

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	1
ILLINOIS		PROJ. NO. BRS-732(144)		

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

**SECTION 01-00083-00-BR  
CHRISTIAN COUNTY  
PROJECT NO. BRS-732(144)  
COUNTY HIGHWAY 10 (F.A.S. RTE. 732)  
JOB NUMBER C-96-238-04**

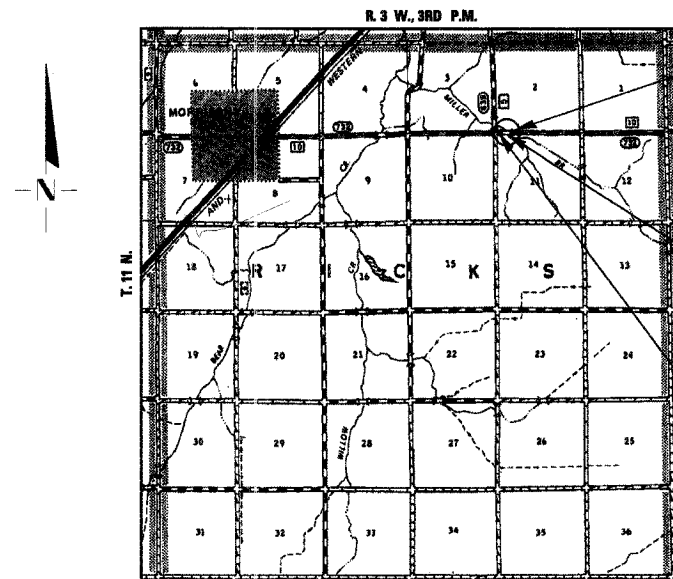
INDEX OF SHEETS	
SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	SHOULDER AND GUARDRAIL WIDENING DETAILS
5-9	BRIDGE PLANS
10-12	STATION CROSS SECTIONS

**STANDARDS**

- 280001-02
- 515001-02
- 630001-06
- 630301-03
- 631011-02
- 631032-01
- 635006-02
- 702001-06
- BLR 21-6

**SCALES**

PLAN	-----	0' 50' 100'
PROFILE HORIZ.	-----	0' 50' 100'
PROFILE VERT.	-----	0' 5' 10'
CROSS SECTIONS	-----	0' 5' 10'

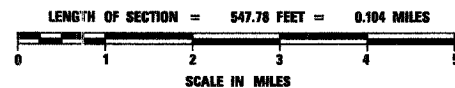


IMPROVEMENT ENDS  
STA. 27+47.78

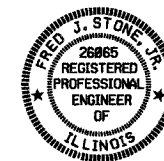
STATION 24+99 - SPECIAL BRIDGE DESIGN  
PRECAST PRESTRESSED CONCRETE  
DECK BEAM BRIDGE, ONE SPAN AT 77'-0",  
30'-0" ROADWAY; SKEW 34° RT.  
PROPOSED S.N. 011-3397 REPLACES  
EXISTING S.N. 011-3011

IMPROVEMENT BEGINS  
STA. 22+00

**LOCATION PLAN**



**3R DESIGN  
MAJOR COLLECTOR (RURAL)  
CURRENT A.D.T. = 750  
DESIGN SPEED 50 M.P.H.**



*Fred J. Stone, Jr.* (12-1-05)  
ILLINOIS PROFESSIONAL NO. 26065

EXPIRES 11-30-07

TOLL FREE JOINT UTILITY LOCATING  
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)  
TELEPHONE NUMBER 1-800-892-0123

APPROVED	<i>12-08</i> 2005 <i>Chris D. Jurek</i> COUNTY ENGINEER	
PASSED	<i>JANUARY 4</i> 2006 <i>Jim Jurek</i> DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
PASSED	<i>Jan 5</i> 2006 <i>WR Jurek</i> DISTRICT SIX ENGINEER OF CONSTRUCTION	
RELEASING FOR BID BASED ON LIMITED REVIEW	<i>JANUARY 4</i> 2006 <i>Christine M Reed</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

CONTRACT NO. 93403

4440 ASH GROVE  
SPRINGFIELD, IL 62707  
(217) 753-8600  
oasinc@tcmvtd.com

**OZYURT AND STONE, INC.**  
CONSULTING ENGINEERS

**SUMMARY OF QUANTITIES**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SI
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	
ILLINOIS			CONTRACT NO. 93403	

NUMBER	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	46
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	16
20200100	EARTH EXCAVATION	CU YD	70
20300100	CHANNEL EXCAVATION	CU YD	160
* 20400800	FURNISHED EXCAVATION	CU YD	308
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.6
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	60
* 28000300	TEMPORARY DITCH CHECKS	EACH	2
28000400	PERIMETER EROSION BARRIER	FOOT	1,000
* 28100207	STONE RIPRAP, CLASS A4	TON	266
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	68
28200200	FILTER FABRIC	SQ YD	363
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	53
* LR355175	BITUMINOUS STABILIZED BASE COURSE	TON	366
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	438
40300300	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	802
40300500	COVER COAT AGGREGATE	TON	15
40300600	SEAL COAT AGGREGATE	TON	15
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	184
48100100	AGGREGATE SHOULDERS, TYPE A	TON	110
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	35.2
* 50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2,310
50800105	REINFORCEMENT BARS	POUND	3,880
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	156
51201400	FURNISHING STEEL PILES, HP10X42	FOOT	550
51202700	DRIVING STEEL PILES	FOOT	550
51203400	TEST PILE STEEL, HP10X42	EACH	2
51500100	NAME PLATES	EACH	1
51204315	CONCRETE ENCASEMENT	CU YD	4.2
* 54200223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	86
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	257
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	200
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	175
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4
* 63100175	TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	163
67100100	MOBILIZATION	L SUM	1
* 70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
* 78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4
* X4056414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	30

\*SEE SPECIAL PROVISIONS

CONSTRUCTION TYPE CODE: X080

**GENERAL NOTES**

- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE AREA TO BE SEEDING SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.6 ACRE

- ALL TREES BETWEEN THE PROPOSED R.O.W. LINES THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER.

**ESTIMATED QUANTITIES:**

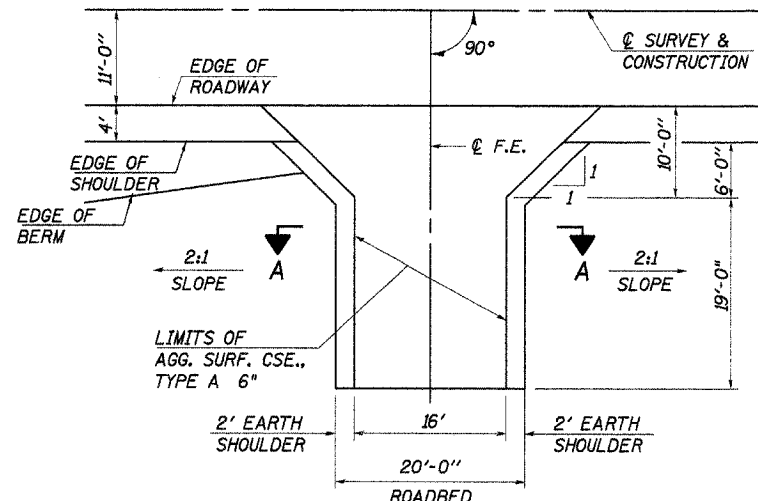
TREE REMOVAL (6 TO 15 UNITS DIAMETER) = 46 UNITS  
 TREE REMOVAL (OVER 15 UNITS DIAMETER) = 16 UNITS

**TEMPORARY EROSION CONTROL**

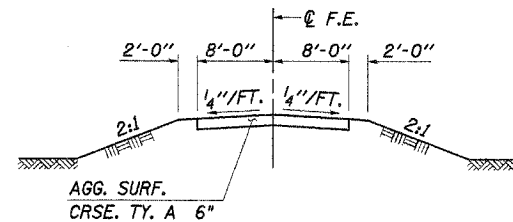
THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY PRICE DUE TO A CHANGE IN PLAN QUANTITY.

PERIMETER EROSION BARRIER = 1000 FOOT  
 TEMPORARY EROSION CONTROL SEEDINGS = 60 POUND  
 TEMPORARY DITCH CHECKS = 2 EACH

BITUMINOUS MIXTURE REQUIREMENTS				
ITEM	AGGREGATE COMPOSITION	ASPHALT GRADE	ALLOWABLE RAP	VOIDS
SURFACE, MIX C, N50	IL-9.5 OR 12.5	P.G. 64-22	15%	4.0%



**FIELD ENTRANCE DETAIL**  
F.E. RT. STA. 22+72



**SECTION A-A**

**APPLICATION RATES USED IN QUANTITY CALCULATIONS**

STONE RIPRAP, CLASS A4	1.65 TON/CU YD
AGGREGATE BASE	2.05 TON/CU YD
AGGREGATE SURFACE & AGGREGATE SHOULDERS	2.05 TON/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.35 GAL/SQ YD
BITUMINOUS MIXTURES	112#/SQ YD/IN
COVER AND SEAL COAT AGGREGATE	25#/SQ YD
GRANULAR MATERIALS	2.05 TON/CU YD

**PAVEMENT DESIGN**

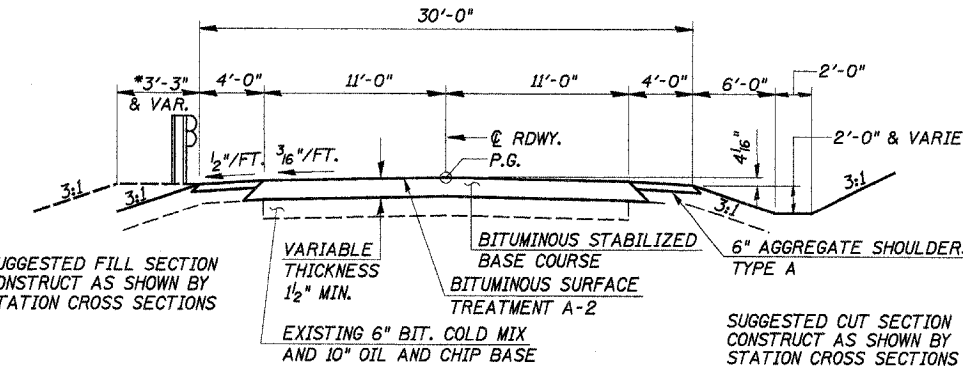
STRUCTURAL DESIGN TRAFFIC (S.D.T.): YEAR 2012; P.V. = 780, S.U. = 62, M.U. = 44  
 CLASS III ROAD: 73,280 POUND LOAD LIMIT

MINIMUM SOIL SUPPORT: I.B.R. = 3.0 (ASSUMED)

PERCENT OF S.D.T. IN DESIGN LANE: P = 50%, S = 50%, M = 50%  
 T.F. = 0.144; DT = 3.08

PAVEMENT STRUCTURAL MATERIAL:

BITUMINOUS STABILIZING MIX	1.5" x 0.20 = 0.30
EXISTING BITUMINOUS BASE	6.0" x 0.15 = 0.90
BITUMINOUS TREATED AGGREGATE	10.0" x 0.10 = 1.00
<b>TOTAL</b>	<b>2.20" (WAIVERED)</b>



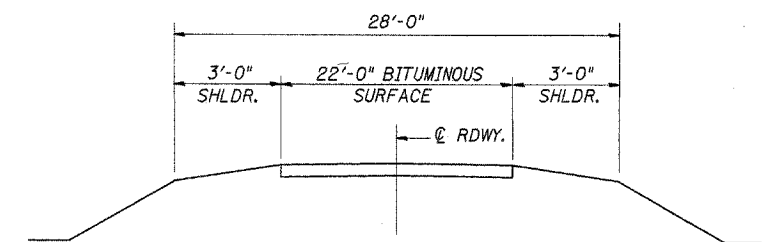
**TYPICAL PROPOSED CROSS SECTION**

STA. 22+50 TO STA. 26+50

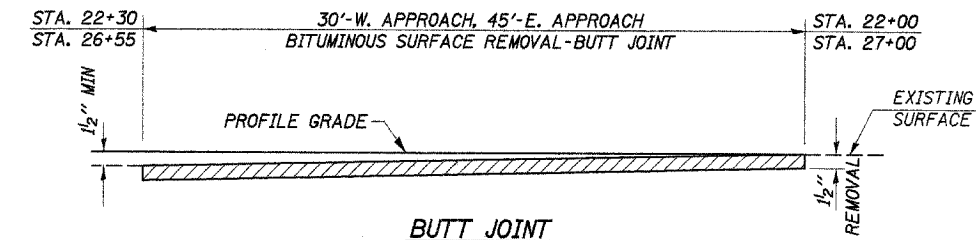
ROAD CLASSIFICATION: LOCAL ROAD ADT 400 & OVER  
 CURRENT ADT 750

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 22+00 TO STA. 22+50 AND FROM STA. 26+50 TO STA. 27+47.78.

