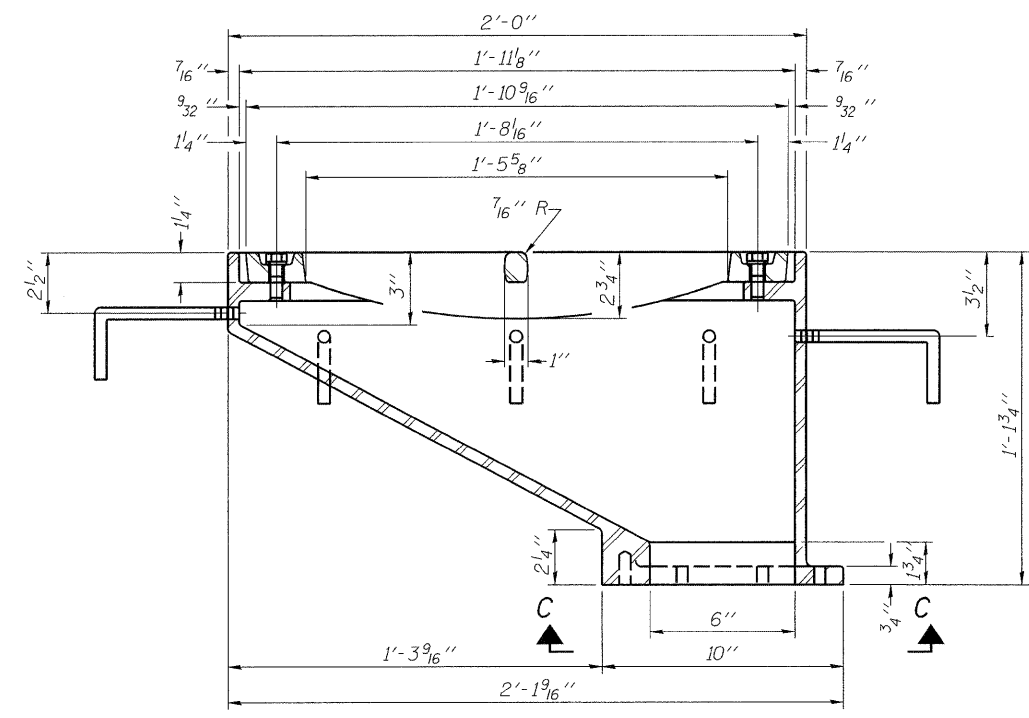
DEI Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 510 Chicago, IL 60604-2001

SHEET NO. 11	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	156
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

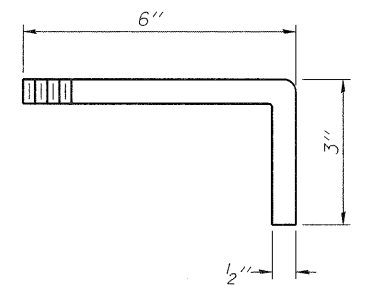
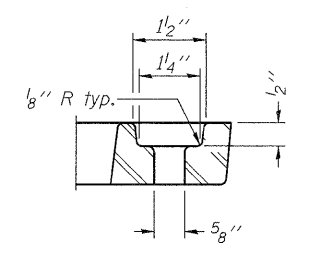
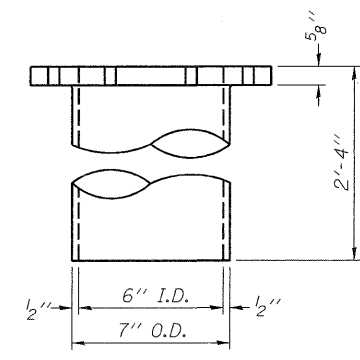
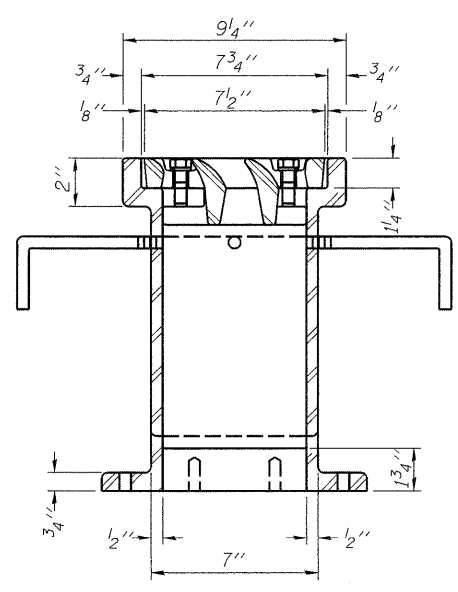
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



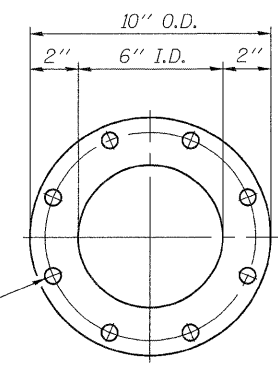
Notes:
All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
Downspouts located on the exterior side of a painted steel 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-12.
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.



See sheet of for scupper location relative to parapet.



Drill and tap 8 holes for 1/2"-13 bolts on an 8 3/4" φ bolt circle. (2 blind holes are 1 1/4" deep, 6 thru holes)



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	2

DRAINAGE SCUPPER, DS-12 DETAILS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

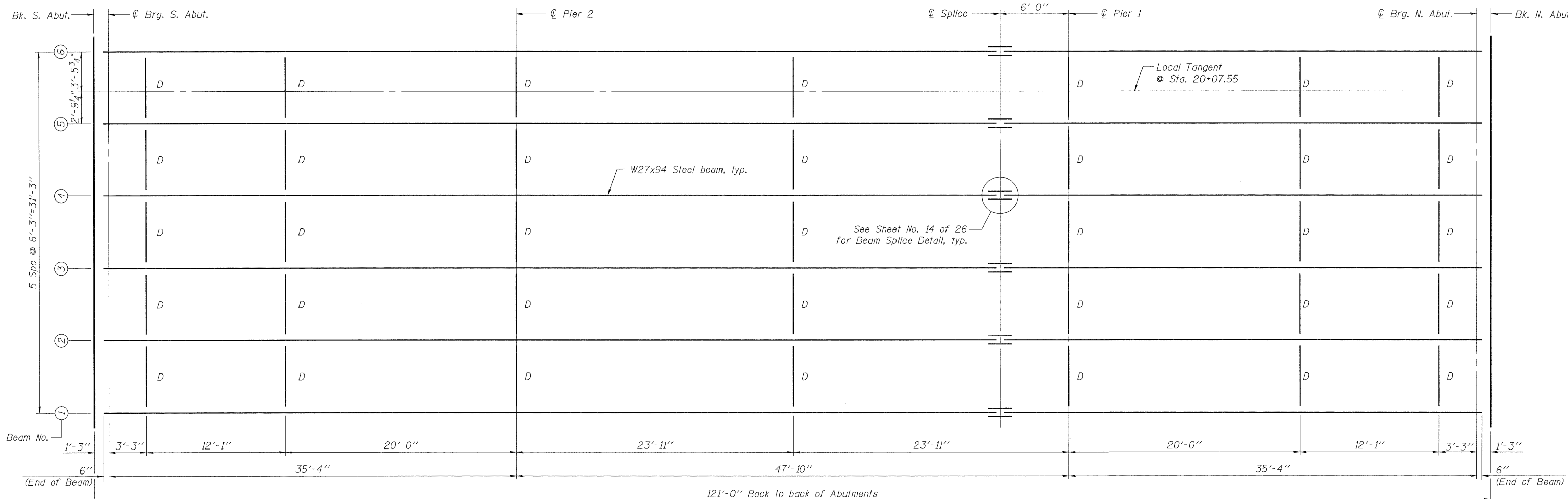
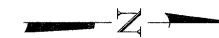
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CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

DS-12 10-1-08

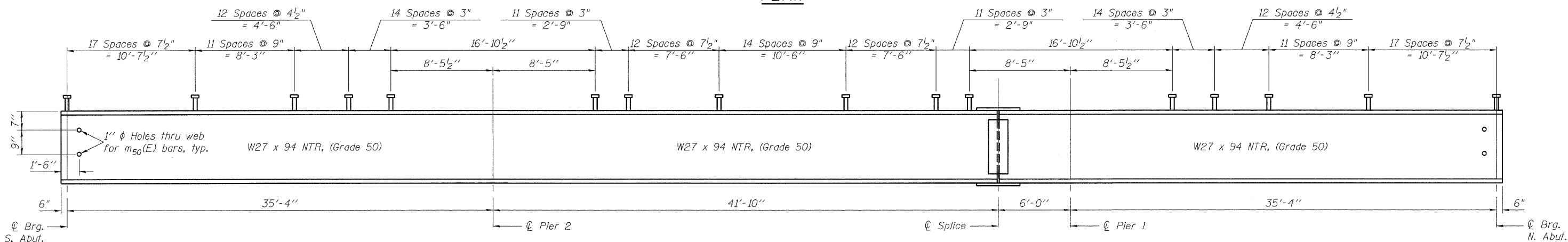
SHEET NO. 12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	157
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



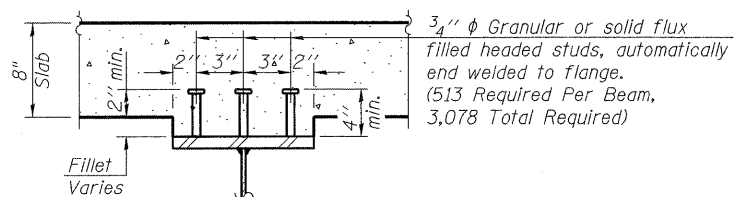
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



BEAM ELEVATION



SECTION A-A

NOTES:

- 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.
- "D" - Denotes Interior Diaphragm. See Sheet 14 of 26 for Details
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

FRAMING PLAN
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 13 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	158
SN-099-0147			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Sp. 2
I_s	(in ⁴)	3270	3270
$I_c(n)$	(in ⁴)	10185	10185
$I_c(3n)$	(in ⁴)	7518	7518
S_s	(in ³)	243	243
$S_c(n)$	(in ³)	383	383
$S_c(3n)$	(in ³)	345	345
Z	(in ³)	278	278
DC1	(k/')	0.778	0.778
M _{DC1}	(k)	61.3	84.4
DC2	(k/')	0.15	0.15
M _{DC2}	(k)	14.6	23.4
DW	(k/')	0.145	0.145
M _{DW}	(k)	14.1	22.6
M _{ℓ + IM}	(k)	344.7	416.9
M _u (Strength I)	(k)	719.3	898.2
* $\phi_r M_n, \phi_r M_{nc}$	(k)	1977.0	1977.0
f_s DC1	(ksi)	3.0	4.2
f_s DC2	(ksi)	0.5	0.8
f_s DW	(ksi)	0.5	0.8
f_s 1.3(ℓ + IM)	(ksi)	14.0	17.0
f_s (Service II)	(ksi)	18.0	22.8
** f_s (Total)(Strength I)	(ksi)	-	-
V _r	(k)	13.3	12.8

* Compact sections
** Non-Compact and slender sections

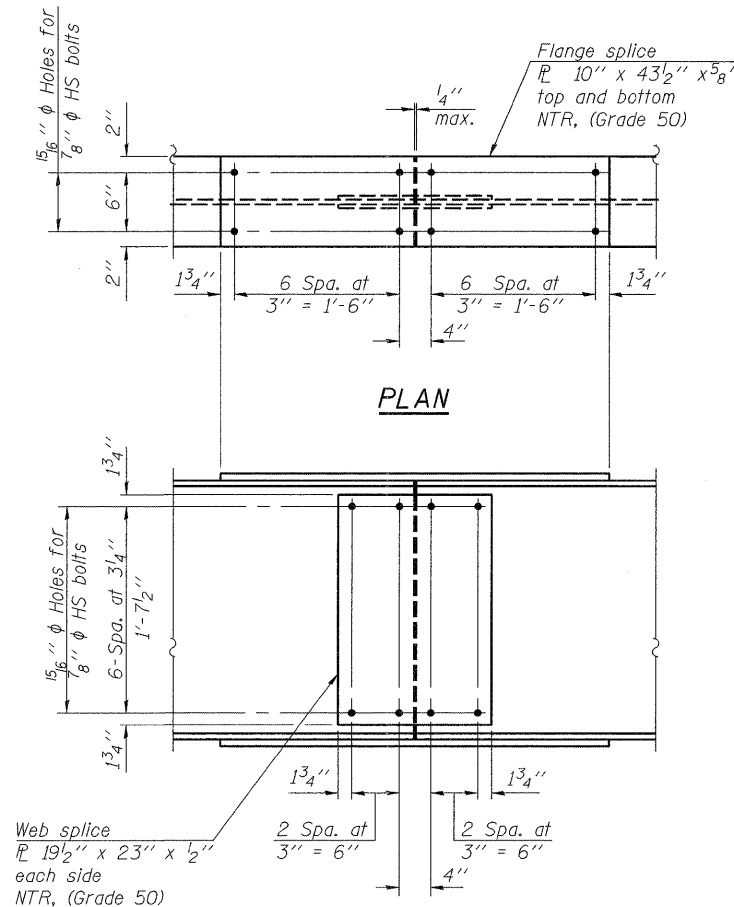
INTERIOR GIRDER REACTION TABLE		
	Abutments	Piers
R _{DC1}	(k)	9.8
R _{DC2}	(k)	2.1
R _{DW}	(k)	2.0
R _{ℓ + IM}	(k)	55.9
R _{Total}	(k)	69.8

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 (in⁴ and in³).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).
 $I_c(3n), S_c(3n)$: 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) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z : Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in³).
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}
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
 f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{ℓ + IM}
 f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{ℓ + IM}
V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

TOP OF BEAM ELEVATIONS

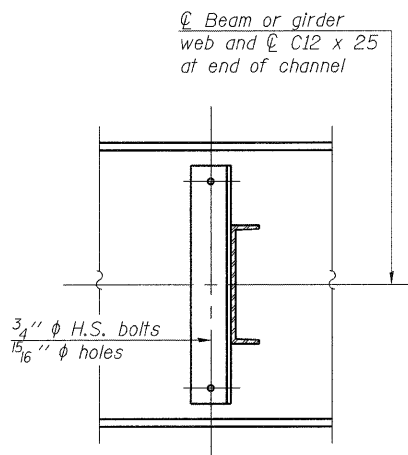
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. South Abutment	724.58	724.68	724.77	724.87	724.97	725.07
℄ Brg. Pier 2	724.68	724.78	724.88	724.97	725.07	725.17
℄ Splice	724.80	724.90	725.00	725.09	725.19	725.29
℄ Brg. Pier 1	724.83	724.93	725.02	725.12	725.22	725.32
℄ Brg. North Abutment	725.00	725.09	725.19	725.29	725.39	725.48

Note: Top of Beam Elevations shown are for fabrication use only.

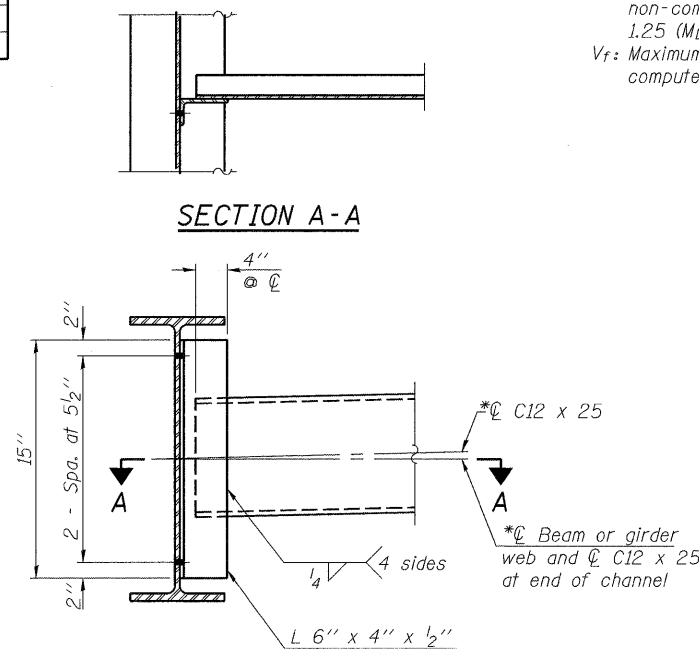


ELEVATION

SPLICE DETAIL
(12 Required)



ELEVATION



INTERIOR DIAPHRAGM
(35 Required)

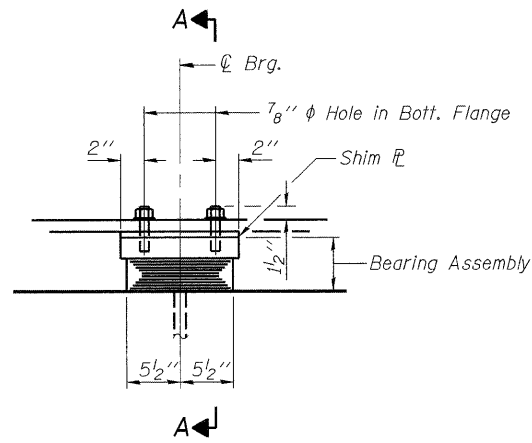
Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

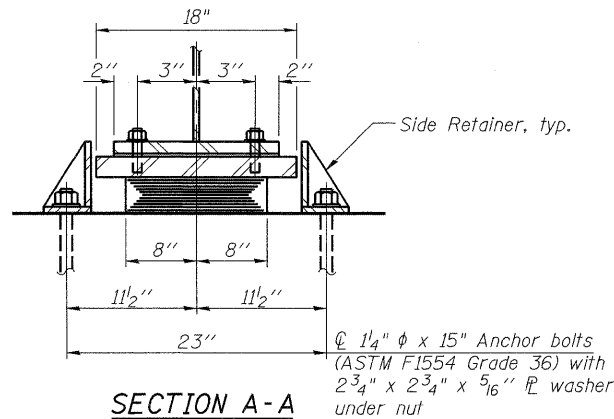
STRUCTURAL STEEL DETAILS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 14	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26 SHEETS	332	2002-113R	WILL	242	159
SN-099-0147			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

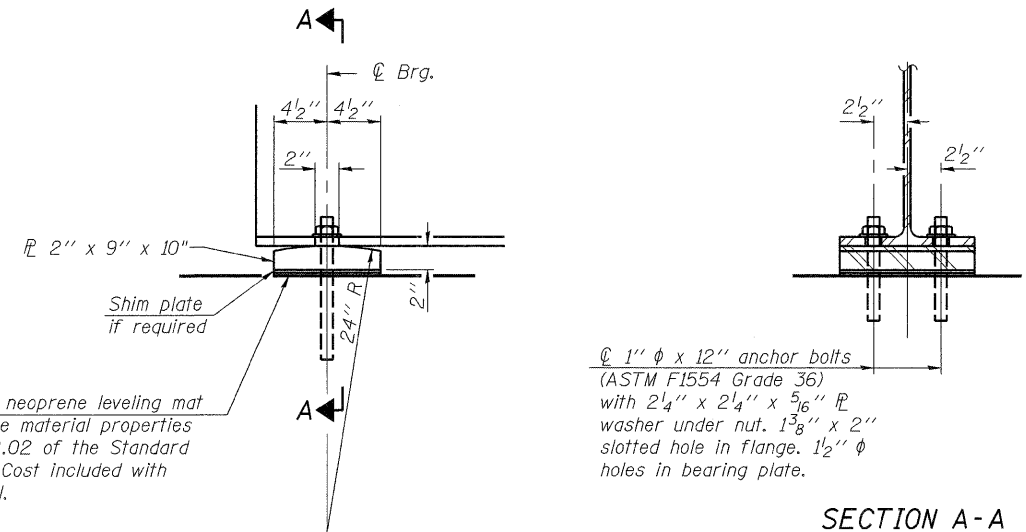
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT PIERS

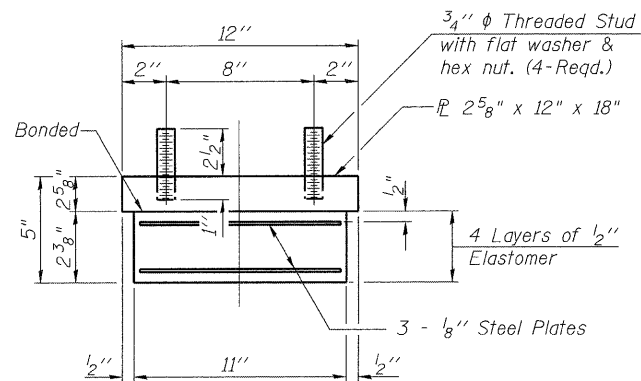


SECTION A-A



SECTION A-A

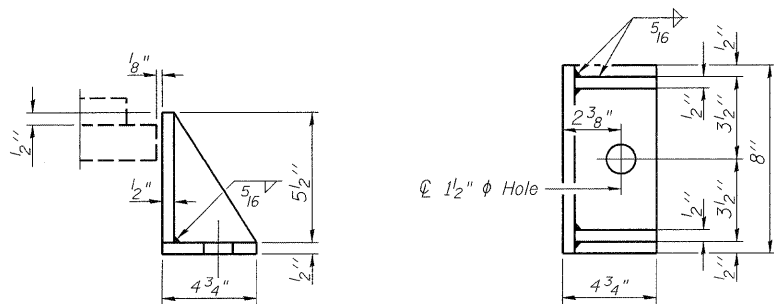
TYPE I ELASTOMERIC EXP. BRG.
(12 Required)



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 bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
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 RETAINER

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

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

FIXED BEARING AT ABUTMENTS
(12 Required)

BILL OF MATERIAL

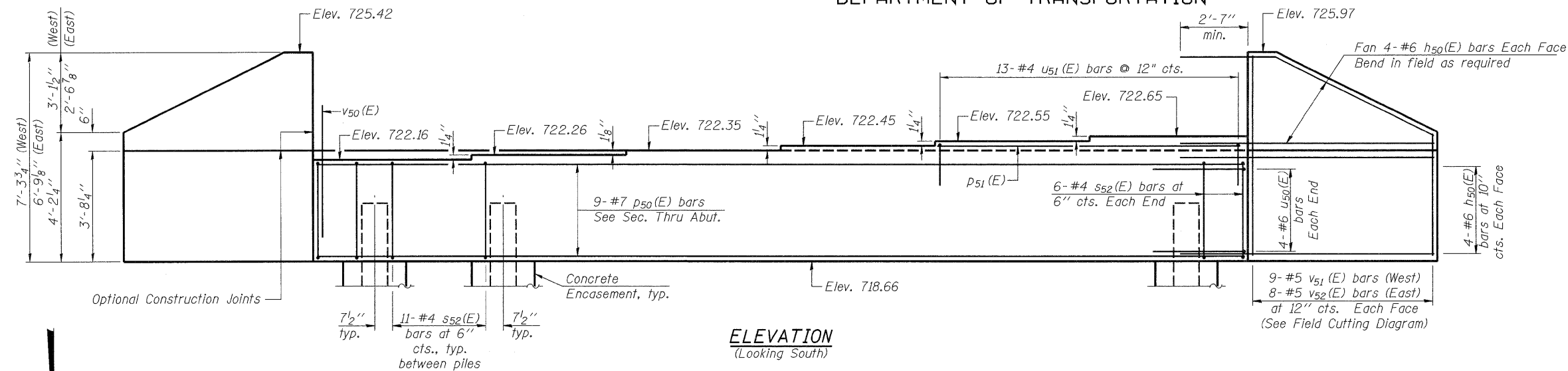
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 1"	Each	24
Anchor Bolts, 1 1/4"	Each	24

BEARING DETAILS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 15 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 160
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

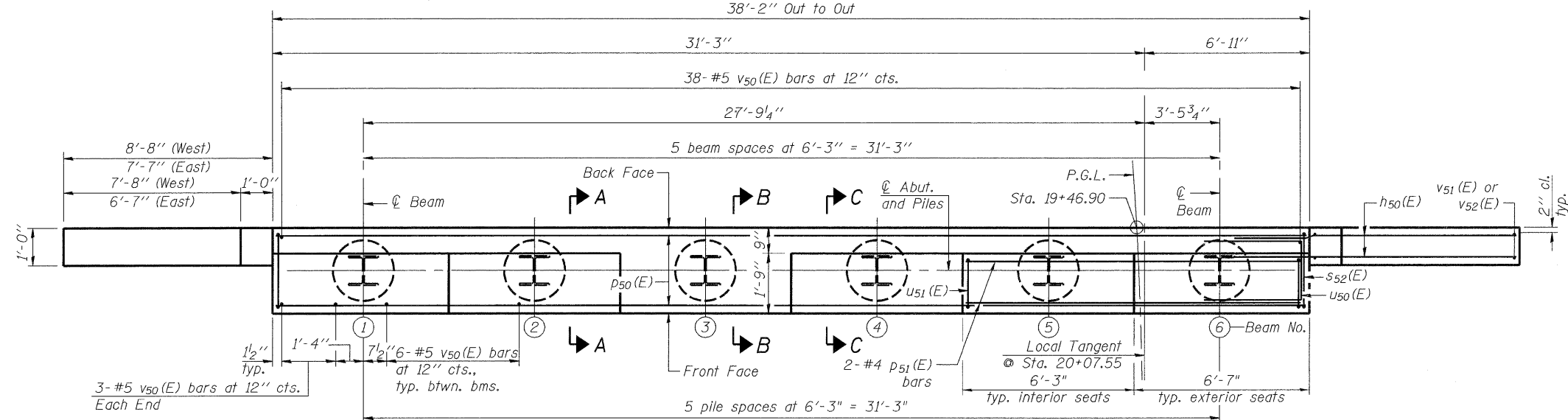
Notes:
Pour steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Looking South)

38'-2" Out to Out

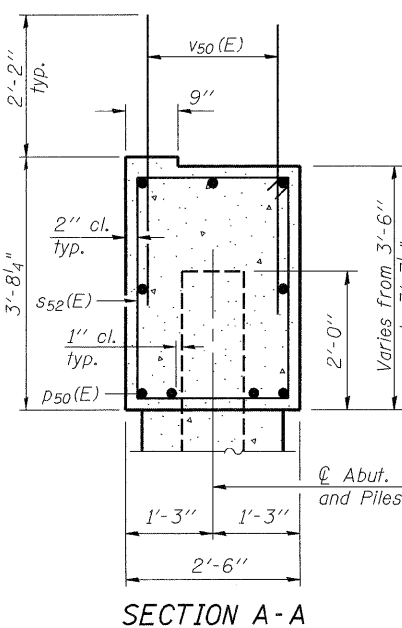


PLAN

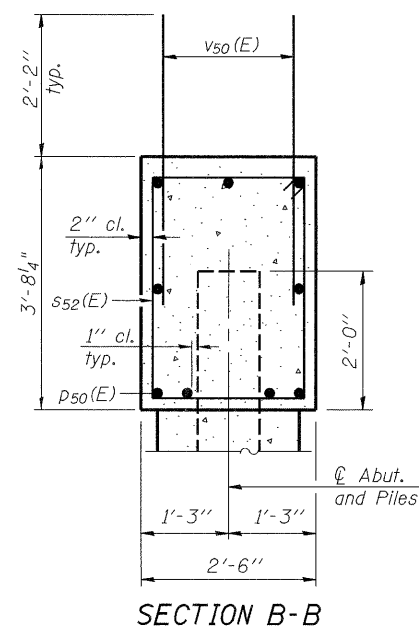
PILE DATA

Type: HP 10 x 42
Nominal Required Bearing: 180 kips
Factored Resistance Available: 90 kips
Est. Length: 29 feet
No. Production Piles: 5
No. Test Piles: 1

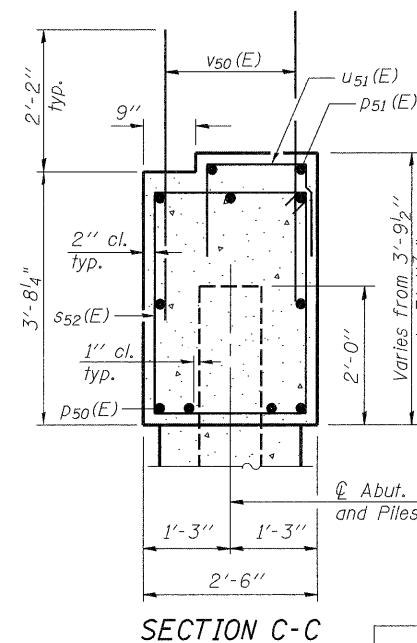
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK



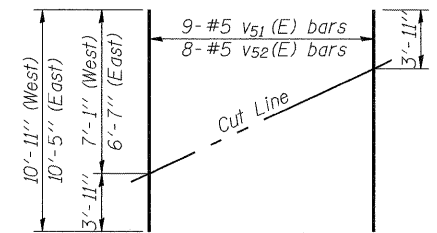
SECTION A-A



SECTION B-B

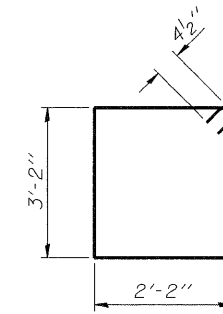


SECTION C-C

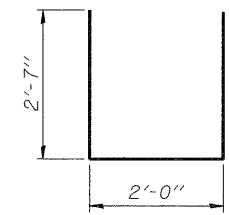


FIELD CUTTING DIAGRAM

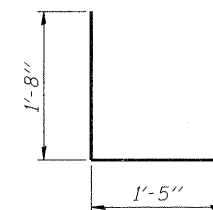
Order v51(E) and v52(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s52(E)



BAR u50(E)



BAR u51(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h50(E)	32	#6	11'-9"	—
p50(E)	9	#7	37'-11"	—
p51(E)	2	#4	12'-7"	—
s52(E)	67	#4	11'-5"	□
u50(E)	8	#6	7'-2"	U
u51(E)	13	#4	4'-9"	U
v50(E)	74	#5	4'-4"	—
v51(E)	18	#5	10'-11"	—
v52(E)	16	#5	10'-5"	—
Structure Excavation		Cu. Yd.	40	
Concrete Structures		Cu. Yd.	17	
Reinforcement Bars, Epoxy Coated		Pound	2,680	
Furnishing Steel Piles HP10x42		Foot	145	
Driving Piles		Foot	145	
Test Pile Steel HP10x42		Each	1	
Concrete Encasement		Cu. Yd.	2.1	

For details of Bar Splicers, see sheet 21 of 26.
For details of piles and Concrete Encasement, see sheet 20 of 26.

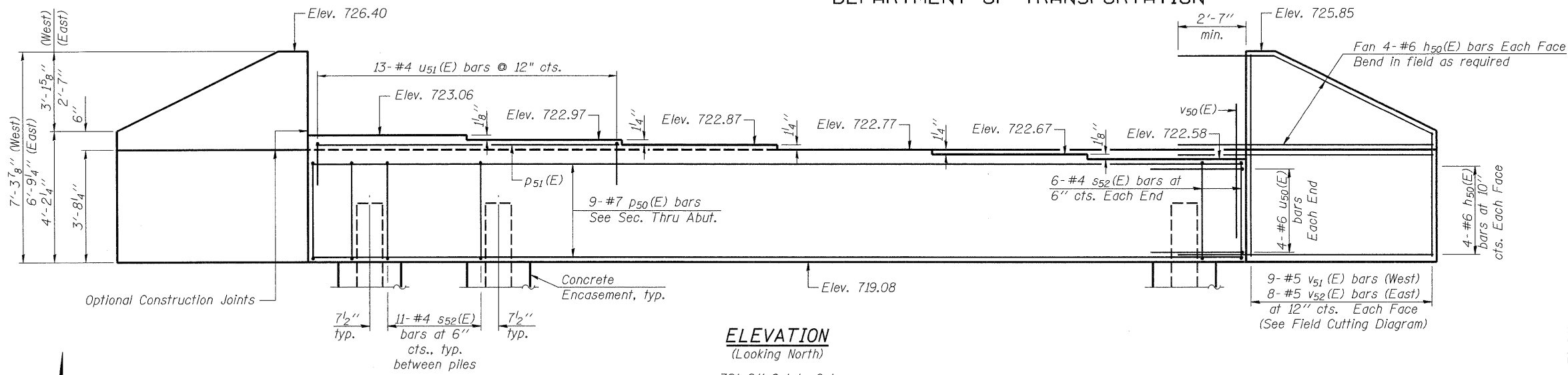
SOUTH ABUTMENT
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 16	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	161
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



Notes:
Four steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

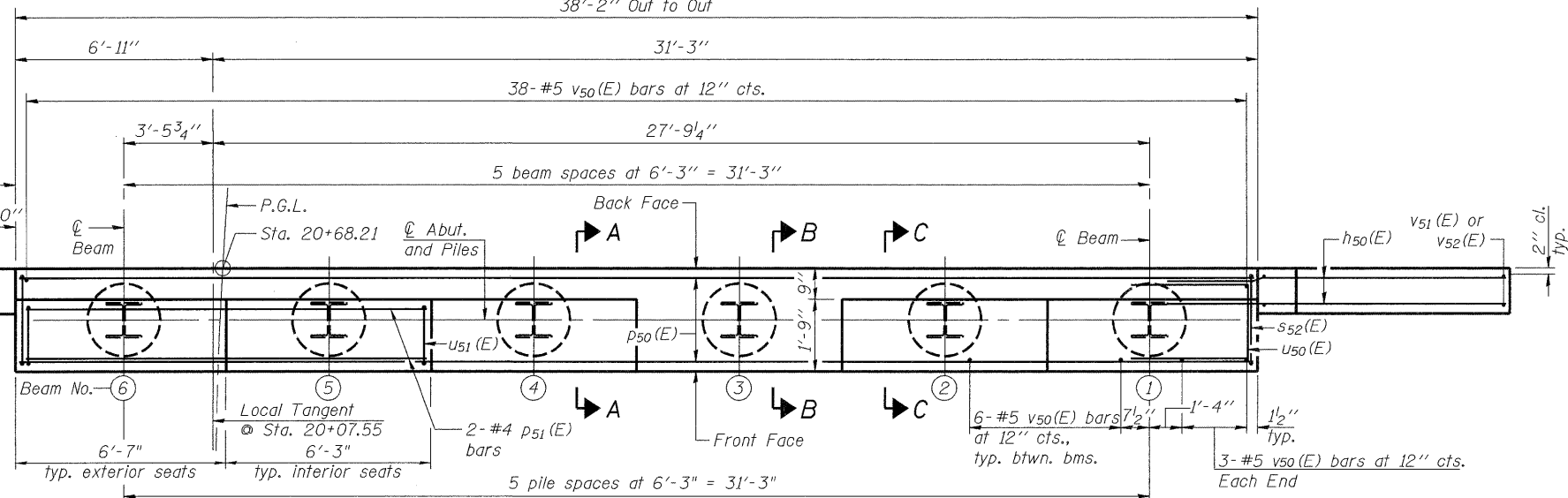


ELEVATION
(Looking North)

38'-2" Out to Out



8'-8" (West)
7'-7" (East)
7'-8" (West)
6'-7" (East)

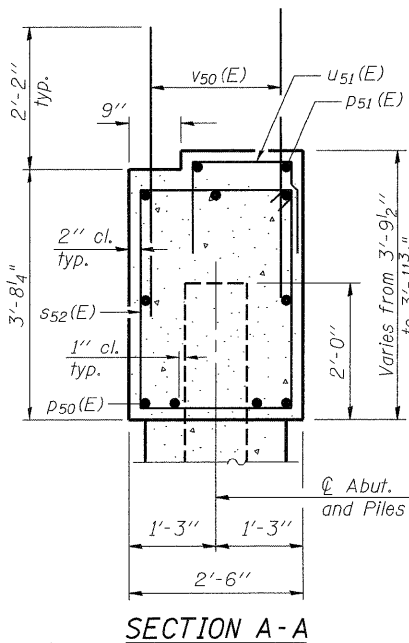


PLAN

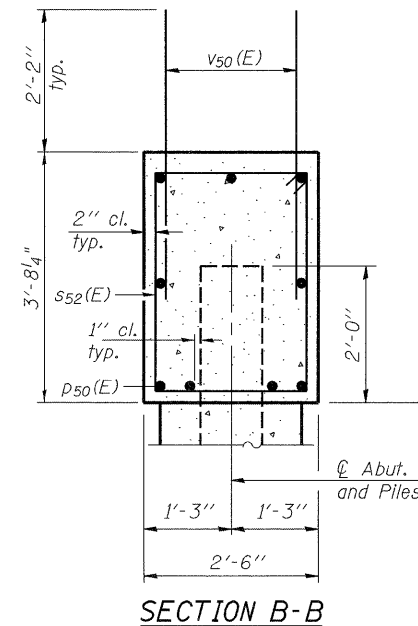
PILE DATA

Type: HP 10 x 42
Nominal Required Bearing: 180 kips
Factored Resistance Available: 90 kips
Est. Length: 44 feet
No. Production Piles: 5
No. Test Piles: 1

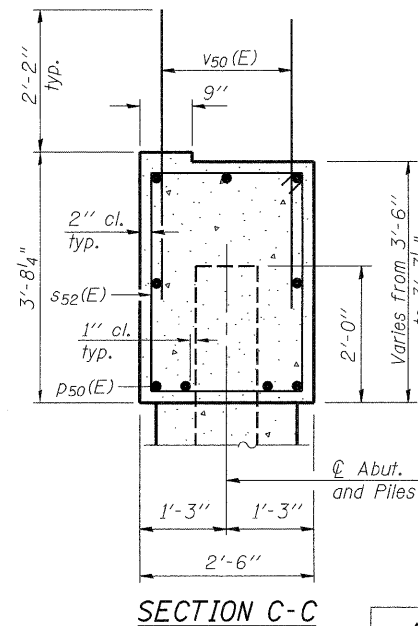
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK



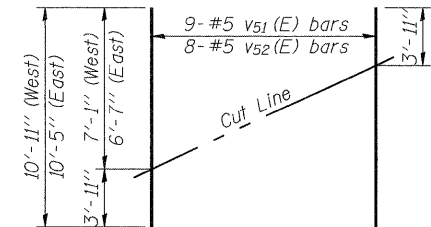
SECTION A-A



SECTION B-B

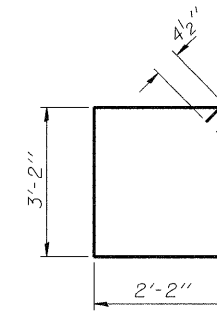


SECTION C-C

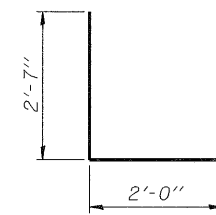


FIELD CUTTING DIAGRAM

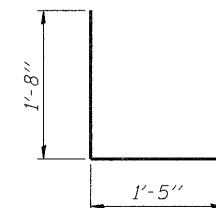
Order V51(E) and V52(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR S52(E)



BAR U50(E)



BAR U51(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h50(E)	32	#6	11'-9"	—
p50(E)	9	#7	37'-11"	—
p51(E)	2	#4	12'-7"	—
s52(E)	67	#4	11'-5"	U
u50(E)	8	#6	7'-2"	U
u51(E)	13	#4	4'-9"	U
v50(E)	74	#5	4'-4"	—
v51(E)	18	#5	10'-11"	—
v52(E)	16	#5	10'-5"	—
Structure Excavation		Cu. Yd.	40	
Concrete Structures		Cu. Yd.	17	
Reinforcement Bars, Epoxy Coated		Pound	2,680	
Furnishing Steel Piles HP10x42		Foot	220	
Driving Piles		Foot	220	
Test Pile Steel HP10x42		Each	1	
Concrete Encasement		Cu. Yd.	2.1	

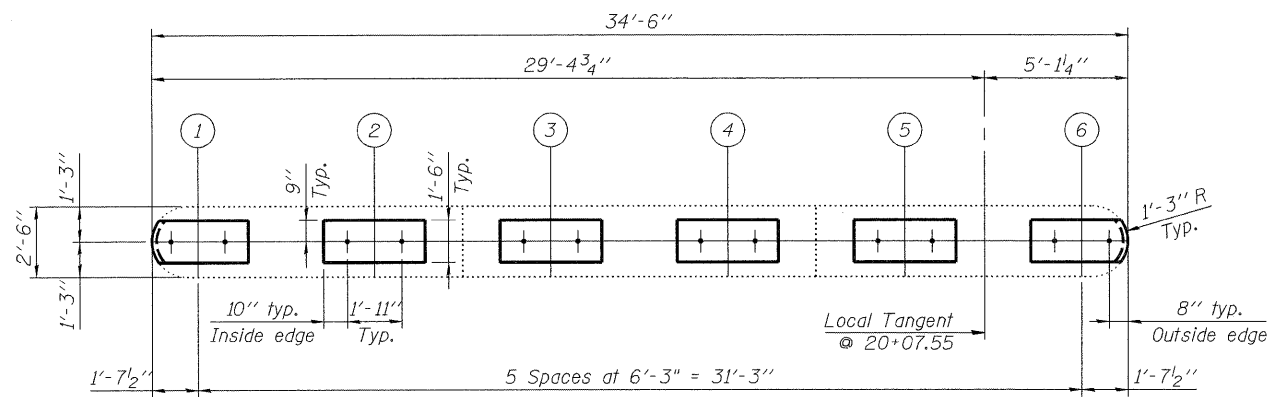
For details of Bar Splicers, see sheet 21 of 26.
For details of piles and Concrete Encasement, see sheet 20 of 26.

