11-16-07 Letting, Item 004

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R-1	WILL	87	1

CONTRACT NO. 62269

87+28 = 115

D-91-294-01

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

FAP RTE 846 /IL RTE 53 OVER PRAIRIE CREEK
SECTION 4B-1-R-1
BRIDGE SUPERSTRUCTURE REMOVAL AND REPLACEMENT
WILL COUNTY
C-91-294-01

PROJECT: ACBRF-ACF-0846 (018)

TRAFFIC DATA FOR NB & SB
EXISTING 1999 ADT = 7,000 VPD
PROPOSED 2021 ADT = 9,450 VPD
POSTED SPEED LIMIT = 45 MPH

DESIGN DESIGNATION
8000 (08) ARTERIAL____(FD-20)

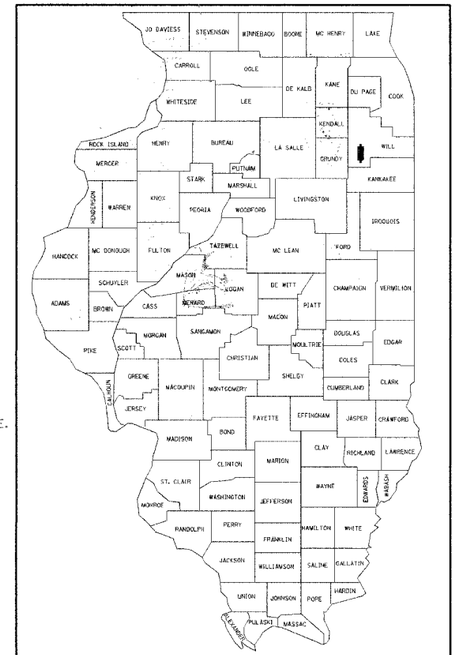
THE PROJECT IS LOCATED IN THE FLORENCE TOWNSHIP OF WILL COUNTY.

LICENSED PROFESSIONAL ENGINEER
HARJIT SINGH
062-055489
STATE OF ILLINOIS

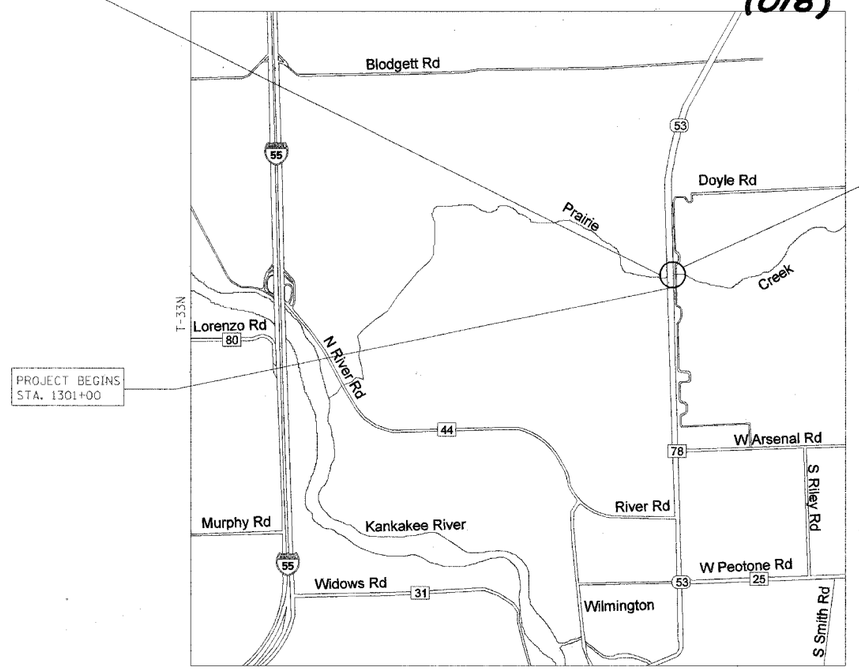
Harjit Singh
EXPIRES ON 11-30-2007
ENGINEER AND SEAL APPLY TO ELECTRICAL DRAWINGS

FAP RTE 846 / IL RTE 53 OVER PRAIRIE CREEK

SN # 099-0090 (NB) AND 099-0242 (SB)
THE PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF THE EXISTING DECKS AND SUPERSTRUCTURES. THE ARCH BEAMS OF THE NORTHBOUND STRUCTURE WILL BE REPLACED WITH STANDARD BEAMS WITH AN ARCH FACADE ON BOTH SIDES TO MAINTAIN THE HISTORIC CONFIGURATION OF THE STRUCTURE. THE PRE STRESSED PRECAST CONCRETE BOX BEAMS OF THE SOUTHBOUND STRUCTURE WILL BE REPLACED WITH THREE SPAN CONTINUOUS COMPOSITE STEEL BEAMS WITH CONCRETE DECK. THE APPROACH ROADWAY WILL CONSIST OF TWO 12-FOOT NORTHBOUND AND TWO 12-FOOT SOUTHBOUND LANES, 10-FOOT OUTSIDE SHOULDERS AND 6-FOOT INSIDE SHOULDERS.



LOCATION OF SECTION INDICATED THUS:- ■



MAP SCALE: 1"=1 MILE
GROSS AND NET LENGTH OF PROJECT 800 FT

100' 10' 200' 20' 300' 30' — 1"= 100' 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

S. M. KAZI
62-33486
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

Syed M. Kazi
Licensed Professional Engineer
State of Illinois
Lic. No. 062-033486
Expires: 11-30-2007
SIGNATURE AND SEAL APPLY TO CIVIL DRAWINGS

STATE OF ILLINOIS
SYED M. KAZI
081-004047
STRUCTURAL ENGINEER

Syed M. Kazi
Licensed Structural Engineer
State of Illinois
License No. 081-004047
Expires: 11-30-2008
SIGNATURE AND SEAL APPLY TO STRUCTURAL DRAWINGS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 1 20 07
Diane O'Keefe/sd
DEPUTY DIRECTOR OF HIGHWAYS / REGION 1 ENGINEER
October 12, 20 07
Eric E Harm
Interim ENGINEER OF DESIGN AND ENVIRONMENT
October 12, 20 07
Milton R. Suso P.E.
DIRECTOR, DIVISION OF HIGHWAYS

DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

DISTRICT ONE - DESIGN /CONSULTANT PROJECT MANAGER: RAJENDRA C. SHAH, P.E.,(847)705-4555

CONTRACT NO. 62269

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	48-1-R	WILL	87	2
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

INDEX OF SHEETS

* 48U. & 48O. WERE NOT USED

IDOT HIGHWAY STANDARDS

000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

001001-01 AREAS OF REINFORCEMENT BARS

280001-03 TEMPORARY EROSION CONTROL SYSTEMS

420401-05 BRIDGE APPROACH PAVEMENT

442201-02 CLASS C AND D PATCHES

482001-01 HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT

482011-02 HMA SHLD. STRIPS/SHLDS WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS

515001-02 NAME PLATE FOR BRIDGES

542301-01 PRECAST REINFORCED CONCRETE FLARED END SECTION

542601 REINFORCED CONCRETE PIPE ELBOW

601001-01 SUB-SURFACE DRAINS

601101 CONCRETE HEADWALL FOR PIPE DRAIN

602601-01 PRECAST REINFORCED CONCRETE FLAT SLAB TOP

630001-07 STEEL PLATE BEAM GUARDRAIL

630201-04 PCC / HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL

630301-04 SHOULDER WIDENING FOR TYPE I (SPECIAL) GUARDRAIL TERMINALS

631031-06 TRAFFIC BARRIER TERMINAL, TYPE 6

635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT

635011-01 REFLECTOR MARKER AND MOUNTING DETAILS

638001-01 GLARE SCREEN BLADES

667101 PERMANENT SURVEY MARKERS

701101-01 OFF-ROAD OPERATIONS MULTI LANE, 15' (4.5m) TO 24" (600 MM) FROM PAVEMENT EDGE

701106-01 OFF-ROAD OPERATIONS MULTILANE, MORE THAN 15' (4.5M) AWAY

701400-02 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY

701401-03 LANE CLOSURE, FREEWAY/EXPRESSWAY

701406-04 LANE CLOSURE, FREEWAY/EXPRESSWAY OPERATIONS ONLY.

701416-05 LANE CLOSURE, FREEWAY/EXPRESSWAY, DIVIDED, WITH CROSSOVER AND BARRIER

702001-06 TRAFFIC CONTROL DEVICES

704001-03 TEMPORARY CONCRETE BARRIER

602601-01 PRECAST REINFORCED CONCRETE FLAT SLAB TOP

604036-01 GRATE TYPE 8

780001-01 TYPICAL PAVEMENT MARKINGS

781001-02 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 (48 HOUR NOTIFICATION IS REQUIRED).
2. THE CONTRACTOR WILL BE REQUIRED TO DO THE EXPLORATION TRENCH FOR THE EXISTING UTILITIES AT THE BEGINNING OF THE WORK PRIOR TO STARTING ANY OPERATIONS TO DETERMINE AND IDENTIFY ANY CONFLICTS. THE WORK TO BE DONE AS DIRECTED BY THE ENGINEER. EXTREME CAUTION TO BE TAKEN BY THE CONTRACTOR TO AVOID ANY DAMAGES TO THESE UTILITIES, REFER TO SPECIAL PROVISION. THIS WORK SHALL BE CARRIED OUT PRIOR TO THE START OF ANY EXCAVATION OR BRIDGE REMOVAL OPERATIONS.
3. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANY.
4. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
5. WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1½ INCHES (40MM) WHERE SPEED LIMIT IS 45 MPH (80 KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 KM/H) WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H).
6. BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.
7. ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL.
8. BARRICADES : THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO (2) WEIGHTED SAND BAGS ON EACH TYPE I OR TYPE II BARRICADE USED (ONE (1) WEIGHTED SAND BAG ACROSS EACH BOTTOM RAIL).
9. ALL TYPE III BARRICADES SHALL HAVE A MINIMUM OF FOUR WEIGHTED SANDBAGS PER BARRICADE. ONE ON EACH LEG.
10. WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.
11. THE ENGINEER SHALL CONTACT THE AREA TRAFFIC FIELD ENGINEER TWO WEEKS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS.
12. A 404 PERMIT AND A FLOODWAY PERMIT WILL BE REQUIRED FOR THIS PROJECT AND ARE INCLUDED IN THE SPECIAL PROVISIONS.

COMMITMENTS

1. THIS PROJECT HAS BEEN SIGNED OFF FOR UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) HAZARDOUS MATERIALS (HAZMAT). IF THE PROPOSED SCOPE OF WORK CHANGES OR IF ADDITIONAL ROW/TEMPORARY EASEMENTS ARE REQUIRED, THE ENVIRONMENTAL STUDIES UNIT SHOULD BE CONTACTED AT EXTENSION 4101 TO DISCUSS ANY POTENTIAL IMPACTS.
2. AT THE REQUEST OF ILLINOIS HISTORIC PRESERVATION AGENCY (IHPA), IDOT IS COMMITTED TO REPLICATE THE RAILING OF THE NORTHBOUND STRUCTURE BY USING THE TEXAS MODIFIED RAILING. ALSO ARCH FACADES WILL BE USED TO REPLICATE THE APPEARANCE OF THE EXISTING ARCH BEAMS.

REVISIONS	
NAME	DATE

Rev.

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL RTE 53 OVER PRAIRIE CREEK

INDEX OF SHEETS, IDOT HIGHWAY STANDARDS, GENERAL NOTES AND COMMITMENTS

SCALE: NONE

DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ

CHECKED BY: MK/SMK

SUMMARY OF QUANTITIES

LOCATION OF WORK: IL RTE 53 OVER PRAIRIE CREEK
WILL COUNTY

	CODE NO.	ITEM	UNIT	TOTAL QTY	ACBRF CONSTRUCTION TYPE CODE ROADWAY 1000-2A	ACBRF NB BRIDGE X771-2A	ACF SB BRIDGE X771-2A
	20101100	TREE TRUNK PROTECTION	EACH	23	23	-	-
	20200100	EARTH EXCAVATION	CU YD	4696	4696	-	-
	20201006	GRADING AND SHAPING SHOULDERS	UNIT	5	5	-	-
	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1697	1697	-	-
	20201550	SUB-BASE GRANULAR MATERIAL, TYPE B	CU YD	9164	9164	-	-
	20400800	FURNISHED EXCAVATION	CU YD	12706	12706	-	-
	20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	128	-	62	66
*	21101815	COMPOST FURNISH AND PLACE, 4"	SQ YD	11778	11778	-	-
	21301084	EXPLORATION TRENCH 84" DEPTH	FOOT	25	25	-	-
	21400100	GRADING AND SHAPING DITCHES	FOOT	4379	4379	-	-
*	25000310	SEEDING, CLASS 4	ACRE	3	3	-	-
*	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	72	72	-	-
*	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	69	69	-	-
*	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	67	67	-	-
*	25100630	EROSION CONTROL BLANKET	SQ YD	41732	41732	-	-
*	25200200	SUPPLEMENTAL WATERING	UNIT	6	6	-	-
	25400200	SELECTIVE MOWING STAKES	EACH	8	8	-	-
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	58	58	-	-
	28000300	TEMPORARY DITCH CHECKS	EACH	14	14	-	-
	28000400	PERIMETER EROSION BARRIER	FOOT	1794	1794	-	-
	35501324	HOT-MIX ASPHALT BASE COURSE, 10"	SQ YD	920	920	-	-
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	223	223	-	-
	40600400	MIXTURE FOR CRACKS, JOINTS AND FLANGEWAYS	TON	1	1	-	-
	40600625	LEVELING BINDER (MACHINE METHOD) ~~IL 4.75~~, N50	TON	76	76	-	-
	40600895	CONSTRUCTING TEST STRIP	EACH	3	3	-	-

	CODE NO.	ITEM	UNIT	TOTAL QTY	ACBRF CONSTRUCTION TYPE CODE ROADWAY 1000-2A	ACBRF NB BRIDGE X771-2A	ACF SB BRIDGE X771-2A
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	560	560	-	-
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19, N50	TON	1887	1887	-	-
	40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	531	531	-	-
	40600300	AGGREGATE (PRIME COAT)	TON	7	7	-	-
	42001165	BRIDGE APPROACH PAVEMENT	SQ YD	540	540	-	-
	42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	107	107	-	-
	44000100	PAVEMENT REMOVAL	SQ YD	616	616	-	-
	44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2¼"	SQ YD	2762	2762	-	-
*	44000700	APPROACH SLAB REMOVAL	SQ YD	464	464	-	-
	44004250	PAVED SHOULDER REMOVAL	SQ YD	1534	1534	-	-
	44201773	CLASS D PATCHES, TYPE I, 11 INCH	SQ YD	32	32	-	-
	44201777	CLASS D PATCHES, TYPE II, 11 INCH	SQ YD	40	40	-	-
	44201781	CLASS D PATCHES, TYPE III, 11 INCH	SQ YD	65	65	-	-
	44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	1235	1235	-	-
	48102100	AGGREGATE WEDGE SHOULDERS, TYPE B	TON	1250	1250	-	-
	48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	2452	2452	-	-
	50101100	REMOVAL OF EXISTING SUPERSTRUCTURES NO.1	EACH	1	-	1	
	50101800	REMOVAL OF EXISTING SUPERSTRUCTURES NO.2	EACH	1			1
	50102400	CONCRETE REMOVAL	CU YD	89.8	-	84.8	5
	50200100	STRUCTURE EXCAVATION	CU YD	698	-	632	66
	50200300	COFFERDAM EXCAVATION	CUYO	318		318	
*	50200400	ROCK EXCAVATION FOR STRUCTURES	CU YD	170	-	170	-
	50202901	COFFERDAM (LOCATION-1)	EACH	1	-	1	-
	50202902	COFFERDAM (LOCATION-2)	EACH	1	-	1	-
	50300100	FLOOR DRAINS	EACH	24	-	12	12
	50300225	CONCRETE STRUCTURES	CU YD	151.4	-	132.1	19.3

	CODE NO.	ITEM	UNIT	TOTAL QTY	ACBRF CONSTRUCTION TYPE CODE ROADWAY 1000-2A	ACBRF NB BRIDGE X771-2A	ACF SB BRIDGE X771-2A
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	273	-	124	149
	50300260	BRIDGE DECK GROOVING	SQ YD	946	-	474	472
	50300300	PROTECTIVE COAT	SQ YD	1136	-	572	564
	50500305	ERECTING STRUCTURAL STEEL	L SUM	1	-	0.52	0.48
	50500505	STUD SHEAR CONNECTORS	EACH	6498	-	3384	3114
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	115070	-	70100	44970
	50800515	BAR SPLICERS	EACH	192	-	96	96
	51500100	NAME PLATES	EACH	2	-	1	1
	52000110	PREFORMED JOINT STRIP SEAL	FOOT	172	-	85	87
	52100210	ERECTING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	36	-	18	18
	52100520	ANCHOR BOLTS, 1"	EACH	48	-	24	24
	52100530	ANCHOR BOLTS, 1¼"	EACH	36	-	12	24
	52100540	ANCHOR BOLTS, 1½"	EACH	12	-	12	-
	54215967	REINFORCED CONCRETE PIPE ELBOW 12"	EACH	2	2	-	-
	542A1057	PIPE CULVERTS, CLASS A, TYPE 2 12"	FOOT	596	596	-	-
	58700300	CONCRETE SEALER	SQ FT	134	-	134	-
	59000200	EPOXY CRACK INJECTION	FOOT	38	-	23	15
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	83	-	43	40
*	63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	860	860	-	-
	60107600	PIPE UNDERDRAINS 4"	FOOT	2213	2213	-	-
	60108100	PIPE UNDERDRAINS 4" (SPECIAL)	FOOT	90	90	-	-
	60100060	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	8	8	-	-
	60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	309	-	159	150
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	-	-
	63200310	GUARDRAIL REMOVAL	FOOT	550	550	-	-
*	63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4	-	-
	63800048	GLARE SCREEN BLADES 48"	EACH	30	30	-	-

* SPECIALTY ITEM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	3
STA.	1301+00	TO STA.	1309+00	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ACBRF ACF

CONTRACT No. 62269

REVISIONS NAME	DATE

Rev.

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

SUMMARY OF QUANTITIES I

SCALE: NONE
DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

SUMMARY OF QUANTITIES

LOCATION OF WORK: IL RTE 53 OVER PRAIRIE CREEK
WILL COUNTY

	CODE NO.	ITEM	UNIT	TOTAL QTY	ACBRF CONSTRUCTION TYPE CODE ROADWAY 1000-2A	ACBRF NB BRIDGE X771-2A	ACF SB BRIDGE X771-2A
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	15	15	-	-
	67100100	MOBILIZATION	L SUM	1	1	-	-
	70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1	-	-
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	138	138	-	-
	70300220	TEMPORARY PAVEMENT MARKING-LINE 4"	FOOT	150714	150714	-	-
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	1584	1584	-	-
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	960	960	-	-
*	78000200	THERMOPLASTIC PAVEMENT MARKING-LINE 4"	FOOT	2779	2779	-	-
*	78000600	THERMOPLASTIC PAVEMENT MARKING-LINE 12"	FOOT	395	395	-	-
*	78001110	PAINT PAVEMENT MARKING LINE 4"	FOOT	70636	70636	-	-
	78003110	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 4"	FOOT	775	775	-	-
	78003150	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 12"	FOOT	117	117	-	-
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	36	36	-	-
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	4	4	-	-
*	78200520	BARRIER WALL MARKERS, TYPE B	EACH	150	138	6	6
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH	20	20	-	-
*	78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4	4	-	-
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	144644	144644	-	-
	80400100	ELECTRIC SERVICE INSTALLATION	EACH	1	1	-	-
*	81000600	CONDUIT IN TRENCH, 2"DIA., GALVANIZED STEEL	FOOT	20	20	-	-
*	81702410	ELECTRIC CABLE IN CONDUIT, 600V (XLP- TYPE USE) 3- 1/C NO. 4	FOOT	50	50	-	-
*	81800330	AERIAL CABLE, 3-1/C NO. 6 WITH MESSENGER WIRE	FOOT	2700	2700	-	-
*	81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	30	30	-	-
*	83057150	LIGHT POLE, WOOD, 30 FOOT, CLASS 4	EACH	1	1	-	-
*	84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	1	1	-	-
*	84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1	1	-	-
*	84500130	REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1	1	-	-
*	A2006714	TREE, QUERCUS MACROCARPA (BUR OAK), 1-3/4" CALIPER, BALLED AND BURLAPPED	EACH	3	3	-	-

	CODE NO.	ITEM	UNIT	TOTAL QTY	ACBRF CONSTRUCTION TYPE CODE ROADWAY 1000-2A	ACBRF NB BRIDGE X771-2A	ACF SB BRIDGE X771-2A
*	K1004469	PERENNIAL PLANTS, PRARIE TYPE	UNIT	40	40	-	-
	X2503000	MAINTENANCE MOWING	ACRE	3	3	-	-
	X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	55	55	-	-
*	X0322859	WEED CONTROL PRE-EMERGENT GRANULAR HERBICIDE	POUND	9	9	-	-
	X0322992	COARSE SAND PLACEMENT, 4"	SQ YD	450	450	-	-
	X0323589	REUSABLE ENERGY ABSORBING CRASH TERMINAL (TEMPORARY)	EACH	2	2	-	-
	X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	120	-	16	104
	X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	139	-	10	129
	X7240500	RELOCATE EXISTING SIGNS	EACH	2	2	-	-
	X7240600	REMOVE AND RE-ERECT EXISTING SIGN	EACH	2	2	-	-
	X8040400	ELECTRIC UTILITY SERVICE CONNECTION	EACH	1	1	-	-
	X8210010	TEMPORARY LUMINAIRE , HIGH PRESSURE SODIUM, HORIZONTAL MOUNT, 400WATT (INSTALL ONLY)	EACH	14	14	-	-
	X8250070	TEMPORARY LIGHTING CONTROLLER (INSTALL ONLY)	EACH	1	1	-	-
	X8410113	REMOVE TEMPORARY LIGHTING UNITS AND SALVAGE	EACH	14	14	-	-
	X8410118	MAINTENANCE OF TEMPORARY LIGHTING SYSTEM	L SUM	1	1	-	-
	XX002909	CLASS SI CONCRETE	CU YD	12.2	-	12.2	-
*	XX005978	GROUND ROD SYSTEM INSTALLATION	EACH	17	17	-	-
	Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	56	-	-	56
	Z0003300	BASE COURSE REMOVAL (SPECIAL)	SQ YD	515	515	-	-
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	-	-
	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	-	-
	Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	-	-
	Z0053700	RESETTING SURVEY MONUMENTS	EACH	2	2	-	-
△1	Z0076600	TRAINEES	HOUR	1000	1000	-	-
	X0325861	FURNISHING AND ERECTING PRECAST CONCRETE PANELS	EACH	12	-	12	-
	X0325860	TEMPORARY WOOD POLE, 60FT , CLASS 4, WITH 15FT, MAST ARM, INSTALL ONLY	EACH	14	14	-	-
*	X0325859	UNIT DUCT ,600V, 3-1C NO.6, 1/C NO.6 GROUND,(XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	50	50	-	-
	X0325862	CONCRETE BRIDGE RAILING	FOOT	213	-	213	-

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	4
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	MIXTURE TYPE	AC TYPE	AIR VOIDS
ROADWAY	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5MM)	PG 64-22	4%@50 GYR
	HOT-MIX ASPHALT BINDER COURSE, IL-19, N50	*PG 64-22	4%@50 GYR
	LEVELING BINDER (MACHINE METHOD), N50	*PG 64-22	4%@50 GYR
	HOT-MIX ASPHALT BASE COURSE (BINDER IL-19MM)	*PG 64-22	4%@50 GYR
PATCHING	CLASS D PATCHES, 11" (BINDER IL-19MM)	*PG 64-22	4%@50 GYR
SHOULDER	HOT-MIX ASPHALT SHOULDER, 6"	*PG 64-22	2%@30 GYR

NOTES

1. THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT MIXTURES IS 112 LBS/SQ.YD./INCH

* WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)			EARTH EXCAVATION ADJ. FOR SHRK-15% (CU YD)			EMBANKMENT (CU YD)			EARTHWORK BALANCE (CU YD)		
STA. TO STA.	SB	NB	CROSSOVER	SB	NB	CROSSOVER	SB	NB	CROSSOVER	SB	NB	CROSSOVER
1301+00 1302+00	153.87	411.31		130.79	349.61		0.00	327.15		130.79	22.46	
1302+00 1303+00	153.78	682.22		130.71	579.89		9.98	288.89		120.73	291.00	
1303+00 1304+00	264.72	742.13		225.01	630.81		246.33	345.83		21.32	284.98	
1304+00 1304+45	93.55	209.41		79.52	178.00		133.75	126.16		54.23	51.84	
BRIDGE												
1305+55 1306+00	107.58	68.93		91.44	58.59		175.81	150.43		84.37	91.84	
1306+00 1307+00	355.07	254.28		301.81	216.14		375.09	527.81		73.28	311.67	
1307+00 1308+00	229.13	207.89		194.76	176.71		54.89	471.09		139.87	294.38	
1308+00 1309+00	180.78	240.17		153.66	204.14		0.00	453.48		153.66	249.34	
CROSSOVER												
0+00 1+00	13.34	15.01		11.33	12.75		8.5	1.0		2.83	11.75	
1+00 2+00	18.68	28.51		15.87	24.23		26.51	7.0		10.64	17.23	
2+00 3+00	6.00	20.83		5.1	17.70		47.35	15.5		42.25	2.2	
3+00 4+00	2.50	10.34		1.62	8.78		81.18	22.01		79.56	13.23	
4+00 5+00	7.67	4.17		6.51	3.54		39.34	40.01		32.83	36.47	
5+00 6+00	22.84	22.34		19.41	18.54		21.51	57.01		2.1	38.47	
6+00 7+00	35.01	37.18		29.75	31.60		1.17	22.51		28.58	9.09	
7+00 8+00	35.08	18.50		29.81	15.72		0.0	10.17		29.81	5.55	
8+00 9+00	11.67	13.31		9.91	11.31		0.0	40.31		9.91	29.0	
9+00 10+00		14.84			12.61			1.67			10.94	
10+00 10+86.96		2.83			2.40			0.0			2.40	
TOTALS	1691.25	3004.18		1437.56	2553.58		1181.4	2908.02		1016.76	1773.84	

EARTH EXCAVATION	SOUTH BOUND	NORTH BOUND	TOTAL
	1691.25	3004.18	4695.43

* SPECIALTY ITEM

△1 Y080

Rev.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

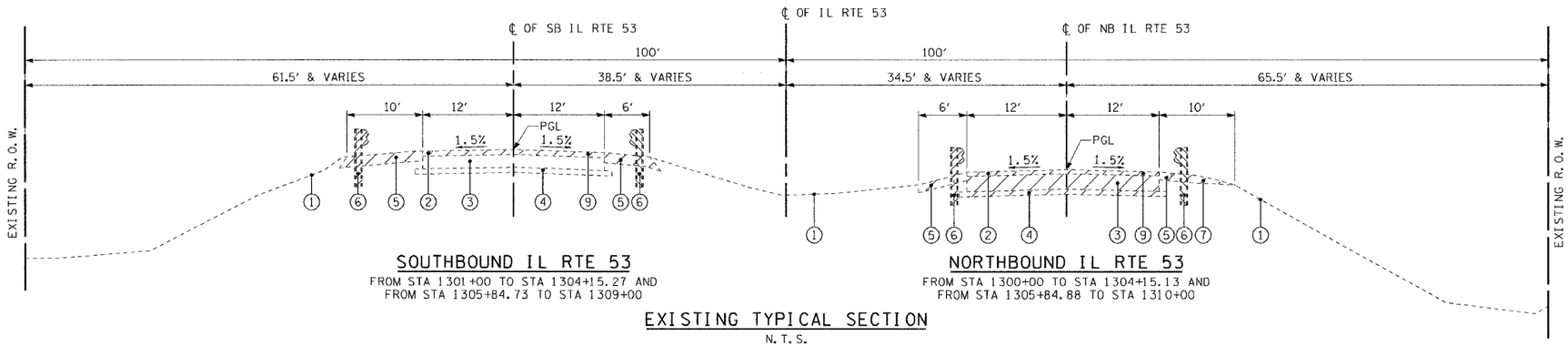
SUMMARY OF QUANTITIES II

SCALE: NONE
DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	5
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



SOUTHBOUND IL RTE 53

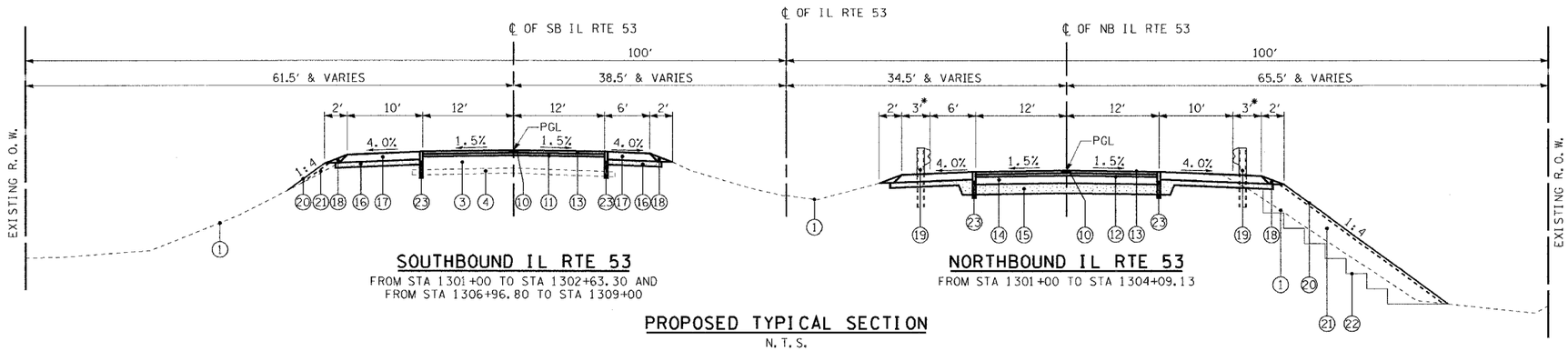
FROM STA 1301+00 TO STA 1304+15.27 AND
FROM STA 1305+84.73 TO STA 1309+00

NORTHBOUND IL RTE 53

FROM STA 1300+00 TO STA 1304+15.13 AND
FROM STA 1305+84.88 TO STA 1310+00

EXISTING TYPICAL SECTION

N. T. S.



SOUTHBOUND IL RTE 53

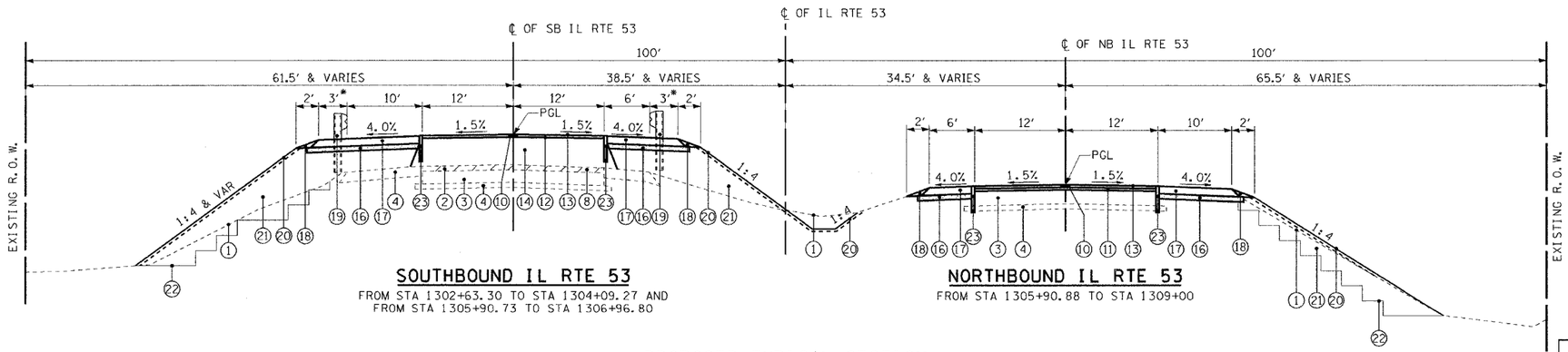
FROM STA 1301+00 TO STA 1302+63.30 AND
FROM STA 1306+96.80 TO STA 1309+00

NORTHBOUND IL RTE 53

FROM STA 1301+00 TO STA 1304+09.13

PROPOSED TYPICAL SECTION

N. T. S.



SOUTHBOUND IL RTE 53

FROM STA 1302+63.30 TO STA 1304+09.27 AND
FROM STA 1305+90.73 TO STA 1306+96.80

NORTHBOUND IL RTE 53

FROM STA 1305+90.88 TO STA 1309+00

PROPOSED TYPICAL SECTION

N. T. S.

LEGEND

1. EXISTING GROUND
2. EXISTING BITUMINOUS PAVEMENT ± 3"
3. EXISTING BITUMINOUS BASE COURSE, ± 10"
4. EXISTING SUBBASE GRANULAR MATERIALS, ± 4"
5. PAVED SHOULDER, ± 8"
6. EXISTING STEEL BEAM GUARDRAIL TO BE REMOVED
   (SB FROM STA. 1305+53.020 TO STA. 1307+03.316)
   (NB FROM STA. 1302+69.241 TO STA. 1304+46.988)
7. EXISTING AGGREGATE SHOULDER TO BE REMOVED, ± 6"
8. HMA SURFACE TO BE REMOVED, ¾"
9. HMA SURFACE TO BE REMOVED, 2¼"
10. PROPOSED STRIP REFLECTIVE CRACK CONTROL TREATMENT
11. PROPOSED LEVELING BINDER (MACHINE METHOD), N50, ¾"
12. PROPOSED HOT-MIX ASPHALT BINDER COURSE, IL-19, N50, VARIES (2¼" MIN)
13. PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX D, N50, 1½"
14. PROPOSED HOT-MIX ASPHALT BASE COURSE, 10"
15. PROPOSED DISTRICT'S AGGREGATE SUBGRADE, 12"
16. PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B, 6"
17. PROPOSED HOT-MIX ASPHALT SHOULDER, 6"
18. PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
19. PROPOSED STEEL BEAM GUARDRAIL, TYPE A
    (SB FROM STA 1305+54.73 TO STA 1308+50.98)
    (NB FROM STA 1301+48.88 TO STA 1304+45.13)
20. COMPOSITE FURNISH AND PLACE, 4", SEEDING, CLASS 4
21. PROPOSED FILL (FURNISHED EXCAVATION)
22. PROPOSED BENCHING.
23. PIPE UNDERDRAINS

NOTES

1. FOR SOUTHBOUND AND NORTHBOUND BRIDGE CROSS SECTIONS SEE SHT#--.
2. FOR BRIDGE APPROACH PAVEMENT SEE STANDARD 420401
3. THE * MARK INDICATES ADDITIONAL SHOULDER (BITUMINOUS STABILIZATION FOR THE STEEL PLATE BEAM GUARDRAIL)
   (SB FROM STA 1305+54.73 TO STA 1308+50.98)
   (NB FROM STA 1301+48.88 TO STA 1304+45.13)

ITEM TO BE REMOVED

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

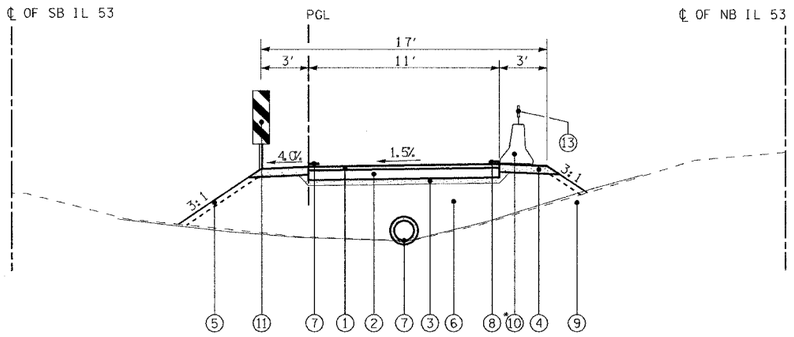
TYPICAL SECTIONS

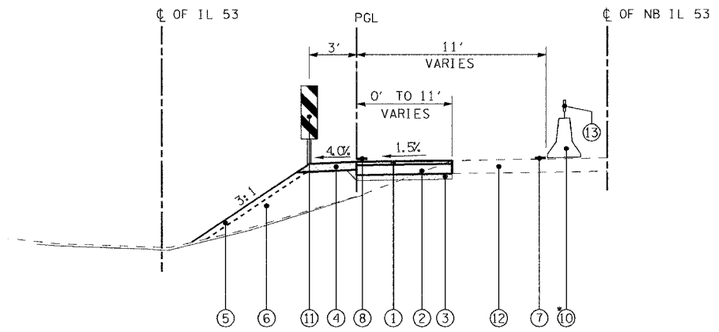
SCALE: NOT TO SCALE
DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

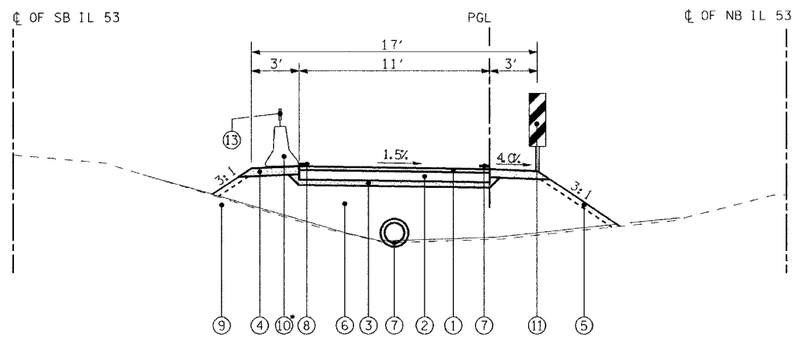
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	6
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

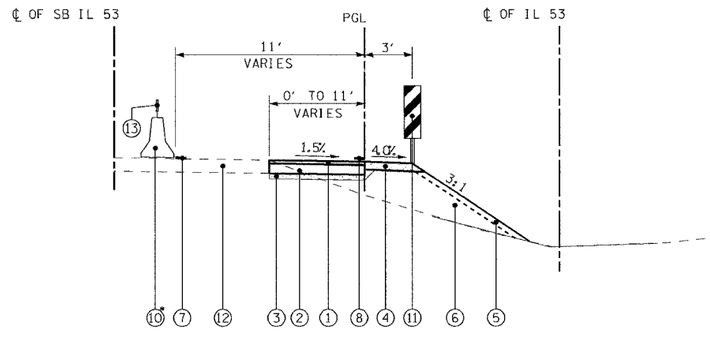
CONTRACT No. 62269





STAGE I
N. T. S.





STAGE II
N. T. S.

LEGEND:

1. HMA SURFACE COURSE MIX D, N 50, 1½" (TEMP) 2" MIN..
2. HMA BINDER IL-19.0, N 50, 10 ½" (TEMP).
3. SUBBASE GRANULAR MATERIAL 6".
4. AGGREGATE SHOULDERS, TYPE B, 6" (TEMP).
5. TEMPORARY EROSION CONTROL SEEDING.
6. TEMPORARY FILL.
7. TEMPORARY PIPE CULVERT, CLASS A, TYPE 2, 12" DIA.
8. TEMPORARY PAVEMENT MARKING - 4".
9. TOP SOIL TO BE REMOVED.
10. TEMPORARY CONCRETE BARRIER.
11. VERTICAL PANEL.
12. EXISTING PAVEMENT.
13. GLARE SCREEN.

NOTE:

- TEMPORARY CONCRETE BARRIER LIMITS. SEE CROSSOVER PLAN AND PROFILE SHEETS 10 & 11.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

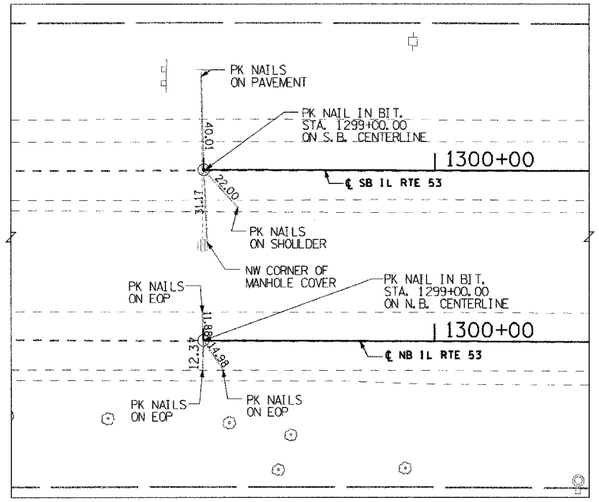
TYPICAL SECTIONS - CROSSOVER

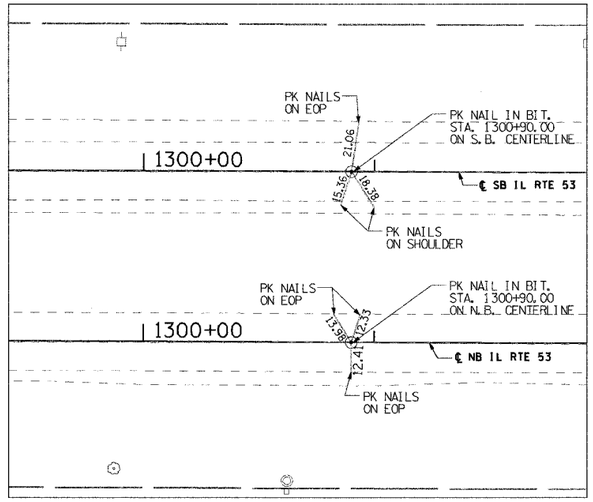
SCALE: VERT.
HORIZ.
DATE: AUGUST 2007

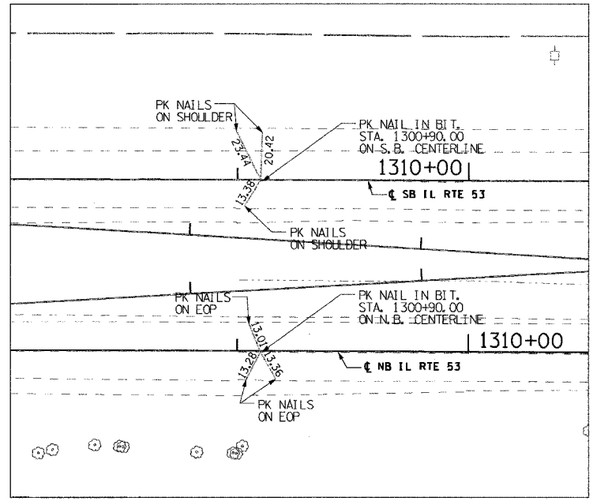
DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

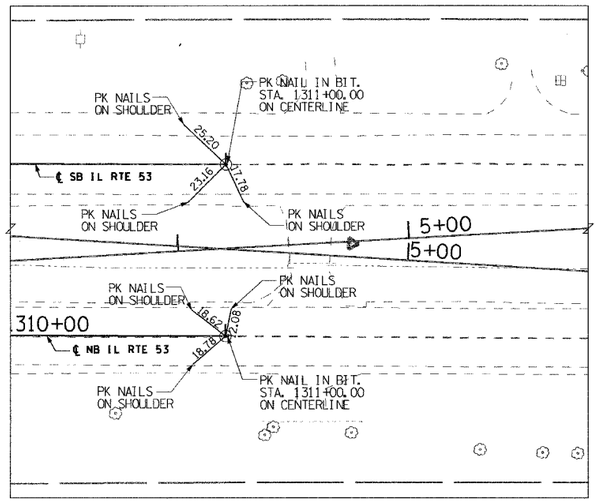
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	7
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

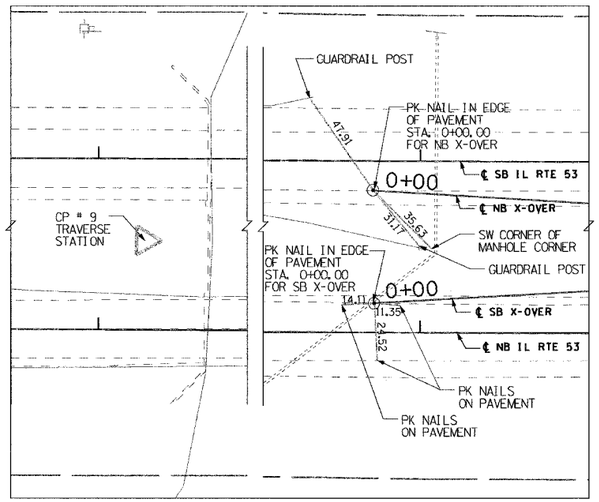
CONTRACT No. 62269

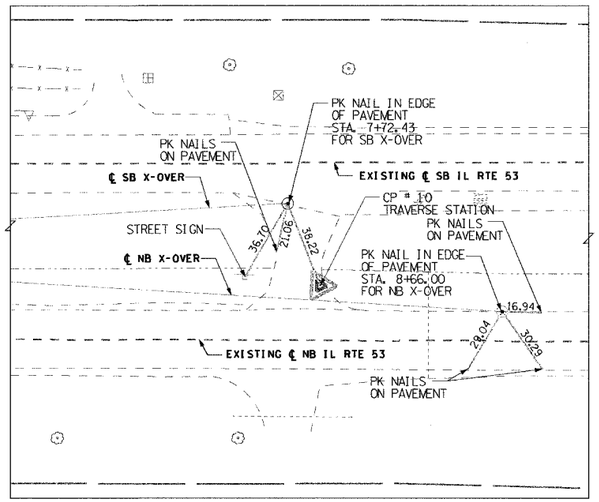












S.B.	Y	X
STA. 1299+00	1706900.329	1039024.937
STA. 1300+90	1707090.255	1039019.590
STA. 1309+10	1707909.933	1038996.514
STA. 1311+00	1708099.859	1038991.168
N.B.	**Y**	**X**
STA. 1299+00	1706902.502	1039098.814
STA. 1300+90	1707092.428	1039093.498
STA. 1309+10	1707912.110	1039070.554
STA. 1311+00	1708102.036	1039065.238
CROSS OVER NB	**Y**	**X**
STA. 0+00	1707680.035	1039015.680
STA. 8+66	1708545.683	1039040.434

CROSS OVER SB	Y	X
STA. 0+00	1707682.004	1039064.354
STA. 7+72.43	1708451.461	1038996.704

STATE BENCHMARKS

BM#1

TOP CONCRETE R.O.W. MARKER @
NW CORNER OF N. RIVER RD. & IL53
EL=562.77

BM#2

A SQUARE CUT IN EAST EDGE OF PAVEMENT,
N.B. IL53 @ STA 1295+00
EL=568.72

BM#3

A SQUARE CUT IN NORTHWEST WINGWALL
OF SOUTHBOUND IL RT 53 BRIDGE
EL=571.36

BM#4

A SQUARE CUT IN EAST EDGE OF PAVEMENT,
N.B. IL53 @ STA. 1311+00
EL=573.39, OFFSET=12.27'(RT)

BM#5

A SQUARE CUT IN TOP OF CONCRETE HEADWALL
IN CENTER OF GRASS MEDIAN STA. 1315+15 SB IL53
EL=573.65, OFFSET=44.0'(RT)

BM#7

A CUT IN N/E CORNER OF WINGWALL ON
NB IL RTE 53 BRIDGE STA. 1305+54.64'
EL=570.41, OFFSET=18.10'(RT)

CP#9

N = 1707421.097
E= 1039045.760
EL= 571.31

CP#10

N = 1708466.577
E= 1039031.733
EL= 575.28

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

ALIGNMENT, TIES AND BENCHMARKS

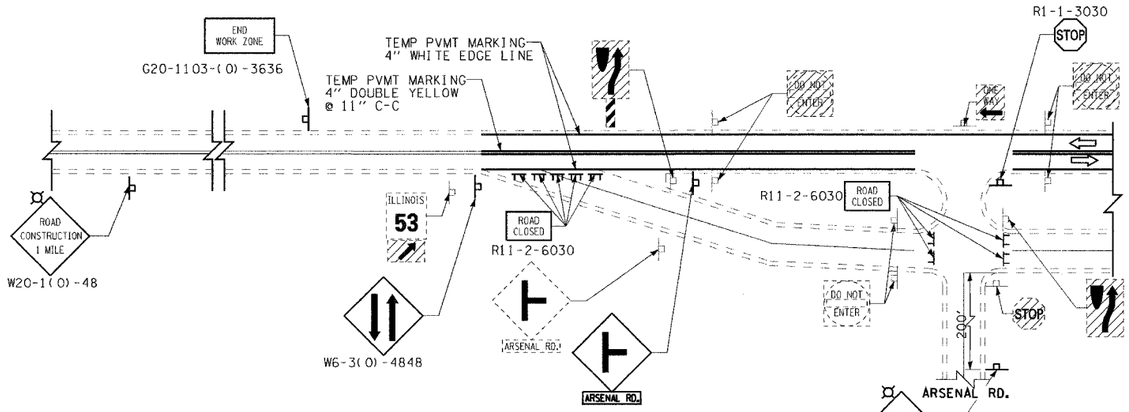
SCALE:
DRAWN BY: DK
DATE: AUGUST 2007
CHECKED BY: MK/SMK

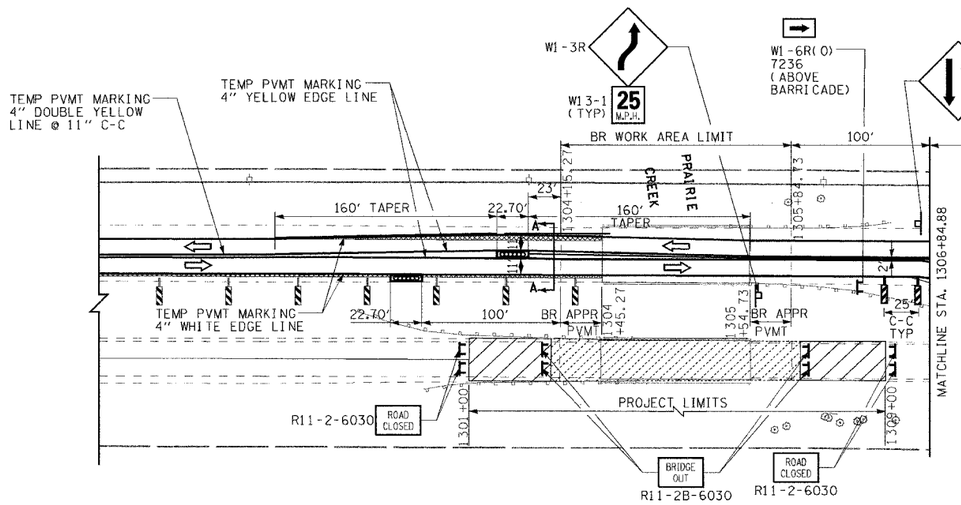
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	8
STA.	1301+00	TO STA.	1309+00	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

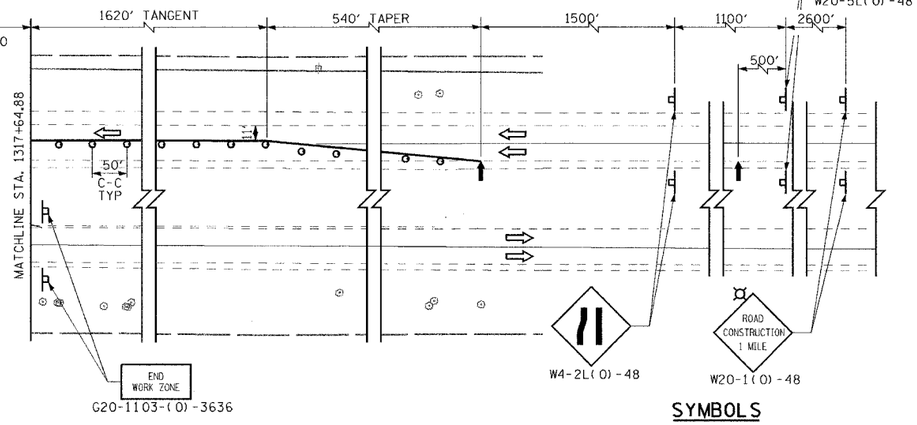
CONTRACT No. 62269

STAGE I
SCHEDULE OF QUANTITIES

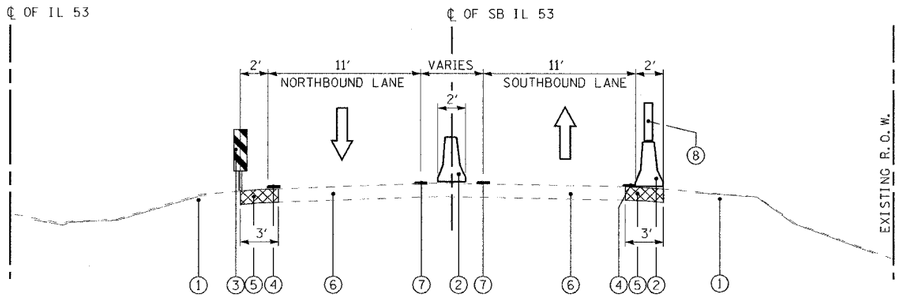
ITEM	UNIT	QUANT
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	270
FURNISHED EXCAVATION (TEMP)	CU YD	6353
SEEDING, CLASS 4	ACRE	-
TEMPORARY EROSION CONTROL SEEDING	POUND	5
TEMPORARY AGGREGATE SHOULDER, TYPE B, 6"	SQ YD	720
TEMPORARY PIPE CULVERT, CLASS A, TYPE 2, 15" DIA	FOOT	440
TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	0.5
TRAFFIC CONTROL SURVEILLANCE	CAL DA	158
TEMPORARY PAVEMENT MARKING LINE 4"	FOOT	73084
TEMPORARY CONCRETE BARRIER	FOOT	1370
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	-
MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	138
PAINT PAVEMENT MARKING LINE 4"	FOOT	2598
PAVEMENT MARKING REMOVAL (EXISTING)	SQ FT	73522
TEMPORARY INFORMATION SIGNING	SQ FT	55
HOT-MIX ASPHALT SURFACE COURSE, MIX D, N 50	TON	111
HOT-MIX ASPHALT BINDER COURSE, IL-19, N 50	TON	776







STAGE I
CONSTRUCTION AND TRAFFIC CONTROL AND PROTECTION



SECTION A-A
N. T. S.

NOTE

1. FOR TRAFFIC CONTROL NOTES SEE SHT. No. 9.
2. FOR STEEL PLATE BEAM GUARD RAIL REMOVAL, SEE SHT. No. 12.
3. 1st TWO WARNING SIGNS NEED MONODIRECTIONAL FLASHING BEACONS (TYP).

LEGEND

1. EXISTING TOP SOIL.
2. CONCRETE BARRIER.
3. VERTICAL PANEL.
4. TEMPORARY PAVEMENT MARKING 4" WHITE EDGE LINE.
5. TEMPORARY PAVEMENT.
6. EXISTING PAVEMENT.
7. TEMPORARY PAVEMENT MARKING 4" YELLOW EDGE LINE.
8. GLARE SCREEN

SYMBOLS

- ARROW BOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT
- VERTICAL PANEL
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR (TEMPORARY)
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED WITH TARPS AND SECURED WITH BUNGEE CORDS
- TRAFFIC CONTROL SIGN
- MONODIRECTIONAL FLASHING BEACON

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL NORTHBOUND

SCALE: 1"=50' DRAWN BY: JLA/RM/FZ

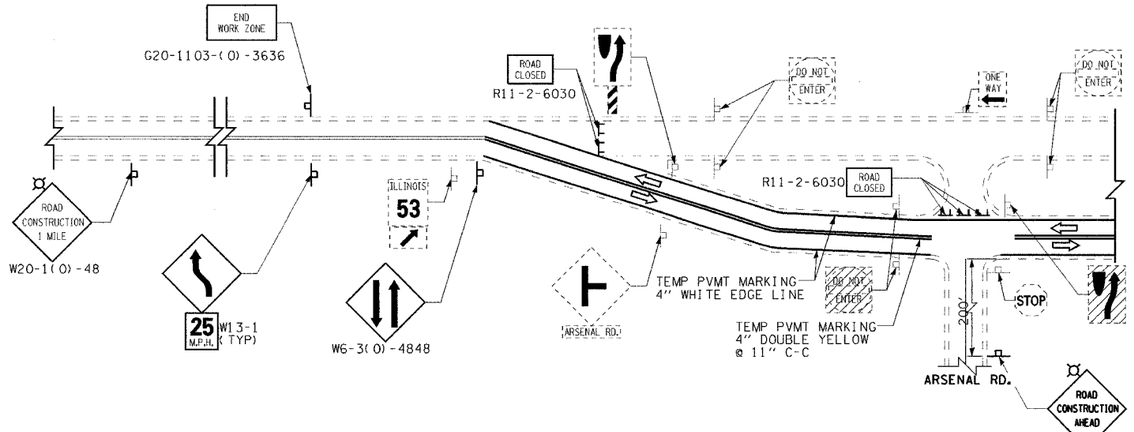
DATE: AUGUST 2007 CHECKED BY: MK/SMK

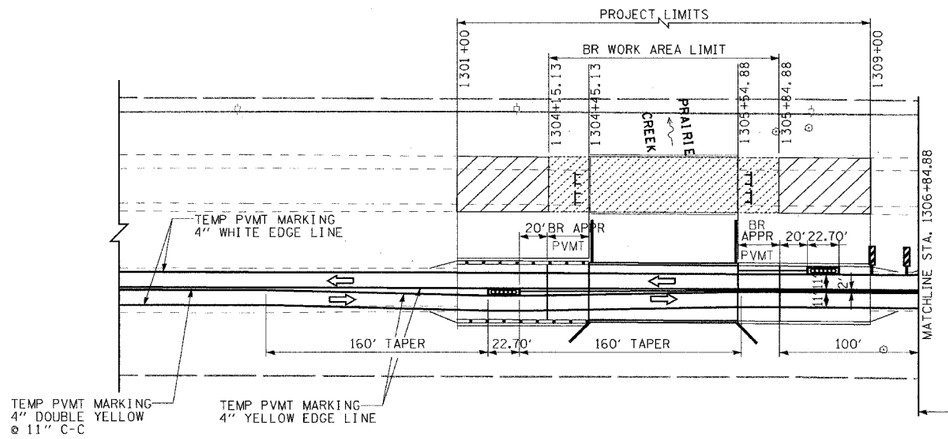
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	9
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

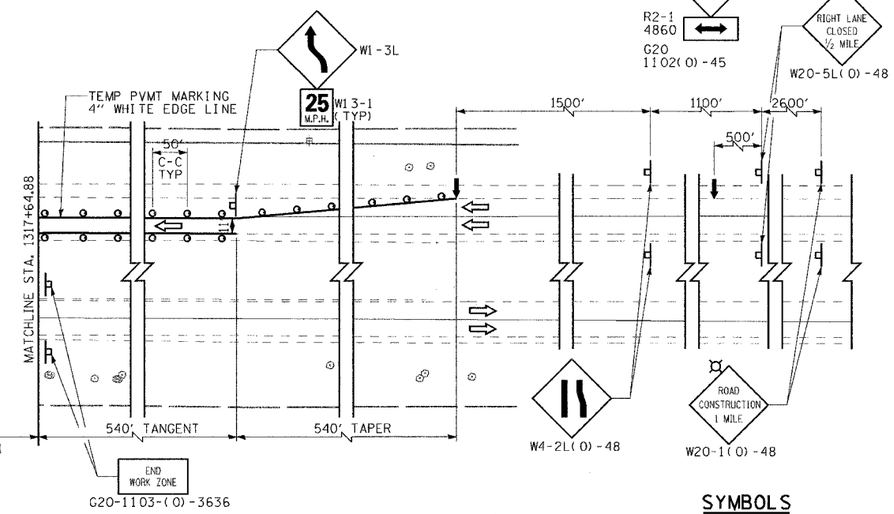
CONTRACT No. 62269

NOTES:

1. PRIOR TO STAGE I OR II CONSTRUCTION, TEMPORARY WIDENING SHOULD BE CONSTRUCTED AND ADVANCE NOTICE CONSTRUCTION SIGNS INSTALLED. THE COST OF ADVANCE NOTICE CONSTRUCTION SIGNS WILL BE INCLUDED WITH THE TRAFFIC CONTROL AND PROTECTION (SPECIAL) PAY ITEM.
2. ALL ADVANCE SIGNING, LANE CLOSURE, BARRICADING, PER STANDARD 701416-02.
3. THE COST OF ADDITIONAL SIGNS AND SIGNS TO BE COVERED WILL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION (SPECIAL) PAY ITEM.
4. ALL TRAFFIC CONTROL FOR THIS PROJECT (STAGE I & II) WILL BE PAID AS TRAFFIC CONTROL AND PROTECTION (SPECIAL) PER LUMP SUM.
5. IDOT SHALL BE NOTIFIED 72 HOURS PRIOR TO PUTTING THE TRAFFIC CONTROL IN EFFECT AND IMMEDIATELY AFTER THE TRAFFIC CONTROL HAS BEEN REMOVED.
6. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE ALL TEMPORARY SIGN SUPPORTS. AFTER REMOVING THE SUPPORTS, THE CONTRACTOR SHALL FILL HOLES (IF ANY) AND RESTORE THE GROUND TO ITS ORIGINAL CONDITIONS AND ELEVATION. LACING OF GRAVEL, SOD OR SEED SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "TRAFFIC & PROTECTION" (SPECIAL).
7. ALL SIGNS, SUPPORTS AND POSITIONING SHALL BE IN ACCORDANCE WITH THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
8. ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL SHALL BE COVERED.
9. THE CONTRACTOR SHALL MAINTAIN THE ACCESS TO THE DRIVEWAYS, SIDE STREETS AND OTHER ENTRANCES THROUGH OUT THE CONSTRUCTION PERIOD WITH PROPER SAFETY MEASURES.
10. THE TEMPORARY FILL FURNISHED EXCAVATION WILL BE REMOVED AFTER WORK IS COMPLETED. ROADWAY, SLOPE AND SOD WILL BE RESTORED TO IT'S ORIGINAL CONDITION.







STAGE II
CONSTRUCTION AND TRAFFIC CONTROL AND PROTECTION

STAGE II
SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANT
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	270
FURNISHED EXCAVATION (TEMP)	CU YD	6353
SEEDING, CLASS 4	ACRE	-
TEMPORARY EROSION CONTROL SEEDING	POUND	5
TEMPORARY AGGREGATE SHOULDER, TYPE B, 6"	SQ YD	720
TEMPORARY PIPE CULVERT, CLASS A, TYPE 2, 15" DIA	FOOT	-
TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	0.5
TRAFFIC CONTROL SURVEILLANCE	CAL DA	158
TEMPORARY PAVEMENT MARKING LINE 4"	FOOT	73282
TEMPORARY CONCRETE BARRIER	FOOT	-
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	-
MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	-
PAINT PAVEMENT MARKING LINE 4"	FOOT	2160
PAVEMENT MARKING REMOVAL (EXISTING)	SQ FT	71122
TEMPORARY INFORMATION SIGNING	SQ FT	55
HOT-MIX ASPHALT SURFACE COURSE, MIX D, N 50,	TON	111
HOT-MIX ASPHALT BINDER COURSE, IL-19, N 50,	TON	776

TOTAL
SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANT
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	540
FURNISHED EXCAVATION (TEMP)	CU YD	12706
SEEDING, CLASS 4	ACRE	0.67
TEMPORARY EROSION CONTROL SEEDING	POUND	10
TEMPORARY AGGREGATE SHOULDER, TYPE B, 6"	SQ YD	1440
TEMPORARY PIPE CULVERT, CLASS A, TYPE 2, 15" DIA	FOOT	440
TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
TRAFFIC CONTROL SURVEILLANCE	CAL DA	316
TEMPORARY PAVEMENT MARKING LINE 4"	FOOT	146366
TEMPORARY CONCRETE BARRIER	FOOT	1370
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	760
MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	138
PAINT PAVEMENT MARKING LINE 4"	FOOT	4758
PAVEMENT MARKING REMOVAL (EXISTING)	SQ FT	144644
TEMPORARY INFORMATION SIGNING	SQ FT	55
HOT-MIX ASPHALT SURFACE COURSE, MIX D, N 50,	TON	222
HOT-MIX ASPHALT BINDER COURSE, IL-19, N 50,	TON	1552

NOTE

1. FOR CROSSOVER ROAD TYPICAL SECTION, SEE SHT. No. 6.
2. 1st TWO WARNING SIGNS NEED MONODIRECTIONAL FLASHING BEACONS (TYP).

SYMBOLS

- ARROW BOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT
- VERTICAL PANEL
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR (TEMPORARY)
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED WITH TARPS AND SECURED WITH BUNGEE CORDS
- TRAFFIC CONTROL SIGN
- MONODIRECTIONAL FLASHING BEACON

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL RTE 53 OVER PRAIRIE CREEK

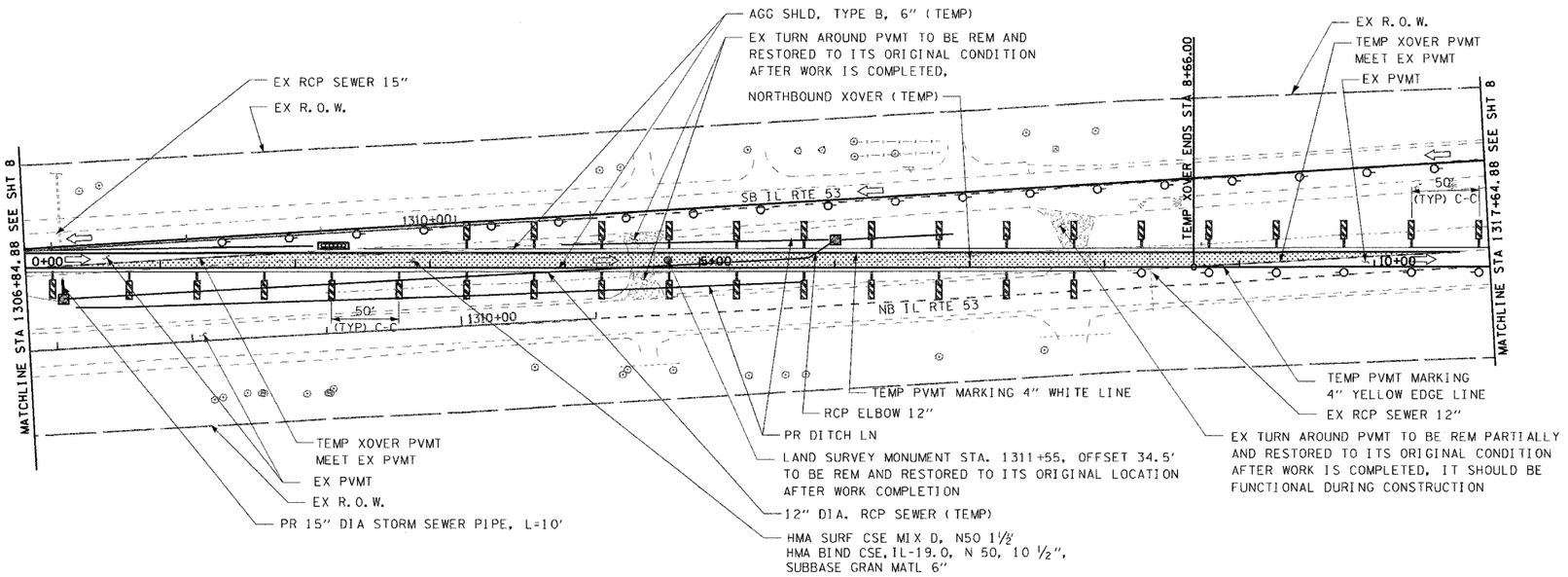
SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL SOUTHBOUND

SCALE: 1"=50' DRAWN BY: JLA/RM/FZ

DATE: AUGUST 2007 CHECKED BY: MK/SMK

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	10
STA. 1301+00	TO STA.1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

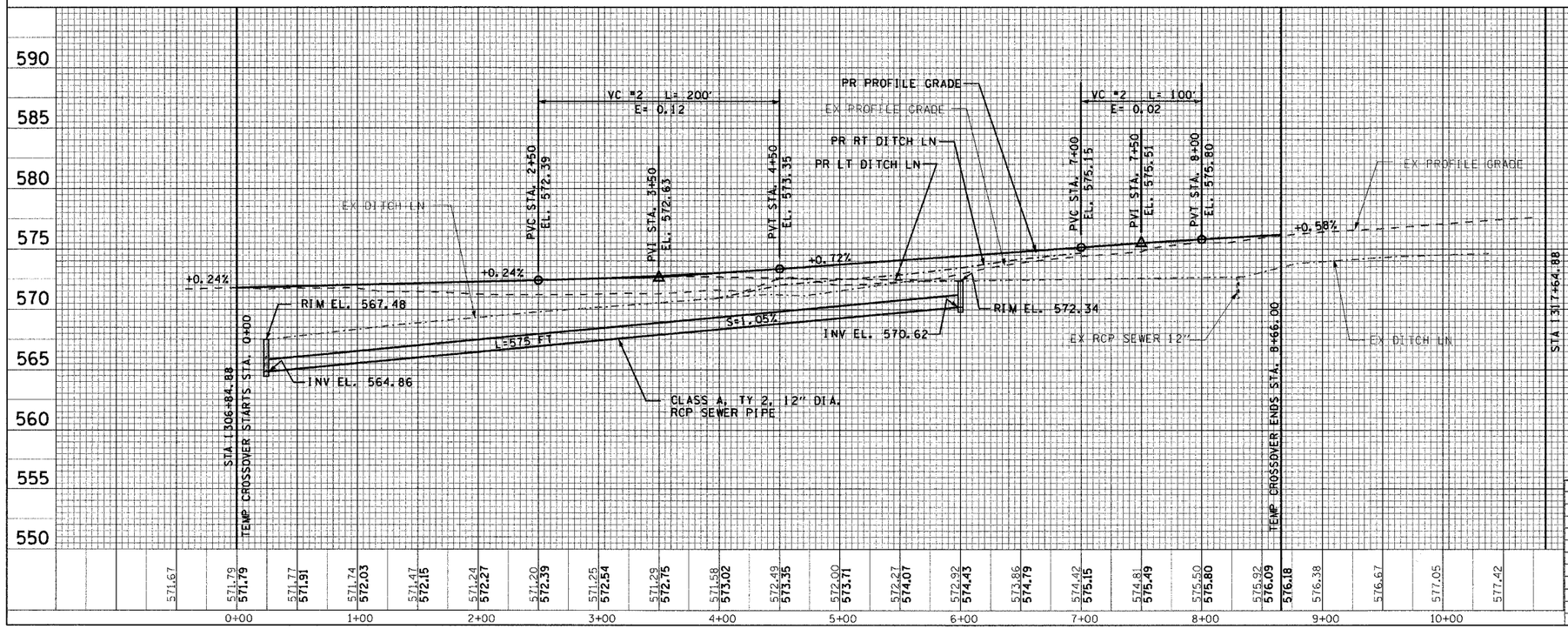
CONTRACT No. 62269



STAGE I-CROSSOVER PLAN

LEGEND:

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT
- VERTICAL PANEL
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- FLOW LINE
- INLET SP WITH SILT FILTRATION SEE DETAIL SHT No 17



REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

STAGE I CROSSOVER
PLAN AND PROFILE
NORTHBOUND

SCALE: 1"=50'-0"
1"=5'-0"
DATE: AUGUST 2007

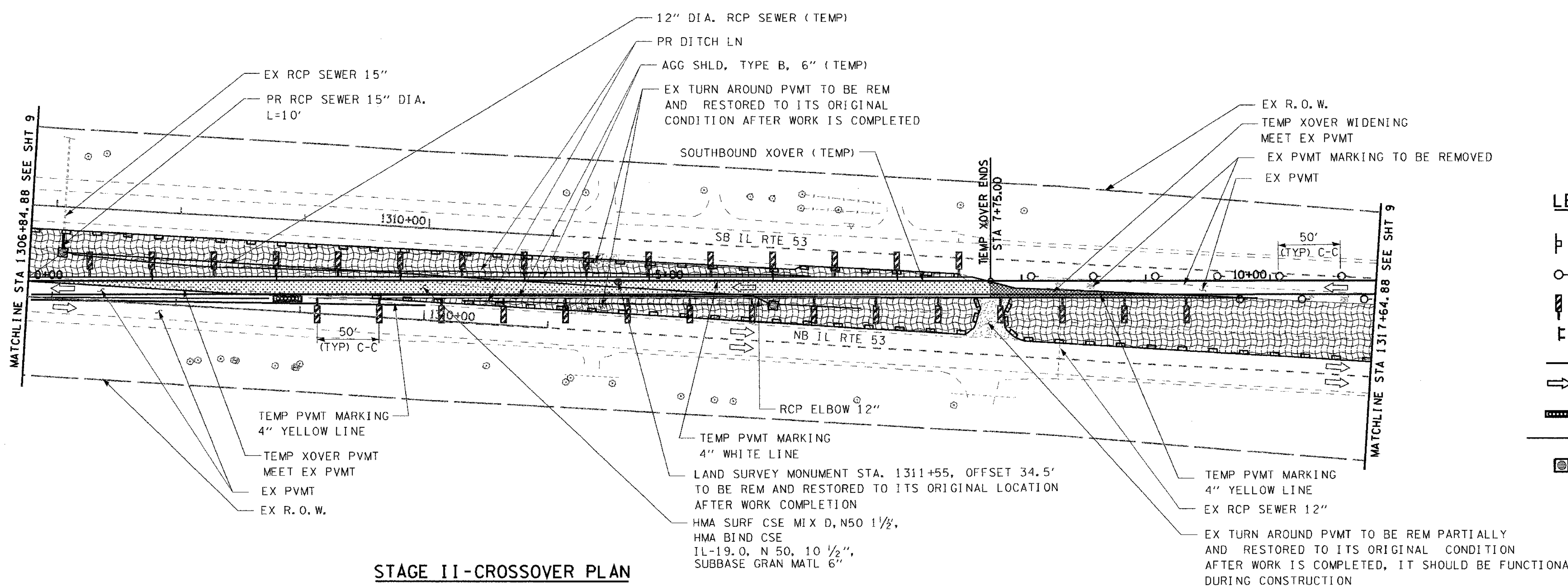
DRAWN BY: JLA/RM/FZ
CHECKED BY: SMK/MK

NO. ____ PLOT FILE NAME ____

NO. ____ STRUCTURE NO(ATNS CHKD ____

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-I-R	WILL	87	11
STA. 1301+00	TO STA.1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

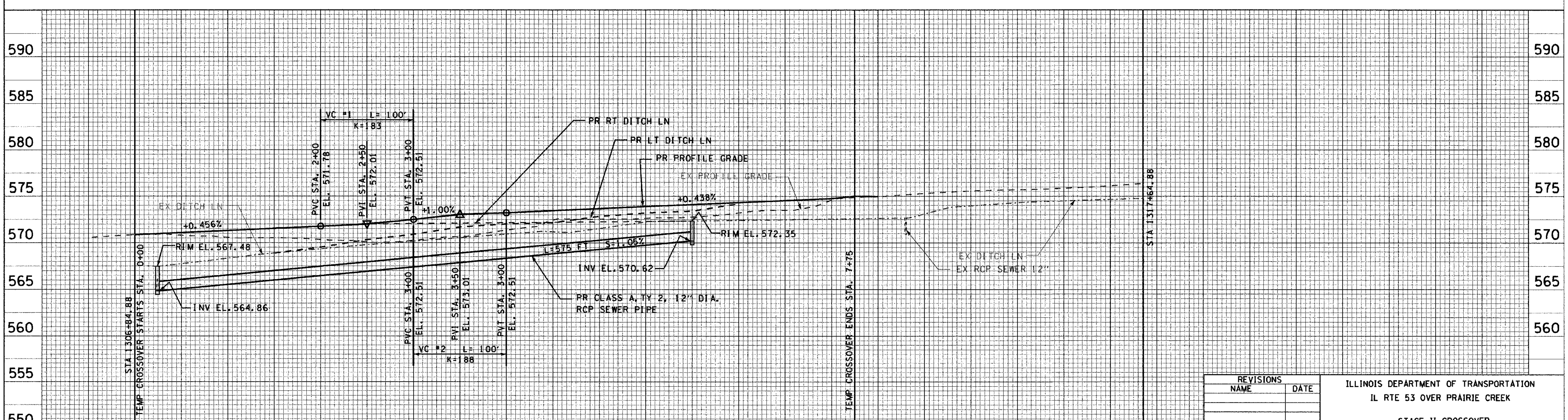
CONTRACT No. 62269



STAGE II-CROSSOVER PLAN

LEGEND:

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT
- VERTICAL PANEL
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- FLOW LINE
- INLET SP WITH SILT FILTRATION SEE DETAIL SHT No. 17



570.57	570.87 / 570.87	570.81 / 571.10	570.59 / 571.33	570.53 / 571.55	570.35 / 571.78	570.10 / 572.08	570.25 / 572.51	570.67 / 573.08	571.37 / 573.23	572.46 / 573.45	572.55 / 573.67	572.64 / 573.89	572.79 / 574.10	573.21 / 574.32	573.50 / 574.54	574.60 / 574.76	574.87	574.98 / 574.98	575.30	575.57	575.70	575.87	576.13		

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

STAGE II CROSSOVER
PLAN AND PROFILE
SOUTHBOUND

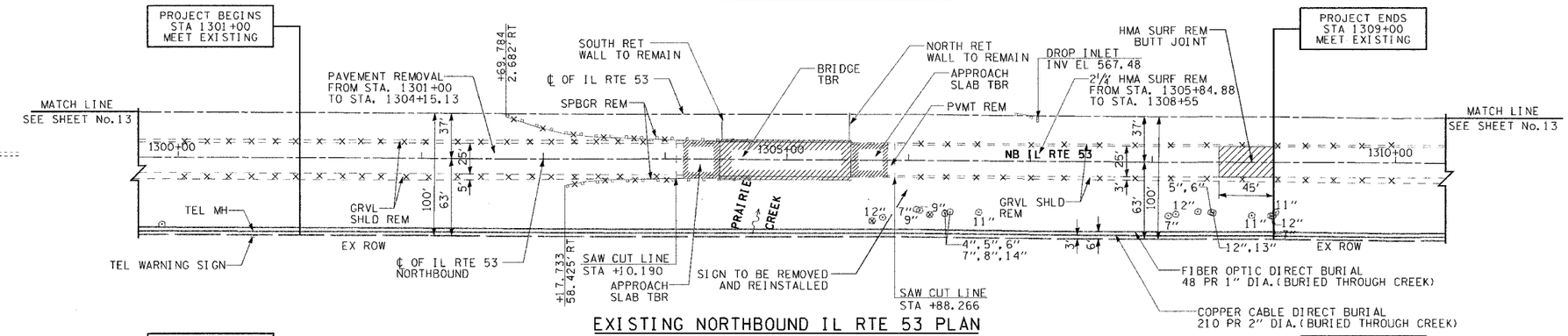
SCALE: HORIZ. 1"=50' VERT. 1"=5'
DATE: AUGUST 2007
DRAWN BY: JLA/RM/FZ
CHECKED BY: SMK/MK

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	12
STA. 1301+00	TO STA.1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

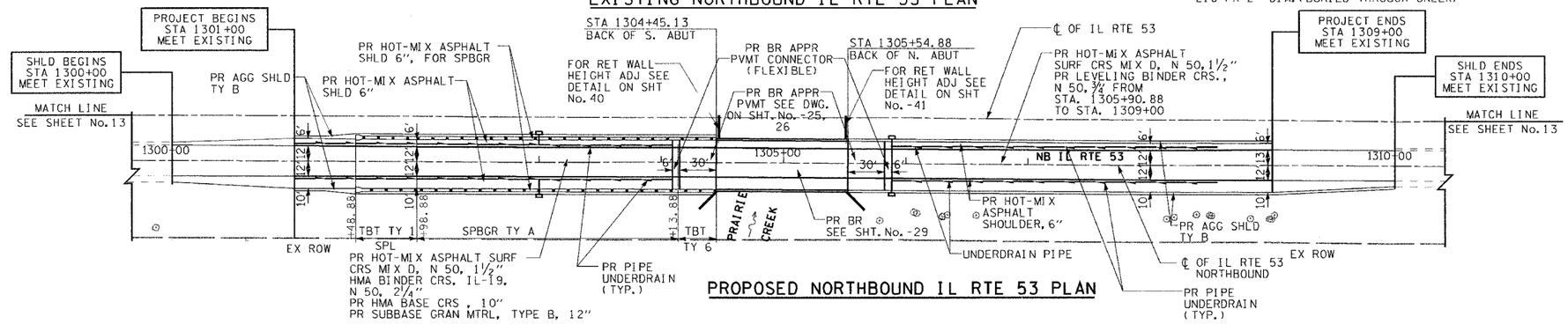
CONTRACT No. 62269

LEGEND

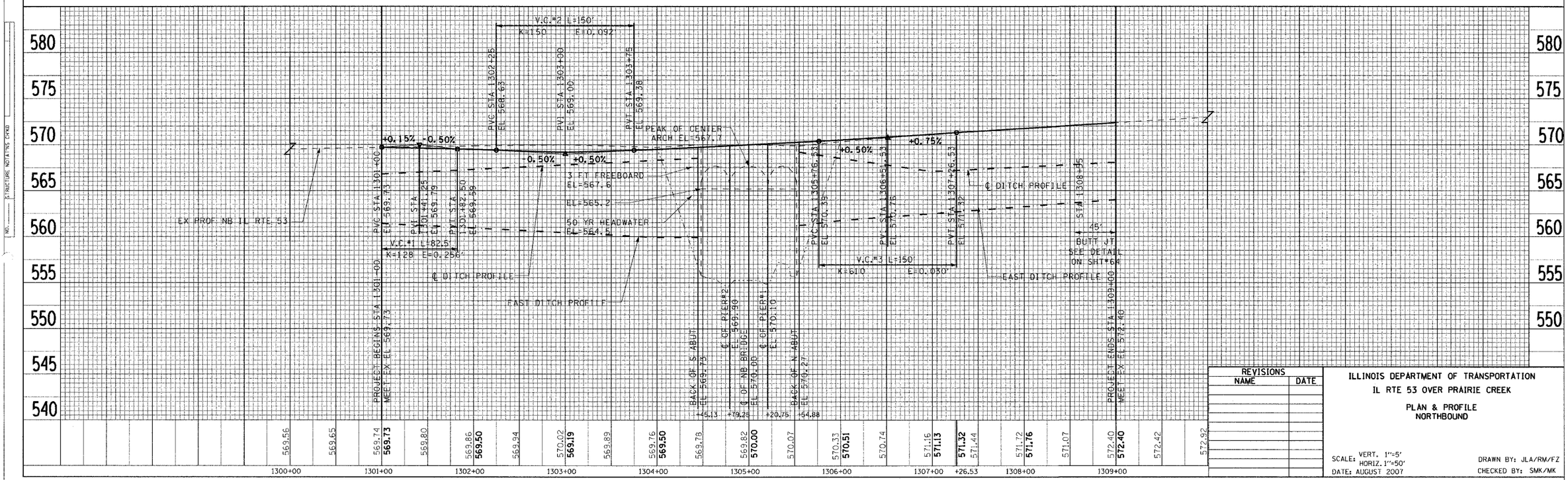
- SIGN
- POWER POLE
- MANHOLE
- DROP INLET
- CULVERT
- TREE TO BE PROTECTED
- TREE TBR
- PROPOSED CONCRETE HEADWALL FOR PIPE UNDERDRAINS



EXISTING NORTHBOUND IL RTE 53 PLAN



PROPOSED NORTHBOUND IL RTE 53 PLAN



REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL RTE 53 OVER PRAIRIE CREEK

PLAN & PROFILE NORTHBOUND

SCALE: VERT. 1"=5' HORIZ. 1"=50'

DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ

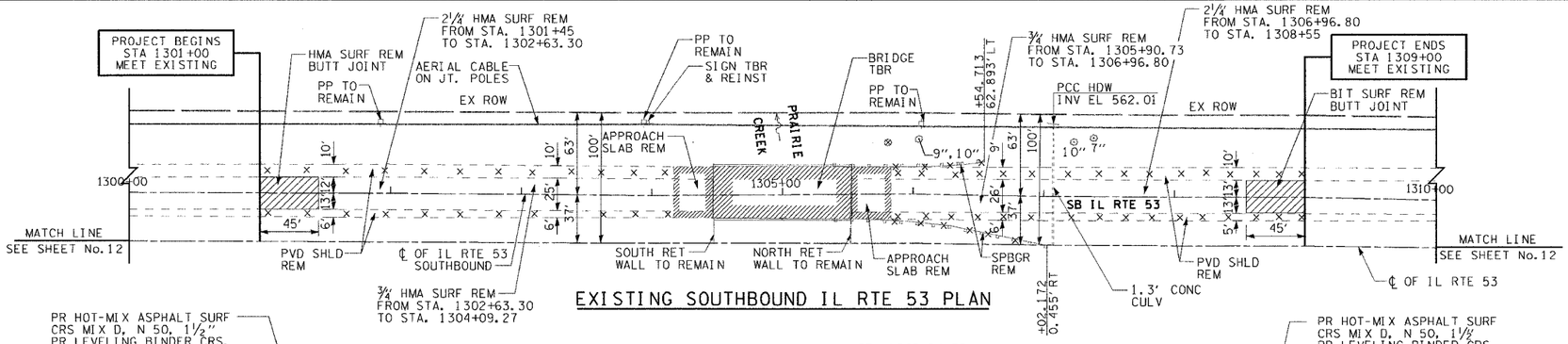
CHECKED BY: SMK/MK

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	13
STA. 1301+00	TO STA.1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

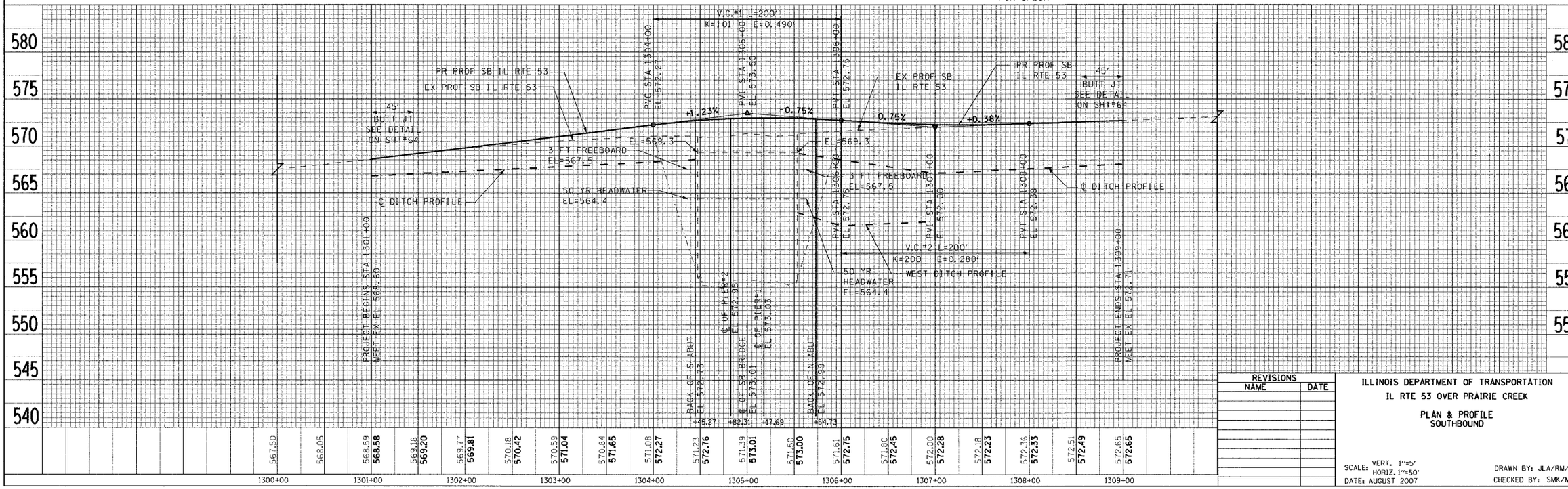
LEGEND

- SIGN
- POWER POLE
- MANHOLE
- DROP INLET
- CULVERT
- TREE TO BE PROTECTED
- TREE TBR
- PROPOSED CONCRETE HEADWALL FOR PIPE UNDERDRAINS



NOTE

1. THE CONTRACTOR SHALL PREVENT DEBRIS FROM FALLING INTO PRAIRIE CREEK, DURING THE REMOVAL OF THE EXISTING BRIDGE STRUCTURES. THIS WORK IS INCLUDED IN THE PAY ITEM FOR REMOVAL OF EXISTING STRUCTURES AND WILL NOT BE PAID FOR SEPARATELY.
2. FOR ALIGNMENT, TIES AND BENCH MARK INFORMATION SEE SHEET No. 7.
3. WHERE THICKNESS OF BINDER COARSE IS LESS THAN 1½", LEVELING BINDER MUST BE USED.
4. FOR UNDERDRAIN OUTLET INVERT ELEVATIONS SEE SHEET No. 12.



