

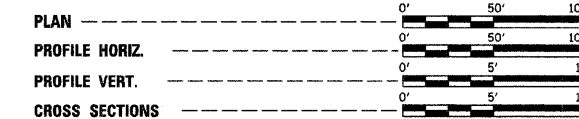
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

ASHKUM ROAD DISTRICT
SECTION 06-03122-00-BR
IROQUOIS COUNTY
PROJECT NO. BROS-075 (133)
T.R. 150
C-93-005-08

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	1
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	

CONTRACT NO. 87362

SCALES



INDEX OF SHEETS

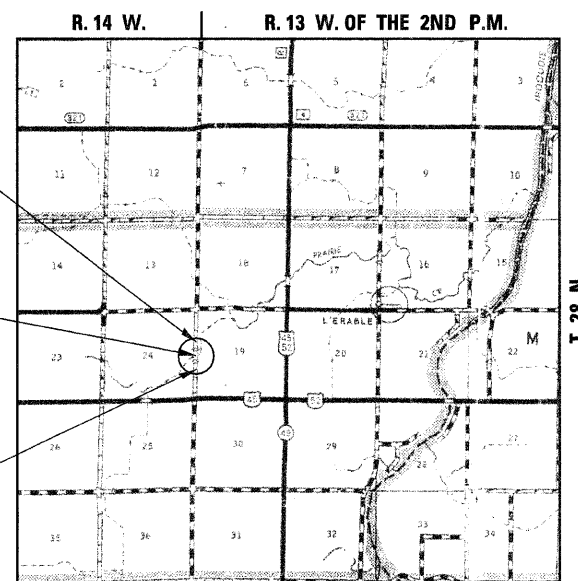
SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	ENTRANCE & DRAINAGE DETAILS
4.	PLAN AND PROFILE SHEET
5.-11.	BRIDGE PLANS
12.-13.	FOUNDATION BORING LOGS
14.-20.	STATION CROSS SECTIONS

STANDARDS:

- 280001-04
- 515001-02
- 542406
- 635006-02
- 701301-02
- 701901
- BLR 21-7

CLASSIFICATION: LOCAL ROAD (RURAL UNDER 250 ADT)
 DESIGN VOLUME: 76 ADT (2028)
 CURRENT ADT: 73 (2008)
 DESIGN SPEED: 30 M.P.H.

CONTRACT NO. 87362

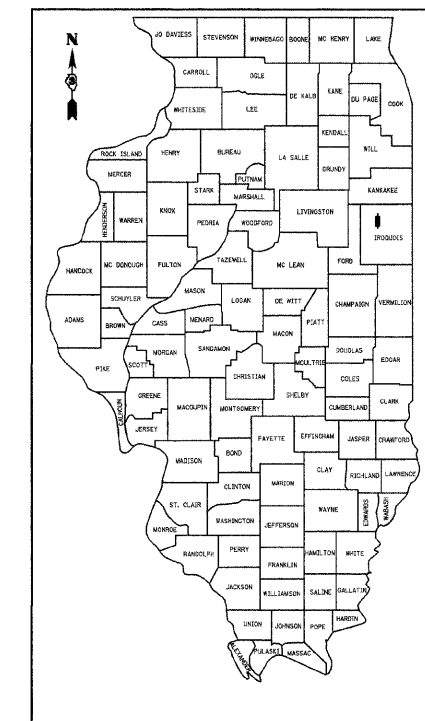
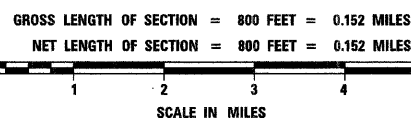


IMPROVEMENT ENDS STA. 19+00

STA. 15+00 - SPECIAL BRIDGE DESIGN
 PRECAST PRESTRESSED CONCRETE DECK
 BEAM BRIDGE; 3 SPANS @ 36', 40', 36';
 30'-0" ROADWAY; 25°40' SKEW
 EXISTING S.N. 038-3245
 PROPOSED S.N. 038-3258

IMPROVEMENT BEGINS STA. 11+00

LOCATION PLAN



LOCATION OF SECTION INDICATED THUS:

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



Fred J. Stone, Jr. (11-10-07)
 ILLINOIS PROFESSIONAL NO. 26065
 EXPIRES 11-30-09

PASSED	<u>11-20</u>	<u>2007</u>
	<i>Richard Lange</i> ROAD DISTRICT COMMISSIONER	
APPROVED	<u>11-20</u>	<u>2007</u>
	<i>John A. ...</i> COUNTY ENGINEER	
PASSED	<u>01-22</u>	<u>2008</u>
	<i>Kenneth R. ...</i> DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID BASED ON LIMITED REVIEW	<u>01-22</u>	<u>2008</u>
	<i>George S. ...</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 793-8800
 www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 PEPPERDINE, ROCKFORD, E. ROCHESTER, E. SPRINGFIELD, IL

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	2
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	

CONTRACT NO. 87362

SUMMARY OF QUANTITIES

NUMBER	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE X080-2A
20200100	EARTH EXCAVATION	CU YD	472	
20300100	CHANNEL EXCAVATION	CU YD	666	
20400800	FURNISHED EXCAVATION	CU YD	828	
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.8	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	80	
28000300	TEMPORARY DITCH CHECKS	EACH	3	
28000400	PERIMETER EROSION BARRIER	FOOT	600	
28100209	STONE RIPRAP, CLASS A5	TON	890	
28200200	FILTER FABRIC	SQ YD	740	
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1,297	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	
50300225	CONCRETE STRUCTURES	CU YD	50.3	
50300280	CONCRETE ENCASEMENT	CU YD	26.0	
* 50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	3,360	
50800105	REINFORCEMENT BARS	POUND	5,290	
50900205	STEEL RAILING, TYPE S1	FOOT	225	
51201005	FURNISHING METAL SHELL PILES 12"	FOOT	972	
51202305	DRIVING PILES	FOOT	972	
51203200	TEST PILE METAL SHELLS	EACH	2	
51500100	NAME PLATES	EACH	1	
* 54200649	PIPE CULVERTS, TYPE 1, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE 24"	FOOT	126	
54205911	PIPE CULVERTS, TYPE 1, CORRUGATED STEEL, EQUIVALENT ROUND-SIZE 36"	FOOT	84	
54215151	STEEL END SECTIONS, EQUIVALENT ROUND-SIZE 36"	EACH	1	
550B0020	STORM SEWERS, CLASS B, TYPE 1 6"	FOOT	52	
60103400	PIPE DRAINS, CORRUGATED STEEL 10"	FOOT	12	
67100100	MOBILIZATION	L SUM	1	
* 70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	

*SEE SPECIAL PROVISIONS

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.

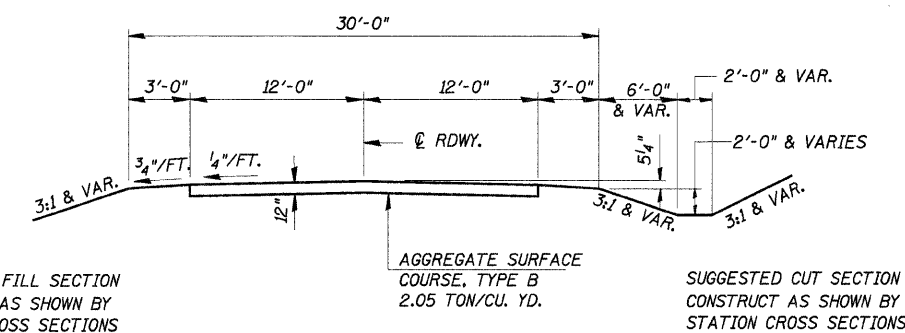
THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.8 ACRE

TEMPORARY EROSION CONTROL

THE FOLLOWING QUANTITIES ARE ESTIMATE 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 = 600 FOOT
 TEMPORARY EROSION CONTROL SEEDINGS = 80 POUND
 TEMPORARY DITCH CHECKS = 3 EACH

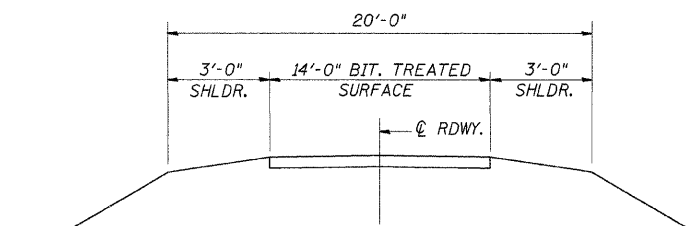


TYPICAL PROPOSED CROSS SECTION

STA. 12+00 TO STA. 18+00

ROAD CLASSIFICATION: LOCAL ROAD ADT 0-250
 CURRENT ADT LESS THAN 150

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY
 TO BE CONSTRUCTED FROM STA. 11+00 TO STA. 12+00 AND
 FROM STA. 18+00 TO STA. 19+00.



EXISTING TYPICAL CROSS SECTION

SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION

SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 793-8600
 www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 PREPARED BY: ROBERT E. ROSSIGNOL & ASSOCIATES, INC.
 SPRINGFIELD, IL

DRAWN: S.A.P.
 DATE: 6/22/07

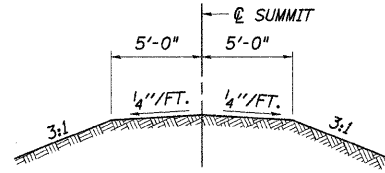
CHECKED: G.J.C.
 DATE: AUG./07

JOB NO.: 46864
 FILE: 0228SUMTYP.DGN
 DATE: 11/08/07

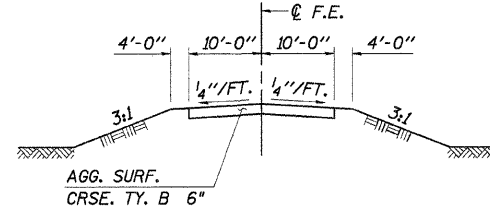
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	3
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	
CONTRACT NO. 87362				

ENTRANCES TO BE BUILT

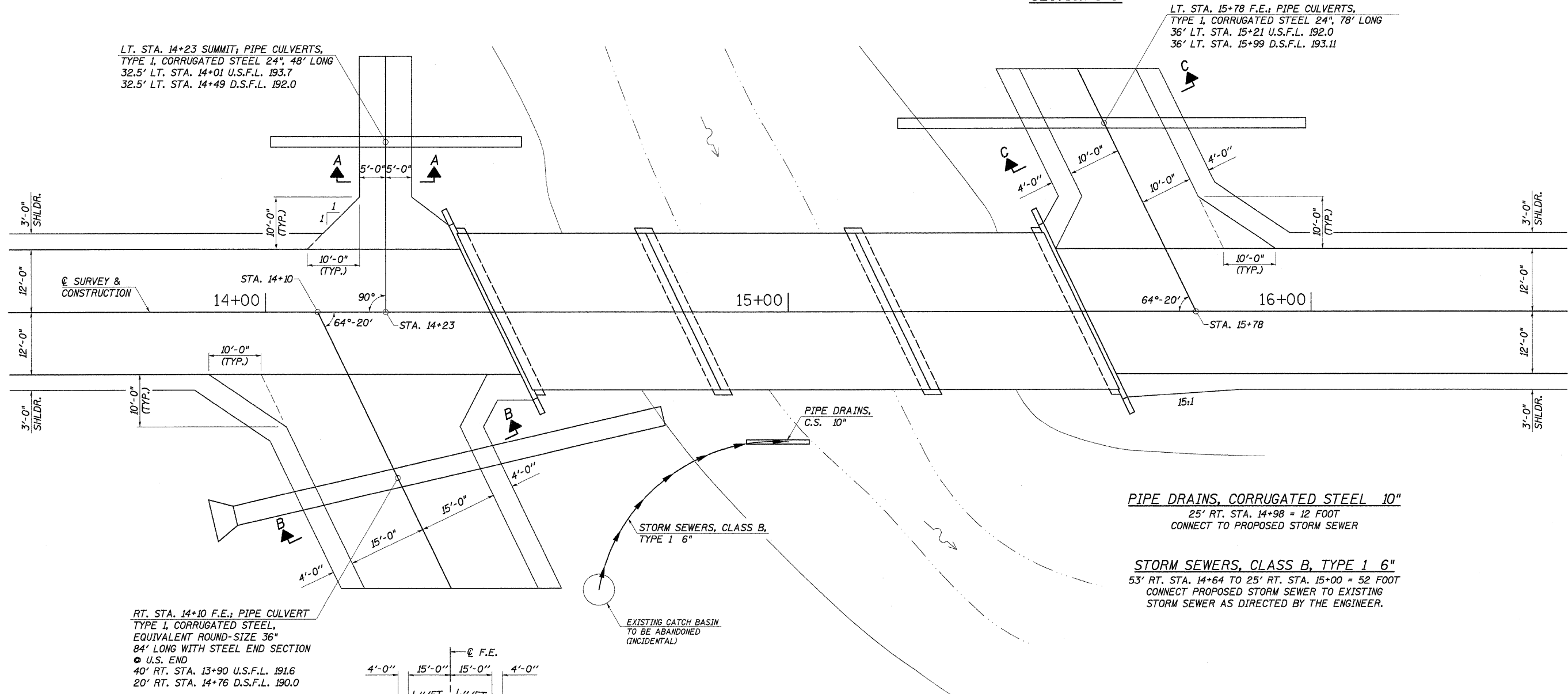
LT. STA. 14+23, SUMMIT -10.0%, 10' BERM
 RT. STA. 14+10, F.E. -15.0%, 38' ROADBED
 LT. STA. 15+78, F.E. -15.0%, 28' ROADBED
 QUANTITIES INCLUDED IN THOSE LISTED