NORTH ABUTMENT
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

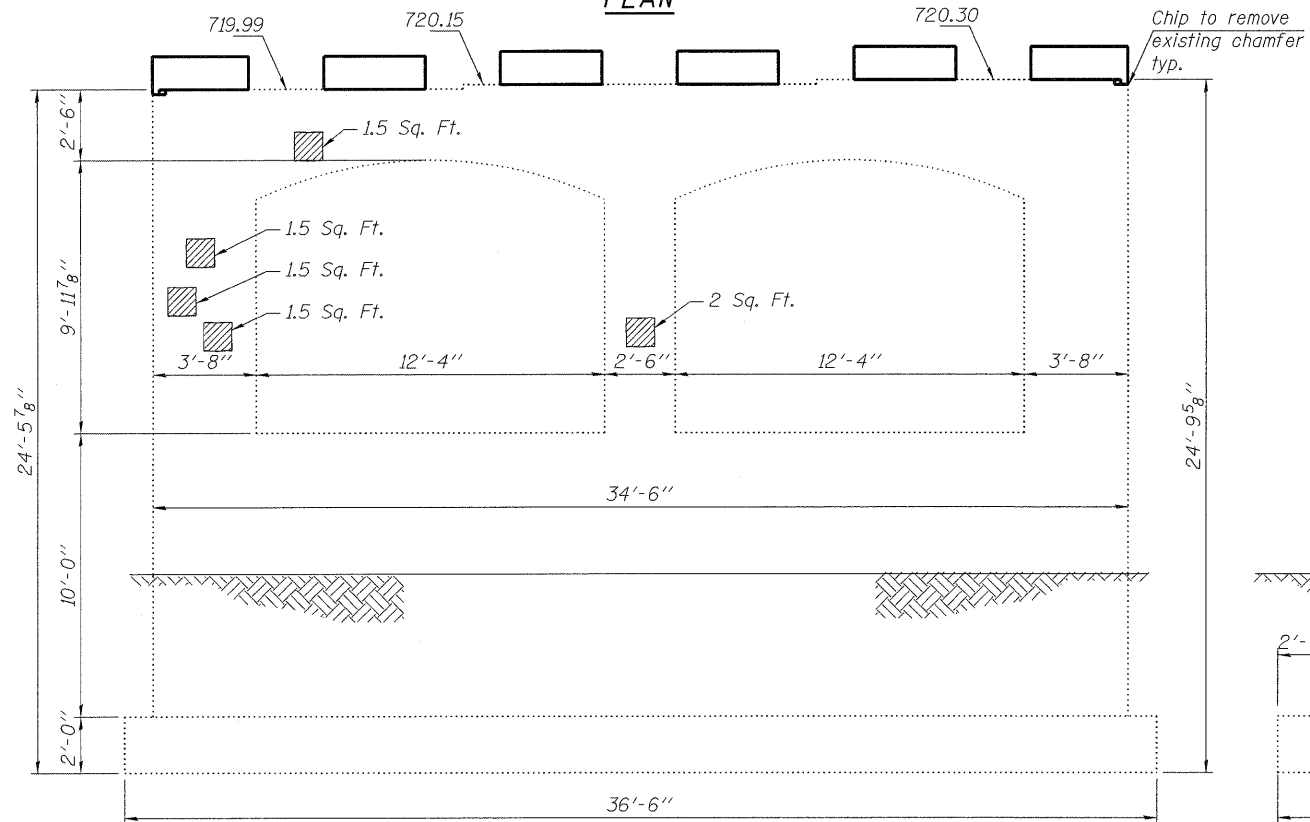
SHEET NO. 17	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	162
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

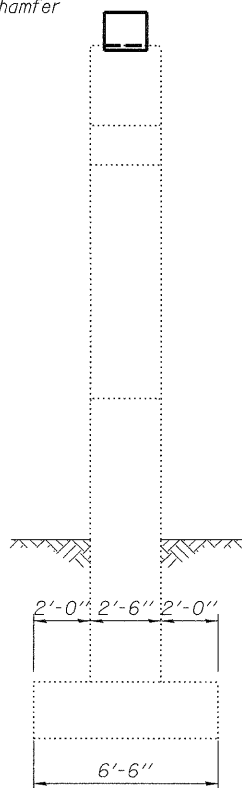


PLAN

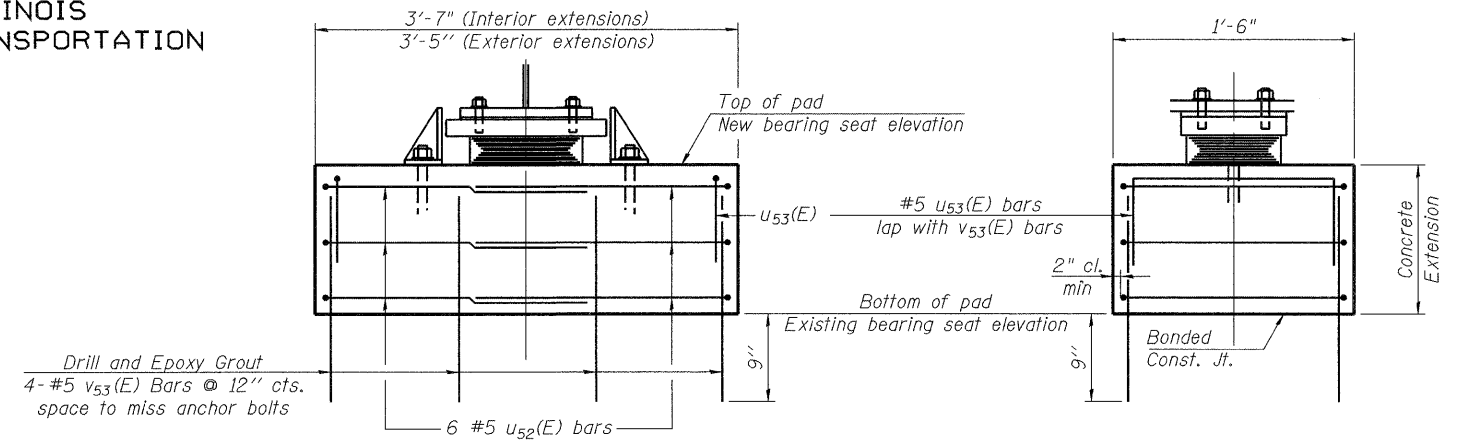


PIER #2
(North Elevation)

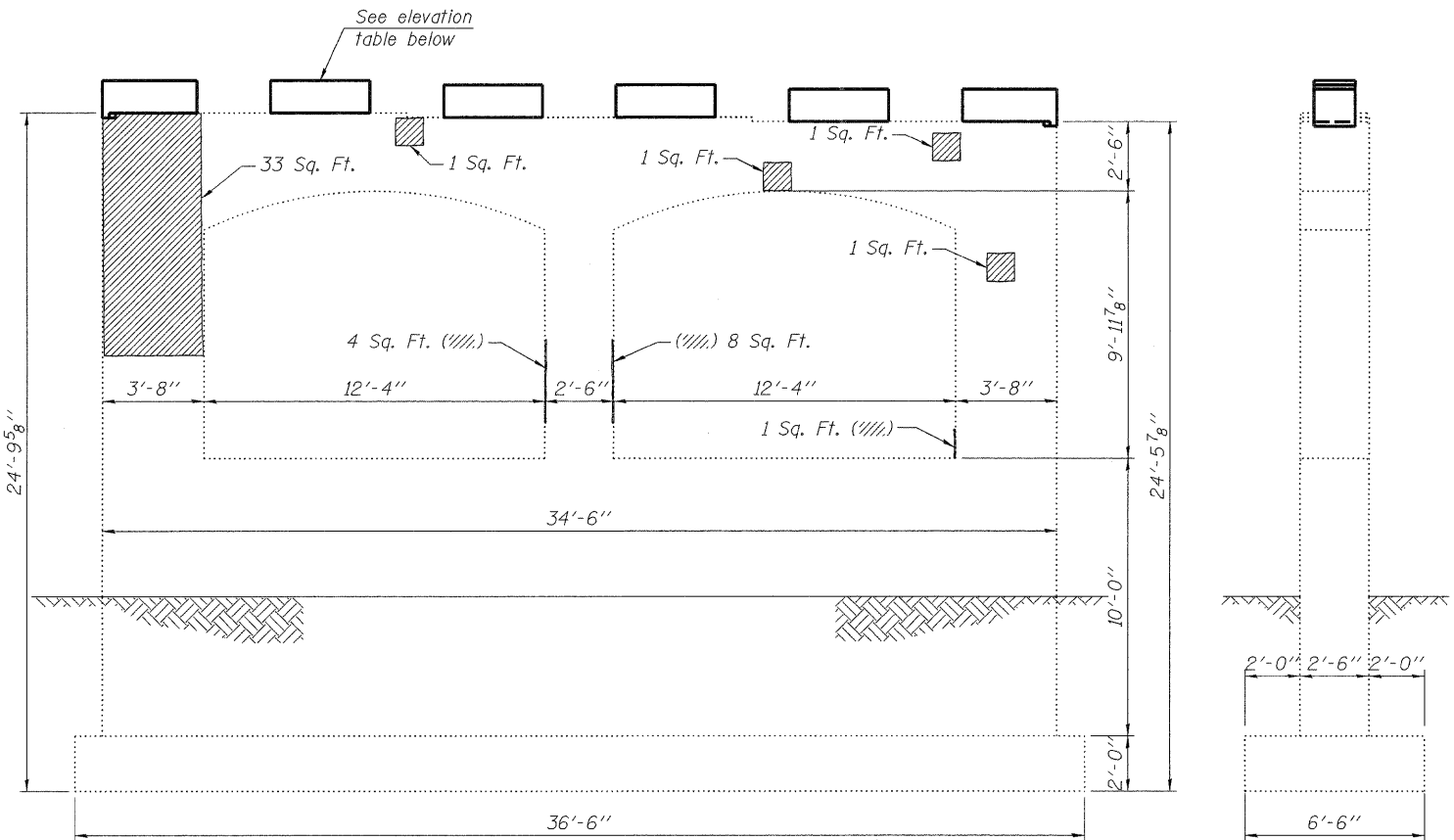
Note:
All existing dimensions are to be verified
in field.



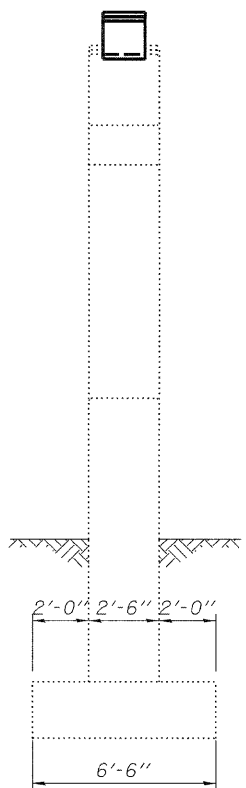
END VIEW
(West Elevation)



BEARING PAD DETAILS



PIER #2
(South Elevation)



END VIEW
(East Elevation)

MINIMUM BAR LAP
#5 Bar = 1'-7"

LEGEND:

Structural Repair of Concrete
(Depth Equal to or Less than 5")

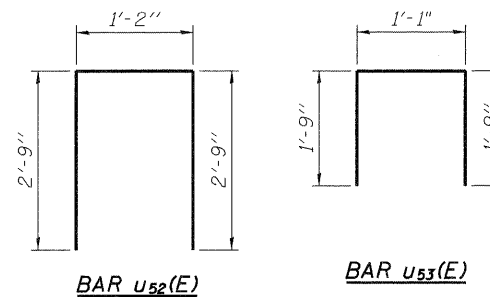
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

CONCRETE PAD ELEVATIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
Top Elev.	721.98	722.08	722.17	722.27	722.37	722.47

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
U52(E)	36	#5	6'-8"	□	
U53(E)	24	#5	4'-7"	□	
V53(E)	48	#5	2'-7"	—	
Reinforcement Bars, Epoxy Coated				Pound	450
Concrete Structures				Cu. Yd.	2.5
Structural Repair of Concrete (Depth Equal to or Less than 5")				Sq. Ft.	58

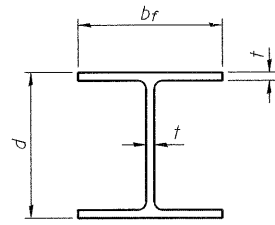


PIER 2 REPAIRS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 18 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	163
SN-099-0147			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

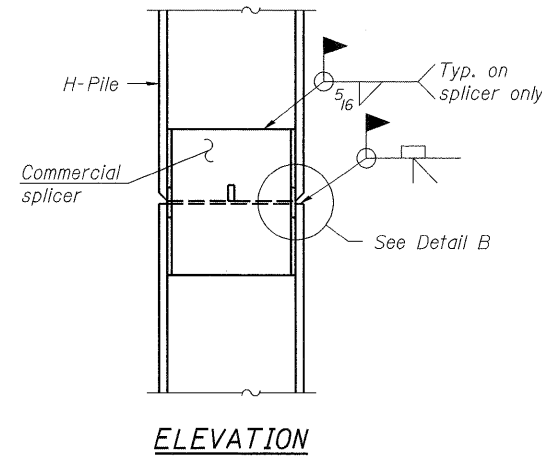
Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 910 Chicago, IL 60604-2021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

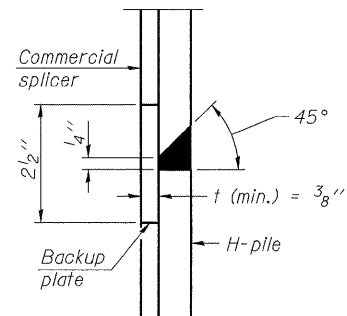


STEEL PILE TABLE

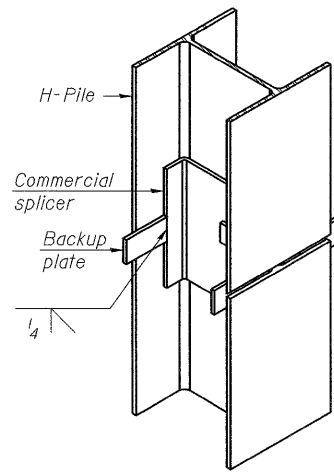
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 3/8"	1/2"	24"
x53	11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



ELEVATION

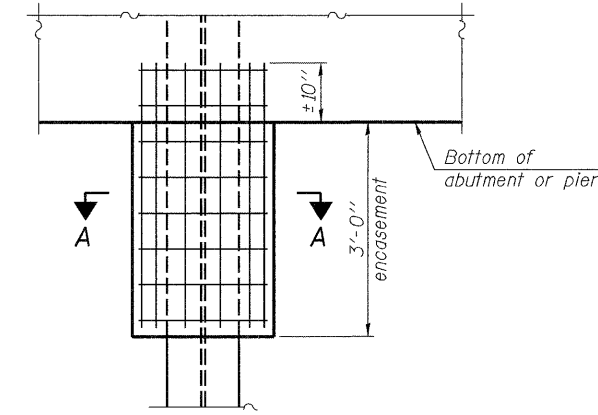


DETAIL B



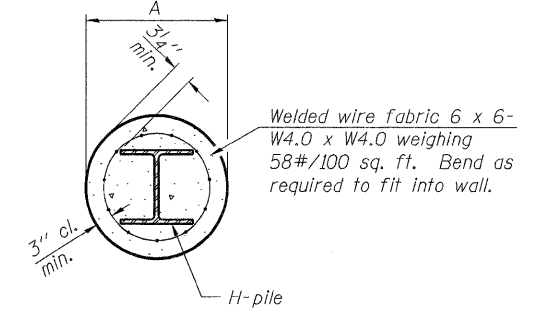
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



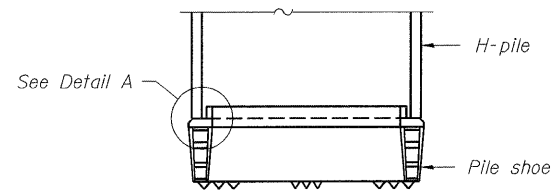
ELEVATION

PILE ENCASEMENT

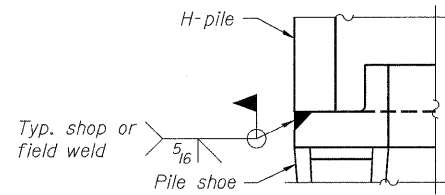


SECTION A-A

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

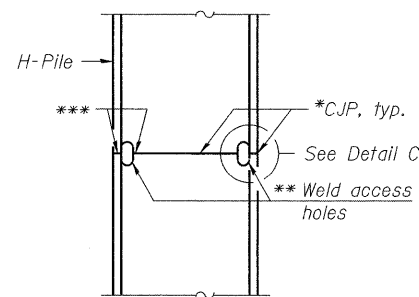


ELEVATION

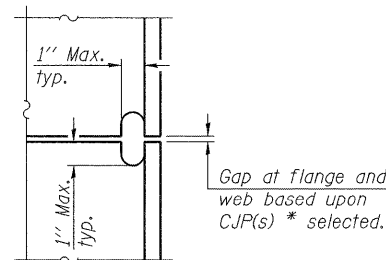


DETAIL A

H-PILE SHOE ATTACHMENT

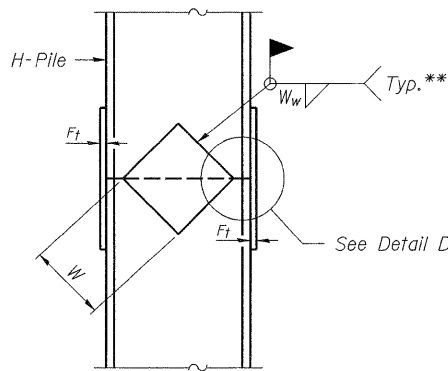


ELEVATION

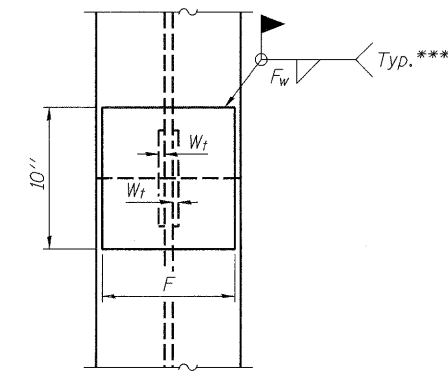


DETAIL C

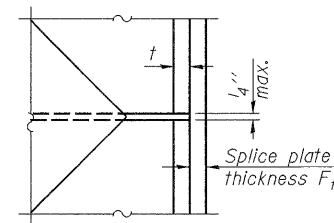
COMPLETE PENETRATION WELD SPLICE



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

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

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

HP PILE DETAILS

NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

F-HP 10-1-08



SHEET NO. 20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	165
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

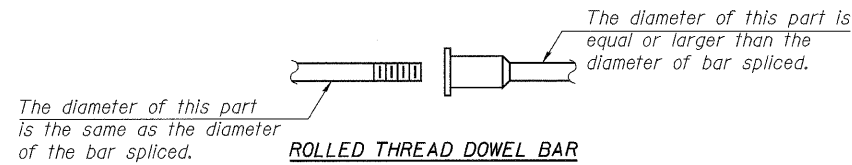
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES

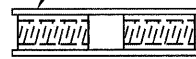
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

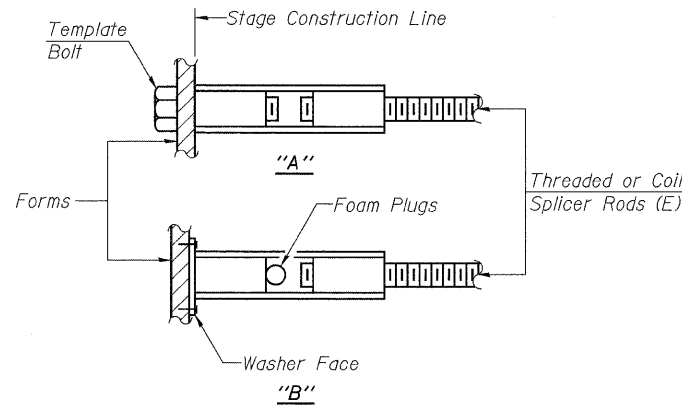


Wire Connector



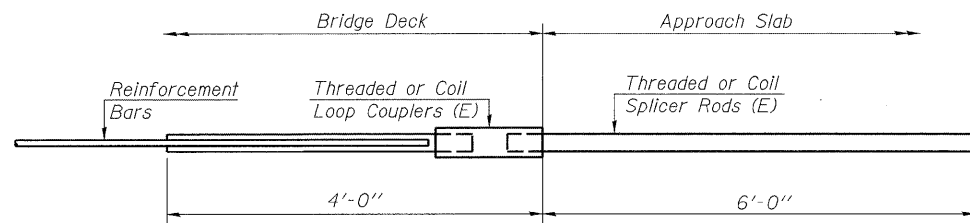
BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



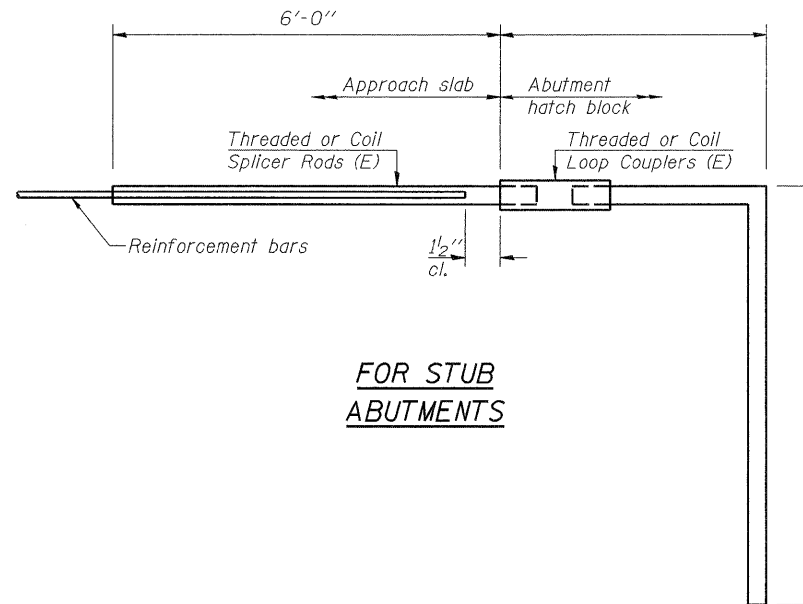
INSTALLATION AND SETTING METHODS

"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.



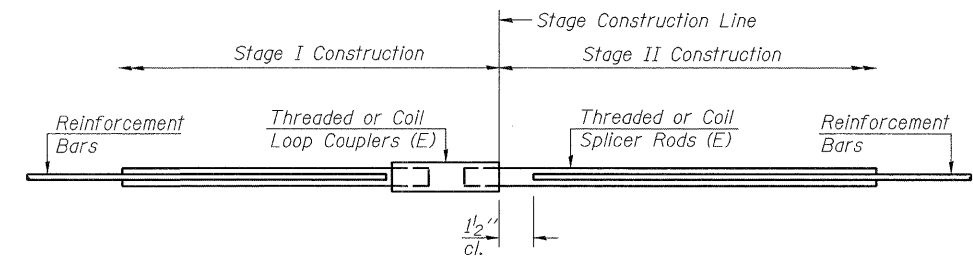
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 70



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location

DESIGNED SK/GMK/LCM
CHECKED GBC/GMK/SMK
DRAWN RR/LCM/SK
CHECKED GBC/GMK/SMK

BSD-1

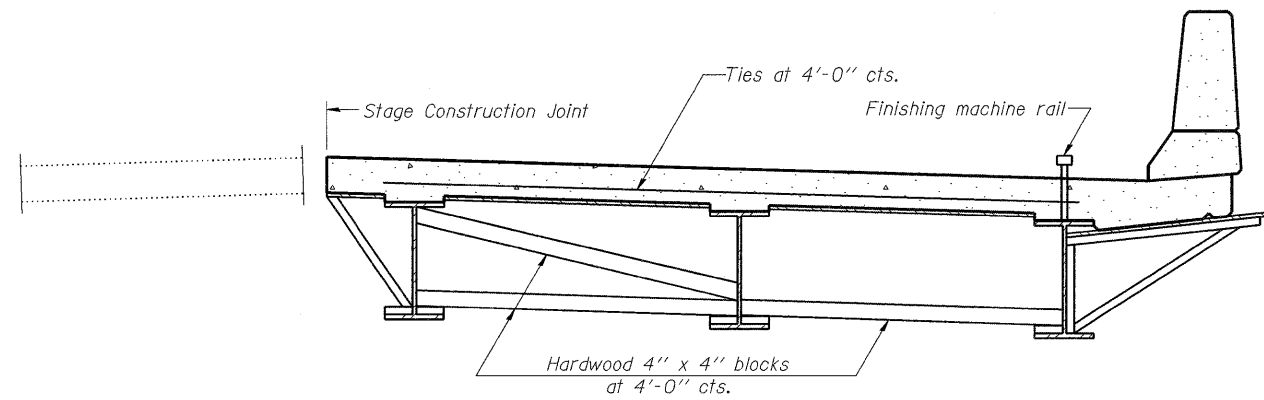
10-1-08

BAR SPLICER ASSEMBLY DETAILS
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

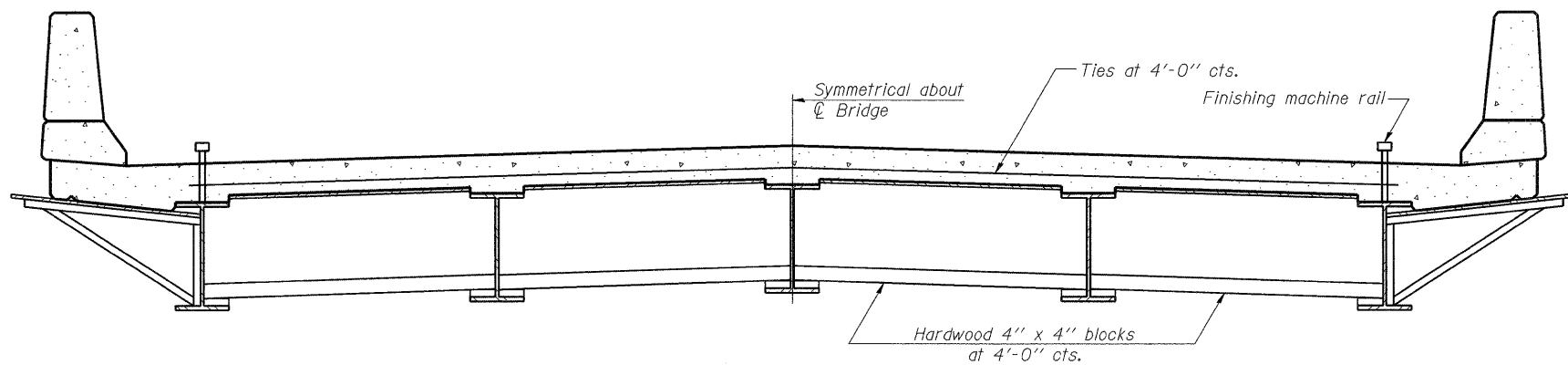
SHEET NO. 21	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	166
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SB-1

10-1-08

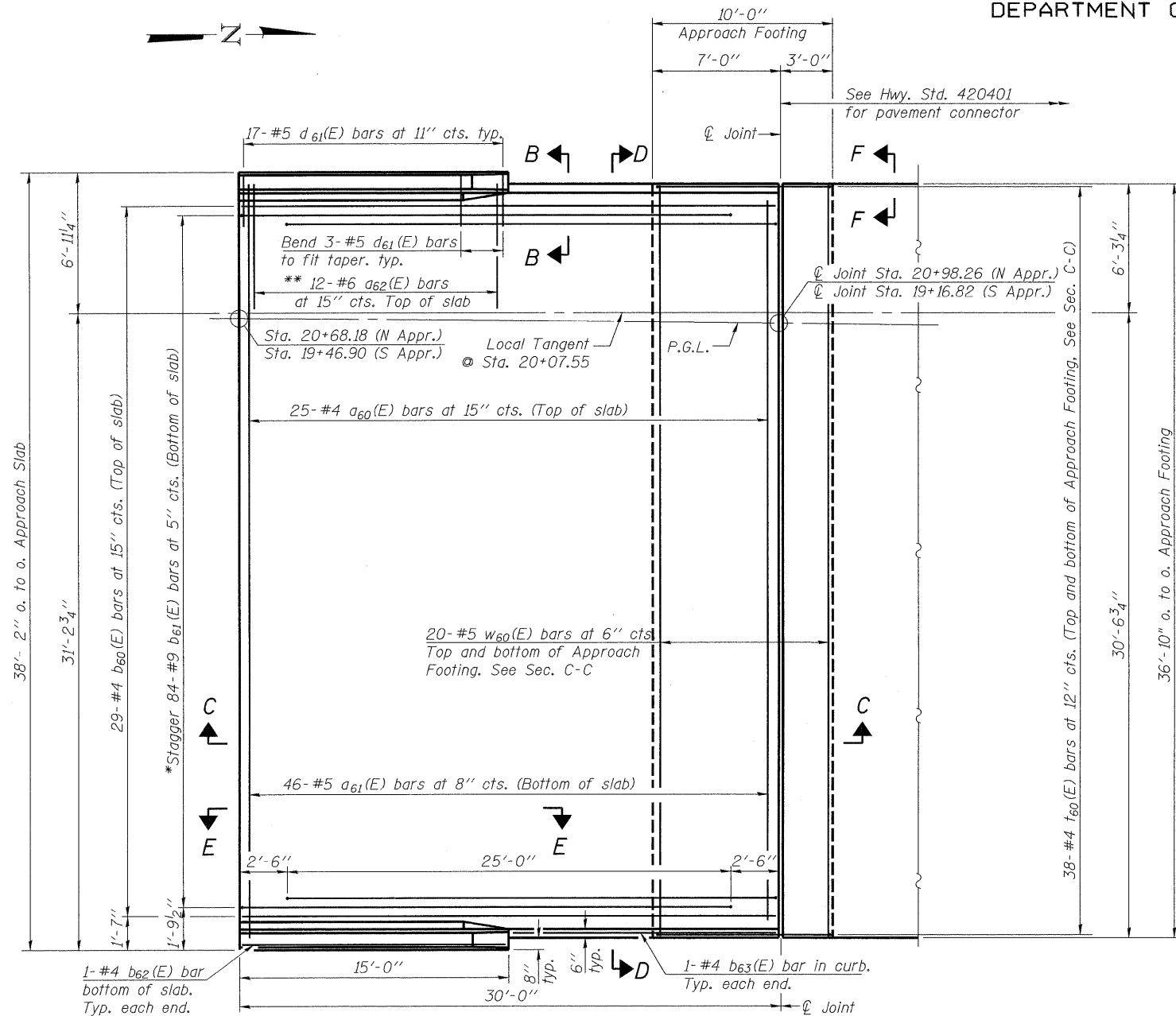
CANTILEVER FORMING BRACKETS
FOR SUPERSTRUCTURES W/W27 BEAMS AND SMALLER
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 22 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	167
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

DEI Delta Engineering, Inc.
CONSULTING ENGINEER, CONSTRUCTION MANAGER, SURVEYORS
111 N. Jackson Blvd., Suite 300 Chicago, IL 60604-2005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

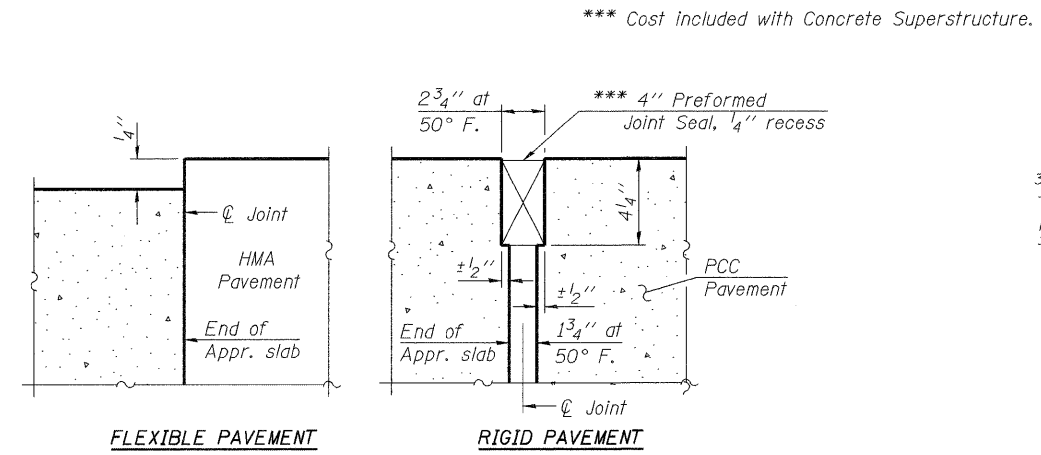
Notes:
See sheet 24 of 26 for Sections C-C & D-D and View E-E.
a(E), a₁(E), and w(E) bar spacings measured perpendicular to the Local Tangent Line.



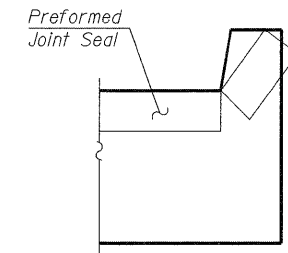
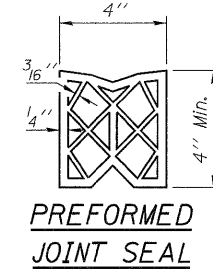
PLAN

(North Approach Slab Shown,
South Approach Slab Similar)

- * Tilt #9 b₆₁(E) bars as required to maintain clearance.
- ** Alternate with a₆₂(E) bars, typ. ea. parapet.

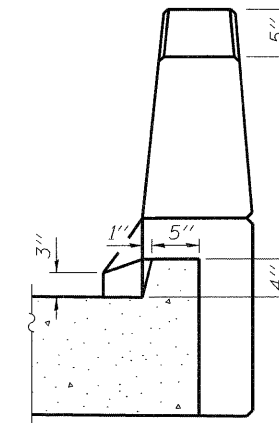


DETAIL A



VIEW F-F

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



VIEW B-B

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

BA-0 10-31-08

BRIDGE APPROACH SLAB DETAILS-1
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

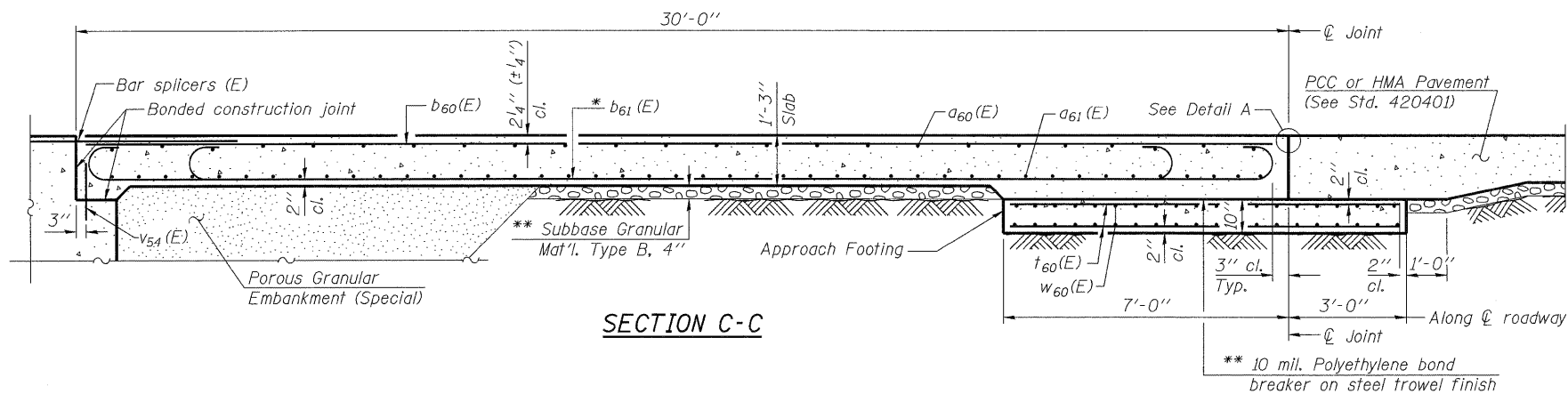
SHEET NO. 23 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	168
SN-099-0147			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



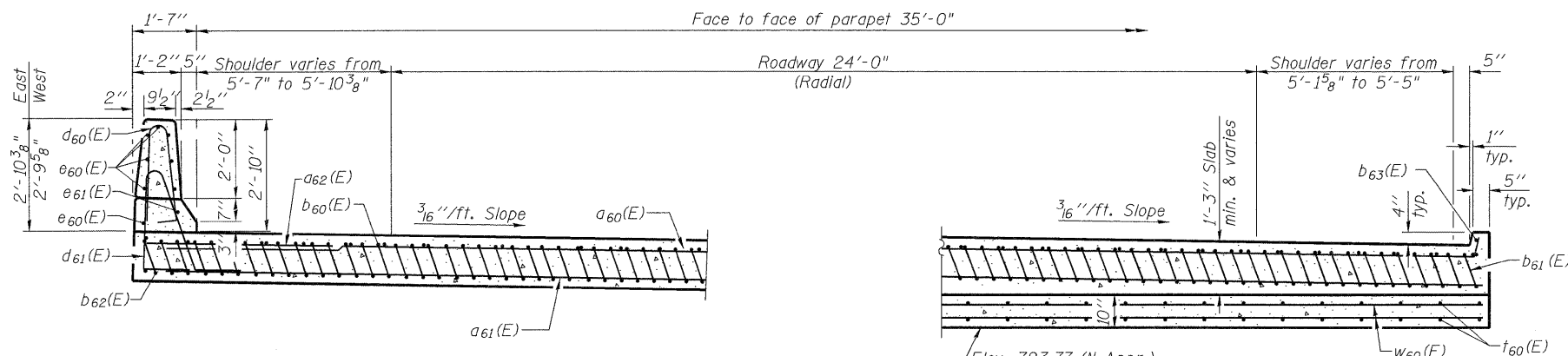
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:

See sheet 23 of 26 for Detail A and View B-B.
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 $v_{54}(E)$ bar details, see sheet 10 of 26.
The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
For bar splicer details, see sheet 21 of 26.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 26.



SECTION C-C



NEAR ABUTMENT

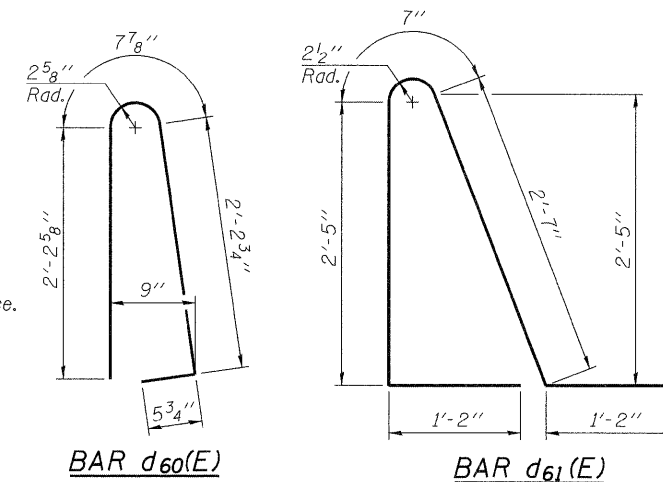
SECTION D-D

South Approach Shown Looking North. North Approach Similar, But Mirrored
(See Plan for dimensions not shown)

AT APPROACH FOOTING

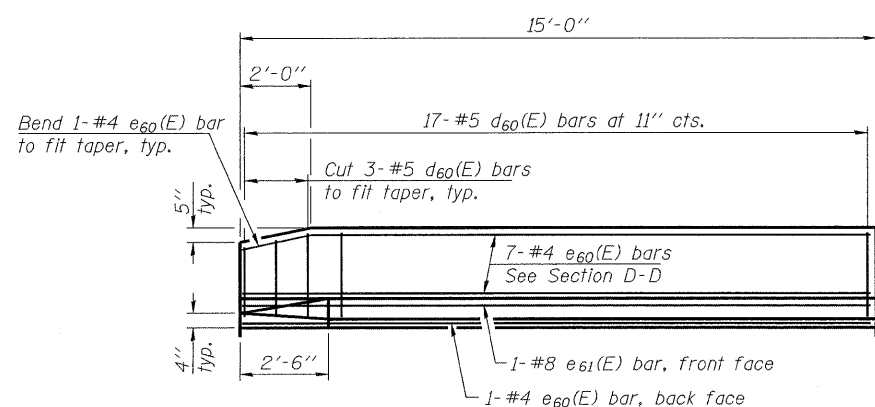
Elev. 723.77 (N Appr.)
Elev. 723.22 (S Appr.)
(Level out to out)

* Tilt #9 $b_{61}(E)$ bars as required to maintain clearance.
** Cost included with Concrete Superstructure.

