

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	1
F.A.S. 365	-00-BR			
ROAD DIST.	ILLINOIS	FED. AID PROJ.		

CONTRACT NO. 89409

STATE OF ILLINOIS

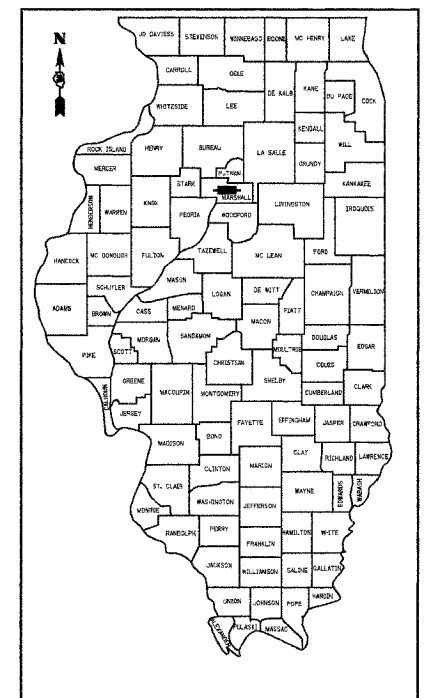
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED

BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

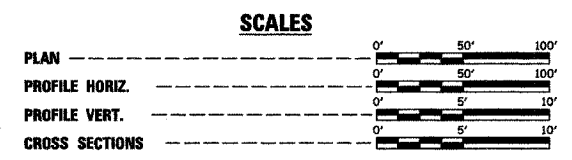
SECTION 06-00084-00-BR
MARSHALL COUNTY
PROJECT NO. ACBRS-365(106)
COUNTY HIGHWAY 16
F.A.S. ROUTE 365
JOB NO. C-94-109-06



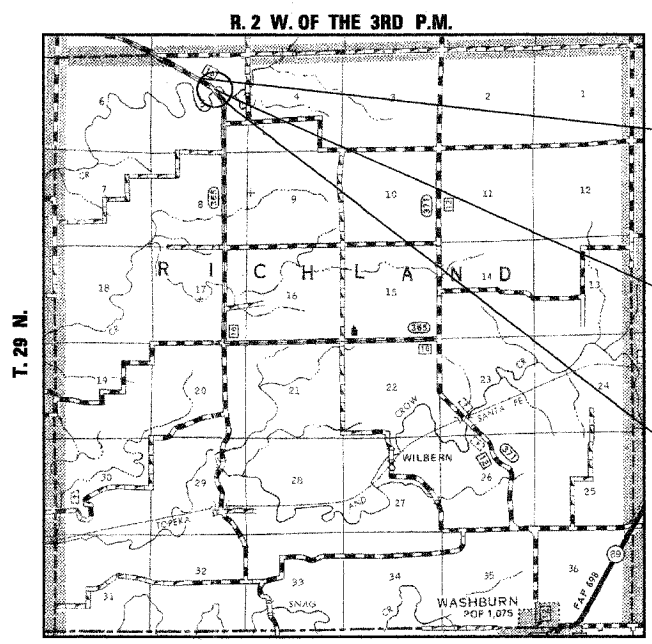
LOCATION OF SECTION INDICATED THUS:
CLASSIFICATION: RURAL TWO-LANE COLLECTOR
DESIGN VOLUME: 400-1000 ADT
CURRENT ADT: 637 (2006)
DESIGN SPEED: 40 MPH
3R DESIGN GUIDELINES
TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123

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

- STANDARDS:**
- 280001-02
 - 515001-02
 - 630001-06
 - 630301-03
 - 631026-02
 - 635006-02
 - 701301-02
 - 702001-06
 - BLR 21-6



QCQA BITUMINOUS SUPERPAVE PROJECT



LOCATION PLAN

GROSS LENGTH OF SECTION = 410.00 FEET = 0.078 MILES
NET LENGTH OF SECTION = 410.00 FEET = 0.078 MILES

SCALE IN MILES

IMPROVEMENT BEGINS STA. 123 + 50

STA. 125 + 55 - SPECIAL BRIDGE DESIGN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE, THREE SPANS @ 26', 43', 26'; 28'-0" ROADWAY, SKEW = 15° EXISTING S.N. 062-3641 PROPOSED S.N. 062-3651

IMPROVEMENT ENDS STA. 127 + 60



Fred J. Stoen (9.1.06)
ILLINOIS PROFESSIONAL NO. 26065
EXPIRES 11-30-07

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

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS

APPROVED	<u>SEPTEMBER 11, 2006</u> <i>George P. McLean</i> COUNTY ENGINEER
PASSED	<u>SEPTEMBER 8, 2006</u> <i>Scott Laballe</i> DISTRICT FOUR ENGINEER OF LOCAL ROADS & STREETS
RELEASED FOR BID BASED ON LIMITED REVIEW	<u>SEPTEMBER 11, 2006</u> <i>J. E. Gove</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: X080-2A

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	2
F.A.S. 365	-00-BR			
ROAD DIST.	ILLINOIS	FED. AID PROJ.		

CONTRACT NO. 89409

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	60
20300100	CHANNEL EXCAVATION	CU YD	300
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	33
28000400	PERIMETER EROSION BARRIER	FOOT	400
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	60
* 28101700	RIPRAP, SPECIAL	TON	214
35101400	AGGREGATE BASE COURSE, TYPE B	TON	395
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	5
* 40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	176
44000100	PAVEMENT REMOVAL	SQ YD	516
48101200	AGGREGATE SHOULDERS, TYPE B	TON	54
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
* 50104900	REMOVAL OF EXISTING SUB-STRUCTURES (NO. 1 & NO. 2)	EACH	2
50300225	CONCRETE STRUCTURES	CU YD	41.1
* 50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2,660
50800105	REINFORCEMENT BARS	POUND	4,520
50900205	STEEL RAILING, TYPE S1	FOOT	191
51201400	FURNISHING STEEL PILES HP10X42	FOOT	456
51202700	DRIVING STEEL PILES	FOOT	456
51203400	TEST PILE STEEL HP10X42	EACH	2
51204315	CONCRETE ENCASEMENT	CU YD	29.0
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	296
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	285
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	2
* 63200310	GUARDRAIL REMOVAL	FOOT	524
67100100	MOBILIZATION	L SUM	1
* 70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	76
X4066614	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	TON	65
* 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.

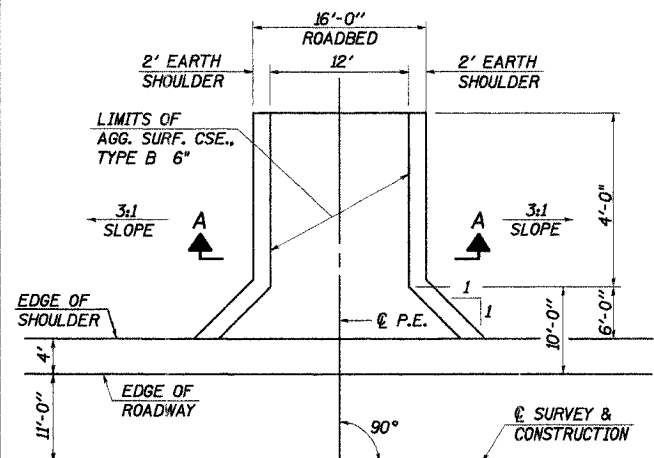
THE AREA TO BE SEEDDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.3 ACRE

TEMPORARY EROSION CONTROL

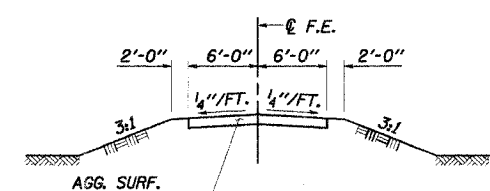
THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY UNIT PRICE DUE TO A CHANGE IN PLAN QUANTITY.