\*SEE SHEET 4 FOR SHOULDER WIDENING DETAILS.



**EXISTING TYPICAL CROSS SECTION**



**BUTT JOINT**

**SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION**

SECTION 01-00083-00-BR  
 F.A.S. ROUTE 732 (C.H. 10)  
 CHRISTIAN COUNTY  
 STATION 24+99

4440 ASH GROVE  
 SPRINGFIELD, IL 62707  
 (217) 798-8600  
 oasino@tamvid.com

**OZYURT AND STONE, INC.**  
 CONSULTING ENGINEERS

JOB NO.: 0304  
 FILE: SUMTYP.DGN  
 DATE: 02-19-04

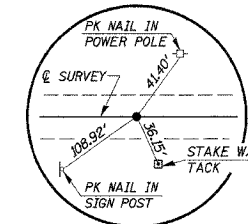
S.W. 1/4, SECTION 2, T. 11 N. R. 3 W., 3rd P.M.

EARL D. CHRISTMAN

BLOOME FARMS, INC.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10	01-00083	CHRISTIAN	12	3
F.A.S. 732	-00-BR			
STA. 20+00.00		TO STA. 29+97.65		

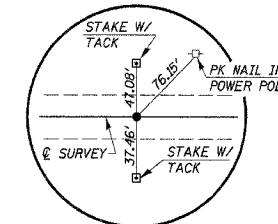
ILLINOIS CONTRACT NO. 93403



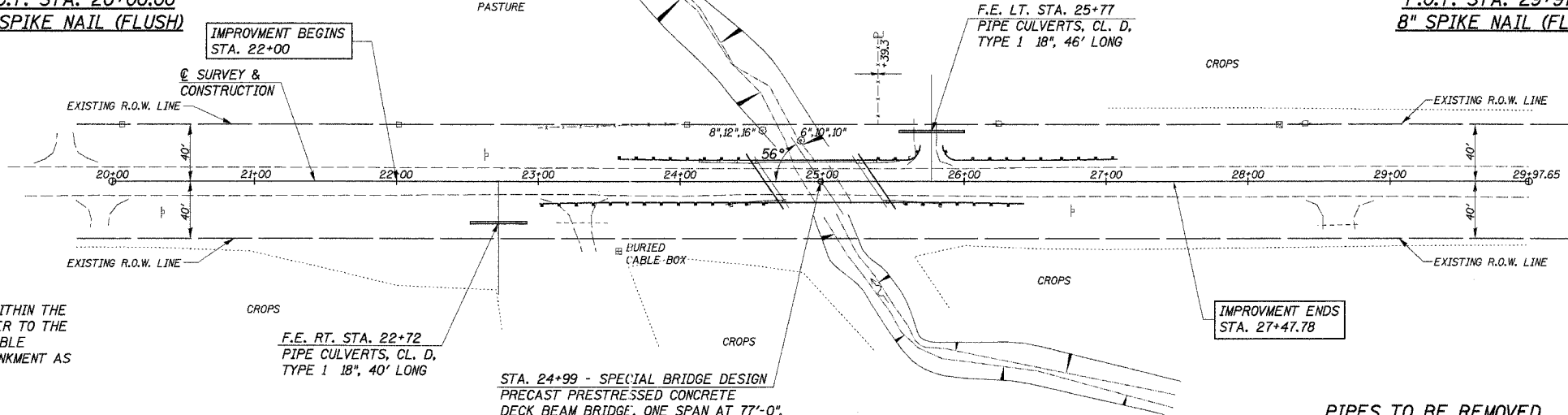
P.O.T. STA. 20+00.00  
8" SPIKE NAIL (FLUSH)

**ENTRANCES TO BE BUILT**

RT. STA. 22+72, F.E.-10.0%, 20' ROADBED  
LT. STA. 25+77, F.E.-12.0%, 20' ROADBED  
QUANTITIES INCLUDED IN THOSE LISTED



P.O.T. STA. 29+97.65  
8" SPIKE NAIL (FLUSH)



**CHANNEL EXCAVATION**

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 160 CU. YD.

**EXISTING STRUCTURE NO. 011-3011**

3-SPAN STEEL I-BEAM BRIDGE WITH CONCRETE SLABS AT 20'-4", 25'-6", 20'-4"; ON OPEN CONCRETE COLUMN PIERS AND SPILL THRU CONCRETE ABUTMENTS, 24'-0" ROADWAY, 28'-4" O.-O. DECK 70'-6" BK.-BK. ABUTS.; 34° RT. SKEW

REMOVAL OF EXISTING STRUCTURES = 1 EACH

**OVERHEAD POWER**

SHELBY ELECTRIC COOPERATIVE  
SHELBYVILLE, IL.

**BURIED CABLE**

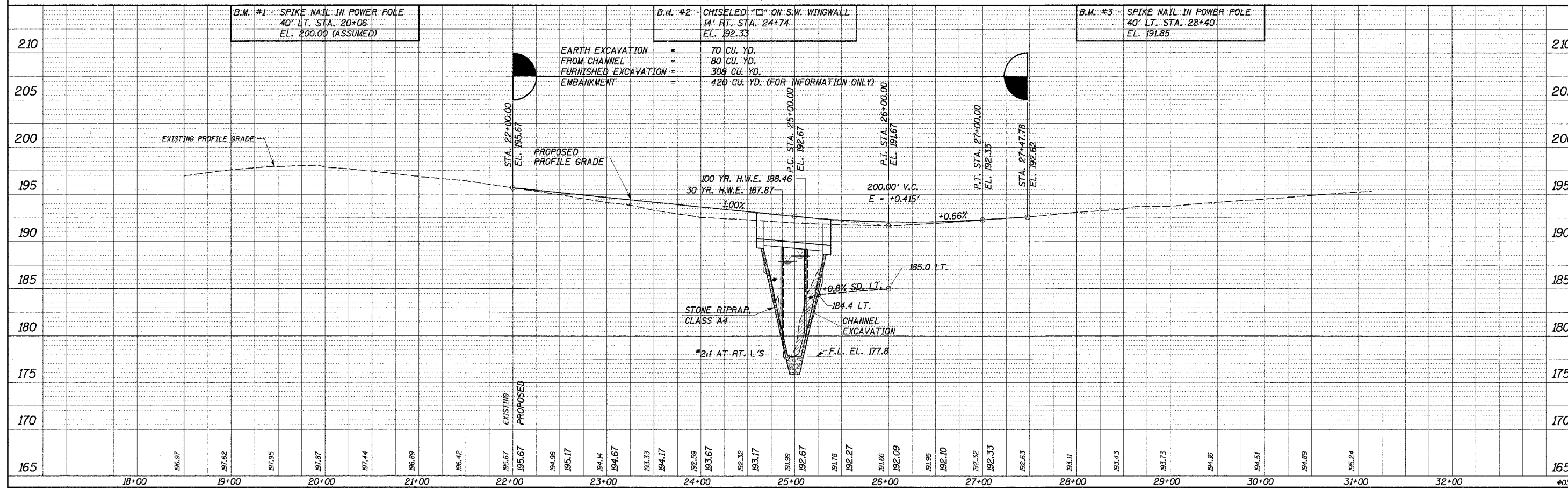
ILLINOIS CONSOLIDATED TELEPHONE CO.  
MATTOON, IL.

**PIPES TO BE REMOVED**

RT. STA. 23+30, 12" CMP, 38' LONG  
LT. STA. 25+71, 18" CMP, 38' LONG  
QUANTITIES INCLUDED IN "EARTH EXCAVATION".

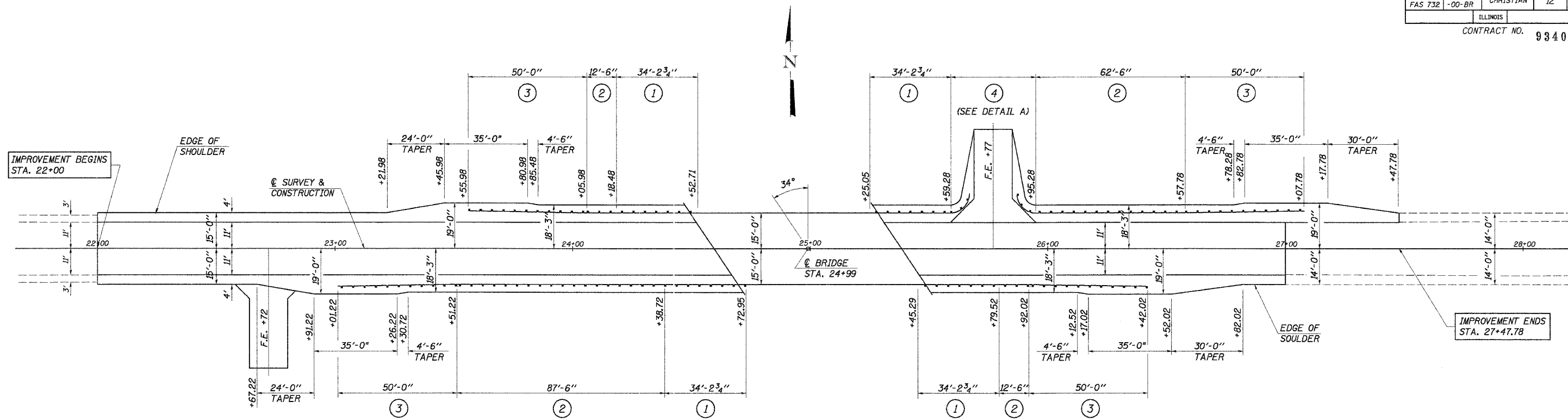
**WALNUT LAKE FARMS**

N.W. 1/4, SECTION 11, T. 11 N., R. 3 W., 3rd P.M.