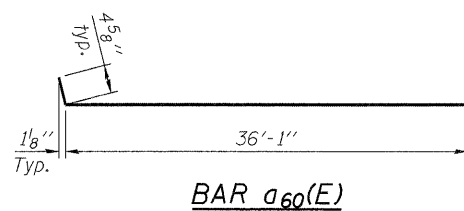


TWO APPROACHES
BILL OF MATERIAL

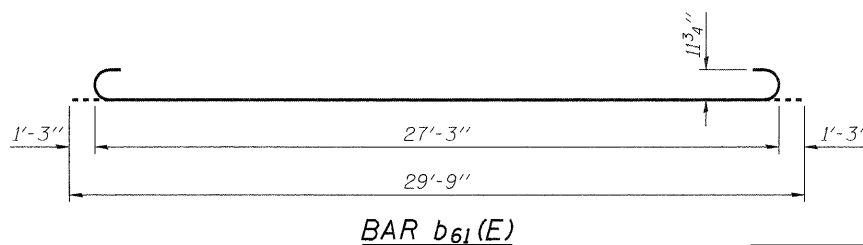
Bar	No.	Size	Length	Shape
$a_{60}(E)$	50	#4	36'-11"	—
$a_{61}(E)$	92	#5	36'-7"	—
$a_{62}(E)$	48	#6	6'-0"	—
$b_{60}(E)$	58	#4	29'-8"	—
$b_{61}(E)$	168	#9	29'-9"	—
$b_{62}(E)$	4	#4	14'-8"	—
$b_{63}(E)$	4	#4	14'-9"	—
$d_{60}(E)$	68	#5	5'-7"	U
$d_{61}(E)$	68	#5	7'-11"	U
$e_{60}(E)$	32	#4	14'-8"	—
$e_{61}(E)$	4	#8	14'-8"	—
$t_{60}(E)$	152	#4	9'-8"	—
$w_{60}(E)$	80	#5	36'-7"	—
Concrete Superstructure		Cu. Yd.	115	
Concrete Structures		Cu. Yd.	24	
Reinforcement Bars, Epoxy Coated		Pound	30,450	



VIEW E-E



BAR $a_{60}(E)$



BAR $b_{61}(E)$

BRIDGE APPROACH SLAB DETAILS-2
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 24 26 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 169
	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

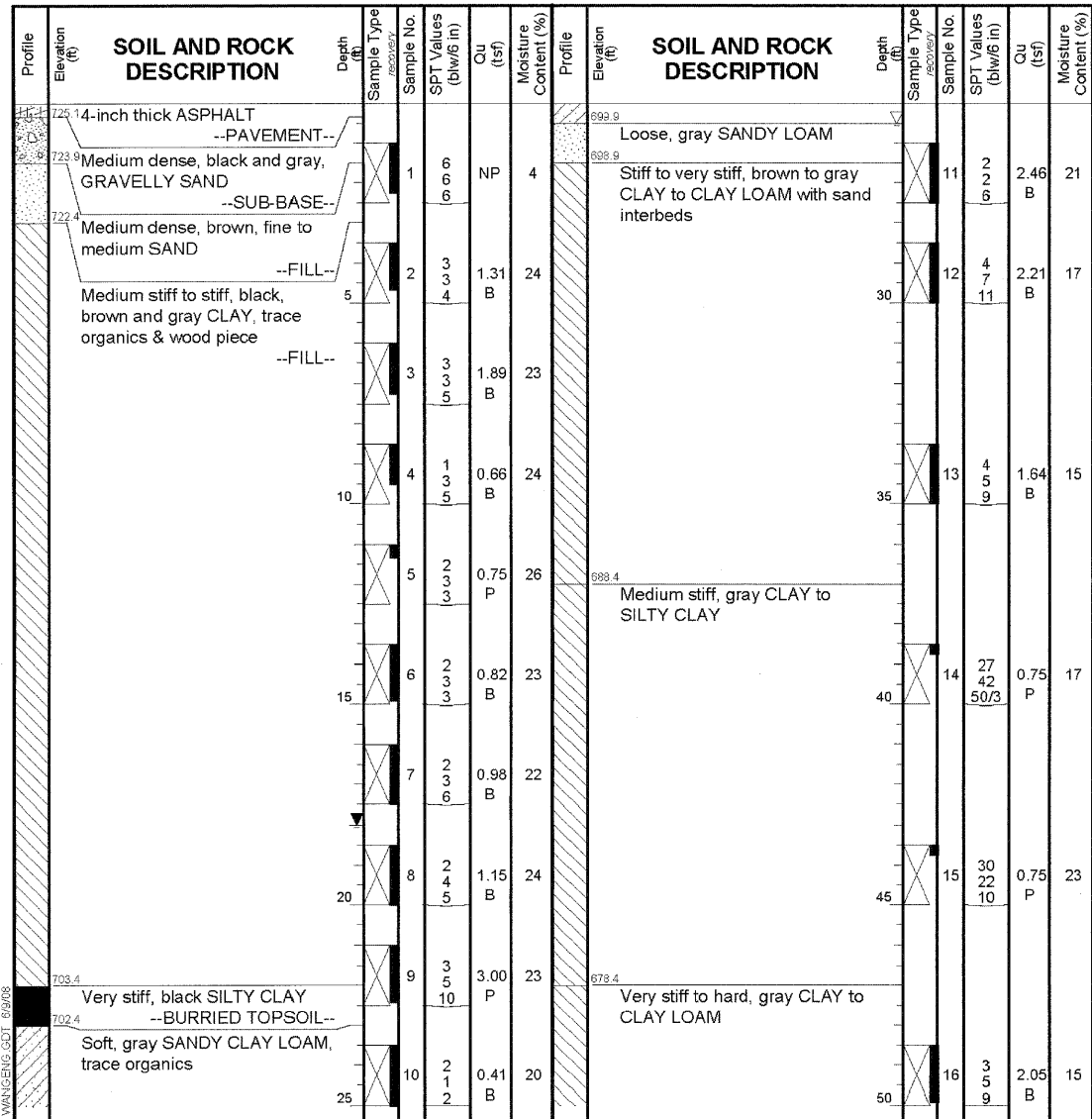
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-1
WEI Job No.: 604-01-01
Client: **Delta Engineering, Inc.**
Project: **IL 394 NB over Plum Creek, Will County**
Location: **Sec. 33, T 34 N, R 14 E of Steger Quadrangle**

Datum: NGVD
Elevation: 725.42 ft
North: 1722131.57 ft
East: 1178204.32 ft
Station:
Offset:

Page 1 of 2



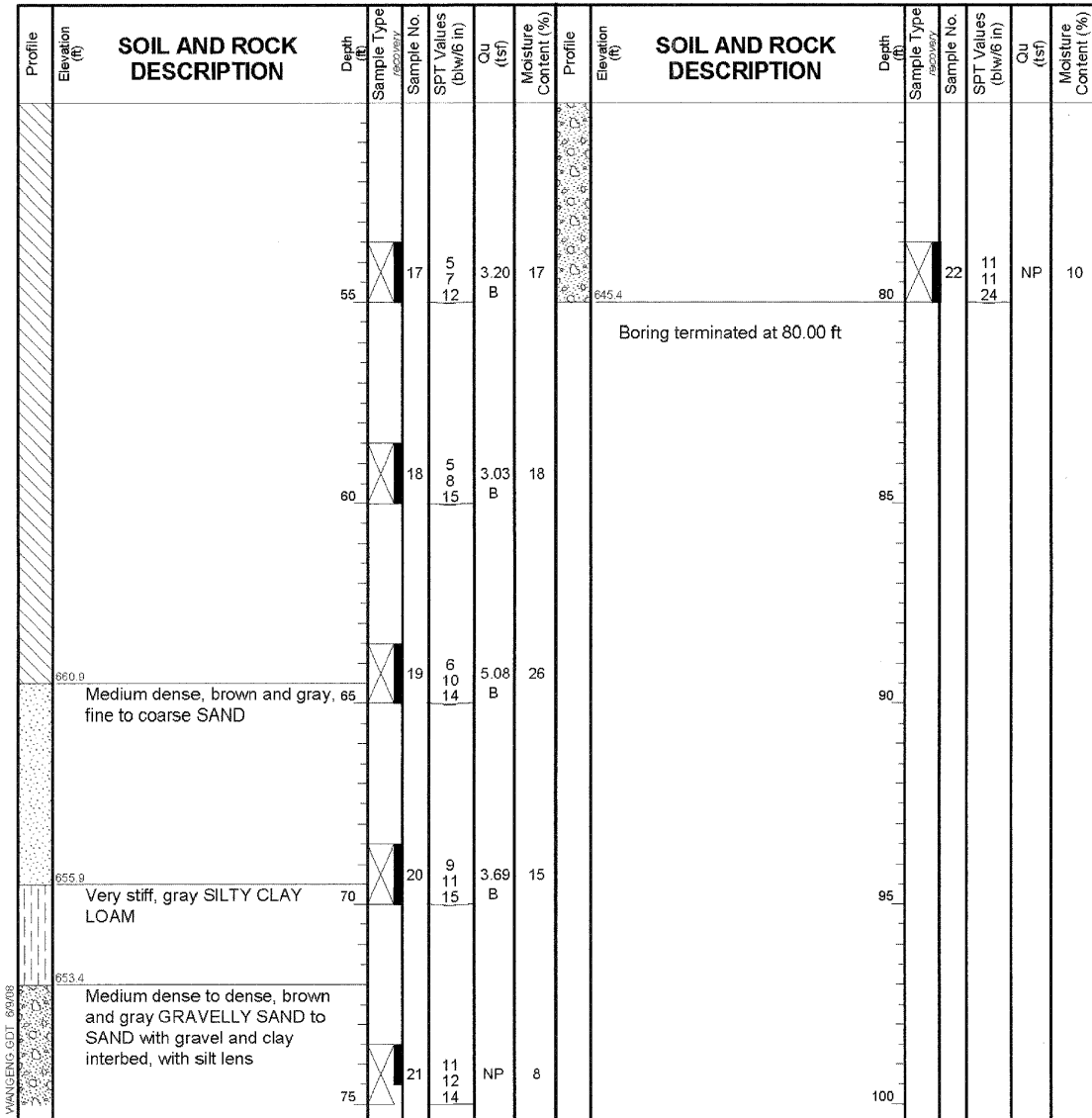
GENERAL NOTES			WATER LEVEL DATA		
Begin Drilling	05-07-2008	Complete Drilling	05-07-2008	While Drilling	25.50 ft
Drilling Contractor	GBE	Drill Rig	Diedrich D-50 TMR	At Completion of Drilling	18.00 ft
Driller	G & R	Logger	K. Jacob	Checked by	J. Kasnick
Drilling Method	2.25" ID HSA; Boring Backfilled Upon Completion				
				Time After Drilling	NA
				Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

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BORING LOG SB-1
WEI Job No.: 604-01-01
Client: **Delta Engineering, Inc.**
Project: **IL 394 NB over Plum Creek, Will County**
Location: **Sec. 33, T 34 N, R 14 E of Steger Quadrangle**

Datum: NGVD
Elevation: 725.42 ft
North: 1722131.57 ft
East: 1178204.32 ft
Station:
Offset:

Page 2 of 2



GENERAL NOTES			WATER LEVEL DATA		
Begin Drilling	05-07-2008	Complete Drilling	05-07-2008	While Drilling	25.50 ft
Drilling Contractor	GBE	Drill Rig	Diedrich D-50 TMR	At Completion of Drilling	18.00 ft
Driller	G & R	Logger	K. Jacob	Checked by	J. Kasnick
Drilling Method	2.25" ID HSA; Boring Backfilled Upon Completion				
				Time After Drilling	NA
				Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

DESIGNED SK/GMK/LCM
CHECKED GBC/GMK/SMK
DRAWN RR/LCM/SK
CHECKED GBC/GMK/SMK

SOIL BORING LOGS-1
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 25	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	170
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-2 Page 1 of 2

WEI Job No.: 604-01-01

Datum: NGVD
Elevation: 725.17 ft
North: 1721970.06 ft
East: 1178162.73 ft
Station:
Offset:

Client: **Delta Engineering, Inc.**

Project: **IL 394 NB over Plum Creek, Will County**

Location: **Sec. 33, T 34 N, R 14 E of Steger Quadrangle**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
724.2	85-inch thick, dark brown SILTY CLAY LOAM												
	--TOPSOIL--		1	4	3.44	18				11	3	3.36	21
	Brown, gravelly SANDY LOAM		2	4	B					12	8		
	--FILL--												
	Medium stiff to very stiff, brown and gray CLAY to SILTY CLAY, trace organics		3	4	0.98	13				13	3	2.21	22
	--FILL--												
719.7	Stiff to hard, brown and gray CLAY to SILTY CLAY, trace organics		4	3	2.21	15				14	6	2.71	17
			5	6	4.43	16				15	3	2.05	14
			6	5	6.89	18				16	4	3.12	15
			7	3	3.25	13				17	4	2.21	17
			8	3	4.02	13							
			9	3	3.85	17							
			10	3	2.30	14							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-08-2008	Complete Drilling	05-08-2008	While Drilling	▽	17.50 ft	
Drilling Contractor	GBE	Drill Rig	Diedrich D-50 TMR	At Completion of Drilling	▽	53.00 ft	
Driller	G & R	Logger	K. Jacob	Checked by	J. Kasnick	Time After Drilling	NA
Drilling Method	2.25" ID HSA; Boring Backfilled Upon Completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-2 Page 2 of 2

WEI Job No.: 604-01-01

Datum: NGVD
Elevation: 725.17 ft
North: 1721970.06 ft
East: 1178162.73 ft
Station:
Offset:

Client: **Delta Engineering, Inc.**

Project: **IL 394 NB over Plum Creek, Will County**

Location: **Sec. 33, T 34 N, R 14 E of Steger Quadrangle**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
648.4	Medium dense, gray SILT to SILTY LOAM		24	4	0.75	27							
			25	3	NP	19							
			26	2	0.66	27							
643.7	Very soft to stiff, gray SILTY CLAY LOAM to CLAY interbedded with silt and sand		27	3	< 0.25	27							
			28	4	0.75	27							
			29	3	1.00	28							
668.2	Medium dense, gray, medium to coarse SAND		19	13	NP	16							
			20	3	0.16	20							
661.5	Very soft to soft, gray SILTY CLAY LOAM with sand interbeds		21	2	0.25	20							
			22	3	NP	21							
654.7	Loose, gray SILT		23	5	< 0.25	29							
652.2	Very soft to medium stiff, gray SILTY CLAY LOAM												
	Boring terminated at 90.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-08-2008	Complete Drilling	05-08-2008	While Drilling	▽	17.50 ft	
Drilling Contractor	GBE	Drill Rig	Diedrich D-50 TMR	At Completion of Drilling	▽	53.00 ft	
Driller	G & R	Logger	K. Jacob	Checked by	J. Kasnick	Time After Drilling	NA
Drilling Method	2.25" ID HSA; Boring Backfilled Upon Completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

DESIGNED SK/GMK/LCM
CHECKED GBC/GMK/SMK
DRAWN RR/LCM/SK
CHECKED GBC/GMK/SMK

SOIL BORING LOGS-2
NORTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55



SHEET NO. 26	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 171
26 SHEETS	SN-099-0147		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

Benchmark: Chiseled "□" on NW wingwall of S.N. 099-0183. Elev. 728.94.

Existing Structure: The existing structure, number 099-0183, originally built in 1969 as F.A. Route 122, section 0910-B. The structure was rehabilitated in 1974 as F.A. Route 122, section 0910-B. The existing structure consists of three span bridge, with reinforced concrete deck on continuous wide flange steel beams supported by pile bent abutments and multi-column piers. The existing structure is 128 ft. back-to-back of abutments and 42 ft. out-to-out of deck. The existing deck and concrete parapets to be removed and replaced. Traffic will be crossed over to northbound bridge (S.N. 099-0147) during construction.

Salvage: No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE
INFORMATION

Inventory: HS 21.7
Operating: HS 33.9
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard
Specifications for Highway Bridges
1995 FHWA Seismic Retrofitting
Manual for Highway Bridges

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (M270 Grade 36)

EXISTING

$f'_c = 3,500$ psi (Concrete)
 $f_c = 1,400$ psi (Concrete, Without Earth Pressure)
 $f_c = 1,000$ psi (Concrete, With Earth Pressure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel)
 $n = 10$

SEISMIC DATA

Seismic Performance Zone (SPZ) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.042g
Site Coefficient (S) = 1.0

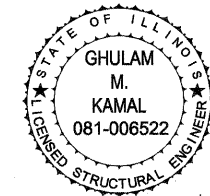
CURVE DATA

(@ IL Route 394)
 $\Delta = 39^\circ 01' 56''$ (RT)
 $D = 0.718^\circ$
 $T = 2827.40'$
 $L = 5434.40'$
 $E = 486.25'$
 $R = 7977.22'$
S.E. = 2.0%
P.C. = Sta. 2+74.87
P.T. = Sta. 57+09.27
P.I. = Sta. 31+02.27

INDEX OF SHEETS

1. General Plan
2. General Notes, Total Bill of Material and Section thru Existing Abutment
3. Top of Slab Elevations-1
4. Top of Slab Elevations-2
5. Top of Slab Elevations-3
6. Top of South Approach Slab Elevations
7. Top of North Approach Slab Elevations
8. Superstructure
9. Superstructure Details
10. Preformed Joint Strip Seal
11. Drainage Scupper, DS-12 Details
12. Framing Plan
13. Structural Steel Details
14. Bearing Details-1
15. Bearing Details-2
16. North and South Abutment
17. North and South Abutment Details
18. Pier 2 Repairs
19. Pier 1 Repairs
20. Bar Splicer Assembly Details
21. Cantilever Forming Brackets
22. Bridge Approach Slab Details-1
23. Bridge Approach Slab Details-2

APPROVED
FOR STRUCTURAL ADEQUACY ONLY



Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

9/23/09

Ghulam M. Kamal
Licensed Structural Engineer
State of Illinois
Lic. No. 081-006522
Expires: 11-30-2010

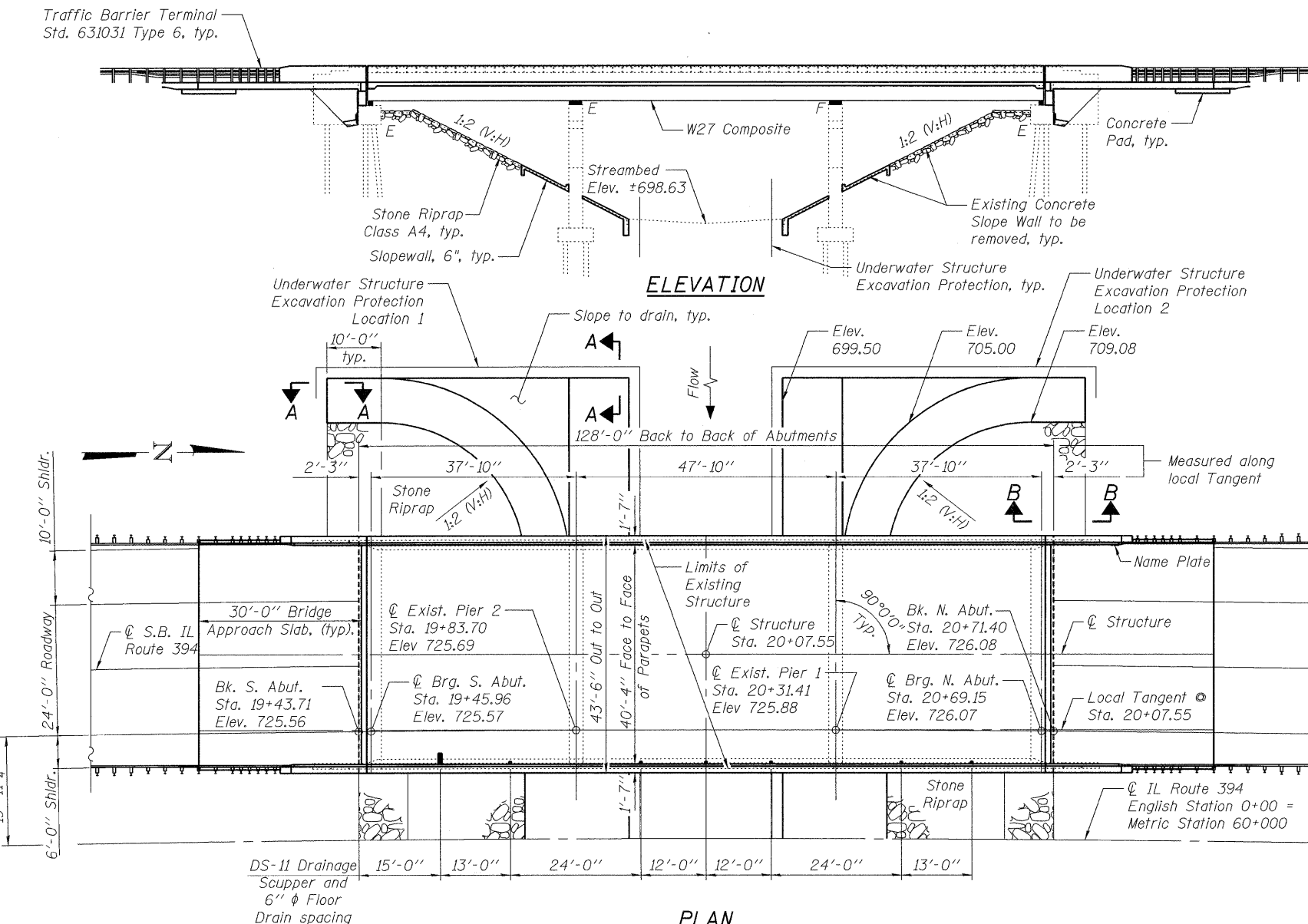
STATION 20+07.55
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A. RTE. 332 SEC. 9B-1
LOADING HS20
STR. NO. 099-0183

NAME PLATE

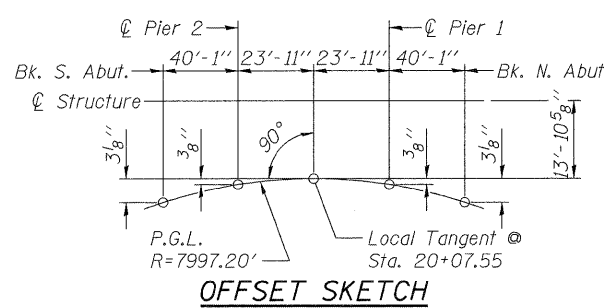
Locate Name Plate at Northwest
Corner of Bridge (See Std. 515001)

Note:
Existing name plate shall be cleaned
and relocated next to the new name plate.
Cost included with name plates.

GENERAL PLAN
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
F.A.P. ROUTE 332 - SECTION 2002-113R
WILL COUNTY
STATION 20+07.55
STRUCTURE NO. 099-0183



See Sheet 2 of 23 for sections A-A and B-B



PROFILE GRADE
(along SB IL-394 P.G.L.)



LOCATION SKETCH

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK



SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	172	172
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

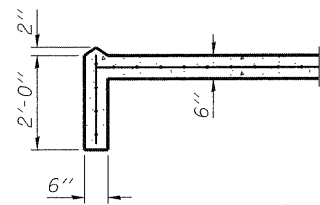
GENERAL NOTES:

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 17,800 pounds (AASHTO, M270, Grade 36).
- 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. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.
Any cracks that cannot be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- "Slip forming" of the concrete parapets is not allowed.
- Concrete Sealer shall be applied to the designated areas of the abutments.
- The Contractor shall submit Structural Assessment Report(s) as required for the Contractor's means and methods of construction. "See Special Provisions"
- Bridge Rail Removal included in the cost for removal of existing concrete deck.

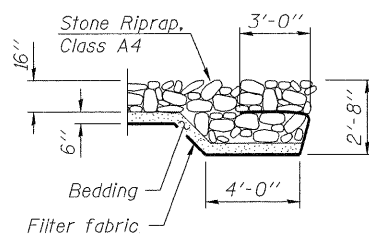
- Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel within 5 ft (measurd along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP10. The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Power Tool Cleaning - Commercial Grade.
The designated areas cleaned per Near White Blast Cleaning - SSPC-SP10 and per Power Tool Cleaned - Commercial Grade shall be painted according to the requirements of Paint System 3 - EM/EM/AC. 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.
- The SSPC-QP1 and SSPC-QP2 Painting Contractor Certifications will be required for this bridge.
- A minimum of 3 air monitors will be required to monitor abrasive blasting operations at this site, see special provision for "Containment and Disposal of Lead Paint Cleaning Residues".
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures".
- All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the engineer.

TOTAL BILL OF MATERIAL

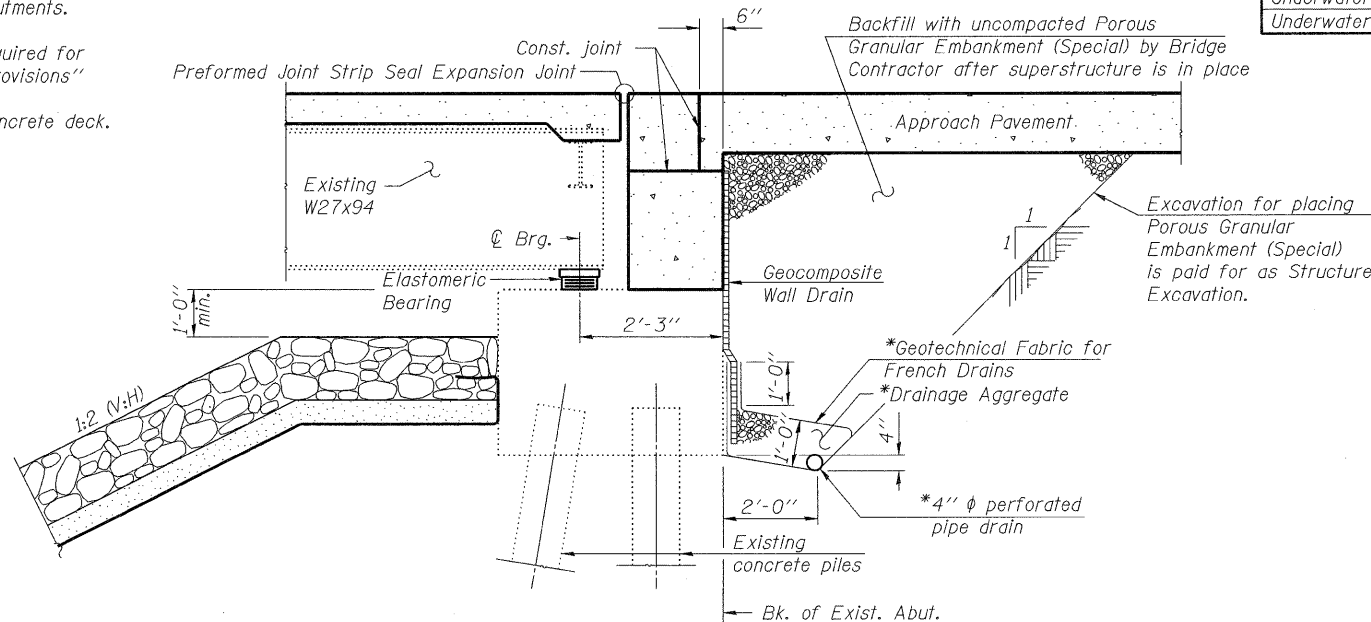
ITEM	UNIT	SUPER.	SUB.	TOTAL
Porous Granular Embankment, Special	Cu Yd	-	137	137
Stone Riprap, Class A4	Sq Yd	-	554	554
Filter Fabric	Sq Yd	-	554	554
Approach Slab Removal	Sq Yd	300	-	300
Concrete Removal	Cu Yd	-	23	23
Slope Wall Removal	Sq Yd	-	807	807
Structure Excavation	Cu Yd	-	111	111
Floor Drains	Each	6	-	6
Concrete Structures	Cu Yd	-	44	44
Concrete Superstructure	Cu Yd	303	-	303
Bridge Deck Grooving	Sq Yd	560	-	560
Protective Coat	Sq Yd	667	-	667
Furnishing and Erecting Structural Steel	L Sum	0.2	-	0.2
Stud Shear Connectors	Each	2,730	-	2,730
Jack and Remove Existing Bearings	Each	12	-	12
Jack and Reposition Bearings	Each	12	-	12
Structural Steel Removal	Pound	14,340	-	14,340
Cleaning And Painting Steel Bridge	L Sum	1	-	1
Containment And Disposal Of Lead Paint Cleaning Residues	L Sum	1	-	1
Reinforcement Bars, Epoxy Coated	Pound	69,640	6,640	76,280
Bar Splacers	Each	-	66	66
Slope Wall 6 Inch	Sq Yd	-	508	508
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	86	-	86
Elastomeric Bearing Assembly, Type I	Each	7	-	7
Elastomeric Bearing Assembly, Type II	Each	7	-	7
Anchor Bolts, 1"	Each	32	-	32
Concrete Sealer	Sq Ft	-	475	475
Geocomposite Wall Drain	Sq Yd	-	64	64
Pipe Underdrains for Structures, 4"	Foot	-	123	123
Drainage Scuppers, DS-11	Each	1	-	1
Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	-	21	21
Structural Repair of Concrete (Depth Equal To or Less Than 5")	Sq Ft	-	12	12
Removal of Existing Concrete Deck	Each	1	-	1
Underwater Structure Excavation Protection - Location 1	Each	-	0.5	0.5
Underwater Structure Excavation Protection - Location 2	Each	-	0.5	0.5



SECTION A-A



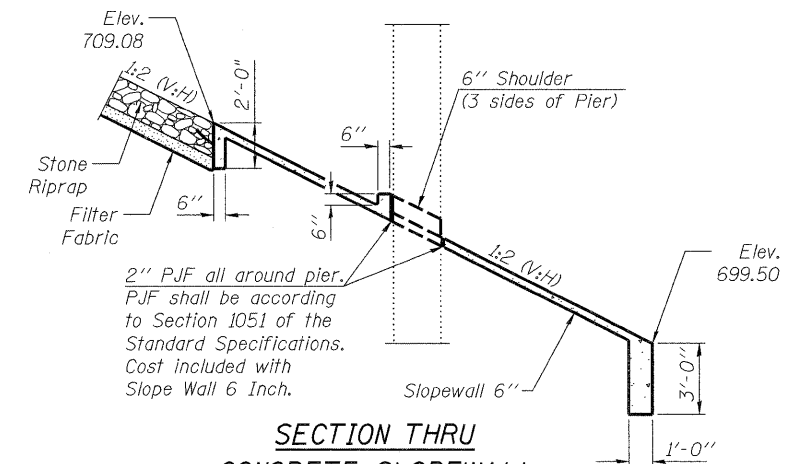
SECTION B-B



SECTION THRU EXISTING ABUTMENT

* Included in the cost of Pipe Underdrains for Structures, 4".

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION THRU CONCRETE SLOPEWALL

Sloped wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

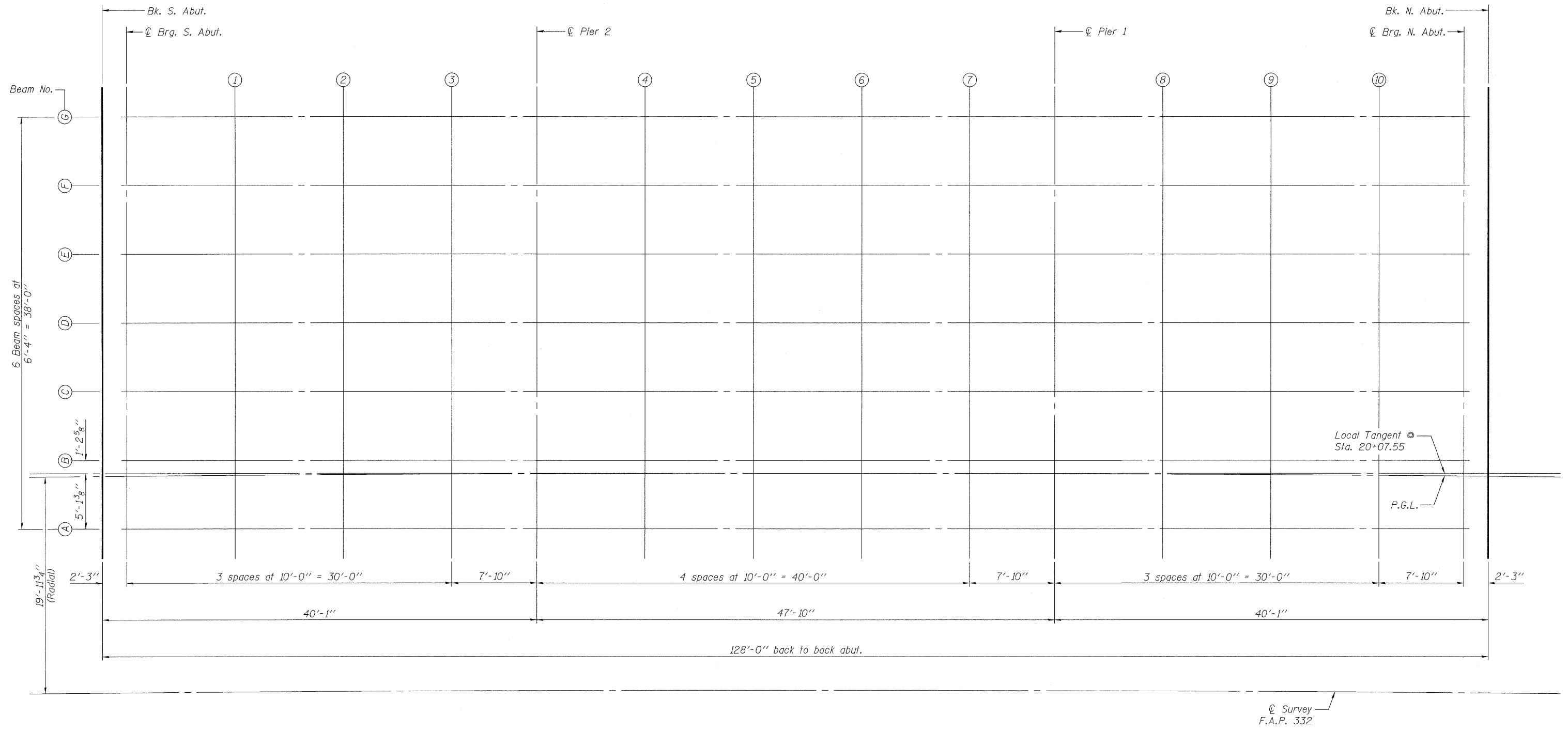
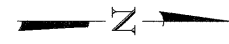
GENERAL NOTES, TOTAL BILL OF MATERIAL AND SECTION THRU EXISTING ABUTMENT SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL		173
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

TOP OF SLAB ELEVATIONS-1
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 3 23 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 174
	SN-099-0183			CONTRACT NO. 62542	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM A

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.69	4.85	725.64	725.64
⊘ Brg. S. Abut.	19+45.94	4.87	725.65	725.65
1	19+55.92	4.94	725.69	725.70
2	19+65.90	5.00	725.73	725.74
3	19+75.88	5.05	725.77	725.77
⊘ Brg. Pier 2	19+83.70	5.08	725.80	725.80
4	19+93.68	5.10	725.84	725.84
5	20+03.66	5.11	725.88	725.89
6	20+13.62	5.11	725.92	725.93
7	20+23.60	5.10	725.96	725.96
⊘ Brg. Pier 1	20+31.42	5.08	725.99	725.99
8	20+41.40	5.04	726.03	726.03
9	20+51.38	4.99	726.07	726.08
10	20+61.37	4.93	726.11	726.12
⊘ Brg. N. Abut.	20+69.18	4.87	726.14	726.14
Bk. N. Abut.	20+71.43	4.85	726.15	726.15

PROFILE GRADE LINE

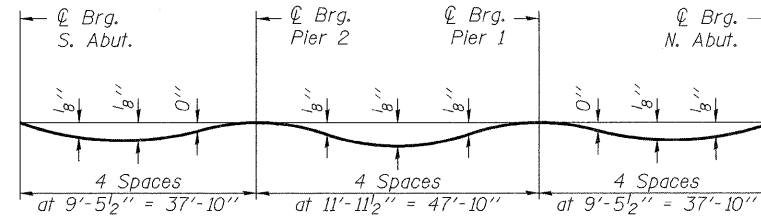
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.73	0.00	725.74	725.74
⊘ Brg. S. Abut.	19+45.98	0.00	725.75	725.75
1	19+55.97	0.00	725.79	725.80
2	19+65.97	0.00	725.83	725.84
3	19+75.96	0.00	725.87	725.88
⊘ Brg. Pier 2	19+83.71	0.00	725.90	725.90
4	19+93.71	0.00	725.94	725.95
5	20+03.71	0.00	725.98	726.00
6	20+13.68	0.00	726.02	726.04
7	20+23.65	0.00	726.06	726.07
⊘ Brg. Pier 1	20+31.41	0.00	726.09	726.09
8	20+41.38	0.00	726.13	726.14
9	20+51.36	0.00	726.17	726.18
10	20+61.33	0.00	726.21	726.22
⊘ Brg. N. Abut.	20+69.15	0.00	726.25	726.25
Bk. N. Abut.	20+71.39	0.00	726.25	726.25

BEAM B

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.74	-1.48	725.78	725.78
⊘ Brg. S. Abut.	19+45.99	-1.46	725.78	725.78
1	19+55.96	-1.39	725.82	725.83
2	19+65.93	-1.33	725.86	725.87
3	19+75.91	-1.29	725.90	725.90
⊘ Brg. Pier 2	19+83.72	-1.26	725.93	725.93
4	19+93.69	-1.23	725.97	725.98
5	20+03.67	-1.22	726.01	726.02
6	20+13.62	-1.22	726.05	726.06
7	20+23.59	-1.24	726.09	726.09
⊘ Brg. Pier 1	20+31.40	-1.26	726.12	726.12
8	20+41.38	-1.29	726.16	726.17
9	20+51.35	-1.34	726.20	726.21
10	20+61.32	-1.40	726.24	726.25
⊘ Brg. N. Abut.	20+69.14	-1.46	726.28	726.28
Bk. N. Abut.	20+71.38	-1.48	726.29	726.29

BEAM C

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.79	-7.81	725.91	725.91
⊘ Brg. S. Abut.	19+46.04	-7.79	725.92	725.92
1	19+56.00	-7.72	725.95	725.96
2	19+65.97	-7.66	725.99	726.00
3	19+75.93	-7.62	726.03	726.03
⊘ Brg. Pier 2	19+83.74	-7.59	726.06	726.06
4	19+93.70	-7.57	726.10	726.11
5	20+03.67	-7.56	726.14	726.16
6	20+13.61	-7.56	726.18	726.19
7	20+23.58	-7.57	726.22	726.23
⊘ Brg. Pier 1	20+31.38	-7.59	726.25	726.25
8	20+41.35	-7.63	726.29	726.30
9	20+51.32	-7.68	726.33	726.34
10	20+61.28	-7.74	726.38	726.38
⊘ Brg. N. Abut.	20+69.09	-7.79	726.40	726.41
Bk. N. Abut.	20+71.33	-7.81	726.42	726.42

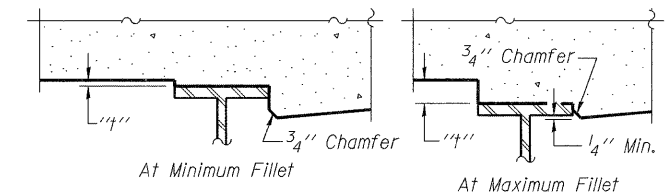


DEAD LOAD DEFLECTION DIAGRAM

(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.



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

**TOP OF SLAB ELEVATIONS-2
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55**

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

Note:

The stations provided in these tables are measured along the ⊘ Survey F.A.P. 332.
The offsets provided in these tables are measured from the Southbound Profile Grade Line.



SHEET NO. 4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	175
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.84	-14.14	726.04	726.04
☉ Brg. S. Abut.	19+46.08	-14.13	726.05	726.05
1	19+56.04	-14.06	726.09	726.09
2	19+66.00	-14.00	726.12	726.13
3	19+75.96	-13.95	726.16	726.17
☉ Brg. Pier 2	19+83.76	-13.92	726.19	726.19
4	19+93.71	-13.90	726.23	726.24
5	20+03.67	-13.89	726.27	726.29
6	20+13.61	-13.89	726.31	726.33
7	20+23.57	-13.90	726.35	726.36
☉ Brg. Pier 1	20+31.37	-13.92	726.38	726.38
8	20+41.32	-13.96	726.43	726.43
9	20+51.28	-14.01	726.47	726.48
10	20+61.24	-14.07	726.51	726.51
☉ Brg. N. Abut.	20+69.04	-14.13	726.54	726.54
Bk. N. Abut.	20+71.28	-14.14	726.55	726.55

BEAM E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.89	-20.48	726.17	726.17
☉ Brg. S. Abut.	19+46.13	-20.46	726.18	726.18
1	19+56.08	-20.39	726.22	726.23
2	19+66.03	-20.33	726.26	726.27
3	19+75.98	-20.29	726.30	726.30
☉ Brg. Pier 2	19+83.78	-20.26	726.33	726.33
4	19+93.72	-20.23	726.37	726.37
5	20+03.67	-20.22	726.41	726.42
6	20+13.60	-20.22	726.45	726.46
7	20+23.55	-20.24	726.49	726.49
☉ Brg. Pier 1	20+31.35	-20.26	726.52	726.52
8	20+41.30	-20.29	726.56	726.56
9	20+51.25	-20.34	726.60	726.61
10	20+61.20	-20.40	726.64	726.65
☉ Brg. N. Abut.	20+68.99	-20.46	726.67	726.67
Bk. N. Abut.	20+71.23	-20.48	726.68	726.68

BEAM F

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.94	-26.81	726.30	726.30
☉ Brg. S. Abut.	19+46.18	-26.79	726.31	726.31
1	19+56.12	-26.72	726.35	726.36
2	19+66.06	-26.66	726.39	726.40
3	19+76.01	-26.62	726.43	726.43
☉ Brg. Pier 2	19+83.79	-26.59	726.46	726.46
4	19+93.74	-26.57	726.50	726.50
5	20+03.68	-26.56	726.54	726.55
6	20+13.60	-26.56	726.58	726.59
7	20+23.54	-26.57	726.62	726.62
☉ Brg. Pier 1	20+31.33	-26.59	726.65	726.65
8	20+41.27	-26.63	726.69	726.69
9	20+51.21	-26.68	726.73	726.74
10	20+61.15	-26.74	726.77	726.78
☉ Brg. N. Abut.	20+68.94	-26.79	726.80	726.80
Bk. N. Abut.	20+71.18	-26.81	726.81	726.81

BEAM G

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	19+43.99	-33.14	726.44	726.44
☉ Brg. S. Abut.	19+46.23	-33.13	726.44	726.44
1	19+56.16	-33.06	726.48	726.49
2	19+66.10	-33.00	726.52	726.53
3	19+76.03	-32.95	726.56	726.56
☉ Brg. Pier 2	19+83.81	-32.92	726.59	726.59
4	19+93.75	-32.90	726.63	726.64
5	20+03.68	-32.89	726.67	726.68
6	20+13.59	-32.89	726.71	726.72
7	20+23.53	-32.90	726.75	726.75
☉ Brg. Pier 1	20+31.31	-32.92	726.78	726.78
8	20+41.24	-32.96	726.82	726.83
9	20+51.18	-33.01	726.86	726.87
10	20+61.11	-33.07	726.90	726.91
☉ Brg. N. Abut.	20+68.89	-33.13	726.93	726.93
Bk. N. Abut.	20+71.13	-33.14	726.94	726.94

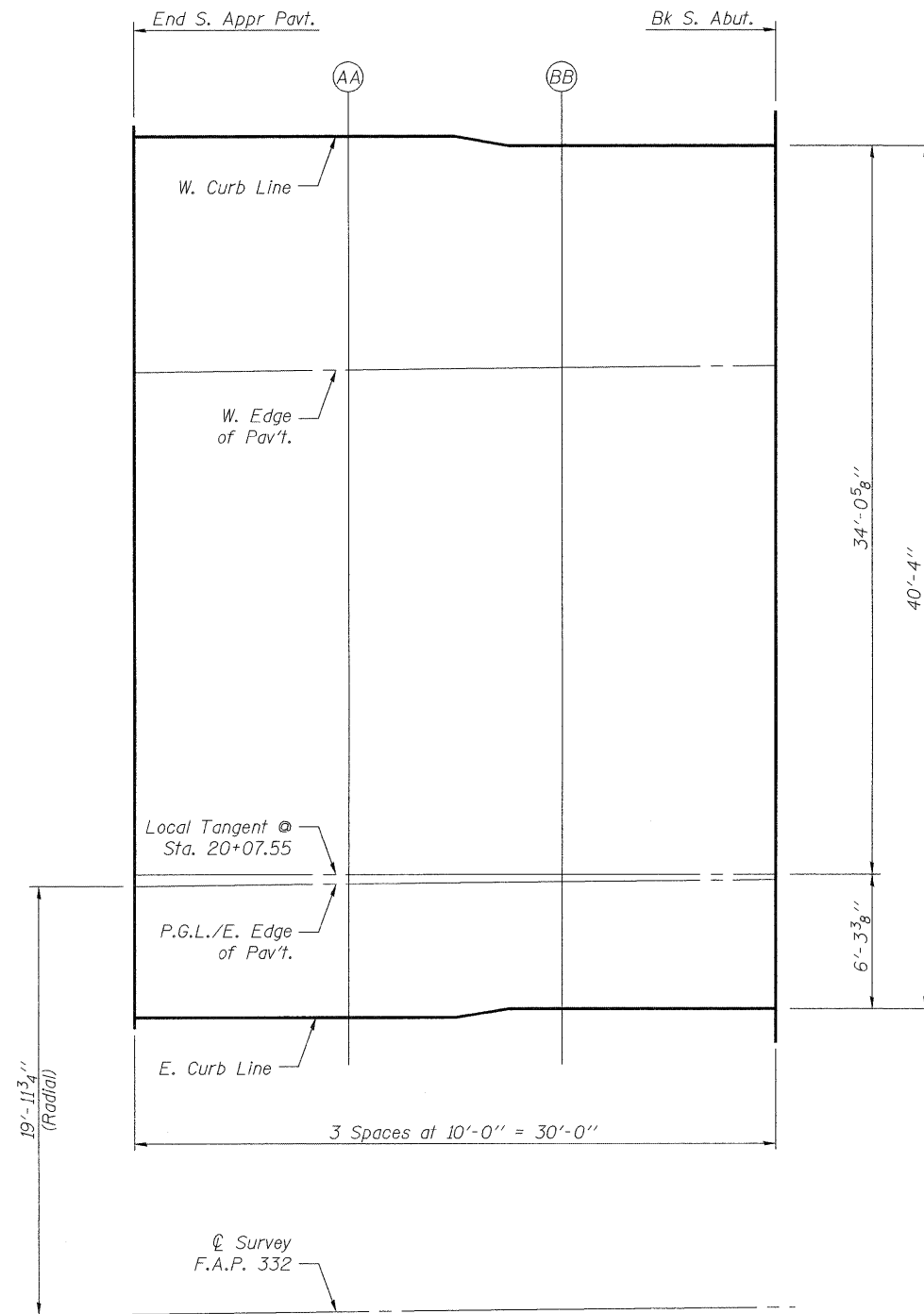
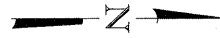
TOP OF SLAB ELEVATIONS-3
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 5	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	176
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

Note:
The stations provided in these tables are measured along the \odot Survey F.A.P. 332.
The offsets provided in these tables are measured from the Southbound Profile Grade Line.

