Contract No. 85758

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	1
		WHA# 5045023		
	ILLINOIS			

01-17-2025 LETTING ITEM 145

SEE SHEET 2 OF 38 FOR INDEX OF SHEETS

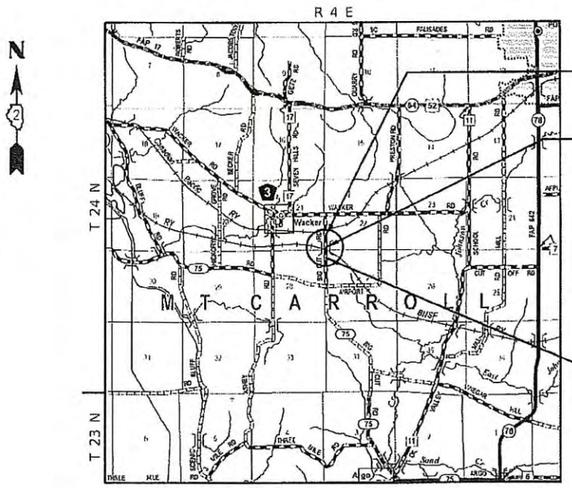
SURFACE TRANSPORTATION PROGRAM
PLANS FOR PROPOSED
STRUCTURE REPLACEMENT

BIG CUT ROAD (TR 50) OVER
B.N.S.F. RAILROAD
SECTION 19–06126–00–BR
CARROLL COUNTY
PROPOSED S.N. 008–3636
PROJECT 90WR(052)
JOB NO. C–92–056–22
CONTRACT NO. 85758

LOCATION OF SECTION INDICATED THUS:

STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
515001-04	NAME PLATE FOR BRIDGES
542301-03	PRECAST REINFORCED CONCRETE FLARED END SECTION
601001-05	PIPE UNDERDRAINS
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAIN
631026-06	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701901-10	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



LOCATION MAP NOT TO SCALE

GROSS LENGTH OF SECTION = 813 FEET (0.154 MILE)
NET LENGTH OF SECTION = 813 FEET (0.154 MILE)

END IMPROVEMENT
STA. 17 + 75

SECTION 19-06126-00-BR
STA. 13+28.05
PROPOSED STRUCTURE S.N. 008-3636
SINGLE SPAN PRESTRESSED I-BEAM BRIDGE
25° SKEW. REPLACES 008-9912

BEGIN IMPROVEMENTS
STA. 9 + 62

REGISTERED PROFESSIONAL ENGINEER
CHAD CLAUSON
062-071543
STATE OF ILLINOIS

Chad Clauson 10/30/24
DATE

CHAD T. CLAUSON
DIXON, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-071543
EXPIRES 11-30-2025

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
860 EAST 1ST STREET, DIXON, IL 61021-0157
T: 815-284-3381 DIXON@WHA-HSR.COM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 10/30 20 24

COUNTY ENGINEER

PASSED 11/8 20 24

DISTRICT 2 ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW Nov. 8 20 24

Trisha Thompson
REGION 2 ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

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

811 Know what's below. Call before you dig.

DESIGN CRITERIA

ROADWAY	DESIGN CLASSIFICATION	ADT 2044	DESIGN SPEED
TR 50	LOCAL ROAD (RURAL)	230	30 MPH

FILE = S:\PROJECTS\2023\5045023_Carroll Co_Big Cut\DESIGN\CAD_SHEETS\5045023_Cover.dgn

PRINT_ORGANIZER_BW.pltcfg 10/30/2024 10:40:13 AM - PLOTTED

GENERAL NOTES:

1. THE FINAL TOP FOUR INCHES OF SOIL IN ANY RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE CAPABLE OF SUPPORTING VEGETATION. THE SOIL MUST BE FROM THE A HORIZON (ZERO TO 2' DEEP) OF SOIL PROFILES OF LOCAL SOILS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES BID FOR EARTH EXCAVATION (SPECIAL) AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

2. ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.

3. FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE SPECIFIED IN SECTIONS 250 AND 252 OF THE STANDARD SPECIFICATIONS. THIS SHALL BE INCLUDED IN THE COST OF THE SEEDING OR SODDING.

4. ALL EMBANKMENT CONSTRUCTED OF COHESIVE SOIL SHALL BE CONSTRUCTED WITH NOT MORE THAN 110% OF OPTIMUM MOISTURE CONTENT, DETERMINED BY THE STANDARD PROCTOR TEST. COHESIVE SOIL SHALL BE DEFINED AS ANY SOIL WHICH CONTAINS GREATER THAN 10% PARTICLES BY WEIGHT PASSING THE #200 SIEVE. THE 110% OF OPTIMUM MOISTURE LIMIT MAY BE WAIVED IN FREE-DRAINING GRANULAR MATERIAL WHEN APPROVED BY THE ENGINEER.

5. SAW CUTS AND PAVEMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM EARTH EXCAVATION (SPECIAL).

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.37 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123. THE UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS ARE LISTED BELOW.

7. THE APPLICABLE PORTIONS OF ARTICLE 105.07 OF THE STANDARD SPECIFICATION SHALL APPLY EXCEPT FOR THE FOLLOWING: THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE VERTICAL DEPTHS OF THE UNDERGROUND UTILITIES WHICH MAY INTERFERE WITH CONSTRUCTION OPERATIONS. THIS WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICE FOR THE ITEM OF CONSTRUCTION INVOLVED.

8. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT AND COORDINATE HIS ACTIVITIES WITH THE UTILITIES BY CONTACTING: JULIE - 800/892-0123. UTILITY CONTACT INFORMATION CAN BE FOUND ON THE UTILITY CONTACT INFORMATION TABLE.

9. EXCAVATION NECESSARY FOR PLACEMENT OF RIPRAP SHALL BE INCLUDED IN COST OF GROUTED RIPRAP UNLESS OTHERWISE NOTED.

10. EXCAVATION NECESSARY FOR REMOVAL OF EXISTING STRUCTURES SHALL BE INCLUDED IN COST OF REMOVAL OF EXISTING STRUCTURES UNLESS OTHERWISE NOTED.

11. A FLAGMAN IS REQUIRED WHEN ANY WORK IS PERFORMED WITHIN 25 FEET OF TRACK CENTERLINE. IF THE RAILROAD PROVIDES FLAGGING OR OTHER SERVICES, THE CONTRACTOR SHALL NOT BE RELIEVED OF ANY RESPONSIBILITIES OR LIABILITIES AS SET FORTH IN ANY DOCUMENT AUTHORIZING THE WORK. NO WORK IS ALLOWED WITHIN 50 FEET OF TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE, AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF TRACK CENTERLINE AND SECURE ALL EQUIPMENT WHEN TRAINS ARE PRESENT.

12. FOR BNSF SIGNAL/TELECOMMUNICATIONS ENGINEERING "CALL BEFORE YOU DIG", CALL 1-800-533-2891.

INDEX OF SHEETS:

1	COVER SHEET
2	GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	TYPICAL SECTIONS
5	SCHEDULE OF QUANTITIES
6	PLAN AND PROFILE
7	EROSION CONTROL PLAN
8	BRIDGE GRADING PLAN
9	GENERAL PLAN AND ELEVATION
10	GENERAL STRUCTURE DATA
11	STRUCTURE GENERAL NOTES
12	MSE WALL DETAILS (NORTH)
13	MSE WALL DETAILS (SOUTH)
14	DECK DRAINS DETAILS
15	TOP OF SLAB ELEVATIONS
16	TOP OF SLAB ELEVATIONS TABLES
17	TOP OF APPROACH SLAB ELEVATIONS
18	SUPERSTRUCTURE
19	SUPERSTRUCTURE DETAILS
20	DIAPHRAGM DETAILS
21	APPROACH SLAB
22	APPROACH SLAB DETAILS
23	FRAMING PLAN
24	BEAM (1 OF 2)
25	BEAM (2 OF 2)
26	ABUTMENTS
27	HP PILE DETAILS
28-29	BRIDGE FENCE RAILING
30-32	SOIL BORINGS
33-38	CROSS SECTIONS

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05 TONS / CU YD
HOT MIX ASPHALT	112 LBS / SY-INCH
BITUMINOUS MATERIALS (PRIME COAT) (ON GRAVEL)	0.25 LBS / SF
BITUMINOUS MATERIALS (TACK COAT) (BETWEEN LIFTS)	0.025 LBS / SF
TEMPORARY EROSION CONTROL SEEDING	100 LBS / ACRE / APPLICATION

HMA MIXTURE REQUIREMENT TABLE

	BINDER	SURFACE
PG GRADE	PG 58-28	PG 58-28
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 9.5
FRICTION AGGREGATE		MIXTURE C
DENSITY METHOD	CORES	CORES
MIXTURE WEIGHT	112#/SY/IN	112#/SY/IN
QUALITY	QC/QA	QC/QA

UTILITY CONTACT INFORMATION TABLE

UTILITY	COMPANY	CONTACT	PHONE NUMBER	EMAIL	
COMMUNICATIONS	BRIGHTSPEED	DREW LANE	980-376-1856	ANDREW.T.LANE@BRIGHTSPEED.COM	

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

GENERAL NOTES

SHEET 1 OF 1 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	2
		WHA# 5045D23		
	ILLINOIS			

SUMMARY OF QUANTITIES

	CODE	ITEM	UNIT OF MEASURE	TOTAL QUANTITY Code 0010	Code 0042
	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	60	0
	25100630	EROSION CONTROL BLANKET	SQ YD	2,548	0
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50	0
	28000305	TEMPORARY DITCH CHECKS	FOOT	100	0
	28000400	PERIMETER EROSION BARRIER	FOOT	200	0
	28000500	INLET AND PIPE PROTECTION	EACH	2	0
	30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	60	0
	35101400	AGGREGATE BASE COURSE, TYPE B	TON	1,346	0
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	31	0
	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	4,432	0
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	444	0
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	284	0
	40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	171	0
	42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	119	0
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	0
	50105220	PIPE CULVERT REMOVAL	FOOT	80	0
	50200100	STRUCTURE EXCAVATION	CU YD	12	0
	50300225	CONCRETE STRUCTURES	CU YD	54.2	0
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	267.2	0
	50300260	BRIDGE DECK GROOVING	SQ YD	654	0
	50300300	PROTECTIVE COAT	SQ YD	896	0
	50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	96.5	0
	50401350	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE BEAMS, IL72	FOOT	778	0
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	99,530	0
*	50901730	BRIDGE FENCE RAILING	FOOT	144	0
	51100300	SLOPE WALL 6 INCH	SQ YD	18	0
	51201710	FURNISHING STEEL PILES HP12X84	FOOT	378	0
	51202305	DRIVING PILES	FOOT	378	0
	51203710	TEST PILE STEEL HP12X84	EACH	2	0
	51204650	PILE SHOES	EACH	14	0
	51500100	NAME PLATES	EACH	1	0
	52200500	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	4,012	0
	54213663	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 18"	EACH	2	0
	54262718	METAL FLARED END SECTIONS 18"	EACH	2	0
	542A0223	PIPE CULVERTS, CLASS A, TYPE 1 18"	FOOT	40	0
	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	30	0
	58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	215	0
	60608572	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.18	FOOT	60	0
*	63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	2	0
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2	0
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	0
	67100100	MOBILIZATION	L SUM	1	0

* SPECIALTY ITEM

SUMMARY OF QUANTITIES – CONTINUED

	CODE	ITEM	UNIT OF MEASURE	TOTAL QUANTITY Code 0010	Code 0042
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	0
*	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	14	0
	X2020410	EARTH EXCAVATION (SPECIAL)	CU YD	1,258	0
	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.5	0
	X5030540	FLOOR DRAINS (SPECIAL)	EACH	4	0
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	0
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	0
	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	0
	Z0076600	TRAINEES	HOUR	0	1,000
	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	0	1,000
	XX004565	GROUTED RIP RAP	SQ YD	892	0

* SPECIALTY ITEM

REVISION	DATE	BY	REMARKS

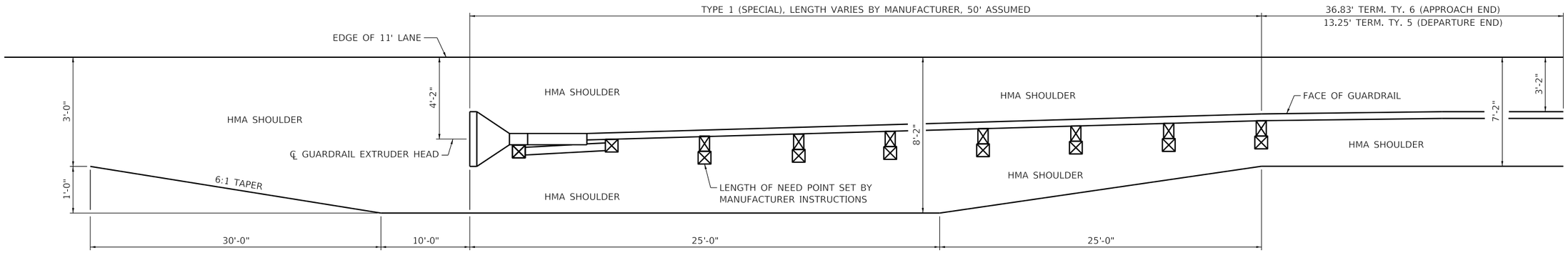
DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

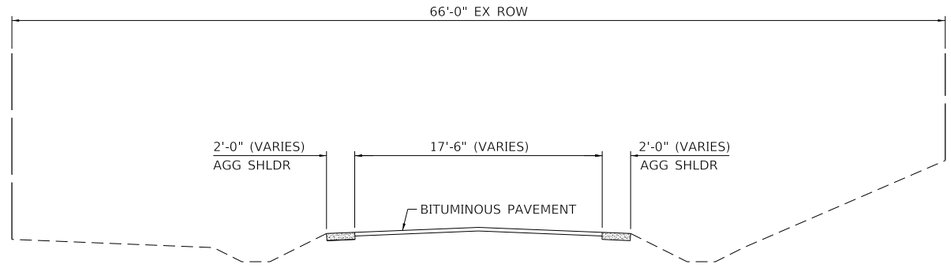
SUMMARY OF QUANTITIES

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	3
		WHA# 5045D23		
	ILLINOIS			

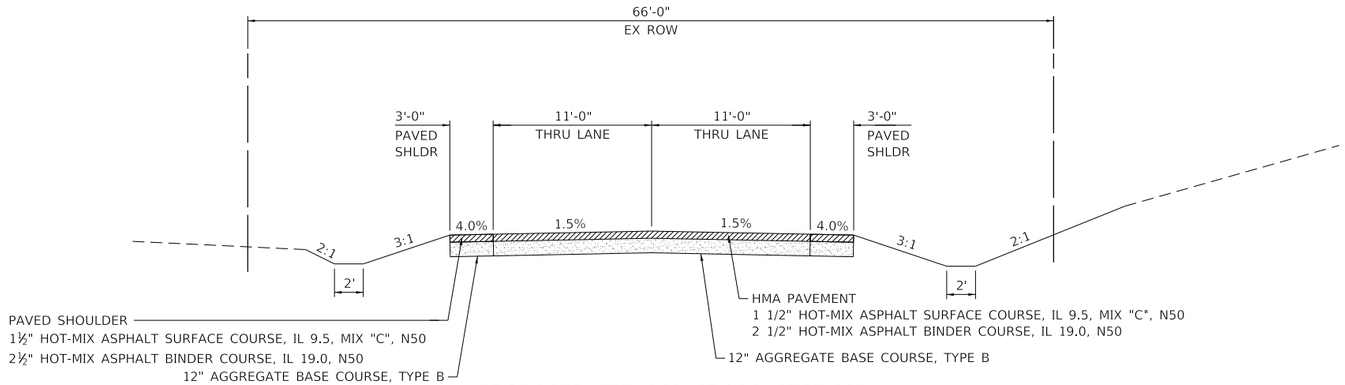


SHOULDER WIDENING TRANSITIONS DETAIL

APPROACH END SHOWN, DEPARTURE END SIMILAR



EXISTING TYPICAL CROSS SECTION



PROPOSED TYPICAL CROSS SECTION

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

TYPICAL SECTIONS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	4
		WHA# 5045D23		
	ILLINOIS			

SCHEDULE OF QUANTITIES

25100630-EROSION CONTROL BLANKET

LOCATION	SY
LT STA 9+62 to 10+78	208
LT STA 10+92 to 13+31	388
LT STA 13+65 to 17+75	295
RT STA 9+62 to 13+05	599
RT STA 13+38 to 17+75	1,058
TOTAL	2,548 SY

28000305-TEMPORARY DITCH CHECKS

LOCATION	FOOT
RT STA. 10+05	10
RT STA. 10+98	10
RT STA. 11+97	10
LT STA. 11+98	10
LT STA. 15+00	10
RT STA. 15+02	10
LT STA. 15+99	10
RT STA. 15+99	10
RT STA. 17+01	10
LT STA. 17+05	10
TOTAL	100 FOOT

28000400-PERIMETER EROSION BARRIER

LOCATION	FEET
RT STA 12+94 TO LT STA 13+34	100
RT STA 13+33 TO LT STA 13+70	100
TOTAL	200 FEET

28000500-INLET AND PIPE PROTECTION

LOCATION	EACH
LT STA 10+68	1
RT STA 14+62	1
TOTAL	2 EACH

X2501000-SEEDING, CLASS 2 (SPECIAL)

LOCATION	ACRE
LT STA 9+62 to 10+78	0.04
LT STA 10+92 to 13+31	0.08
LT STA 13+65 to 17+75	0.06
RT STA 9+62 to 13+05	0.12
RT STA 13+38 to 17+75	0.22
TOTAL	0.52 ACRE

35101400-AGGREGATE BASE COURSE, TYPE B

LOCATION	TON
STA 9+62.00 TO STA 12+20.05	612
STA 14+36.05 TO STA 17+75	734
TOTAL	1,346 TON

40603080-HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50

LOCATION	TON
STA 9+62.00 TO STA 12+20.05	129
STA 14+36.05 TO STA 17+75	135
TOTAL	264 TON

40604050-HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50

LOCATION	TON
STA 9+62.00 TO STA 12+20.05	78
STA 14+36.05 TO STA 17+75	93
TOTAL	171 TON

40600275-BITUMINOUS MATERIALS (PRIME COAT)

LOCATION	POUNDS
STA 9+62.00 TO STA 12+20.05	2,015
STA 14+36.05 TO STA 17+75	2,417
TOTAL	4,432 POUNDS

40600290-BITUMINOUS MATERIALS (TACK COAT)

LOCATION	POUNDS
STA 9+62.00 TO STA 12+20.05	202
STA 14+36.05 TO STA 17+75	242
TOTAL	444 POUNDS

40200800-AGGREGATE SURFACE COURSE, TYPE B

LOCATION	TON
STA 10+85.64 LT	31
TOTAL	31 TON

542D0223-PIPE CULVERTS, CLASS D, TYPE 1 18"

LOCATION	FOOT
STA 10+86 LT	30
TOTAL	30 FOOT

542A0223-PIPE CULVERTS, CLASS A, TYPE 1 18"

LOCATION	FOOT
STA. 14+56	40
TOTAL	40 FOOT

50105220-PIPE CULVERT REMOVAL

LOCATION	FOOT
STA 14+51	80
TOTAL	80 FOOT

GROUTED RIP RAP

LOCATION	SQ YD
STA. 12+45 TO STA. 13+28	477
STA. 13+43 TO STA. 14+25	415
TOTAL	892 SQ YD

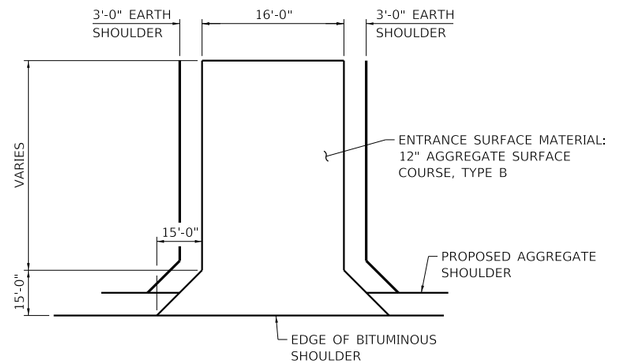
COMBINATION CONCRETE CURB AND GUTTER, TYP

COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.19

LOCATION	FOOT
	60

EARTHWORK SCHEDULE

COLUMN IDENTIFICATION / LOCATION	A EARTH EXCAVATION	B = A * (1 SLF) EARTH EXCAVATION ADJUSTED FOR SHRINKAGE / LOSS	C EMBANKMENT	D = B-C EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 9+62 TO 12+50	493	370	479	-109
STA 14+06 TO 17+75	765	573	419	154
TOTAL	1258	943	898	45
SHRINKAGE / LOSS FACTOR (SLF) = 0.25				
NOTE: EARTH EXCAVATION QUANTITIES ASSUME ON SITE EXCAVATION CAN BE USED WITHIN MSE WALLS				



FIELD ENTRANCE DETAIL

N.T.S.

