

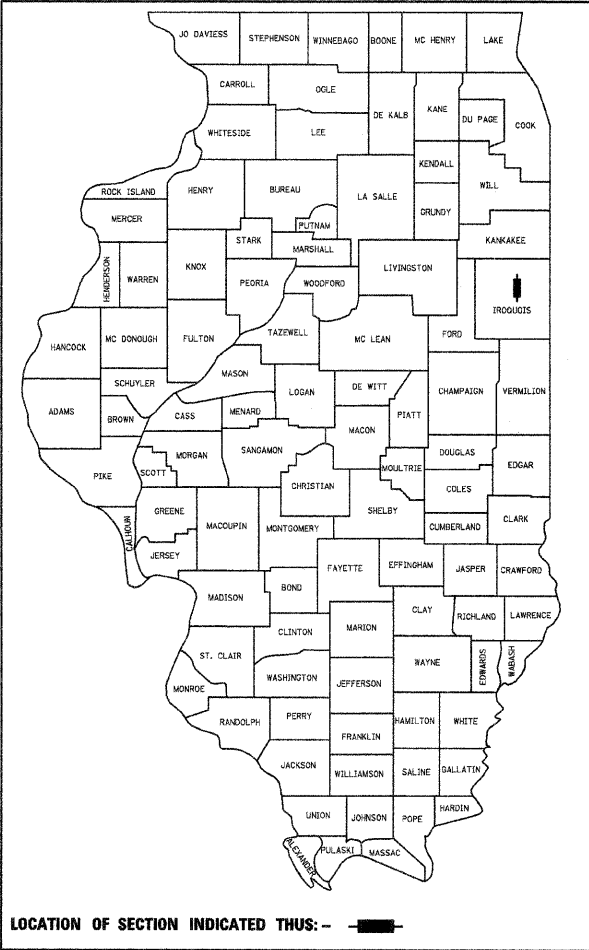
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

MARTINTON ROAD DISTRICT
SECTION 04-16101-02-BR
IROQUOIS COUNTY
PROJECT NO. BROS-075 (136)
T.R. 244
C-93-050-10
CONTRACT NO. 87445

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 244	04-16101-02-BR	IROQUOIS	24	1
		ILLINOIS	MARTINTON ROAD DISTRICT	

CONTRACT NO. 87445

SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.-19.	BRIDGE PLANS
20.-24.	STATION CROSS SECTIONS



CLASSIFICATION: LOCAL ROAD (NON-URBAN)
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 85 (2009)
DESIGN SPEED: 30 MPH

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

APPROVED December 9, 2009
[Signature]
 COUNTY ENGINEER

PASSED 12-16, 2009
[Signature]
 DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID
 BASED ON LIMITED REVIEW 12-16, 2009
[Signature]
 DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER

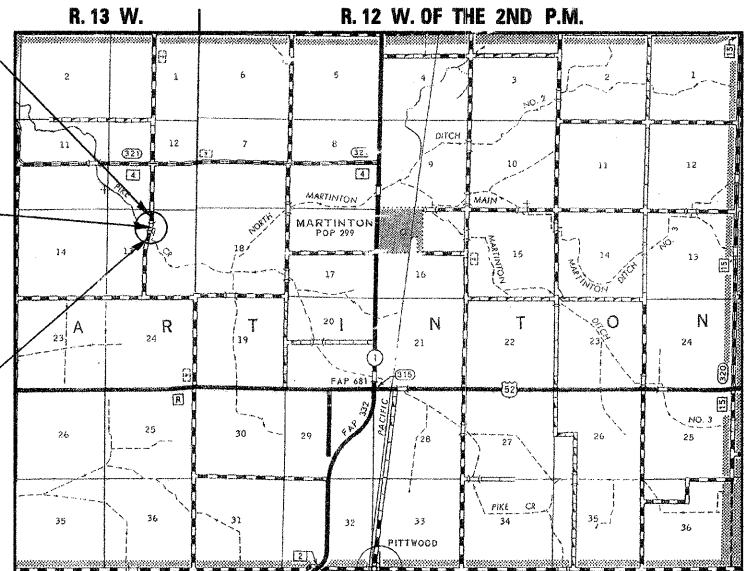
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

- STANDARDS**
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
 - 515001-03 NAME PLATE FOR BRIDGES
 - 601101-01 CONCRETE HEADWALL FOR PIPE DRAIN
 - 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
 - 701901-01 TRAFFIC CONTROL DEVICES
 - 720011-01 METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
 - 728001-01 TELESCOPING STEEL SIGN SUPPORT
 - 729001-01 APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS AND MARKERS)
 - BLR 21-8 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

STA. 38+50 - SPECIAL BRIDGE DESIGN
3-SPAN CONTINUOUS STEEL WIDE FLANGE (COMPOSITE) BEAM BRIDGE (24" DEPTH);
THREE SPANS @ 40'-0", 50'-0", 40'-0";
30'-0" O.-O. ROADWAY; 132'-10 5/8" BK.-BK. ABUTS.; SKEW = 30° LT.
EXISTING S.N. 038-4533
PROPOSED S.N. 038-4556

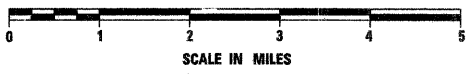
IMPROVEMENT ENDS
 STA. 41+50

IMPROVEMENT BEGINS
 STA. 35+00

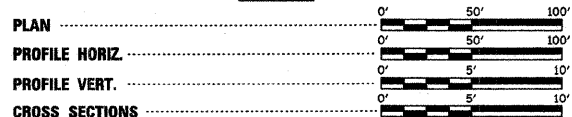


LOCATION PLAN

GROSS LENGTH OF SECTION = 650 FEET = 0.123 MILES
 NET LENGTH OF SECTION = 650 FEET = 0.123 MILES



SCALES



Contract 87445

4440 ASH GROVE
 SPRINGFIELD, IL 62711
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FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 PEORIA, IL; ROCKFORD, IL; ROCKFORD, IL; MONROE, IL; SPRINGFIELD, IL



Gary J. Cartwright 12-7-09
 ILLINOIS PROFESSIONAL NO. 43408
 EXPIRES 11-30-09

SUMMARY OF QUANTITIES

CONSTRUCTION CODE X071-2A

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	491
20300100	CHANNEL EXCAVATION	CU YD	809
20400800	FURNISHED EXCAVATION	CU YD	475
20700220	POROUS GRANULAR EMBANKMENT	CU YD	95
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.5
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	62
28000305	TEMPORARY DITCH CHECKS	FOOT	80
28000400	PERIMETER EROSION BARRIER	FOOT	1,167
28000500	INLET AND PIPE PROTECTION	EACH	2
28100209	STONE RIPRAP, CLASS A5	TON	646
28200200	FILTER FABRIC	SQ YD	569
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1007
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	150
50300225	CONCRETE STRUCTURES	CU YD	63.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	128.9
50300260	BRIDGE DECK GROOVING	SQ YD	414
50300280	CONCRETE ENCASEMENT	CU YD	58.1
50300300	PROTECTIVE COAT	SQ YD	499
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	1,730
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	38,690
50900205	STEEL RAILING, TYPE S1	FOOT	265
51201600	FURNISHING STEEL PILES HP12X53	FOOT	1,320
51202305	DRIVING PILES	FOOT	1,320
51203600	TEST PILE STEEL HP12X53	EACH	2
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS, 1"	EACH	40
54200229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	146
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	58
60100060	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	4
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	140
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
 Δ SPECIALTY ITEMS

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) = 0.5 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.