SECTION A-A



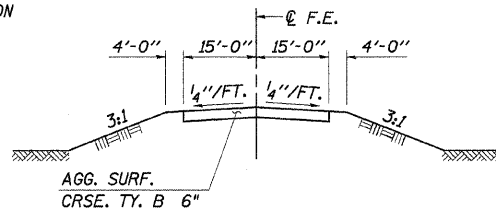
SECTION C-C



LT. STA. 14+23 SUMMIT; PIPE CULVERTS,
 TYPE I, CORRUGATED STEEL 24", 48' LONG
 32.5' LT. STA. 14+01 U.S.F.L. 193.7
 32.5' LT. STA. 14+49 D.S.F.L. 192.0

LT. STA. 15+78 F.E.; PIPE CULVERTS,
 TYPE I, CORRUGATED STEEL 24", 78' LONG
 36' LT. STA. 15+21 U.S.F.L. 192.0
 36' LT. STA. 15+99 D.S.F.L. 193.11

RT. STA. 14+10 F.E.; PIPE CULVERT
 TYPE I, CORRUGATED STEEL,
 EQUIVALENT ROUND-SIZE 36"
 84' LONG WITH STEEL END SECTION
 ● U.S. END
 40' RT. STA. 13+90 U.S.F.L. 191.6
 20' RT. STA. 14+76 D.S.F.L. 190.0



SECTION B-B

PIPE DRAINS, CORRUGATED STEEL 10"
 25' RT. STA. 14+98 = 12 FOOT
 CONNECT TO PROPOSED STORM SEWER

STORM SEWERS, CLASS B, TYPE 1 6"
 53' RT. STA. 14+64 TO 25' RT. STA. 15+00 = 52 FOOT
 CONNECT PROPOSED STORM SEWER TO EXISTING
 STORM SEWER AS DIRECTED BY THE ENGINEER.

ENTRANCE & DRAINAGE DETAILS

SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

4440 ASH GROVE
 SPRINGFIELD, IL. 62711
 (217) 793-8600
 www.fehr-graham.com

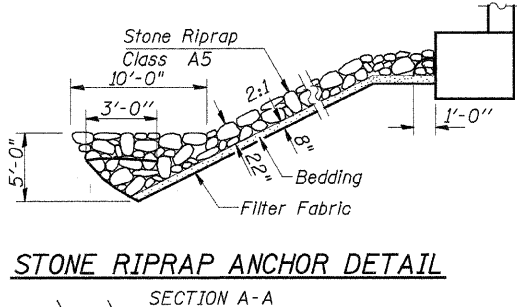
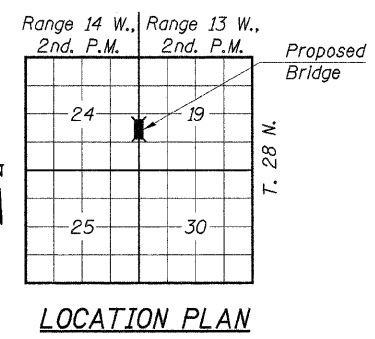
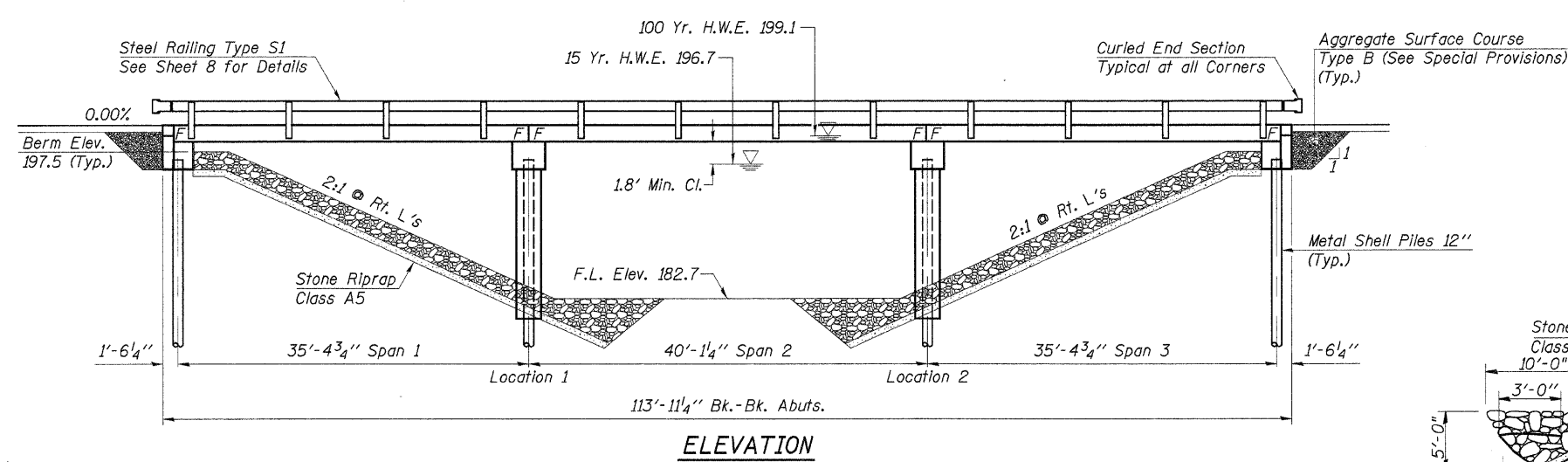
FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 PEORIA, IL. ROCKFORD, IL. CHICAGO, IL. SPRINGFIELD, IL.

DRAWN: S.A.P.
 DATE: 07/31/07

CHECKED: F.J.S.
 DATE: AUG./07

JOB NO.: 46864
 FILE: 46864ENT.DGN
 DATE: 11/08/07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	5
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	
CONTRACT NO. 87362				



GENERAL NOTES

See Sheets 12 & 13 for Boring data.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified) See Special Provisions.

The Contractor shall drive one metal shell test pile in a permanent location at the South abutment and at Pier #2 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.

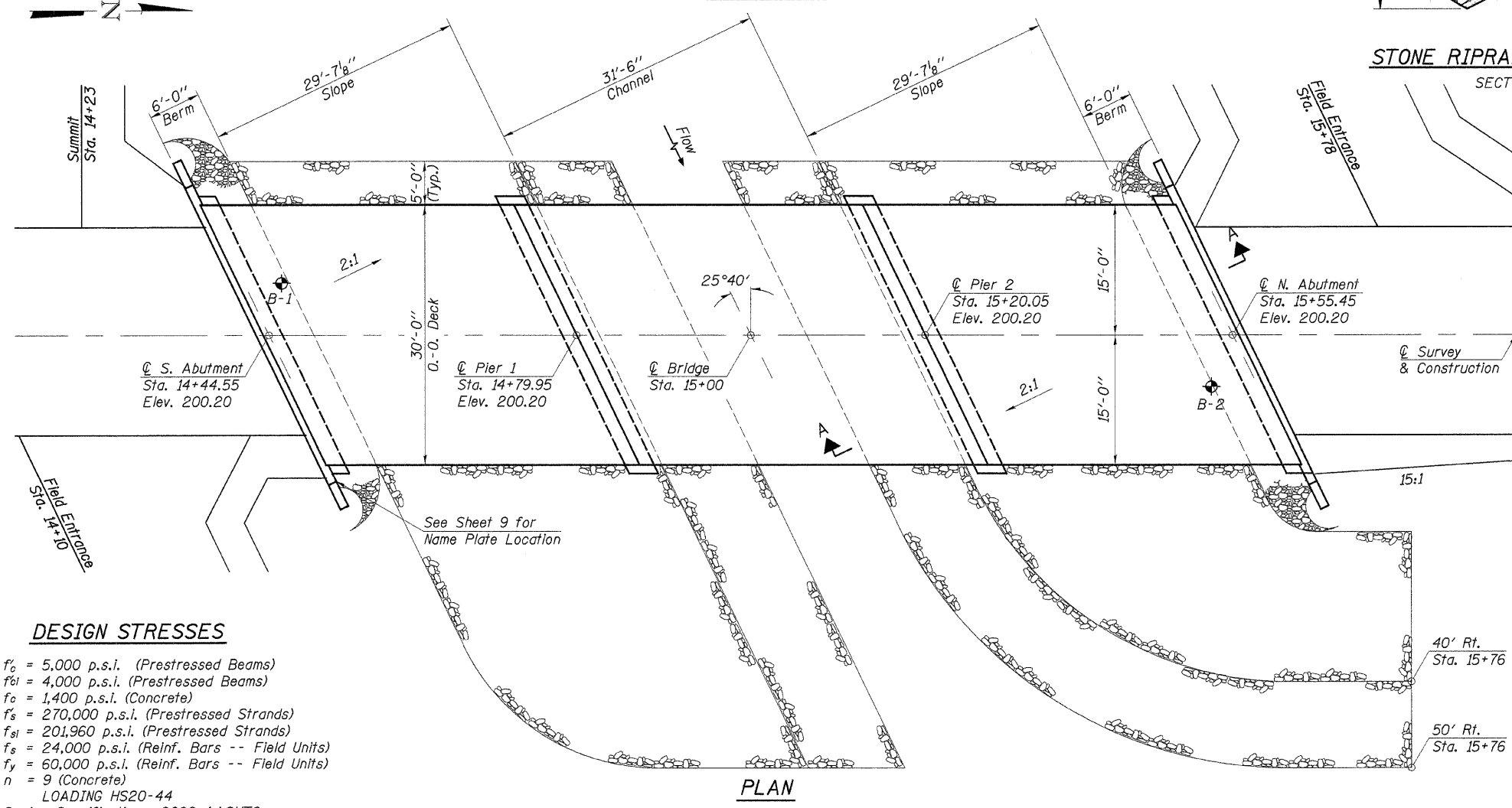
Aggregate Surface Course, Ty. B shall be used to backfill behind each abutment as indicated by the Engineer. The additional quantity of CA-10 is included in the total quantity for Aggregate Surface Course, Ty. B. (See Special Provisions).

**PRAIRIE CREEK
BUILT 200_ BY
ASHKUM ROAD DISTRICT
IROQUOIS COUNTY
SEC. 06-03122-00-BR
F.A. PROJ. BROS-075(133)
STR. NO. 038-3258 LOADING HS20**

LETTERING FOR NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3,360		3,360
Concrete Structures	Cu. Yd.		50.3	50.3
Reinforcement Bars	Pound		5,290	5,290
Steel Railing, Type S1	Foot	225		225
Name Plates	Each		1	1
Metal Pile Shells 12"	Foot		972	972
Test Pile Metal Shell	Each		2	2
Stone Riprap, Class A5	Ton		890	890
Filter Fabric	Sq. Yd.		740	740
Concrete Encasement	Cu. Yd.		26.0	26.0
Aggregate Surface Course, Type B	Ton		27	27
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1



DESIGN STRESSES

$f_c = 5,000$ p.s.i. (Prestressed Beams)
 $f_{cl} = 4,000$ p.s.i. (Prestressed Beams)
 $f_c = 1,400$ p.s.i. (Concrete)
 $f_s = 270,000$ p.s.i. (Prestressed Strands)
 $f_{sl} = 201,960$ 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)

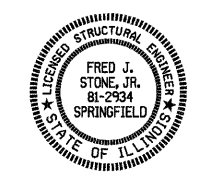
LOADING HS20-44
 Design Specifications: 2002 AASHTO
 25#/Sq. Ft. included in dead load for future wearing surface.