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	4
ILLINOIS				

CONTRACT NO. 93403



PLAN

**TRAFFIC BARRIER TERMINAL, TYPE 6A**

- 15' LT. STA. 24+18.48 TO 15' LT. STA. 24+52.71 = 1 EACH
- 15' RT. STA. 24+38.72 TO 15' RT. STA. 24+72.95 = 1
- 15' LT. STA. 25+25.05 TO 15' LT. STA. 25+59.28 = 1
- 15' RT. STA. 25+45.29 TO 15' RT. STA. 25+79.52 = 1
- TOTAL = 4 EACH

**TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)**

- 15'-9" LT. STA. 23+55.98 TO 15' LT. STA. 24+05.98 = 1 EACH
- 15'-9" RT. STA. 23+01.22 TO 15' RT. STA. 23+51.22 = 1
- 15' LT. STA. 26+57.78 TO 15'-9" LT. STA. 27+07.78 = 1
- 15' RT. STA. 26+42.02 TO 15'-9" RT. STA. 26+92.02 = 1
- TOTAL = 4 EACH

**STEEL PLATE BEAM GUARDRAIL, TYPE A**

- 15' LT. STA. 24+05.98 TO 15' LT. STA. 24+18.48 = 12.5 FOOT
- 15' RT. STA. 23+51.22 TO 15' RT. STA. 24+38.72 = 87.5
- 15' LT. STA. 25+95.28 TO 15' LT. STA. 26+57.78 = 62.5
- 15' RT. STA. 25+79.52 TO 15' RT. STA. 25+92.02 = 12.5
- TOTAL = 175.0 FOOT

**TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)**

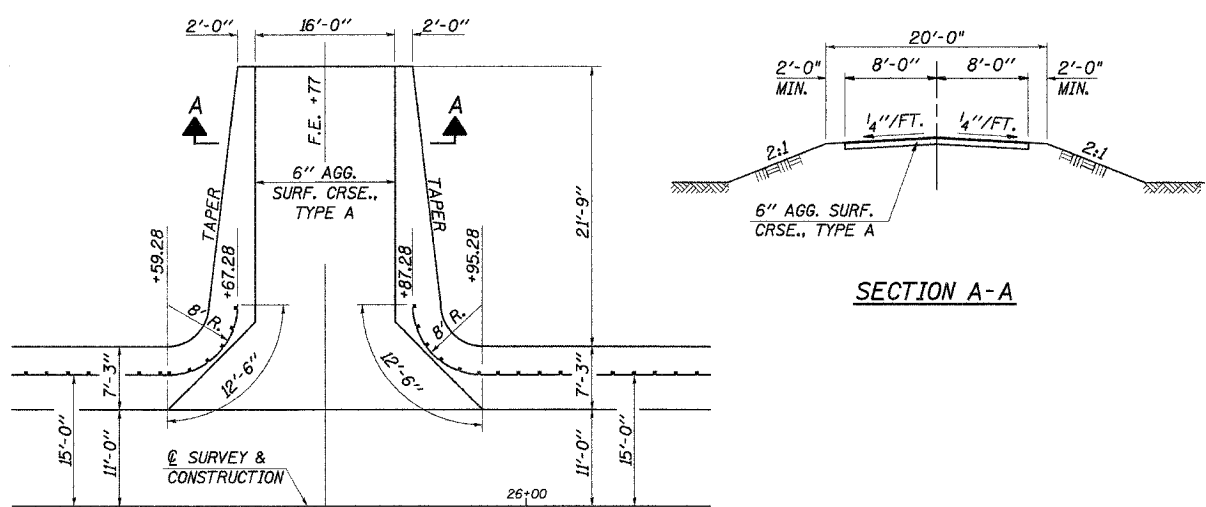
- 15' LT. STA. 25+59.28 TO 23' LT. STA. 25+67.28 = 1 EACH
- 23' LT. STA. 25+87.28 TO 15' LT. STA. 25+95.28 = 1
- TOTAL = 2 EACH

**GUARDRAIL REMOVAL**

- LT. STA. 24+13 TO STA. 24+55 = 42 FOOT
- RT. STA. 24+32 TO STA. 24+74 = 42
- LT. STA. 25+24 TO STA. 25+62 = 38
- RT. STA. 25+43 TO STA. 25+84 = 41
- TOTAL = 163 FOOT

**LEGEND**

- NOTE: ALL DIMENSIONS REFER TO FRONT FACE OF PROPOSED RAILING.
- ① TRAFFIC BARRIER TERMINAL, TYPE 6A
  - ② STEEL PLATE BEAM GUARDRAIL, TYPE A
  - ③ TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)
  - \*④ TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)
- \*SHOP BEND TO MATCH DETAIL A



DETAIL A

SECTION A-A

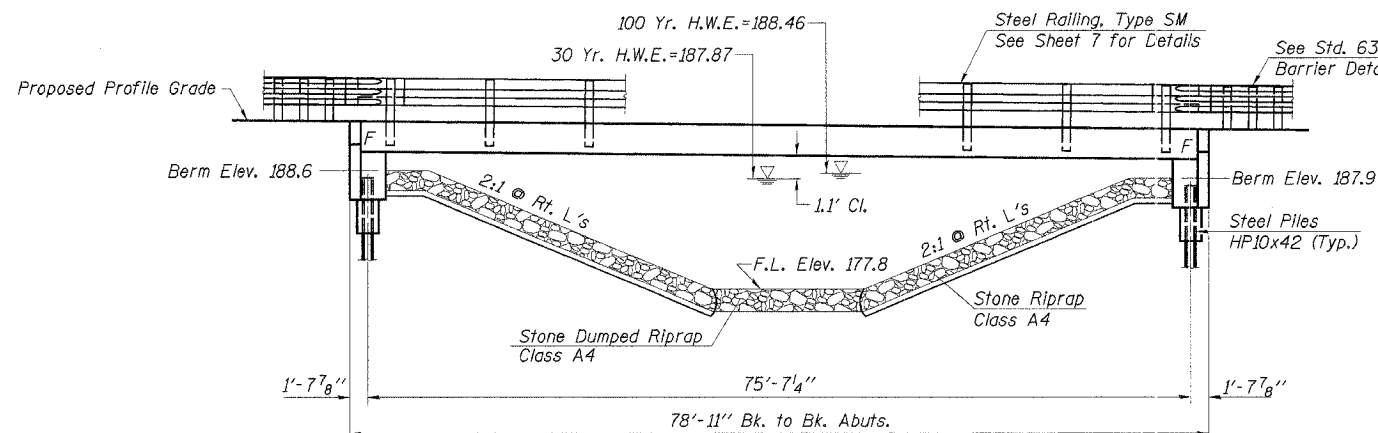
DESIGNED	FJS
CHECKED	SFM
DRAWN	SAP & KTR
CHECKED	SFM

**SHOULDER AND GUARDRAIL DETAILS**

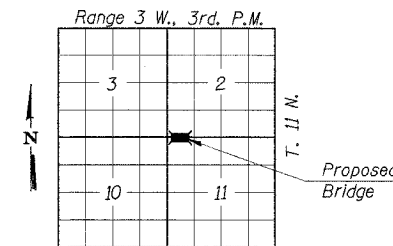
SECTION 01-00083-00-BR  
F.A.S. ROUTE 732 (C.H. 10)  
CHRISTIAN COUNTY  
STATION 24+99

4440 ASH GROVE SPRINGFIELD, IL 62707 (217) 793-8600 oasinc@famvid.com	<b>OZYURT AND STONE, INC.</b> CONSULTING ENGINEERS	JOB NO.: 0304 FILE: SHLDR.DGN DATE: 02-19-04
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	5
ROAD DIST.		ILLINOIS	CONTRACT NO. 93403	



**ELEVATION**



**LOCATION PLAN**

**GENERAL NOTES**

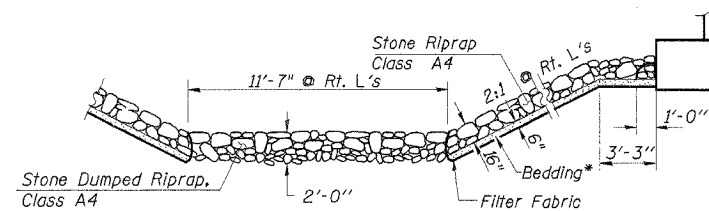
See Special Provisions for Boring data.

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

The Contractor shall drive one steel test pile in a permanent location at each abutment as directed by the Engineer, before ordering the remainder of piles.

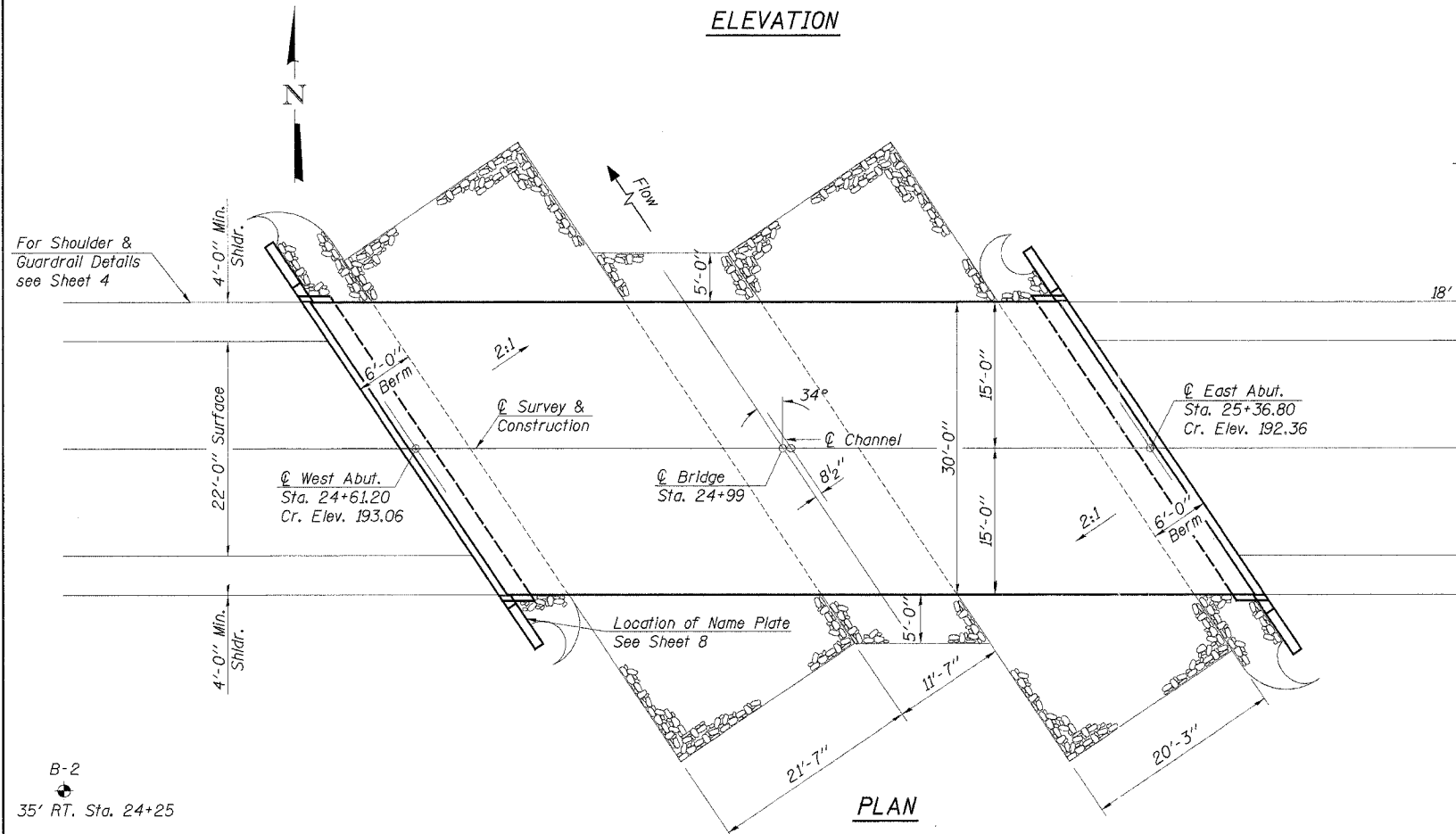
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Structure excavation will not be paid for as a separate item but shall be considered as included in the contract unit price for the class of concrete involved.

