

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080-00-BR	EFFINGHAM	29	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95524		

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	DETOUR PLAN
5.	DETOUR PLAN GENERAL NOTES
6.	PLAN AND PROFILE
7-17.	BRIDGE PLANS
18.	BORINGS
19-24.	EXISTING PLANS
25-29.	STATION CROSS SECTIONS

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM - BRIDGE

PROJECT 1706(104)
SECTION 00-00080-00-BR
EFFINGHAM COUNTY
F.A.S. 1706 / C.H. 6

C-97-063-06

HIGHWAY STANDARDS:

000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
515001-04	NAME PLATE FOR BRIDGES
630001-12	STEEL PLATE BEAM GUARDRAIL
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701901-08	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 26-3	STEEL PLATE BEAM GUARDRAIL

UTILITIES

AMEREN CIPS
711 SOUTH 9TH STREET
MATTOON, IL 61938

BUCKEYE PARTNERS, L.P.
940 BUCKEYE ROAD
P.O. BOX 90
LIMA, OH 45802

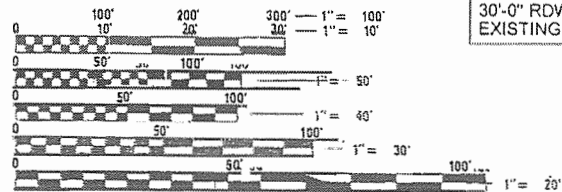
FRONTIER
801 WEST JACKSON
ALTA MONT, IL 62411

UTILITIES (CONT.)

NORRIS ELECTRIC
8543 N. STATE HIGHWAY 130
NEWTON, IL 62448

MEDIACOM
107 SOUTH HENRIETTA
EFFINGHAM, IL 62401

LAKE SARA AREA WATER COOP.
114 W. WASHINGTON
EFFINGHAM, IL 62401



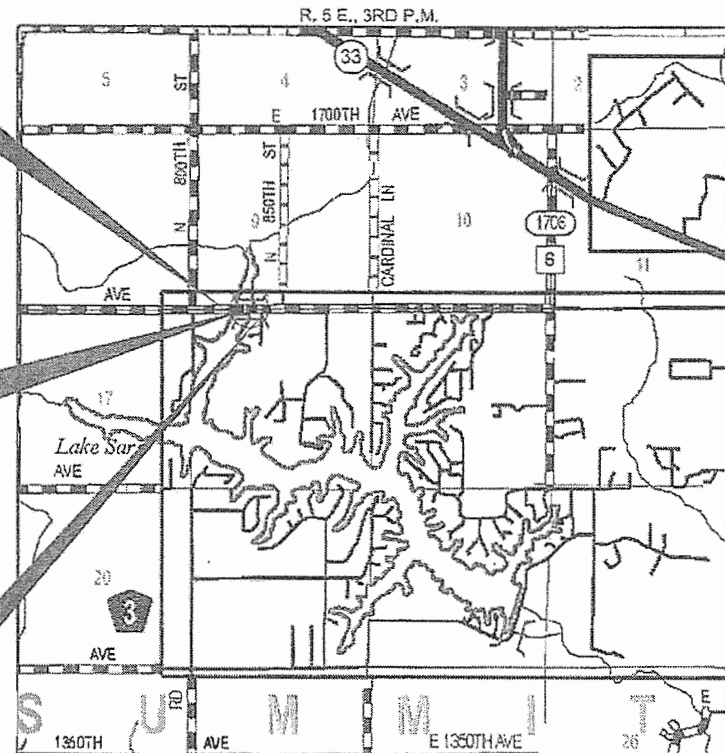
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR
DESIGN SPEED: 40 MPH
DESIGN TRAFFIC: 2000 ADT

STATION 10+00
PRECAST PRESTRESSED CONCRETE DECK BEAM SUPERSTRUCTURE REPLACEMENT.
3 SPANS: 20'-2 1/2", 19'-11", 20'-2 1/2"
30'-0" RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 025-3013

IMPROVEMENT BEGINS STATION 9+00

IMPROVEMENT ENDS STATION 11+00



LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE
NET LENGTH OF SECTION = 200 FEET = 0.038 MILES



WARNING
CALL 811 BEFORE YOU DIG
DIG NO: A3580182

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED *March 24, 2020*
[Signature]
COUNTY ENGINEER

PASSED *4-13-20*
[Signature]
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
4-13-20
[Signature]
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 03/19/2020

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

EXPIRES: 11/30/2021 PROJECT NUMBER: 07.0305.121 DATE: 03/19/2020

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	64
35100100	AGGREGATE BASE COURSE, TYPE A	TON	70
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	760
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	113
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	147
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	48
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	61
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	120
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	11.8
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1,810
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,340
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	39
50102400	CONCRETE REMOVAL	CU YD	10.2
* 50901050	STEEL RAILING, TYPE SM	FOOT	120
51500100	NAME PLATES	EACH	1
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	30
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	200
67100100	MOBILIZATION	L SUM	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	60
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1
* X6300130	STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)	FOOT	50
X7011006	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1

^ SEE SPECIAL PROVISIONS
* SPECIALTY ITEMS

GENERAL NOTES

- 1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.
- 2) ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.
- 3) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- 4) THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- 5) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
 AGGREGATE BASE COURSE AND SHOULDERS 2.05 TON/CU YD
 HOT MIX ASPHALT 112 LBS/SQ YD./INCH THICKNESS

BITUMINOUS MATERIALS RATES

SURFACE TYPE	RESIDUAL RATE
AGGREGATE BASE	0.250 LB/SQ FT
MILLED HMA OR PCC (TACK COAT)	0.050 LB/SQ FT
EXISTING PAVEMENT (TACK COAT)	0.050 LB/SQ FT
TACK COAT (BETWEEN LIFTS)	0.025 LB/SQ FT

- 6) THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE TOPSOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. SEEDING CLASS 2 SPECIAL = 0.1 ACRE
- 7) ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 8) COMMITMENTS:
NONE

ROADWAY SCHEDULE

LOCATION	AGGREGATE BASE COURSE TYPE A	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT BINDER COURSE IL 19.0, N50	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5 MIX "C", N50	AGGREGATE SHOULDERS TYPE B 6"
	TON	POUND	POUND	TON	TON	SQ YD
FAS 1706 / CH 6	35100100	40600275	40600290	40603080	40604050	48101500
STA. 9+00 TO STA. 9+96.08	35	380	39	24	15	60
STA. 9+96.08 TO STA. 10+30.92			35		31	
STA. 10+30.92 TO STA. 11+00	35	380	39	24	15	60
TOTAL	70	760	113	48	61	120

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	CU.YD.			CU.YD.	CU.YD.	CU.YD.
FAS 1706 / CH 6						
STA. 9+00 TO STA. 9+69.08	33	25.00%	100.00%	25	11	14
STA. 9+69.08 TO STA. 10+30.92		25.00%	70.00%	0		0
STA. 10+30.92 TO STA. 11+00	30	25.00%	100.00%	23	33	-10
TOTAL	64			48	44	4
USE	64					4

WASTE 4 CU YDS

TRAFFIC BARRIER TERMINAL, TYPE 6A

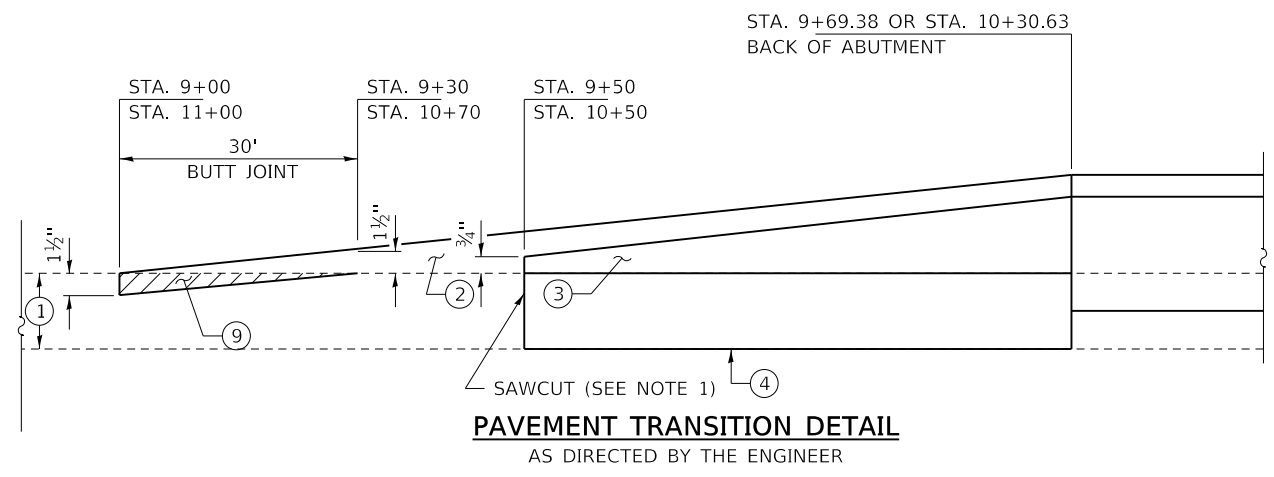
LOCATION	EACH
RT. STA. 9+32.5 TO STA. 9+70	1
LT. STA. 9+32.5 TO STA. 9+70	1
RT. STA. 10+30 TO STA. 10+67.5	1
LT. STA. 10+30 TO STA. 10+67.5	1
TOTAL	4

STEEL PLATE BEAM GUARDRAIL, TYPE A (SPL)

LOCATION	FOOT
RT. STA. 9+20 TO STA. 9+32.5	12.5
LT. STA. 9+20 TO STA. 9+32.5	12.5
RT. STA. 10+67.5 TO STA. 10+80	12.5
LT. STA. 10+67.5 TO STA. 10+80	12.5
TOTAL	50

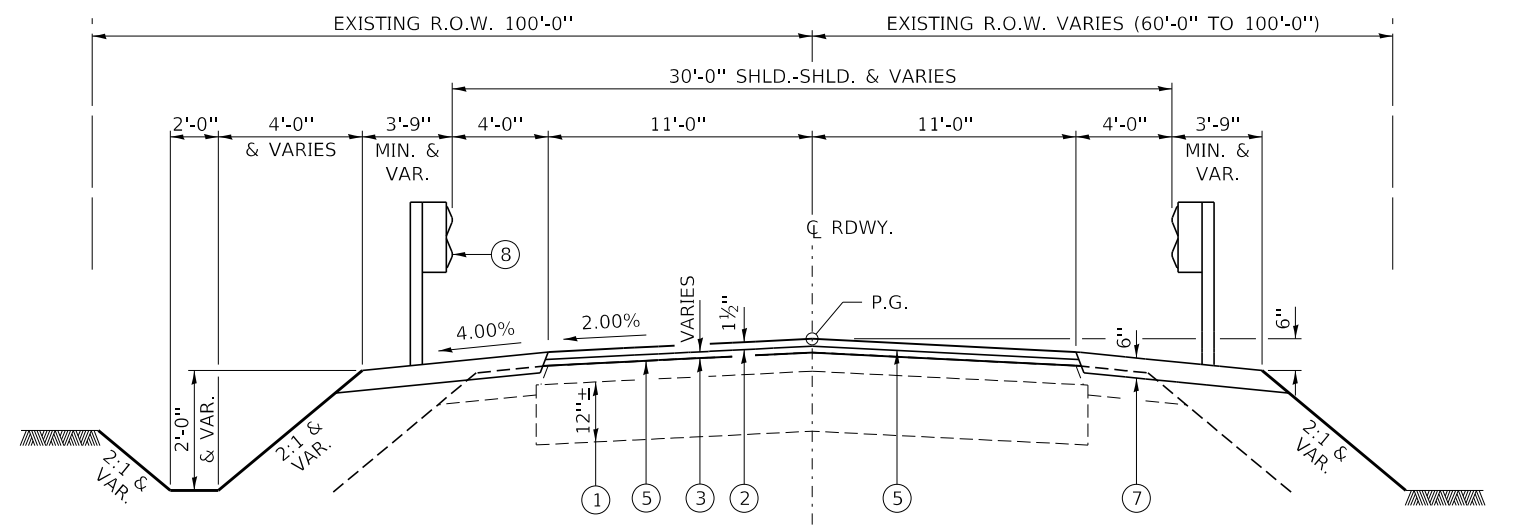
GUARDRAIL REMOVAL

LOCATION	FOOT
RT. STA. 9+20 TO STA. 9+70	50
LT. STA. 9+20 TO STA. 9+70	50
RT. STA. 10+30 TO STA. 10+80	50
LT. STA. 10+30 TO STA. 10+80	50
TOTAL	200



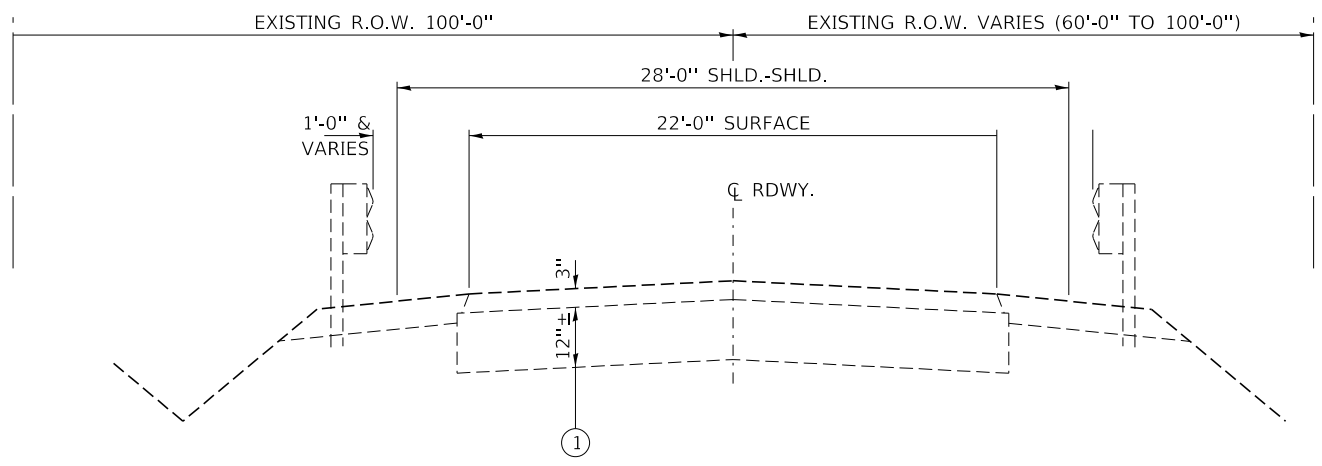
NOTES

- 1) COST OF SAWCUT SHALL BE INCLUDED IN THE UNIT COST BID FOR EARTH EXCAVATION.



PROPOSED TYPICAL CROSS SECTION

TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY ARE TO BE CONSTRUCTED FROM STA. 9+00 TO 9+50 AND STA. 10+50 TO STA. 11+00. SEE SHEET 7 FOR TRANSITION AT BRIDGE.



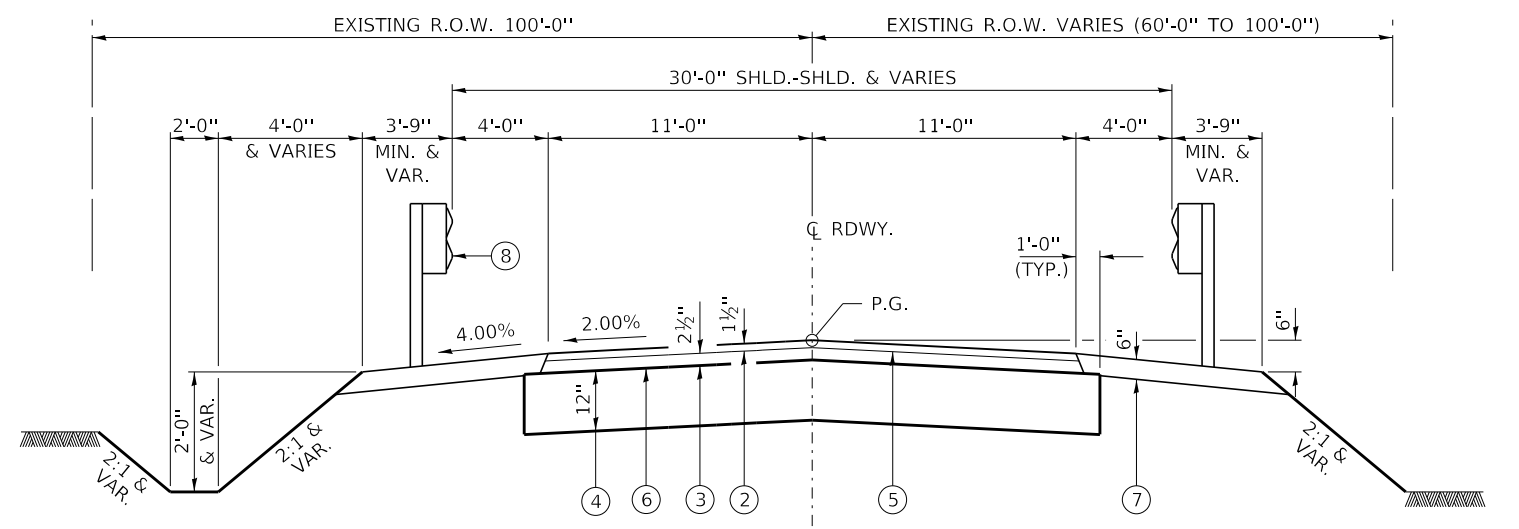
EXISTING TYPICAL CROSS SECTION

STA. 9+00 TO STA. 11+00

LEGEND

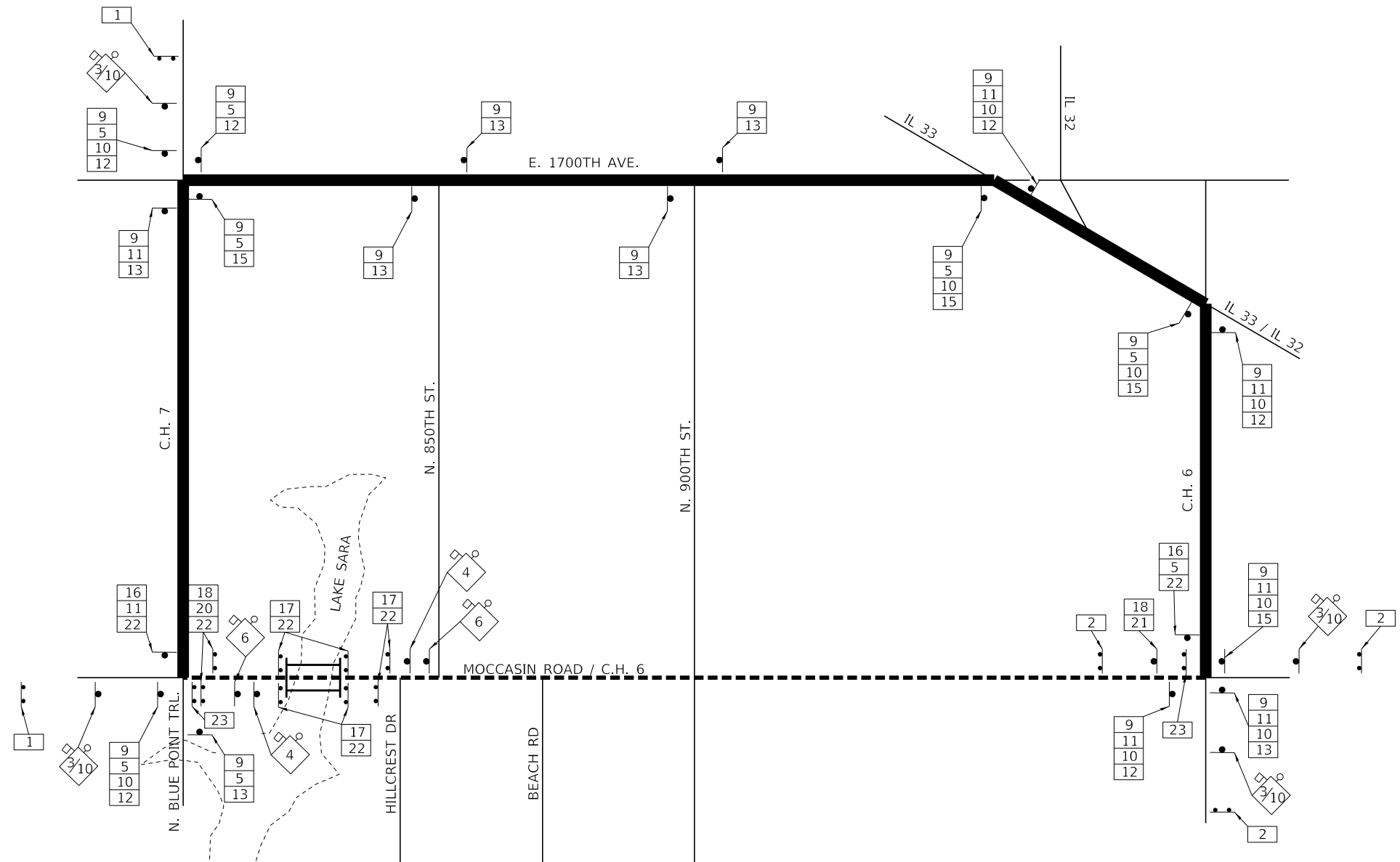
- ① EXISTING ASPHALT SURFACE ON AGGREGATE BASE
- ② HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX C, N50 (1 1/2" THICKNESS).
- ③ HMA BINDER COURSE, IL-19.0, N50 (2 1/2" THICKNESS)
- ④ AGGREGATE BASE COURSE, TYPE A (12")
- ⑤ BITUMINOUS MATERIALS (TACK COAT)
- ⑥ BITUMINOUS MATERIALS (PRIME COAT)
- ⑦ AGGREGATE SHOULDERS TYPE B 6"
- ⑧ TRAFFIC BARRIER TERMINAL, TYPE 6A SPBGR
- ⑨ HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
- ▨ EARTH EXCAVATION

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
LOCATIONS(S)	FAS 1706 / CH 6	FAS 1706 / CH 6
MIXTURE USE(S)	HOT-MIX ASPHALT SURFACE COURSE	HOT-MIX ASPHALT BINDER COURSE
PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4% @ 50 Gyr.	4% @ 50 Gyr.
MIXTURE COMPOSITION: (MIXTURE GRADATION)	IL 9.5	IL 19.0
FRICTION AGGREGATE:	MIXTURE C	NONE
DENSITY TEST METHOD	CORES	CORES
MIXTURE WEIGHT:	112 LBS / SY / INCH THICKNESS	112 LBS / SY / INCH THICKNESS
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA



PROPOSED TYPICAL CROSS SECTION

STA. 9+50 TO STA. 9+69.08 AND STA. 10+30.92 TO STA. 10+50



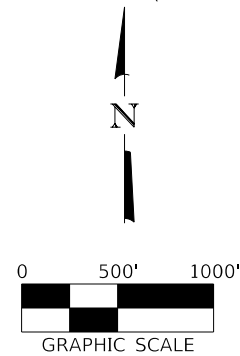
AREA PLAN

SPECIAL DETOUR NOTES

1. THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE DETOUR GENERAL NOTES.
2. TEN (10) TYPE III BARRICADES WILL BE NEEDED FOR THIS DETOUR AND ROAD CLOSURE.
3. THE TOTAL LENGTH OF THE DETOUR IS 4.6 MILES.
4. ALL DETOUR SIGNS, SHALL BE COMPLETELY COVERED AT ALL TIMES THE ROADWAY IS NOT CLOSED TO TRAFFIC.
5. PORTABLE/CHANGEABLE ELECTRONIC MESSAGE BOARDS SHALL BE USED IN ADVANCE OF THE PROJECT ACCORDING TO IDOT STANDARDS AND SHALL BE IN PLACE A MINIMUM OF 14 DAYS PRIOR TO COMMENCING THE WORK AND REMAIN THROUGHOUT THE ROADWAY CONSTRUCTION WORK.
6. ROAD CLOSURE SHALL BE LIMITED TO 20 WORKING DAYS. SEE SPECIAL PROVISIONS.