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Pav't	19+14.09	-24.00	726.13
AA	19+24.03	-24.00	726.17
BB	19+33.98	-24.00	726.21
Bk. S. Abutment	19+43.92	-24.00	726.24

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Pav't	19+14.21	-35.02	726.36
AA	19+24.14	-34.91	726.39
BB	19+34.07	-34.40	726.42
Bk. S. Abutment	19+44.00	-34.31	726.46

P.G.L. / EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Pav't	19+13.80	0.00	725.62
AA	19+23.78	0.00	725.66
BB	19+33.76	0.00	725.70
Bk. S. Abutment	19+43.73	0.00	725.74

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of S. Appr. Pav't	19+13.73	6.14	725.50
AA	19+23.71	6.25	725.53
BB	19+33.70	5.94	725.58
Bk. S. Abutment	19+43.68	6.02	725.62

TOP OF SOUTH APPROACH SLAB ELEVATIONS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	177
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	20+71.20	-24.00	726.75
CC	20+81.15	-24.00	726.79
DD	20+91.09	-24.00	726.83
End of N. Appr. Pav't	21+01.04	-24.00	726.87

P.G.L. / EAST EDGE OF PAVEMENT

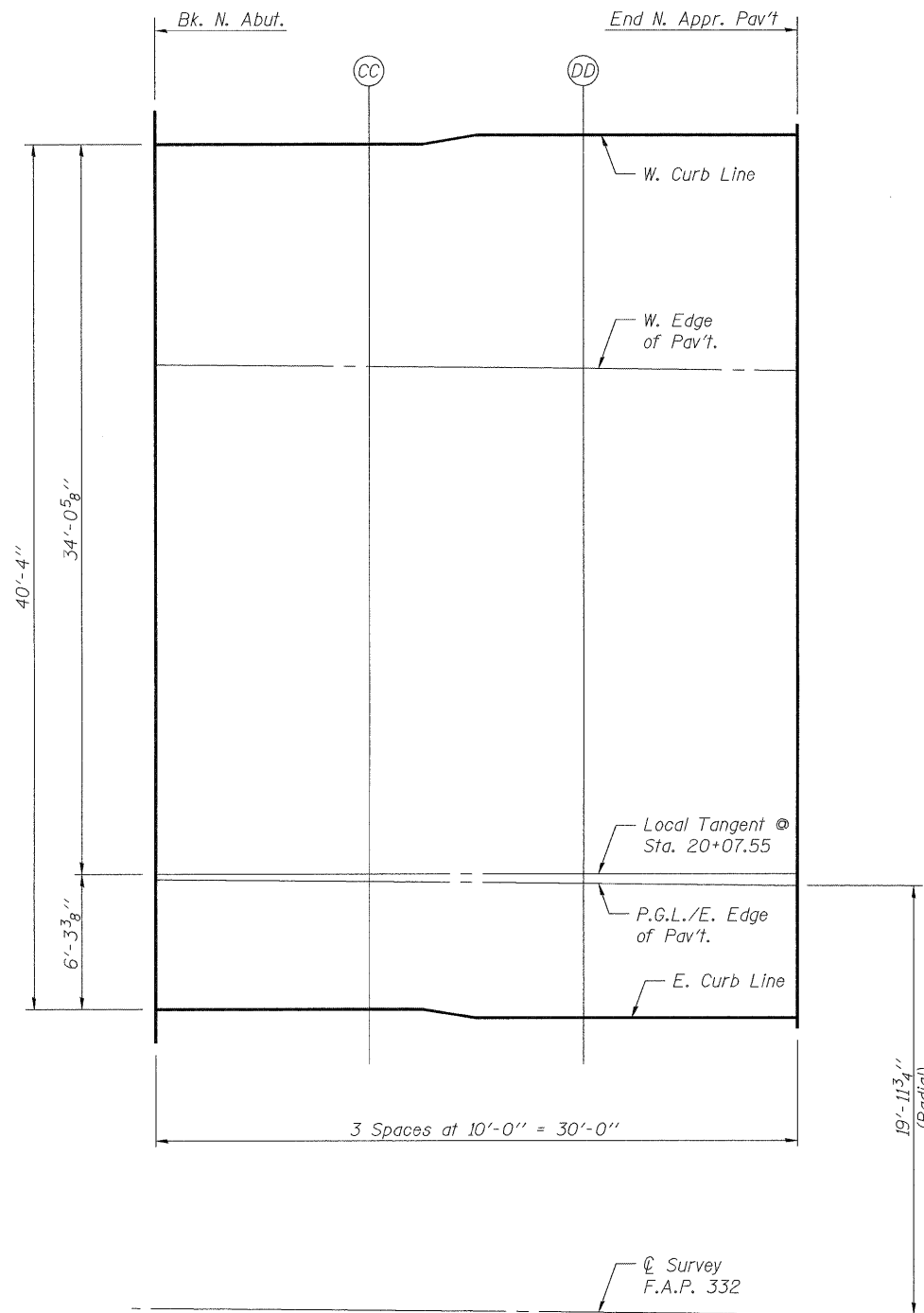
Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	20+71.39	0.00	726.25
CC	20+81.37	0.00	726.29
DD	20+91.34	0.00	726.33
End of N. Appr. Pav't	21+01.32	0.00	726.37

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	20+71.12	-34.31	726.97
CC	20+81.05	-34.40	727.01
DD	20+90.98	-34.91	727.06
End of N. Appr. Pav't	21+00.91	-35.02	727.10

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abutment	20+71.44	6.02	726.13
CC	20+81.42	5.94	726.17
DD	20+91.41	6.25	726.20
End of N. Appr. Pav't	21+01.39	6.14	726.25



PLAN

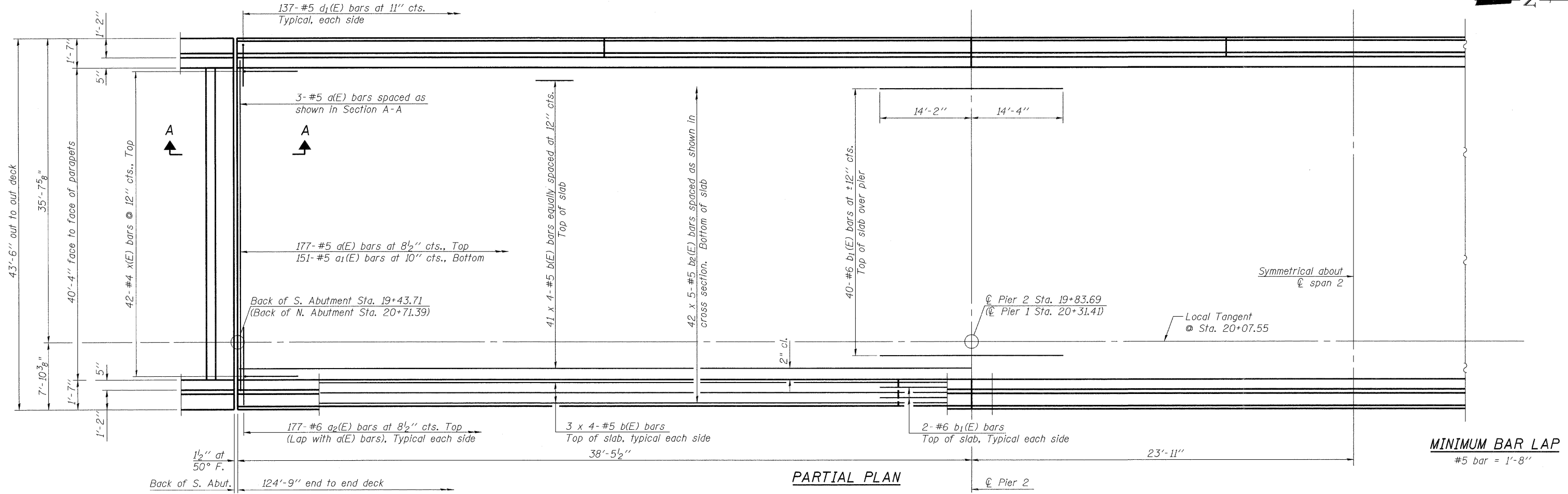
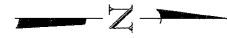
DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

Note:
The stations provided in these tables are measured along the Survey F.A.P. 332.
The offsets provided in these tables are measured from the Southbound Profile Grade Line.

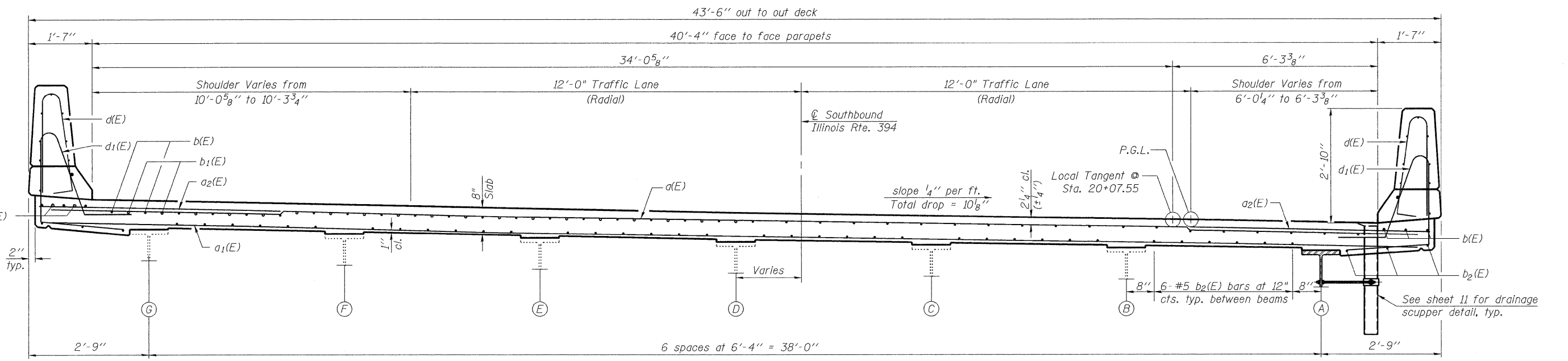
TOP OF NORTH APPROACH SLAB ELEVATIONS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 7	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	178
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



MINIMUM BAR LAP
#5 bar = 1'-8"



NEAR PIER

CROSS SECTION
(Looking North)

NEAR MIDSPAN

SUPERSTRUCTURE
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

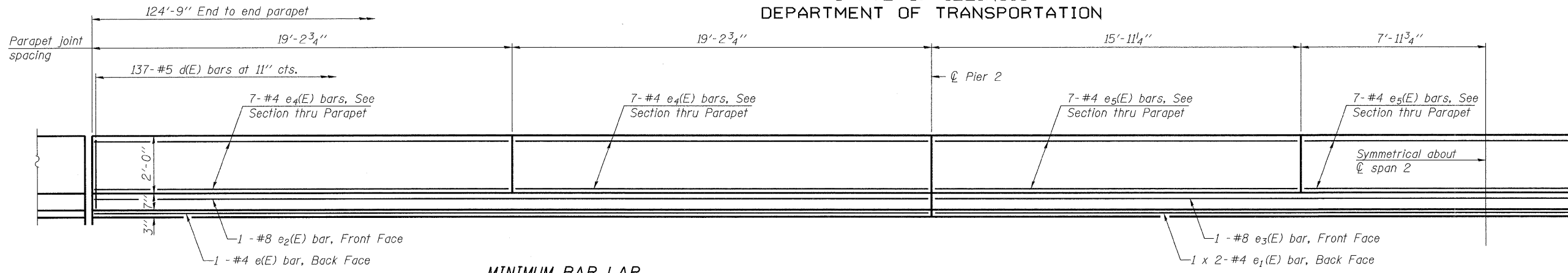
Notes:
See Sheet 9 of 23 for superstructure details and Bill of Material.
Bars indicated thus 41x4-#5 etc. indicates 41 lines of bars with 4 lengths per line.
See Sheet 9 of 23 for parapet reinforcement.
See Sheet 9 of 23 for Section A-A.
Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 8	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	179
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

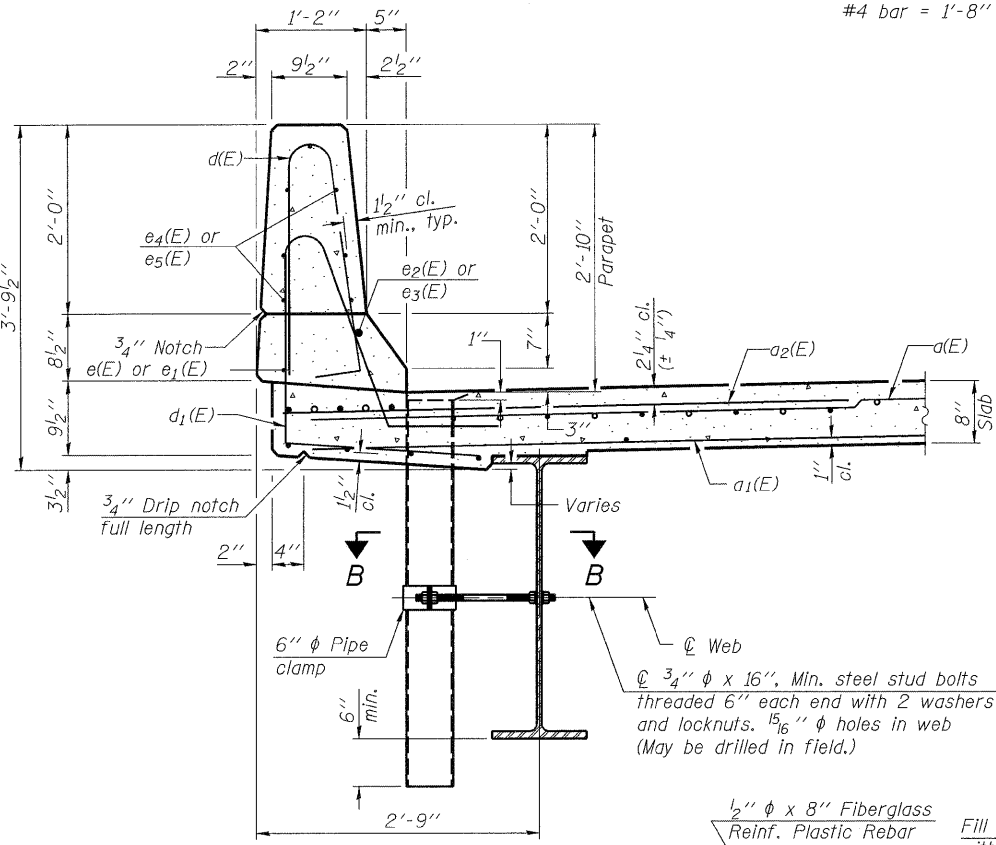


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



MINIMUM BAR LAP
#4 bar = 1'-8"

INSIDE ELEVATION OF PARAPET



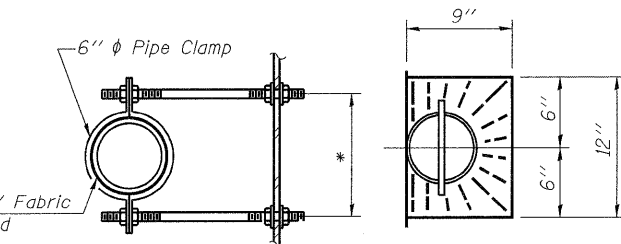
PARAPET JOINT DETAILS

Notes:
Drains shall be located clear of all diaphragms.
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SPI prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

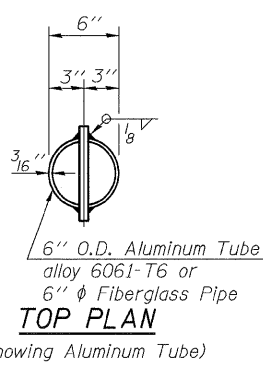
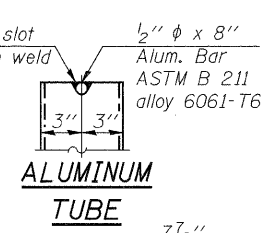
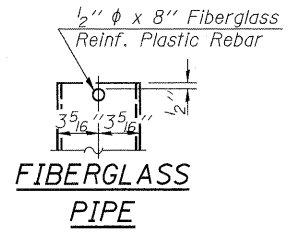
**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	183	#5	42'-11"	—
a ₁ (E)	151	#5	42'-3"	—
a ₂ (E)	354	#6	6'-0"	—
a ₃ (E)	8	#5	2'-0"	—
b(E)	188	#5	32'-5"	—
b ₁ (E)	88	#6	28'-6"	—
b ₂ (E)	210	#5	26'-3"	—
d(E)	274	#5	5'-7"	⌒
d ₁ (E)	274	#5	7'-6"	⌒
e(E)	4	#4	38'-2"	—
e ₁ (E)	4	#4	24'-8"	—
e ₂ (E)	4	#8	38'-2"	—
e ₃ (E)	2	#8	47'-7"	—
e ₄ (E)	56	#4	18'-11"	—
e ₅ (E)	42	#4	15'-8"	—
x(E)	84	#4	3'-2"	—
Reinforcement Bars, Epoxy Coated		Pound	40,620	
Concrete Superstructure		Cu. Yds.	170	

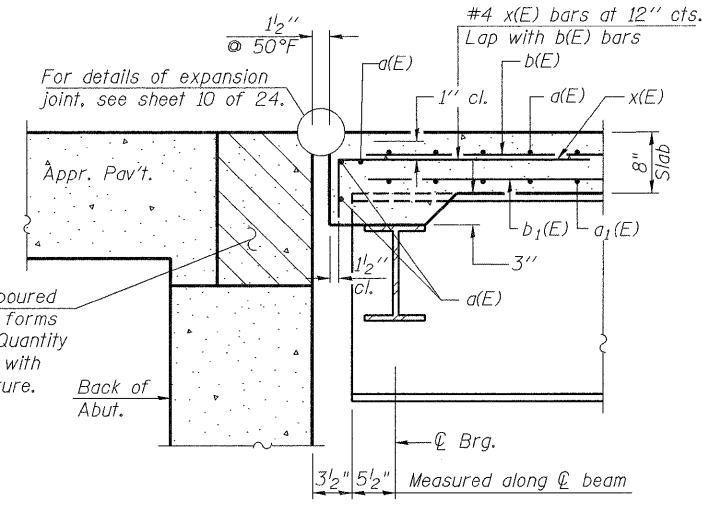
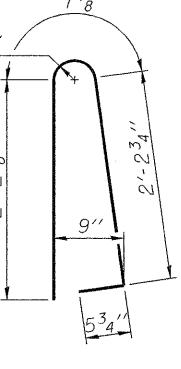
SECTION THRU PARAPET



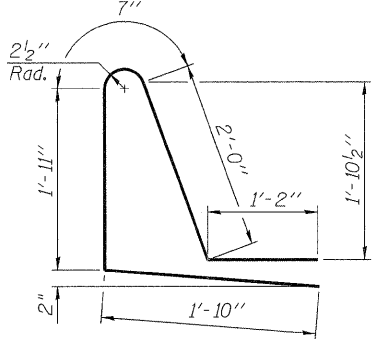
TOP PLAN



BAR d(E)

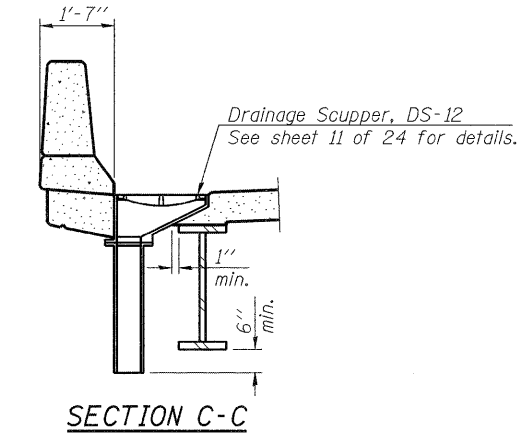
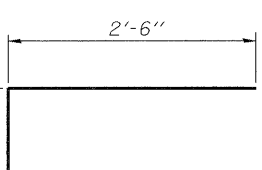


SECTION A-A

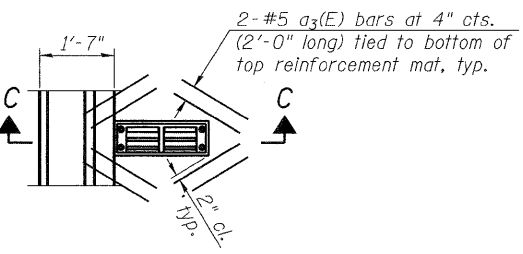


BAR d₁(E)

BAR x(E)



SECTION C-C



PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

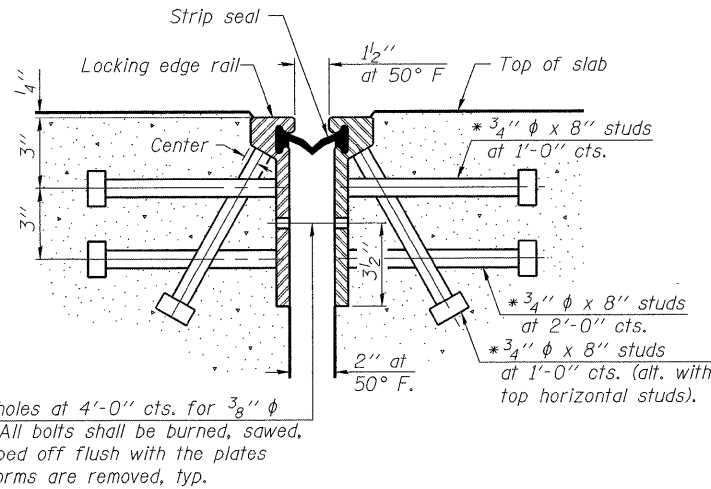
**SUPERSTRUCTURE DETAILS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55**

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

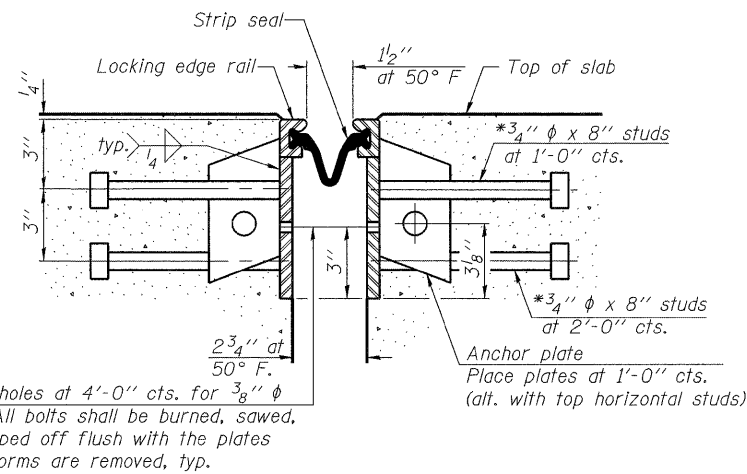
SHEET NO. 9	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	180
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

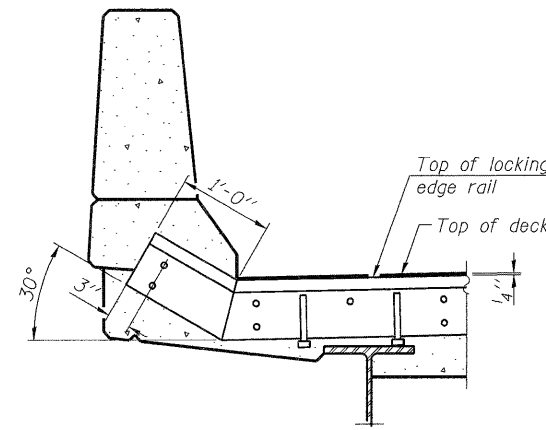


SECTION THRU
ROLLED RAIL JOINT

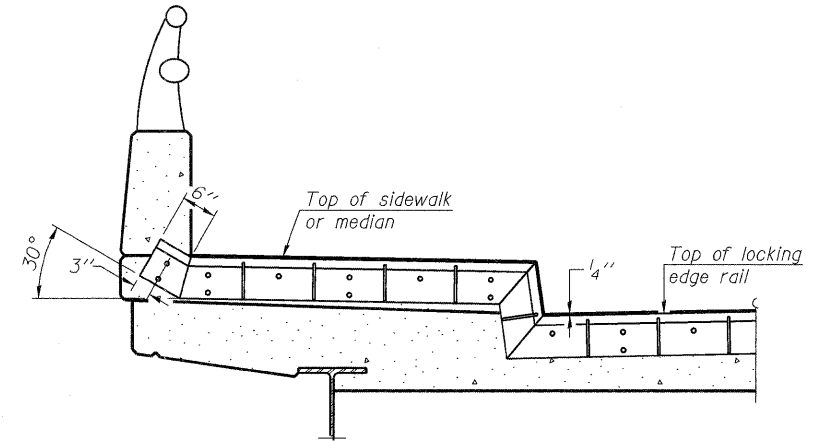


SECTION THRU
WELDED RAIL JOINT

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

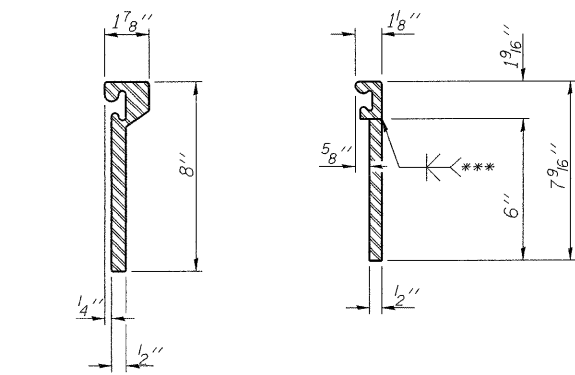


AT PARAPET

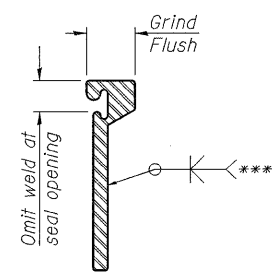


AT SIDEWALK OR MEDIAN

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



ROLLED
EXTRUDED RAIL WELDED RAIL

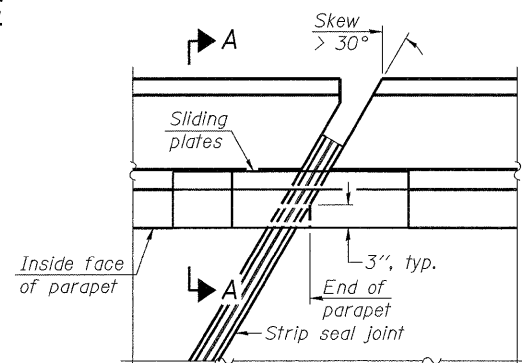


***Back gouge not required if complete joint penetration is verified by mock-up.

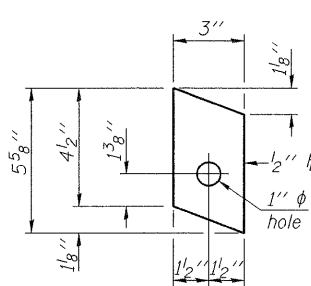
LOCKING EDGE
RAIL SPLICE

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

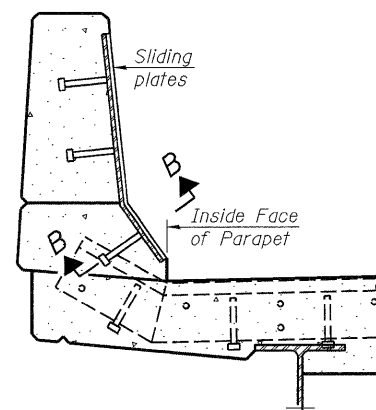
LOCKING EDGE RAILS



PLAN

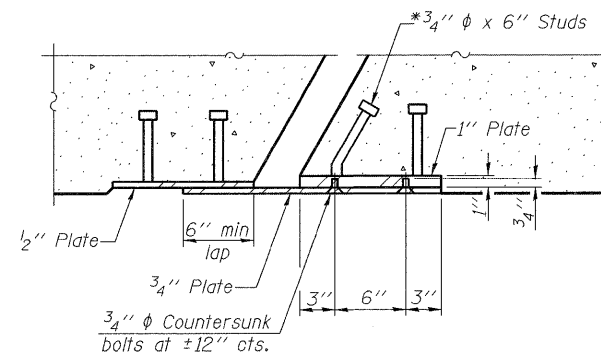


ANCHOR PLATE
(for welded rail)



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

TYPICAL END TREATMENTS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	86

PREFORMED JOINT STRIP SEAL
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

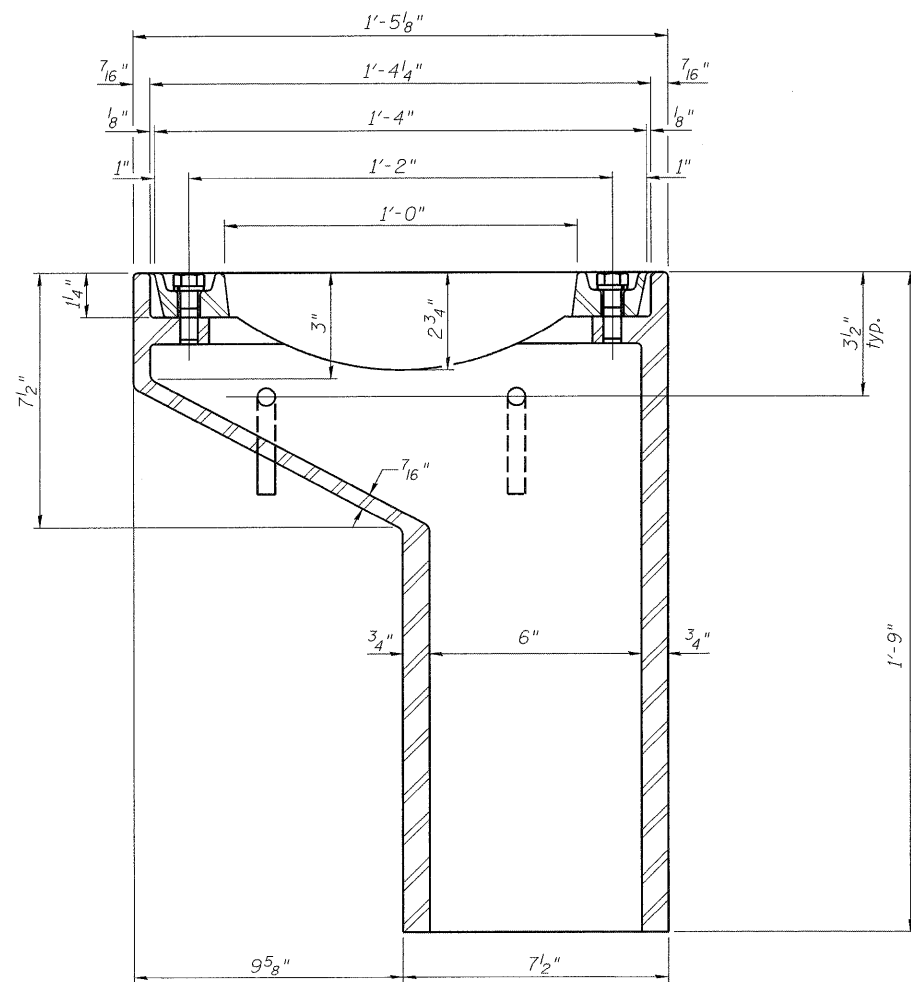
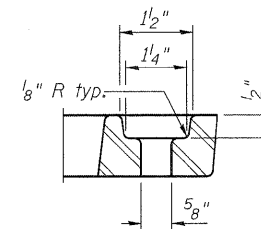
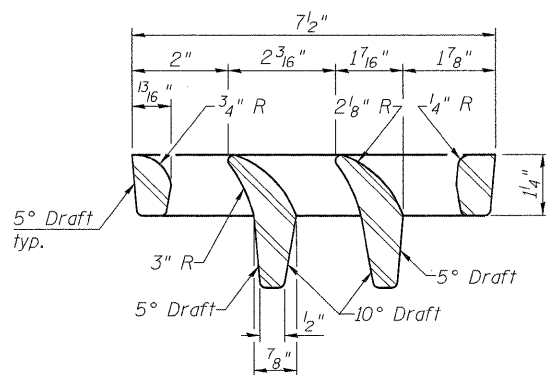
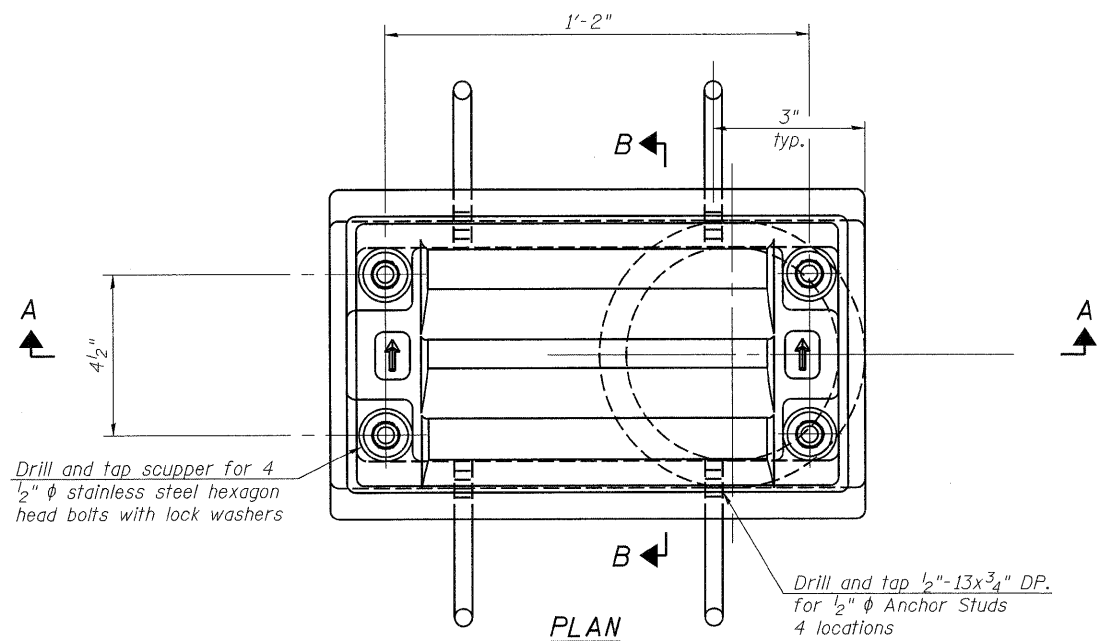
EJ-SSJ

10-1-08

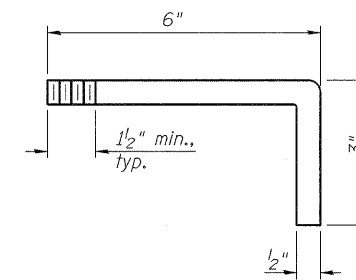
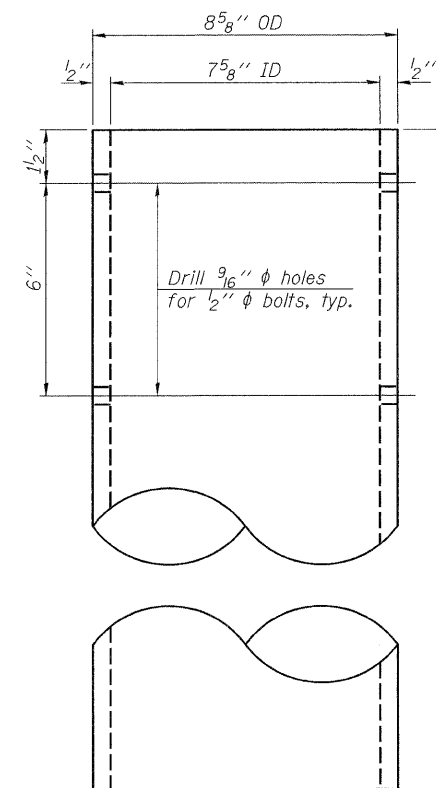
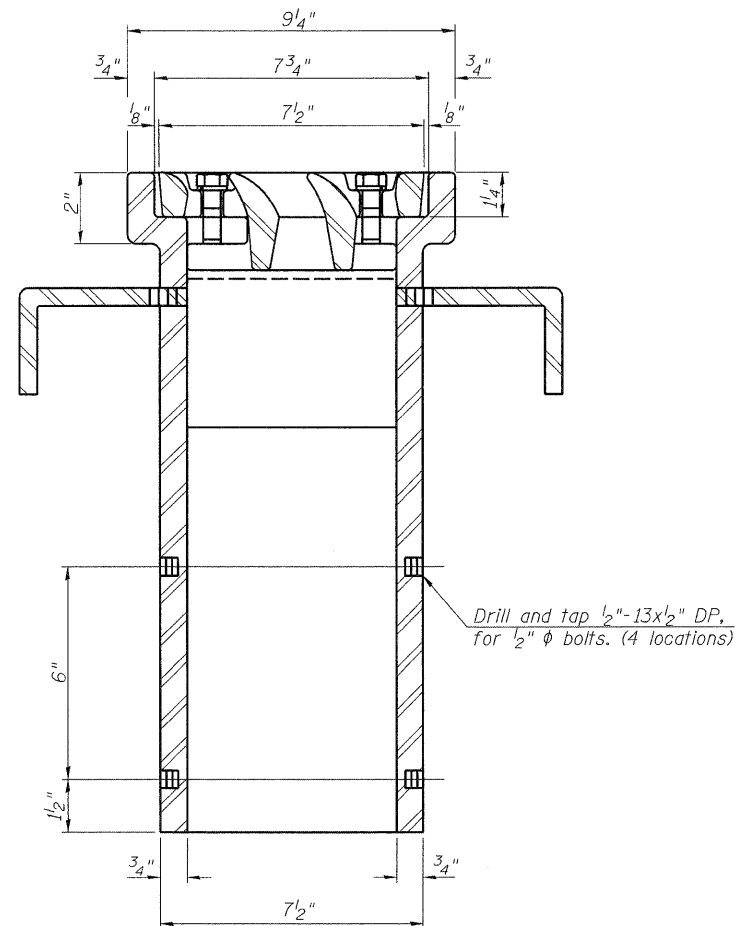
SHEET NO. 10 23 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 181
	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 210 Chicago, IL 60604-2003

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A
See sheet of for scupper location relative to parapet.



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.

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-11.

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-11	Each	1

DRAINAGE SCUPPER, DS-11
STRUCTURE NO.

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

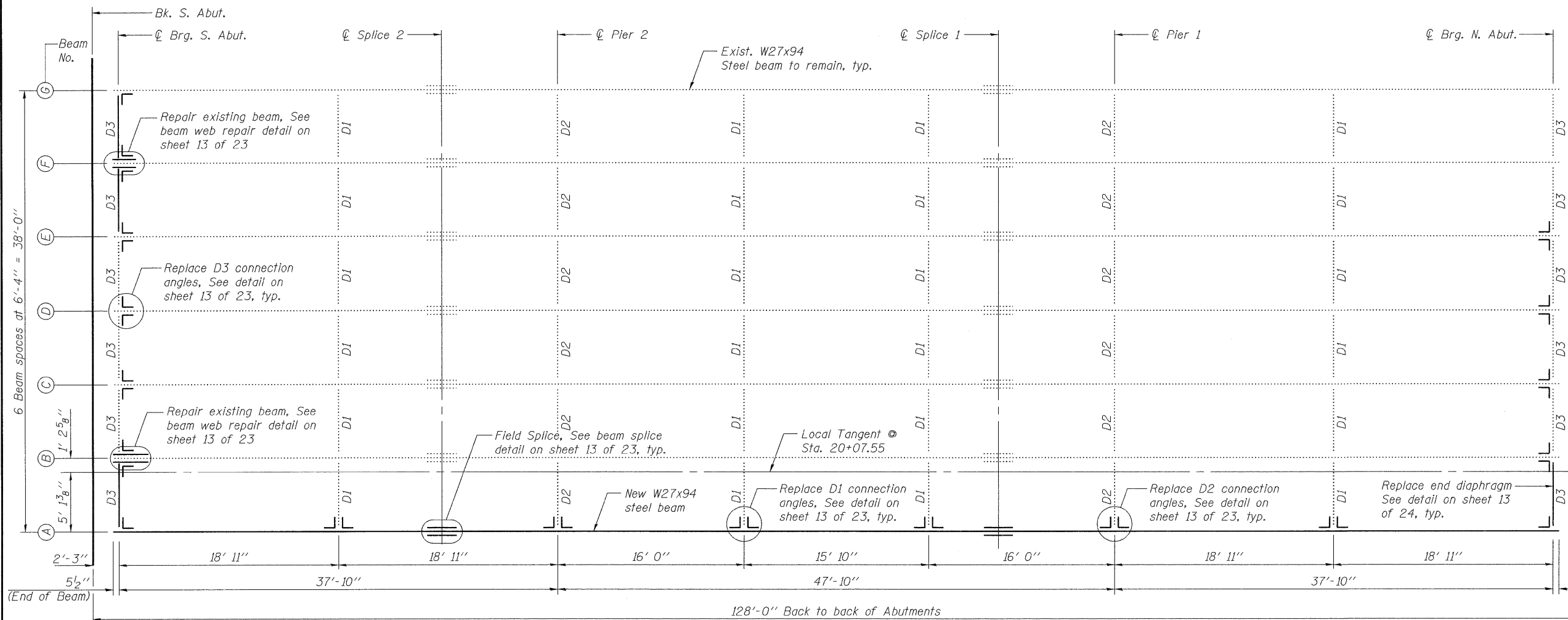
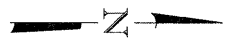
DS-11

10-1-08

SHEET NO. 11	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	23 SHEETS	332	2002-113R	WILL	242 182
SN-099-0183			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

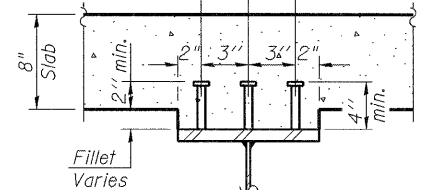
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DEPARTMENT OF TRANSPORTATION

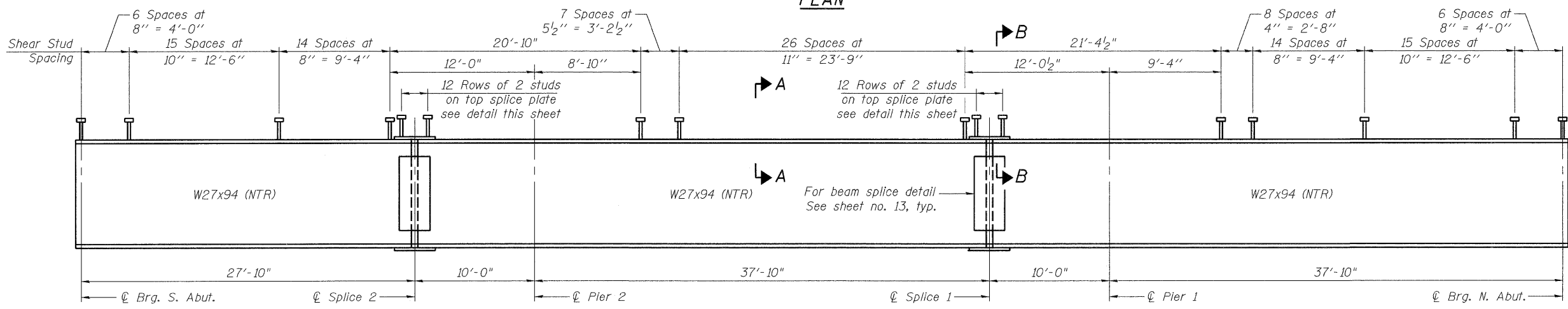


NOTES:

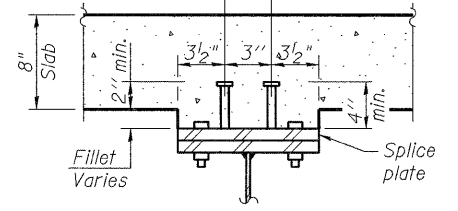
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 - Removal of existing Beam "A" and bearings under Beam "A" are paid for as "Structural Steel Removal". Bearings shall be removed according to existing bearing removal detail on sheet 15 of 24.
- 3/4" φ Granular or solid flux filled headed studs, automatically end welded to flange.
(No. Req'd. = 342 Per Existing Beam)
(No. Req'd. = 342 Per New Beam)
Total = 2394



PLAN

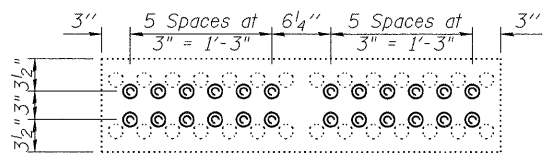
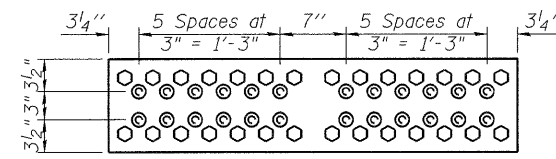


- 3/4" φ Granular or solid flux filled headed studs, automatically end welded to splice plate.
(No. Req'd. = 48 Per Existing Beam)
(No. Req'd. = 48 Per New Beam)
Total = 336



ELEVATION

(Beam A shown. Stud spacing applies to all beams.)