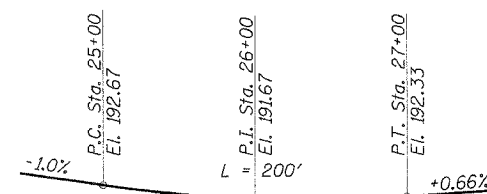


**RIPRAP PLACEMENT**

\*(Included in the cost of Riprap)



**PLAN**



**PROFILE GRADE**

MILLER BRANCH  
BUILT 200\_ BY  
CHRISTIAN COUNTY  
SEC. 01-00083-00-BR  
F.A.S. ROUTE 732  
F.A. PROJ. BRS-732(144)  
STR. NO. 011-3397 LOADING HS20

**LETTERING FOR NAME PLATE**

See Std. 515001

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2310		2310
Concrete Structures	Cu. Yd.		35.2	35.2
Reinforcement Bars	Pound		3880	3880
Steel Bridge Rail, Type SM	Foot	156		156
Name Plates	Each		1	1
Steel Piles HP10x42	Foot		550	550
Test Pile Steel HP10x42	Each		2	2
Stone Riprap, Class A4	Ton		266	266
Filter Fabric	Sq. Yd.		363	363
Stone Dumped Riprap, Class A4	Ton		68	68
Bit. Conc. Surf. Crse., Mix C N50	Ton	30		30
Waterproofing Membrane System	Sq. Yd.	257		257
P.C. Mortar Fairing Course	Foot	200		200
Concrete Encasement	Cu. Yd.		4.2	4.2

**WATERWAY INFORMATION**

Drainage Area	6.53 Sq. Mi.
Existing Opening (30 Yr.)	232 Sq. Ft.
Required Opening (30 Yr.)	310 Sq. Ft.
Proposed Opening (30 Yr.)	310 Sq. Ft.
Design Discharge (30 Yr.)	1154 C.F.S.
Created Head (30 Yr.)	0.54 Ft.
100 Year Discharge	1536 C.F.S.
100 Yr. Created Head	0.28 Ft.

DESIGNED	FJS
CHECKED	SFM
DRAWN	SAP & KTR
CHECKED	SFM

**DESIGN STRESSES**

$f_c = 5,000$  p.s.i. (Prestressed Beams)  
 $f_{ti} = 4,000$  p.s.i. (Prestressed Beams)  
 $f_c = 1,400$  p.s.i. (Concrete)  
 $f_s = 270,000$  p.s.i. (Prestressed Strands)  
 $f_{si} = 201,960$  p.s.i. (Prestressed Strands)  
 $f_s = 24,000$  p.s.i. (Reinf. Bars -- Field Units)  
 $f_y = 60,000$  p.s.i. (Reinf. Bars -- Field Units)  
 $n = 9$  (Concrete)  
 LOADING HS20-44  
 Design Specifications: 2002 AASHTO  
 25#1/Sq. Ft. Included in dead load for  
 future wearing surface.

"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 Standard Specifications for Highway Bridges'."

Fred J. Stone, Jr. (11-29-05)  
 ILLINOIS STRUCTURAL NO. 2934 (Expires 11/30/06)



**GENERAL PLAN & ELEVATION**

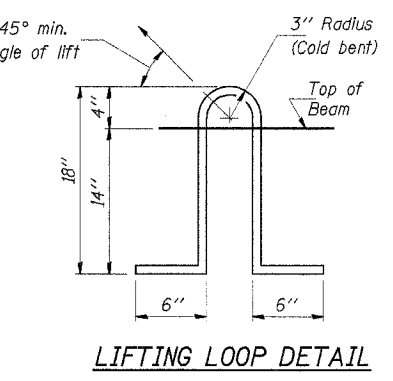
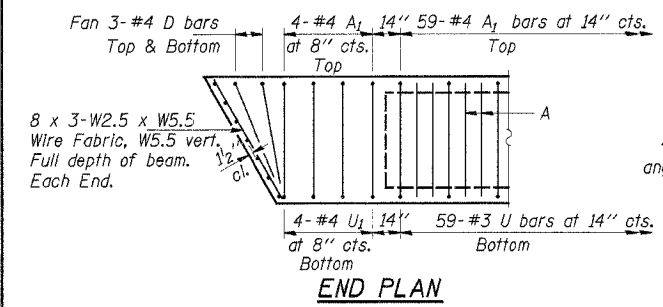
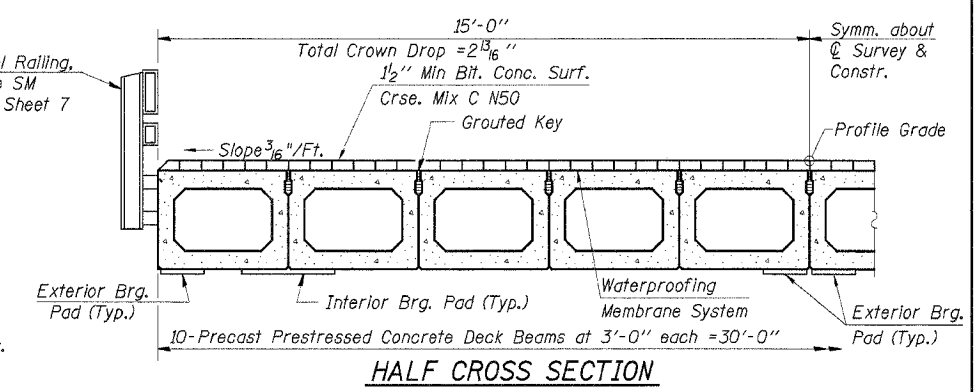
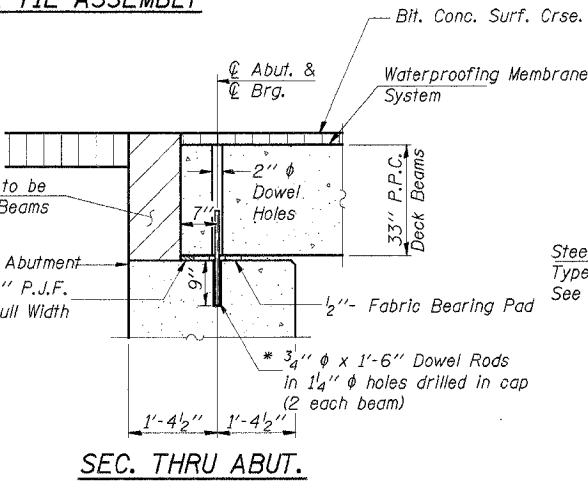
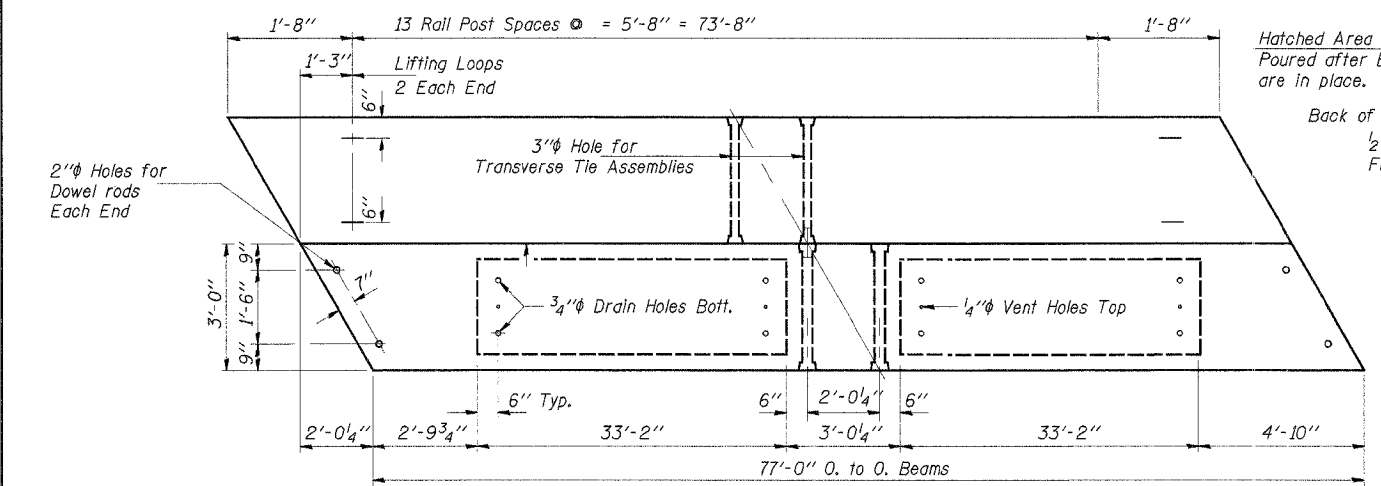
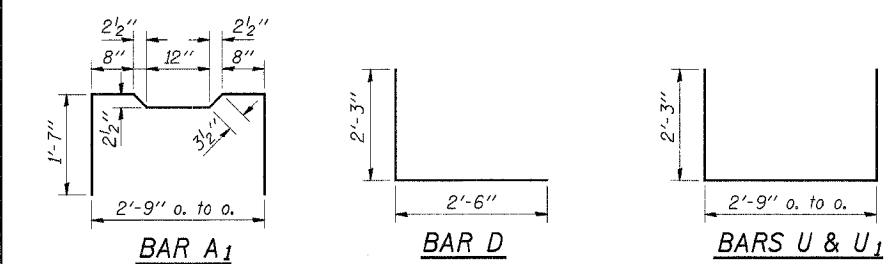
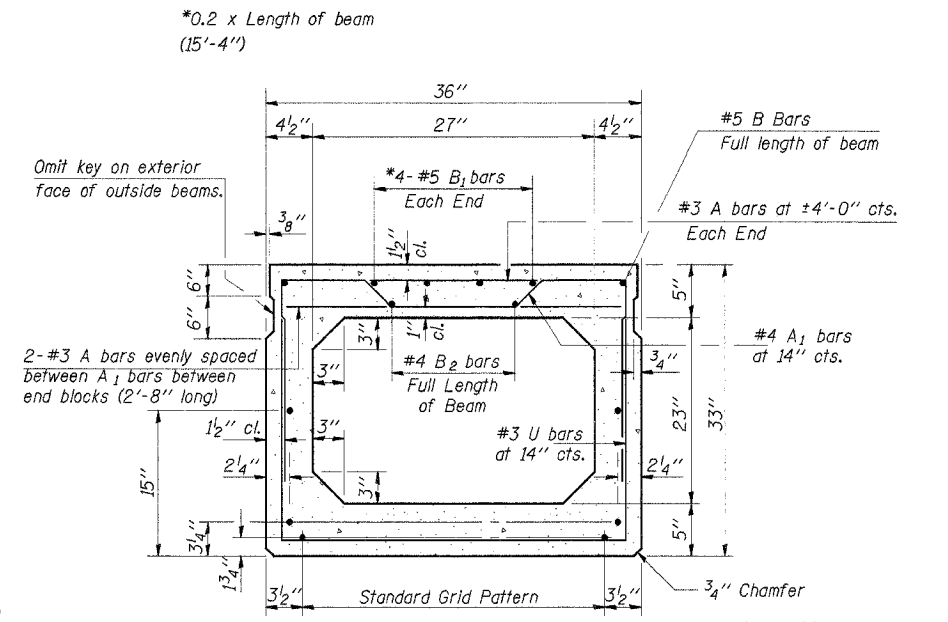
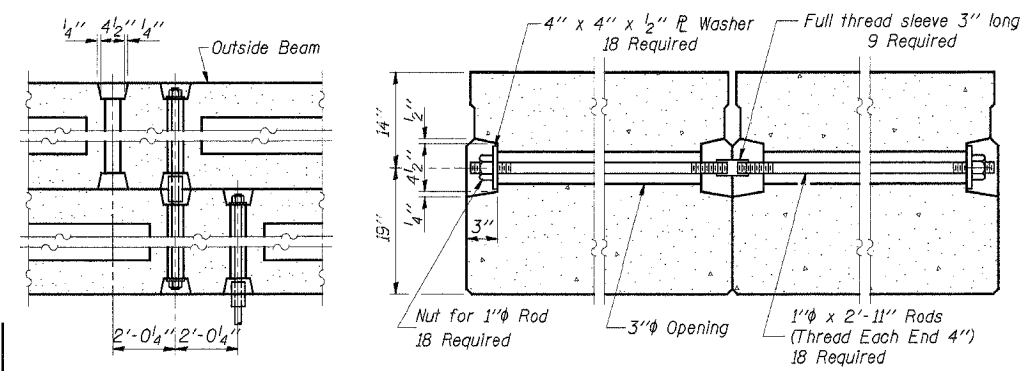
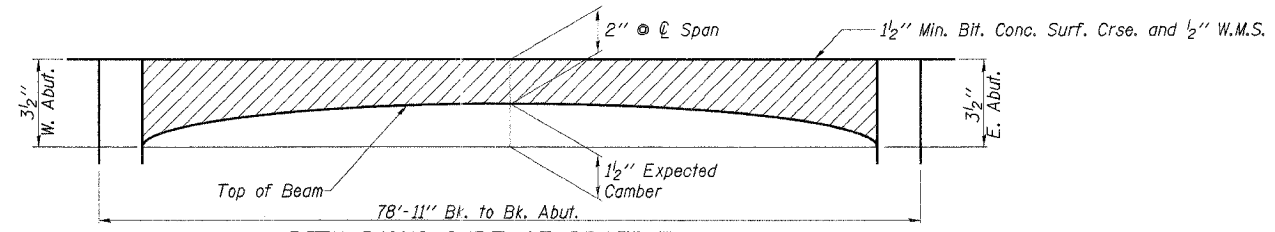
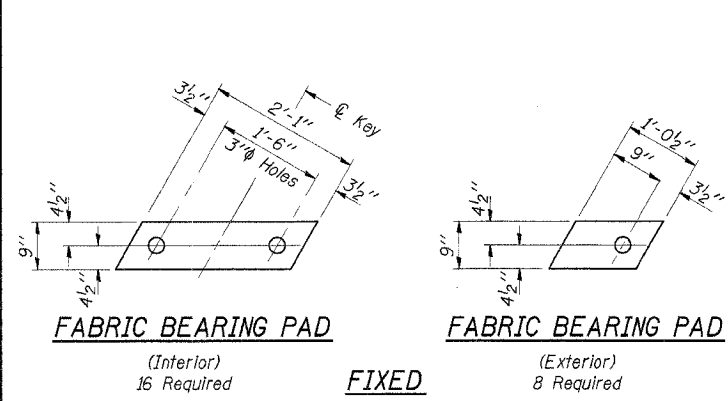
SECTION 01-00083-00-BR  
 F.A.S. ROUTE 732  
 CHRISTIAN COUNTY  
 STATION 24+99