LEGEND

- OPEN ROAD
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC ONLY
- 48" x 48" CONSTRUCTION SIGN, WITH AMBER FLASHING LIGHT AND ORANGE WARNING FLAG (OPTIONAL) NUMBER DENOTES SIGN TYPE
- SERIES OF DETOUR SIGNS WITH DIRECTION AND ROAD NAME PLATES NUMBER DENOTES TYPE
- SINGLE DETOUR SIGNS, NUMBER DENOTES TYPE

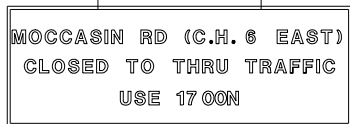



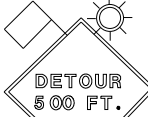


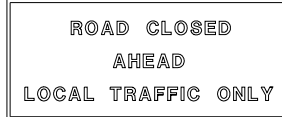

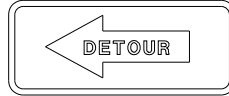

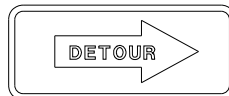


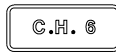






FILE NAME - 070305-sht-Detour.dgn	USER NAME - rmosick	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS EFFINGHAM COUNTY HIGHWAY DEPARTMENT	DETOUR PLAN		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$\$SCALE\$\$	DRAWN - M.M.P.	REVISED -		1706	00-00080-00-BR	EFFINGHAM	29	4		
HLR ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 3/25/2020	CHECKED - S.W.M.	REVISED -		SCALE:		SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	CONTRACT NO. 95524	ILLINOIS FED. AID PROJECT 1706(105)

NOTES

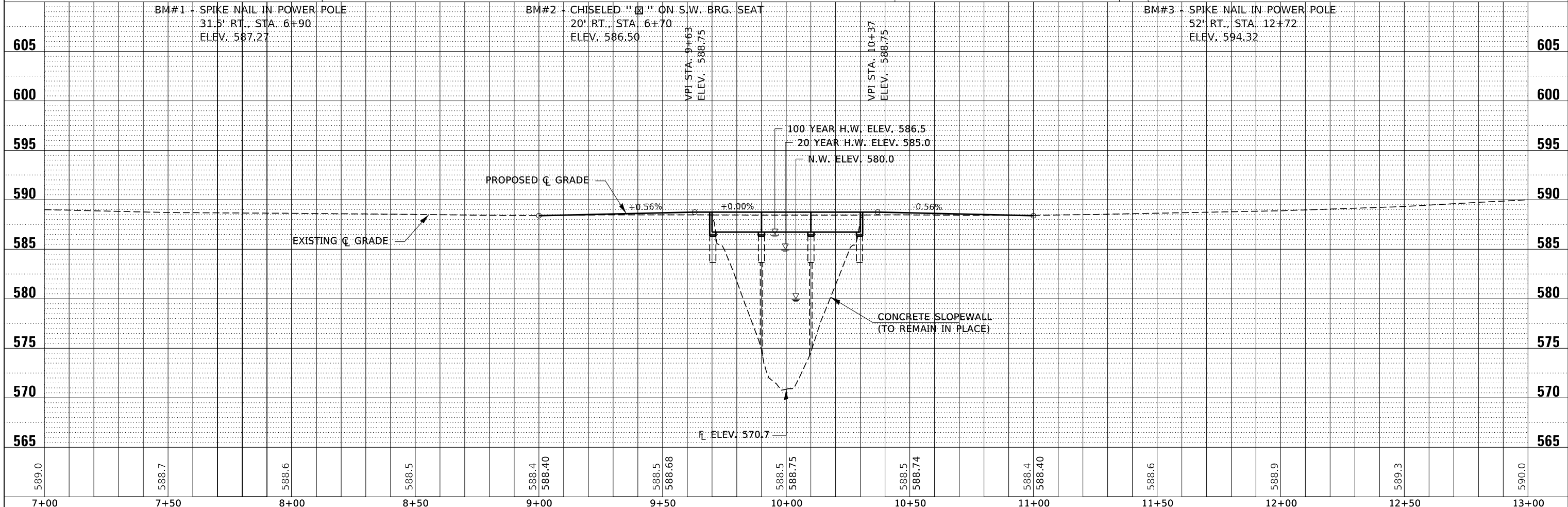
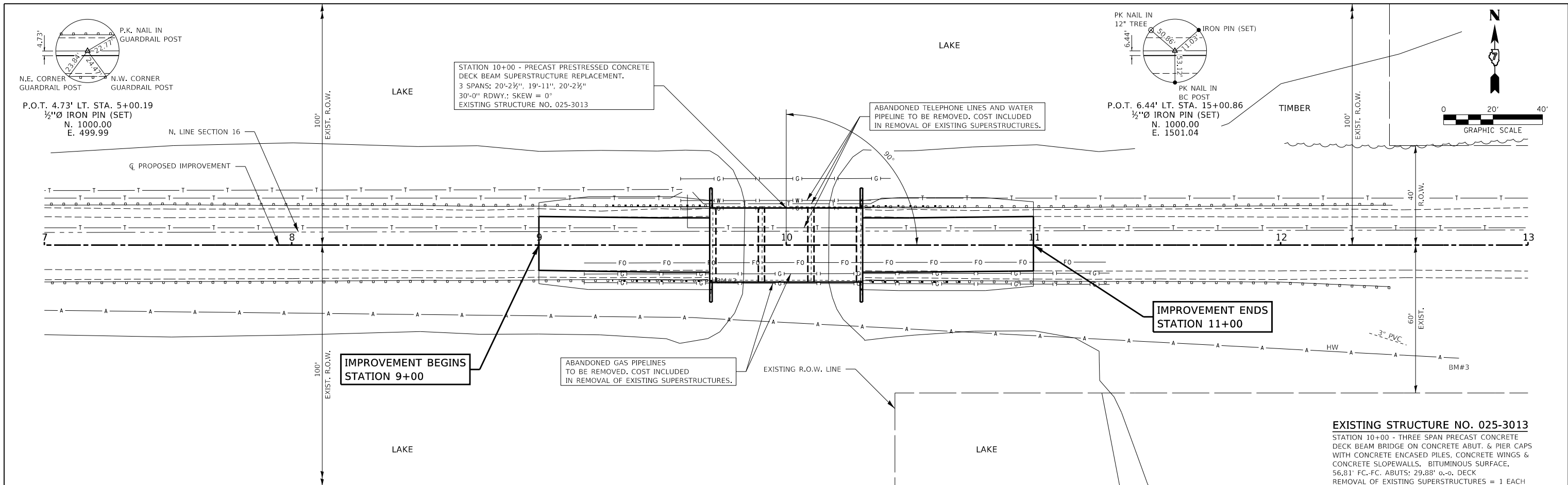
- ALL SIGNING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JAN. 1, 2016", "THE QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES ADOPTED 2010", THE DETAILS IN THESE PLANS, AND THE LATEST EDITION OF THE STATE OF ILLINOIS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- THE CONTRACTOR SHALL SCHEDULE ALL WORK IN AN EXPEDIENT MANNER TO REDUCE THE LENGTH OF TIME THAT THE DETOUR NEEDS TO BE IN EFFECT. SEE SPECIAL PROVISIONS TRAFFIC CONTROL PLAN.
- THE ENGINEER SHALL BE NOTIFIED IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES FOR APPROVAL OF SUCH DATE. IF REQUESTED BY THE CONTRACTOR IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT THE ENGINEER WILL FIELD LOCATE THE POSITIONS OF ANY SIGNS.
- IF DEEMED NECESSARY BY THE ENGINEER A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR SHALL BE HELD AT LEAST TWO WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
- LONGITUDINAL DIMENSIONS SHOWN ON THESE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- THE ROAD SHALL NOT BE CLOSED UNTIL ALL SIGNING IS ERECTED IN ACCORDANCE WITH THE DETOUR PLAN AND INSPECTED AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS, AND OTHER DEVICES INSTALLED BY HIM ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME THE DETOUR IS IN EFFECT.
- THE CONTRACTOR SHALL MAKE ALL CHANGES IN SIGNING THAT ARE DEEMED NECESSARY BY THE ENGINEER.
- ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHILE THE DETOUR IS IN EFFECT SHALL BE COMPLETELY COVERED BY THE CONTRACTOR, IN A MANNER APPROVED BY THE ENGINEER.
- ALL DETOUR SIGNING SHALL BE POST MOUNTED IF THE ROAD CLOSURE IS TO EXCEED FOUR (4) CALENDAR DAYS.
- THE SIZES OF ALL SIGNS NOT SPECIFIED IN THESE PLANS SHALL BE AS REQUIRED BY THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- ALL BARRICADES SHALL HAVE REFLECTORIZED STRIPING ON BOTH SIDES OF THE BARRICADES. THE TYPE III BARRICADES USED AT THE POINT OF CLOSURE TO THRU TRAFFIC SHALL NOT EXCEED 8'-0" IN WIDTH EACH, FOR A SINGLE APPROACH LANE.
- THE "ROAD CLOSED" (R11-2), THE "ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY" (R11-3), AND THE "ROAD CLOSED TO THRU TRAFFIC" (R11-4) SIGNS SHALL BE MOUNTED ABOVE THE TOP OF THE BARRICADE. ALL TYPE III BARRICADES SHALL HAVE TWO (2) AMBER TYPE A-LOW INTENSITY FLASHING LIGHTS SPACED NEAR THE CENTERLINE OF THE SUPPORTS.
- THE ROAD NAME SIGN SHALL HAVE A BLACK LEGEND ON FLUORESCENT ORANGE REFLECTIVE SHEETING. THE SIGN BLANK SHALL BE A 9" BY VARIABLE OR A 12" BY VARIABLE WITH DESIGN SERIES C LETTERS. THE CAPITAL LETTERS SHALL BE 6" WITH 5" LOWER CASE.
- DURING NON-WORKING HOURS AT THE POINT OF ROAD CLOSURE TO ALL TRAFFIC THE CONTRACTOR SHALL PROVIDE A MEANS TO RESTRAIN THE BARRICADES FROM EASY MOVEMENT BY VANDALS. THE RESTRAINT CHOSEN METHOD SHALL BE APPROVED BY THE ENGINEER.
- CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IMMEDIATELY BEHIND THE TYPE III BARRICADES DURING NON-WORKING HOURS. IN ANY EVENT ARTICLE 701.11 OF THE STANDARD SPECIFICATIONS SHALL APPLY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VISIBILITY OF ALL DETOUR AND CONSTRUCTION SIGNING, INCLUDING BRUSHING BACK VEGETATION IF DEEMED NECESSARY BY THE ENGINEER.
- THE ENGINEER SHALL BE NOTIFIED AT LEAST TWENTY FOUR (24) HOURS BEFORE THE ROAD IS TO BE OPENED TO TRAFFIC. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES.

SIGN LEGEND

<p>①</p> 	<p>R11-3 WITH 2 AMBER FLASHING LIGHTS. (2 REQ'D)</p>	<p>⑮</p> 	<p>M6-1 21"x15" (4 REQ'D)</p>
<p>②</p> 	<p>R11-3 WITH 2 AMBER FLASHING LIGHTS. (3 REQ'D)</p>	<p>⑯</p> 	<p>M4-8A 24"x48" (2 REQ'D)</p>
<p>③</p> 	<p>W20-2, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (4 REQ'D)</p>	<p>⑰</p> 	<p>R11-2 48"x30" (6 REQ'D)</p>
<p>④</p> 	<p>W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)</p>	<p>⑱</p> 	<p>R11-3 60"x30" (1 REQ'D)</p>
<p>⑤</p> 	<p>M3-3 24"x12" (8 REQ'D)</p>	<p>⑳</p> 	<p>M4-10L 48"x18" (2 REQ'D)</p>
<p>⑥</p> 	<p>W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)</p>	<p>㉑</p> 	<p>M4-10R 48"x18" (1 REQ'D)</p>
<p>⑨</p> 	<p>M4-8 24"x12" (17 REQ'D)</p>	<p>㉒</p> 	<p>TYPE III BARRICADES WITH TWO FLASHING LIGHTS EACH. (10 REQ'D) STD 709001</p>
<p>⑩</p> 	<p>M1-100 24"x12" (13 REQ'D)</p>	<p>㉓</p> 	<p>CHANGEABLE MESSAGE SIGN (2 REQ'D)</p>
<p>⑪</p> 	<p>M3-1 24"x12" (7 REQ'D)</p>		
<p>⑫</p> 	<p>M6-1 21"x15" (6 REQ'D)</p>		
<p>⑬</p> 	<p>M6-3 21"x15" (7 REQ'D)</p>		

PLAN	DATE
BY	
REVIEWED	
PLOTTED	
ALIGNMENT CHECKED	
GRADES CHECKED	
STRUCTURE NOTATING CHECKED	
NOTE BOOK NO.	
FILE NAME	

PROFILE	DATE
BY	
REVIEWED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATING CHECKED	
NOTE BOOK NO.	
FILE NAME	

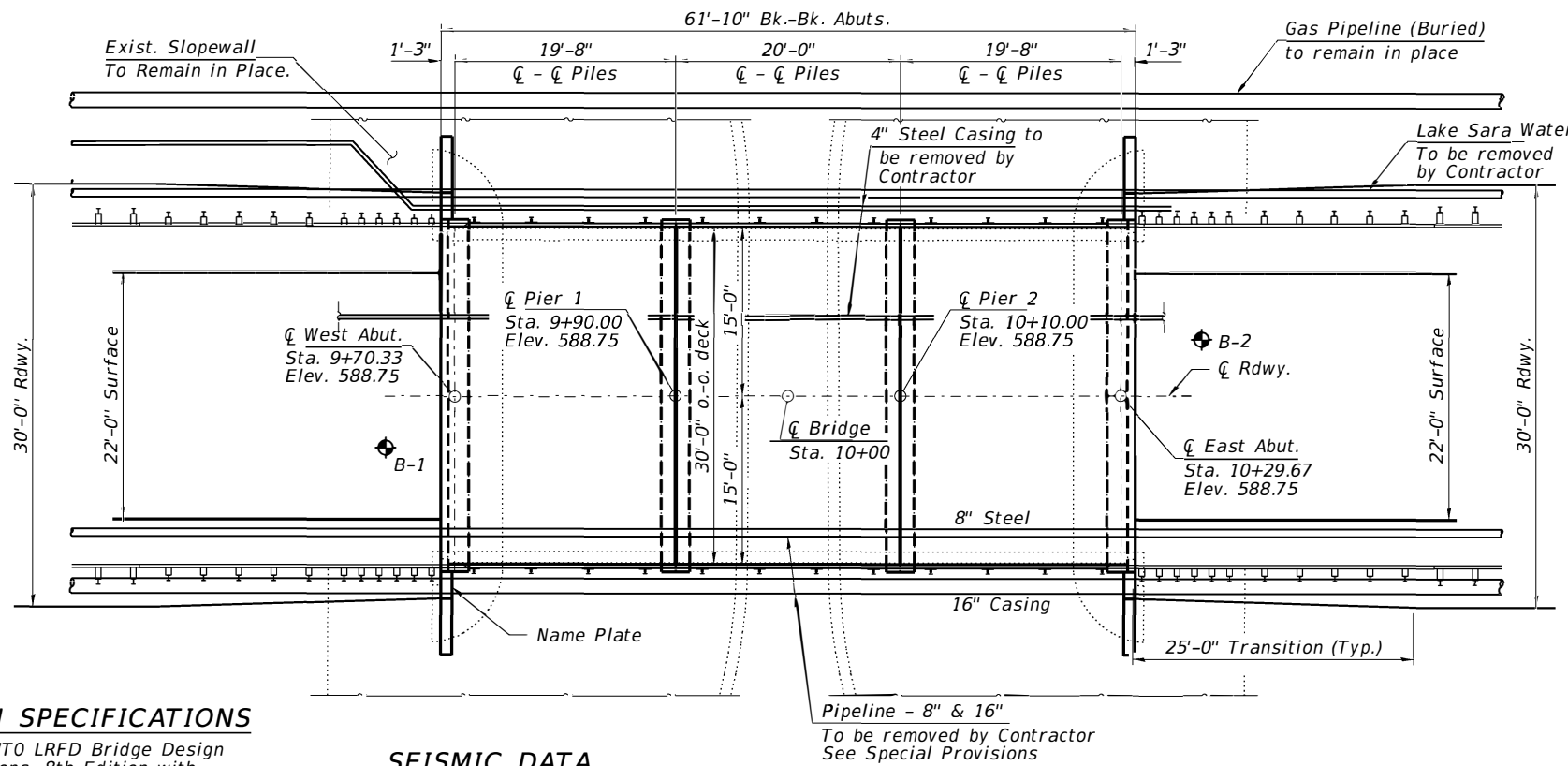
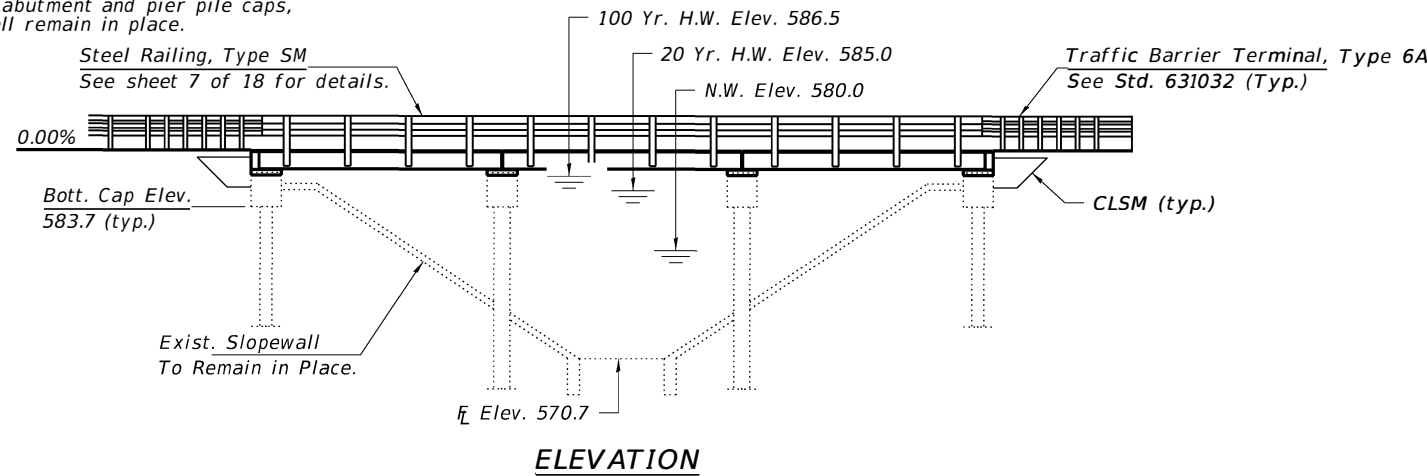


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HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62710 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	DRAWN - M.M.P.	REVISED -			1706	00-00080-00-BR	EFFINGHAM	29	6
PLOT DATE = 4/10/2020	CHECKED - S.W.M.	REVISED -	REVISED -			LAKE SARA BRIDGE		CONTRACT NO. 95524		ILLINOIS FED. AID PROJECT 1706(105)
DATE = 03/19/2020	REVISI	REVISI	REVISI			SCALE: 20H:5V	SHEET NO. 1 OF 1 SHEETS	STA. 7+00 TO STA. 13+00		

BENCHMARK: Chiseled "□" on S.W. Bearing Seat. Sta. 9+71, 20' Rt., Elev. 586.50

EXISTING STRUCTURE: Three Span Precast Concrete Deck Bridge on concrete abutment and pier caps with concrete encased piles, concrete wings & concrete slopewalls. 3 spans 19'-11", 19'-11", 19'-11", skew = 0°. Existing Structure No. 025-3013. Structure closed to traffic.

LIMITS OF REMOVAL: Superstructure beams, backwall wingwalls and railing to be removed. Existing abutment and pier pile caps, piling, no salvage. Slopewall shall remain in place.



GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
 All bars to be epoxy coated.
 Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
 All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
 The Contractor shall be responsible for removal of abandoned utility facilities as designated.
 Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

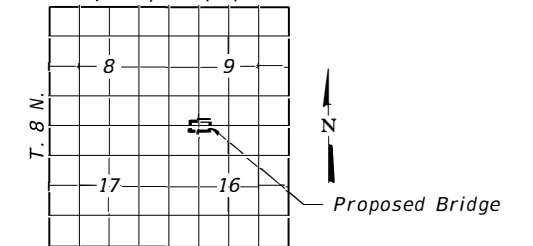
INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 17"x36" PPC Deck Beam Spans 1 & 3
3. 17"x36" PPC Deck Beam Details Spans 1 & 3
4. 17"x36" PPC Deck Beam Span 2
5. 17"x36" PPC Deck Beam Details Span 2
6. Superstructure Details
7. Steel Railing, Type SM
8. West Abutment
9. East Abutment
10. Pier 1
11. Pier 2
12. Borings
- 13-18. Existing Plans

LAKE SARA
 BUILT 202 BY
 EFFINGHAM COUNTY
 SEC. 00-00080-00-BR
 COUNTY HIGHWAY 6
 F.A. PROJ. 1706(104)
 STR. NO. 025-3013 LOADING HL-93

NAME PLATE

See Std. 515001
 R. 5 E., 3RD. P.M.



LOCATION SKETCH

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition with all interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
 fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
 f'ci = 5,000 psi
 fpu = 270,000 psi (1/2"Ø low lax. strands)
 fpbt = 201,960 psi (1/2"Ø low lax. strands)
 fy = 60,000 psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = B
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.087g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.297g
 Soil Site Class = D

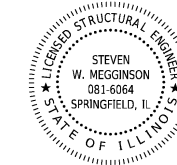
WATERWAY INFORMATION

Drainage Area = 3.3 Sq. Mi.		Existing Low Grade Elev. 588.4 at Sta. 9+00 Proposed Low Grade Elev. 588.4 at Sta. 9+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	20	1100	370	370	585.0 ^(D)	0.0	0.0	585.0	585.0
Base									
Overtopping									
Max. Calc.	100	1640	440	440	586.5 ^(D)	0.0	0.0	586.5	586.5

Water level of the lake is controlled by the dam spillway.

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 Specifications."

Steven W. Megginson 03/19/2020
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2020

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
HMA Surface Course, IL-9.5, Mix "C", N50	Ton	31		31
Removal of Existing Superstructures	Each			1
Concrete Removal	Cu. Yd.		10.2	10.2
Concrete Structures	Cu. Yd.		11.8	11.8
Precast Prestressed Conc. Deck Beams (17" Depth)	Sq. Ft.	1,810		1,810
Reinforcement Bars, Epoxy Coated	Pound		1,340	1,340
Steel Railing, Type SM	Foot	120		120
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.		30	30
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.		39	39

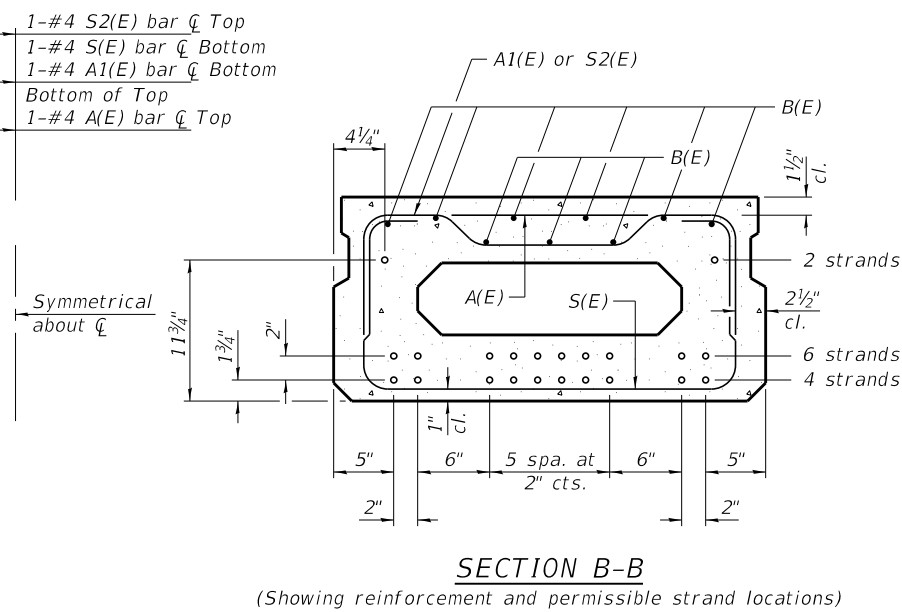
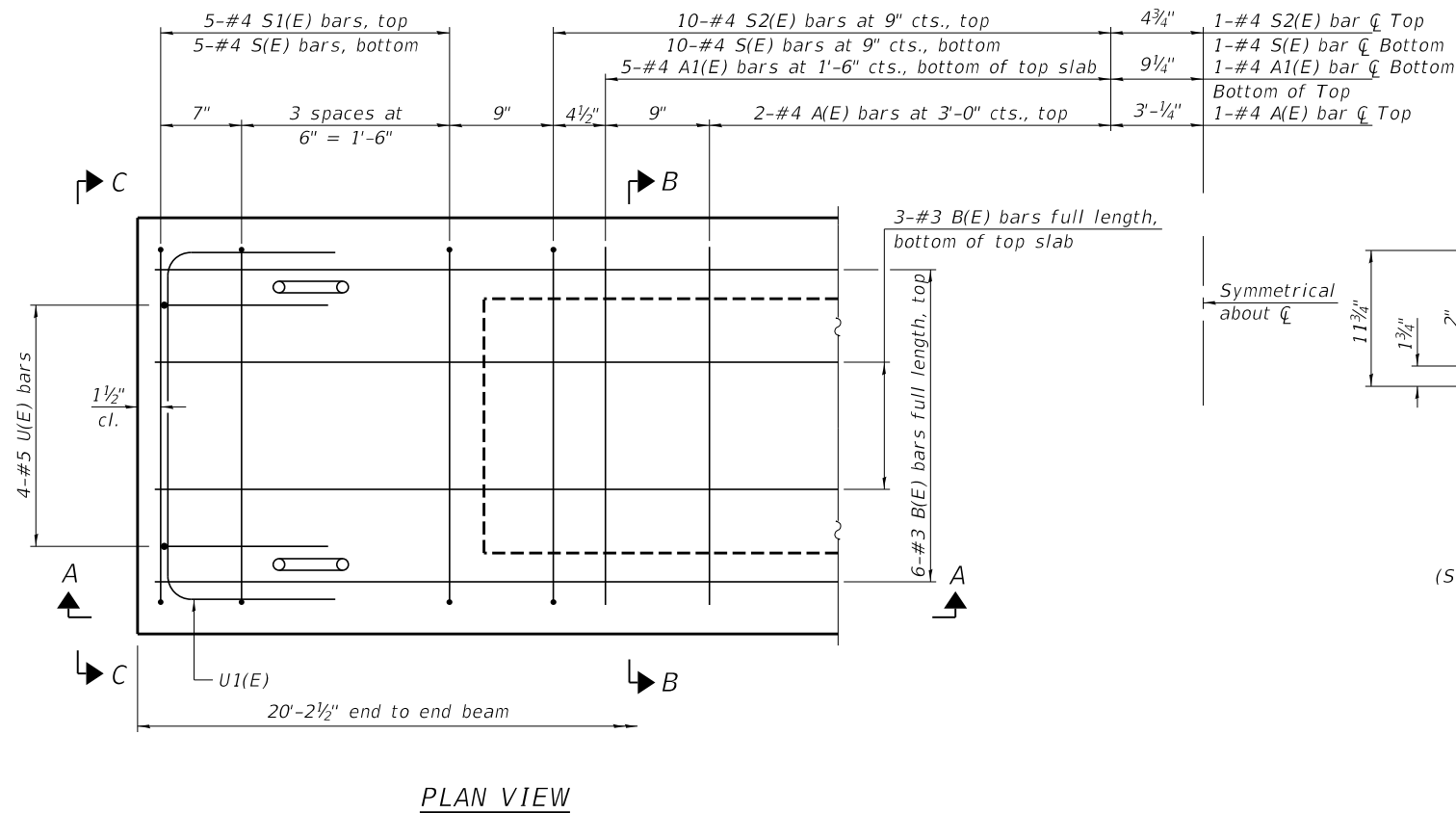
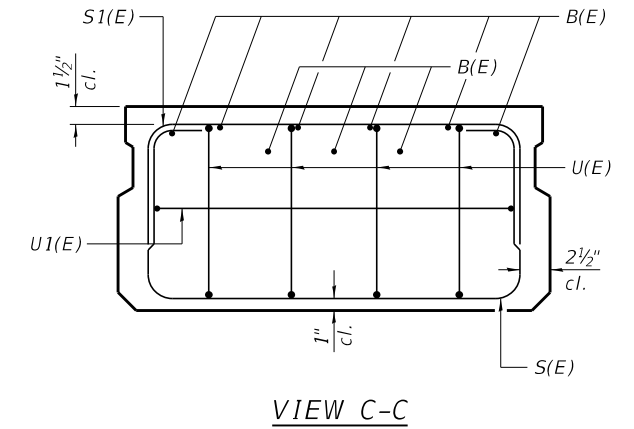
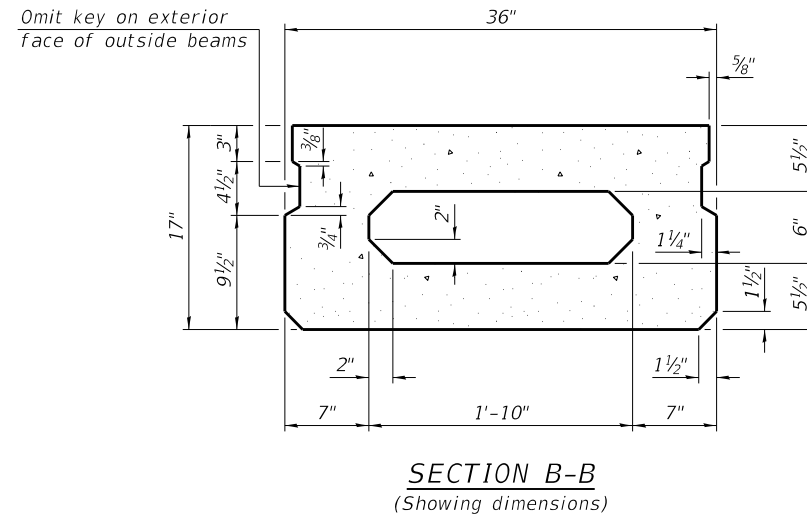
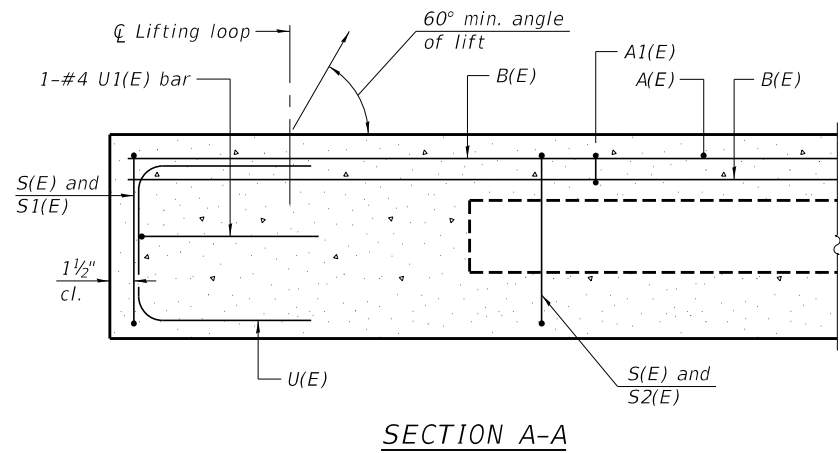
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PLOT DATE = 3/25/2020		DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
 EFFINGHAM COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 025-3013

SHEET NO. 1 OF 18 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	29	7
LAKE SARA BRIDGE		CONTRACT NO. 95524		
ILLINOIS		FED. AID PROJECT 1706(104)		



SECTION B-B
(Showing reinforcement and permissible strand locations)
Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	5	#4	2'-7"	—
A1(E)	11	#4	2'-10"	—
B(E)	18	#3	20'-0"	—
S(E)	31	#4	5'-9"	□
S1(E)	10	#4	4'-3"	□
S2(E)	21	#4	4'-6"	□
U(E)	8	#5	3'-8"	□
U1(E)	2	#4	5'-0"	□

Note:
See sheet 3 & 6 of 18 for additional details and Bill of Material.