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

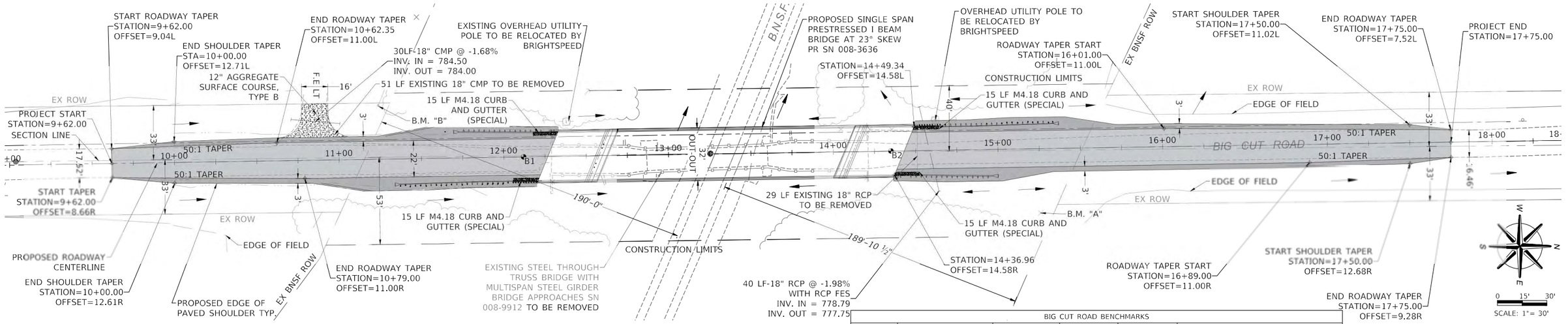
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184-000918

SCHEDULE OF QUANTITIES

SHEET 1 OF 1 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	5
		WHA# 5045D23		
	ILLINOIS			

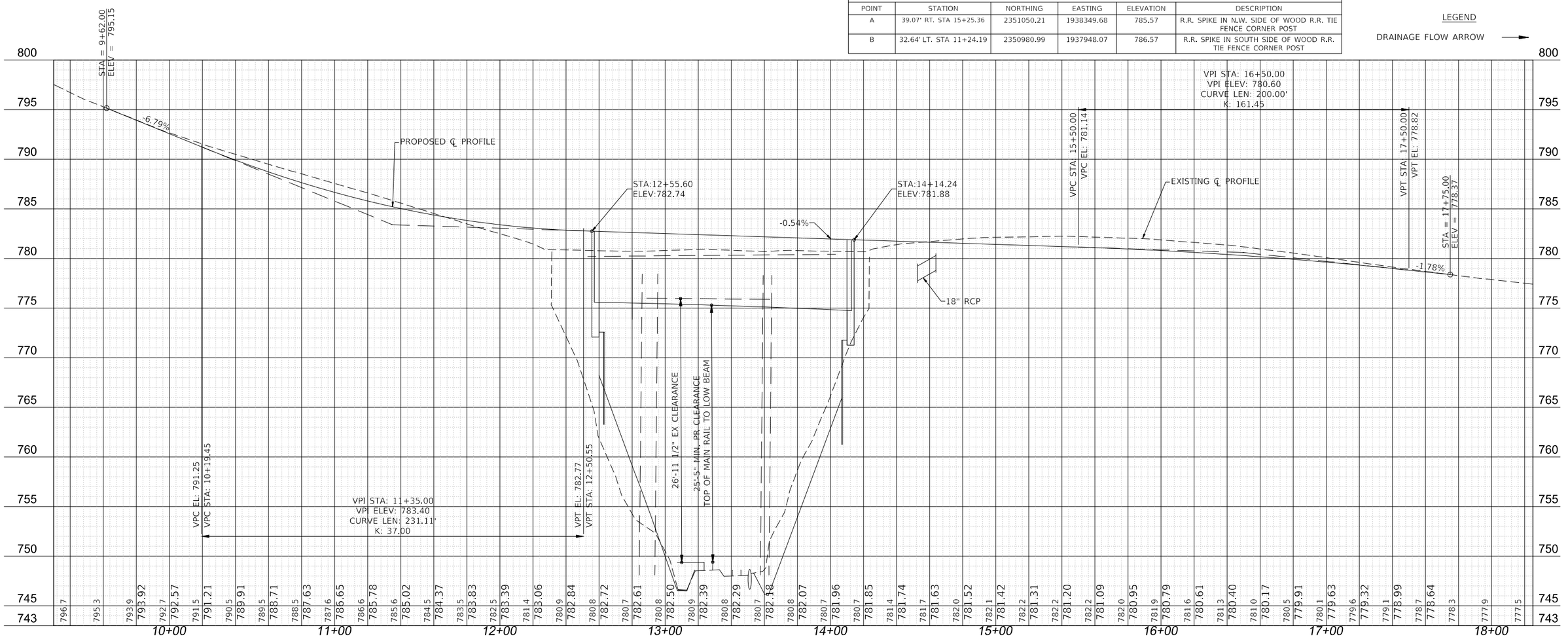
Contract No. 85758



BIG CUT ROAD BENCHMARKS					
POINT	STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
A	39.07' RT. STA 15+25.36	2351050.21	1938349.68	785.57	R.R. SPIKE IN N.W. SIDE OF WOOD R.R. TIE FENCE CORNER POST
B	32.64' LT. STA 11+24.19	2350980.99	1937948.07	786.57	R.R. SPIKE IN SOUTH SIDE OF WOOD R.R. TIE FENCE CORNER POST

LEGEND

DRAINAGE FLOW ARROW



REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

PLAN AND PROFILE

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	6
		WHA# 5045D23		
		ILLINOIS		

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Contract No. 85758

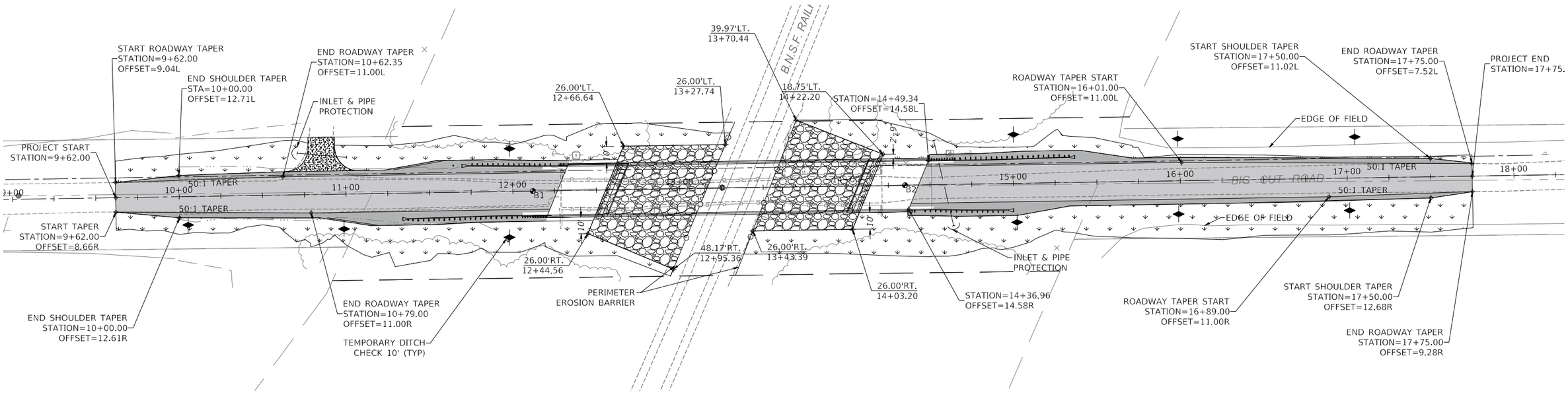
LEGEND

- GROUTED RIPRAP
- SEEDING, CLASS 2 SPECIAL WITH EROSION CONTROL BLANKET
- TEMPORARY DITCH CHECK
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER

W S N E

0 15' 30'

SCALE: 1"= 30'



REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

EROSION CONTROL PLAN

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	7
		WHA# 5045D23		
	ILLINOIS			

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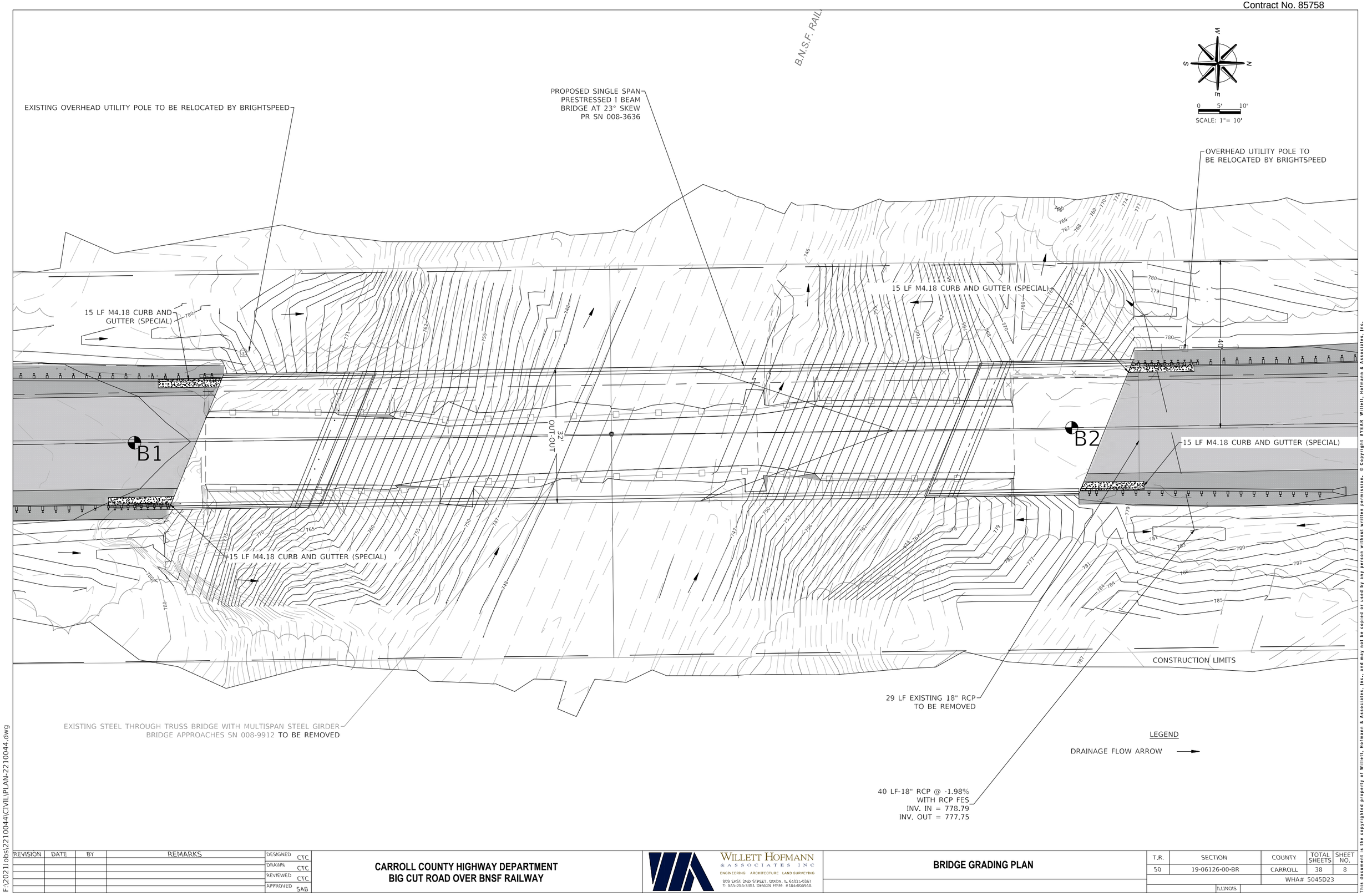
Contract No. 85758



REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

BRIDGE GRADING PLAN

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	8
		WHA# 5045D23		
	ILLINOIS			

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158'-7¾" Bk. to Bk. of abutments
154'-4¾" ℄ - ℄ of Abutments
190'-0" at Rt. ℒ's
Existing ℄ Track 17'-2½" (15'-9" at Rt. ℒ's)
27'-3¾"
27'-3¾"
189'-10½" at Rt. ℒ's
Ex. ROW
Traffic Barrier Terminal Type 6 or 5
Bottom of Existing Timber Bridge Deck to be removed
39" Constant Slope Parapet
Proposed Drain w/ Downspouts, typ.
Existing Steel Truss to be removed
8" Proposed Concrete Slab
Proposed Fence on Barrier
Proposed 72" IL PPC I-Beam
Top of Existing Bridge Deck
Existing ground line
Ex. ROW
Pr. Low Beam El. 774.87
59'-0¼" at Rt. ℒ's
57'-0" at Rt. ℒ's
Proposed 2:1 Slope at Face of M.S.E. Wall
Permanent Vertical Clearance Envelope
9'-7" at Rt. ℒ's
13'-10" at Rt. ℒ's
25'-5" min. Pr. Clr.
23'-6" Allowed BNSF Clr.
26'-11½" Ex. Clr.
9'-7" at Rt. ℒ's
16'-7" at Rt. ℒ's
℄ Existing & Proposed Ditch flowline
Proposed Ditch Invert El. 745.78
Bottom of North Abutment Cap El. 771.14
El. 762.38 Bottom of Wall
Proposed 2:1 Slope at Face of M.S.E. Wall
Bottom of South Abutment Cap El. 771.73
36'-5⅛" M.S.E. WALL
2:1 (H:V) typ.
Existing Ditch invert El. 746.57
Top of Main Track Rail El. 749.40
Top of Siding Track Rail El. 748.59
2:1 (H:V)
Steel H-Piles Typ.
36'-5⅛" M.S.E. Wall
El. 751.28 Bottom of Wall
Grouted Riprap, typ.
El. 740.73 Est. Bottom of Piles
Existing Ditch flowline
4'-10" at Rt. ℒ's
8'-6" at Rt. ℒ's
3'-0" at Rt. ℒ's
Exist. Timber Piles to be removed 3'-0" below proposed grade (See Structure General Notes on Structural Sheet 3 of 24.)
El. 743.14 Estimated Bottom of Piles
Existing 24" RCP to be removed (See Structure General Notes on Structural Sheet 3 of 24.)

ELEVATION VIEW
(Looking West)

West to North La Crosse

Ex BNSF ROW
133'-8¾"
190'-0"
189'-10½"
Edge of Asphalt Pavement, typ.
Traffic Barrier Terminal Type 5 (Std. 631026)
Grouted Riprap Limits
℄ Existing Ditch
Existing 24" RCP Culvert
℄ Proposed Ditch
158'-7¾" Back to back of Abutments
Traffic Barrier Terminal Type 6 (Std. 631031)
M-4.18 Curb and Gutter (Special)
7'-7" Shldr.
3H:1V, typ.
10'-0"
14'-7"
Sta. 12+26.69
El. 782.98
Bk. S. Abut.
Sta. 12+55.60
El. 782.74
Existing Bridge Outline
23°
32'-0" Out to Out Deck
Project ℄
Sta. 14+43.15
El. 781.72
B2
11'-0" Lane
11'-0" Lane
B1
13+00
14+00
℄ Bridge
Sta. 13+25.41 (T.R. 50)
Milepost 137.91 (BNSF R.R.)
Ex. Pier Line, typ.
Bk. N. Abut.
Sta. 14+14.24
El. 781.88
M-4.18 Curb and Gutter (Special)
HP 12x84 Pile, typ.
Name Plate
Deck Drain, typ.
1'-5"
15'-9"
2'-9"
10'-0"
3'-0" Abutment Face to Outside Face of MSE Wall
57'-0" Center of Rail to MSE Face
Concrete Parapet, typ.
13'-10"
16'-7"
59'-1" Center of Rail to MSE face
131'-7¼"
Ex BNSF ROW
Traffic Barrier Terminal Type 5 (Std. 631026) on Departure Ends
30'-0" Approach Slab
Traffic Barrier Terminal Type 6 (Std. 631031)
BNSF R.R. MAIN TRACK
Increasing R.R. Mileposts
BNSF R.R. SIDING TRACK

East to Aurora

PLAN VIEW

VPI Sta. 9+75 El. 794.28
-6.8%
VPT Sta. 12+50.73 El. 794.28
-0.54%
VPI Sta. 16+50 El. 780.60
-1.78%
VPI Sta. 17+75 El. 778.37
Sta. 9+75 El. 794.28
Sta. 11+35.00 El. 783.40
231.46' V.C.
VPI Sta. 15+50 El. 781.14
200' V.C.
VPI Sta. 17+50 El. 778.82

ROADWAY PROFILE GRADE
Along Big Cut Road

HIGHWAY CLASSIFICATION
Big Cut Road (TR 50)
Functional Class: Local Road (Rural)
ADT: 50 (2022), 230 (2043)
Design Speed: 30 M.P.H.
Regulatory Speed: 55 M.P.H.
Directional Distribution: 50/50

DESIGN STRESSES
FIELD UNITS
f'c= 3,500 psi
f'c=5,000 (deck concrete)
fy = 60,000 psi (reinforcement)
PRECAST PRESTRESSED UNITS
f'c = 8,500 psi
f'ci = 6,500 psi
fpu = 270,000 psi (0.6" Ø Low Relaxation Strands)
fpbt = 202,300 psi (0.6" Ø Low Relaxation Strands)

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

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.064g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.085g
Soil Site Class = C

DESIGN SPECIFICATIONS
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

R. 4E - 4th PM
Proposed Structure
T 24N
N

LOCATION MAP

SCOTT A. BROWN
081-005981
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

DATE: 10-28-2024
SCOTT A. BROWN
DIXON, ILLINOIS
ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 081-005981
EXPIRES 11-30-2024

"I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans, the design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications."

GENERAL PLAN & ELEVATION
BIG CUT ROAD OVER BNSF RAILROAD
TOWNSHIP ROAD 50
MILEPOST 137.91
CARROLL COUNTY
STATION 13+28.05
STRUCTURE NO. 008-3636

REVISION	DATE	BY	REMARKS

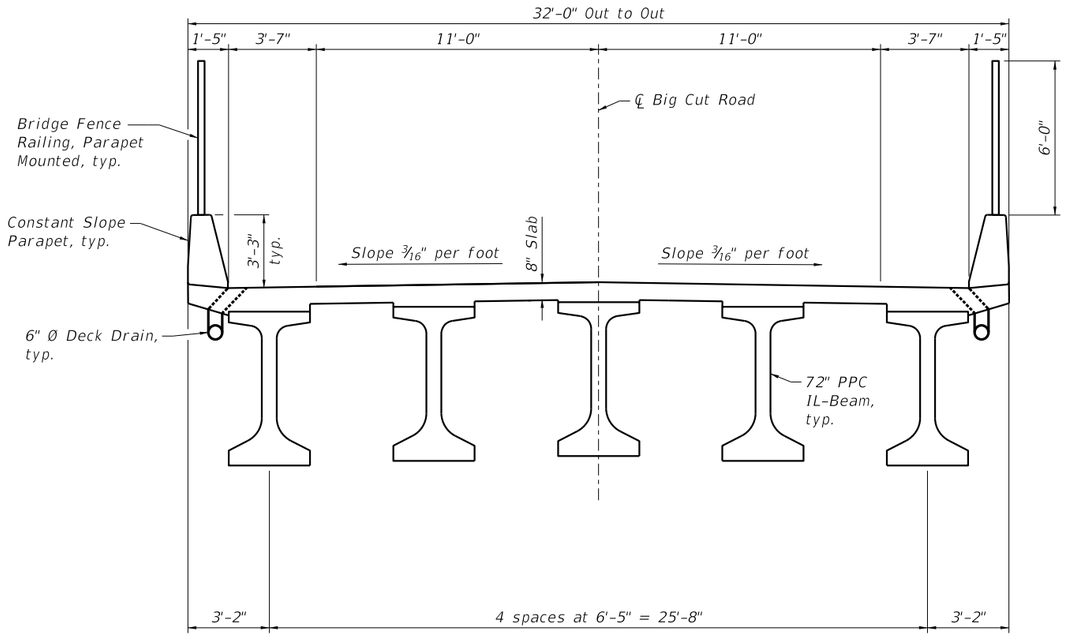
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

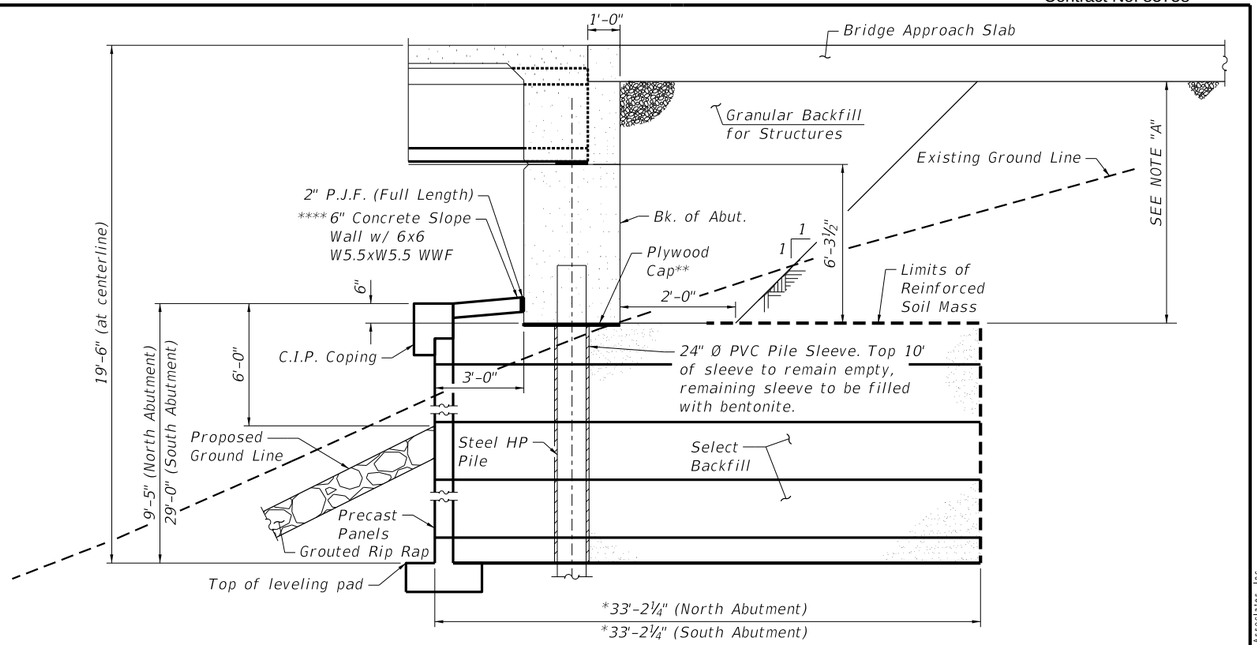
WILLETT HOFMANN ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184000918

STRUCTURAL SHEET 1 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	9
		WHA# 5045D23		
	ILLINOIS			



CROSS SECTION
(Looking North)



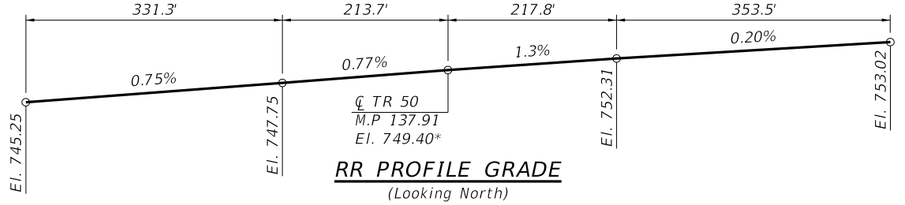
SECTION THRU ABUTMENT CAP

* See supplier shop drawings for lengths.

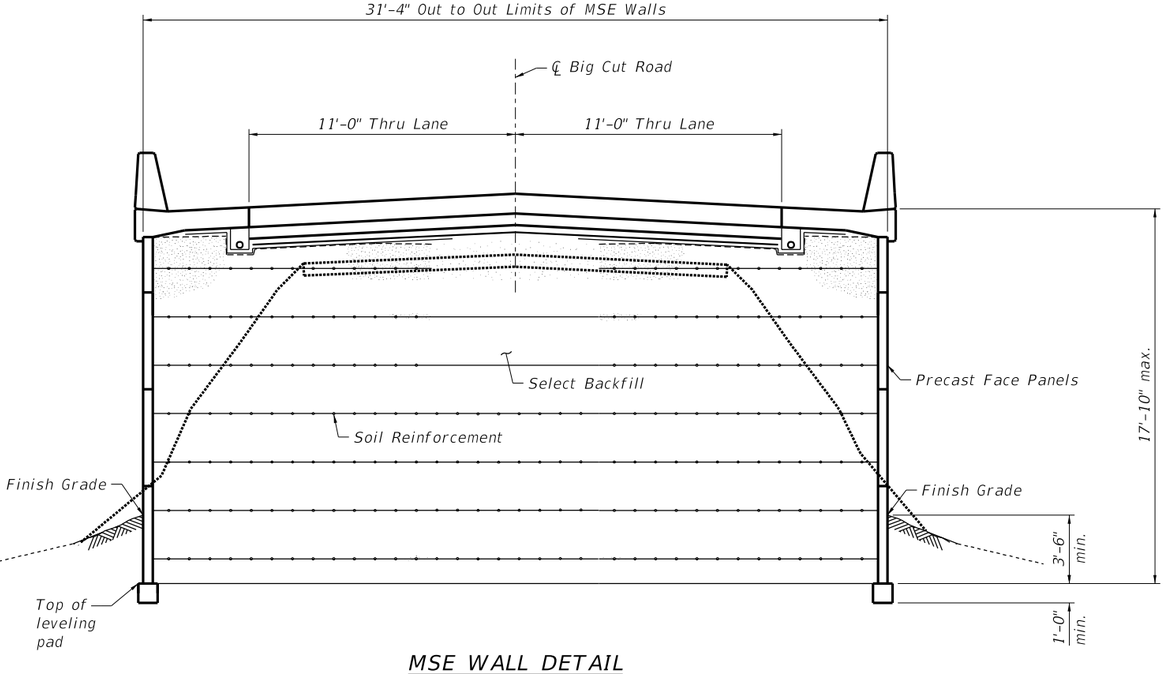
** Bottom of cap poured against top of plywood. Cut opening to match pile perimeter within ⅛". Support with bars tack welded to webs rated for 500 lbs. Seal gaps to keep concrete out.

*** Pile sleeve and bentonite to be included in the contract unit price for Furnishing Steel Piles HP 12x84.

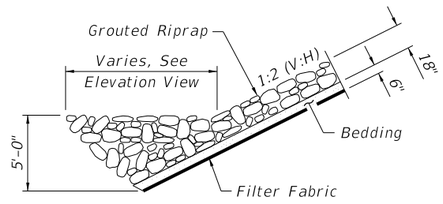
**** Reinforcement incidental to Slope Wall.