4440 ASH GROVE  
 SPRINGFIELD, IL 62707  
 (217) 793-8800  
 oasin@famvid.com

**OZYURT AND STONE, INC.**  
 CONSULTING ENGINEERS

JOB NO.: 0304  
 FILE: GPE.DGN  
 DATE: 02-18-04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	6
ROAD DIST.		ILLINOIS	CONTRACT NO. 93403	



\* Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting the shear keys.

**NOTES**  
The top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughed by brooming. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a min. of 1/4".

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. Lifting loops shall be 3-1/2"  $\phi$ -270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. (No. Rq'd=48) Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i. See Special Provisions for review and distribution of shop drawings. Rail post anchor devices shall be cast into outside beam as elsewhere specified.

**BILL OF MATERIAL**

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2310
Bit. Conc. Surf. Crse., Mix C, N50	Ton	30
Waterproofing Membrane System	Sq. Yd.	257
P.C. Mortar Fairing Course	Foot	200

Estimated Total Weight (One Beam) = 55,120 Pounds

**SUPERSTRUCTURE**  
SECTION 01-00083-00-BR  
F.A.S. ROUTE 732  
CHRISTIAN COUNTY  
STATION 24+99

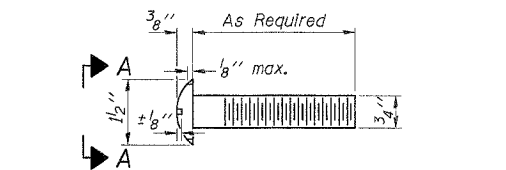
4440 ASH GROVE  
SPRINGFIELD, IL 62707  
(217) 793-9600  
oasinc@tamvid.com

**OZYURT AND STONE, INC.**  
CONSULTING ENGINEERS

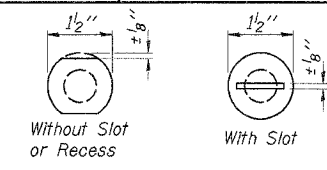
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FILE: SUPER.DGN  
DATE: 02-18-04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	7
ROAD DIST.		ILLINOIS		

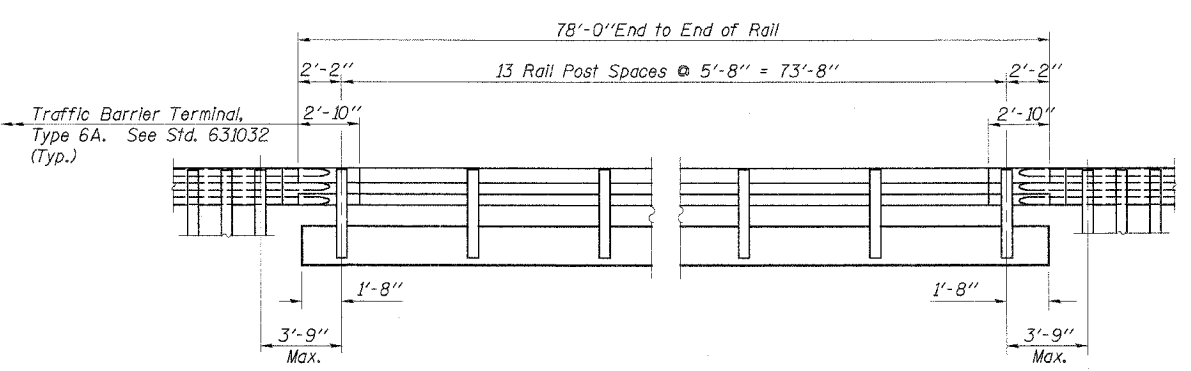
CONTRACT NO. 93403



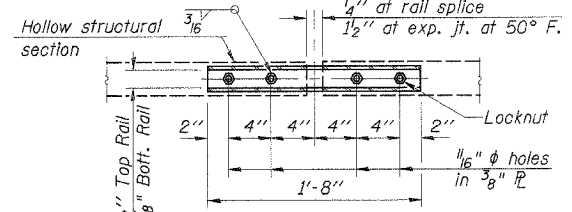
DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT



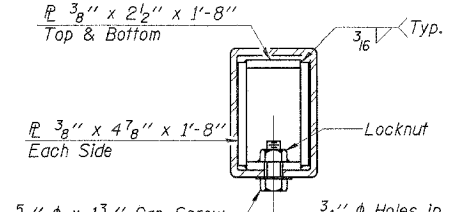
VIEW A-A



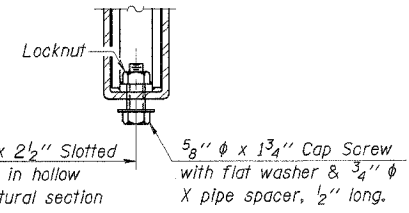
ELEVATION



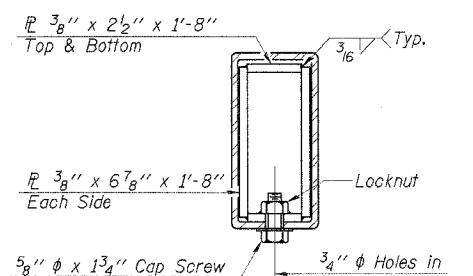
PLAN-BOTT. SPLICE R  
TYPICAL



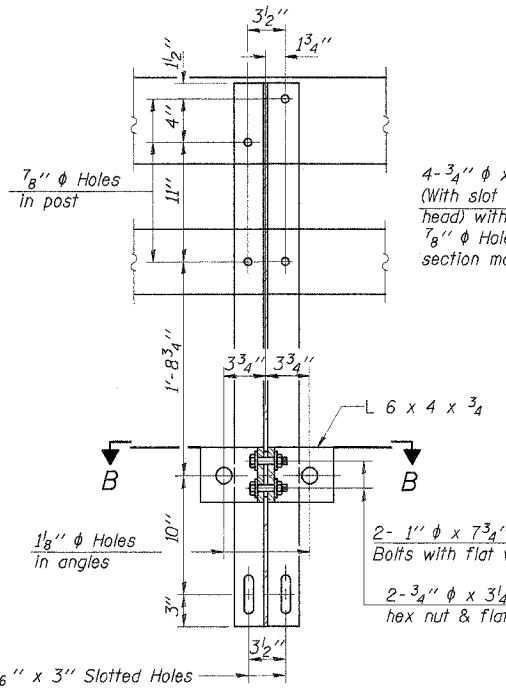
BOTTOM RAIL



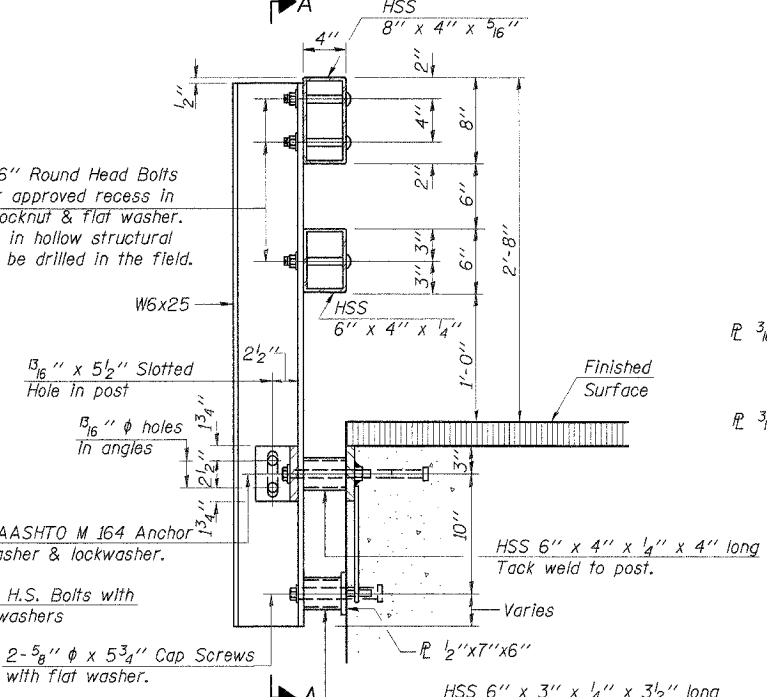
RAIL SPLICE CONNECTION  
AT EXPANSION JT.