WATERWAY INFORMATION

Drainage Area	31.75 Sq. Mi.
Existing Opening (15 Yr.)	496 Sq. Ft.
Required Opening (15 Yr.)	704 Sq. Ft.
Proposed Opening (15 Yr.)	704 Sq. Ft.
Design Discharge (15 Yr.)	1,561 C.F.S.
Created Head (15 Yr.)	0.0 Ft.
100 Year Discharge	2,479 C.F.S.
100 Yr. Created Head	0.1 Ft.

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.

"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'".

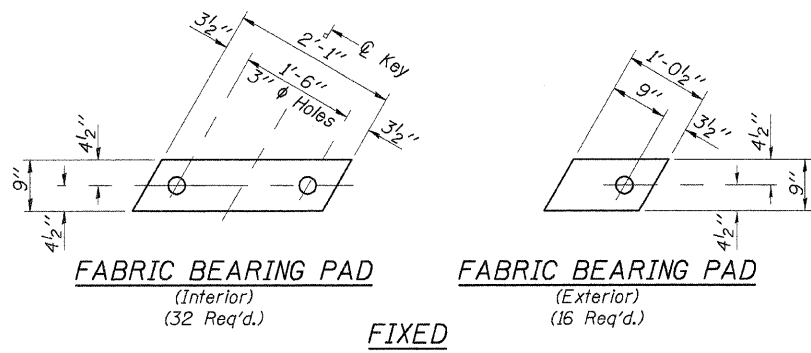


Fred J. Stone, Jr. (11.10.07)
 ILLINOIS STRUCTURAL NO. 2934 (Expires 11/30/08)

GENERAL PLAN & ELEVATION
 SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	6
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	

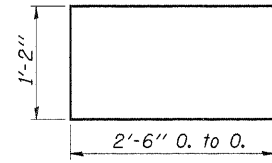
CONTRACT NO. 87362



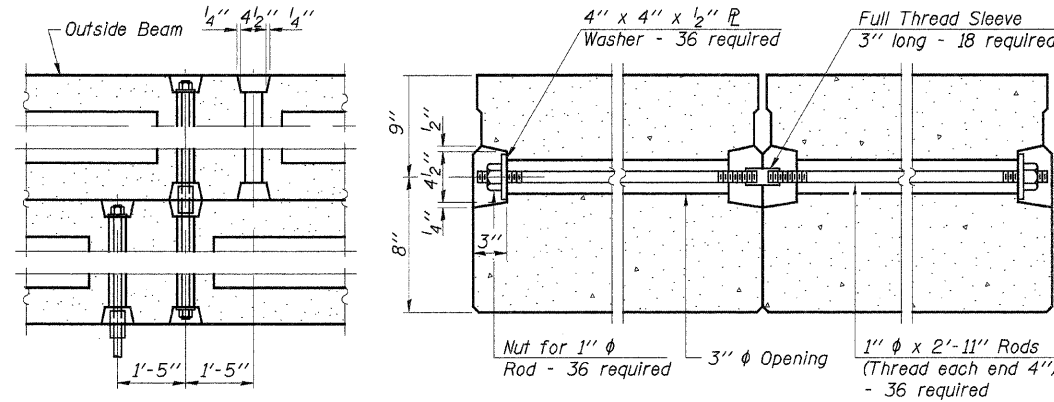
FABRIC BEARING PAD
(Interior)
(32 Req'd.)

FABRIC BEARING PAD
(Exterior)
(16 Req'd.)

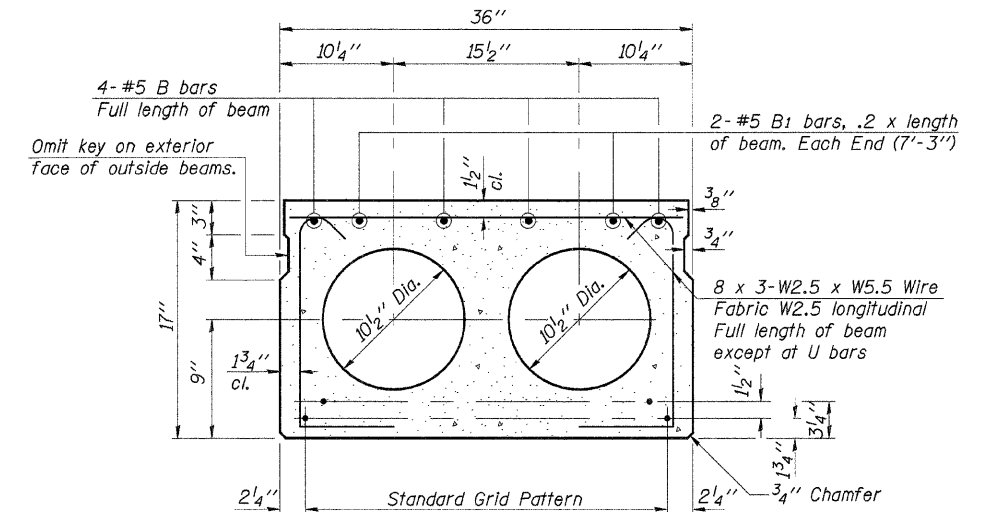
FIXED



BAR U1



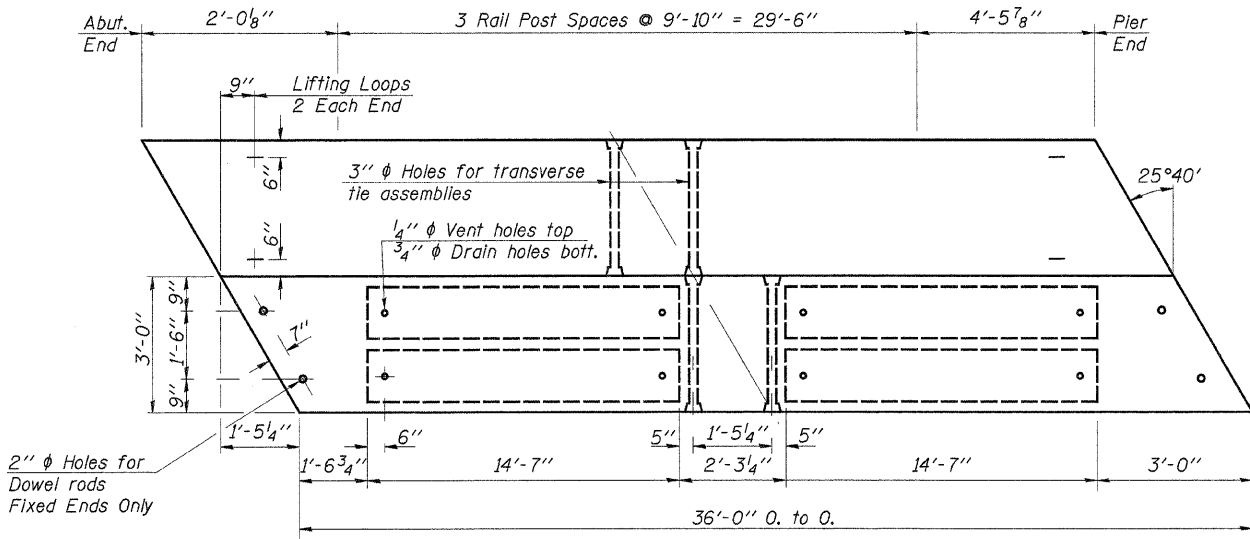
TYPICAL TRANSVERSE TIE ASSEMBLY



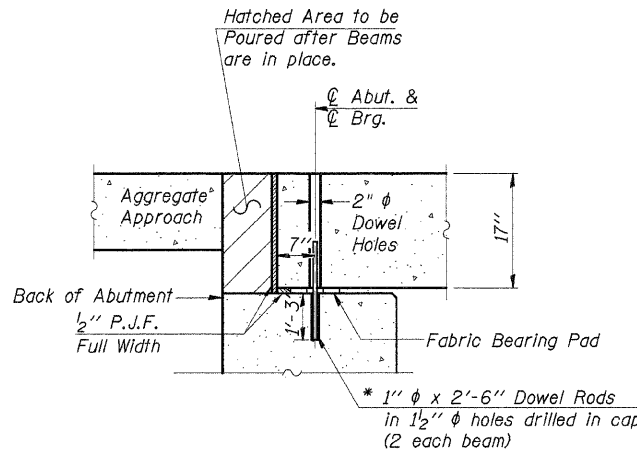
TYPICAL SECTION

8-1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 2-Strands 3/4" up

Note:
Place strands symmetrically about ϕ of beam.

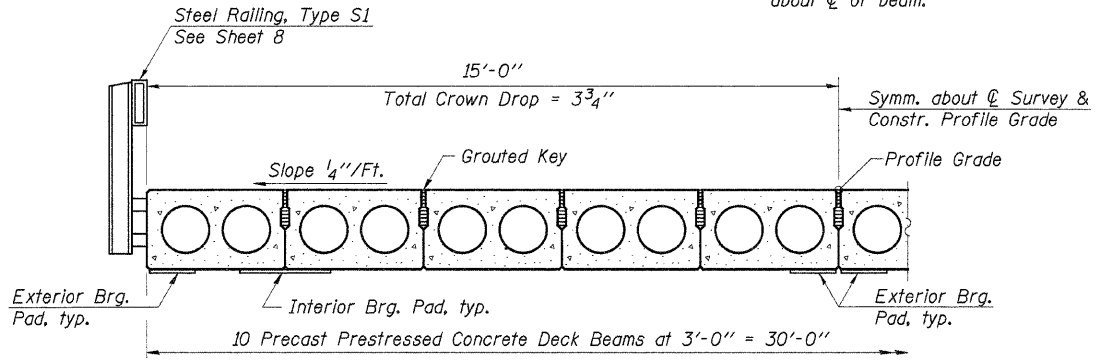


PLAN

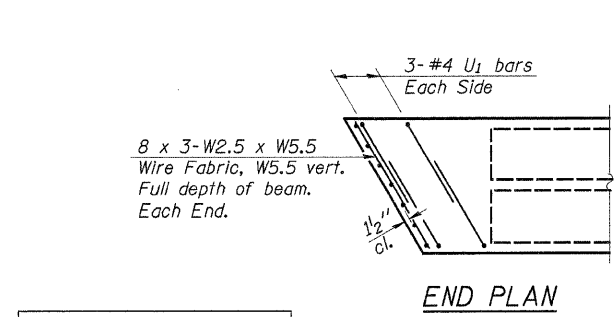


SEC. THRU ABUT.

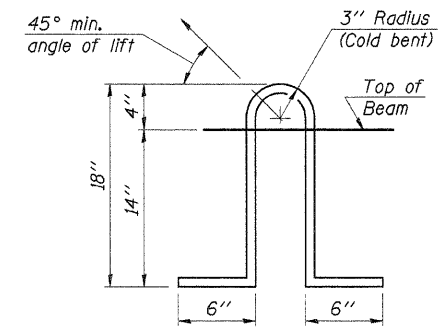
* Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting the shear keys.



HALF CROSS SECTION



END PLAN



LIFTING LOOP DETAIL

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. Lifting loops shall be 2-1/2" ϕ -270 ksi strands, as shown.
- The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
- Non prestressing steel shall conform to AASHTO M-31 or M-322 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.
- 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.
- 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 (17" Depth)	Sq. Ft.	2,160

Estimated Total Weight (One Beam) = 18,200 Pounds

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.