FRAMING PLAN
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SHEET NO. 12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	23 SHEETS	332	2002-113R	WILL	242 183
SN-099-0183			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Sp. 2
I_s	(in ⁴)	3270	3270
$I_c(n)$	(in ⁴)	10216	10216
$I_c(3n)$	(in ⁴)	7550	7550
S_s	(in ³)	243	243
$S_c(n)$	(in ³)	384	384
$S_c(3n)$	(in ³)	346	346
Z	(in ³)	278	278
\bar{D}	(k/')	0.786	0.786
$M\bar{D}$	(k)	77	145
$s\bar{D}$	(k/')	0.273	0.273
$M_s\bar{D}$	(k)	31.0	40.0
M_L	(k)	207.7	118.1
M_{IM}	(k)	62.3	34.2
$^{5}_3[M_L + I]$	(k)	450.0	253.9
M_a	(k)	725.4	570.6
M_u	(k)	1462.0	822.0
$f_s \bar{D}$ non-comp	(ksi)	3.8	7.2
$f_s \bar{D}$ (comp)	(ksi)	1.1	2.0
$f_s \bar{D}$ [$M_L + M_I$]	(ksi)	14.1	12.5
f_s (Overload)	(ksi)	19.0	21.7
f_s (Total)	(ksi)	-	-
VR	(k)	29.3	31.3

INTERIOR GIRDER REACTION TABLE		
	Abutments	Piers
$R\bar{D}$	(k)	15.1
R_L	(k)	30.5
R_I	(k)	9.2
R_{Total}	(k)	54.8

* Compact section
** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in³).

\bar{D} : Un-factored non-composite dead load (kips/ft.).

$M\bar{D}$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\bar{D}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s\bar{D}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L : Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).
 $1.3 [M\bar{D} + M_s\bar{D} + \frac{5}{3} (M_L + M_I)]$

M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M\bar{D} + M_s\bar{D} + \frac{5}{3} (M_L + M_I)$

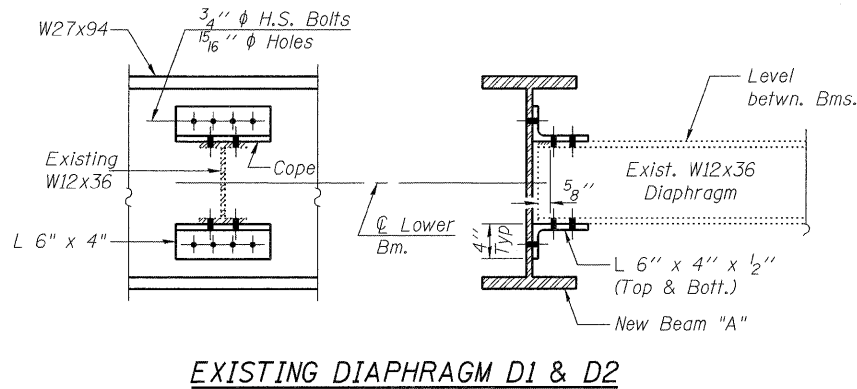
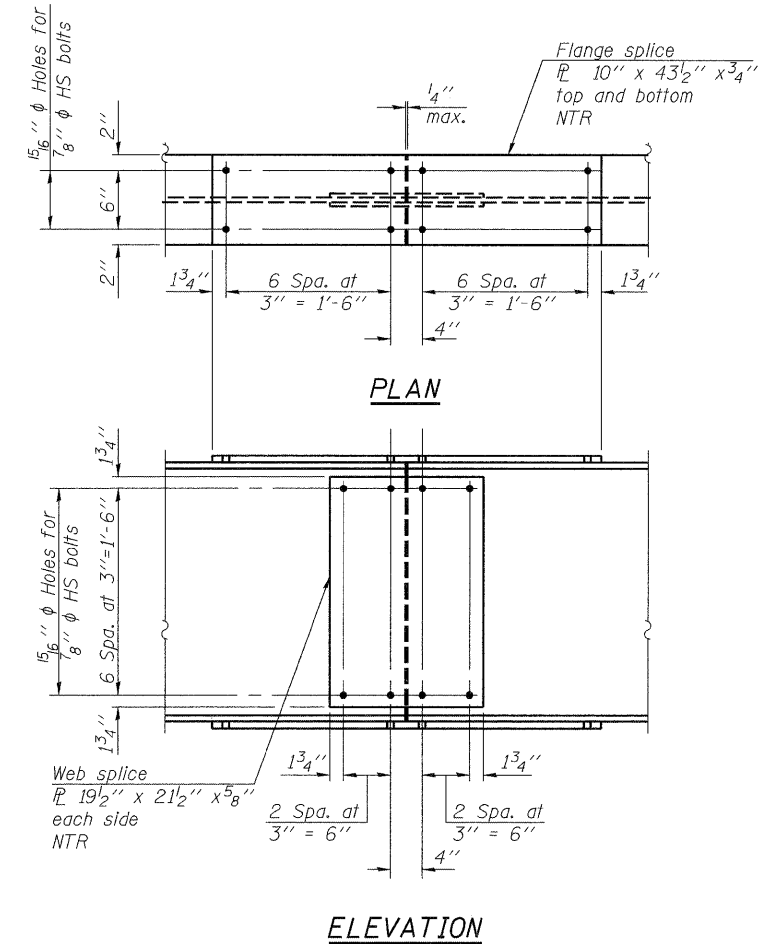
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\bar{D} + M_s\bar{D} + \frac{5}{3} (M_L + M_I)]$

VR: Maximum \bar{L} + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

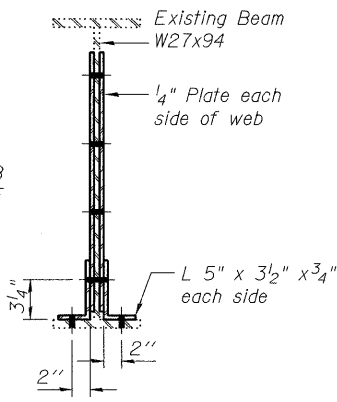
TOP OF BEAM ELEVATIONS

Location	Beam A	Beam B	Beam C	Beam D	Beam E	Beam F	Beam G
☉ Brg. South Abutment	724.80	724.92	725.05	725.18	725.30	725.43	725.56
☉ Splice 2	724.86	724.98	725.11	725.24	725.36	725.49	725.62
☉ Brg. Pier 2	724.90	725.03	725.16	725.28	725.41	725.54	725.66
☉ Splice 1	725.07	725.20	725.33	725.45	725.58	725.71	725.84
☉ Brg. Pier 1	725.13	725.26	725.39	725.52	725.64	725.77	725.90
☉ Brg. North Abutment	725.37	725.49	725.62	725.75	725.87	726.00	726.13

Note: Top of Beam Elevations shown for Beam A are for fabrication use only.
Top of Beam Elevations shown for Beams B-G are for information purposes only.



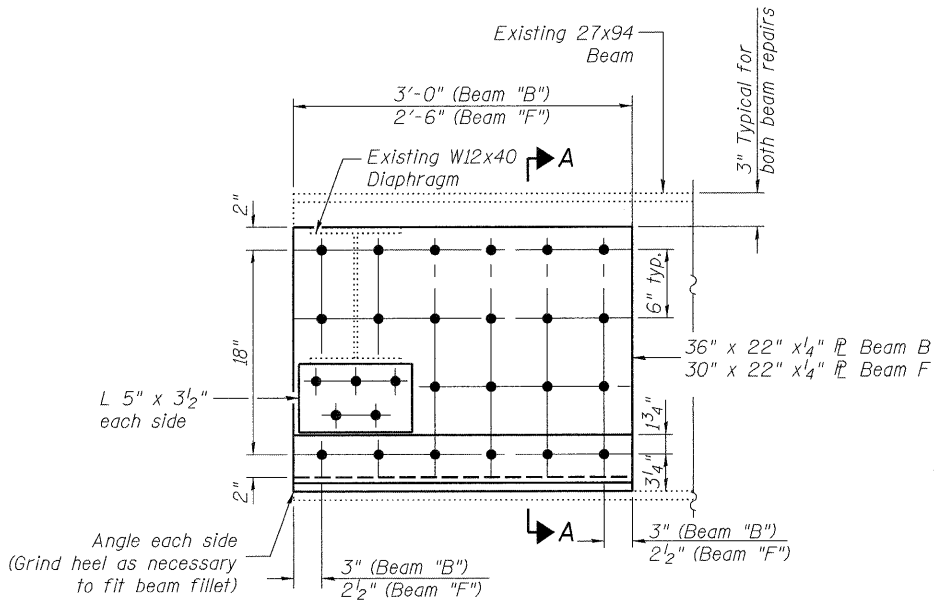
Note:
Two hardened washers shall be required over all oversize holes for diaphragms.



SECTION A-A

Note:
Match existing bolt spacing when replacing angle connection.
Contractor shall use new bolts for all connections being replaced.

DIAPHRAGM D3



BEAM WEB REPAIR DETAIL

Note:
Existing Diaphragms shall be shortened to accommodate beam repairs, cost included with "Furnishing and Erecting Structural Steel".

Beam "B" horizontal bolt spacing = 6"
Beam "F" horizontal bolt spacing = 5"

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

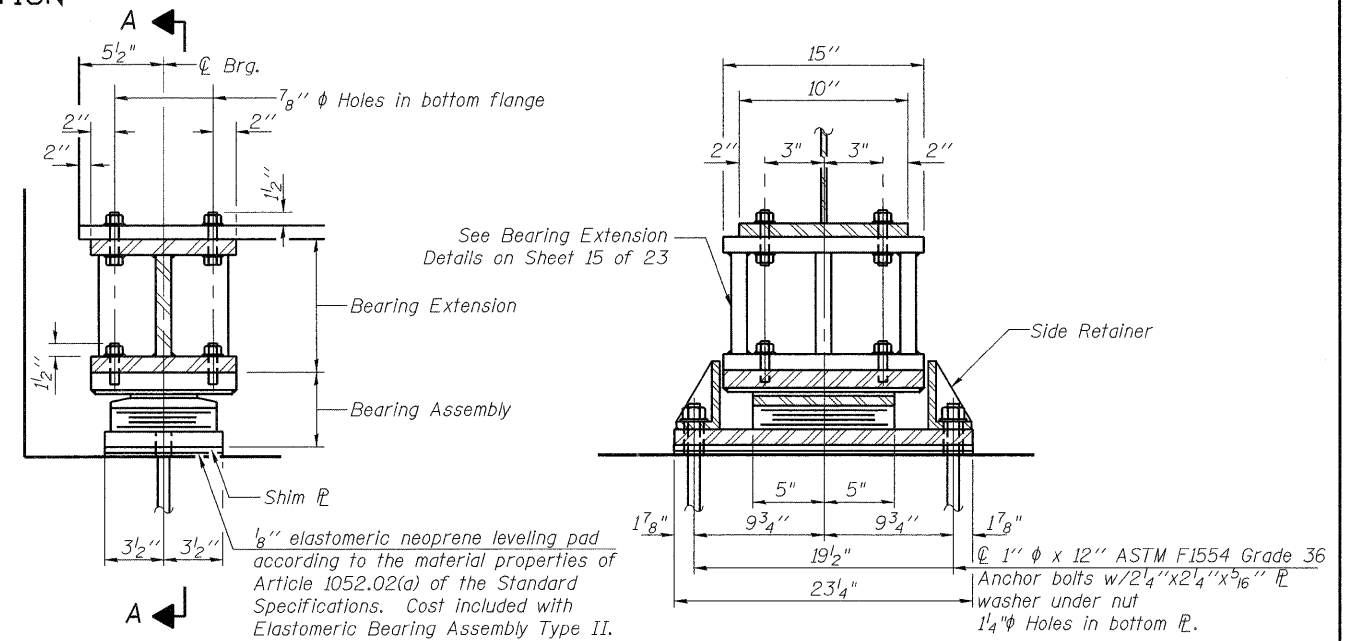
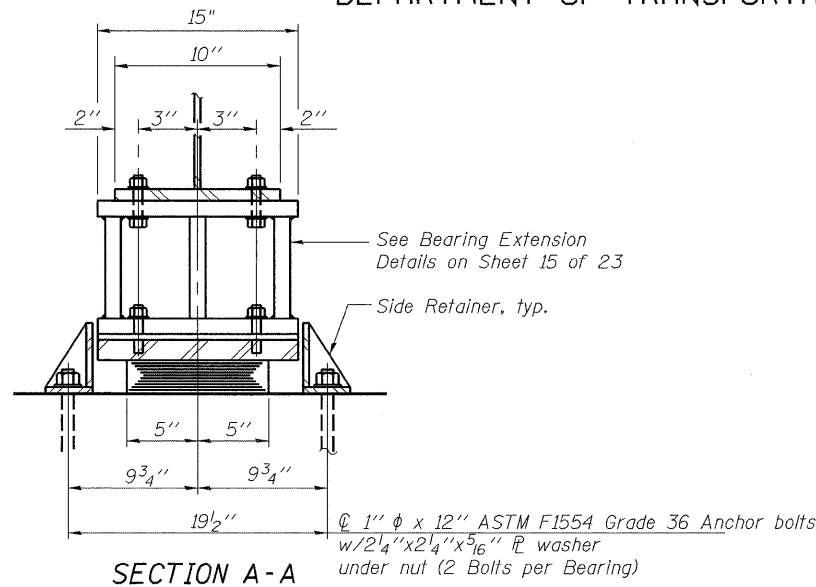
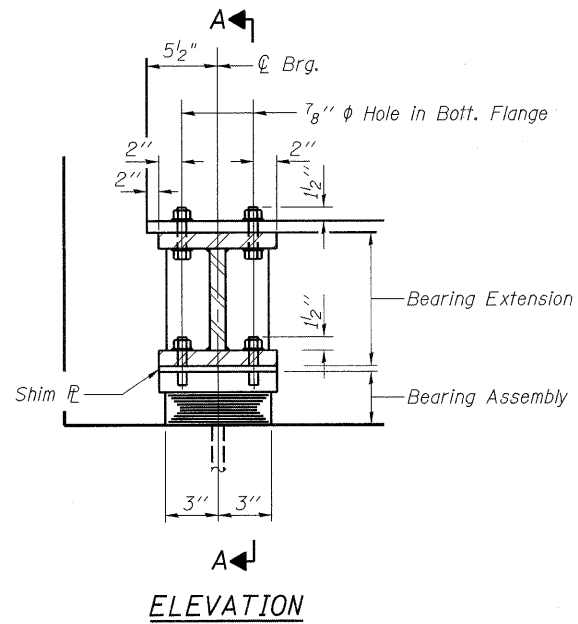
BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pound	14,340
Stud Shear Connectors	Each	2,730

STRUCTURAL STEEL DETAILS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

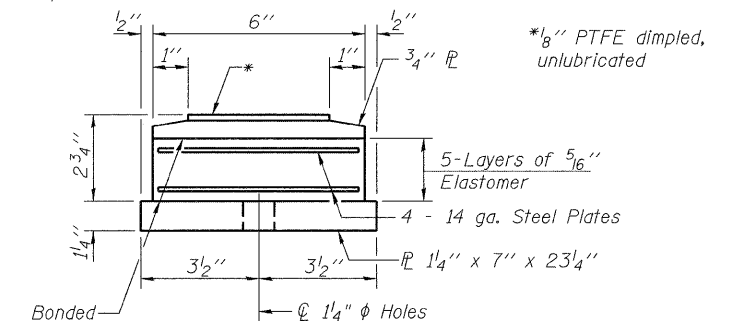
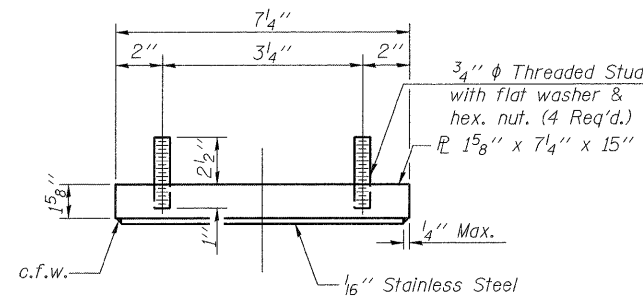
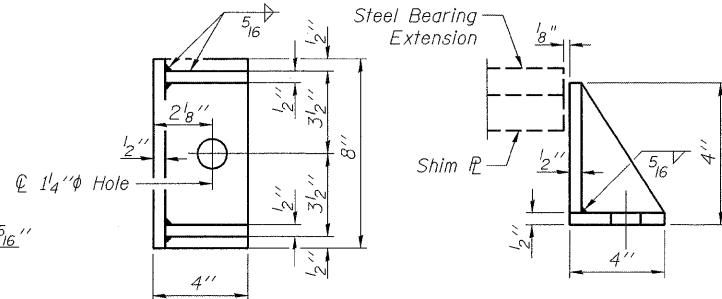
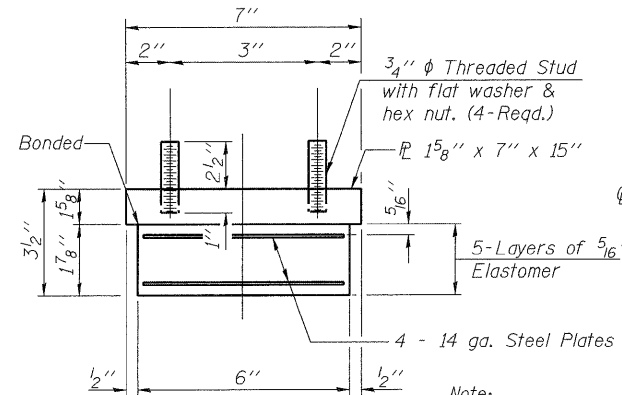
SHEET NO. 13	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
23 SHEETS	332	2002-113R	WILL	242	184
SN-099-0183			CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



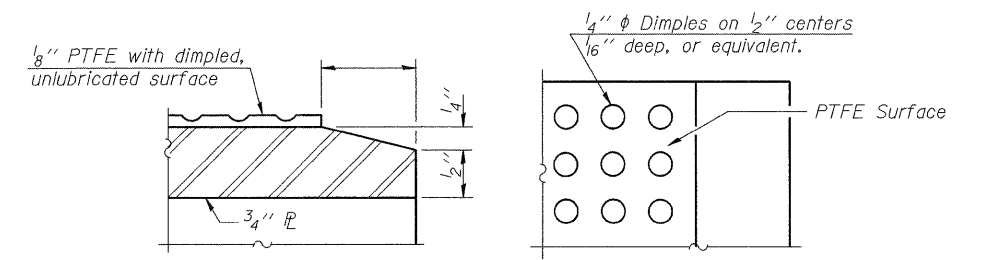
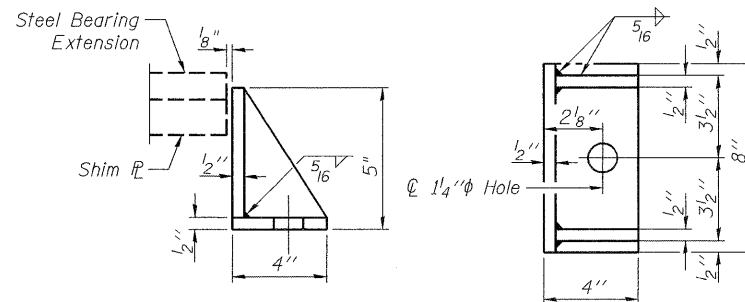
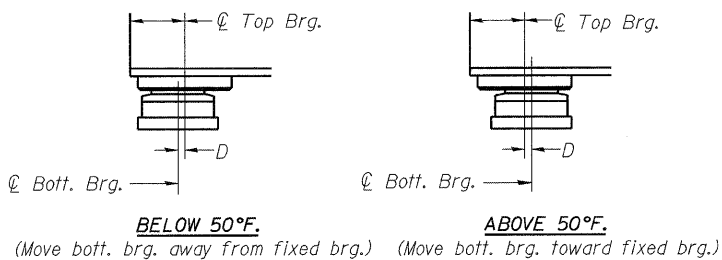
TYPE I ELASTOMERIC EXP. BRG.
(North Abutment, 7 Required)

TYPE II ELASTOMERIC EXP. BRG.
(South Abutment, 7 Required)



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

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



NOTES:

1. Jack and reposition bearings under existing beams B-G at Pier #1 and Pier #2. (No. of Bearings = 12)
2. Jack and remove bearings under existing beams B-G at North abutment and South abutment. (No. of Bearings = 12)
3. 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.
4. See Sheet 15 of 23 for additional notes and Bill of Material.

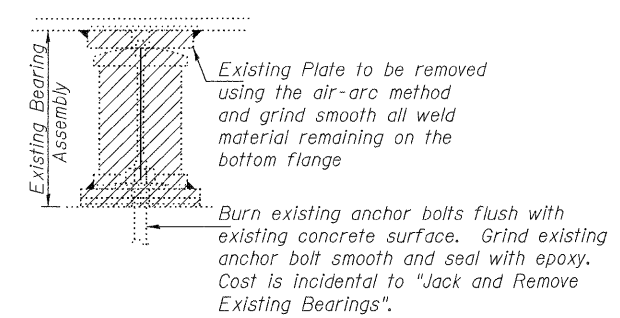
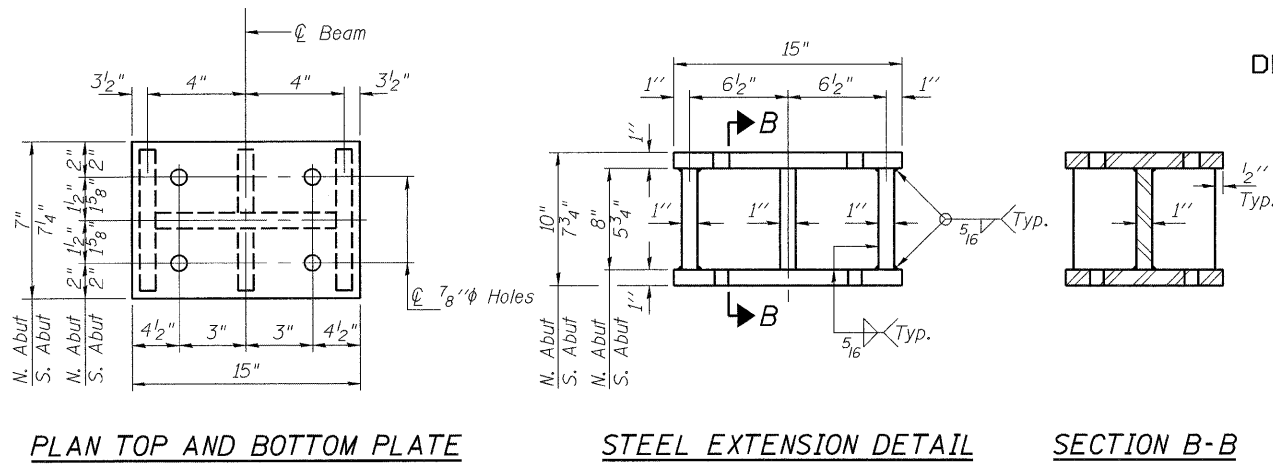
BEARING DETAILS-1
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

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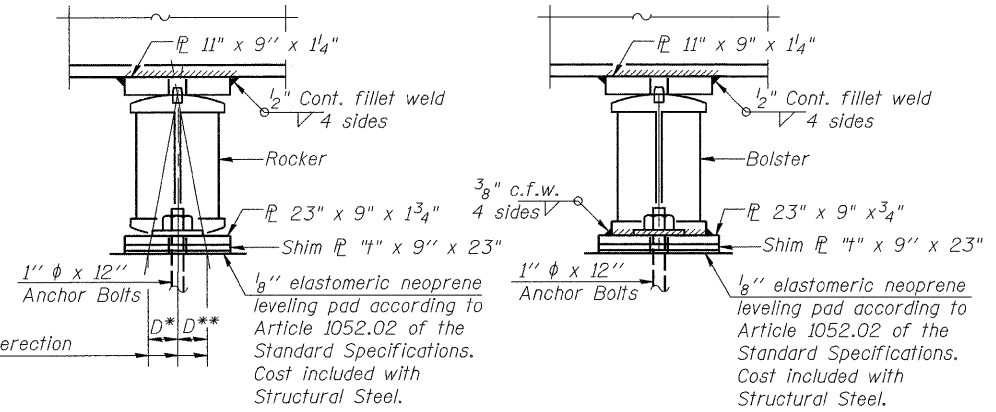
SHEET NO. 14	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	185
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

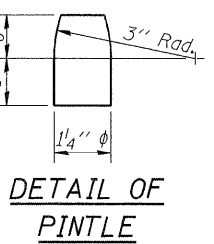
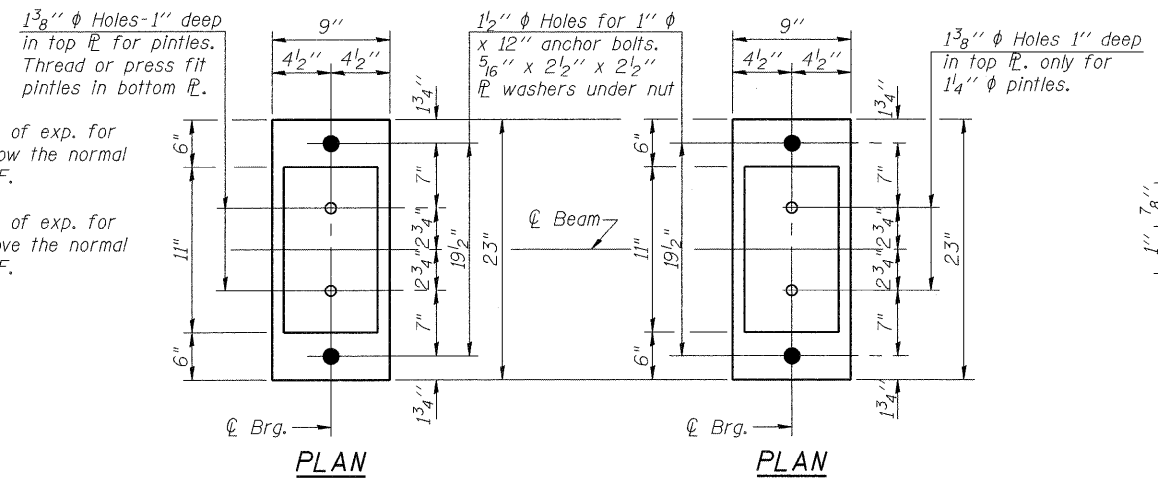


Jacking Procedure:
The Contractor shall submit plans for jacking for approval by the Engineer prior to commencing any work at the bearings. This submittal shall include the seal of a licensed Structural Engineer in Illinois.
Jack and Remove Existing bearings shall be done after the existing deck is removed and prior to placing the new deck.
All girders may be lifted simultaneously, or if lifted individually, the maximum lift shall be 1/8". Simultaneous jacking of all bearings at a support shall be limited to a maximum lift of 1/4".

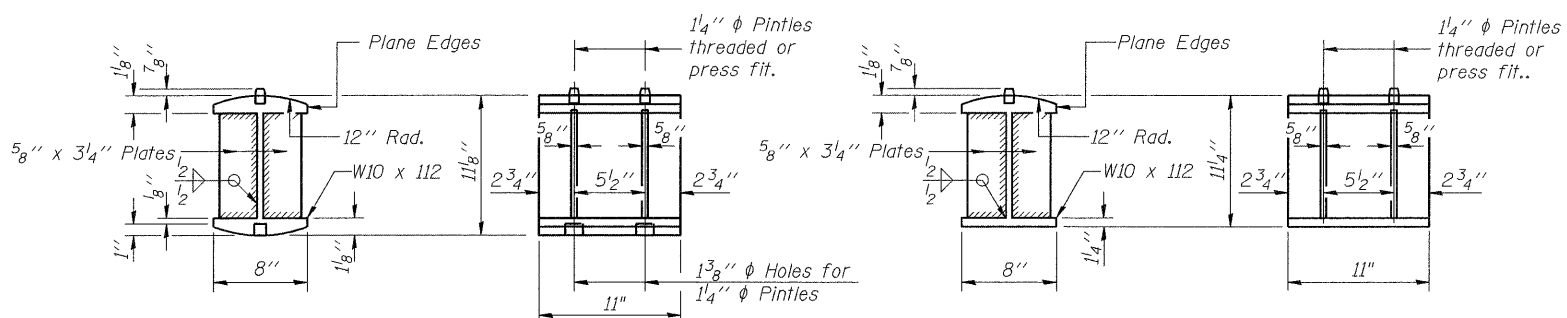
EXISTING BEARING REMOVAL DETAIL
(Beams B-G at North Abutment and South Abutment, 12 Locations)



BEAM A PIER 2 D** - Fixed Pier
BEAM A PIER 1



DETAIL OF PINTLE



DETAIL OF BEAM A ROCKER AT PIER 2
DETAIL OF BEAM A BOLSTER AT PIER 1

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 shall be installed in holes drilled after the supported member is in place.
Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
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 bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	12
Jack and Reposition Bearings	Each	12
Elastomeric Bearing Assembly Type I	Each	7
Elastomeric Bearing Assembly Type II	Each	7
Anchor bolts 1"	Each	32

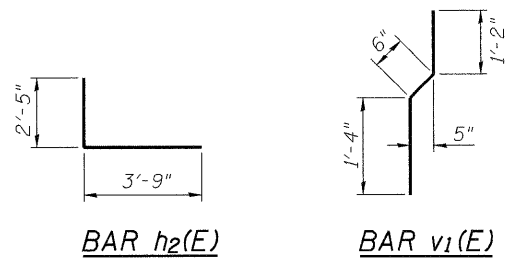
BEARING DETAILS-2
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED SK/GMK/LCM
CHECKED GBC/GMK/SMK
DRAWN RR/LCM/SK
CHECKED GBC/GMK/SMK

SHEET NO. 15 23 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 186
	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

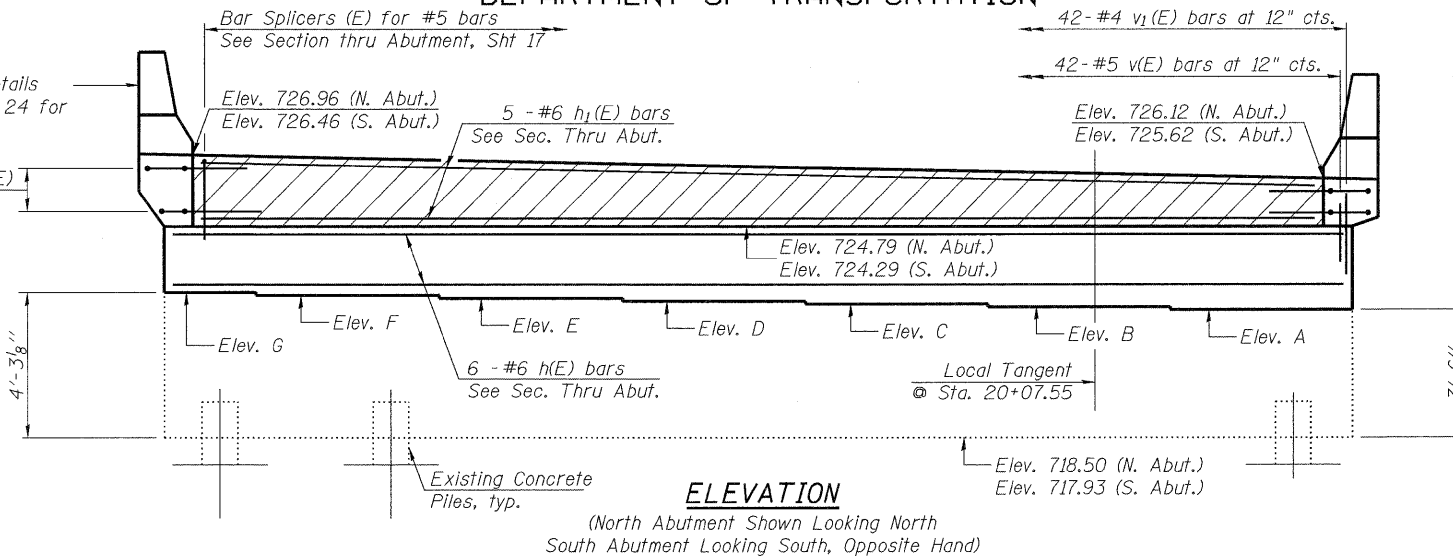


BEAM SEAT
ELEVATION TABLE

Location	North Abutment	South Abutment
A	722.00	721.43
B	722.13	721.56
C	722.26	721.68
D	722.38	721.81
E	722.51	721.94
F	722.64	722.06
G	722.76	722.19

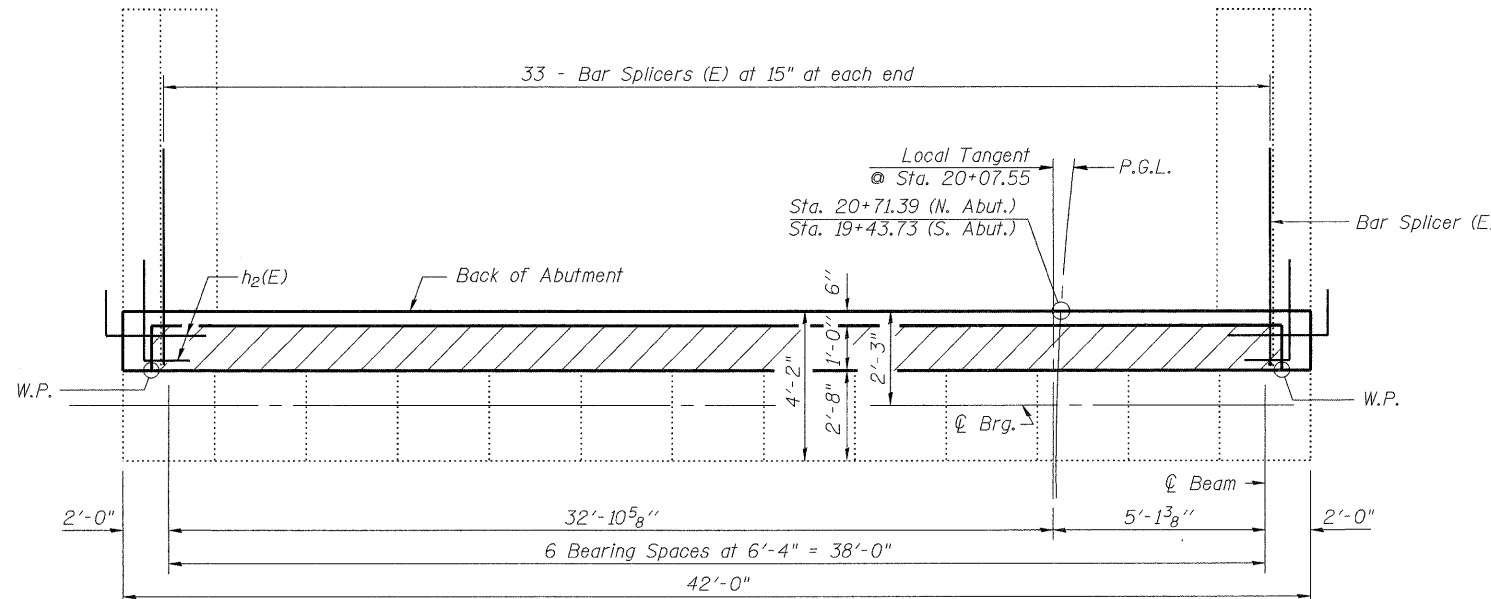
See Approach Slab details sheets 23 and 24 of 24 for Parapet Details

2-pairs #5 h₂(E) bars Ea. End



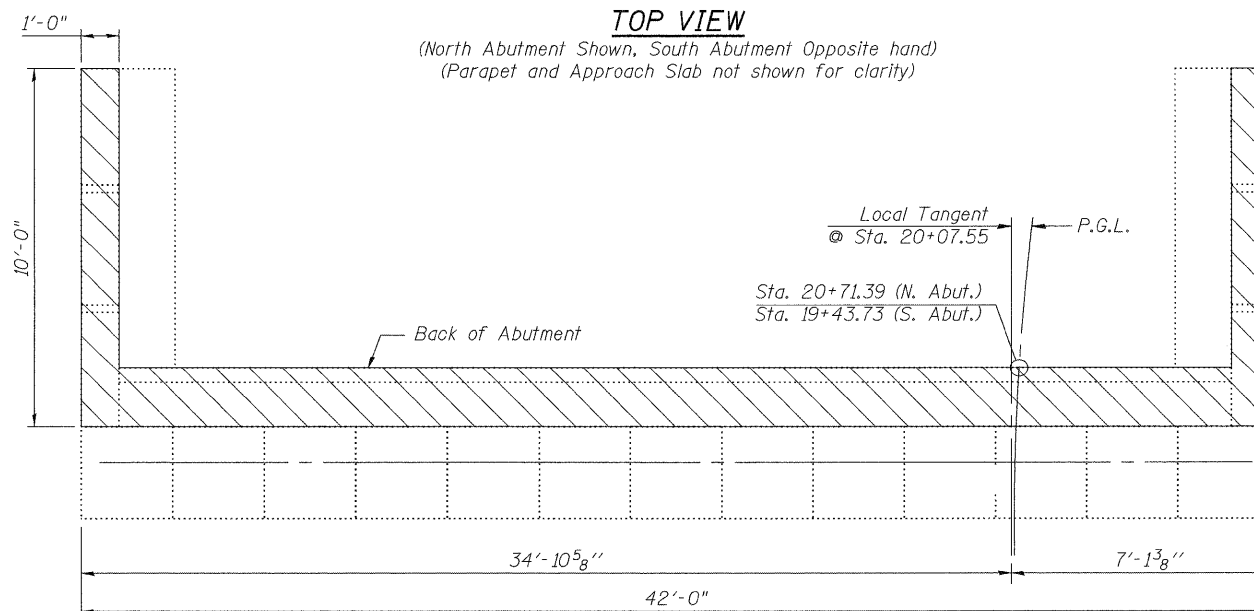
ELEVATION

(North Abutment Shown Looking North
South Abutment Looking South, Opposite Hand)



TOP VIEW

(North Abutment Shown, South Abutment Opposite hand)
(Parapet and Approach Slab not shown for clarity)



CONCRETE REMOVAL PLAN

(North Abutment Shown, South Abutment Opposite hand)

NORTH & SOUTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	#6	41'-9"	—
h ₁ (E)	10	#6	40'-1"	—
h ₂ (E)	16	#5	6'-2"	└
v(E)	84	#5	3'-1"	—
v ₁ (E)	84	#4	3'-0"	└
Concrete Removal		Cu. Yd.	23	
Concrete Structures		Cu. Yd.	17	
Bar Splicers		Each	66	
Concrete Sealer		Sq. Ft.	475	
Reinforcement Bars, Epoxy Coated		Pound	1,940	

Note:
For details of Bar Splicers, see sheet 20 of 23.