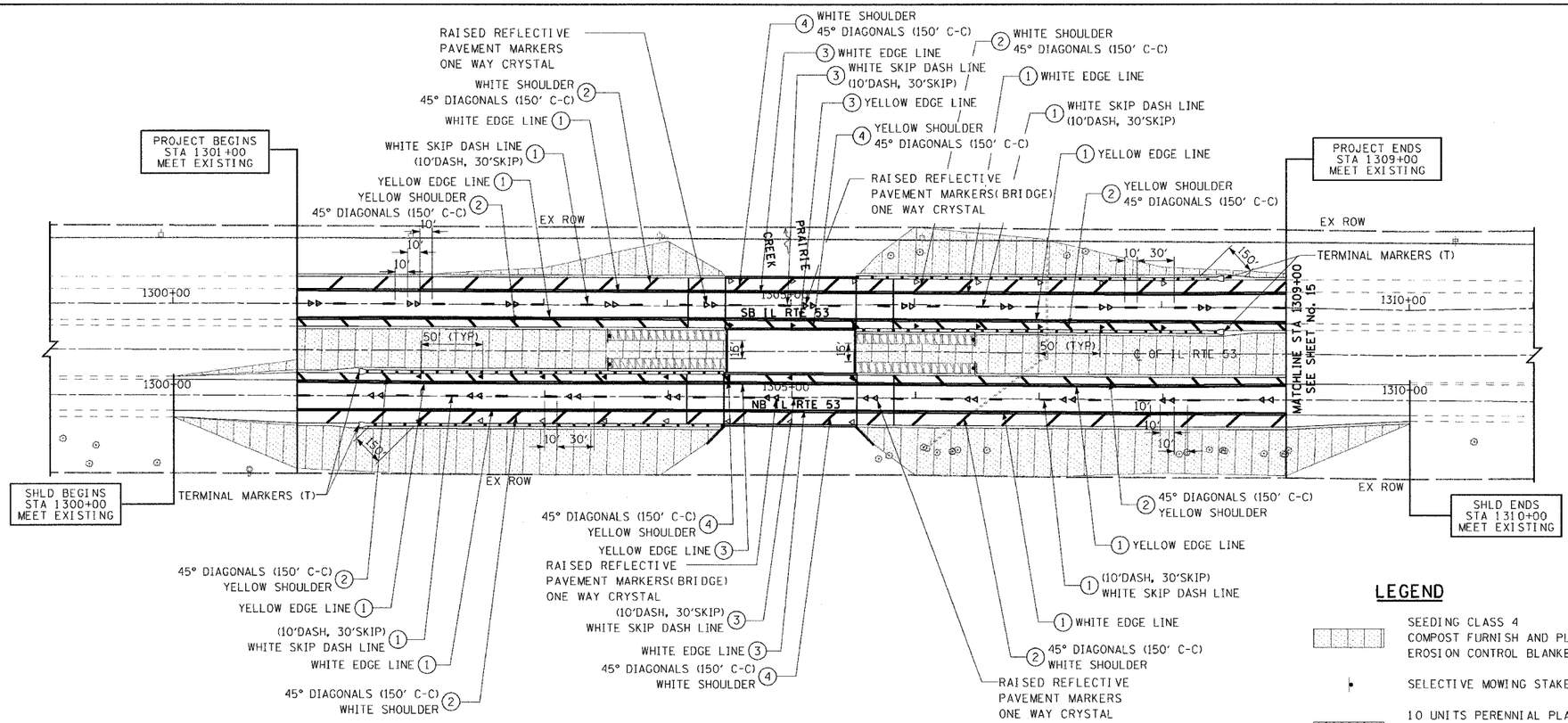
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
PLAN & PROFILE SOUTHBOUND

SCALE: VERT. 1"=5' HORIZ. 1"=50'
DATE: AUGUST 2007
DRAWN BY: JLA/RM/FZ
CHECKED BY: SMK/MK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	14
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



PLANT LIST			
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
3	QUERCUS MACROCARPA 06	BUR OAK	1¾" -2" B+B

PERENNIAL PLANT CARE SCHEDULE	
ACTIVITY	TIME
PLANT PERENNIAL AS PER PLAN	MAY 1 - JUNE 15 AUGUST 15 - SEPTEMBER 15
MULCH PERENNIAL BEDS	24 HOURS AFTER PLANTING
INSTALL SELECTIVE MOW STAKES AS PER PLAN OR DIRECTION OF RE	PRIOR TO PERIOD OF ESTABLISHMENT INSPECTION
PERENNIAL PLANT PERIOD OF ESTABLISHMENT WATER ONCE EVERY 7 DAYS FOR 4 WEEKS	WITHIN 30 DAYS AFTER PLANTING
REPLACE DEAD PLANTS	AFTER PERIOD OF ESTABLISHMENT INSPECTION
PERENNIAL PLANT CARE (FIRST CYCLE)	30 DAYS AFTER PERIOD OF ESTABLISHMENT INSPECTION
PERENNIAL PLANT CARE (SECOND CYCLE)	60 DAYS AFTER PERIOD OF ESTABLISHMENT INSPECTION
PERENNIAL PLANT CARE (THIRD CYCLE)	90 DAYS AFTER PERIOD OF ESTABLISHMENT INSPECTION
SUPPLEMENTAL WATERING	USE AFTER PERIOD OF EST. INSP. AS DIRECTED BY RESIDENT ENGINEER

IL RTE 53 PAVEMENT MARKING AND LANDSCAPING PLAN

NOTES:

1. NOTIFY AREA TRAFFIC FIELD ENGINEER, CORY JUCIUS (815) 485-6475 AT LEAST 72 HOURS PRIOR TO FINAL PAVEMENT MARKING INSTALLATION.
2. ALL PROPOSED TREES SHALL BE LOCATED IN ACCORDANCE WITH THE DIRECTION OF THE RESIDENT ENGINEER AND THE IDOT ROADSIDE DEVELOPMENT UNIT REPRESENTATIVES.
3. THE LANDSCAPE IN THE CROSSOVER AREA WILL BE RESTORED AND QUANTITIES ARE ADDED.

LEGEND

- SEEDING CLASS 4 COMPOST FURNISH AND PLACE EROSION CONTROL BLANKET
- SELECTIVE MOWING STAKES
- 10 UNITS PERENNIAL PLANTS, PRAIRIE TYPE COARSE SAND PLACEMENT WEED CONTROL, GRANULAR HERBICIDE
- ▷▷ PAVEMENT MARKERS
- ▷ SILVER GUARDRAIL/BARRIER WALL/BRIDGE RAIL REFLECTORS
- ▶ AMBER GUARDRAIL/BARRIER WALL/BRIDGE RAIL REFLECTORS
- (1) THERMOPLASTIC PAVEMENT MARKING LINE, 4"
- (2) THERMOPLASTIC PAVEMENT MARKING LINE, 12"
- (3) PREFORMED PLASTIC PAVEMENT MARKING, TYPE B, LINE, 4"
- (4) PREFOMRED PLASTIC PAVEMENT MARKING, TYPE B, LINE, 12"

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

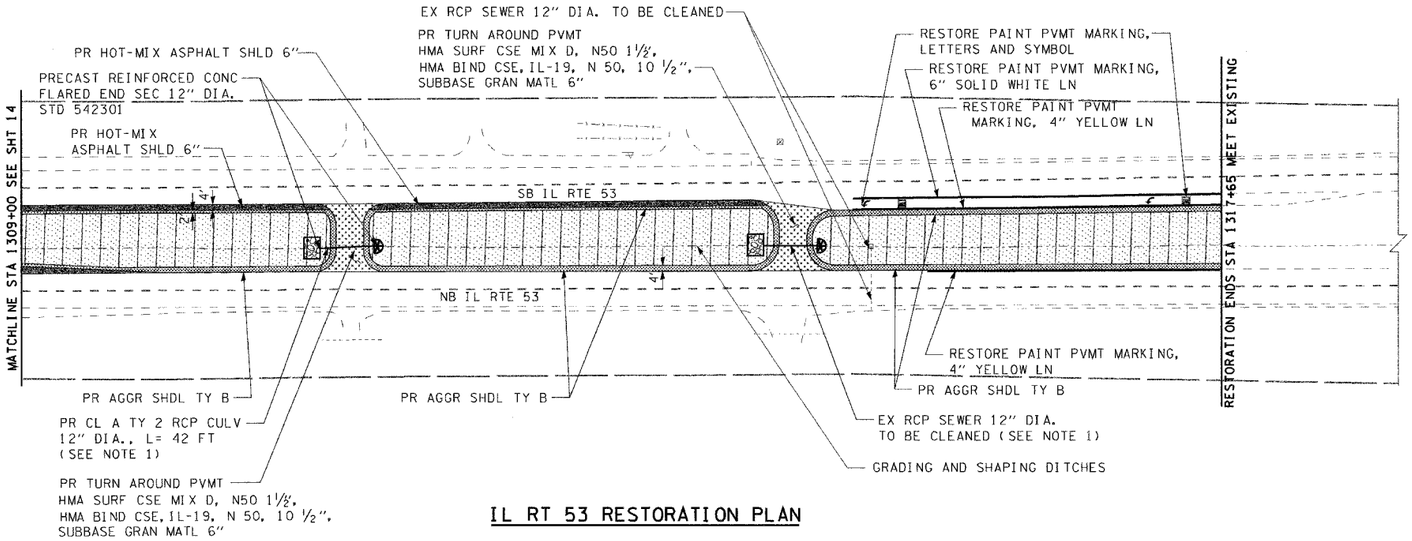
IL RTE 53 OVER PRAIRIE CREEK

PAVEMENT MARKING AND LANDSCAPING PLAN

SCALE: 1"=50'
DATE: AUGUST 2007
DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	15
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



IL RT 53 RESTORATION PLAN

NOTE:

1. FOR EROSION DETAIL SEE SHEET NO 16C

LEGEND:

SEEDING CLASS 4
COMPOST FURNISH AND PLACE
EROSION CONTROL BLANKET

PIPE OUTLET PROTECTION

CULVERT INLET PROTECTION

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

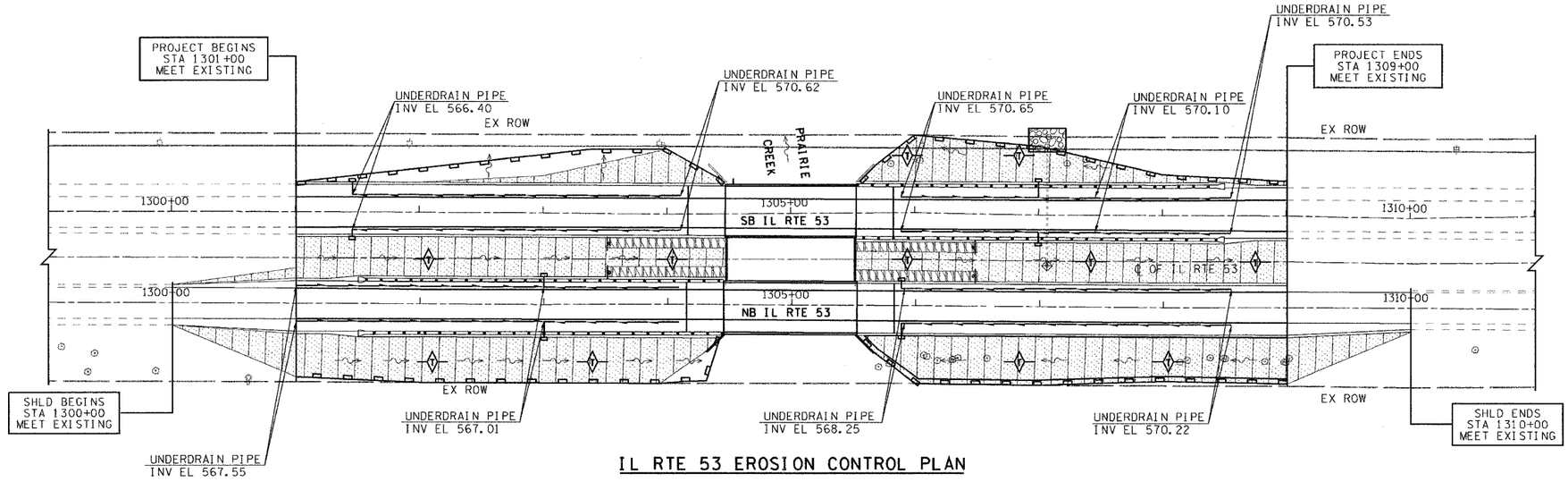
RESTORATION PLAN

SCALE: 1"=50'
DATE: AUGUST 2007

DRAWN BY: RM
CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	16
STA. 1301+00		TO STA. 1309+00		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



IL RTE 53 EROSION CONTROL PLAN

NOTES:

1. THE CONTRACTOR SHALL PREVENT DEBRIS FROM FALLING INTO PRAIRIE CREEK DURING THE REMOVAL OF THE EXISTING BRIDGE. THIS WORK IS INCLUDED IN THE PAY ITEM FOR REMOVAL OF THE EXISTING STRUCTURE AND WILL NOT BE PAID FOR SEPARATELY, BUT IS CONSIDERED INCIDENTAL.

2. ALL EROSION CONTROL ITEMS TO BE FURNISHED AND MAINTAINED BY THE CONTRACTOR FOR THE ENTIRE DURATION OF THE PROJECT, AS DIRECTED BY THE ENGINEER.

3. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL REVISED FEBRUARY 2002.

4. THE WILL-SOUTH COOK SOIL AND WATER CONSERVATION DISTRICT (WSCSWCD) MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE. ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

6. PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, ADDITIONAL PHASES OF DEVELOPMENT AND OFF-SITE BORROW OR WASTE AREAS) A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW BY THE WSCSWCD.

7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE WSCSWCD.

8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORM WATER STRUCTURES IS PROHIBITED.

9. ALL DROP INLETS ON AND ADJACENT TO THE SITE MUST HAVE A SEDIMENT TRAP OR CONTAINMENT DEVICE INSTALLED DURING CONSTRUCTION ACTIVITIES.

10. ALL ADJACENT STREETS MUST BE KEPT CLEAR OF DEBRIS. INSPECTED DAILY AND CLEANED WHEN NECESSARY.

11. ALL EROSION CONTROL MEASURES MUST BE INSPECTED WEEKLY AND AFTER EACH ½" RAIN EVENT.

12. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES AND IN CRITICAL AREAS IMMEDIATELY UPON FINAL GRADING.

13. THE PRIORITY SHALL BE GIVEN TO THE COMPLETION AND STABILIZATION OF THE DISTURBED AREAS. WORK IN THESE AREAS SHALL NOT BE PROLONGED IN ATTEMPT THAT ALL FINAL GRADING AND STABILIZATION CAN TAKE PLACE AT ONE TIME.

14. STOCKPILES OF SOIL AND OTHER MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES TO REMAIN IN PLACE FOR 21 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

15. IN AREAS WHERE WORK IS COMPLETE, PERMANENT STABILIZATION SHALL OCCUR WITHIN 7 DAYS OF COMPLETION, AND IN AREAS WHERE WORK HAS TEMPORARILY CEASED FOR 21 DAYS OR MORE, TEMPORARY STABILIZATION SHALL OCCUR BY THE 14TH DAY AFTER WORK HAS CEASED.

16. COMPLETED SLOPES SHALL BE SEEDED AND MULCHED [OR BLANKETED, IF APPLICABLE] AS THE EXCAVATION PROCEEDS TO THE EXTENT CONSIDERED DESIRABLE AND PRACTICAL. PERMANENT SEEDING SHALL BE USED WHENEVER POSSIBLE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR PROLONG FINAL GRADING AND SHAPING SO THAT THE ENTIRE PROJECT CAN BE PERMANENTLY SEEDED AT ONE TIME.

17. THE CONDITION OF THE CONSTRUCTION SITE FOR WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PROPER EROSION AND SEDIMENT CONTROL. ALL OPEN AREAS THAT ARE TO REMAIN IDLE THROUGHOUT THE WINTER SHALL RECEIVE TEMPORARY EROSION CONTROL MEASURES INCLUDING TEMPORARY SEEDING, MULCHING AND/OR EROSION CONTROL BLANKET PRIOR TO THE END OF THE FALL GROWING SEASON. THE AREAS TO BE WORKED BEYOND THE END OF THE GROWING SEASON MUST INCORPORATE SOIL STABILIZATION MEASURES THAT DO NOT RELY ON VEGETATIVE COVER SUCH AS EROSION CONTROL BLANKET AND HEAVY MULCHING.

18. NO WORK SHALL BE PERFORMED IN FLOWING WATER. WORK IN AND NEAR THE CRITICAL AREAS SHOULD BE ISOLATED FROM CONCENTRATED FLOWS OR STREAM FLOW. THE STREAM BANKS SHOULD BE STABILIZED AT THE END OF EACH DAY. ONCE WORK IN THIS AREA BEGINS, PRIORITY SHALL BE GIVEN TO THE COMPLETION OF THE WORK AND FINAL STABILIZATION OF ALL DISTURBED AREAS."

19. PLACE SILT FENCE ON EITHER SIDE OF THE STORM WATER PIPE TRENCH AND CROSSOVER ROAD.THE SILT FENCE SHOULD REMAIN IN PLACE UNTIL THE ENTIRE AREA IS STABILIZED.

20. THE SIDE SLOPES AND DITCHES MUST BE SEEDED AND STABILIZED WITH AN APPROPRIATE EROSION CONTROL BLANKET PRIOR TO ACCEPTING FLOWS.

21. FOR RIP RAP SEE DETAIL SHEET NO 16C

CONTRACTOR CERTIFICATION

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (ILR10) THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION"

SUB-CONTRACTOR RESPONSIBLE FOR: _____

SIGNATURE _____ TITLE _____ DATE _____

COMPANY _____

GENERAL CONTRACTOR

SIGNATURE _____ TITLE _____ DATE _____

COMPANY _____

WITNESSED BY OWNER

SIGNATURE _____ TITLE _____ DATE _____

COMPANY _____

LEGEND

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK
- SEEDING CLASS 4
  COMPOST FURNISH AND PLACE
  EROSION CONTROL BLANKET
- INLET PROTECTION
- CULVERT INLET PROTECTION
- PIPE OUTLET PROTECTION

REVISIONS	
NAME	DATE

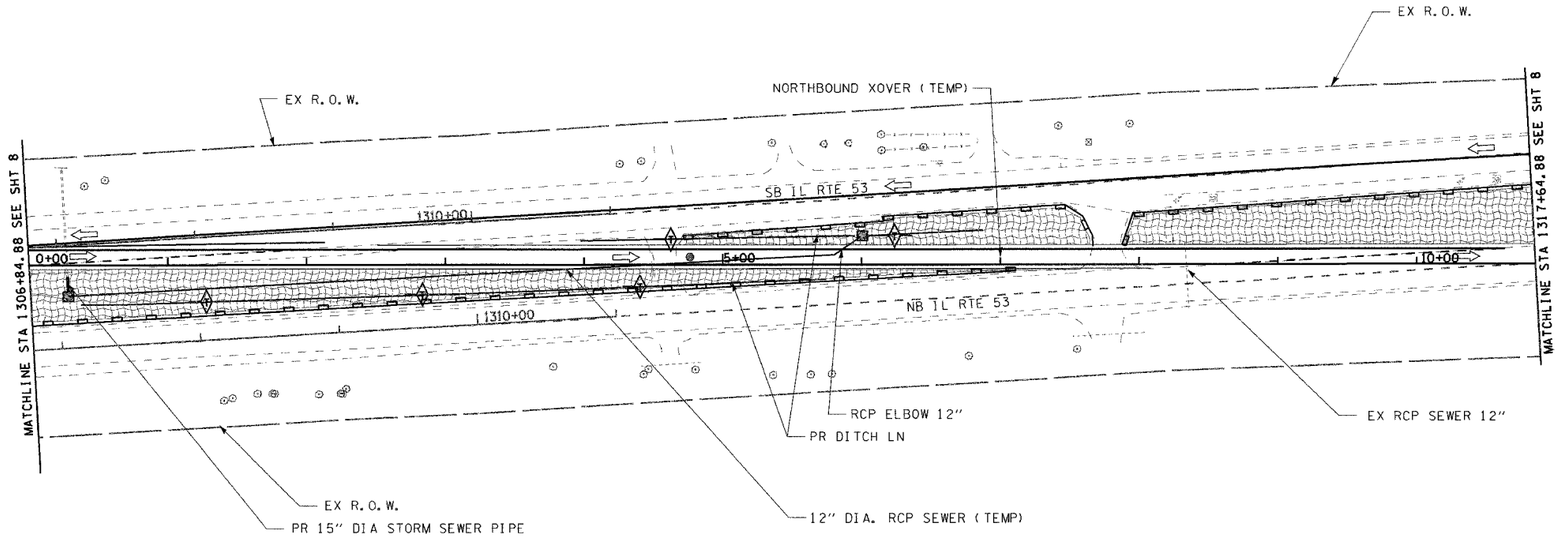
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

EROSION CONTROL PLAN

SCALE: 1"=50' DRAWN BY: JLA/RM/FZ
DATE: AUGUST 2007 CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	16A
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



CROSSOVER STAGE I-EROSION CONTROL PLAN

LEGEND

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK
- EROSION CONTROL BLANKET
- PIPE OUTLET PROTECTION
- CULVERT INLET PROTECTION
- INLET PROTECTION

INSPECTION AND MAINTENANCE SCHEDULE

ACTIVITY	RESPONSIBLE PARTY	DURATION
STABILIZATION DURING CONSTRUCTION MAINTENANCE	CONTRACTOR	WEEKLY AND AFTER EVERY 0.5" RAINFALL
STABILIZATION DURING CONSTRUCTION-OBSERVATION	ENGINEER	WEEKLY AND AFTER EVERY 0.5" RAINFALL
VEGETATION MAINTENANCE	CONTRACTOR	COMPLETION OF CONTRACT
VEGETATION AND STABILIZATION MAINTENANCE	ILLINOIS DEPARTMENT OF TRANSPORTATION	ONGOING AFTER CONSTRUCTION COMPLETION

SOIL PROTECTION SCHEDULE

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A →		→			A →				
DORMANT SEEDING	B →									A →		
TEMPORARY SEEDING			B →						→			
EROSION BLANKET/ HYDROMULCH	B →											

A - SEEDING CLASS 4
B - PERENNIAL RYE 25 LBS/ACRE, CEREAL RYE 90 LBS/ACRE, OR WHEAT 90 LBS/ACRE

REVISIONS NAME	DATE

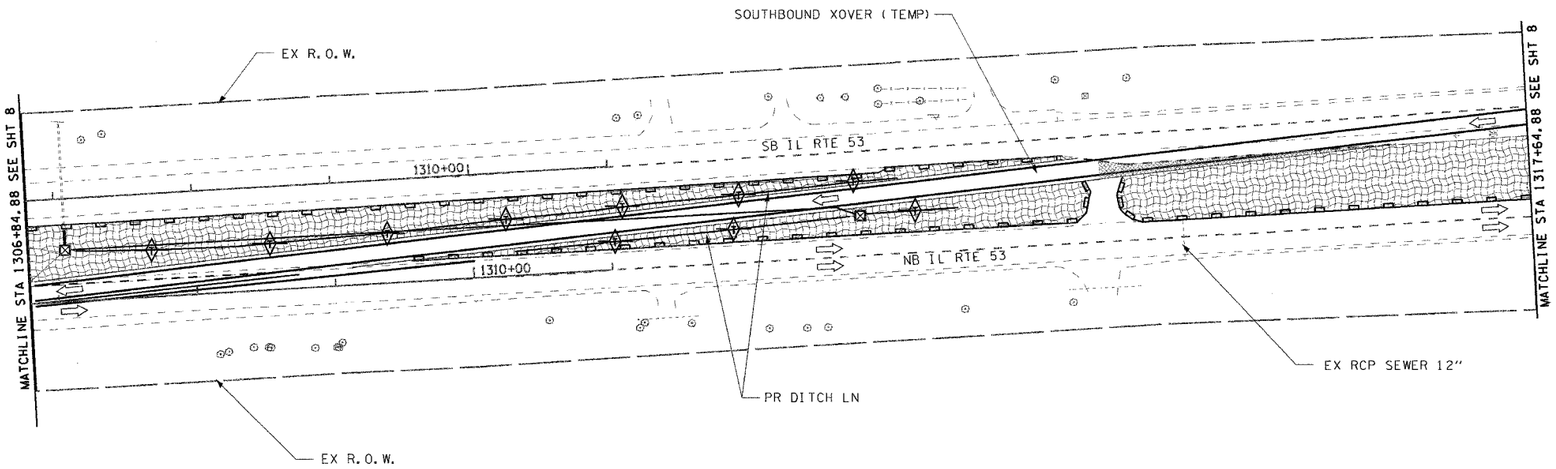
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

EROSION CONTROL PLAN
CROSSOVER STAGE I

SCALE: 1"=50'-0" DRAWN BY: JLA/RM/FZ
DATE: AUGUST 2007 CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	16B
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



CROSSOVER STAGE II-EROSION CONTROL PLAN

LEGEND:

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK
- EROSION CONTROL BLANKET
- PIPE OUTLET PROTECTION
- INLET PROTECTION

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

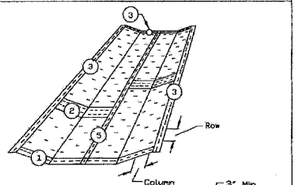
EROSION CONTROL PLAN
CROSSOVER STAGE II

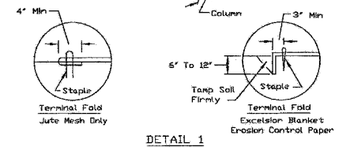
SCALE: 1"=50'-0" DRAWN BY: JLA/RM/FZ
DATE: AUGUST 2007 CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	16C
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

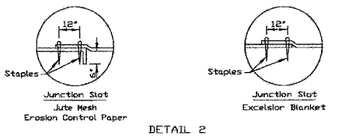
CONTRACT No. 62269

EROSION BLANKET PLAN





DETAIL 1



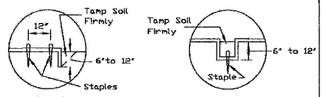
DETAIL 2

REFERENCE: Project, Designed, Checked, Approved — Date

NRCS Natural Resources Conservation Service

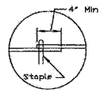
STANDARD DWG. NO. IL-530 SHEET 1 OF 2 DATE 9-24-94

EROSION BLANKET PLAN

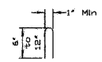


DETAIL 3

DETAIL 4



DETAIL 5



STAPLE DETAIL

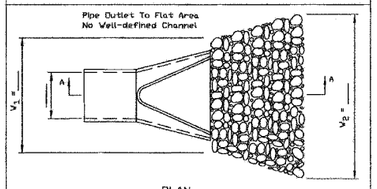
NOTES:
1. On erosion control paper, check slots, in ditch channel shall be spaced so that one occurs within each 50' on slopes of more than 4% and less than 6%. On slopes of 6% or more, they shall be spaced so that one occurs within each 25'.
2. Staples are to be placed alternately, in columns approximately 2' apart and in rows approximately 3' apart. Approximately 175 staples are required per 4'x 225' roll of material and 125 staples are required per 4'x 150' roll of material.
3. Erosion control material shall be placed loosely over ground surface. Do not stretch
4. All terminal ends and transverse laps shall be stapled at approximately 12" intervals.

REFERENCE: Project, Designed, Checked, Approved — Date

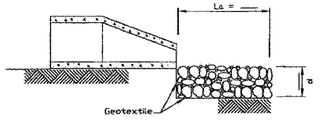
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-530 SHEET 2 OF 2 DATE 3-1-95

PIPE OUTLET TO FLAT AREA



PLAN



SECTION A-A

NOTES:
1. The filter fabric shall meet the requirements in material specifications 592 GEOTEXTILE Table 1 or 2, class I, II or III.
2. The rock riprap shall shall meet the IDOT requirements for the following gradation: RR _____, Quality _____.
3. The riprap shall be placed according to construction specification 61 LOOSE ROCK RIPRAP. The rock may be equipment placed.

REFERENCE: Project, Designed, Checked, Approved — Date

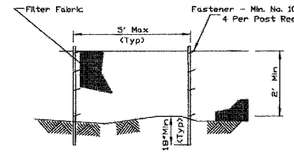
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-610 SHEET 1 OF 1 DATE 9-25-93

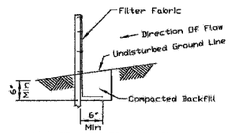
IL-53 PIPE OUTLET DETAILS (STD IL-611), GRADATION: 4

RIPRAP DETAILS (STD IL-611), GRADATION: 4						
STA.	OFFSET	PIPE DIA	W	La	d	QUANTITY
	FT	FT	FT	FT	FT	CY
1307+06.40	60 LT	1.25	3.75	7.0	2.0	1.94
1311+00.00	30.00 LT	1.0	3.0	6.0	2.0	1.33
EXISTING RCP PIPE		1.0	3.0	6.0	2.0	1.33

SILT FENCE PLAN



ELEVATION



FABRIC ANCHOR DETAIL

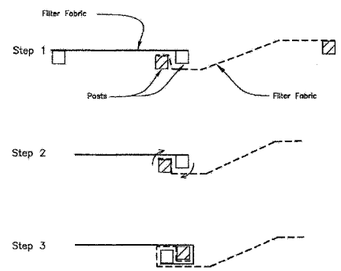
NOTES:
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of at least 30 for nonwoven and 30 for woven.
3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq. in.

REFERENCE: Project, Designed, Checked, Approved — Date

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-620 SHEET 1 OF 2 DATE 12-23-01

SILT FENCE



ATTACHING TWO SILT FENCES

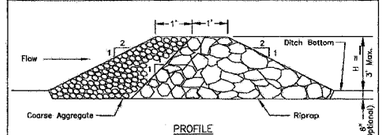
NOTES:
1. Place the end post of the second fence inside the end post of the first fence.
2. Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the fabric material.
3. Drive both posts a minimum of 18 inches into the ground and bury the flap.

REFERENCE: Project, Designed, Checked, Approved — Date

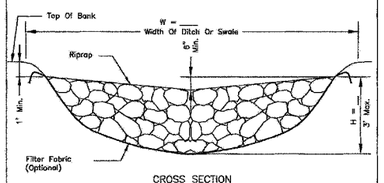
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-620(W) SHEET 2 OF 2 DATE 1-25-08

ROCK CHECK DAM - RIPRAP



PROFILE



CROSS SECTION
CENTERLINE LOOKING DOWNSTREAM

NOTES;
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table 1 or 2, Class I, II, or IV and shall be placed over the cleared area prior to the placing of rock.
2. Coarse aggregate shall meet one of the following IDOT gradations, CA-1, CA-2, CA-3, or CA-4.
3. Riprap shall meet IDOT gradation RR-3 or RR-4 and meet Quality Designation A.
4. Coarse aggregate and riprap shall be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
5. For added stability, the base of the dam may be keyed 6 inches into the soil.
6. See plans for spacing of dams and H dimensions.
7. Maximum drainage area to each dam is 10 acres.
8. ROCK CHECK DAM-COARSE AGGREGATE IL-620CA may be used for drainage areas under 2 acres.

REFERENCE: Project, Designed, Checked, Approved — Date

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-605R SHEET 1 OF 1 DATE 1-25-08

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

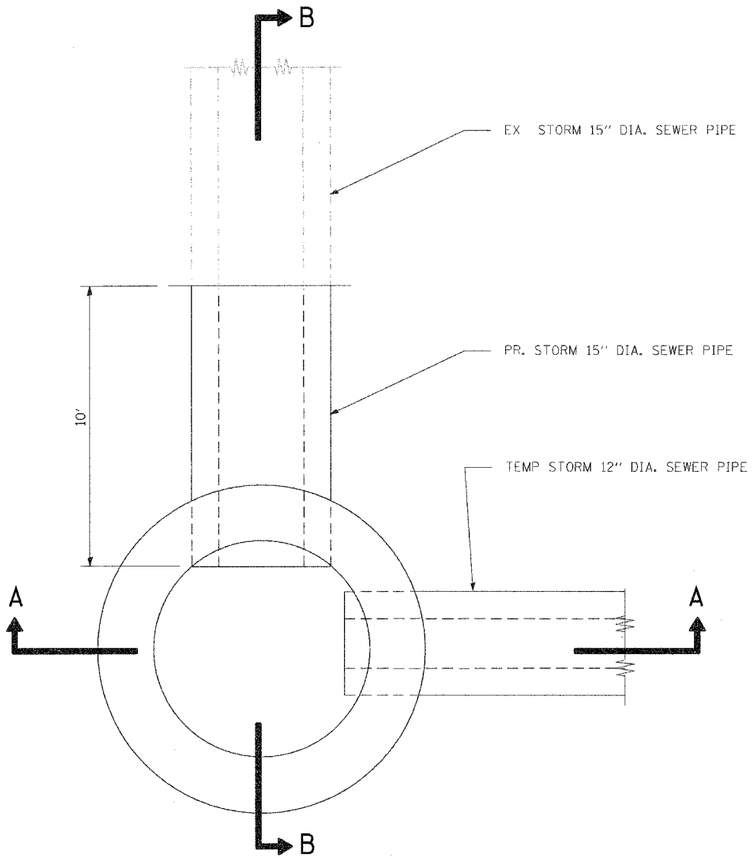
EROSION CONTROL DETAILS

SCALE: NONE
DATE: AUGUST 2007

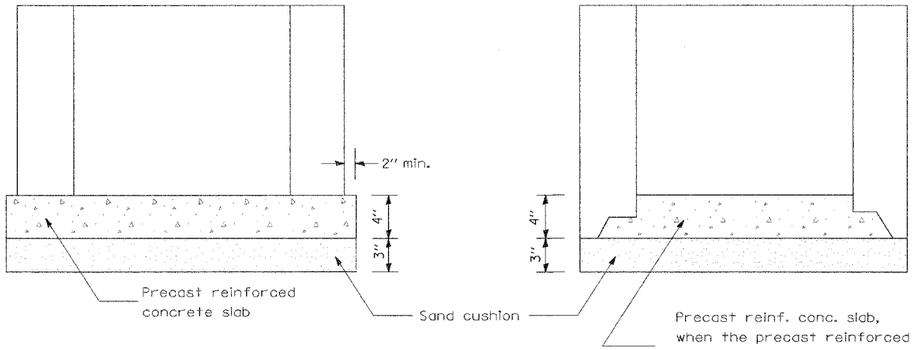
DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	17
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

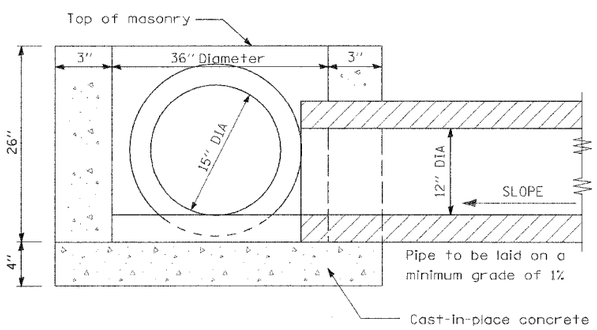


PLAN
NTS

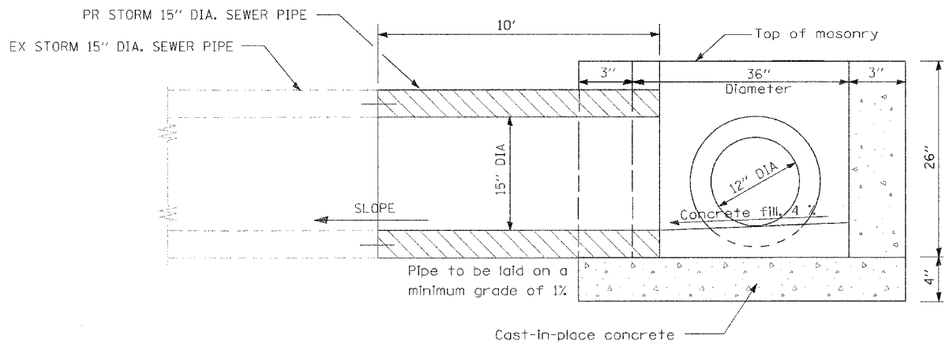


ALTERNATE METHODS
NTS

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



SECTION A-A
NTS



SECTION B-B
NTS

MATERIALS FOR WALLS	T
PRECAST REINFORCED CONCRETE SECTION	3"

NOTES:

1. PRECAST REINFORCED CONCRETE FLAT SLAB TOP STANDARD 602601-01.
2. GRATE TYPE 8 STANDARD 604036-01.

INLET - TYPE A SPECIAL

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

INLET DETAILS

SCALE: NONE
DATE: AUGUST 2007

DRAWN BY: JLA/RM/FZ
CHECKED BY: MK/SMK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	18
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

SYMBOL LIST:

- TEMPORARY WOOD POLE, 60 FT, 50 FT MOUNTING HEIGHT, CLASS 4, WITH 15 FT MAST ARM AND 400W, 240 V LUMINAIRE. LETTER ON THE TOP INDICATES THE CIRCUIT NO.
- LIGHT POLE, WOOD FOR SUPPORT.
- —AC-XX— AERIAL CABLE 3-1/C NO. 6 WITH MESSENGER WIRE. XX INDICATES THE LENGTH IN FEET.
- TEMPORARY LIGHTING CONTROLLER.
- GROUND FIELD FOR CONTROLLERS 1/0 AWG BARE COPPER WIRE

GENERAL NOTES:

1. CONTRACTOR SHALL INSTALL 3-1/C NO 6 AND 1/C NO 6 GND UNDERGROUND FEEDER FROM LIGHTING CONTROLLER TO THE WOOD POLE FOR SUPPORT AND MAKE A TRANSITION TO 3-1/C #6 AERIAL CABLE WITH A MESSENGER WIRE.
2. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL J.U.L.I.E. TO AID THIS TASK.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE TEMPORARY LIGHTING SYSTEM WITHIN THE PROJECT LIMITS FOR THE ENTIRE DURATION OF THE PROJECT. ANY DAMAGE INCURRED DURING CONSTRUCTION SHALL BE PROMPTLY REPAIRED SO THAT SERVICE IS NOT DISRUPTED.
4. SETBACK FOR THE WOOD LIGHT POLES SHALL BE MIN. 30' FROM THE EDGE OF THE TRAVELED PAVEMENT UNLESS OTHERWISE NOTED ON PLANS.
5. IDOT WILL FURNISH THE FOLLOWING FOR TEMPORARY LIGHTING SYSTEM:
   A. TEMPORARY WOOD POLE, 60 FT, CLASS 4, WITH 15 FT MAST ARM.....14 Nos
   B. 400W HPS MCIII LUMINAIRE.....14 Nos
   C. TEMPORARY LIGHTING CONTROLLER 100A, 480/240V SINGLE PHASE.....1 Nos
6. WHEN THE TEMPORARY LIGHTING SYSTEM IS REMOVED, ALL ITEMS DESCRIBED IN NOTE 5 SHALL BE HANDED OVER TO IDOT IN GOOD CONDITION. AFTER REMOVAL OF THE TEMPORARY LIGHTING SYSTEM, GROUND SHALL BE RESTORED TO THE STATUS AS IT WAS PRIOR TO START OF THE PROJECT. THE WORK OF REMOVAL OF TEMPORARY LIGHTING UNITS SHALL BE PAID FOR AS "REMOVAL OF TEMPORARY LIGHTING UNITS AND SALVAGE".
7. CONTRACTOR SHALL COORDINATE WITH ELECTRIC UTILITY AND PROVIDE ALL MATERIALS AND LABOR TO COMPLETE THE ELECTRIC SERVICE. THE MATERIAL SHALL INCLUDE METERING EQUIPMENT, SERVICE DISCONNECT, CONDUIT AND WIRES ETC.
8. FURNISHING OF CONCRETE FOUNDATION FOR CONTROLLER PER IDOT STANDARDS IS PART OF "TEMPORARY LIGHTING CONTROLLER (INSTALL ONLY)" PAY ITEM.
9. FOR ComEd SERVICE CONTACT THE FOLLOWING ComEd REPRESENTATIVE
   NAME: DENETTE
   PHONE: 805-724-5590
10. THE INSTALLATIONS SHALL COMPLY TO LATEST NEC AND IDOT STANDARDS.

SUMMARY OF QUANTITIES

IL 53 OVER PRAIRIE CREEK
JOB NO. C-91-294-01

PAY ITEM	UNIT	TOTAL QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	20.00
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 4	FOOT	50.00
AERIAL CABLE, 3-1/C NO. 6 WITH MESSENGER WIRE	FOOT	2700.00
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	30.00
LIGHT POLE, WOOD, 30 FOOT CLASS 4	EACH	1
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
ELECTRIC UTILTY SERVICE CONNECTION	EACH	1
TEMPORARY LUMINAIRE , HIGH PRESSURE SODIUM, HORIZONTAL MOUNT, 400W (INSTALL ONLY)	EACH	14
TEMPORARY LIGHTING CONTROLLER (INSTALL ONLY)	EACH	1
REMOVE TEMPORARY LIGHTING UNITS AND SALVAGE	EACH	14
MAINTENANCE OF TEMPORARY LIGHTING SYSTEM	LUMP SUM	1
GROUND ROD SYSTEM INSTALLATION	EACH	17
UNIT DUCT ,600V 3-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE),1 1/4"DIA. POLYETHYLENE	FOOT	50.00
TEMPORARY WOOD POLE, 60FT , CLASS 4 , WITH 15FT MAST ARM INSTALL ONLY	EACH	14

E-01

REVISIONS NAME	DATE

DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK

ELECTRICAL GENERAL NOTES

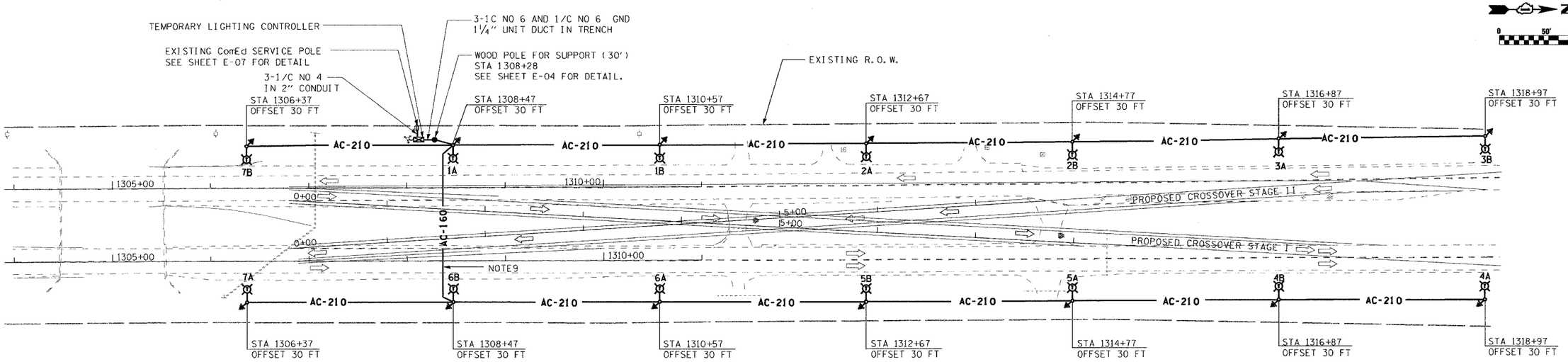
SCALE: N O N E
DATE: AUGUST 2007
DRAWN BY: KMK/WP
CHECKED BY: HPS/HS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	19
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

N

0 50' 100'



CROSSOVER LIGHTING PLAN

NOTES:

1. REFER TO SHEET E-01 FOR SYMBOL AND LEGEND.
2. OFFSET OF THE POLES IS MEASURED WITH RESPECT TO THE EDGE OF THE TRAVELED PAVEMENT OF THE EXISTING ROAD ON EITHER DIRECTION.
3. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ComEd SERVICE POLE. SECURE AND PAY ALL PERMIT FEE FOR SERVICE CONNECTION. COORDINATE WITH ComEd FOR COMPLETE INSTALLATION OF ELECTRIC SERVICE.
4. WHEN THE ROADWAY CONSTRUCTION IS COMPLETE, TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AS PER IDOT INSTRUCTION. COORDINATE WITH ComEd AND REMOVE THE ELECTRIC SERVICE.
5. TEMPORARY LIGHTING CONTROLLER, TEMPORARY WOOD POLE WITH 15 FT MAST ARM, 400W HPS LUMINAIRE WILL BE SUPPLIED BY IDOT. CONTRACTOR HAS TO PROVIDE THE NEW LAMPS.
6. PROVIDE TWO POLE FUSE HOLDER FOR LUMINAIRE AND NOT TWO-SINGLE POLE AS SHOWN ON STANDARD DETAIL DRAWING BE-800.
7. STANDARD LIGHTING CONTROLLER DRAWING IS FOR REFERENCE ONLY AND FOR VERIFICATION OF INTERNAL WIRING AND NECESSARY CONNECTIONS AS REQUIRED BY THE CONTRACTOR.
8. CONTRACTOR TO INSTALL ONLY REQUIRED CONDUITS IN FOUNDATION (2-4" & 1-1") AND NOT AS SHOWN ON STANDARD DRAWING.
9. INSTALL AERIAL CABLE TO MAINTAIN MINIMUM CLEARANCE OF 30'-0 FROM ROADWAY SURFACE.

E-02

REVISIONS NAME	DATE

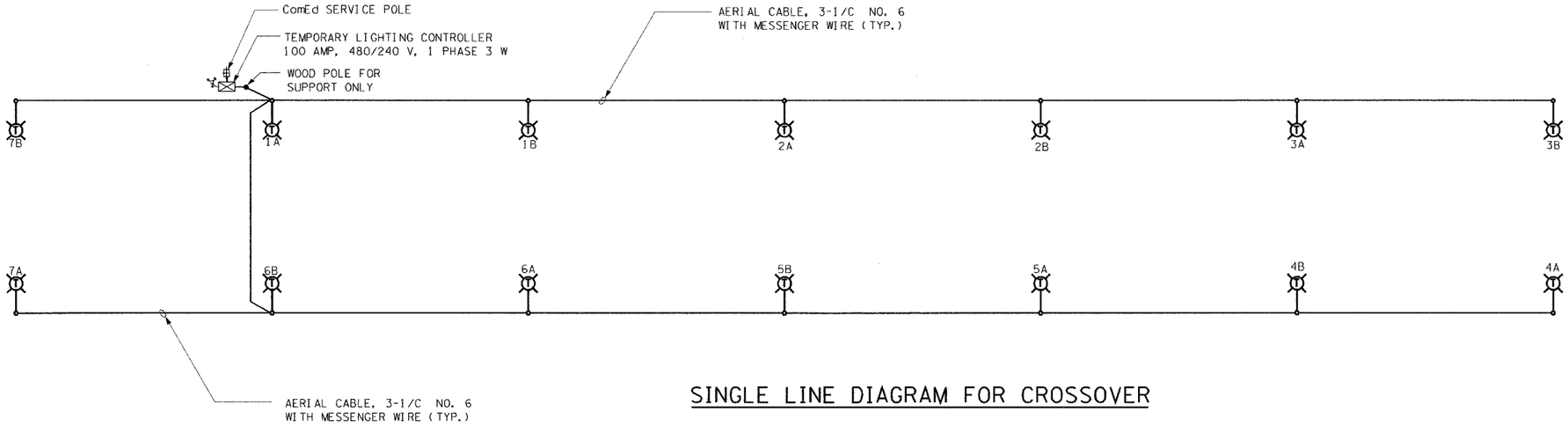
DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
CROSSOVER LIGHTING PLAN

SCALE: 1"=50'-0" DRAWN BY: KMK/WS
DATE: AUGUST 2007 CHECKED BY: HPS/HS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	20
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



SINGLE LINE DIAGRAM FOR CROSSOVER

LOAD TABLE
CROSSOVER LIGHTING

CIRCUIT	LAMP WATTAGE	TOTAL LOAD (VA)	AMPS
A (240V)	400W	3465	14.43
B (240V)	400W	3465	14.43
	TOTAL VA	**6930**	**28.86**

NOTES:

1. REFER TO SHEET E-01 FOR SYMBOL LEGEND
2. TEMPORARY LIGHTING CONTROLLER WILL BE SUPPLIED BY IDOT.
3. REFER TO SHEET E-02 FPR CROSSOVER LIGHTING PLAN.

E-03

REVISIONS NAME	DATE

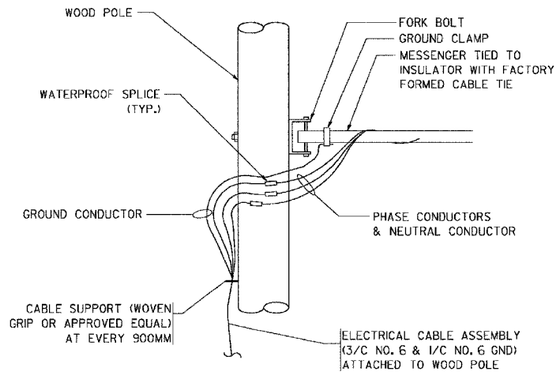
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
SINGLE LINE DIAGRAM
CROSSOVER LIGHTING PLAN

SCALE: NONE
DATE: AUGUST 2007
DRAWN BY: KMK/WP
CHECKED BY: HPS/HS

DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd. Suite 910 Chicago, IL 60604-2001

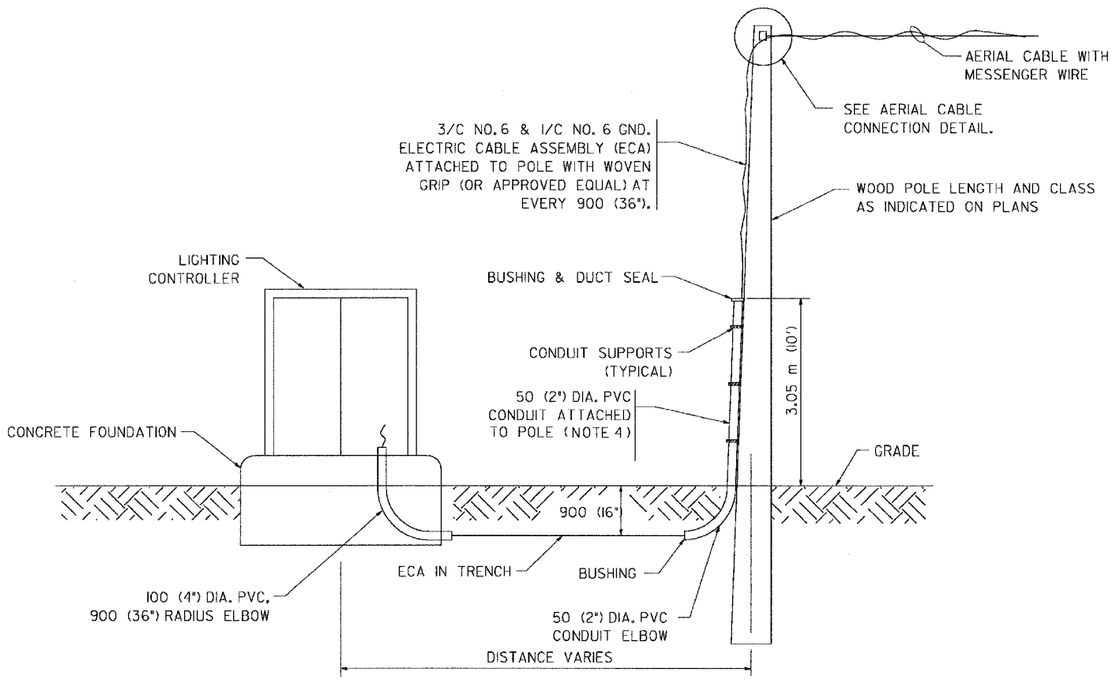
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	21
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



AERIAL CABLE CONNECTION DETAIL

N.T.S.



WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL

N.T.S.

NOTES:

1. ALL DIMENSIONS IN MILLIMETERS (INCHES) 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, MOUNTING HARDWARE AND CONDUIT ATTACHED TO SUPPORT POLE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

BE-801 E-04

REVISIONS NAME	DATE

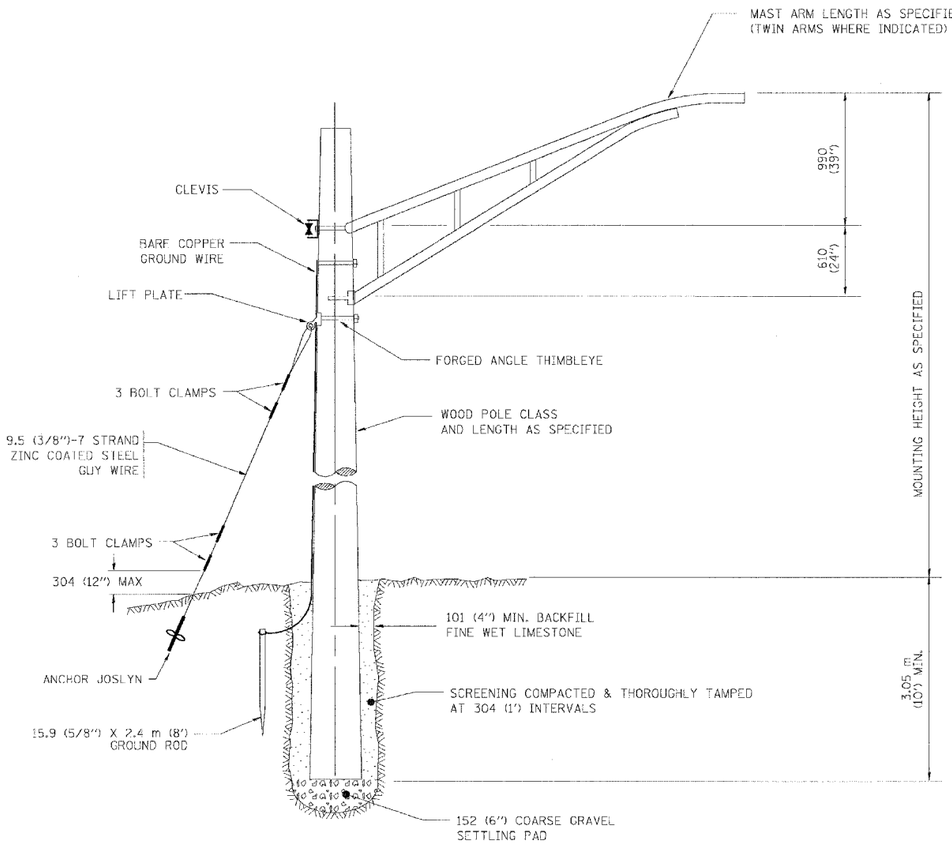
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
TEMPORARY AERIAL CABLE INSTALLATION

SCALE: N O N E
DATE: AUGUST 2007
DRAWN BY:
CHECKED BY:

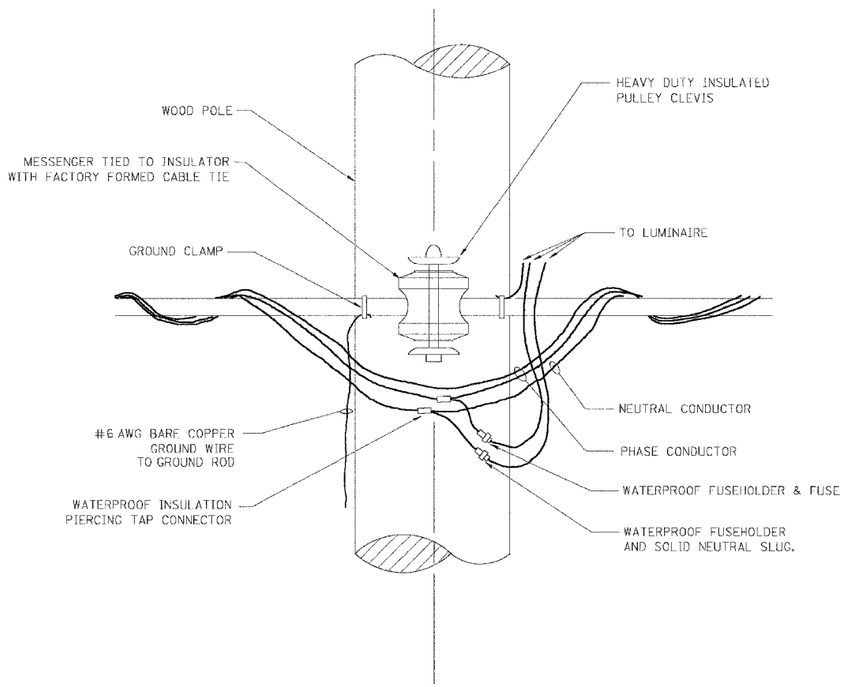
DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	22
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



TEMPORARY LIGHT POLE DETAIL



TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

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

BE-800 E-05

REVISIONS NAME	DATE

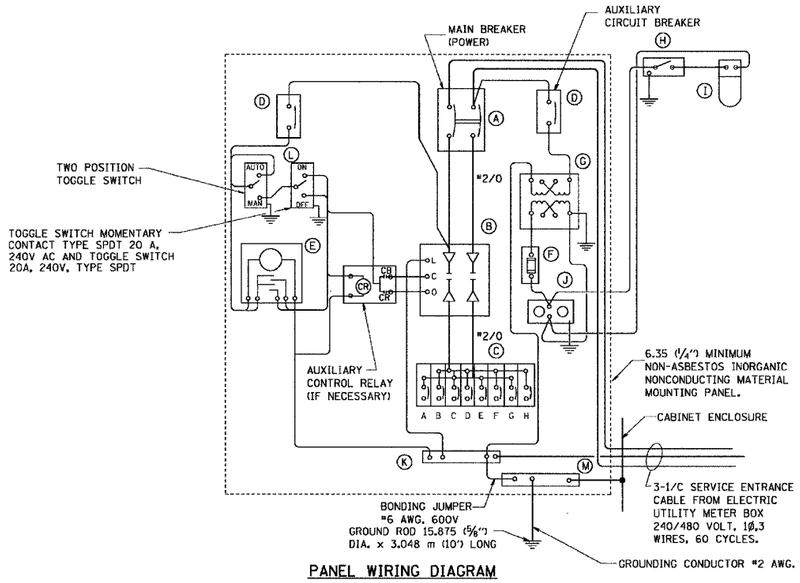
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
TEMPORARY LIGHT POLE DETAILS

SCALE: N O N E
DATE: AUGUST 2007
DRAWN BY:
CHECKED BY:

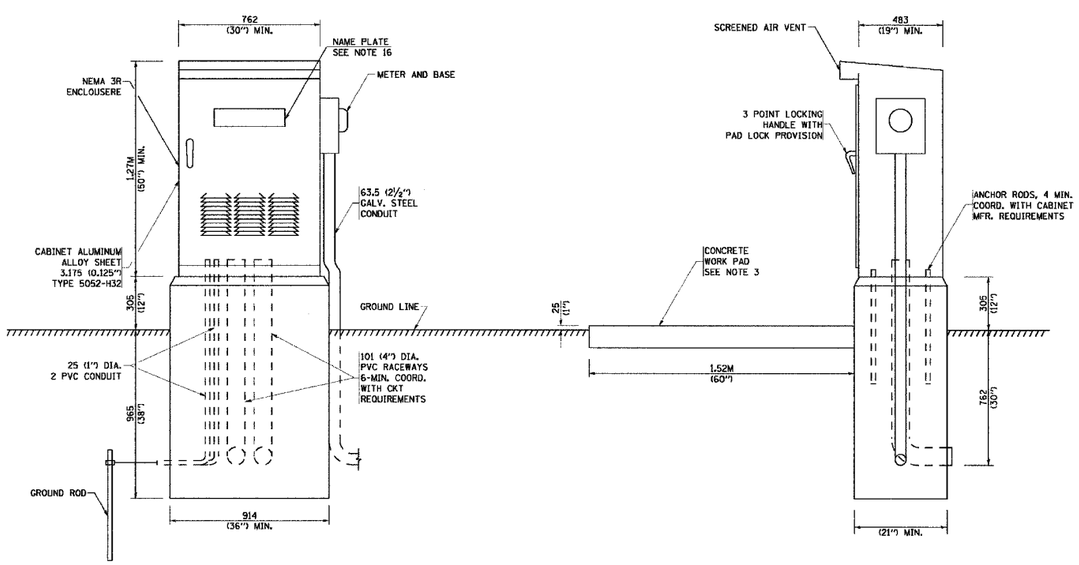
DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	23
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



PANEL WIRING DIAGRAM



PANEL EQUIPMENT

BILL OF MATERIAL

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

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
3. IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 50.8 mm (2") TOP SOIL, LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 914.4 mm (36") x 18.288 m (60") x 101 mm (4") MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
4. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
5. DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
6. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 6.35 mm (1/4") DIA. STAINLESS STEEL HINGE PIN.
7. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
8. CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
9. METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
10. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED
11. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS
12. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.
    R = RED BL = BLUE W = WHITE
    B = BLACK Y = YELLOW G = GREEN
13. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
14. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
15. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL"
16. 304.8 (12") X 406.4 mm (16") STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED

BE-215 E-06

REVISIONS NAME	DATE

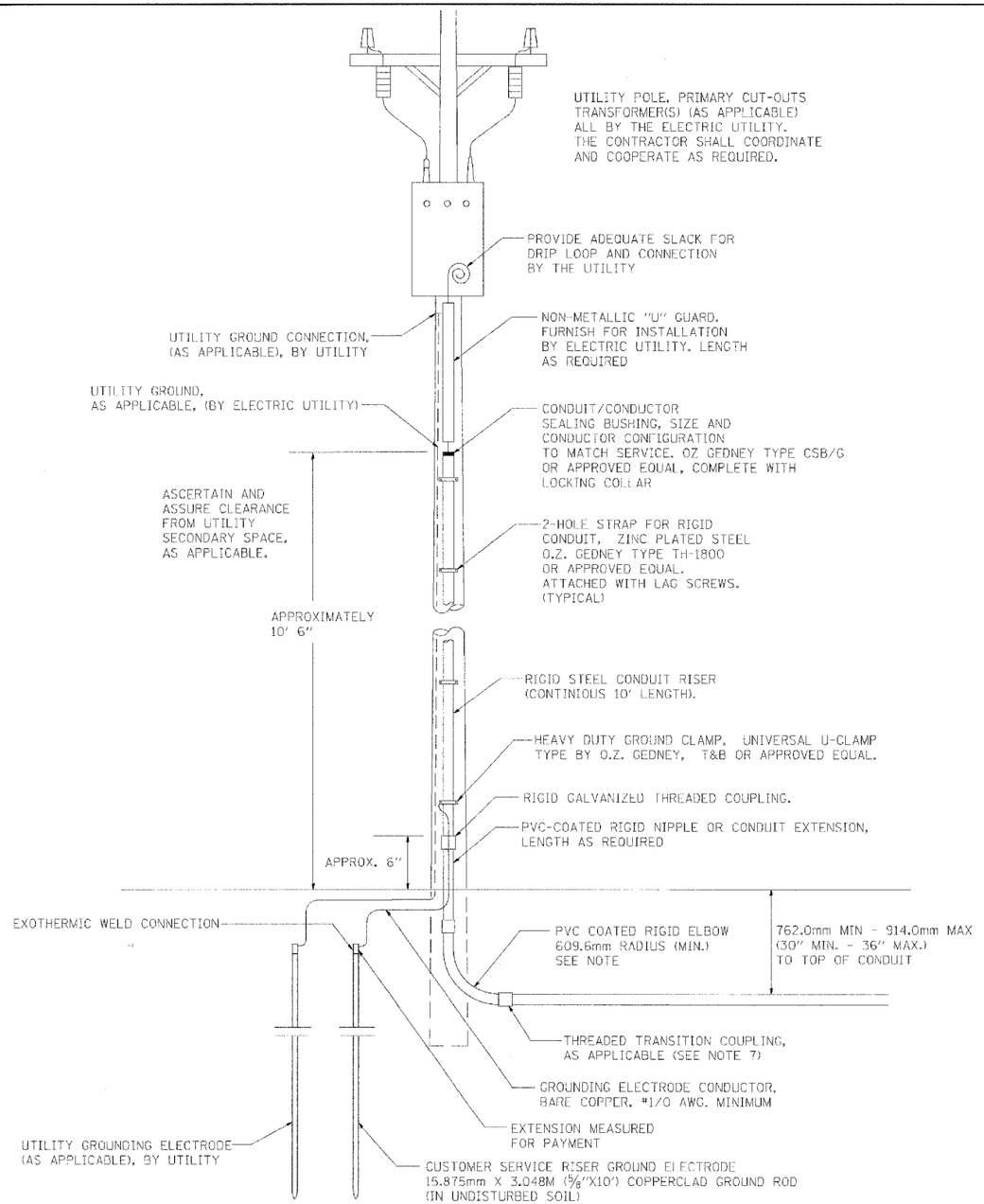
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
LIGHTING CONTROLLER
SINGLE DOOR

SCALE: N O N E DRAWN BY:
DATE: AUGUST 2007 CHECKED BY:

DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	24
STA. 1301+00	TO STA. 1309+00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269



NOTES

1. SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF ELECTRIC UTILITY SERVICE INSTALLATION.
3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED.
4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
6. THE SERVICE METER SOCKET, AS APPLICABLE, MOUNTED ELSEWHERE AS INDICATED SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRICAL UTILITY SERVICE INSTALLATION PAY ITEM.
7. THE 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.
8. 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.

BE-220 E-07

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL RTE 53 OVER PRAIRIE CREEK
ELECTRIC SERVICE INSTALLATION
ABOVE GROUND

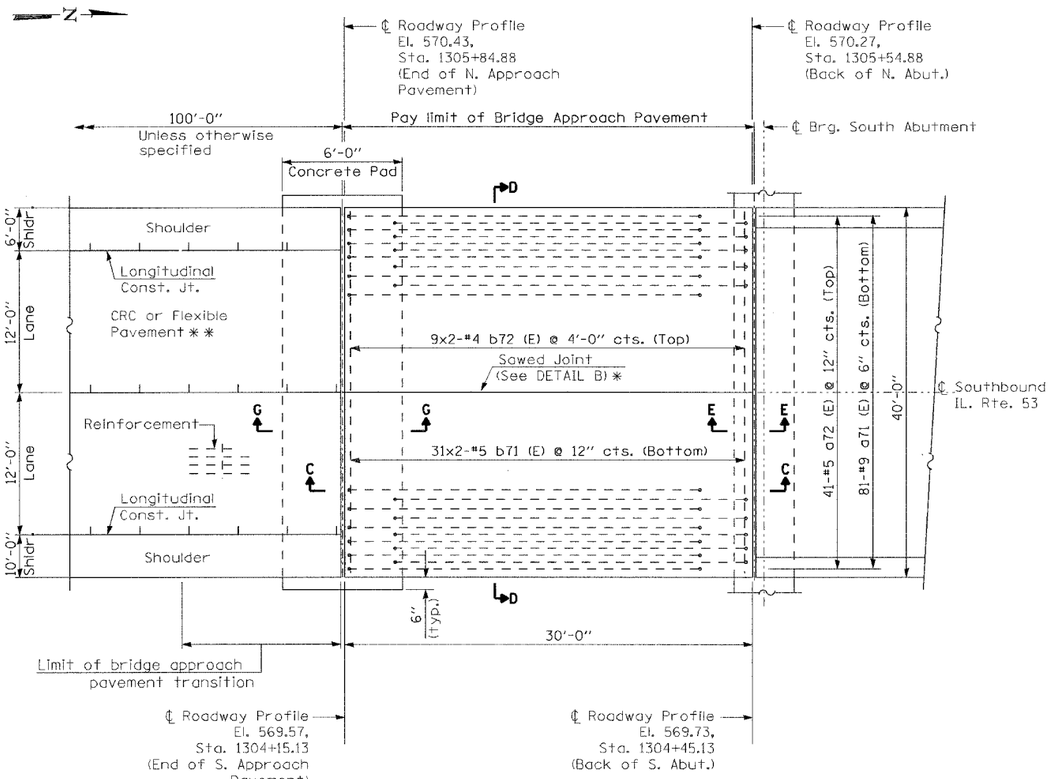
SCALE: N O N E
DATE: AUGUST 2007
DRAWN BY:
CHECKED BY:

DELTA ENGINEERING, INC.
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

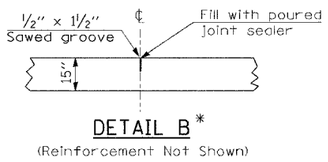
CONTRACT NO. 62269



PLAN

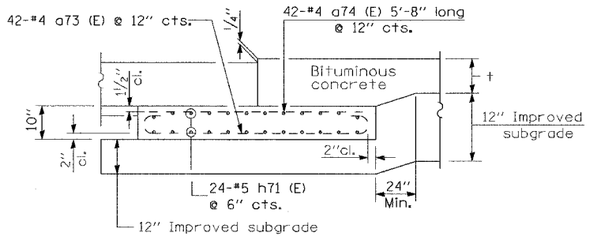
SOUTH APPROACH PAVEMENT SHOWN
NORTH APPROACH PAVEMENT SIMILAR
(OPPOSITE HAND)
(See Roadway Plans for Details)

* Saw ℄ or lane edge if poured two or more lane widths at a time.
* * Omit Reinforcement, tie bars and Long. sawed Jt. for Flexible Pavement.



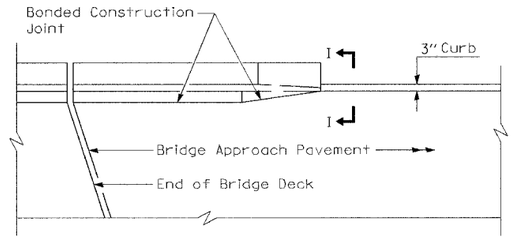
DETAIL B *

(Reinforcement Not Shown)

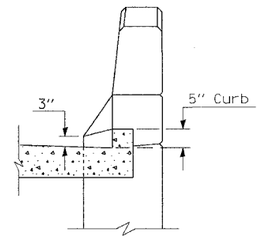


SECTION G-G - FLEXIBLE PAVEMENT

(Showing reinforcement)



PARAPET TO CURB TRANSITION
PILE BENT ABUTMENT



SECTION I - I

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a71 (E)	162	#9	29'-6"	
a72 (E)	82	#5	29'-6"	
a73 (E)	84	#4	6'-8"	
a74 (E)	84	#5	5'-8"	
b71 (E)	124	#5	20'-6"	
b72 (E)	36	#4	20'-6"	
h71 (E)	48	#5	5'-8"	
Reinforcement Bars, Epoxy Coated			Pound	22,860
Bridge Approach Pavement			SQ. YD.	270

Reinforcement bars designated (E) shall be epoxy coated.

Bars Indicated thus 31x2-#5 etc. indicates 31 line of bars with 2 lengths per line.

Bill of Material Is shown for Information only.

GENERAL NOTES

THICKNESS - "t" = Thickness of Pavement.

See Standard 421001 for reinforcement details not shown.