PD-3-R 9-1-03

SUPERSTRUCTURE SPANS 1 & 3
SECTION 06-03122-00-BR
ASHKUM ROAD DISTRICT
IROQUOIS COUNTY
STATION 15+00

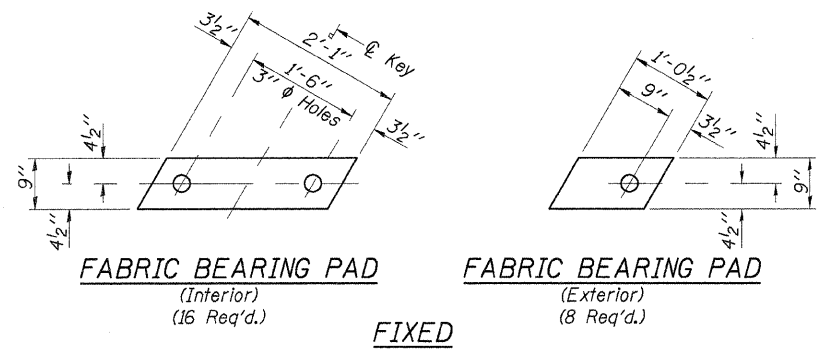
4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8800
www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
PROFESSIONAL ENGINEERS & ARCHITECTS

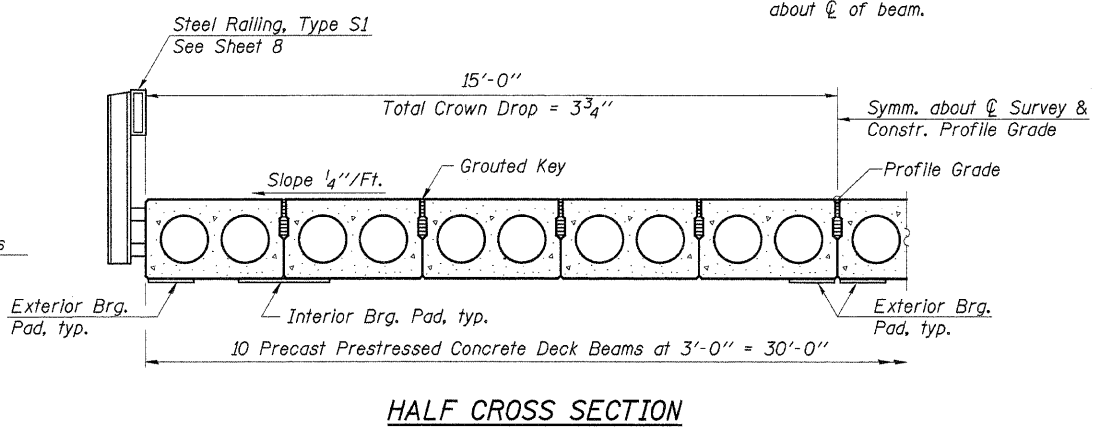
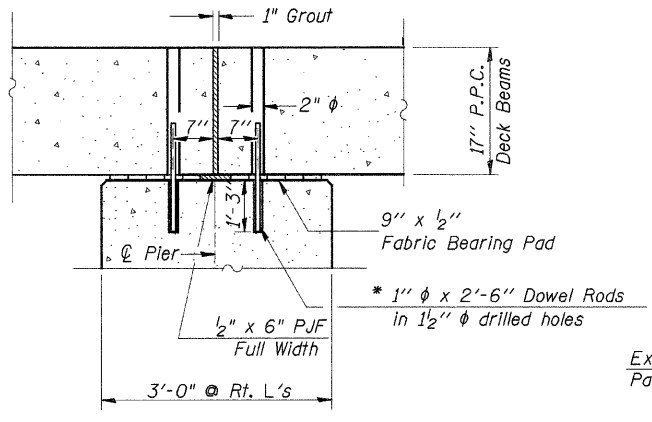
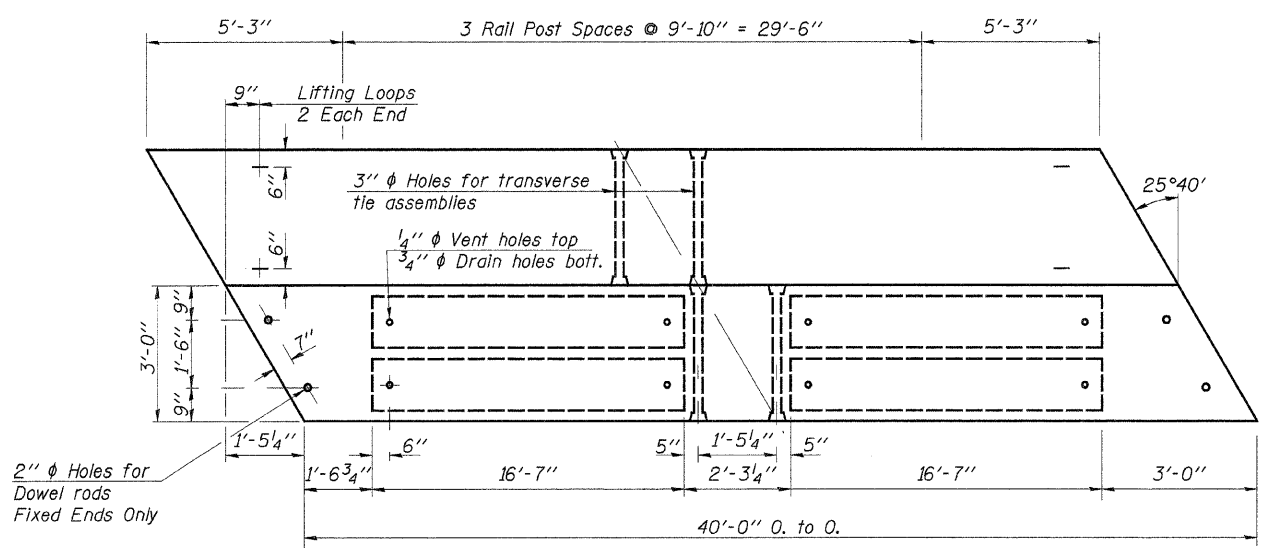
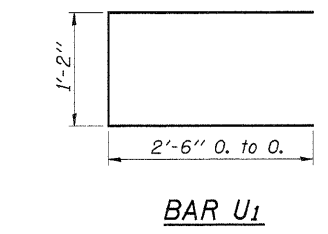
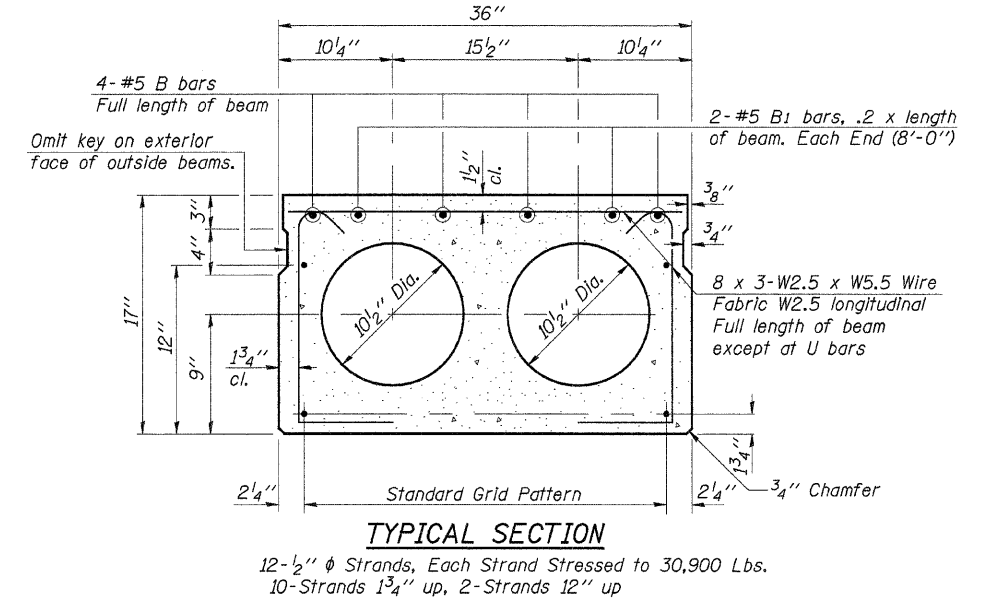
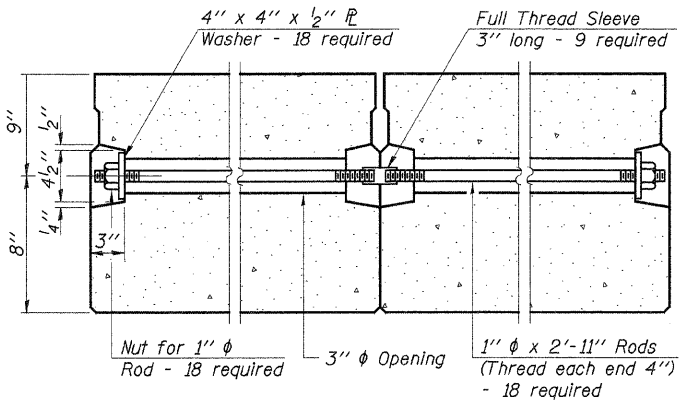
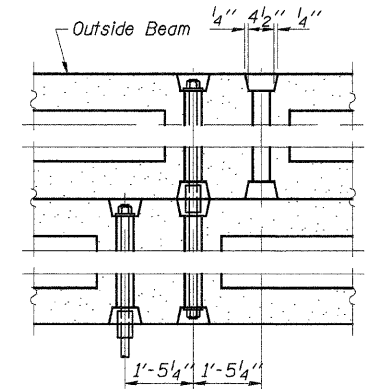
JOB NO.: 46864
FILE: 46864SUPER1.DGN
DATE: 11/08/07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7.R. 150	06-03122- 00-BR	IROQUOIS	20	7
ASHKUM ROAD DIST.	ILLINOIS	BROS-075(133)		

CONTRACT NO. 87362



FIXED



Note:
Place strands symmetrically about ϕ of beam.

* Note: After beams are in place, 1/2" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.

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. Lifting loops shall be 2-1/2" ϕ -270 ksi strands, as shown.

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

Non prestressing steel shall conform to AASHTO M-31 or M-322 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.

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.

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.

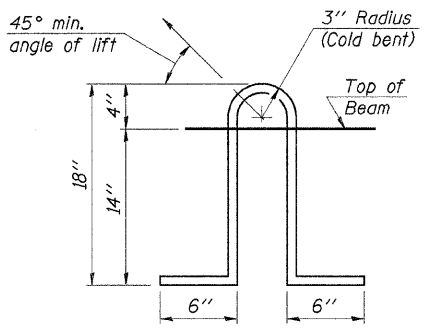
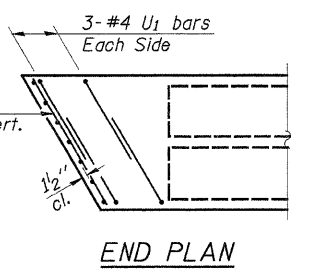
See Special Provisions for review and distribution of shop drawings.

Rail post anchor devices shall be cast into outside beam as elsewhere specified.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,200

Estimated Total Weight (One Beam) = 20,700 Pounds

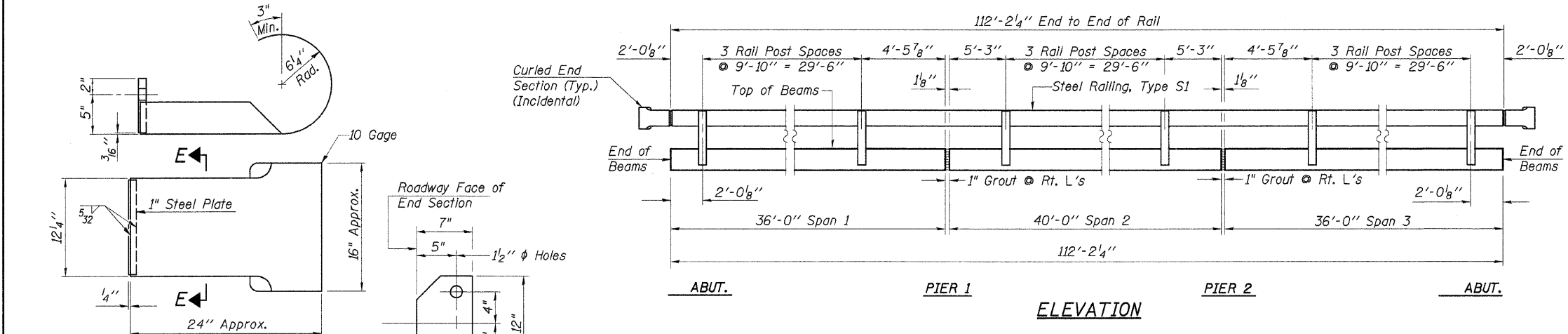


DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.
PD-3-R	9-1-03

**SUPERSTRUCTURE
SPAN 2
SECTION 06-03122-00-BR
ASHKUM ROAD DISTRICT
IROQUOIS COUNTY
STATION 15+00**

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FERRISVILLE, ILLINOIS	JOB NO. 46864 FILE: 46864SUPER1.DGN DATE: 11/08/07
--	--	--

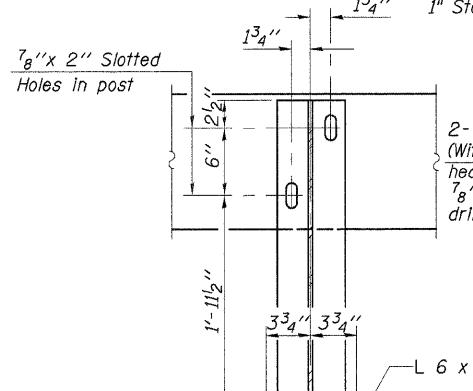
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	8
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	
CONTRACT NO. 87362				



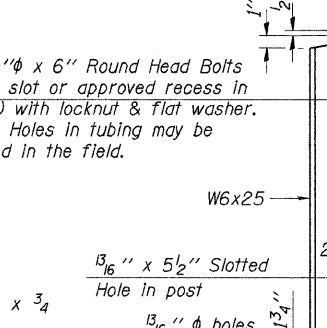
NOTES

All field drilled holes shall be coated with an approved zinc rich paint before erection.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications. In addition to the elements specified in Article 509.05, all angles and spacers are to be galvanized in accordance with AASHTO M-111, and all cap screws, washers, and lock washers are to be galvanized in accordance with AASHTO M-232.
 The 3/4" (M20) diameter high strength bolts used to connect the 6x4x3/4" angles to the post shall be tightened in accordance with Article 504.04(f)(2) of the Standard Specifications. The 1" (M24) diameter high strength bolts connecting steel to concrete shall be brought to a snug tight condition and given an additional 1/8 turn. The 5/8" (M16) cap screws in the bottom of the posts shall be brought to a snug tight condition only.
 *** The studs for 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.