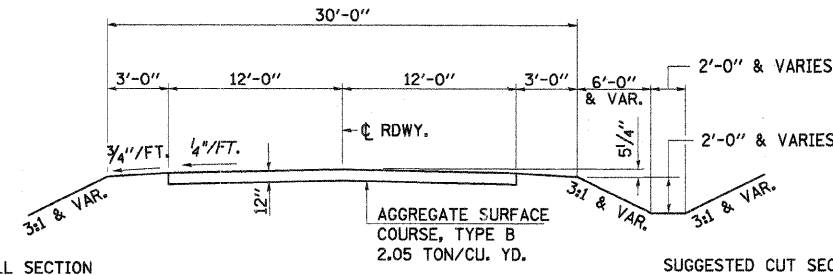
TEMPORARY EROSION CONTROL SEEDINGS = 62 POUND
 PERIMETER EROSION CONTROL BARRIER = 1,167 FOOT
 TEMPORARY DITCH CHECKS = 80 FOOT
 INLET AND PIPE PROTECTION = 2 EACH

TEMPORARY DITCH CHECKS

RT. STA. 37+75 = 20 FOOT
 LT. STA. 37+92 = 20 FOOT
 RT. STA. 39+08 = 20 FOOT
 RT. STA. 39+25 = 20 FOOT
 TOTAL = 80 FOOT

INLET AND PIPE PROTECTION

LT. STA. 36+35 = 1 EACH
 RT. STA. 39+88 = 1 EACH
 TOTAL = 2 EACH



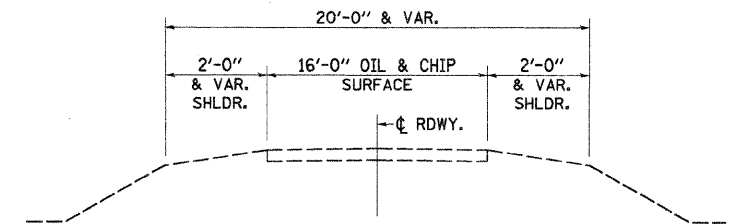
SUGGESTED FILL SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

SUGGESTED CUT SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

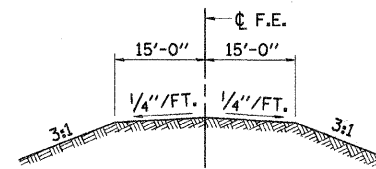
TYPICAL PROPOSED CROSS SECTION

STA. 35+50 TO 41+00

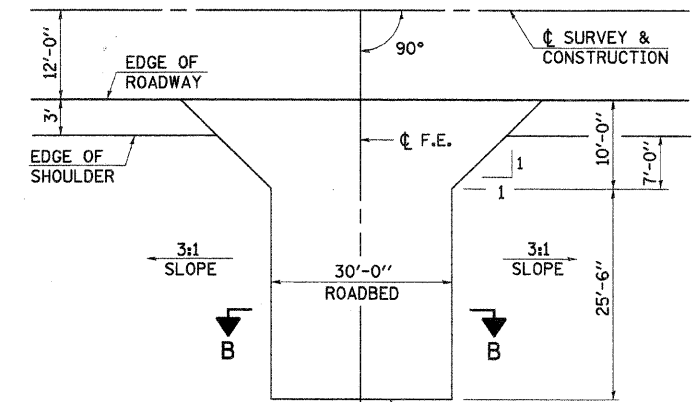
TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY
 TO BE CONSTRUCTED FROM STA. 35+00 TO STA. 35+50 AND
 FROM STA. 41+00 TO STA. 41+50.



EXISTING TYPICAL CROSS SECTION

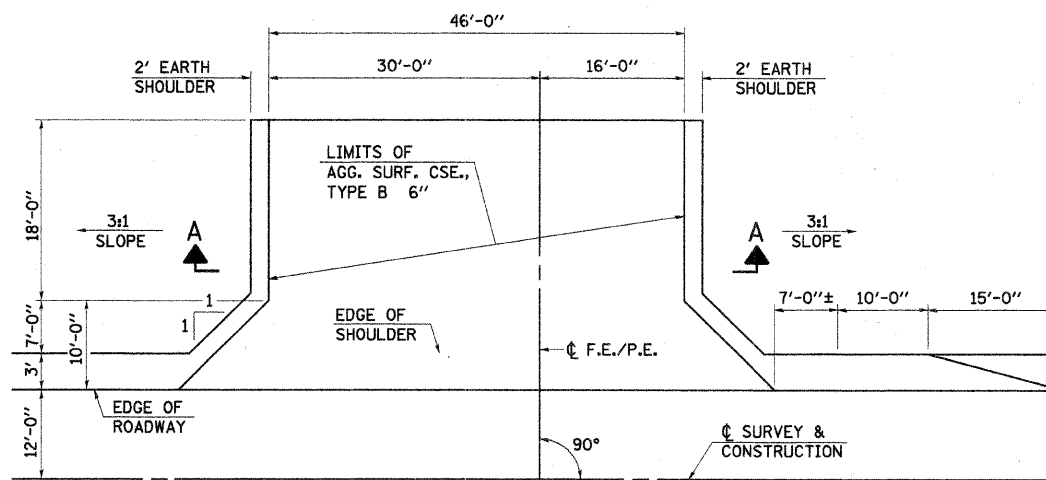


SECTION B-B



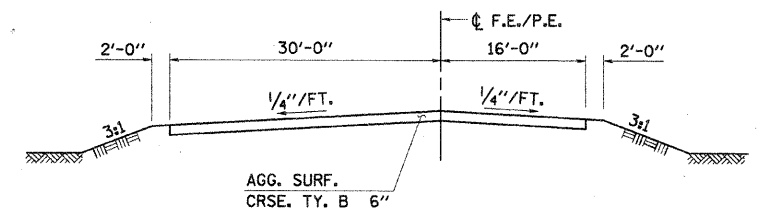
FIELD ENTRANCE DETAIL

F.E. RT. STA. 39+52



FIELD/PRIVATE ENTRANCE DETAIL

F.E./P.E. LT. STA. 36+77



SECTION A-A

FILE NAME =
 48341.SUMTYP.DGN

DESIGNED - G.J.C.
 DRAWN - S.A.P.
 CHECKED - R.J.C.
 DATE - 12/04/09

REVISED -
 REVISED -
 REVISED -
 REVISED -

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 FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI. SPRINGFIELD, IL.