PERIMETER EROSION BARRIER = 400 FOOT
TEMPORARY EROSION CONTROL SEEDING = 33 POUND



PRIVATE ENTRANCE DETAIL

P.E. L.T. STA. 124+67



SECTION A-A

BITUMINOUS MIXTURE REQUIREMENTS

MIXTURE USE(S)	SURFACE COURSE/ INCIDENTAL BITUMINOUS SURFACING	BINDER COURSE
AC/PG:	64-22	64-22
RAP % (MAX)	15%	25%
DESIGN AIR VOIDS:	4.0% @ $N_{des} = 50$	4.0% @ $N_{des} = 50$
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5	IL 19.0
FRICTION AGGREGATE:	MIXTURE C	N/A

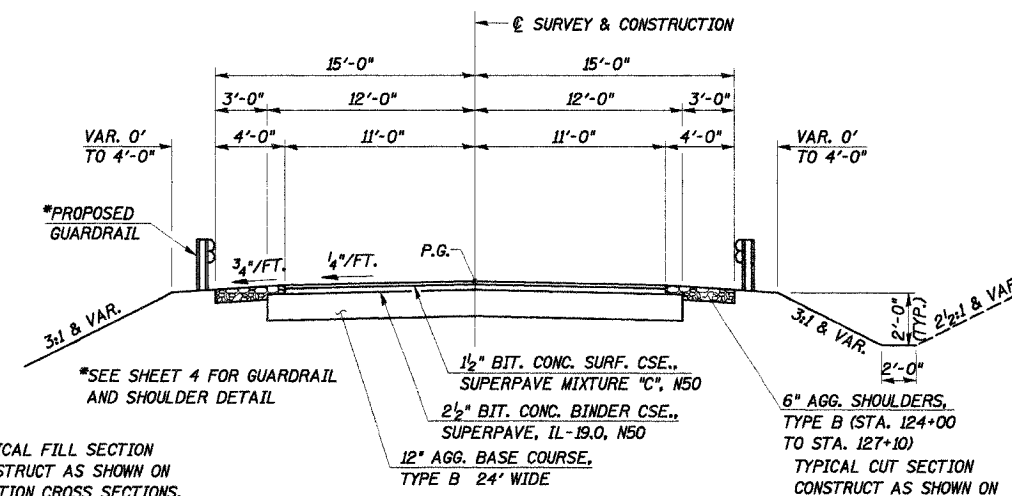
PAVEMENT DESIGN

Structural Design Traffic (S.D.T.) : Year 2016; P.V. = 699, S.U. = 18, M.U. = 18
Class III Road

Minimum Soil Support: $E_{RI} = 3$ k.s.i.

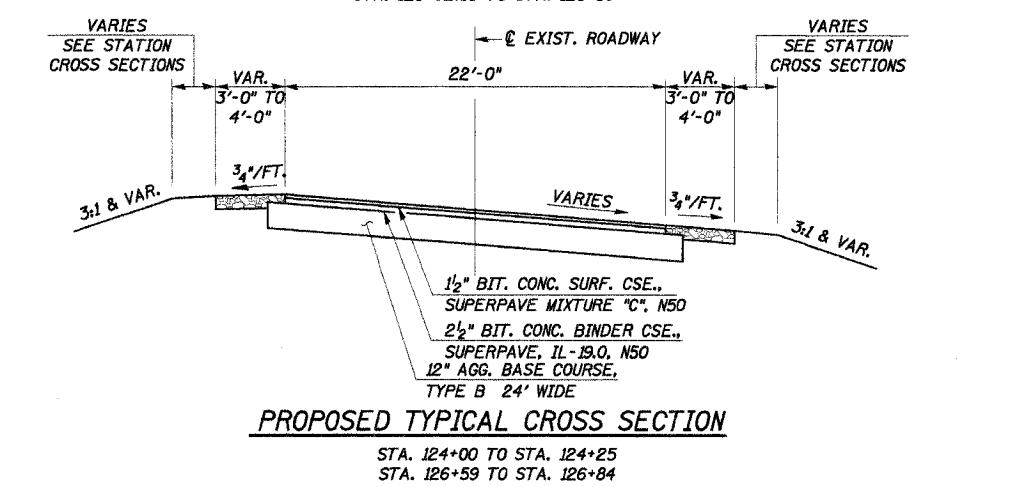
Percent of S.D.T. in Design Lane: P = 50%, S = 50%, M = 50%
T.F. = 0.073

Temp. = 75° F.; $E_{AC} = 575$ (AC-10); Design Strain = 325



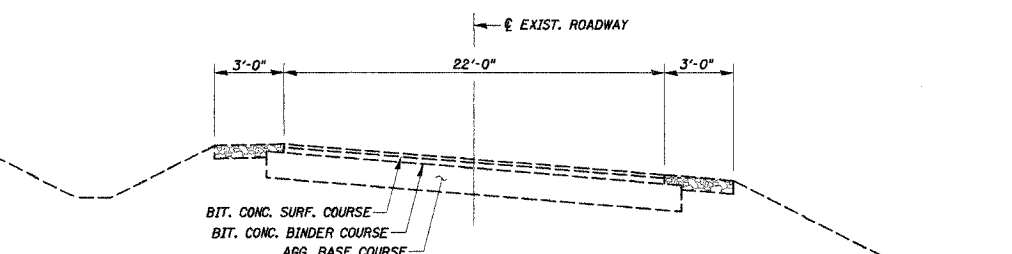
PROPOSED TYPICAL CROSS SECTION

STA. 124+25 TO STA. 125+07.42
STA. 126+02.58 TO STA. 126+59

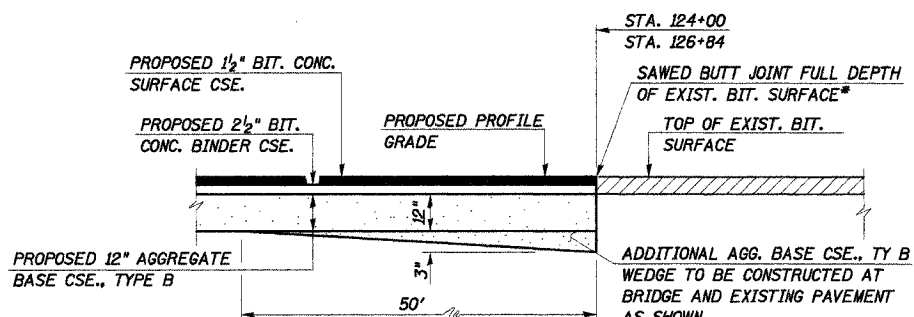


PROPOSED TYPICAL CROSS SECTION

STA. 124+00 TO STA. 124+25
STA. 126+59 TO STA. 126+84



EXISTING TYPICAL CROSS SECTION



ELEVATION AT BEGINNING AND END OF IMPROVEMENT

JOINT DETAILS

*COST INCLUDED IN "PAVEMENT REMOVAL".

PAVEMENT REMOVAL

STA. 124+00 TO STA. 125+18.50 = 290 SQ YD
STA. 125+91.50 TO STA. 126+84 = 226
TOTAL = 516 SQ YD

SUMMARY OF QUANTITIES, GENERAL NOTES AND DETAILS

SECTION 06-00084-00-BR
MARSHALL COUNTY
COUNTY HIGHWAY 16
STATION 125+55

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

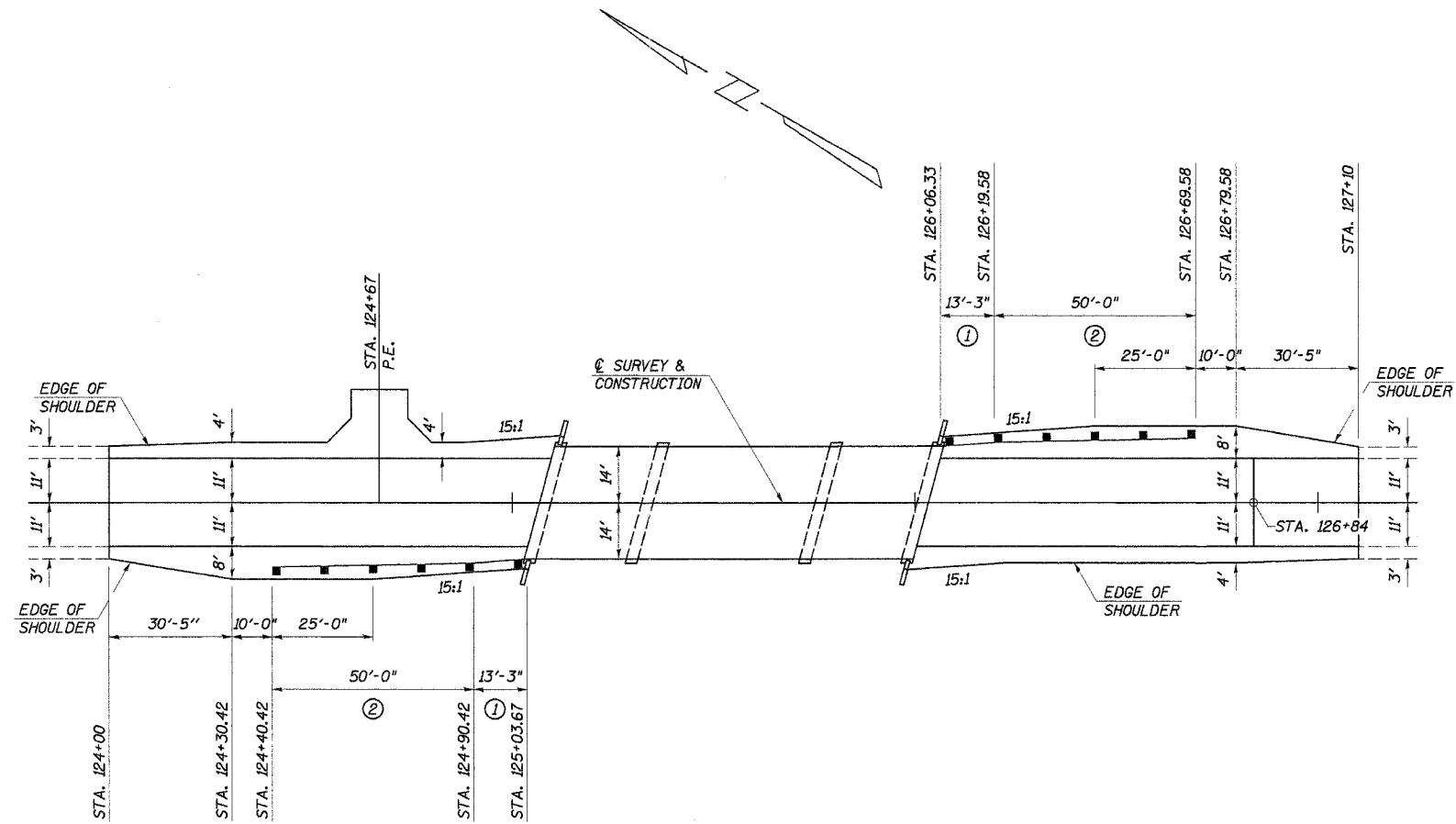
FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS

DRAWN: S.A.P.
DATE: 02/14/06

CHECKED: G.J.C.
DATE: 03/27/06

JOB NO.: 46813
FILE: 0423SUMTYP.DGN
DATE: 04/11/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	4
F.A.S. 365	-00-BR			
ROAD DIST.	ILLINOIS	FED. AID PROJ.		
CONTRACT NO. 89409				



SHOULDER AND GUARDRAIL DETAIL

GUARDRAIL REMOVAL

NE. QUADRANT = 66 FOOT
 NW. QUADRANT = 165 FOOT
 SE. QUADRANT = 165 FOOT
 SW. QUADRANT = 128 FOOT
 TOTAL = 524 FOOT

TRAFFIC BARRIER TERMINAL, TYPE 5A

15' RT. STA. 124+90.42 TO 14' RT. STA. 125+03.67 = 1 EACH
 14' LT. STA. 126+06.33 TO 15' LT. STA. 126+19.58 = 1 EACH
 TOTAL = 2 EACH

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

16' RT. STA. 124+40.42 TO 15' RT. STA. 124+90.42 = 1 EACH
 15' LT. STA. 126+19.58 TO 16' LT. STA. 126+69.58 = 1 EACH
 TOTAL = 2 EACH

LEGEND

NOTE: ALL DIMENSIONS REFER TO FRONT FACE OF PROPOSED RAILING.

- ① TRAFFIC BARRIER TERMINAL, TYPE 5A
- ② TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

SHOULDER AND GUARDRAIL DETAIL
 SECTION 06-00084-00-BR
 MARSHALL COUNTY
 COUNTY HIGHWAY 16
 STATION 125+55

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

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
PREPONT, IL. ROCKFORD, IL. ROCKFORD, IL. MONROE, IL. SPRINGFIELD, IL.

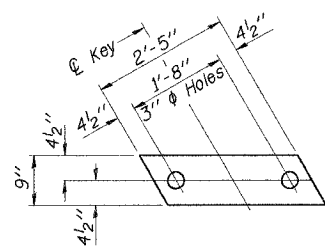
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 DATE: 02/14/06

CHECKED: G.J.C.
 DATE: 03/27/06

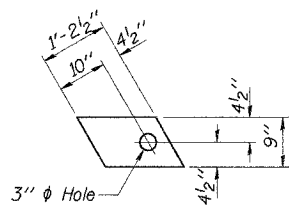
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F.A.S. 365	-00-BR			
ILLINOIS			FED. AID PROJ.	

CONTRACT NO. 89409

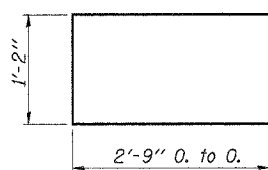


FABRIC BEARING PAD
(Interior)
(24 Req'd.)

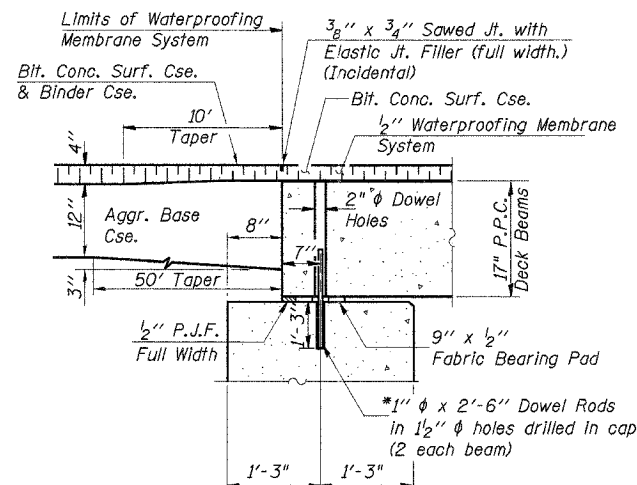


FABRIC BEARING PAD
(Exterior)
(8 Req'd.)

FIXED

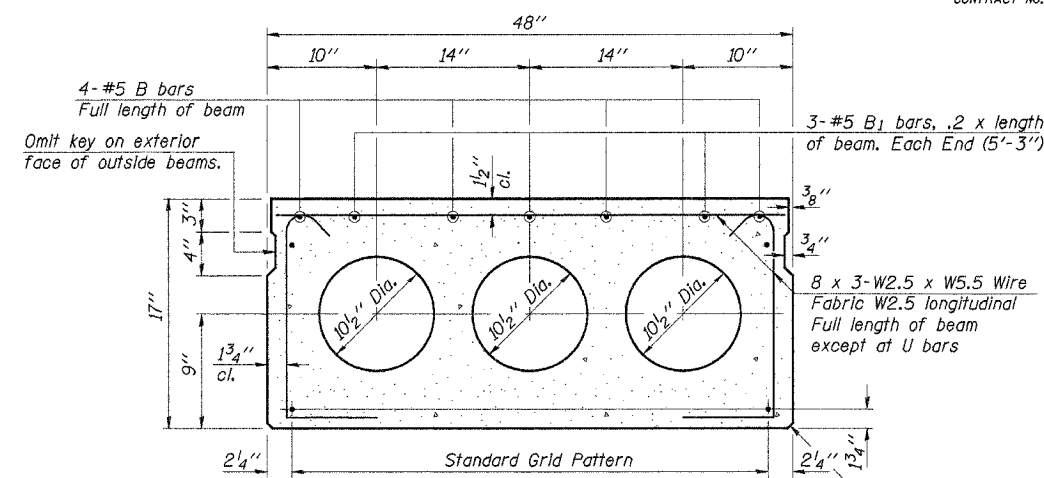


BAR U₁



SEC. THRU ABUT.
(Rt. S to Abutment)

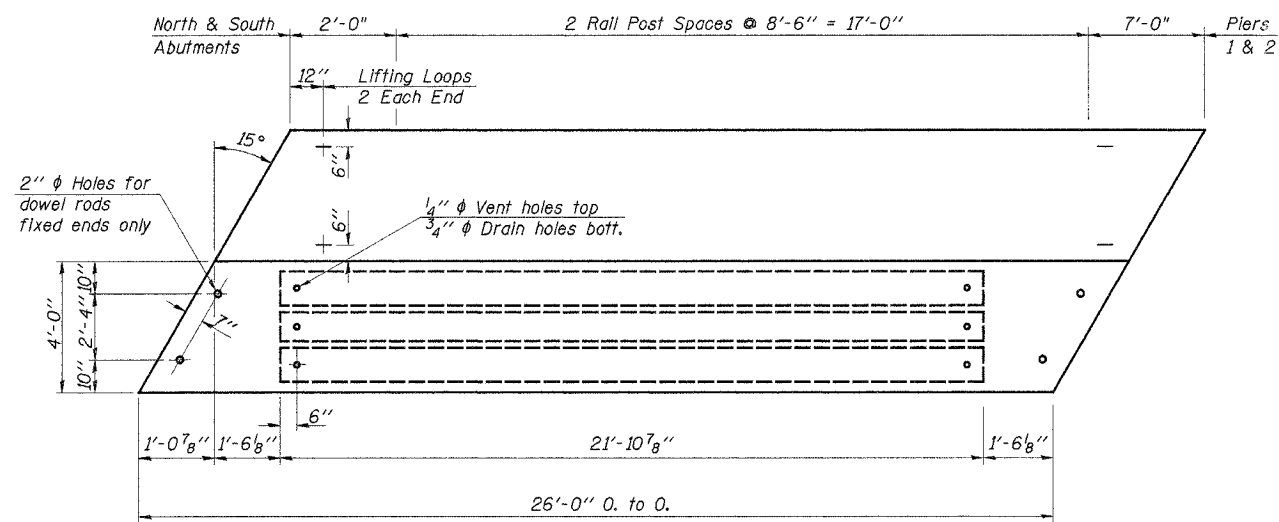
* Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting the shear keys.