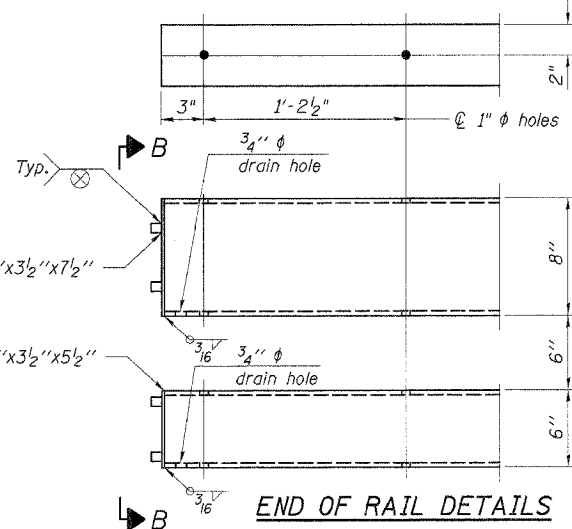
TOP RAIL



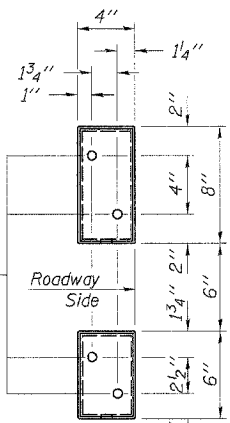
SECTION A-A



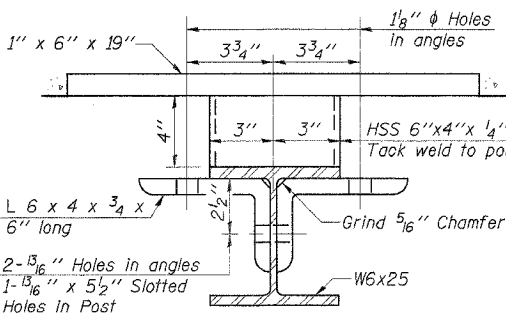
SECTION AT RAIL POST



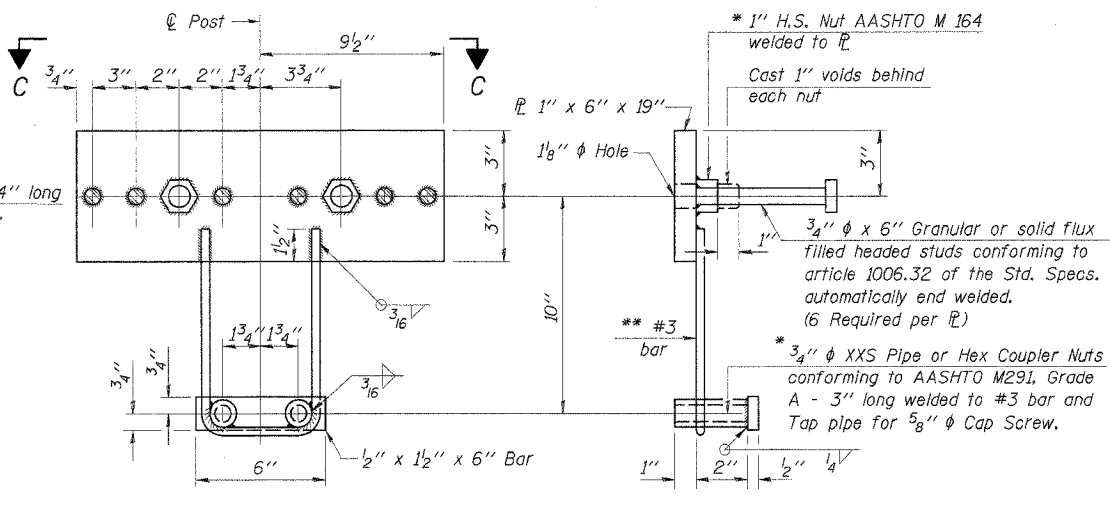
END OF RAIL DETAILS



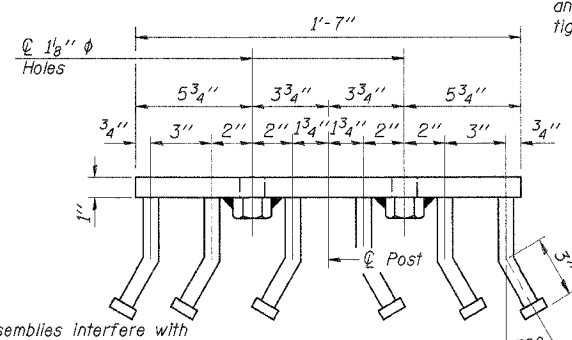
VIEW B-B



SECTION B-B



ANCHOR DEVICE



VIEW C-C

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.

The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/2" fabric bearing pads between the plates and concrete.

The 3/4"  $\phi$  high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1"  $\phi$  high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8"  $\phi$  cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	156

STEEL BRIDGE RAIL, TYPE SM  
SECTION 01-00083-00-BR  
F.A.S. ROUTE 732  
CHRISTIAN COUNTY  
STATION 24+99

DESIGNED	FJS
CHECKED	SFM
DRAWN	SAP & KTR
CHECKED	SFM

4440 ASH GROVE  
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oasinc@earthlink.net

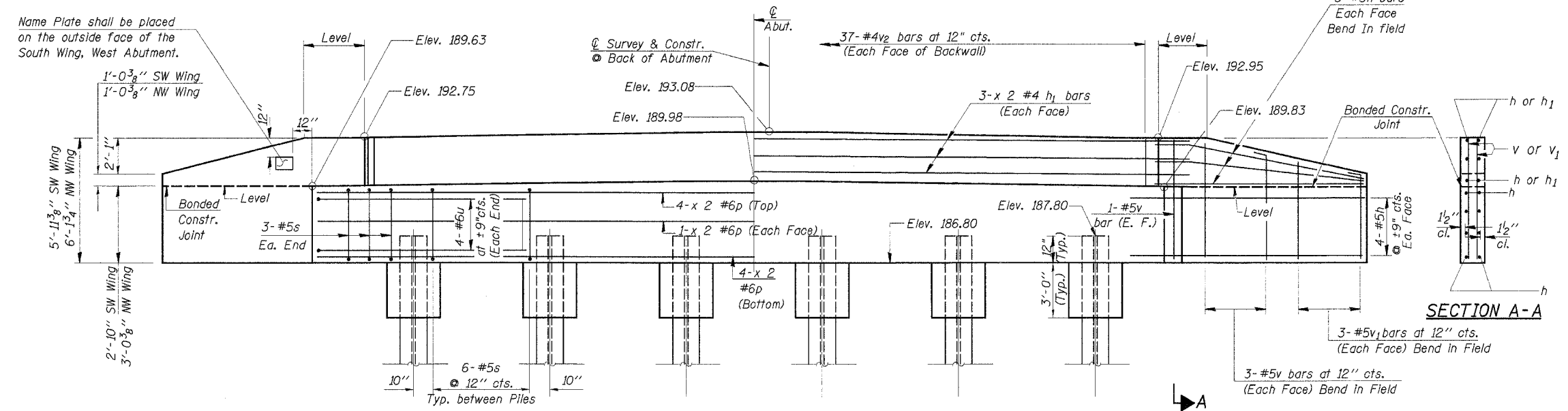
**OZYURT AND STONE, INC.**  
CONSULTING ENGINEERS

JOB NO.: 0304  
FILE: RAIL\_SM-6A.DGN  
DATE: 02-18-04

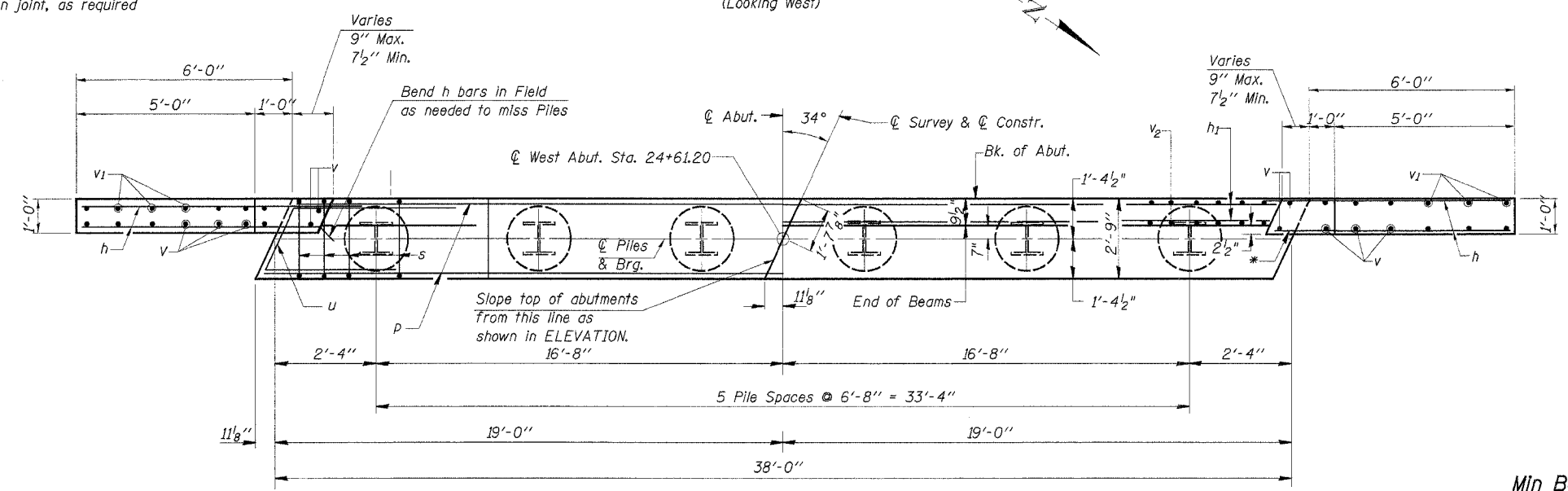
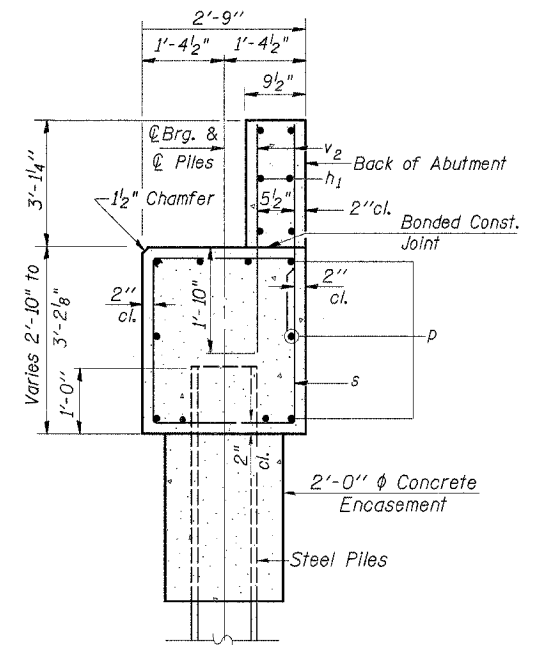
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 10 FAS 732	01-00083 -00-BR	CHRISTIAN	12	8
ROAD DIST.	ILLINOIS	CONTRACT NO. 93403		

NOTE: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwall above the bonded construction joint shall be poured.

Name Plate shall be placed on the outside face of the South Wing, West Abutment.

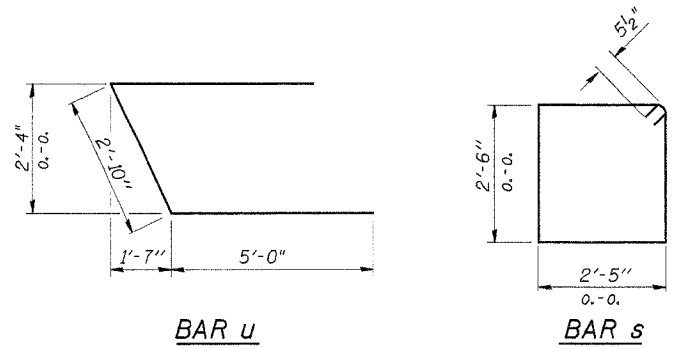
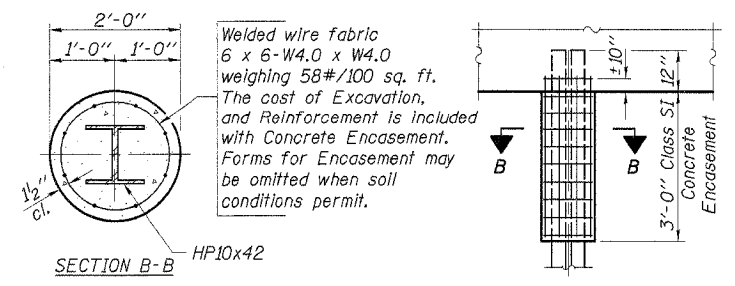


\* Cut h bars in front face of wingwall, above bonded construction joint, as required to fit.