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

SCALE: N/A SHEET NO. 1 OF 1 SHEETS PROPOSED STRUCTURE @ STA. 38+50

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
244	04-16101-02-BR	IROQUOIS	24	2
ILLINOIS			CONTRACT NO. 87445	
			MARTINTON ROAD DISTRICT	

GENERAL NOTES

Fasteners shall be high strength bolts (AASHTO M 164, Type 3). Bolts $\frac{7}{8}$ " ϕ , open holes $\frac{15}{16}$ " ϕ , unless otherwise noted.

Calculated weight of Structural Steel = 60,090 Pound AASHTO M270 Grade 50W

All structural steel shall be AASHTO M 270 Grade 50W.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

Anchor Bolts shall be set before bolting diaphragms over supports.

No field welding is permitted except as specified in the Contract documents.

Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

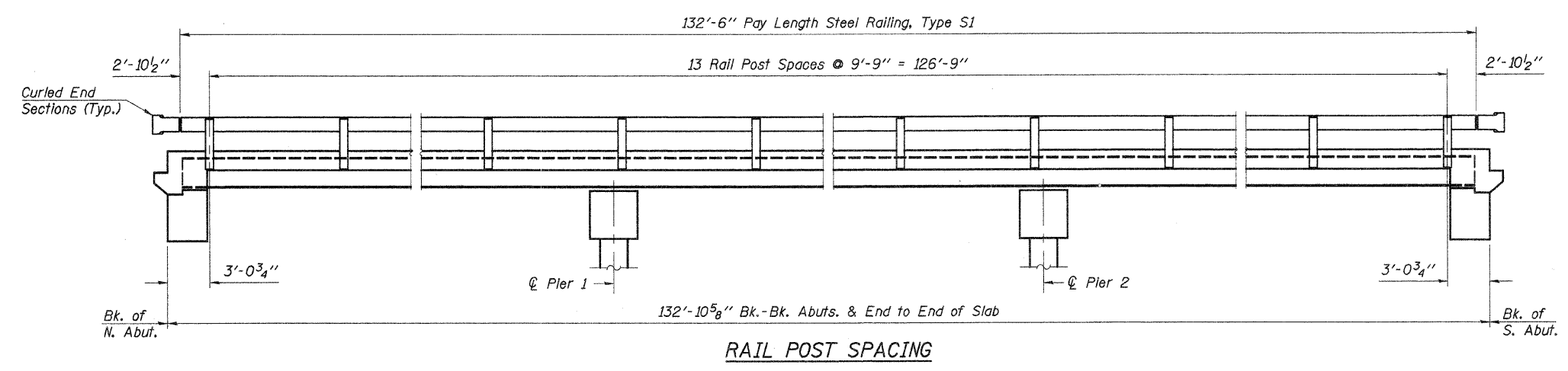
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$ " adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The contractor shall drive one steel HP12x53 test pile in a permanent location at the south abutment & one steel HP12x53 test pile at pier #1 as directed by the Engineer before ordering the remainder of piles.

The Contractor shall drive test piles to 110 percent of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of piles.

All exposed portions of abutments, wing walls, and piers shall receive a rubbed finish in accordance with Article 503.15 (b) of the standard specifications. Cost to be included in cost of Concrete Structures.

See Sheets 15 & 16 of 16 for Soil Boring Data.

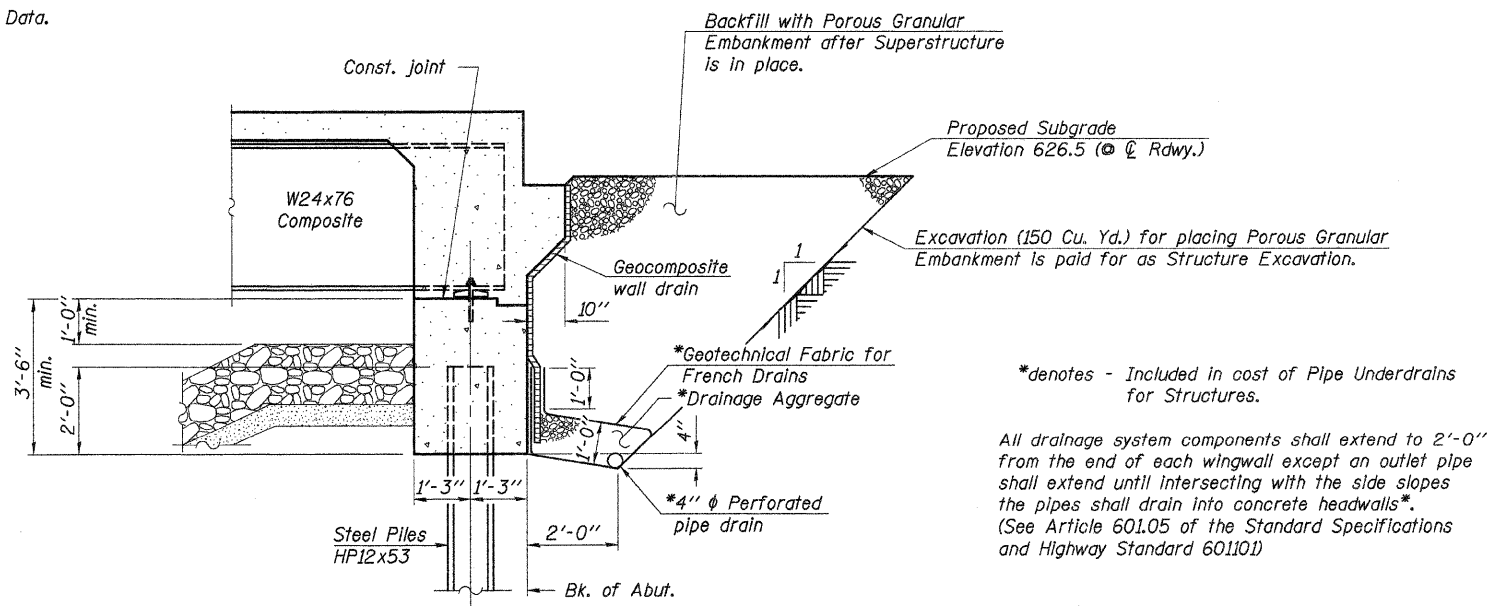


PIKE CREEK
 BUILT 20__ BY
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 SEC. 04-16101-02-BR
 STR. NO. 038-4556
 LOADING HL-93

LETTERING FOR NAME PLATE
 See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu. Yd.		95	95
Stone Riprap, Class A5	Ton		646	646
Filter Fabric	Sq. Yd.		569	569
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		150	150
Concrete Structures	Cu. Yd.		63.1	63.1
Concrete Superstructure	Cu. Yd.	128.9		128.9
Bridge Deck Grooving	Sq. Yd.	414		414
Protective Coat	Sq. Yd.	488	11	499
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,730		1,730
Reinforcement Bars, Epoxy Coated	Pound	31,290	7,400	38,690
Steel Railing, Type S1	Foot	265		265
Furnishing Steel Piles HP12x53	Foot		1,320	1,320
Driving Piles	Foot		1,320	1,320
Test Piles, HP12x53	Each		2	2
Concrete Encasement	Cu. Yd.		58.1	58.1
Name Plates	Each		1	1
Pipe Underdrains for Structures 4"	Foot		140	140
Geocomposite Wall Drain	Sq. Yd.		58	58
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Concrete Headwalls for Pipe Drains	Each		4	4
Anchor Bolts 1"	Each	40		40



SECTION THRU INTEGRAL ABUTMENT
 (Horiz. dim. @ Rt. L's)

*denotes - Included in cost of Pipe Underdrains for Structures.