Note:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

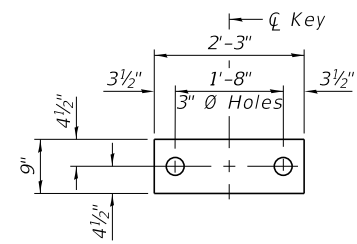
MINIMUM BAR LAP
#3 bar = 1'-6"

PD-1736-0

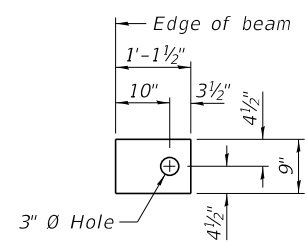
1-1-2020

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HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959	CHECKED - S.W.M.	REVISIONS	1706			00-00080-00-BR	EFFINGHAM	29	8	
PLOT SCALE = \$SCALE\$	DRAWN - R.D.H.	REVISIONS	LAKE SARA BRIDGE			CONTRACT NO. 95524				
PLOT DATE = 3/25/2020	CHECKED - S.W.M.	REVISIONS	SHEET NO. 2 OF 18 SHEETS							

ILLINOIS FED. AID PROJECT 1706(105)



FABRIC BEARING PAD
(Interior - 18 req'd)

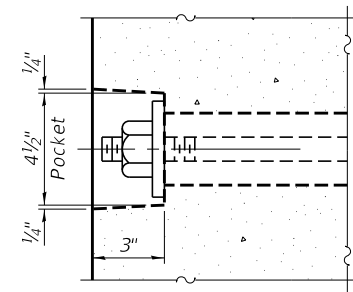


FABRIC BEARING PAD
(Exterior - 4 req'd)

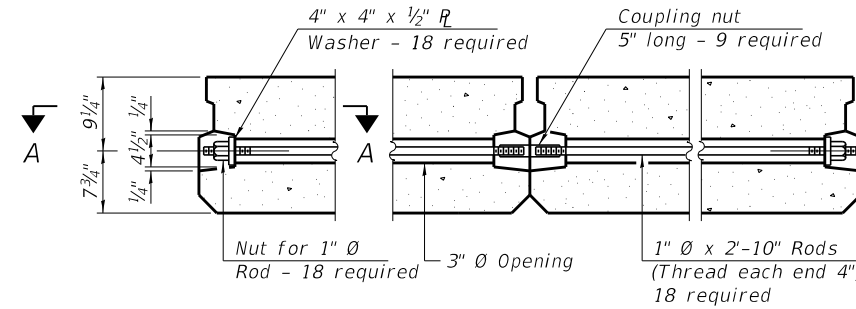
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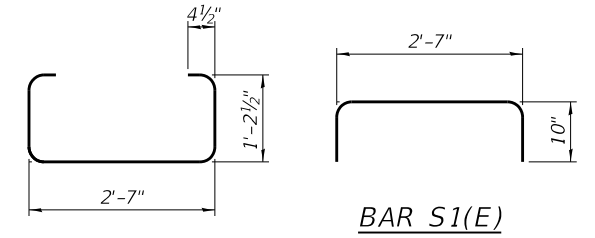
- All bearing pads shall be 1" thick.
- Omit holes when using expansion bearings.
- Expansion bearing pads shall be bonded to the substructure.



SECTION A-A

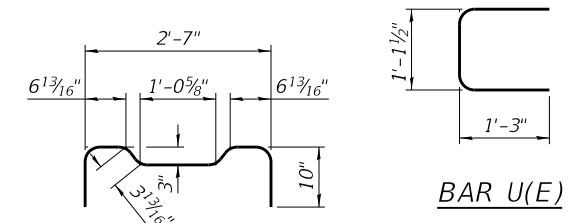


TYPICAL TRANSVERSE TIE ASSEMBLY



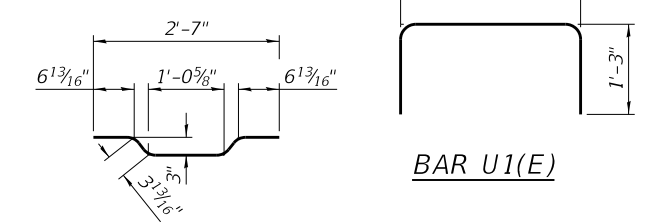
BAR S1(E)

BAR S(E)



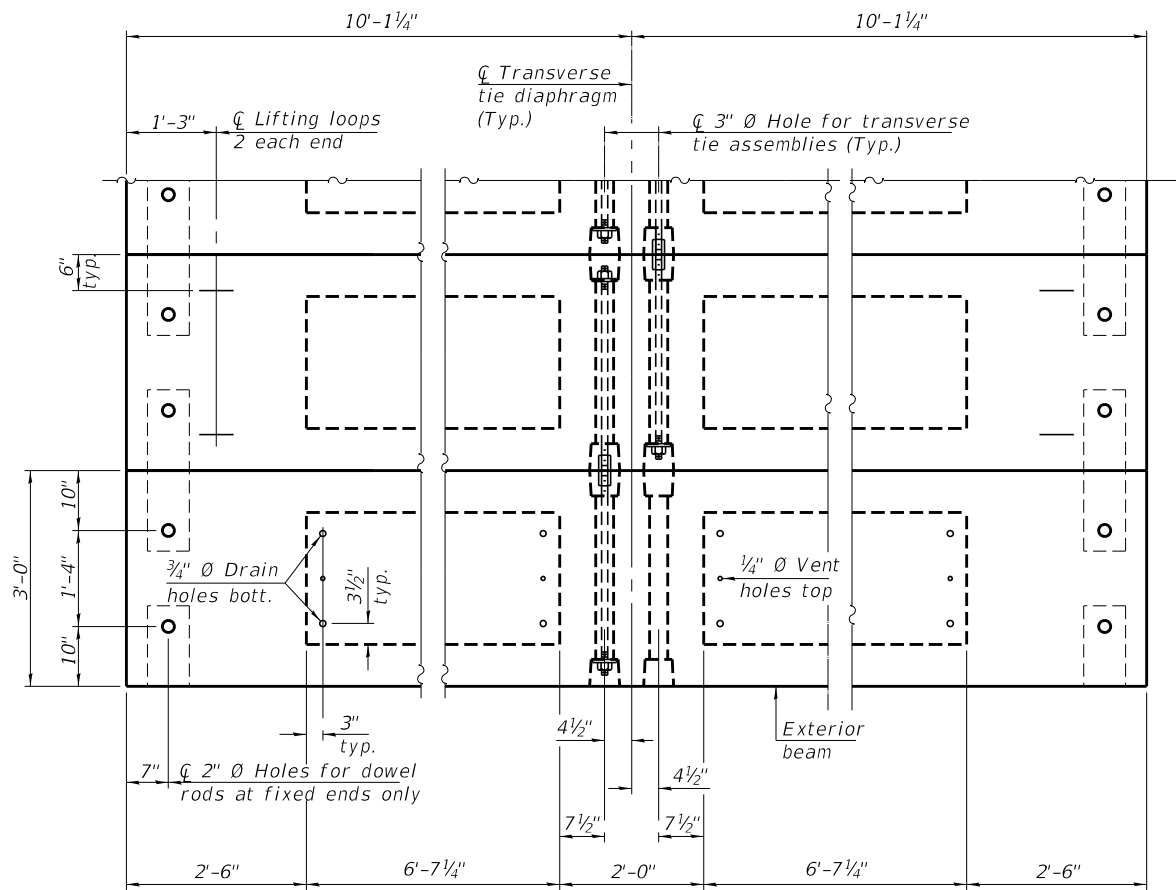
BAR U(E)

BAR S2(E)



BAR U1(E)

BAR A1(E)

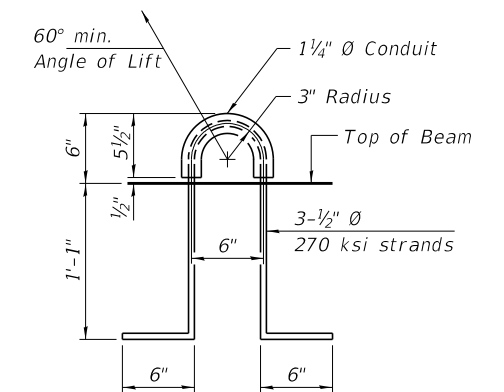


PLAN VIEW

Note:
Connect beams in pairs with the transverse tie configuration shown.

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- Reinforcement bars designated (E) shall be epoxy coated.



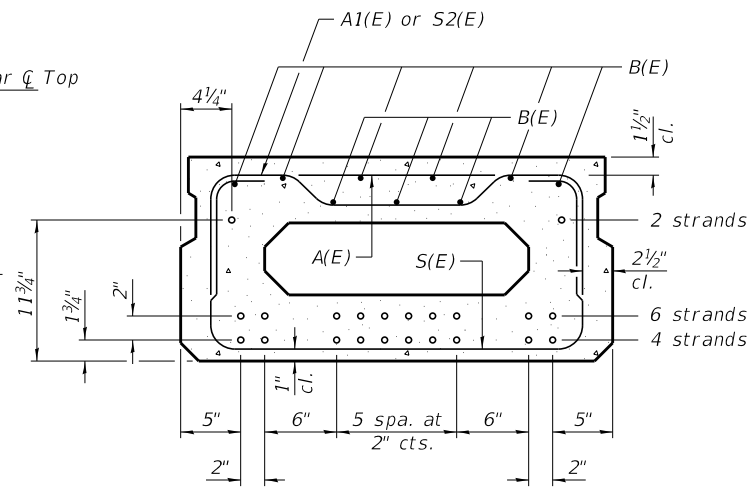
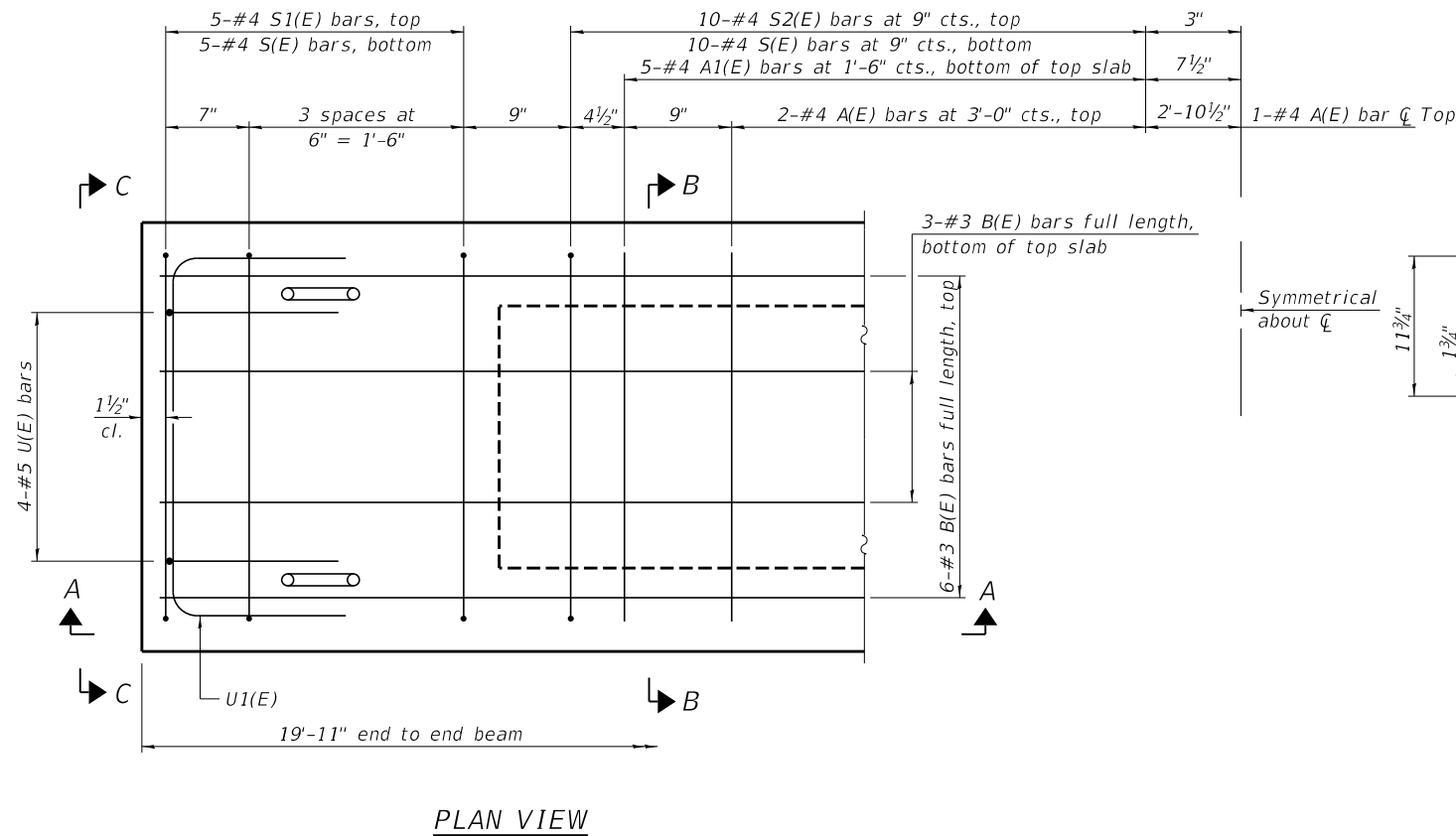
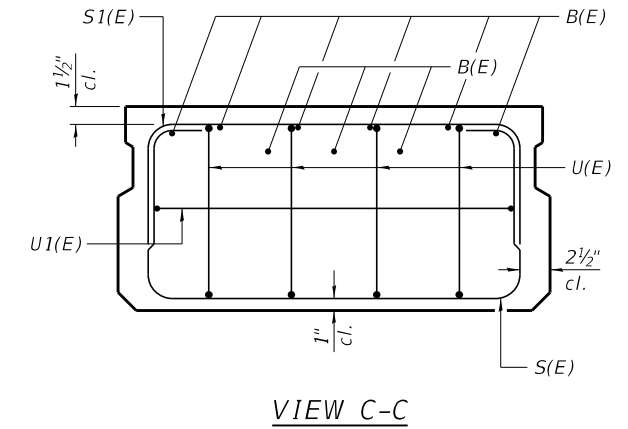
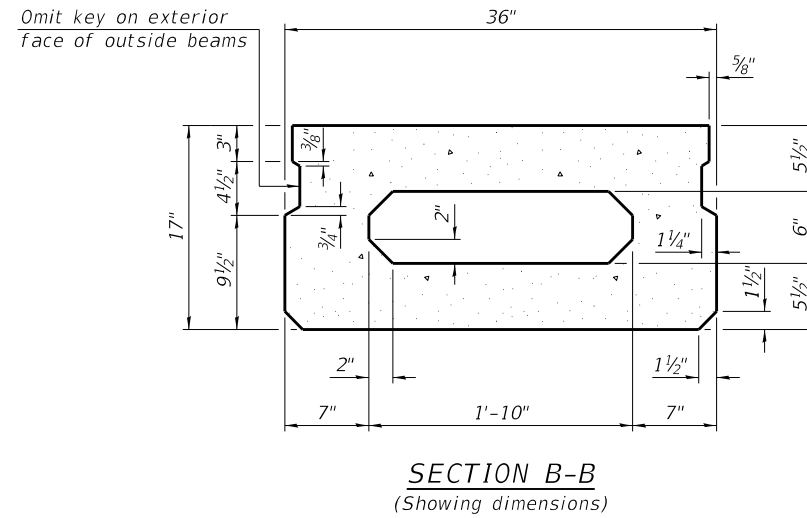
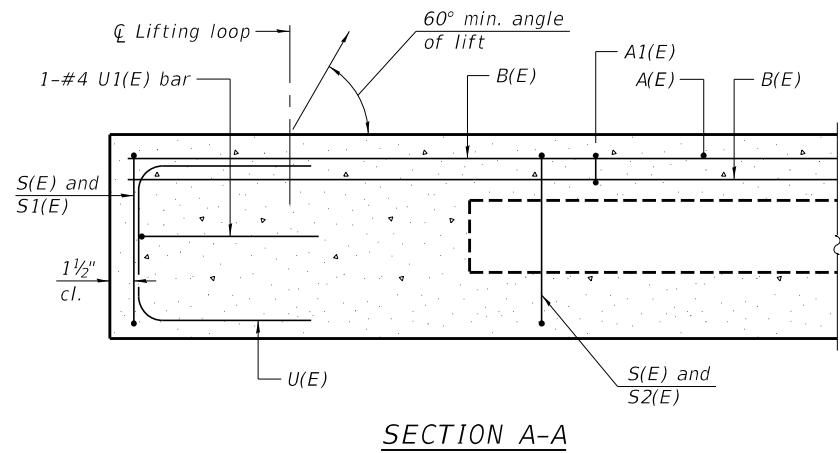
LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,212
Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N50	Ton	21

PDD-1736-0 1-1-2020

FILE NAME = 070305-shi-bridge.dgn	USER NAME = rthosck	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS EFFINGHAM COUNTY HIGHWAY DEPARTMENT	17" x 36" PPC DECK BEAM DETAILS SPANS 1 & 3 STRUCTURE NO. 025-3013	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			1706	00-00080-00-BR	EFFINGHAM	29	9	
	PLOT DATE = 3/25/2020	DRAWN - R.D.H.	REVISED -			LAKE SARA BRIDGE	CONTRACT NO. 95524				
		CHECKED - S.W.M.	REVISED -			SHEET NO. 3 OF 18 SHEETS					



SECTION B-B
(Showing reinforcement and permissible strand locations)
Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	5	#4	2'-7"	—
A1(E)	10	#4	2'-10"	—
B(E)	18	#3	19'-8"	—
S(E)	30	#4	5'-9"	⌈
S1(E)	10	#4	4'-3"	⌈
S2(E)	20	#4	4'-6"	⌈
U(E)	8	#5	3'-8"	⌈
U1(E)	2	#4	5'-0"	⌈

Note:
See sheet 5 & 6 of 18 for additional details and Bill of Material.

Note:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

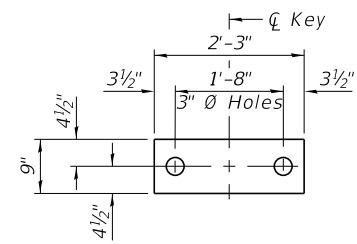
MINIMUM BAR LAP
#3 bar = 1'-6"

PD-1736-0

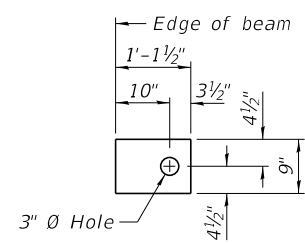
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HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959	CHECKED - S.W.M.	REVISIONS -	1706			00-00080-00-BR	EFFINGHAM	29	10	
PLOT SCALE = \$SCALE\$	DRAWN - R.D.H.	REVISIONS -	LAKE SARA BRIDGE			CONTRACT NO. 95524				
PLOT DATE = 3/25/2020	CHECKED - S.W.M.	REVISIONS -	ILLINOIS FED. AID PROJECT 1706(105)							

SHEET NO. 4 OF 18 SHEETS



FABRIC BEARING PAD
(Interior - 18 req'd)

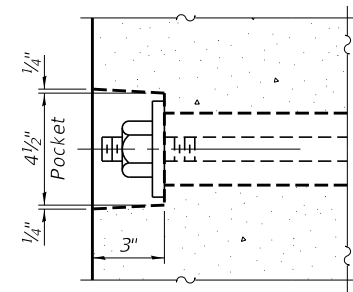


FABRIC BEARING PAD
(Exterior - 4 req'd)

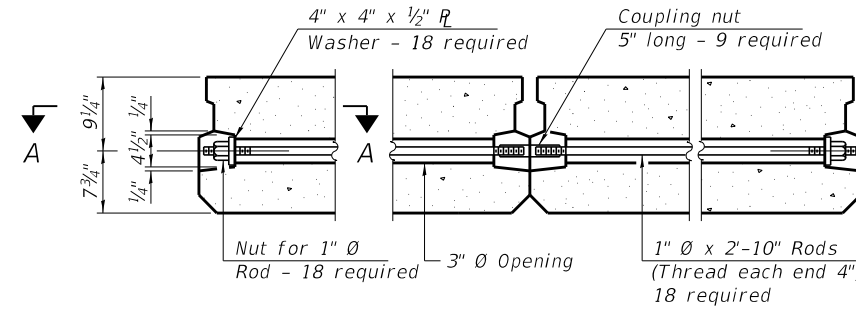
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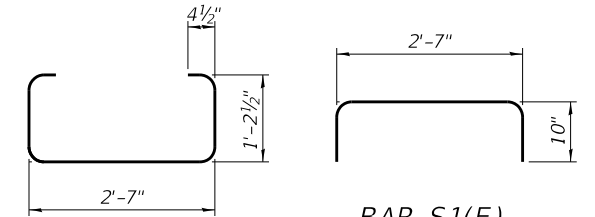
- All bearing pads shall be 1" thick.
- Omit holes when using expansion bearings.
- Expansion bearing pads shall be bonded to the substructure.