See Standard 421001 for joint details not shown

All dimensions are In (inches) unless otherwise shown.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT
NORTHBOUND - SHEET 1 OF 2
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

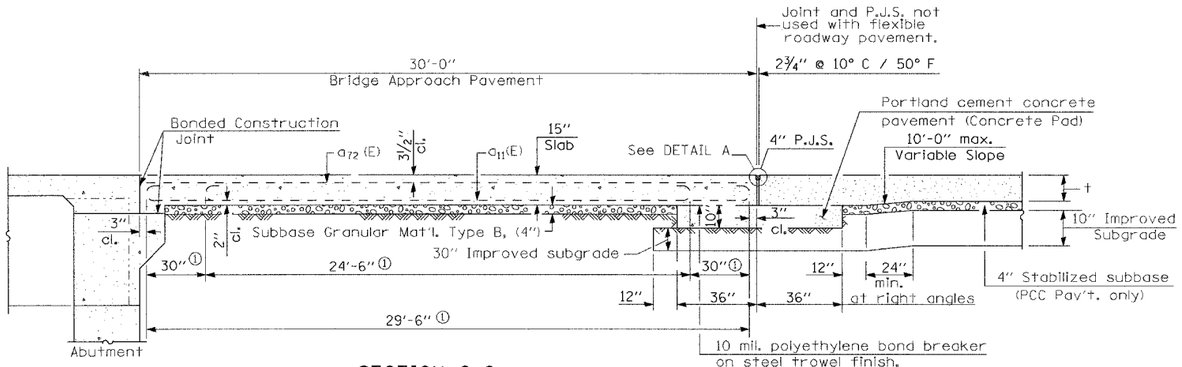
SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

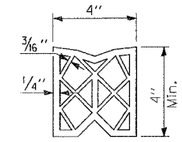
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

CONTRACT NO. 62269

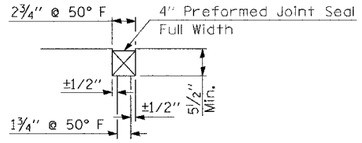


SECTION C-C

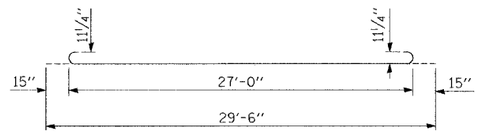
①Stagger #9 a_{11}(E) bars as shown on plan - full width



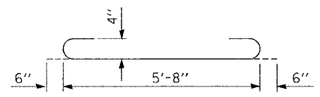
PREFORMED JOINT SEAL



DETAIL A



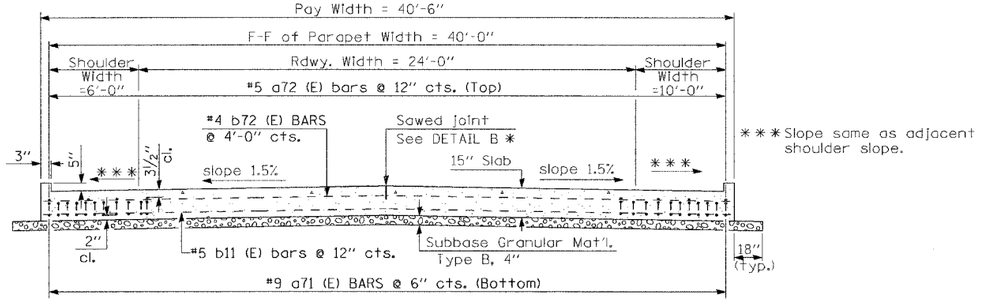
BAR a_{71} (E)



BAR a_{73} (E)

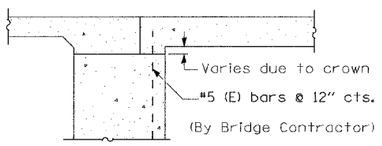
DESIGN STRESSES

fy = (60,000 p.s.i.)
f'c = (3,500 p.s.i.)
n = 8.5

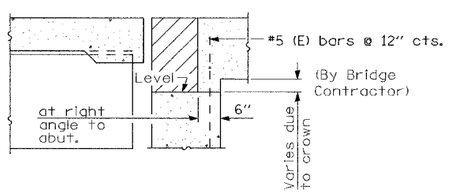


SECTION D-D

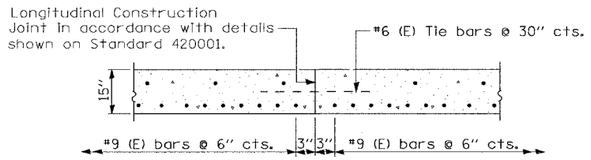
(See Plan for Dimensions not shown)
All reinforcement bars shall be epoxy coated.



SECTION E-E
(Integral Abutments)



SECTION E-E
(Jointed Abutments)



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT
NORTHBOUND - SHEET 2 OF 2
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

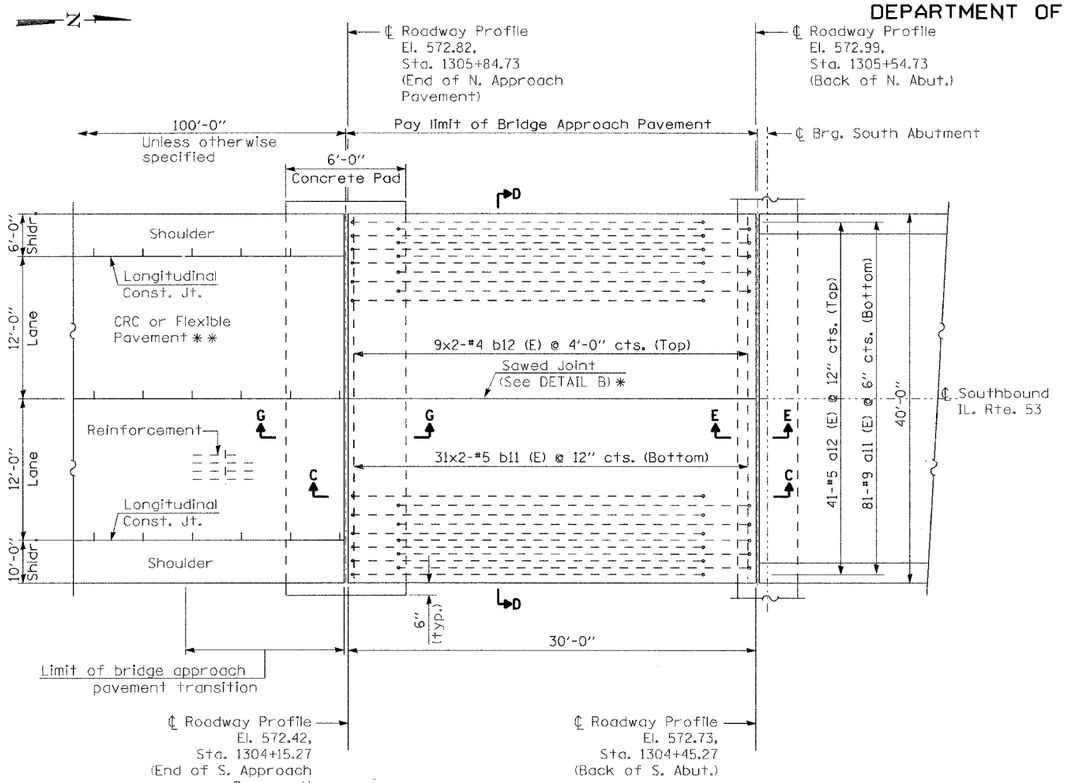
SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

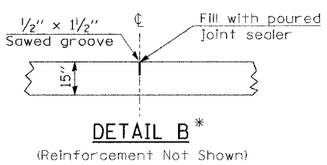
CONTRACT NO. 62269



PLAN

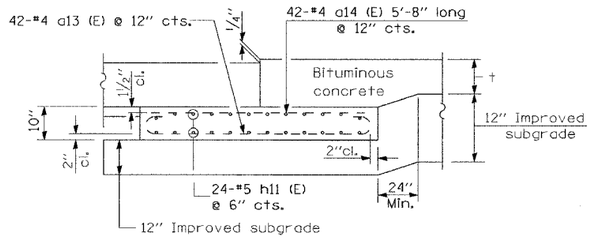
SOUTH APPROACH PAVEMENT SHOWN
NORTH APPROACH PAVEMENT SIMILAR
(OPPOSITE HAND)
(See Roadway Plans for Details)

* Saw ℄ or lane edge if poured two or more lane widths at a time.
* * Omit Reinforcement, tie bars and Long. sawed Jt. for Flexible Pavement.



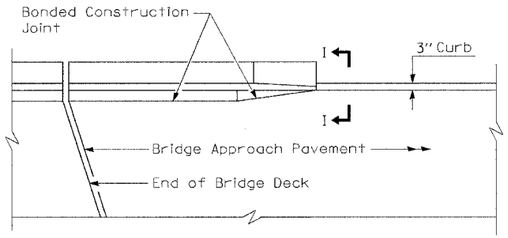
DETAIL B *

(Reinforcement Not Shown)

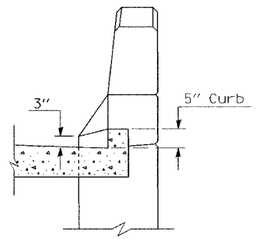


SECTION G-G - FLEXIBLE PAVEMENT

(Showing reinforcement)



PARAPET TO CURB TRANSITION
PILE BENT ABUTMENT



SECTION I - I

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a11 (E)	162	#9	29'-6"	⊂⊃
a12 (E)	82	#5	29'-6"	—
a13 (E)	84	#4	6'-8"	⊂⊃
a14 (E)	84	#5	5'-8"	—
b11 (E)	124	#5	20'-6"	—
b12 (E)	36	#4	20'-6"	—
h11 (E)	48	#5	5'-8"	—
Reinforcement Bars, Epoxy Coated			Pound	22,860
Bridge Approach Pavement			SQ. YD.	270

Reinforcement bars designated (E) shall be epoxy coated.

Bars Indicated thus 31x2-#5 etc. indicates 31 line of bars with 2 lengths per line.

Bill of Material is shown for Information only.

GENERAL NOTES

THICKNESS - "t" = Thickness of Pavement.

See Standard 421001 for reinforcement details not shown.

See Standard 421001 for joint details not shown

All dimensions are In (Inches) unless otherwise shown.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT
SOUTHBOUND - SHEET 1 OF 2
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

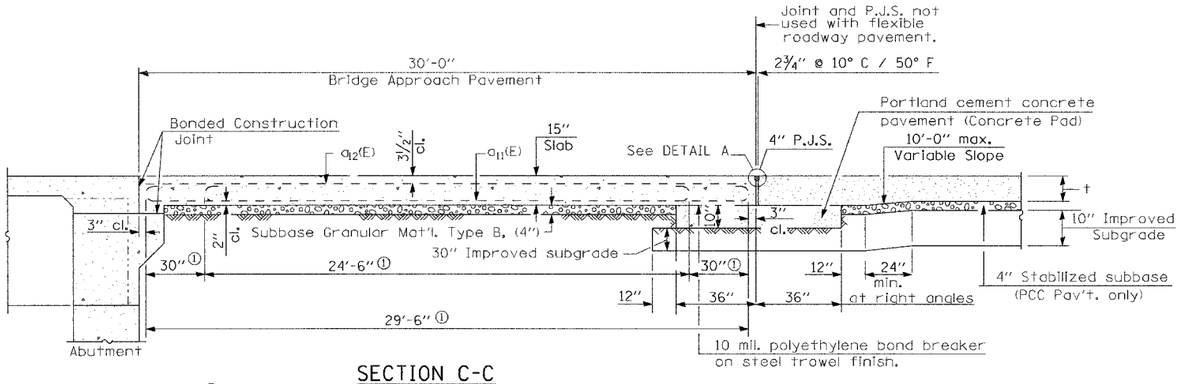
SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

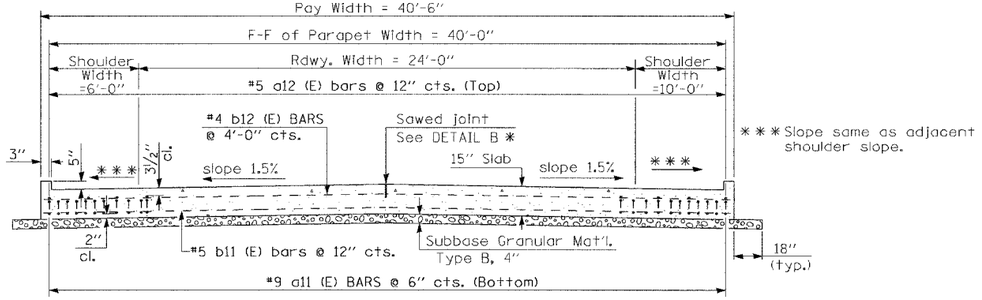
CONTRACT NO. 62269

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



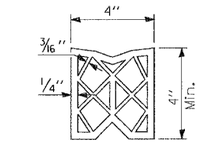
SECTION C-C

①Stagger #9 a_{11}(E) bars as shown on plan - full width

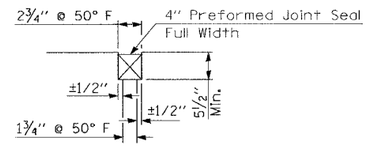


SECTION D-D

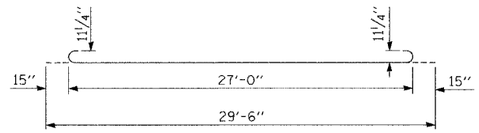
(See Plan for Dimensions not shown)
All reinforcement bars shall be epoxy coated.



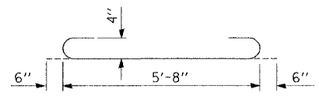
PREFORMED JOINT SEAL



DETAIL A



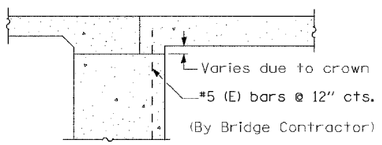
BAR a_{11} (E)



BAR a_{13} (E)

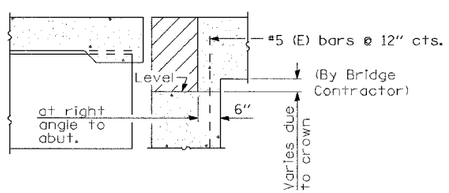
DESIGN STRESSES

fy = (60,000 p.s.i.)
f'c = (3,500 p.s.i.)
n = 8.5



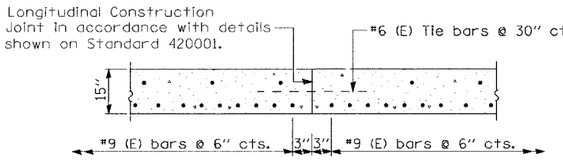
SECTION E-E

(Integral Abutments)



SECTION E-E

(Jointed Abutments)



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT
SOUTHBOUND - SHEET 2 OF 2
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

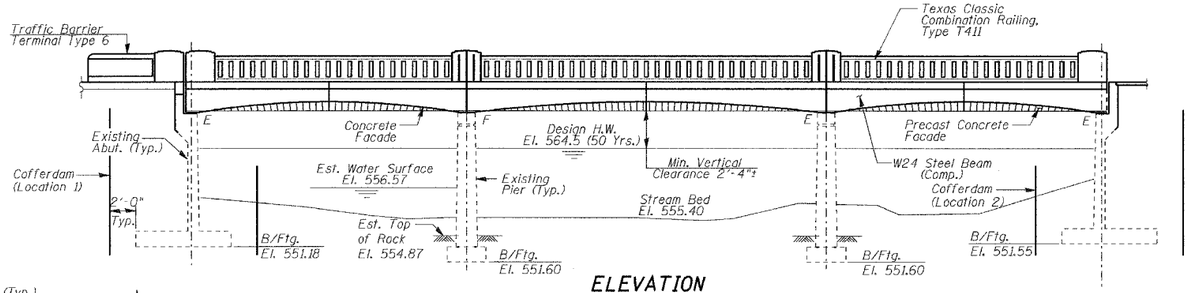
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S1
SHEETS S20

CONTRACT NO. 62269

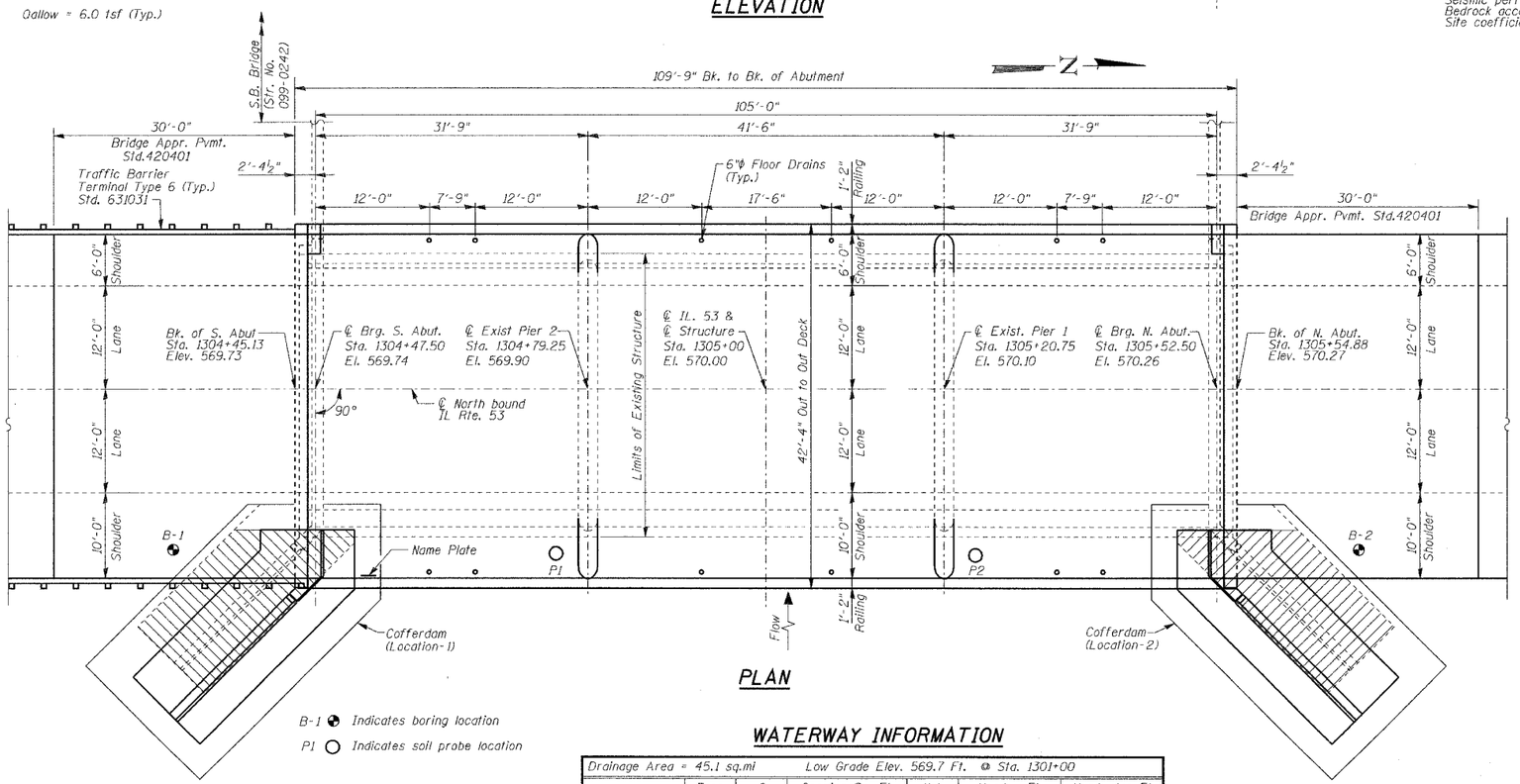
Bench Mark:
BM #7 Elevation = 570.41 (Feet)
A square cut in northeast wingwall of north bound Illinois route 53 bridge.

Existing Structure:
The existing structure No. 099-0090 (NB) was built in 1942 under construction route FA-5 and section 4-RB.
The existing bridge consists of three continuous spans of reinforced concrete T-beams.
The structure length is 108'-9" Bk. to Bk. of Abutments and 32'-10" Out to Out Deck.
The substructure consists of two abutments, two piers, and two curtain walls between N.B. & S.B. structures. The concrete facing creates triple arches supported on two piers and the abutments (Historic Bridge).
The deck and superstructure of existing bridge to be removed and replaced.
Traffic shall be detoured by providing cross over away from the structure location, see roadway plans.
No salvage.



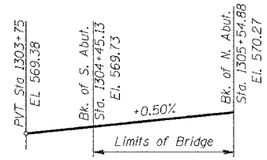
ELEVATION

Qallow = 6.0 tsf (Typ.)



PLAN

B-1 ◓ Indicates boring location
P1 ○ Indicates soil probe location



PROPOSED PROFILE GRADE

(at ℄ of NB)

DESIGN SPECIFICATIONS

Superstructure:
2007 AASHTO LRFD Bridge Design Specifications

Substructure:
AASHTO Standard Specifications For Highway Bridges 17th. Edition 2002.

LOADING HL-93 (Struct. Steel, Deck & Bearings)

LOADING HS20-44 (Substructure)

Allow 50 psf for future wearing surface.

DESIGN STRESSES

Existing

f'c = 3,500 psi (concrete)
fy = 33,000 psi (reinforcement)

Proposed

f'c = 3,500 psi (concrete)
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (structural steel) (M270 GR.50)
fy = 36,000 psi (diaphragms) (M270 GR.36)

SEISMIC DATA

Seismic performance category (S.P.C.) = A
Bedrock acceleration coefficient (A) = .04g
Site coefficient (S) = 1.0

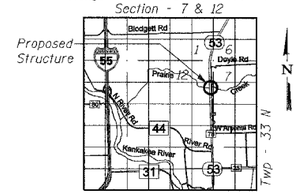
INDEX OF SHEETS

STATION 1305+00
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.P. 846 SEC. 4-RB
LOADING HL-93 (HS20)
STR. NO. 099-0090

NAME PLATE

See Std. 515001
Existing Name Plate shall be cleaned and relocated next to New Name Plate. Cost included with Name Plates.

Range - 9 E & 10 E, 3 RD PM
Section - 7 & 12



LOCATION SKETCH

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

WATERWAY INFORMATION

Drainage Area = 45.1 sq.mi Low Grade Elev. 569.7 Ft. @ Sta. 1301+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2010	738	738	562.9	0.0	0.0	562.9	562.9
Design	50	2910	901	901	564.5	0.1	0.1	564.6	564.6
Base	100	3260	959	959	565.1	0.2	0.2	565.3	565.3
Overtopping									
Max. Calc.	500	4080	1095	1095	566.7	0.3	0.3	567.0	567.0

All elevations are in highway datum.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E Anderson (TJD)
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS SYED M KAZI 081-004047 REGISTERED PROFESSIONAL ENGINEER

Syed M. Kazi
Licensed Structural Engineer
State of Illinois
License No. 081-004047
Expires: 11-30-2008

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S2

SHEETS S20

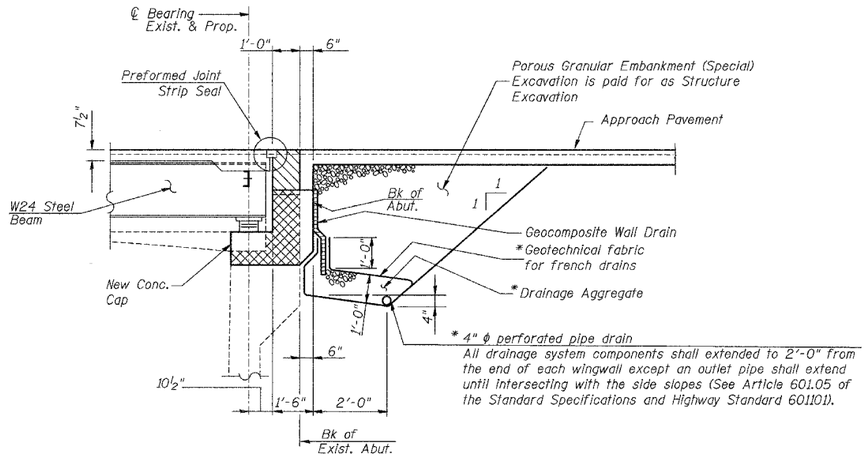
CONTRACT NO. 62269

GENERAL NOTES:

1. Fasteners shall be AASHTO M164 Type 1,mechanically galvanized bolts. Bolts $^{3}/_{4}$in ϕ, holes$^{13}/_{16}$ in ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 63,990 pounds (M270), Grade 50)
   8,830 pounds (M270, Grade 36)
3. Anchor bolts shall be set before bolting diaphragms over supports.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL modified). See Special Provisions.
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.
8. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$in (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
9. 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 and exterior Steel Surfaces and bottom flanges of all beams shall be light warm gray, munsell No 10Y 7/1. See Special Provision for "Cleaning and Painting new Metal Structures".
10. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
11. Backfill shall be placed behind the abutment after the superstructure has been poured and falsework removed. See Article 502.10 of the Standard Specifications.
12. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
13. All construction joints shall be bonded.
14. Clean and relocate existing name plate adjacent to new plate. Cost included with Name Plates.
15. Concrete Sealer shall be applied to the designated areas of the abutments.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Porous Granular Embankment (Special)	Cu yd	-	62	62
Removal of Existing Superstructures No. 1	Each	1		1
Concrete Removal	Cu yd		84.8	84.8
Structure Excavation	Cu yd		632	632
Cofferdam Excavation	Cu yd		318	318
Rock Excavation for Structures	Cu yd		170	170
Cofferdam (Location 1)	Each		1	1
Cofferdam (Location 2)	Each		1	1
Floor Drains	Each	12		12
Concrete Structures	Cu yd		132.1	132.1
Concrete Superstructure	Cu yd	124		124
Bridge Deck Grooving	Sq yd	474		474
Protective Coat	Sq yd	572		572
Erecting Structural Steel	L Sum	0.52		0.52
Stud Shear Connectors	Each	3384		3384
Reinforcement Bars, Epoxy Coated	Pound	38910	31190	70100
Bar Splicers	Each		96	96
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	85		85
Erecting Elastomeric Bearing Assembly, Type I	Each	18		18
Anchor Bolts, 1"	Each		24	24
Anchor Bolts, $1^{1}/_{4}$"	Each		12	12
Anchor Bolts, $1^{1}/_{2}$"	Each		12	12
Concrete Sealer	Sq ft		134	134
Epoxy Crack Injection	Foot		23	23
Geocomposite Wall Drain	Sq yd		43	43
Pipe Underdrains for Structures, 4"	Foot		159	159
Structural Repair of Concrete (Depth Greater Than 5")	Sq ft		16	16
Structural Repair of Concrete (Depth Equal To or less Than 5")	Sq ft		10	10
Furnishing and Erecting Precast Concrete Panels	Each	12		12
Concrete Bridge Railing	Foot	213		213
Class SI Concrete	Cu yd	-	12.2	12.2



SECTION THRU ABUTMENT

(Section thru Abutment Extension Similar)

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

Area of Backwall to be constructed after removal of formwork for Superstructure

Area of Abutment to be constructed before placement of Superstructure

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, TOTAL BILL OF MATERIAL & SECTION THRU ABUTMENT

FAP 846

NB IL. ROUTE 53 OVER PRAIRIE CREEK

STATION 1305+00 SECTION 4-RB

WILL COUNTY

STRUCTURE NO. 099-0090

SCALE: NONE

DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

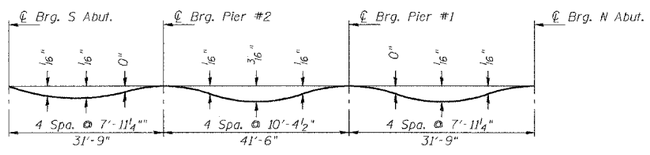
...\nbound\final\nb_s02.dgn Sep. 12, 2007 14:26:31

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S3
SHEETS S20

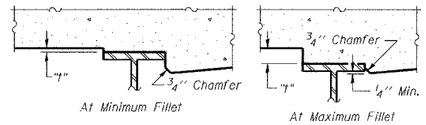
CONTRACT NO. 62269



DEAD LOAD DEFLECTION DIAGRAM

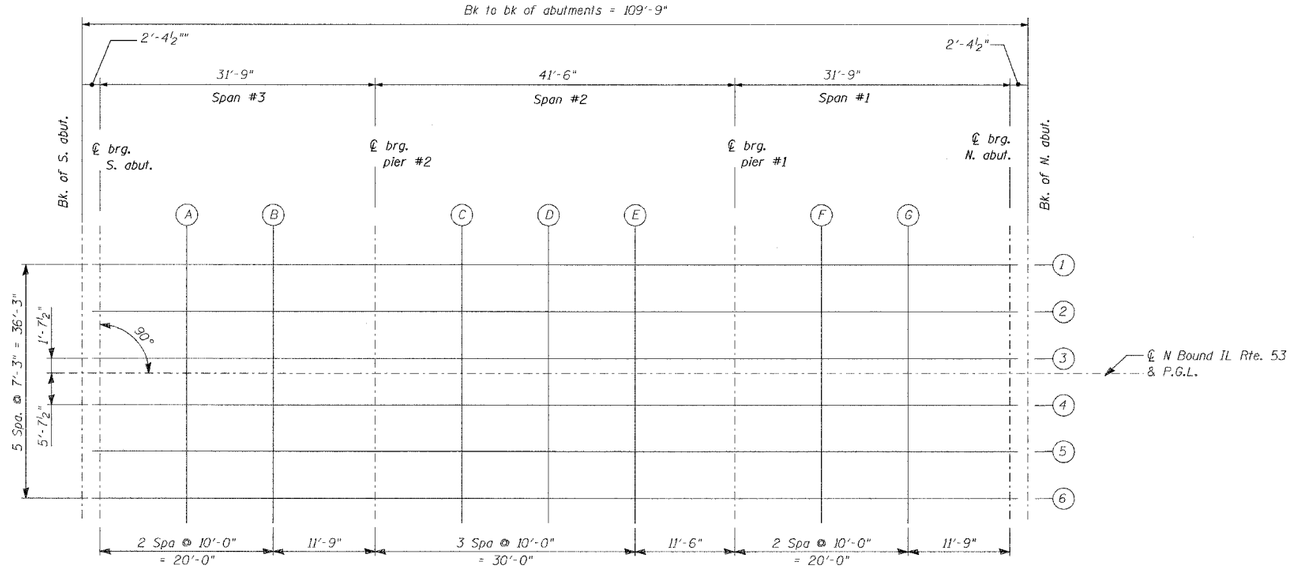
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sht. S-4



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

FILLET HEIGHTS



PLAN

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION AND LAYOUT OF ELEVATION LINES
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S4

SHEETS S20

CONTRACT NO. 62269

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	-16.125	569.452	569.452
CL BRG S ABUT.	1304+47.500	-16.125	569.464	569.464
A	1304+57.500	-16.125	569.514	569.521
B	1304+67.500	-16.125	569.564	569.570
CL PIER 2	1304+79.250	-16.125	569.622	569.622
C	1304+89.250	-16.125	569.672	569.681
D	1304+99.250	-16.125	569.722	569.738
E	1305+09.250	-16.125	569.772	569.783
CL PIER 1	1305+20.750	-16.125	569.830	569.830
F	1305+30.750	-16.125	569.880	569.885
G	1305+40.750	-16.125	569.930	569.938
CL BRG. N ABUT.	1305+52.500	-16.125	569.989	569.989
BK. OF N ABUT.	1305+54.875	-16.125	570.000	570.000

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	-8.875	569.586	569.586
CL BRG S ABUT.	1304+47.500	-8.875	569.598	569.598
A	1304+57.500	-8.875	569.648	569.656
B	1304+67.500	-8.875	569.698	569.704
CL PIER 2	1304+79.250	-8.875	569.757	569.757
C	1304+89.250	-8.875	569.807	569.816
D	1304+99.250	-8.875	569.857	569.873
E	1305+09.250	-8.875	569.907	569.917
CL PIER 1	1305+20.750	-8.875	569.965	569.965
F	1305+30.750	-8.875	570.015	570.019
G	1305+40.750	-8.875	570.065	570.073
CL BRG. N ABUT.	1305+52.500	-8.875	570.123	570.123
BK. OF N ABUT.	1305+54.875	-8.875	570.135	570.135

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	-1.625	569.700	569.700
CL BRG S ABUT.	1304+47.500	-1.625	569.712	569.712
A	1304+57.500	-1.625	569.762	569.769
B	1304+67.500	-1.625	569.812	569.818
CL PIER 2	1304+79.250	-1.625	569.870	569.870
C	1304+89.250	-1.625	569.920	569.929
D	1304+99.250	-1.625	569.970	569.986
E	1305+09.250	-1.625	570.020	570.031
CL PIER 1	1305+20.750	-1.625	570.078	570.078
F	1305+30.750	-1.625	570.128	570.133
G	1305+40.750	-1.625	570.178	570.186
CL BRG. N ABUT.	1305+52.500	-1.625	570.237	570.237
BK. OF N ABUT.	1305+54.875	-1.625	570.248	570.248

℄ N BOUND IL. RTE. 53 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	0.000	569.725	569.725
CL BRG S ABUT.	1304+47.500	0.000	569.737	569.737
A	1304+57.500	0.000	569.787	569.795
B	1304+67.500	0.000	569.837	569.843
CL PIER 2	1304+79.250	0.000	569.896	569.896
C	1304+89.250	0.000	569.946	569.954
D	1304+99.250	0.000	569.996	570.011
E	1305+09.250	0.000	570.046	570.056
CL PIER 1	1305+20.750	0.000	570.103	570.103
F	1305+30.750	0.000	570.153	570.158
G	1305+40.750	0.000	570.203	570.211
CL BRG. N ABUT.	1305+52.500	0.000	570.262	570.262
BK. OF N ABUT.	1305+54.875	0.000	570.274	570.274

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	5.625	569.637	569.637
CL BRG S ABUT.	1304+47.500	5.625	569.649	569.649
A	1304+57.500	5.625	569.699	569.707
B	1304+67.500	5.625	569.749	569.755
CL PIER 2	1304+79.250	5.625	569.808	569.808
C	1304+89.250	5.625	569.858	569.867
D	1304+99.250	5.625	569.908	569.924
E	1305+09.250	5.625	569.958	569.968
CL PIER 1	1305+20.750	5.625	570.015	570.015
F	1305+30.750	5.625	570.065	570.07
G	1305+40.750	5.625	570.115	570.124
CL BRG. N ABUT.	1305+52.500	5.625	570.174	570.174
BK. OF N ABUT.	1305+54.875	5.625	570.186	570.186

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	12.875	569.519	569.519
CL BRG S ABUT.	1304+47.500	12.875	569.531	569.531
A	1304+57.500	12.875	569.581	569.589
B	1304+67.500	12.875	569.631	569.637
CL PIER 2	1304+79.250	12.875	569.690	569.690
C	1304+89.250	12.875	569.740	569.749
D	1304+99.250	12.875	569.790	569.806
E	1305+09.250	12.875	569.840	569.850
CL PIER 1	1305+20.750	12.875	569.898	569.898
F	1305+30.750	12.875	569.947	569.952
G	1305+40.750	12.875	569.997	570.006
CL BRG. N ABUT.	1305+52.500	12.875	570.056	570.056
BK. OF N ABUT.	1305+54.875	12.875	570.068	570.068

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S ABUT.	1304+45.125	20.125	569.368	569.368
CL BRG S ABUT.	1304+47.500	20.125	569.380	569.380
A	1304+57.500	20.125	569.430	569.438
B	1304+67.500	20.125	569.480	569.486
CL PIER 2	1304+79.250	20.125	569.539	569.539
C	1304+89.250	20.125	569.589	569.598
D	1304+99.250	20.125	569.639	569.655
E	1305+09.250	20.125	569.689	569.699
CL PIER 1	1305+20.750	20.125	569.747	569.747
F	1305+30.750	20.125	569.796	569.801
G	1305+40.750	20.125	569.846	569.855
CL BRG. N ABUT.	1305+52.500	20.125	569.905	569.905
BK. OF N ABUT.	1305+54.875	20.125	569.917	569.917

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

NOTES:
1. For elevations location plan see sheet no. S3
2. Elevations shown are to the top of concrete deck.
3. All elevations and offsets are in feet.
4. Offsets: + is to the right of ℄ IL Route 53 looking upstation.
   - is to the left of ℄ IL Route 53 looking upstation.

ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION TABLES

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-,RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

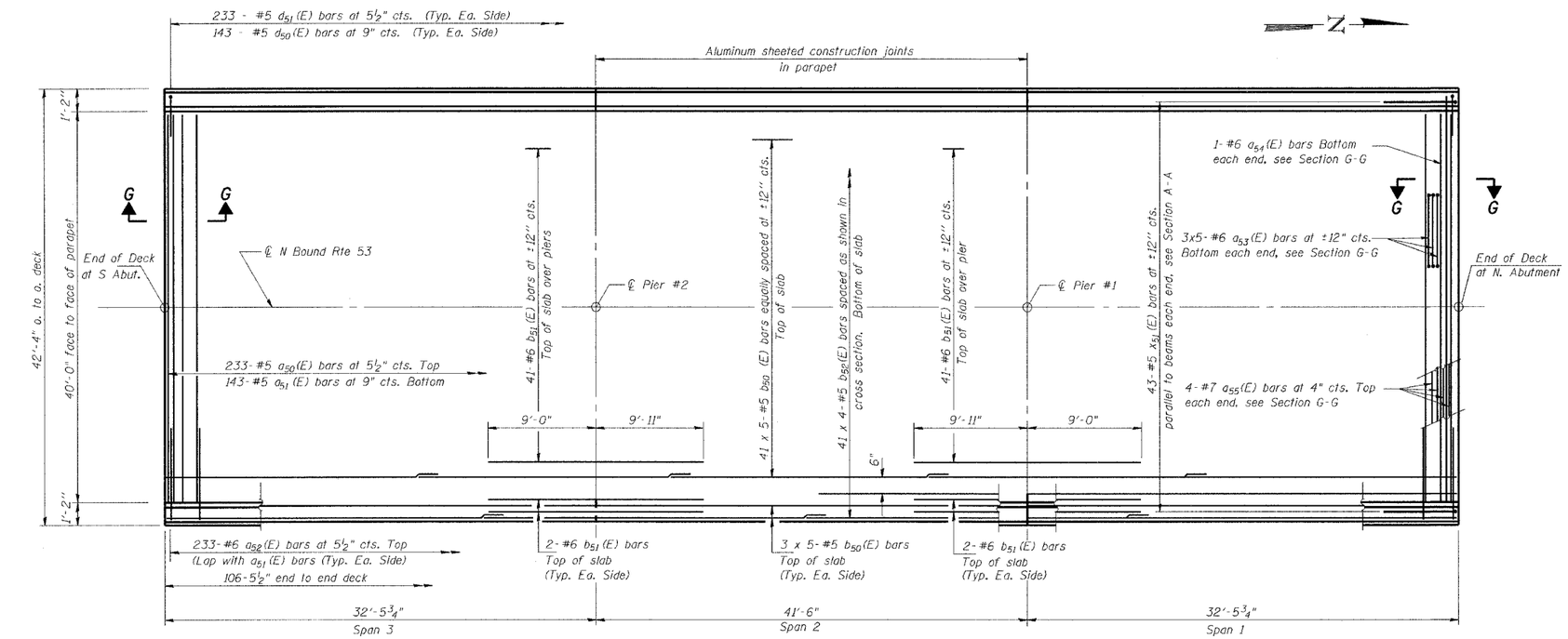
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

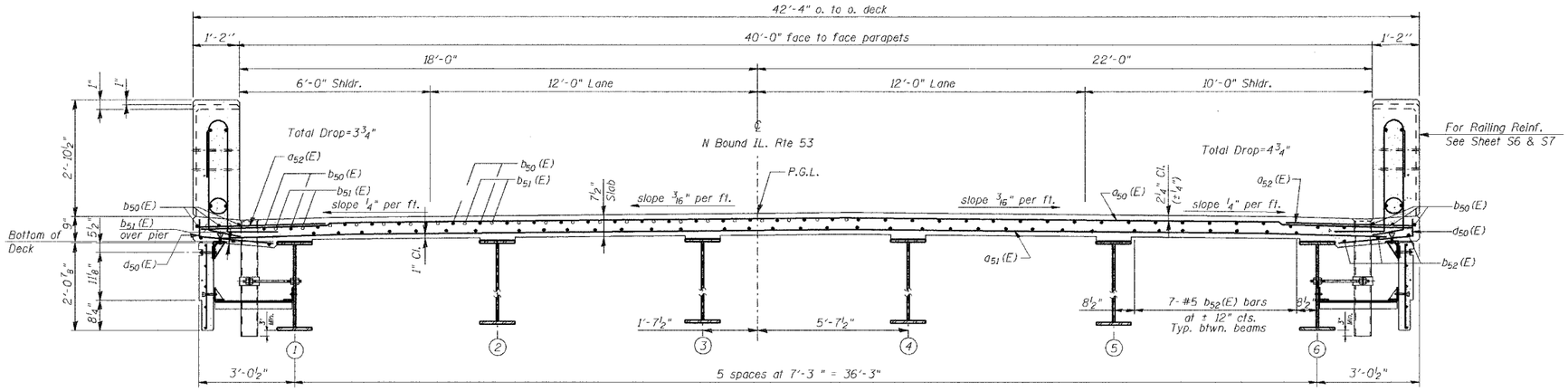
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S5
SHEETS S20

CONTRACT NO. 62269



PLAN



NEAR PIER NEAR MIDSPAN

CROSS SECTION
at Railing Post Shown (Looking North)

MIN. BAR LAP
#5 Bars = 2'-2"

Notes:

See Sheets S6 and S7 of S20 for superstructure details. and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 41 x 5- #5 etc. indicates 41 lines of bars with 5 lengths per line.
For Section G-G, See Sheet S7 of S20.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	DCB/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

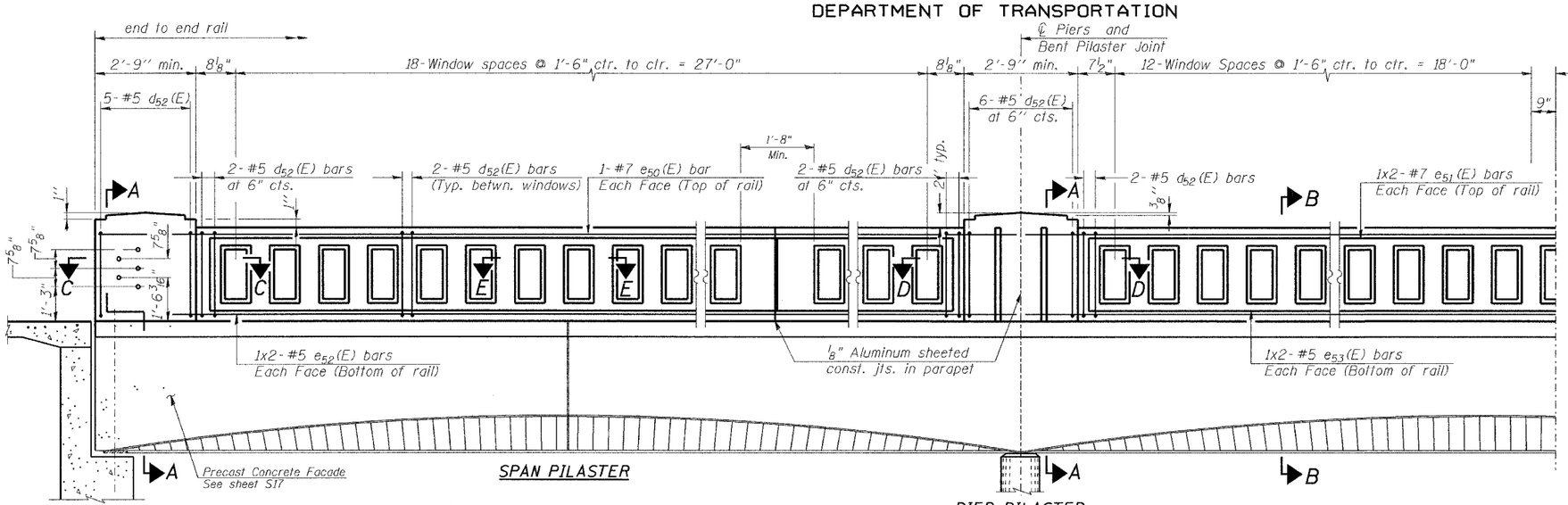
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

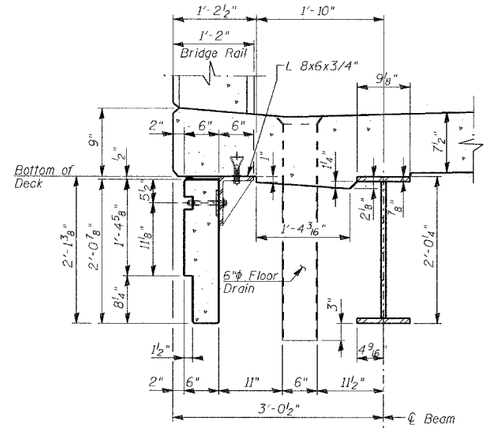
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S6
SHEETS S20

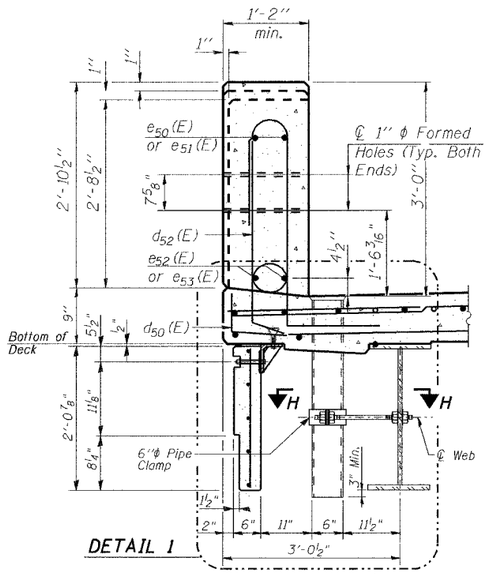
CONTRACT NO. 62269



INSIDE ELEVATION OF RAIL

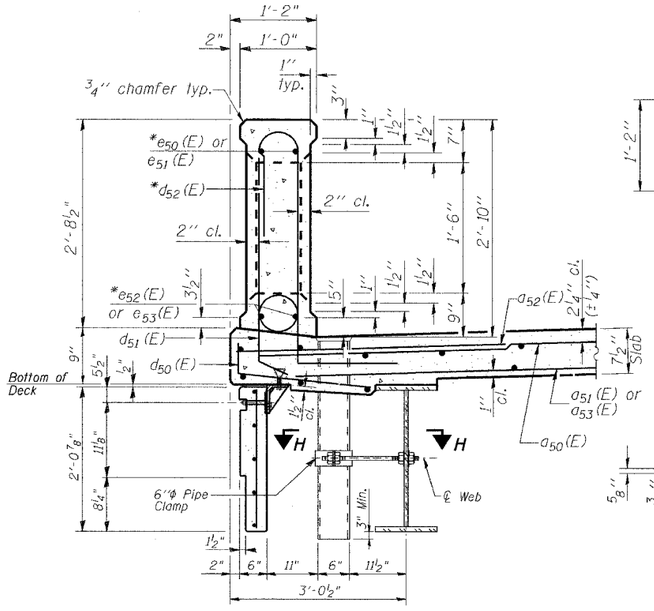


DETAIL 1 (1 or 6)



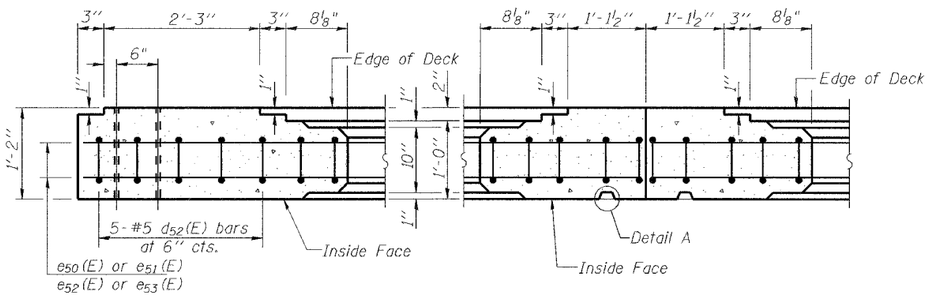
DETAIL 1

SECTION A-A



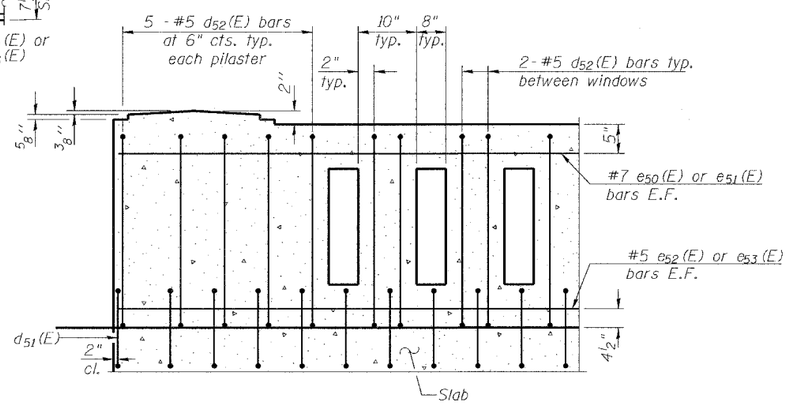
SECTION B-B

* Bars e_{50}(E) thru e_{53}(E) & d_{52}(E) are included in the cost of Concrete Bridge Railing.



SECTION C-C

SECTION D-D



TYPICAL REINFORCEMENT PLACEMENT
(Inside Face)

BAR LIST

Bar	No.	Size	Length	Shape
d_{52}(E)	312	#5	7'-4"	
e_{50}(E)	8	#7	32'-2"	
e_{51}(E)	8	#7	21'-11"	
e_{52}(E)	16	#5	16'-11"	
e_{53}(E)	8	#5	21'-5"	

Note:
The above list of bars are for Information only. All reinforcement bars shown In this Bill of Material are Included In the cost for "Concrete Bridge Railing".

Note:
Work this sheet together with sheet S5, S7 and S17.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

Notes:
All concrete for railing wall shall be Class BS according to Article 1020.04 of the Standard Specifications. Surface of railing shall receive a rubbed finish according to Article 503.15(b) of the Standard Specifications.
All parts of the railing including concrete and reinforcing will be paid for at the contract unit price per foot for Concrete Bridge Railing.
Holes and recesses must be formed or cored. Drilling is not permitted.
Aluminum sheets shall be according to ASTM B209 alloy 3003-H14.

ILLINOIS DEPARTMENT OF TRANSPORTATION

CONCRETE BRIDGE RAILING
(Sheet 1 OF 2)
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090
SCALE: NONE
DATE: AUGUST 2007

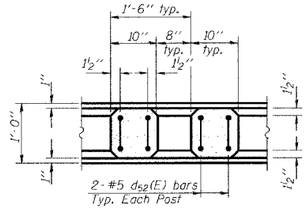
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

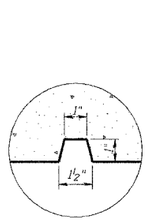
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S7
SHEETS S20

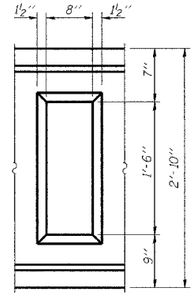
CONTRACT NO. 62269



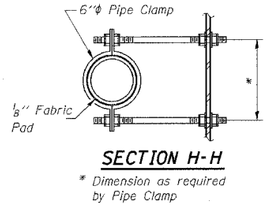
SECTION E-E



DETAIL A

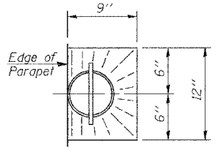


WINDOW DETAIL

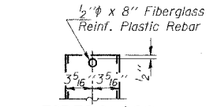


SECTION H-H

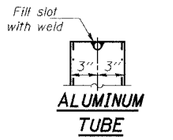
* Dimension as required by Pipe Clamp



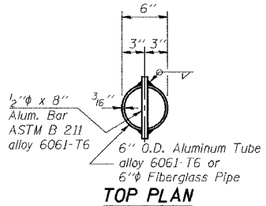
TOP PLAN



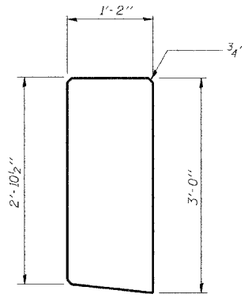
FIBERGLASS PIPE



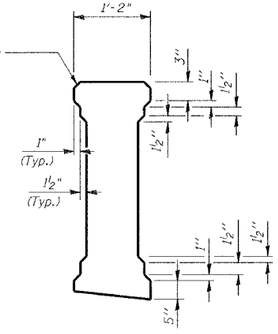
ALUMINUM TUBE



TOP PLAN
(Showing Aluminum Tube)



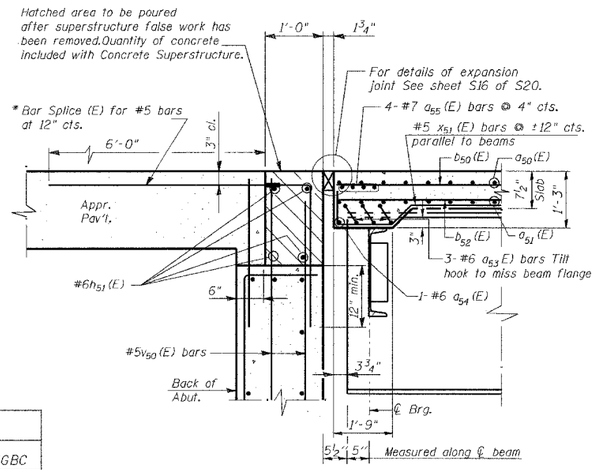
PIER PILASTER JOINT



SPAN PILASTER JOINT

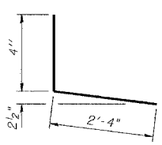
ALUMINUM JOINT DETAILS

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 Steel Structures Painting Council's 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.

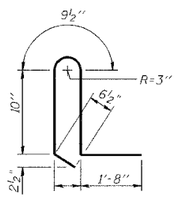


SECTION G-G

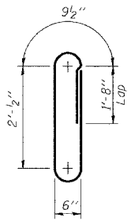
* Alternate with #4v_{50}(E) bars. Place parallel to the beams.



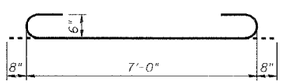
BAR d_{50}(E)



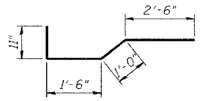
BAR d_{51} E)



BAR d_{52}(E)



BAR o_{53}(E)



BAR x_{51} (E)

SUPERSTRUCTURE & RAIL BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{50} (E)	233	#5	41'-8"	
a_{51} (E)	143	#5	41'-2"	
a_{52} (E)	466	#6	6'-0"	
a_{53} (E)	30	#6	8'-4"	
a_{54} (E)	2	#6	41'-8"	
a_{55} (E)	8	#7	41'-8"	
b_{50} (E)	235	#5	23'-0"	
b_{51} (E)	90	#6	18'-11"	
b_{52} (E)	164	#5	28'-4"	
d_{50} (E)	286	#5	2'-8"	
d_{51} (E)	466	#5	4'-8"	
x_{51} (E)	86	#5	5'-11"	
Reinforcement Bars, Epoxy Coated		Pound	38,910	
Concrete Superstructure		Cu. Yds.	124	
Concrete Bridge Railing		Foot	213	

Bars indicated thus 1 x 2-#2 etc. indicates 1 line of bars with 2 lengths per line.

MINIMUM BAR LAP
(Parapet)
#5 bar = 1'-8"
#7 bar = 2'-8"

NOTE:
Work this sheet together with sheets S5, S6 and S17.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS AND CONCRETE BRIDGE RAILING
(Sheet 2 of 2)
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090
SCALE: NONE
DATE: AUGUST 2007

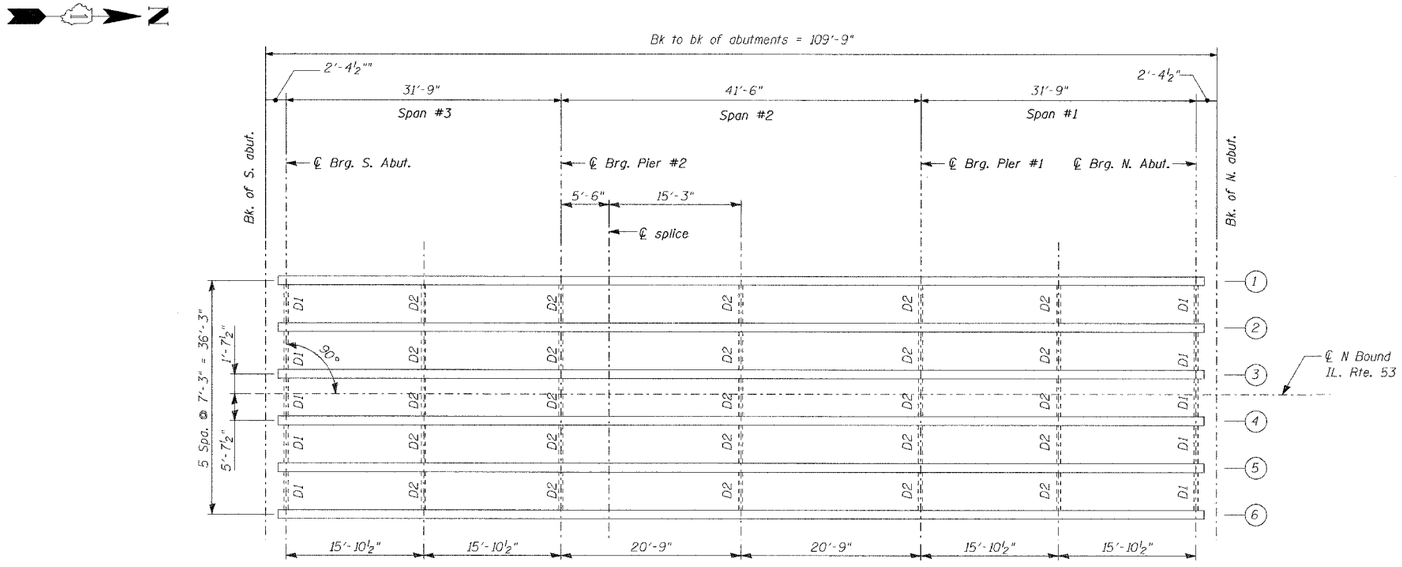
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

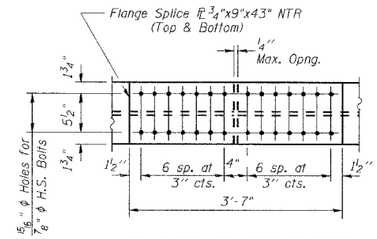
SHEET NO. S8
SHEETS S20

CONTRACT NO. 62269

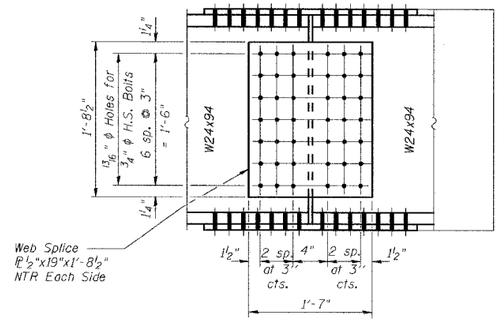


PLAN

Note:
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts, except as otherwise noted.
Individual diaphragms at support may be temporarily disconnected to install bearing anchor rods.



FLANGE SPLICE PLATE

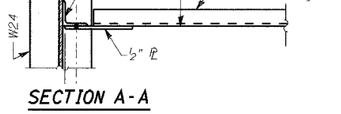


WEB SPLICE PLATE
(6 Required)

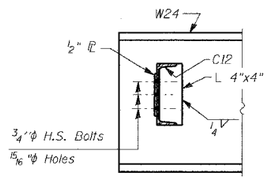
NTR = Notch toughness requirement

Legend:

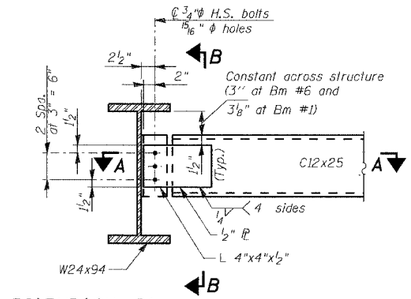
D1 = Exterior Diaphragm
D2 = Interior Diaphragm



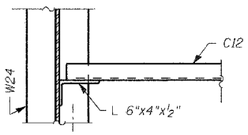
SECTION A-A



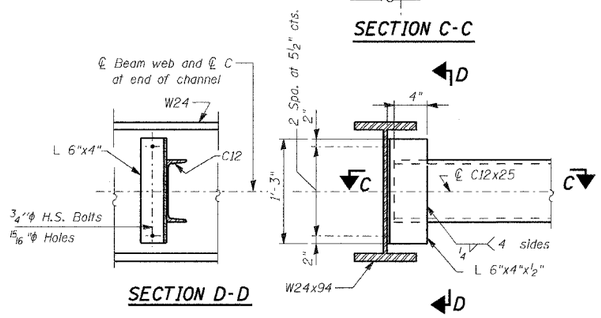
SECTION B-B



DIAPHRAGM D1
(10 Required)



SECTION C-C



SECTION D-D

DIAPHRAGM D2
(25 Required)

CONNECTION DETAILS FOR DIAPHRAGMS TO BEAMS

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

NOTES:

1. Install shear stud connectors in positive moment regions of the entire superstructure, as shown on sht. S8.
2. For cleaning and painting see general notes on sht. S2.
3. HS Bolts shall be AASHTO M164/ASTM A325.
4. Load carrying components designated " NTR" shall conform to the supplemental requirements for Notch toughness, Zone 2.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND STRUCTURAL STEEL DETAILS
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090
SCALE: NONE
DATE: AUGUST 2007

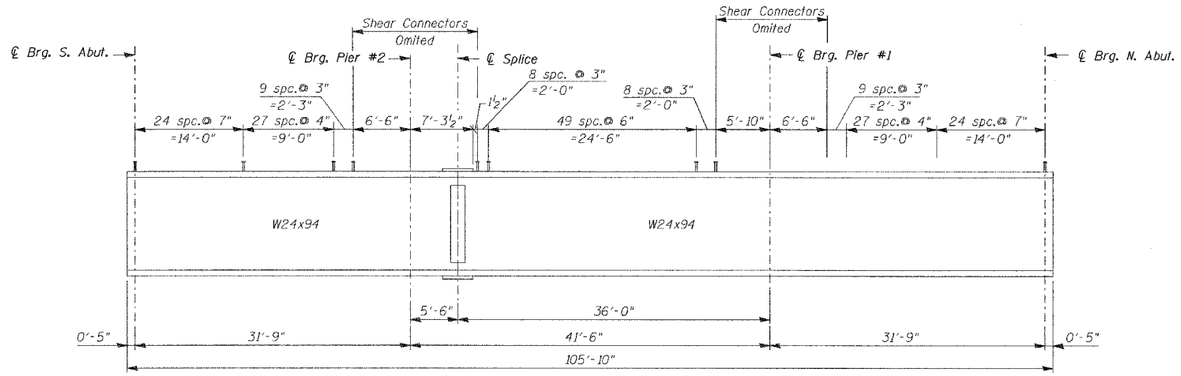
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

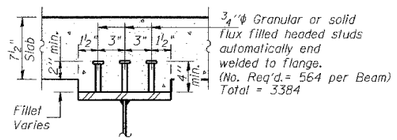
SHEET NO. S9
SHEETS S20

CONTRACT NO. 62269



BEAM ELEVATION

NOTE:
All wide flange beams and splice plate material shall be AASHTO M270 Grade 50 and shall meet notch toughness requirements.



¾"ϕ Granular or solid flux filled headed studs automatically end welded to flange.
(No. Req'd.= 564 per Beam)
Total = 3384

SECTION A-A

(Typical, unless noted otherwise)

SHEAR CONNECTOR DETAIL

		INTERIOR BEAM MOMENT TABLE		
		0.4 Sp. 1 0.6 Sp. 3	Pier #1 Pier #2	0.5 Sp. 2
Is	(in⁴)	2700	2700	2700
Ic (n)	(in⁴)	9400	-	9400
Ic (3n)	(in⁴)	6907	-	6907
Ss	(in³)	222	222	222
Sc (n)	(in³)	373	-	373
Sc (3n)	(in³)	336	-	336
Z	(in³)	-	254	-
DC1	(K/')	0.92	0.92	0.92
MDC1	('k)	61	126	73
DC2	(K/')	0.25	0.25	0.25
MDC2	('k)	16	33	19
DW	(K/')	0.33	0.33	0.33
MDW	('k)	22	45	26
MLL+I	('k)	324	249	328
Mu (Strength I)	('k)	696.0	703.0	728.0
ϕfMn, ϕfMnc	('k)	1900.0	805.0	1900.0
fs DC1	(ksi)	3.3	6.8	3.9
fs DC2	(ksi)	0.5	1.8	0.6
fs DW	(ksi)	0.7	2.4	0.8
fs 1.3(LL+I)	(ksi)	13.5	17.6	13.6
fs (Service II)	(ksi)	18.2	28.8	19.2
fs (Total) (Strength I)	(ksi)	-	38.3	-
Vf	(K)	11.9	15.6	10.4

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs due to non-composite loads.

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section based on modular ratio, n,used in computing fs due to short-term composite live loads.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section based upon 3 times modular ratio, 3n, used in computing fs due to long-term composite (superimposed) dead loads.

Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

DC1 is the unfactored non-composite dead load acting on the non-composite section.

DC2 is the unfactored long term composite (superimposed excluding future wearing surface) dead load.

DW is the unfactored long term composite (superimposed future wearing surface only) dead load.

Mu (Strength I) Factored design moment
1.25 (MDC1+MDC2)+1.5 M DW +1.75 M(LL+Imp)

ϕfMn is the Compact composite positive moment capacity computed according to Article 6.10.7.1

ϕfMnc is the Compact non-composite negative moment capacity computed according to Article A6.1.1

fs (Service II) is the sum of the stresses from the moments below:
MDC1+MDC2+MDW+1.3MLL+Imp)

fs (Total) (Strength I) (Non-Compact Section) is the sum of the stresses due to 1.25M(DC1+DC2)+1.5MDW+1.75M(LL+Imp)

Vf is the factored maximum shear range computed according to Article 6.10.10

TOP OF BEAM ELEVATIONS **					
Beam	℄ Brg. S Abut	℄ Brg. Pier #2	℄ Splice	℄ Brg. Pier #1	℄ Brg. N Abut.
1	568.672	568.782	568.804	569.011	569.197
2	568.807	568.917	568.939	569.145	569.332
3	568.920	569.030	569.052	569.259	569.445
4	568.857	568.968	568.989	569.196	569.382
5	568.740	568.850	568.872	569.078	569.265
6	568.589	568.699	568.721	568.927	569.114

** For Fabrication Only.

BILL OF MATERIAL

Item	Unit	Total
Erecting Structural Steel	L Sum	0.52
Stud Shear Connectors	Each	3384

INTERIOR GIRDER REACTION TABLE HS20 LOADING					
		S. Abut.	Pier #2	Pier #1	N. Abut.
R (DL)	(K)	18.1	60.8	60.8	18.1
R (LL)	(K)	35.3	44.2	42.1	35.3
R (Imp)	(K)	10.6	13.3	12.6	10.6
R (Total)	(K)	64.0	118.3	115.5	64.0

INTERIOR GIRDER REACTION TABLE HL93 Loading					
		S. Abut.	Pier #2	Pier #1	N. Abut.
R (DC1)	(K)	10.7	37.8	37.8	10.7
R (DC2+DW)	(K)	6.7	23.7	23.7	6.7
R(LL)	(K)	41.4	83.0	80.3	41.4
R (Imp)	(K)	13.6	27.4	26.5	13.6
R (Total)	(K)	72.4	171.9	168.3	72.4

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

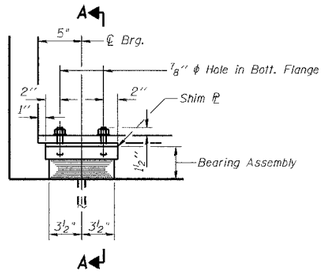
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

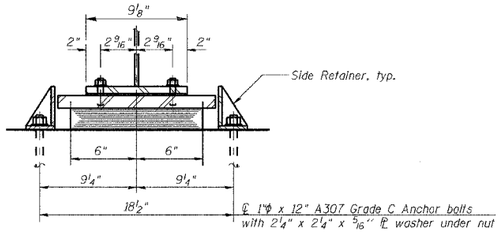
SHEET NO. S1Ø

SHEETS S20

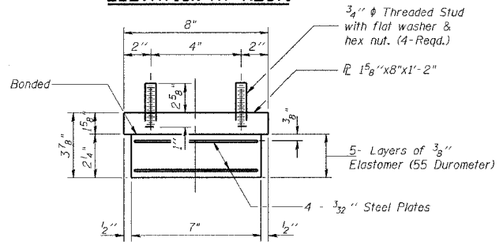
CONTRACT NO. 62269



ELEVATION AT ABUT.

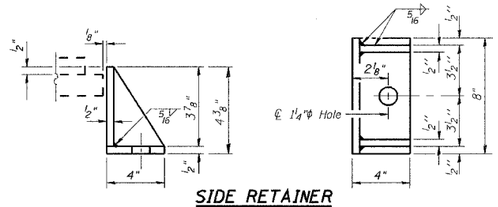


SECTION A-A



BEARING ASSEMBLY

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

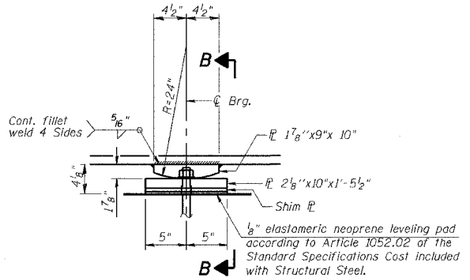


SIDE RETAINER

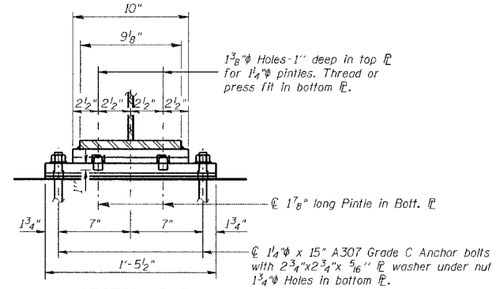
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

TYPE I ELASTOMERIC EXP. BRG. ⊙ ABUTMENTS

(12 Req'd)



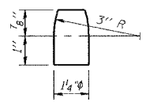
ELEVATION AT PIER



SECTION B-B

FIXED BEARING ⊙ PIER #2

(6 Req'd)



PINTLE

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.

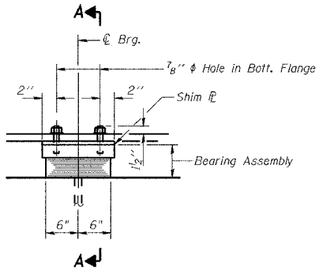
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type 1.

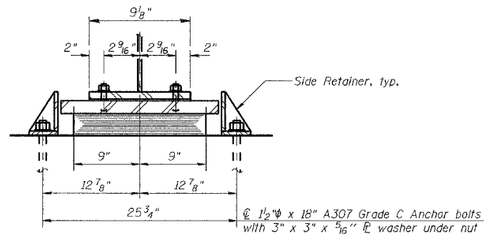
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 36.

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.

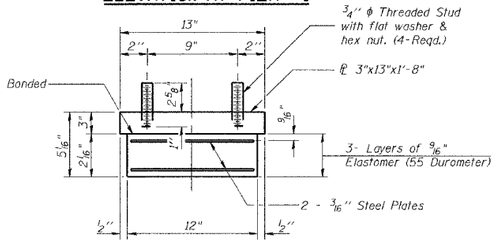
Notes: Anchor bolts at fixed bearings may be built into the masonry.



ELEVATION AT PIER #1

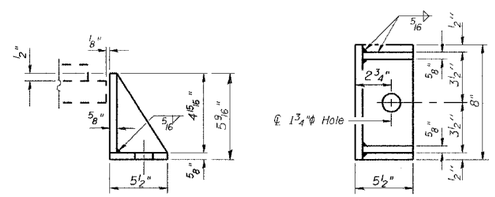


SECTION A-A



BEARING ASSEMBLY

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



SIDE RETAINER

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

TYPE I ELASTOMERIC EXP. BRG. ⊙ PIER #1

(6 Req'd)

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly Type 1	Each	18
Anchor bolts 1"ϕ	Each	24
Anchor bolts 1 1/4"ϕ	Each	12
Anchor bolts 1 1/2"ϕ	Each	12

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

1-2-E1 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

BEARING DETAILS

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

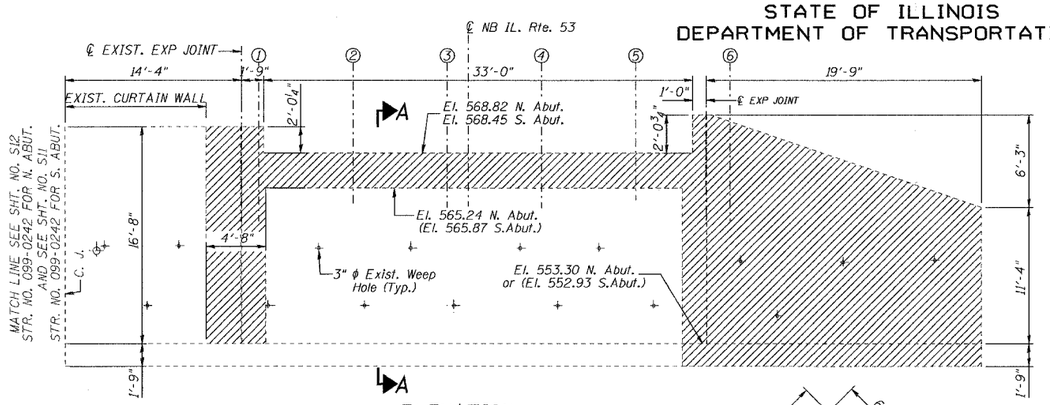
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

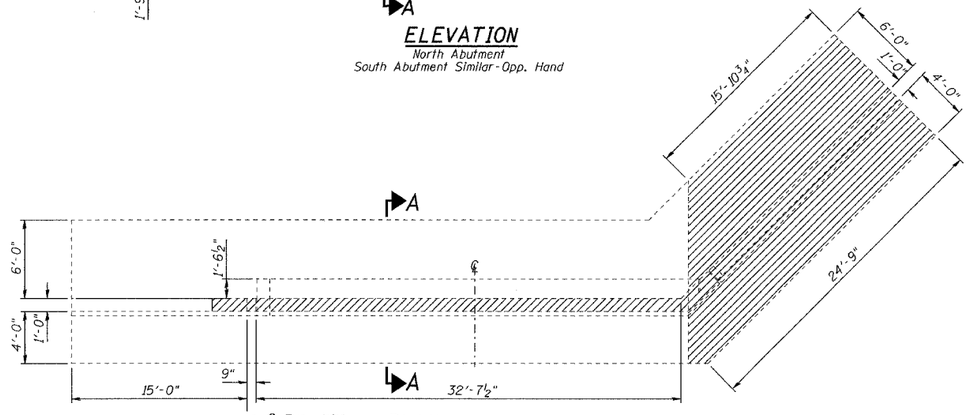
SHEET NO. S-11

SHEETS S20

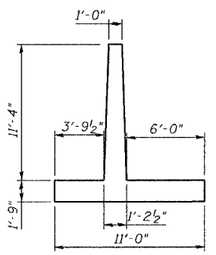
CONTRACT NO. 62269



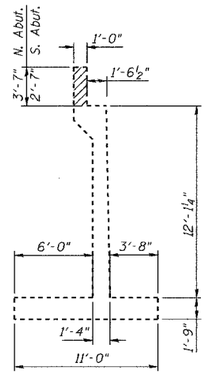
ELEVATION
North Abutment
South Abutment Similar-Opp. Hand



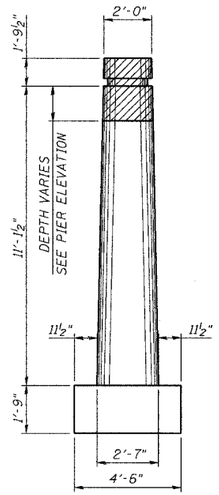
PLAN
North Abutment
South Abutment Similar-Opp. Hand



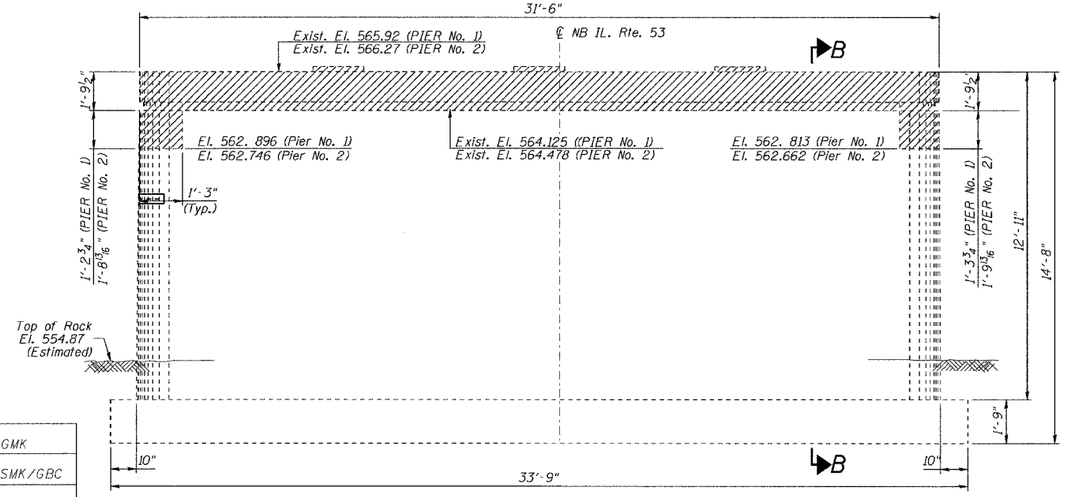
END OF WINGWALL



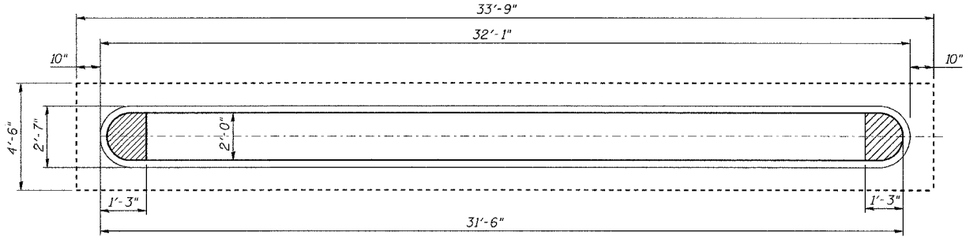
SECTION A-A



SECTION B-B



ELEVATION
(LOOKING NORTH)
PIER No. 1 AND PIER No. 2



TOP PLAN
Pier No. 1 & Pier No. 2

BILL OF MATERIAL

PAY ITEM	UNIT	S. ABUT.	N. ABUT.	S. PIER	N. PIER	TOTAL
CONCRETE REMOVAL	CU YD	37.8	37.7	4.7	4.6	84.8

NOTES:

1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.