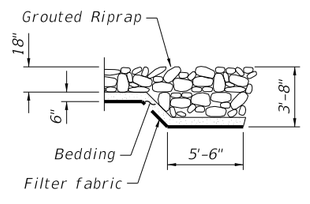
RR PROFILE GRADE
(Looking North)
Top of BNSF Main Rail
*Top of rail elevation shall be verified before beginning construction



MSE WALL DETAIL
(Looking North)



SECTION A-A



SECTION B-B

NOTE A:
Design of MSE Wall behind the Abuments shall include accomodations for Integral Abutment Movement.

GENERAL STRUCTURE DATA
BIG CUT ROAD OVER BNSF RAILROAD
TOWNSHIP ROAD 50
CARROLL COUNTY
STATION 13+28.05
STRUCTURE NO. 008-3636

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

STRUCTURAL SHEET 2 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	10
		WHA# 5045D23		
	ILLINOIS			

GENERAL NOTES:

1. Any shoring system that impact the Railroad operations and/or supports Railroad embankment shall be designed and constructed per the Railroad temporary Shoring requirements.
2. All demolition within the Railroad right-of-way and/or demolition that may impact the Railroad tracks or operations shall comply with the Railroad demolition requirements.
3. Erection over the Railroad right-of-way shall be designed to cause no interruption to all Railroad operations.
4. The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
5. The proposed grade separation project shall not change the quantity and/or characteristics of the flow in the Railroad ditches and/or drainage structures.
6. The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.
7. For Railroad coordination please refer to the Railroad's Coordination Requirements as part of the Specifications or Special Provisions of the project.
8. Temporary Construction Clearances, including falsework clearances, shall comply with the Minimum Construction Clearance Envelope Detail.
9. All permanent clearances shall be verified before project closeout.
10. This structure will be closed for the duration of construction. No traffic phasing is required.
11. Existing ditches to remain open at all times during construction.
12. Construction staging for work on or over BNSF ROW shall be coordinated by the Contractor prior to the start of work. If access to BNSF ROW is required, the Contractor shall coordinate access with BNSF. Contractor access and staging will be subject to the approval of the Railroad.
13. The contractor will be required to provide a girder erection plan, including a ground stability analysis, to be reviewed and approved by the County and BNSF prior to erection. The girder erection plan and stability analysis are required to be sealed by an Illinois SE. Any equipment intended to be placed within BNSF ROW is required to be documented within the submitted erection plan. For more information, please see Guide Bridge Special Provision 96.
14. Concrete pipe culvert north of railroad tracks to be removed by the contractor. Displaced ballast stone shall be backfilled by the contractor. Contractor shall coordinate culvert removal with BNSF railroad. BNSF will be responsible for preparing the ballast stone. This will include providing the ballast stone, compacting, and surfacing the ballast.
15. The removal of the wood piling shall be 3'-0" below finished grade. Removal shall be made by drilling, cutting or other methods at the Contractor's option with the exception of pulling or other methods that disturb the adjacent railroad ballast.

PROPOSED STRUCTURE LOCATION:

LAT: 42° 3' 2.972"
LONG: -90° 2' 11.4922"

RAILROAD SUBDIVISION: Aurora

BENCHMARK:

B.M. "A" – Set R.R. spike in N.W. side of wood R.R. tie fence corner post located at north R.O.W. of railroad & east R.O.W. of Big Cut Road. El. 785.57

B.M. "B" – Set R.R. spike in south side of wood R.R. tie fence corner post located at south R.O.W. of R.R. & west R.O.W. of big cut road. El. 786.57

EXISTING STRUCTURE:

SN 008-9912 multispan steel girder bridge with single span truss section on timber posts. Deck width varies from 18'-9" to 14'-11". No salvage.

HIGHWAY CLASSIFICATION

BIG CUT ROAD (TR 50)
Functional Class: Local Road (Rural)
ADT: 50 (2022), 230 (2043)
Design Speed: 30 m.p.h.
Regulatory Speed: 55 m.p.h.
Directional Distribution: 50/50

DESIGN STRESSES

FIELD UNITS

f'c= 3,500 psi
f'c=5,000 (deck concrete)
fy = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 8,500 psi
f'ci = 6,500 psi
fpu = 270,000 psi (0.6" Ø Low Relaxation Strands)
fpbt = 202,300 psi (0.6" Ø Low Relaxation Strands)

LOADING HL-93

Allow 50 #/sq. ft future wearing surface

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.064g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.085g
Soil Site Class = C

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

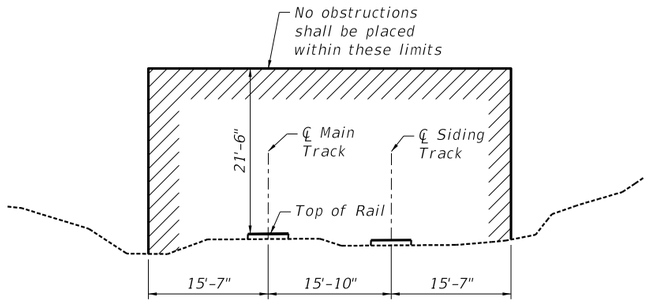
BNSF RAILROAD
BUILT 2025 BY
CARROLL COUNTY
SEC 19-06126-00-BR
STA 13+25
STR. NO. 008-3636 HL-93 LOADING

NAME PLATE LETTERING

Refer To Std. 515001

STRUCTURE QUANTITIES TABLE

CODE	ITEM	UNIT	SUPER	SUB	TOTAL
50100100	REMOVAL OF EXISTING STRUCTURES	EACH			1
50200100	STRUCTURE EXCAVATION	CU YD		12	12
50300225	CONCRETE STRUCTURES	CU YD		54.2	54.2
50300255	CONCRETE SUPERSTRUCTURE	CU YD	267.2		267.2
50300260	BRIDGE DECK GROOVING	SQ YD	654		654
50300300	PROTECTIVE COAT	SQ YD	896		896
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	96.5		96.5
50401350	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE BEAMS, IL72	FOOT	778		778
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	92,530	7,000	99,530
50901730	BRIDGE FENCE RAILING	FOOT	144		144
51100300	SLOPE WALL 6 INCH	SQ YD			18
51201710	FURNISHING STEEL PILES HP12X84	FOOT		378	378
51202305	DRIVING PILES	FOOT		378	378
51203710	TEST PILE STEEL HP12X84	EACH		2	2
51204650	PILE SHOES	EACH		14	14
51500100	NAME PLATES	EACH	1		1
52200500	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT			4,012
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD		215	215
X5030540	FLOOR DRAINS (SPECIAL)	EACH	4		4



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(Normal to Railroad)

STRUCTURE GENERAL NOTES
BIG CUT ROAD OVER BNSF RAILROAD
TOWNSHIP ROAD 50
CARROLL COUNTY
STATION 13+28.05
STRUCTURE NO. 008-3636

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
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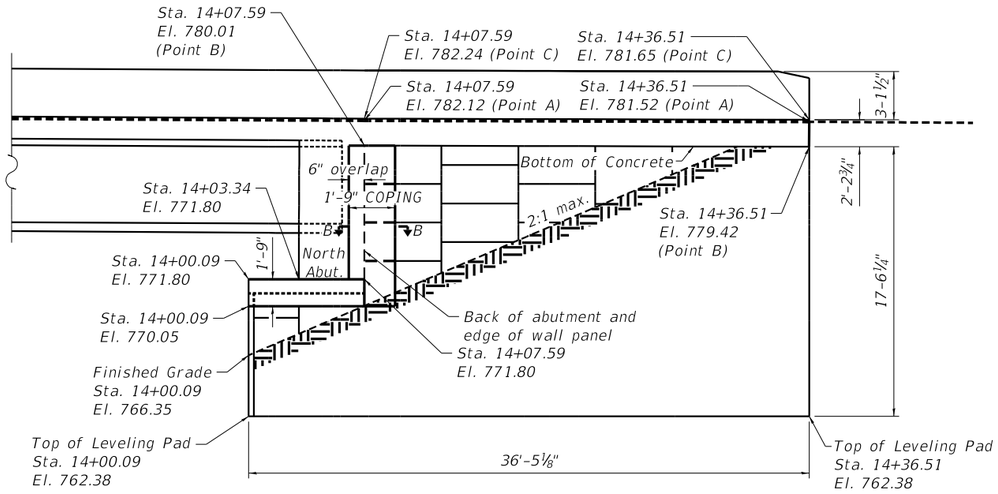
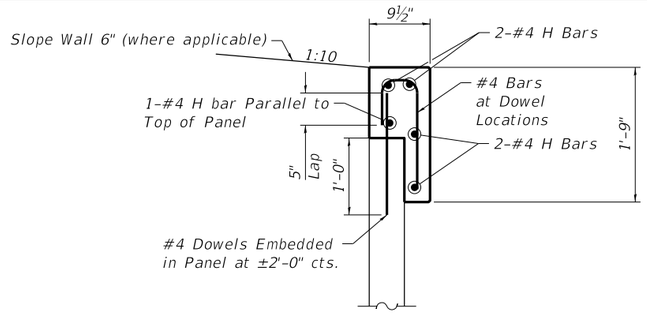
STRUCTURE GENERAL NOTES
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 3 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	11
		WHA# 5045D23		
	ILLINOIS			



NORTHEAST MSE WALL ELEVATION
(Looking West)

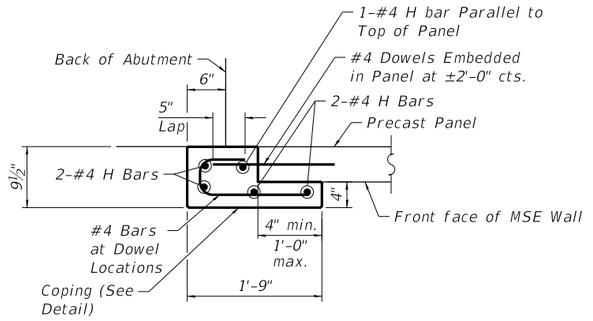


SECTION A-A
MSE WALL COPING DETAIL

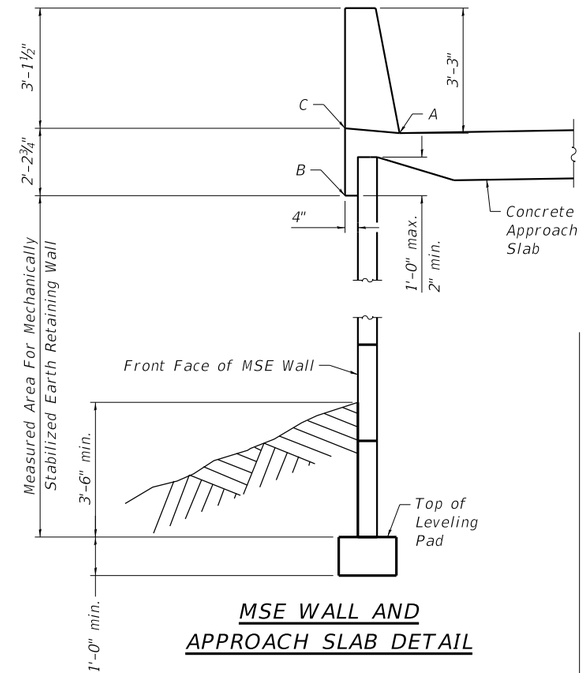
All reinforcement in wall coping shall be epoxy coated.

All reinforcement in wall coping shall be incidental to the unit price for MECHANICALLY STABILIZED EARTH RETAINING WALL.

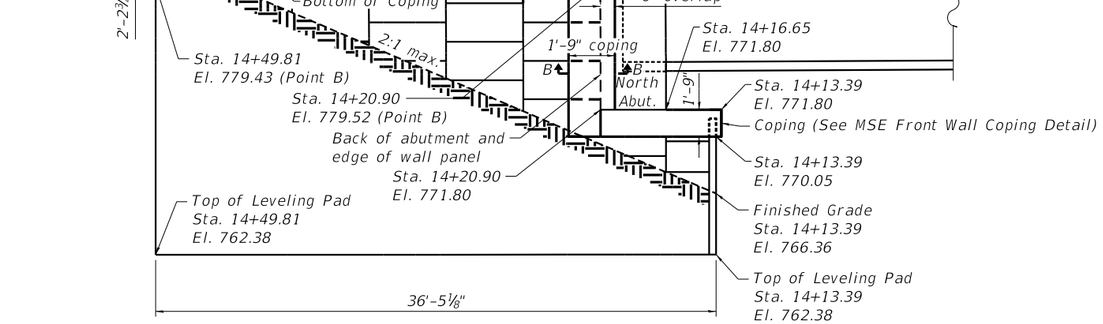
6" MSE wall thickness assumed. Verify with wall manufacturer.



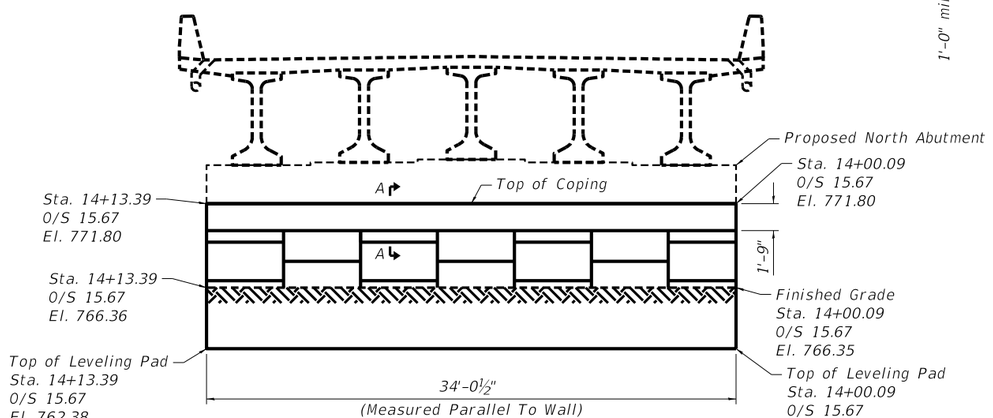
SECTION B-B
MSE WALL COPING DETAIL



MSE WALL AND
APPROACH SLAB DETAIL



NORTHWEST MSE WALL ELEVATION
(Looking East)



NORTH MSE WALL ELEVATION
(Looking North)

NORTH ABUTMENT M.S.E. WALL SCHEDULE OF QUANTITIES		
Northwest Wall	552	Sq. Ft.
North Wall	261	Sq. Ft.
Northeast Wall	559	Sq. Ft.
Total	1,372	Sq. Ft.

NOTE:
All excavation required for MSE walls shall be incidental to the unit price for Mechanically Stabilized Earth Retaining Wall.

REVISION	DATE	BY	REMARKS

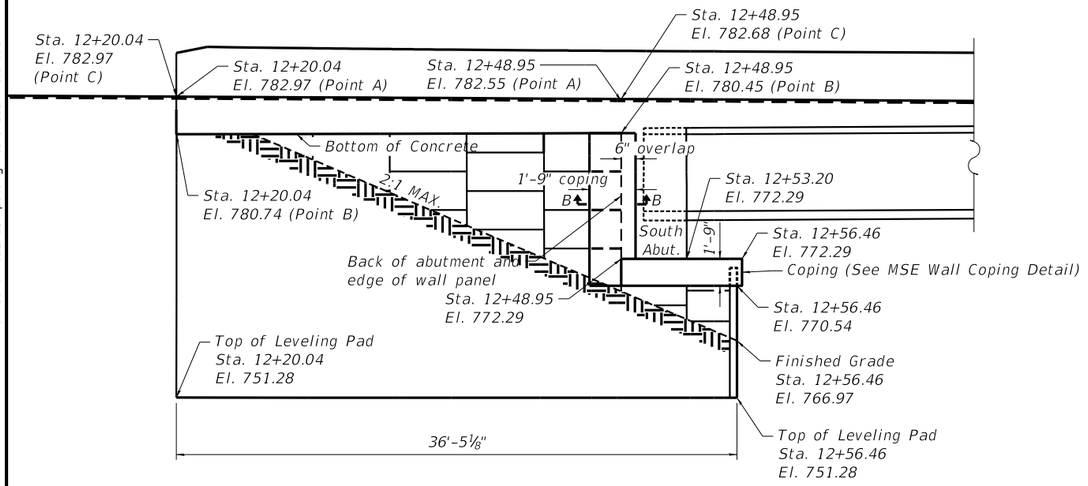
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

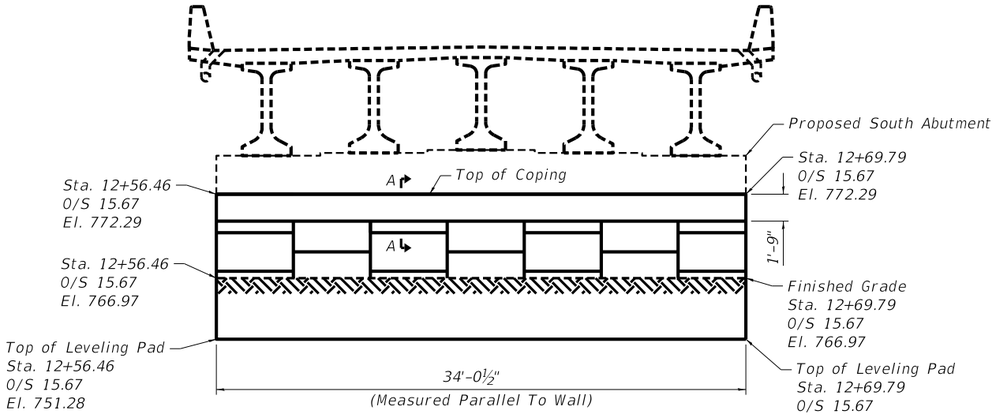
MSE WALL DETAILS (NORTH)
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 4 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	12
		WHA# 5045D23		
	ILLINOIS			



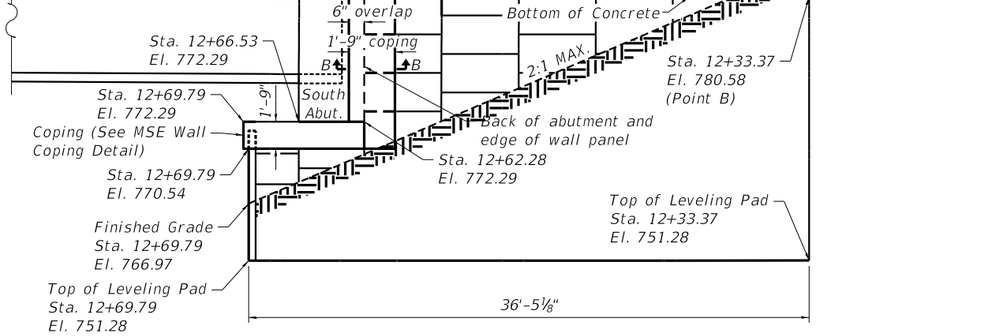
SOUTHEAST MSE WALL ELEVATION

(Looking West)



SOUTH MSE WALL ELEVATION

(Looking South)



SOUTHWEST MSE WALL ELEVATION

(Looking East)

SOUTH ABUTMENT M.S.E. WALL		
Southwest Wall	994	Sq. Ft.
South Wall	656	Sq. Ft.
Southeast Wall	990	Sq. Ft.
Total	**2,640**	Sq. Ft.

NOTE:

All excavation required for MSE walls shall be incidental to the unit price for Mechanically Stabilized Earth Retaining Wall.

See sheet 4 of 24 for sections A-A and B-B.

REVISION	DATE	BY	REMARKS

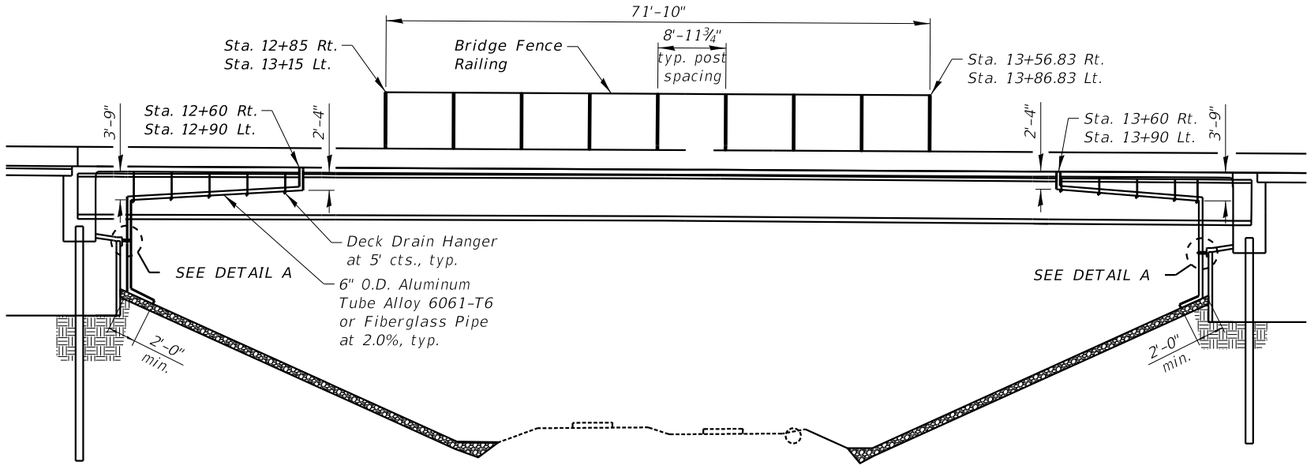
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

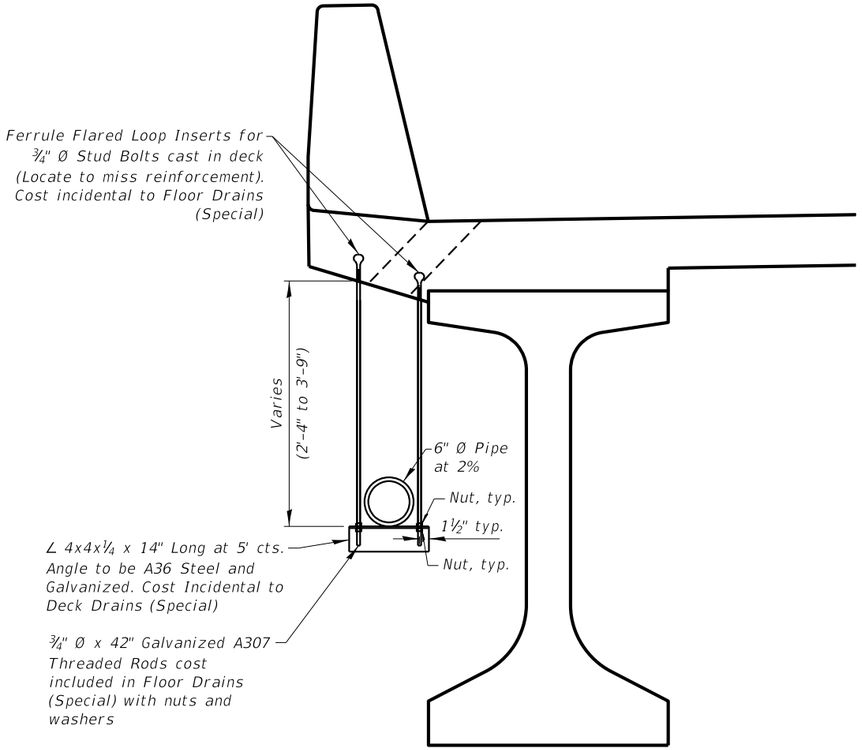
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

MSE WALL DETAILS (SOUTH)
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 5 OF 24 SHEETS

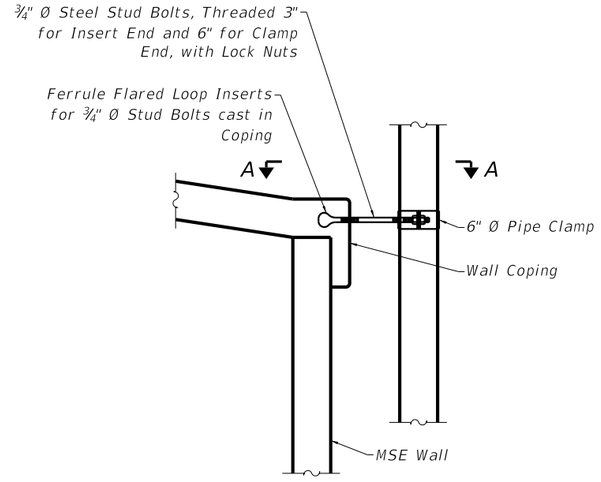
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	13
		WHA# 5045D23		
	ILLINOIS			



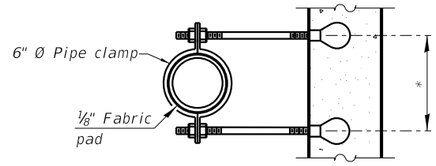
DECK DRAIN ELEVATION VIEW



DECK DRAIN DETAIL



DETAIL A



SECTION A-A

*Dimension as required by pipe clamp

BILL OF MATERIAL

Item	Unit	Total
Floor Drains (Special)	Each	4

NOTE:

All pipes, clamps, fabric pads, threaded rods, ferrule flared loop inserts, steel angles, nuts, and washers shall be incidental to Floor Drains (Special).