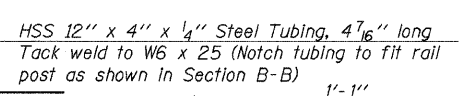
CURLED END SECTION DETAILS
(4 Required)



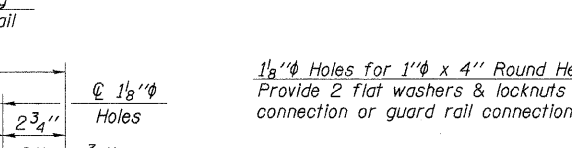
SECTION E-E



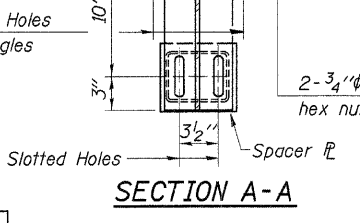
DETAIL "D"



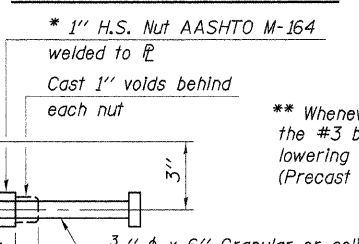
SECTION B-B



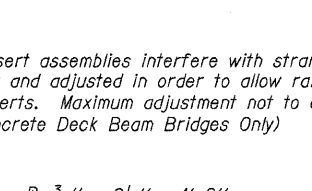
SECTION A-A



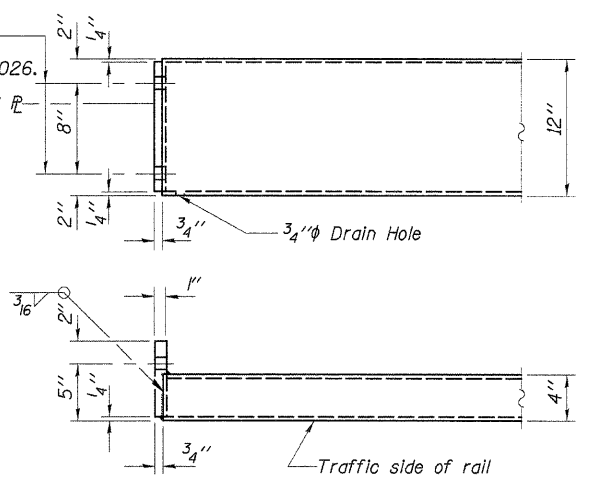
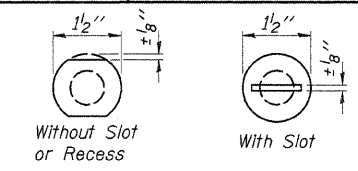
SECTION AT RAIL POST



VIEW C-C



DETAIL OF 3/4" ROUND HEAD BOLT



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	225

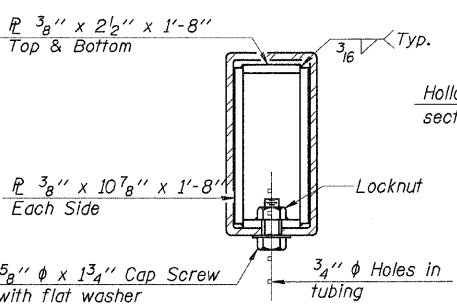
1/4" SHIM PLATE

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

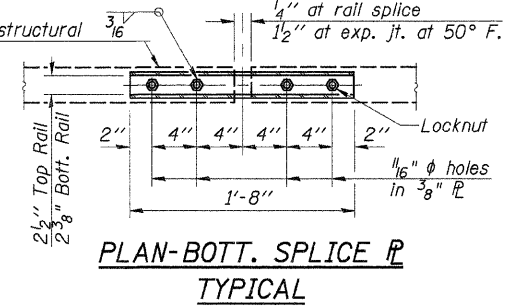
DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.

ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.



SECTIONS AT RAIL SPLICE



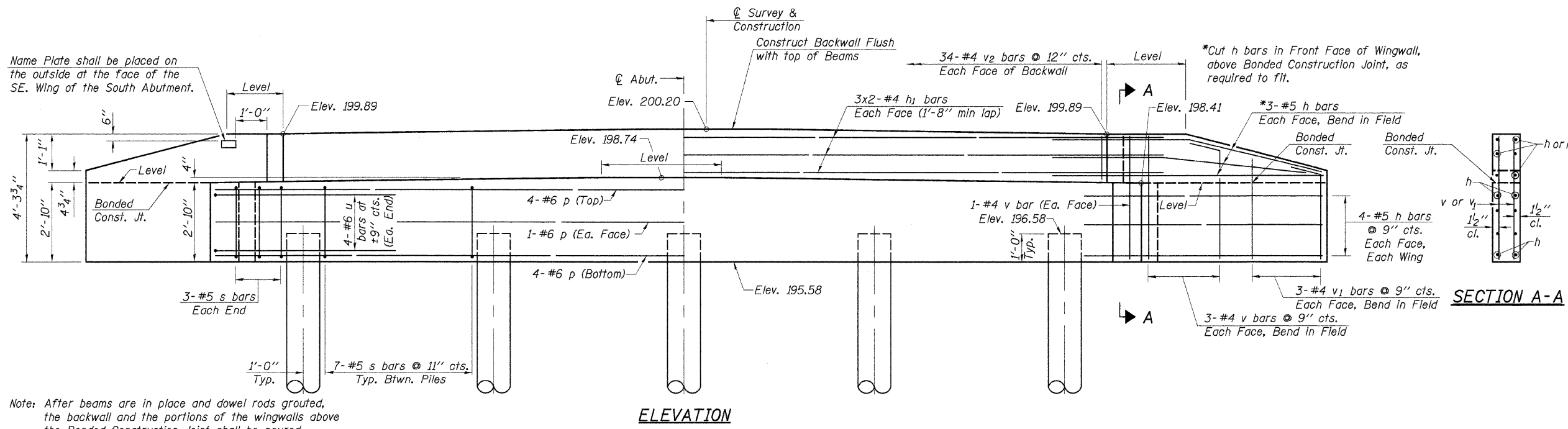
PLAN-BOTT. SPLICE TYPICAL

STEEL RAILING, TYPE S1

SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-9600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS PREPARED BY: ROBERT M. BROSZINSKI, P.E. MEMBER OF THE PROFESSION	JOB NO.: 46864 FILE: 46864RAIL.DGN DATE: 11/08/07
--	---	---

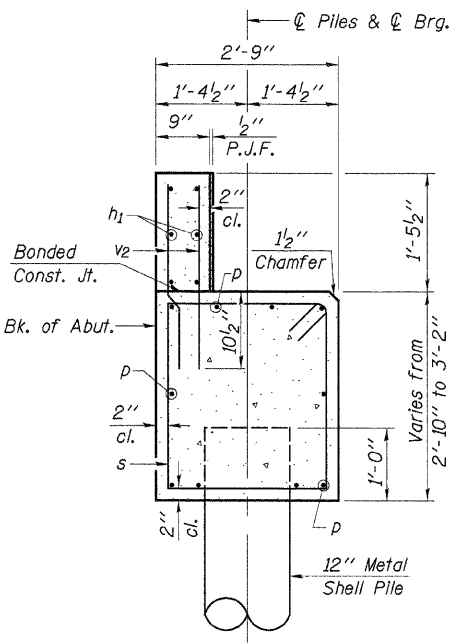
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	9
ASHKUM ROAD DIST.	ILLINOIS	BROS-075(133)	CONTRACT NO. 87362	



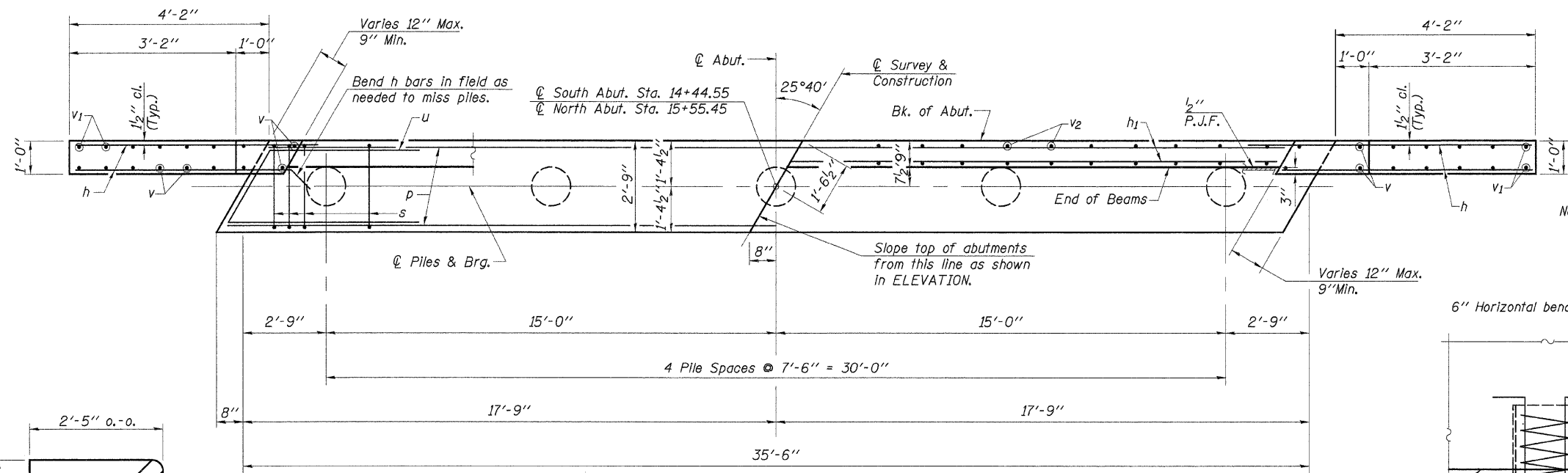
Name Plate shall be placed on the outside at the face of the S.E. Wing of the South Abutment.

Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.

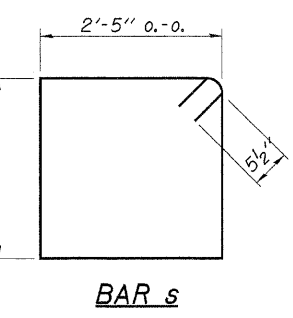
ELEVATION



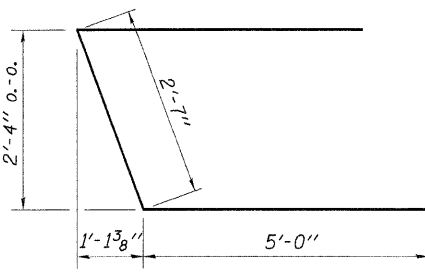
SECTION THRU ABUT.



PLAN



BAR s

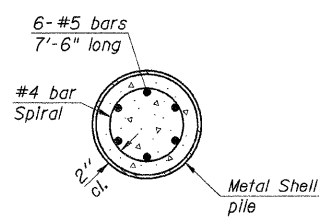


BAR u

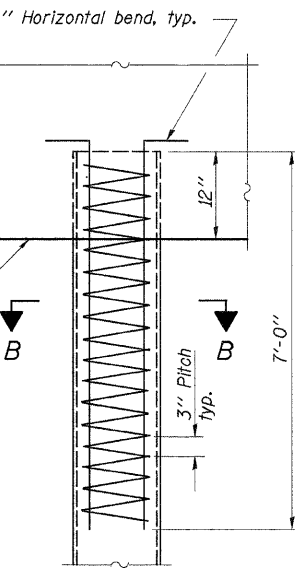
PILE DATA

Type & Size.....Metal Shell - 12 in. dia. x 0.250 in. walls
 No. Req'd. (2 Abuts.).....10*
 Nominal Required Bearing.....180 kips
 Allowable Resistance Available.....60 kips
 Estimated Length.....45 ft.