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes the pipes shall drain into concrete headwalls*.
 (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

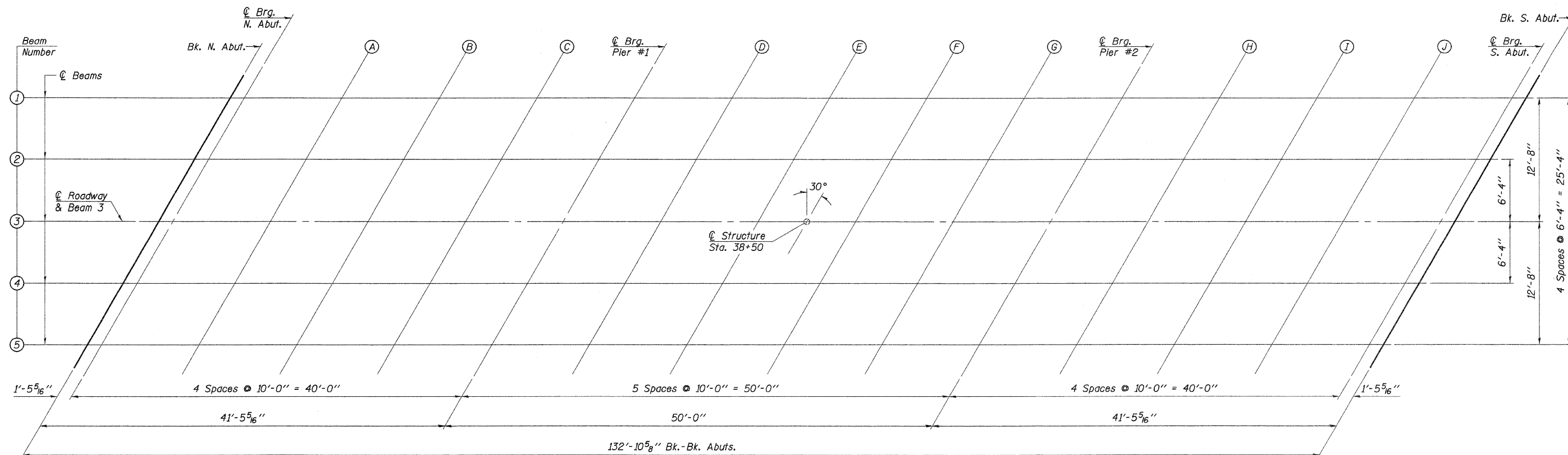
DESIGNED -	A.R.K.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

GENERAL NOTES, BILL OF MATERIAL & MISCELLANEOUS DETAILS
 SECTION 04-16101-02-BR
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 38+50

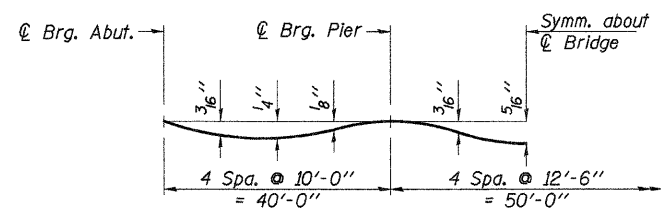
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FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 1000 N. WASHINGTON ST., SUITE 100, SPRINGFIELD, IL 62761

JOB NO.: 48341
 FILE: NOTES.DGN
 DATE: 12/04/09



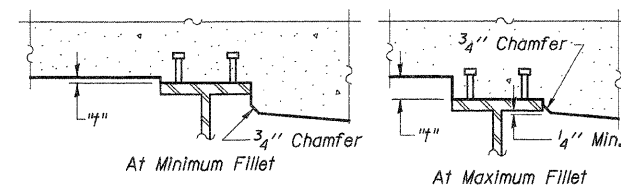
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheet 4 of 16.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 4 of 16, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

DESIGNED	-	A.L.S.
CHECKED	-	A.R.K.
DRAWN	-	S.A.P.
CHECKED	-	A.R.K. & A.L.S.

TOP OF SLAB ELEVATIONS
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-6800 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FERRIS, L. HOFFMAN, R. ACCIARELLI & MONROE, III SPRINGFIELD, IL	JOB NO.: 48341 FILE: SLAB.DGN DATE: 12/04/09
--	--	--

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	37+90.873	-12.667	627.322	627.322
☉ Brg. N. Abut.	37+92.316	-12.667	627.322	627.322
A	38+02.316	-12.667	627.322	627.339
B	38+12.316	-12.667	627.322	627.342
C	38+22.316	-12.667	627.322	627.331
☉ Brg. Pier 1	38+32.316	-12.667	627.322	627.322
D	38+42.316	-12.667	627.322	627.334
E	38+52.316	-12.667	627.322	627.344
F	38+62.316	-12.667	627.322	627.344
G	38+72.316	-12.667	627.322	627.334
☉ Brg. Pier 2	38+82.316	-12.667	627.322	627.322
H	38+92.316	-12.667	627.322	627.331
I	39+02.316	-12.667	627.322	627.342
J	39+12.316	-12.667	627.322	627.339
☉ Brg. S. Abut.	39+22.316	-12.667	627.322	627.322
Bk. S. Abut.	39+23.759	-12.667	627.322	627.322

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	37+87.217	-6.333	627.421	627.421
☉ Brg. N. Abut.	37+88.659	-6.333	627.421	627.421
A	37+98.659	-6.333	627.421	627.438
B	38+08.659	-6.333	627.421	627.441
C	38+18.659	-6.333	627.421	627.430
☉ Brg. Pier 1	38+28.659	-6.333	627.421	627.421
D	38+38.659	-6.333	627.421	627.433
E	38+48.659	-6.333	627.421	627.443
F	38+58.659	-6.333	627.421	627.443
G	38+68.659	-6.333	627.421	627.433
☉ Brg. Pier 2	38+78.659	-6.333	627.421	627.421
H	38+88.659	-6.333	627.421	627.430
I	38+98.659	-6.333	627.421	627.441
J	39+08.659	-6.333	627.421	627.438
☉ Brg. S. Abut.	39+18.659	-6.333	627.421	627.421
Bk. S. Abut.	39+20.102	-6.333	627.421	627.421