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
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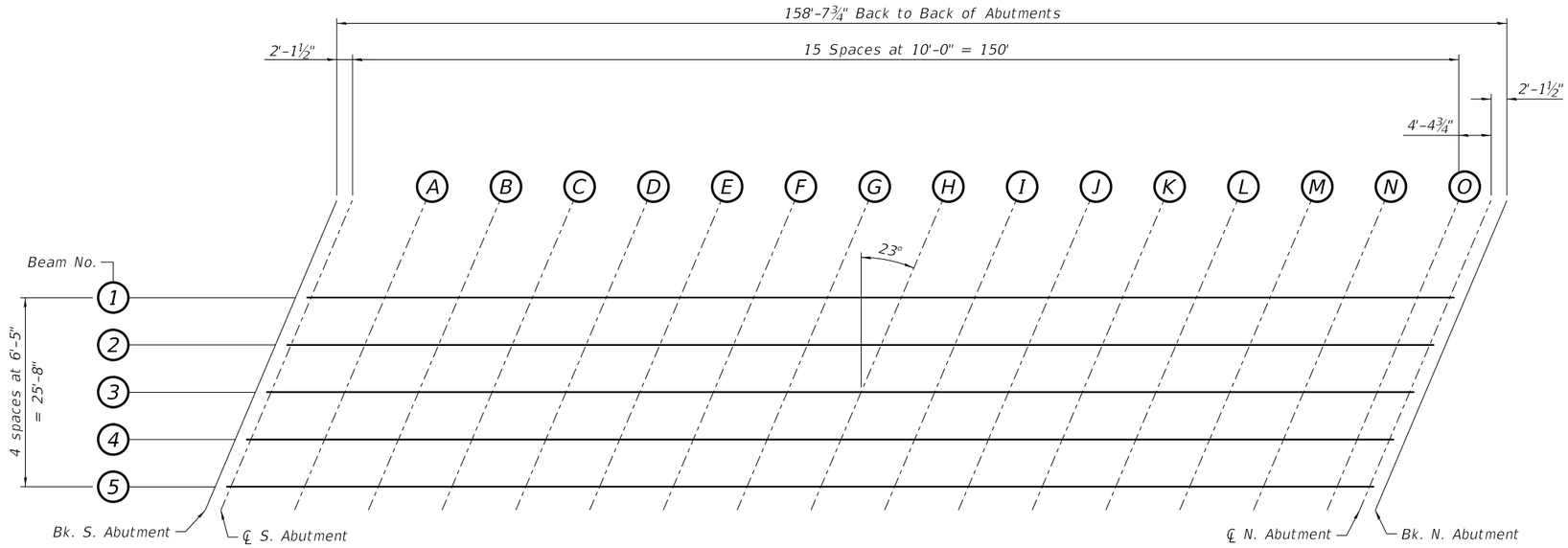
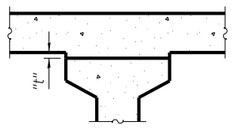
DECK DRAIN DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 6 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	14
		WHA# 5045D23		
	ILLINOIS			



N

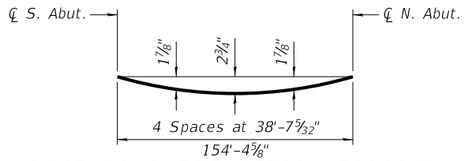
PLAN VIEW



To determine "t": After all precast prestressed beams have 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 Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

t max. = ± 6" – At South Abutment*
t min. = ± 2" – Near Midspar*
**Measured at beam centerline*



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams)

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 in the Top of Slab Elevation Tables.

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 008-3636

STRUCTURAL SHEET 7 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	15
		WHA# 5045D23		
	ILLINOIS			

BEAM 1

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk. S. Abut.	12 + 61.05	12.833	782.51	782.51
CL Brg. S. Abut.	12 + 63.17	12.833	782.50	782.50
A	12 + 70.37	12.833	782.46	782.52
B	12 + 80.37	12.833	782.41	782.51
C	12 + 90.37	12.833	782.35	782.50
D	13 + 0.37	12.833	782.30	782.48
E	13 + 10.37	12.833	782.25	782.45
F	13 + 20.37	12.833	782.19	782.41
G	13 + 30.37	12.833	782.14	782.36
H	13 + 40.37	12.833	782.08	782.31
I	13 + 50.37	12.833	782.03	782.25
J	13 + 60.37	12.833	781.97	782.18
K	13 + 70.37	12.833	781.92	782.11
L	13 + 80.37	12.833	781.87	782.02
M	13 + 90.37	12.833	781.81	781.93
N	14 + 0.37	12.833	781.76	781.83
O	14 + 10.37	12.833	781.70	781.73
N. Abt. Bearing	14 + 17.56	12.833	781.66	781.66
Bk. N. Abut.	14 + 19.69	12.833	781.65	781.65

BEAM 2

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk. S. Abut.	12 + 58.32	6.417	782.63	782.63
CL Brg. S. Abut.	12 + 60.45	6.417	782.62	782.62
A	12 + 67.64	6.417	782.58	782.63
B	12 + 77.64	6.417	782.52	782.63
C	12 + 87.64	6.417	782.47	782.61
D	12 + 97.64	6.417	782.42	782.59
E	13 + 7.64	6.417	782.36	782.56
F	13 + 17.64	6.417	782.31	782.52
G	13 + 27.64	6.417	782.25	782.48
H	13 + 37.64	6.417	782.20	782.43
I	13 + 47.64	6.417	782.14	782.37
J	13 + 57.64	6.417	782.09	782.30
K	13 + 67.64	6.417	782.03	782.22
L	13 + 77.64	6.417	781.98	782.14
M	13 + 87.64	6.417	781.93	782.05
N	13 + 97.64	6.417	781.87	781.95
O	14 + 7.64	6.417	781.82	781.84
N. Abt. Bearing	14 + 14.84	6.417	781.78	781.78
Bk. N. Abut.	14 + 16.96	6.417	781.77	781.77

BEAM 3

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk. S. Abut.	12 + 55.60	0.000	782.74	782.74
CL Brg. S. Abut.	12 + 57.73	0.000	782.73	782.73
A	12 + 67.73	0.000	782.68	782.73
B	12 + 77.73	0.000	782.62	782.73
C	12 + 87.73	0.000	782.57	782.71
D	12 + 97.73	0.000	782.52	782.69
E	13 + 7.73	0.000	782.46	782.66
F	13 + 17.73	0.000	782.41	782.62
G	13 + 27.73	0.000	782.35	782.58
H	13 + 37.73	0.000	782.30	782.53
I	13 + 47.73	0.000	782.24	782.47
J	13 + 57.73	0.000	782.19	782.40
K	13 + 67.73	0.000	782.13	782.32
L	13 + 77.73	0.000	782.08	782.24
M	13 + 87.73	0.000	782.03	782.15
N	13 + 97.73	0.000	781.97	782.05
O	14 + 7.73	0.000	781.92	781.94
N. Abt. Bearing	14 + 12.11	0.000	781.89	781.89
Bk. N. Abut.	14 + 14.24	0.000	781.88	781.88

BEAM 4

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk. S. Abut.	12 + 52.88	6.417	782.66	782.66
CL Brg. S. Abut.	12 + 55.00	6.417	782.65	782.65
A	12 + 62.20	6.417	782.61	782.66
B	12 + 72.20	6.417	782.55	782.66
C	12 + 82.20	6.417	782.50	782.64
D	12 + 92.20	6.417	782.45	782.62
E	13 + 2.20	6.417	782.39	782.59
F	13 + 12.20	6.417	782.34	782.55
G	13 + 22.20	6.417	782.28	782.51
H	13 + 32.20	6.417	782.23	782.46
I	13 + 42.20	6.417	782.17	782.40
J	13 + 52.20	6.417	782.12	782.33
K	13 + 62.20	6.417	782.06	782.25
L	13 + 72.20	6.417	782.01	782.17
M	13 + 82.20	6.417	781.96	782.08
N	13 + 92.20	6.417	781.90	781.98
O	14 + 2.20	6.417	781.85	781.87
N. Abt. Bearing	14 + 9.39	6.417	781.81	781.81
Bk. N. Abut.	14 + 11.52	6.417	781.80	781.80

BEAM 5

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk. S. Abut.	12 + 50.15	12.833	782.57	782.57
CL Brg. S. Abut.	12 + 52.28	12.833	782.56	782.56
A	12 + 59.47	12.833	782.52	782.58
B	12 + 69.47	12.833	782.47	782.57
C	12 + 79.47	12.833	782.41	782.56
D	12 + 89.47	12.833	782.36	782.54
E	12 + 99.47	12.833	782.31	782.51
F	13 + 9.47	12.833	782.25	782.47
G	13 + 19.47	12.833	782.20	782.42
H	13 + 29.47	12.833	782.14	782.37
I	13 + 39.47	12.833	782.09	782.31
J	13 + 49.47	12.833	782.03	782.24
K	13 + 59.47	12.833	781.98	782.17
L	13 + 69.47	12.833	781.92	782.08
M	13 + 79.47	12.833	781.87	781.99
N	13 + 89.47	12.833	781.82	781.89
O	13 + 99.47	12.833	781.76	781.79
N. Abt. Bearing	14 + 6.67	12.833	781.72	781.72
Bk. N. Abut.	14 + 8.79	12.833	781.71	781.71

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

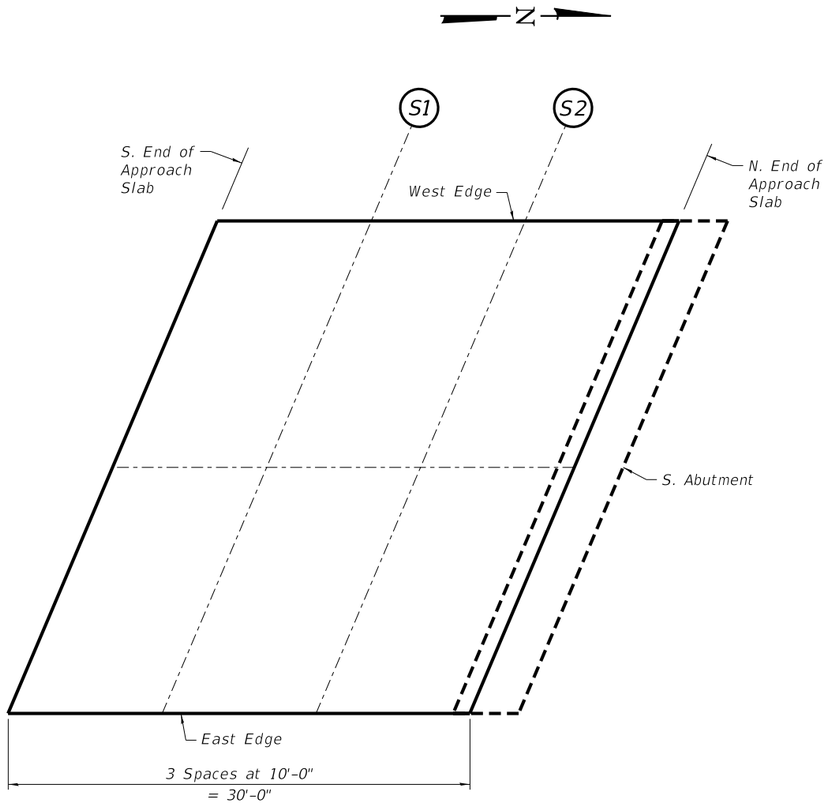
CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

TOP OF SLAB ELEVATIONS TABLES
STRUCTURE NO. 008-3636

STRUCTURAL SHEET 8 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	16
		WHA# 5045D23		
	ILLINOIS			

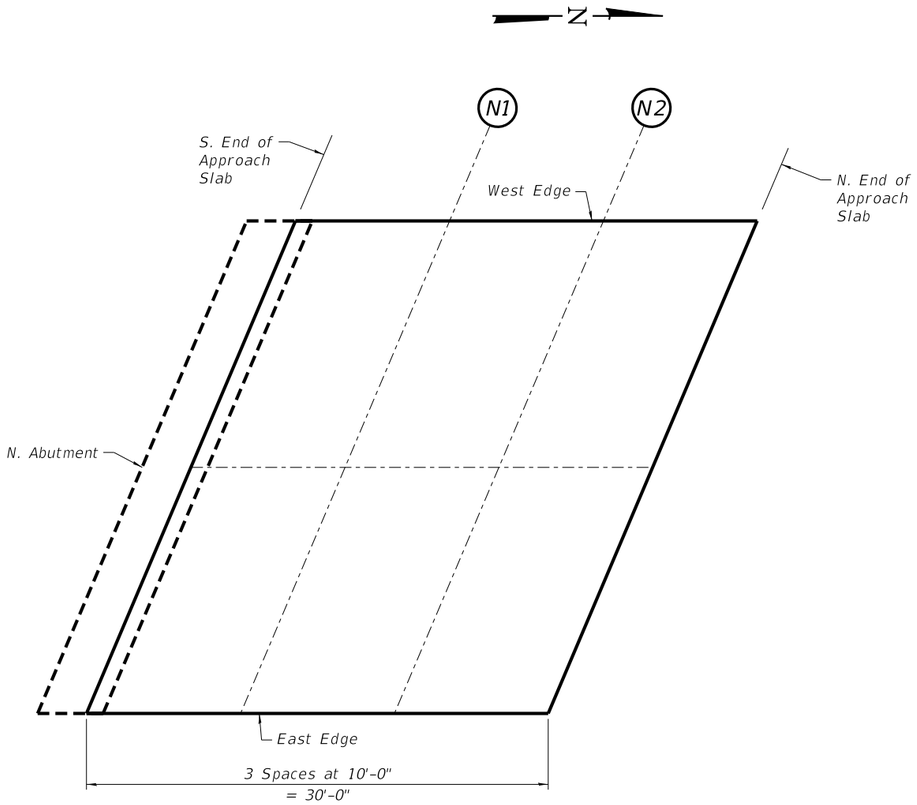


SOUTH APPROACH SLAB PLAN

South Approach Slab Along West Edge of Shoulder			
Location	Station	Offset	Grade
S. End of S. App. Slab	12 + 18.80	14.583	782.85
S1	12 + 28.80	14.583	782.73
S2	12 + 38.80	14.583	782.63
N. End of S. App. Slab	12 + 48.80	14.583	782.55

South Approach Slab Along Centerline			
Location	Station	Offset	Grade
S. End of S. App. Slab	12 + 26.69	0.000	782.98
S1	12 + 36.69	0.000	782.87
S2	12 + 46.69	0.000	782.79
N. End of S. App. Slab	12 + 56.69	0.000	782.74

South Approach Slab Along East Edge of Shoulder			
Location	Station	Offset	Grade
S. End of S. App. Slab	12 + 34.57	14.583	782.67
S1	12 + 44.57	14.583	782.58
S2	12 + 54.57	14.583	782.52
N. End of S. App. Slab	12 + 64.57	14.583	782.47



NORTH APPROACH SLAB PLAN

North Approach Slab Along East Edge of Shoulder			
Location	Station	Offset	Grade
N. End of N. App. Slab	14 + 36.96	14.583	781.53
N1	14 + 26.96	14.583	781.58
N2	14 + 16.96	14.583	781.64
S. End of N. App. Slab	14 + 6.96	14.583	781.69

North Approach Slab Along Centerline			
Location	Station	Offset	Grade
N. End of N. App. Slab	14 + 43.15	0.000	781.72
N1	14 + 33.15	0.000	781.78
N2	14 + 23.15	0.000	781.83
S. End of N. App. Slab	14 + 13.15	0.000	781.89

North Approach Slab Along West Edge of Shoulder			
Location	Station	Offset	Grade
N. End of N. App. Slab	14 + 49.34	14.583	781.46
N1	14 + 39.34	14.583	781.52
N2	14 + 29.34	14.583	781.57
S. End of N. App. Slab	14 + 19.34	14.583	781.63

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
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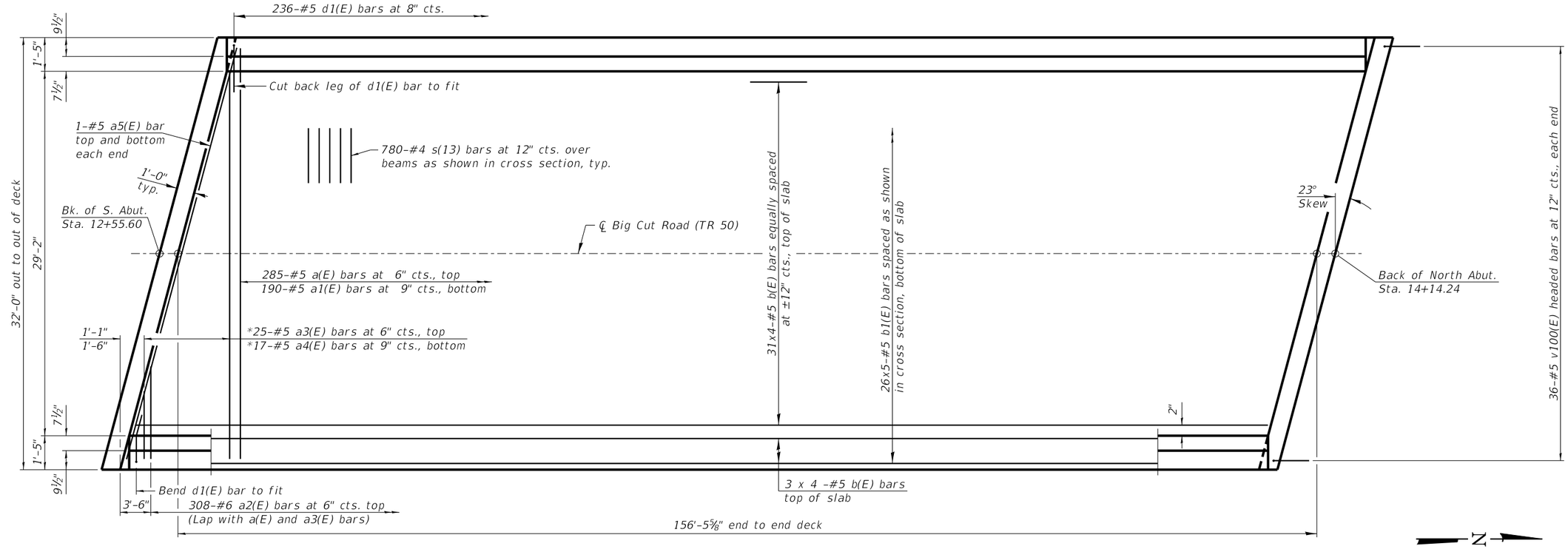
TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 9 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	17
		WHA# 5045D23		
	ILLINOIS			



MINIMUM BAR LAP

#5 bar = 3'-6"

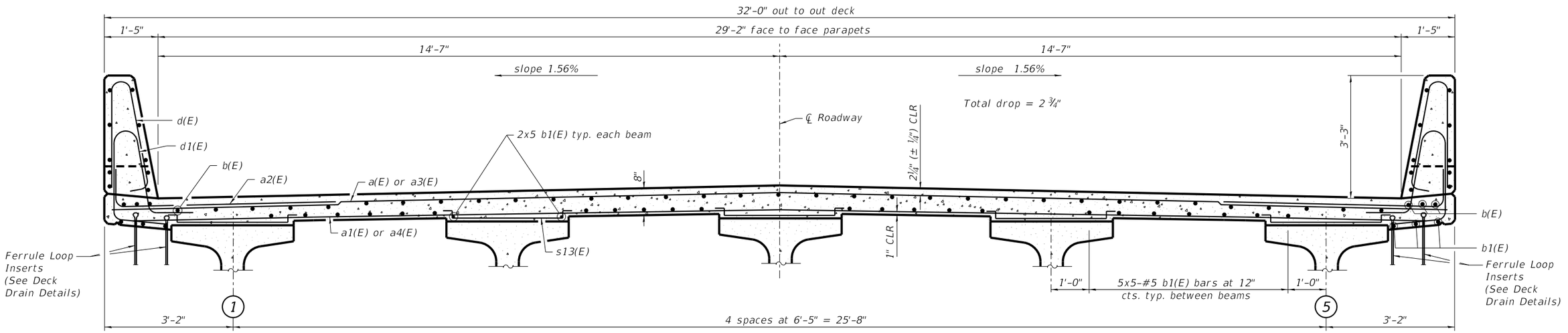
* See Field Cutting Diagram on Structural Sheet 11 of 24.

PLAN

NOTES:

See Structural Sheet 11 of 24 for superstructure details and Bill of Material.

Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



CROSS SECTION

(Looking North)

REVISION	DATE	BY	REMARKS

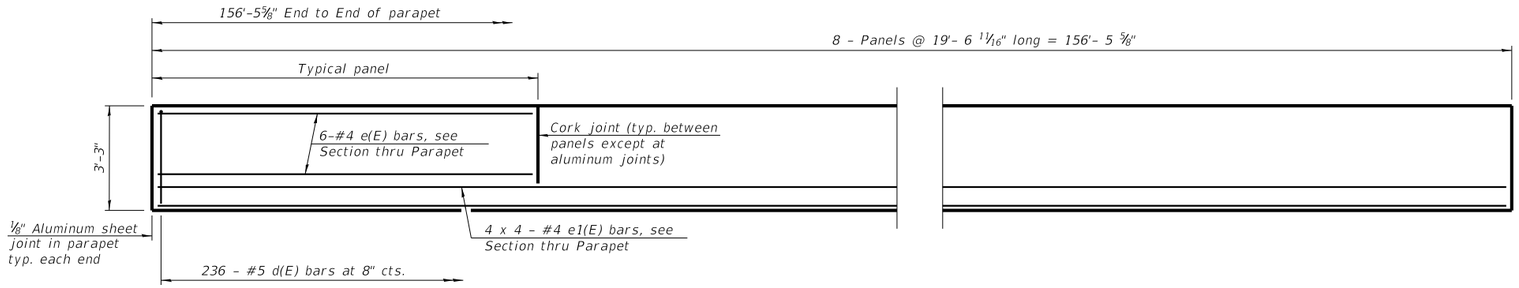
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

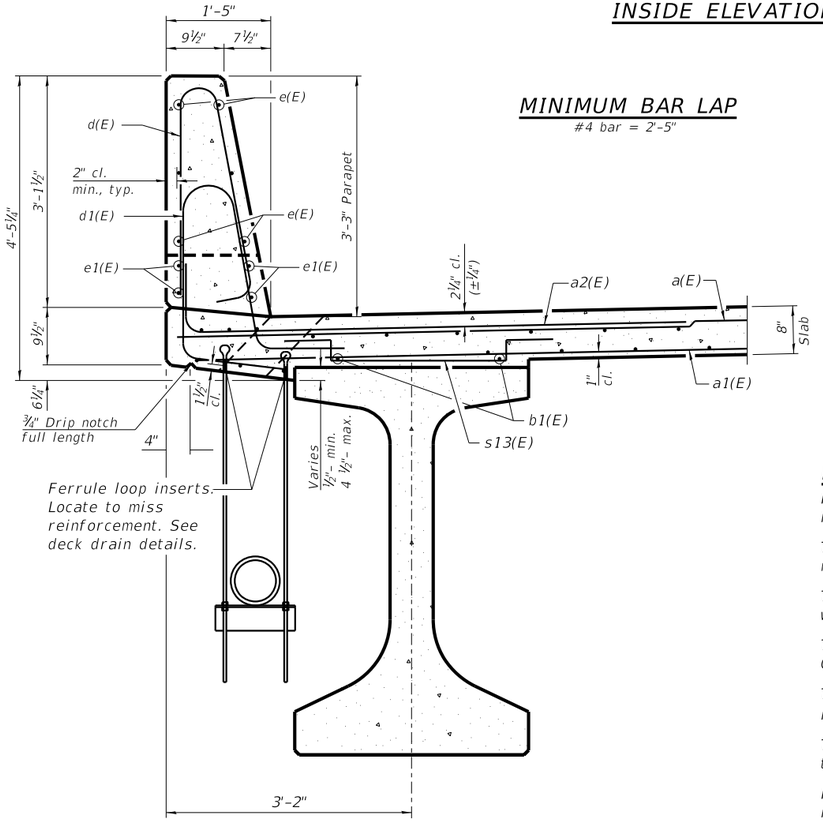
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184-000918

SUPERSTRUCTURE
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 10 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	18
		WHA# 5045D23		
	ILLINOIS			



INSIDE ELEVATION OF PARAPET

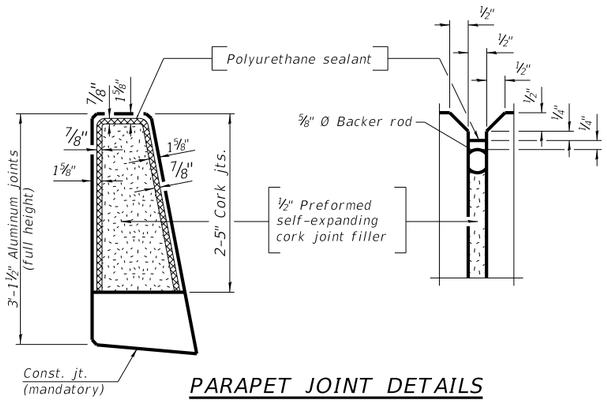


SECTION THRU PARAPET

**For insert locations, See Structural Sheet 16 of 24.

MINIMUM BAR LAP

#4 bar = 2'-5"



PARAPET JOINT DETAILS

NOTES:

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.

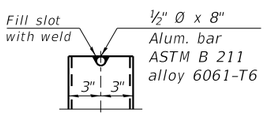
The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.

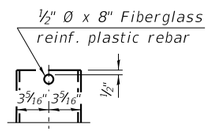
The ⅛" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

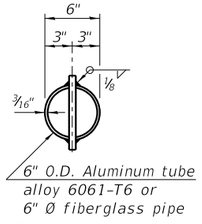
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



ALUMINUM TUBE

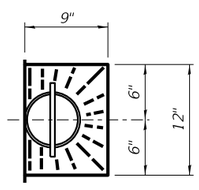


FIBERGLASS PIPE

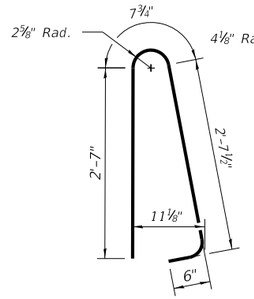


TOP PLAN

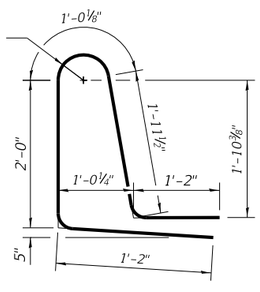
(Showing aluminum tube)



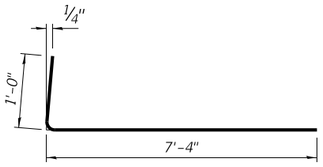
TOP PLAN



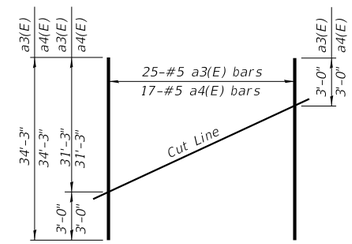
BAR d(E)



BAR d1(E)

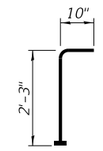


BAR a2(E)



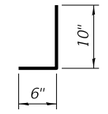
FIELD CUTTING DIAGRAM

Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

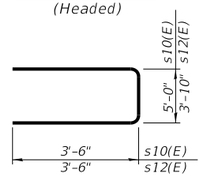


BAR v100(E)

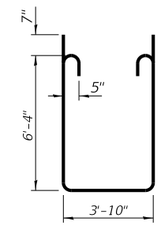
(Headed)



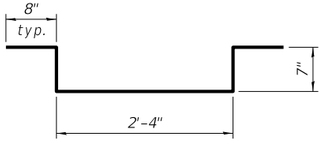
BAR m14(E)



BARS s10(E) & s12(E)



BAR s11(E)



BAR s13(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	285	#5	31'-8"	
a1(E)	190	#5	31'-8"	
a2(E)	616	#6	8'-4"	
a3(E)	25	#5	34'-3"	
a4(E)	17	#5	34'-3"	
a5(E)	4	#5	34'-4"	
b(E)	148	#5	41'-8"	
b1(E)	130	#5	34'-1"	
d(E)	472	#5	6'-5"	
d1(E)	472	#5	7'-3"	
e(E)	96	#4	19'-2"	
e1(E)	32	#4	41'-8"	
m10(E)	14	#6	32'-4"	
m11(E)	40	#6	6'-0"	
m12(E)	20	#6	1'-8"	
m13(E)	8	#6	3'-2"	
m14(E)	4	#6	1'-4"	
m15(E)	30	#5	4'-0"	
s10(E)	52	#5	12'-0"	
s11(E)	52	#5	17'-9"	
s12(E)	40	#5	10'-10"	
s13(E)	780	#4	4'-10"	
v100(E)	72	#5	3'-1"	
Reinforcement Bars, Epoxy Coated (Special)		Lbs.	51,030	
Concrete Superstructure		Cu. Yds.	251.6	
Bridge Deck Grooving		Sq. Yd.	654	
Protective Coat		Sq. Yd.	896	

NOTE:

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 11 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	19
		WHA# 5045D23		
	ILLINOIS			

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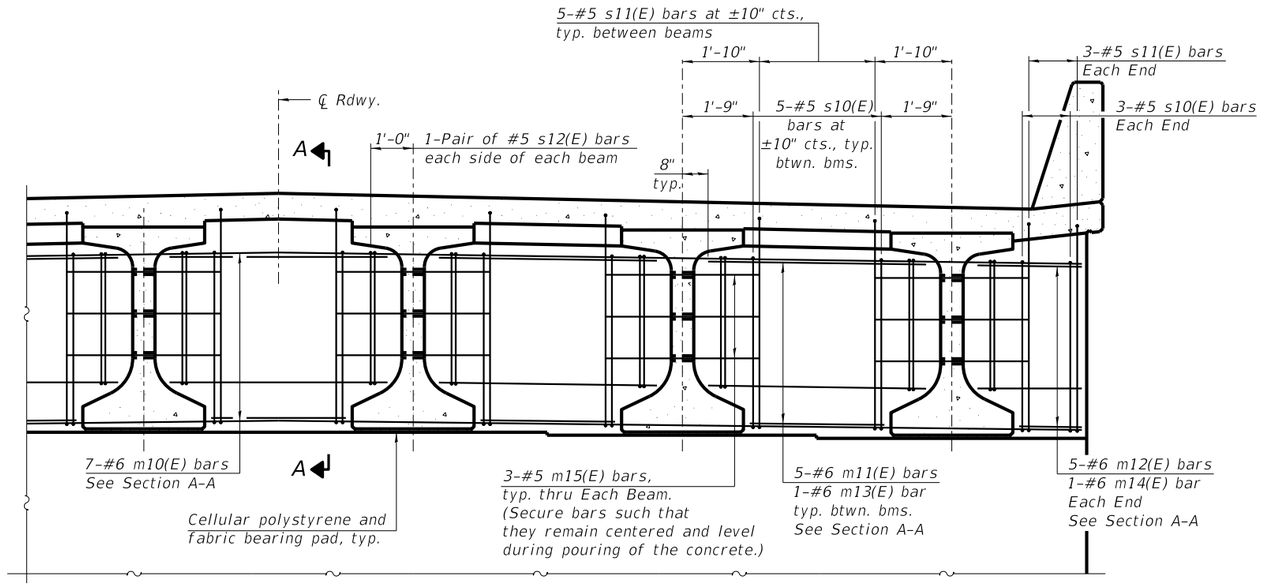
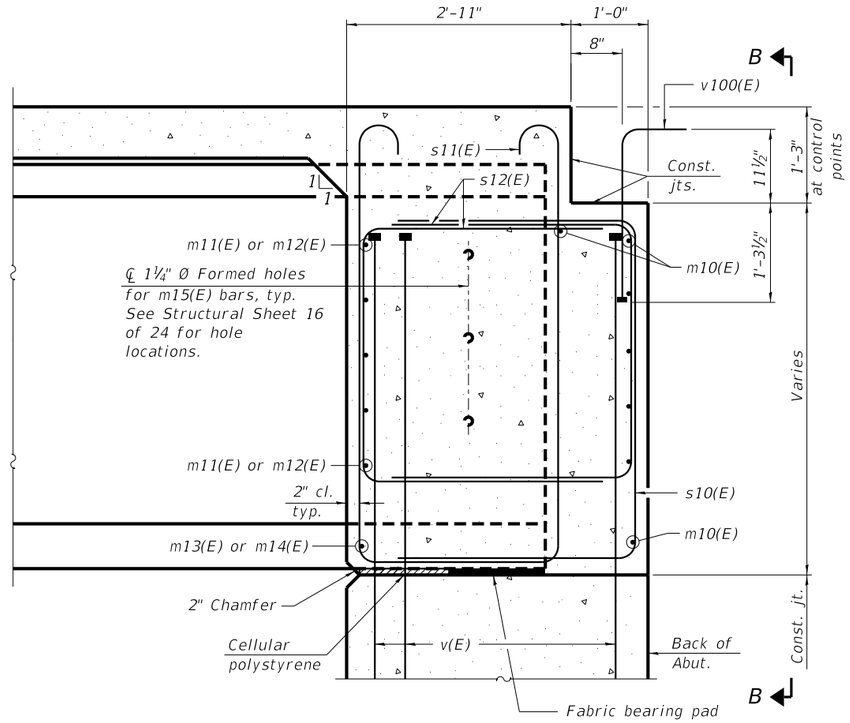
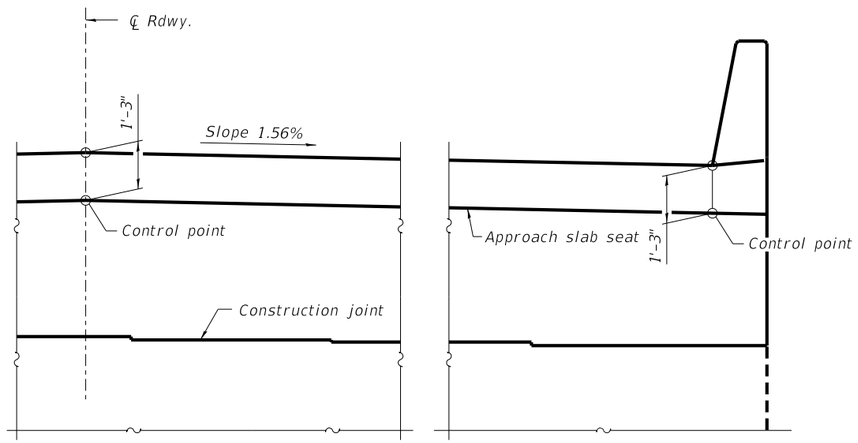


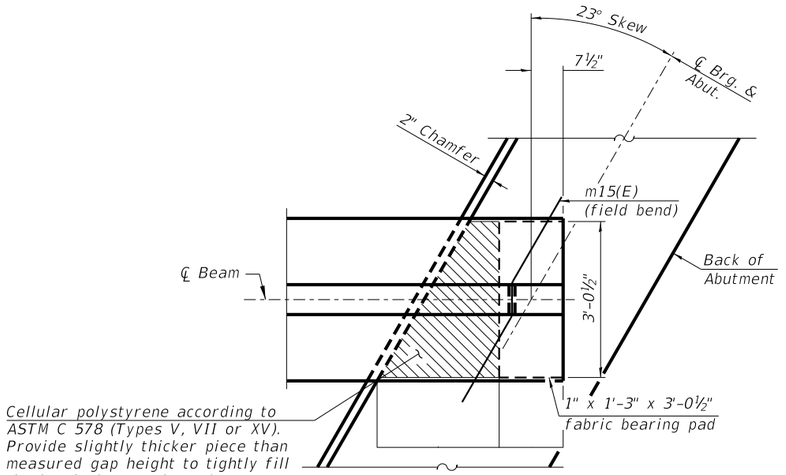
DIAPHRAGM AT ABUTMENT



SECTION A-A
(at Rt. ℄'s)



VIEW B-B



PLAN AT ABUTMENT
(Showing bottom flange of beam)

NOTES:

The s10(E), s11(E) and s12(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

The approach slab seat shall have a constant slope determined from the control points shown.

Cost of cellular polystyrene is included with Concrete Superstructure.

REVISION	DATE	BY	REMARKS

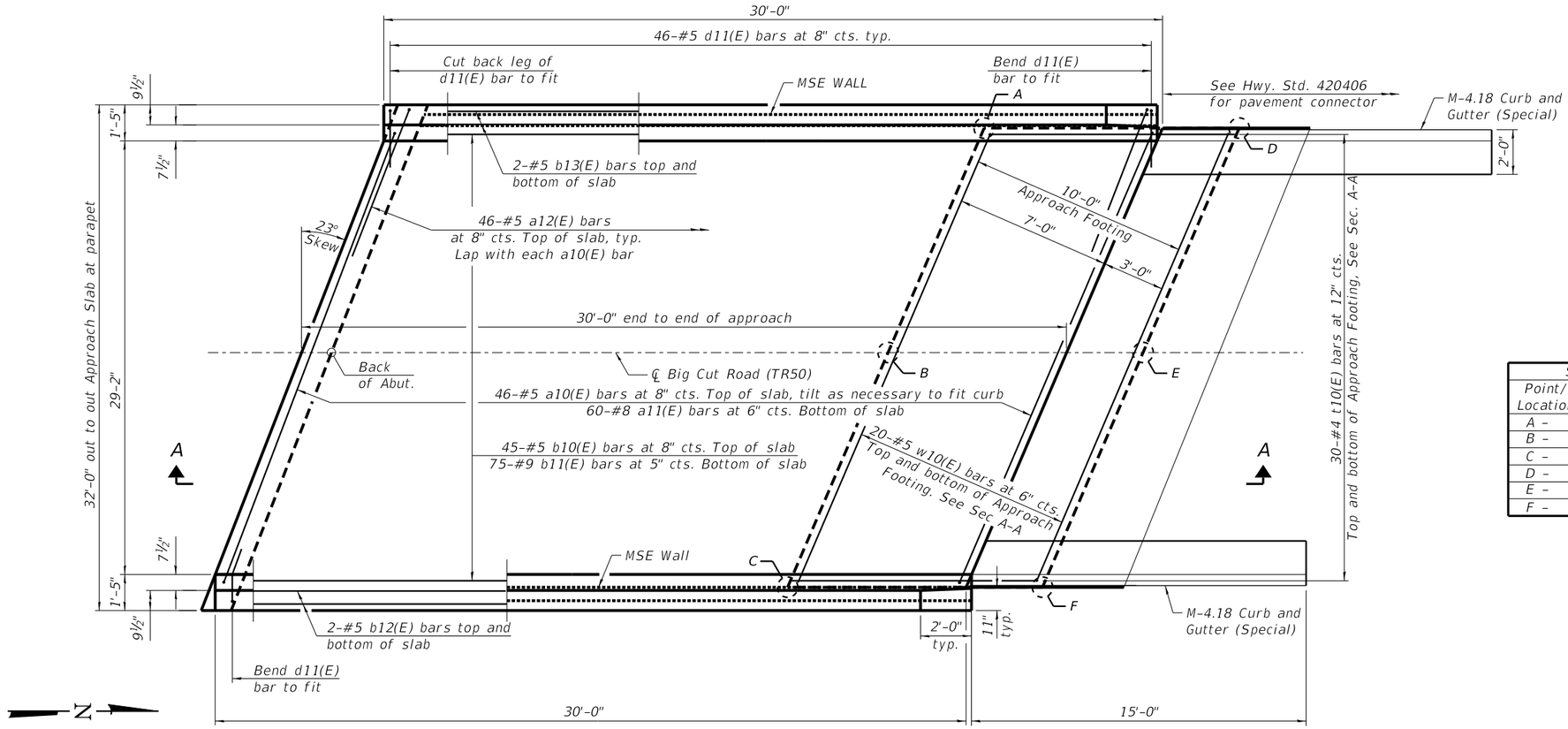
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DIAPHRAGM DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 12 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	20
		WHA# 5045D23		
	ILLINOIS			

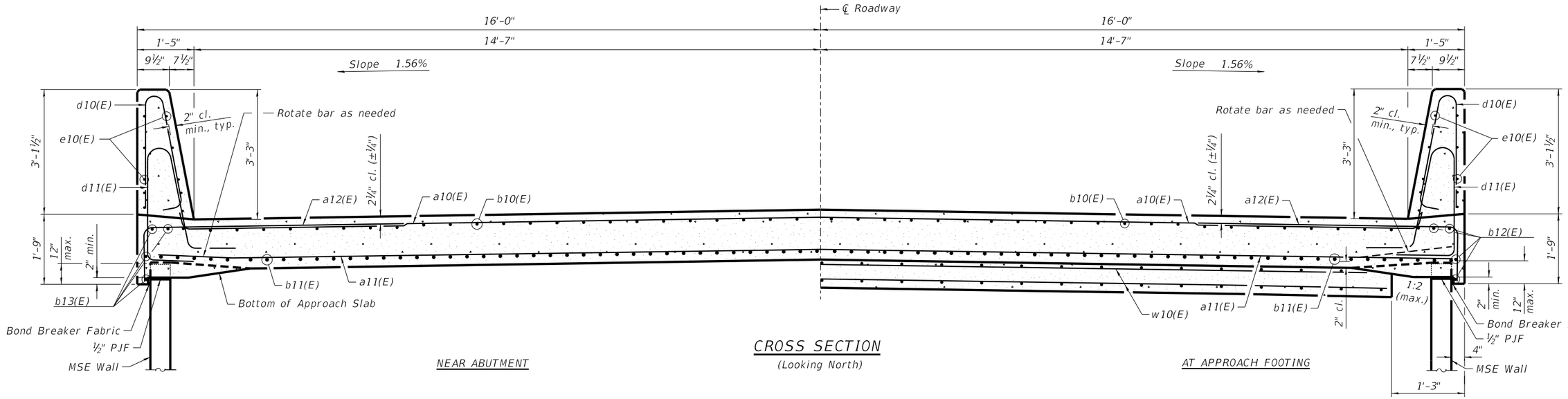


PLAN

(North approach slab shown; South approach slab similar by 180° rotation)

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

South Approach			North Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A –	781.57	780.74	A –	780.24	779.40
B –	781.65	780.84	B –	780.52	779.68
C –	781.35	780.52	C –	780.32	779.49
D –	781.62	780.78	D –	780.18	779.34
E –	781.77	780.94	E –	780.46	779.62
F –	781.46	780.62	F –	780.26	779.43



CROSS SECTION

(Looking North)

NEAR ABUTMENT — AT APPROACH FOOTING

(Sheet 1 of 2)

REVISION	DATE	BY	REMARKS

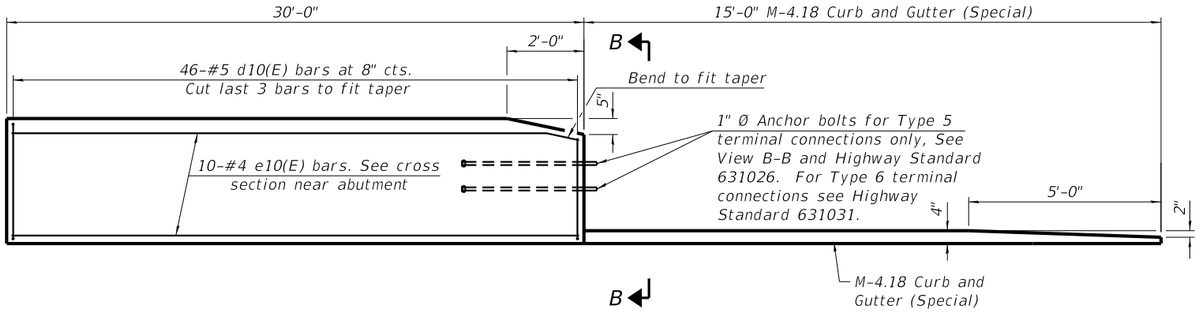
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

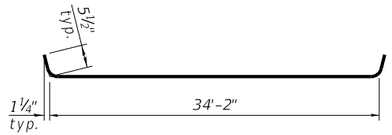
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184-000918

APPROACH SLAB
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 13 OF 24 SHEETS

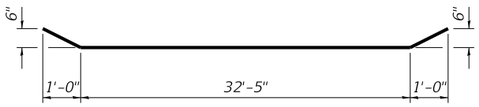
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	21
		WHA# 5045D23		
	ILLINOIS			



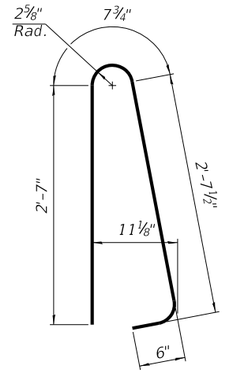
INSIDE ELEVATION OF PARAPET AND CURB



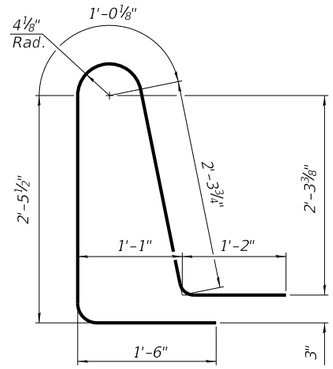
BAR a10(E)



BAR a11(E)

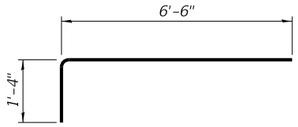


BAR d10(E)

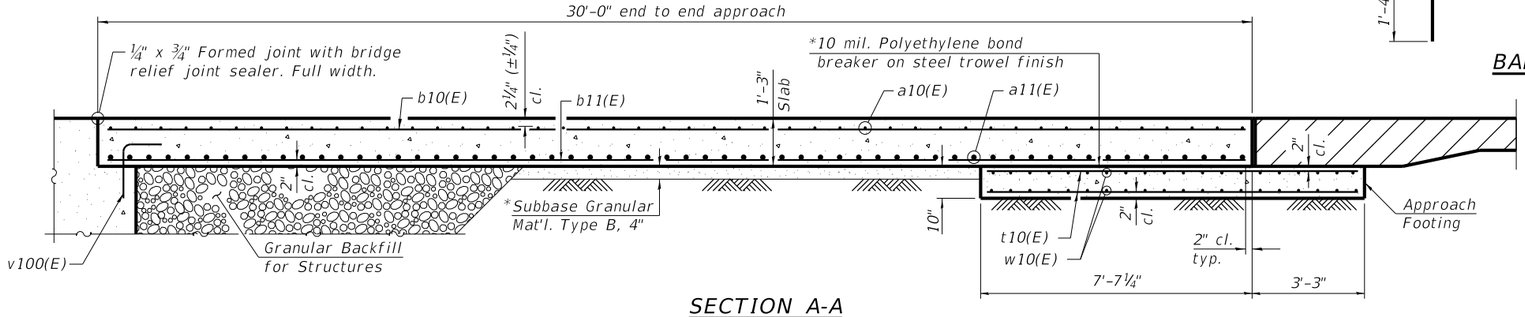


BAR d11(E)

TWO APPROACHES BILL OF MATERIAL

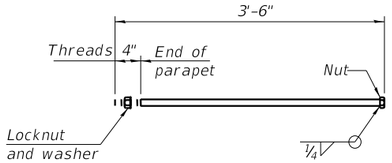


BAR a12(E)



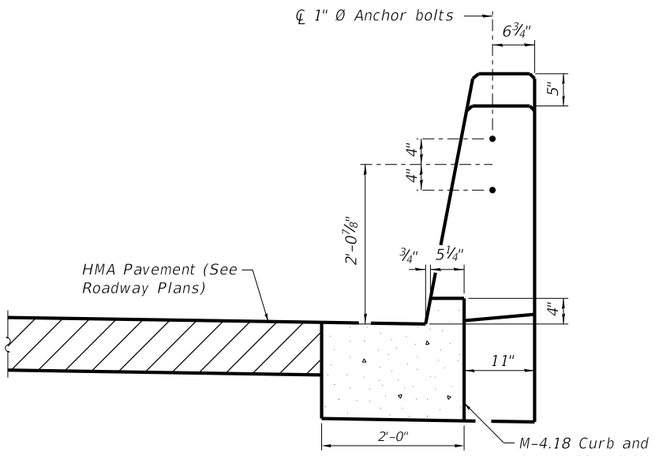
SECTION A-A

Bar	No.	Size	Length	Shape
a10(E)	92	#5	35'-2"	
a11(E)	120	#8	34'-7"	
a12(E)	184	#5	7'-10"	
b10(E)	90	#5	29'-8"	
b11(E)	150	#9	29'-8"	
b12(E)	8	#5	29'-8"	
b13(E)	8	#5	29'-8"	
d10(E)	184	#5	5'-5"	
d11(E)	184	#5	3'-6"	
e10(E)	40	#4	29'-8"	
t10(E)	120	#4	10'-6"	
w10(E)	80	#5	31'-6"	
Reinforcement Bars, Epoxy Coated			Pound	41,500
Concrete Superstructure			Cu. Yd.	15.6
Concrete Superstructure (Approach Slab)			Cu. Yd.	96.5
Concrete Structures			Cu. Yd.	19.8
Combination Concrete Curb and Gutter, Type M-4.18			Foot	60



*1" Ø ANCHOR BOLT

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)



VIEW B-B

NOTES:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see Structural Sheet 2 of 24.