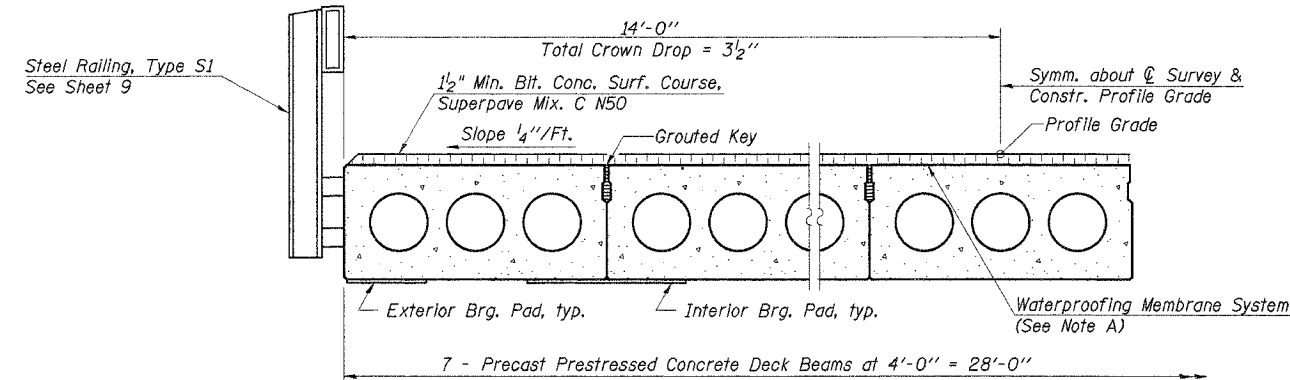
TYPICAL SECTION

10-1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
10 - Strands 1 3/4" up

Note: Place strands symmetrically about ϕ of beam.



PLAN



HALF CROSS SECTION

Note A: 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".

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,456
Bit. Conc. Surf. Course, Superpave, Mix C, N50	Ton	19.8
Waterproofing Membrane System	Sq. Yd.	162
Portland Cement Mortar Fairing Course	Foot	156

Estimated Total Weight (One Beam) = 16,750 Pounds

SUPERSTRUCTURE
SPANS 1 & 3
COUNTY HIGHWAY 16
SECTION 06-00084-00-BR
MARSHALL COUNTY
STATION 125+55

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

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
PREPARED BY: MICHAEL S. HANCOCK, P.E.
DATE: 04/11/06

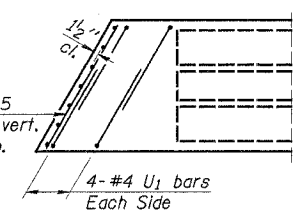
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FILE: 04235SUPERL.DGN
DATE: 04/11/06

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

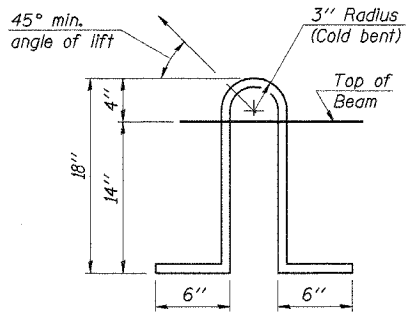
PD-4-L 9-1-03

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. (64 Req'd.) 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. Required Release Strength, f'cl, shall be 4,000 p.s.i. See Special Provisions for review and distribution of shop drawings. Roll post anchor devices shall be cast into outside beam as elsewhere specified.



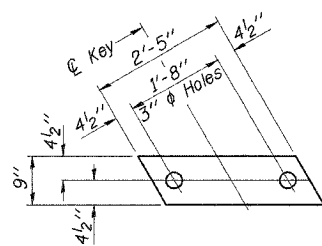
END PLAN



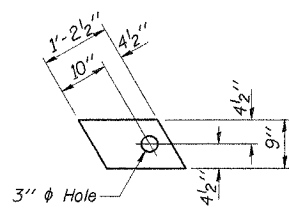
LIFTING LOOP DETAIL

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	8
F.A.S. 365	-00-BR			
ILLINOIS		FED. AID PROJ.		

CONTRACT NO. 89409

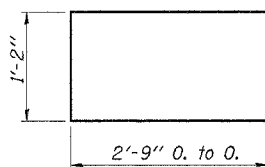


FABRIC BEARING PAD
(Interior)
(12 Req'd.)

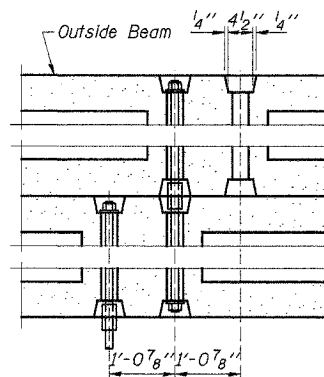


FABRIC BEARING PAD
(Exterior)
(4 Req'd.)

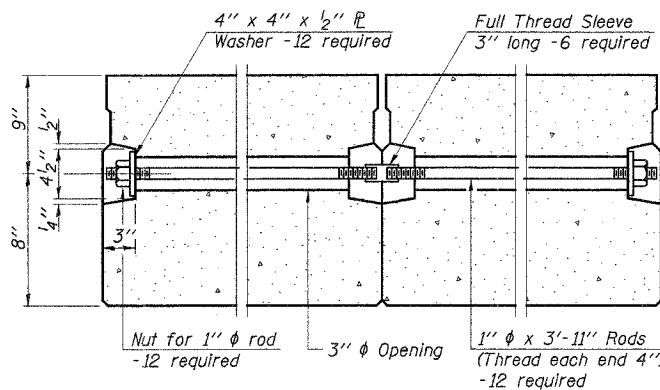
FIXED



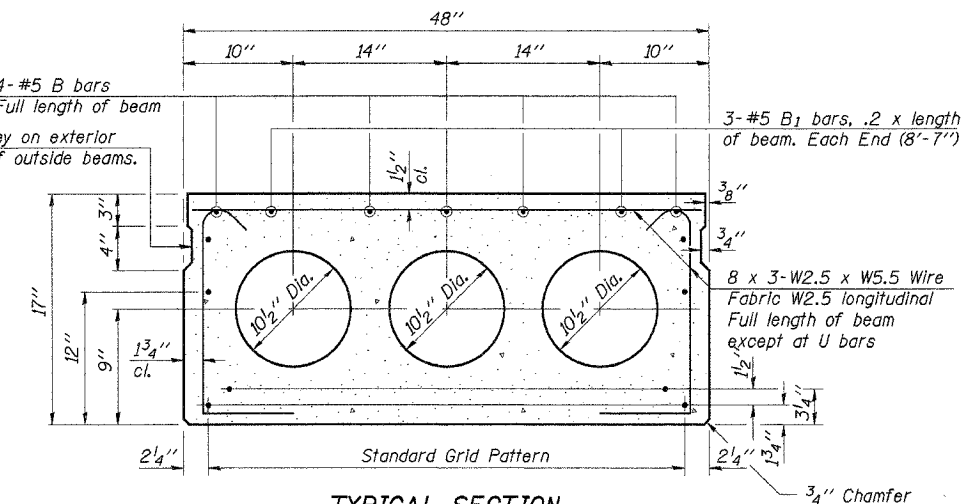
BAR U1



TYPICAL TRANSVERSE TIE ASSEMBLY

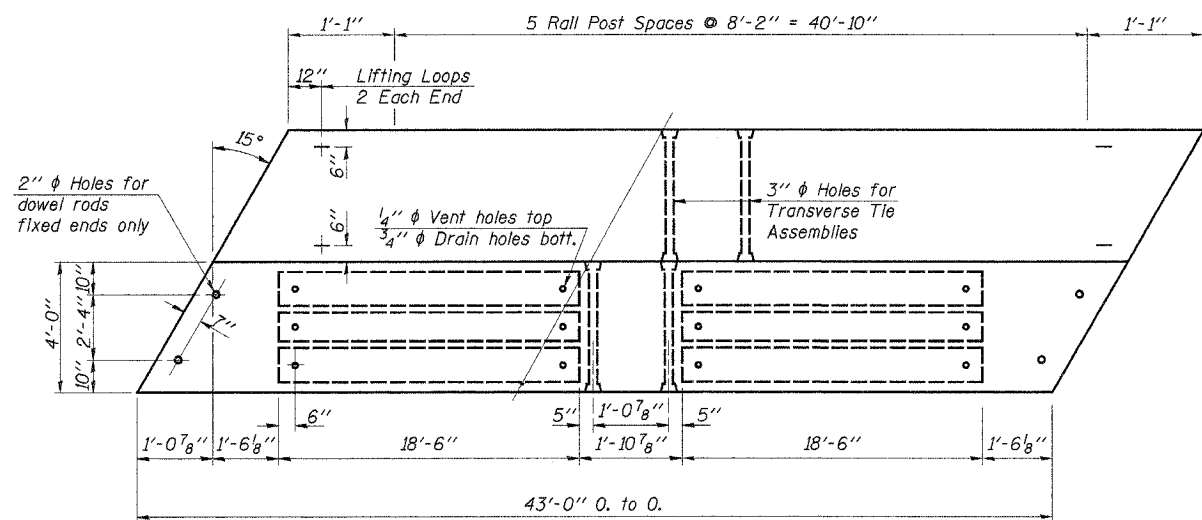


4- #5 B bars
Full length of beam
Omit key on exterior face of outside beams.