LEGEND:

CONCRETE REMOVAL

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL DETAILS

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

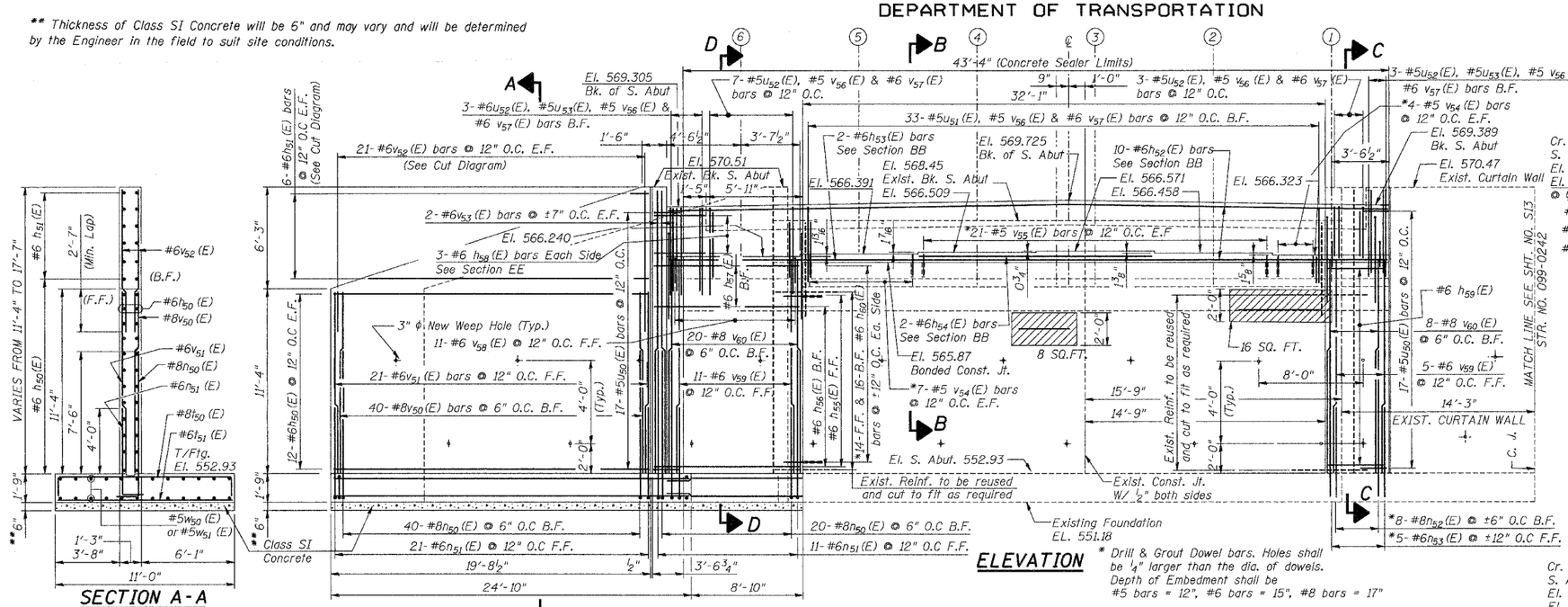
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO. S12
SHEETS S20

CONTRACT NO. 62269

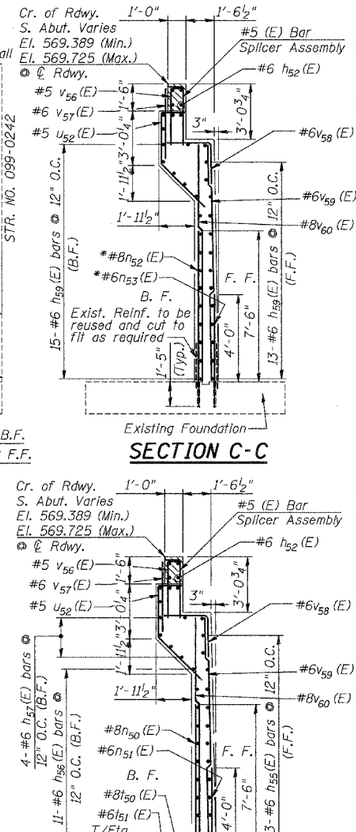
** Thickness of Class SI Concrete will be 6" and may vary and will be determined by the Engineer in the field to suit site conditions.



SECTION A-A

ELEVATION

* Drill & Grout Dowel bars. Holes shall be ¼" larger than the dia. of dowels. Depth of Embedment shall be #5 bars = 12", #6 bars = 15", #8 bars = 17"

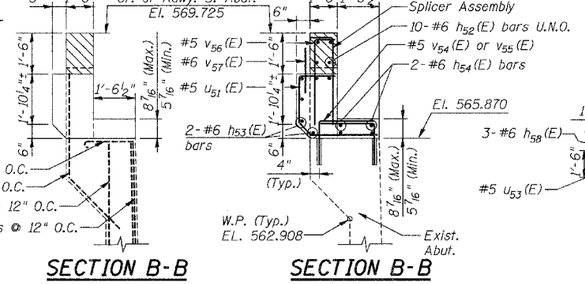


SECTION C-C

Existing Foundation

SECTION D-D

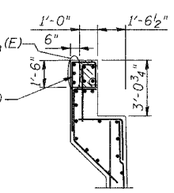
DETAIL 1



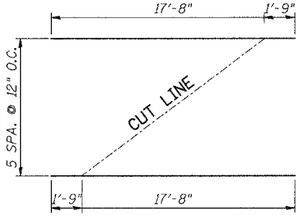
SECTION B-B

Showing Exist. Reinf. only See notes this sheet

SECTION B-B

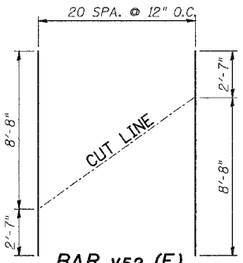


SECTION E-E



BAR h_{51} (E) CUTTING DIAGRAM

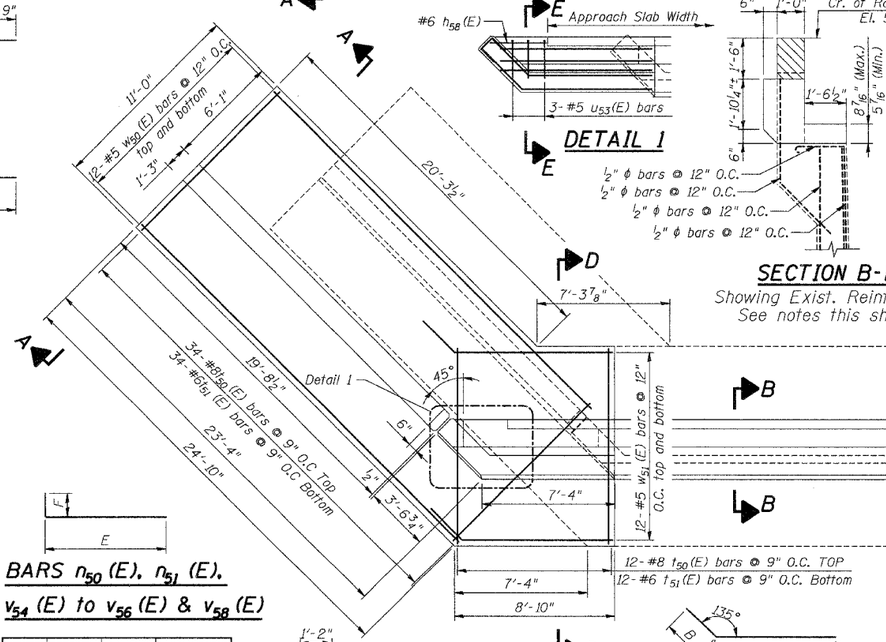
CUT TO FIT AS SHOWN AND USE REMAINDER OF BARS IN OTHER FACE.



BAR v_{52} (E) CUTTING DIAGRAM

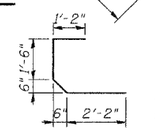
CUT TO FIT AS SHOWN AND USE REMAINDER OF BARS IN OTHER FACE.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

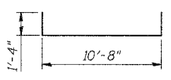


BARS n_{50} (E), n_{51} (E), v_{54} (E) to v_{56} (E) & v_{58} (E)

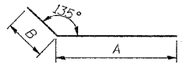
Bar	E	F	Length
n_{50}(E)	9'-0"	1'-4"	10'-4"
n_{51}(E)	5'-5"	1'-0"	6'-5"
v_{54}(E)	2'-0"	1'-4"	3'-4"
v_{55}(E)	2'-0"	1'-6"	3'-6"
v_{56}(E)	2'-10"	0'-8"	3'-6"
v_{58}(E)	2'-6"	2'-7"	5'-1"



BAR u_{51} (E)



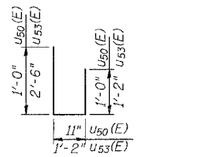
BAR t_{50} (E)



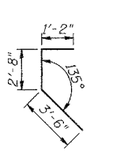
BARS w_{51} (E), h_{55} (E), h_{56} (E)

Bar	A	B	Length
w_{51} (E)	8'-6"	2'-6"	11'-0"
h_{55}(E)	7'-1"	3'-1"	10'-2"
h_{56}(E)	6'-9"	2'-10"	9'-7"

PLAN (FOUNDATION)



BARS u_{50} (E), u_{53} (E)



BAR u_{52} (E)

Bar(E)	No.	Size	Length	Shape
h_{50}	24	#6	19'-4"	
h_{51}	6	#6	19'-5"	
h_{52}	10	#6	43'-0"	
h_{53}	2	#6	38'-0"	
h_{54}	2	#6	14'-2"	
h_{55}	13	#6	10'-2"	
h_{56}	11	#6	9'-7"	
h_{57}	4	#6	8'-4"	
h_{58}	6	#6	3'-0"	
h_{59}	28	#6	3'-7"	
h_{60}	60	#6	3'-3"	
v_{50}	40	#8	11'-2"	
v_{51}	21	#6	11'-2"	
v_{52}	21	#6	11'-3"	
v_{53}	4	#6	17'-3"	
v_{54}	22	#5	3'-4"	
v_{55}	42	#5	3'-6"	
v_{56}	46	#5	3'-6"	
v_{57}	46	#6	3'-3"	
v_{58}	15	#6	5'-1"	
v_{59}	16	#6	13'-2"	
v_{60}	28	#8	13'-2"	
n_{50}	60	#8	10'-4"	
n_{51}	32	#6	6'-5"	
n_{52}	8	#8	8'-11"	
n_{53}	5	#6	5'-3"	
t_{50}	46	#8	13'-4"	
t_{51}	46	#6	10'-8"	
w_{50}	24	#5	24'-8"	
w_{51}	24	#5	11'-0"	
u_{50}	34	#5	2'-10"	
u_{51}	33	#5	5'-6"	
u_{52}	16	#5	7'-4"	
u_{53}	6	#5	4'-10"	

BILL OF MATERIAL

Concrete Structures	Cu. Yd.	58	
Reinforcement Bars, Epoxy coated	Pound	12740	
Structure Excavation	Cu.Yd.	316	
Cofferdam Excavation	Cu.Yd.	159	
Rock Excavation for Structures	Cu.Yd.	85	
Structural Repair of Concrete (Depth greater than 5")	SQ FT	16.0	
Structural Repair of Concrete (Depth Equal to or Less Than 5")	SQ FT	8.0	
Class SI Concrete	Cu.Yd.	6.1	
Concrete Sealer	SQ FT	67	

Reinforcement Bars designated (E) shall be epoxy coated.
Cast steps monolithically with abutment.
Space top reinforcement to miss anchor bolts.

B.F. = Back Face F.F. = Front Face
E.F. = Each Face

LEGEND:

HAIRLINE CRACK (CRACK <1/16" WIDE) NOT TO BE SEALED

FORMED CONCRETE REPAIRS (DEPTH EQUAL TO OR LESS THAN 5 INCHES)

NOTES:

1. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.
2. Exposed reinforcement bars after removal of existing concrete will be cleaned and wire brushed and re-used before pouring new concrete.

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
REPAIRS & EXTENSION
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

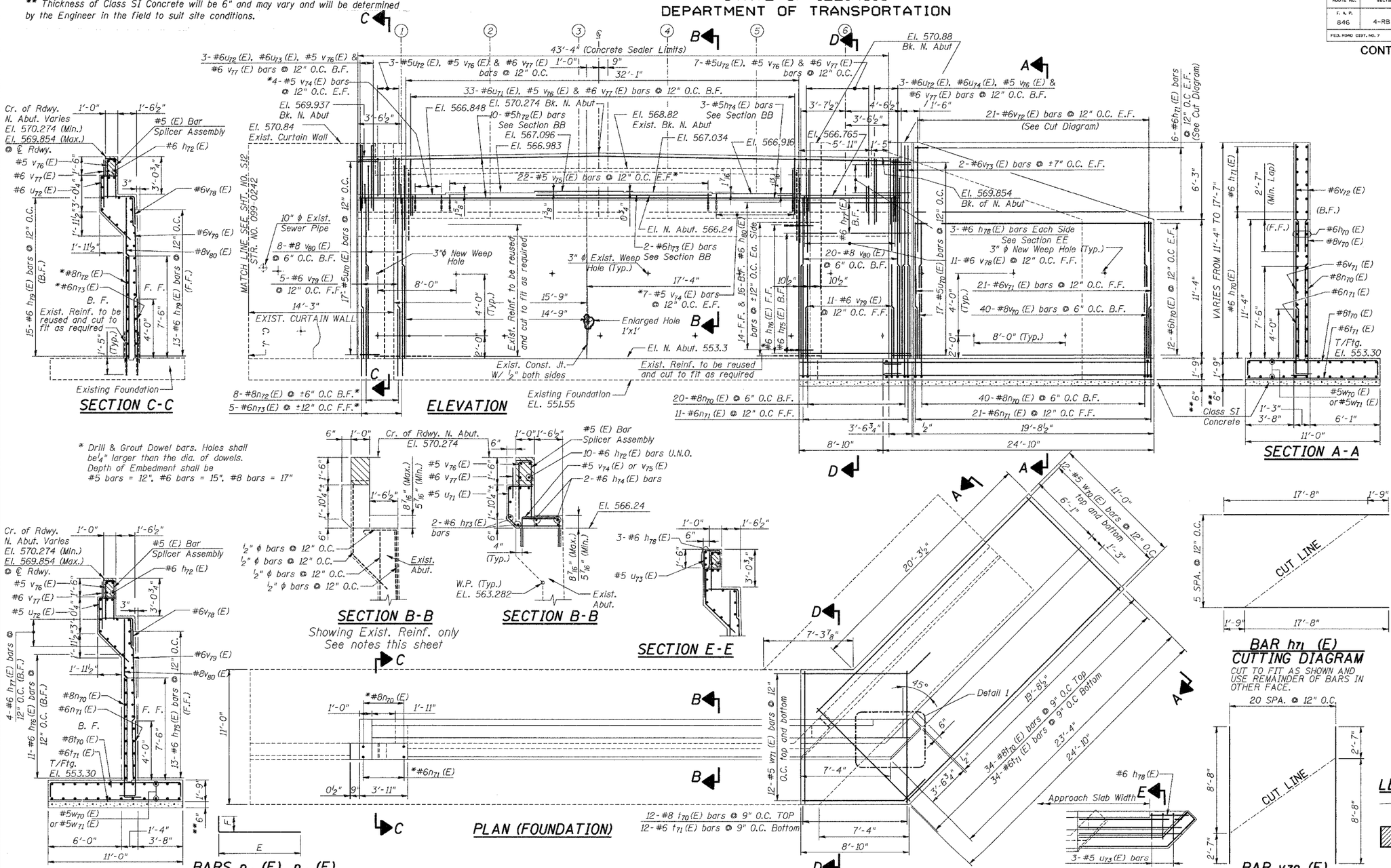
** Thickness of Class SI Concrete will be 6" and may vary and will be determined by the Engineer in the field to suit site conditions.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S13
SHEETS S20

CONTRACT NO. 62269



* Drill & Grout Dowel bars. Holes shall be ¼" larger than the dia. of dowels. Depth of Embedment shall be #5 bars = 12", #6 bars = 15", #8 bars = 17"

Bar	E	F	Length
$n_{70}(E)$	9'-0"	1'-4"	10'-4"
$n_{71}(E)$	5'-5"	1'-0"	6'-5"
$v_{74}(E)$	3'-0"	1'-4"	4'-4"
$v_{75}(E)$	3'-0"	1'-6"	4'-6"
$v_{76}(E)$	2'-2"	0'-8"	2'-10"
$v_{78}(E)$	2'-6"	2'-7"	5'-1"

Bar	A	B	Length
$w_{70}(E)$	8'-6"	2'-6"	11'-0"
$h_{75}(E)$	7'-1"	3'-1"	10'-2"
$h_{76}(E)$	6'-9"	2'-10"	9'-7"

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

BILL OF MATERIAL

Bar(E)	No.	Size	Length	Shape
h_{70}	24	#6	19'-4"	
h_{71}	6	#6	19'-5"	
h_{72}	10	#6	43'-0"	
h_{73}	2	#6	38'-0"	
h_{74}	2	#6	14'-2"	
h_{75}	13	#6	10'-2"	
h_{76}	11	#6	9'-7"	
h_{77}	4	#6	8'-4"	
h_{78}	6	#6	3'-0"	
h_{79}	28	#6	3'-7"	
h_{80}	60	#6	3'-3"	
v_{70}	40	#8	11'-2"	
v_{71}	21	#6	11'-2"	
v_{72}	21	#6	11'-3"	
v_{73}	4	#6	17'-3"	
v_{74}	22	#5	3'-4"	
v_{75}	42	#5	3'-6"	
v_{76}	46	#5	3'-6"	
v_{77}	46	#6	3'-3"	
v_{78}	15	#6	5'-1"	
v_{79}	16	#6	13'-2"	
v_{80}	28	#8	13'-2"	
n_{70}	60	#8	10'-4"	
n_{71}	32	#6	6'-5"	
n_{72}	8	#8	8'-11"	
n_{73}	5	#6	5'-3"	
t_{70}	46	#8	13'-4"	
t_{71}	46	#6	10'-8"	
w_{70}	24	#5	24'-8"	
w_{71}	24	#5	11'-0"	
u_{70}	34	#5	2'-10"	
u_{71}	33	#5	5'-6"	
u_{72}	16	#5	7'-4"	
u_{73}	6	#5	4'-10"	

Concrete Structures	Cu. Yd.	58
Reinforcement Bars, Epoxy coated	Pound	12740
Structure Excavation	Cu.Yd.	316
Cofferdam Excavation	Cu.Yd.	159
Rock Excavation for Structures	Cu.Yd.	85
Structural Repair of Concrete (Depth Equal to or Less Than 5")	SQ FT	1.0
Class SI Concrete	Cu.Yd.	6.1
Concrete Sealer	SQ FT	67

Reinforcement Bars designated (E) shall be epoxy coated.
Cast steps monolithically with abutment.
Space top reinforcement to miss anchor bolts.
B.F. = Back Face F.F. = Front Face
E.F. = Each Face

LEGEND:

HAIRLINE CRACK (CRACK <1/16" WIDE) NOT TO BE SEALED

FORMED CONCRETE REPAIRS (DEPTH EQUAL TO OR LESS THAN 5 INCHES)

NOTES:

1. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.
2. Exposed reinforcement bars after removal of existing concrete will be cleaned and wire brushed and re-used before pouring new concrete.

ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
REPAIRS & EXTENSION
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

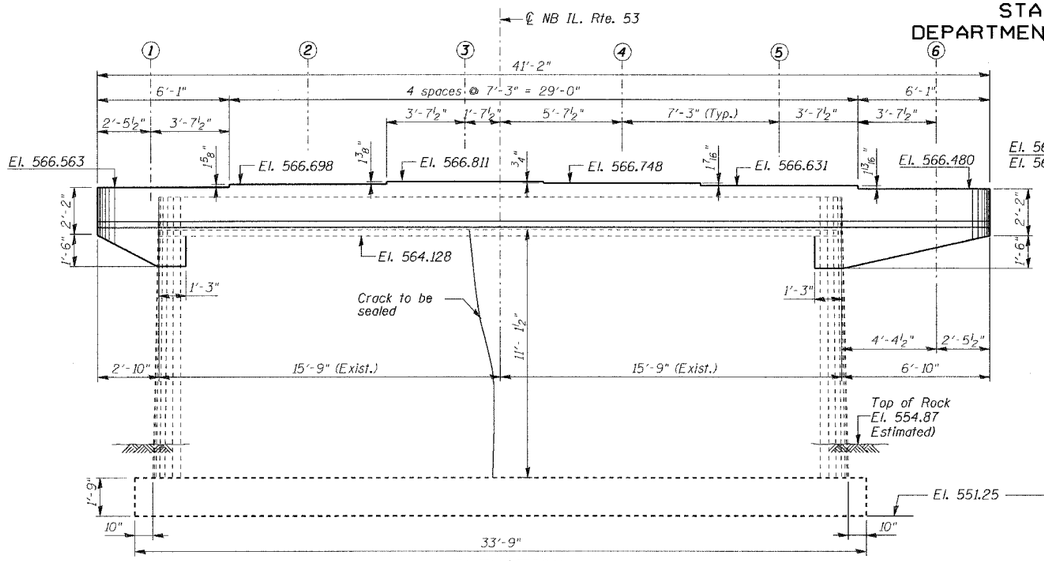
...\bound\final\nb_s13.dgn Sep. 12, 2007 14:18:42

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

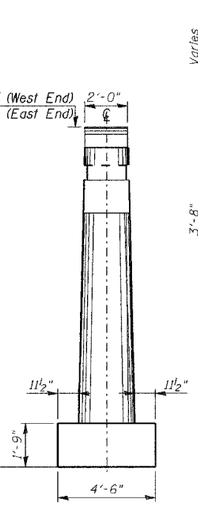
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S14
SHEETS S20

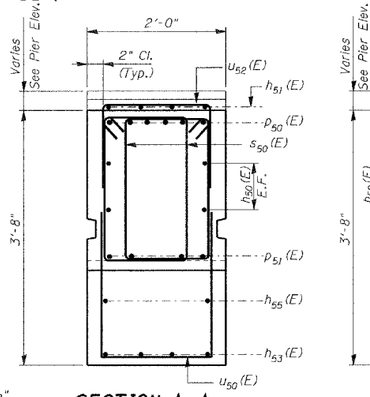
CONTRACT NO. 62269



ELEVATION
(SOUTH FACE OF PIER NO. 1)
(LOOKING NORTH)

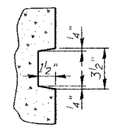


END ELEVATION



SECTION A-A

SECTION B-B

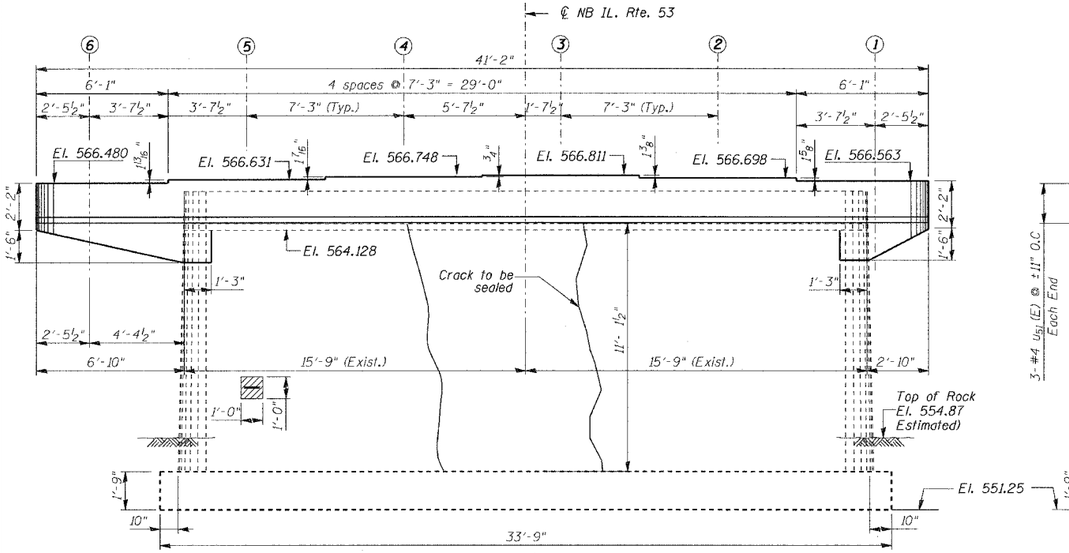


DETAIL 1
(ORNAMENTAL GROOVE)

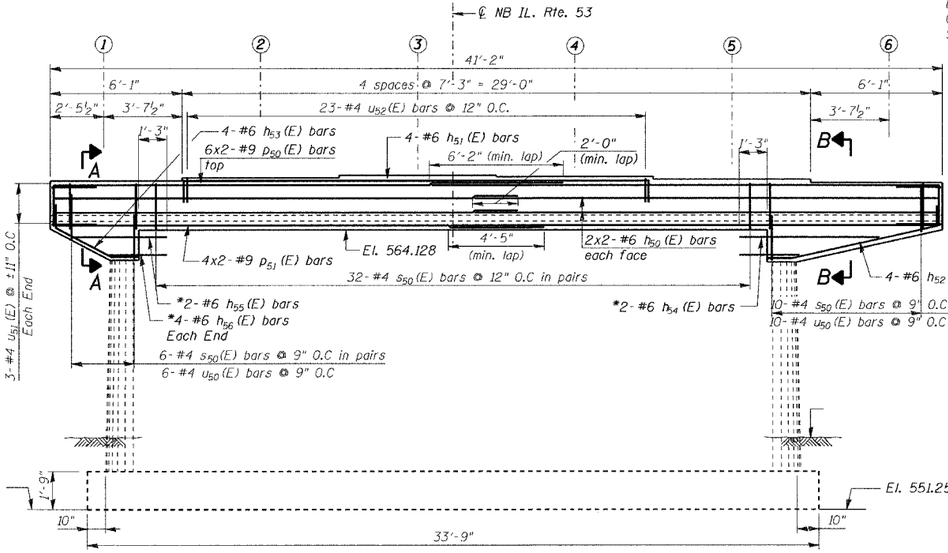
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{50}(E)	8	#6	21'-10"	
h_{51}(E)	4	#6	23'-5"	
h_{52}(E)	4	#6	8'-11"	
h_{53}(E)	4	#6	5'-1"	
h_{54}(E)	2	#6	5'-7"	
h_{55}(E)	2	#6	4'-3"	
h_{56}(E)	8	#6	2'-4"	
p_{50}(E)	12	#9	25'-4"	
p_{51}(E)	8	#9	22'-8"	
s_{50}(E)	96	#4	7'-3"	
u_{50}(E)	16	#4	5'-9"	
u_{51}(E)	6	#4	7'-8"	
u_{52}(E)	23	#4	3'-8"	
Reinforcement Bars, Epoxy Coated		Pound	2870	
Concrete Structures		Cu. Yd.	8.6	
Structural Repair of Concrete (Depth Equal To or Less Than 5")		SQ FT	1.0	
Epoxy Crack Injection		Foot	23.0	

Reinforcement Bars designated (E) shall be epoxy coated.
Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.

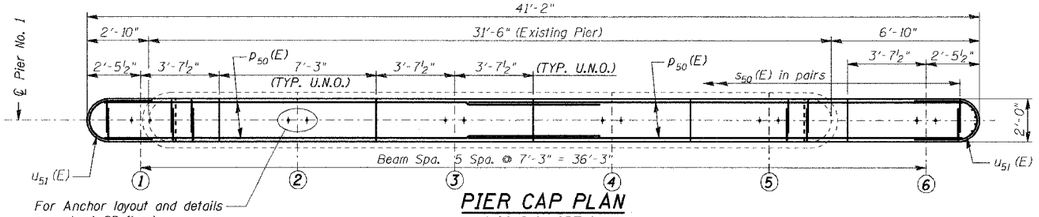


ELEVATION
(NORTH FACE OF PIER NO. 1)
(LOOKING SOUTH)



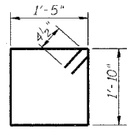
ELEVATION
(LOOKING NORTH)
(SHOWING REINFORCEMENT ONLY)

* Drill and grout #6 h_{54}(E), h_{55}(E) and h_{56}(E) bars in 1" dia. x 15" min. drilled holes according to Article 584 of the Standard Specifications.

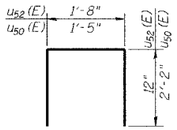


For Anchor layout and details see sheet S9 (typ.)

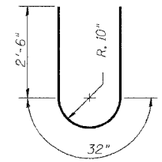
PIER CAP PLAN
(LOOKING NORTH)



BAR s_{50}(E)

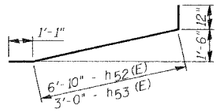


BARS u_{50}(E) and u_{52}(E)

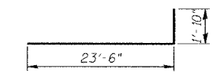


BAR u_{51}(E)

BAR h_{51}(E)



BARS h_{52}(E), h_{53}(E)



BAR p_{50}(E)

LEGEND:

Hairline crack (crack <1/16" wide) Not to be sealed Unless Noted Otherwise

Spall with exposed rebar

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER NO. 1
REPAIRS & EXTENSION

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

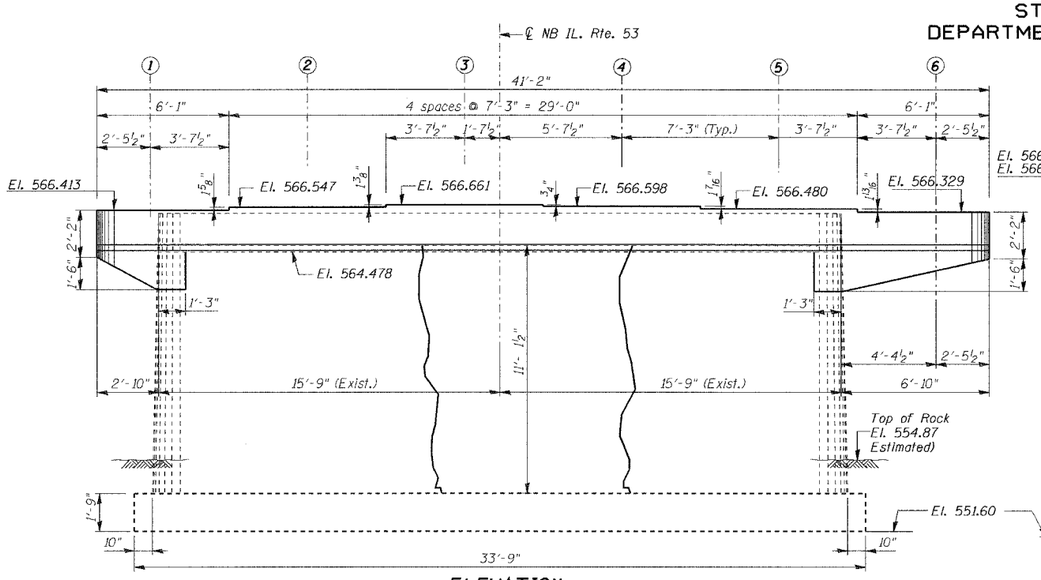
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

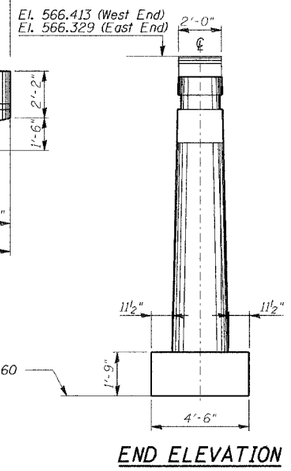
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S15
SHEETS S20

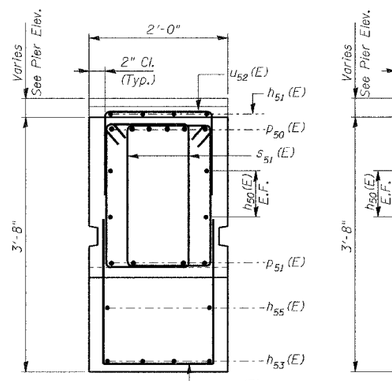
CONTRACT NO. 62269



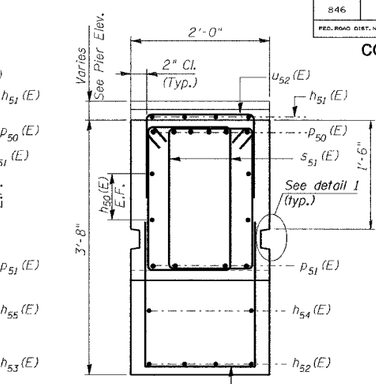
ELEVATION
(SOUTH FACE OF PIER NO. 1)
(LOOKING NORTH)



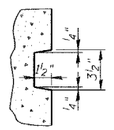
END ELEVATION



SECTION A-A



SECTION B-B

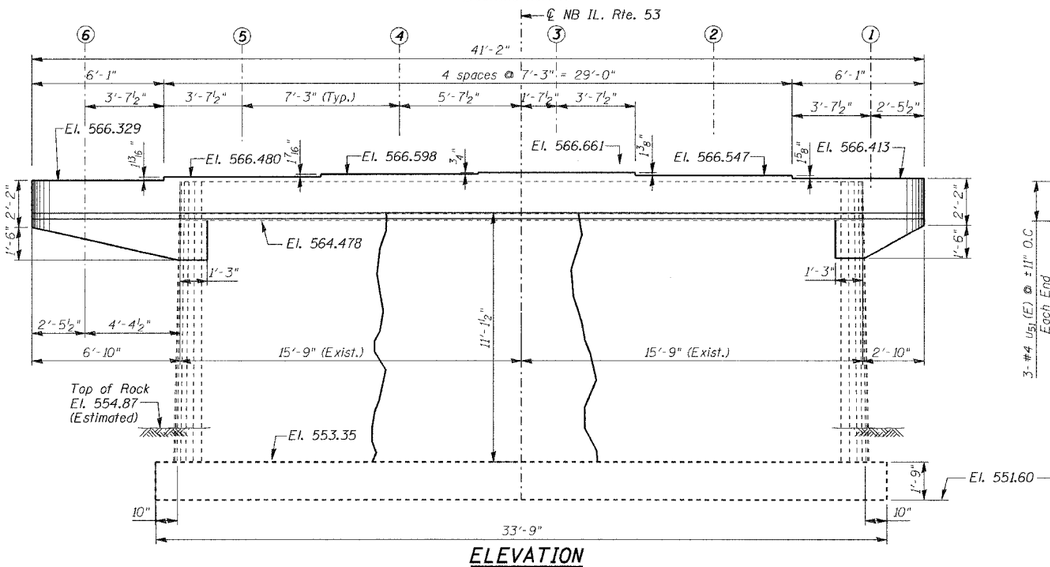


DETAIL 1
(ORNAMENTAL GROOVE)

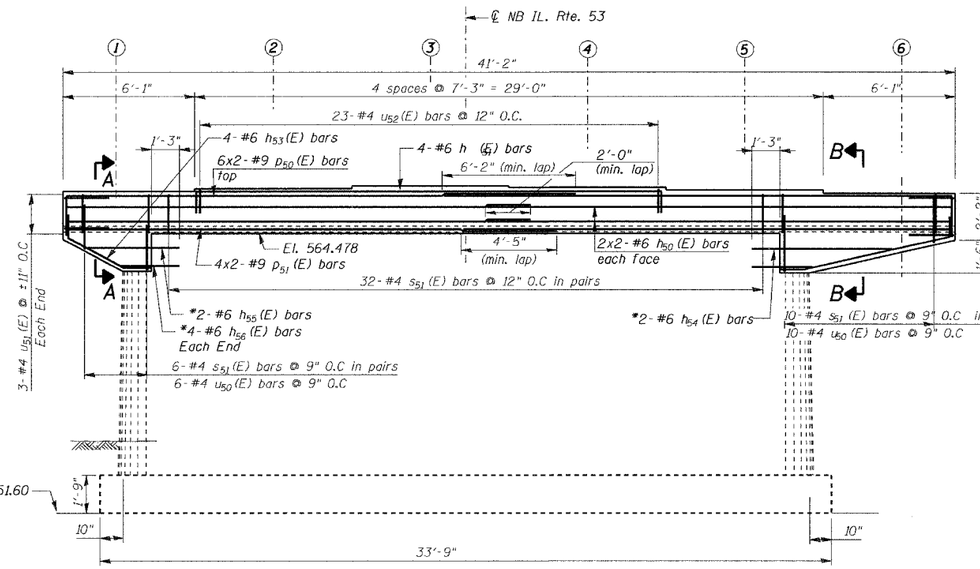
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{50}(E)	8	#6	21'-10"	—
h_{51}(E)	4	#6	23'-5"	⊔
h_{52}(E)	4	#6	8'-11"	⊔
h_{53}(E)	4	#6	5'-1"	⊔
h_{54}(E)	2	#6	5'-7"	—
h_{55}(E)	2	#6	4'-3"	—
h_{56}(E)	8	#6	2'-4"	—
p_{50}(E)	12	#9	25'-4"	⊔
p_{51}(E)	8	#9	22'-8"	—
s_{51}(E)	96	#4	6'-9"	□
u_{50}(E)	16	#4	5'-9"	⊔
u_{51}(E)	6	#4	7'-8"	⊃
u_{52}(E)	23	#4	3'-8"	⊔
Reinforcement Bars, Epoxy Coated		Pound	2840	
Concrete Structures		Cu. Yd.	7.5	

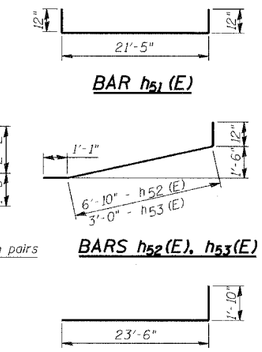
Reinforcement Bars designated (E) shall be epoxy coated.
Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.

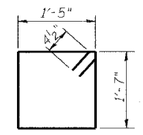


ELEVATION
(NORTH FACE OF PIER NO.2)
(LOOKING SOUTH)

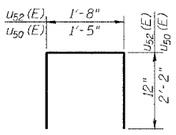


ELEVATION
(LOOKING NORTH)
(SHOWING REINFORCEMENT ONLY)

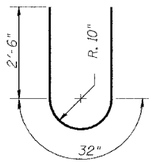




BAR s_{51}(E)



BARS u_{50}(E) and u_{52}(E)

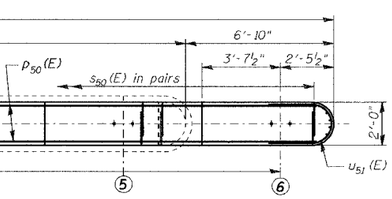


BAR u_{51}(E)

* Drill and grout #6 h_{54}(E), h_{55}(E) and h_{56}(E) bars in 1" dia. x 15" min. drilled holes according to Article 584 of the Standard Specifications.

LEGEND:

Hairline crack (crack <1/16" wide) Not to be sealed



PIER CAP PLAN
(LOOKING NORTH)

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/[illegible]
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER NO. 2
REPAIRS & EXTENSION
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	44
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

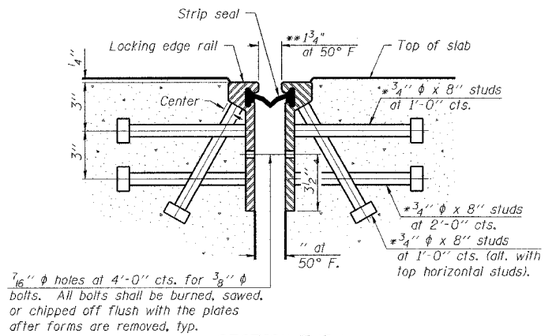
SHEET NO. S16

SHEETS S20

CONTRACT NO. 62269

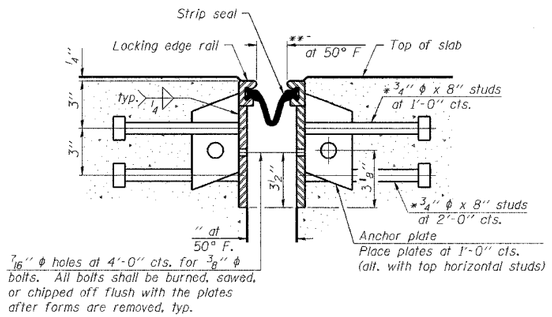
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

When joint is fixed, dimension is set at $1\frac{1}{2}$".



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

SECTION THRU ROLLED RAIL JOINT



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

SECTION THRU WELDED RAIL JOINT

Notes:

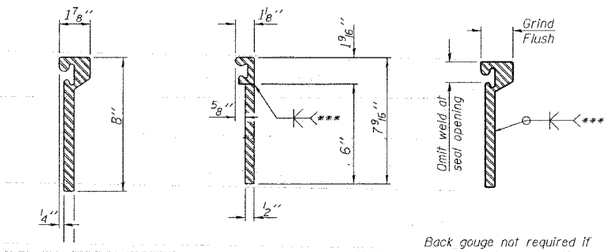
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of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



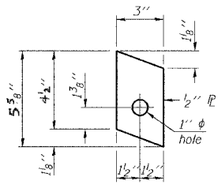
ROLLED (EXTRUDED) RAIL

WELDED RAIL

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

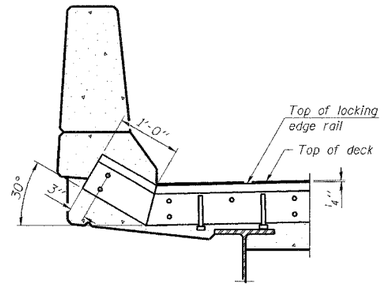
LOCKING EDGE RAIL SPLICE

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

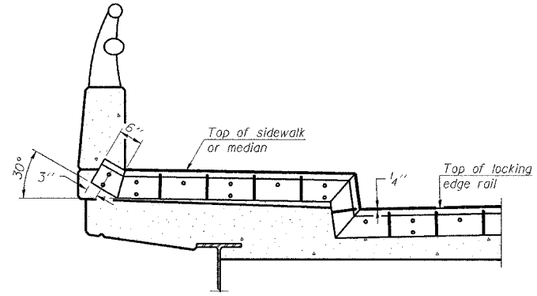


ANCHOR P

(for welded rail)



AT PARAPET

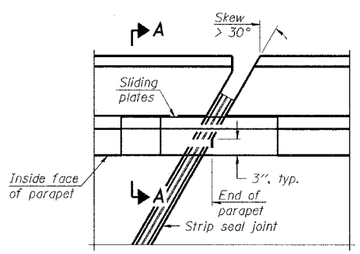


AT SIDEWALK OR MEDIAN

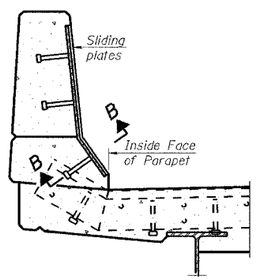
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

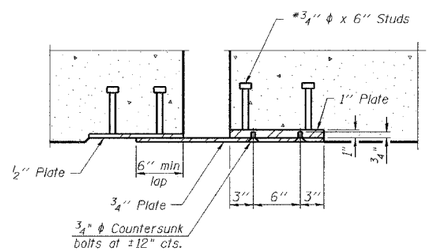
LOCKING EDGE RAILS



PLAN



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	85

POINT BLOCK DETAILS

(for skews > 30°)

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

EJ-SSJ 9-3-2007

ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

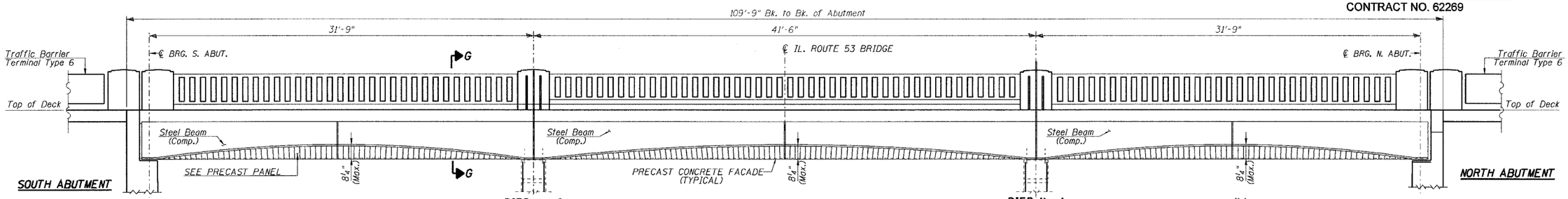
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
SHEETS S20

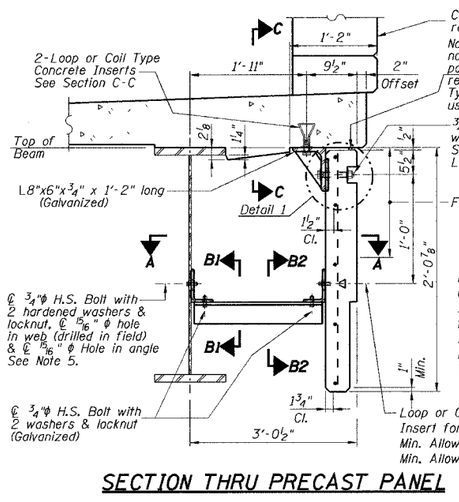
CONTRACT NO. 62269



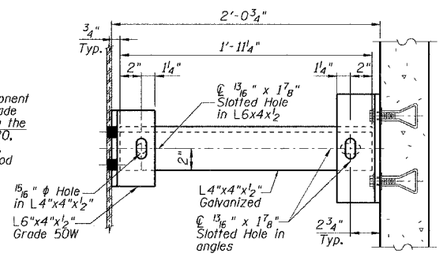
BILL OF MATERIAL

Item	Unit	Quantity
Furnishing And Erecting Precast Concrete Panels	Each	12

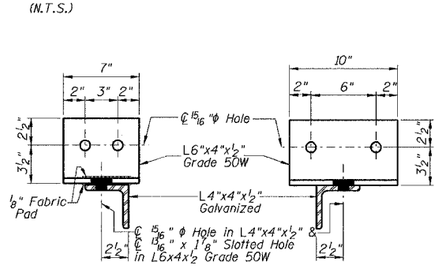
ELEVATION OF PRECAST CONCRETE FACADE
(N.T.S.)



SECTION THRU PRECAST PANEL

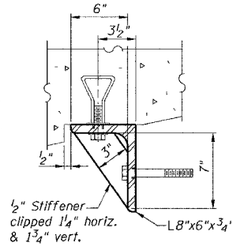


SECTION A-A



SECTION B1-B1

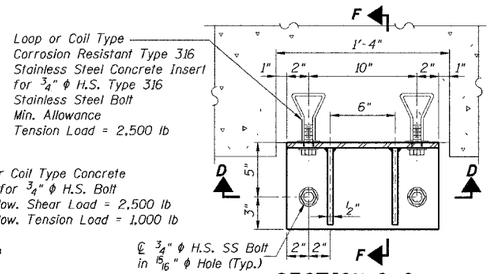
SECTION B2-B2



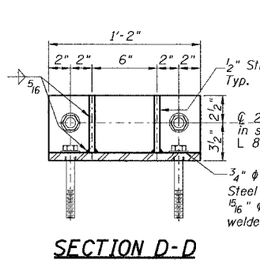
SECTION F-F

Notes:

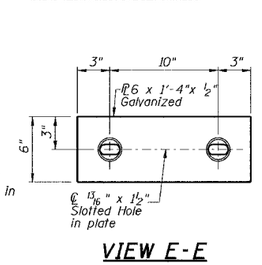
1. Location of inserts in Deck and Precast Concrete Panels shall be very accurate (±1/16"), move or bend reinforcement if in conflict with the insert location.
2. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions. Reinforcement Bars designated (E) shall be epoxy coated.
3. Field welding of construction accessories will not be permitted to beams or girders.
4. All structural steel shall be AASHTO M270 Grade 36.
5. Fasteners connecting the L 6x4x½" to the beam shall be mechanically galvanized AASHTO M164, Type 1 in painted areas. Bolts ¾" ϕ, open holes 15/16" ϕ, unless otherwise noted.
6. For beam details see Sheets S8 & S9. For deck details see Sheets S5 & S7.
7. All members called out to be Galvanized shall be galvanized after shop fabrication according to AASHTO M111 and ASTM A385. All nuts, bolts and washers called out to be galvanized shall be galvanized according to M232.
8. Cost for all connection angles, fasteners, reinforcement bars epoxy coated, sealant formliner surface, and concrete inserts shall be included with the cost for Furnising And Erecting Precast Concrete Panels.
9. Contractor shall not drill any holes in field into precast concrete panels or deck. Any required holes shall be Pre-drilled in Precast Concrete Panels in shop.



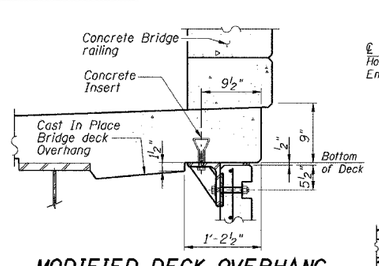
SECTION C-C



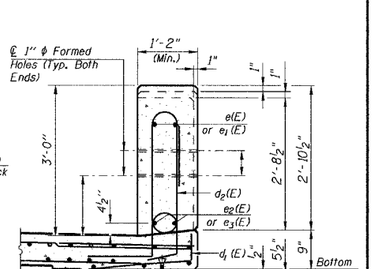
SECTION D-D



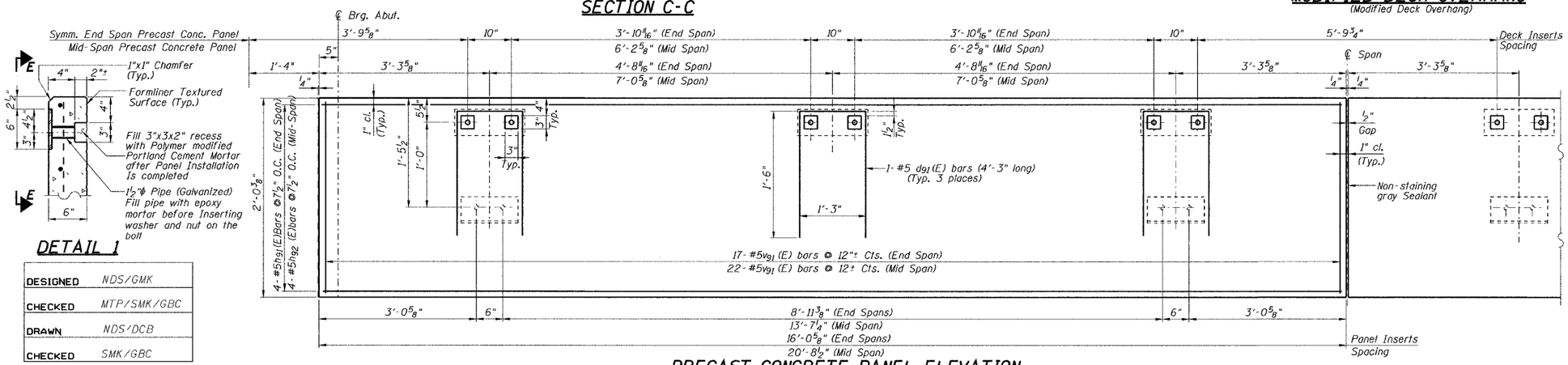
VIEW E-E



MODIFIED DECK OVERHANG
(Modified Deck Overhang)



SECTION G-G
(@ PIER)



PRECAST CONCRETE PANEL ELEVATION
(Formliner Surface not shown for clarity)

DETAIL 1

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE FACADE

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

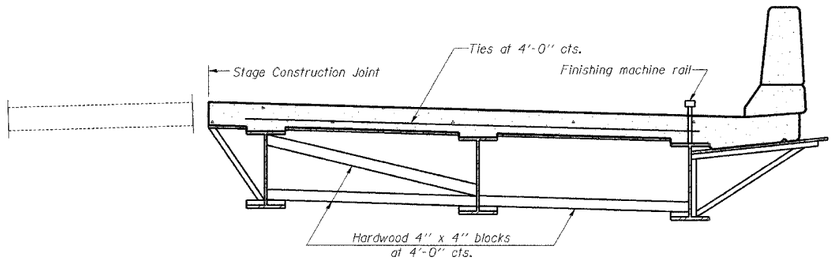
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

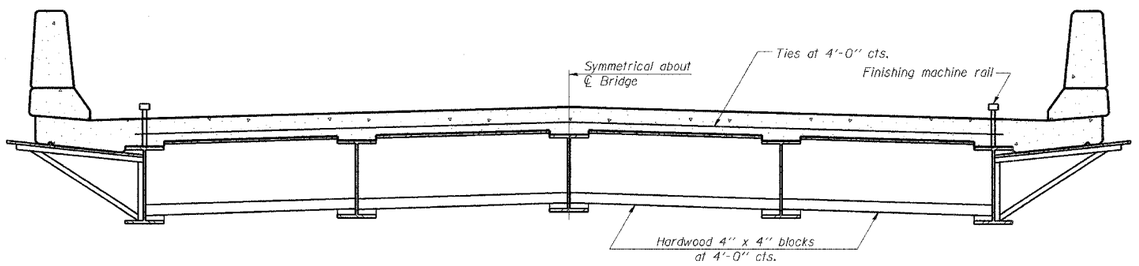
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S18
SHEETS S20

CONTRACT NO. 62269



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	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

SB-1 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

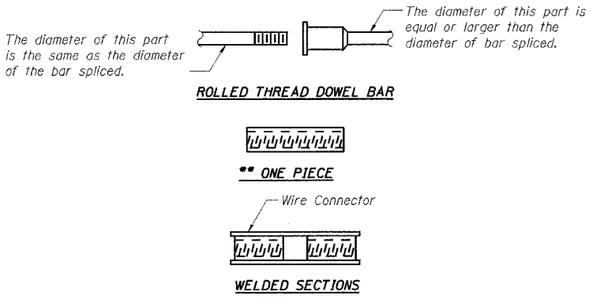
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	47
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

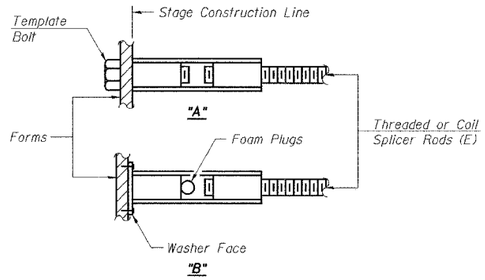
SHEET NO. S19
SHEETS S20

CONTRACT NO. 62269



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.

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) = $1.25 \times f_y \times A_t$

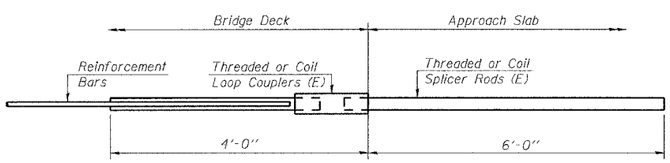
② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.

A_t = Tensile stress area of lapped reinforcement bars.

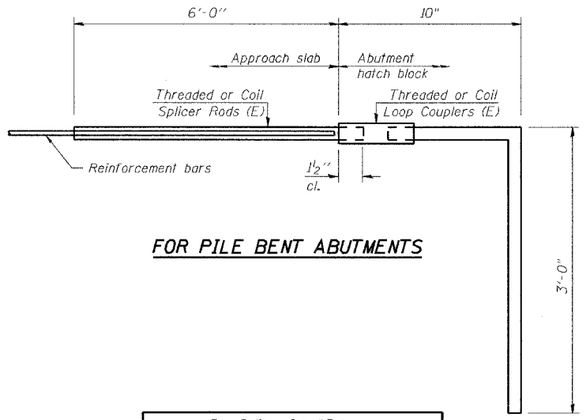
* = 28 day concrete

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'-0"	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



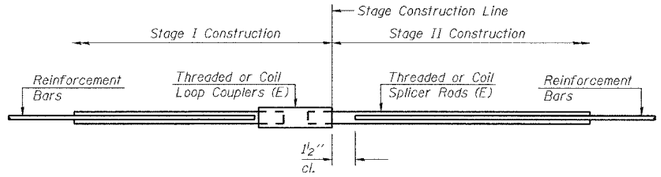
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 96



STANDARD

Bar Size	No. Assemblies Required	Location

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

BSD-1 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS

FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4-RB	WILL	87	48
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S20
SHEETS S20

CONTRACT NO. 62269

GROUND ENGINEERING CONSULTANTS, INC.
STRUCTURE BORING LOG

Page 1 of 1
Date 7/18/02

ROUTE IL-53 (FAP846) DESCRIPTION Proposed Bridge Improvements

SECT. 4-RB4B-1-R STRUCT. NO. 099-0900 (NB) DRILLED BY GEOCON

COUNTY Will LOCATION IL-53 over Prairie Creek S. ___, TWP. 33N, RNG. 9E-10E 3rd PM

Boring No. B-1
Station 1304+31.00
Offset 18.8 ft Rt.
Surface Elev. 568.8 ft

Surface Water Elev. ___
Groundwater Elev.:
when drilling ___
at Completion ___
after ___ Hrs. ___

DEPTH	BLOWS	Qu tsf	W %
	3		
	4	1.1	24
	5		
	3		
-5	2	1.2	23
	2	B	
563.3			
	4		
562.1	5	1.4	32
	5	B	
	3		
	3		16
-10	4		
556.5			
554.8			
-15			
-20			
544.8			
-25			

FILL, silty clay, some gravel, brown-gray, stiff

ORGANIC TOPSOIL, some clay, black, stiff

SILTY CLAY, tr. sand & gravel, brown, stiff

DOLOMITIC LIMESTONE, highly weathered, gravel size, hard, gray
Recovery = 62%
RQD = 0%

DOLOMITIC LIMESTONE, hard highly fractured, some vertical fractures, few clay seams, light gray
Recovery = 85%
RQD = 10%

DEPTH	BLOWS	Qu tsf	W %
-30			
539.8			
-35			
-40			
-45			
-50			

DOLOMITIC LIMESTONE, hard, fresh, stylolitic, some vertical fractures, light gray
Recovery = 95%
RQD = 55%

END OF BORING

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

GROUND ENGINEERING CONSULTANTS, INC.
STRUCTURE BORING LOG

Page 1 of 1
Date 7/25/02

ROUTE IL-53 (FAP846) DESCRIPTION Proposed Bridge Improvements

SECT. 4-RB4B-1-R STRUCT. NO. 099-0900 (NB) DRILLED BY GEOCON

COUNTY Will LOCATION IL-53 over Prairie Creek S. ___, TWP. 33N, RNG. 9E-10E 3rd PM

Boring No. B-2
Station 1305+69.00
Offset 18.7 ft Rt.
Surface Elev. 567.3 ft

Surface Water Elev. ___
Groundwater Elev.:
when drilling ___
at Completion ___
after ___ Hrs. ___

DEPTH	BLOWS	Qu tsf	W %
	3		
	3	1.1	12
	3	B	
	2		
562.8	3	1.3	16
-5	5	B	
	3		
	4		22
559.8	3		
	2		
	3		18
-10	5		
556.8			
-15			
551.8			
-20			
-25			

FILL, silty clay some gravel, brown-gray

TOPSOIL, silty clay, black, stiff

SILTY CLAY, tr. sand & gravel, brown, stiff

WEATHERED DOLOMITIC LIMESTONE, hard, highly fractured, gravel size, gray
Recovery = 55%
RQD = 0%

DOLOMITIC LIMESTONE, hard, some vertical fractures, light gray
Recovery = 85%
RQD = 24%

DEPTH	BLOWS	Qu tsf	W %
541.8			
-30			
-35			
-40			
-45			
-50			

END OF BORING

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/DCB
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
FAP 846
NB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4-RB
WILL COUNTY
STRUCTURE NO. 099-0090

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

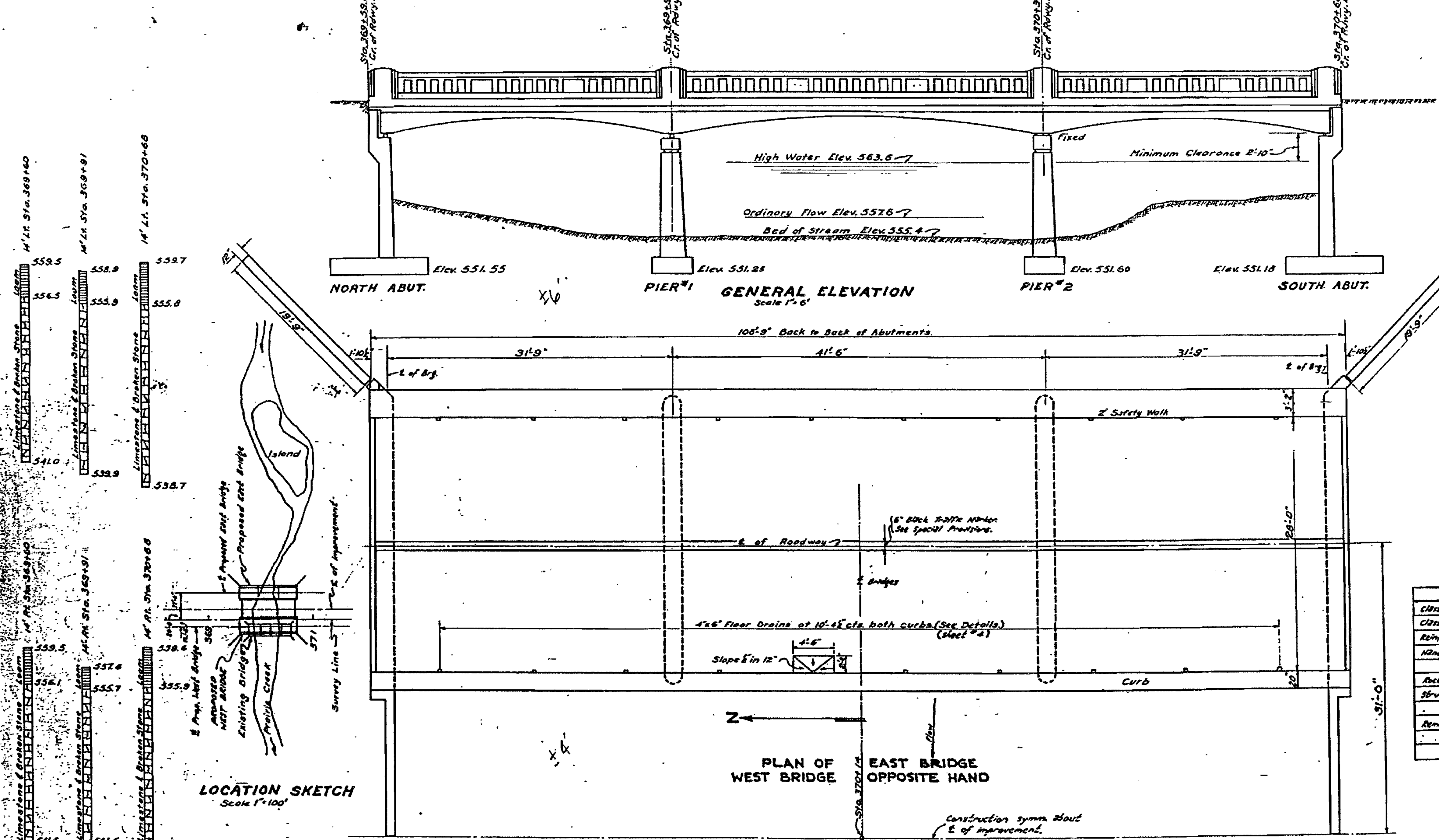
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

F.A. Rt.	Sec.	County			
5	4-R-B	Will	9	3	6 sheets

SHEET NO: 48A

NORTHBOUND BRIDGE
STRUCTURE NO. 099-0090
EXISTING PLANS

B.M. "30" in top of N.W. Wing Wall 36' Rt. of Sta. 369+72.
Elev. 566.10.
Existing Bridge Rt. of ℄. 4-Span, R.C. Slab 21', 22', 22', 21' spans. Roadway 24'; Built 1922. To be removed by Contractor after East Bridge is opened to traffic and before constructing West Bridge.



GENERAL NOTES

Class "X" Concrete shall be used throughout except as noted.
Hand rail Concrete shall be used in hand rail.
Class "A" Concrete shall be used in Piers.
Concrete floor slab shall be finished in accordance with Art. 528 (e) of the Standard Spec's.
The concrete floor slab and girders shall be poured in one continuous operation on each bridge.
Premoulded joint filler shall conform to Art. 105.65 & 105.66 incl. of the Supplemental Spec's.
Sidewalks and hand rail shall not be poured until after the falsework has been removed.
All Structural Steel shall receive one shop coat of blue lead paint, after inspection, and two field coats of white lead paint. Exposed surfaces of metal floor drains shall receive two field coats of white lead paint.
Paint shall be furnished by the Contractor.

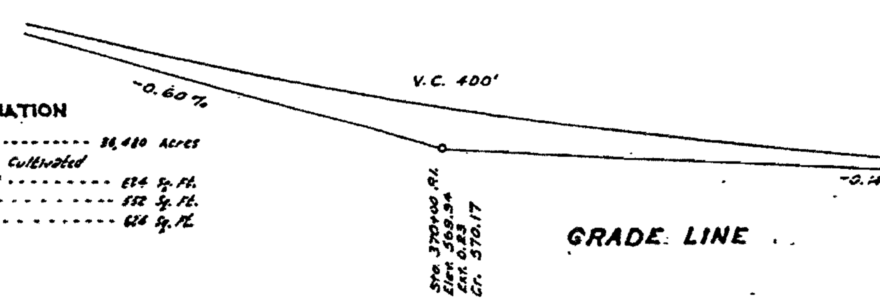
TOTAL BILL OF MATERIAL - 2 BRIDGES

Item		Substr.	Super.	Total
Class "X" Concrete	Cu. Yds.	403.8	312.6	716.4
Class "A" Concrete	Cu. Yds.	176.2		176.2
Reinforcement Bars	Lbs.	49,780	97,140	146,920
Hand rail Concrete	Cu. Yds.		25.2	25.2
Rock Excavation for Str.	Cu. Yds.	648		648
Structural Steel	Lbs.		9,280	9,280
Floor Drains	Each		40	40
Removal of Exist. Structure	Each			One

(NB) (East Br.)
Only one bridge built under Contract 1942.

FOUNDATION BORINGS

Boring data are shown on the drawings only as a guide to bidders in estimating soil conditions which may be encountered in the work.



WATERWAY INFORMATION

Drainage Area .... 30,480 Acres
Character .... Rolling, Clay, Cultivated
Opening Req'd for "C" = 0.24 (Talbot) .... 624 Sq. Ft.
Present Opening (below H.W.) .... 552 Sq. Ft.
Proposed Bridge Opening .... 626 Sq. Ft.

STANDARD	COMPUTED	R.S.J.
	CHECKED	R. Wagner
	DRAWN	B.W. Tilly P.G.D.
	CHECKED	R.W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 8-22-1941
PASSED
APPROVED W.W. Polk

Revised 9-10-41 G.T.B.

D.R.-W.I.-F.A. PROJECT 4-C (1)
BRIDGE OVER PRAIRIE CREEK
F.A. RTE. 5 SEC. 4-R-B
WILL COUNTY
STA. 370+14

FOR REFERENCE ONLY

H-20 Loading

Revised - 12-30-41 - RTS.
Revised - 3-21-42 RTS C.K. - R.W.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 846	48R-85	WILL	13	4

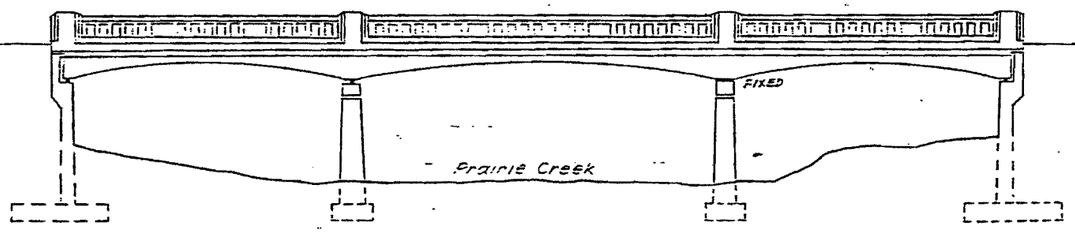
IL ROUTE 53.

SHEET NO: 48B

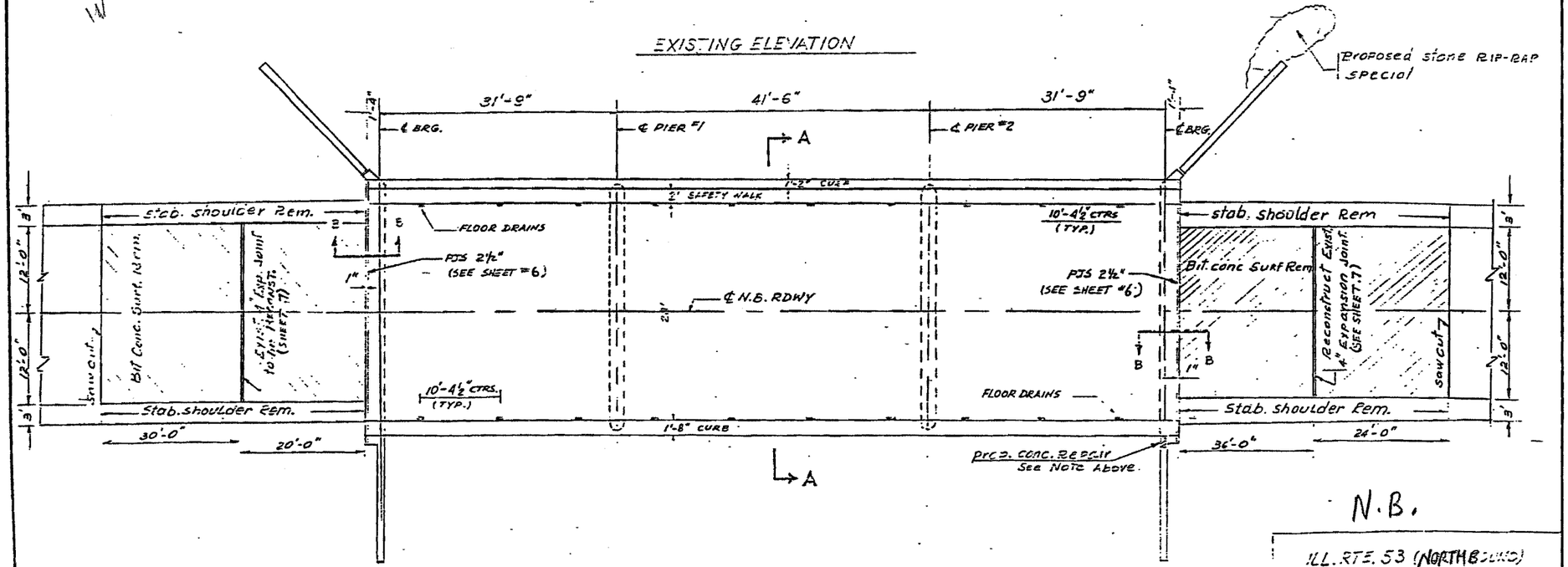
NORTHBOUND BRIDGE STRUCTURE No. 099-0090 EXISTING PLANS

NOTE:
PROPOSED CONC. REPAIR AS DIRECTED BY THE ENGINEER WILL BE PAID PER CU. YD. FOR CONCR. REMOVAL AND CLASS X CONCRETE.
REPAIR OF CURB SPALLING AND REPAIR OF SOUTH ABUTMENT SEAT AT THE WEST FACIA BEAM BEARING SEAT AS DIRECTED BY THE ENGINEER WILL BE PAID AS REPAIR CONCRETE STRUCTURE PER SQ. FT.

E
S
W



EXISTING ELEVATION



EXISTING PLAN

N.B.
ILL. RTE. 53 (NORTHBOUND)
OVER
PRAIRIE CREEK

indicates Bit. conc. surf. removal

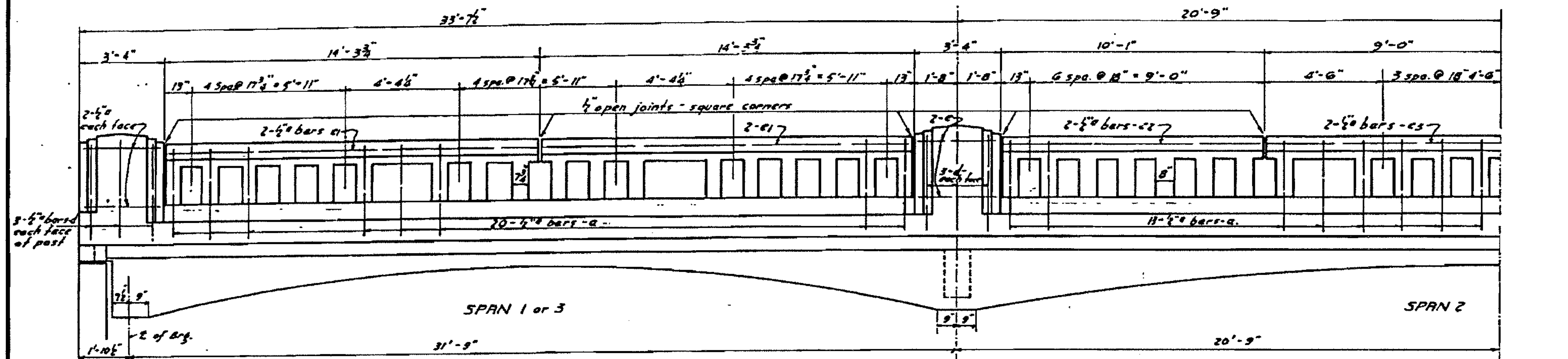
FOR REFERENCE ONLY

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

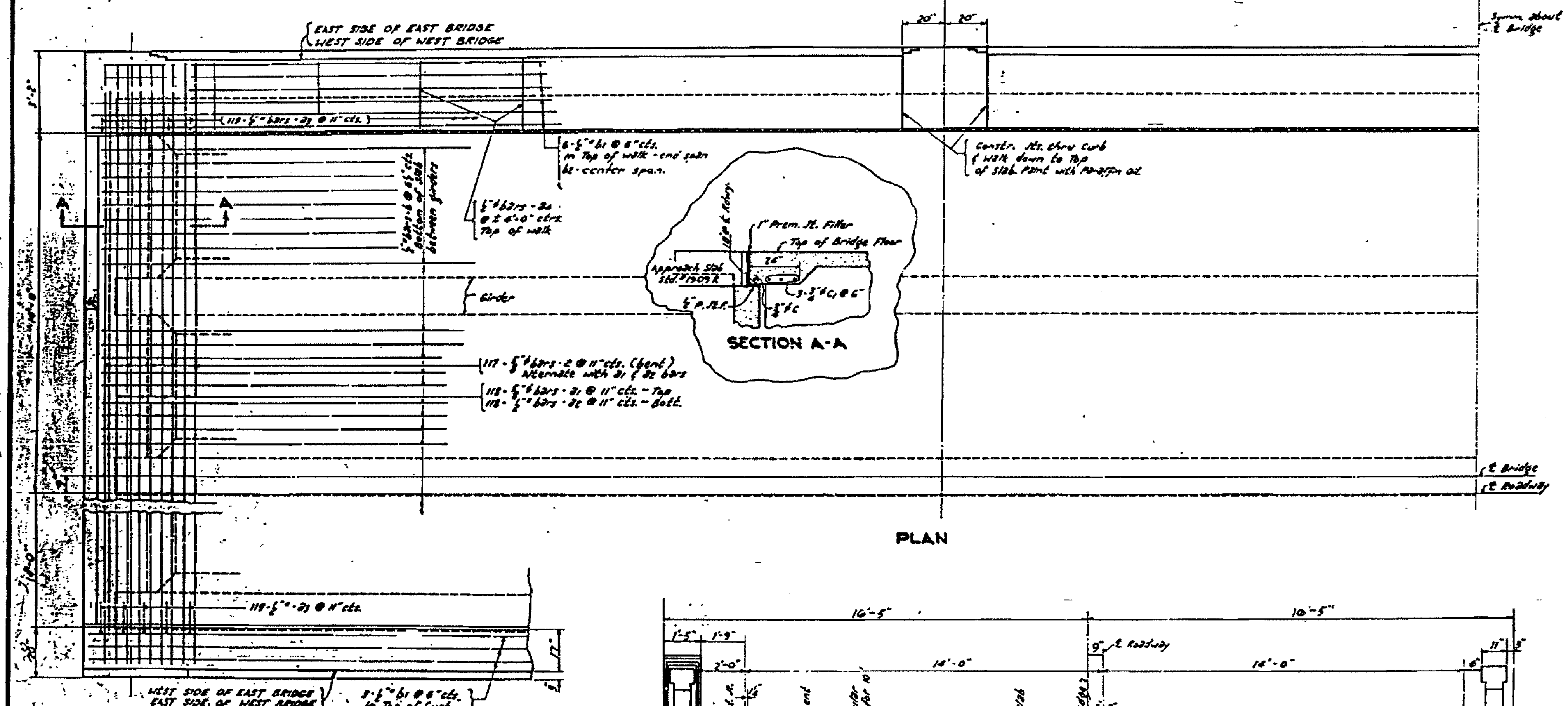
F.A. RT.					
5	4-RB	Will	9	4	6 SHEETS

SHEET NO. 48C

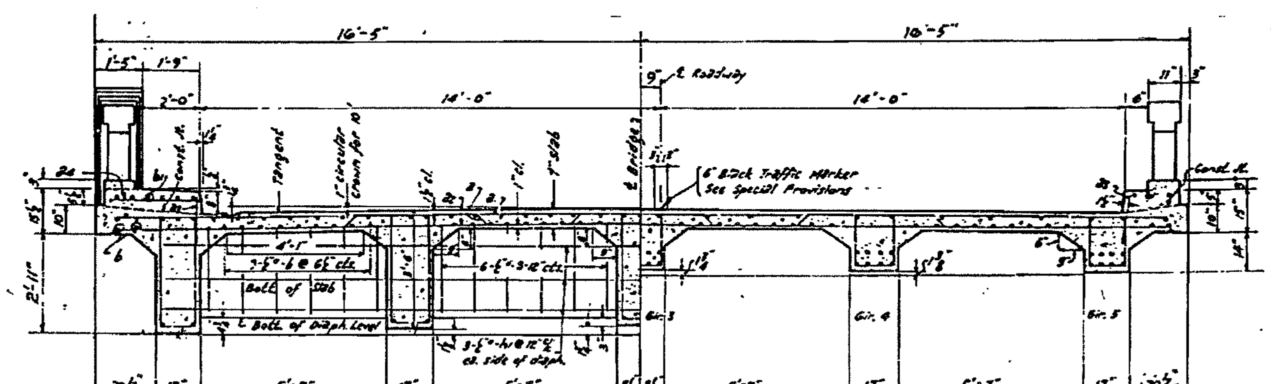
NORTHBOUND BRIDGE STRUCTURE No. 099-0090 EXISTING PLANS



ELEVATION



PLAN



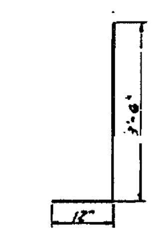
CROSS SECTION ~ LOOKING SOUTH FOR EAST BRIDGE
LOOKING NORTH FOR WEST BRIDGE

BILL OF MATERIAL ~ SUPERSTRUCTURE
FOR EAST BRIDGE
BILL OF MATERIAL FOR WEST
BRIDGE ~ SAME

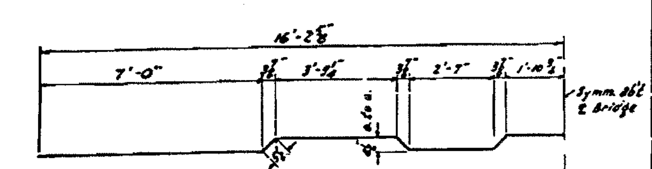
BAR	No.	SIZE	LENGTH
a	117	5/8"φ	35'-3"
a1	118	5/8"φ	32'-6"
a2	118	1/2"φ	32'-0"
a3	238	1/2"φ	1'-8"
a4	26	1/2"φ	2'-9"
b	160	1/2"φ	28'-0"
b1	18	"	31'-9"
b2	18	"	19'-9"
c	2	3/4"φ	32'-5"
c1	6	3/4"φ	29'-0"
h1	12	1/2"φ	29'-0"
s	48	1/2"φ	7'-3"
d	180	1/2"φ	4'-6"
e	32	1/2"φ	3'-0"
e1	16	"	14'-0"
e2	8	"	9'-9"
e3	4	"	11'-9"
Class "X" Concrete		Cu. Yds.	156.3
Handrail Concrete		Cu. Yds.	12.6
Reinforcement Bars		Lbs.	18,250
Structural Steel		Lbs.	4640

For details of Rail Posts and Railing - See Sheet #4

For Reinforcement Bars in Girders and Longitudinal Bars in top of slab see Sheet #3.