SECTION A-A

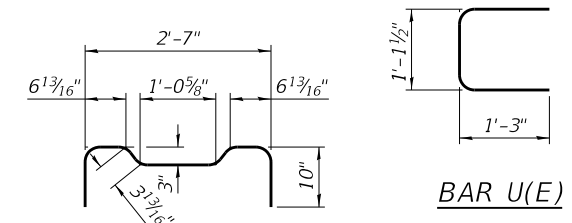


TYPICAL TRANSVERSE TIE ASSEMBLY

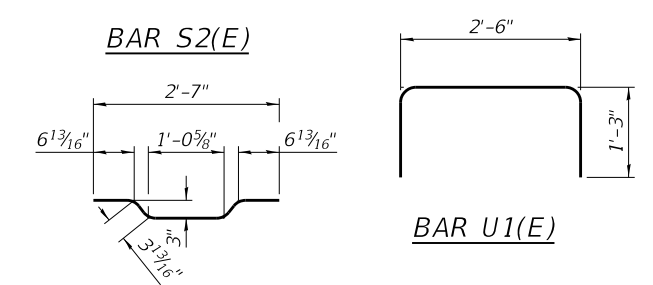


BAR S(E)

BAR S1(E)



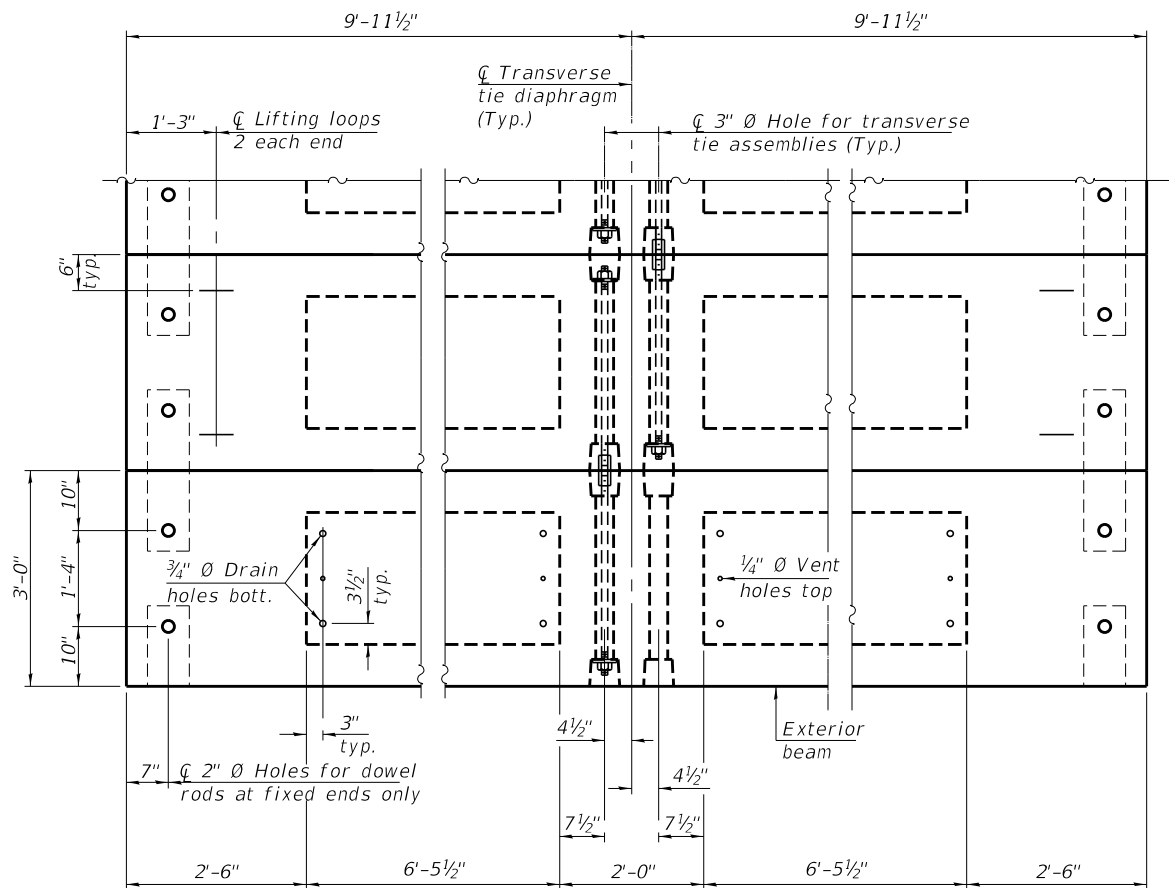
BAR U(E)



BAR S2(E)

BAR U1(E)

BAR A1(E)



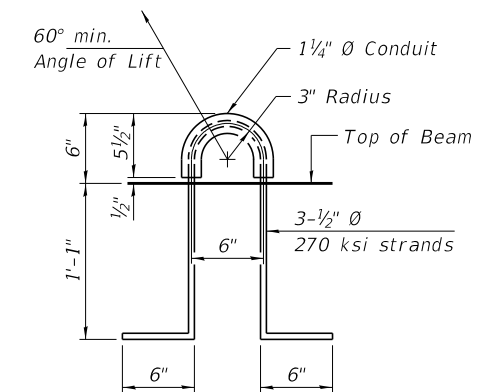
PLAN VIEW

Note:

- Connect beams in pairs with the transverse tie configuration shown.

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
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- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- Reinforcement bars designated (E) shall be epoxy coated.



LIFTING LOOP DETAIL

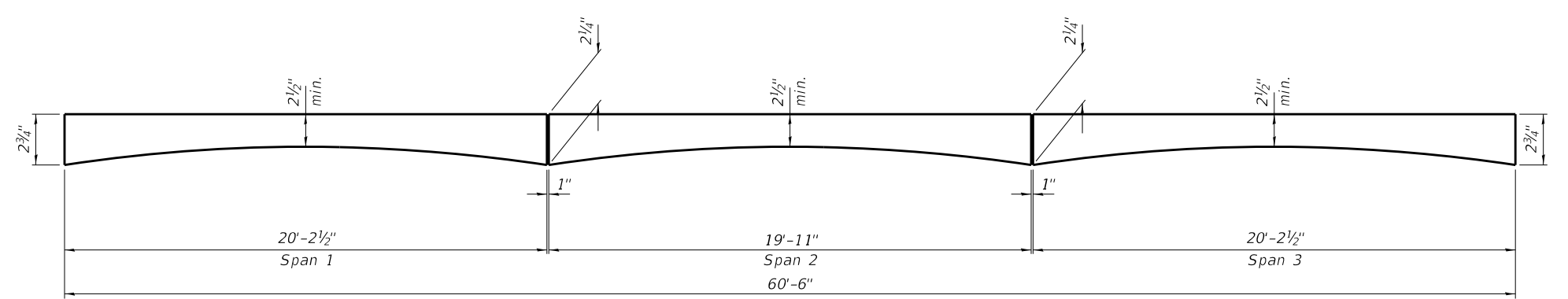
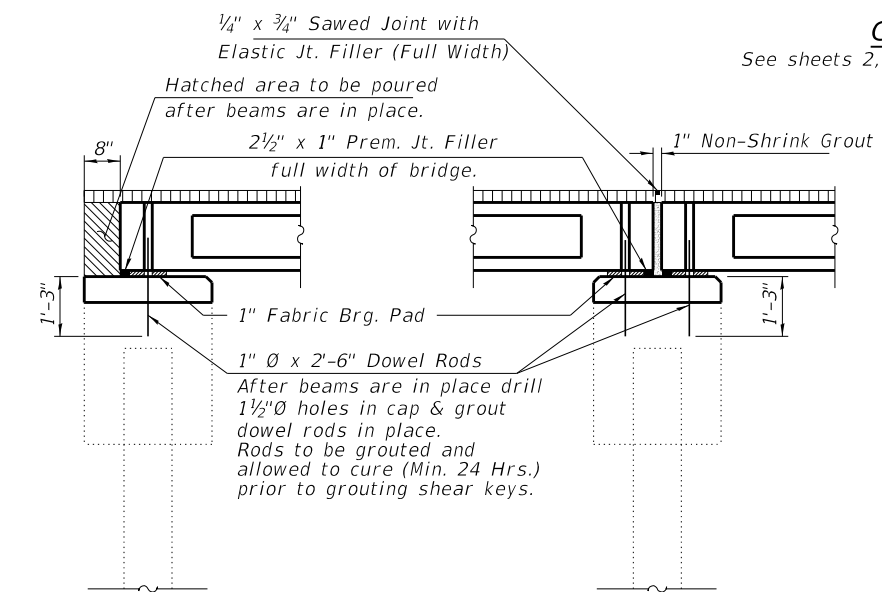
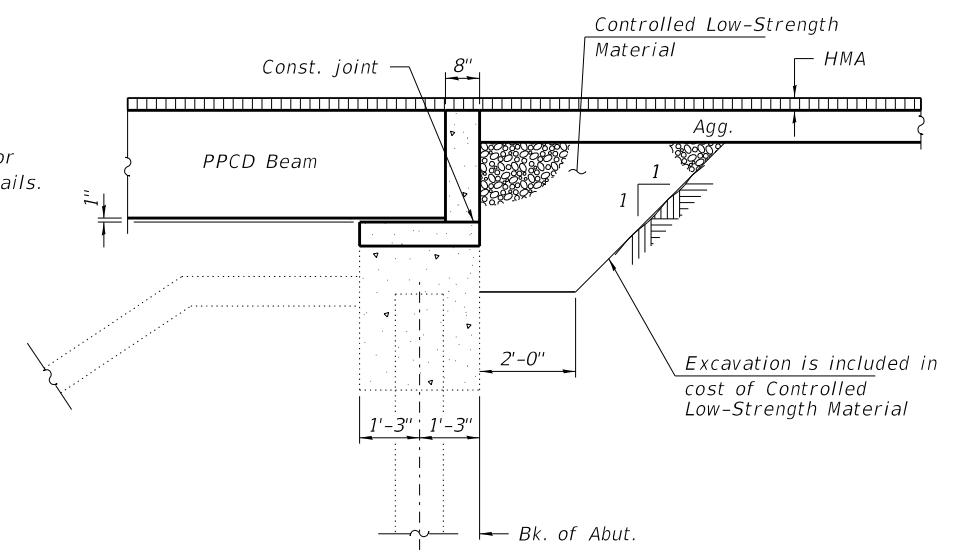
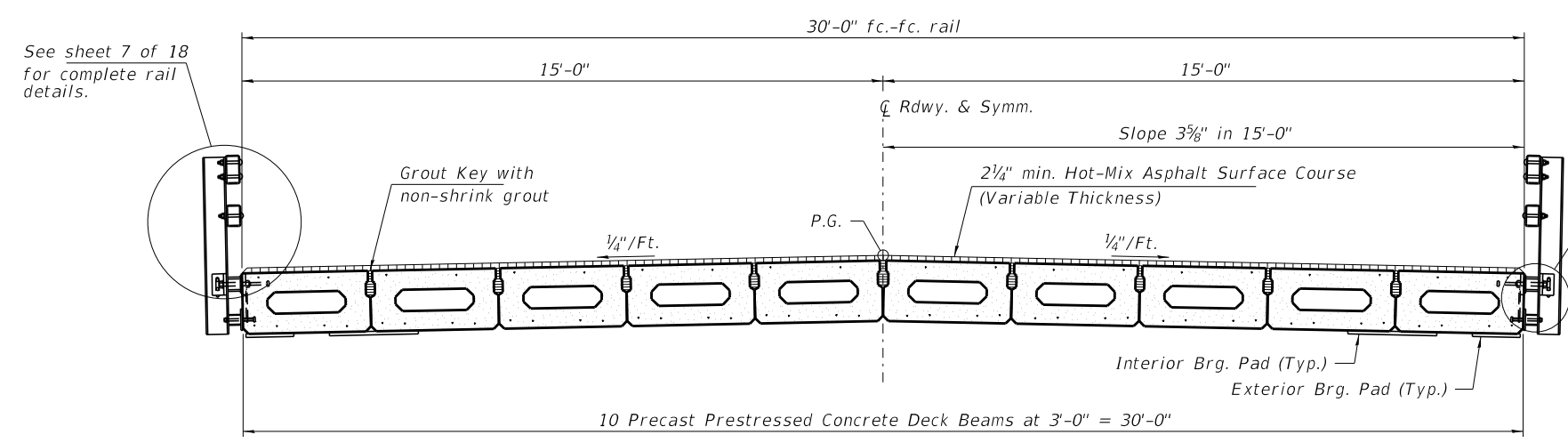
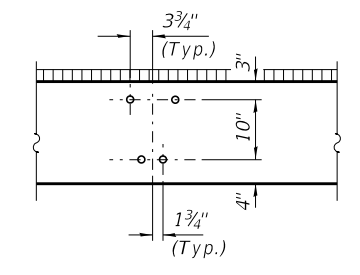
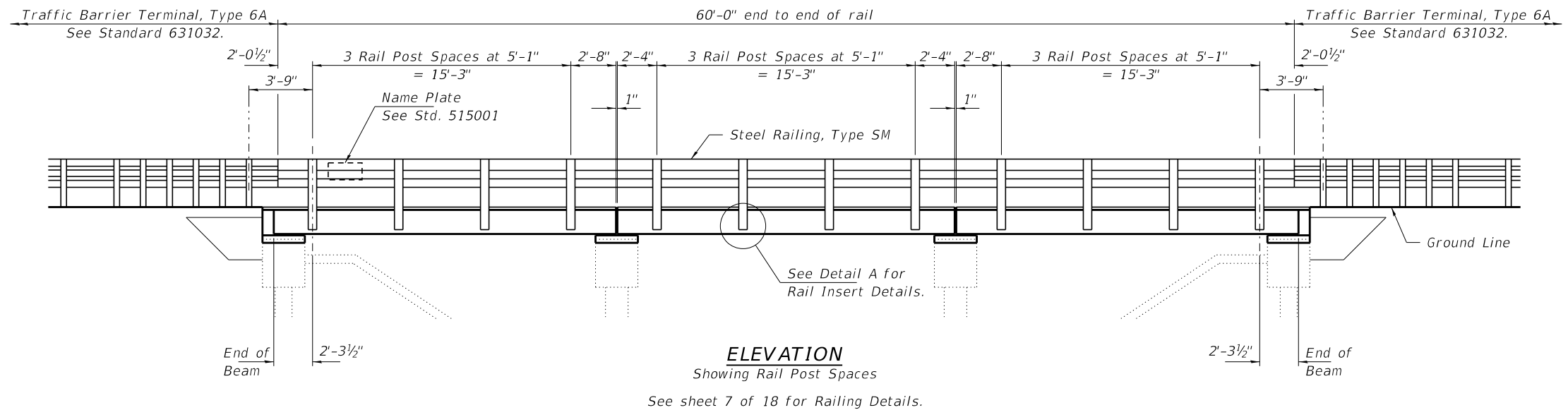
BILL OF MATERIAL

Material	Sq. Ft.	Quantity
Precast Prestressed Conc. Deck Bms. (17" depth)	598	
Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N50	10	

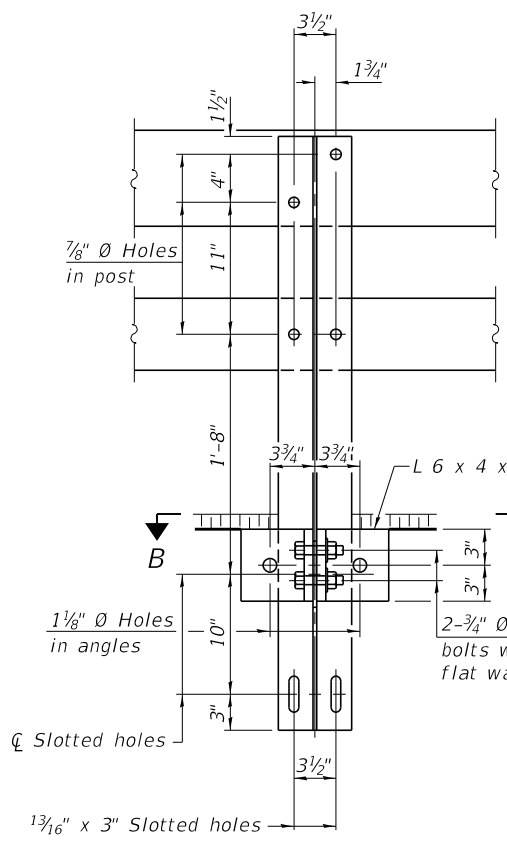
PDD-1736-0

1-1-2020

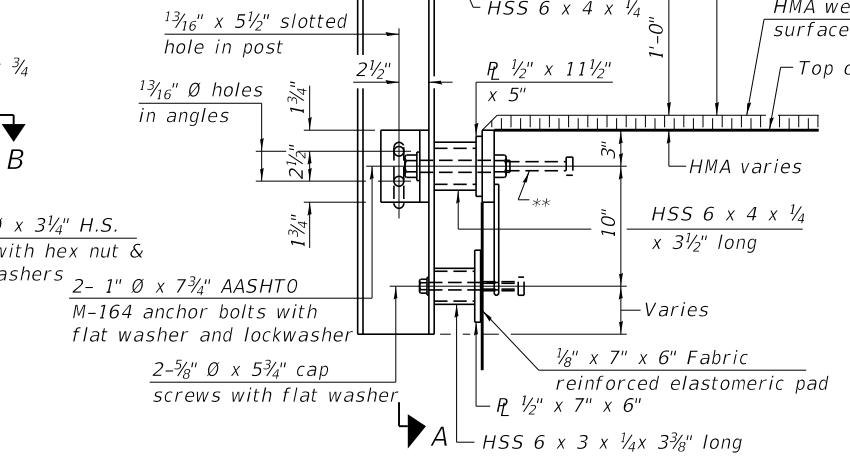
FILE NAME = 070305-shi-bridge.dgn	USER NAME = rthosck	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS EFFINGHAM COUNTY HIGHWAY DEPARTMENT	17" x 36" PPC DECK BEAM DETAILS SPAN 2 STRUCTURE NO. 025-3013	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			1706	00-00080-00-BR	EFFINGHAM	29	11	
	PLOT DATE = 3/25/2020	DRAWN - R.D.H.	REVISED -			LAKE SARA BRIDGE	CONTRACT NO. 95524				
		CHECKED - S.W.M.	REVISED -			SHEET NO. 5 OF 18 SHEETS					



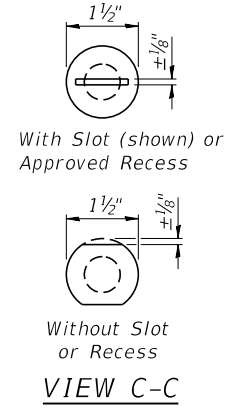
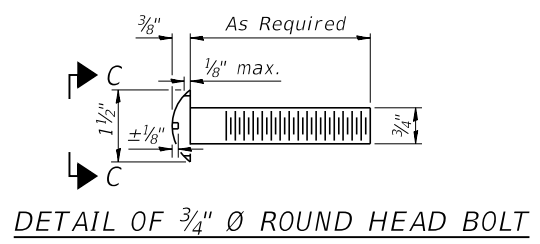
FILE NAME = 070305-shi-bridge.dgn	USER NAME = rthosck	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS EFFINGHAM COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 025-3013	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			1706	00-00080-00-BR	EFFINGHAM	29	12
PLOT DATE = 3/25/2020	DRAWN - R.D.H.	CHECKED - S.W.M.	REVISED -			LAKE SARA BRIDGE		CONTRACT NO. 95524		
						ILLINOIS		FED. AID PROJECT 1706(105)		



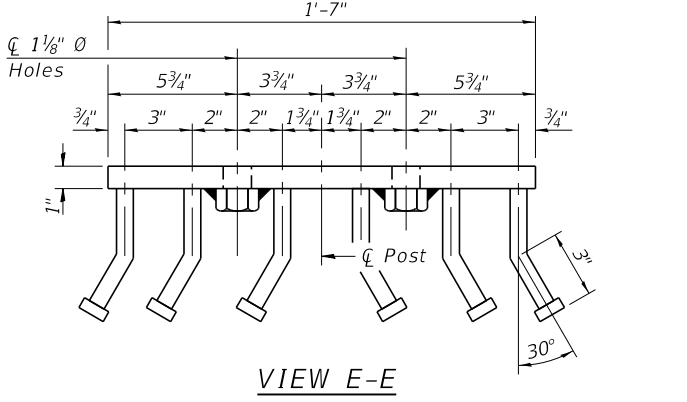
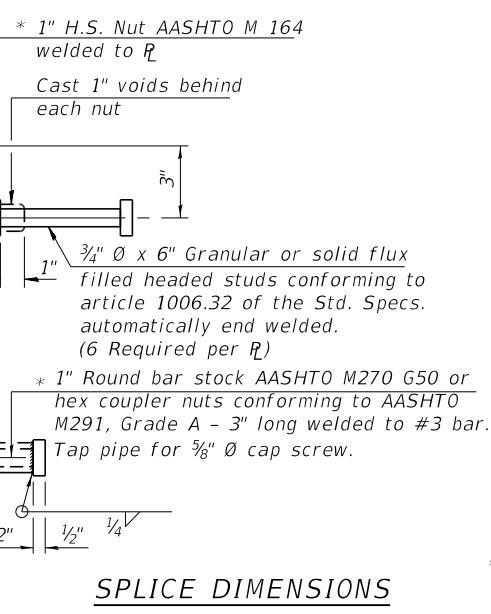
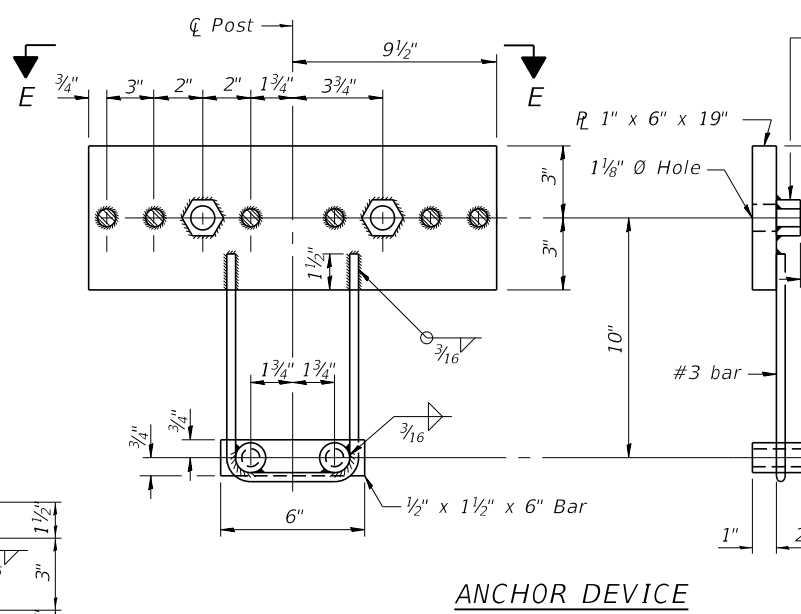
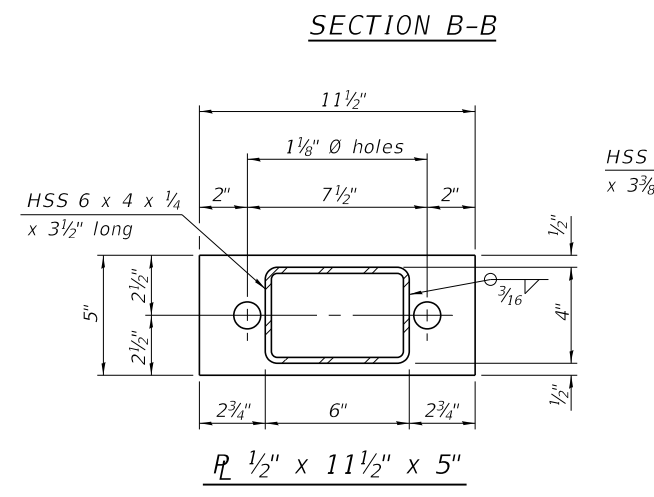
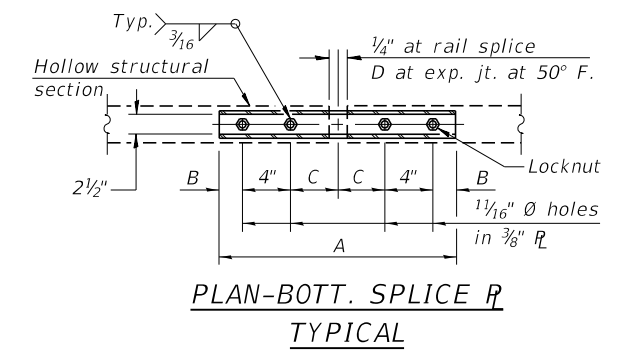
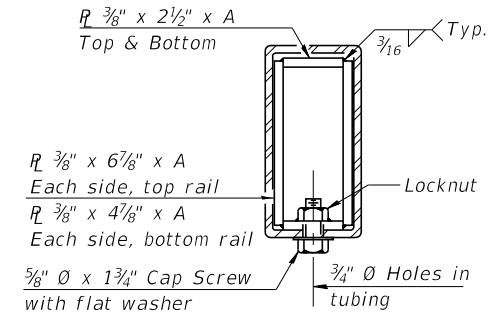
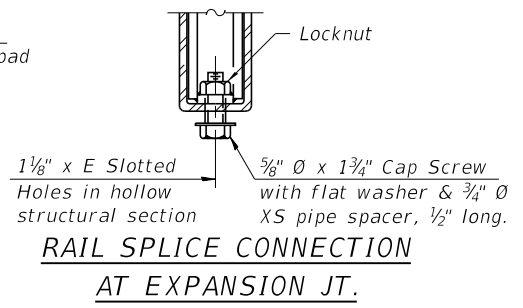
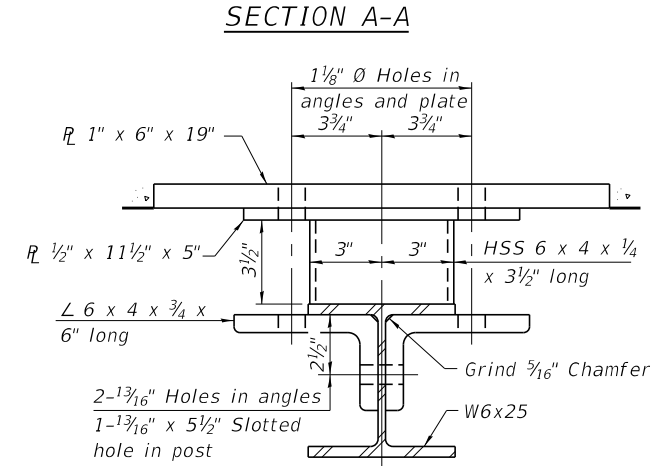
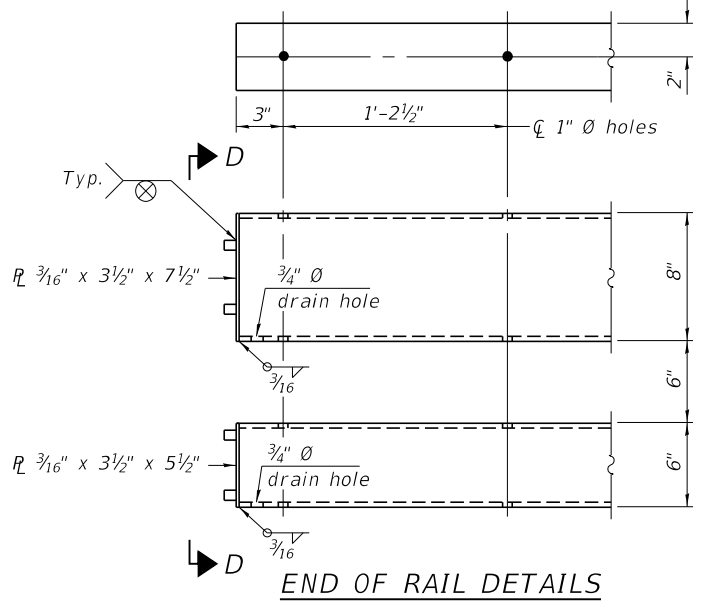
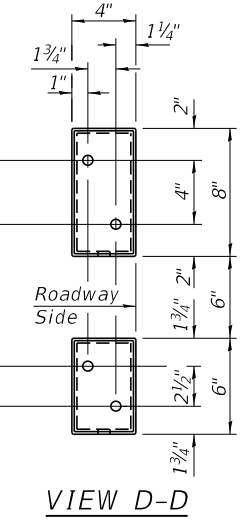
4- $\frac{3}{4}$ " \varnothing x 6" Round Head Bolts with locknut & flat washer.
 $\frac{7}{8}$ " \varnothing holes in hollow structural section may be drilled in the field.