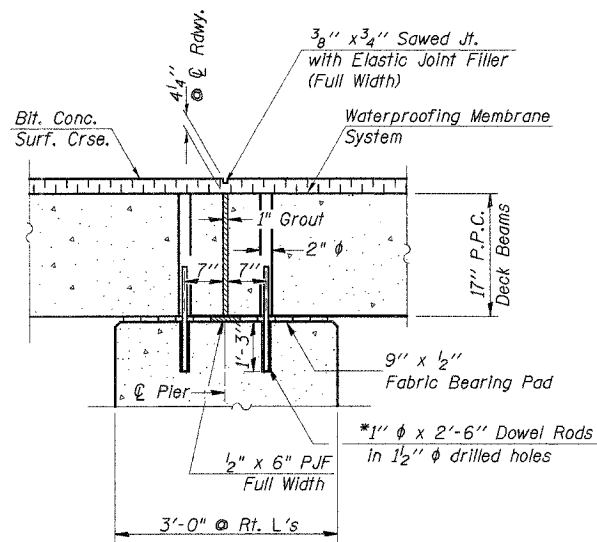


TYPICAL SECTION

18- 1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
14 - Strands 1 3/4" up, 2 - Strands 3/4" up, 2 - Strands 1/2" up
Note: Place strands symmetrically about ϕ of beam.

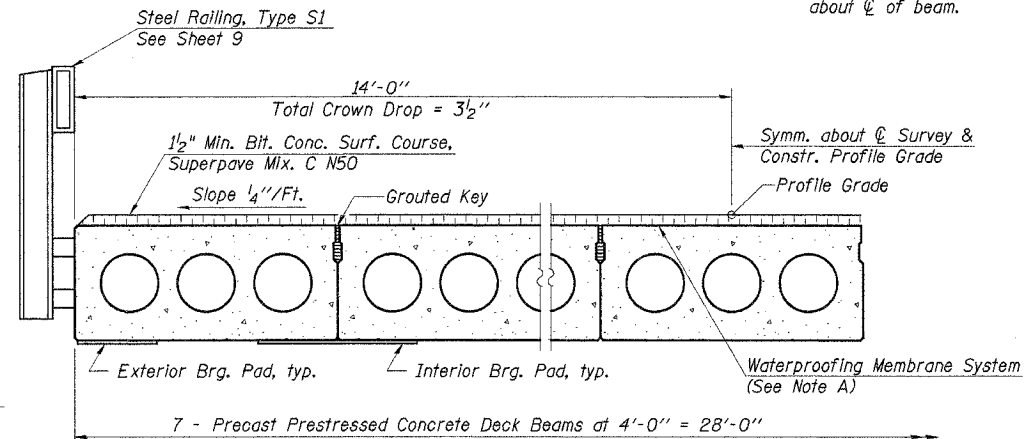


PLAN



SEC. AT PIER

* Note: After beams are in place, 1 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.



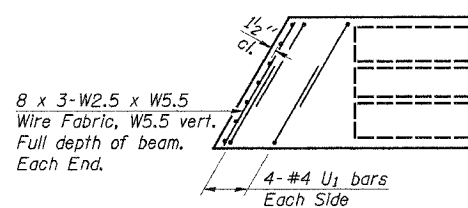
HALF CROSS SECTION

Note A: 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".

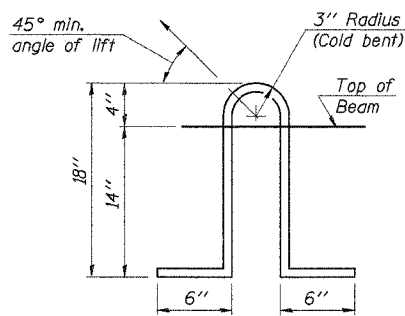
BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,204
Bit. Conc. Surf. Course, Superpave, Mix C, N50	Ton	17.2
Waterproofing Membrane System	Sq. Yd.	134
Portland Cement Mortar Fairing Course	Foot	129

Estimated Total Weight (One Beam) = 27,420 Pounds



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 1/2" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. (64 Req'd.) 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. 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.

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

PD-4-L 9-1-03

SUPERSTRUCTURE
SPAN 2
COUNTY HIGHWAY 16
SECTION 06-00084-00-BR
MARSHALL COUNTY
STATION 125+55

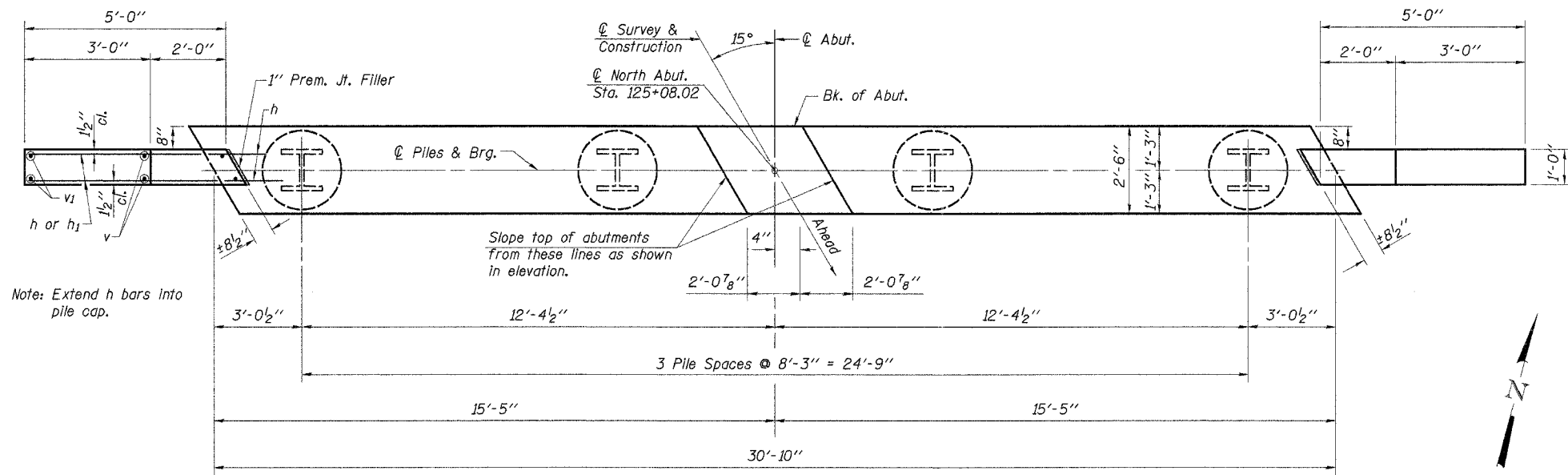
4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
www.lehr-graham.com

FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FERRIS S. HODGINS, P.E., SHELLEY S. HODGINS, P.E.

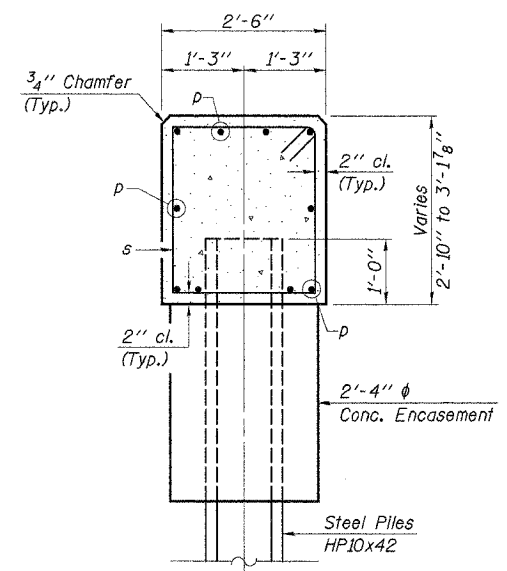
JOB NO.: 46813
FILE: 0423SUPER2.DGN
DATE: 04/11/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	10
F.A.S. 365	-00-BR			
ILLINOIS		FED. AID PROJ.		