LEGEND

- Existing Concrete
- Concrete Removal
- New Concrete
- Area of Backwall to be constructed after removal of formwork for Superstructure

NORTH AND SOUTH ABUTMENT
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

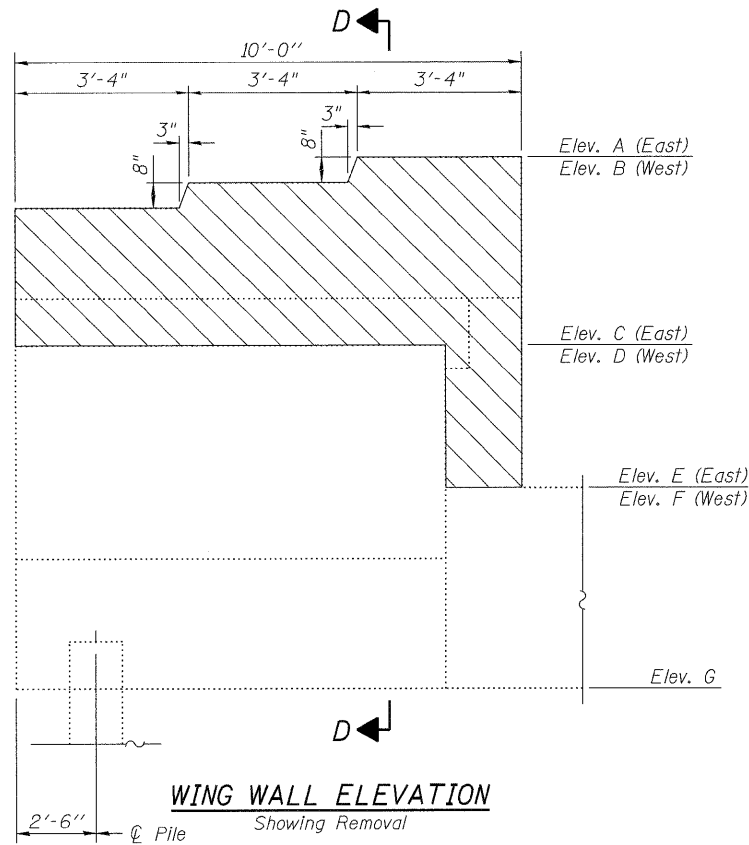
SHEET NO. 16	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	187
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



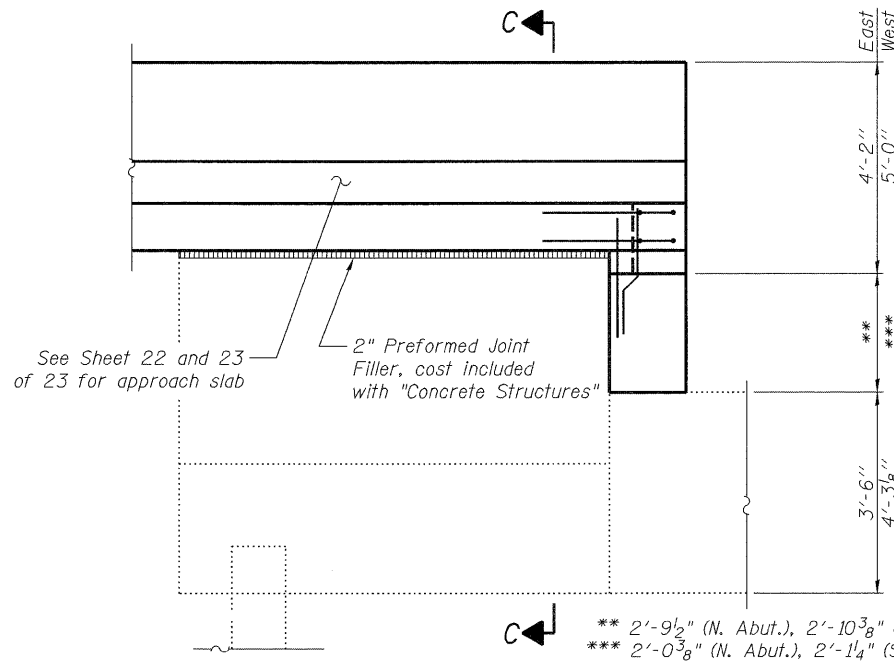
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WING WALL
ELEVATION TABLE

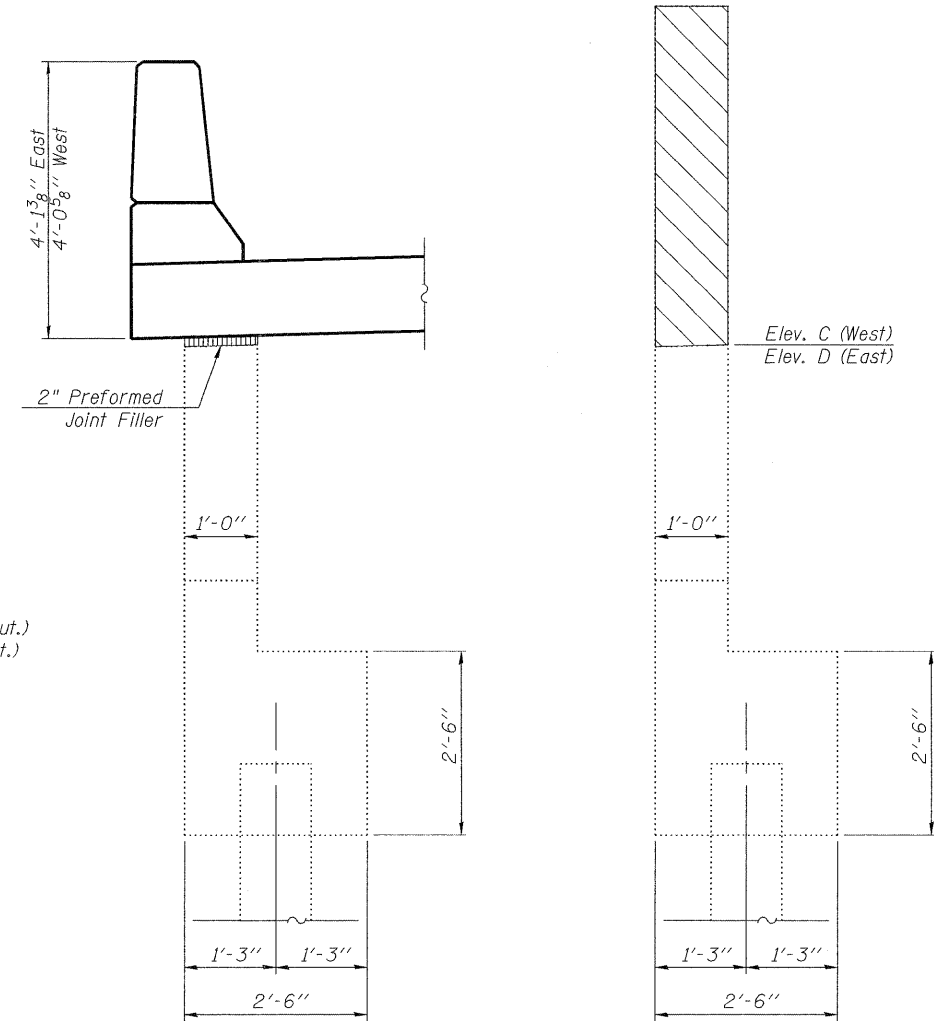
Location	North Abut.	South Abut.
A	729.66	729.07
B	730.46	729.87
C	724.70	724.20
D	725.54	725.04
E	722.00	721.43
F	722.76	722.19
G	718.50	717.93



WING WALL ELEVATION
Showing Removal



WING WALL ELEVATION
Showing Reinforcement



SECTION C-C

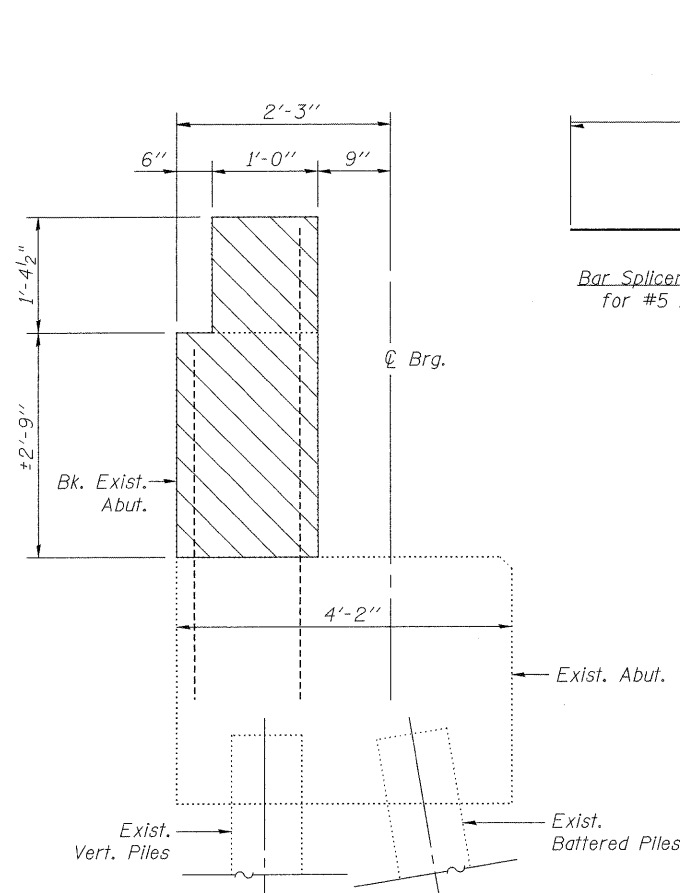
SECTION D-D

LEGEND

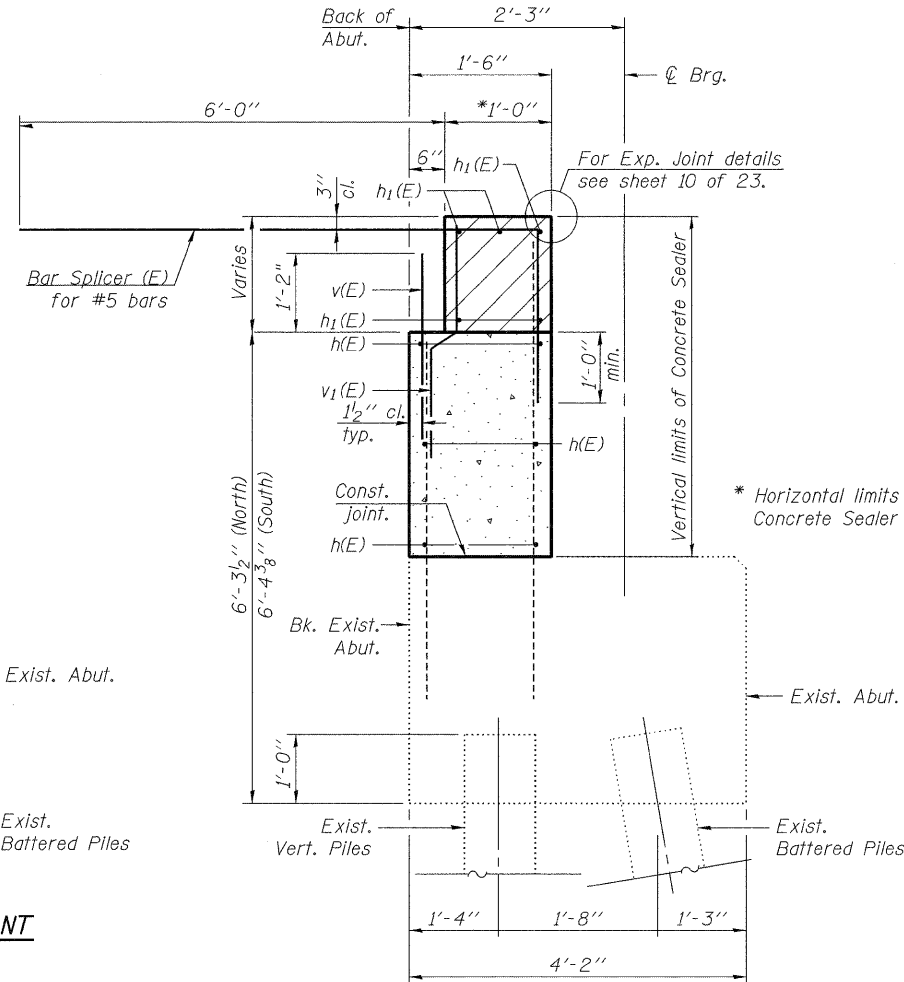
- Existing Concrete
- Concrete Removal
- New Concrete
- Area of Backwall to be constructed after removal of formwork for Superstructure

NOTES:

- Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Structures. See Sheet 16 of 23.
- Existing reinforcement shall be cleaned and incorporated into the new construction. Any damaged existing reinforcement shall be replaced by drilling and grouting dowels. Cost included with Concrete Removal.



SECTION THRU EXISTING ABUTMENT
Showing Removal



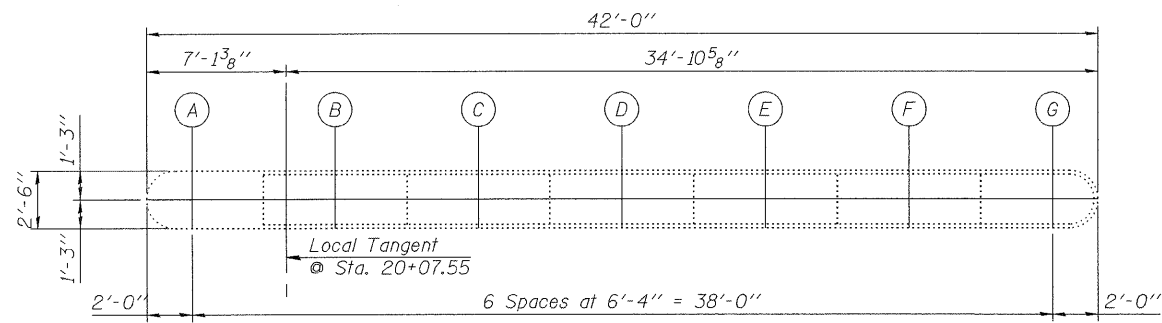
SECTION THRU ABUTMENT
Showing Reinforcement

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

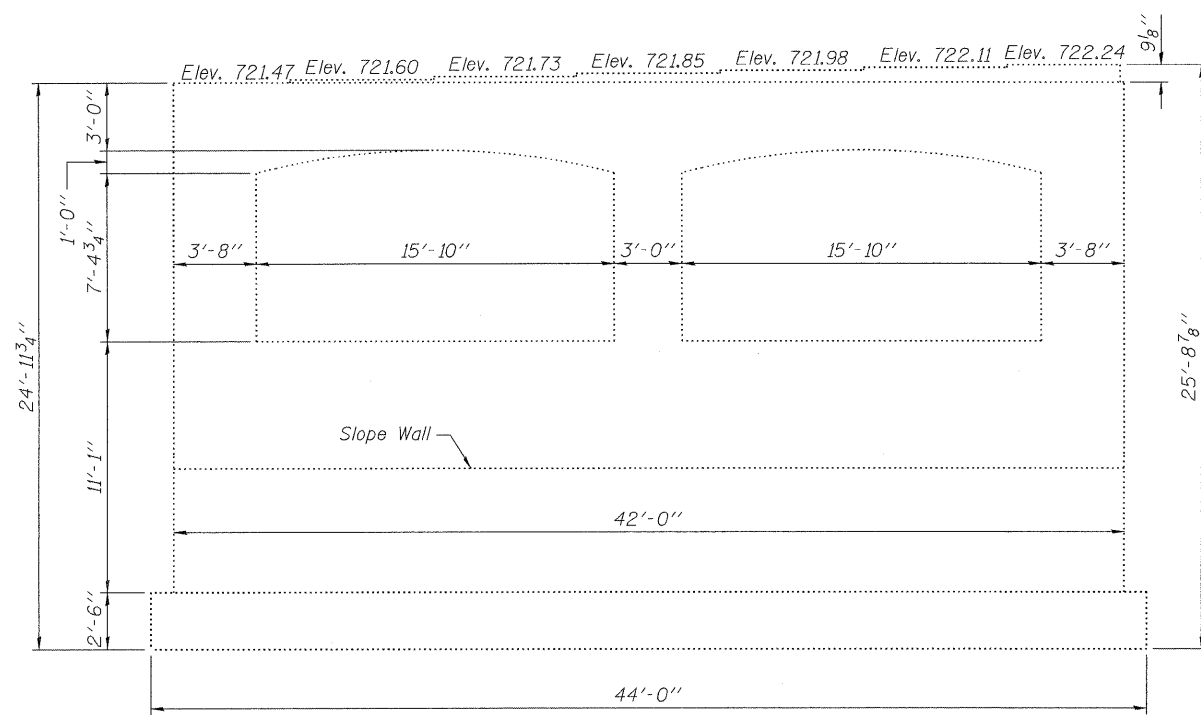
NORTH AND SOUTH ABUTMENT DETAILS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 17	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	188
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

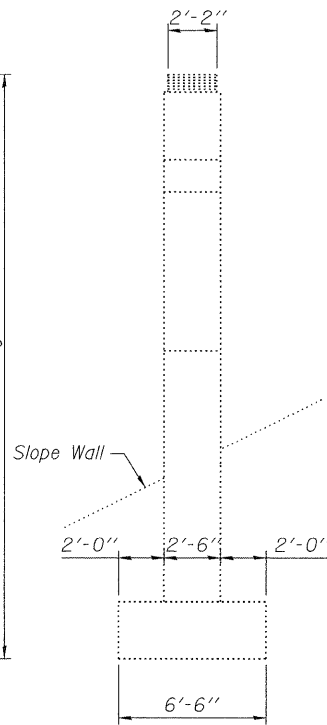
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



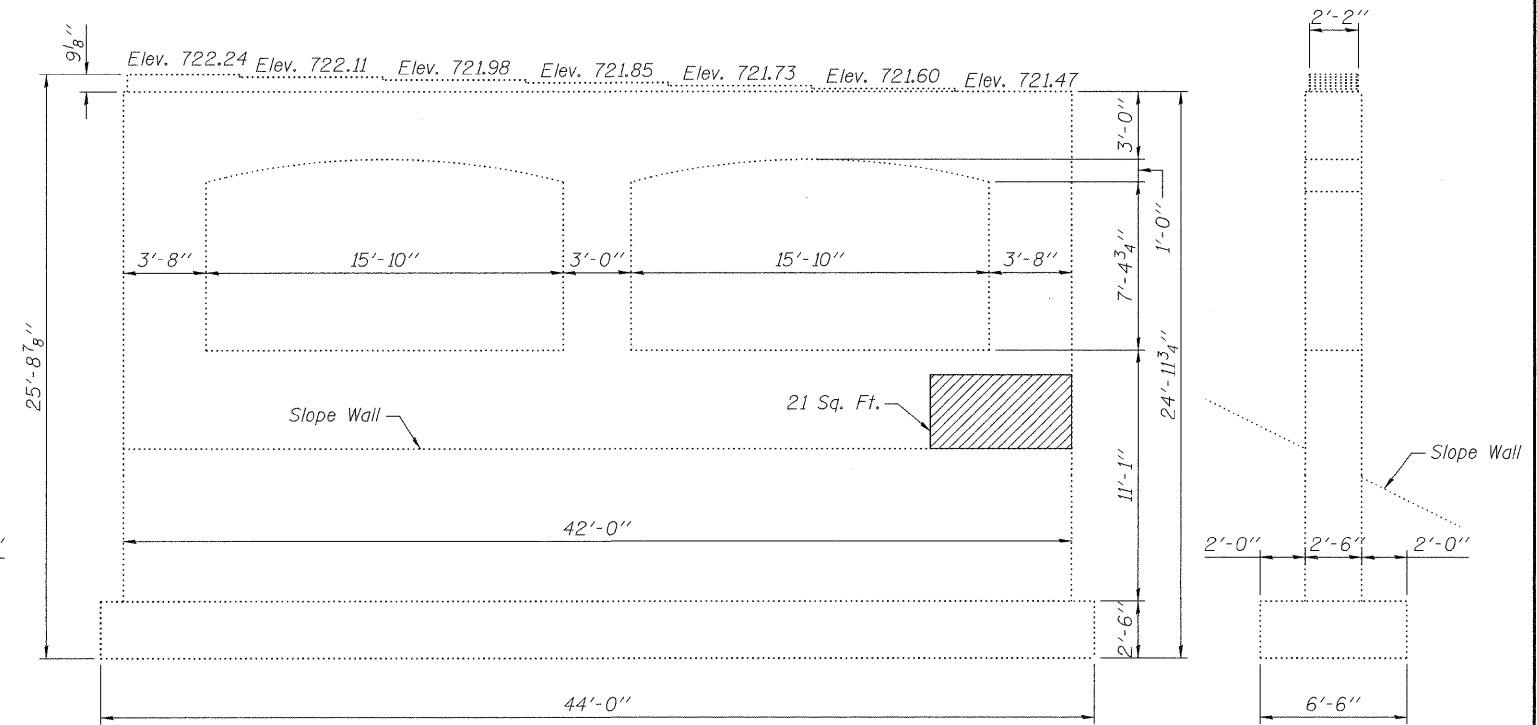
PLAN



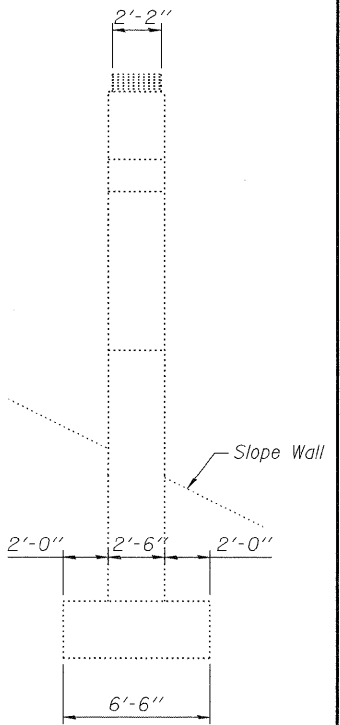
PIER #2
(North Elevation)



END VIEW
(West Elevation)



PIER #2
(South Elevation)



END VIEW
(East Elevation)

LEGEND:

Structural Repair of Concrete
(Depth Greater than 5")

NOTES:

- All dimensions are to be verified in field.

BILL OF MATERIAL

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

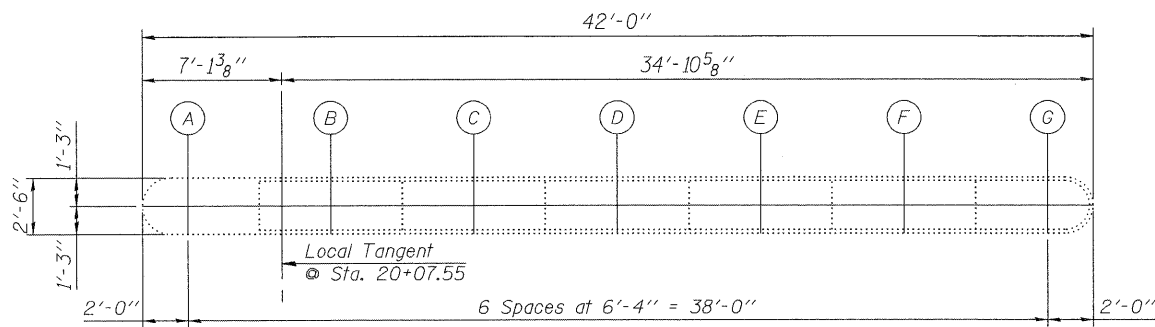
ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Greater than 5")	Sq. Ft.	21

PIER 2 REPAIRS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

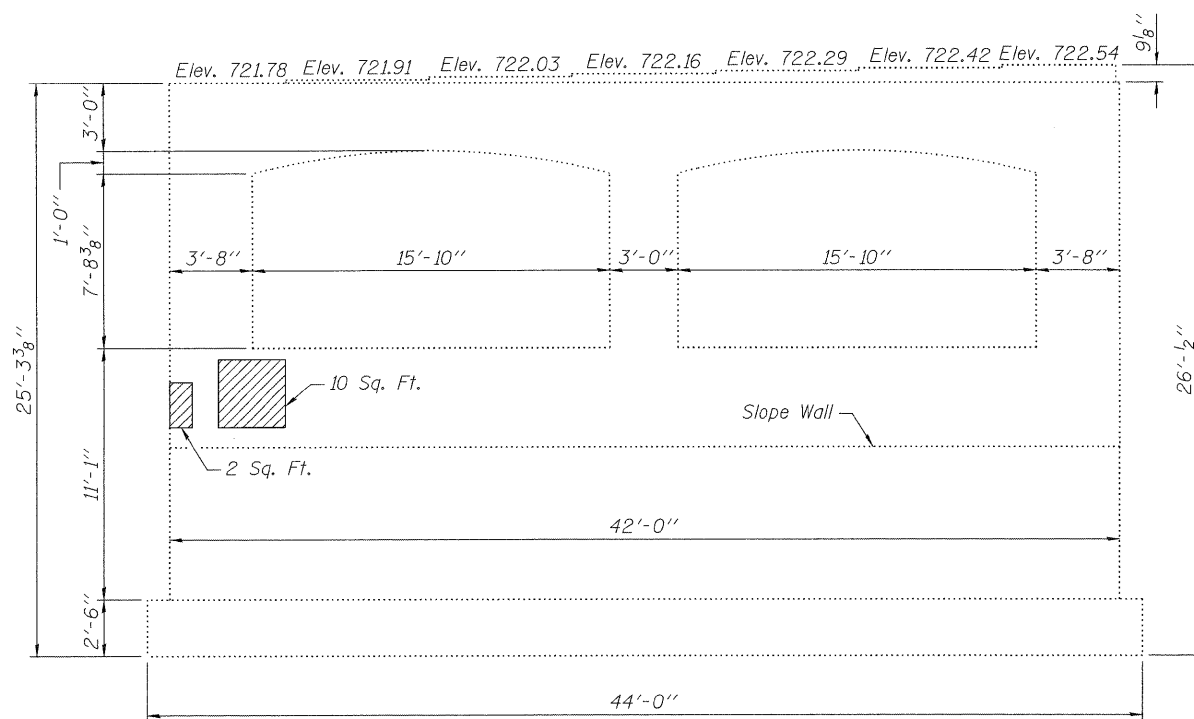
SHEET NO. 18	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	189
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 110 Chicago, IL 60604-2001

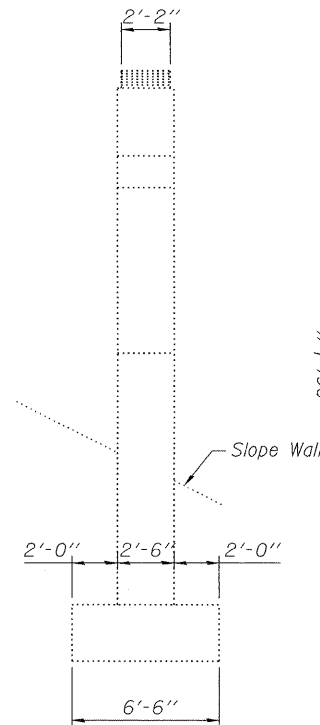
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



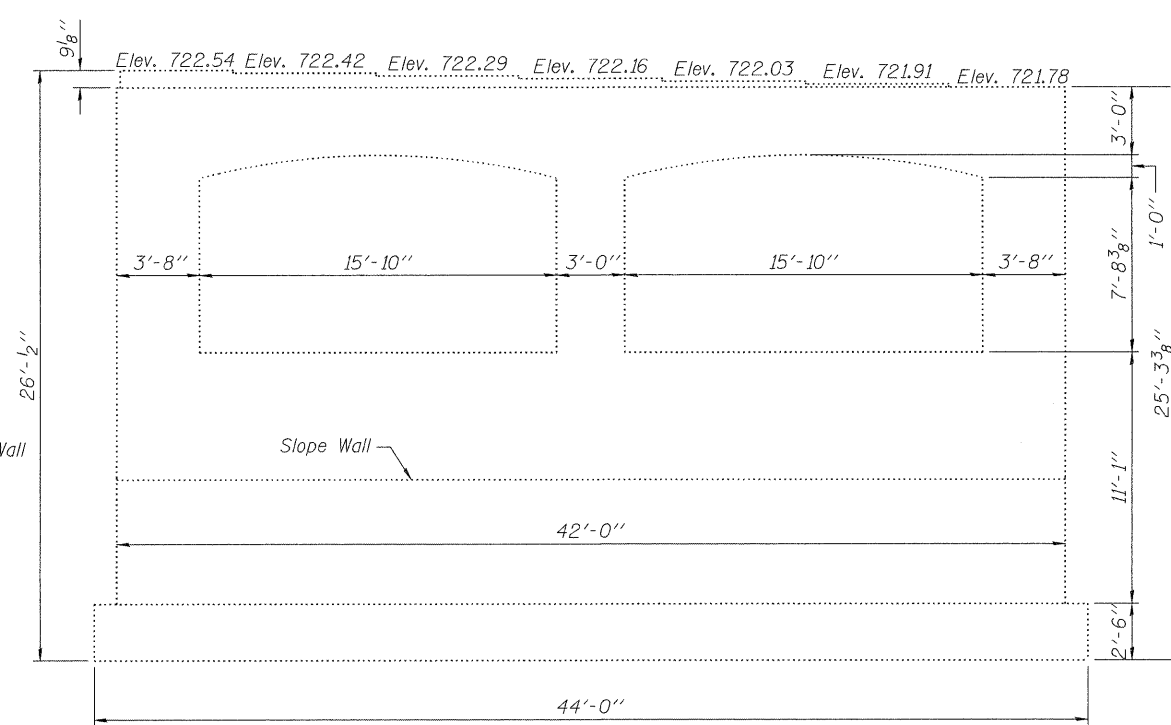
PLAN



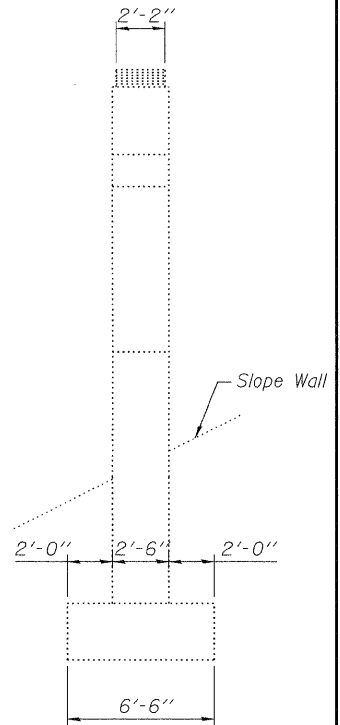
PIER #1
(North Elevation)



END VIEW
(West Elevation)



PIER #1
(South Elevation)



END VIEW
(East Elevation)

LEGEND:

Structural Repair of Concrete
(Depth Equal to or Less than 5')

NOTES:

1. All dimensions are to be verified in field.

BILL OF MATERIAL

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	12

PIER 1 REPAIRS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 19 23 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 190
	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

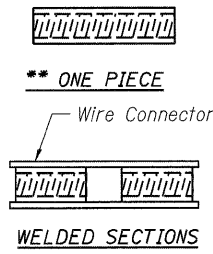
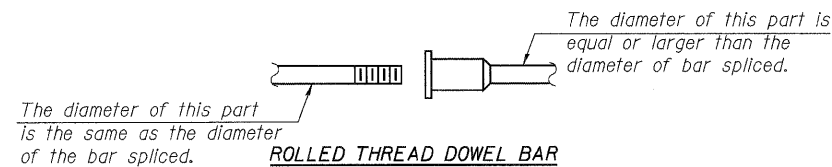
Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
221 W. Jackson Blvd., Suite 510 Chicago, IL 60604-2001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES

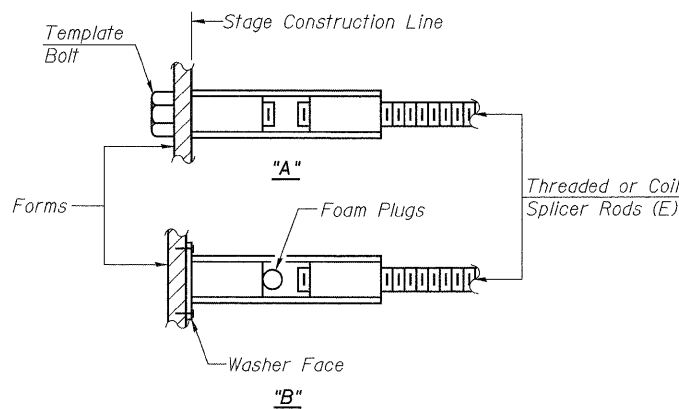
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete



BAR SPLICER ASSEMBLY ALTERNATIVES

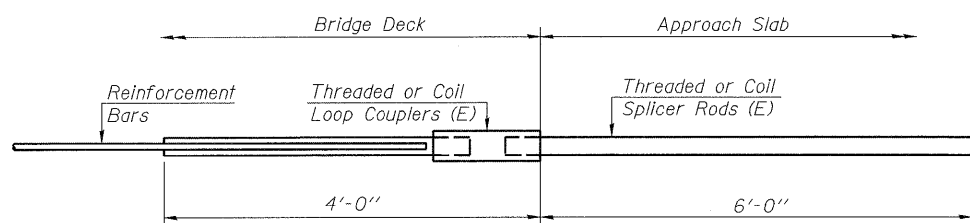
**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

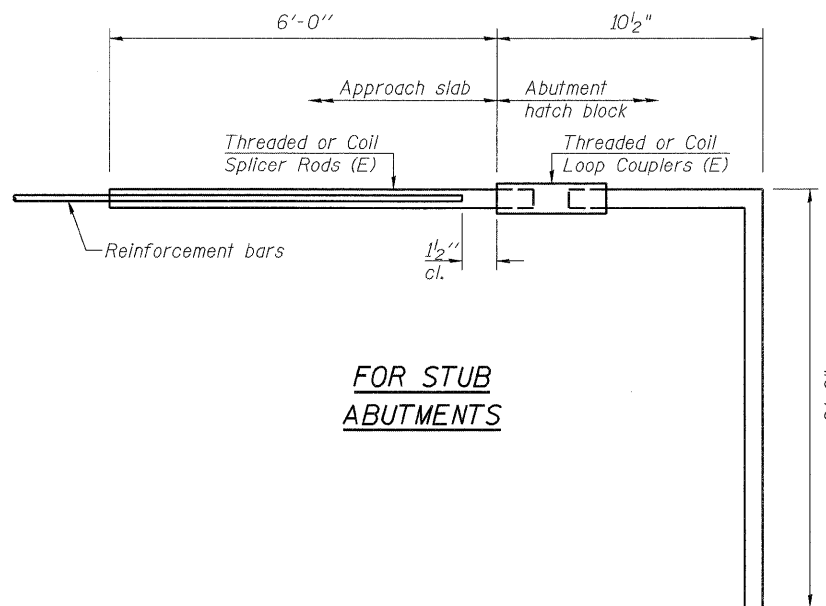
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



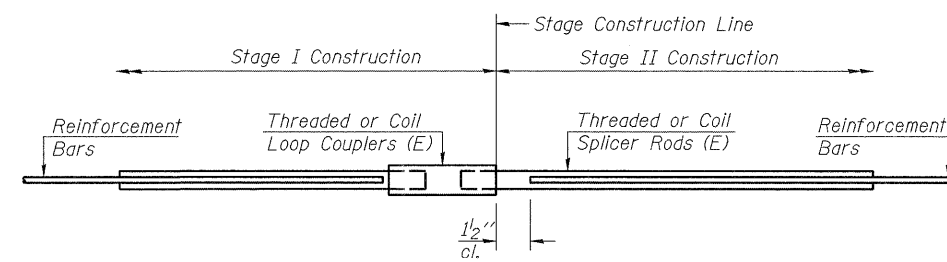
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 66



STANDARD

Bar Size	No. Assemblies Required	Location

DESIGNED SK/GMK/LCM
CHECKED GBC/GMK/SMK
DRAWN RR/LCM/SK
CHECKED GBC/GMK/SMK

BSD-1

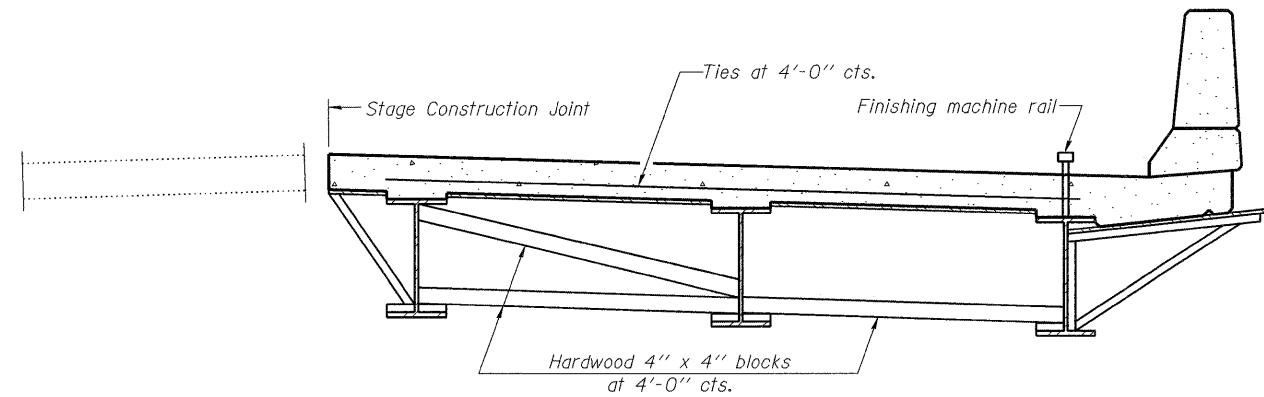
10-1-08

BAR SPLICER ASSEMBLY DETAILS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	191
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

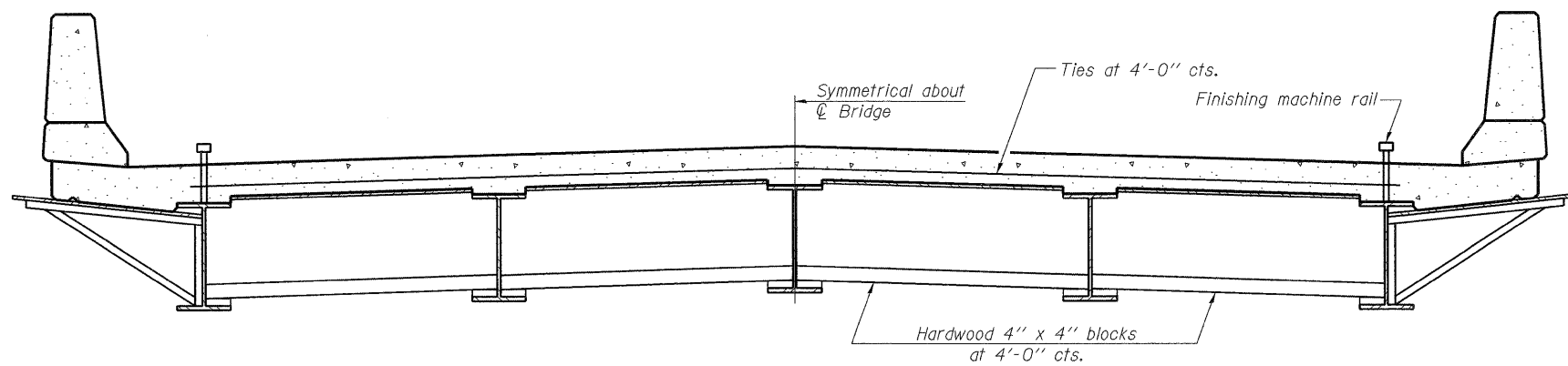


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FORM BRACES FOR
STAGE CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
The finishing machine rails shall be placed on the top flange of the exterior beams.
The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STANDARD CONSTRUCTION

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

SB-1

10-1-08

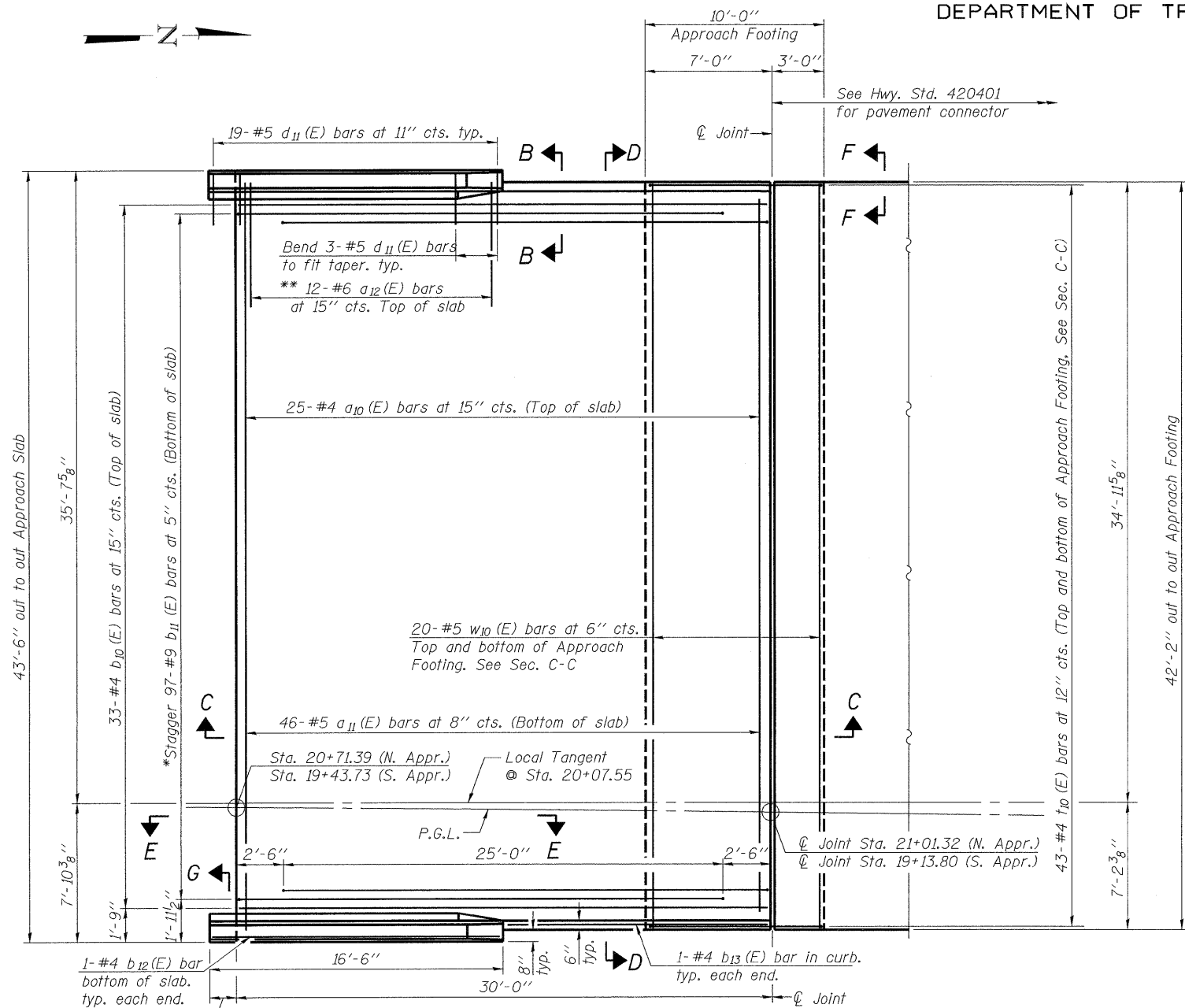
CANTILEVER FORMING BRACKETS
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

SHEET NO. 21	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	192
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 N. Jackson Blvd., Suite 910 Chicago, IL 60604-2001

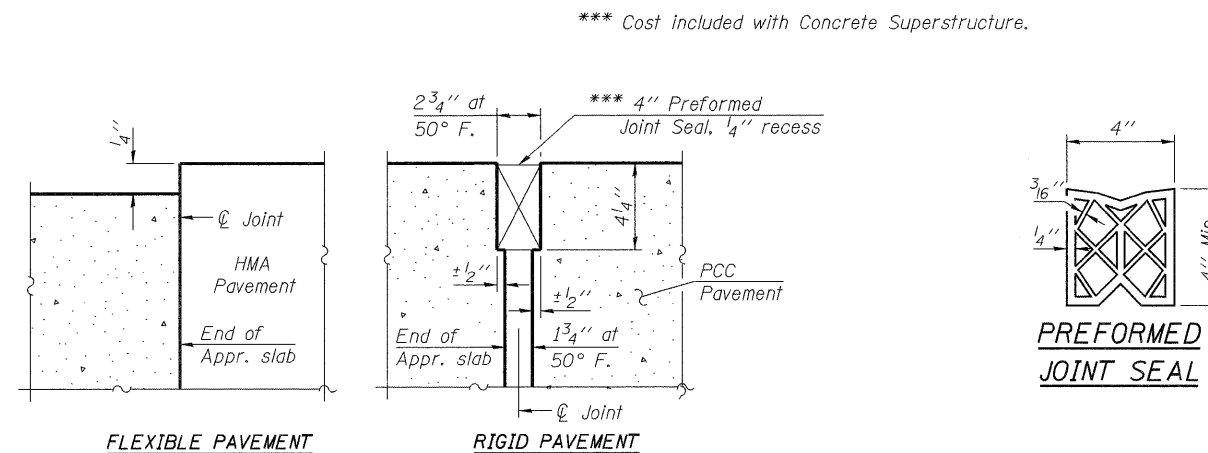
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 23 of 23 for Sections C-C & D-D and View E-E.
a(E), a₁(E), and w(E) bar spacings measured perpendicular to ϕ Rdwy.