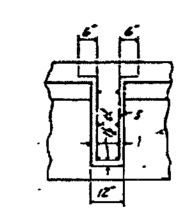


BAR - d



BAR - a

N.B.



DETAIL OF DIAPH.

STANDARD	COMPUTED	R. Hillsman — B.W.T.
	CHECKED	R. Wagner H.L.S.
	DRAWN	B.W.T. Illy, J. Malecki
	CHECKED	R. Wagner
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 8-22-1941
G. F. Burch — BRIDGE ENGINEER
PASSED — ENGINEER OF DESIGN
APPROVED N. W. Polk — CHIEF HIGHWAY ENGINEER

Revised 9-10-41 G.F.B.
Revised 3-21-42

Revised - 9-6-41 - R.T.S. - L.S.M.
Checked - R.K.

Revised - 3-21-42 - R.T.S. - C.K. - K.W.

FOR REFERENCE ONLY

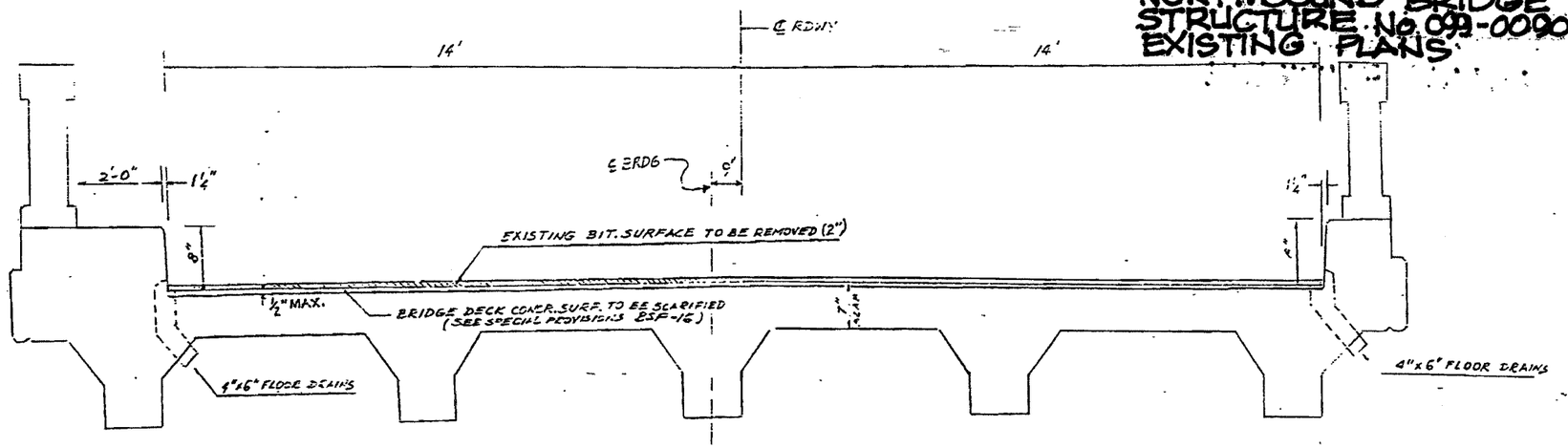
D.R.-W.I. PROJ. 4-C-(1)
PRAIRIE CREEK BRIDGE
F.A. RTE. - 5 SEC. 4-R-B
WILL COUNTY
STA. 370+14

ROUTE	SECTION	COUNTY	SHEETS	NUMBER
FAP 846	4BR-E5	WILL	13	5

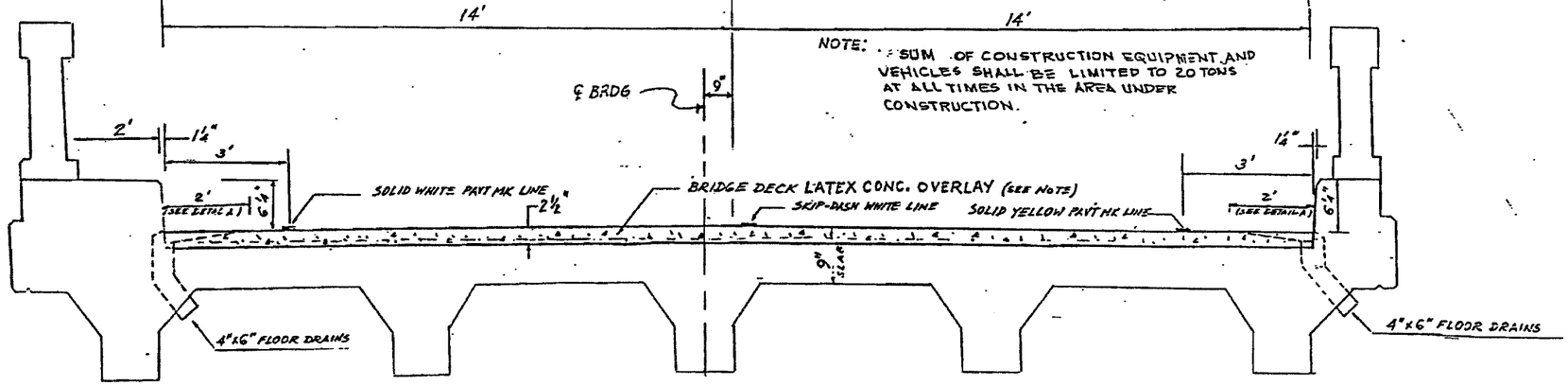
IL ROUTE 53

SHEET NO. 48D

NORTHBOUND BRIDGE
STRUCTURE NO. 099-0090
EXISTING PLANS

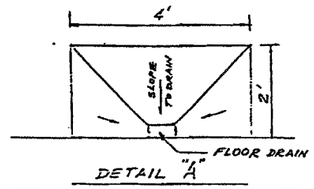


EXISTING CROSS SECTION A-A
(LOOKING SOUTH)



NOTE:
BY STANDARD METHOD PLACE "BRIDGE DECK LATEX CONCRETE OVERLAY
SEE SPECIAL PROVISIONS BSP-16.
HAND FINISH NEW CONCRETE SURFACE AT DECK DRAINS (SEE DETAIL 'A').

PROPOSED CROSS SECTION A-A
(LOOKING SOUTH) SEE SHEET NO. 4



DETAIL "A"

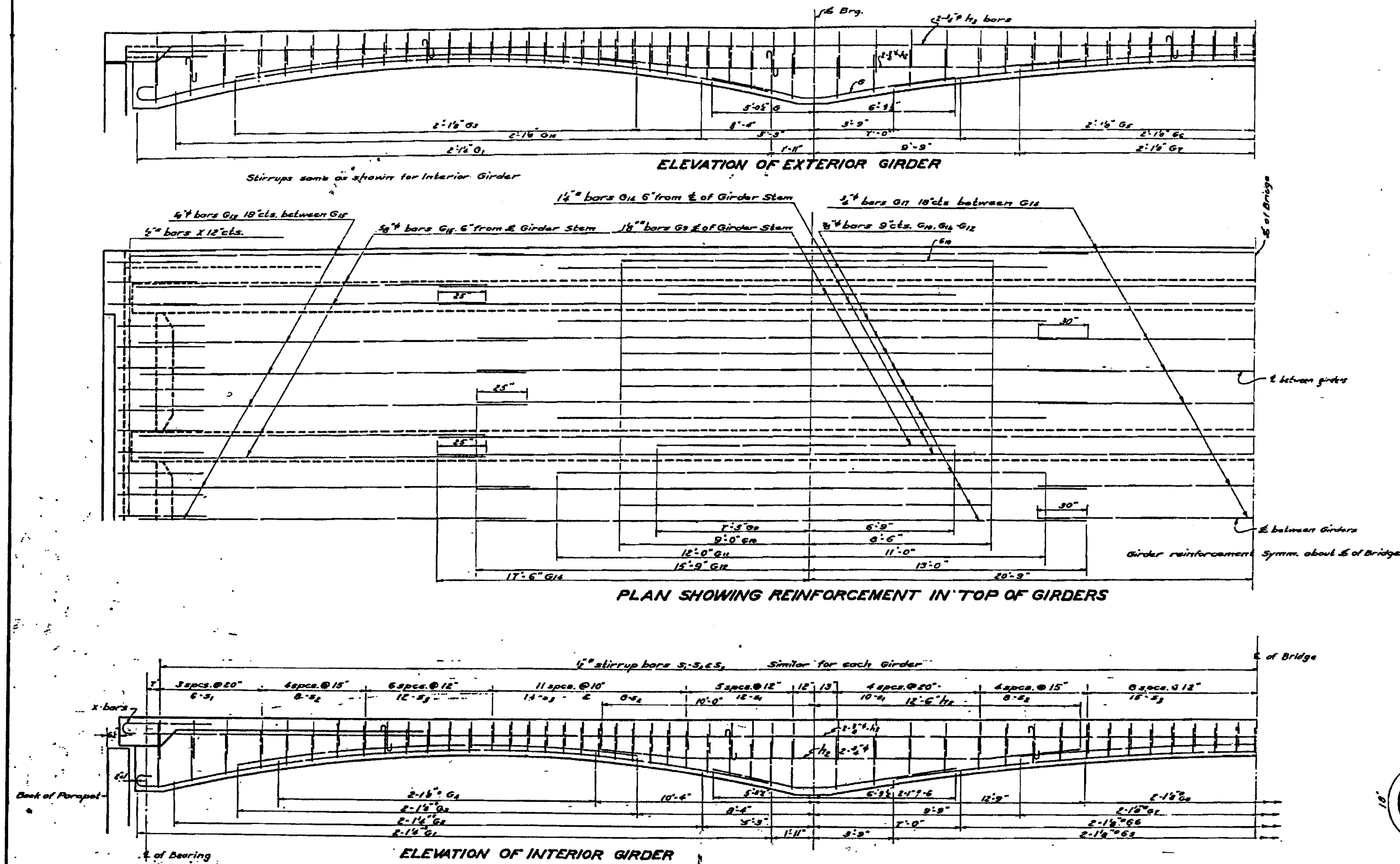
ILL. RTE. 53 (NORTH BOUND)
OVER
PRAIRIE CREEK

FOR REFERENCE ONLY

DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

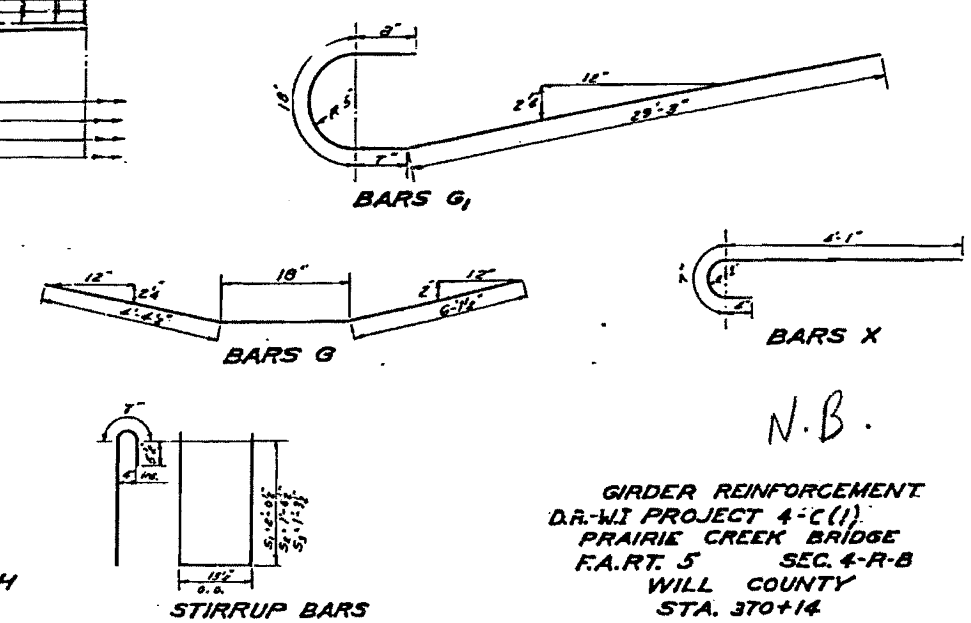
F.A. Rt.	Sec.	County	Sheet No.		
5	4-R-B	Will	9	5	6 SHEETS

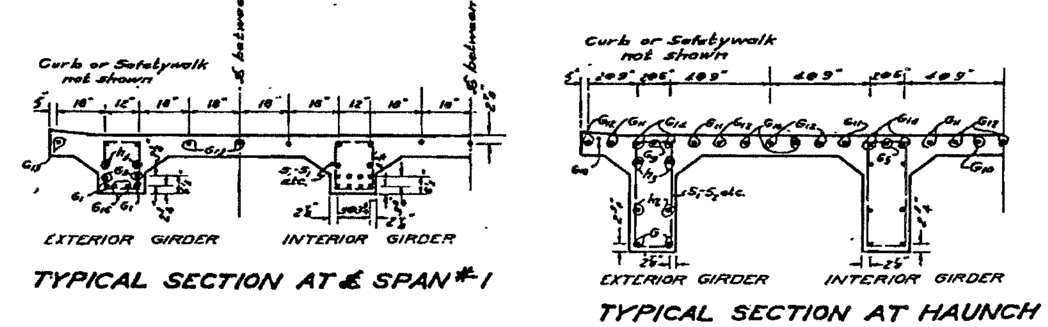
SHEET NO. 48E
NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS



BILL OF REINFORCEMENT BARS FOR GIRDERS AND TOP OF SLAB (LONGITUDINAL) FOR EAST BRIDGE
REINFORCEMENT BARS FOR WEST BRIDGE - SAME

Bar	No.	Size	Length	Bar	No.	Size	Length
				G17	12	⅝"φ	20'-6"
G	20	1"□	12'-0"	h2	20	¾"φ	22'-6
G1	20	1¼"□	32'-0"	h3	40	"	28'-6
G2	12	"	25'-3"				
G3	20	1⅛"□	19'-0"				
G4	12	"	15'-0"	S1	280	½"□	7'-3"
G5	10	"	34'-0"	S2	240	"	6'-3"
G6	10	"	27'-6"	S3	410	"	5'-9"
G7	10	"	22'-0"				
G8	6	"	16'-0"				
G9	10	"	14'-0"	X	66	½"□	5'-0"
G10	20	⅝"φ	17'-6"				
G11	20	"	23'-0"				
G12	28	"	28'-9"				
G13	28	⅝"φ	19'-3"				
G14	20	1¼"□	40'-3"				
G15	20	⅝"φ	17'-6"				
G16	8	1¼"□	25'-3"				
Reinforcement Bars							Lbs. 30,320





N.B.

GIRDER REINFORCEMENT
D.A.-W.I PROJECT 4-C(1)
PRAIRIE CREEK BRIDGE
F.A.RT. 5 SEC. 4-R-B
WILL COUNTY
STA. 370+14

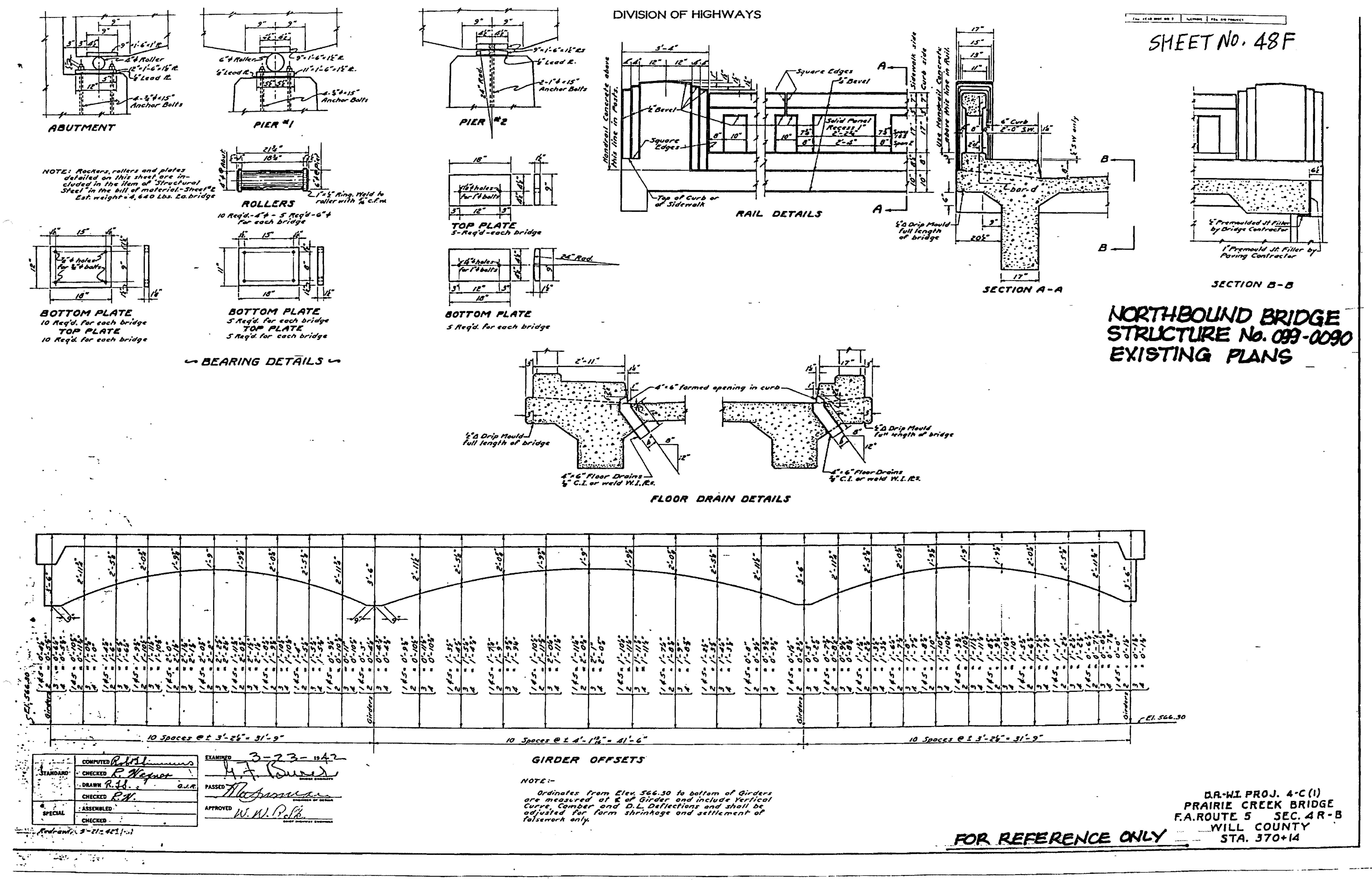
STANDARD	COMPUTED	
	CHECKED	R. Wagner
	DRAWN	
	CHECKED	R. Wagner
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 8-2?-1941
PASSED
APPROVED W.W. Polk

Revised 9-10-41 G.F.B.

Revised - 9-8-41 - ... Checked - ... Revised - 3-21-42 RTS.-CK. -RW.

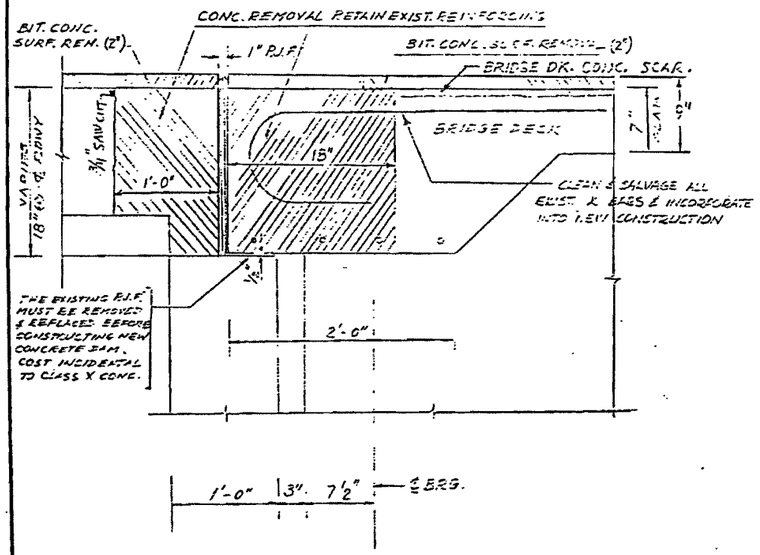
FOR REFERENCE ONLY


DIVISION OF HIGHWAYS
SHEET NO. 48F
ABUTMENT
PIER #1
PIER #2
4"ф Roller
6"ф Roller
Anchor Bolts
NOTE: Rockers, rollers and plates detailed on this sheet are included in the item of "Structural Steel" in the bill of material.-Sheet #2 Est. weight = 4,640 Lbs. Ea. bridge
ROLLERS
10 Req'd.-4"ф - 5 Req'd-6"ф for each bridge
TOP PLATE
5-Req'd-each bridge
BOTTOM PLATE
10 Req'd. for each bridge
TOP PLATE
10 Req'd. for each bridge
BOTTOM PLATE
5 Req'd. for each bridge
TOP PLATE
5 Req'd. for each bridge
BOTTOM PLATE
5 Req'd. for each bridge
BEARING DETAILS
Square Edges
½" Bevel
Solid Panel Recess
Top of Curb or of Sidewalk
Handrail Concrete above this line in Posts.
RAIL DETAILS
SECTION A-A
½" Premoulded Jt. Filler by Bridge Contractor
1" Premould Jt. Filler by Paving Contractor
SECTION B-B
NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS
4"×6" formed opening in curb
½"Δ Drip Mould full length of bridge
4"×6" Floor Drains ⅝" C.I. or weld W.I. Ps.
FLOOR DRAIN DETAILS
10 Spaces @ ℄ 3'-2⅛" = 31'-9"
10 Spaces @ ℄ 4'-1⅛" = 41'-6"
10 Spaces @ ℄ 3'-2⅛" = 31'-9"
El. 566.30
GIRDER OFFSETS
NOTE:-
Ordinates from Elev. 566.30 to bottom of Girders are measured at ℄ of Girder and include Vertical Curve, Camber and D.L. Deflections and shall be adjusted for form shrinkage and settlement of falsework only.
STANDARD
SPECIAL
COMPUTED
CHECKED R. Wagner
DRAWN
CHECKED
ASSEMBLED
CHECKED
EXAMINED 3-23-1942
PASSED
APPROVED
D.R.-W.I. PROJ. 4-C (1)
PRAIRIE CREEK BRIDGE
F.A. ROUTE 5 SEC. 4 R-B
WILL COUNTY
STA. 370+14
FOR REFERENCE ONLY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 846	4BR-65	WILL	13	6
IL ROUTE 53				

SHEET NO. 48 G

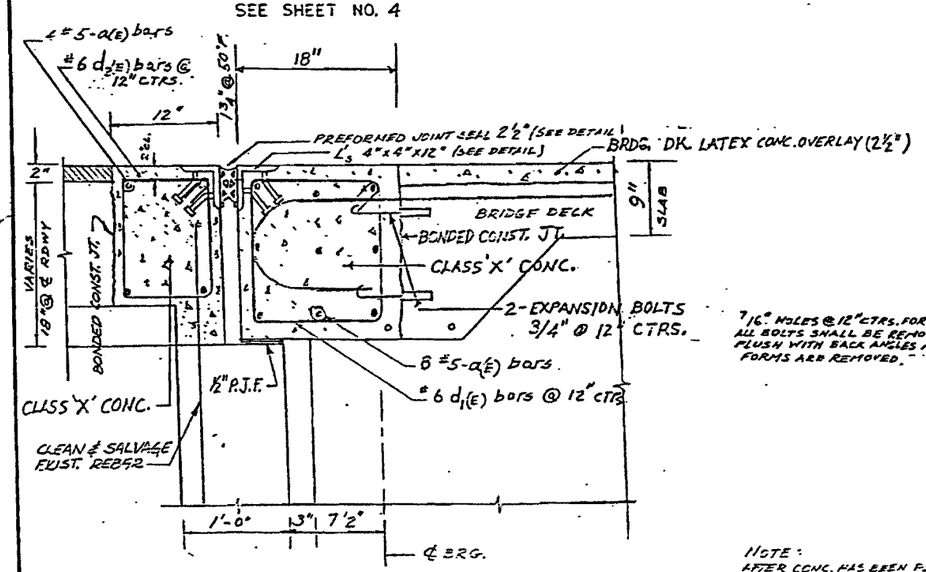
NORTHBOUND BRIDGE STRUCTURE No. 099-0090 EXISTING PLANS



EXISTING SECTION B-B

TYPICAL TO NORTH & SOUTH ABUTMENT

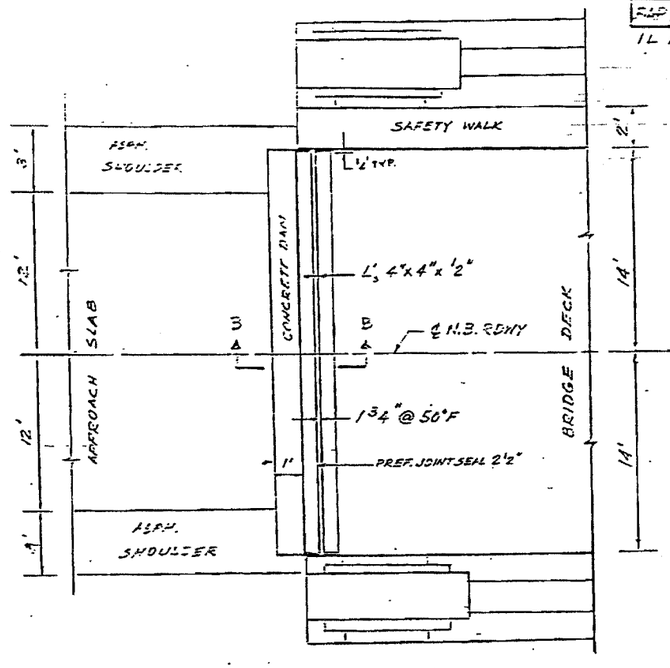
SEE SHEET NO. 4



PROPOSED SECTION B-B

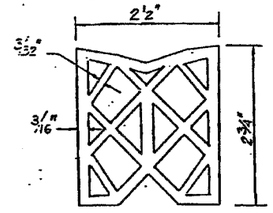
TYPICAL TO NORTH & SOUTH ABUTMENT

SEE SHEET NO. 4

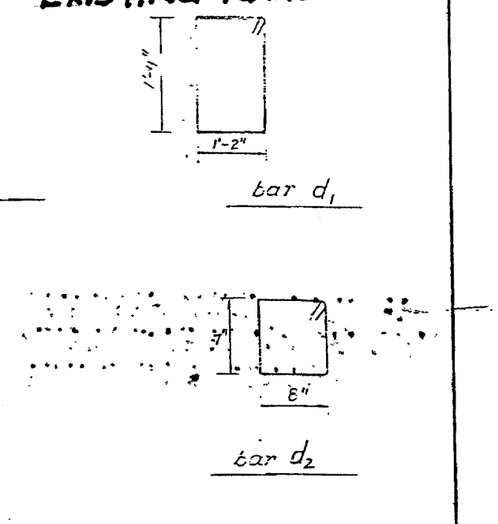


PART PLAN

TYPICAL TO NORTH & SOUTH JOINT



PREFORMED JOINT SEAL 2½"

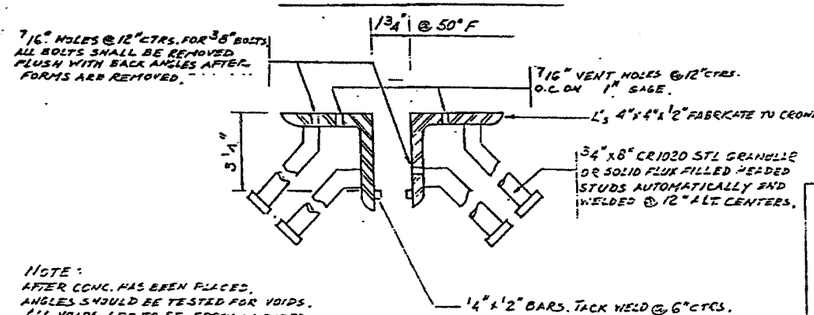


NOTE:
USE STEEL SPLICER (COUPLER) ASSEMBLIES BETWEEN STAGE CONSTRUCTION. SEE STANDARD 606001

BILL OF MATERIAL

BOT	NO.	SIZE	LENGTH	SHAPE
a E	96	#5	13'-9"	—
d1 E	58	#6	5'-0"	□
d2 E	58	#6	2'-6"	□
F & E Struct. Steel		Pound	15,700	
Class X concrete		Cu. yds.	7.0	
Reinforc. Bars		Pound	2,031.0	

(E) INDICATES EPOXY COATED



7/16" HOLES @ 12" CTRS. FOR ¾" BOLTS. ALL BOLTS SHALL BE REMOVED FLUSH WITH BACK ANGLES AFTER FORMS ARE REMOVED.

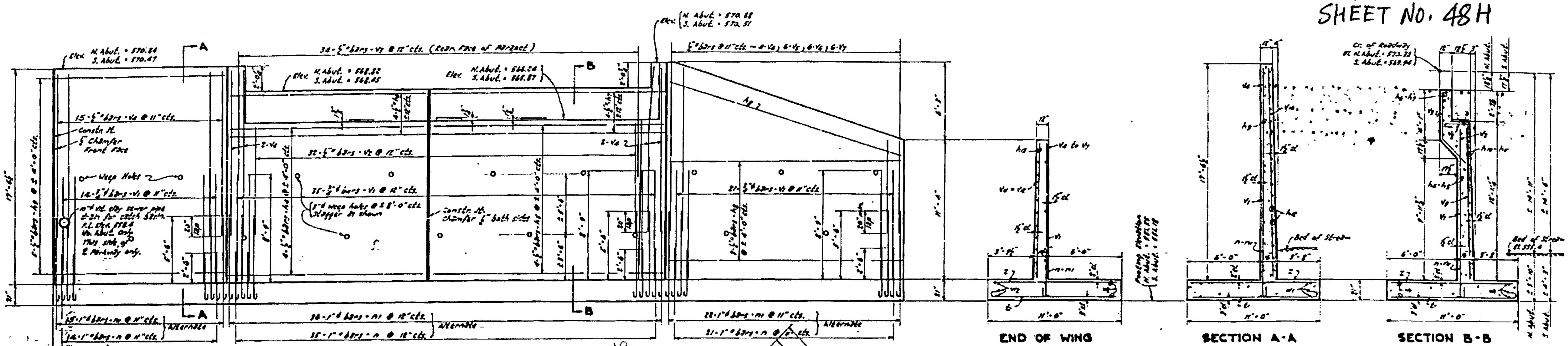
NOTE:
AFTER CONC. HAS BEEN PLACED, ANGLES SHOULD BE TESTED FOR VOIDS. ALL VOIDS ARE TO BE EPOXY INJECTED THROUGH HOLES AT CONTRACTOR'S EXPENSE.

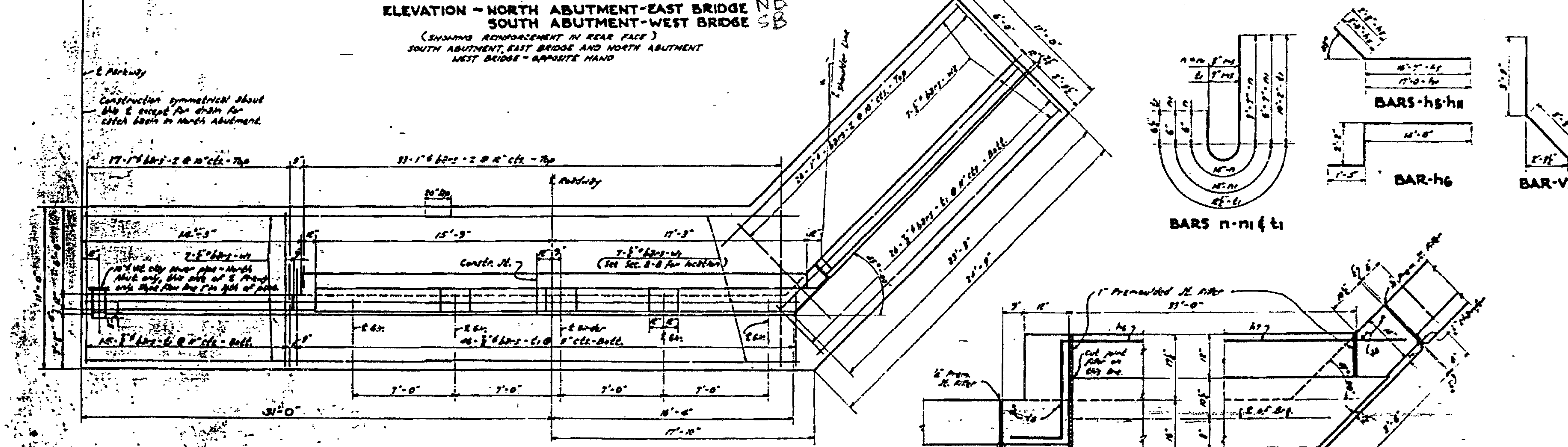
ILL. RTE. 53 (NORTH BOUND)

OVER

PRAIRIE CREEK

FOR REFERENCE ONLY



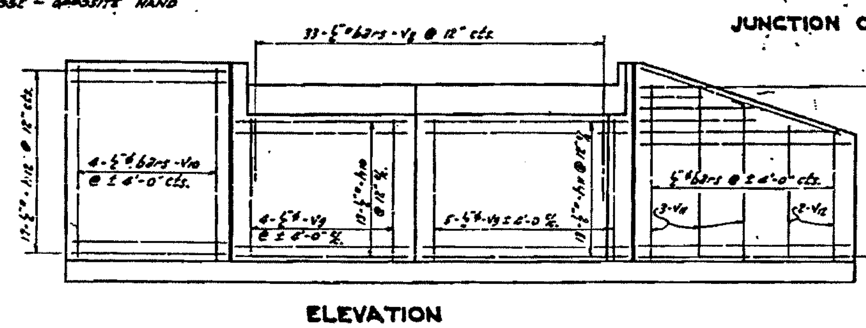


NOTE: Contractor shall place one length of 10" Vit. clay sewer pipe in North Abut. as shown, for drain from catch basin. Cost of pipe shall be included in the contract unit price per Cu. Yd. of Class "X" Concrete.

BILL OF MATERIAL-2-ABUT'S – EAST BRIDGE
BILL OF MATERIAL FOR WEST BRIDGE-SAME

BAR	No.	SIZE	LENGTH	BAR	No.	SIZE	LENGTH
h2	8	5/8"φ	16'-0"	v1	150	5/8"φ	8'-9"
h3	8	"	19'-5"	v2	64	5/8"φ	8'-9"
h4	8	"	18'-3"	v3	68	"	7'-0"
h7	8	"	19'-0"	v4	46	"	13'-6"
h8	8	"	19'-0"	v5	12	"	11'-9"
h9	10	"	18'-0"	v6	6	"	10'-0"
h10	26	"	16'-0"	v7	12	"	8'-5"
h1	26	"	20'-0"	v8	68	5/8"φ	9'-9"
h12	34	"	15'-0"	v9	18	5/8"φ	12'-6"
h13	26	"	19'-6"	v10	8	"	17'-0"
h11	4	"	12'-0"	v11	6	"	15'-6"
h6	4	5/8"φ	6'-0"	v12	4	5/8"φ	11'-6"
n	140	1"φ	5'-5"	w1	28	5/8"φ	25'-5"
n1	146	1"φ	8'-5"	w2	14	5/8"φ	23'-6"
t1	174	5/8"φ	11'-5"				
z	152	1"φ	10'-6"				

Class "X" Concrete	Cu. Yds	201.9
Reinforcement Bars	Lbs.	21,830
Rock Excavation for Structures	Cu. Yds	[illegible]



STANDARD	COMPUTED	
	CHECKED	H.P. Kuehn – R.W.
	DRAWN	R.T.S. – J. Malecki
	CHECKED	H.P. Kuehn – R.W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 8-27-1941
PASSED
APPROVED N.W. Polk

Revised 9-10-41. G.F.B.

Revised – 12-30-41 – R.T.S.
Revised – 3-21-42 – R.T.S. – CK. – RW.

NORTHBOUND BRIDGE STRUCTURE No. 099-0090 EXISTING PLANS

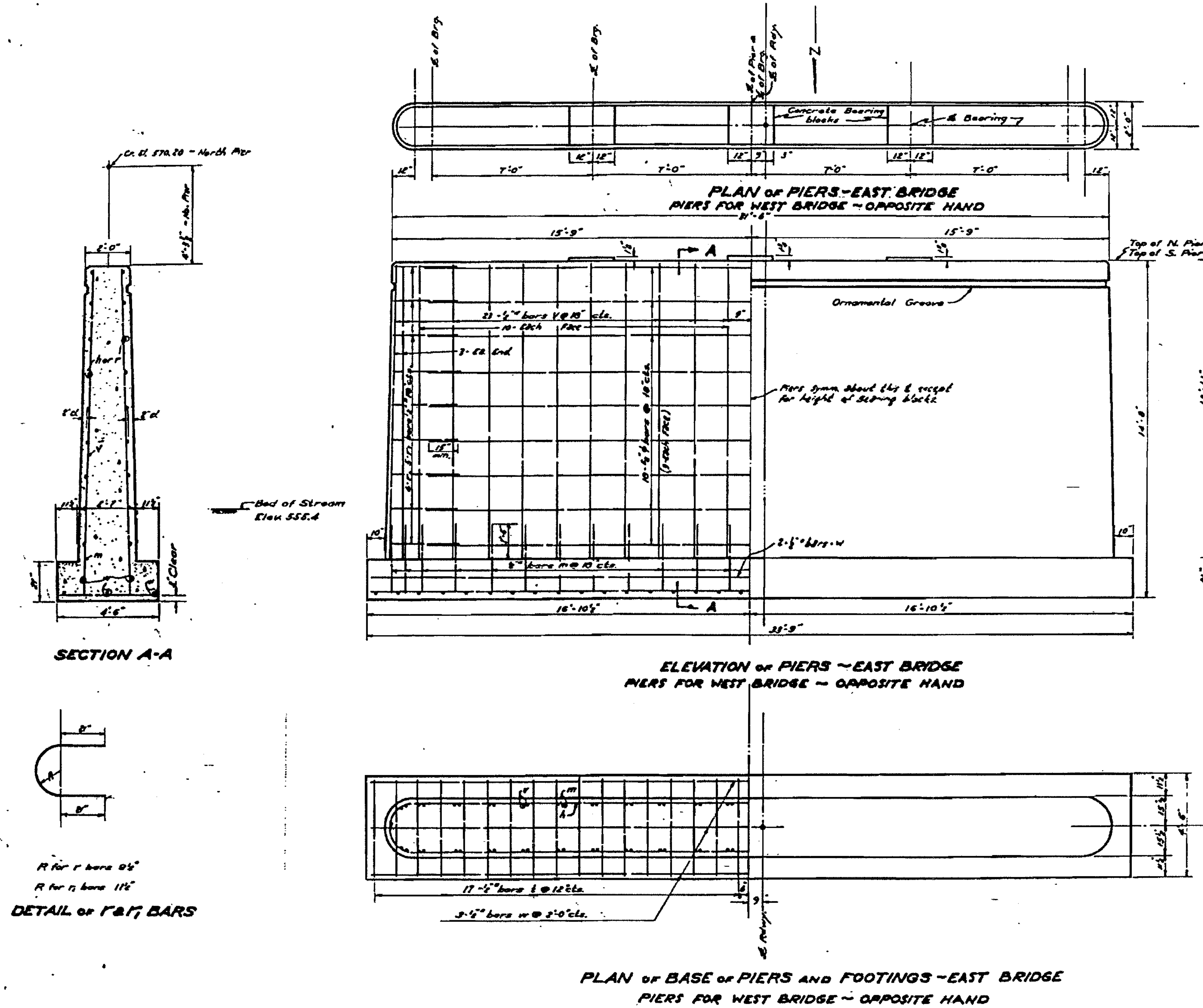
NB

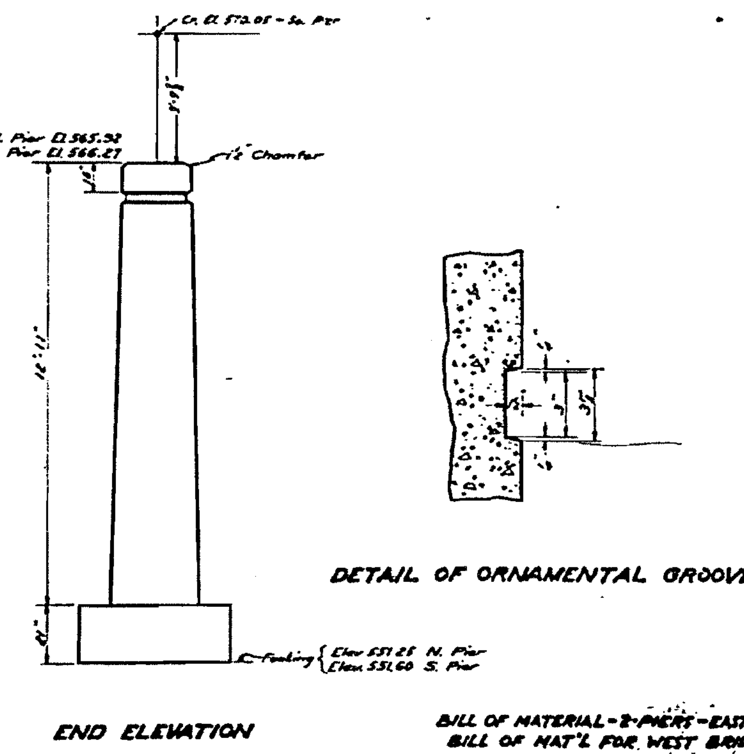
ABUTMENTS
D.A.–W.I. PROJ. 4-C(1)
PRAIRIE CREEK BRIDGE
F.A. RTE. 5 SEC. 4-R-B
WILL COUNTY
STA. 370+14

FOR REFERENCE ONLY

SHEET No. 48 I

NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS





BILL OF MATERIAL - 2 - PIERS - EAST BRIDGE
BILL OF MAT'L FOR WEST BRIDGE - SAME

Bar	No.	Size	Length
h	36	[illegible]	29'-0"
m	92	½" □	3'-0"
r	16	½" □	6'-0"
r1	20	"	6'-6"
t	68		4'-1"
v	92	½" □	12'-9"
w	20	½" □	17'-6"
Class "A" Concrete		Cu. Yds.	66.1
Reinforcement Bars		Lbs.	1460
Exc. for Structures		Cu. Yds.	80

N.B.

STANDARD	COMPUTED	B.W. Tilley
	CHECKED	H.P. [illegible]
	DRAWN	B.W.T.
	CHECKED	HPH
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 8-22-1941
PASSED
APPROVED W.W. Polk

Revised 9-10-41 G.F.B.
Revised 5-21-42 R.T.S.-CK. R.W.

FOR REFERENCE ONLY

PRAIRE CREEK BRIDGE
F.A. RT. 5 SEC. 4-R-B
D.R.-W.I. PROJ. 4-C(1)
WILL COUNTY
STA. 370+14

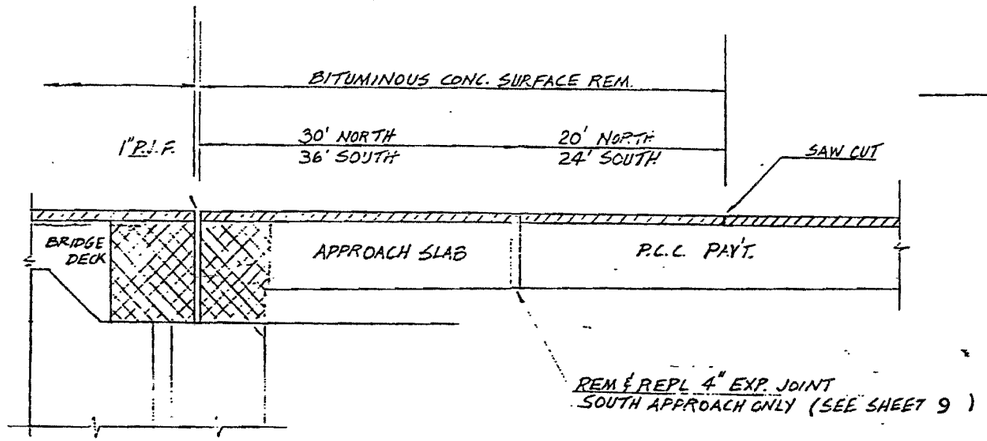
★ PAGE 48-J WAS NOT USED ★

NORTHBOUND BRIDGE STRUCTURE No. 099-0090 EXISTING PLANS

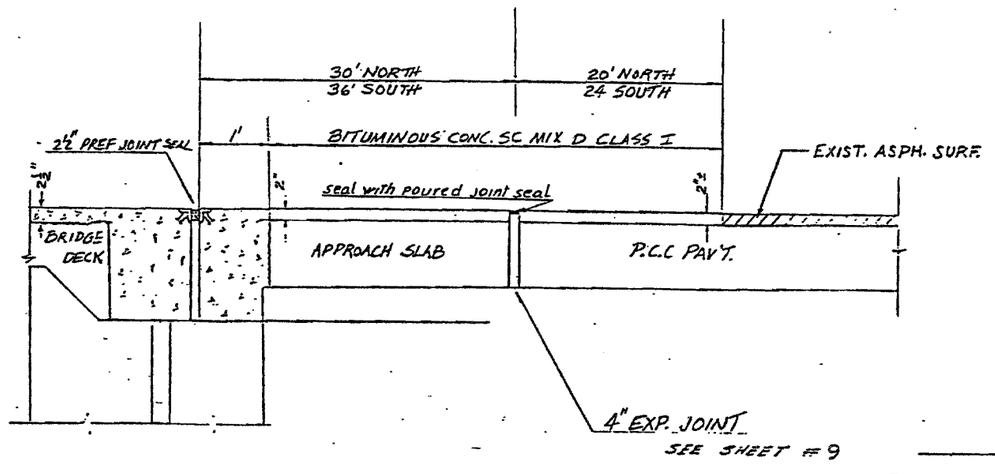
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 846	4ER-33	WILL	13	7

IL ROUTE 53

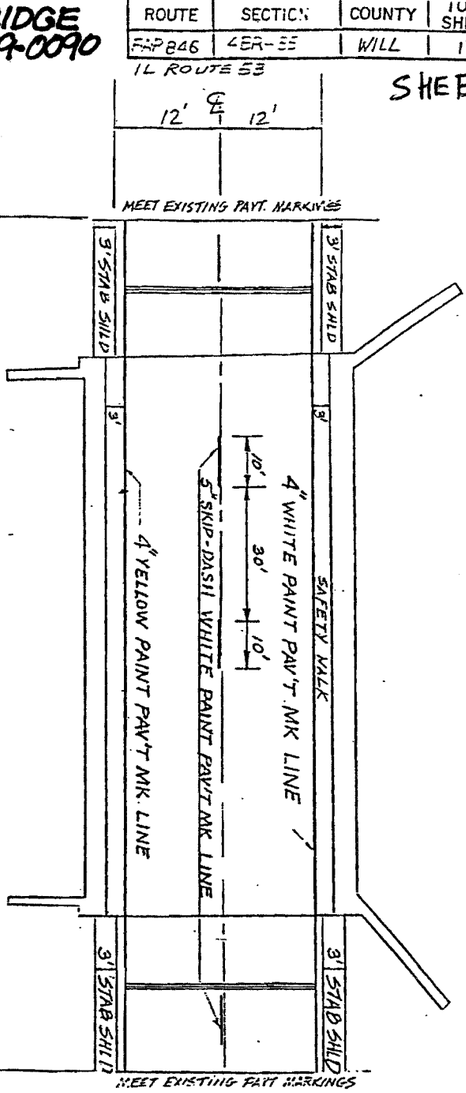
SHEET NO. 48 K



EXISTING APPROACH



PROPOSED APPROACH



STRIPING PLAN

ILL RTE 53 E
over
PRAIRIE CREE

FOR REFERENCE ONLY

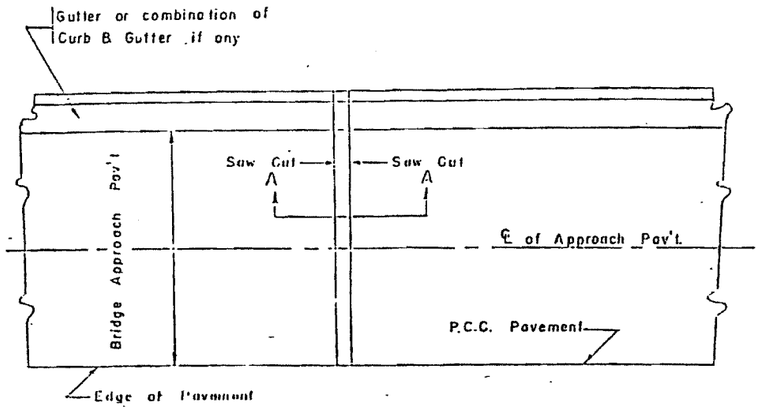
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 64E	4BR-E5	WILL	13	9

IL ROUTE 53

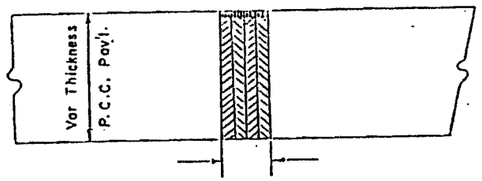
SHEET No. 48 L

NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS

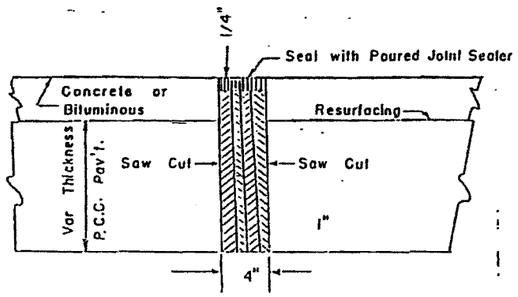
EXPANSION JOINT 4"



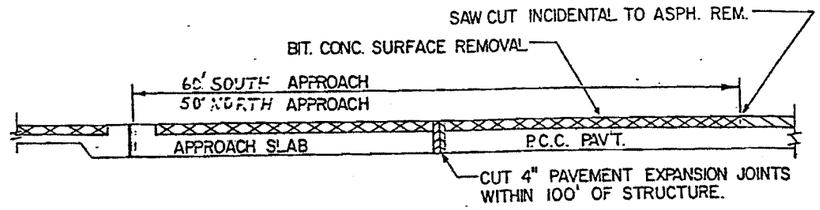
PLAN



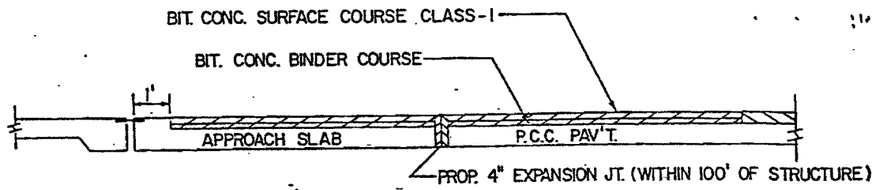
EXISTING - SECTION A-A



PROPOSED SECTION A - A



EXISTING



PROPOSED

NOTE:

Joint Filler shall consist of sheets of 1" Bituminous Preformed Fiber Joint Filler conforming to Article 715.04 of the Standard Specifications.

The joint shall be sealed with a hot pour Joint Sealer conforming to Article 716.04 of the Standard Specifications.

Expansion Joint Widening will be required when the existing joint is less than 4" in width.

In the event that reinforcement bars, dowel bars, wire mesh, metal center joint (etc) are encountered, they shall be cut off flush the face of the proposed joint. No additional compensation will be permitted for this work.

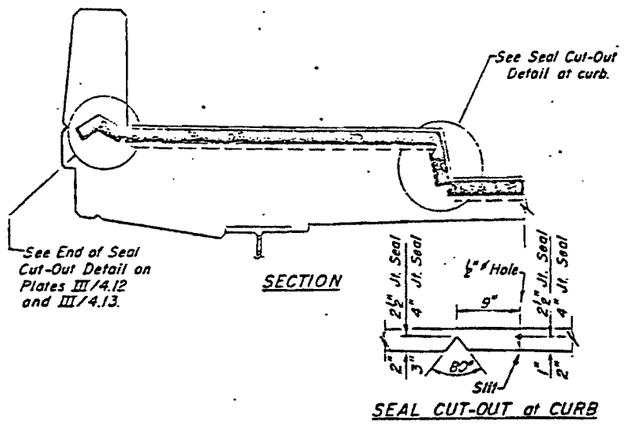
FOR REFERENCE ONLY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 616	48R-6S	WILL	13	10

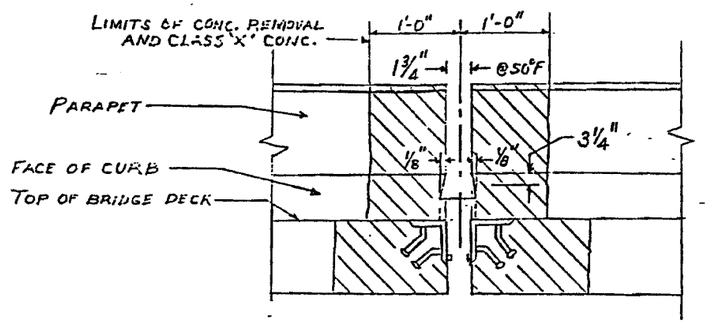
IL ROUTE 53

SHEET No. 48M
NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS

TYPICAL SEAL TREATMENTS at SIDEWALK



SEAL CUT-OUT at CURB



FRONT VIEW

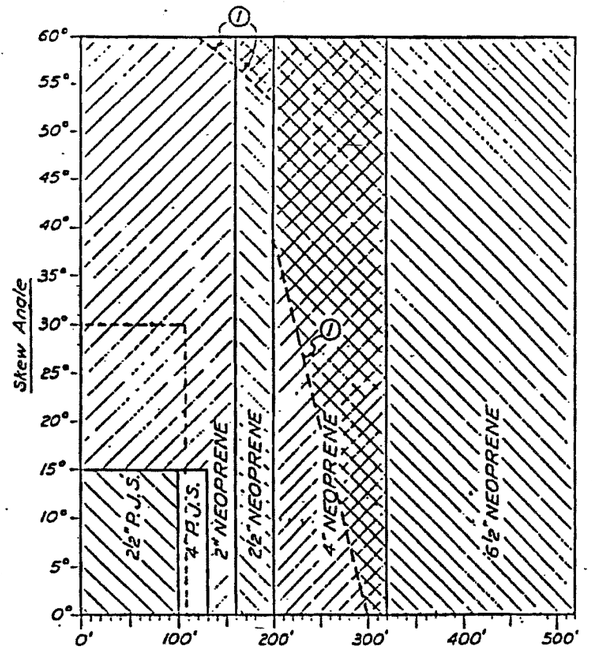
FOR REFERENCE ONLY

★ PAGE 48 O WAS NOT USED ★

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 856	48R-ES	WILL	13	12

IL ROUTE 53

SHEET NO. 48 N
NORTHBOUND BRIDGE
STRUCTURE No. 099-0090
EXISTING PLANS



Length Contributing to Expansion

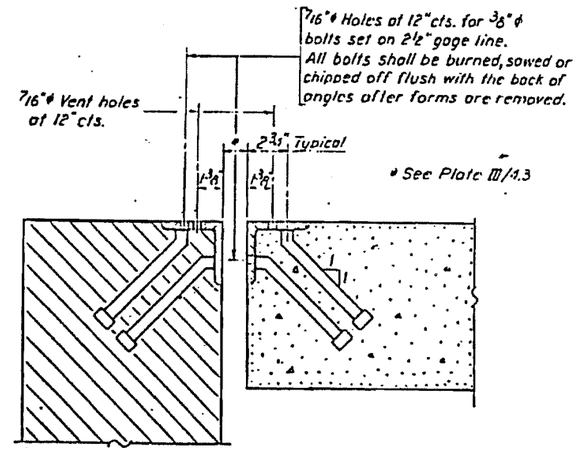
Example: Length of bridge contributing to expansion = 107 ft.
Skew angle of joint = 30°; USE 2" Neoprene Joint.

① The Fel-Span and Wabo Elastodam Neoprene Jts. shall not be used in cross hatched area above dotted line.

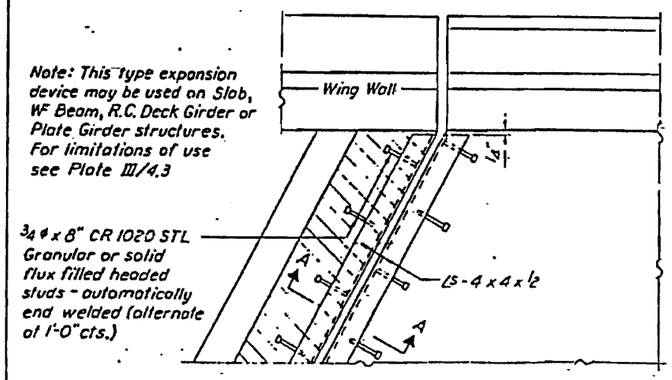
Note:
See Plates III/4.12 & III/4.13 for Preformed Jt. Seal
See Plate III/4.15 & Base Sheets "EJ" for Neoprene Jts.

LIMITS OF JOINT SEAL

ILL. 8-80 III/4.11



SECTION A-A



PLAN

OPEN JOINT

ILL. 8-80 III/4.5

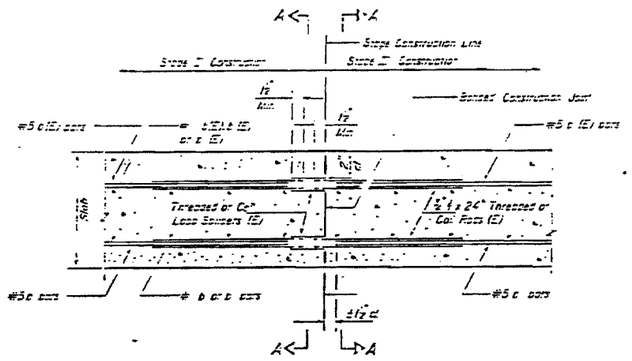
FOR REFERENCE ONLY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 846	48R-E5	WILL	13	13
IL ROUTE 53				

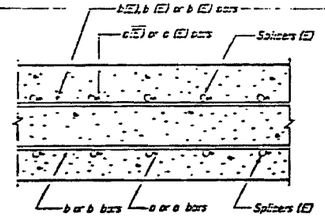
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTHBOUND BRIDGE STRUCTURE NO. 099-0090 EXISTING PLAN

SHEET NO. 48 P



SECTION THRU SLAB



SECTION A-A

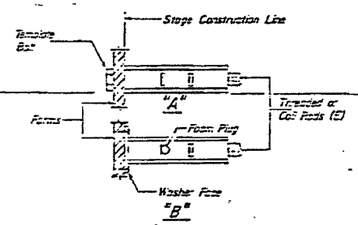
SPLICER DETAILS
(No. Req'd. 96)

NOTE: USE STEEL, SPLICER (COUPLER) ASSEMBLIES BETWEEN STAGE CONSTRUCTION. COST TO BE INCIDENTAL TO REINFORCEMENT BARS.

WELDED SECTIONS

SPLICER ALTERNATIVES

** Heavy hex nuts conforming to ASTM A563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal or greater than that of the lapped reinforcement bars.

Splicer rods shall extend minimum ½ inches into the couplers.

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

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with 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 splicer (coupler) assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_s$

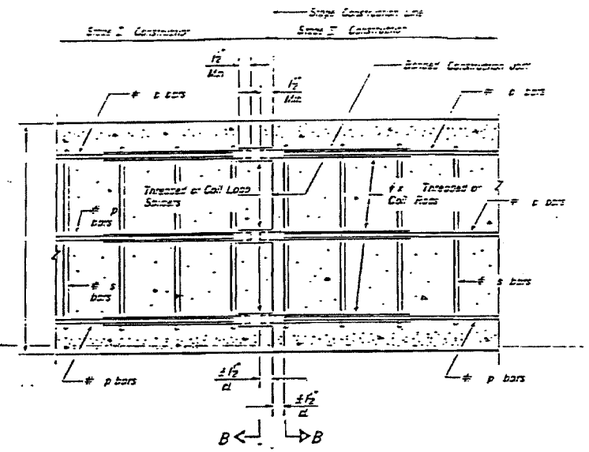
② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times f_{s\,allow} \times A_s$

Where f_y = Yield strength of lapped reinforcement bars in k.s.i.
$f_{s\,allow}$ = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)
A_s = Tensile stress area of lapped reinforcement bars.
* 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

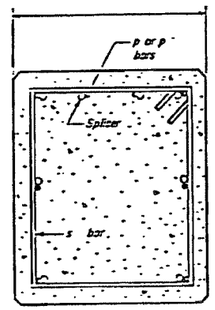
In Slabs:
- #5 bar lap with ¾" ϕ Splicer (Coupler) x 2'-6" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension

In Sub-structures:
- #7 bar lap with 1" ϕ Splicer (Coupler) x 3'-6" Splicer Rods — Minimum Capacity = 45.1 kips-tension; Minimum Pull-out Strength = 18.0 kips-tension
- #8 bar lap with 1¼" ϕ Splicer (Coupler) x 4'-6" Splicer Rods — Minimum Capacity = 52.9 kips-tension; Minimum Pull-out Strength = 23.6 kips-tension



SECTION THRU ABUTMENTS AND PIERS

No epoxy coating required.



SECTION B-B

SPLICER DETAILS.
(No. Req'd.)

BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

FOR REFERENCE ONLY

DESIGNED	EXAMINED	19
CHECKED	PASSED	
DRAWN	APPROVED	
CHECKED		

BSD-1 6-1-82

Bench Mark:
BM #3 Elevation = 571.36 (Feet)
A square cut in northwest wingwall of south bound Illinois route 53 bridge.

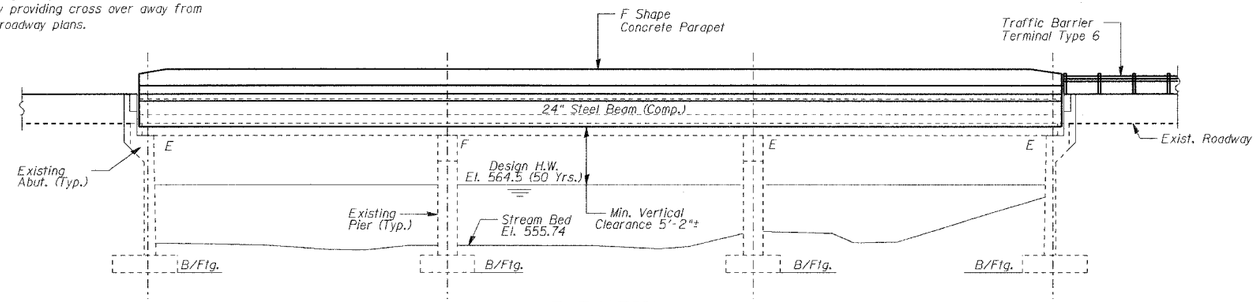
Existing Structure:
The existing structure No. 099-0242 (SB) was built in 1978 under construction route FA-5 and section 4B-1-R.
The existing bridge consists of three-spans precast concrete box beam (14 beams) in each span. The structure length is 105'-8" Bk. to Bk. of Abutments and 43'-2" Out to Out Deck. The substructure consists of two abutments, two piers, and two curtain walls between this Bridge and N.B. Bridge (099-0090).
The piers and abutments are on spread footings over solid rock.
The superstructure of existing bridge to be removed and replaced.
Traffic shall be detoured by providing cross over away from the structure location, see roadway plans.
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

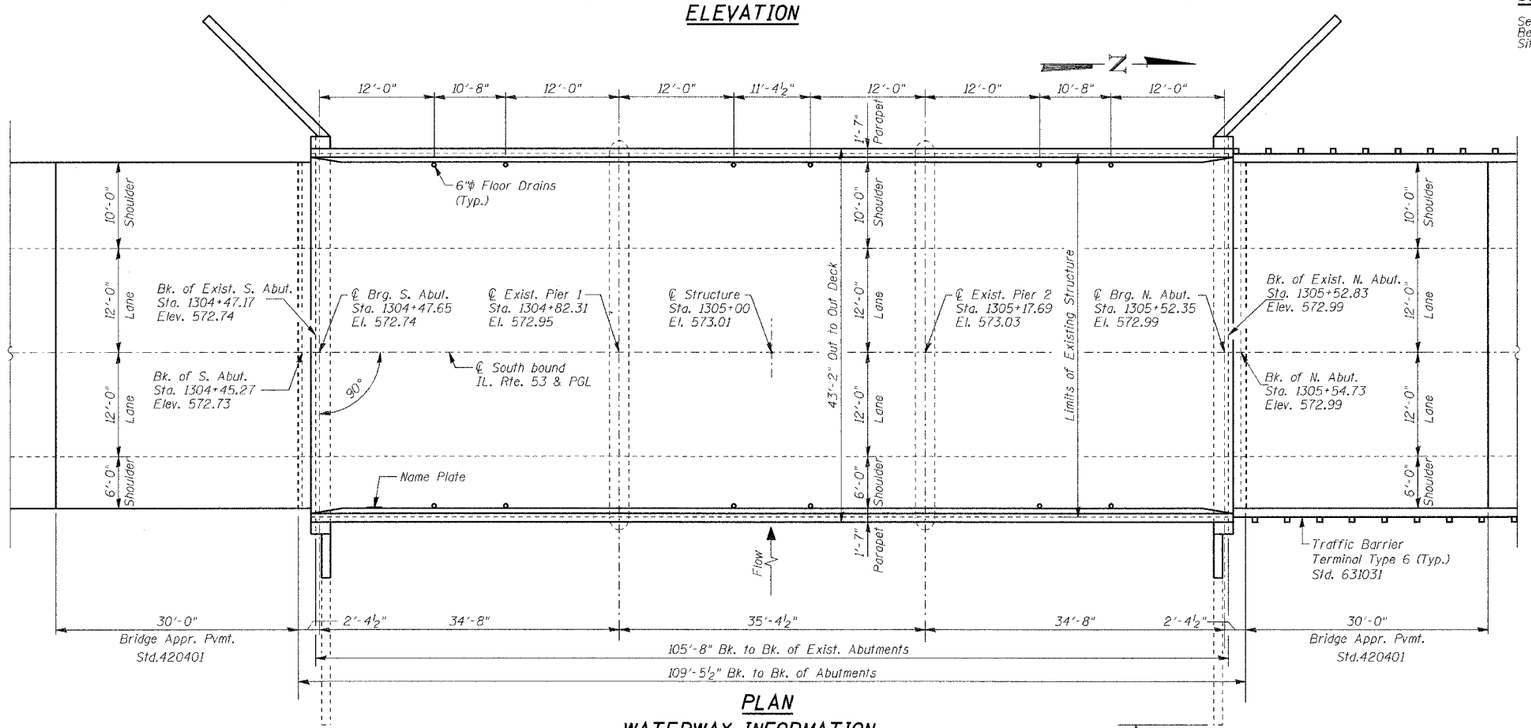
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	49
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S1
SHEETS S17

CONTRACT NO. 62269



ELEVATION



PLAN

WATERWAY INFORMATION

Drainage Area = 45.1 sq.mi Low Grade Elev. 569.7 Ft. @ Sta. 1301+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2010	738	738	562.9	0.0	0.0	562.9	562.9
Design	50	2910	901	901	564.5	0.1	0.1	564.6	564.6
Base	100	3260	959	959	565.1	0.2	0.2	565.3	565.3
Overtopping									
Max. Calc.	500	4080	1095	1095	566.7	0.3	0.3	567.0	567.0

All elevations are in highway datum.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

DESIGN SPECIFICATIONS

Superstructure:
2007 AASHTO LRFD Bridge Design Specifications

Substructure:
AASHTO Standard Specifications For Highway Bridges 17th. Edition 2002

LOADING HL-93 (Struct. Steel, Deck & Bearings)

LOADING HS20-44 (Substructure)

Allow 50 psf for future wearing surface.

DESIGN STRESSES

Existing

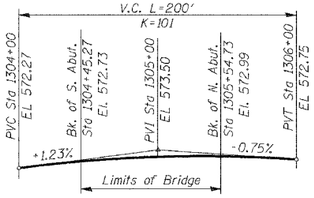
f'c = 3,500 psi (concrete)
fy = 60,000 psi (reinforcement)

Proposed

f'c = 3,500 psi (concrete)
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (structural steel) (M270 GR.50)
fy = 36,000 psi (diaphragms) (M270 GR.36)

SEISMIC DATA

Seismic performance category (S.P.C.) = A
Bedrock acceleration coefficient (A) = .04g
Site coefficient (s) = 1.0



PROPOSED PROFILE GRADE

(at ℄ of SB)

STATION 1305+00
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.P. 846 SEC. 4B-1-R
LOADING HL-93 (HS20)
STR. NO. 099-0242

NAME PLATE

See Std. 515001
Existing Name Plate shall be cleaned and relocated next to New Name Plate.
Cost included with Name Plates.

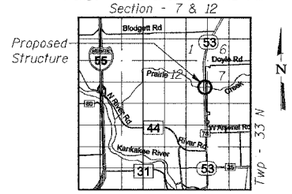
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E Anderson (TJD)
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
SYED M KAZI
081-004047
REGISTERED
PROFESSIONAL ENGINEER
STRUCTURAL

Syed M. Kazi
Licensed Structural Engineer
State of Illinois
License No. 081-004047
Expires: 11-30-2008

INDEX OF SHEETS

Range - 9 E & 10 E, 3 RD PM
Section - 7 & 12



LOCATION SKETCH

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	50
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S2

SHEETS S17

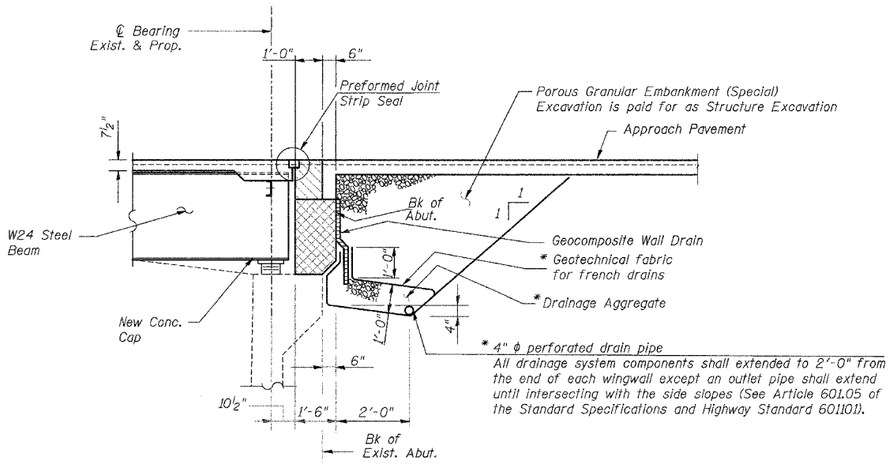
CONTRACT NO. 62269

GENERAL NOTES:

1. Fasteners shall be AASHTO M164 Type 1,mechanically galvanized bolts. Bolts $\frac{3}{4}$in ϕ, holes $\frac{13}{16}$in ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 63,990 pounds (M270), Grade 50)
   8,830 pounds (M270, Grade 36)
3. Anchor bolts shall be set before bolting diaphragms over supports.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL modified). See Special Provisions.
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.
8. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$in (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
9. 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 and exterior Steel Surfaces and bottom flanges of all beams shall be light warm gray, munsell No 10Y 7/1. See Special Provision for "Cleaning and Painting new Metal Structures".
10. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
11. Backfill shall be placed behind the abutment after the superstructure has been poured and falsework removed. See Article 502.10 of the Standard Specifications.
12. All construction joints shall be bonded.
13. Clean and relocate existing name plate adjacent to new plate. Cost included with Name Plates.
14. The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
15. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licenced Structural Engineer, verifying the structural adequacy of the beams for proposed loads.
16. Bearing pads under existing PPC deck beams at both abutments have graphited asbestos.
17. Slip forming of Concrete Parapet is not allowed.

TOTAL BILL OF MATERIAL

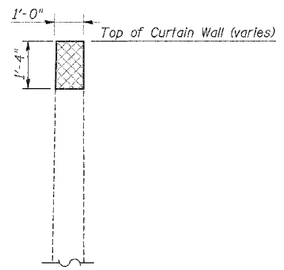
ITEM	UNIT	SUPER.	SUB.	TOTAL
Porous Granular Embankment (Special)	Cu yd	--	66	66
Removal of Existing Superstructures No. 2	Each	1	-	1
Concrete Removal	Cu yd	-	5	5
Structure Excavation	Cu yd	-	66	66
Floor Drains	Each	12	-	12
Concrete Structures	Cu yd	-	19.3	19.3
Concrete Superstructure	Cu yd	149	-	149
Bridge Deck Grooving	Sq yd	472	-	472
Protective Coat	Sq yd	564	-	564
Erecting Structural Steel	L Sum	0.48	-	0.48
Stud Shear Connectors	Each	3114	-	3114
Reinforcement Bars, Epoxy Coated	Pound	41070	3900	44970
Bar Splicers	Each	-	96	96
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	87	-	87
Erecting Elastomeric Bearing Assembly, Type I	Each	18	-	18
Anchor Bolts, 1"	Each	24	-	24
Anchor Bolts, $1\frac{1}{4}$"	Each	24	-	24
Epoxy Crack Injection	Foot	-	30	30
Geocomposite Wall Drain	Sq yd	-	40	40
Pipe Underdrains for Structures, 4"	Foot	-	150	150
Structural Repair of Concrete (Depth Greater Than 5")	Sq ft	-	104	104
Structural Repair of Concrete (Depth Less Than or Equal to 5")	Sq ft	-	129	129
Asbestos Bearing Pad removal	Each	56	-	56



SECTION THRU ABUTMENT

(Section thru Abutment Extension Similar)

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



SECTION THRU CURTAIN WALL

Area of Backwall to be constructed after removal of formwork for Superstructure

Area of Abutment and Curtain Wall to be constructed before placement of Superstructure

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, TOTAL BILL OF MATERIAL & SECTION THRU ABUTMENT
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

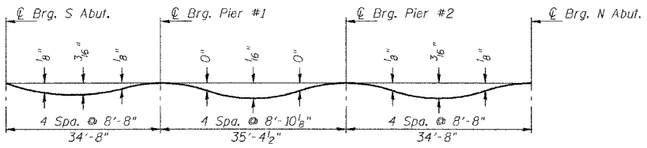
...\sbound\final\sb_s02.dgn Sep. 12, 2007 14:18:33

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. S. 846	4B-1-R	WILL	87	51
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 53
SHEETS 517

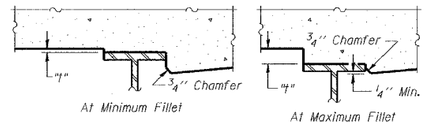
CONTRACT NO. 62269



DEAD LOAD DEFLECTION DIAGRAM

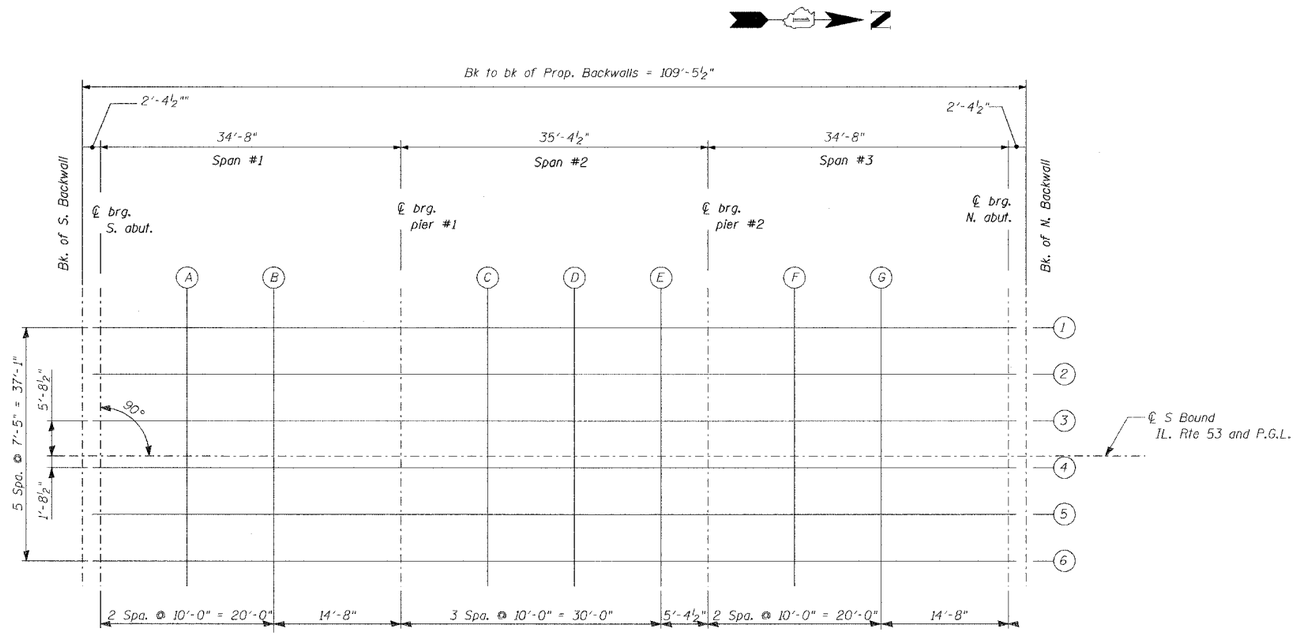
(Includes weight of concrete only.)

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 "I": 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 "I" above top flange of beams.