REVISION	DATE	BY	REMARKS

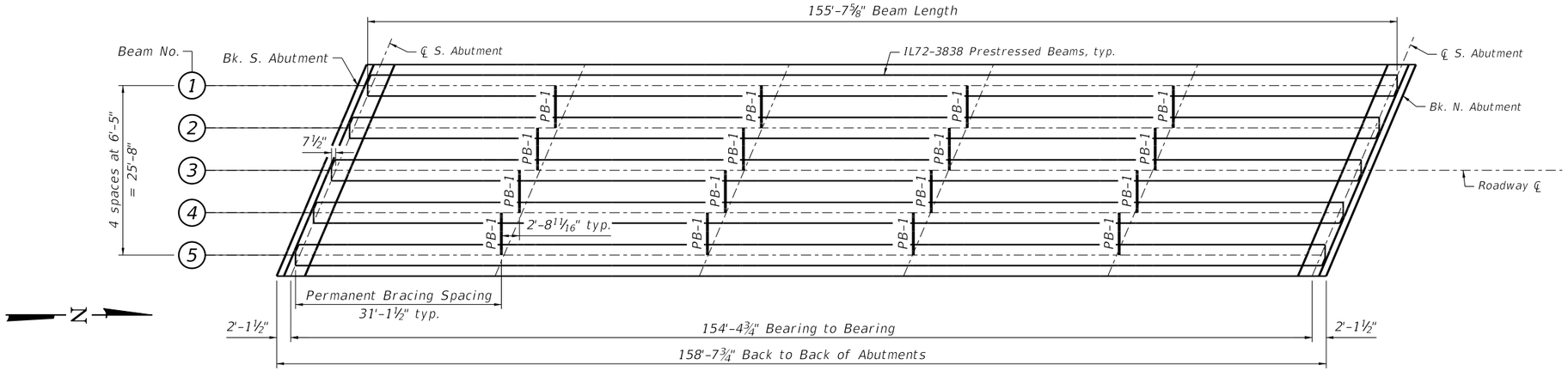
DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

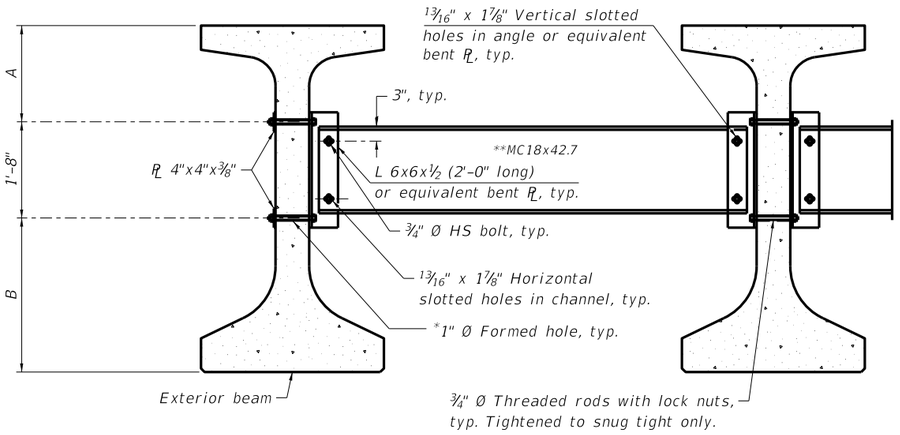
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

APPROACH SLAB DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 14 OF 24 SHEETS

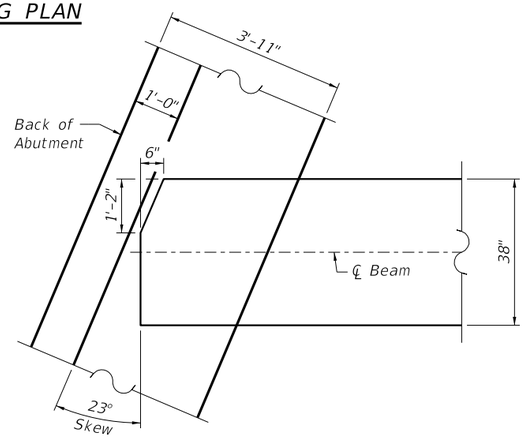
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	22
		WHA# 5045D23		
	ILLINOIS			



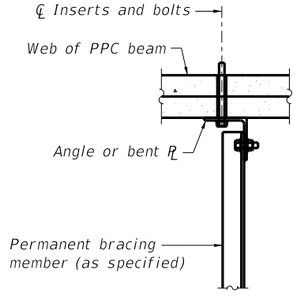
FRAMING PLAN

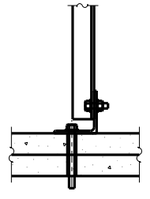


Beam	A	B
IL72	1'-8"	2'-8"



TOP FLANGE CLIPPING DETAIL





PLAN

NOTES:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15⁄16" Ø unless otherwise noted.

5⁄16"x3"x3" PL washers are required over all slotted holes.

All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232.

Threaded rods shall be ASTM F 1554 Grade 55.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate MC18x45.8 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS FOR IL72 BEAMS

I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
Sb: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
Sb': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
St: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
St': Composite section modulus for the top fiber of the prestressed beam (in.³).
D_L: Un-factored non-composite dead load (kips/ft.).
M_{D_L}: Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
s_{D_L}: Un-factored long-term composite (superimposed) dead load (kips/ft.).
M_{sD_L}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment on the composite section (kip-ft.).
MI: Un-factored moment due to impact on the composite section (kip-ft.).

INTERIOR BEAM MOMENT TABLE		0.5 Span
I	(in⁴)	738,236
I'	(in⁴)	1,350,945
Sb	(in³)	22,855.6
Sb'	(in³)	29,686.6
St	(in³)	18,595.3
St'	(in³)	50,992.2
D_L	(k/')	1.80
M_{D_L}	('k)	5,359
s_{D_L}	(k/')	0.203
M_{sD_L}	('k)	604.8
M_L	('k)	2,443
MI	('k)	457
M_L + MI	('k)	2,901

INTERIOR BEAM REACTION TABLE		Abut.
LLDF		0.74
RDC1	(k)	138.9
RDC2	(k)	15.7
RDW	(k)	24.8
RLL	(k)	86.5
RIM	(k)	16.7
RTotal	(k)	282.5

REVISION	DATE	BY	REMARKS

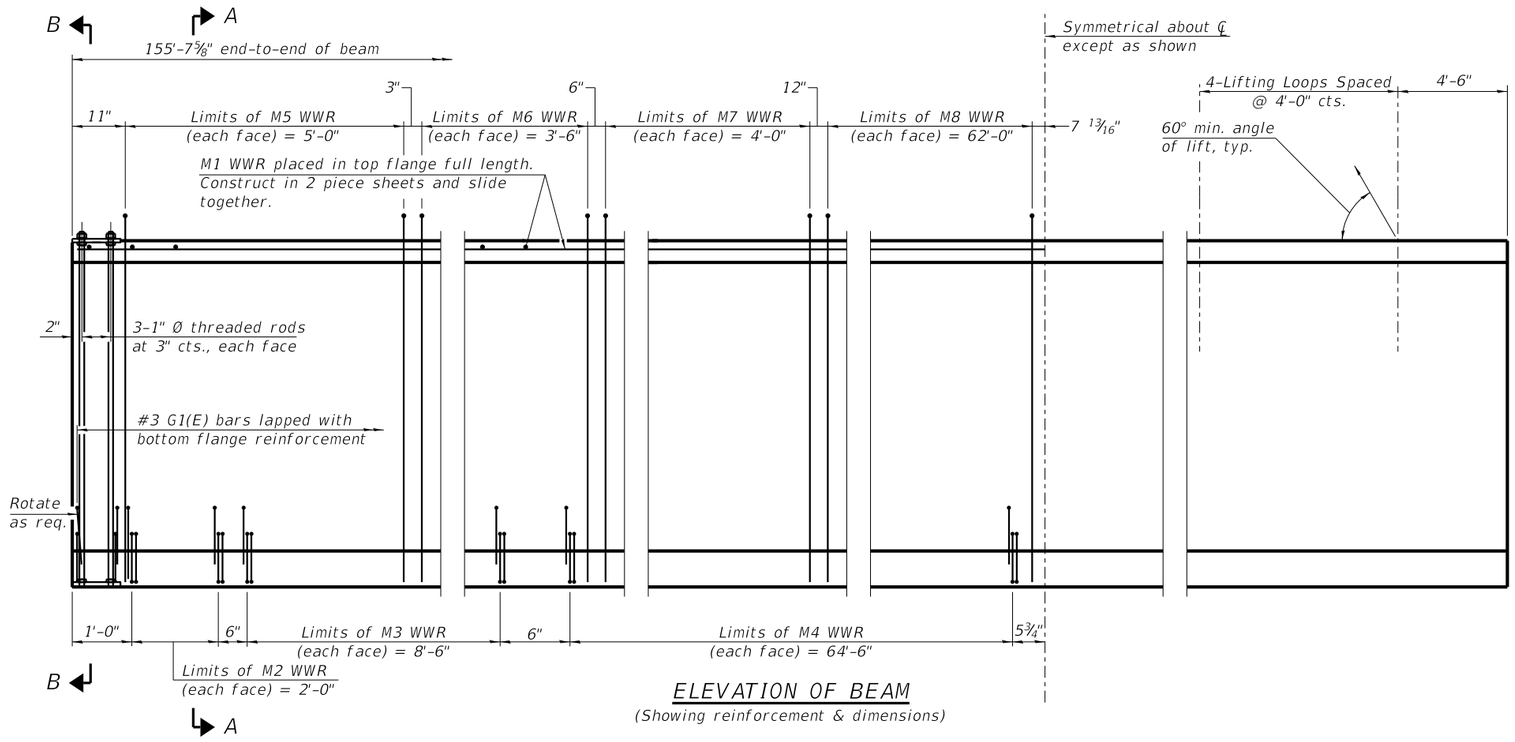
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

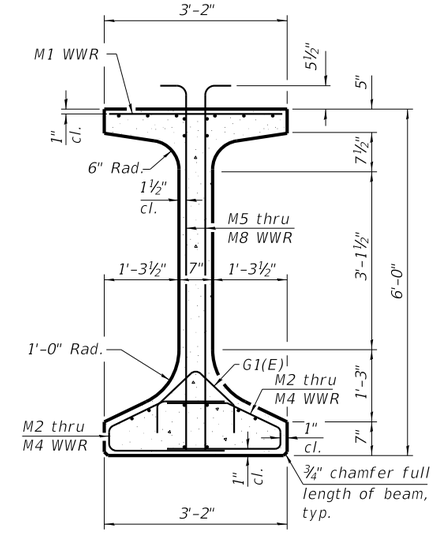
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

FRAMING PLAN
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 15 OF 24 SHEETS

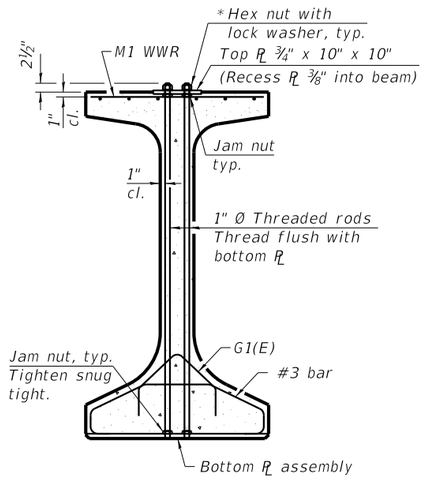
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	23
		WHA# 5045D23		
	ILLINOIS			



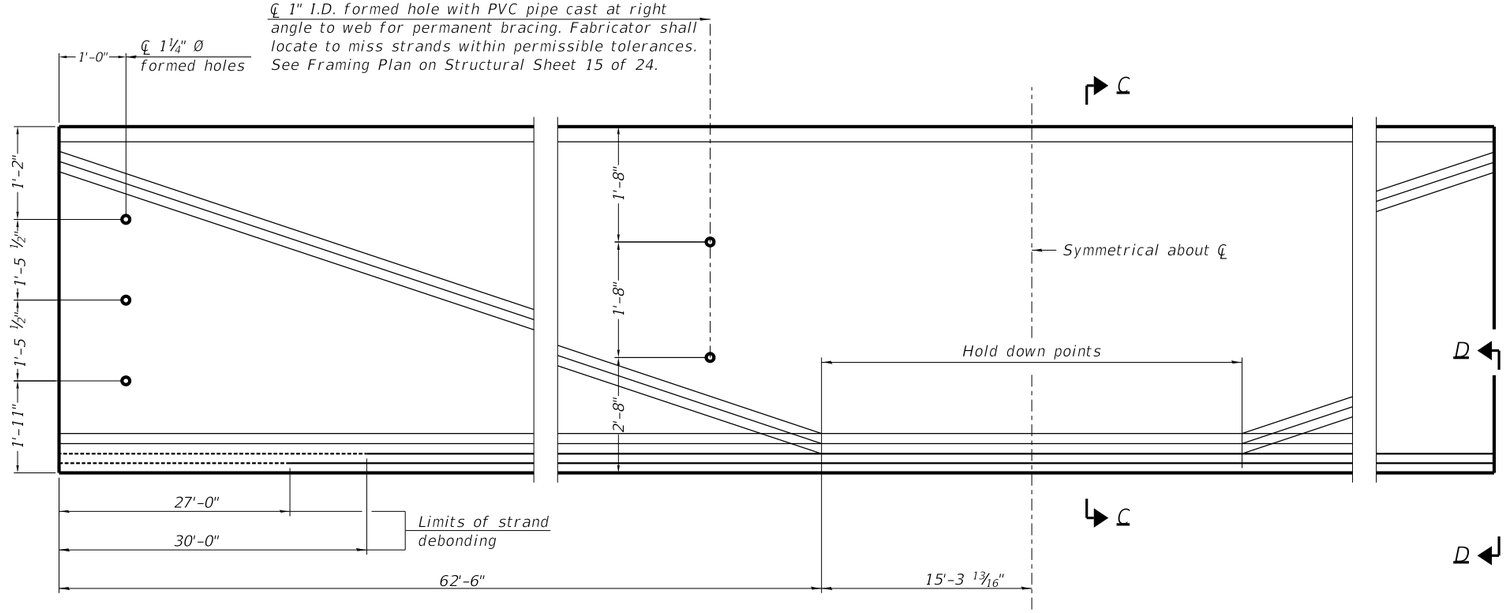
ELEVATION OF BEAM
(Showing reinforcement & dimensions)



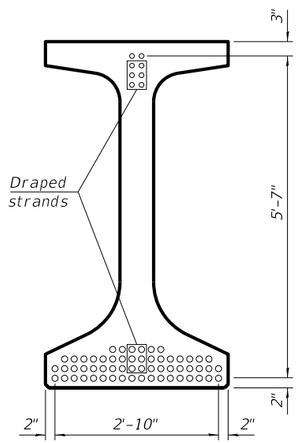
SECTION A-A



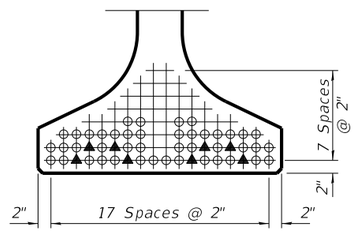
SECTION B-B
*Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(60-0.6" Ø 270 ksi strands)



VIEW D-D

○ Fully bonded strand

▲ Partially debonded strand

NOTE:
See Structural Sheet 17 of 24 for additional details and Bill of Material.

REVISION	DATE	BY	REMARKS

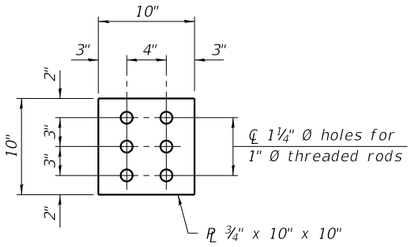
DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

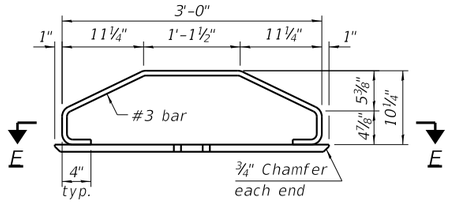
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

IL72 BEAM DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 16 OF 24 SHEETS

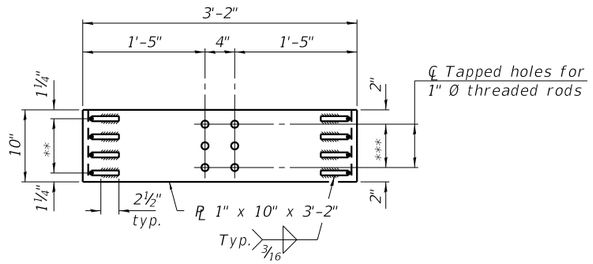
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	24
		WHA# 5045D23		
	ILLINOIS			



PLAN – TOP PLATE



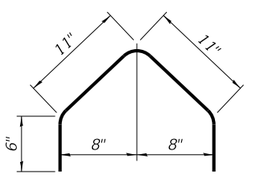
ELEVATION – BOTTOM PLATE ASSEMBLY



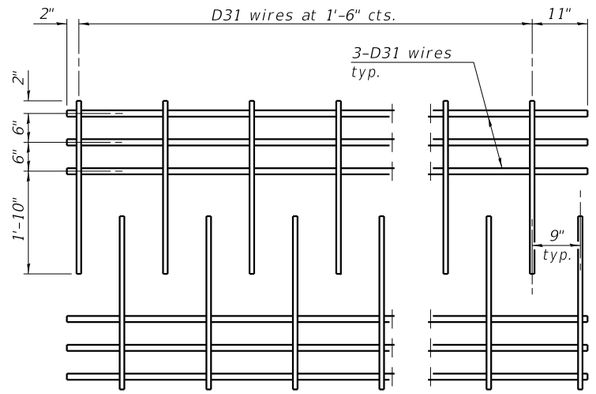
SECTION E-E

** 3 Spaces at 2½" = 7½"

*** 2 Spaces at 3" = 6"



BAR G1(E)



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").

NOTES:

Inserts for ¾" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter for beam strands shall be 0.6" and the nominal cross-sectional area shall be 0.217 sq. in. The nominal diameter for lifting loops shall be ½" and the nominal cross sectional area shall be 0.153 sq. in.

The beams shall have a final concrete compressive strength, f'c, of 8500 psi and a release concrete compressive strength, f'ci, of 6500 psi.

A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

Bend the extended strands inward on the fascia beams to maintain 1½" clearance inside the pier diaphragm.

The top and bottom plates shall be AASHTO M270 Grade 50.

The top plates and bottom plate assemblies shall be galvanized according to AASHTO M111. The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.

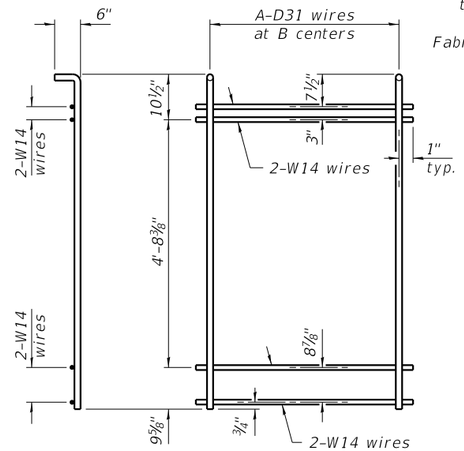
Threaded rods shall be ASTM F 1554 Grade 55.

Welded Wire Reinforcement (WWR) shall conform to ASTM A884 with a Class A, Type 1 epoxy coating or ASTM A1060, Table 3 galvanized coating.

TABLE OF DIMENSIONS

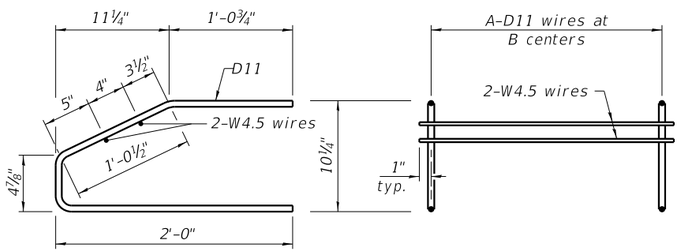
(The WWR designs assume grade 60. If necessary, this permits the fabricator to directly substitute grade 60 rebar as detailed in the Manual for Fabrication of Precast Prestressed Concrete Products.)