*Includes 1 Test Pile to be driven in a permanent location at south abutment.
 The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated above.



SECTION B-B



ELEVATION

**2 ABUTMENTS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	56	#5	6'-3"	—
h1	24	#4	18'-5"	—
p	20	#6	35'-2"	—
s	68	#5	10'-9"	□
u	16	#6	12'-7"	—
v	32	#4	4'-0"	—
v1	24	#4	3'-6"	—
v2	136	#4	2'-2"	—
Concrete Structures			Cu. Yd.	26.9
Reinforcement Bars			Pound	3,120
Name Plates			Each	1
Test Pile Metal Shell			Each	1
Metal Shell Piles 12"			Foot	405

See Sheet 11 for Metal Pile Shell Details.

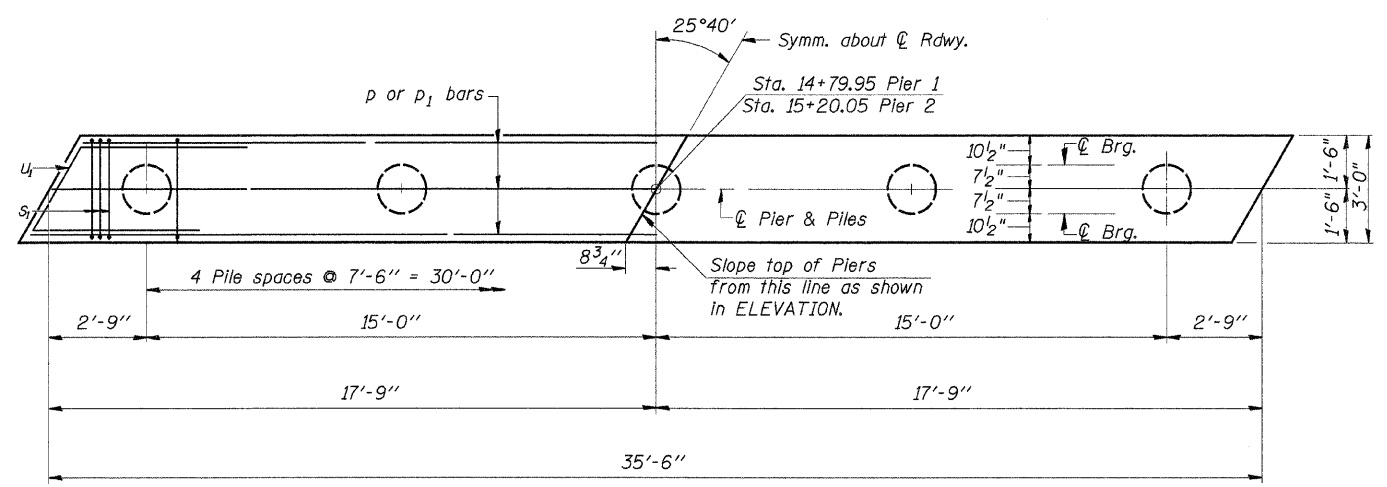
DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	F.J.S.

ABUTMENTS
 SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

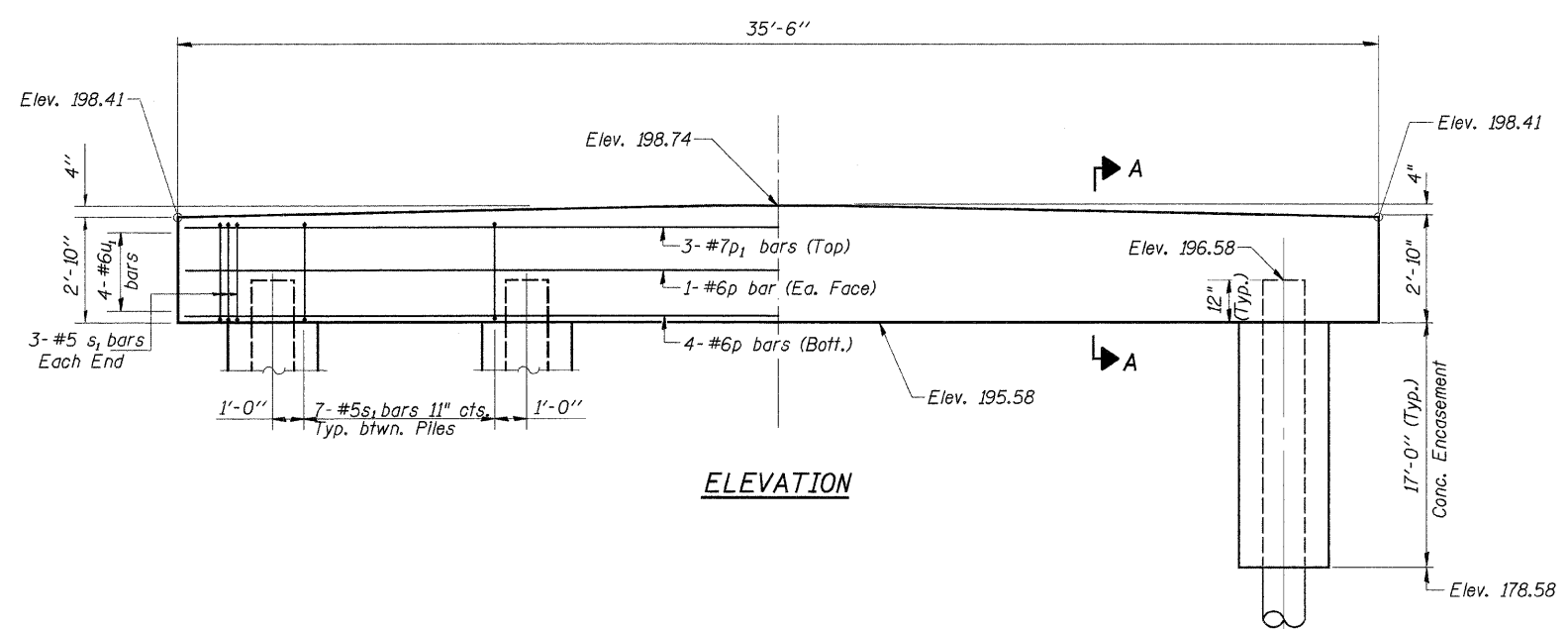
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	10
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	

CONTRACT NO. 87362

Note: All edges shall have standard 3/4" chamfer



PLAN

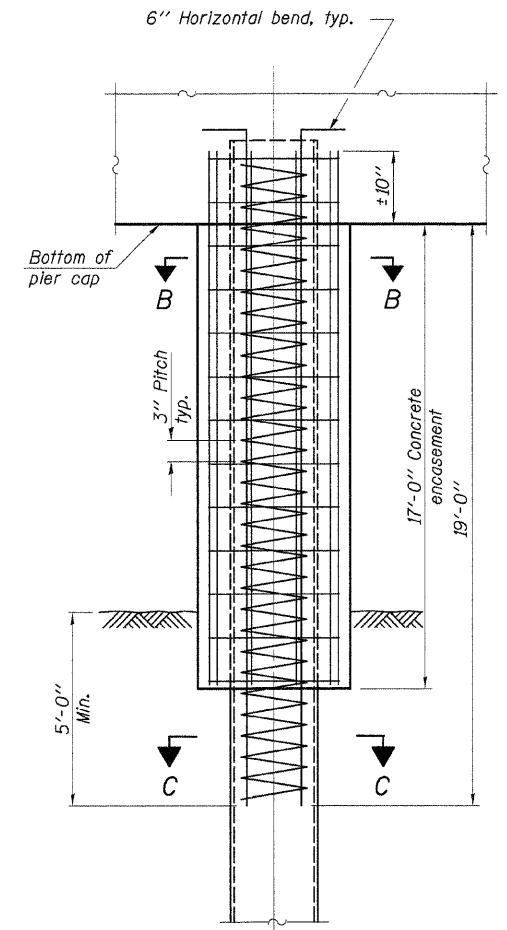


ELEVATION

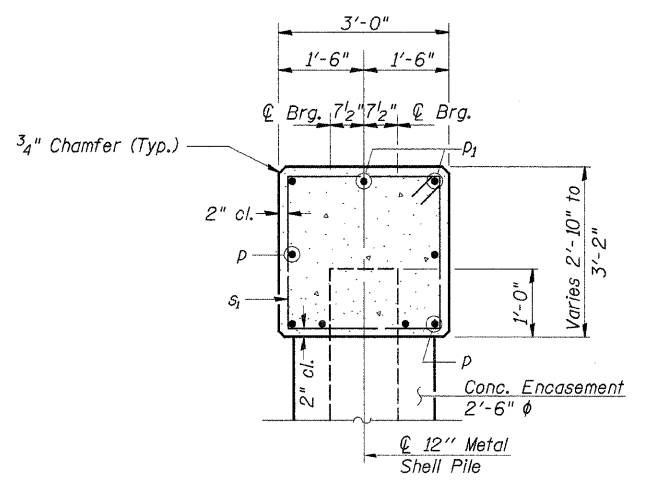
PILE DATA

Type & Size..... Metal Shell - 12 in. dia. x 0.250 in. walls
 No. Req'd..... 10*
 Nominal Required Bearing..... 270 kips
 Allowable Resistance Available..... 90 kips
 Estimated Length..... 63 ft.

*Includes 1 Test Pile to be driven in a permanent location at the pier 2.
 The test piles shall be driven to 110 percent of the Nominal Required Bearing Indicated above.



CONCRETE ENCASEMENT

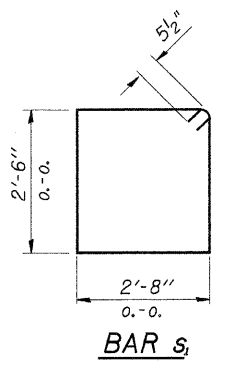


SECTION A-A
 @ Rt. L's

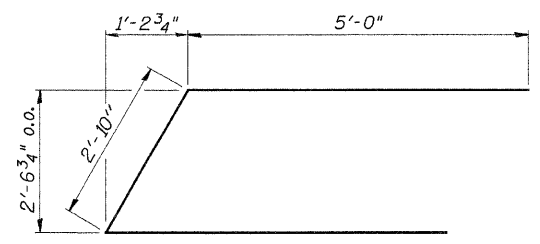
BILL OF MATERIAL - 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
p	12	#6	35'-2"	—
p ₁	6	#7	35'-2"	—
s ₁	68	#5	11'-3"	□
u ₁	16	#6	12'-10"	▤
Concrete Structures			Cu. Yd.	23.4
Reinforcement Bars			Pound	2,170
Metal Shell Piles 12"			Foot	567
Test Pile Metal Shells			Each	1
Conc. Encasement			Cu. Yd.	26.0

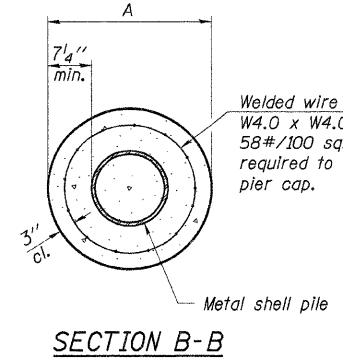
See Sheet 11 for Metal Pile Shell Details.



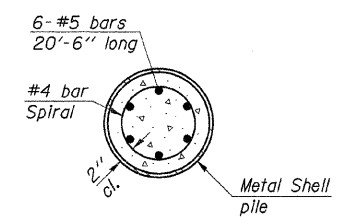
BAR s₁



BAR u₁



SECTION B-B



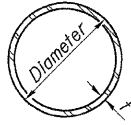
SECTION C-C

Notes: See Metal Shell Pile Table for dimension "A".

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	F.J.S.