FILLET HEIGHTS



PLAN

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION AND
LAYOUT OF ELEVATION LINES
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	52
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S4
SHEETS S17

CONTRACT NO. 62269

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	-20.542	572.359	572.359
CL BRG SOUTH ABUT.	1304+47.650	-20.542	572.378	572.378
A	1304+57.650	-20.542	572.449	572.465
B	1304+67.650	-20.542	572.510	572.527
CL PIER 1	1304+82.317	-20.542	572.581	572.581
C	1304+92.317	-20.542	572.618	572.618
D	1305+02.317	-20.542	572.644	572.647
E	1305+12.317	-20.542	572.661	572.660
CL PIER 2	1305+17.691	-20.542	572.666	572.666
F	1305+27.691	-20.542	572.668	572.680
G	1305+37.691	-20.542	572.659	572.678
CL BRG. NORTH ABUT.	1305+52.357	-20.542	572.629	572.629
BK. OF NORTH ABUT.	1305+54.732	-20.542	572.622	572.622

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	-13.125	572.514	572.514
CL BRG SOUTH ABUT.	1304+47.650	-13.125	572.532	572.532
A	1304+57.650	-13.125	572.603	572.619
B	1304+67.650	-13.125	572.664	572.681
CL PIER 1	1304+82.317	-13.125	572.736	572.736
C	1304+92.317	-13.125	572.772	572.773
D	1305+02.317	-13.125	572.799	572.801
E	1305+12.317	-13.125	572.816	572.815
CL PIER 2	1305+17.691	-13.125	572.821	572.821
F	1305+27.691	-13.125	572.822	572.834
G	1305+37.691	-13.125	572.814	572.833
CL BRG. NORTH ABUT.	1305+52.357	-13.125	572.784	572.784
BK. OF NORTH ABUT.	1305+54.732	-13.125	572.777	572.777

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	-5.708	572.636	572.636
CL BRG SOUTH ABUT.	1304+47.650	-5.708	572.654	572.654
A	1304+57.650	-5.708	572.725	572.741
B	1304+67.650	-5.708	572.786	572.803
CL PIER 1	1304+82.317	-5.708	572.857	572.857
C	1304+92.317	-5.708	572.894	572.895
D	1305+02.317	-5.708	572.921	572.923
E	1305+12.317	-5.708	572.937	572.937
CL PIER 2	1305+17.691	-5.708	572.942	572.942
F	1305+27.691	-5.708	572.944	572.956
G	1305+37.691	-5.708	572.935	572.954
CL BRG. NORTH ABUT.	1305+52.357	-5.708	572.905	572.905
BK. OF NORTH ABUT.	1305+54.732	-5.708	572.898	572.898

℄ S. BOUND IL Rte 53 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	0.000	572.725	572.725
CL BRG SOUTH ABUT.	1304+47.650	0.000	572.743	572.743
A	1304+57.650	0.000	572.814	572.830
B	1304+67.650	0.000	572.875	572.892
CL PIER 1	1304+82.317	0.000	572.947	572.947
C	1304+92.317	0.000	572.983	572.984
D	1305+02.317	0.000	573.010	573.012
E	1305+12.317	0.000	573.027	573.026
CL PIER 2	1305+17.691	0.000	573.031	573.031
F	1305+27.691	0.000	573.033	573.045
G	1305+37.691	0.000	573.025	573.044
CL BRG. NORTH ABUT.	1305+52.357	0.000	572.994	572.994
BK. OF NORTH ABUT.	1305+54.732	0.000	572.988	572.988

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	1.708	572.698	572.698
CL BRG SOUTH ABUT.	1304+47.650	1.708	572.717	572.717
A	1304+57.650	1.708	572.787	572.804
B	1304+67.650	1.708	572.848	572.866
CL PIER 1	1304+82.317	1.708	572.920	572.920
C	1304+92.317	1.708	572.956	572.957
D	1305+02.317	1.708	572.983	572.985
E	1305+12.317	1.708	573.000	572.999
CL PIER 2	1305+17.691	1.708	573.005	573.005
F	1305+27.691	1.708	573.006	573.018
G	1305+37.691	1.708	572.998	573.017
CL BRG. NORTH ABUT.	1305+52.357	1.708	572.968	572.968
BK. OF NORTH ABUT.	1305+54.732	1.708	572.961	572.961

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	9.125	572.582	572.582
CL BRG SOUTH ABUT.	1304+47.650	9.125	572.601	572.601
A	1304+57.650	9.125	572.671	572.688
B	1304+67.650	9.125	572.732	572.75
CL PIER 1	1304+82.317	9.125	572.804	572.804
C	1304+92.317	9.125	572.841	572.841
D	1305+02.317	9.125	572.867	572.869
E	1305+12.317	9.125	572.884	572.883
CL PIER 2	1305+17.691	9.125	572.889	572.889
F	1305+27.691	9.125	572.89	572.903
G	1305+37.691	9.125	572.882	572.901
CL BRG. NORTH ABUT.	1305+52.357	9.125	572.852	572.852
BK. OF NORTH ABUT.	1305+54.732	9.125	572.845	572.845

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF SOUTH ABUT.	1304+45.275	16.542	572.443	572.443
CL BRG SOUTH ABUT.	1304+47.650	16.542	572.461	572.461
A	1304+57.650	16.542	572.532	572.548
B	1304+67.650	16.542	572.593	572.61
CL PIER 1	1304+82.317	16.542	572.664	572.664
C	1304+92.317	16.542	572.701	572.702
D	1305+02.317	16.542	572.728	572.73
E	1305+12.317	16.542	572.744	572.744
CL PIER 2	1305+17.691	16.542	572.749	572.749
F	1305+27.691	16.542	572.751	572.763
G	1305+37.691	16.542	572.743	572.761
CL BRG. NORTH ABUT.	1305+52.357	16.542	572.712	572.712
BK. OF NORTH ABUT.	1305+54.732	16.542	572.705	572.705

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

NOTES:
1. For elevations location plan see sheet no. S3
2. Elevations shown are to the top of concrete deck.
3. All elevations and offsets are in feet.
4. Offsets: + is to the right of ℄ IL Route 53 looking upstation.
- is to the left of ℄ IL Route 53 looking upstation.

ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION TABLES

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

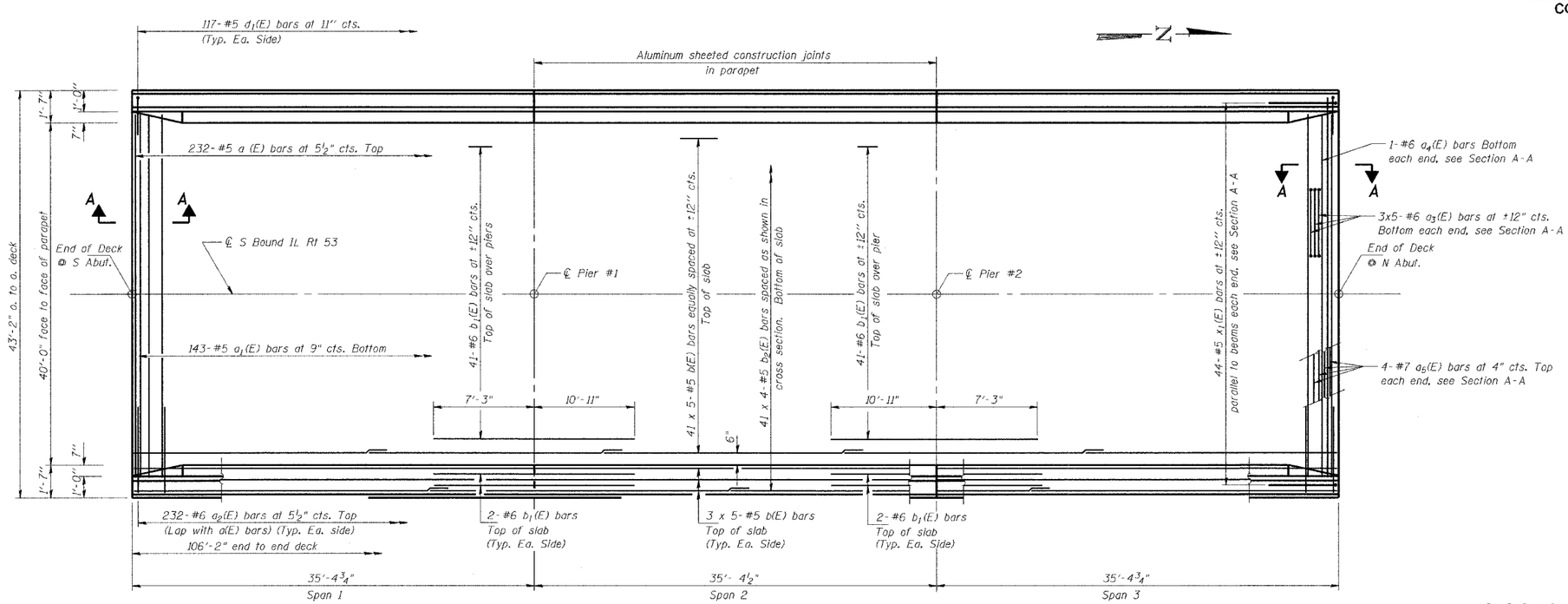
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	53
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. S5

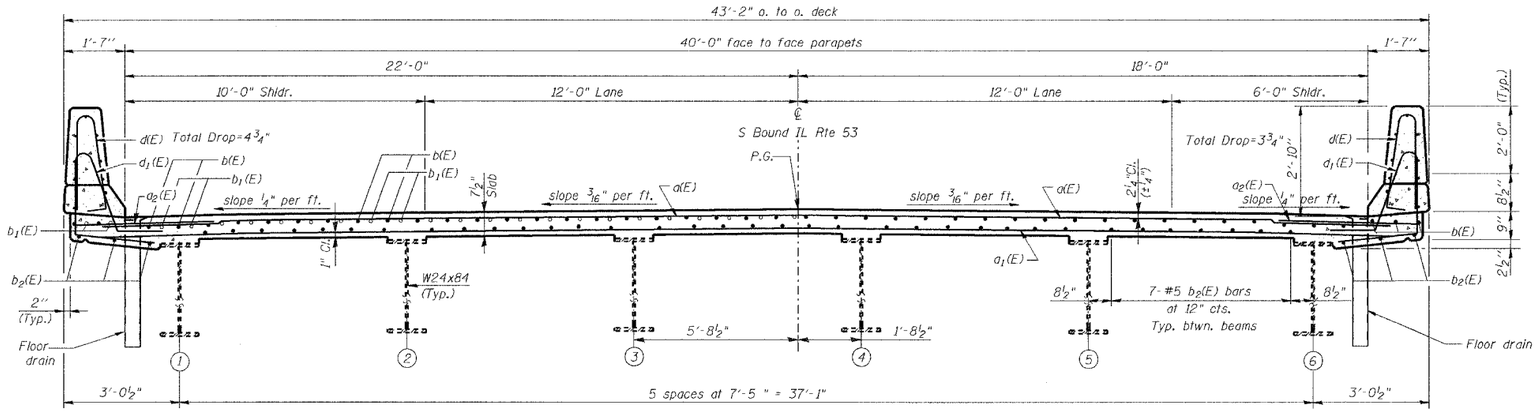
SHEETS S17

CONTRACT NO. 62269

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking North)

MIN. BAR LAP
#5 Bars = 2'-2"

Notes: See Sheet # S6 of S17 for superstructure details and Bill of Material.
Bars indicated thus 41 x 5-#5 etc. indicates 41 lines of bars with 5 lengths per line.
See Sheet # S6 of S17 for parapet reinforcement.
For section A-A see sheet # S6 of S17.

DESIGNED	GMK/GMK
CHECKED	MTP/SMK/GBC
DRAWN	GMK/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

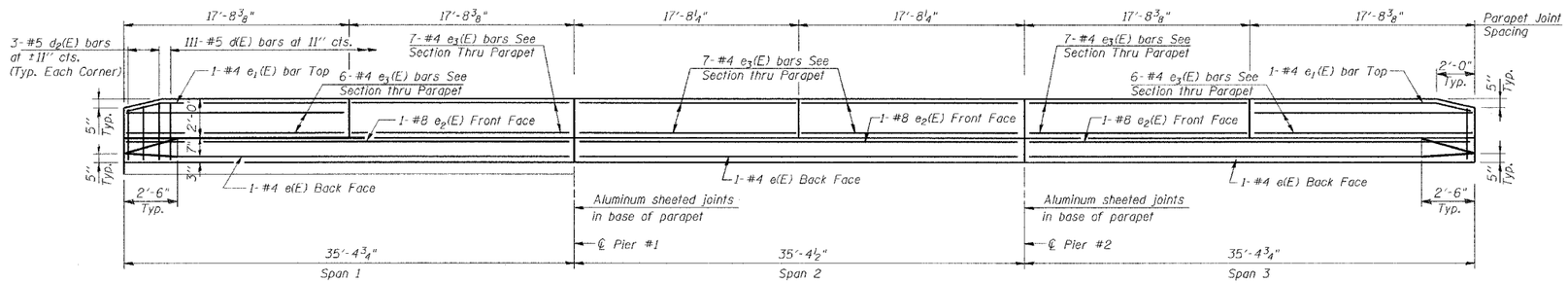
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	54
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S6
SHEETS S17

CONTRACT NO. 62269

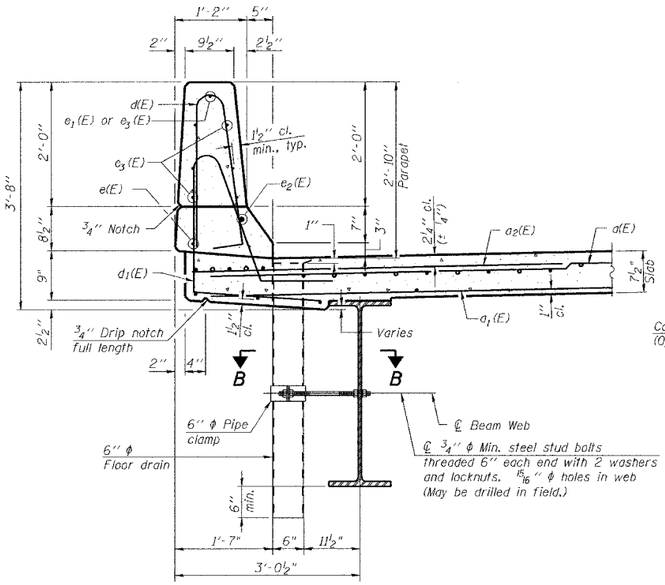


INSIDE ELEVATION OF PARAPET

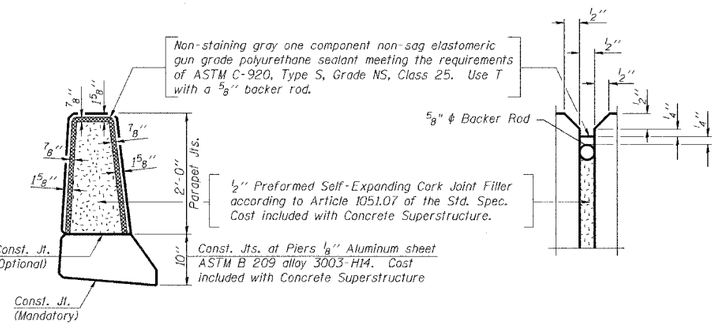
(2 Thus)

SUPERSTRUCTURE BILL OF MATERIAL

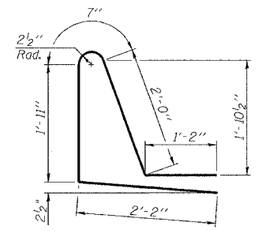
Bar	No.	Size	Length	Shape
a(E)	232	#5	42'-6"	
a_1(E)	143	#5	41'-10"	
a_2(E)	464	#6	6'-0"	
a_3(E)	30	#6	8'-6"	
a_4(E)	2	#6	42'-6"	
a_5(E)	8	#7	42'-6"	
b(E)	235	#5	22'-11"	
b_1(E)	90	#6	18'-2"	
b_2(E)	164	#5	28'-1"	
d(E)	222	#5	5'-7"	
d_1(E)	234	#5	7'-10"	
d_2(E)	12	#5	4'-7"	
e (E)	6	#4	35'-1"	
e_1(E)	4	#4	17'-5"	
e_2(E)	6	#8	35'-1"	
e_3(E)	80	#4	17'-5"	
x_1(E)	86	#5	5'-11"	
Reinforcement Bars, Epoxy Coated			Pound	41,070
Concrete Superstructure			Cu. Yds.	149.0



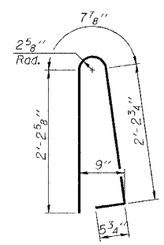
SECTION THRU PARAPET



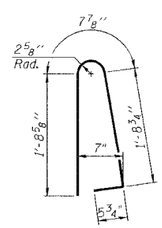
PARAPET JOINT DETAILS



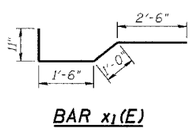
BAR d_1(E)



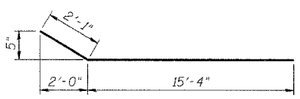
BAR d(E)



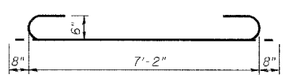
BAR d_2(E)



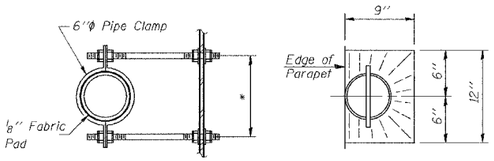
BAR x_1(E)



BAR e_1(E)



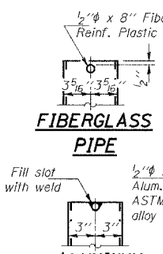
BAR a_3(E)



SECTION B-B

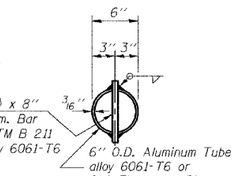
* Dimension as required by Pipe Clamp

TOP PLAN



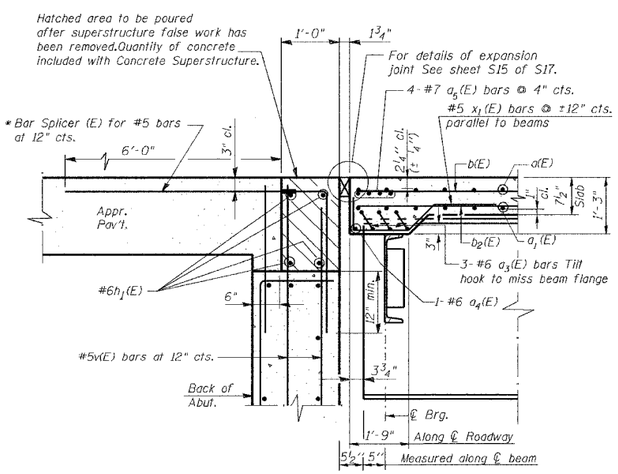
FIBERGLASS PIPE

ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)



SECTION A-A

* Alternate with #4 v_1(E) bars. Place parallel to the beams.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

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 Steel Structures Painting Council's 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.

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

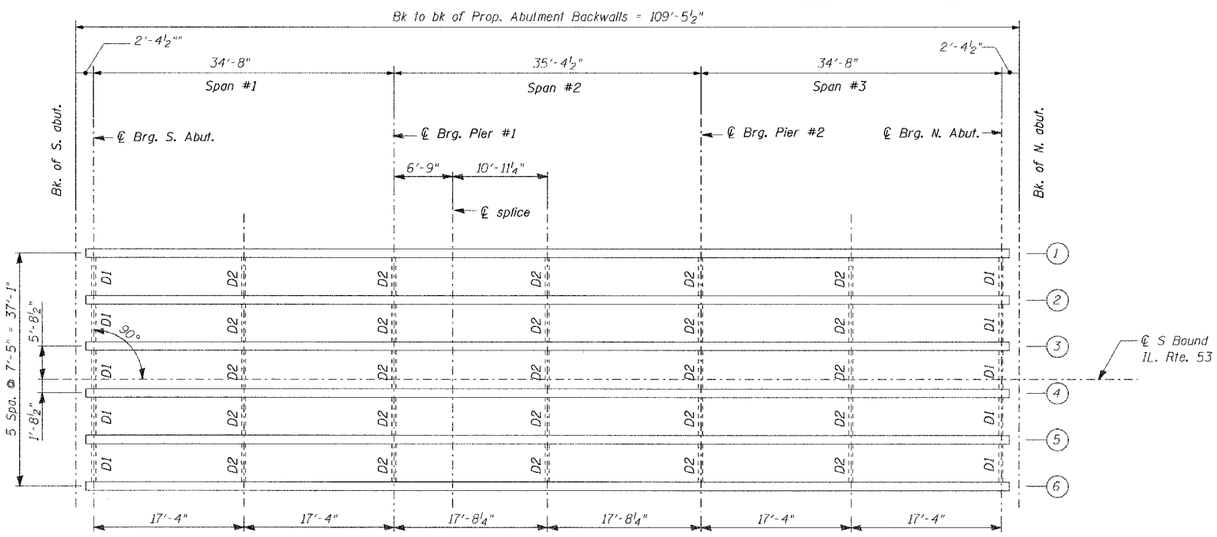
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	55
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

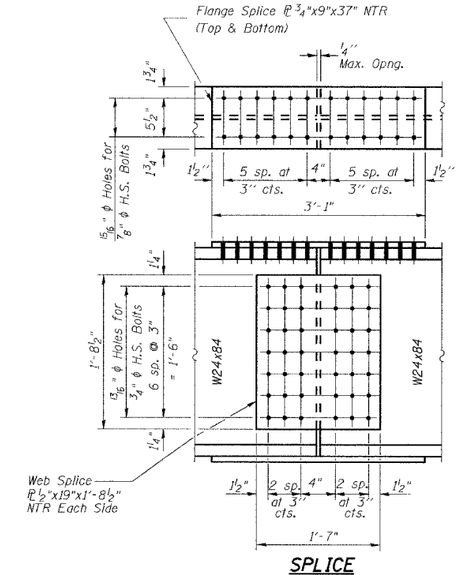
SHEET NO. S7
SHEETS S17

CONTRACT NO. 62269



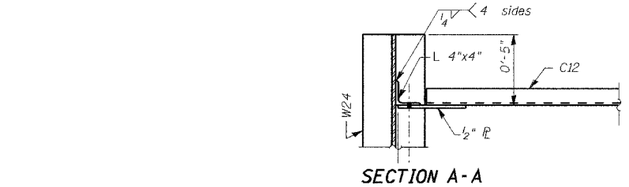
PLAN

Note:
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts, except as otherwise noted.
Individual diaphragms at support may be temporarily disconnected to install bearing anchor rods.

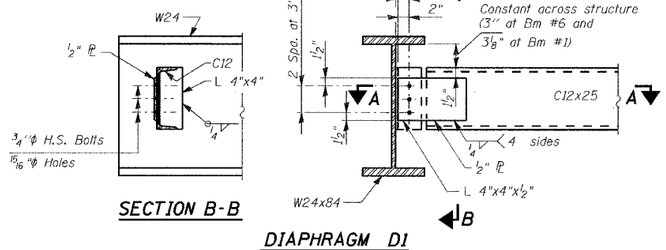


SPLICE
(6 Required)

NTR = Notch toughness requirement

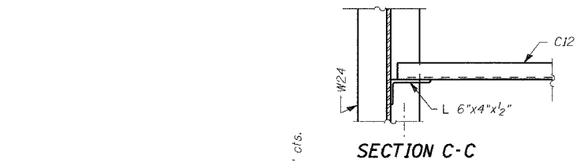


SECTION A-A

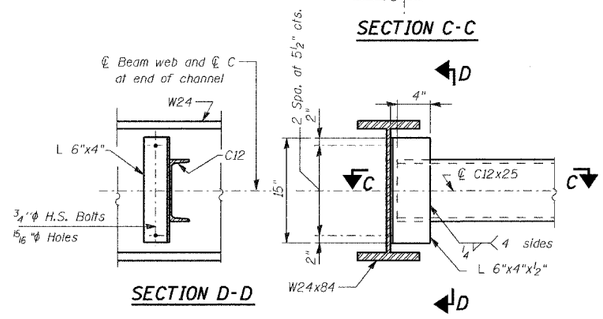


SECTION B-B

DIAPHRAGM D1
10 Required



SECTION C-C



SECTION D-D

DIAPHRAGM D2
25 Required

CONNECTION DETAILS FOR DIAPHRAGMS TO BEAMS

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

NOTES:

1. Install shear stud connectors in positive moment regions of the entire superstructure, as shown on sht. S8.
2. For cleaning and painting see general notes on sht. S2.
3. HS Bolts shall be AASHTO M164/ASTM A325.
4. Load carrying components designated " NTR" shall conform to the supplemental requirements for Notch toughness, Zone 2.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND STRUCTURAL STEEL DETAILS
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242
SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

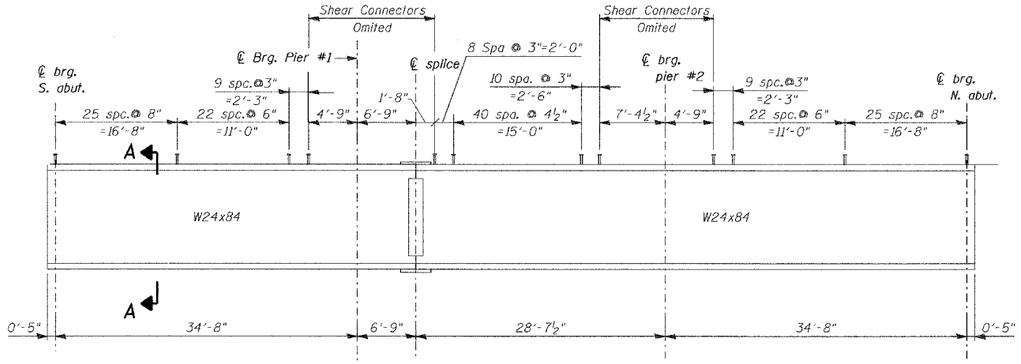
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 58

SHEETS S17

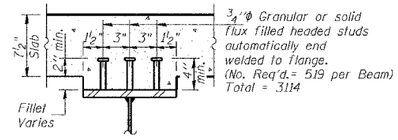
CONTRACT NO. 62269

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BEAM ELEVATION

NOTE:
All wide flange beams and splice plate material shall be AASHTO M270 Grade 50 and shall meet notch toughness requirements.



SECTION A-A
(Typical, unless noted otherwise)

SHEAR CONNECTOR DETAIL

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier #1 Pier #2	0.5 Sp. 2
Is	(in⁴)	2370	2370	2370
Ic (n)	(in⁴)	8522	-	8522
Ic (3n)	(in⁴)	6354	-	6354
Ss	(in³)	196	196	196
Sc (n)	(in³)	335	-	335
Sc (3n)	(in³)	302	-	302
Z	(in³)	-	224	-
DC1	(K/')	0.92	0.92	0.92
MDC1	('k)	88	111	32
DC2	(K/')	0.15	0.15	0.15
MDC2	('k)	14	18	5
DW	(K/')	0.33	0.33	0.33
MDW	('k)	31	40	11
MLL+I	('k)	353	231	293
Mu (Strength I)	('k)	794.0	628.0	578.0
ϕfMn, ϕfMnc	('k)	1712.0	809.0	1712.0
fs DC1	(ksi)	5.4	6.9	2.0
fs DC2	(ksi)	0.5	1.1	0.2
fs DW	(ksi)	1.1	2.4	0.4
fs 1.3(LL+I)	(ksi)	16.4	18.4	13.6
fs (Service II)	(ksi)	23.7	29.1	16.3
fs (Total) (Strength I)	(ksi)	-	38.8	-
Vf	(k)	12	15.5	9.9

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs due to non-composite loads.

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section based on modular ratio, n,used in computing fs due to short-term composite live loads.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section based upon 3 times modular ratio, 3n, used in computing fs due to long-term composite (superimposed) dead loads.

Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

DC1 is the unfactored non-composite dead load acting on the non-composite section.

DC2 is the unfactored long term composite (superimposed excluding future wearing surface) dead load.

DW is the unfactored long term composite (superimposed future wearing surface only) dead load.

Mu (Strength I) Factored design moment
1.25 (MDC1+MDC2)+1.5 M DW +1.75 MLL+Imp)

ϕfMn is the Compact composite positive moment capacity computed according to Article 6.10.7.1

ϕfMnc is the Compact non-composite negative moment capacity computed according to Article A6.1.1

fs (Service II) is the sum of the stresses from the moments below:
MDC1+MDC2+MDW+1.3MLL+Imp)

fs (Total) (Strength I) (Non-Compact Section) is the sum of the stresses due to 1.25MDC1+DC2)+1.5MDW+1.75MLL+Imp)

Vf is the factored maximum shear range computed according to Article 6.10.10

TOP OF BEAM ELEVATIONS **					
Beam	℄ Brg. S Abut	℄ Brg. Pier #1	℄ Splice	℄ Brg. Pier #2	℄ Brg. N Abut.
1	571.586	571.734	571.763	571.796	571.837
2	571.741	571.888	571.917	571.951	571.992
3	571.862	572.010	572.039	572.073	572.114
4	571.925	572.073	572.102	572.135	572.176
5	571.809	571.957	571.986	572.019	572.060
6	571.669	571.817	571.846	571.880	571.921

** For Fabrication Only.

INTERIOR GIRDER REACTION TABLE HS20 LOADING					
		S. Abut.	Pier #1	Pier #2	N. Abut.
R (DL)	(K)	19.8	53.6	53.6	19.8
R (LL)	(K)	36.0	44.2	44.0	36.0
R (Imp)	(K)	11.2	13.8	13.7	11.2
R (Total)	(K)	67.2	111.7	111.4	67.2

INTERIOR GIRDER REACTION TABLE HL93 Loading					
		S. Abut.	Pier #1	Pier #2	N. Abut.
R (DC1)	(K)	12.7	35.5	35.5	12.7
R (DC2+DW)	(K)	6.6	18.6	18.6	6.6
R(LL)	(K)	42.2	83.7	83.7	42.2
R (Imp)	(K)	13.9	27.6	27.6	13.9
R (Total)	(K)	75.6	165.5	165.5	75.6

BILL OF MATERIAL

Item	Unit	Total
Erecting Structural Steel	L Sum	0.48
Stud Shear Connectors	Each	3114

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

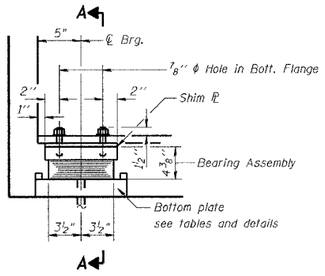
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

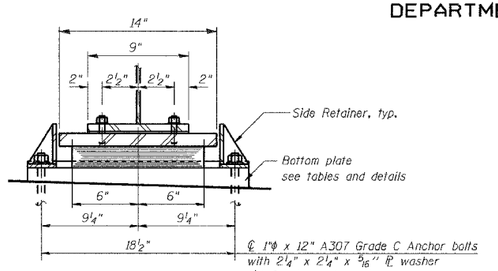
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S9
SHEETS S17

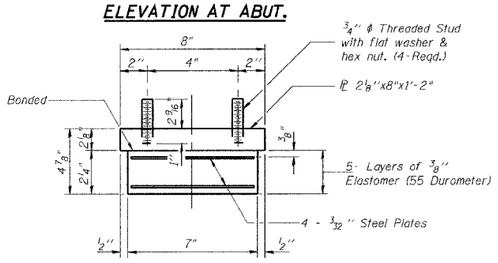
CONTRACT NO. 62269



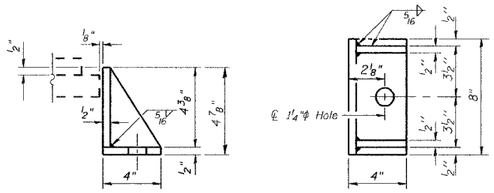
ELEVATION AT ABUT.



SECTION A-A



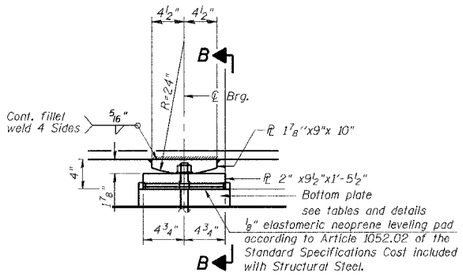
BEARING ASSEMBLY



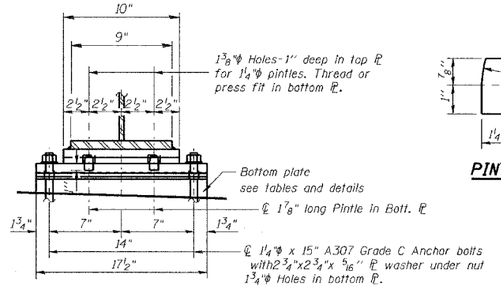
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

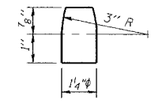
TYPE I ELASTOMERIC EXP. BRG. @ ABUTMENTS
(12 Req'd)



ELEVATION AT PIER #1

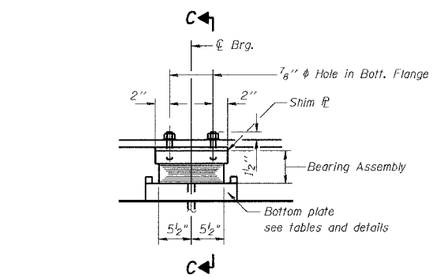


SECTION B-B

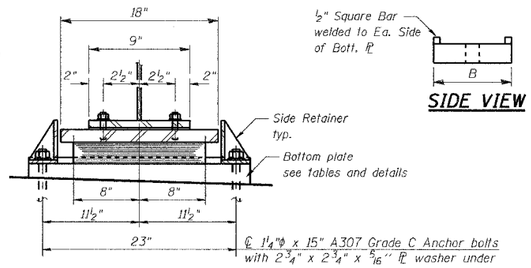


PINTLE

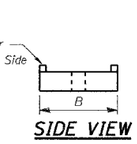
FIXED BEARING @ PIER #1
(6 Req'd)



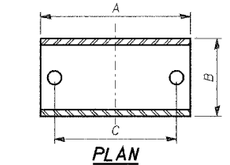
ELEVATION AT PIER #2



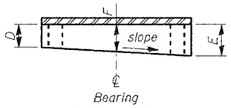
SECTION C-C



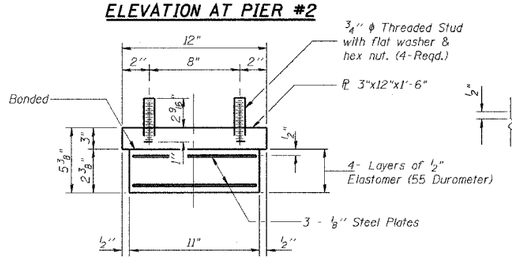
SIDE VIEW



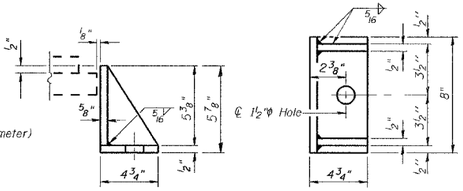
PLAN



ELEVATION
BEARING BOTTOM PLATES



BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

TYPE I ELASTOMERIC EXP. BRG. @ PIER #2
(6 Req'd)

Bottom Plate @ South Abutment (Exp.)

Beam No.	A	B	C	D	E	F
1	22 1/4	9	18 1/2	1 5/16	1 3/4	1 9/16
2	22 1/4	9	18 1/2	1 1/4	1 3/4	1 1/2
3	22 1/4	9	18 1/2	1 7/16	1 3/4	1 5/8
4	22 1/4	9	18 1/2	1 5/16	1 5/8	1 1/2
5	22 1/4	9	18 1/2	1 5/16	1 9/16	1 1/2
6	22 1/4	9	18 1/2	1 1/4	1 9/16	1 7/16

Bottom Plate @ North Abutment (Exp.)

Beam No.	A	B	C	D	E	F
1	22 1/4	9	18 1/2	1/8	9/16	3/8
2	22 1/4	9	18 1/2	1/16	9/16	5/16
3	22 1/4	9	18 1/2	1/4	9/16	7/16
4	22 1/4	9	18 1/2	1/8	7/16	5/16
5	22 1/4	9	18 1/2	1/8	1/2	5/16
6	22 1/4	9	18 1/2	1/16	1/2	5/16

Bottom Plate @ Pier #1 (Fix.)

Beam No.	A	B	C	D	E	F
1	17 1/2	11 1/2	14	2	2 5/16	2 3/16
2	17 1/2	11 1/2	14	2	2 3/8	2 5/16
3	17 1/2	11 1/2	14	2 3/16	2 7/16	2 5/16
4	17 1/2	11 1/2	14	2 1/16	2 5/16	2 3/16
5	17 1/2	11 1/2	14	2 1/16	2 5/16	2 3/16
6	17 1/2	11 1/2	14	1 15/16	2 5/16	2 1/8

Bottom Plate @ Pier #2 (Exp.)

Beam No.	A	B	C	D	E	F	Grinding Req'd
1	27 3/4	13	23	0	9/16	5/16	*-3/16
2	27 3/4	13	23	0	9/16	5/16	*-3/16
3	27 3/4	13	23	1/16	7/16	1/4	
4	27 3/4	13	23	0	7/16	1/4	*-1/8
5	27 3/4	13	23	0	7/16	3/16	*-1/16
6	27 3/4	13	23	0	9/16	5/16	*-1/4

* Existing top surface of Pier # 2 need to be ground under proposed bottom plate to the thickness shown.

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.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 36.

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.

Notes: Anchor bolts at fixed bearings may be built into the masonry.

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly Type I	Each	18
Anchor bolts 1"ϕ	Each	24
Anchor bolts 1 1/4"	Each	24

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

BEARING DETAILS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

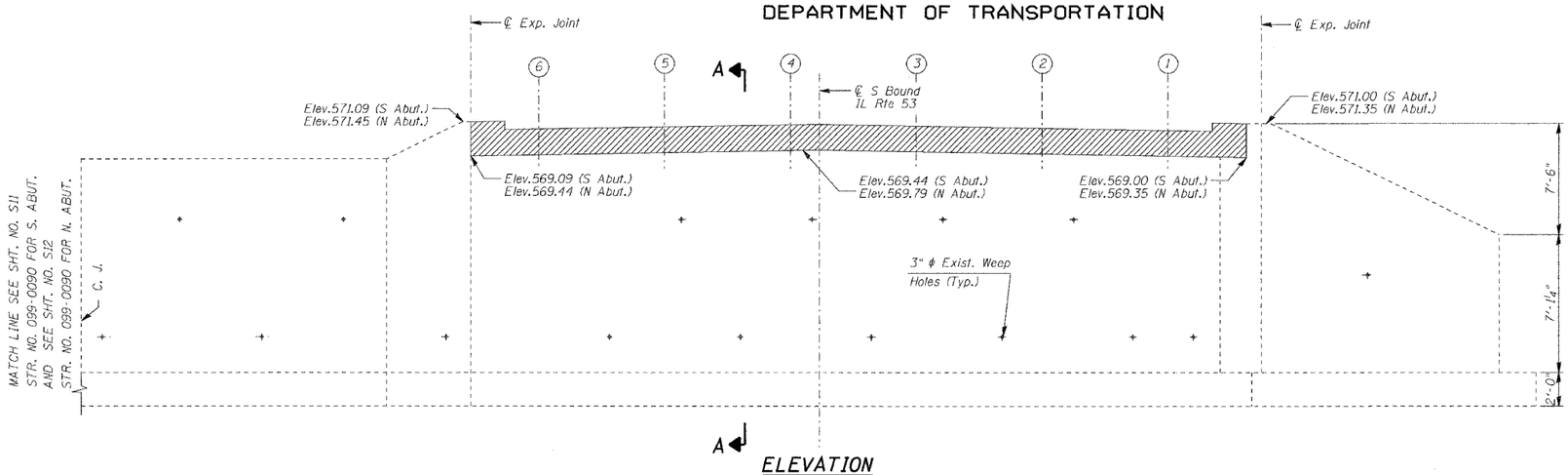
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	58
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S10

SHEETS S17

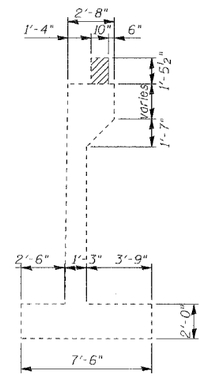
CONTRACT NO. 62269

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

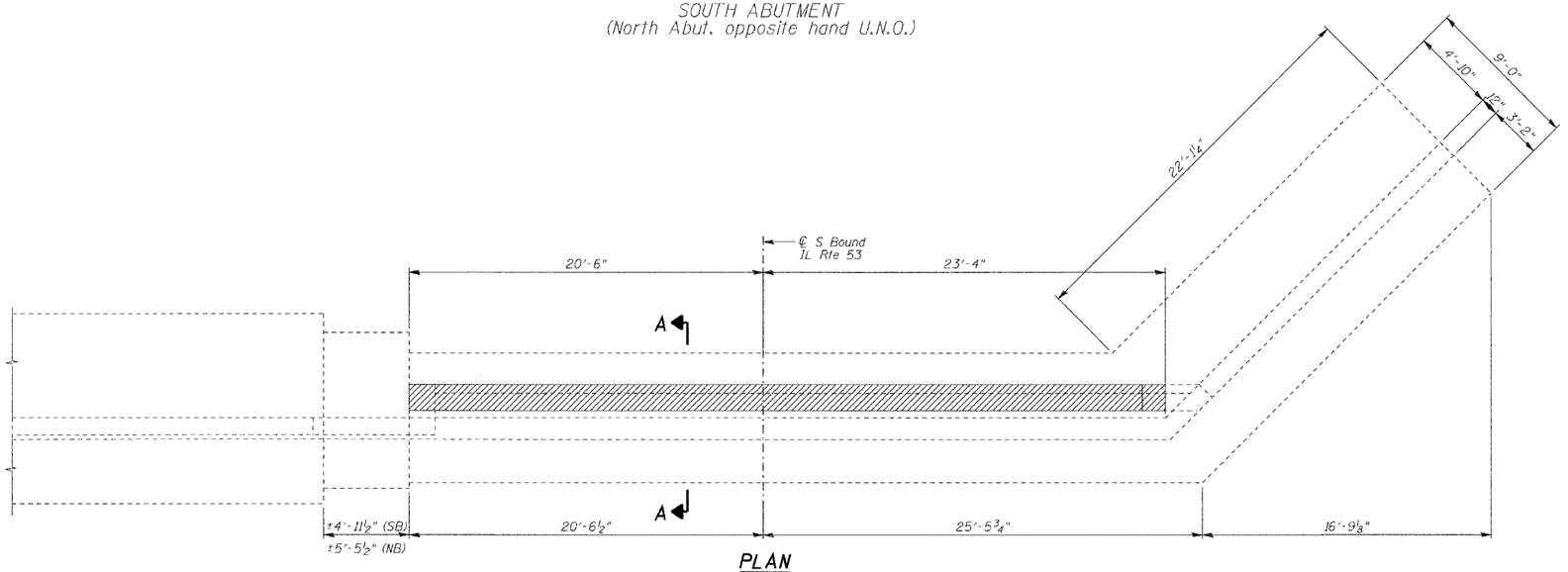


ELEVATION

SOUTH ABUTMENT
(North Abut. opposite hand U.N.O.)



SECTION A-A



PLAN

SOUTH ABUTMENT
(North Abut. opposite hand U.N.O.)

NOTES:

1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.

LEGEND:

CONCRETE REMOVAL

BILL OF MATERIAL

PAY ITEM	UNIT	S. ABUT.	N. ABUT.	TOTAL
CONCRETE REMOVAL	Cu yd	2.5	2.5	5.0

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL DETAILS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

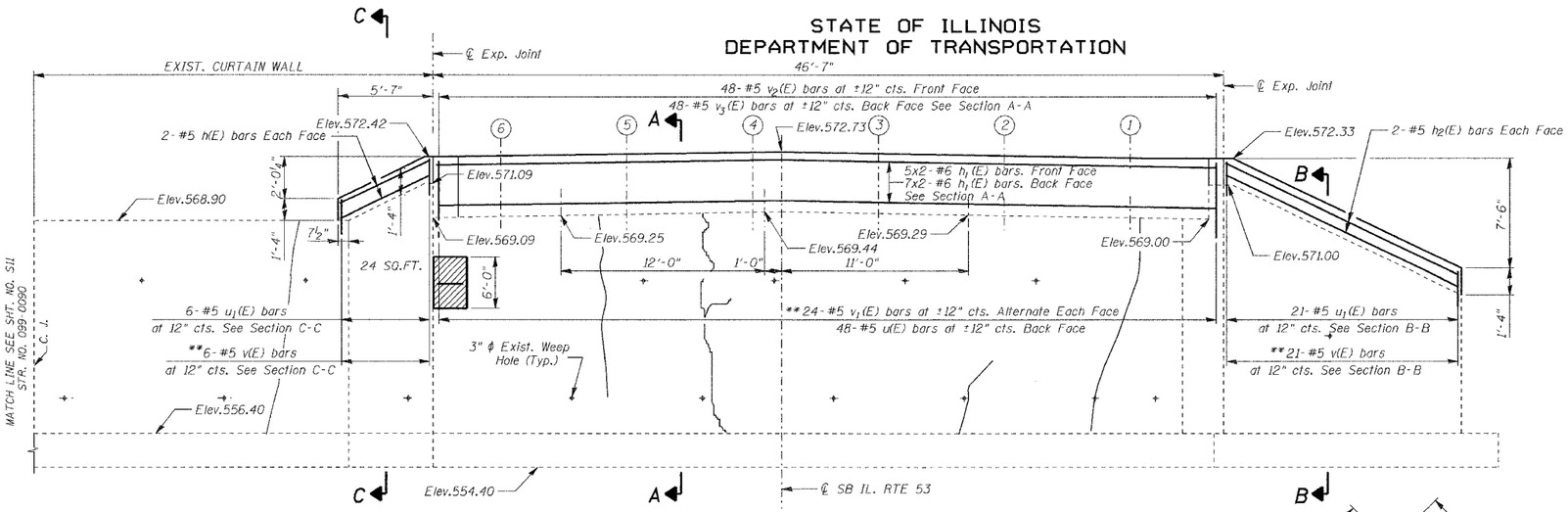
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	59
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S11
SHEETS S17

CONTRACT NO. 62269

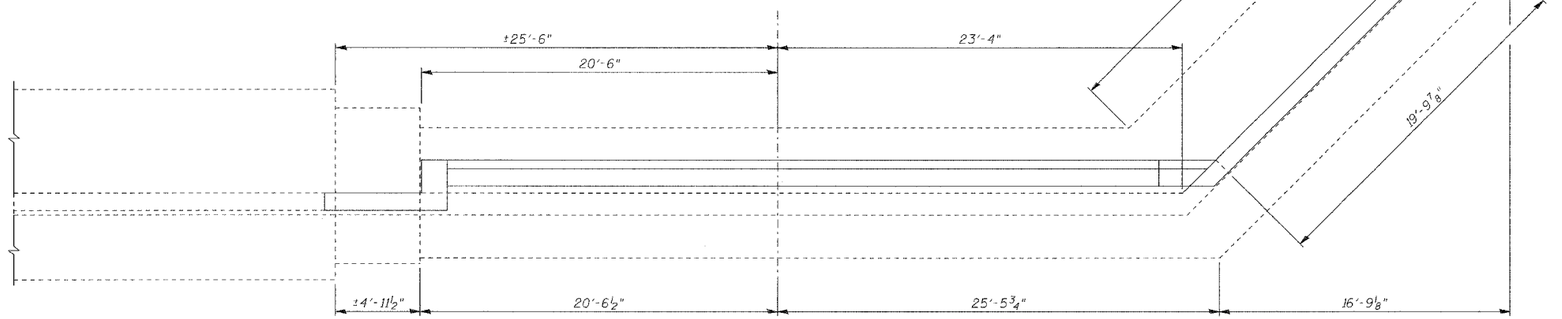
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



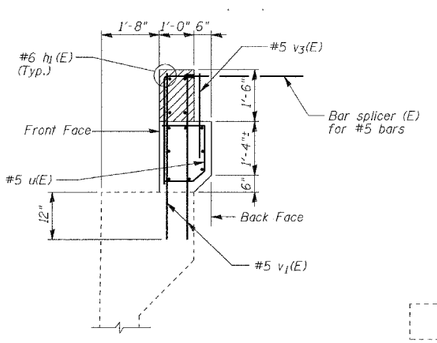
ELEVATION

(Looking South)

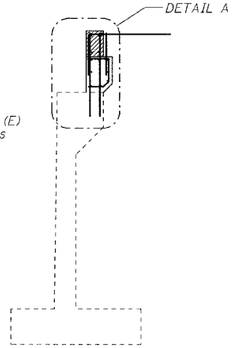
** Drill and grout #5 v(E) and #5 v_1(E) bars in $\frac{7}{8}$" dia. x 12" min. drilled holes according to Article 584 of the Standard Specifications.



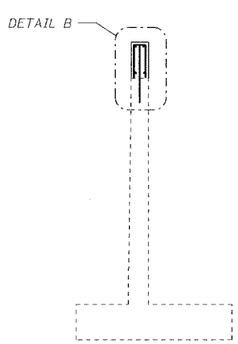
PLAN



DETAIL A

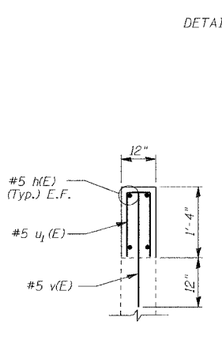


SECTION A-A

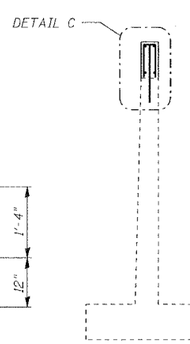


DETAIL B

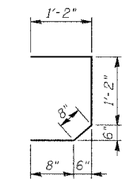
SECTION B-B



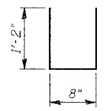
DETAIL C



SECTION C-C



#5 u(E) bars



#5 u1(E) bars

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	5'-9"	—
h_1(E)	24	#6	24'-6"	—
h_2(E)	4	#5	20'-10"	—
v(E)	31	#5	2'-5"	—
v_1(E)	48	#5	4'-2"	—
v_3(E)	48	#5	2'-8"	—
u(E)	48	#5	3'-8"	⊐
u_1(E)	27	#5	3'-0"	⊔
Reinforcement Bars, Epoxy Coated			Pound	1,920
Concrete Structures			Cu yd	9.0
Structural Repair of Concrete (Depth greater than 5")			Sq ft	24.0

MINIMUM BAR LAP

#5 bar = 2'-2"
#6 bar = 2'-7"

MINIMUM EMBEDMENT

#5 bar = 12"

LEGEND:

HAIRLINE CRACK (CRACK <$\frac{1}{16}$" WIDE) NOT TO BE SEALED

SPALL WITH EXPOSED REBAR
Structural Repair of Concrete
(Depth greater than 5")

NOTES:

1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system.
   Cost included in the pay item for Concrete Removal.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
REPAIRS & EXTENSION

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

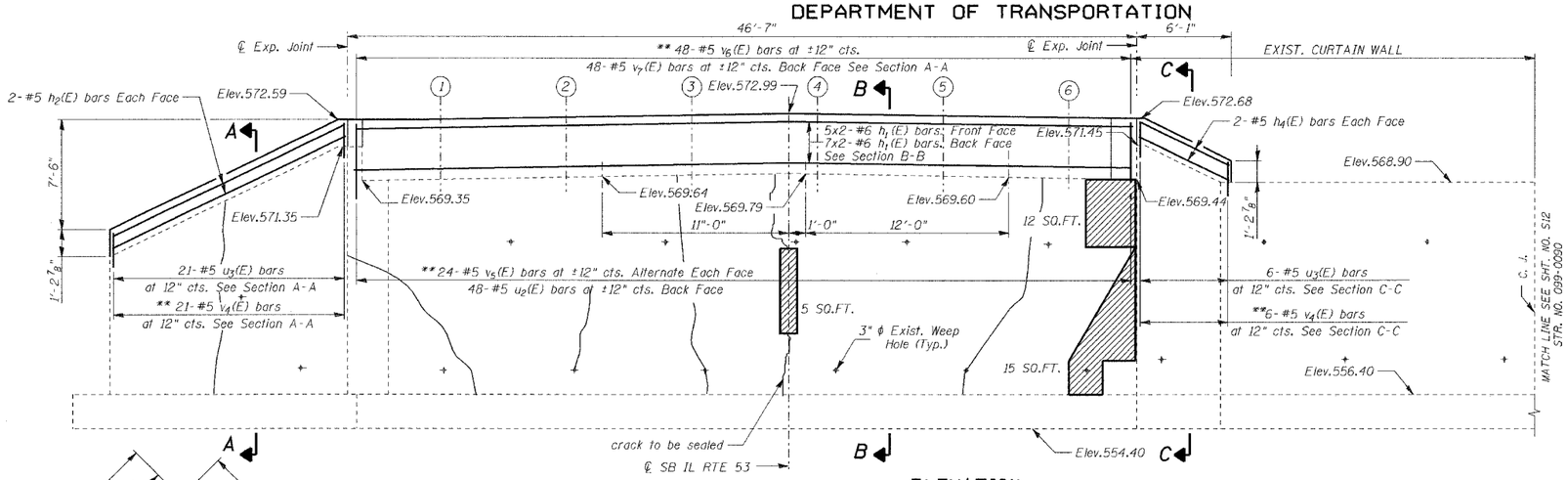
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	60
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

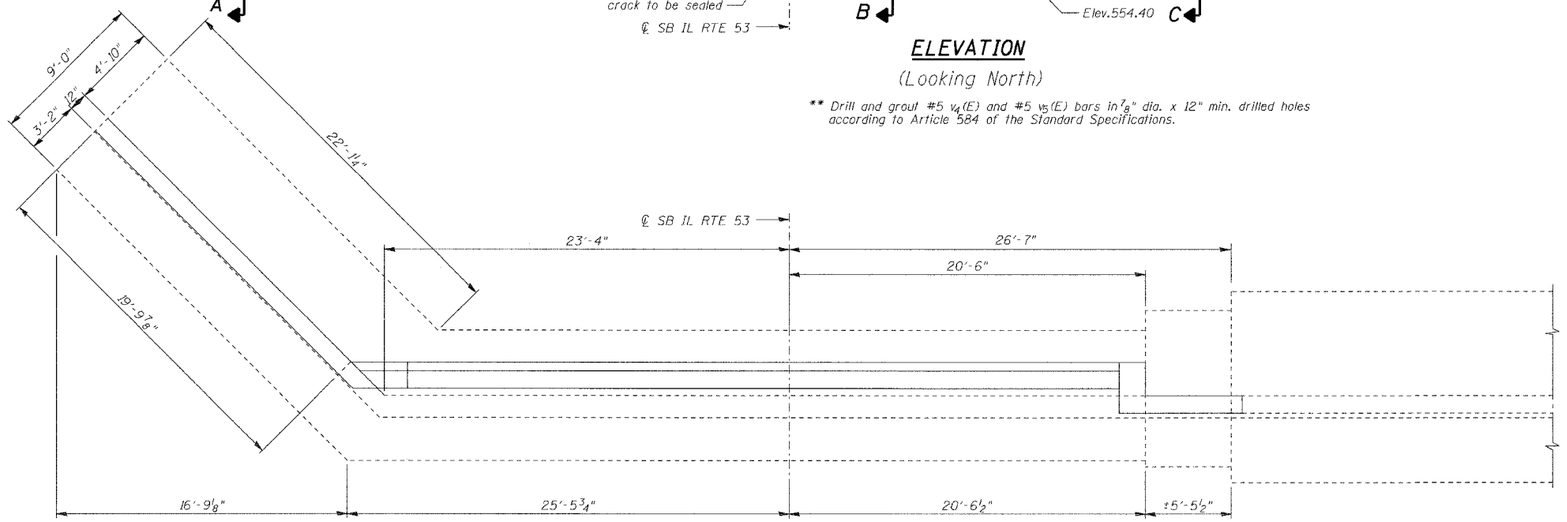
SHEET NO. S12
SHEETS S17

CONTRACT NO. 62269



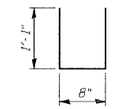
ELEVATION
(Looking North)

** Drill and grout #5 v_4(E) and #5 v_5(E) bars in 7/8" dia. x 12" min. drilled holes according to Article 584 of the Standard Specifications.



PLAN

#5 u_2(E) bars



#5 u_3(E) bars

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1(E)	24	#6	24'-6"	——
h_2(E)	4	#5	20'-10"	——
h_4(E)	4	#5	6'-3"	——
v_4(E)	27	#5	2'-1"	——
v_5(E)	48	#5	4'-7"	——
v_7(E)	48	#5	3'-1"	——
u_2(E)	48	#5	3'-11"	⊐
u_3(E)	27	#5	2'-10"	⊔
Reinforcement Bars, Epoxy Coated			Pound	1,980
Concrete Structures			Cu yd	10.3
Epoxy Crack Injection			Foot	15.0
Structural Repair of Concrete (Depth greater than 5")			Sq ft	32.0

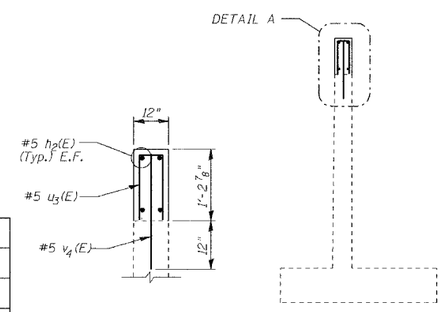
MINIMUM BAR LAP
#5 bar = 2'-2"
#6 bar = 2'-7"

MINIMUM EMBEDMENT
#5 bar = 12"

LEGEND:
HAIRLINE CRACK (CRACK <1/16" WIDE)
NOT TO BE SEALED UNLESS NOTED OTHERWISE

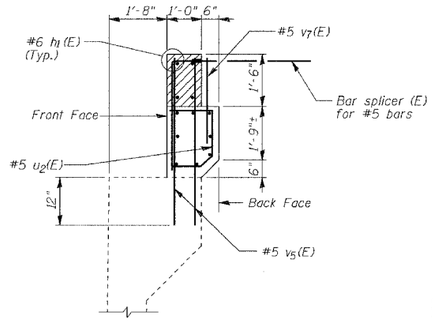
STRUCTURAL REPAIR OF CONCRETE
(DEPTH GREATER THAN 5 INCHES)

NOTES:
1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system.
Cost included in the pay item for Concrete Removal.

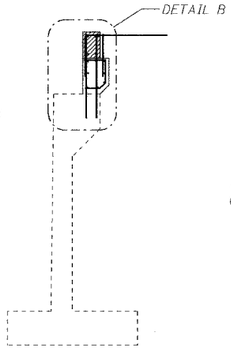


DETAIL A

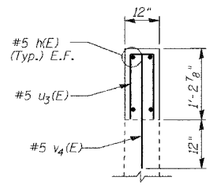
SECTION A-A



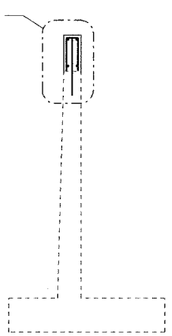
DETAIL B



SECTION B-B



DETAIL C



SECTION C-C

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
REPAIRS & EXTENSION
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242
SCALE: NONE
DATE: AUGUST 2007

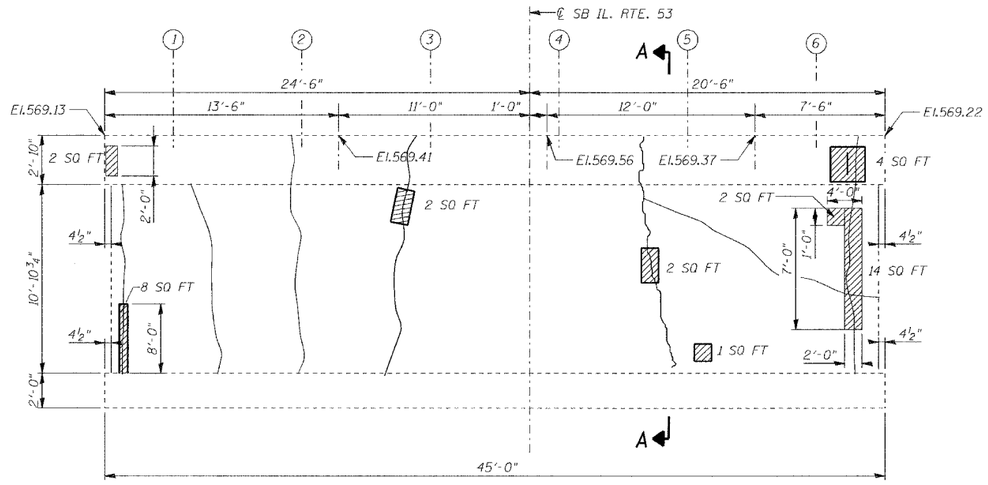
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

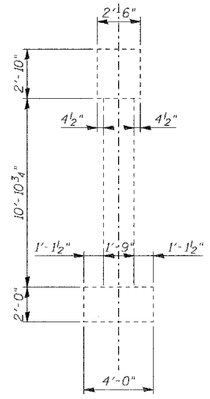
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	61
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S13
SHEETS S17

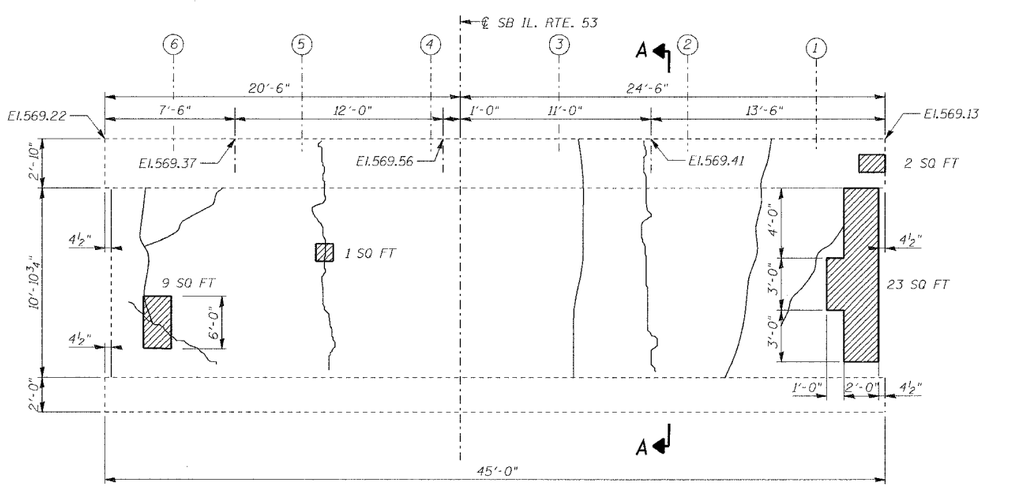
CONTRACT NO. 62269



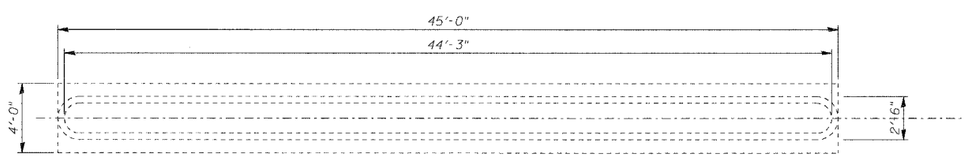
SOUTH ELEVATION
(Looking North)



SECTION A-A



NORTH ELEVATION
(Looking South)



PLAN - EXISTING

BILL OF MATERIAL

PAY ITEM	UNIT	S. ELEV.	N. ELEV.	TOTAL
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	31.0	35	66.0
STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5")	SQ FT	4.0	0	4.0

LEGEND:

HAIRLINE CRACK (CRACK <1/16" WIDE) NOT TO BE SEALED

STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)

SPALL WITH EXPOSED REBAR
STRUCTURAL REPAIR OF CONCRETE
(DEPTH GREATER THAN 5")

NOTES:

1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER No. 1 - REPAIRS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

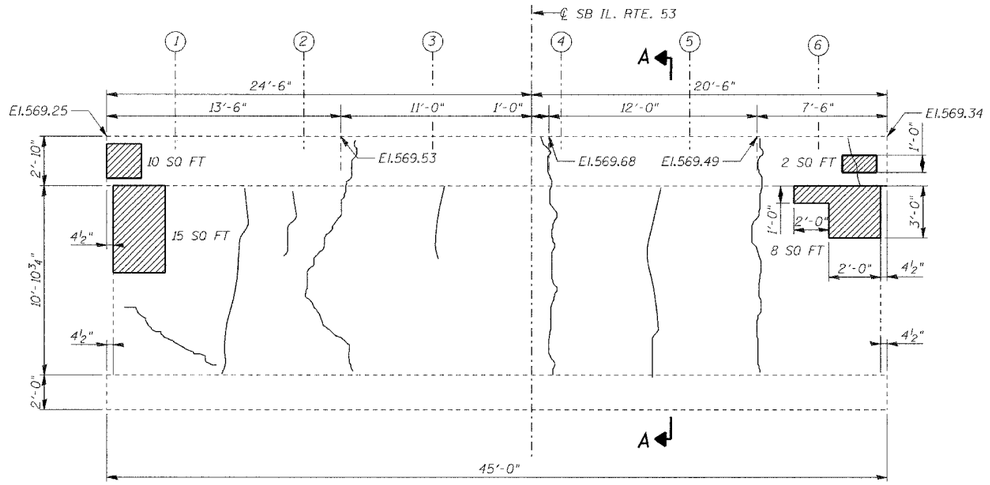
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	62
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

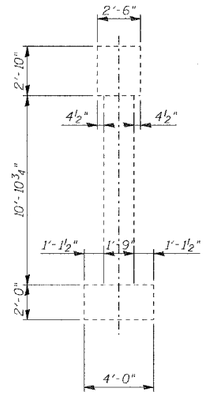
SHEET NO. S14
SHEETS S17

CONTRACT NO. 62269

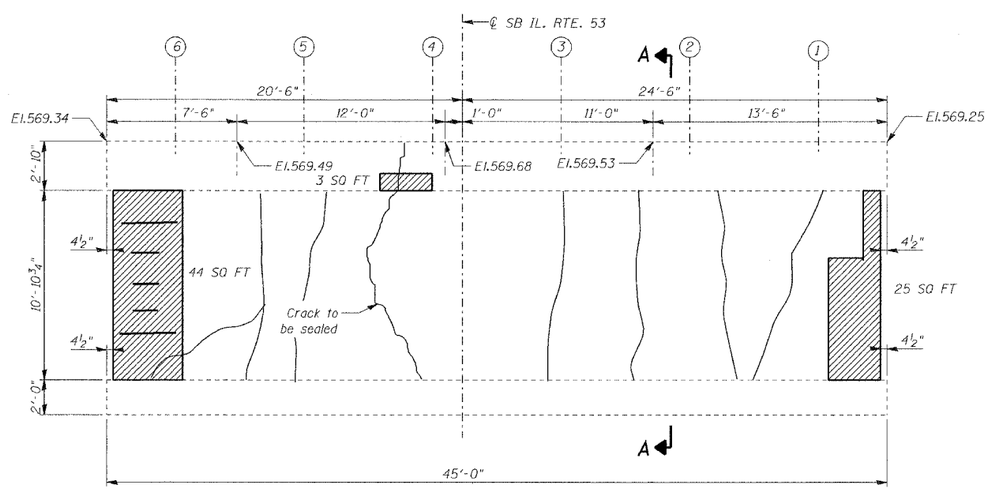
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



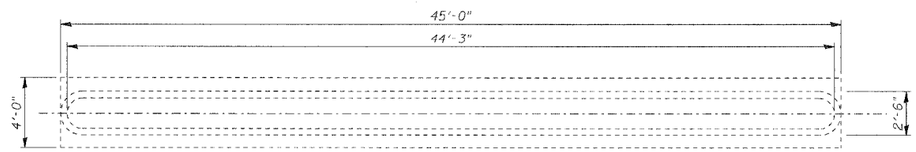
SOUTH ELEVATION
(Looking North)



SECTION A-A



NORTH ELEVATION
(Looking South)



PLAN - EXISTING

BILL OF MATERIAL

PAY ITEM	UNIT	S. ELEV.	N. ELEV.	TOTAL
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	35.0	28.0	63.0
STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5")	SQ FT	0.0	44.0	44.0
EPOXY CRACK INJECTION	FOOT	0.0	15.0	15.0

LEGEND:

- HAIRLINE CRACK (CRACK <1/16" WIDE. NOT TO BE SEALED UNLESS NOTED OTHERWISE
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)
- SPALL WITH EXPOSED REBAR STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5")

NOTES:

1. Concrete removal shall be accomplished by methods that will not damage the existing Abutments and Piers.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the pay item for Concrete Removal.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER No. 2 - REPAIRS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

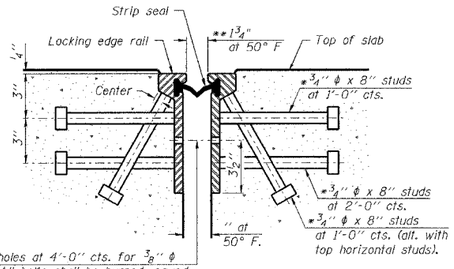
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	86	63
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S15
SHEETS S17

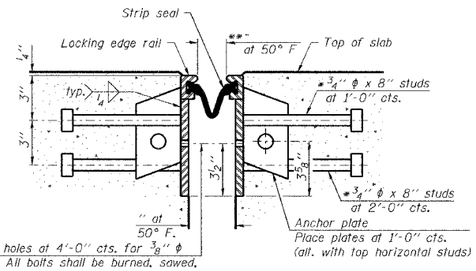
CONTRACT NO. 62269

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

** When joint is fixed, dimension is set at $1\frac{1}{2}$".



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

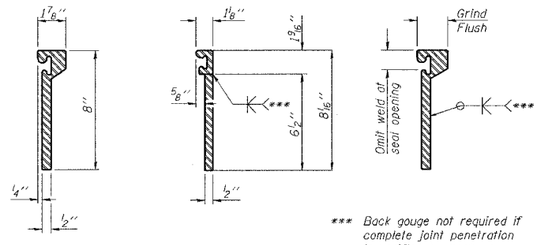


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

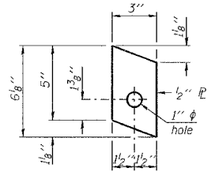
Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement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

SECTION THRU ROLLED RAIL JOINT

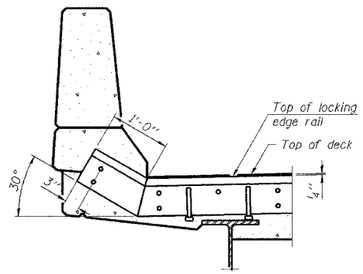
SECTION THRU WELDED RAIL JOINT



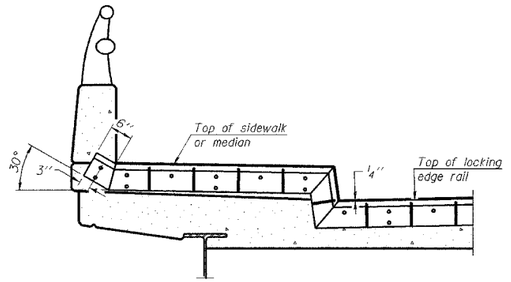
*** Back gouge not required if complete joint penetration is verified by mock-up.



ANCHOR ℄
(for welded rail)



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.

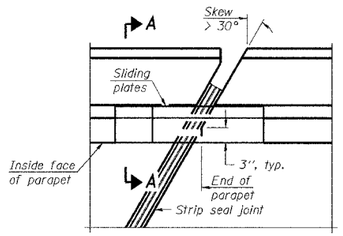
ROLLED (EXTRUDED) RAIL

WELDED RAIL

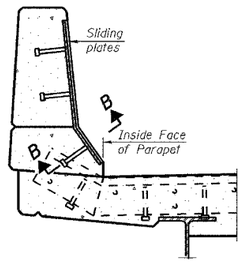
LOCKING EDGE RAIL SPLICE

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

LOCKING EDGE RAILS

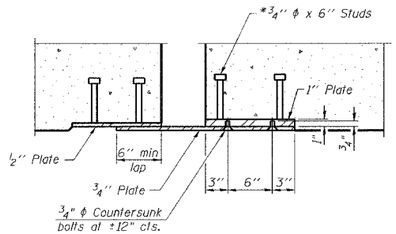


PLAN



SECTION A-A

TYPICAL END TREATMENTS



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	87

POINT BLOCK DETAILS
(for skews > 30°)

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

EJ-SSJ 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242
SCALE: NONE
DATE: AUGUST 2007

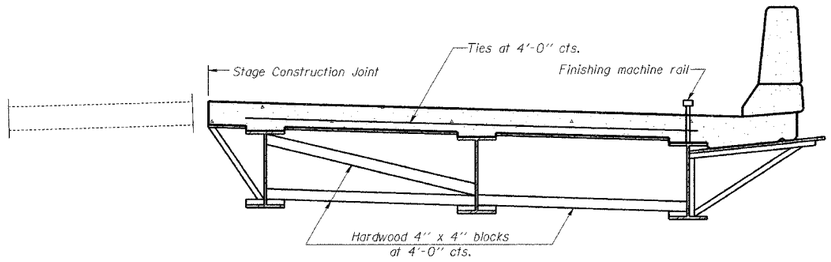
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

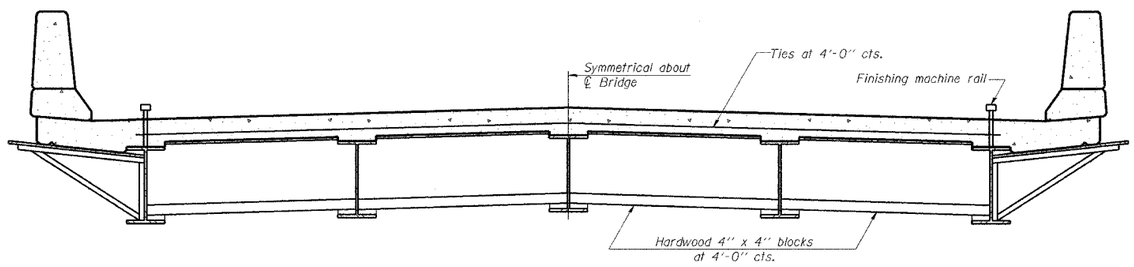
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	87	64
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S16
SHEETS S17

CONTRACT NO. 62269



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	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

SB-1 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

CANTILEVER FORMING BRACKETS
FOR SUPERSTRUCTURES
FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242
SCALE: NONE
DATE: AUGUST 2007

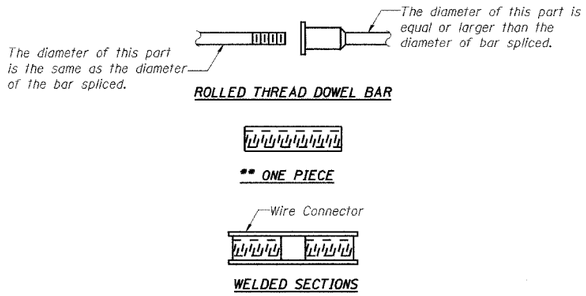
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 846	4B-1-R	WILL	86	65
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

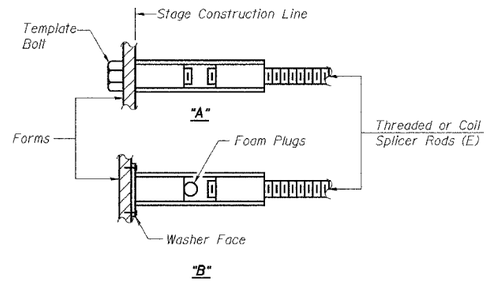
SHEET NO. S17
SHEETS S17

CONTRACT NO. 62269



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.

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.

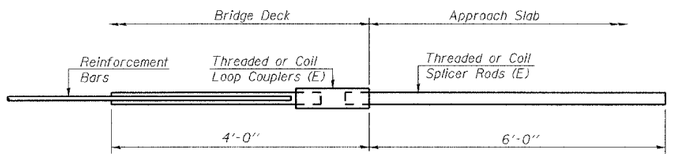
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

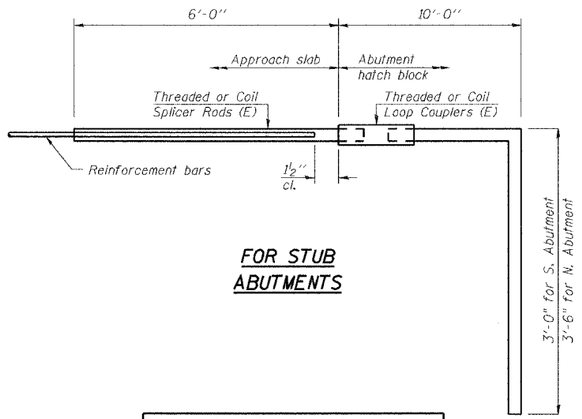
Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

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'-0"	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



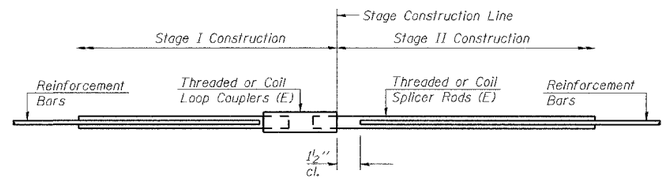
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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 = 96



STANDARD

Bar Size	No. Assemblies Required	Location

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC

BSD-1 11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS

FAP 846
SB IL. ROUTE 53 OVER PRAIRIE CREEK
STATION 1305+00 SECTION 4B-1-R
WILL COUNTY
STRUCTURE NO. 099-0242

SCALE: NONE
DATE: AUGUST 2007

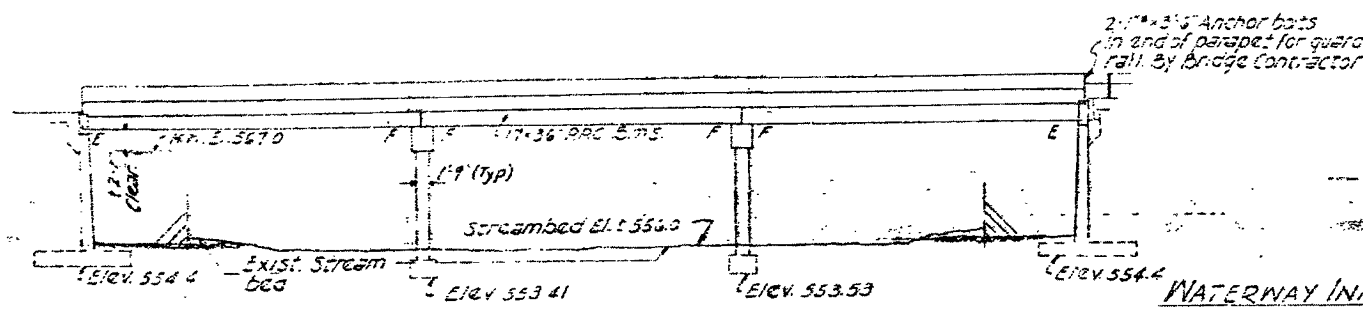
DELTA ENGINEERING INC.
CONSULTING ENGINEERS, CHICAGO ILLINOIS.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.5 & 46	48-1-R	WILL	32	8

SHEET NO. 1 — 9 SHEETS

SHEET NO. 65A



ELEVATION

WATERWAY INFORMATION

Character	rolling, clay & cultivated
Drainage Area	45 Sq. Miles
Present Opening	450 Sq. Ft.
Required Opening	610 Sq. Ft.
Proposed Opening	1055 Sq. Ft.
Q(50)	2425 C.F.S.
Q(100)	2910 C.F.S.
Created Head	0.27' Single Struct.
Created Head	0.35' Dual Struct.
All Time H.W.E.E.	567.7

GENERAL NOTES

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

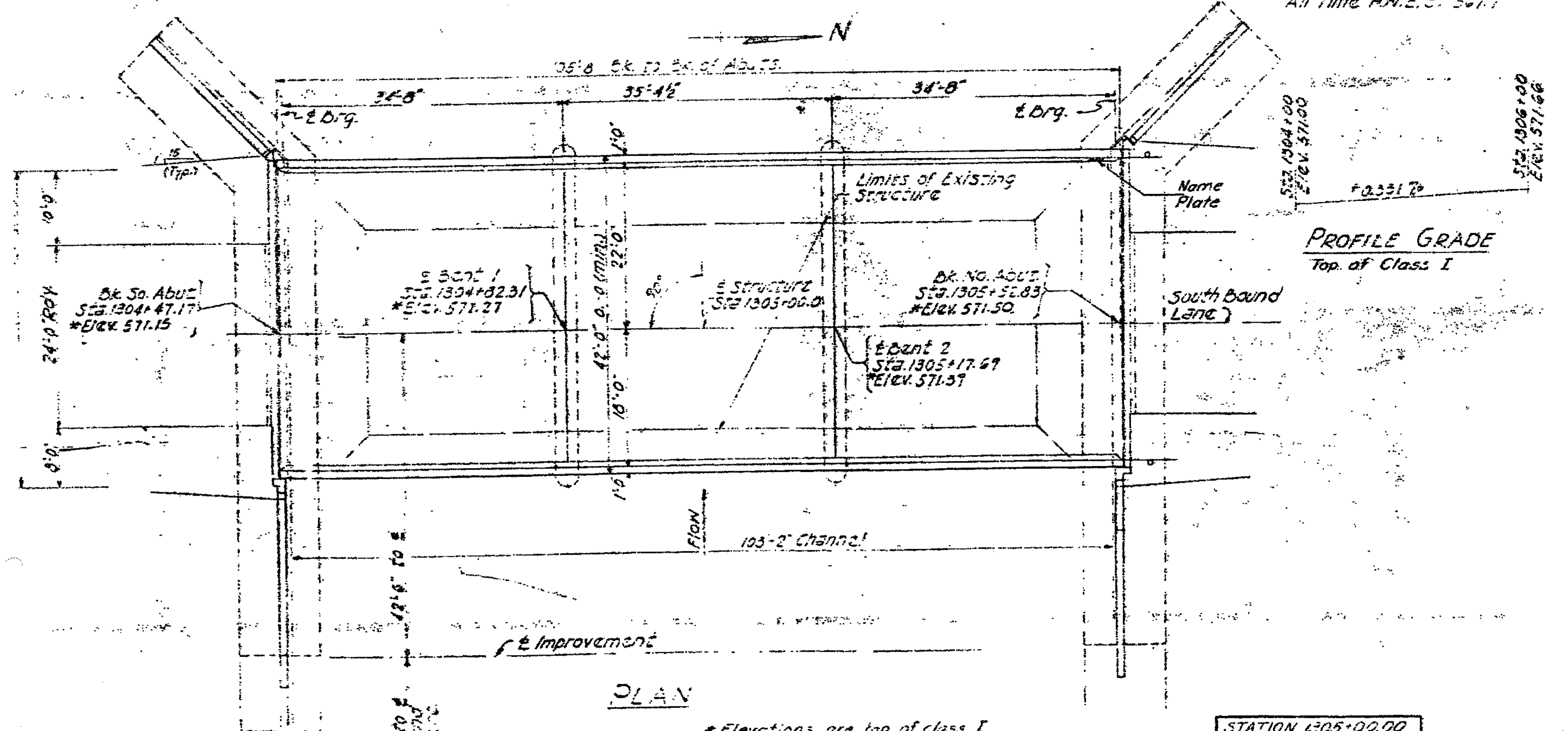
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

The back face of closed abutments and wing walls shall be waterproofed according to Art. 503.11 of the Standard Specifications.