Reinforcement bars in the top of the slab may be placed with a $\frac{1}{2}$ " minimum clearance in the area of the rail post anchor devices. The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



\varnothing $\frac{5}{8}$ " reduced base welded studs. Provide 4- $\frac{3}{8}$ " washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



T	D	A	B	C	E
$\leq 4"$	$2\frac{1}{2}"$	1'-8"	2"	4"	$2\frac{1}{2}"$
$> 4" \leq 6\frac{1}{2}"$	$3\frac{3}{4}"$	2'-0"	$2\frac{1}{2}"$	$5\frac{1}{2}"$	$3\frac{1}{2}"$
$> 6\frac{1}{2}" \leq 9"$	5"	2'-4"	$3\frac{1}{2}"$	$6\frac{1}{2}"$	9"
$> 9" \leq 13"$	7"	2'-10"	$4\frac{1}{2}"$	$8\frac{1}{2}"$	11"
Rail Splice	$\frac{1}{4}"$	1'-8"	2"	4"	

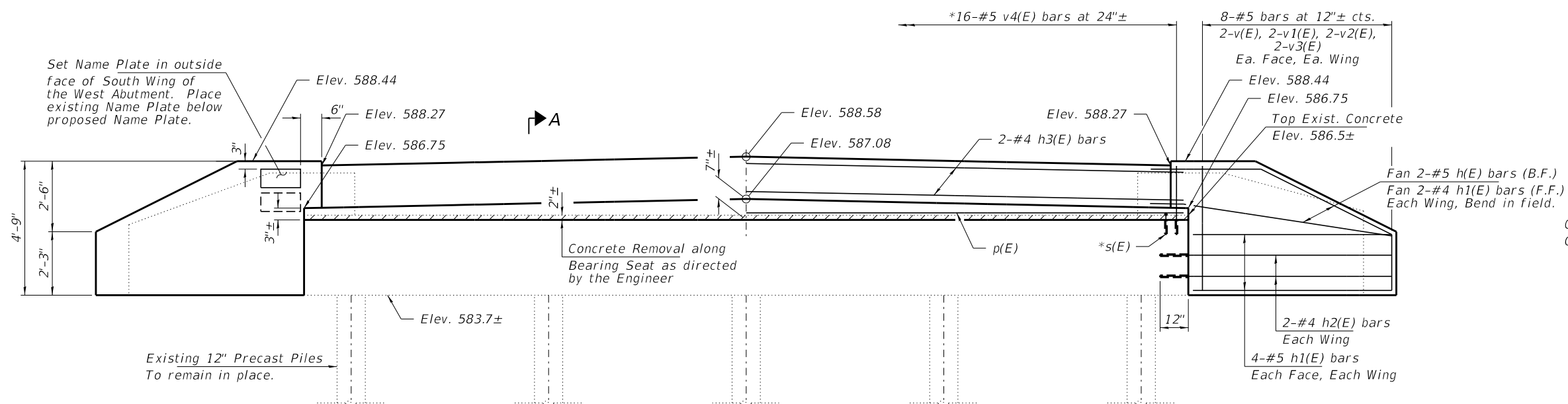
T = Total movement at expansion joint as shown on the design plans.

Notes:
 For multi-span bridges, sufficient $\frac{1}{4}$ " x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
 ** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down $\frac{1}{2}$ " to accommodate the top reinforcement bar placement.

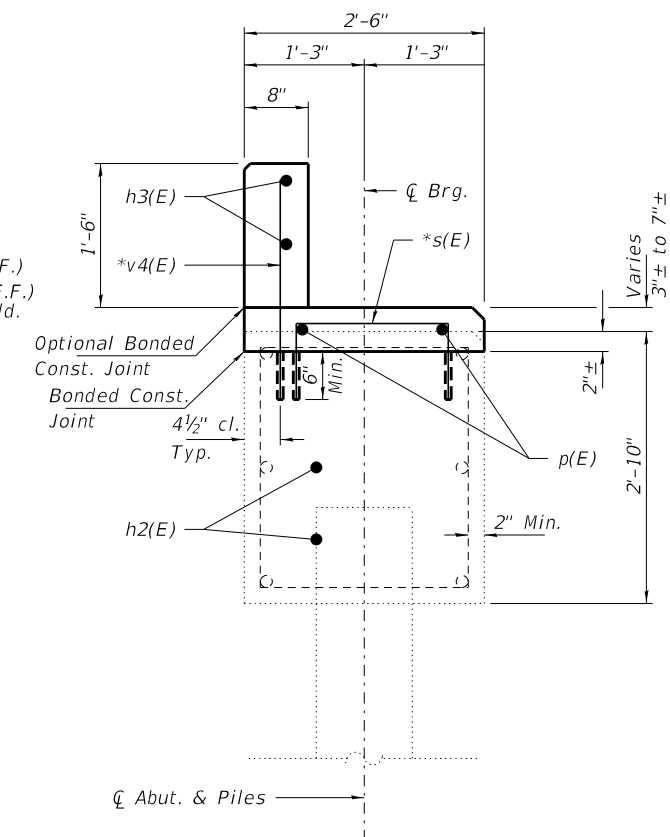
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	120

R-34HMAWS 8-11-2017 (6'-3" Maximum Post Spacing) ($\frac{1}{4}$ " minimum to $\frac{3}{8}$ " maximum HMA thickness)

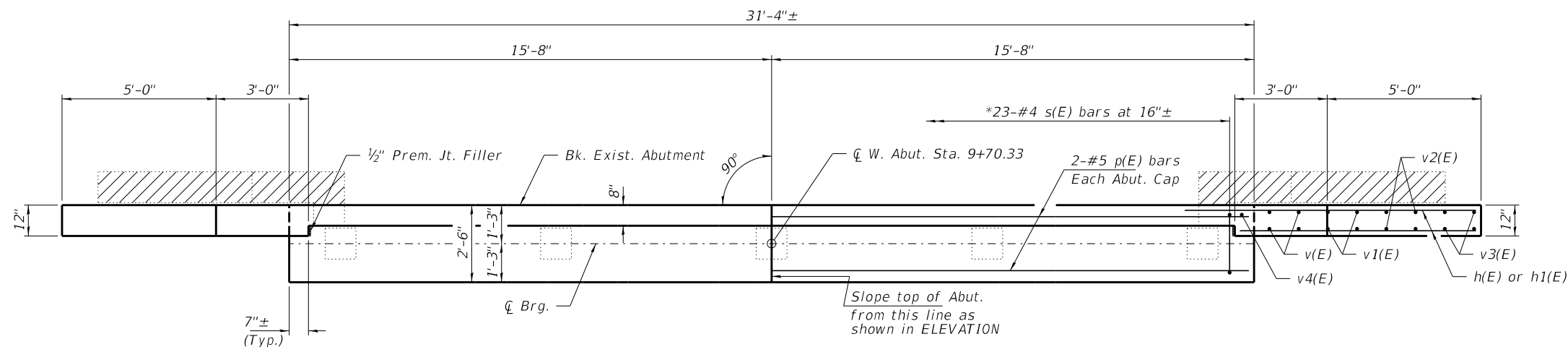


ELEVATION

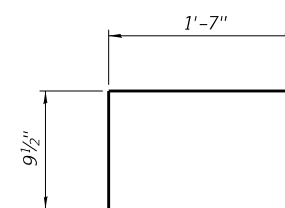


SECTION A-A

*Drill 3/4"Ø x 6" (Min.) hole. Epoxy grout s(E) and v(E) bars 6" min. into concrete. Use epoxy grout approved by the Department or in accordance with Section 542 of the Standard Specifications. Material and method of grout shall be approved by the Engineer.



PLAN

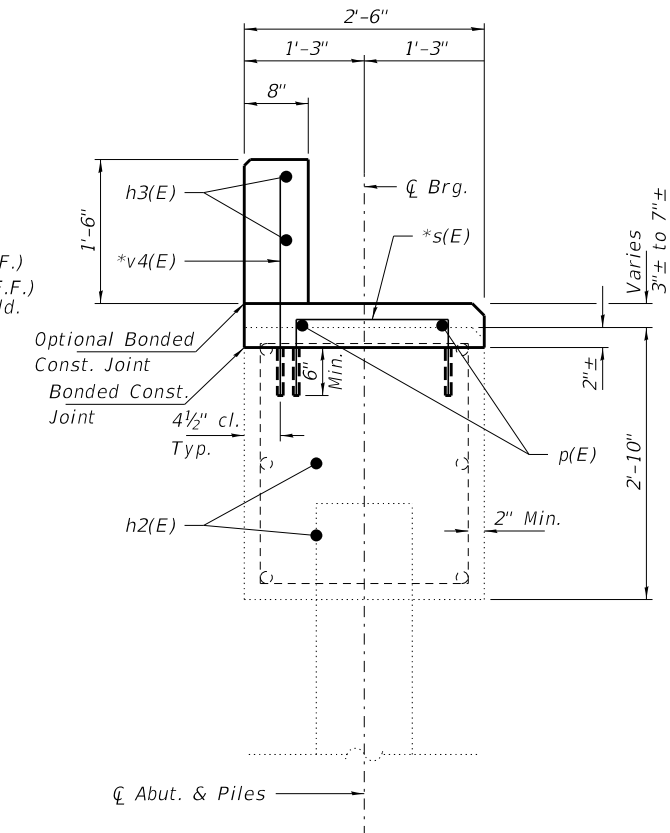
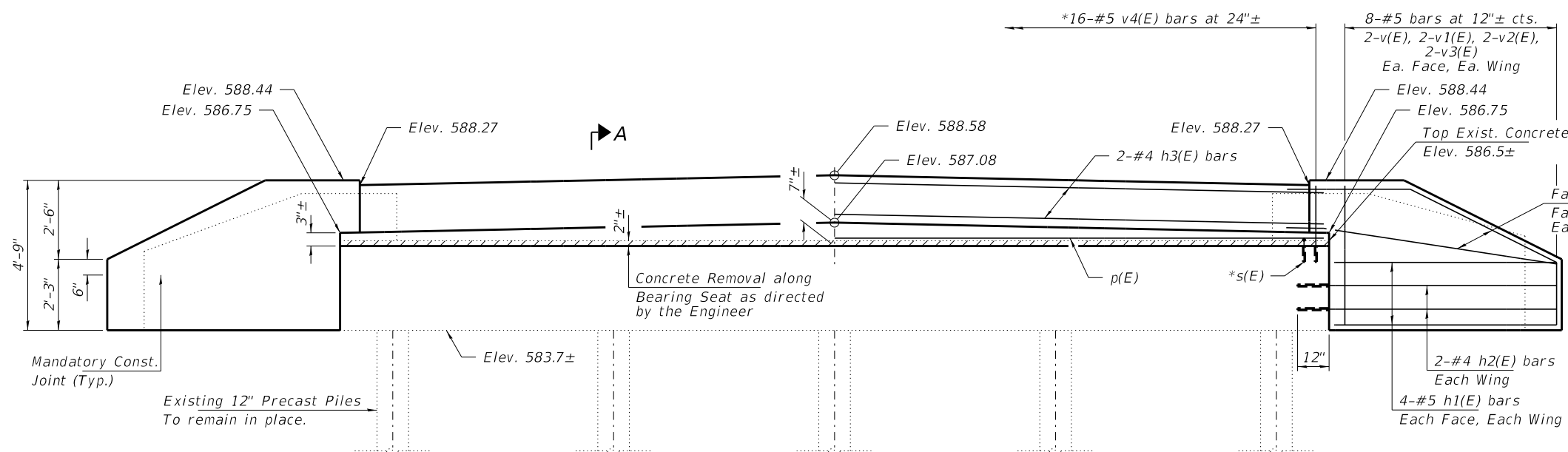


BAR S(E)

Hatched area indicates Concrete Removal

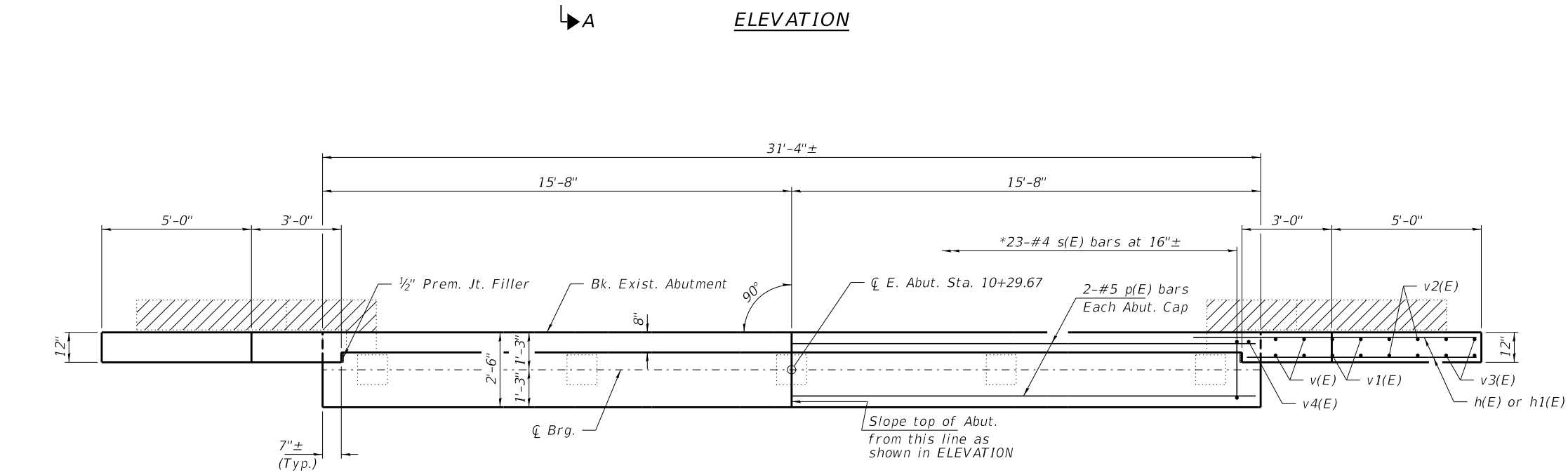
BILL OF MATERIAL - W. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	4	#5	9'-3"	—
h1(E)	20	#5	7'-0"	—
h2(E)	4	#5	8'-0"	—
h3(E)	2	#5	31'-0"	—
p(E)	2	#5	31'-0"	—
s(E)	23	#4	3'-2"	□
v(E)	8	#5	4'-5"	—
v1(E)	8	#5	3'-10"	—
v2(E)	8	#5	2'-11"	—
v3(E)	8	#5	1'-11"	—
v4(E)	16	#5	2'-5"	—
Concrete Structures			Cu. Yd.	4.8
Concrete Removal			Cu. Yd.	4.3
Reinf. Bars, Epoxy Coated			Pound	550

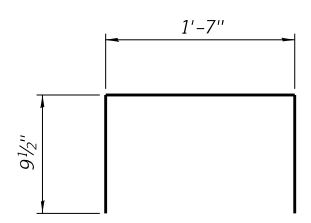


*Drill 3/4"Ø x 6" (Min.) hole. Epoxy grout s(E) and v(E) bars 6" min. into concrete. Use epoxy grout approved by the Department or in accordance with Section 542 of the Standard Specifications. Material and method of grout shall be approved by the Engineer.

SECTION A-A



PLAN



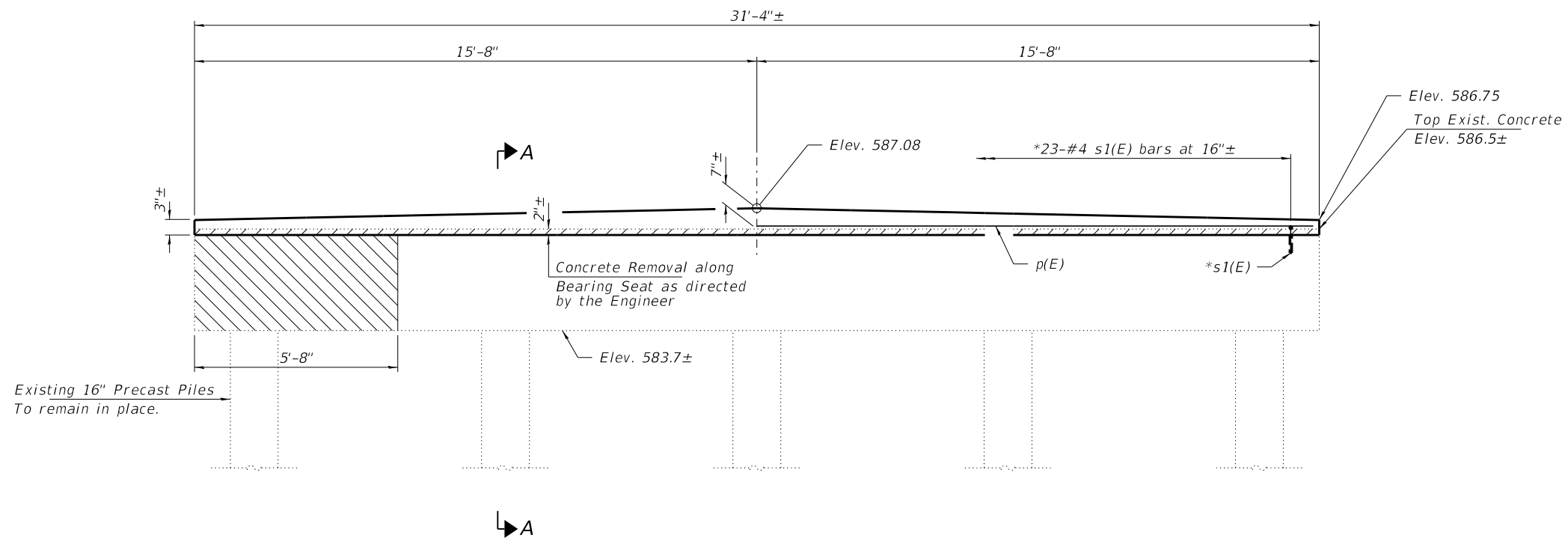
BAR S(E)

Hatched area indicates Concrete Removal

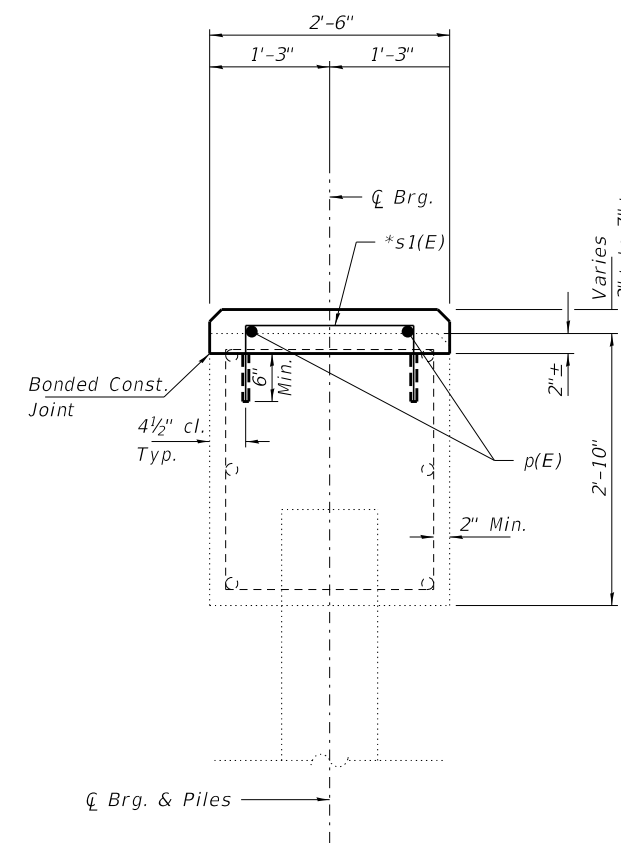
BILL OF MATERIAL - E. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	4	#5	9'-3"	—
h1(E)	20	#5	7'-0"	—
h2(E)	4	#5	8'-0"	—
h3(E)	2	#5	31'-0"	—
p(E)	2	#5	31'-0"	—
s(E)	23	#4	3'-2"	□
v(E)	8	#5	4'-5"	—
v1(E)	8	#5	3'-10"	—
v2(E)	8	#5	2'-11"	—
v3(E)	8	#5	1'-11"	—
v4(E)	16	#5	2'-5"	—

Concrete Structures	Cu. Yd.	4.8
Concrete Removal	Cu. Yd.	4.3
Reinf. Bars, Epoxy Coated	Pound	550

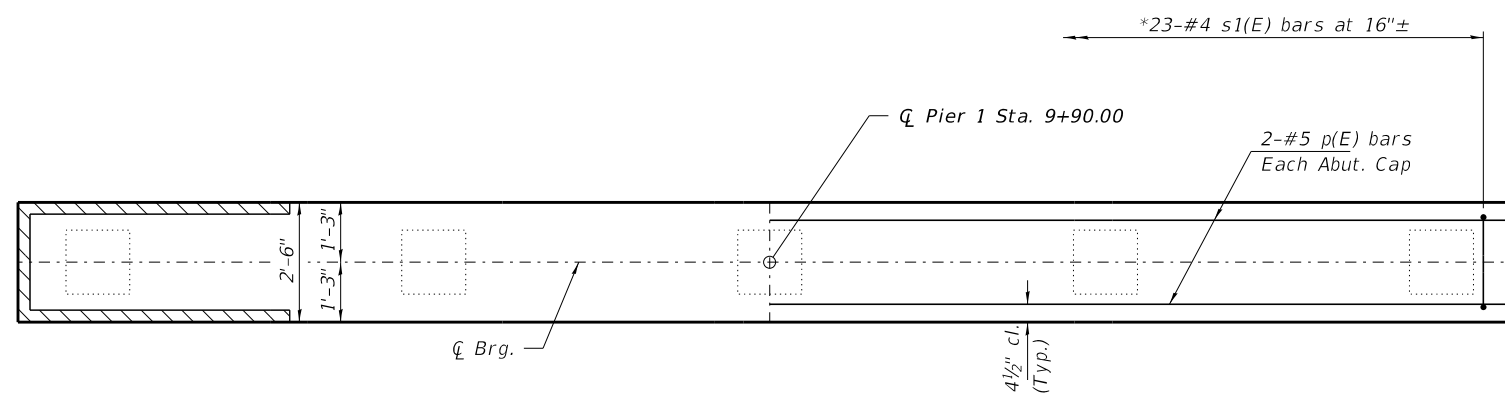


ELEVATION

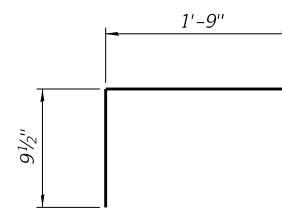


SECTION A-A

*Drill 3/4"Ø x 6" (Min.) hole. Epoxy grout s1(E) bars 6" min. into concrete. Use epoxy grout approved by the Department or in accordance with Section 542 of the Standard Specifications. Material and method of grout shall be approved by the Engineer.