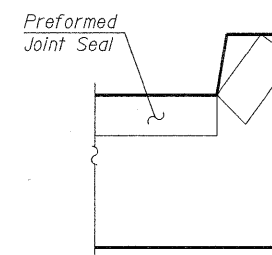


PLAN
(North Approach Slab Shown,
South Approach Slab Similar)

* Tilt #9 b₁₁(E) bars as required to maintain clearance.
** Alternate with a₁₀(E) bars, typ. ea. parapet.

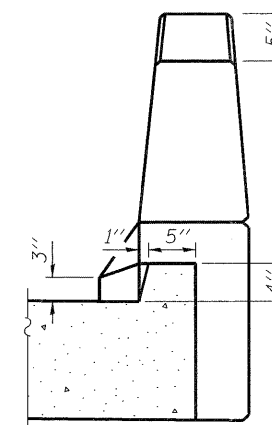


DETAIL A



VIEW F-F

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



VIEW B-B

BRIDGE APPROACH SLAB DETAILS-1
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

BA-0

10-31-08

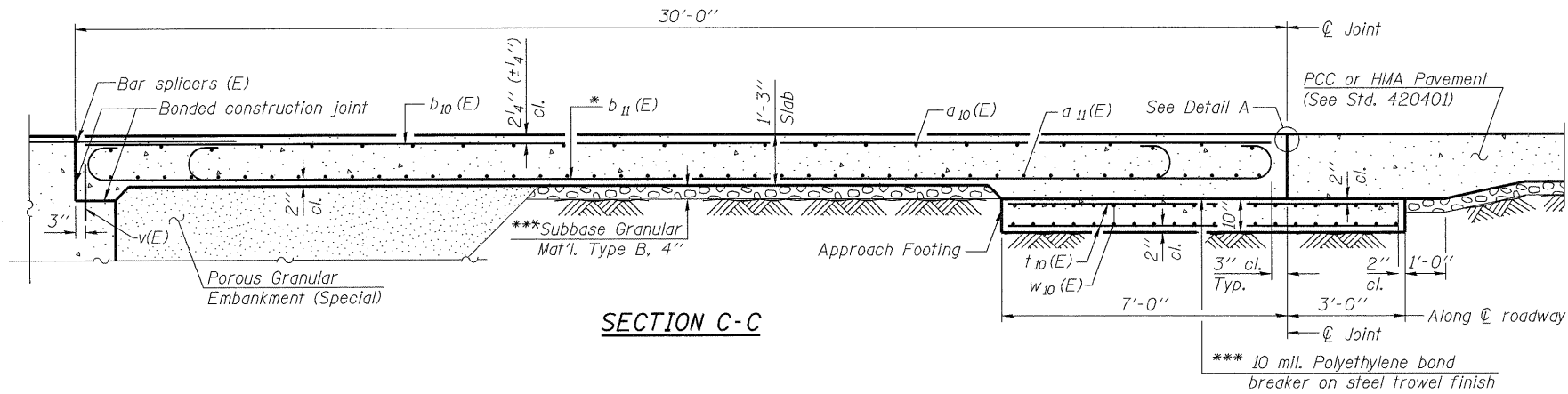
SHEET NO. 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	2002-113R	WILL	242	193
23 SHEETS	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



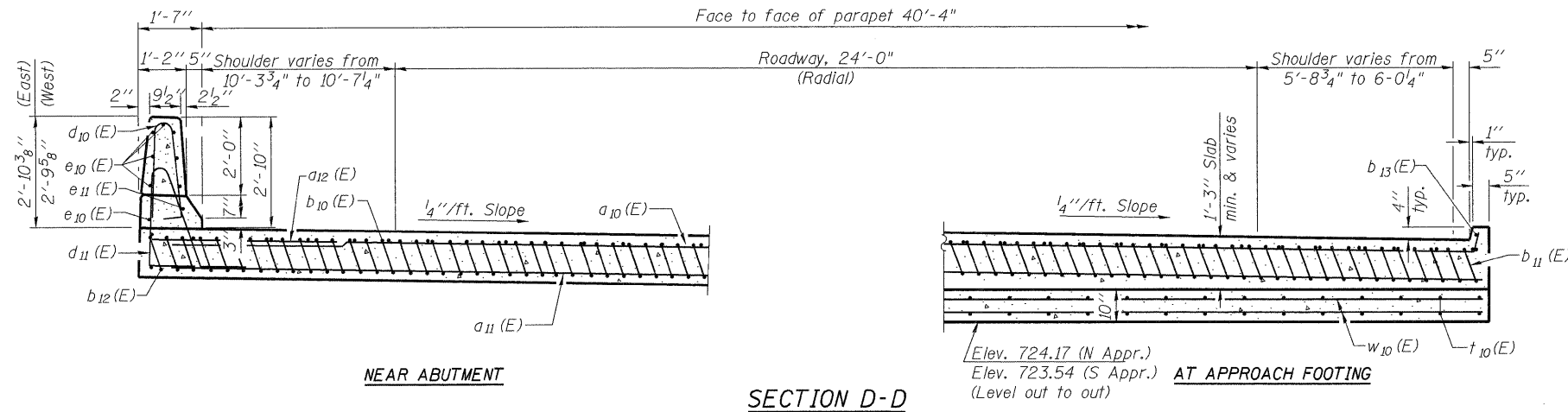
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:

See sheet 22 of 23 for Detail A and View B-B.
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 16 of 23.
The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.
For bar splicer details, see sheet 20 of 23.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 23.

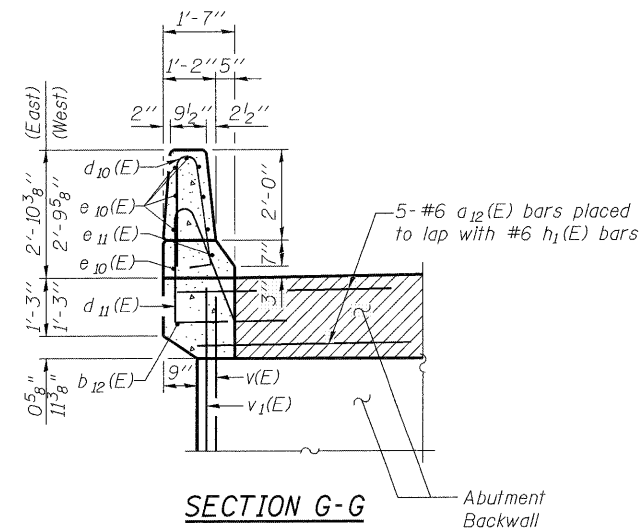


SECTION C-C

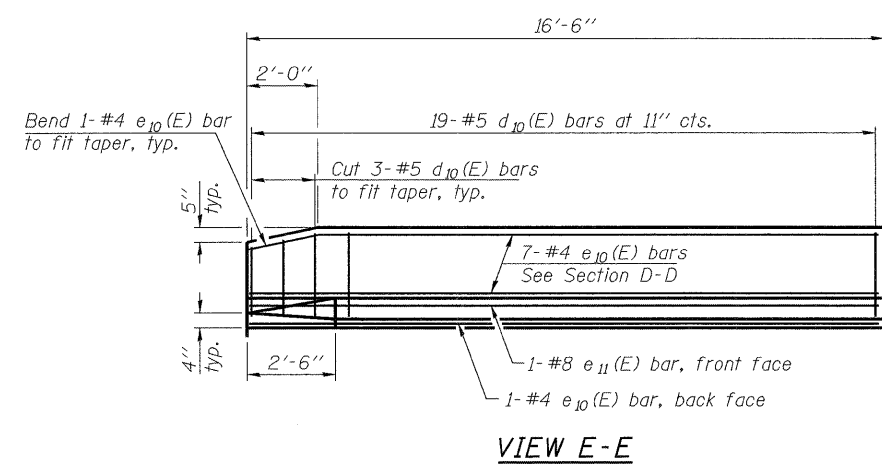


SECTION D-D

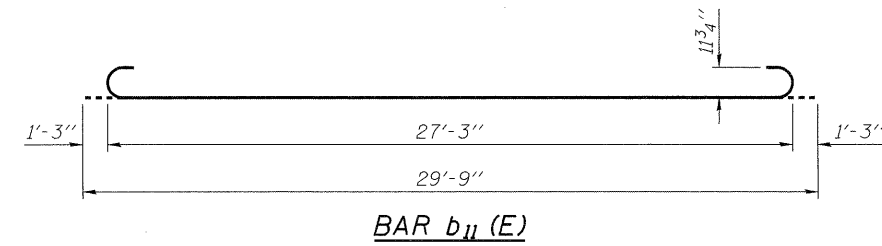
South Approach Looking North. North Approach Similar, But Mirrored.
(See Plan for dimensions not shown)



SECTION G-G

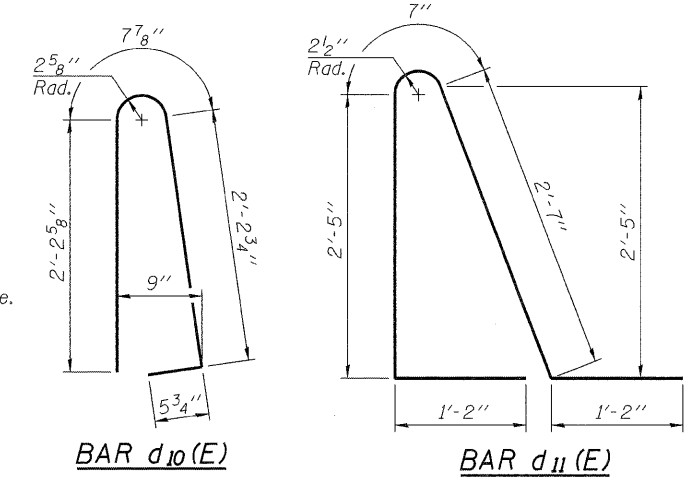


VIEW E-E



BAR b11(E)

* Tilt #9 b11(E) bars as required to maintain clearance.
*** Cost included with Concrete Superstructure.

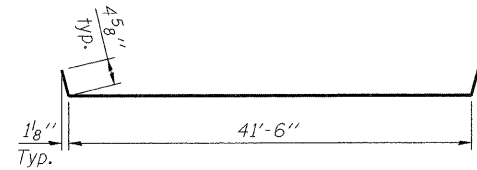


BAR d10(E)

BAR d11(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	50	#4	42'-3"	—
a11(E)	92	#5	41'-11"	—
a12(E)	68	#6	6'-0"	—
b10(E)	66	#4	29'-9"	—
b11(E)	192	#9	29'-9"	—
b12(E)	4	#4	16'-3"	—
b13(E)	4	#4	14'-9"	—
d10(E)	76	#5	5'-7"	⤴
d11(E)	76	#5	7'-11"	⤴
e10(E)	32	#4	16'-3"	—
e11(E)	4	#8	16'-3"	—
t10(E)	172	#4	9'-8"	—
w10(E)	80	#5	41'-11"	—
Concrete Superstructure		Cu. Yd.	131	
Concrete Structures		Cu. Yd.	27	
Reinforcement Bars, Epoxy Coated		Pound	33,720	



BAR a10(E)

BRIDGE APPROACH SLAB DETAILS-2
SOUTHBOUND ILLINOIS ROUTE 394 OVER PLUM CREEK
STATION 20+07.55

DESIGNED	SK/GMK/LCM
CHECKED	GBC/GMK/SMK
DRAWN	RR/LCM/SK
CHECKED	GBC/GMK/SMK

BA-0 10-31-08

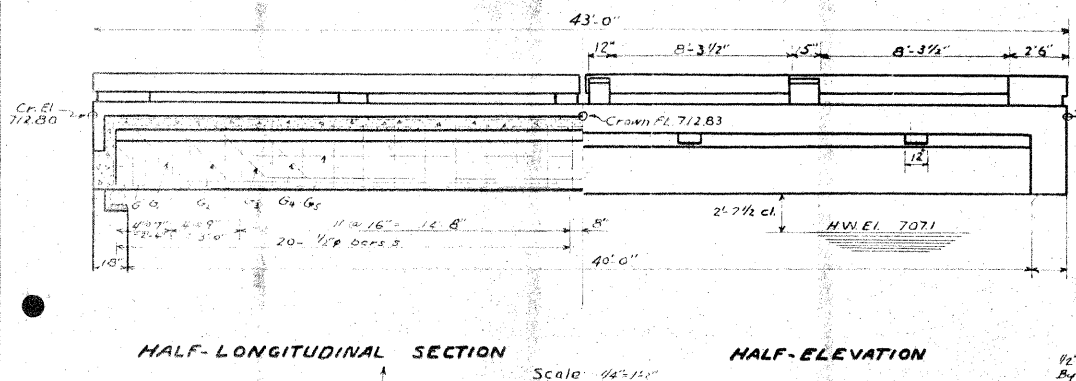
Delta Engineering, Inc.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 W. Jackson Blvd., Suite 110 Chicago, IL 60604-2001

SHEET NO. 23 23 SHEETS	F.A.P. RTE. 332	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 194
	SN-099-0183		CONTRACT NO. 62542		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

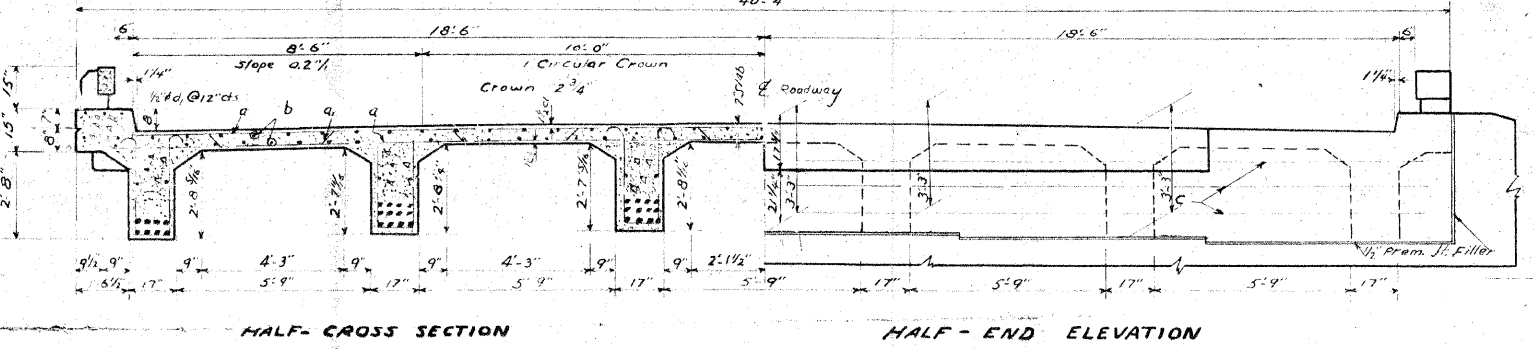
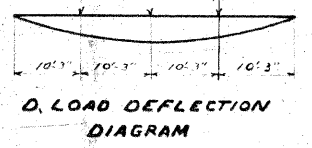
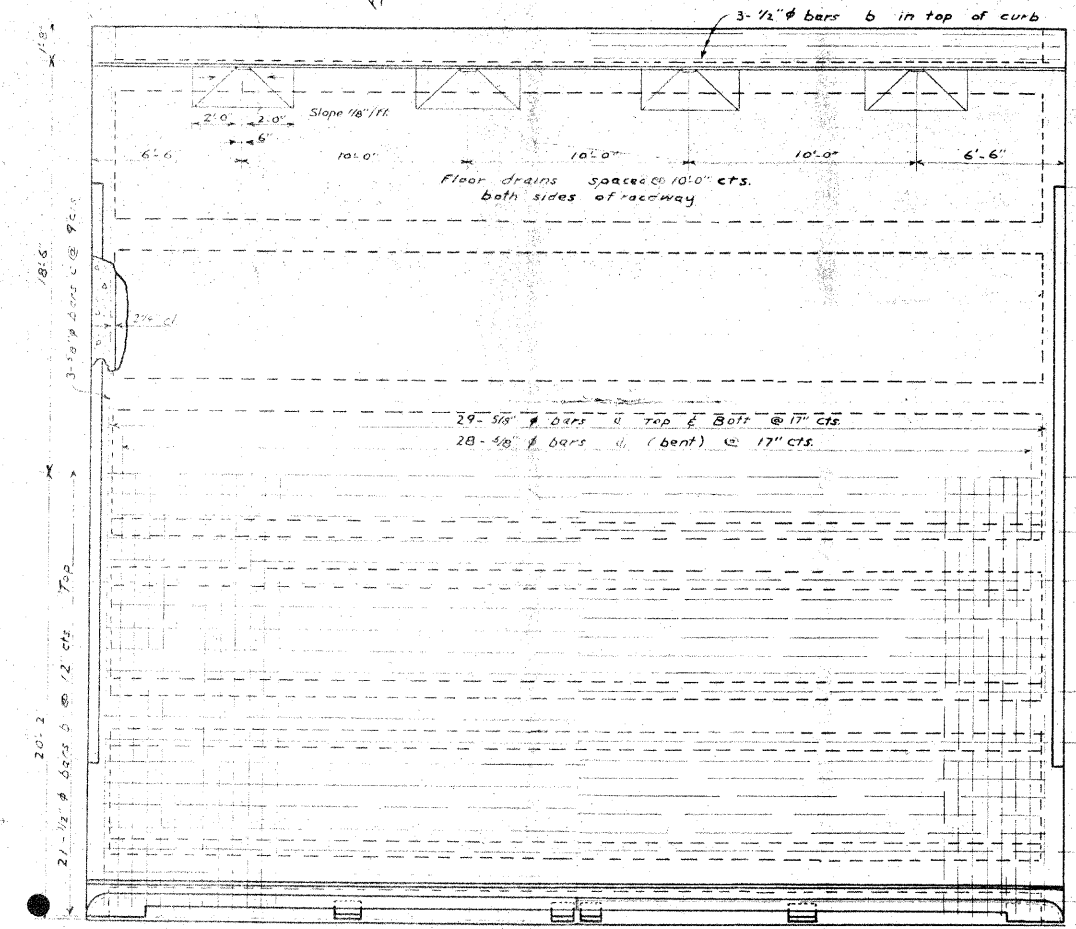
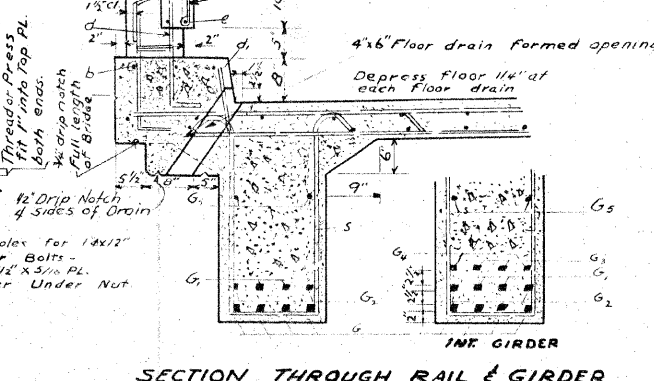
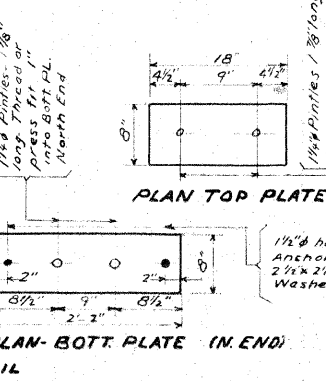
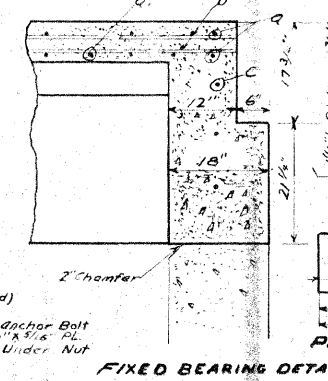
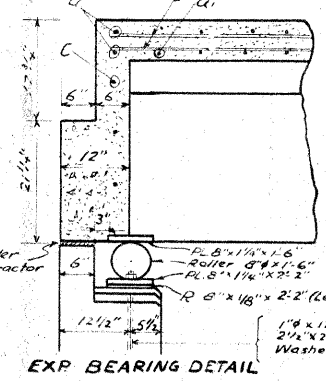
PLAN 75 a cut in top of S.E. wing wall of bridge at Sta. 221.75 to 221.75

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

62544
Sheet 194A
SHEET NO. 1
2 SHEETS



Note: For Handrail Detail see Standard 2070R Type 3C



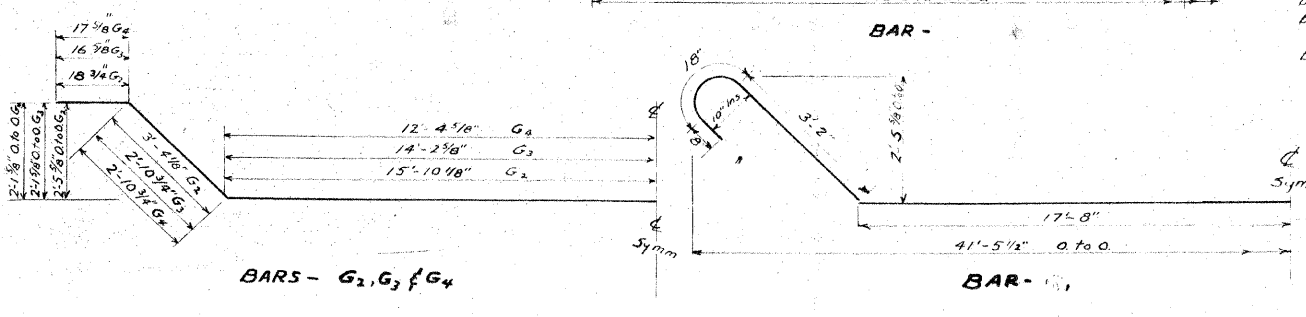
GENERAL NOTES

Class X concrete shall be used throughout except in handrail and rail-pots which shall be constructed of handrail concrete.
The concrete floor slab shall be finished in accordance with Art 613(e) of the Std. Specs.
The concrete girders and floor slab shall be poured complete in one continuous operation.
The final grade on the bridge is indicated by the crown elevations. Construct floor higher than the elevations shown by the amount indicated in the D.L. Deflection Diagram. See also Art 58.5 of the Std. Specs.
The handrail shall not be poured until after the falsework has been removed.
All Structural Steel shall be given one shop coat of red lead paint and two field coats of aluminum paint.
All paint shall be furnished and applied by the contractor.
Structural steel shall be inspected by the Illinois Division of Highways before painting.
Structural Steel includes all Rollers, Bearing Rs, Lead Rs, Pintles and Anchor Bolts.
Super Structure Stresses:
fs = 20,000 #/sq in
fc = 1200 #/sq in
n = 10
Design Load H20-S16

BILL OF MATERIAL - SUPER

Bar	No.	Size	Length	Shape
a	115	5/8" φ	22'-0"	
a ₁	56	5/8" φ	24'-0"	
b	168	1/2" φ	22'-6"	
c	12	5/8" φ	22'-0"	
d	52	5/8" φ	2'-9"	
d ₁	84	1/2" φ	1'-0"	
e	16	5/8" φ	20'-0"	
f	24	1/2" φ	2'-3"	
g	24	1 1/4" φ	46'-0"	
g ₁	12	1 1/4" φ	46'-0"	
g ₂	12	1 1/4" φ	41'-6"	
g ₃	4	1" φ	37'-0"	
g ₄	4	1" φ	33'-6"	
g ₅	12	3/4" φ	25'-0"	
s	240	1/2" φ	8'-6"	
			Handrail Concrete	Cu yds. 1.8
			Class X Concrete	Cu yds. 87.0
			Reinforcement Bars	Lbs. 22,200
			Removal of Exist. Superstr.	Each one
			Name Plate	one
			Structural Steel	Lbs. 2250

COMPUTED: H. S. Lawson
DRAWN: George M. ...
CHECKED: ...
APPROVED: ...
BRIDGE ENGINEER
CHIEF HIGHWAY ENGINEER



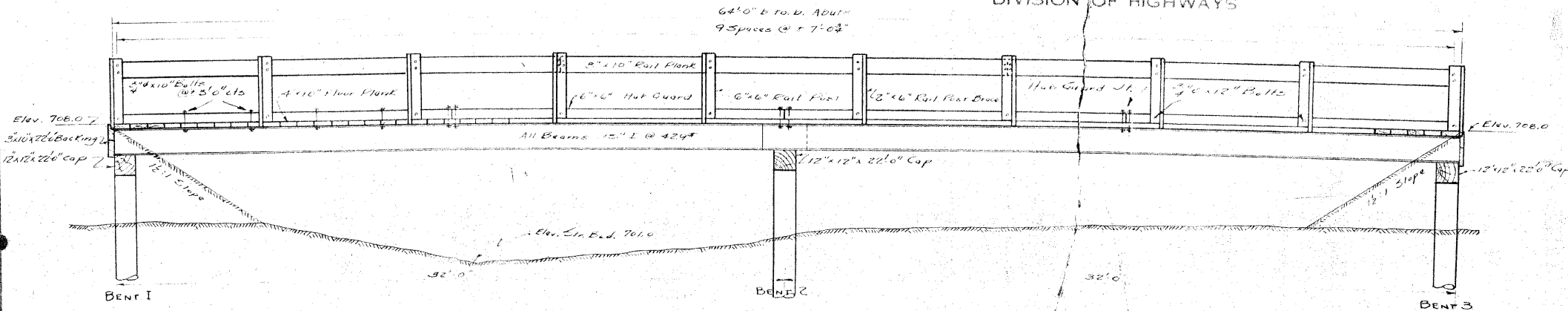
STATION 221.35
BUILT 1949 BY
STATE OF ILLINOIS
S.B.I.R.T. 1 SEC. 9-R-B
FA. PROJ. F-2(20)
LOADING H20-S16

PROJECT F-2(20)
S.B.I.R.T. 1 (S.B.I.R.T.) SEC. 9-R-B
WILL COUNTY
STATION 3+53

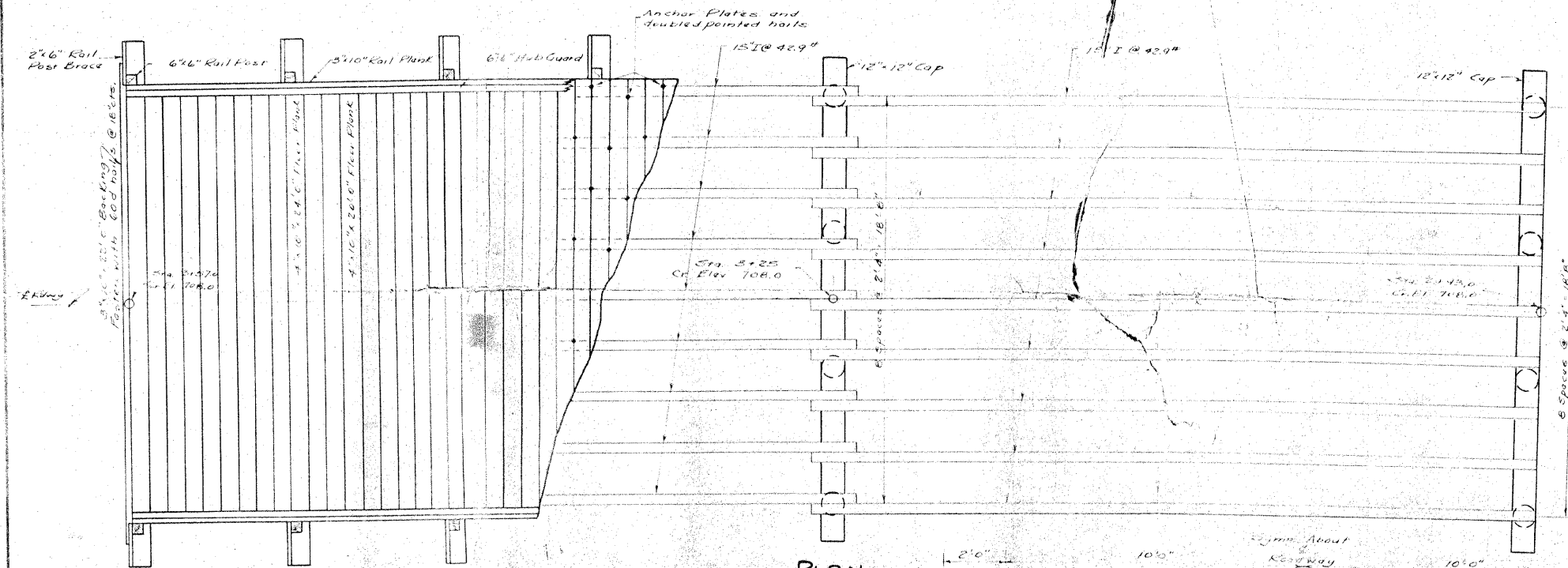
NAME PLATE LETTERING

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

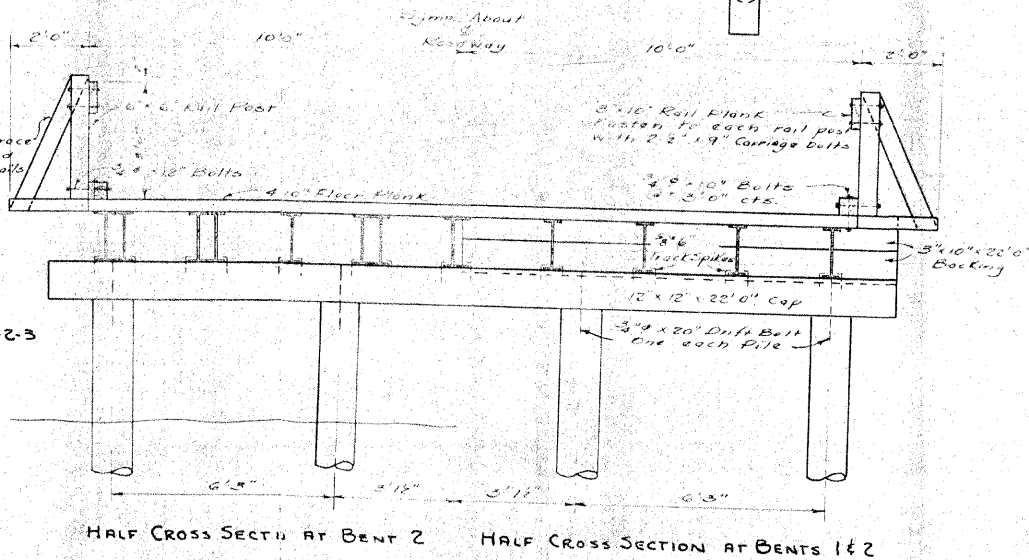
CONTRACT
60373
Sheet 194B



ELEVATION



PLAN



HALF CROSS SECTION AT BENT 2 HALF CROSS SECTION AT BENTS 1 & 2

Stanley Double pointed nails 4" x 3" 20d or equal

DETAIL OF ANCHOR PLATES

UNTREATED PILES - BENTS 1-2-3
Min Capacity 12T
Est. Length 161'±
Number Required 12

GENERAL NOTES

All bolts shall be machine bolts unless otherwise noted.
Wrought washers shall be used under head and nut on all machine bolts and under nut on all carriage bolts.
All lumber shall be untreated and S&S except that backing plank may be full sawn rough. All lumber shall be furnished full length except as shown.
Quantities of lumber and hardware are based on sizes and lengths shown. No extra compensation will be allowed for waste or splices.
Lumber shall be #1 Structural Long leaf (1400#) or dense #1 Structural Short leaf (1400#) Southern Pine or 1400# Framing and Joists, Douglas Fir.
Floor planks shall be fastened to I-beams with Stanley Anchor Plates No. 9830-No. 9 or equal. Anchor Plates are included in estimated weight of Hardware.
15" I-Beams - 42.9# will be furnished by the Division of Highways and are stored at Fayetteville, Ill. See Special Provisions.

BILL OF HARDWARE

ITEM	NO.	SIZE
Carriage Bolts	48	3/4" x 1 1/2"
Machine Bolts	20	3/8" x 1 1/2"
"	40	3/8" x 1 1/2"
Drift Bolts	12	3/8" x 20"
Wrought Washers	48	3/4"
"	120	3/4"
Track Spikes	54	3/4" x 1 1/2"
Nails	64	60d
"	160	20d
Anchor Plates	265	
Double Pointed Nails	730	

BILL OF LUMBER

ITEM	NO.	SIZE	LENGTH
Rail Planks	6	3" x 10"	22'-0"
Rail Posts	20	6" x 6"	3'-2"
Rail Braces	20	2" x 6"	4'-0"
Hub Guards	8	6" x 6"	16'-0"
Floor Planks	10	4" x 10"	24'-0"
Caps	3	12" x 12"	22'-0"
Floor Planks	71	4" x 10"	20'-0"
End Backing	4	3" x 10"	22'-0"

TOTAL BILL OF MATERIAL

Untreated Lumber	14,117	7525
Hardware	263	460
Untreated Piles (12) 161'		192
Structural Steel (Furnished)		25,500

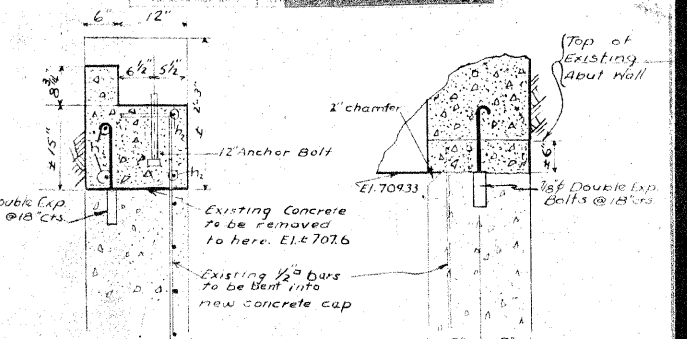
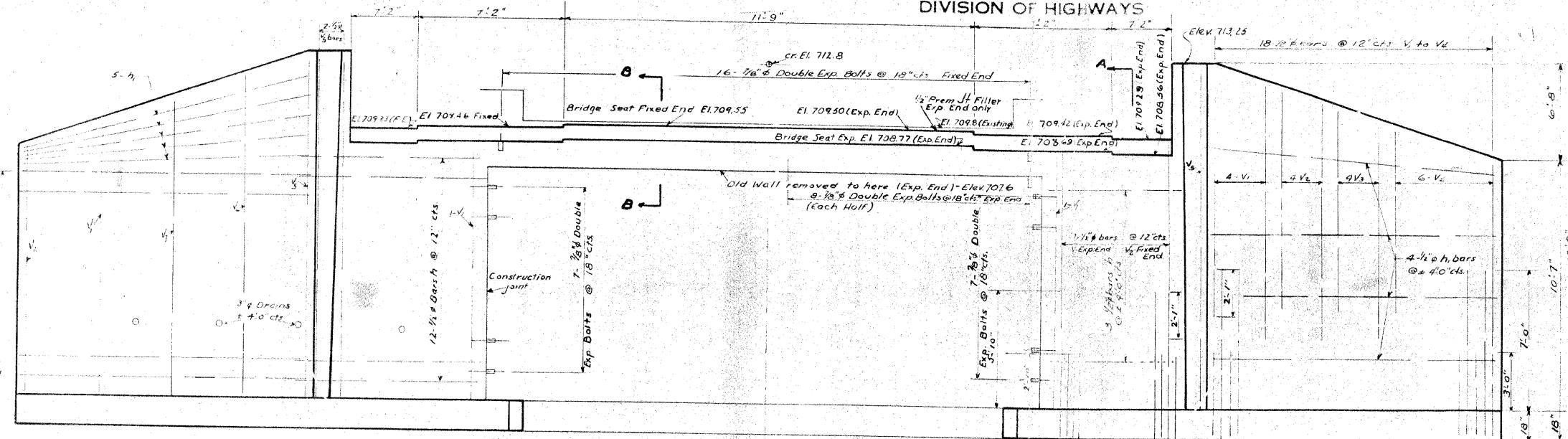
All of the above mentioned material is to be included for payment in Lump Sum Price for temporary Bridge. See Special Provisions.

TEMPORARY BRIDGE
PROJECT NO. F-2(20)
PART I (S.B.I.R.T.) SEC. 9-R-B
WILL COUNTY
RT STA. 3+53

DESIGNED BY: *B. R. Dickson*
CHECKED BY: *Charles C. Hubert Jr.*
DRAWN BY: *ced*
CHECKED BY: *Charles C. Hubert Jr.*

EXAMINED BY: _____
PASSED BY: _____
APPROVED BY: _____

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



SECTION B-B
FREE END
N. ABUT.

SECTION B-B
FIXED END
S. ABUT.

GENERAL NOTES

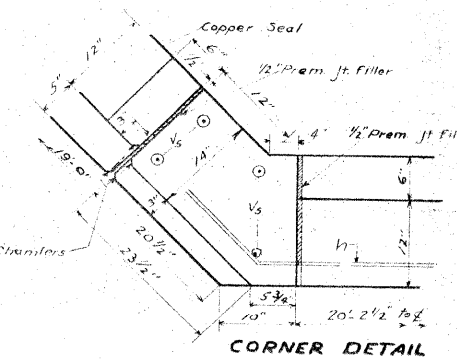
Old Abutments shall be removed to elevation shown on plans. Old reinforcing steel shall be thoroughly cleaned and bent into the new work. This work shall be included in contract lump sum price for Removal of Existing Superstructure. Est. 4.1 cu. yds. for two abutments.

NOTE:
Foundation Material - Blue Clay.
No piles used under existing abutts.