BEAM 3 & ☉ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	37+83.560	0.000	627.520	627.520
☉ Brg. N. Abut.	37+85.003	0.000	627.520	627.520
A	37+95.003	0.000	627.520	627.537
B	38+05.003	0.000	627.520	627.540
C	38+15.003	0.000	627.520	627.529
☉ Brg. Pier 1	38+25.003	0.000	627.520	627.520
D	38+35.003	0.000	627.520	627.532
E	38+45.003	0.000	627.520	627.542
F	38+55.003	0.000	627.520	627.542
G	38+65.003	0.000	627.520	627.532
☉ Brg. Pier 2	38+75.003	0.000	627.520	627.520
H	38+85.003	0.000	627.520	627.529
I	38+95.003	0.000	627.520	627.540
J	39+05.003	0.000	627.520	627.537
☉ Brg. S. Abut.	39+15.003	0.000	627.520	627.520
Bk. S. Abut.	39+16.445	0.000	627.520	627.520

BEAM 4

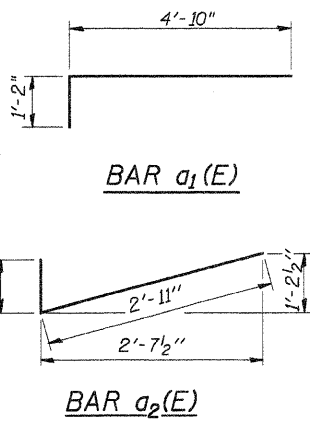
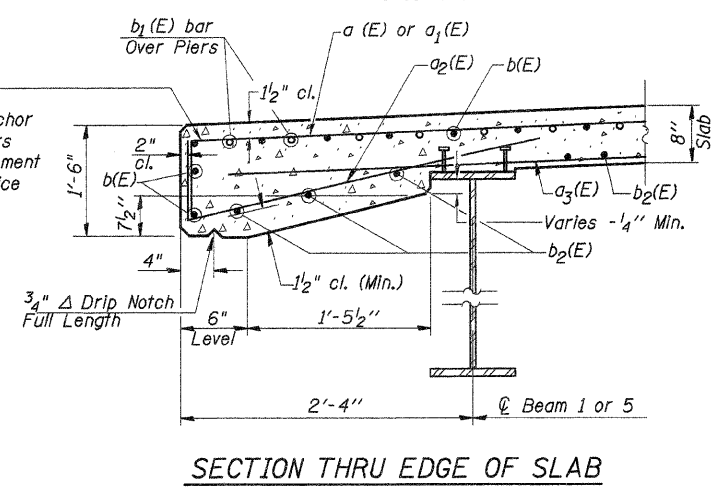
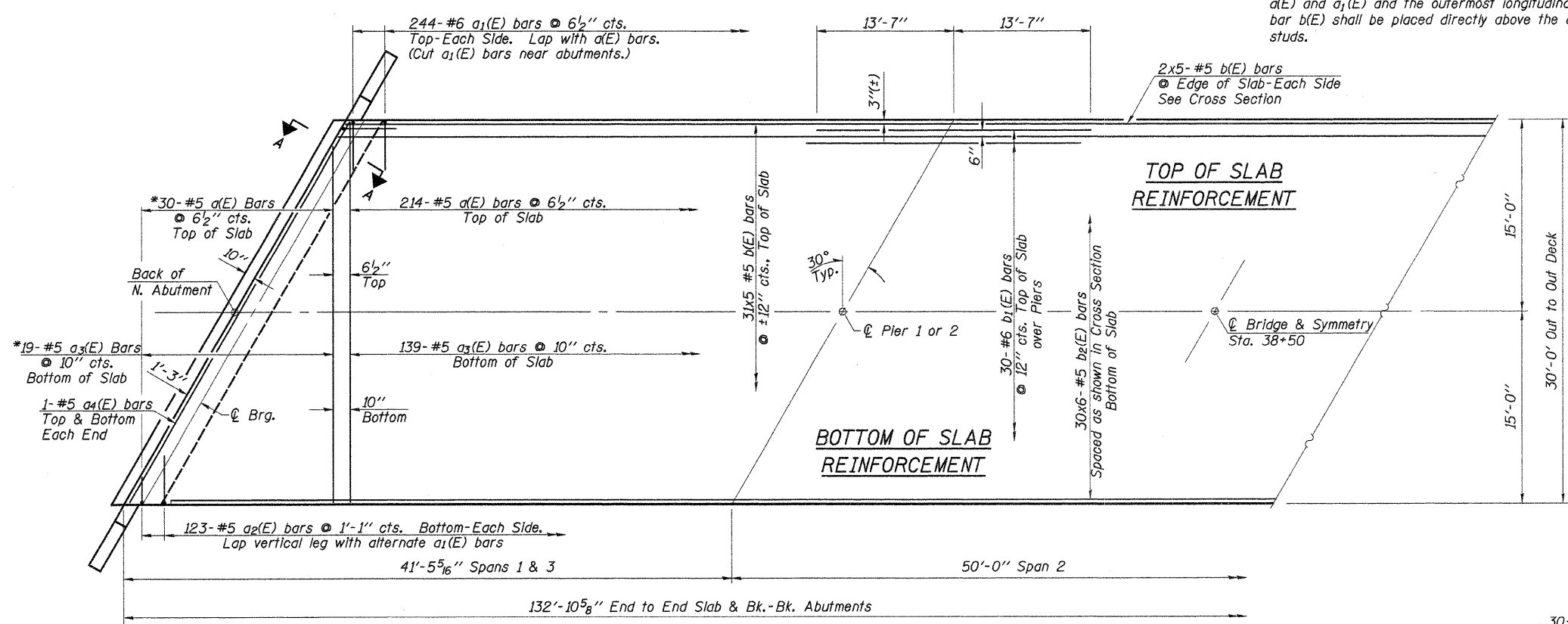
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	37+79.903	6.333	627.421	627.421
☉ Brg. N. Abut.	37+81.346	6.333	627.421	627.421
A	37+91.346	6.333	627.421	627.438
B	38+01.346	6.333	627.421	627.441
C	38+11.346	6.333	627.421	627.430
☉ Brg. Pier 1	38+21.346	6.333	627.421	627.421
D	38+31.346	6.333	627.421	627.433
E	38+41.346	6.333	627.421	627.443
F	38+51.346	6.333	627.421	627.443
G	38+61.346	6.333	627.421	627.433
☉ Brg. Pier 2	38+71.346	6.333	627.421	627.421
H	38+81.346	6.333	627.421	627.430
I	38+91.346	6.333	627.421	627.441
J	39+01.346	6.333	627.421	627.438
☉ Brg. S. Abut.	39+11.346	6.333	627.421	627.421
Bk. S. Abut.	39+12.789	6.333	627.421	627.421