PLAN

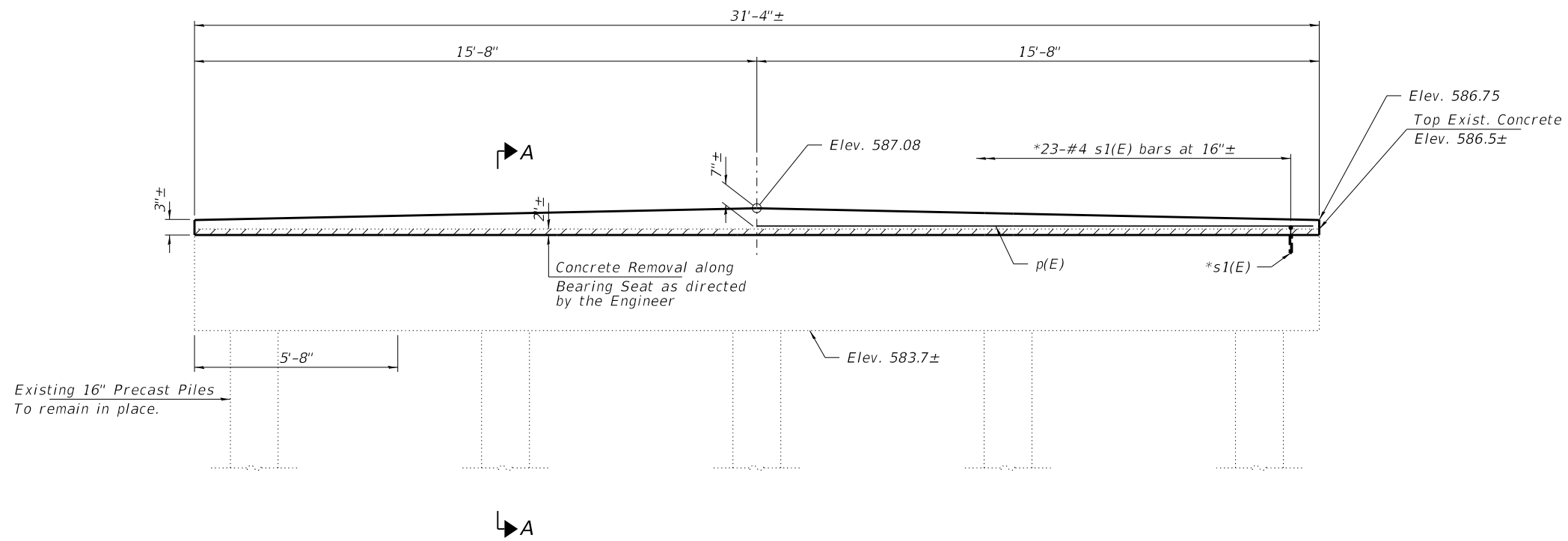


BAR S1(E)

- Hatched area indicates Concrete Removal
- Hatched area indicates Structural Repair of Concrete (Depth ≤ 5")

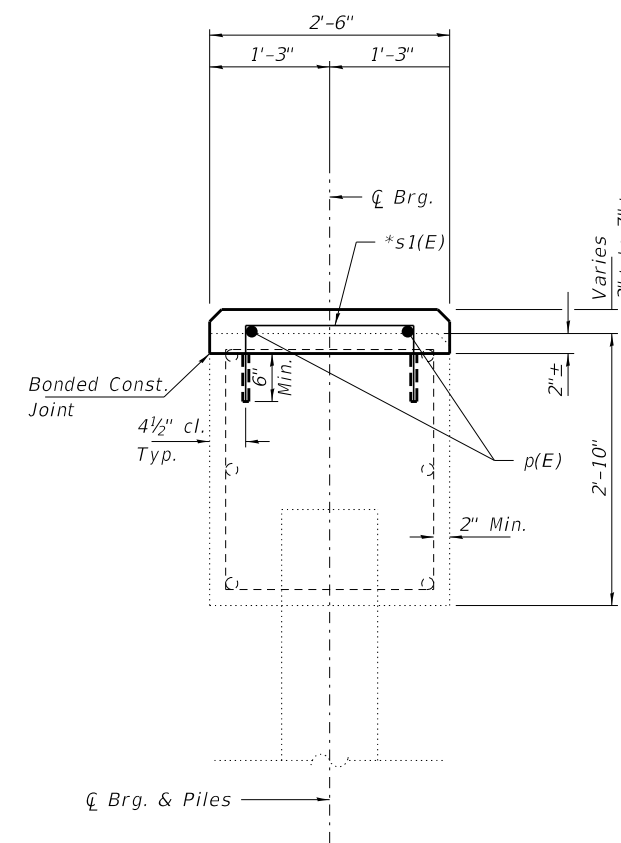
BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
p(E)	2	#5	31'-0"	—
s1(E)	23	#4	3'-4"	□
Concrete Structures			Cu. Yd.	1.1
Concrete Removal			Cu. Yd.	0.8
Reinf. Bars, Epoxy Coated			Pound	120
Structural Repair of Concrete (Depth ≤ 5")			Sq. Ft.	39



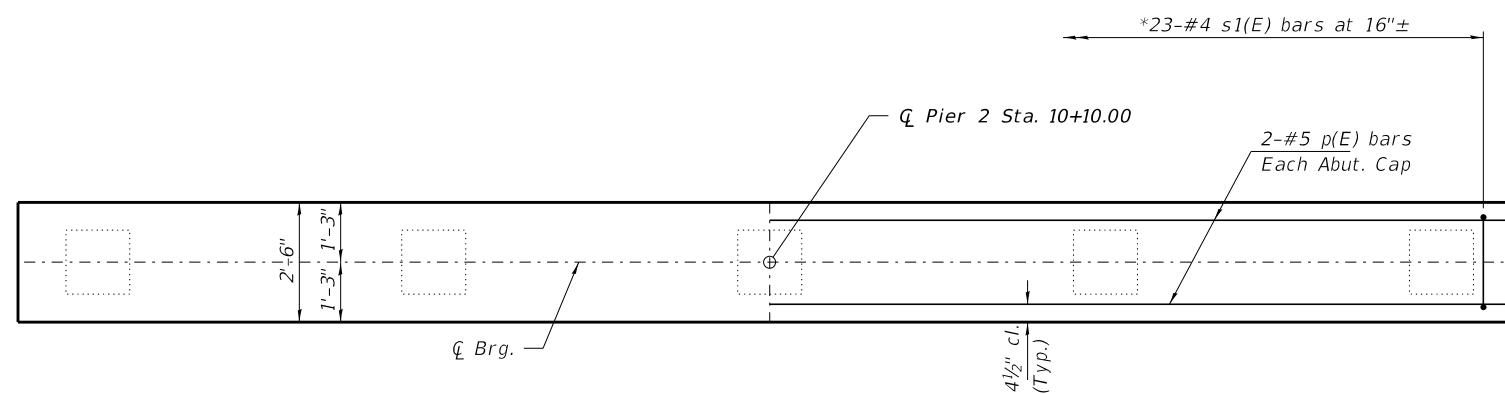
ELEVATION

Existing 16" Precast Piles
To remain in place.

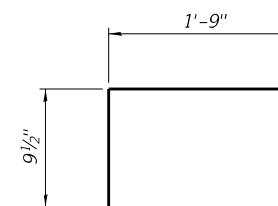


SECTION A-A

*Drill 3/4"Ø x 6" (Min.) hole. Epoxy grout s1(E) bars 6" min. into concrete. Use epoxy grout approved by the Department or in accordance with Section 542 of the Standard Specifications. Material and method of grout shall be approved by the Engineer.



PLAN

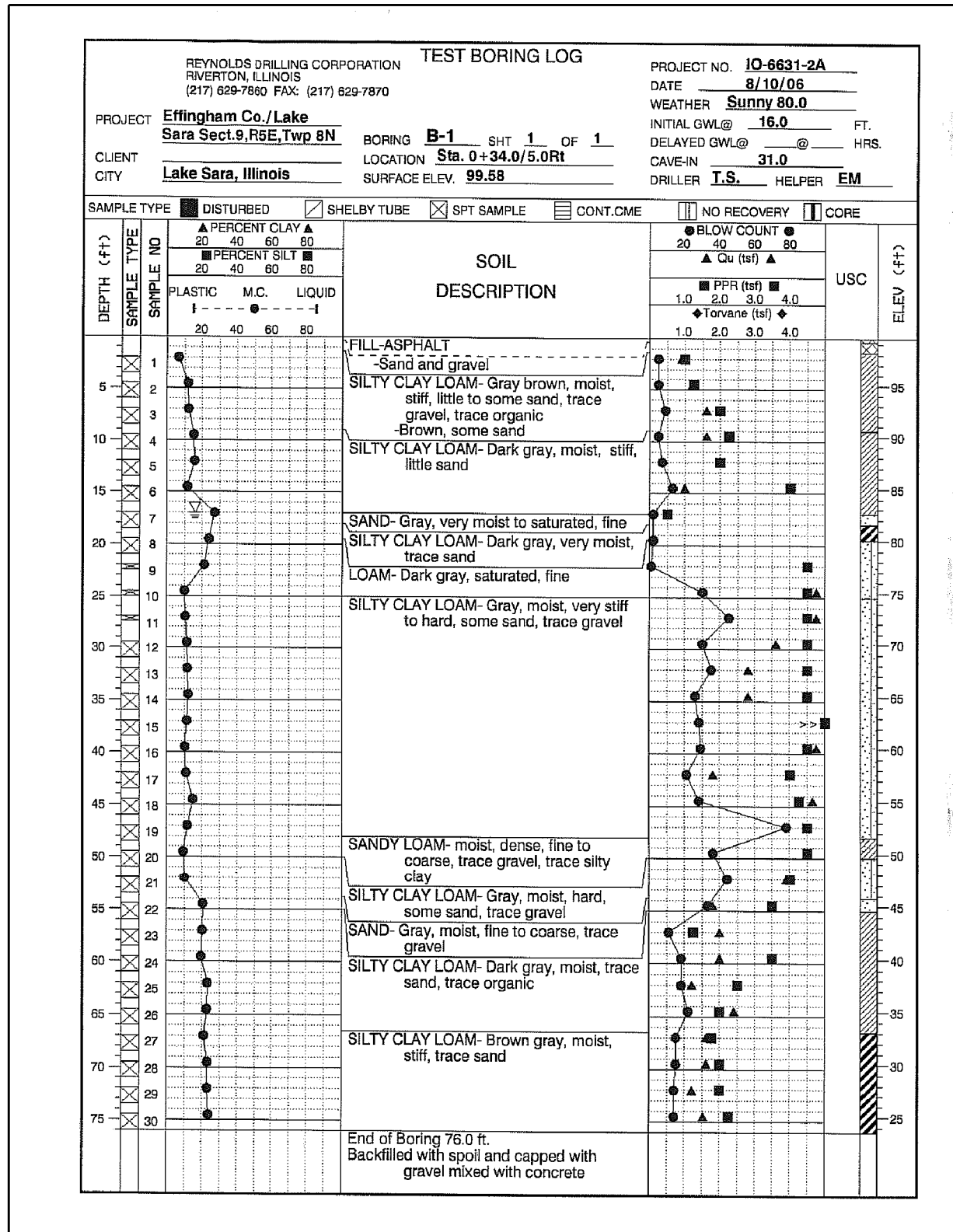


BAR S1(E)

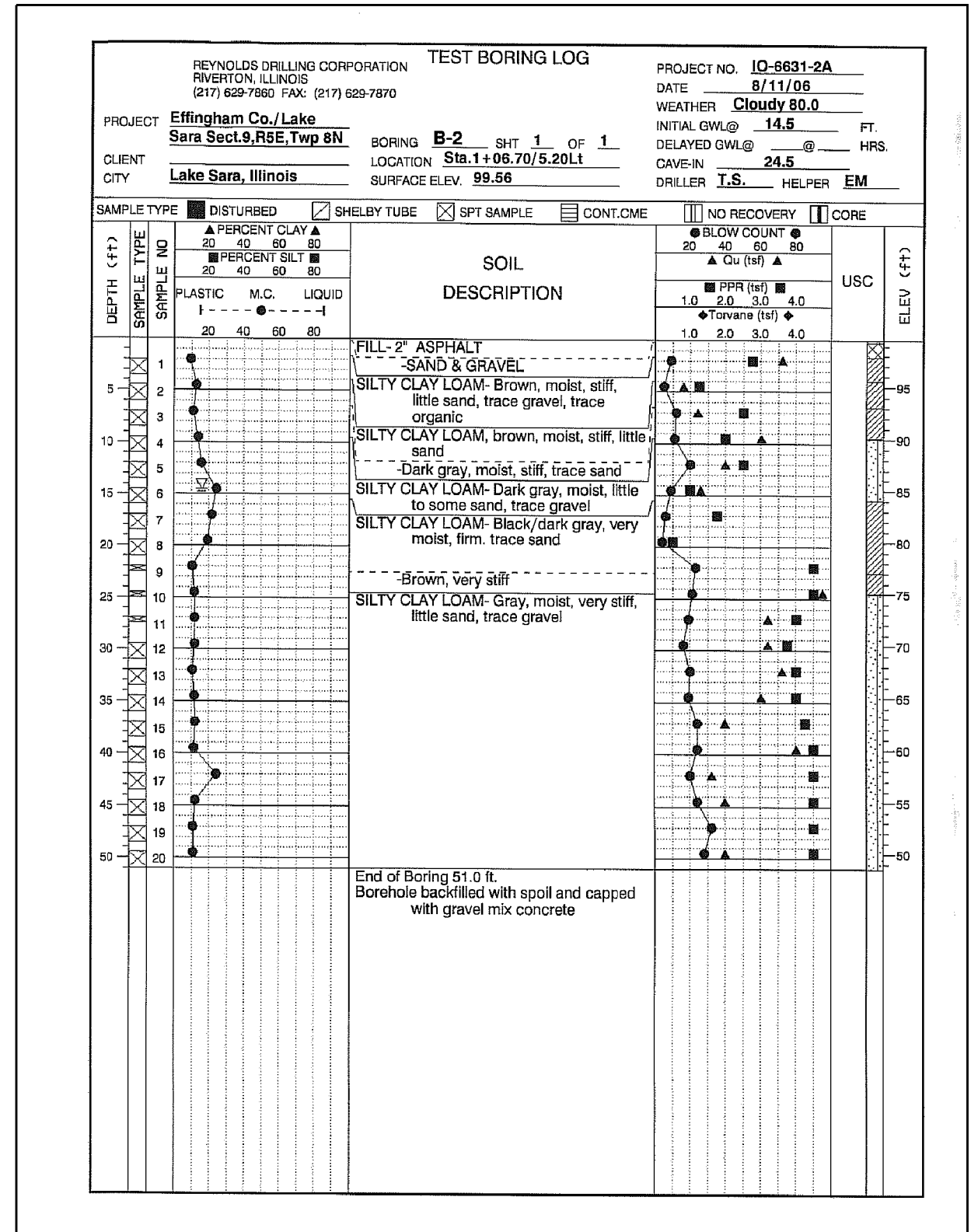
Hatched area indicates
Concrete Removal

BILL OF MATERIAL - PIER 2

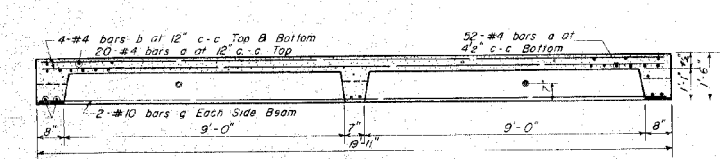
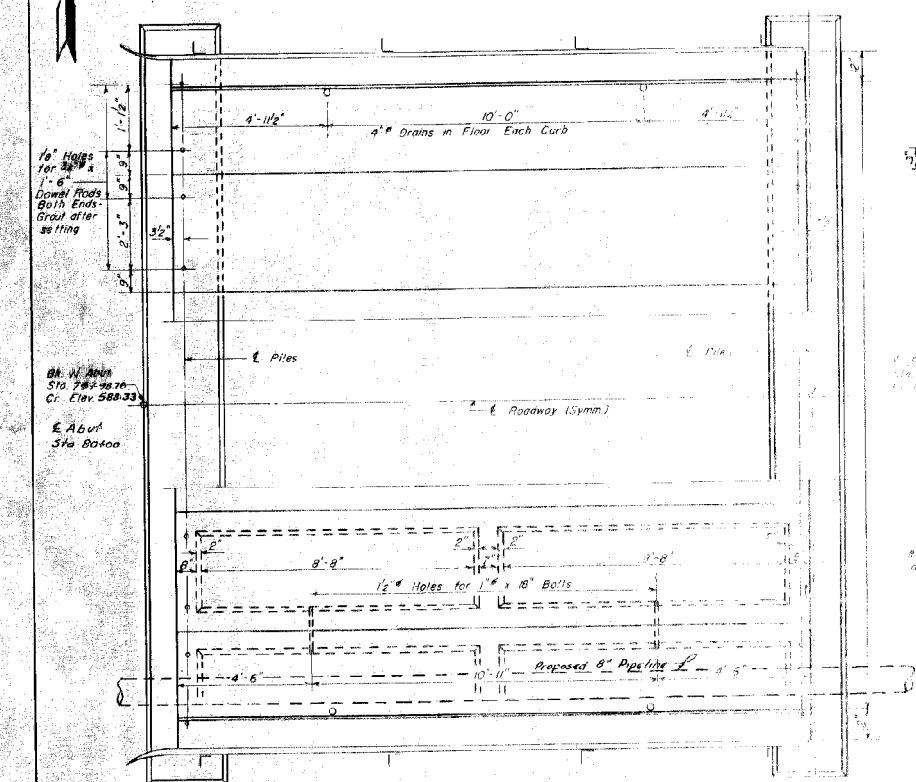
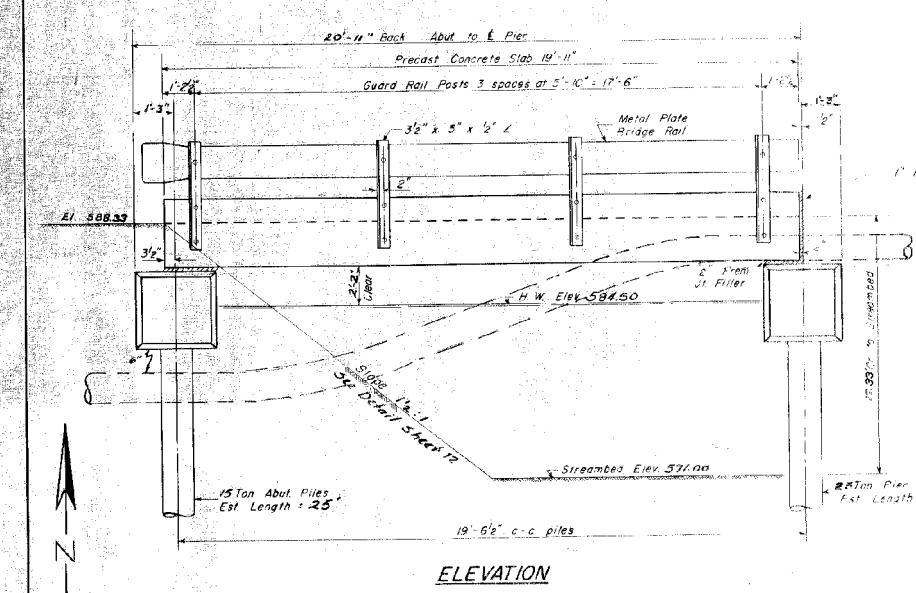
BAR	NO.	SIZE	LENGTH	SHAPE
p(E)	2	#5	31'-0"	—
s1(E)	23	#4	3'-4"	□
Concrete Structures			Cu. Yd.	1.1
Concrete Removal			Cu. Yd.	0.8
Reinf. Bars, Epoxy Coated			Pound	120



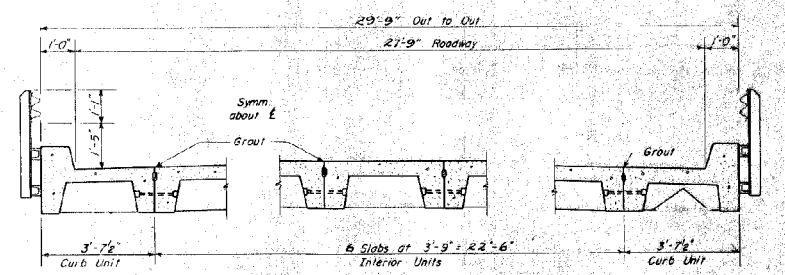
BORING-1



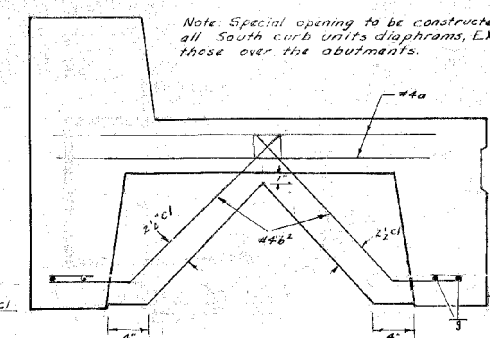
BORING-2



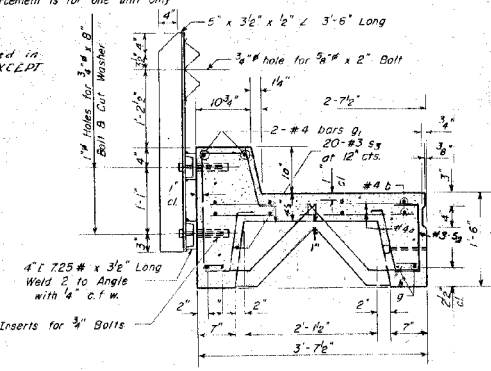
LONGITUDINAL SECTION
 Amount of Reinforcement is for one unit only



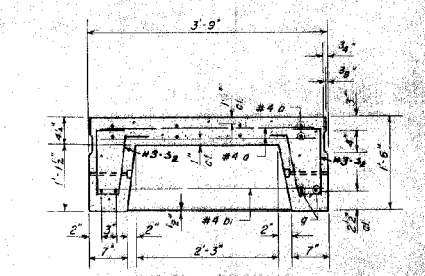
CROSS SECTION



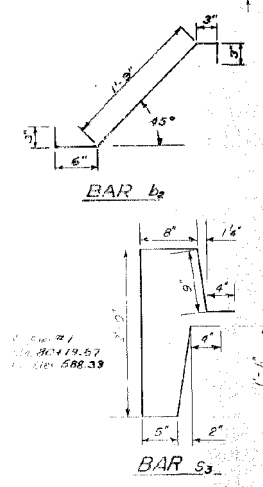
DETAIL OF OPENING IN SOUTH CURB UNIT



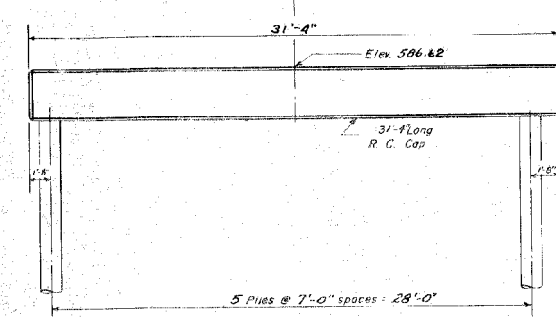
CROSS SECTION OF SOUTH CURB UNIT



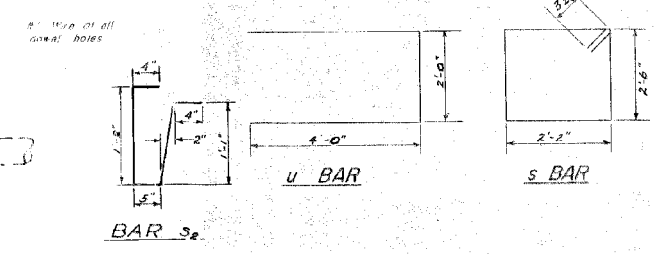
CROSS SECTION OF INTERIOR UNIT



ELEVATION OF ABUTMENT



REINFORCED CONCRETE CAP DETAILS



GENERAL NOTES

BILL OF MATERIAL SPAN 1

Bar	No	Size	Length	Shape
a	576	#4	3'-3"	
b	64	#4	19'-6"	
br	44	#4	3'-3"	
c ₂	8	#4	3'-0"	
g	32	#10	15'-6"	
q	4	#4	15'-6"	
p	6	#7	31'-0"	
s	26	#4	10'-0"	
s ₂	40	#3	3'-1"	
u	8	#6	10'-0"	
s ₃	294	#3	3'-4"	

Class X Concrete	Cu. Yds.	8.5
Reinforcement Bars	Lbs.	6744
Precast Concrete Bridge Slab	Sq. Ft.	535
Metal Plate Bridge Rail	Lin. Ft.	39.62
Precast Conc. Piles 12in.	Lin. Ft.	109
Test Piles 12 in.	Each	1
Name Plate	Each	1

* Bars marked with asterisk are included in unit price for Precast Concrete Bridge Slab

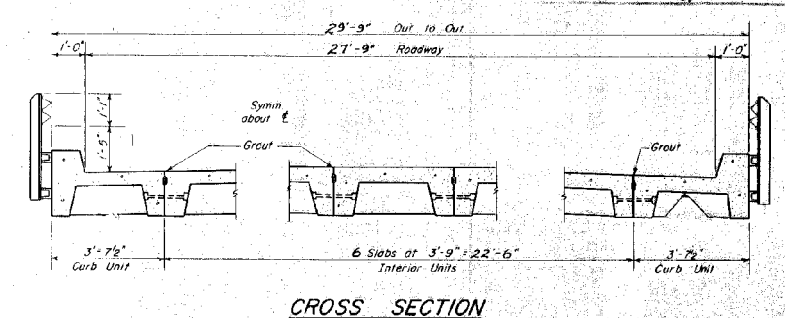
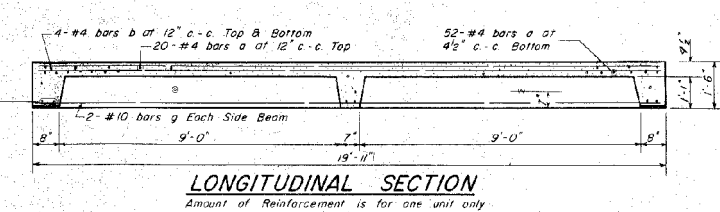
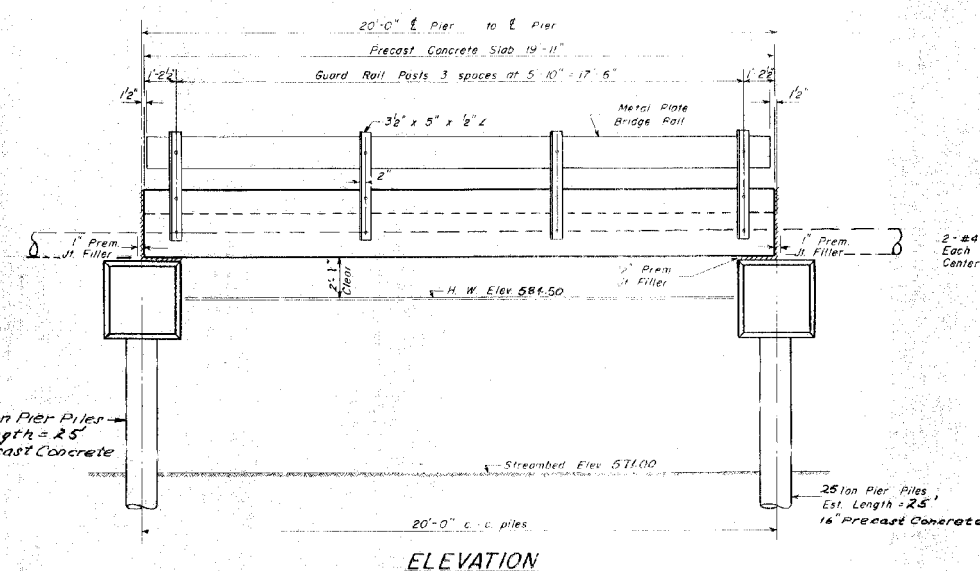
PRECAST CONCRETE SLAB BRIDGE
 20 FT. END SPAN ON PRECAST CONG. PILES
 SPILLTHRU ABUTMENT - R.C. CAPS