Expansion bolts shall consist of self drilling expansion anchors and ¾"ø x 12" hooked bolts

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bituminous Concrete Surface Course, Class I	Tons	54		54
Removal of Existing Structures	Each			1
Rock Excavation for Structures	Cu. Yds.		28	28
Protective Coat	Sq. Yds.	55		85
Precast Prestressed Concrete Deck Beams (17")	Sq. Ft.	4440		4440
Structural Steel	Lbs.	5680		5680
Class X Concrete	Cu. Yds.	26.1	317.7	343.8
Reinforcement Bars	Lbs.	2650	23020	25670
Name Plates	Each			1
Waterproofing Membrane System	Sq. Yds.	452		452
Preformed Joint Sealer (2½")	Lin. Ft.	86		86
Portland Cement Mortar Fairing Course	Lin. Ft.	1374		1374
Concrete Removal	Cu. Yds.		10	10
Expansion Bolts ¾"ø	Each		12	12
Structure Excavation	Cu. Yds.		520	520



PROFILE GRADE
Top of Class I

PLAN

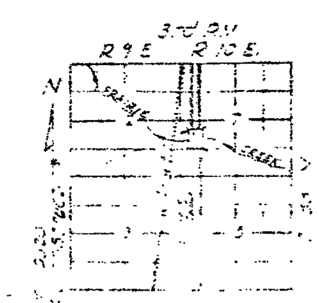
*Elevations are top of class I

DESIGN STRESSES

FIELD UNITS
Curb & Parapet
f'c = 1400 psi
fs = 20,000 psi (Reinf.)
Abutments & Piers
f'c = 3500 psi
fy = 60,000 psi (Reinf.)
n = 8.5

STATION 1305+00.00
BUILT 197_ BY
STATE OF ILLINOIS
F.A. RT. 5 SEC 48-1-R
LOADING HS 20

NAME PLATE
See Std 2:13

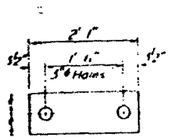


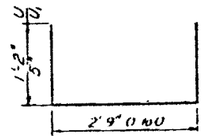
DESIGNED		EXAMINED	
CHECKED		PASSED	
DRAWN		APPROVED	
CHECKED			

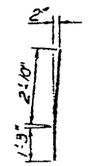
APRIL 22 1975

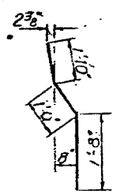
SOUTHBOUND BRIDGE
STRUCTURE NO. 099-0242
EXISTING PLANS

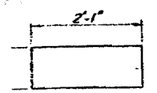
FOR REFERENCE ONLY

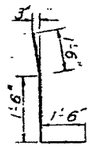


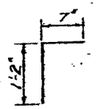


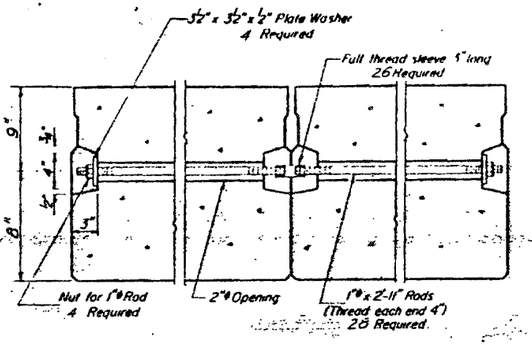


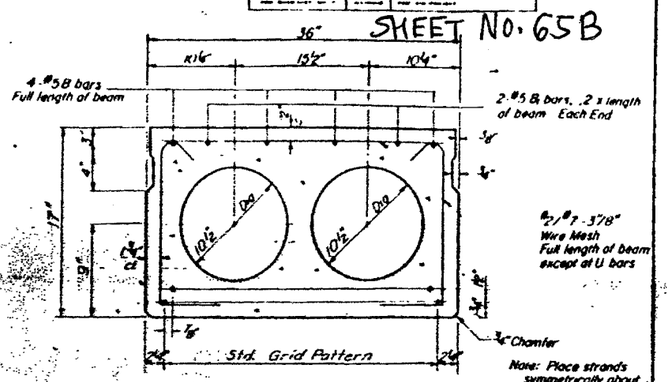


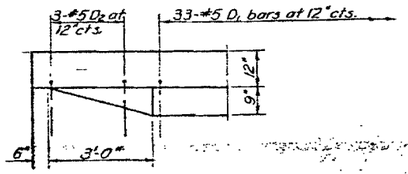


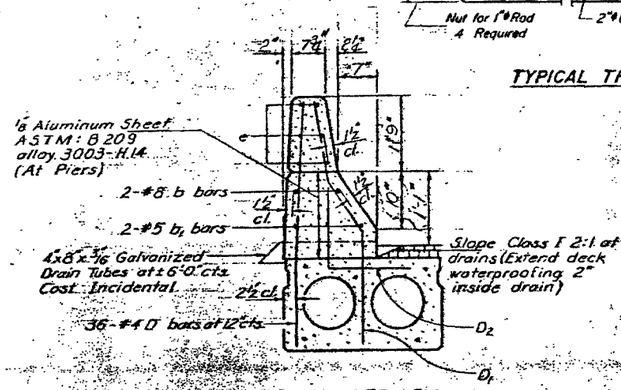


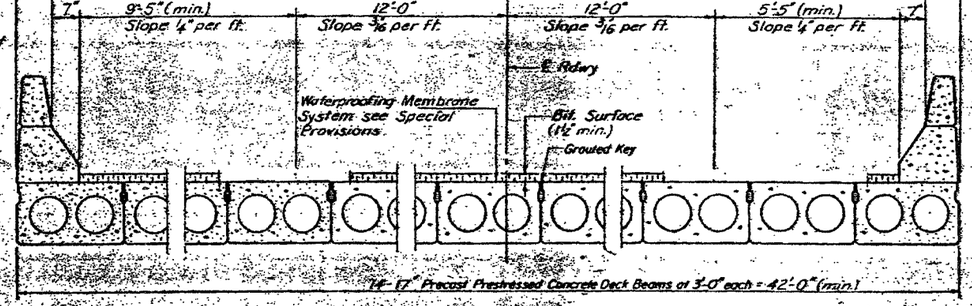


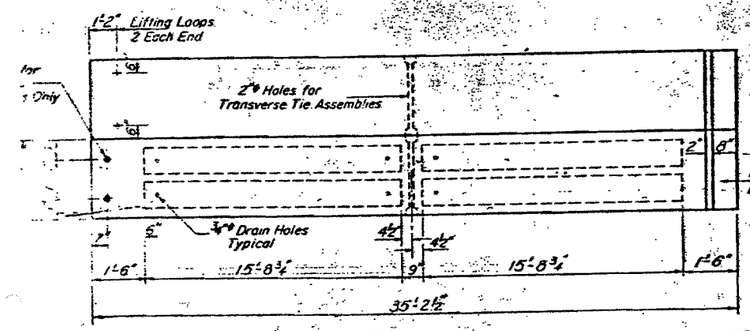


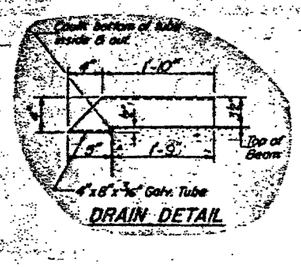


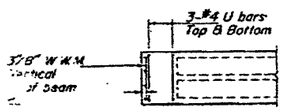


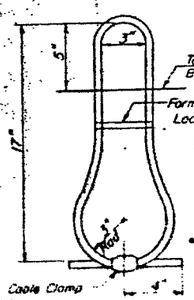


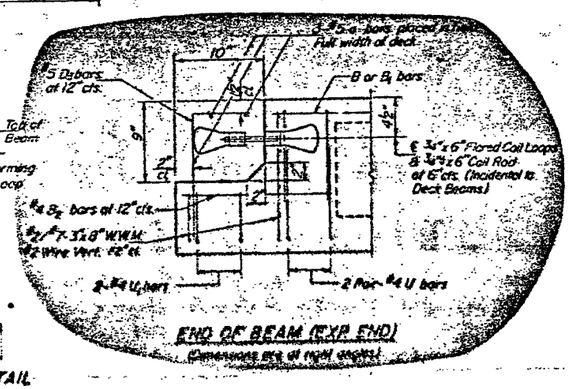












STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BA16	48-1-R	WILL	32	9	SHEET NO 2 9 SHEETS

SHEET NO. 65B

RIC BEARING PAD

U & U1 BAR

D BAR

D1 BAR

APHITED ASBESTOS
BEARING PAD

D2 BAR

D3 BAR

TYPICAL TRANSVERSE TIE ASSEMBLY

TYPICAL SECTION

14-7/16" Strands, Each Strand Stressed to 21,700 Lbs
8-Strands 1 1/4" up, 6-Strands 3 1/4" up.

END OF CURB TREATEMENT
(South End of Span 1)
(North End of Span 3)

CURB SECTION

CROSS SECTION
(Looking North)

SOUTHBOUND BRIDGE
STRUCTURE NO. 099-0242
EXISTING PLANS

PLAN

DRAIN DETAIL

END PLAN (FIXED END)

LIFTING LOOP DETAIL

END OF BEAM (EXP END)
(Dimensions are at right angles)

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 7/16" and the nominal cross-sectional area shall be 0.115 sq in.

Lifting loops shall be 1/2" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs

The 1"Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and PC mortar.

After beams have been erected, holes for the dowel anchors shall be drilled into the substructure and the anchor dowels shall be grouted in place.

"Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

FOR REFERENCE ONLY

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	6	#5	41'-5"	——
b	8	#8	34'-11"	——
b1	8	#5	34'-11"	——
Precast Prestressed Concrete Deck Beams (17")			Sq. Ft.	2958
Class X Concrete			Cu. Yds.	10.8
Reinforcement Bars			Lbs.	1300

Parapet Reinforcement and Class X Concrete are billed on Sheet 5

SUPERSTRUCTURE SPANS 1 & 3
F.A. RT. 5 SEC. 48-1-R
WILL COUNTY

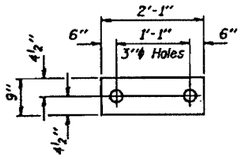
GNED	Ash Lee
KED	
WN	R. . . mor
KED	Lee

April 22 1975
EXAMINED
PASSED
APPROVED

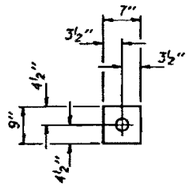
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

		WILL	5	4	SHEET NO. 2
					3 SHEETS

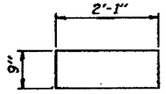
SHEET NO. 65C



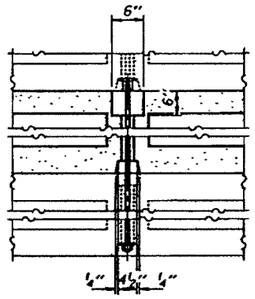
FABRIC BEARING PAD
FIXED

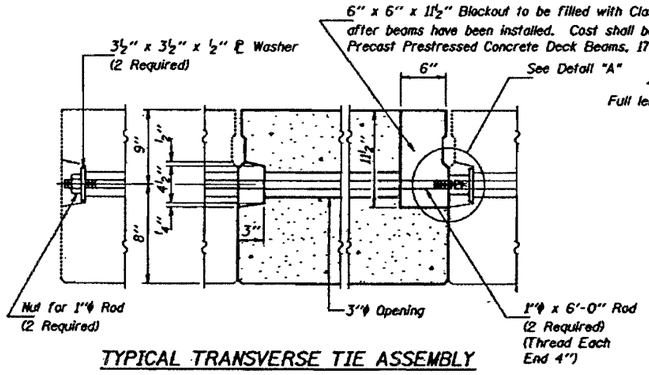


FABRIC ADJUSTING SHIM



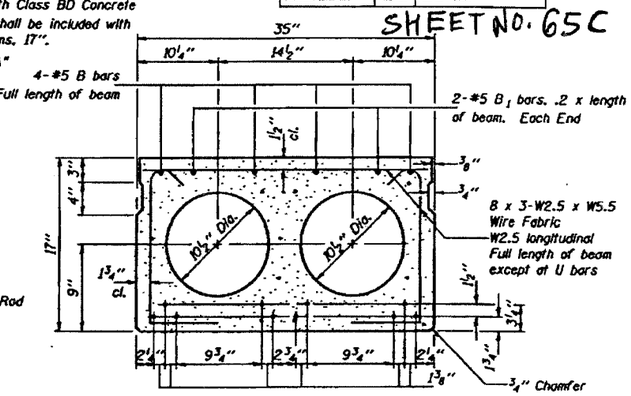
FABRIC BEARING PAD
EXPANSION





TYPICAL TRANSVERSE TIE ASSEMBLY

Note: Existing grout covering existing nuts for transverse tie assemblies shall be removed. Existing rods shall be cut as detailed on sheet 1 of 3. Existing rods shall then be removed through holes in exterior beams. Cost included with Removal of Existing PPC Deck Beams.

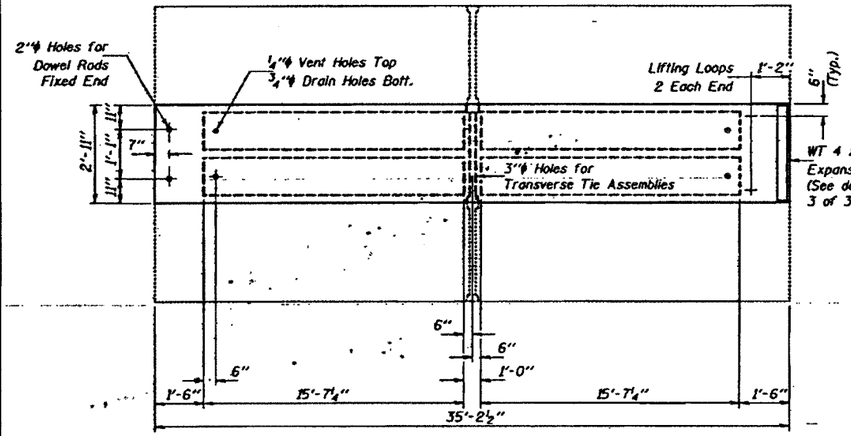


TYPICAL SECTION

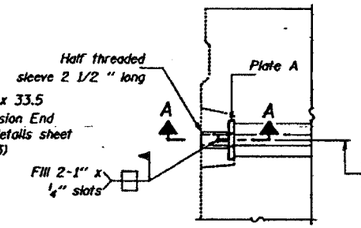
Note: Place strands symmetrically about ℄ of beam.

10-½"ϕ Strands, Each Strand Stressed to 28.900 Lbs.
6-Strands 1¾" up, 4-Strands 3¼" up

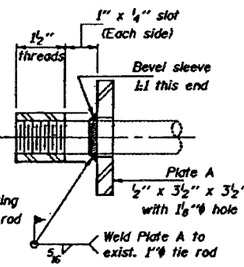
SOUTH BOUND BRIDGE
STRUCTURE NO. 099-0242
EXISTING PLANS



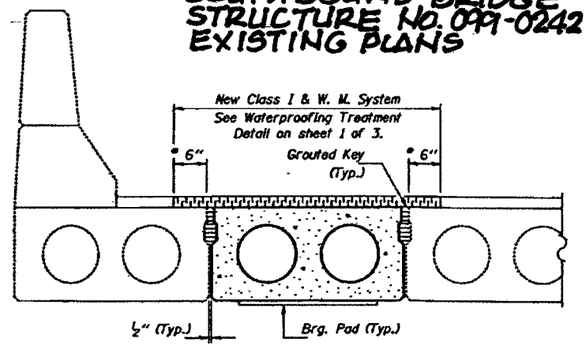
PLAN



DETAIL "A"
(2 Required)

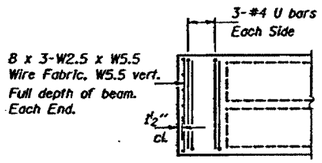


SECTION A-A

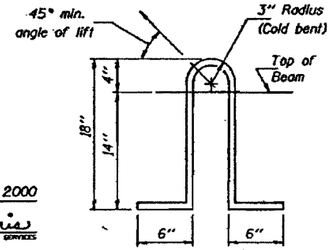


PARTIAL CROSS SECTION

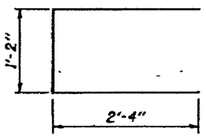
* Limits of "Bituminous Concrete Surface Removal"



END PLAN



LIFTING LOOP DETAIL



BAR U

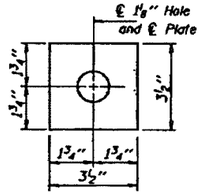


PLATE A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
Precast Prestressed Conc. Deck Bms. (17")			Sq. Ft.	103

NOTES

Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be 2 -½"ϕ-270 ksi strands, as shown.

The 1"ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions shown shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'ci, shall be 4000 p.s.i.

An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

DESIGNED	K.P.S.
CHECKED	V.H.V.
DRAWN John F. Schueller Jr.	
CHECKED	K.P.S. V.H.V.

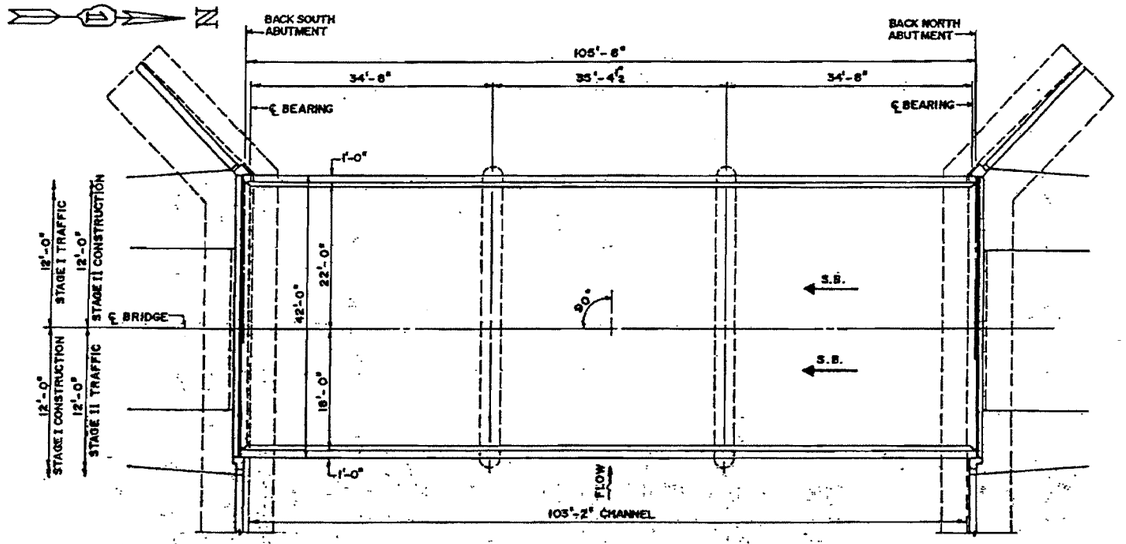
FEBRUARY 24, 2000
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
F.A. RT. 846 SEC. 4B-1-R
WILL COUNTY
S.N. 099-0242

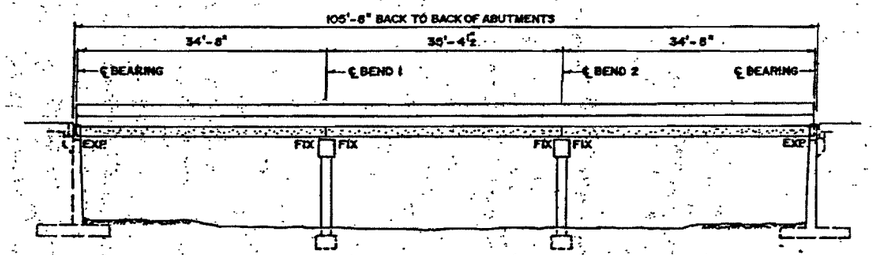
FOR REFERENCE ONLY

	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2841R-RS5	WILL	22	14
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

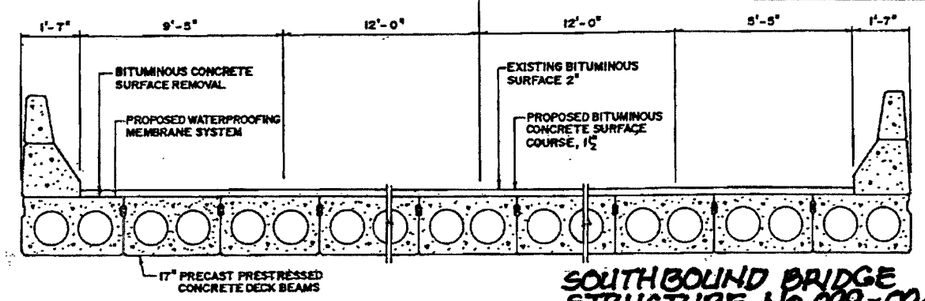
SHEET 51 OF 51 SHEETS NO. 65D



PLAN

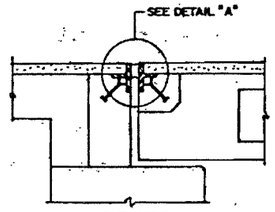


ELEVATION

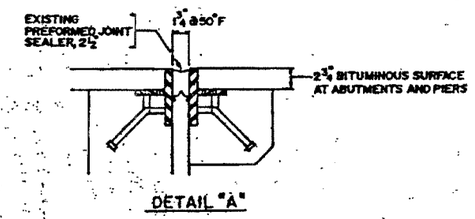


CROSS SECTION
(LOOKING NORTH)

SOUTHBOUND BRIDGE
STRUCTURE No. 099-0242
EXISTING PLANS



EXISTING JOINT DETAIL



DETAIL "A"

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
BITUMINOUS CONCRETE SURFACE REMOVAL	SQ.YD	456
WATERPROOFING MEMBRANE SYSTEM	SQ.YD	456
BITUMINOUS CONCRETE SURFACE COURSE, MIX D, CLASS I, TYPE 2	TON	40
KEYWAY REPAIR	FOOT	400

NOTES:

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO ORDERING THE MATERIALS. SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT BID PRICE FOR THE WORK.

FOR REFERENCE ONLY

REVISIONS	
NAME	DATE
T.M. Slattery	3-11-99

ILLINOIS DEPARTMENT OF TRANSPORTATION

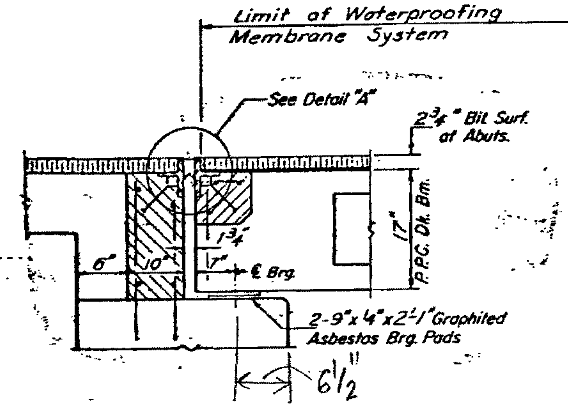
ILLINOIS 53 (SOUTH BOUND)
OVER PRAIRIE CREEK
PLAN, ELEVATION, CROSS SECTION
AND DETAILS
S.N. 099-0242

SCALE: VERT. HORIZ.
DRAWN BY MVT
DATE MARCH, 1999
CHECKED BY TMS

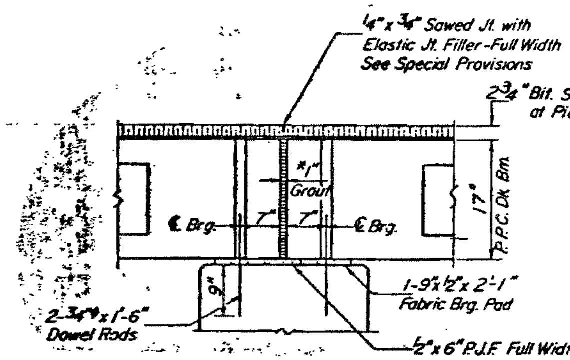
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

84	4B-1-R	WILL	32	11	SHEET NO. 4 / 9 SHEETS

SHEET NO. 65E
SOUTHBOUND BRIDGE
STRUCTURE NO. 099-0242
EXISTING PLANS

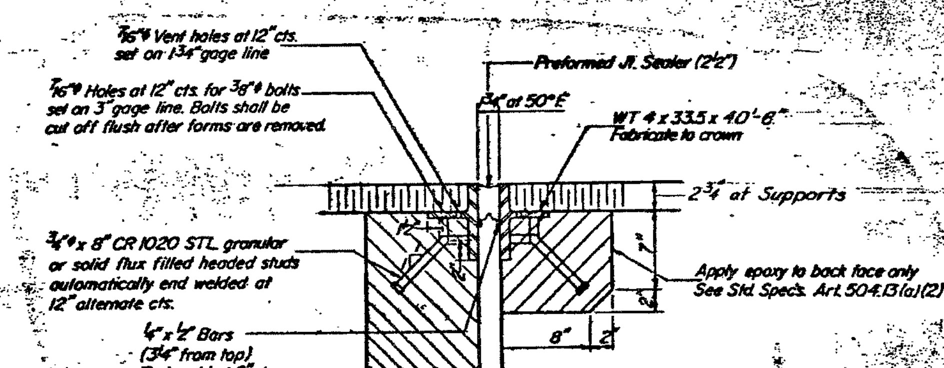


SECTION THRU ABUTMENTS



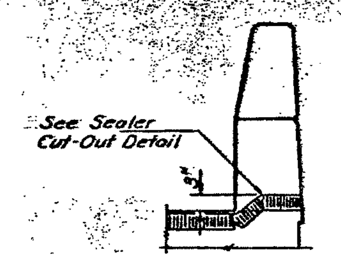
SECTION THRU BENTS

#1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. This dimension may vary plus or minus to accomodate tolerance in beam lengths.

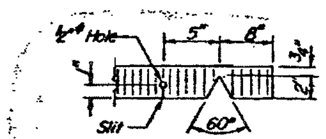


DETAIL "A"

NOTE: Dimensions are at right angles.
Hatched areas to be poured after beams have been erected and joints grouted.
Ends of beams shall be aligned at the expansion joints. Any lineal variation in the beam lengths shall be placed at the fixed joint.
See End of Beam Detail for reinforcement.

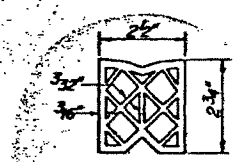


END OF SEALER TREATMENT



SEALER CUT-OUT (2½")

S.B.



PREFORMED JOINT SEALER (2½")

DESIGNED H... Lee
CHECKED R.K. Cowles
DRAWN R.P. Summer
CHECKED R.K.C.

APRIL 22, 1975
EXAMINED
PASSED
APPROVED

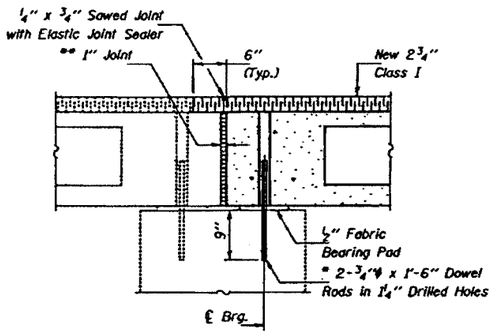
FOR REFERENCE ONLY

DETAILS
F.A. RT. 5 SEC. 4B-1-R
WILL COUNTY
STA. 1305+00.00

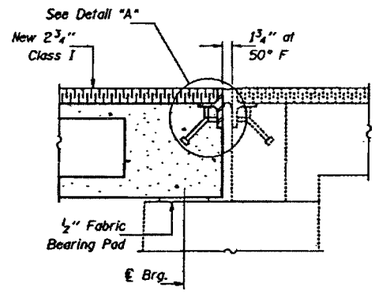
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

		WILL	5	5	SHEET NO. 3
					3 SHEETS

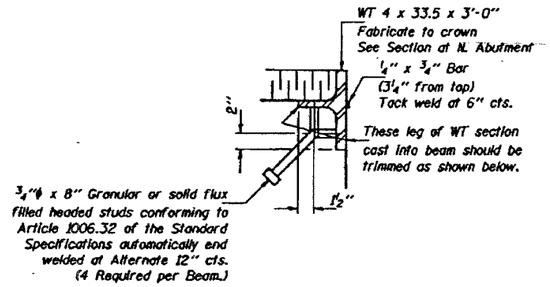
SHEET NO. 65F
SOUTH BOUND BRIDGE
STRUCTURE No. 099-0242
EXISTING PLANS



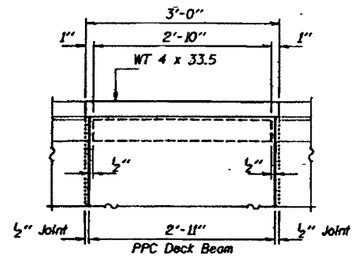
SECTION THRU PIER 2



SECTION THRU N. ABUTMENT



DETAIL "A"



SECTION AT N. ABUTMENT
(Showing Exp. Anchor Replacement)

* Existing Dowel Rods shall be cut off & ground flush with the top of the existing concrete. (Cost to be included in the cost of "Removal of Existing P.P.C. Deck Beams". Proposed Dowel Rods shall be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting shear keys.

** 1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accomodate tolerance in beam lengths.

DESIGNED	K.P.S.
CHECKED	V.H.V.
DRAWN	John F. Schueller Jr.
CHECKED	K.P.S. V.H.V.

FEBRUARY 24, 2000
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

S.B.

BRIDGE REPAIRS
F.A. RT. 846 SEC. 4B-1-R
WILL COUNTY
S.N. 099-0242

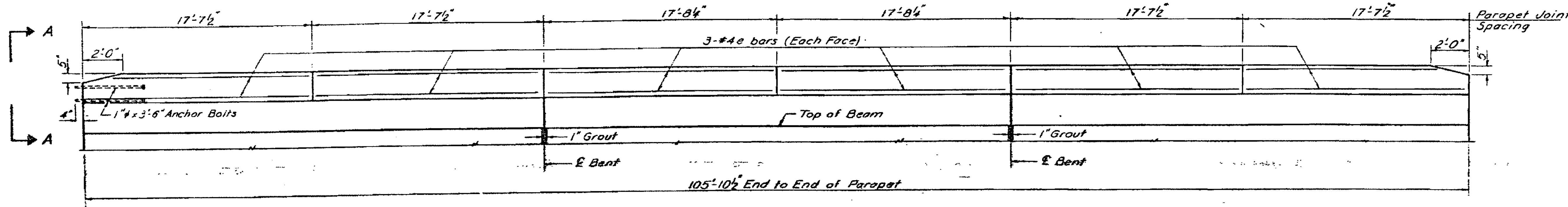
FOR REFERENCE ONLY

F.A.I. / F.A. 846	48-1-R	WILL	32	12

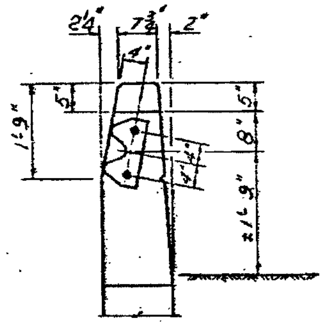
SHEET NO. 5
9 SHEETS

SHEET NO. 65 G

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

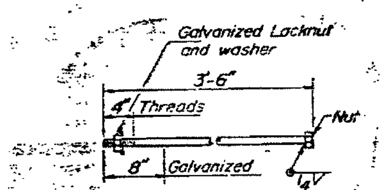


ELEVATION



VIEW A-A

The guardrail shall be transitioned to vertical position between 1st and 3rd post from the end of parapet.

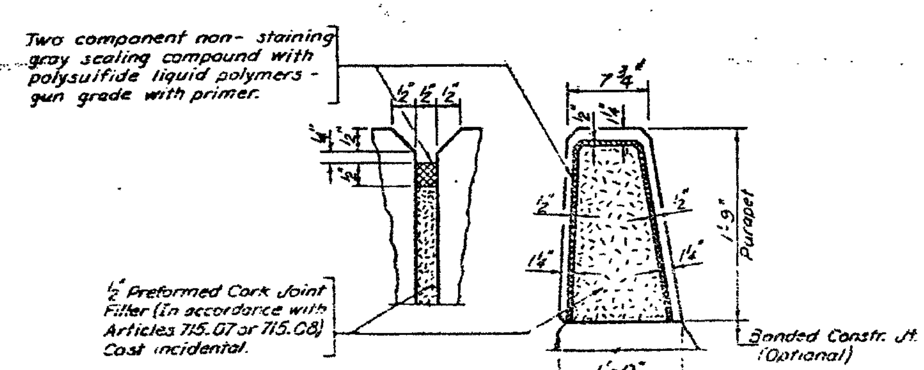


1"φ ANCHOR BOLT
(Cost Incidental to Bridge Structure)

BILL OF MATERIAL

Bar	No	Size	Length	Shape
e	72	#4	17'-4"	——
Class X Concrete			Cu. Yds.	10.6
Reinforcement Bars			Lbs.	530

SOUTHBOUND BRIDGE
STRUCTURE No. 099-0242
EXISTING PLANS
S.B.



PARAPET JOINT DETAIL

DESIGNED	[signature]
CHECKED	R.K. [signature]
DRAWN	R.P. Summer
EXAMINED	[signature] Apr. 22, 1975
PASSED	
APPROVED	

FOR REFERENCE ONLY

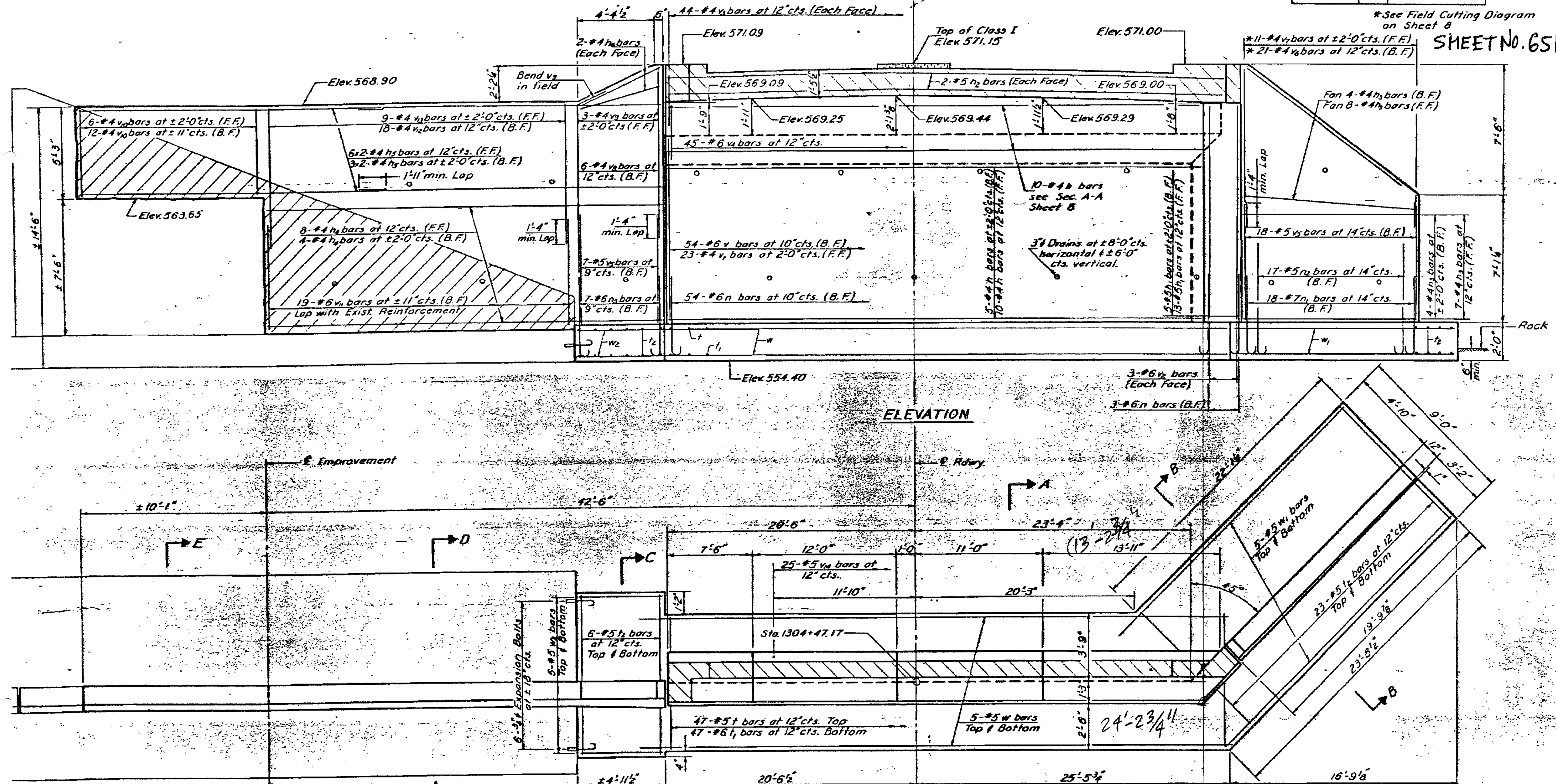
PARAPET
F.A. RT. 5 SEC. 48-1-R
WILL COUNTY
STA 1305+00.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	48-I-R	WILL	32	13	SHEET NO. 6 / 9 SHEETS

*See Field Cutting Diagram on Sheet 8

SHEET NO. 65H



SOUTH BOUND BRIDGE
STRUCTURE NO. 099-0242
EXISTING PLANS

NOTE:
Work this Sheet with Sheet 8

DESIGNED	[signature] Lee
CHECKED	R. K. Cowles
DRAWN	R. P. Summer
CHECKED	Lee R.K.C.

EXAMINED	April 22 1975 [signature]
PASSED	
APPROVED	

SOUTH ABUTMENT
F.A. RT. 5 SEC. 48-I-R
WILL COUNTY
STA. 1305+00.00

FOR REFERENCE ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

				SHEET NO. 7
A.B.A. A-848	48-1-R	WILL	32	14
				9 SHEETS

SHEET No. 65 I
SOUTHBOUND BRIDGE
STRUCTURE No. 099-0242

See Field Cutting Diagram on Sheet 8

ELEVATION

PLAN

DESIGNED
EXAMINED
APPROVED April 22, 1975

NOTE:
Work this Sheet with Sheet 8

FOR REFERENCE ONLY

NORTH ABUTMENT
JOINT REPAIRS
WILL COUNTY

S.B.

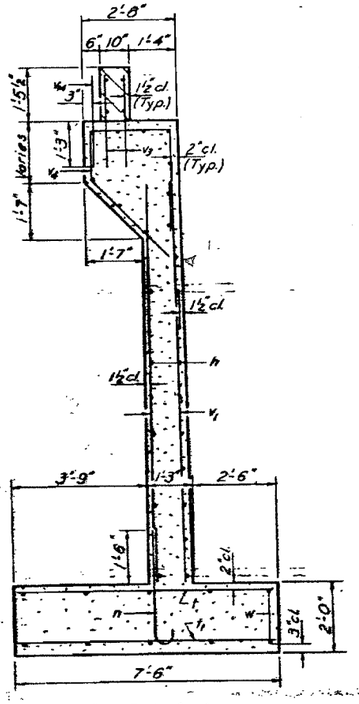
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTHBOUND BRIDGE STRUCTURE No. 099-0242 EXISTING PLANS

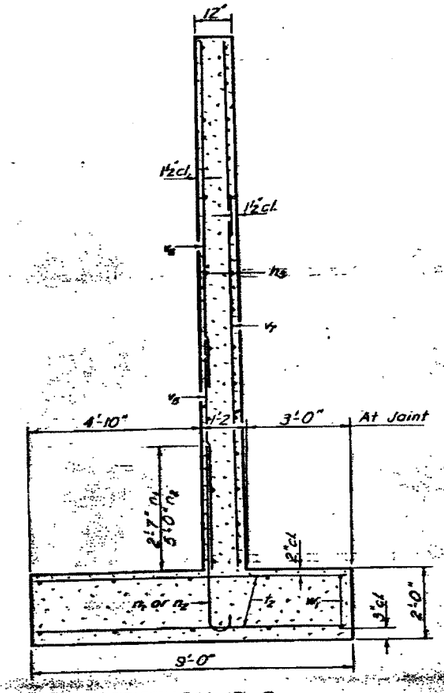
		COUNTY	TOTAL SHEETS	SHEET NO.
A.A.I. A-946	48-1-R	WILL	32	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 8
9 SHEETS

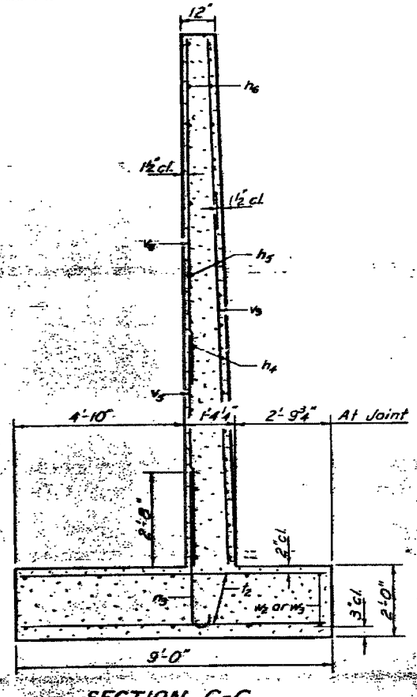
SHEET NO. 6SJ



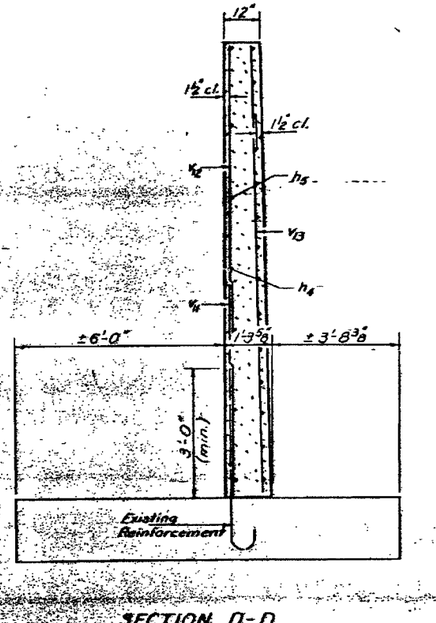
SECTION A-A



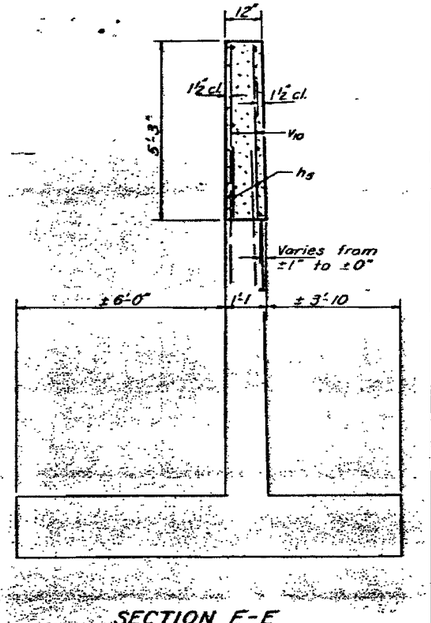
SECTION B-B



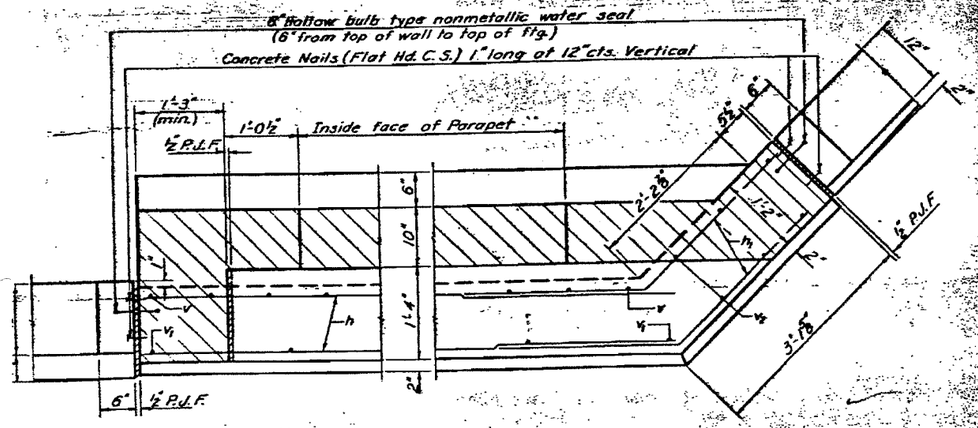
SECTION C-C



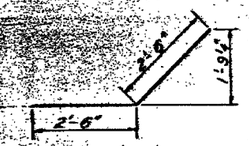
SECTION D-D



SECTION E-E



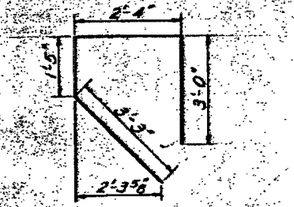
CORNER DETAILS



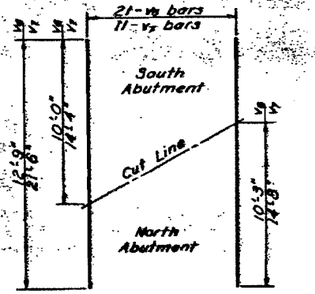
BAR h_1

n	3'-3"	8"
n_1	4'-4"	10"
n_2	6'-9"	7"
n_3	4'-5"	8"

BARS n, n_1, n_2 & n_3



BAR v_4



FIELD CUTTING DIAGRAM

*Order v_4 & v_7 bars full length. Cut to fit as shown and use remainder of bars in other Abutment.

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape
h	50	#4	44'-3"		v_4	90	#6	10'-0"	
h_1	36	#5	5'-0"		v_5	50	#5	6'-6"	
h_2	8	#5	45'-6"		v_6	21	#4	12'-9"	
h_3	46	#4	19'-6"		v_7	11	#4	21'-6"	
h_4	24	#4	21'-9"		v_8	12	#4	10'-6"	
h_5	36	#4	17'-0"		v_9	6	#4	14'-6"	
h_6	8	#4	5'-0"		v_{10}	36	#4	5'-0"	
					v_{11}	38	#6	6'-0"	
					v_{12}	36	#4	8'-0"	
n	114	#6	3'-11"		v_{13}	18	#4	12'-6"	
n_1	36	#7	5'-2"		v_{14}	50	#5	2'-6"	
n_2	34	#5	7'-4"						
n_3	14	#6	5'-1"						
					w	20	#5	47'-3"	
					w_1	20	#5	23'-3"	
f	94	#5	7'-3"		w_2	10	#5	4'-9"	
f_1	94	#6	7'-3"		w_3	10	#5	5'-3"	
f_2	116	#5	8'-9"						
v	108	#6	11'-9"		Class X Concrete			Cu. Yds.	203.7
v_1	46	#4	11'-9"		Reinforcement Bars			Lbs.	15140
v_2	12	#6	12'-6"		Concrete Removal			Cu. Yds.	10
v_3	178	#4	2'-9"		Expansion Bolts ¾"ϕ			Each	12

S.B.

NOTES:
- ▨ indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction a minimum of 2'-0" where possible unless otherwise noted.
- ▧ indicates Concrete that shall be poured after beams are in place.
- All edges shall have standard ¾" chamfers except as noted.
- Expansion Bolts shall be anchored in sound concrete.

DESIGNED Lin-Yuan Lee
CHECKED R.K. Cowles
DRAWN R.P. Summer
CHECKED Lee R.K.C.

APPROVED APRIL 22 1975
EXAMINED
PASSED
APPROVED

ABUTMENT DETAILS
F.A. RT. 5 SEC. 48-1-R
WILL COUNTY
STA. 1305+00.00

FOR REFERENCE ONLY

NOTE:
All edges shall have standard ¾" chamfer.

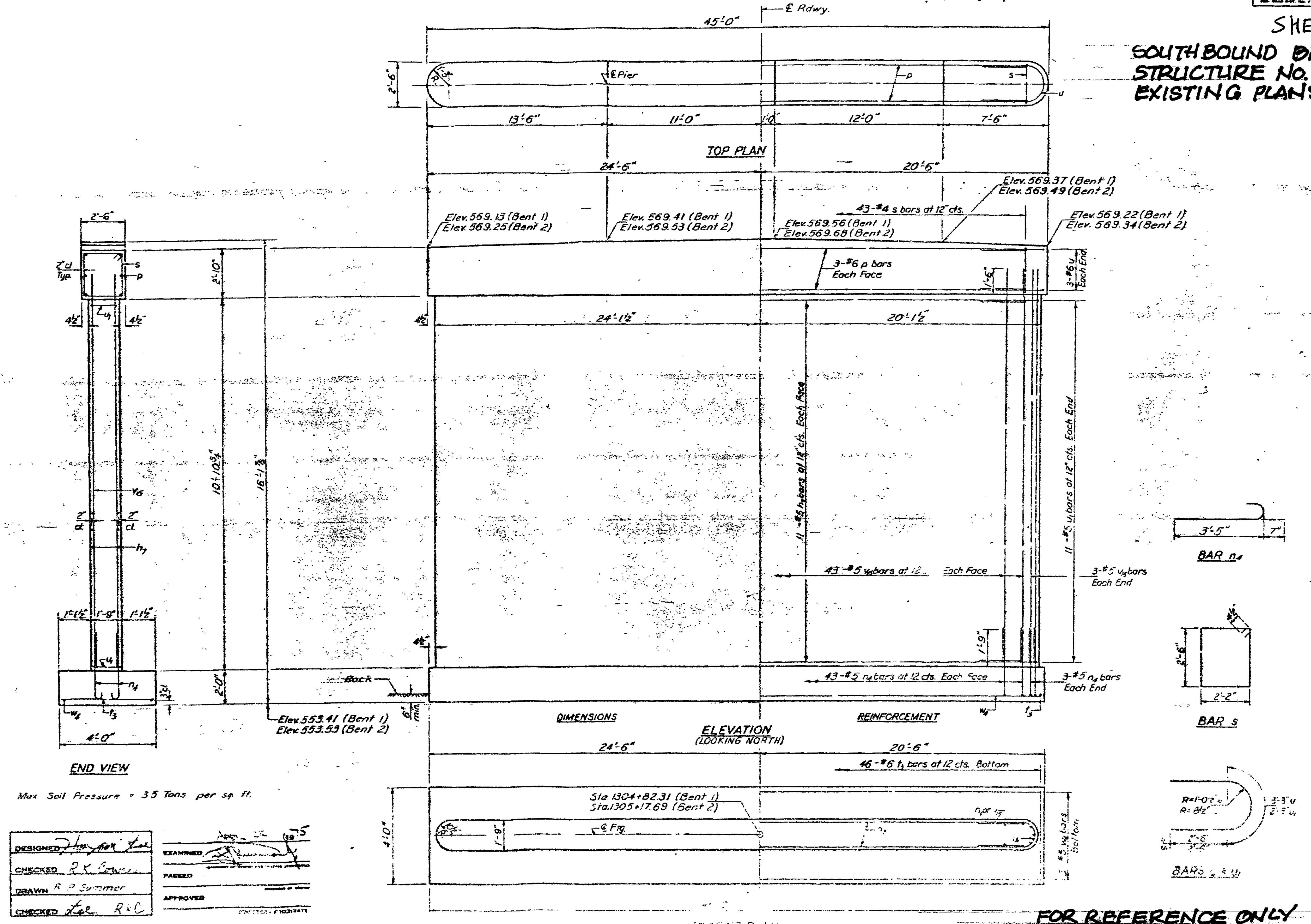
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE. 80	48-1-R	WILL	32	16

SHEET NO. 65 K

SOUTHBOUND BRIDGE
STRUCTURE No. 099-0242
EXISTING PLANS

S.B.



Max. Soil Pressure = 3.5 Tons per sq. ft.

DESIGNED	
CHECKED	R. K. Cowan
DRAWN	R. P. Summer
CHECKED	Lee R.C.

EXAMINED
PASSED
APPROVED

BILL OF MATERIAL

Bar	No.	Size	Length
h_7	44	#5	42'-5
n_4	184	#5	4'-0"
p	12	#6	42'-6
s	86	#4	10'-1"
t_3	92	#6	3'-9"
u	12	#6	8'-3
u_4	44	#3	7'-3"
v_6	184	#5	12'-3"
w_4	10	#5	44'-9"
Class X Concrete			Cu. Yds.
Reinforcement Bars			Lbs.

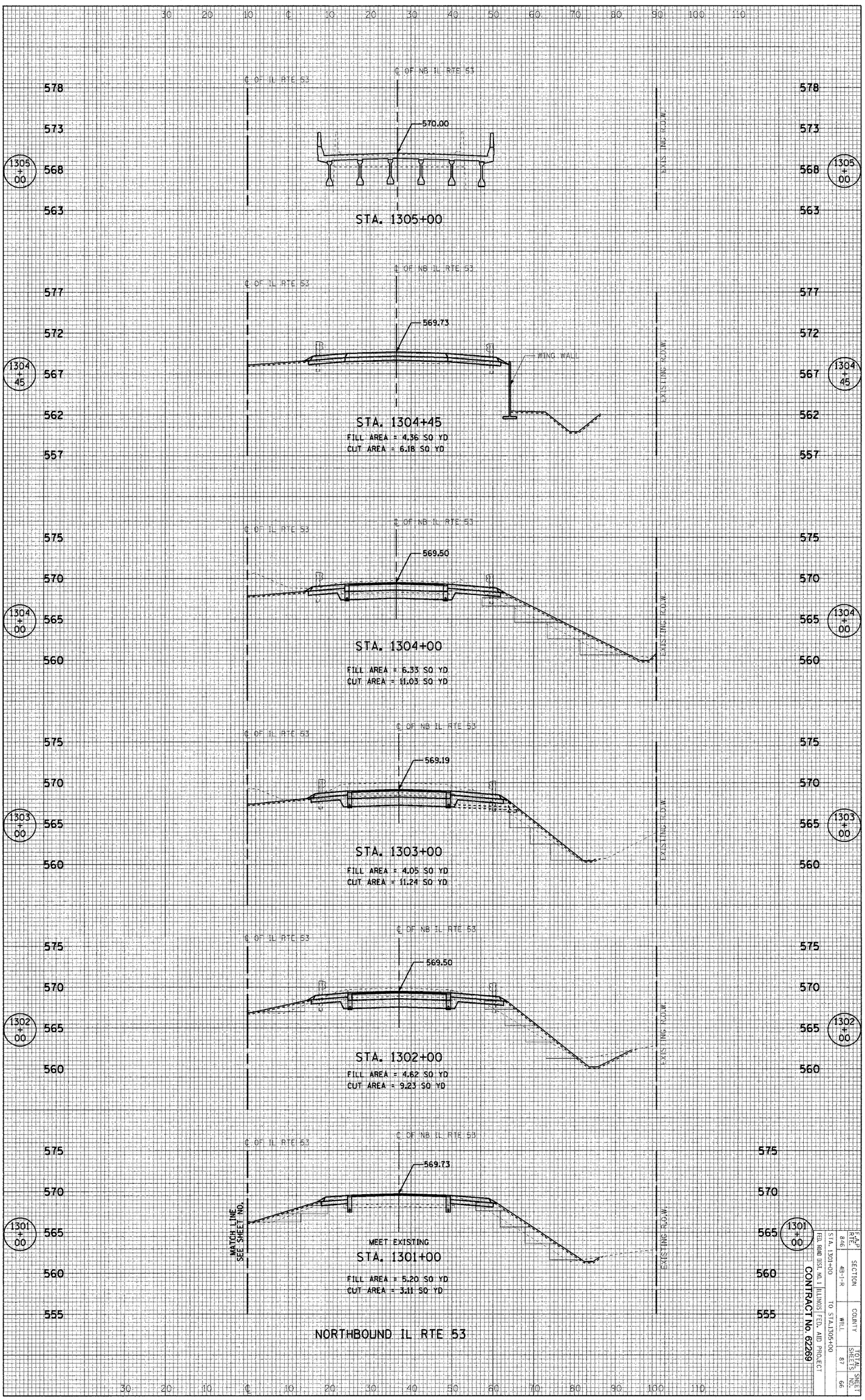
BENTS 1 & 2

WILL CO.

FOR REFERENCE ONLY

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

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



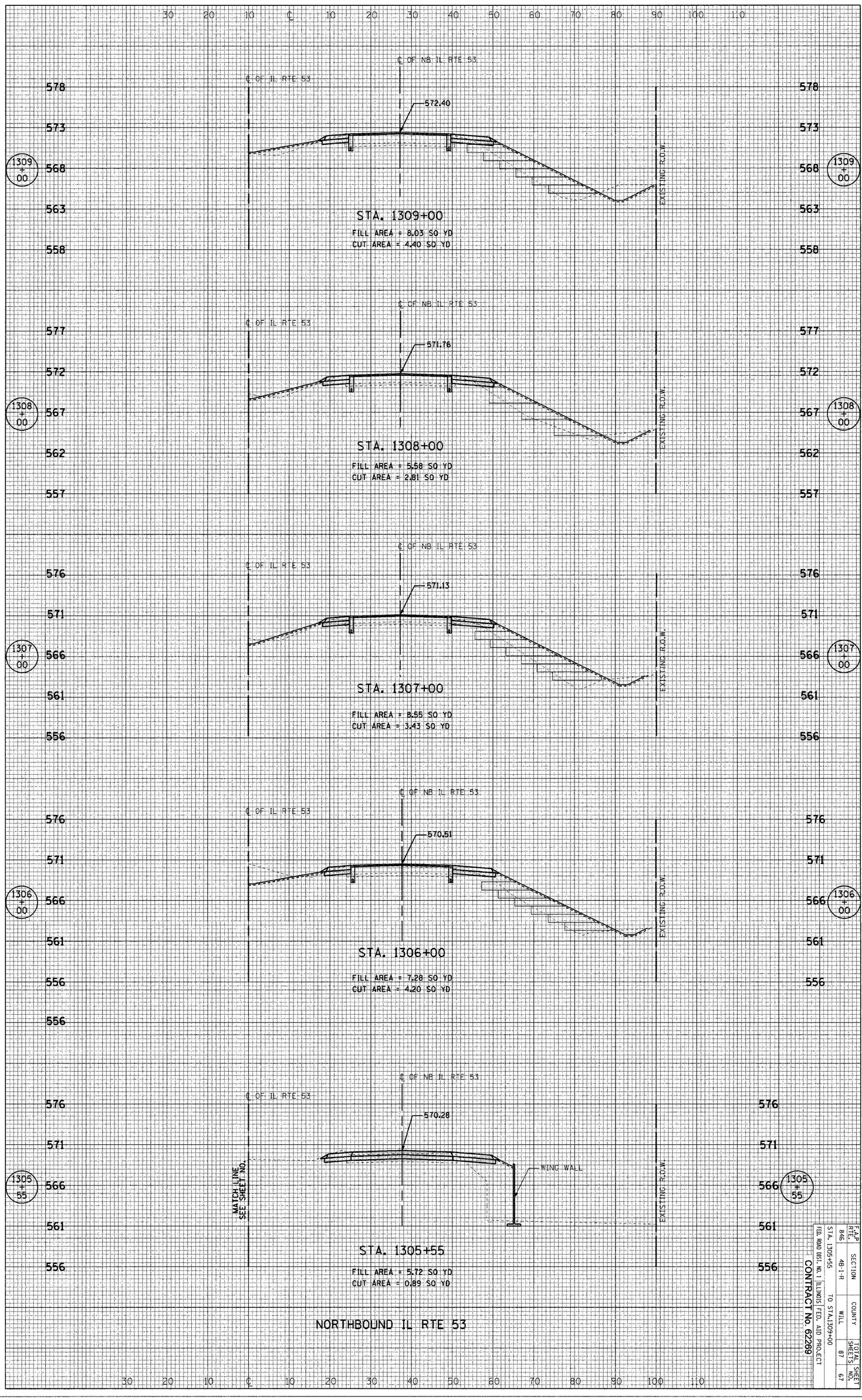
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT	
STA. 1301+00	TO STA.1305+00	WILL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	48-1-R		87	66

CONTRACT No. 62269

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

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



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B I-R	WILL	87	67

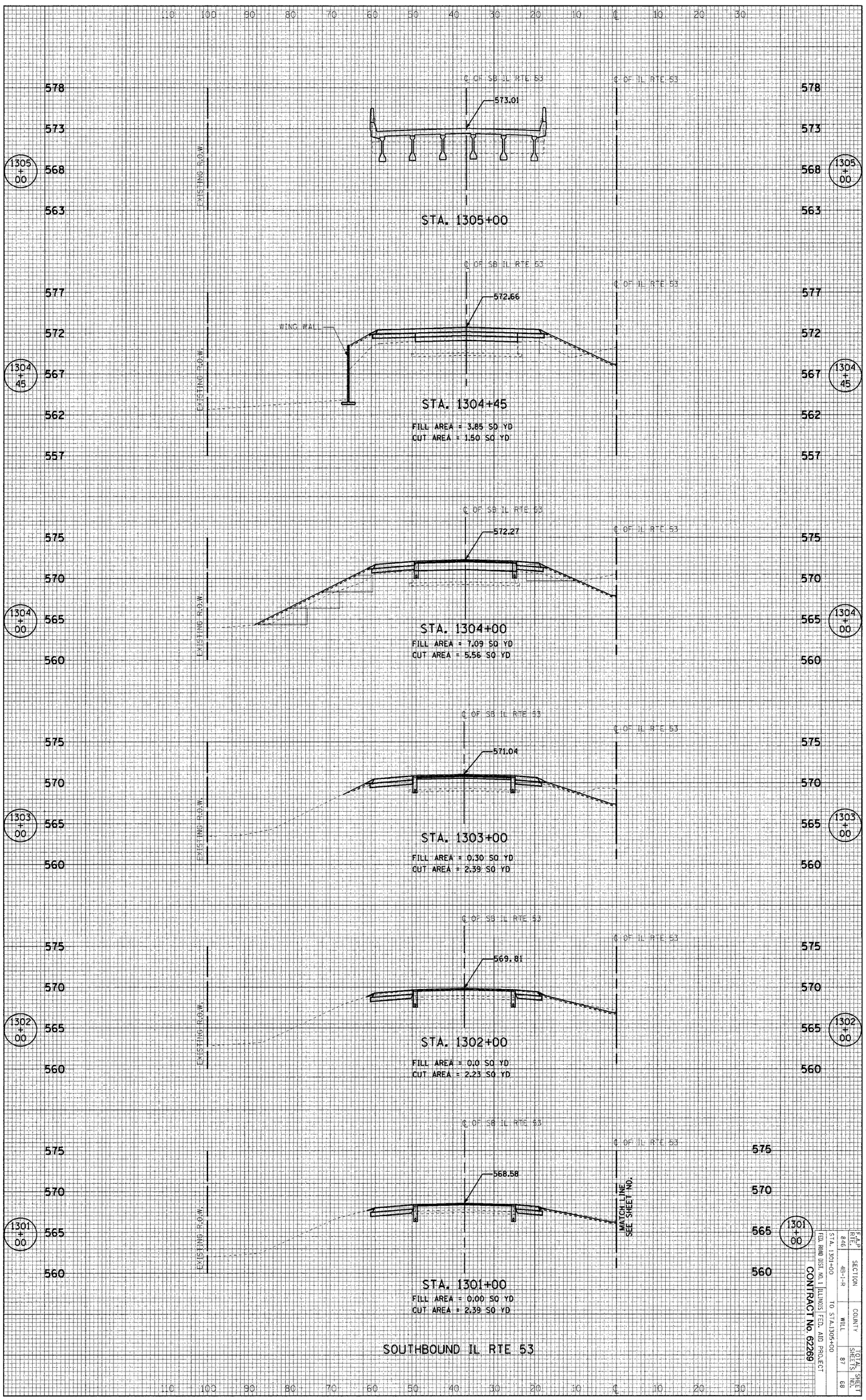
STA. 1305+55 TO STA.1309+00

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

CONTRACT No. 62269

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

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

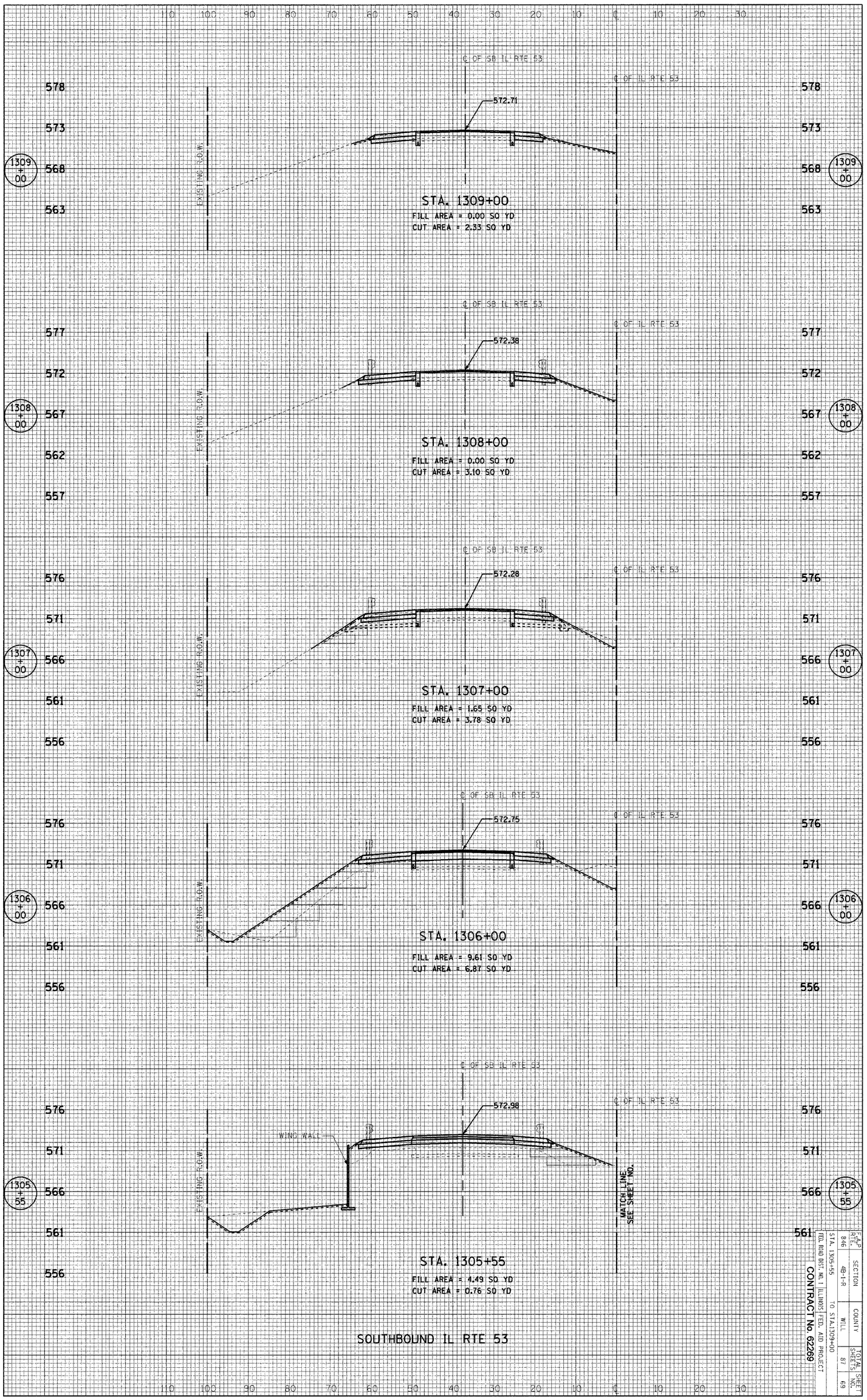


F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS
846	48-1-R	WILL	87
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	STA. 1301+00 TO STA. 1305+00		SHEET NO. 68

CONTRACT No. 62269

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

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

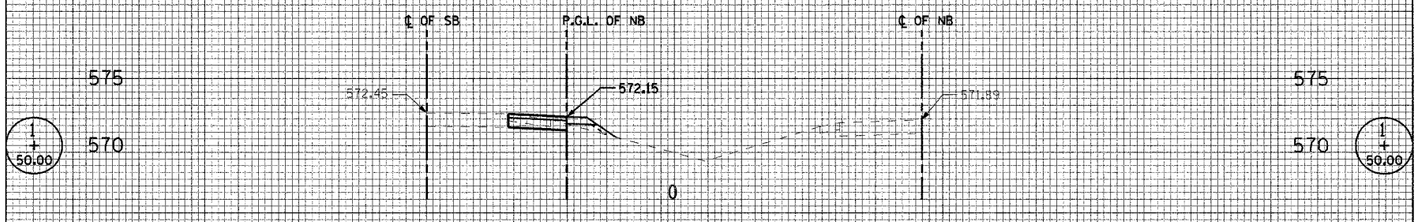


FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		COUNTY	TOTAL SHEETS
		WILL	87
	TO STA.1309+00	SECTION	SHEET NO.
STA. 1305+55		4B-1-R	69
		STATE	
		846	

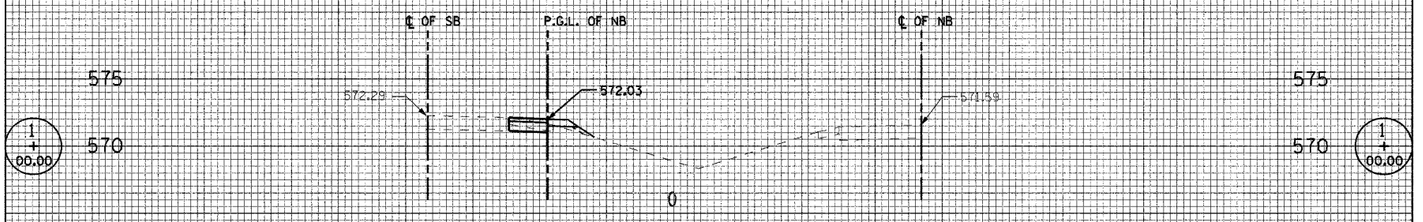
CONTRACT No. 62269

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

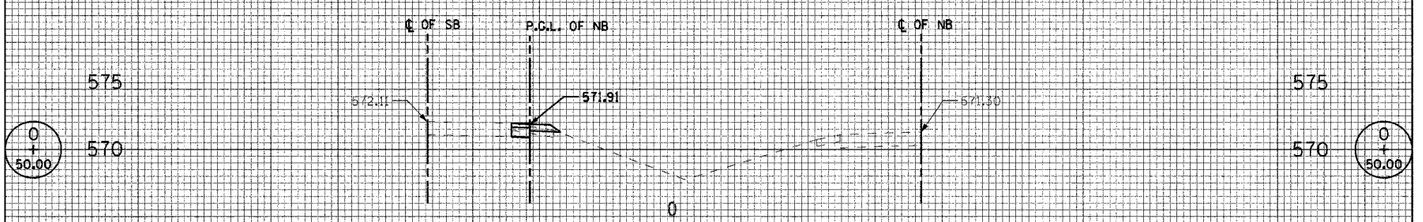
FINAL SURVEY		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



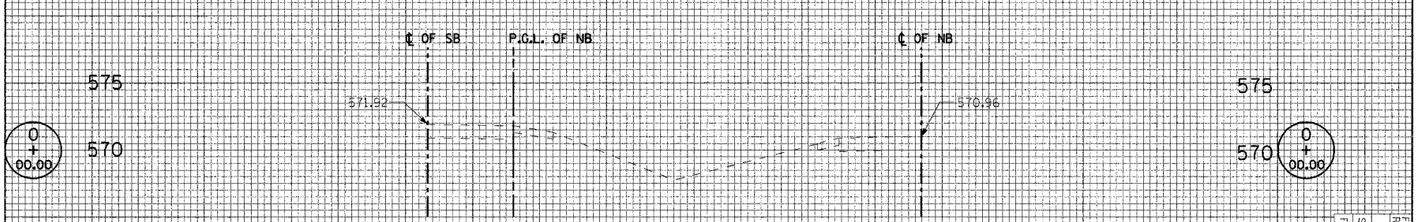
FILL AREA = 0.14 SQ YD
CUT AREA = 0.765 SQ YD



FILL AREA = 0.06 SQ YD
CUT AREA = 0.53 SQ YD



FILL AREA = 0.00 SQ YD
CUT AREA = 0.37 SQ YD



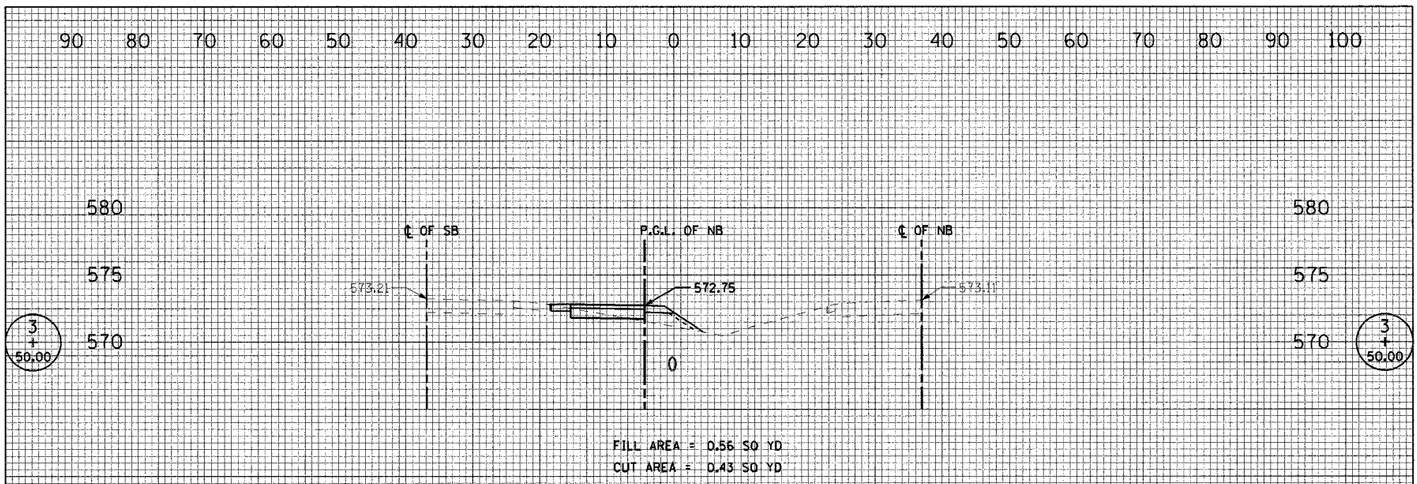
FILL AREA = 0.00 SQ YD
CUT AREA = 0.00 SQ YD

FED. AID PROJ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA. 846	48-1-R	WILL	87	70
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		TO STA.		