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	37+76.247	12.667	627.322	627.322
☉ Brg. N. Abut.	37+77.690	12.667	627.322	627.322
A	37+87.690	12.667	627.322	627.339
B	37+97.690	12.667	627.322	627.342
C	38+07.690	12.667	627.322	627.331
☉ Brg. Pier 1	38+17.690	12.667	627.322	627.322
D	38+27.690	12.667	627.322	627.334
E	38+37.690	12.667	627.322	627.344
F	38+47.690	12.667	627.322	627.344
G	38+57.690	12.667	627.322	627.334
☉ Brg. Pier 2	38+67.690	12.667	627.322	627.322
H	38+77.690	12.667	627.322	627.331
I	38+87.690	12.667	627.322	627.342
J	38+97.690	12.667	627.322	627.339
☉ Brg. S. Abut.	39+07.690	12.667	627.322	627.322
Bk. S. Abut.	39+09.132	12.667	627.322	627.322

DESIGNED -	A.L.S.
CHECKED -	A.R.K.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

TOP OF SLAB ELEVATIONS
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50



MIN. BAR LAPS
 #5 _____ 1'-8"
 #6 _____ 2'-0"

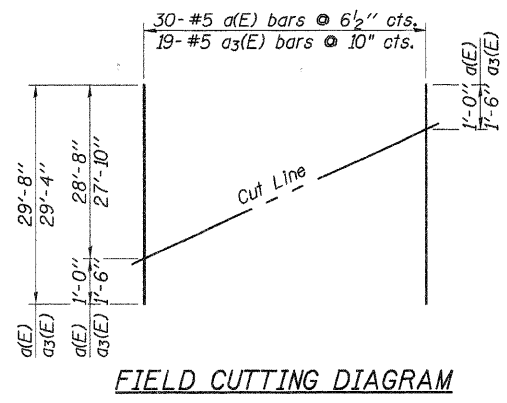
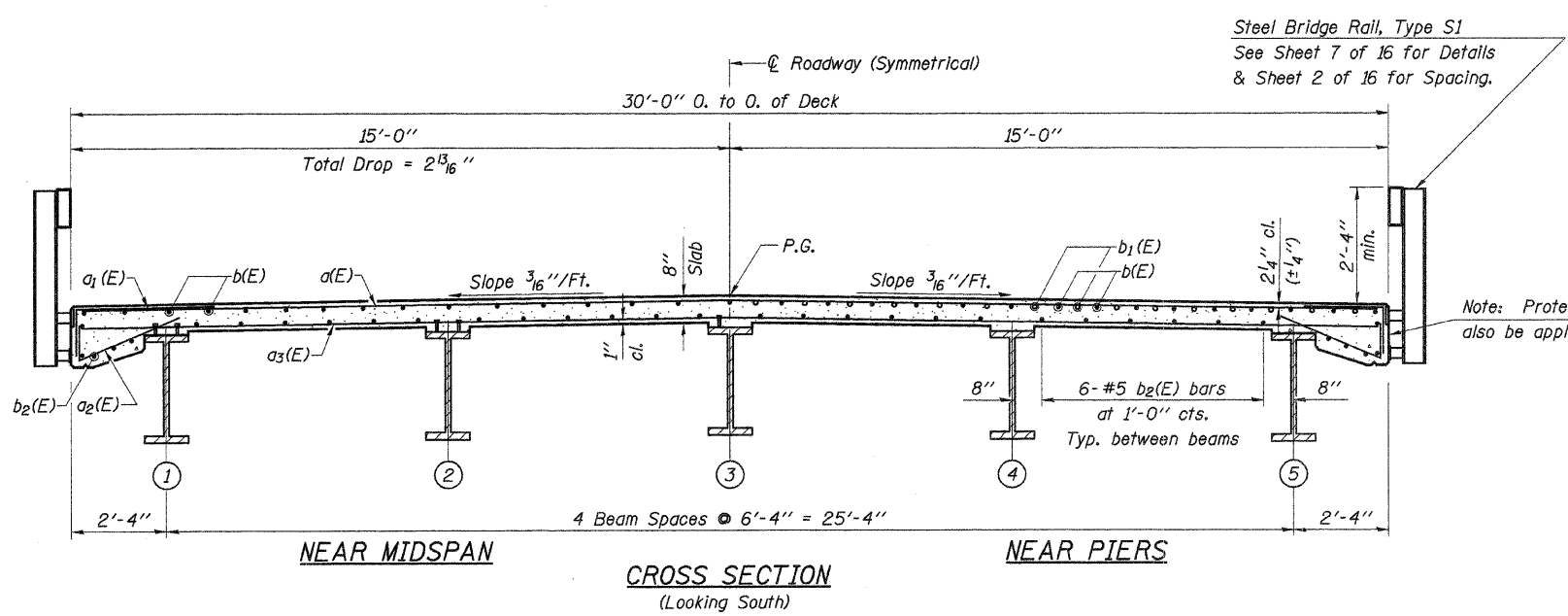
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a (E)	234	#5	29'-8"	—
a1 (E)	488	#6	6'-0"	—
a2 (E)	246	#5	4'-1"	└
a3 (E)	158	#5	29'-4"	—
a4 (E)	4	#5	34'-3"	—
b (E)	175	#5	28'-0"	—
b1 (E)	60	#6	27'-2"	—
b2 (E)	180	#5	23'-9"	—
m (E)	10	#6	34'-4"	—
m1 (E)	20	#6	9'-4"	—
m2 (E)	8	#6	6'-11"	—
m3 (E)	4	#6	2'-3"	—
s (E)	68	#5	5'-5"	└
s1 (E)	60	#4	8'-4"	└
Protective Coat		Sq. Yd.	488	
Conc. Superstructure		Cu. Yd.	128.9	
Reinforcement Bars, Epoxy Coated		Pound	31,290	
Bridge Deck Grooving		Sq. Yd.	414	

Reinforcement Bars designated (E) shall be epoxy coated.
 Bars indicated thus 31x5-#5 etc. indicates 31 lines of bars with 5 lengths per line.

*Order a(E) & a3(E) bars full length. Cut to fit skew and use remainder of bars in opposite end of slab.

HALF PLAN



Note: Protective Coat shall also be applied to Deck Fascias.

DESIGNED -	A.R.K.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

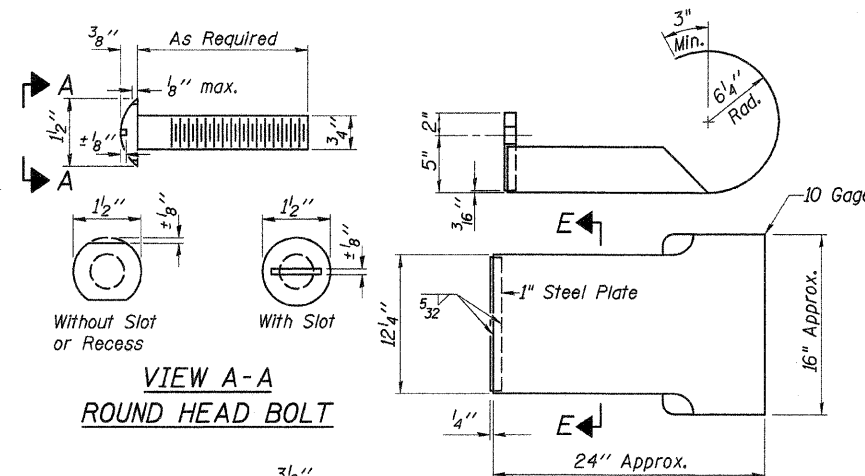
Work this Sheet with Sheet 6 of 16.