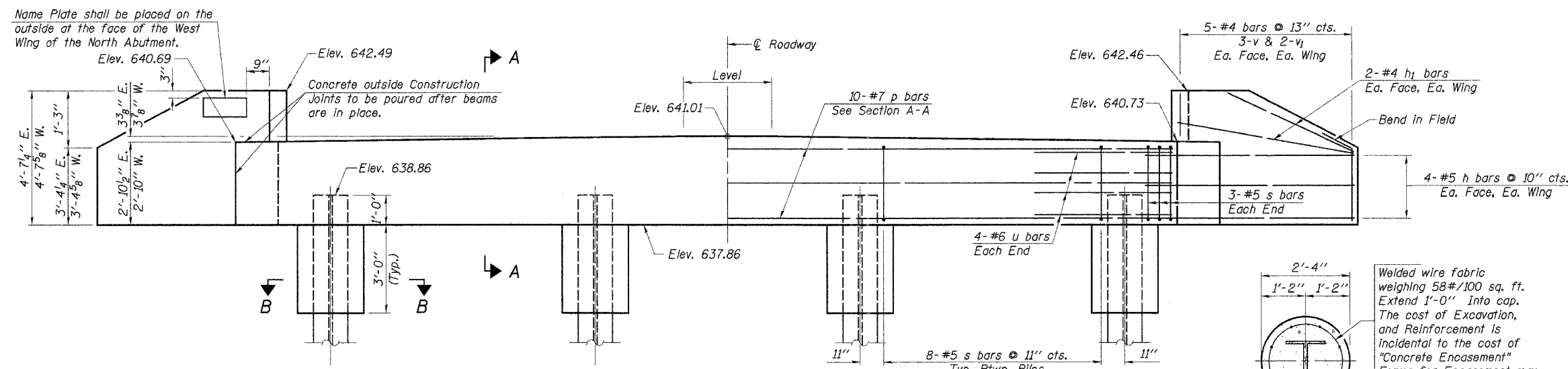
CONTRACT NO. 89409



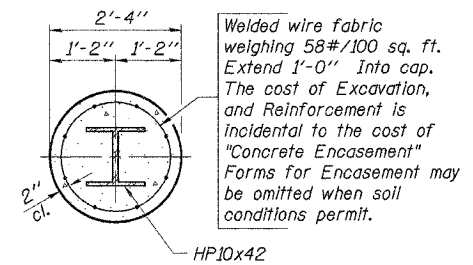
PLAN



SECTION A-A



ELEVATION
(Looking Northwest)



SECTION B-B

**NORTH ABUTMENT
BILL OF MATERIAL**

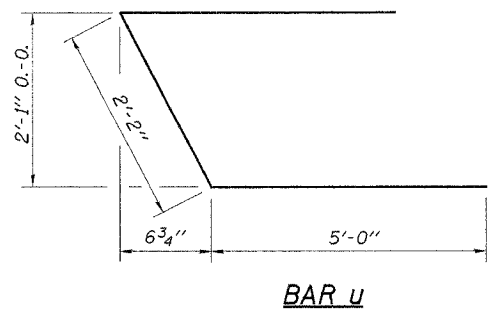
Bar	No.	Size	Length	Shape
h	16	#5	7'-0"	—
h1	8	#4	4'-9"	—
p	10	#7	30'-6"	—
s	30	#5	10'-3"	□
u	8	#6	12'-2"	—
v	12	#4	4'-4"	—
v1	8	#4	3'-6"	—
Concrete Structures		Cu. Yd.	10.2	
Reinforcement Bars		Pound	1,290	
Name Plates		Each	1	
Test Pile Steel HP10x42		Each	1	
Steel Piles HP10x42		Foot	72	
Concrete Encasement		Cu. Yd.	1.9	

PILE DATA

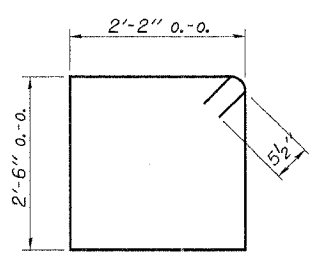
Type..... Steel Piles HP10x42
 No. Req'd. (2 Abuts.)..... 4*
 Design Capacity..... 30 Tons/Pile
 Driven Capacity..... 45 Tons/Pile
 Est. Length..... 24 Feet/Pile

*Includes 1 Test Pile to be driven in a permanent location at the North Abutment.

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



BAR u



BAR s

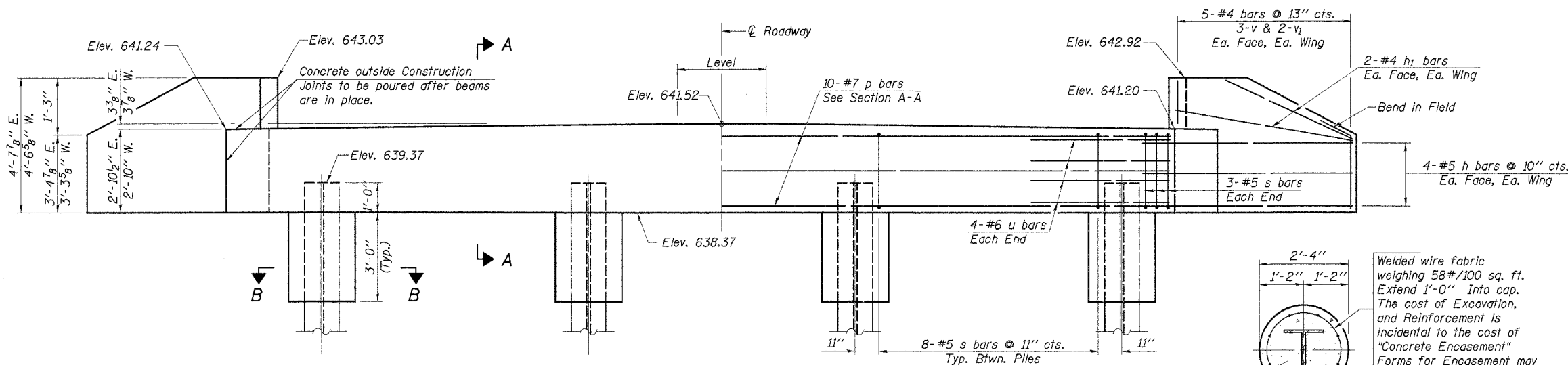
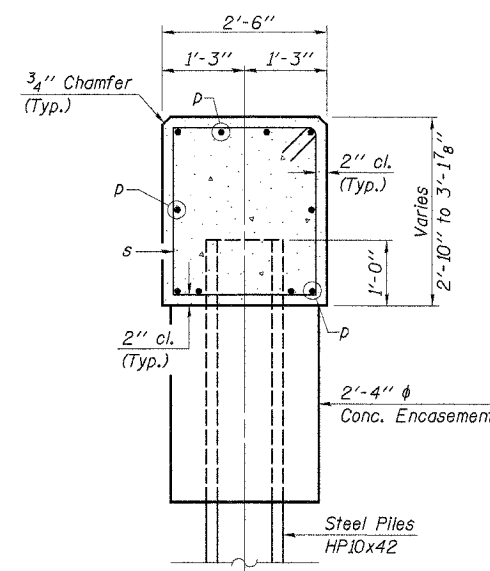
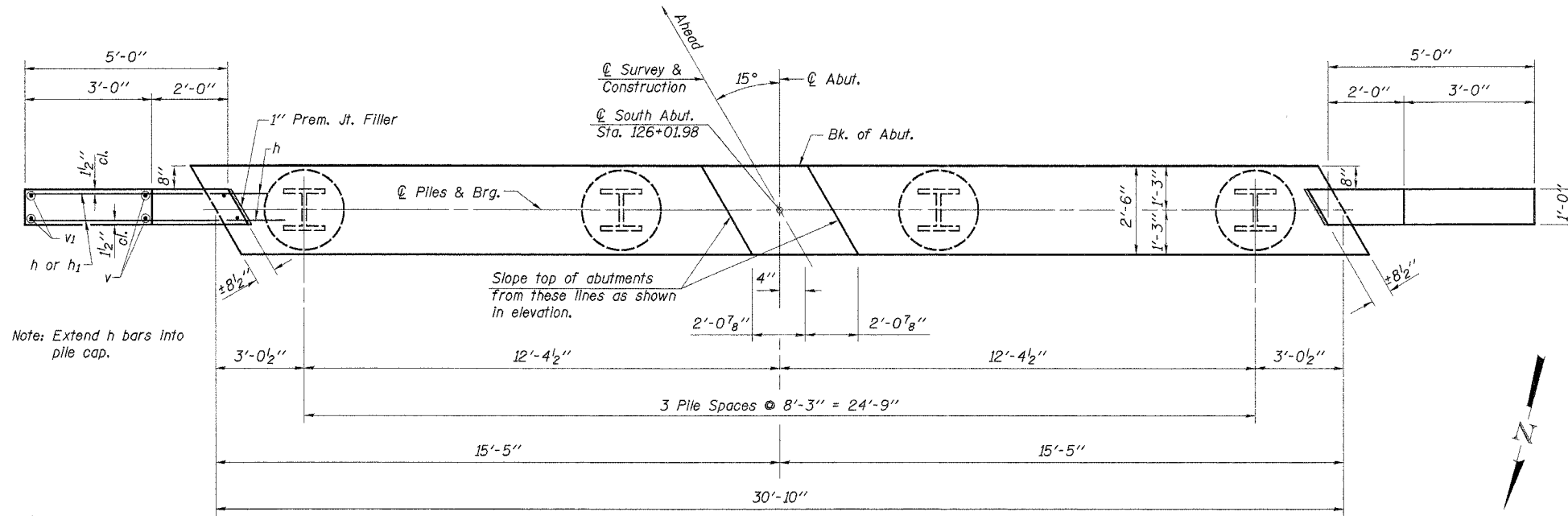
NORTH ABUTMENT
 COUNTY HIGHWAY 16
 SECTION 06-00084-00-BR
 MARSHALL COUNTY
 STATION 125+55