WWR	A	B
M2	9	3"
M3	18	6"
M4	44	1'-6"
M5	21	3"
M6	8	6"
M7	5	1'-0"
M8	32	2'-0"



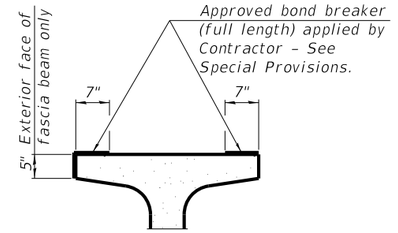
M5 THRU M8 WWR DETAIL

(See Table of Dimensions)



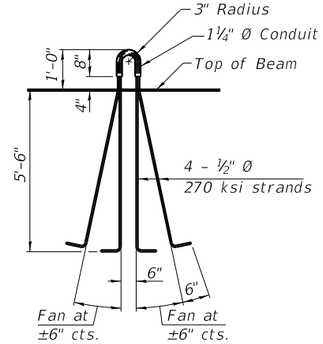
M2 THRU M4 WWR DETAIL

(See Table of Dimensions)



SECTION THRU TOP FLANGE

(Showing limits of bond breaker)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL72	Foot	778

(Sheet 2 of 2)

REVISION	DATE	BY	REMARKS

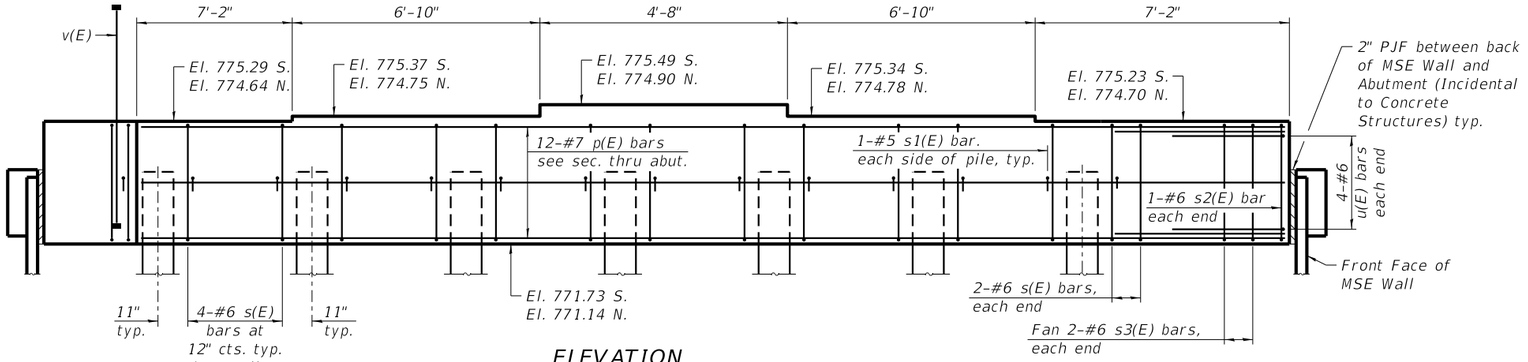
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-002918

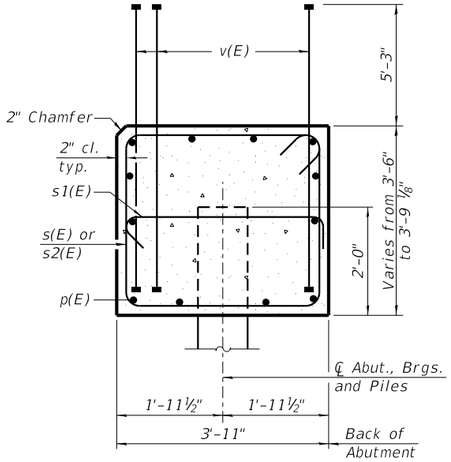
IL72 BEAM DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 17 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	25
		WHA# 5045D23		
	ILLINOIS			



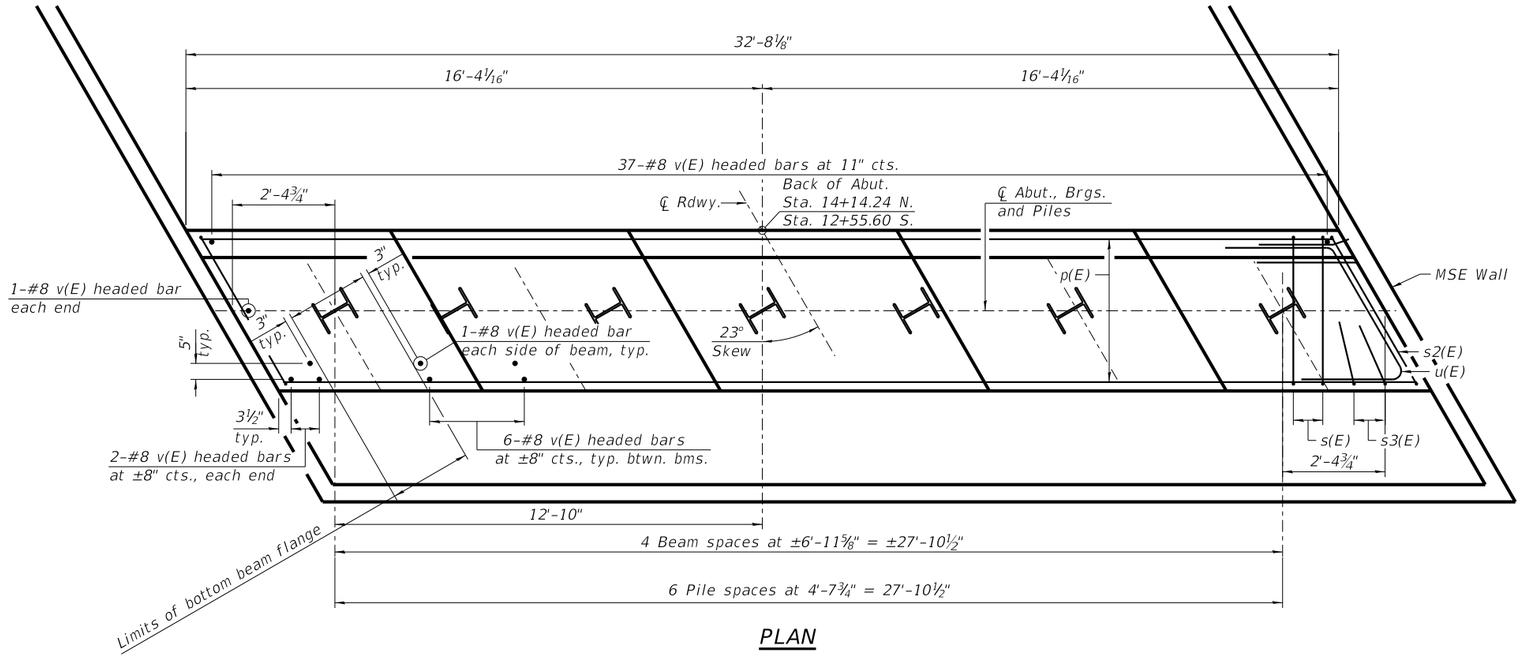
ELEVATION

Looking South (South Abutment)
Looking North (North Abutment)



SEC. THRU ABUT.

Dimensions at right angles to abutment.



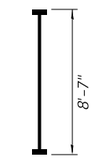
PLAN

PILE DATA - S. ABUTMENT

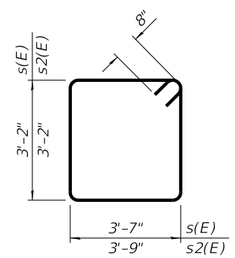
Type: Steel HP 12x84
Nominal Required Bearing: 664 kip
Factored Resistance Available: 357 kip
Est. Length: 33'
No. Production Piles: 6
No. Test Piles: 1
No. Pile Shoes: 7

PILE DATA - N. ABUTMENT

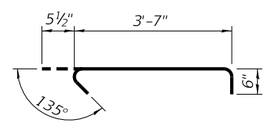
Type: Steel HP 12x84
Nominal Required Bearing: 664 kip
Factored Resistance Available: 327 kip
Est. Length: 30'
No. Production Piles: 6
No. Test Piles: 1
No. Pile Shoes: 7



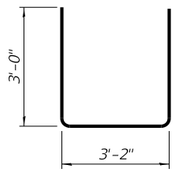
BAR v(E)
(Headed)



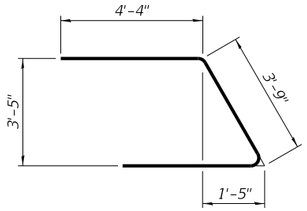
BAR s(E) & s2(E)



BAR s1(E)



BAR s3(E)



BAR u(E)

BILL OF MATERIAL
2 ABUTMENTS

Bar	No.	Size	Length	Shape
p(E)	24	#7	32'-4"	
s(E)	56	#6	14'-10"	
s1(E)	28	#5	4'-7"	
s2(E)	4	#6	15'-2"	
s3(E)	8	#6	9'-2"	
u(E)	16	#6	12'-5"	
v(E)	154	#8	8'-7"	
Reinforcement Bars, Epoxy Coated (Special)		Lbs.	7,000	
Concrete Structures		Cu. Yds.	34.4	
Structure Excavation		Cu. Yds.	12	
Furnishing Steel Piles		Foot	378	
Driving Piles		Foot	378	
Test Pile Metal Shells		Each	2	
Pile Shoes		Each	14	

NOTES:

Pour steps monolithically with cap.

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

For details of piles, see Structural Sheet 19 of 24.

*Assumes 5½" thick MSE Wall

REVISION	DATE	BY	REMARKS

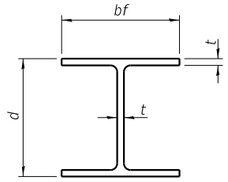
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184-000918

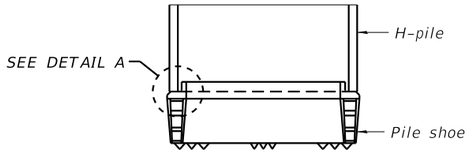
ABUTMENTS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 18 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	26
		WHA# 5045D23		
	ILLINOIS			

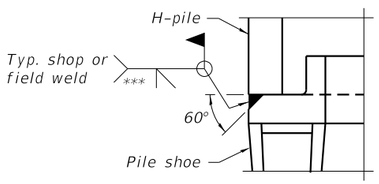


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



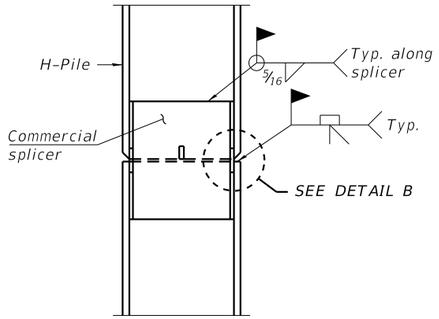
ELEVATION



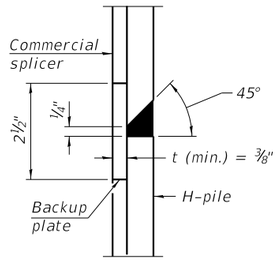
DETAIL A

SHOE ATTACHMENT

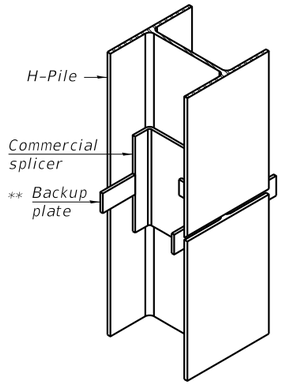
NOTE:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

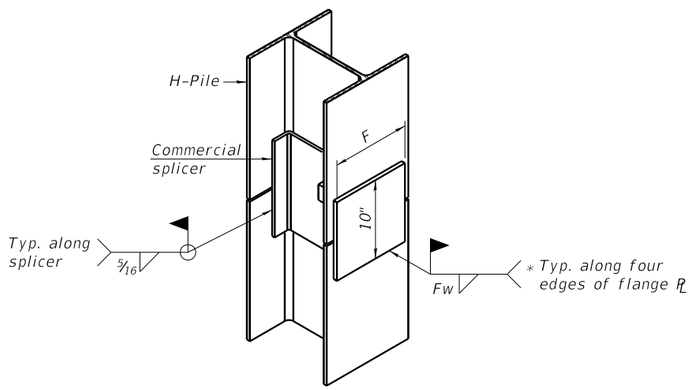


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



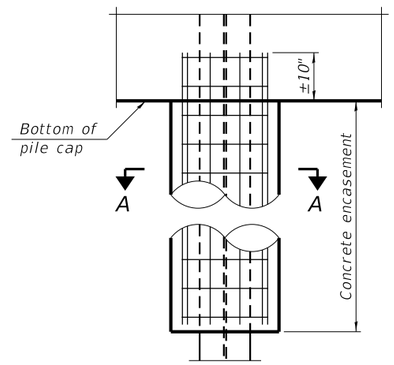
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

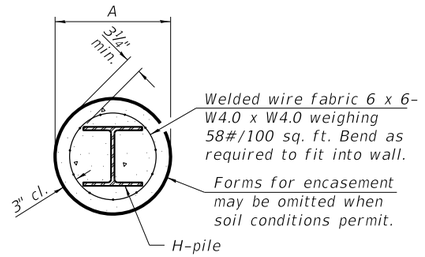
* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup PL's that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



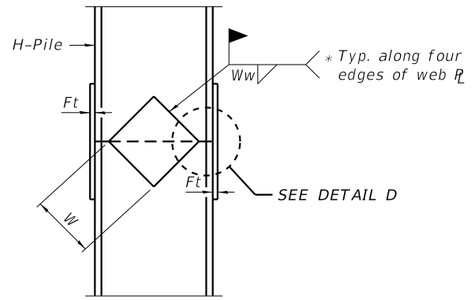
ELEVATION



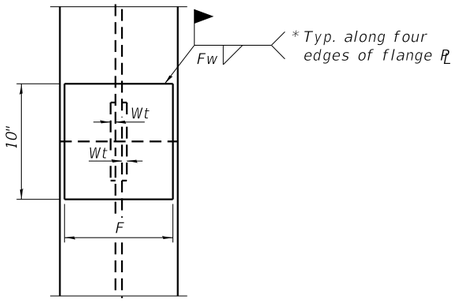
SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

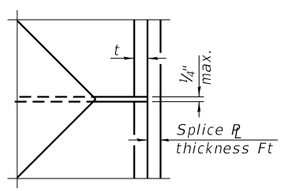
(when specified)



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

REVISION	DATE	BY	REMARKS

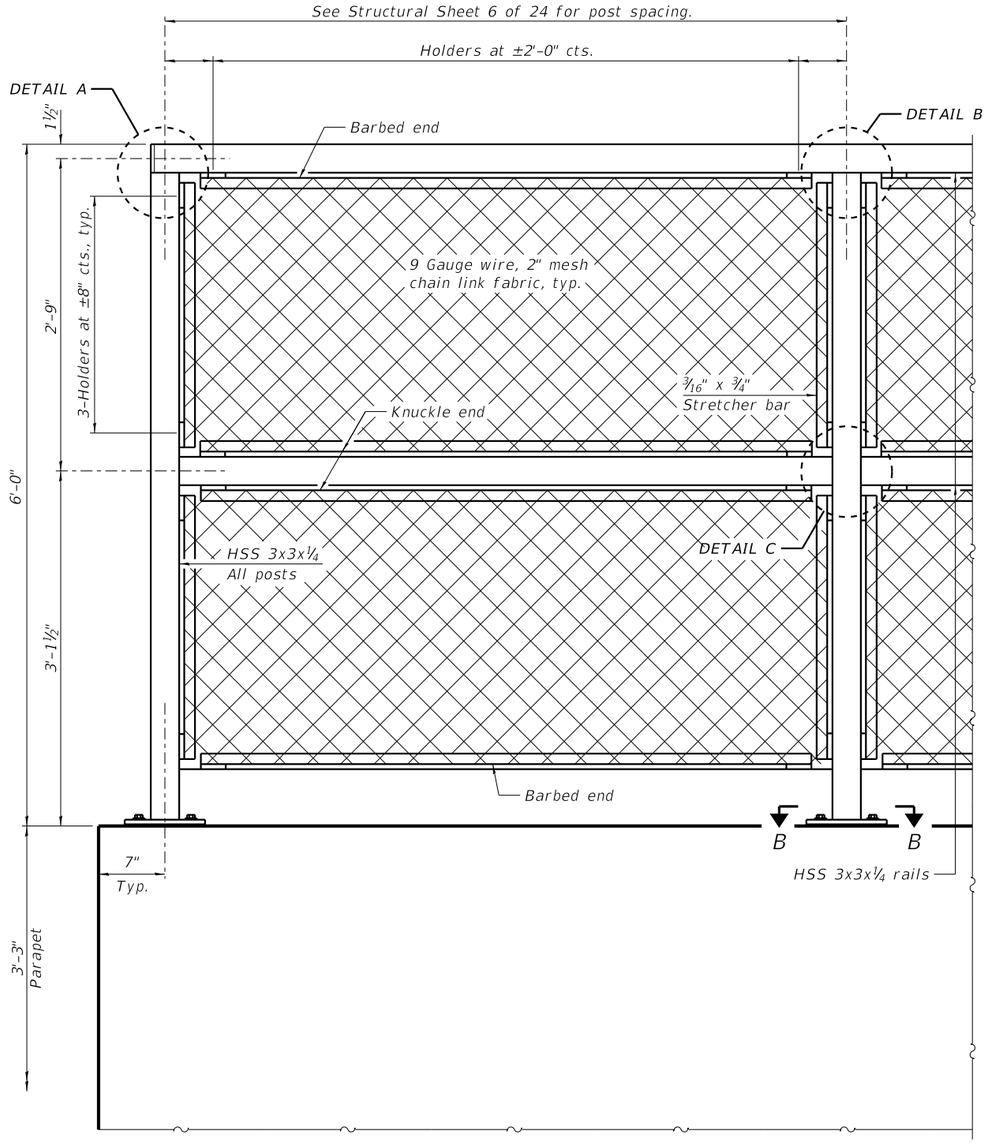
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

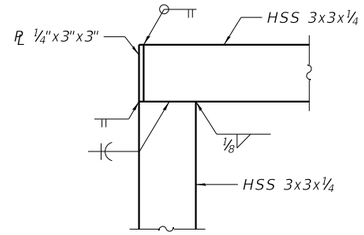
WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3351 DESIGN FIRM: #184-000918

HP PILE DETAILS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 19 OF 24 SHEETS

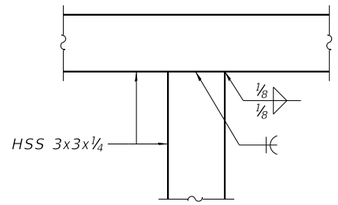
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	27
		WHA# 5045D23		
	ILLINOIS			



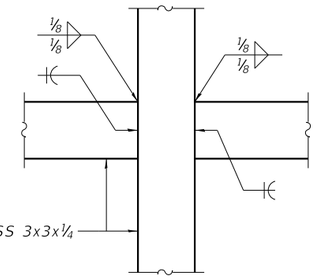
ELEVATION BRIDGE FENCE RAILING
(Inside face)



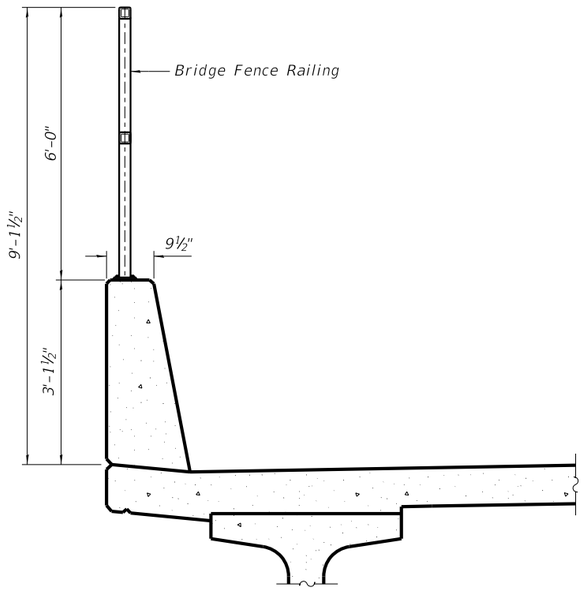
DETAIL A



DETAIL B



DETAIL C



SECTION THRU DECK

RAILING CRITERIA

NCHRP 350 Test Level	4
Max Post Spacing	10'-0"

(Sheet 1 of 2)

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

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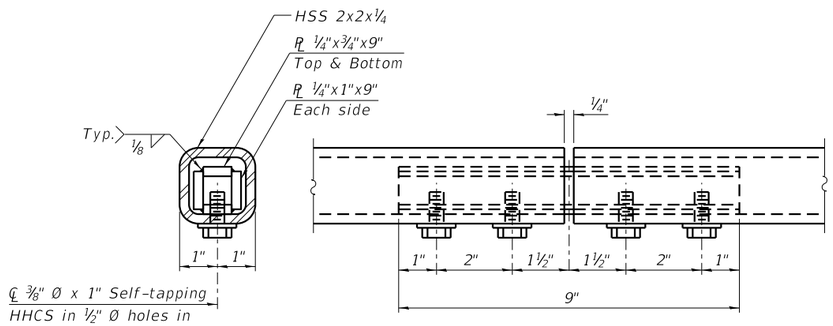
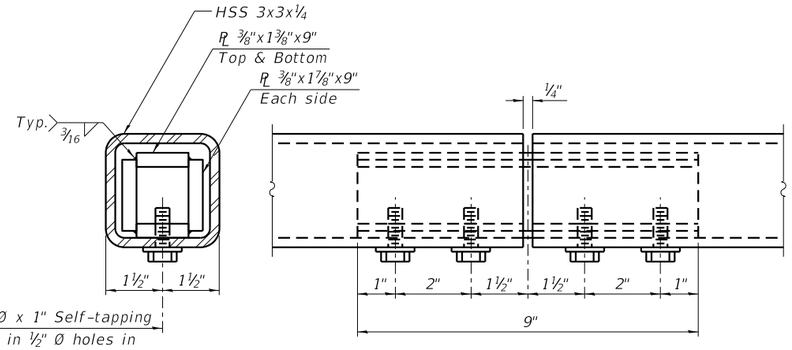
BRIDGE FENCE RAILING
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 20 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	28
		WHA# 5045D23		
	ILLINOIS			

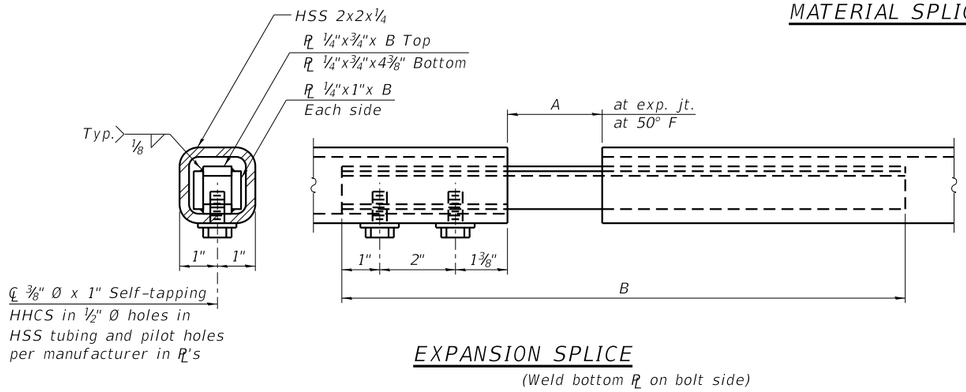


AT HANDRAIL



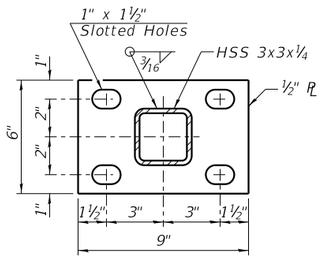
AT RAIL

MATERIAL SPLICE

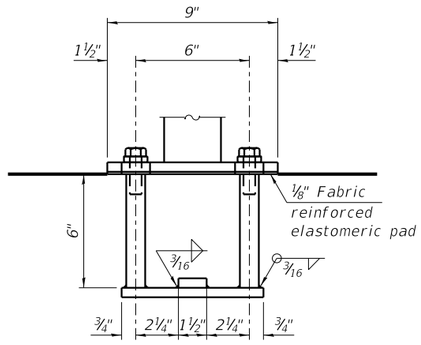


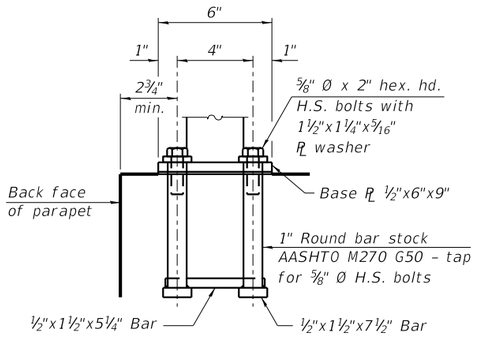
EXPANSION SPLICE

(Weld bottom PL on bolt side)



SECTION B-B





ANCHORAGE ASSEMBLY

The Bridge Fence Railing fasteners for end posts near expansion joints may need to be installed prior to installing the bent PL's.