SUPERSTRUCTURE
 SECTION 04-16101-02-BR
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 38+50

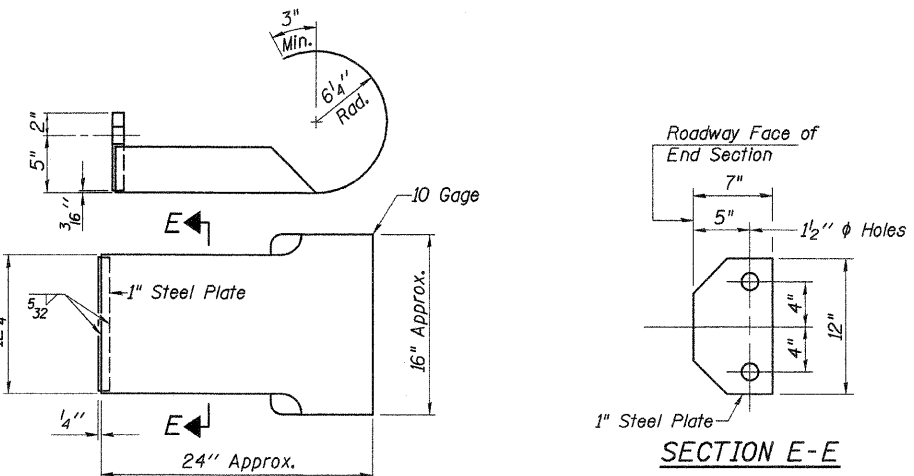
4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS MEMBER, N. SUCCESSORS, & SUCCESSORS OF SPRINGFIELD, ILL.	JOB NO.: 48341 FILE: SUPER.DGN DATE: 12/04/09
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 244	04-16101-02-BR	IROQUOIS	24	10
ROAD DIST.	ILLINOIS	MARTINTON		