TURNER'S BRIDGE
 IAS 1706 SECTION 18B
 EFFINGHAM COUNTY

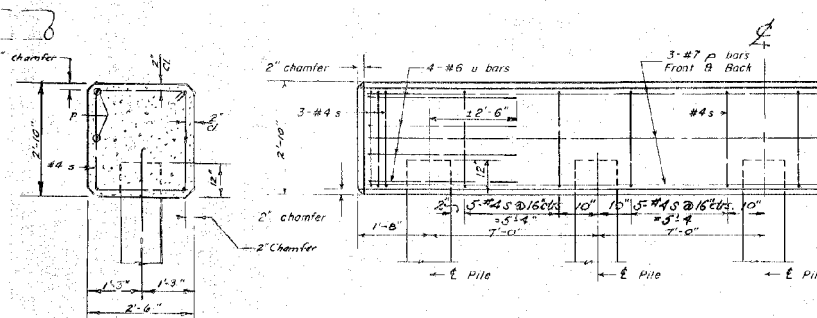
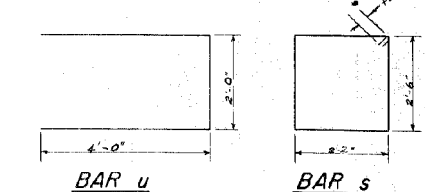
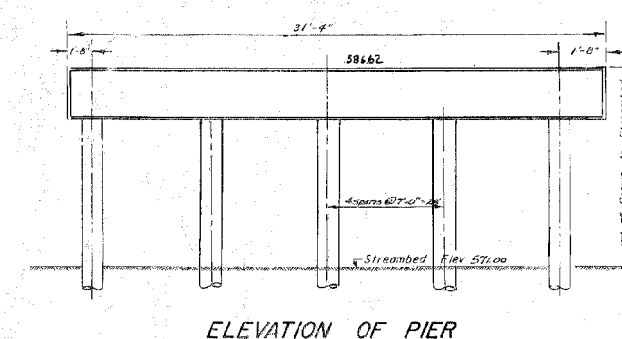
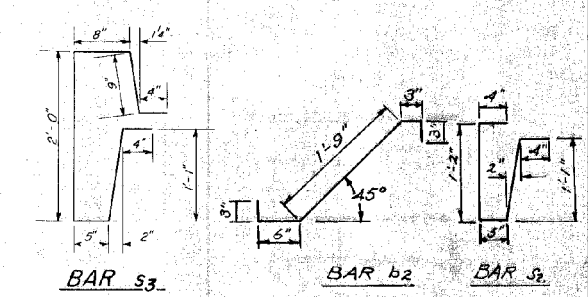
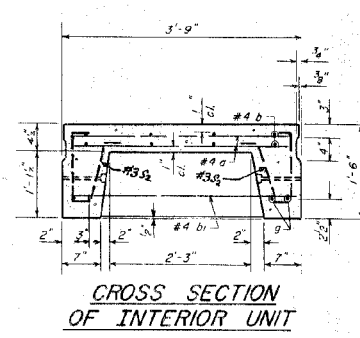
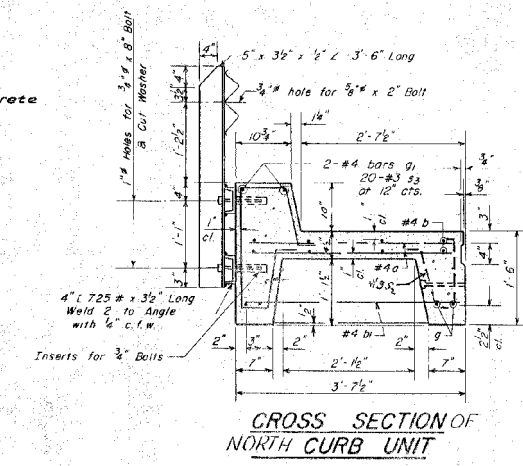
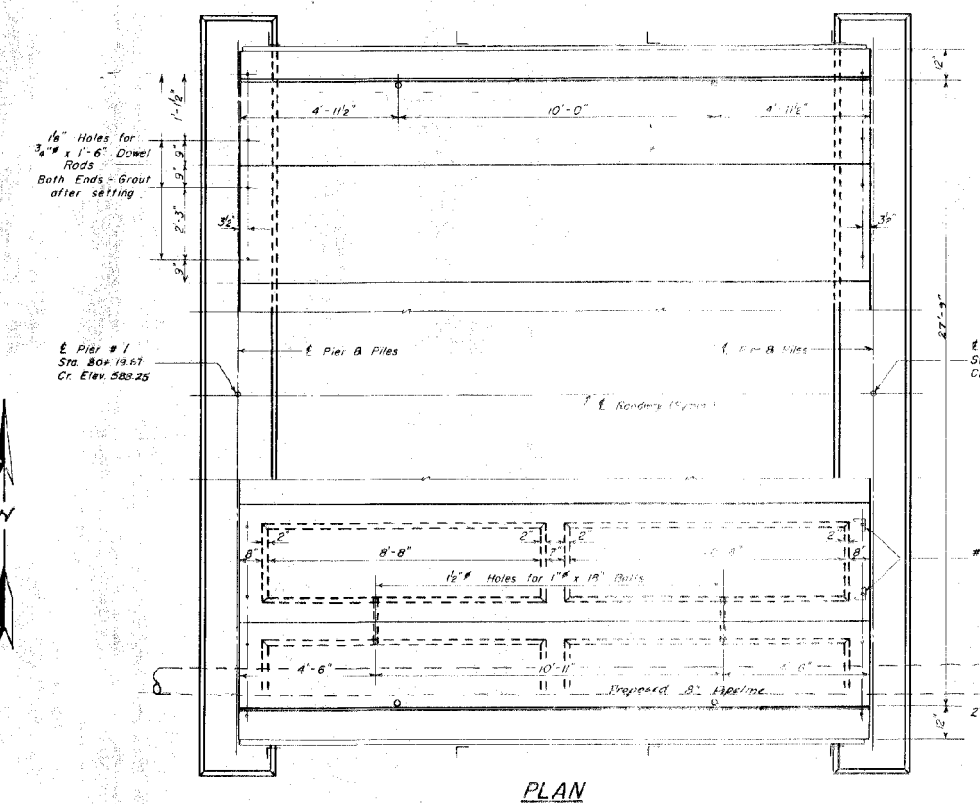
STRESSES

f_c = 4500 psi
 f_s = 3000 psi
 f_s = 20,000 psi

LOADING H15-S12-44



5 - 25 Ton Pier Piles
 Est. Length = 25'
 16" Precast Concrete



SPAN #2
BILL OF MATERIAL

BAR	No	SIZE	LENGTH	SHAPE
a	576	#4	3'-3"	
b	64	#4	19'-8"	
b1	48	#4	3'-3"	
b2	12	#4	2'-6"	
g	32	#10	19'-8"	
g1	4	#4	19'-8"	
p	12	#7	21'-0"	
s	52	#4	10'-0"	
s3	40	#3	5'-7"	
u	16	#6	10'-0"	
6E	234	#3	3'-4"	

Class X Concrete Cu Yds. 38.4
 Reinforcement Bars Lbs. 1345
 Precast Concrete Bridge Slab Sq. Ft. 635
 Metal Plate Bridge Rail Lin. Ft. 39.75
 Precast Concrete Piles (16 in.) Lin. Ft. 22.5
 Test Pile (16 in.) Each 1

* Bars marked with asterisk are included in unit price for Precast Concrete Bridge Slab.

GENERAL NOTES

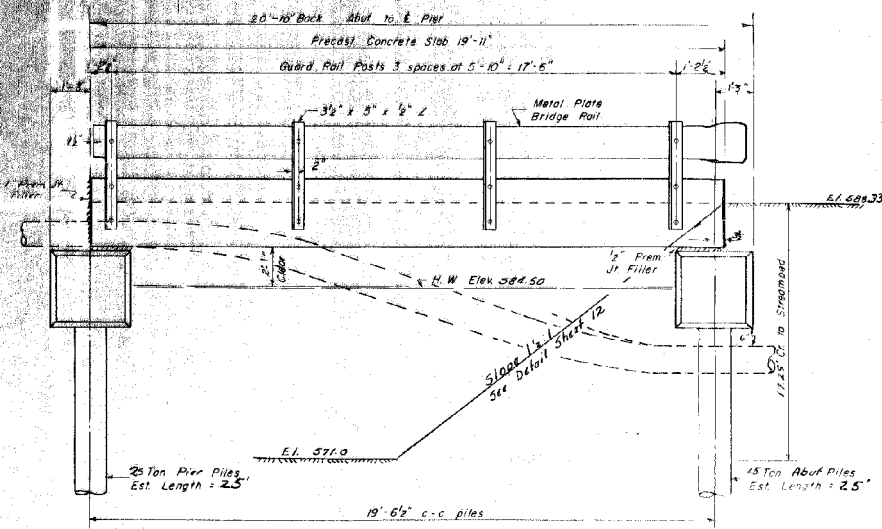
Class X Concrete shall be used in Bridge Caps.
 See Special Provisions for item "Precast Concrete Bridge Slab".
 Rail angles and channels are included for payment in Metal Plate Bridge Rail.
 All washers, nuts and rods shall be hot dipped galvanized steel and shall be included for payment in Metal Plate Bridge Rail.
 All piles shall be furnished and paid for according to Sec 62 of the State of Illinois Standard Specifications.

The Metal Plate Bridge Rail and attaching angles and channels shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 511 to 575 of the State of Illinois Standard Specifications. The Contractor shall drive 1 test pile in a permanent location as directed by the Engineer before ordering the remainder of the piles. Length of piles were estimated on basis of test borings, but test piles shall serve as a guide in ordering remainder of piles.
 Reinforcing bars shall conform to ASTM Specifications A-305.

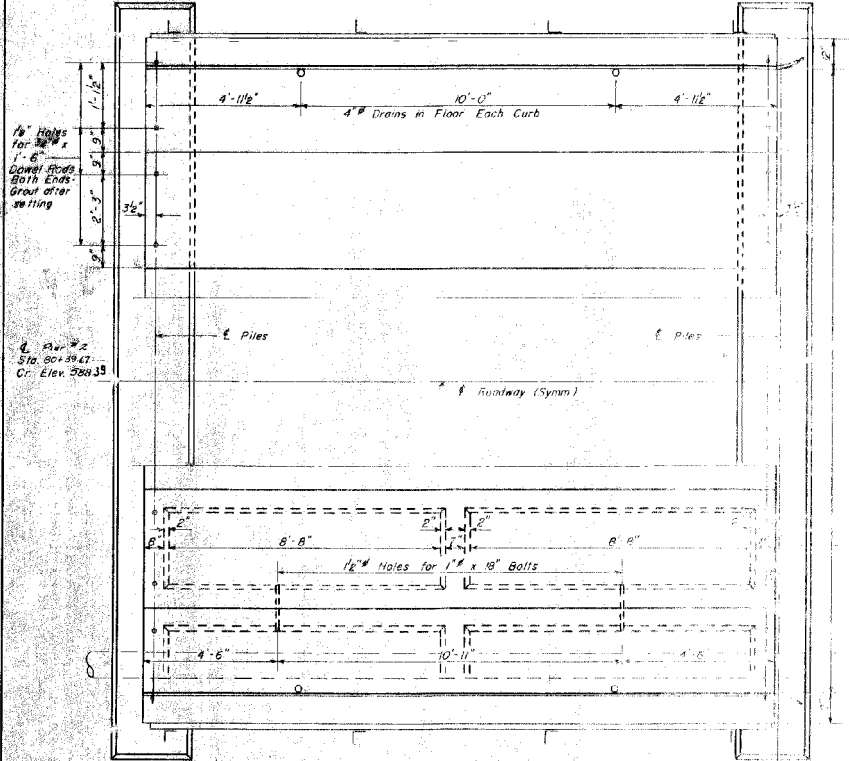
PRECAST CONCRETE SLAB BRIDGE
 20 FT. INTERMEDIATE SPAN ON PRECAST CONCRETE PILES - R.C. CAPS

SUTKIN'S BRIDGE
 F.A.S. 1706 SECTION 18-B
 EFFINGHAM COUNTY

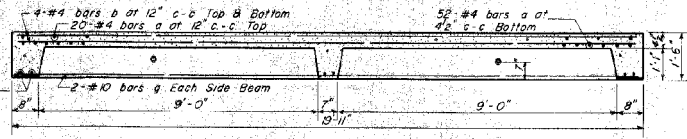
LOADING HI5-S12-44



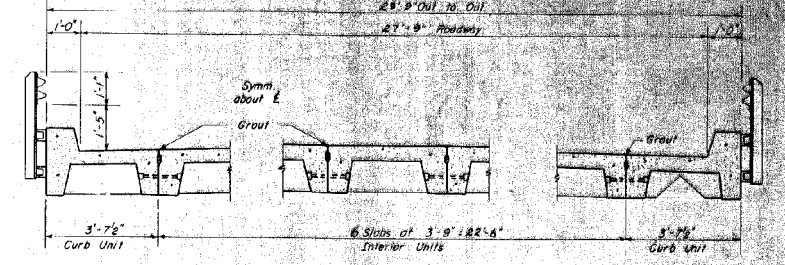
ELEVATION



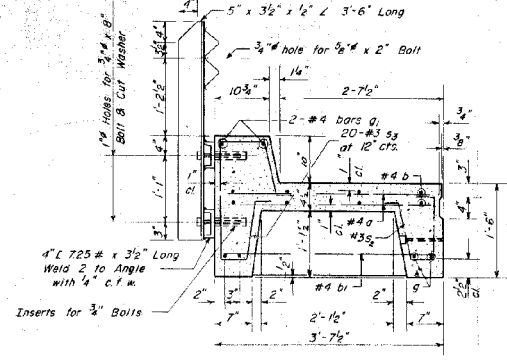
PLAN



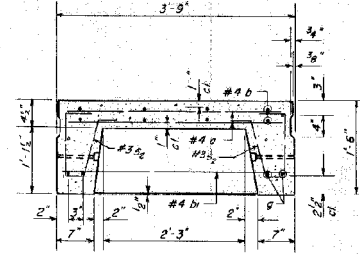
LONGITUDINAL SECTION
 Amount of Reinforcement is for one unit only



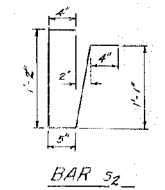
CROSS SECTION



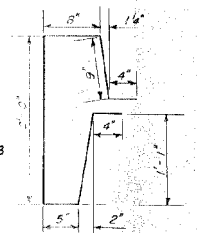
CROSS SECTION OF NORTH CURB UNIT



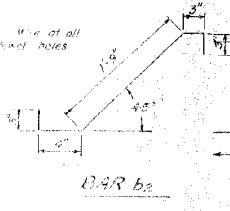
CROSS SECTION OF INTERIOR UNIT



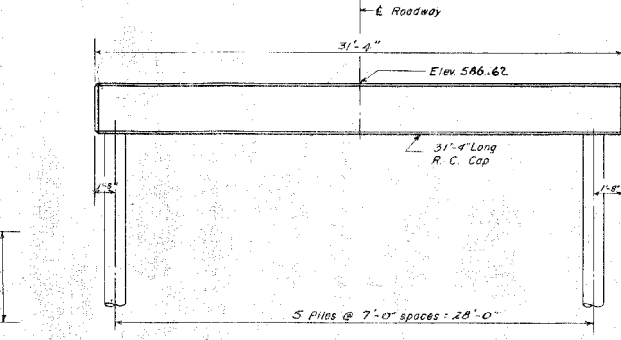
BAR S2



BAR S3



BAR B2

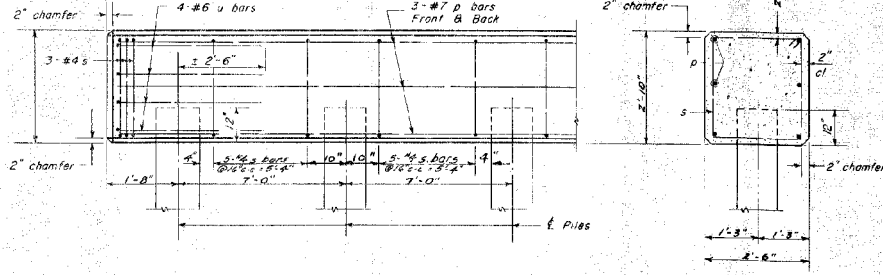


ELEVATION OF ABUTMENT

GENERAL NOTES

Class X Concrete shall be used in Bridge Caps.
 See Special Provisions for item "Precast Concrete Bridge Slab."
 Poly angles and channels are included for payment in Metal Plate Bridge Rail.
 All nuts and bolts shall be hot dip galvanized steel and shall be included for payment in Metal Plate Bridge Rail.
 All piles shall be furnished and paid for according to Sec. 6.2 of the State of Illinois Standard Specifications.
 The Metal Plate Bridge Rail and attaching angles and channels shall receive one shop coat of red lead paint and two field coats of aluminum paint. Paint to be furnished by the Contractor. See Articles 511 to 515 of the State of Illinois Standard Specifications.

REINFORCED CONCRETE CAP DETAILS



BILL OF MATERIAL SPAN 3

Bar	No.	Size	Length	Shape
a	576	#4	3'-3"	
b	64	#4	19'-6"	
b1	42	#4	3'-3"	
g	32	#10	19'-6"	
g1	4	#4	19'-6"	
g	6	#7	31'-0"	
s	26	#4	10'-0"	
s3	40	#3	3'-5"	
u	8	#6	10'-0"	
s2	224	#3	3'-4"	

Class X Concrete Cu Yds. 8.2
 Reinforcement Bars Lbs. 272
 Precast Concrete Bridge Slab Sq. Ft. 595
 Metal Plate Bridge Rail Lin. Ft. 39.62
 Precast Concrete Piles (20) Lin. Ft. 12.5

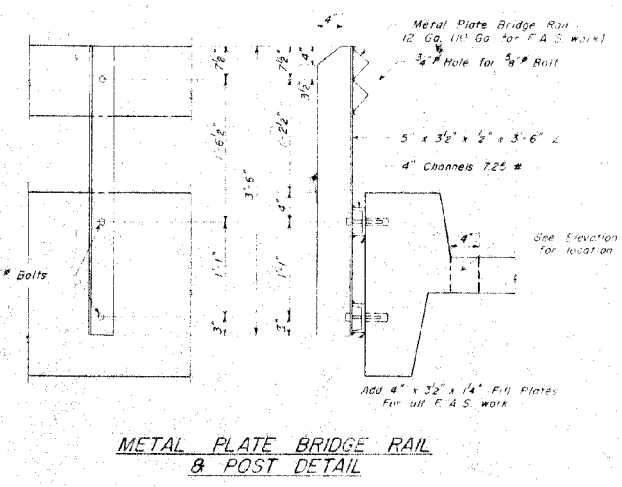
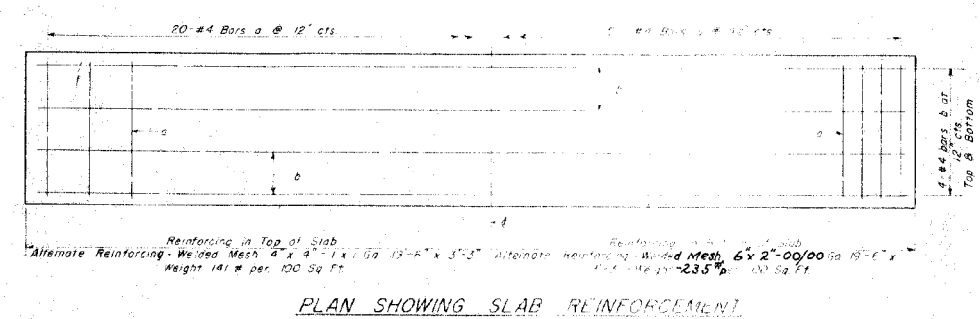
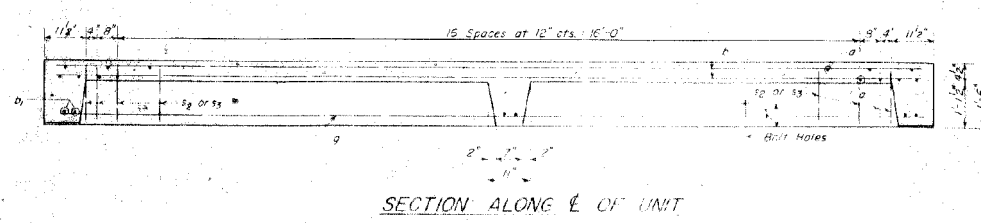
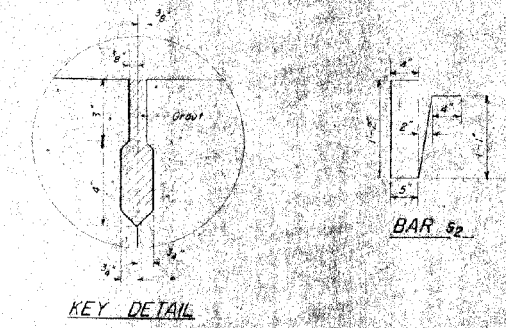
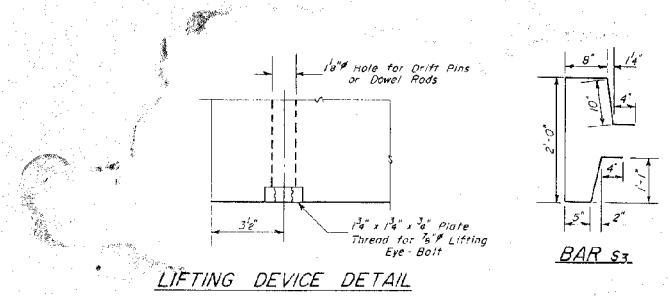
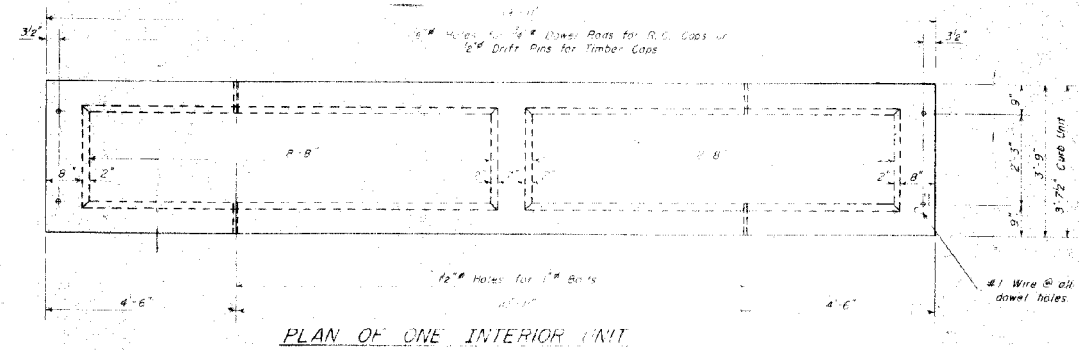
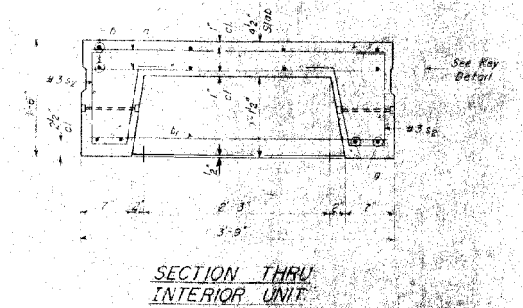
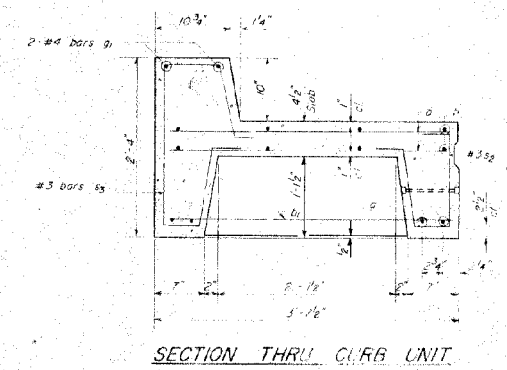
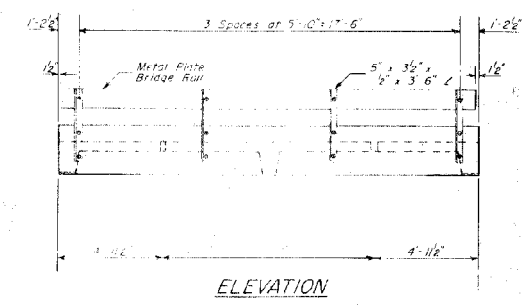
* Bars marked with asterisk are included in unit price for Precast Concrete Bridge Slab.