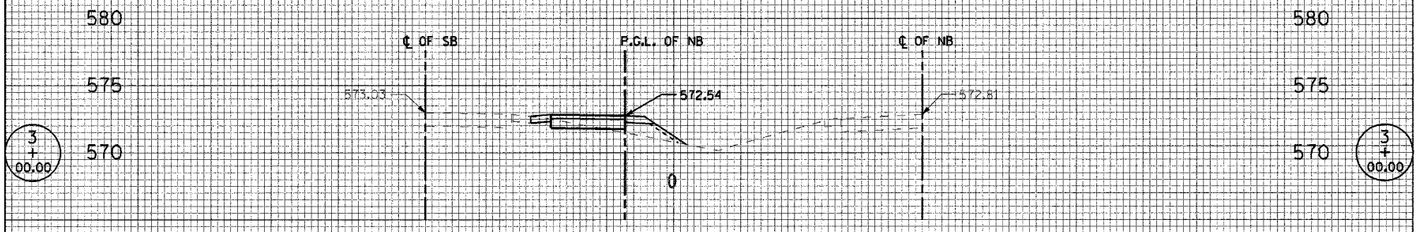
CONTRACT No. 62269

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

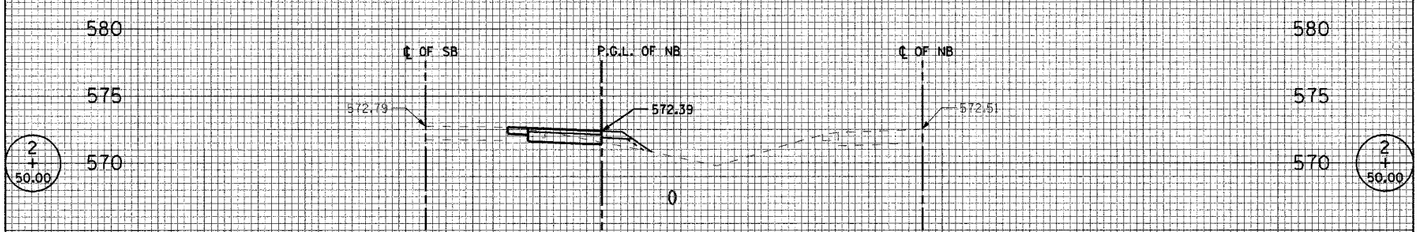
FINAL SURVEY			DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



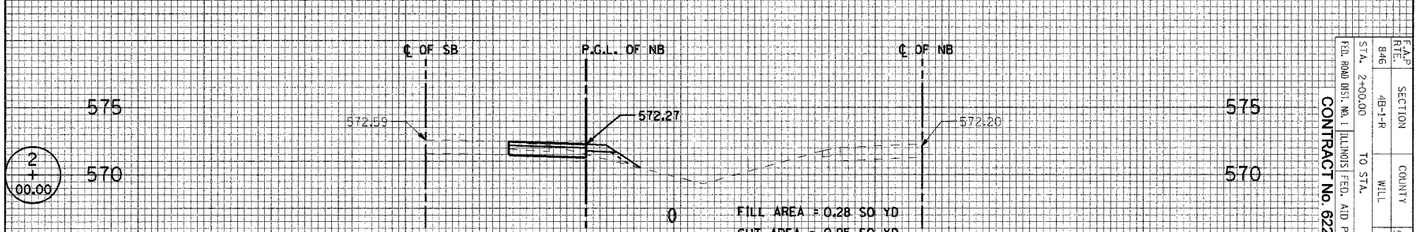
FILL AREA = 0.56 SQ YD
CUT AREA = 0.43 SQ YD



FILL AREA = 0.66 SQ YD
CUT AREA = 0.41 SQ YD



FILL AREA = 0.27 SQ YD
CUT AREA = 0.84 SQ YD



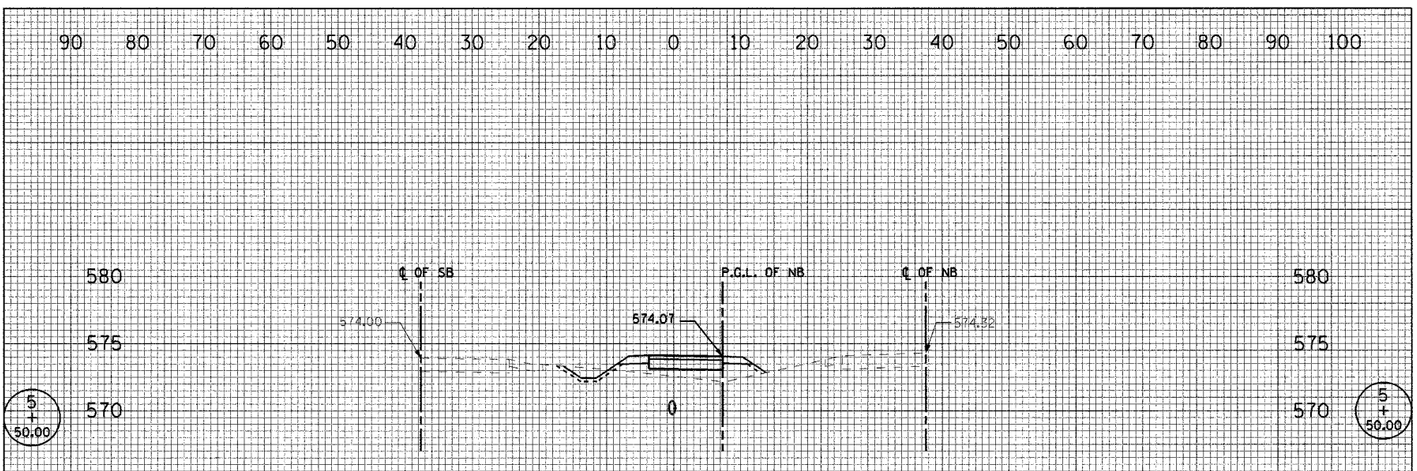
FILL AREA = 0.28 SQ YD
CUT AREA = 0.95 SQ YD

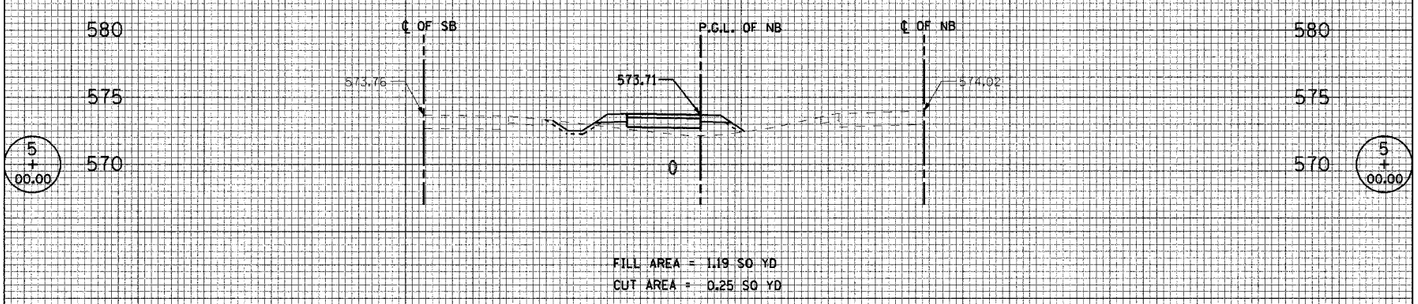
F.A.P. RTE. 846	SECTION 48-1-R	COUNTY WILL	TOTAL SHEETS NO. 71
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT		
STA. 2+00.00	TO STA.		3+50.00

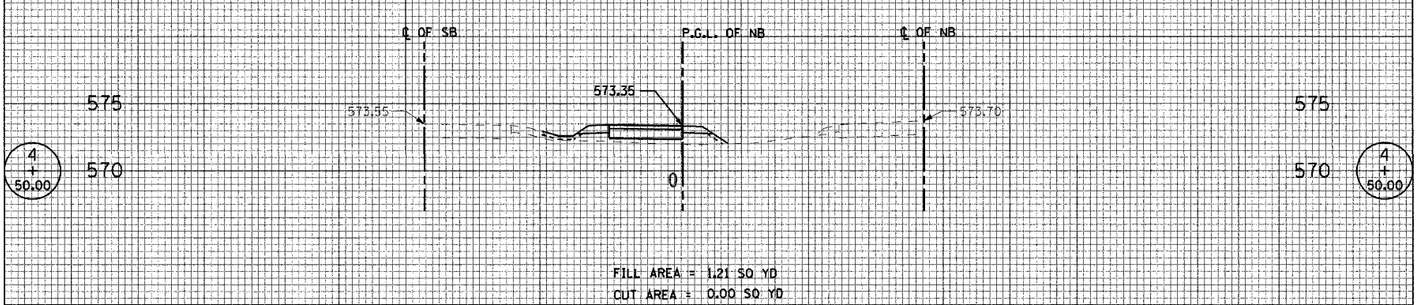
CONTRACT No. 62269

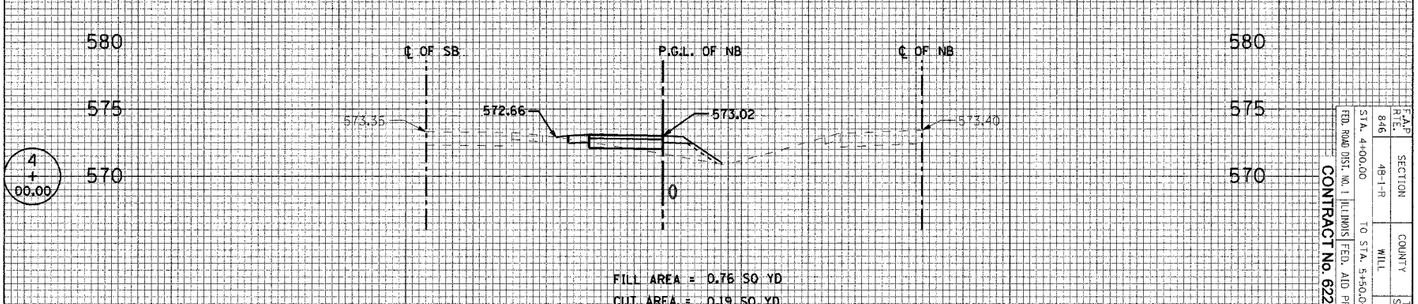
ORIGINAL SURVEY			
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

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







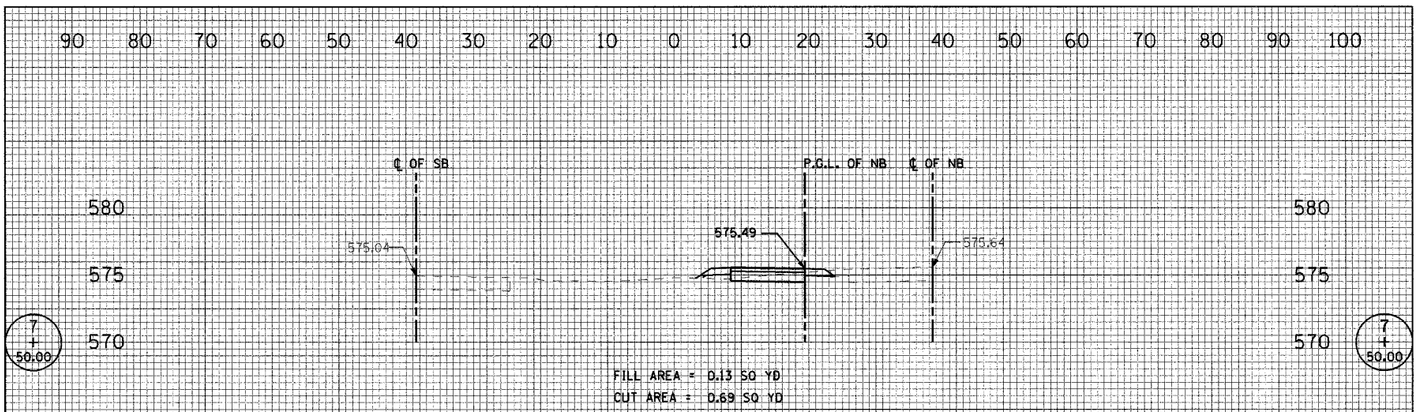


FED. ROAD DIST. NO. 1	ILLINOIS
FED. AID PROJECT	
STA. 4+00.00	TO STA. 5+50.00
CONTRACT No. 62289	

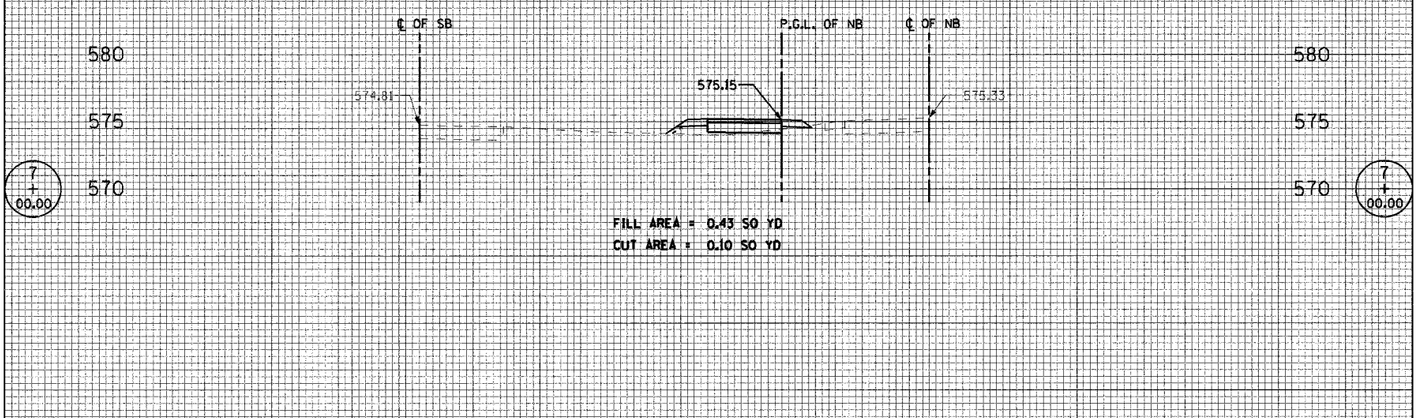
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8-46	48-1-R	WILL	87	72

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

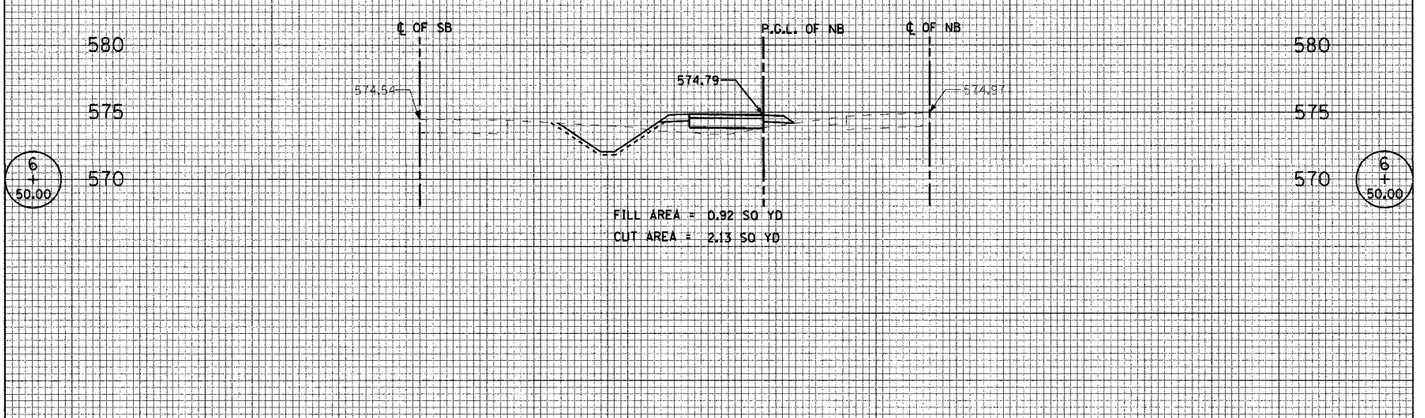
FINAL SURVEY			
NOTE BOOK	SURVEYED		
	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



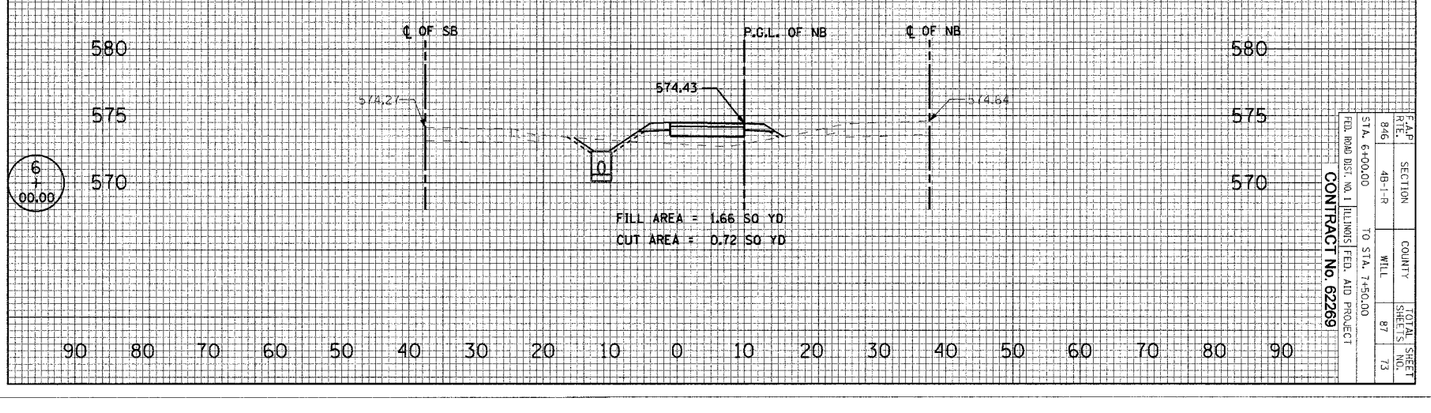
FILL AREA = 0.13 SQ YD
CUT AREA = 0.69 SQ YD



FILL AREA = 0.43 SQ YD
CUT AREA = 0.10 SQ YD



FILL AREA = 0.92 SQ YD
CUT AREA = 2.13 SQ YD



FILL AREA = 1.66 SQ YD
CUT AREA = 0.72 SQ YD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	48-1-R	WILL	87	73

STA. 6+00.00 TO STA. 7+50.00
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

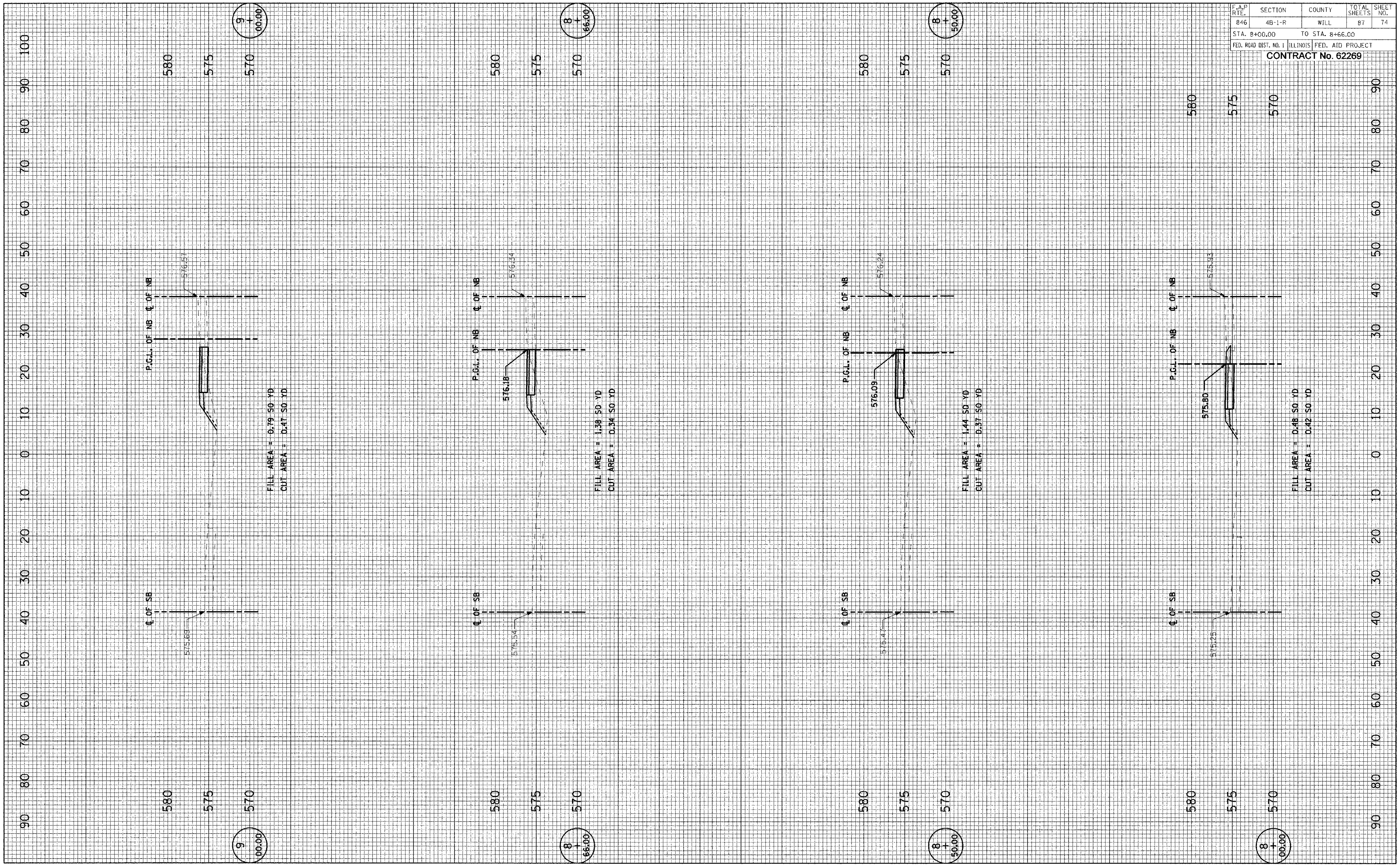
CONTRACT No. 62269

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	74

STA. 8+00.00 TO STA. 8+66.00

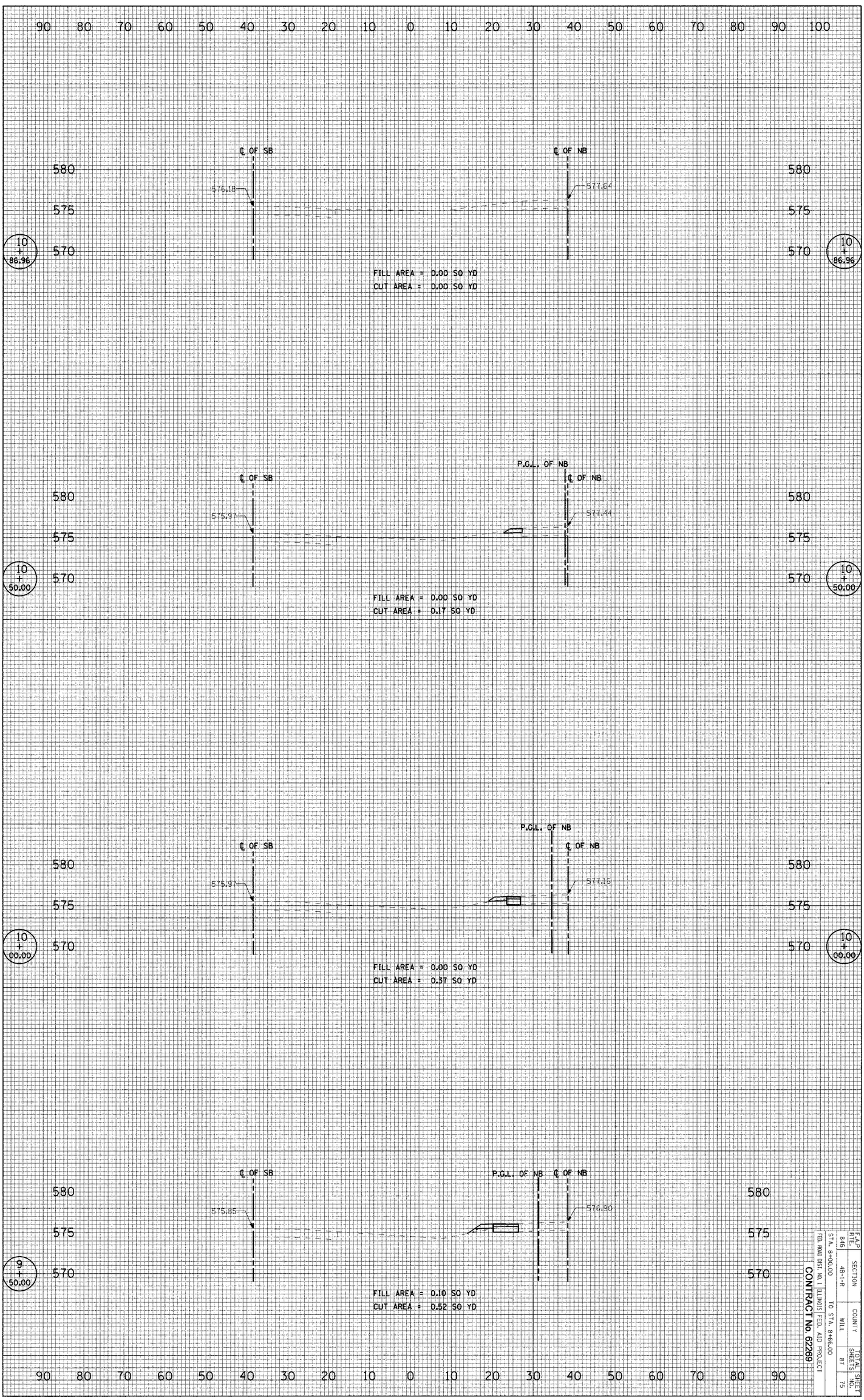
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

CONTRACT No. 62269



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

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



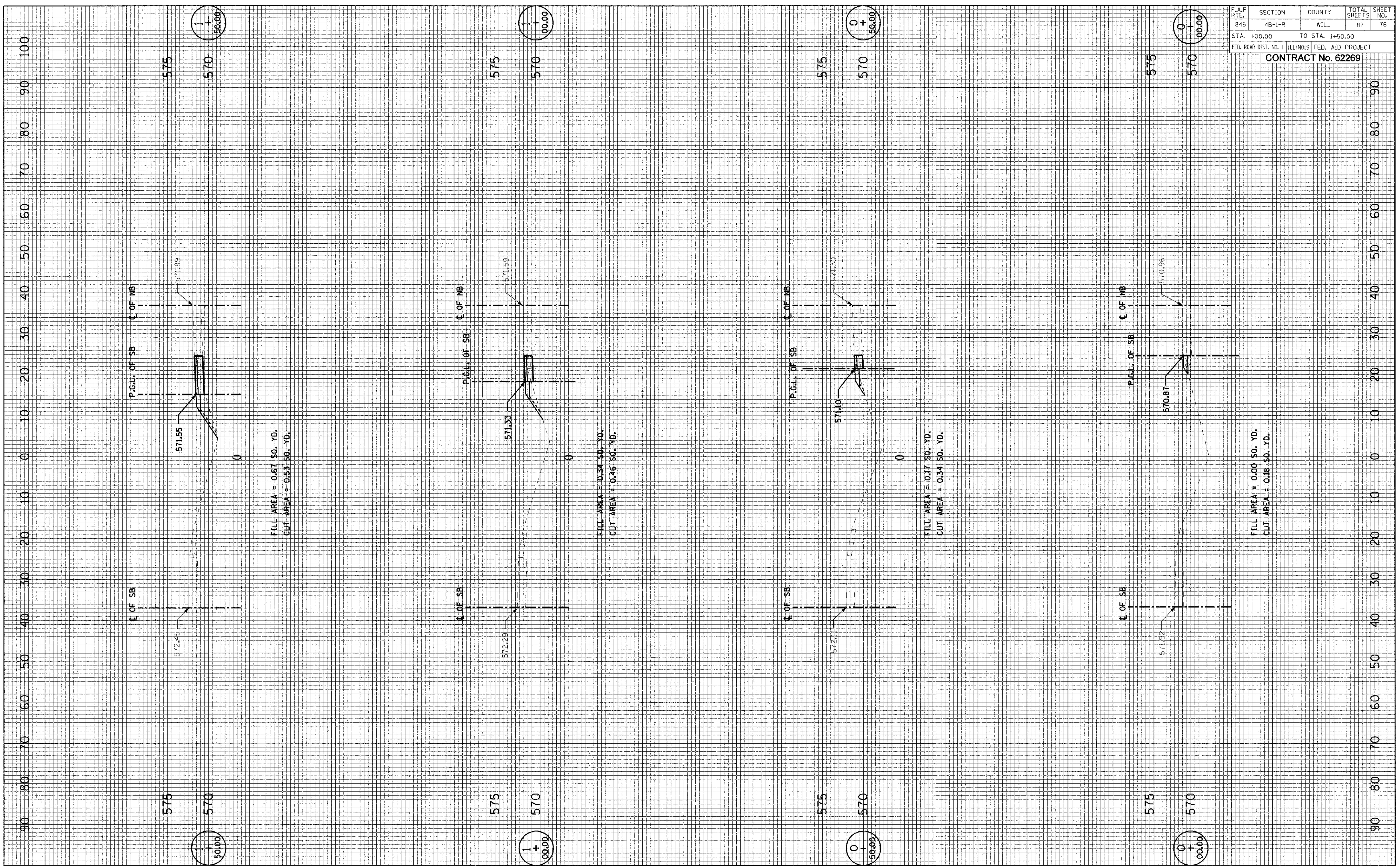
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT				
		COUNTY	TOTAL SHEETS	SHEET NO.
STA. 8+00.00	TO STA. 9+46.00	WILL	87	75

F.A.P. RTE.	SECTION
846	48-1-R

CONTRACT No. 62269

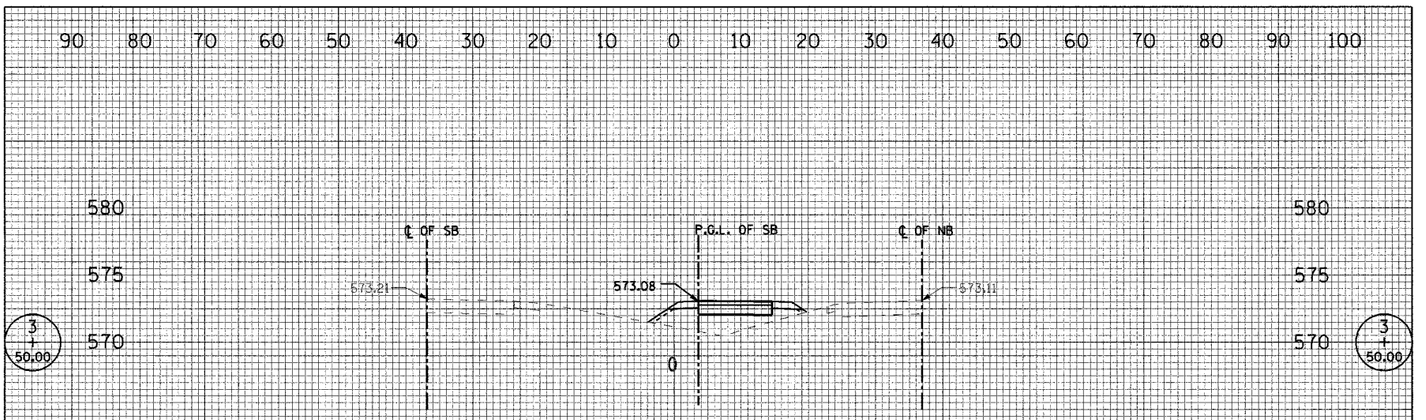
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-R	WILL	87	76
STA. +00.00	TO STA. 1+50.00			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT No. 62269

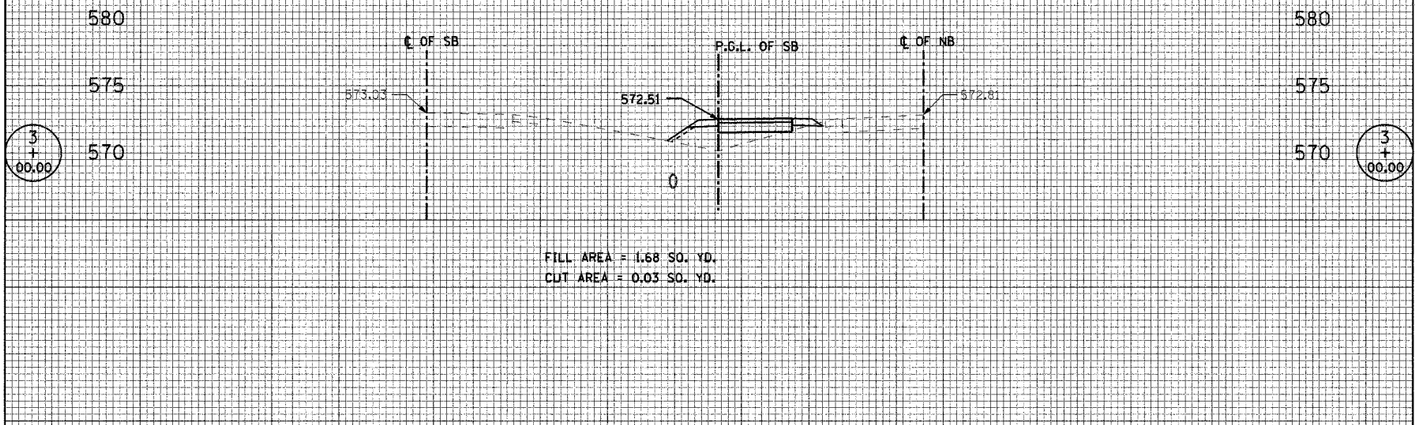


ORIGINAL SURVEY		DATE
NOTE BOOK	SURVEYED	
	PLOTTED	
NO.	TEMPLATE	
	AREAS	
	AREAS CHECKED	

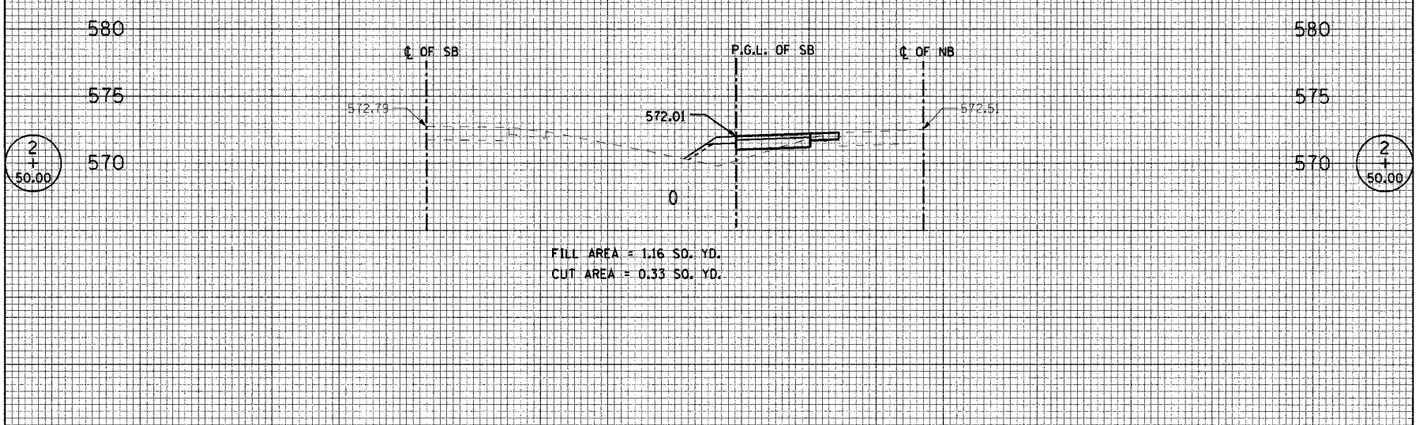
FINAL SURVEY		DATE
NOTE BOOK	SURVEYED	
	PLOTTED	
NO.	TEMPLATE	
	AREAS	
	AREAS CHECKED	



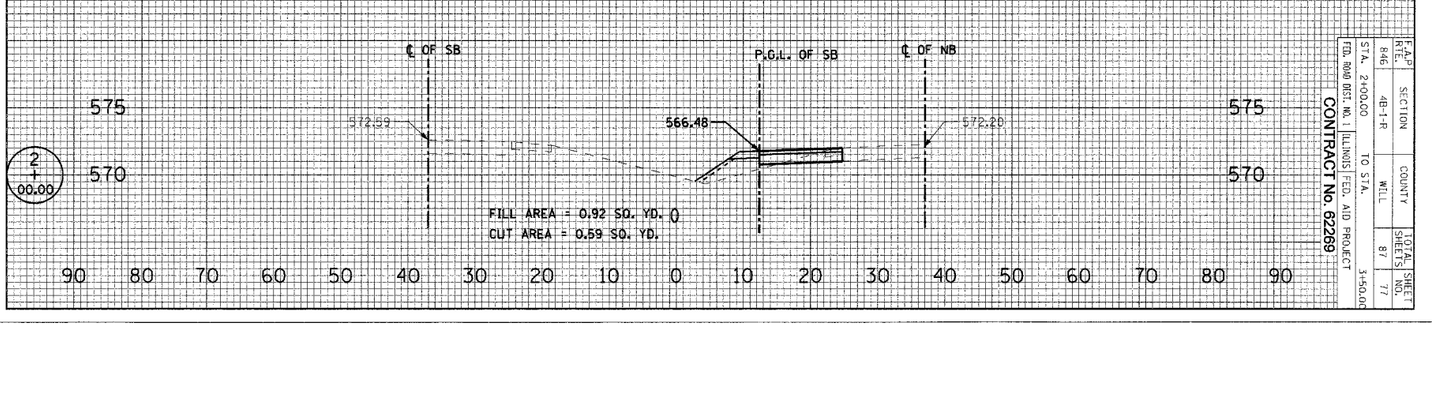
FILL AREA = 2.61 SQ. YD.
CUT AREA = 0.00 SQ. YD.



FILL AREA = 1.68 SQ. YD.
CUT AREA = 0.03 SQ. YD.



FILL AREA = 1.16 SQ. YD.
CUT AREA = 0.33 SQ. YD.



FILL AREA = 0.92 SQ. YD.
CUT AREA = 0.59 SQ. YD.

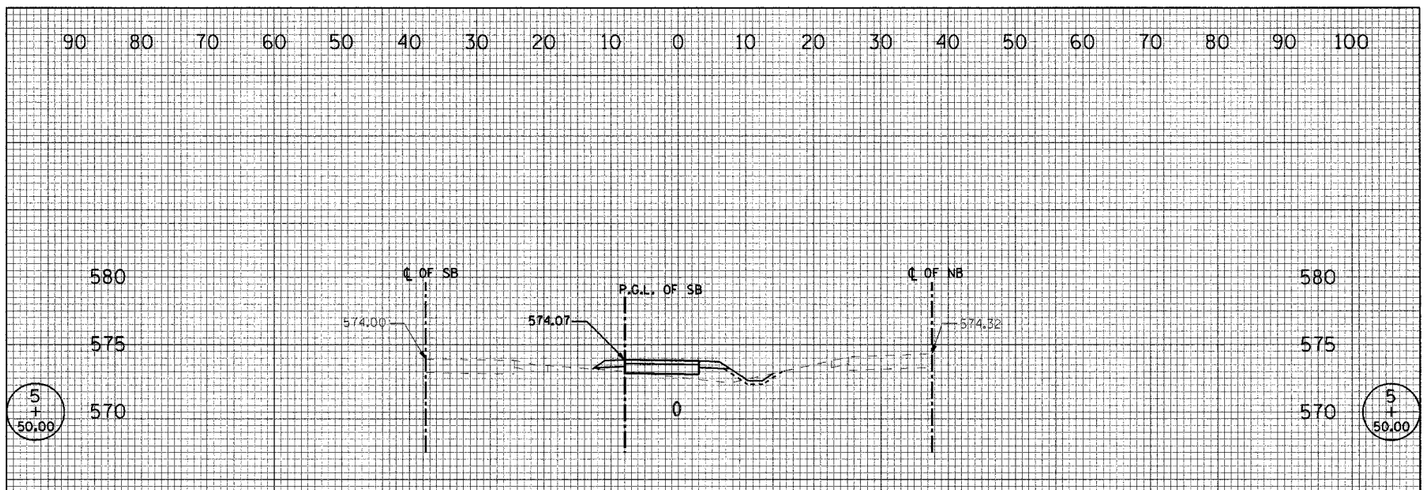
F.A.P. RTE. 846	SECTION 48-1-R	COUNTY WILL	TOTAL SHEETS 87	SHEET NO. 77
STA. 2+00.00	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			

CONTRACT No. 62269

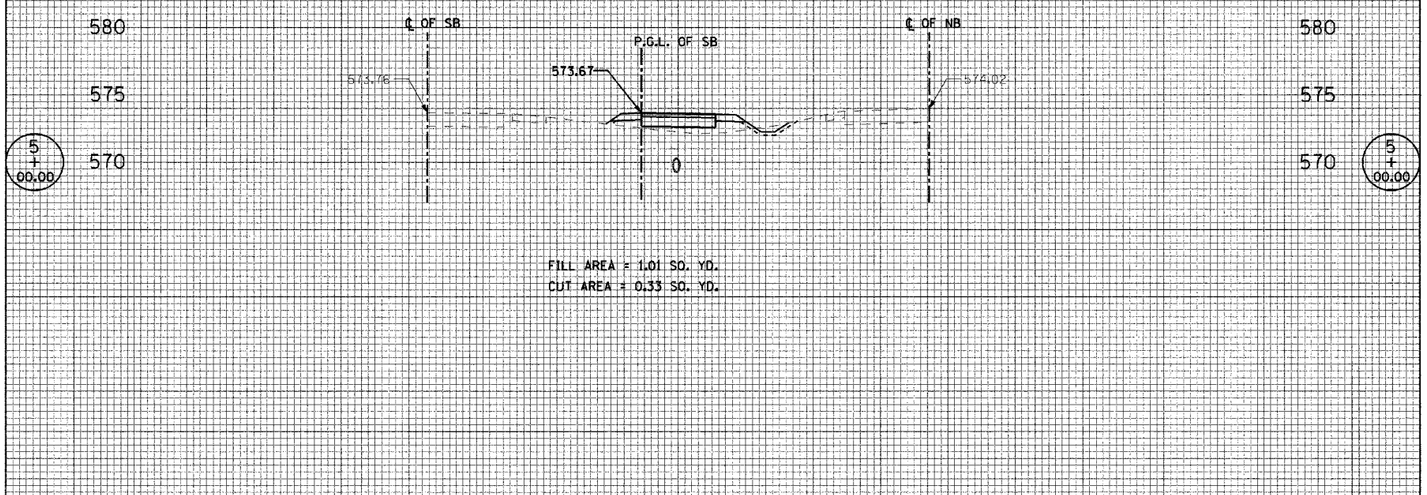
3+50.00

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

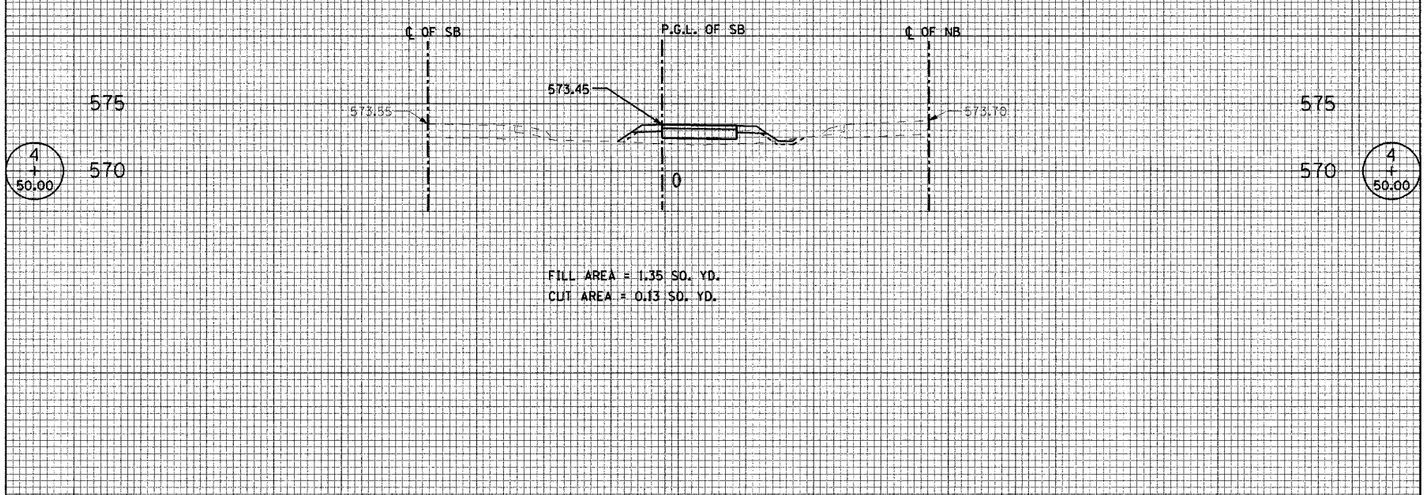
FINAL SURVEY			
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		



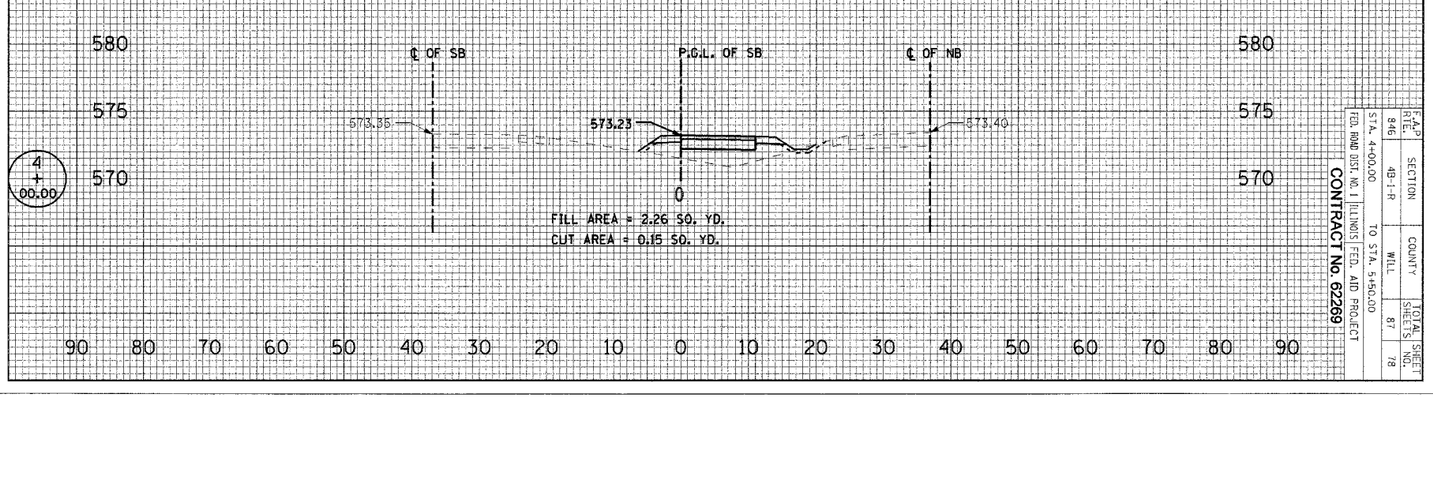
FILL AREA = 0.83 SQ. YD.
CUT AREA = 0.27 SQ. YD.



FILL AREA = 1.01 SQ. YD.
CUT AREA = 0.33 SQ. YD.



FILL AREA = 1.35 SQ. YD.
CUT AREA = 0.13 SQ. YD.



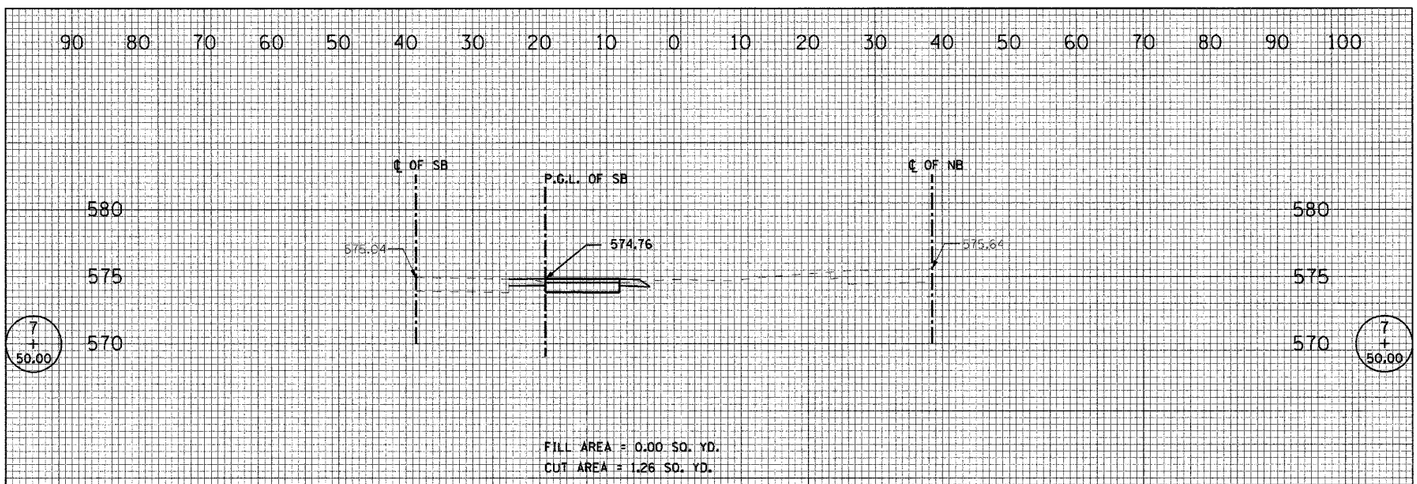
FILL AREA = 2.26 SQ. YD.
CUT AREA = 0.15 SQ. YD.

FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT
STA. 4+00.00	TO STA. 5+50.00	CONTRACT NO. 62269

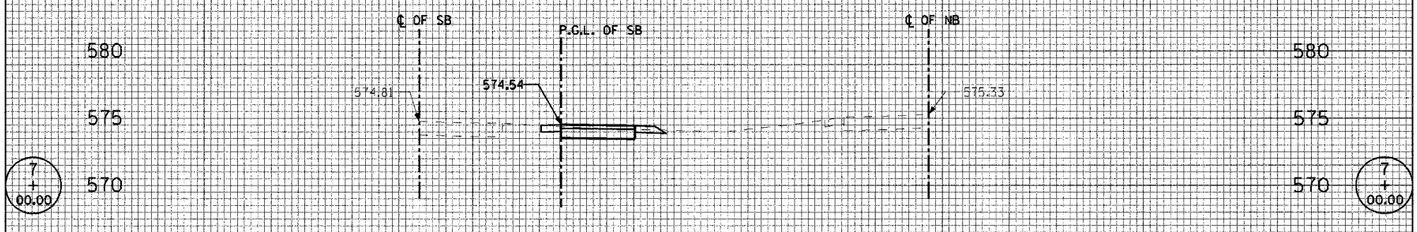
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B-1-P	WILL	87	78

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

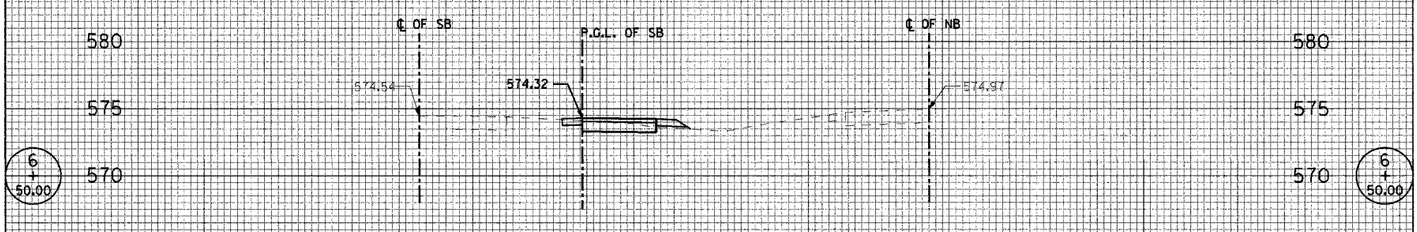
FINAL SURVEY			
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



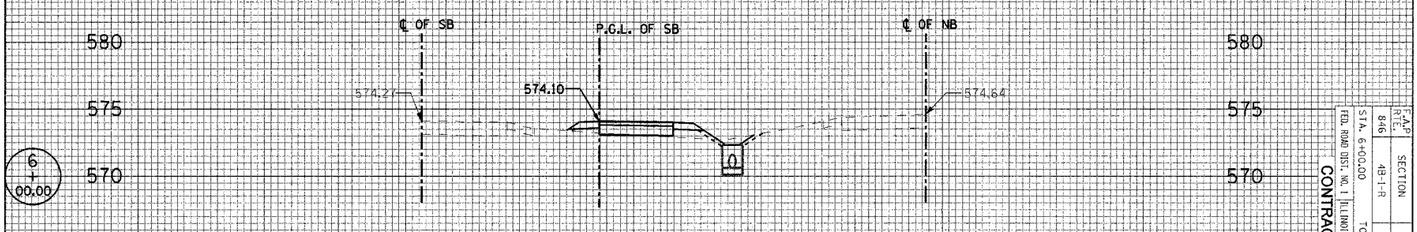
FILL AREA = 0.00 SQ. YD.
CUT AREA = 1.26 SQ. YD.



FILL AREA = 0.00 SQ. YD.
CUT AREA = 1.21 SQ. YD.



FILL AREA = 0.07 SQ. YD.
CUT AREA = 0.89 SQ. YD.



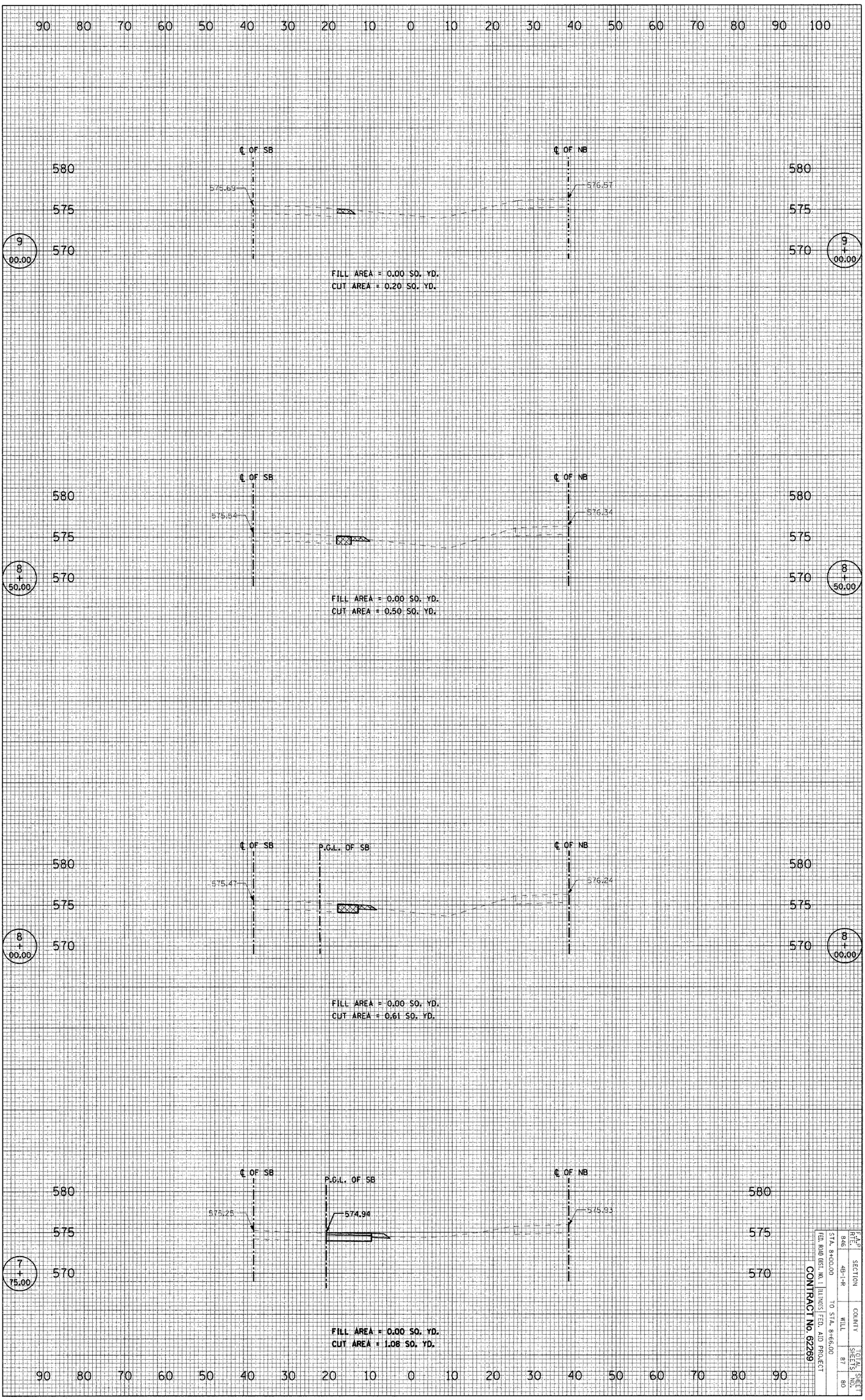
FILL AREA = 0.46 SQ. YD.
CUT AREA = 1.1 SQ. YD.

STATE OF ILLINOIS			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT		
STA. 6+00.00	TO STA. 7+50.00	COUNTY WILL	TOTAL SHEETS 87
8-46	48-1-R		SHEET NO. 79

CONTRACT No. 62269

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

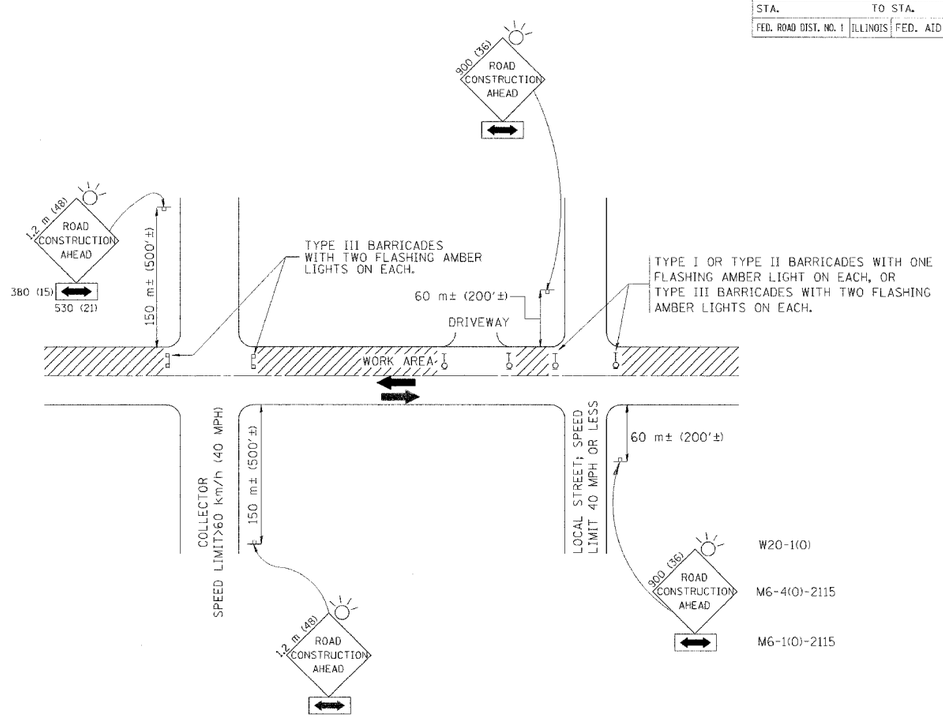
FINAL SURVEY NOTE BOOK NO.	SURVEYED BY		DATE
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	4B1-1R	WILL	87	80
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		STA. 8+40.00 TO STA. 8+65.00		

CONTRACT No. 62269

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	81
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES. 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: VERT. HORIZ.

DATE 10/18/2002

DRAWN BY

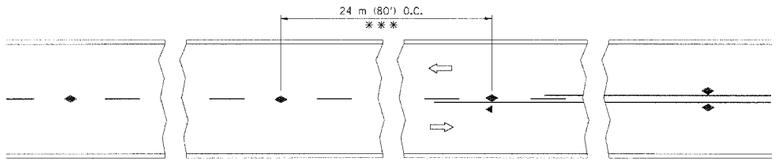
CHECKED BY

TC-10

REVISION DATE: 01/06/00

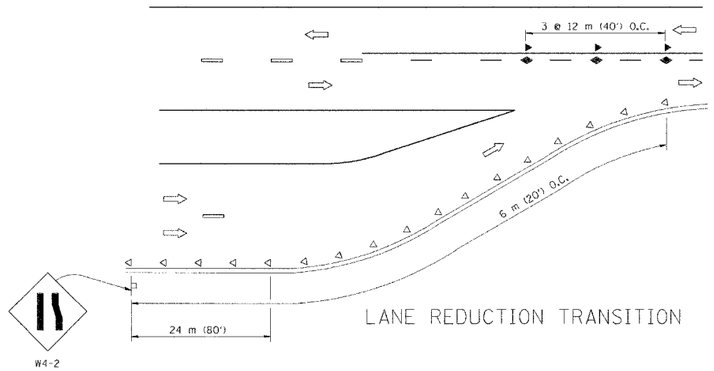
Friday October 18,2002 @ 10:20:23 AM
c:\projects\diststd\tc10.dgn LV=35,63
USER:

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	82
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

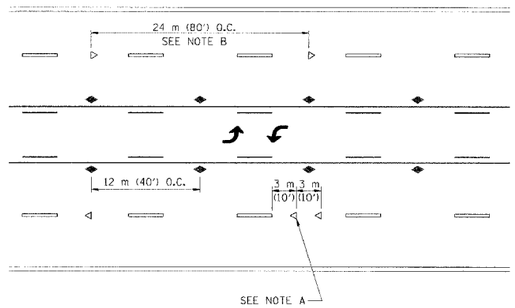


* * * REDUCE TO 12 m (40') O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 70 km/h (45 M.P.H.) OR LESS.

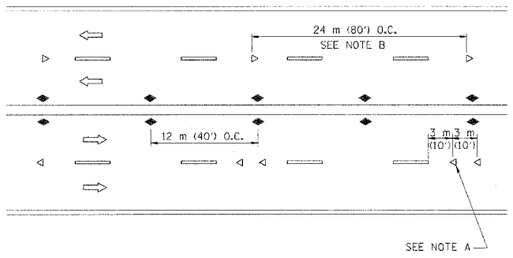
TWO-LANE/TWO-WAY



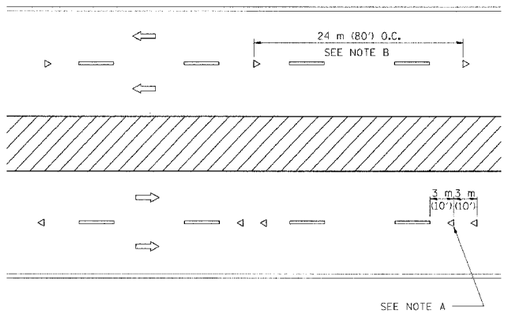
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

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

SYMBOLS

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

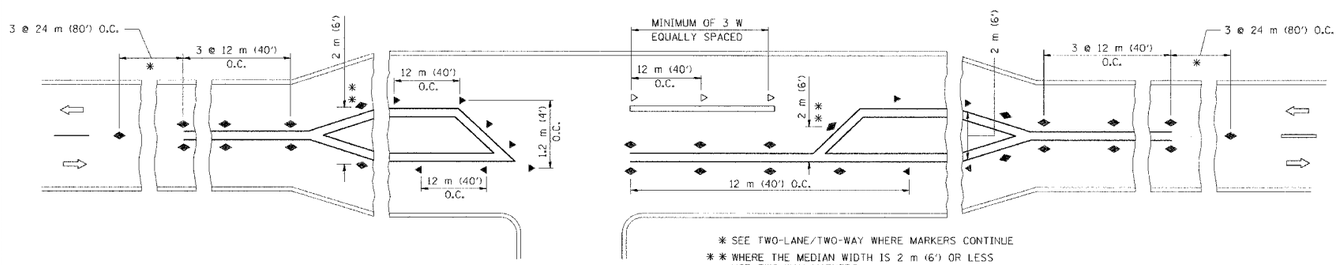
LANE MARKER NOTES

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

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

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



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

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

LEFT TURN

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

REVISIONS	
NAME	DATE
T. RAMMACHER	09-19-94
T. RAMMACHER	03-12-99
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS
(SNOW-PLOW RESISTANT)

SCALE: NONE

DRAWN BY CADD

DATE: 10/18/2002

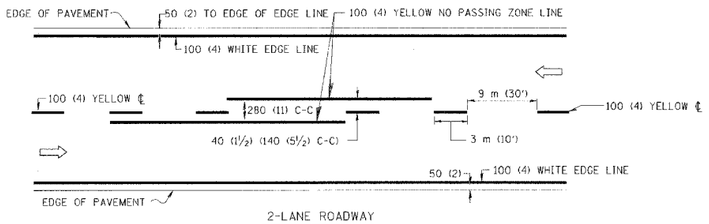
CHECKED BY

TC-11

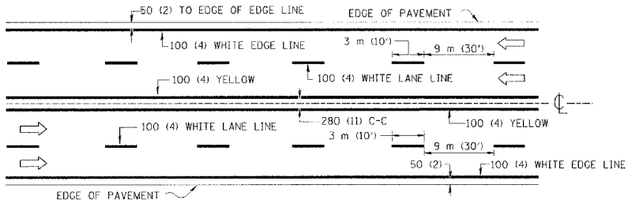
REVISION DATE: 01/06/00

•DATE-TIME•
•DGN-SPEC•
V1-TC11

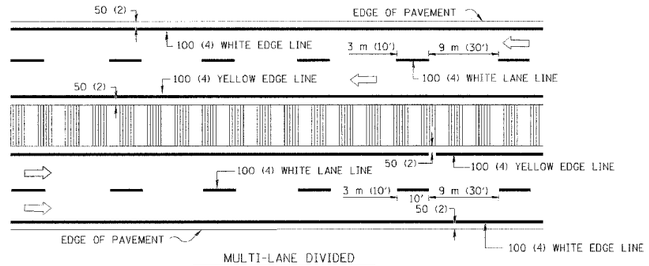
F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	83
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



2-LANE ROADWAY



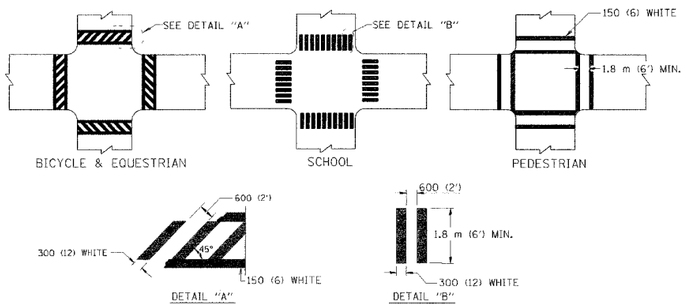
MULTI-LANE UNDIVIDED



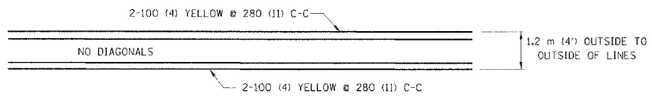
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

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

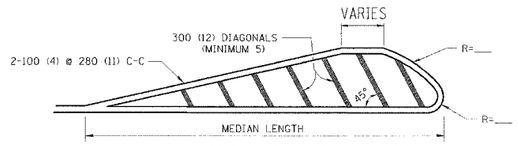
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



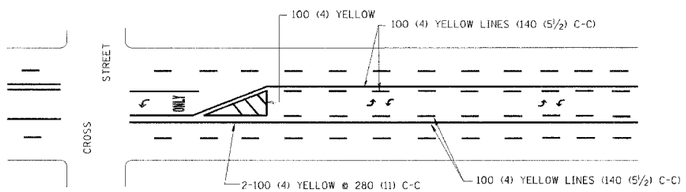
1.2 m (4') WIDE MEDIANS ONLY



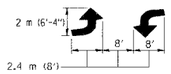
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

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

MEDIANS OVER 1.2 m (4') WIDE

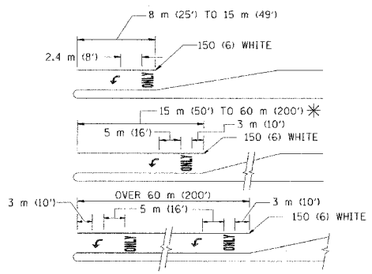


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED. WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 60 m (200') TO 90 m (300') INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

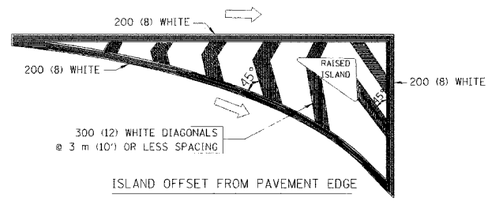


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.
AREA = 1.5 m^2 (15.6 SQ. FT.) ONLY AREA = 1.9 m^2 (20.8 SQ. FT.)

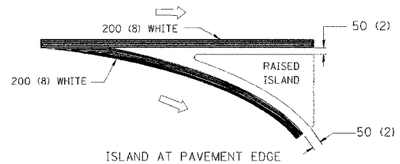
✳ TURN LANES IN EXCESS OF 120 m (400') IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

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

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

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

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION

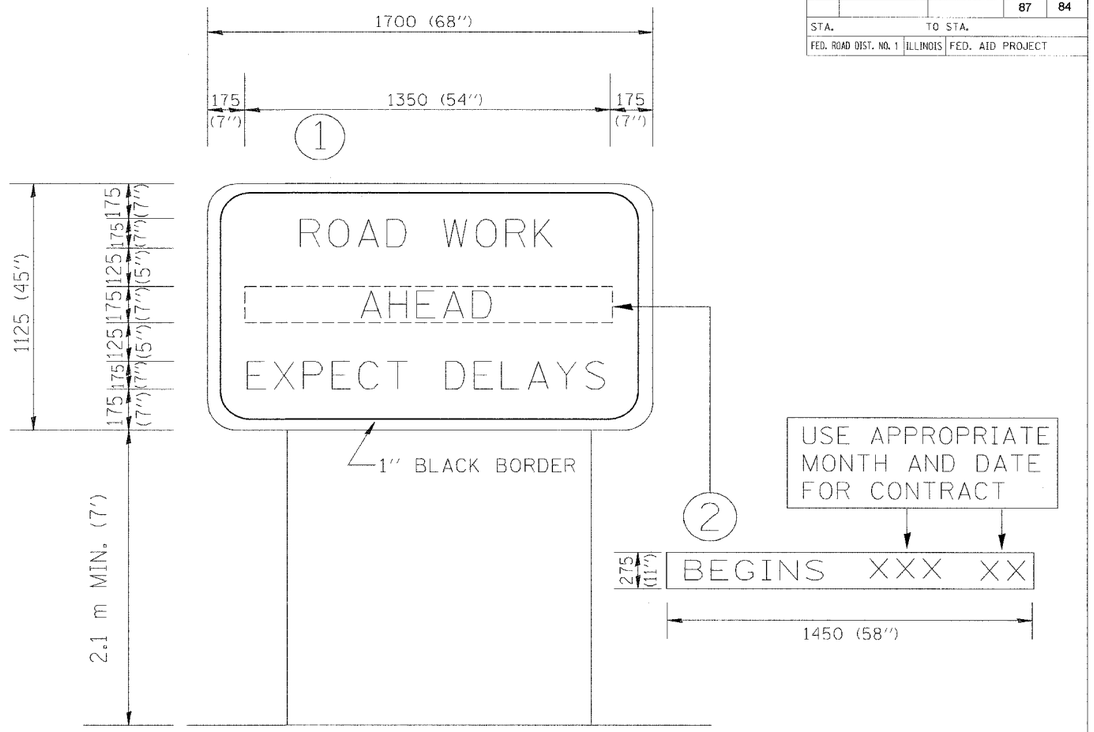
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE
DRAWN BY CADD
DATE 10/18/2002
CHECKED BY
TC-13

REVISION DATE: 01/06/00

DATE-TIME
DGN SPEC
V:\TC13

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	84
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

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

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

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY INFORMATION SIGNING

SCALE:
DRAWN BY: BUR. OF DESIGN
DATE 10/18/2002
CHECKED BY

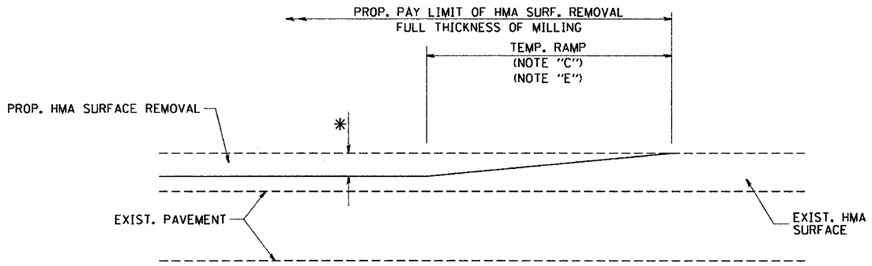
TC22

REVISION DATE: 02/02/99

Friday October 18, 2002 @ 10:25:17 AM
c:\projects\distsd\tc22.dgn LV=35,63
Vi=TC22

CONTRACT NO.

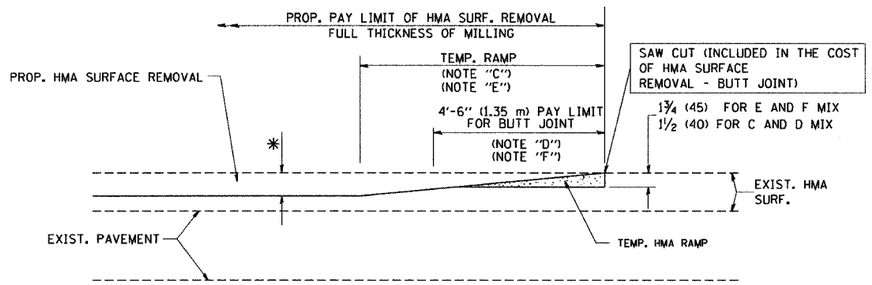
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	85
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

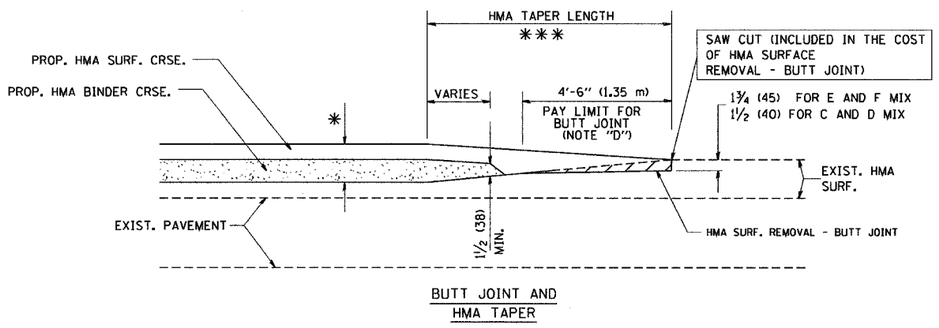


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

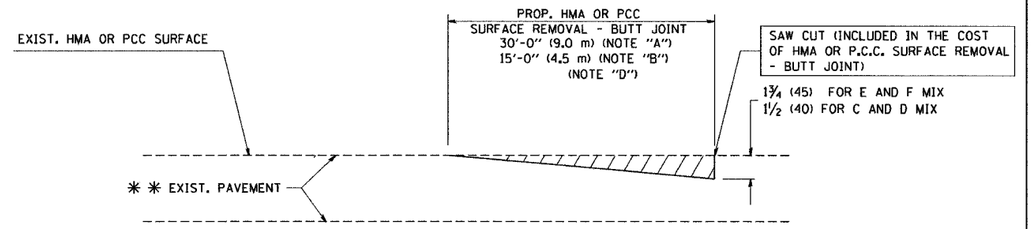
OPTION 2

TYPICAL TEMPORARY RAMP

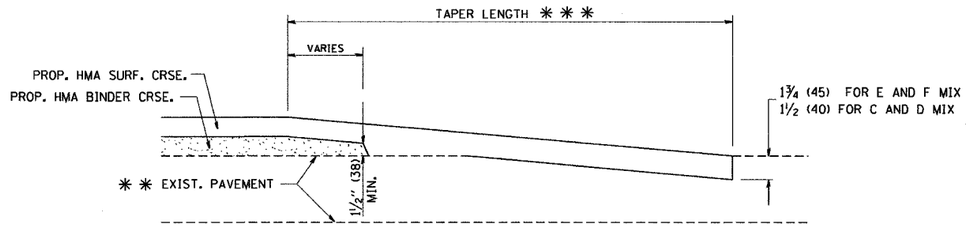


BUTT JOINT AND HMA TAPER

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")

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

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".

REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS

SCALE: VERT. HORIZ. NONE

DRAWN BY

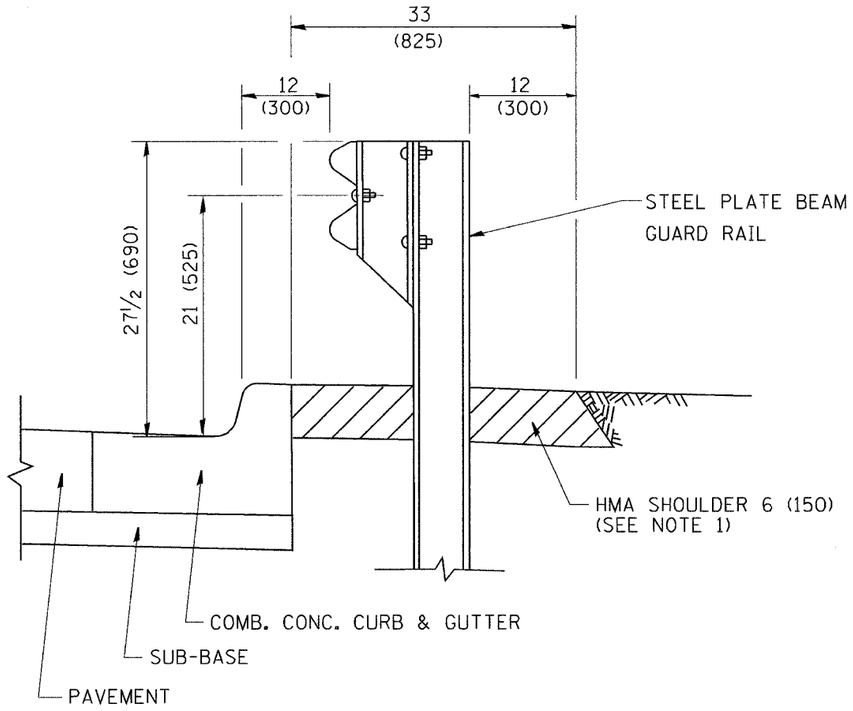
CHECKED BY

BD400-05 (VI=BD32)

PLOT DATE = 3/9/2007
FILE NAME = c:\projects\bd32.dgn
PLOT SCALE = 50.0000 '/ IN.
USER NAME = bauerdl

CONTRACT NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	86
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES: 1. THE HMA SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL

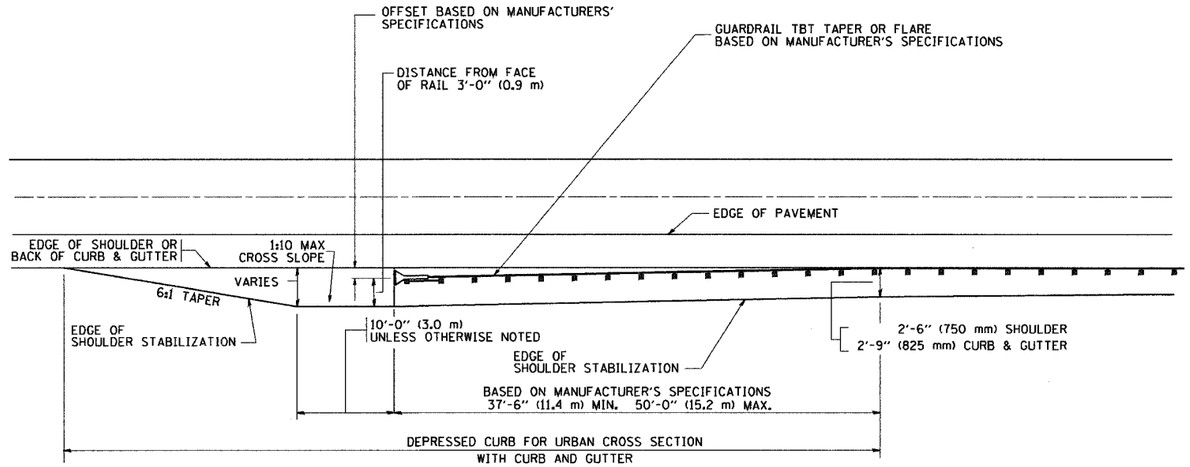
2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

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.

REVISIONS	
NAME	DATE
M. DE YONG	09-22-90
M. DE YONG	07-14-92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	02/23/95
A. ABBAS	03/21/97
E. GOMEZ	08/28/00
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER STABILIZATION AT TBT TY 1 SPL.

SCALE: VERT. HORIZ. NONE

DRAWN BY jls

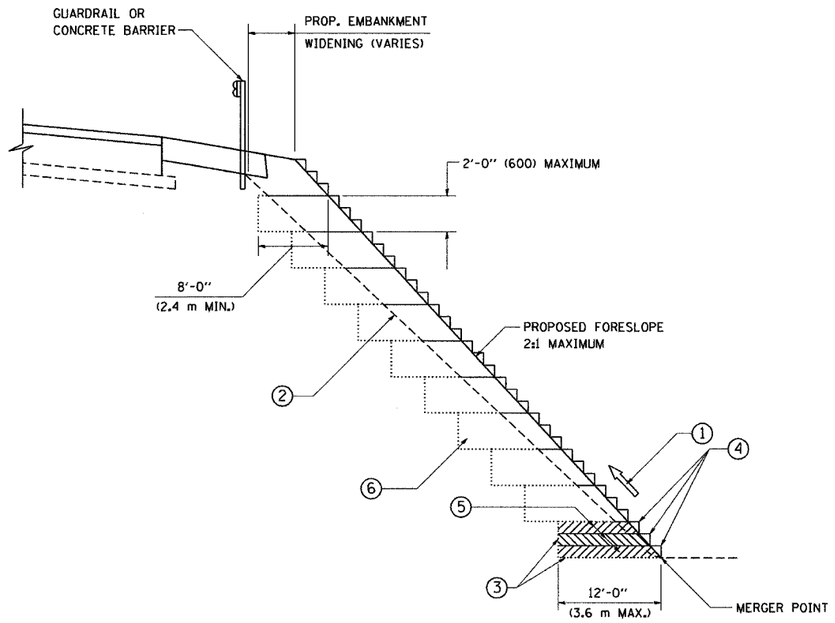
CHECKED BY

BD600-10 (BD 34)

PLOT DATE = 3/5/2007
FILE NAME = c:\projects\bd34.dgn
PLOT SCALE = 50.8000 '/ IN.
USER NAME = bauerdl

CONTRACT NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			87	87
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

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

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

REVISIONS NAME	DATE
	06/16/04

ILLINOIS DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT
WIDENING

SCALE: VERT. NONE
HORIZ.

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

BD-51

PLOT DATE = 3/5/2007
FILE NAME = K:\district\bd51.dgn
PLOT SCALE = 64.0000 '/ IN.
USER NAME = bauerdl