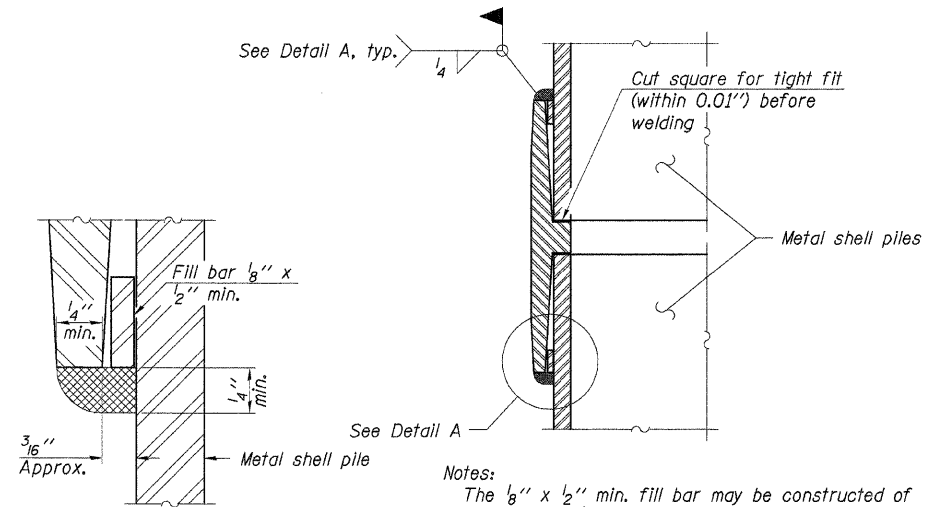
PIERS
 SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8800 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS <small>RESPONSE, RECOVERY & RESILIENCE • SERVICE IN SPRINGFIELD, IL.</small>	JOB NO.: 46864 FILE: 46864PIER.dgn DATE: 11/08/07
---	---	---



METAL SHELL PILE TABLE

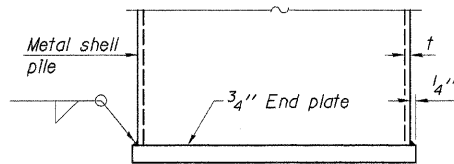
Designation	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)	Encasement diameter A
PP12	0.179"	22.60	0.0274	30"
PP12	0.250"	31.37	0.0267	30"
PP14	0.250"	36.71	0.0368	30"
PP14	0.312"	45.61	0.0361	30"



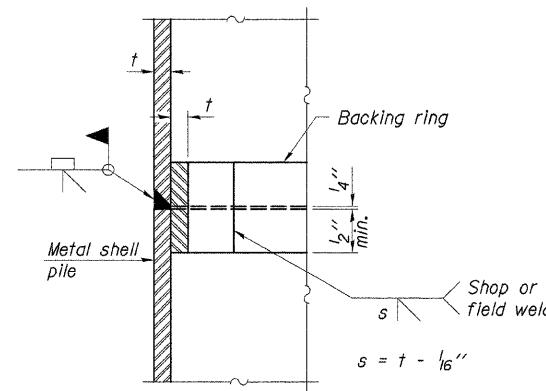
DETAIL A

Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



END PLATE ATTACHMENT



COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.

F-MS 11-1-06

METAL PILE SHELLS
 SECTION 06-03122-00-BR
 ASHKUM ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 15+00

4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 793-8600
 www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 RESPOND & RECOVER. DESIGN & CONSTRUCT. SPRINGFIELD, IL

JOB NO.: 46864
 FILE: 46864PILES.DGN
 DATE: 11/08/07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IRROQUOIS	20	12
ASHKUM ROAD DIST.		ILLINOIS	BROS-075(133)	

CONTRACT NO. 87362

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

BORING LOG
Sheet 1 of 4

Client: Fehr-Graham & Associates
Project Name: Section 06-03122-00-BR Ashkum Road
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 199.40
Auger Depth 66' Rotary Depth NA
Start Date 05/26/07 Finish Date 05/26/07

Location: 6' Left of centerline
Station 14+46

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES				DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)		
199.40			1					Randy Safanski Diedrich D-120	
197.40	Stiff Black And Brown Silty Clay (Fill)		2	1	SS	1.4	8	B	22
194.40	Stiff Black Silty Clay		6	2	SS	1.9	12	B	19
191.40	Stiff Brown Silty Clay		10	4	SS	1.2	6	B	22
186.40	Loose Gray Fine Sand		14	5	SS	1.4	7	B	20
181.40	Very Stiff Brownish Gray Clay Till		18	7	SS	2.2	13	B	18
179.40			20	8	SS	3.0	18	B	16

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

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

BORING LOG
Sheet 2 of 4

Client: Fehr-Graham & Associates
Project Name: Section 06-03122-00-BR Ashkum Road
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 199.40
Auger Depth 66' Rotary Depth NA
Start Date 05/26/07 Finish Date 05/26/07

Location: 6' Left of centerline
Station 14+46

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES				DRILLED BY	REMARKS	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)			Bulge / Shear
178.40			22					Randy Safanski Diedrich D-120		
176.40	Very Stiff Gray Till		23	9	SS	3.1	19	B	22	
174.40			24	10	SS	3.4	22	B	21	
172.40			25	11	SS	2.5	15	B	23	
170.40			26	12	SS	2.7	16	B	22	
168.40			27	13	SS	2.1	14	B	23	
166.40			28	14	SS	2.9	16	B	22	
164.40			29	15	SS	2.5	15	B	23	
162.40			30							
160.40			31							
158.40			32							
156.40			33							
154.40			34							
152.40			35							
150.40			36							
148.40			37							
146.40		38								
144.40		39								
142.40		40								
140.40		41								
138.40		42								
137.40		43								

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

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

BORING LOG
Sheet 3 of 4

Client: Fehr-Graham & Associates
Project Name: Section 06-03122-00-BR Ashkum Road
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 199.40
Auger Depth 66' Rotary Depth NA
Start Date 05/26/07 Finish Date 05/26/07

Location: 6' Left of centerline
Station 14+46

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES				DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)		
157.40			43					Randy Safanski Diedrich D-120	
155.40	Very Stiff Gray Clay Till		44	16	SS	2.4	16	B	22
153.40			45						
151.40			46						
149.40			47						
148.40			48						
146.40			49						
144.40			50						
142.40			51						
140.40			52						
138.40			53						
137.40		54							
136.40		55							
134.40		56							
132.40		57							
130.40		58							
128.40		59							
126.40		60							
124.40		61							
122.40		62							
120.40		63							
118.40		64							
116.40		65							

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

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

BORING LOG
Sheet 4 of 4

Client: Fehr-Graham & Associates
Project Name: Section 06-03122-00-BR Ashkum Road
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 199.40
Auger Depth 66' Rotary Depth NA
Start Date 05/26/07 Finish Date 05/26/07

Location: 6' Left of centerline
Station 14+46

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES				DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)		
135.40	Dense Gray Silty Loam Till		64						
133.40			65	20	SS	---	47	---	12
132.40		66							
130.40		67							
128.40		68							
126.40		69							
124.40		70							
122.40		71							
120.40		72							
118.40		73							
116.40		74							
114.40		75							
112.40		76							
110.40		77							
108.40		78							
106.40		79							
104.40		80							
102.40		81							
100.40		82							
98.40		83							

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

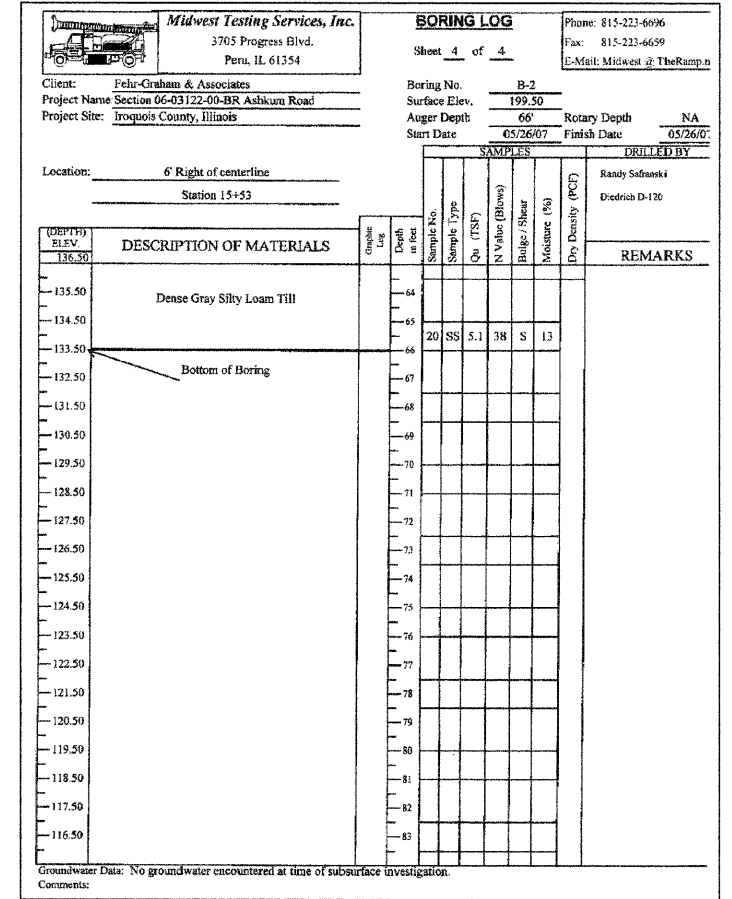
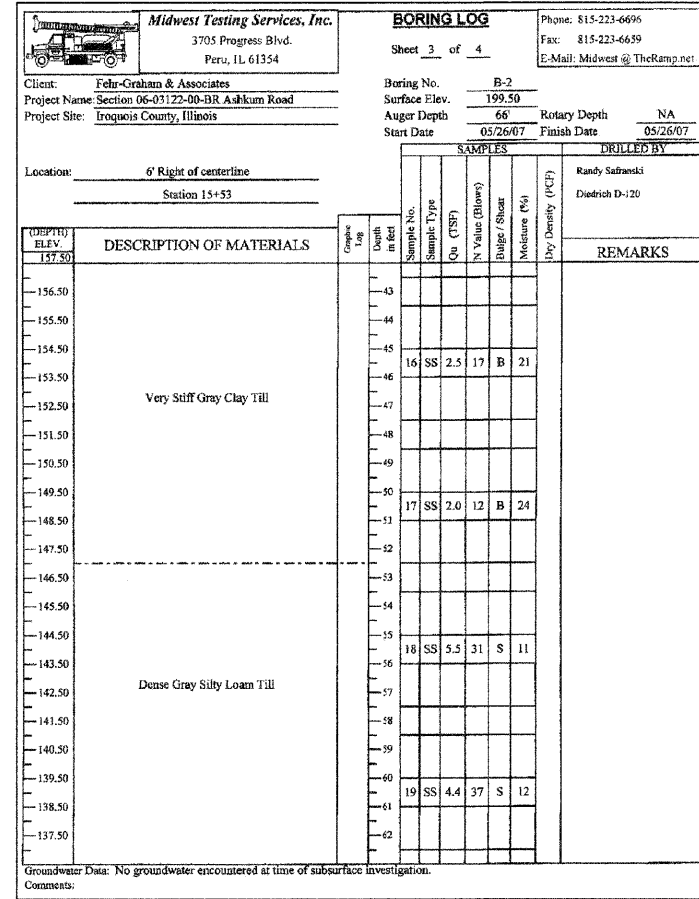
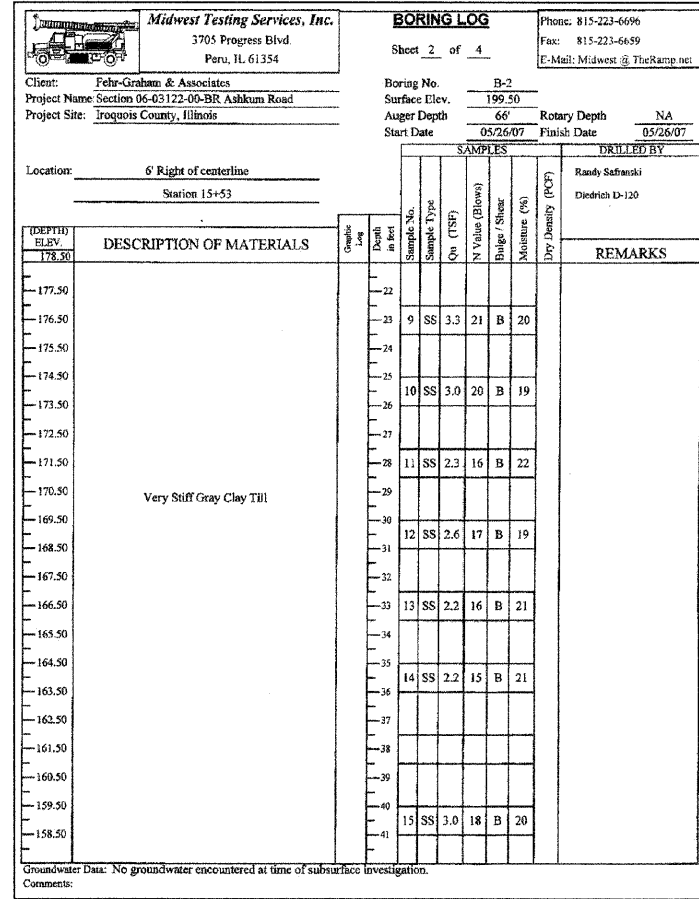
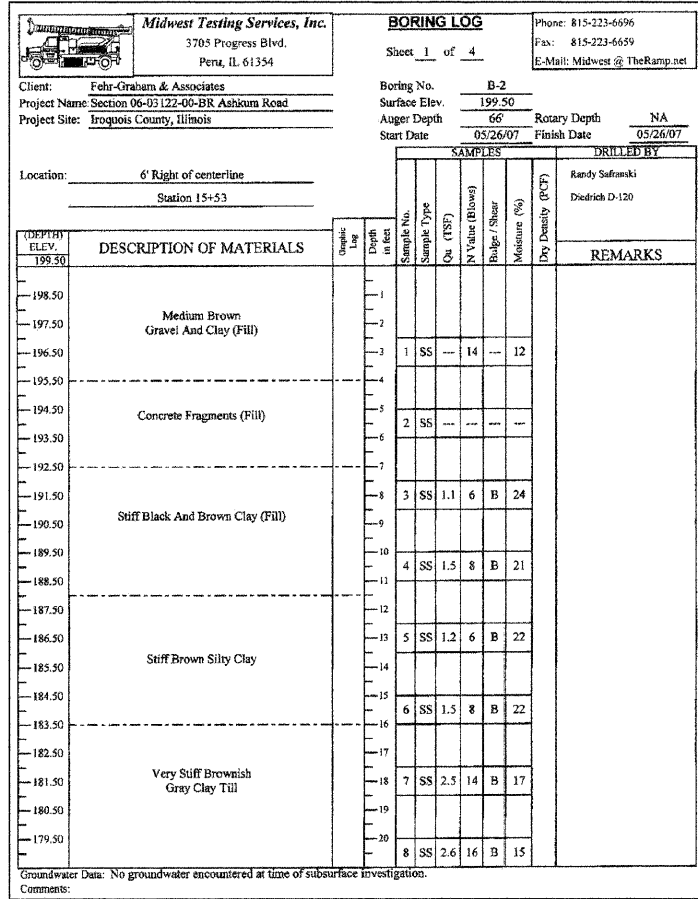
DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	F.J.S.