4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 783-8600
 www.fehr-graham.com

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 ENGINEERING AND SCIENCE CONSULTANTS

JOB NO.: 46813
 FILE: 0423ABUT1.DGN
 DATE: 04/11/06

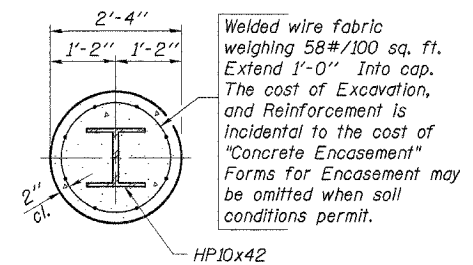
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	11
F.A.S. 365	-00-BR	ILLINOIS	FED. AID PROJ.	
CONTRACT NO. 89409				



SOUTH ABUTMENT BILL OF MATERIAL

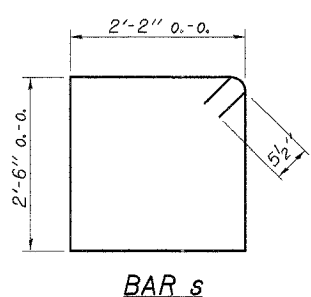
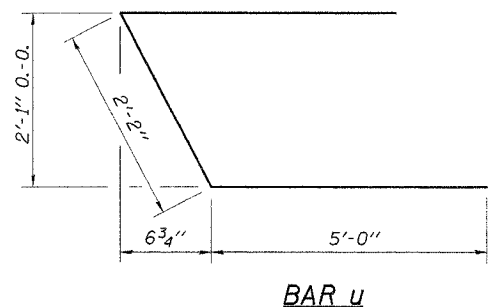
Bar	No.	Size	Length	Shape
h	16	#5	7'-0"	—
h1	8	#4	4'-9"	—
p	10	#7	30'-6"	—
s	30	#5	10'-3"	□
u	8	#6	12'-2"	—
v	12	#4	4'-4"	—
v1	8	#4	3'-6"	—
Concrete Structures		Cu. Yd.	10.2	
Reinforcement Bars		Pound	1,290	
Steel Piles HP10x42		Foot	96	
Concrete Encasement		Cu. Yd.	1.9	

SECTION B-B



PILE DATA

Type..... Steel Piles HP10x42
 No. Req'd. (2 Abuts.)..... 4
 Design Capacity..... 30 Tons/Pile
 Driven Capacity..... 45 Tons/Pile
 Est. Length..... 24 Feet/Pile



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

SOUTH ABUTMENT
 COUNTY HIGHWAY 16
 SECTION 06-00084-00-BR
 MARSHALL COUNTY
 STATION 125+55

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

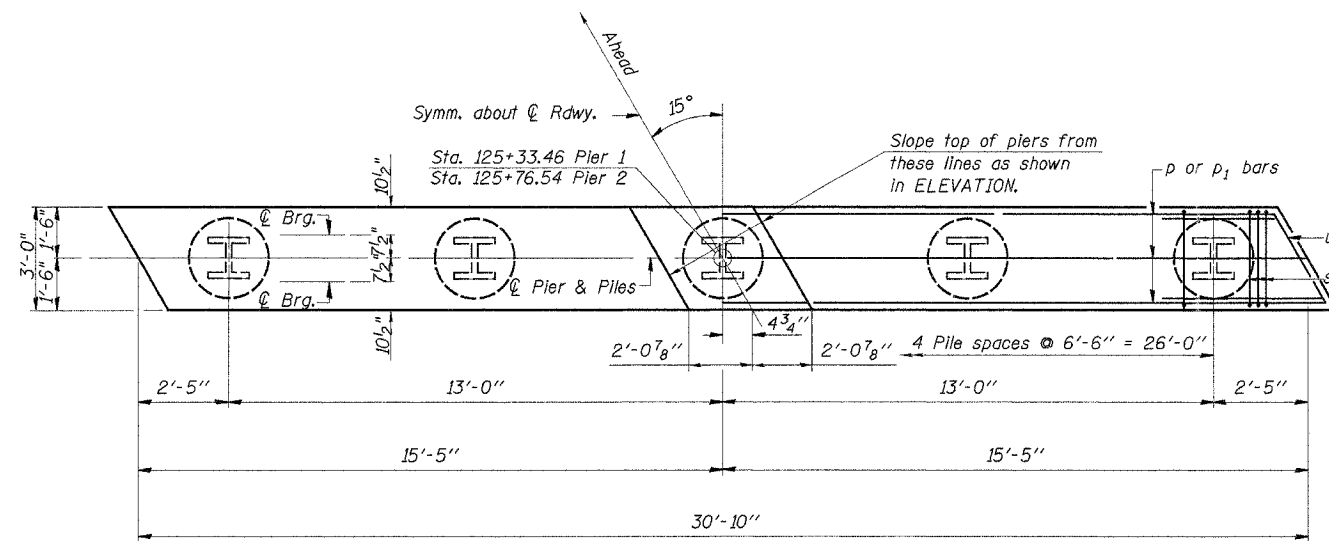
FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 PROFESSIONAL ENGINEERS, ARCHITECTS & SCIENTISTS

JOB NO.: 46813
 FILE: 0423ABUT2.DGN
 DATE: 04/11/06

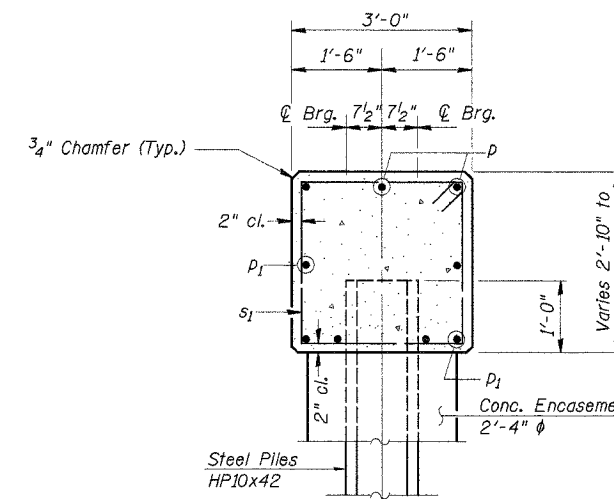
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	06-00084	MARSHALL	15	12
F.A.S. 365	-00-BR			
		ILLINOIS	FED. AID PROJ.	