PRECAST CONCRETE SLAB BRIDGE
 20 FT. END SPAN ON PRECAST CONG. PILES
 SPILLTHRU ABUTMENT - R.C. CAPS

JUTKIN'S BRIDGE
 IAS 1706 SECTION 18-B
 EFFINGHAM COUNTY

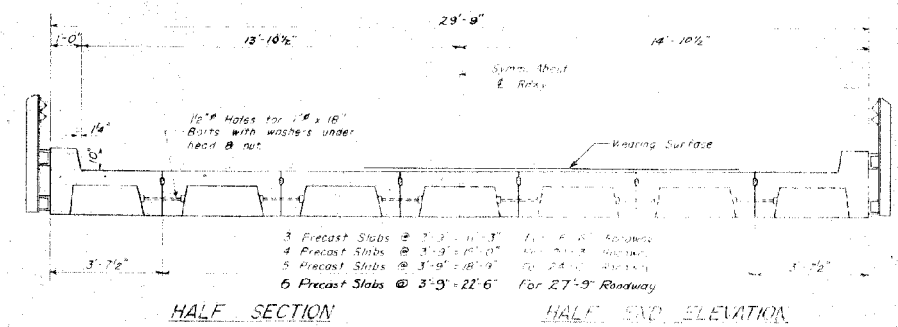
STRESSES
 Tc = 4500 psi
 fc = 1800 psi
 fs = 60,000 psi
 w = 8

LOADING H15-S12-4.4



BILL OF MATERIAL

20 Spans	1 Curb Unit	1 Interior Unit				
Bar Size	No	Length	Weight	No	Length	Weight
#4	72	3'-0"	156	72	3'-0"	156
#4	8	10'-6"	104	8	10'-6"	104
#4	6	3'-3"	38	6	3'-3"	38
#10	4	10'-6"	234	4	10'-6"	234
#4	2	10'-11"	26			
#3	21	5'-8"	44			
#3	21	3'-4"	26	42	1'-4"	52
Reinforcing Steel		L.D.	705			661
Concrete		CU. YD.	2.9			2.4
Total Weight		L.D.	11,670			9550



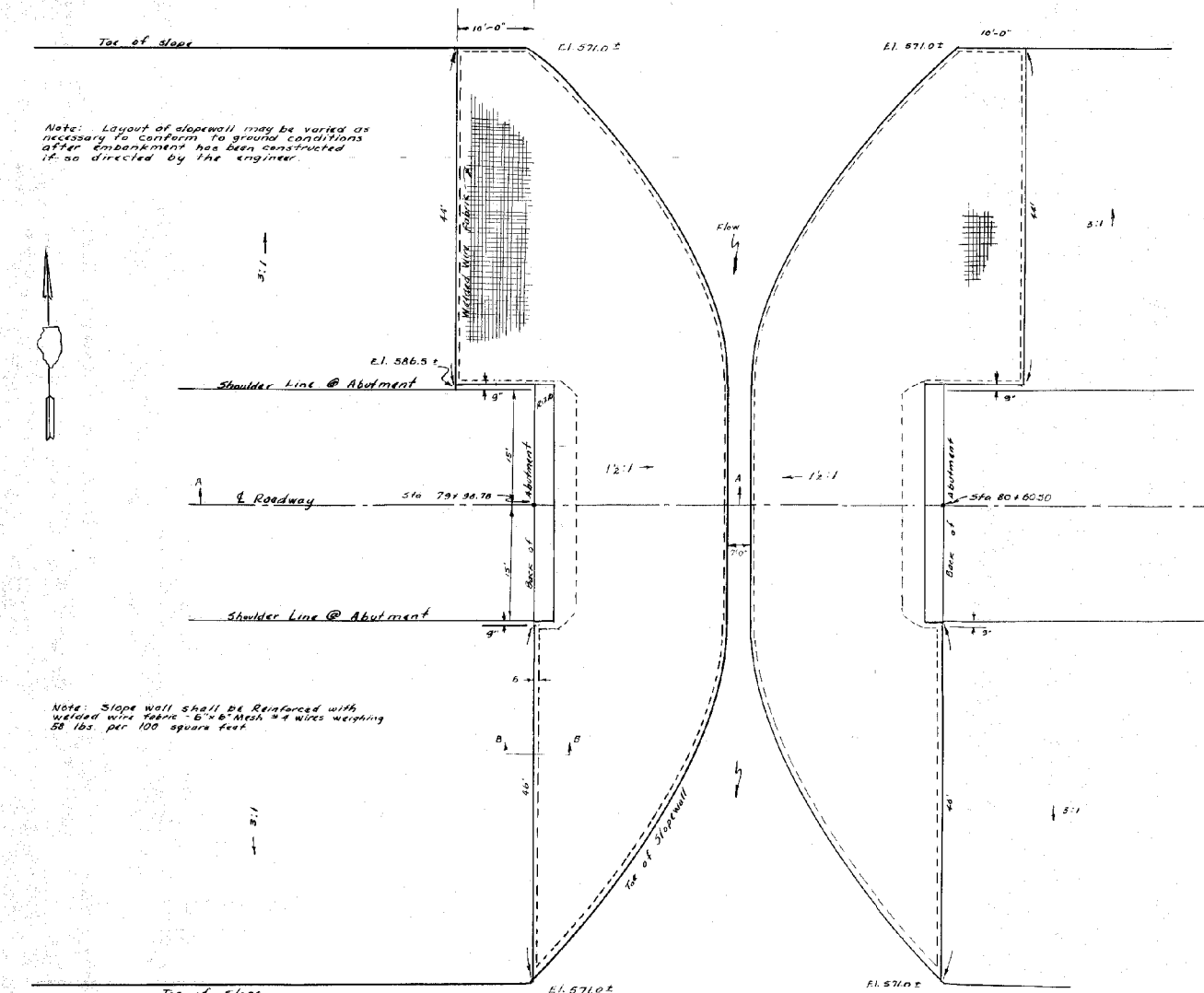
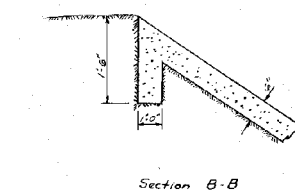
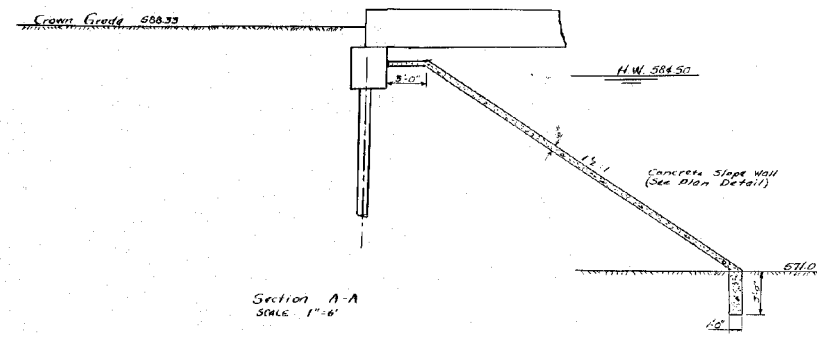
STRESSES
 $f_c = 4000$ PSI
 $f_s = 20,000$ PSI
 $n = 8$

Note: Wearing Surface on Roadway shall consist of a 2" 2-1/4" Surface of the center-line tapering to a 1" 2-1/4" at the curb

Note: Refer to structural Details, sheets 7, 8 & 9 for modification in diaphragms of South Curb Units.

PRECAST CONCRETE SLAB BRIDGE
 USING 20 FT. BEAMS
JUTKINS BRIDGE
 F.A.S. 170G SECTION 18 B
 EFFINGHAM COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1706	18-B	EFFINGHAM	22	12
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS		
FED. AID PROJECT 5881 (1)				



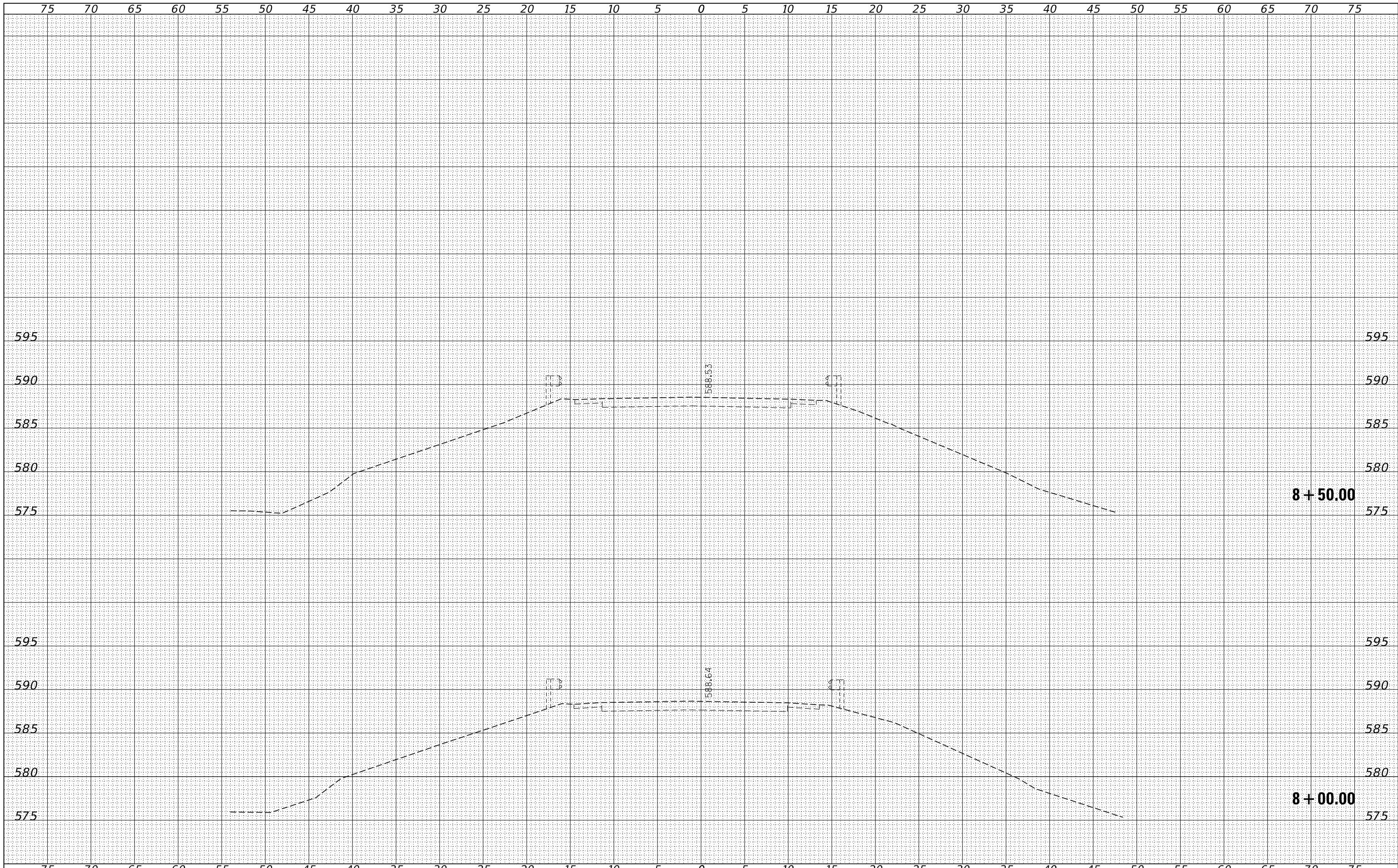
PLAN OF EMBANKMENT & SLOPEWALL

Item	Unit	Quantity
Slope Wall	Sq. Yd.	825

SLOPEWALL LAYOUT

DATE	
BY	
FINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	

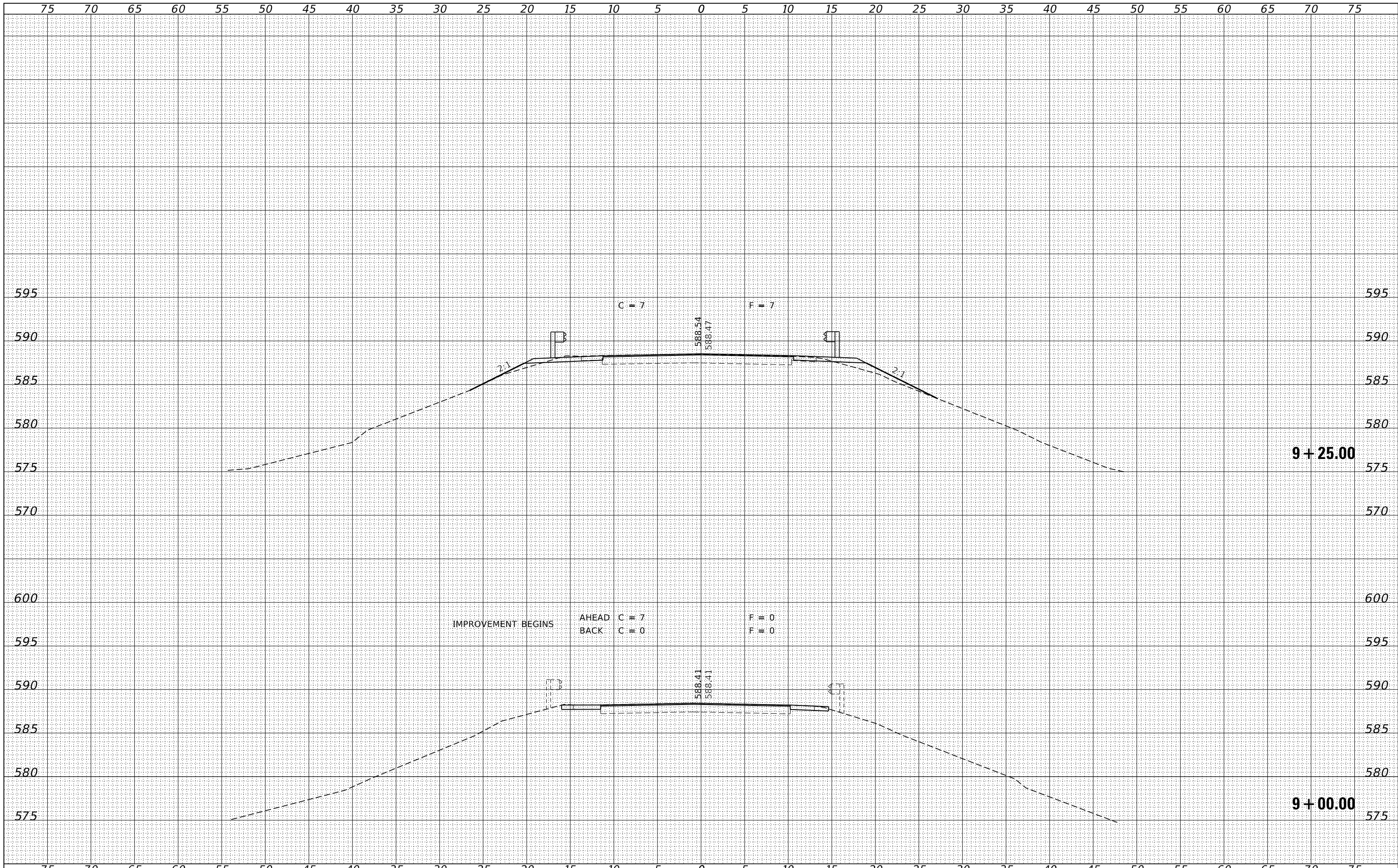
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BY	
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AREAS	
CHECKED	



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HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L/S / PE / SE CORP. 184.009958	PLOT SCALE = \$\$SCALE\$	DRAWN - M.M.P.	REVISD -			1706	00-00080-00-BR	EFFINGHAM	29	25	
PLOT DATE = 3/25/2020	CHECKED - S.W.M.	REVISD -	SCALE: 5H:5V			SHEET NO. 1 OF 5 SHEETS	STA. 8+00.00 TO STA. 8+50.00	ILLINOIS FED. AID PROJECT 1706(105)			
DATE - 03/19/2020	REVISD -										

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

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



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 CHECKED - S.W.M.
 DATE - 03/19/2020
 PLOT SCALE = \$SCALES
 PLOT DATE = 3/25/2020

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

STATE OF ILLINOIS
 EFFINGHAM COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
 SCALE: 5H:5V
 SHEET NO. 2 OF 5 SHEETS
 STA. 9+00.00 TO STA. 9+25.00

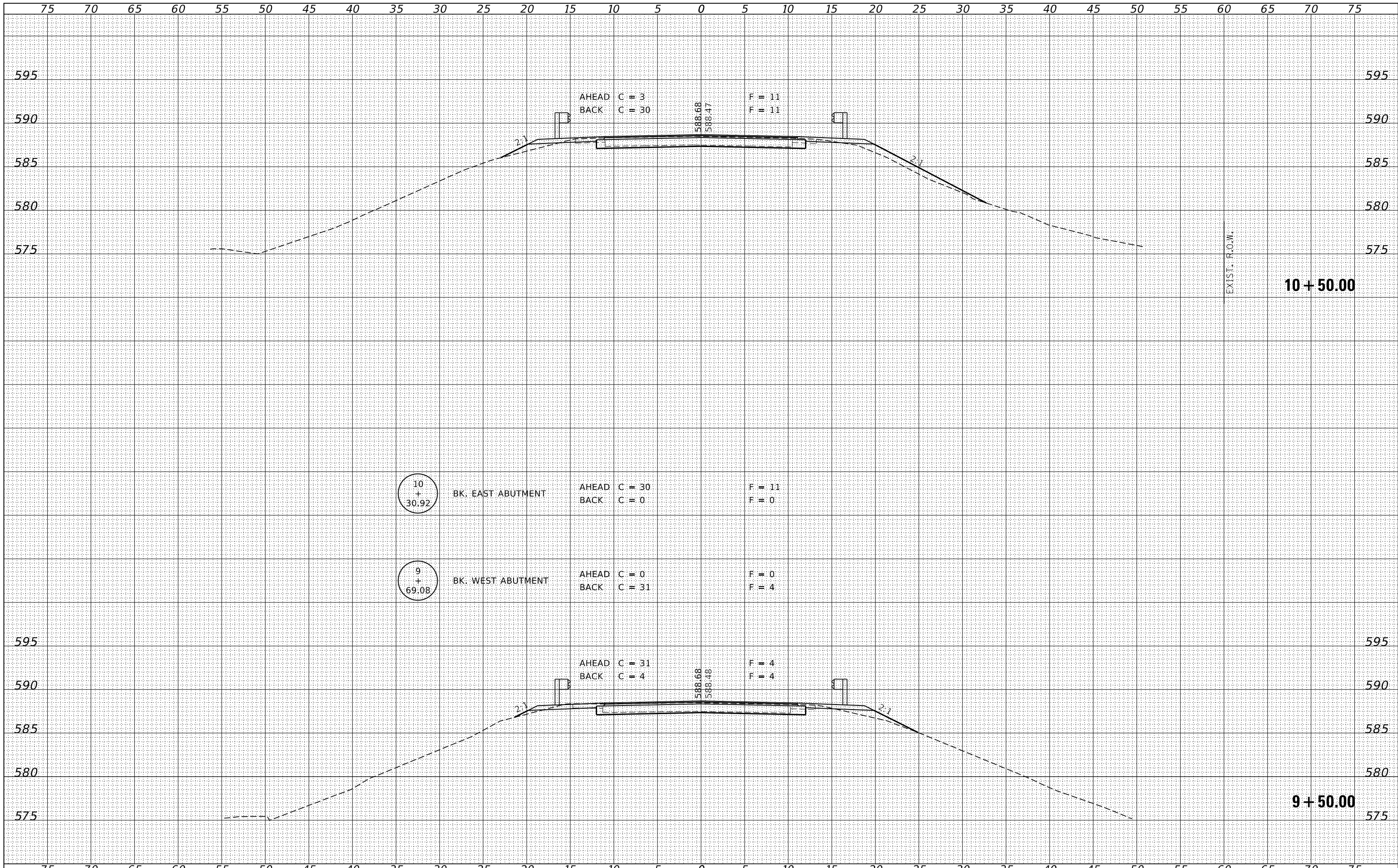
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1706	00-00080-00-BR	EFFINGHAM	29	26
LAKE SARA BRIDGE			CONTRACT NO. 95524	



HAMPTON, LENZINI AND RENWICK, INC.
 3885 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 L.S. / P.E. / S.E. CORP. 184.009958

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
FINAL SURVEY	
NOTE BOOK	
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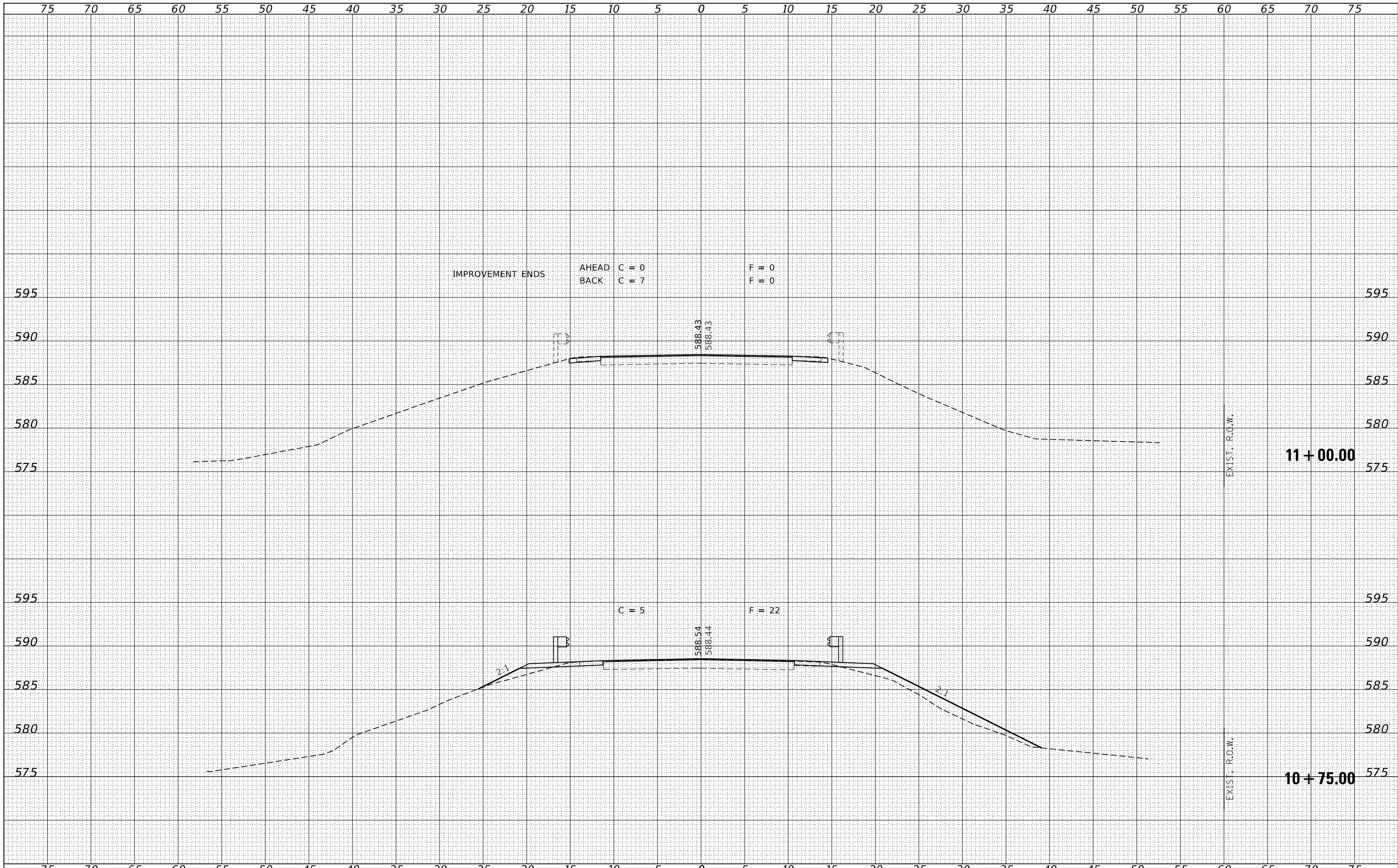
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FILE NAME = 070305-shl-xssheets.dgn	USER NAME = rmosck	DESIGNED - J.V.F.	REVISED -	STATE OF ILLINOIS EFFINGHAM COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - M.M.P.	REVISED -		1706	00-00080-00-BR	EFFINGHAM	29	27		
3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000958		CHECKED - S.W.M.	REVISED -		LAKE SARA BRIDGE			CONTRACT NO. 95524			
		DATE - 03/19/2020	REVISED -		SCALE: 5H:5V	SHEET NO. 3 OF 5 SHEETS	STA. 9+50.00 TO STA. 10+50.00	ILLINOIS FED. AID PROJECT 1706(105)			

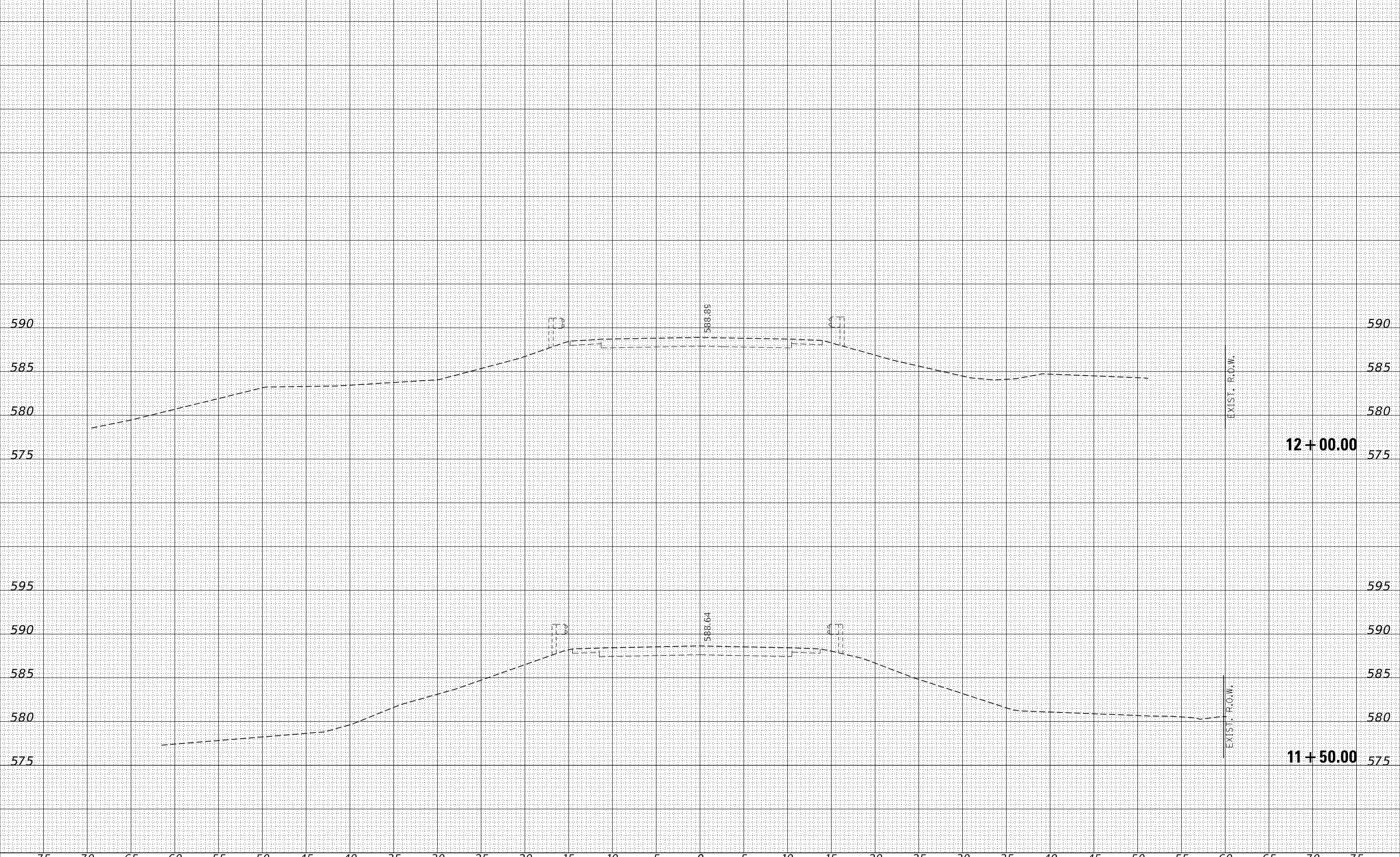
BY	DATE
FINISHED SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
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BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - M.M.P.	REVISED -		1706	00-00080-00-BR	EFFINGHAM	29	28		
3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L/S / PE / SE CORP. 184.000958	PLOT SCALE = \$SCALES	CHECKED - S.W.M.	REVISED -		LAKE SARA BRIDGE	CONTRACT NO. 95524					
	PLOT DATE = 3/25/2020	DATE - 03/19/2020	REVISED -		SCALE: 5H:5V	SHEET NO. 4 OF 5 SHEETS	STA. 10+75.00 TO STA. 11+00.00	ILLINOIS FED. AID PROJECT 1706(105)			

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75



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

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