BORING LOGS
SECTION 06-03122-00-BR
ASHKUM ROAD DISTRICT
IROQUOIS COUNTY
STATION 15+00

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
PREPARED BY: R. BOGDANSKI, E. BOGDANSKI, S. BOGDANSKI, W. BOGDANSKI, L.

JOB NO.: 46864
FILE: 46864BORINGLOGS
DATE: 11/08/07



DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	F.J.S.

BORING LOGS
SECTION 06-03122-00-BR
ASHKUM ROAD DISTRICT
IROQUOIS COUNTY
STATION 15+00

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
www.fehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
RESPECT, INTEGRITY, INNOVATION, SERVICE TO OUR CLIENTS

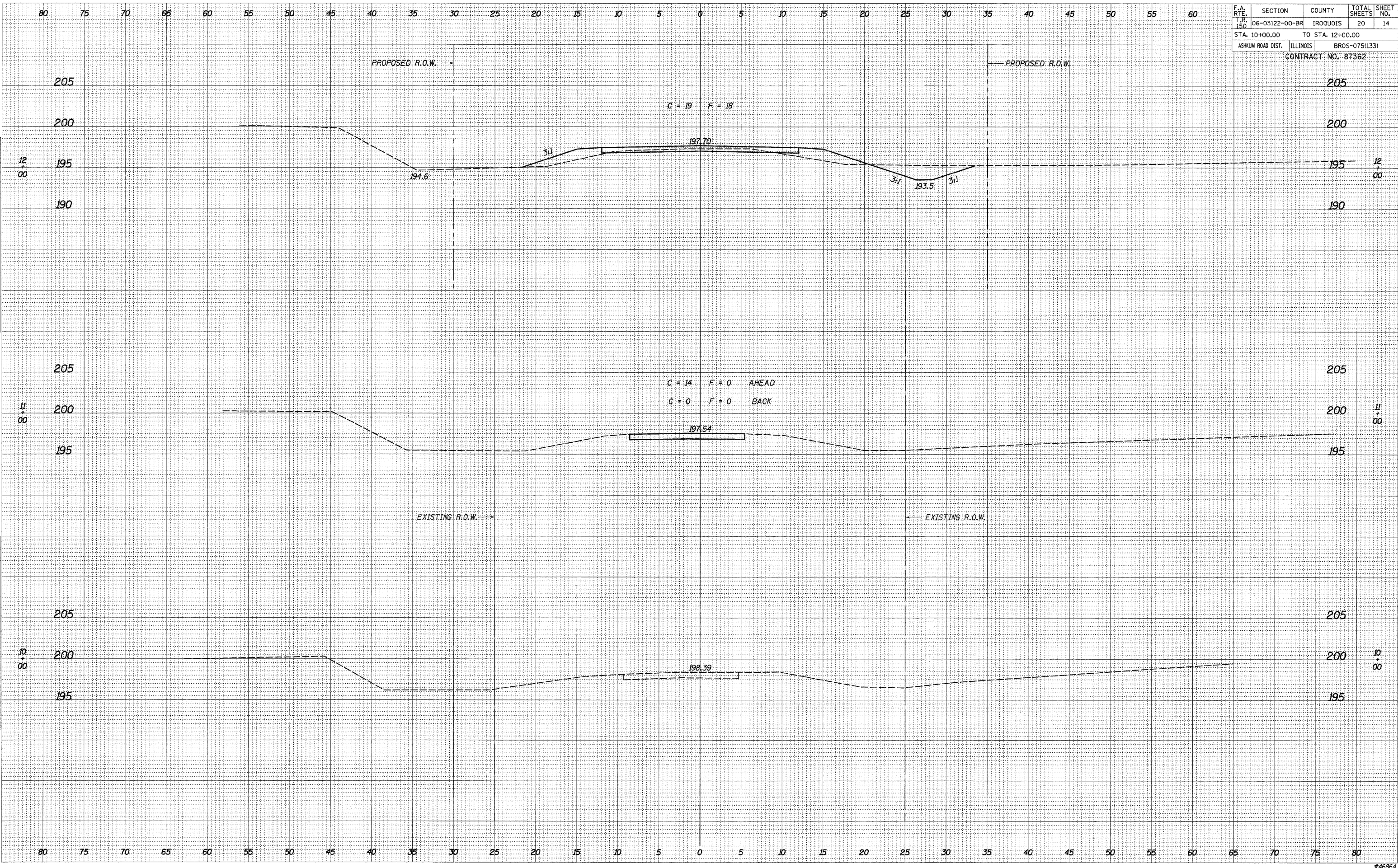
JOB NO.: 46864
FILE: 46864BORING2.DGN
DATE: 11/08/07

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.P. 150	06-03122-00-BR	IRROQUOIS	20	14
STA. 10+00.00		TO STA. 12+00.00		
ASHKUM ROAD DIST.		ILLINOIS BR05-075(133)		
CONTRACT NO. 87362				

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
AREAS		
AREAS CHECKED		
NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
AREAS		
AREAS CHECKED		
NO.		

PLOT DATE = 02/08/07
 FILE NAME = 46864forconnectionsheet.dgn
 PLOT SCALE = 50
 USER NAME = S. PRICE

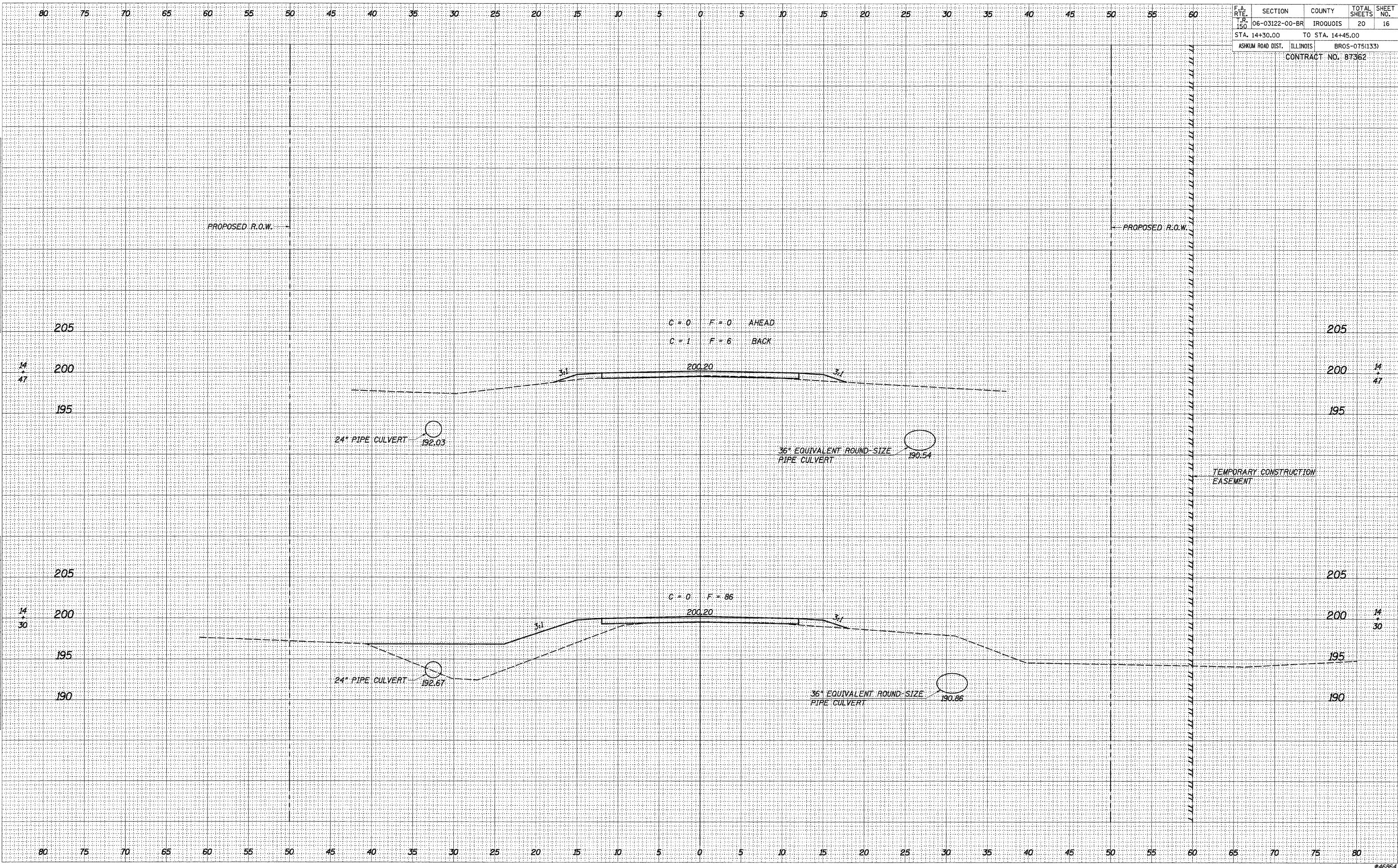


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	16
STA. 14+30.00		TO STA. 14+45.00		
ASHKUM ROAD DIST.		ILLINOIS BROS-075(133)		
CONTRACT NO. 87362				

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	AREAS	
	CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	AREAS	
	CHECKED	

PLOT DATE = 02/09/07
 FILE NAME = 46864-constructionsheet.dgn
 PLOT SCALE = 50
 USER NAME = S. PRICE



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 150	06-03122-00-BR	IROQUOIS	20	18
STA. 16+50.00		TO STA. 17+00.00		
ASHKUM ROAD DIST.		ILLINOIS BR05-075(133)		
CONTRACT NO. 87362				

DATE _____
 BY _____
 SURVEYED _____
 FINAL _____
 SURVEY _____
 NOTE BOOK _____
 NO. _____

DATE _____
 BY _____
 SURVEYED _____
 ORIGINAL _____
 SURVEY _____
 NOTE BOOK _____
 NO. _____

PLOT DATE = 02/19/07
 FILE NAME = 4884-cassactionahhstdgn
 PLOT SCALE = 50
 USER NAME = S. PRICE