CONTRACT NO. 89409

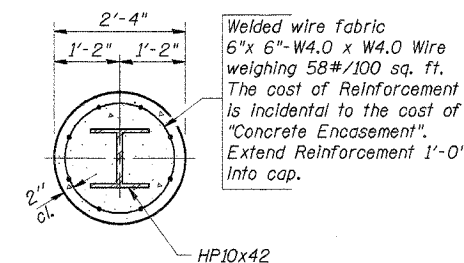
Note: All edges shall have standard $\frac{3}{4}$ " chamfer



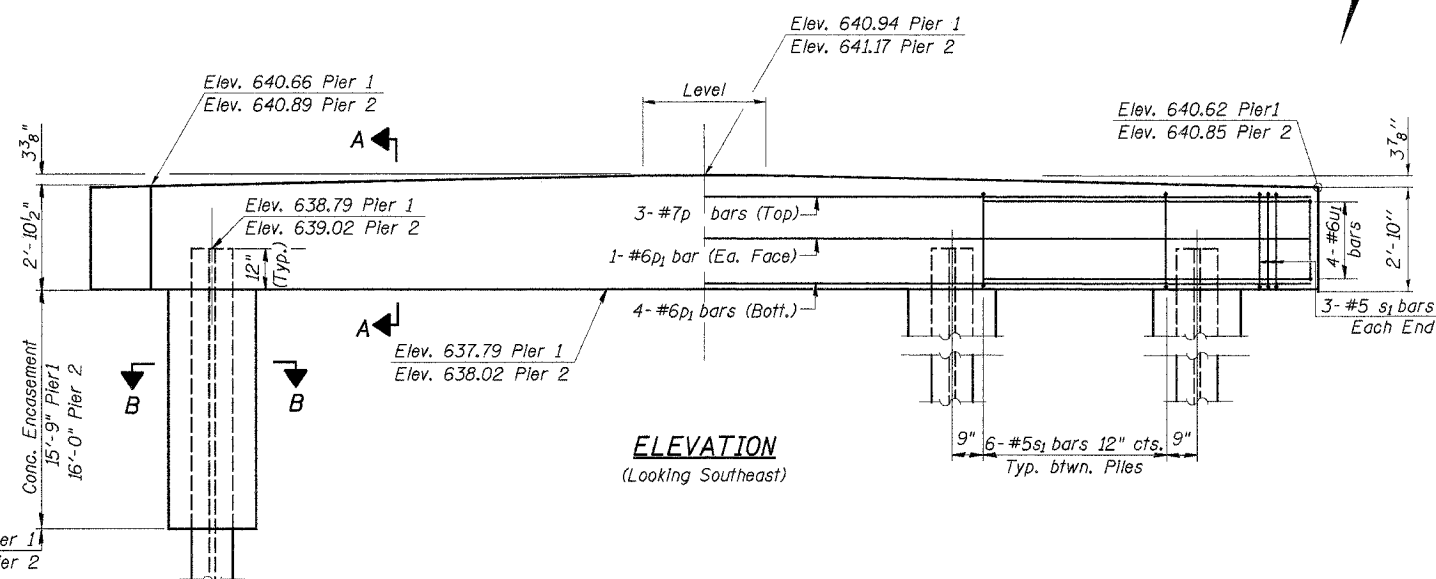
PLAN



SECTION A-A



SECTION B-B



ELEVATION
(Looking Southeast)

BILL OF MATERIAL - 2 PIERS

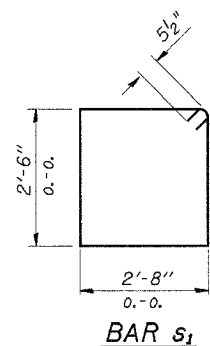
BAR	NO.	SIZE	LENGTH	SHAPE
p	6	#7	30'-6"	—
p ₁	12	#6	30'-6"	—
s ₁	60	#5	11'-3"	□
u ₁	16	#6	12'-8"	▤
Concrete Structures			Cu. Yd.	20.7
Reinforcement Bars			Pound	1,940
Steel Piles HP10x42			Foot	288
Test Pile Steel HP10x42			Each	1
Conc. Encasement			Cu. Yd.	25.2

PILE DATA

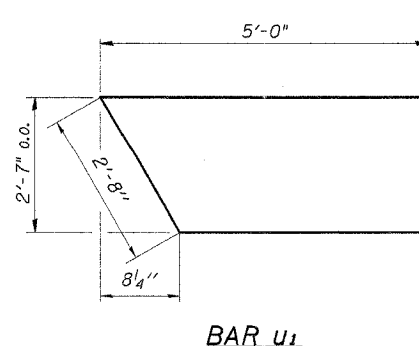
Type _____ Steel Piles HP10x42
 Design Capacity _____ 44 Tons/Pile
 Driven Capacity _____ 66 Tons/Pile
 Est. Length _____ 32 Feet/Pile
 No. Req'd(2 Piers) _____ 10*

*Includes one Test Pile to be driven in a permanent location, at Pier 2.

Elev. 622.04 Pier 1
 Elev. 622.02 Pier 2



BAR s₁



BAR u₁

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

PIERS

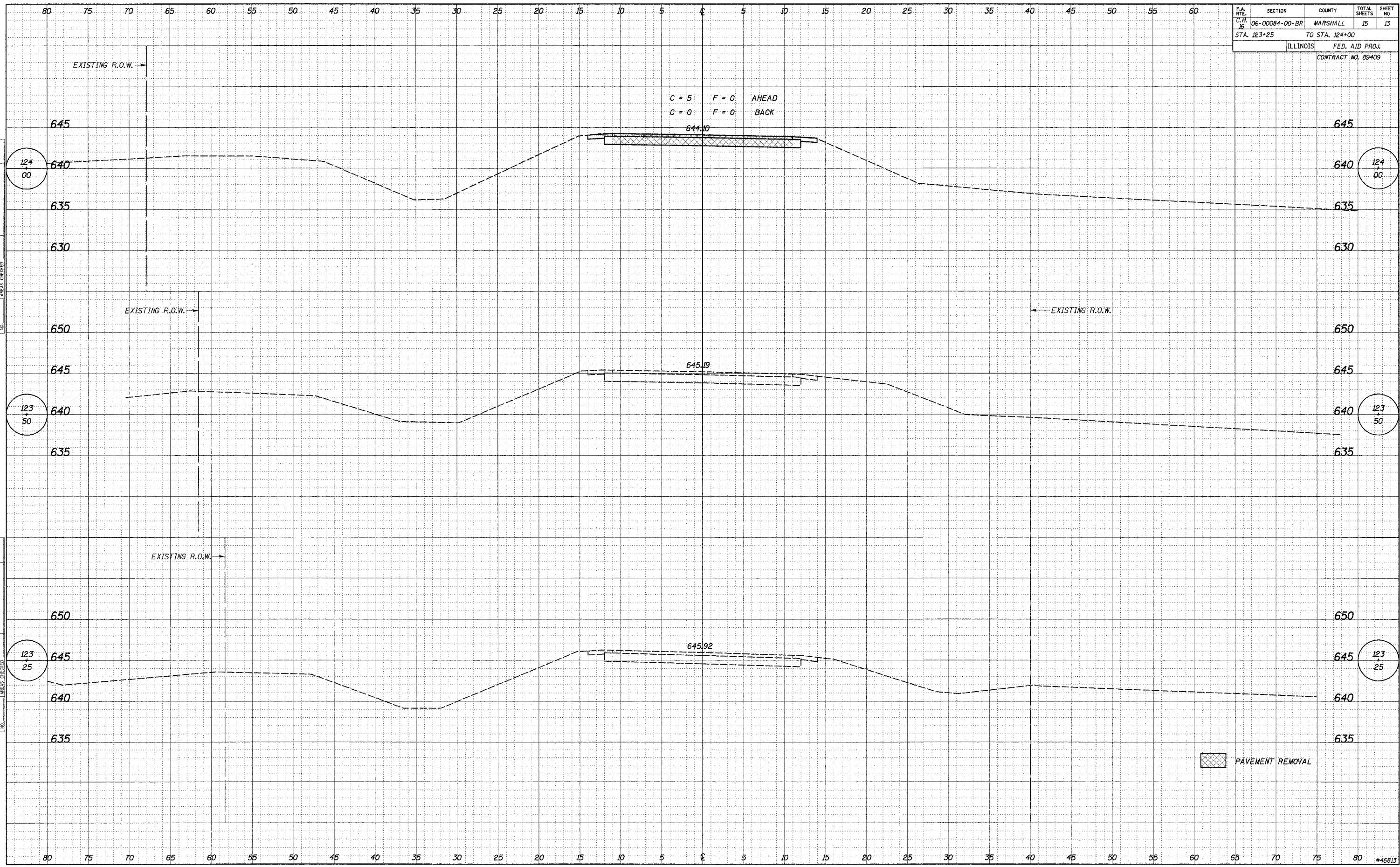
COUNTY HIGHWAY 16
 SECTION 06-00084-00-BR
 MARSHALL COUNTY
 STATION 125+55

4440 ASH GROVE
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 ENGINEERING AND SCIENCE CONSULTANTS

JOB NO.: 46813
 FILE: 0423PIER.DGN
 DATE: 04/11/06

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. #	06-00084-00-BR	MARSHALL	15	13
STA. 123+25		TO STA. 124+00		
ILLINOIS		FED. AID PROJ.		
CONTRACT NO. 89409				



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

BY	DATE
S.A.P.	02/15/06
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