Min Bar Lap  
#4 - 1'-4"  
#6 - 2'-0"

DESIGNED	FJS
CHECKED	SFM
DRAWN	SAP & KTR
CHECKED	SFM



PILE DATA

Type \_\_\_\_\_ Steel HP10x42  
No. Req'd. (2 Abuts.) \_\_\_\_\_ 6\*  
Capacity \_\_\_\_\_ Refusal  
Est. Length \_\_\_\_\_ 60 Feet/Pile

\*Includes one test pile to be driven in a permanent location at the West Abutment.

**WEST ABUTMENT BILL OF MATERIAL**

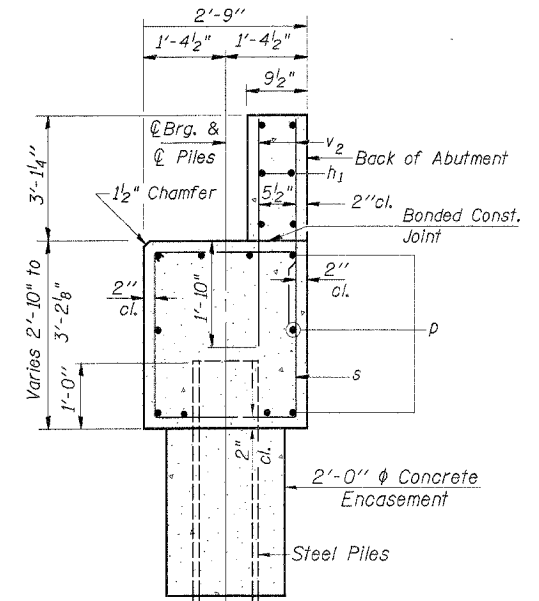
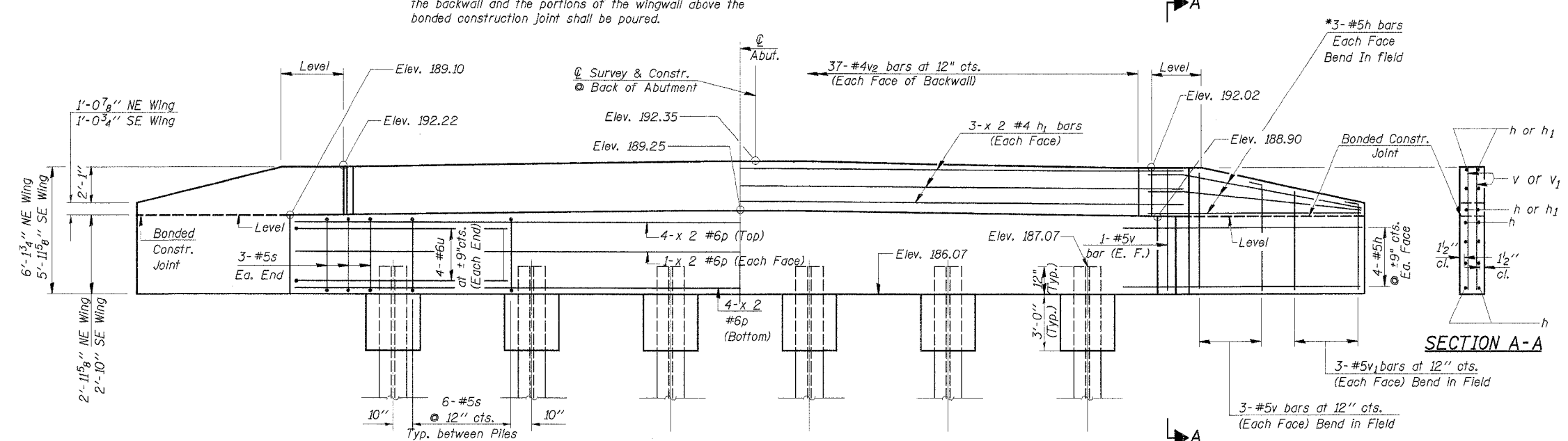
BAR	NO.	SIZE	LENGTH	SHAPE
h	28	#5	8'-0"	—
h <sub>1</sub>	12	#4	20'-8"	—
p	20	#6	19'-10"	—
s	36	#5	10'-9"	□
u	8	#6	12'-10"	∩
v	16	#5	5'-8"	—
v <sub>1</sub>	12	#5	4'-6"	—
v <sub>2</sub>	74	#4	4'-9"	—
		Concrete Structures	Cu. Yd.	17.6
		Reinforcement Bars	Pound	1940
		Name Plates	Each	1
		Test Pile Steel HP10x42	Each	1
		Steel Piles HP10x42	Foot	300
		Concrete Encasement	Cu. Yd.	2.1

**WEST ABUTMENT**  
SECTION 01-00083-00-BR  
F.A.S. ROUTE 732  
CHRISTIAN COUNTY  
STATION 24+99

4440 ASH GROVE SPRINGFIELD, IL 62707 (217) 793-9600 oasinc@tamvid.com	<b>OZYURT AND STONE, INC.</b> CONSULTING ENGINEERS	JOB NO.: 0304 FILE: W.ABUT.DGN DATE: 02-18-04
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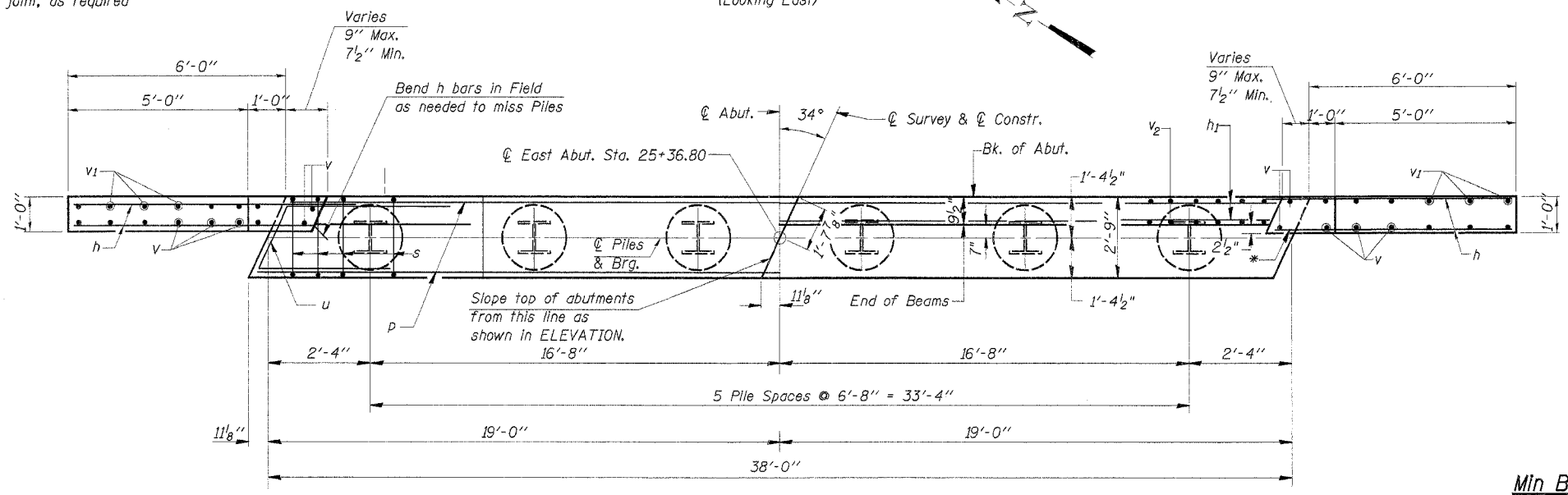


NOTE: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwall above the bonded construction joint shall be poured.



**SECTION THRU ABUTMENT**  
(At Right L's)

\* Cut h bars in front face of wingwall, above bonded construction joint, as required to fit.



**PLAN**

**EAST ABUTMENT  
BILL OF MATERIAL**

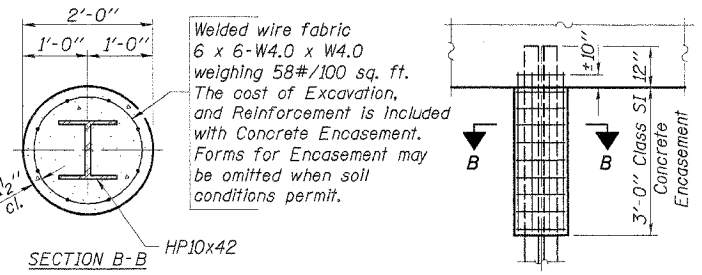
BAR	NO.	SIZE	LENGTH	SHAPE
h	28	#5	8'-0"	—
h1	12	#4	20'-8"	—
p	20	#6	19'-10"	—
s	36	#5	10'-9"	□
u	8	#6	12'-10"	∩
v	16	#5	5'-8"	—
v1	12	#5	4'-6"	—
v2	74	#4	4'-9"	—
Concrete Structures			Cu. Yd.	17.6
Reinforcement Bars			Pound	1940
Test Pile Steel HP10x42			Each	1
Steel Piles HP10x42			Foot	250
Concrete Encasement			Cu. Yd.	2.1

**Min Bar Lap**  
#4 - 1'-4"  
#6 - 2'-0"

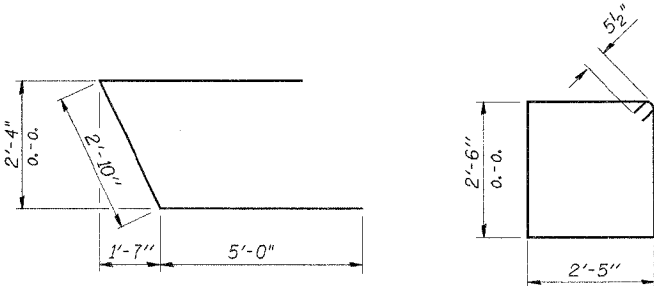
**PILE DATA**

Type ----- Steel HP10x42  
No. Req'd. (2 Abut.) ----- 6\*  
Capacity ----- Refusal  
Est. Length ----- 50 Feet/Pile

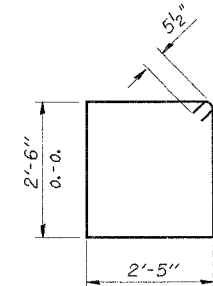
\*Includes one test pile to be driven in a permanent location at the East Abutment.