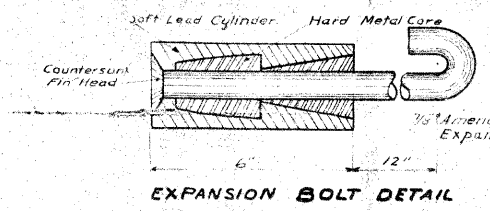
ABUTTS- IDENTICAL EXCEPT AS NOTED

REINFORCEMENT IN FRONT FACE

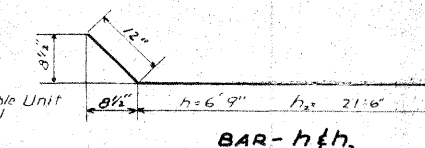
REINFORCEMENT IN BACK FACE



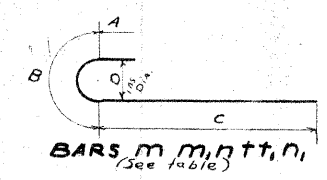
CORNER DETAIL



EXPANSION BOLT DETAIL



BAR-hfh₂

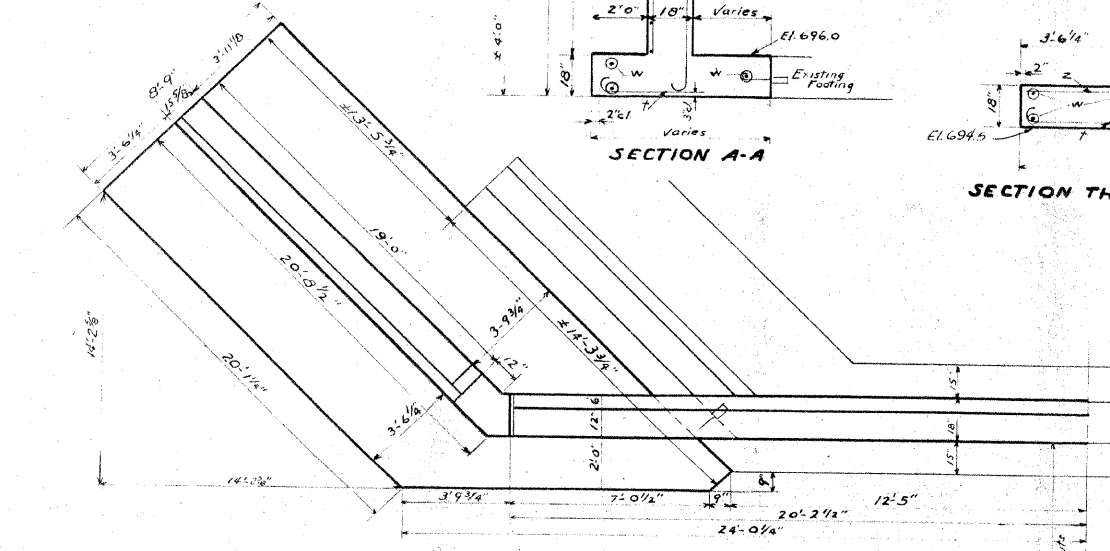


BARS m, m₁, n, n₁
(See table)

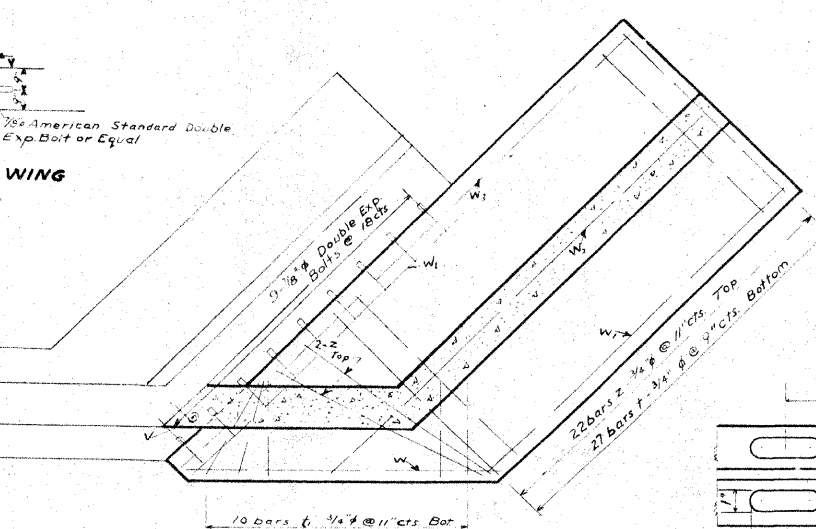
Bar	A	B	C	D
m	5"	9"	6'-10"	5"
m ₁	5"	9"	3'-10"	5"
n	7 3/4"	11"	3'-11 1/4"	6"
n ₁	7 3/4"	11"	7'-11 1/4"	6"
t	6"	11"	7'-1"	6"
t ₁	6"	11"	3'-1"	6"

BILL OF MATERIAL
(Two Abutments)

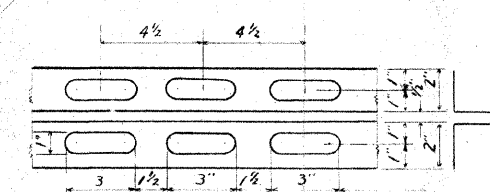
Bar	No	Size	Length	Shape
V	14	1/2" φ	8'-9"	
V ₁	20	1/2" φ	11'-6"	
V ₂	34	1/2" φ	10'-0"	
V ₃	16	1/2" φ	8'-6"	
V ₄	24	1/2" φ	7'-0"	
V ₅	-	1/2" φ	16'-6"	
V ₆	4	1/2" φ	15'-0"	
V ₇	4	1/2" φ	13'-6"	
h	60	1/2" φ	7'-9"	
h ₁	80	1/2" φ	18'-6"	
h ₂	8	1/2" φ	22'-6"	
m	36	3/8" φ	8'-0"	
m ₁	36	3/8" φ	5'-0"	
n	88	3/8" φ	5'-6"	
n ₁	92	3/8" φ	9'-6"	
t	108	3/8" φ	8'-6"	
t ₁	40	3/8" φ	4'-6"	
Z	96	3/4" φ	8'-3"	
W	8	1/2" φ	11'-0"	
W ₁	12	1/2" φ	19'-0"	
W ₂	8	1/2" φ	23'-0"	
W ₃	8	1/2" φ	27'-0"	
Class X Concrete	cu. yds.	-	124.0	
Reinforcement Bars	Lbs.	-	8050	
Expansion Bolts	Ea.	-	96	



HALF PLAN SHOWING DIMENSIONS



HALF FOOTING PLAN SHOWING REINFORCEMENT

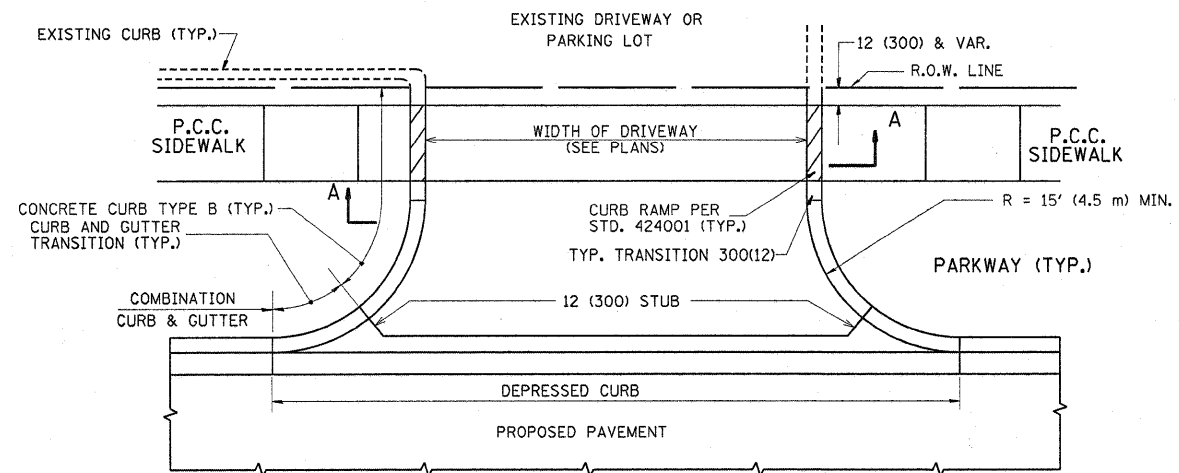


DETAIL OF COPPER SEAL

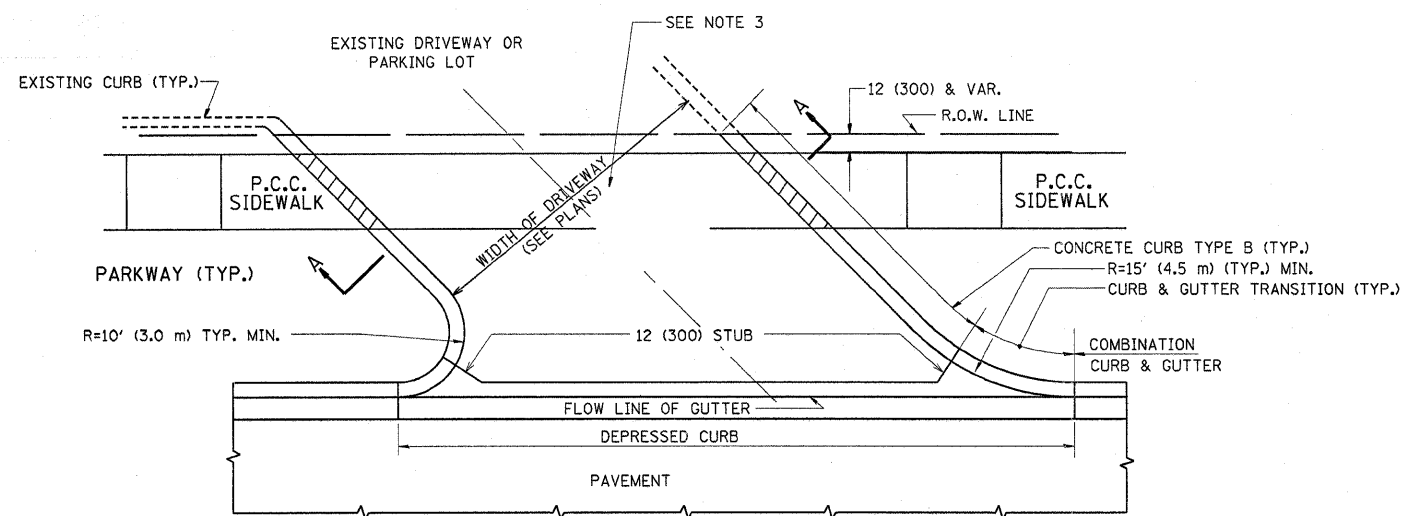
Copper Seal shall be 16oz. Cold Rolled Annealed Copper with perforated Flanges. Splices if necessary shall be soldered or brazed. Cost shall be included in contract unit price for Class X Concrete.

STANDARD	COMPUTED	<i>A. S. Rawson</i>	CHECKED	<i>George M. ...</i>
SPECIAL	DRAWN	<i>A. S. Rawson</i>	CHECKED	<i>George M. ...</i>
	APPROVED	<i>W. W. ...</i>		

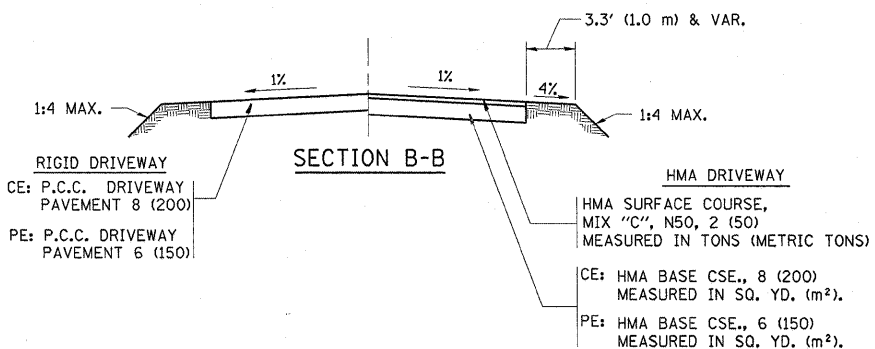
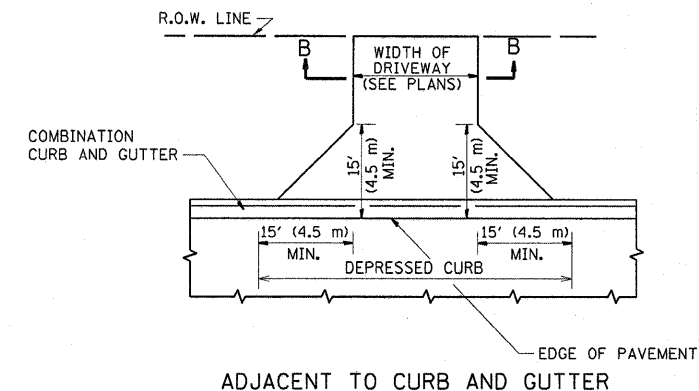
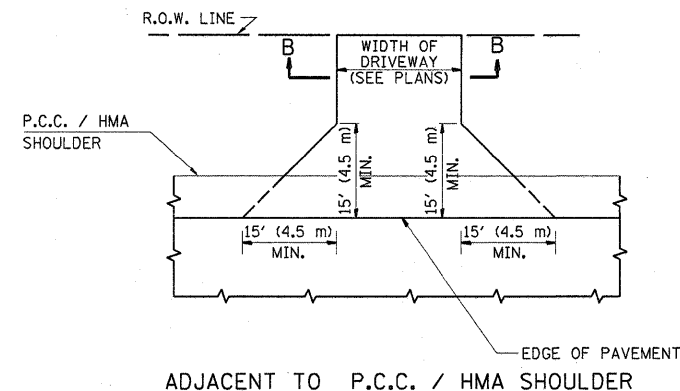
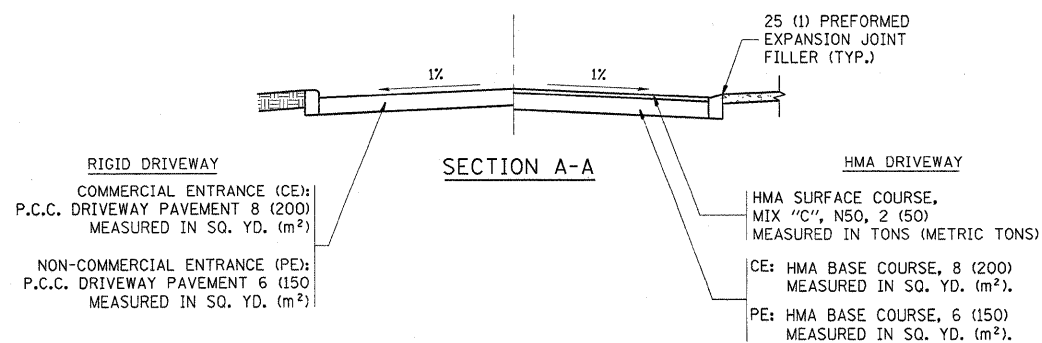
PROJECT F-2(20)
WILL COUNTY
STA. 3+53



WITH CONCRETE CURB, TYPE B



WITH CONCRETE CURB, TYPE B



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX "C", 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.

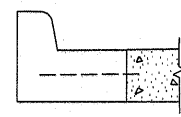
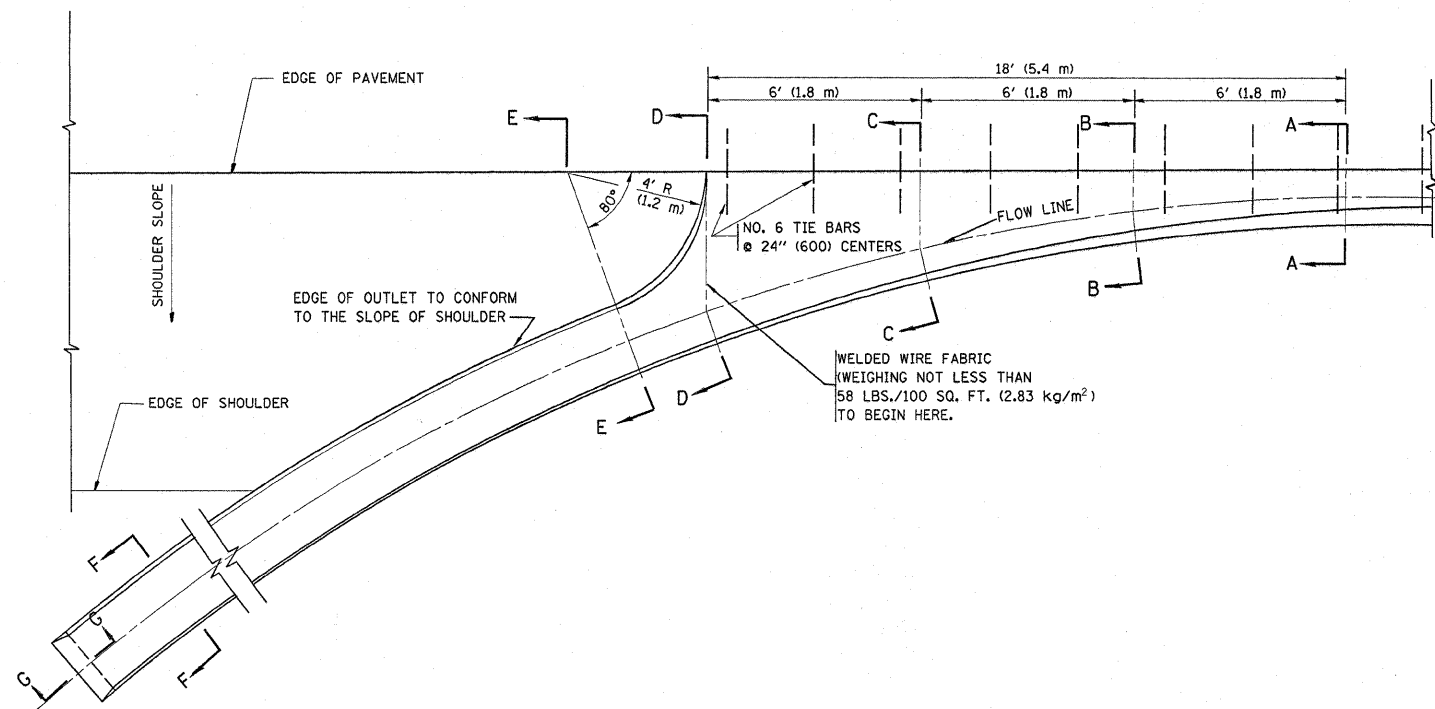
THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

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.

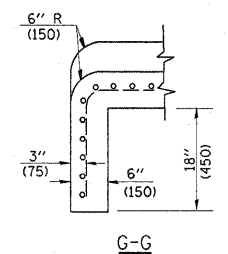
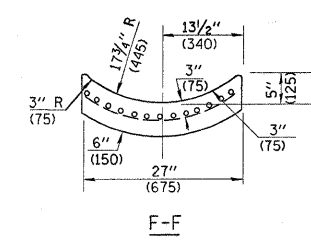
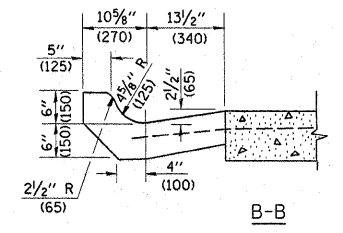
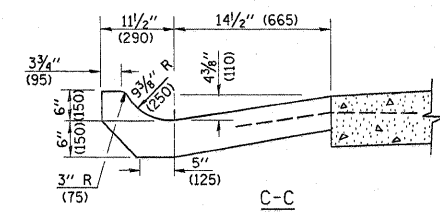
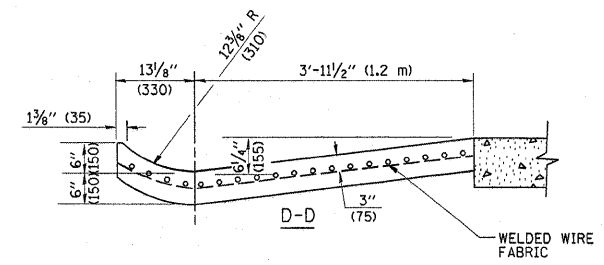
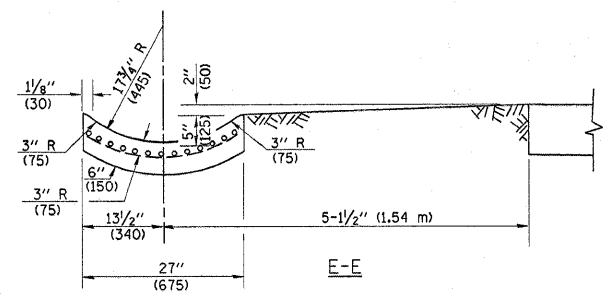
WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

FILE NAME =	USER NAME = bankal	DESIGNED - R. SHAH	REVISED - M. GOMEZ 04-06-01	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.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pwork\PIWIDOT\BANKSL\d0103641\01st5.dgn		DRAWN -	REVISED - P. LoFLUER 04-15-03			332/876	2002-113R	WILL	242	195
PLOT SCALE = 50,0000 ' / IN.		CHECKED -	REVISED - R. BORO 01-01-07			BD0156-07 (BD-01)		CONTRACT NO. 62542		
PLOT DATE = 8/25/2009		DATE - 11-04-95	REVISED - R. BORO 06-11-08			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT



A-A *

* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001. FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



GENERAL NOTES

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24\" (600) CENTERS UNLESS OTHERWISE SHOWN.

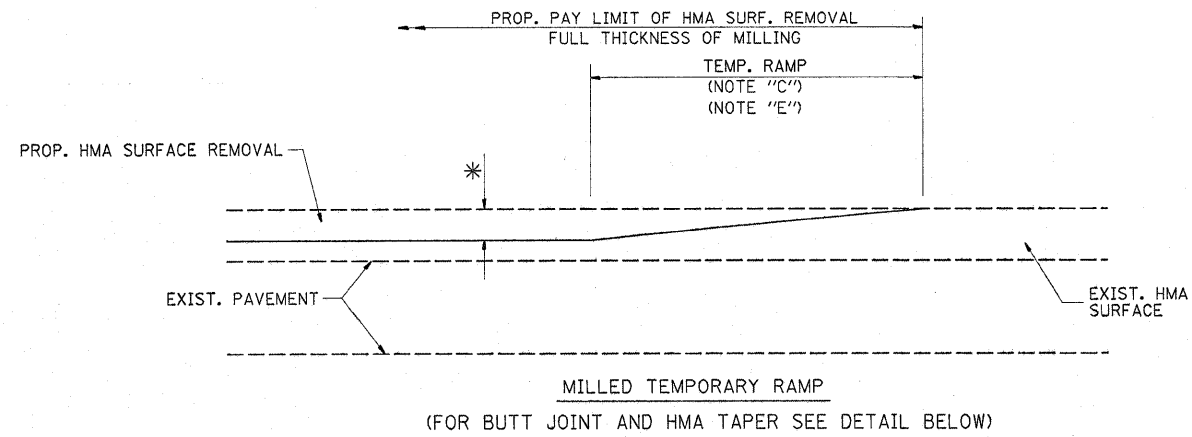
IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

QUANTITIES

FOR SECTION A-A TO E-E AND CURTAIN WALL = 1.25 CU. YDS. (0.96 m³) CLASS SI CONCRETE (OUTLET) FOR 9\" (225) PAV'T.
 1.27 CU. YDS. (0.96 m³) CLASS SI CONCRETE (OUTLET) FOR 10\" (250) PAV'T.
 FOR SECTION F-F = 0.045 CU. YDS. (0.03 m³) CLASS SI CONCRETE PER FT. (m).

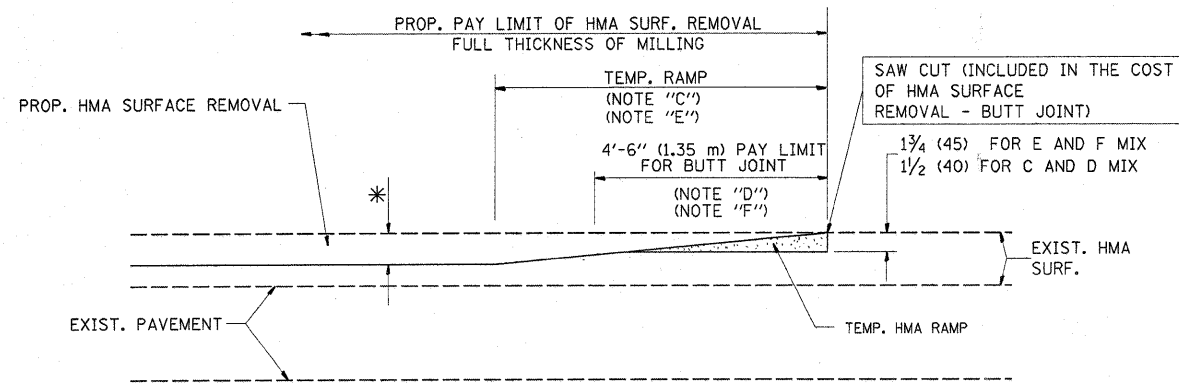
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = banksl	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OUTLET FOR CONCRETE CURB AND GUTTER			F.A.P. RTE. 332/876	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 196
ct:\pwork\PMIDOT\BANKSL\80103641\DistS	d.dgn	DRAWN -	REVISED - R. SHAH 10-25-94		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	BD600-01 (BD-03)		CONTRACT NO. 62542		
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - E. GOMEZ 12-21-00									
	PLOT DATE = 8/25/2009	DATE - 08-04-86	REVISED -									
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT												



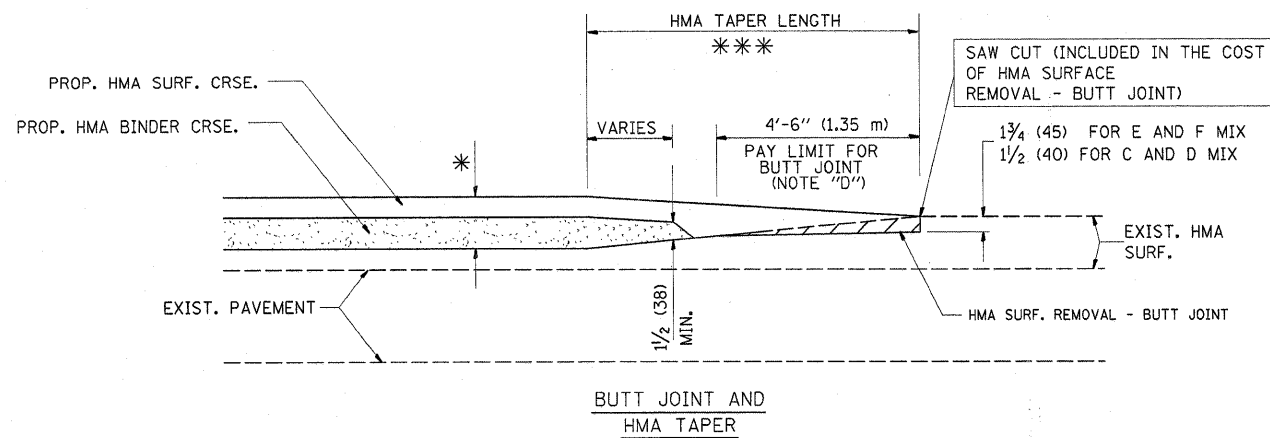
MILLED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

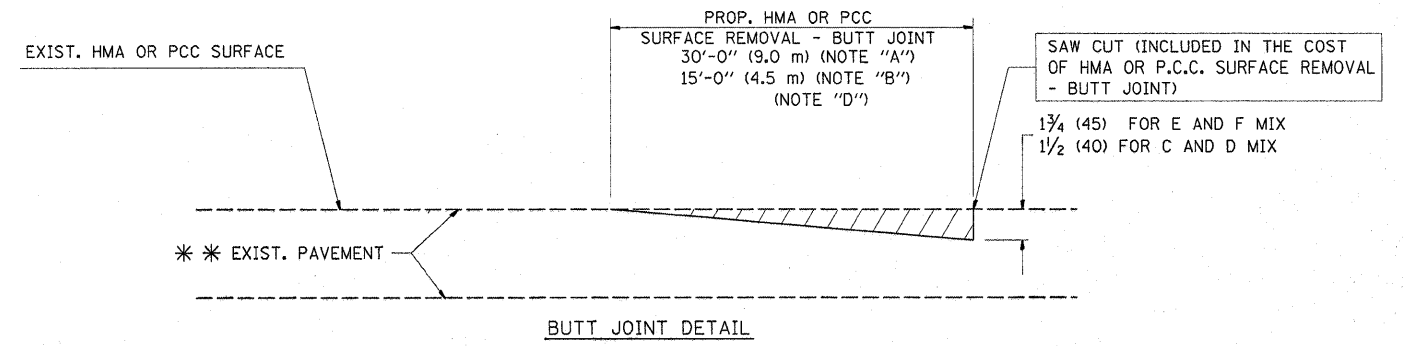


HMA CONSTRUCTED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

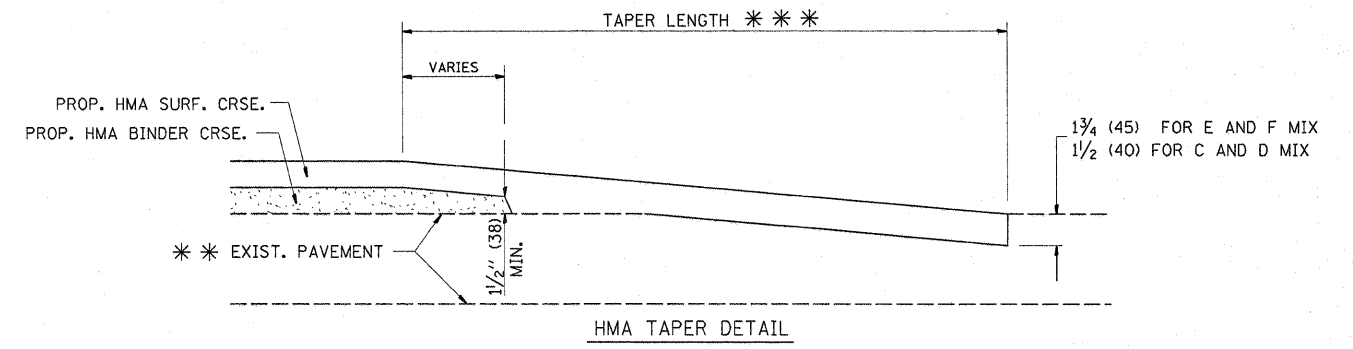
OPTION 2
TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER
FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER
FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

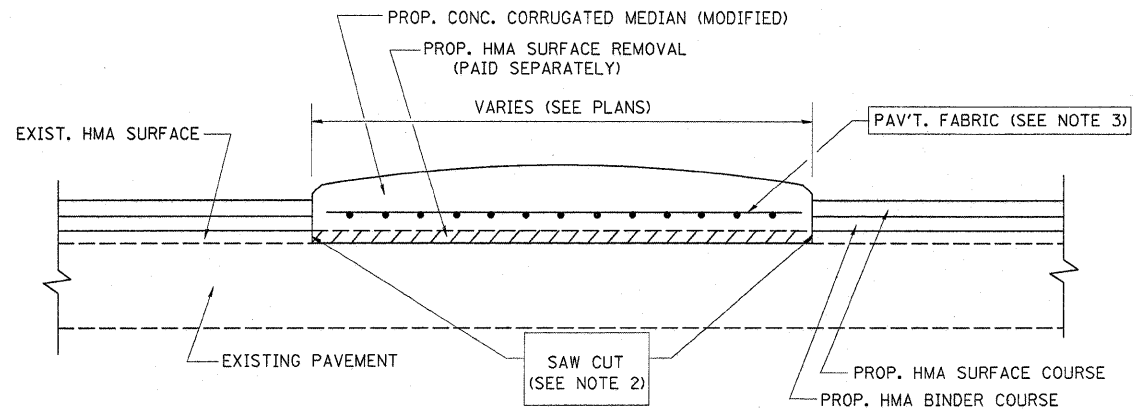
- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
 - B: MINOR SIDE ROADS.
 - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
 - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
 - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
 - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
 - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

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

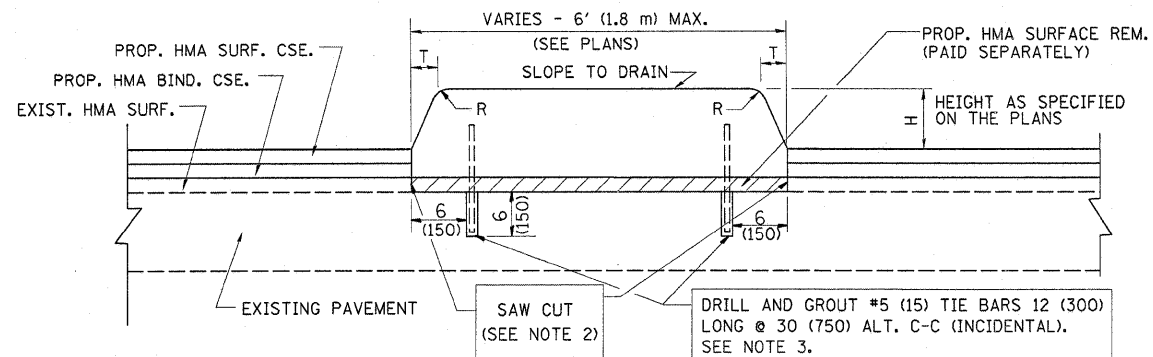
FILE NAME =	USER NAME = banks1	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BUTT JOINT AND HMA TAPER DETAILS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pw\work\PWIDOT\BANKSL\d0103641\01st5.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97		332/876	2002-113R	WILL	242	197		
PLOT SCALE = 50,0000 ' / IN.		CHECKED -	REVISED - M. GOMEZ 04-06-01		BD400-05 BD32		CONTRACT NO. 62542				
PLOT DATE = 8/25/2009		DATE - 06-13-90	REVISED - R. BORO 01-01-07		SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT



- NOTES:
1. CORRUGATED MEDIAN (MODIFIED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE PORTIONS OF STATE STANDARD 606306.
 2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)
 3. PAVEMENT FABRIC WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)

DETAILS FOR CORRUGATED MEDIAN (MODIFIED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CORRUGATED MEDIAN (MODIFIED)"



- NOTES:
1. CONCRETE MEDIAN TYPE SB (DOWELLED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STATE STANDARD 606301 AND SECTION 606 OF THE STANDARD SPECIFICATIONS.
 2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"
 3. FOR MEDIAN WIDTH LESS THAN 4' (1.2 m) USE ONE ROW OF #5 (15) BARS @ 30 (750) C-C ALONG THE MEDIAN CENTERLINE. TIE BARS WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"

H	R	T
6(150)	1(25)	1(25)
9(225)	1(25)	2(50)

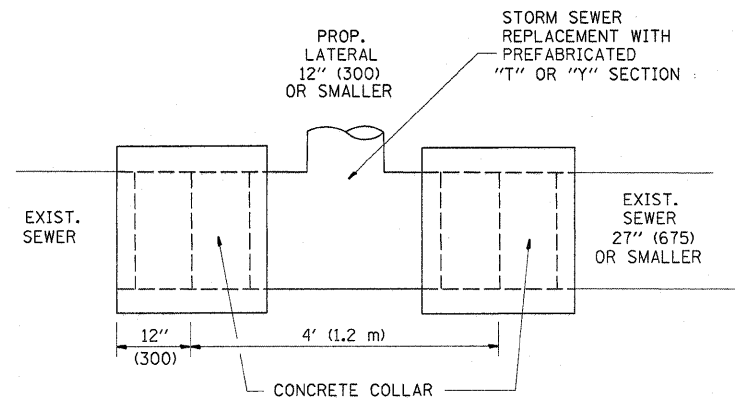
DETAILS FOR CONCRETE MEDIAN

TYPE SB (DOWELLED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CONCRETE MEDIAN TYPE SB (DOWELLED)"

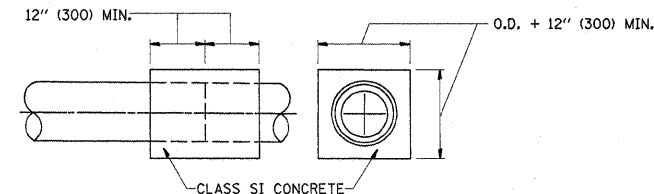
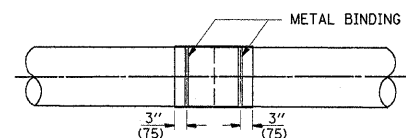
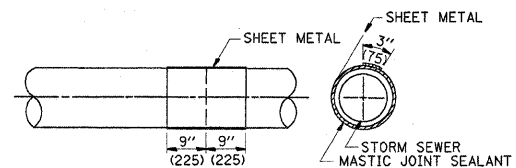
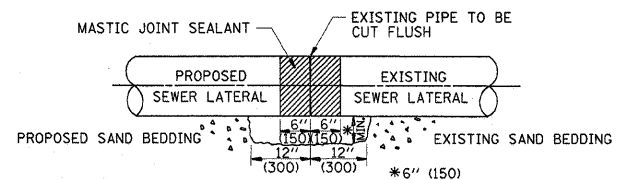
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = banks1	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR CONCRETE MEDIAN TYPE SB (DOWELLED) CORRUGATED MEDIAN (MODIFIED)				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca\pwwork\PIWIDOT\BANKSL\d0103641\01st5	d.dgn	DRAWN -	REVISED - R. SHAH 10-25-94		332/876	2002-113R	WILL	242	198				
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED - E. GOMEZ 08-28-00		BD600-02 (BD-5) CONTRACT NO. 62542								
PLOT DATE = 8/25/2009		DATE - 05-14-90	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT				



DETAIL "A"

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

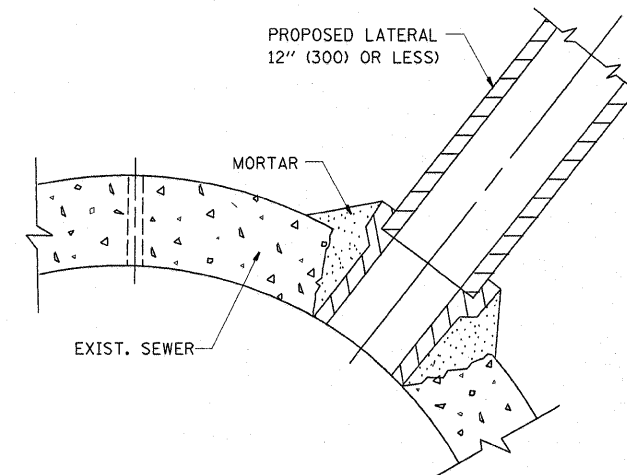


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

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



DETAIL "C"

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

NOTES

MATERIAL

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

CONSTRUCTION METHODS

- THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
 - PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
 - PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

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

GENERAL

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

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

BASIS OF PAYMENT

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

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

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

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

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

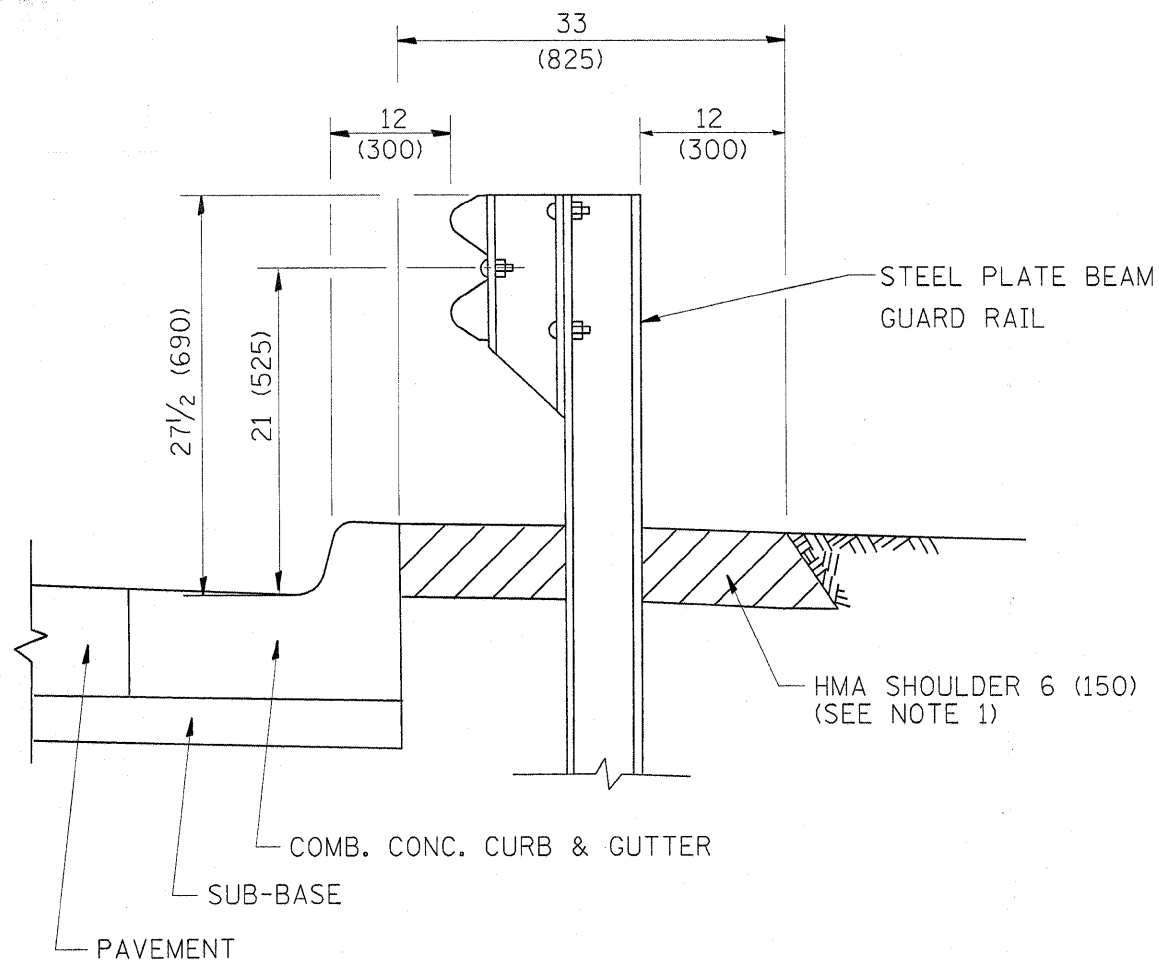
FILE NAME =	USER NAME = banks1	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
cr:\pw\work\PIW1001\BANKSL\d0103641\Dist5.dgn		DRAWN -	REVISED - R. SHAH 09-09-94
		CHECKED -	REVISED - R. SHAH 10-25-94
		DATE - 07-25-90	REVISED - R. SHAH 06-12-96

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER
CONNECTION TO EXISTING SEWER

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

F.A.P. RTE. 332/876	SECTION 2002-113R	COUNTY WILL	TOTAL SHEETS 242	SHEET NO. 199
BD500-01 (BD-7)			CONTRACT NO. 62542	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

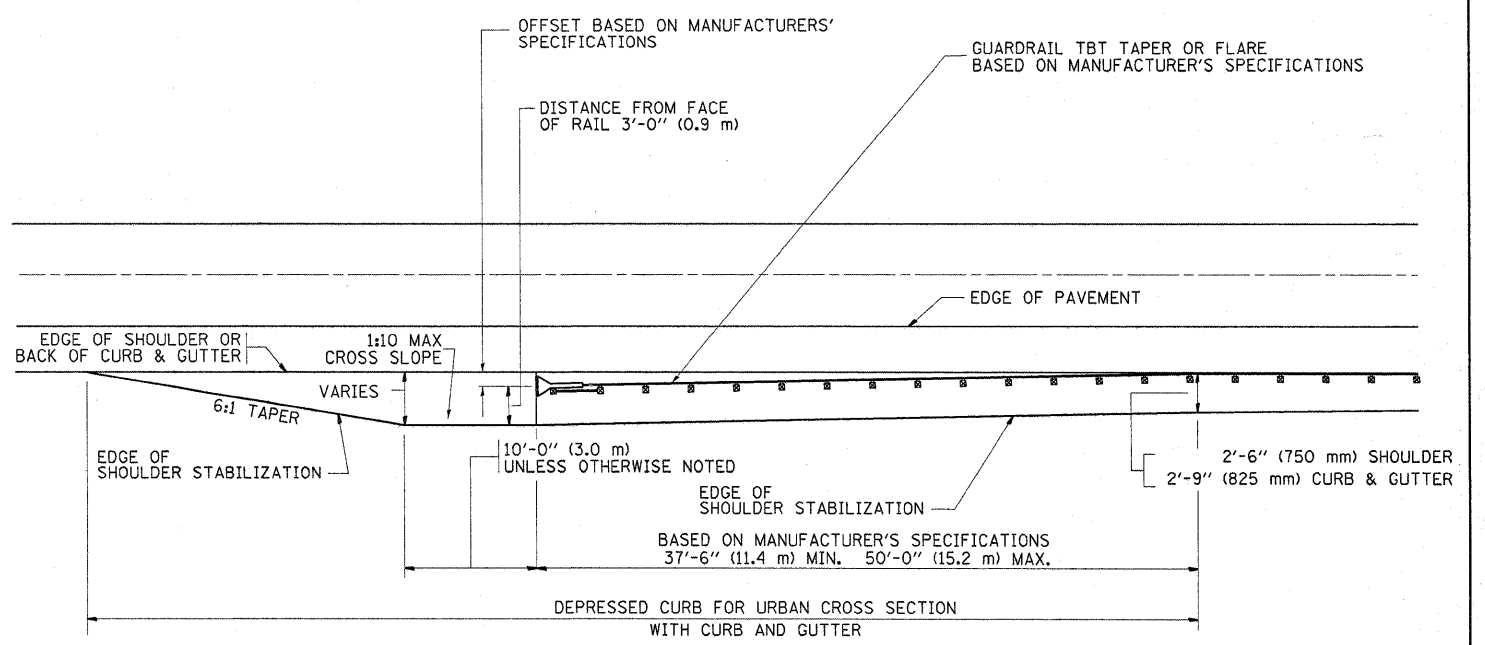


- NOTES: 1. THE HMA SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL
2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

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

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

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



STABILIZATION AT TBT TY. 1 SPL.

TBT = TRAFFIC BARRIER TERMINAL
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = benksal	DESIGNED - M. DE YONG	REVISED - R. SHAH 02-23-95	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER STABILIZATION AT TBT TY 1 SPL.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pwork\pwork\DOT\BANKSL\d0103641\01st5.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97			332/876	2002/113R	WILL	242	200
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED - E. GOMEZ 08-28-00			BD600-10 (BD 34)		CONTRACT NO. 62542		
PLOT DATE = 8/25/2009		DATE - 09-22-90	REVISED - R. BORO 01-01-07			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
				SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.		