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" Ø fully threaded anchor rods with the same plate washers as specified above and heavy hex lock nuts according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	144

NOTES:

Place reinforcement bars to miss anchor rod locations.

CVN testing is not required for the HSS tubing used in the Bridge Fence Railing.

All HSS tubing used for the Handrail shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

All heavy hex nuts shall be according to ASTM A 563 grade DH.

All fully threaded anchor rods shall be ASTM F1554 grade 105.

The post base plate shall be fastened to the curb snug tight and given an additional ⅛" turn.

Rail splice inserts may be built out of bent plates of the same thicknesses and outside geometry limits as the 4 PL rail splice inserts shown.

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

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

BRIDGE FENCE RAILING
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 21 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	29
		WHA# 5045D23		
	ILLINOIS			

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN: 008-9912

Boring No. B-1
Surface Elev. 782.10
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 12+12

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
782.10										
781.10		1								
780.10		2								
779.10	Stiff Black And Brown Clay (Fill)	3	1	SS	1.5	8	B	22	122	
778.10		4								
777.10		5								
776.10		6	2	SS	1.5	7	B	23		
775.10		7								
774.10		8	3	SS	1.4	7	S	21		
773.10		9								
772.10		10								
771.10	Stiff Brown Clay With Sand Seams	11	4	SS	1.2	7	B	22	121	
770.10		12								
769.10		13	5	SS	1.6	10	B	20		
768.10		14								
767.10	Medium Brown Gravely Loam	15	6	SS	---	36	---	14	130	Slight Seepage
766.10		16								
765.10		17							125	
764.10	Very Stiff Gray Clay	18	7	SS	2.1	12	S	19		
763.10		19							122	
762.10	Medium Gray Clay	20	8	SS	0.8	5	B	25		

Groundwater Data: Water after auger removal: 30 feet below top of ground elevation
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
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e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN 008-9912

Boring No. B-1
Surface Elev. 782.10
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 12+12

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
761.10										
760.10	Stiff Gray Clay	22							121	
759.10		23	9	SS	1.8	11	B	22		
758.10		24								
757.10		25							129	
756.10		26	10	SS	2.2	17	B	21		
755.10	Very Stiff Gray Clay	27								
754.10		28	11	SS	2.0	16	S	15		
753.10		29								
752.10		30								
751.10		31	12	SS	---	50	---	15		
750.10		32								
749.10	Very Dense Gray Weathered Shale	33							155	
748.10		34								
747.10		35								
746.10		36	13	SS	---	56	---	15		
745.10		37								
744.10		38								
743.10		39								
742.10	Very Dense Weathered Limestone (Drilled With Rock Bit)	40							163	
741.10		41								

Groundwater Data:
Comments:

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

SOIL BORINGS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 22 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	30
		WHA# 5045D23		
	ILLINOIS			

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 3 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN: 008-9912

Boring No. B-1
Surface Elev. 782.10
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 12+12

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
740.10											
739.10			43								
738.10			44								
737.10			45								
736.10	Very Dense Weathered Limestone (Drilled With Rock Bit)		46								
735.10			47							163	
734.10			48								
733.10			49								
732.10			50								
731.10	Boring Terminated		51								
730.10			52								
729.10			53								
728.10			54								
727.10			55								
726.10			56								
725.10			57								
724.10			58								
723.10			59								
722.10			60								
721.10			61								
720.10			62								

Groundwater Data: Water after auger removal: 30 feet below top of ground elevation
Comments: 0

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN: 008-9912

Boring No. B-2
Surface Elev. 781.40
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 14+35

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
781.40											
780.40			1								
779.40			2								
778.40			3	1	SS	1.4	8	B	19		
777.40	Stiff Black And Brown Clay With Occasional Root Fragments (Fill)		4							120	
776.40			5								
775.40			6	2	SS	1.7	11	B	20		
774.40			7								
773.40			8	3	SS	1.9	8	B	22		
772.40			9								
771.40			10	4	SS	1.6	9	S	16		
770.40			11								
769.40			12								
768.40	Stiff Light Brown Clay Loam		13	5	SS	1.3	9	S	15		
767.40			14							129	
766.40			15								
765.40			16	6	SS	1.4	11	S	13		
764.40			17								
763.40			18	7	SS	1.5	10	S	13		
762.40			19								
761.40	Medium Light Brown Sand Loam With Clay Seams		20							124	
				8	SS	---	20	---	20		

Groundwater Data: No groundwater encountered at time of subsurface investigation.
Comments:

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

SOIL BORINGS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 23 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	31
		WHA# 5045D23		
	ILLINOIS			

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN: 008-9912

Boring No. B-2
Surface Elev. 781.40
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 14+35

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
760.40											
759.40	Medium Sandy Loam With Clay Seams		22							124	
758.40			23	9	SS	---	16	---	21		
757.40			24								
756.40			25								
755.40	Very Stiff Clay Seams		26	10	SS	3.5	21	B	17	125	
754.40			27								
753.40			28	11	SS	3.1	20	S	17		
752.40			29								
751.40			30								
750.40	Dense To Very Dense Gray Weathered Shale		31	12	SS	5.1	42	S	10	153	
749.40			32								
748.40			33								
747.40			34								
746.40			35								
745.40			36	13	SS	---	100/1"	---	---		
744.40			37								
743.40	Very Dense Weathered Limestone (Drilled With Rock Bit)		38								
742.40			39							163	
741.40			40								
740.40			41								

Groundwater Data: No groundwater encountered at time of subsurface investigation.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
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e-mail: mts37@comcast.net

BORING LOG

Sheet 3 of 3

Client: Wendler Engineering Services, Inc.
Project Name: Bridge on Big Cut Road over BNSF
Project Site: Carroll County, Illinois
SN 008-9912

Boring No. B-2
Surface Elev. 781.40
Auger Depth 51' Rotary Depth NA
Start Date 06/12/21 Finish Date 06/12/21

Location: Centerline of Roadway Station 14+35

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Wet Density (PCF)	REMARKS
739.40											
738.40			43								
737.40			44								
736.40	Very Dense Weathered Limestone (Drilled With Rock Bit)		45								
735.40			46								
734.40			47							163	
733.40			48								
732.40			49								
731.40			50								
730.40	Boring Terminated		51								
729.40			52								
728.40			53								
727.40			54								
726.40			55								
725.40			56								
724.40			57								
723.40			58								
722.40			59								
721.40			60								
720.40			61								
719.40			62								

Groundwater Data: No groundwater encountered at time of subsurface investigation.
Comments:

REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

SOIL BORINGS
STRUCTURE NO. 008-3636
STRUCTURAL SHEET 24 OF 24 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	32
		WHA# 5045D23		
	ILLINOIS			

Contract No. 85758

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REVISION	DATE	BY	REMARKS

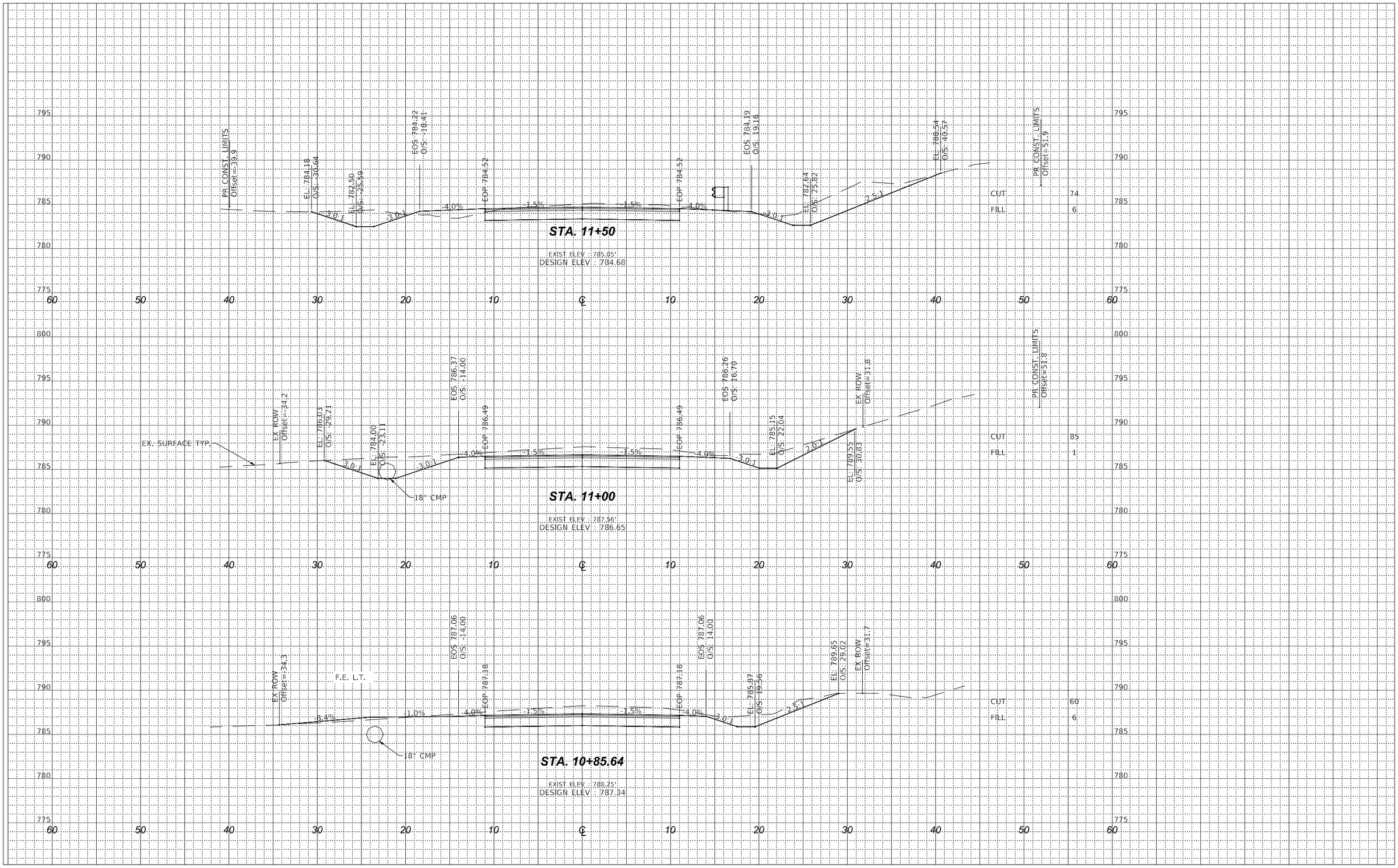
DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STWILLET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

CROSS SECTIONS (1 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	33
		WHA# 5045D23		
	ILLINOIS			



REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

CROSS SECTIONS (2 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	34
		WHA# 5045D23		
	ILLINOIS			

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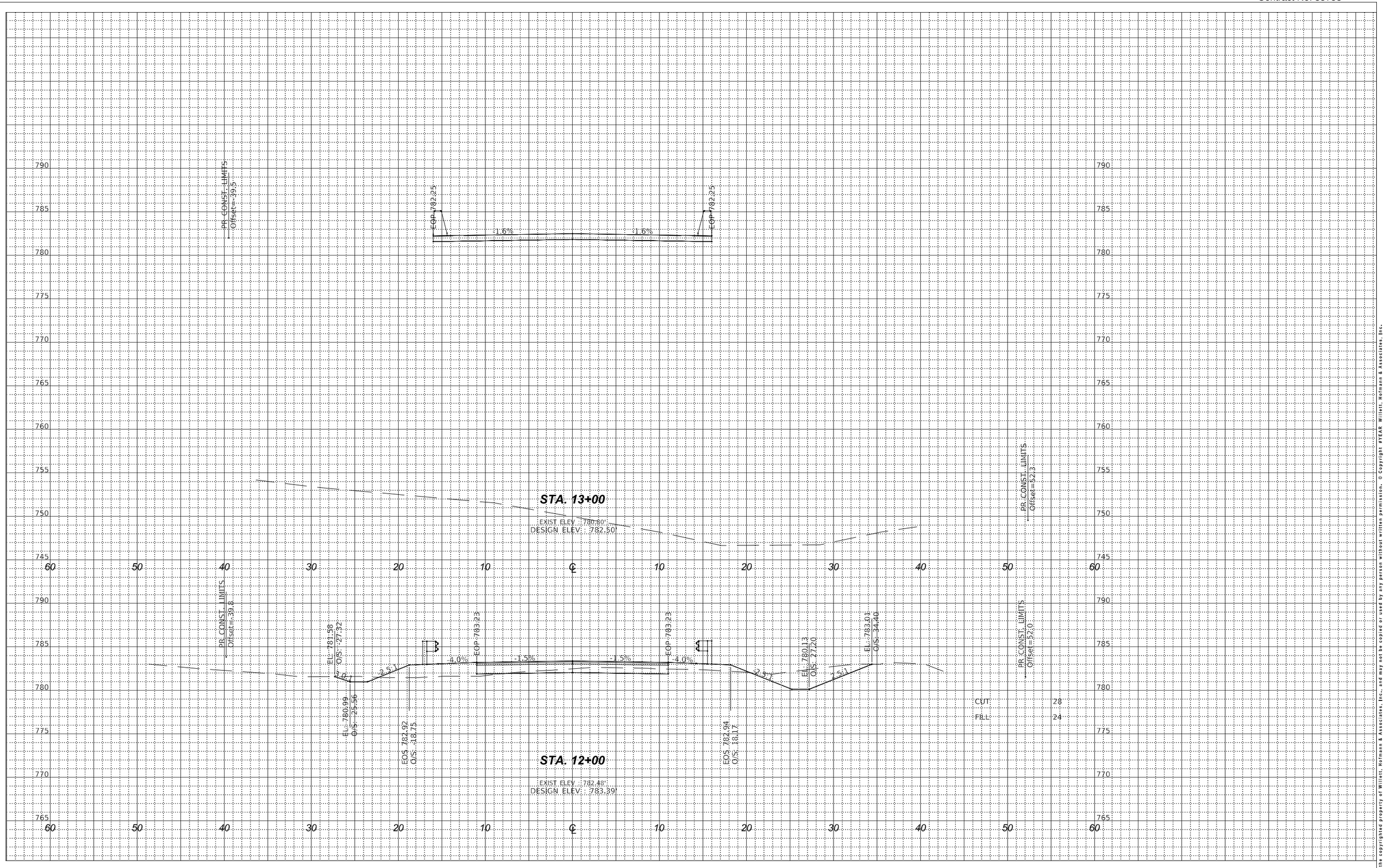
Contract No. 85758



REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

CROSS SECTIONS (3 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	35
		WHA# 5045D23		
	ILLINOIS			

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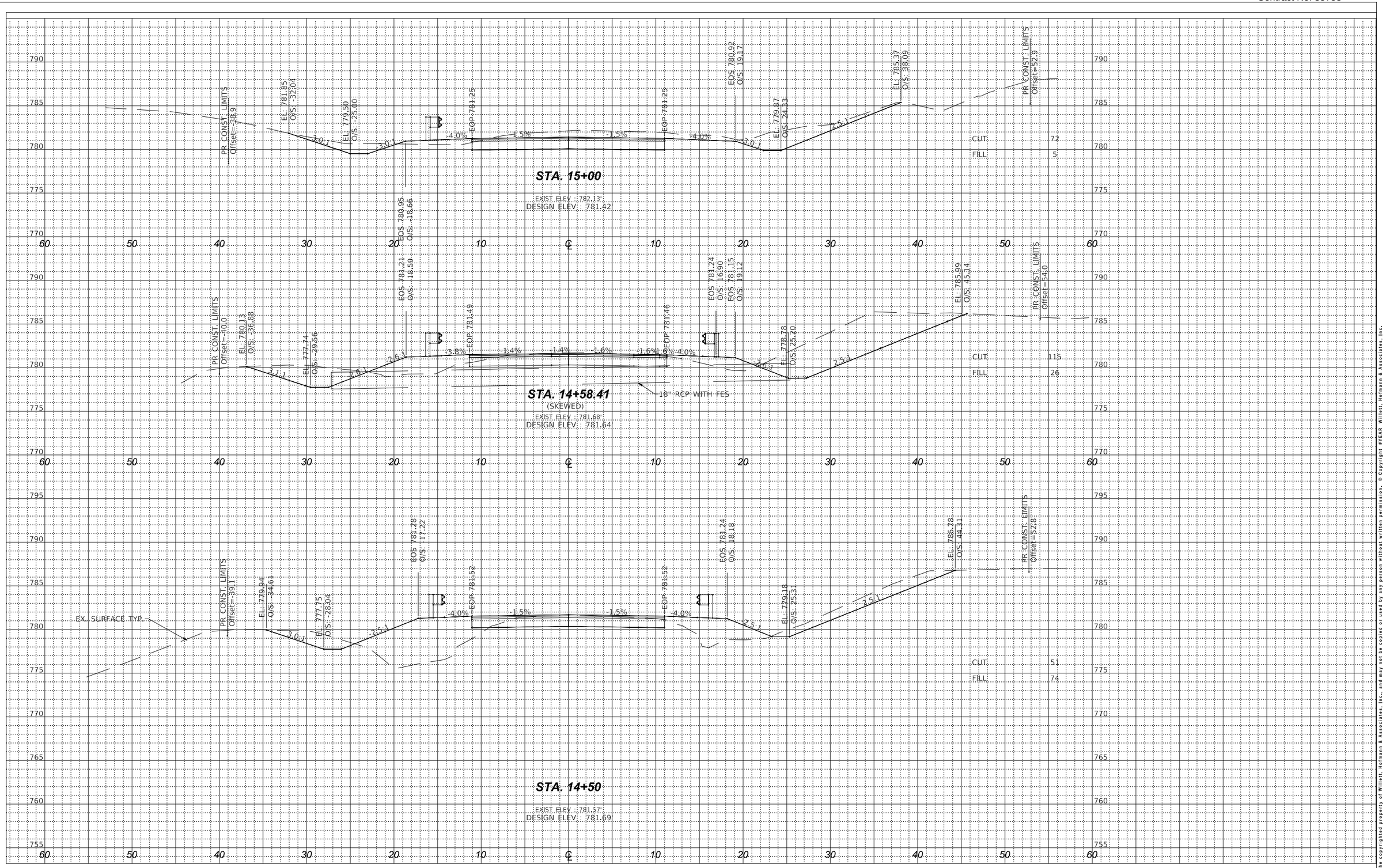

REVISION	DATE	BY	REMARKS

DESIGNED CTC
DRAWN CTC
REVIEWED CTC
APPROVED SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
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809 EAST 2ND STREET, DIXON, IL 61021-0367
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CROSS SECTIONS (4 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	36
		WHA# 5045D23		
		ILLINOIS		

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REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T. 815-284-3381 DESIGN FIRM: #184-000918

CROSS SECTIONS (5 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	37
		WHA# 5045D23		
	ILLINOIS			

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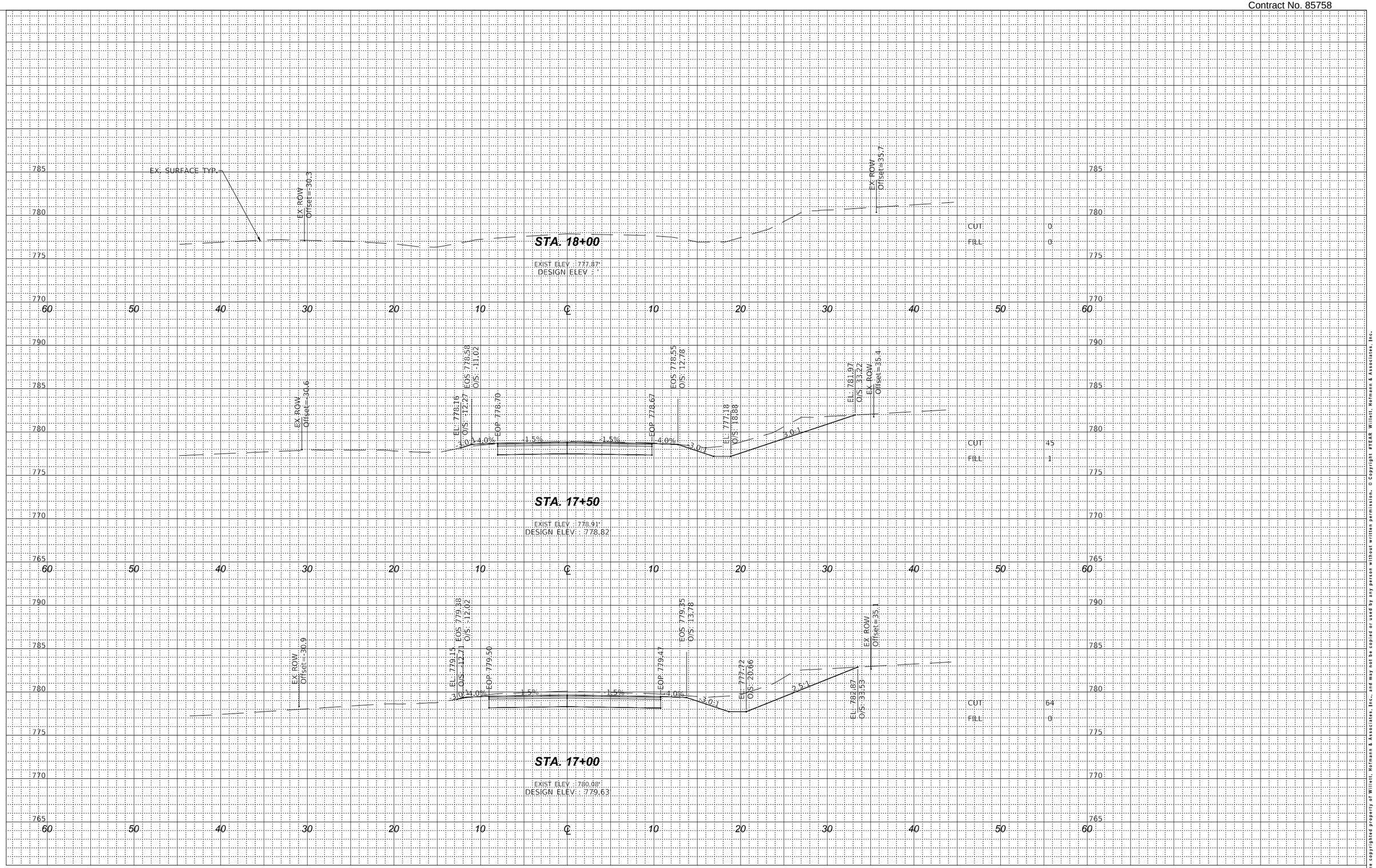
Contract No. 85758



REVISION	DATE	BY	REMARKS

DESIGNED	CTC
DRAWN	CTC
REVIEWED	CTC
APPROVED	SAB

CARROLL COUNTY HIGHWAY DEPARTMENT
BIG CUT ROAD OVER BNSF RAILWAY

WILLETT HOFMANN & ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

CROSS SECTIONS (6 OF 6)

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	19-06126-00-BR	CARROLL	38	38
		WHA# 5045D23		
	ILLINOIS			

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