**PILE ENCASEMENT DETAIL**



**BAR u**



**BAR s**

DESIGNED	FJS
CHECKED	SFM
DRAWN	SAP & KTR
CHECKED	SFM

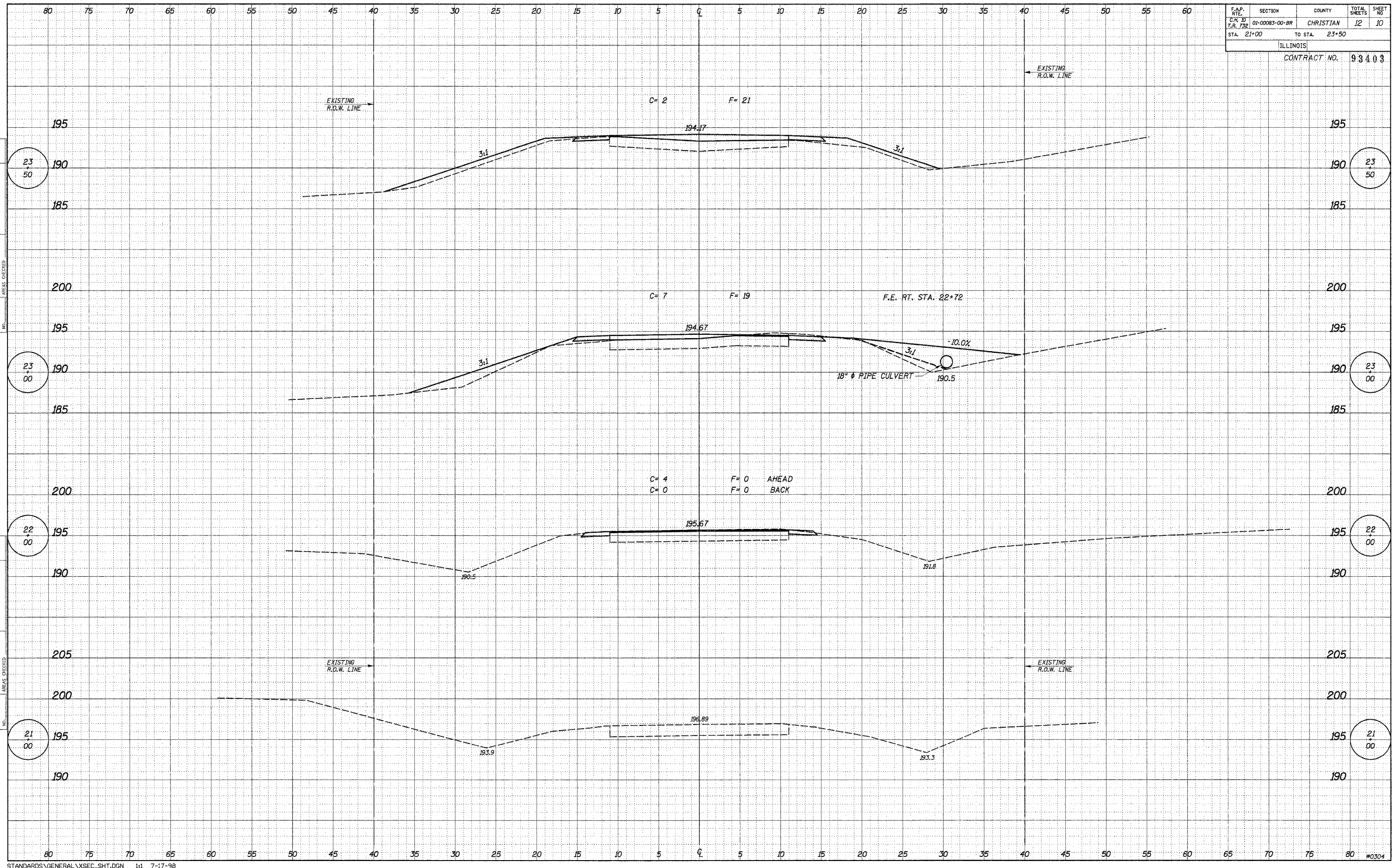
**EAST ABUTMENT  
SECTION 01-00083-00-BR  
F.A.S. ROUTE 732  
CHRISTIAN COUNTY  
STATION 24+99**

4440 ASH GROVE  
SPRINGFIELD, IL 62707  
(217) 793-8600  
oasinc@amvlg.com

**OZYURT AND STONE, INC.**  
CONSULTING ENGINEERS

JOB NO.: 0304  
FILE: W.ABUT.DGN  
DATE: 02-18-04

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.R. 732	01-00083-00-BR	CHRISTIAN	12	10
ILLINOIS			TO STA. 23+50	
CONTRACT NO. 93403				

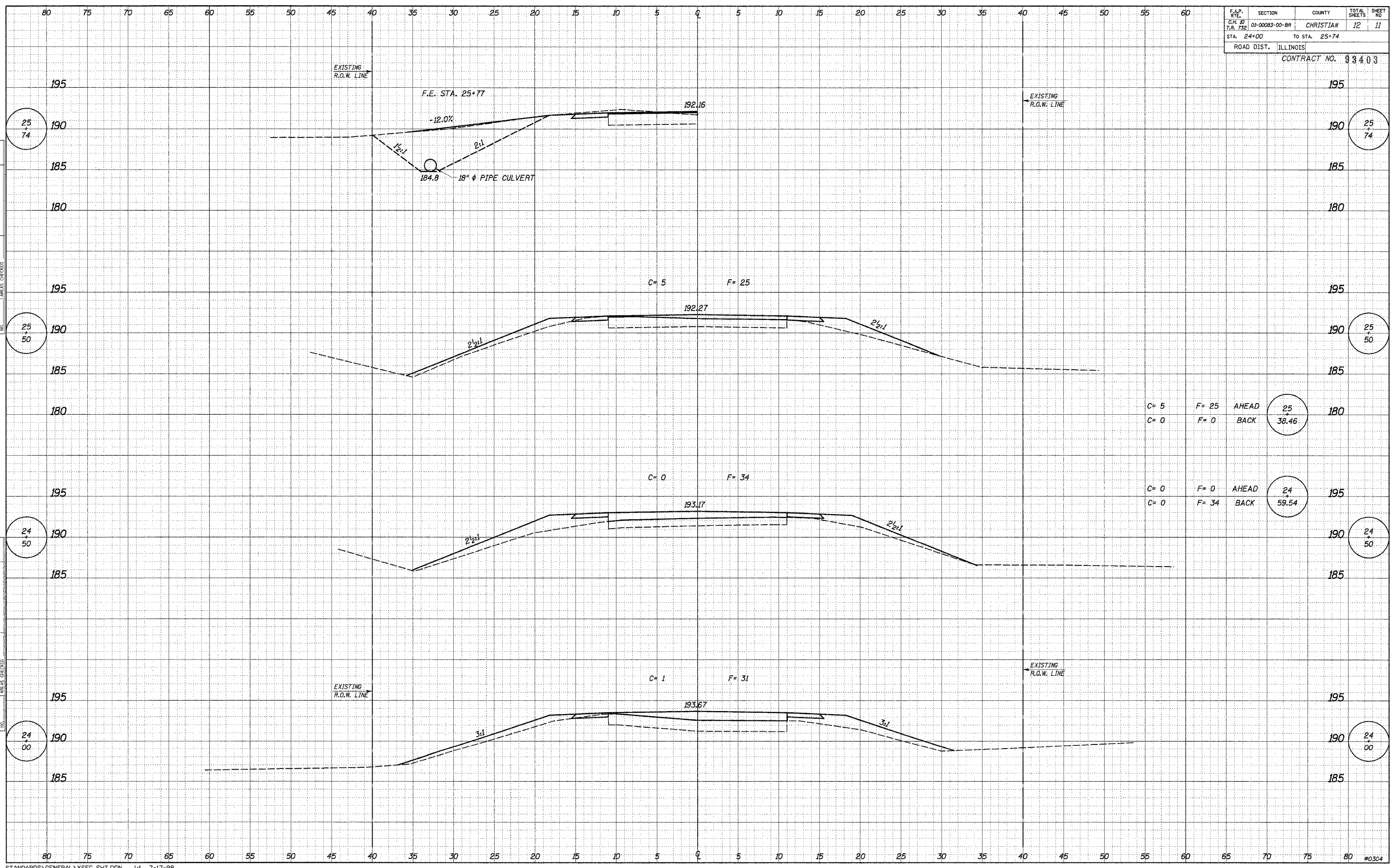


DATE	BY
ORIGINAL SURVEY	SURVEY
NOTE BOOK	NOTE BOOK
TEMPLE	TEMPLE
AREAS CHECKED	AREAS CHECKED

DATE	BY
ORIGINAL SURVEY	SURVEY
NOTE BOOK	NOTE BOOK
TEMPLE	TEMPLE
AREAS CHECKED	AREAS CHECKED

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.M. NO. 732	01-00083-00-BR	CHRISTIAN	12	11
STA. 24+00		TO STA. 25+74		
ROAD DIST. ILLINOIS				

CONTRACT NO. 93403

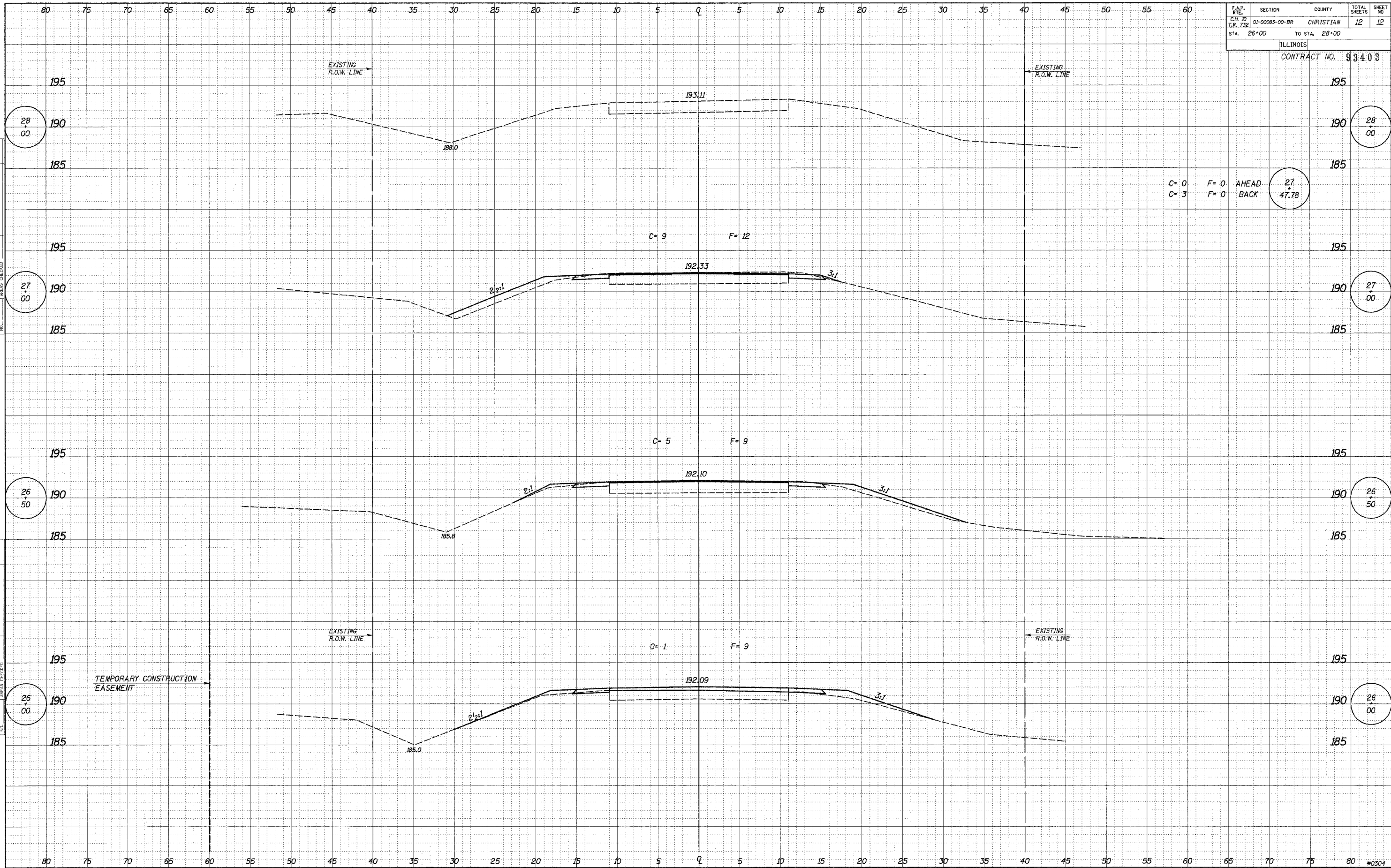


DATE \_\_\_\_\_ BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

DATE \_\_\_\_\_ BY \_\_\_\_\_  
 ORIGINAL SURVEY \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 30 T.R. 738	01-00083-00-BR	CHRISTIAN	12	12
STA. 26+00		TO STA. 28+00		

ILLINOIS  
CONTRACT NO. 93403



DATE	BY
DATE	BY
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
DATE	BY
DATE	BY
DATE	BY