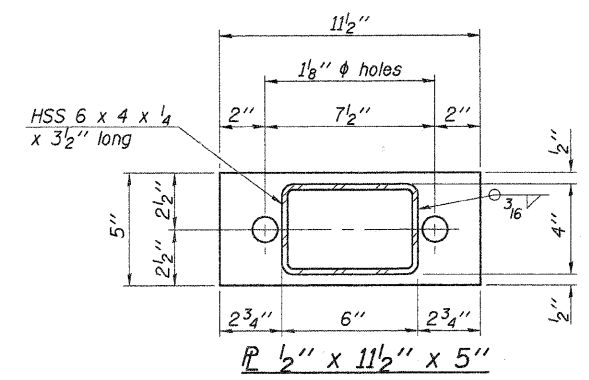
Sheet 7 of 16 Contract No. 87445



VIEW A-A
ROUND HEAD BOLT

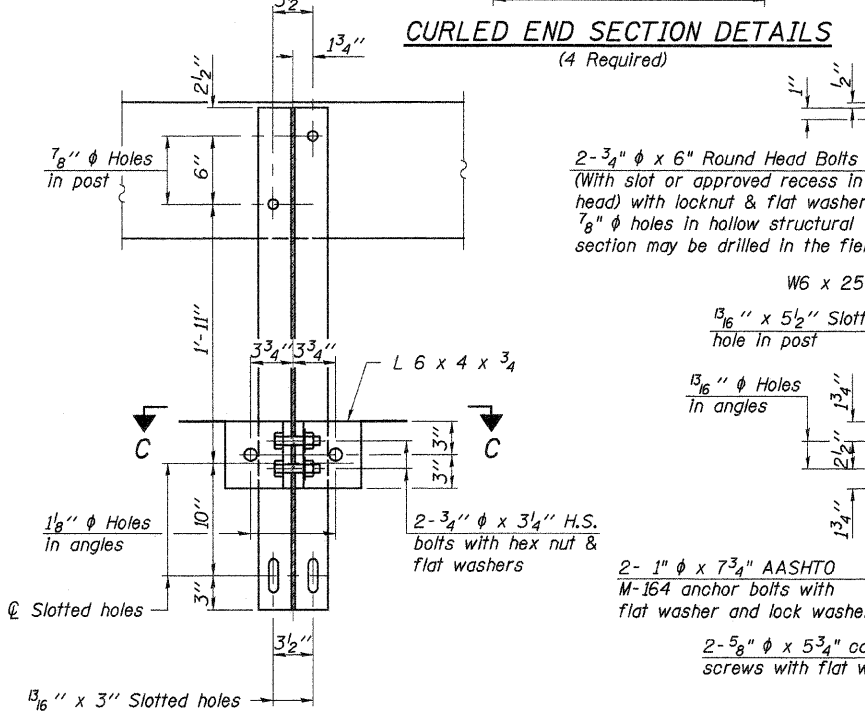


SECTION E-E

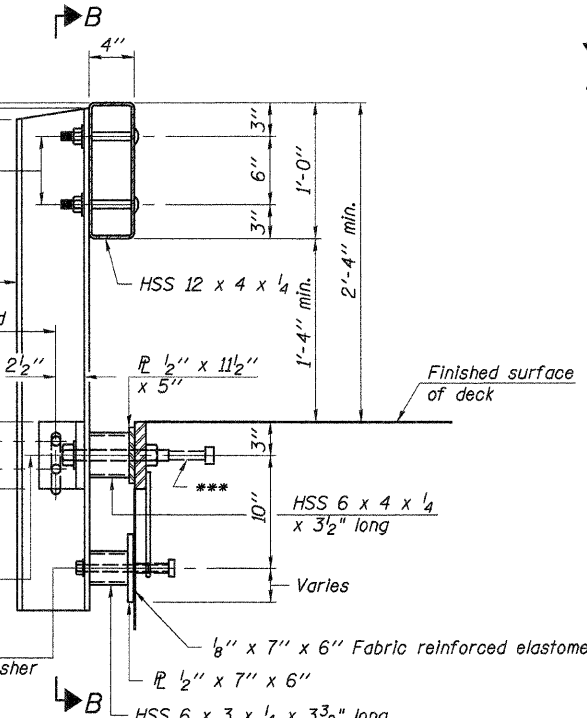


ANCHOR DEVICE

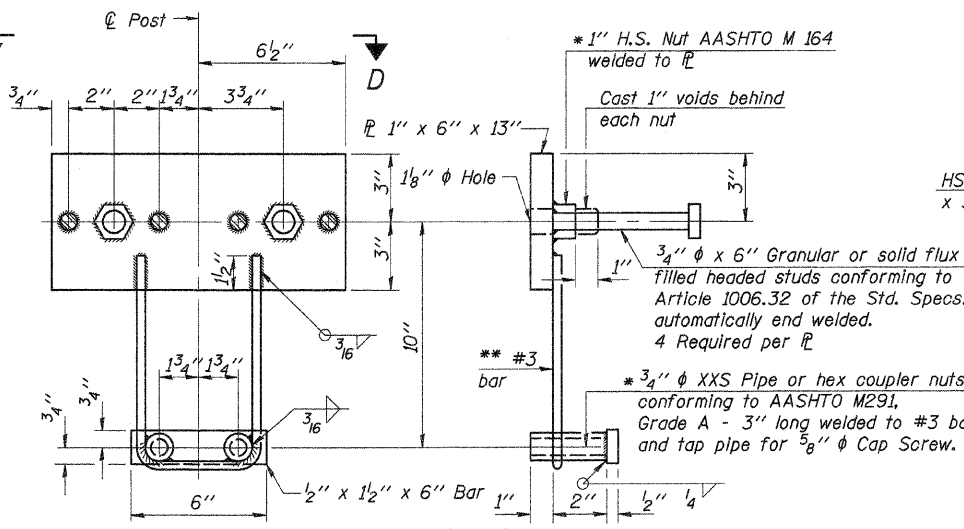
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4 inch x 6 inch x 1-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



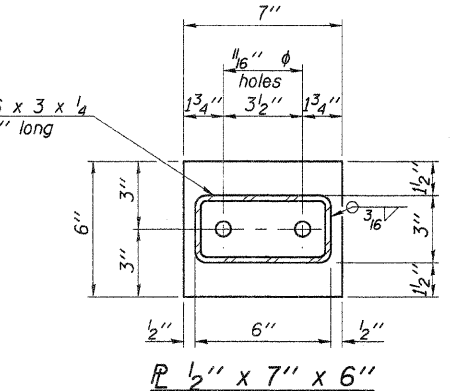
SECTION B-B



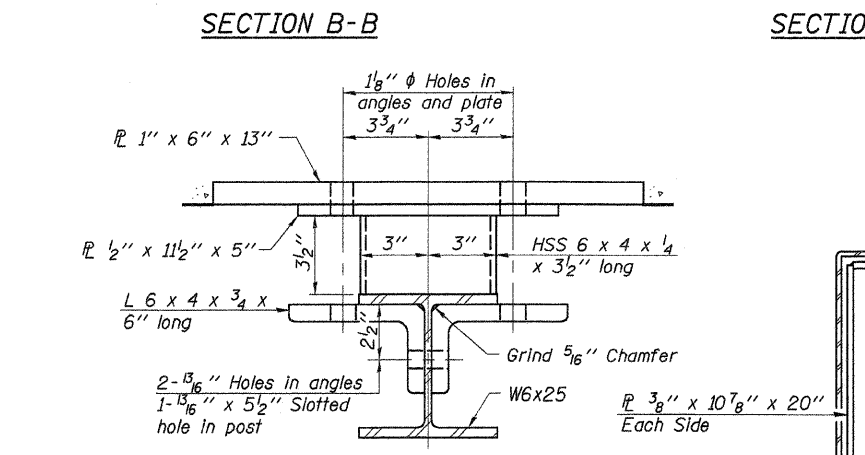
SECTION AT RAILING POST



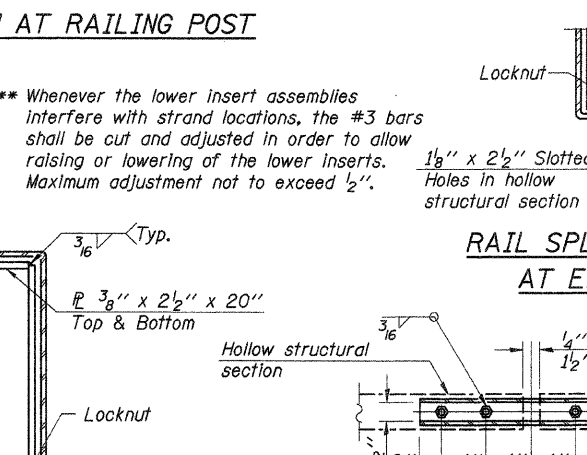
ANCHOR DEVICE



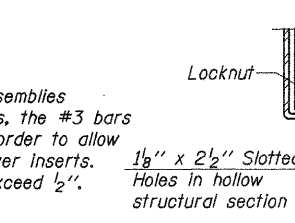
VIEW D-D



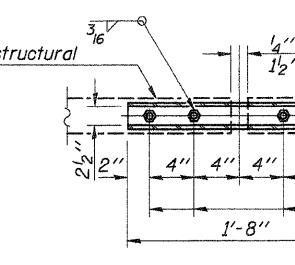
SECTION C-C



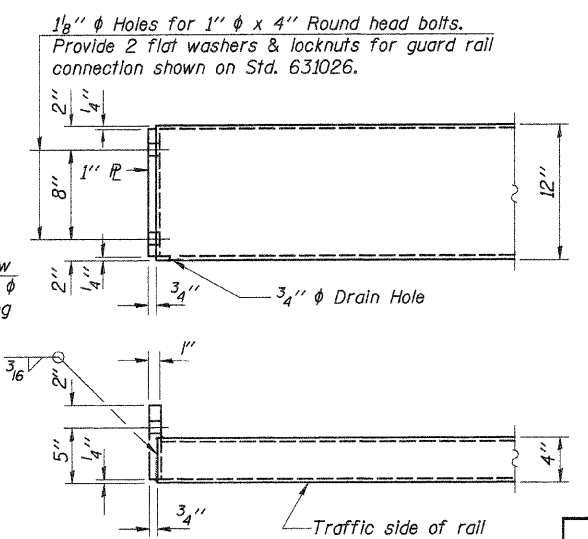
SECTIONS AT RAIL SPLICE



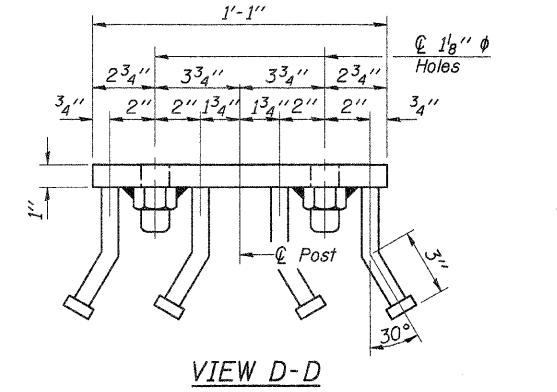
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	265

Note: See Sheet 2 of 16 for Post Spacings.

STEEL RAILING, TYPE S-1
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

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

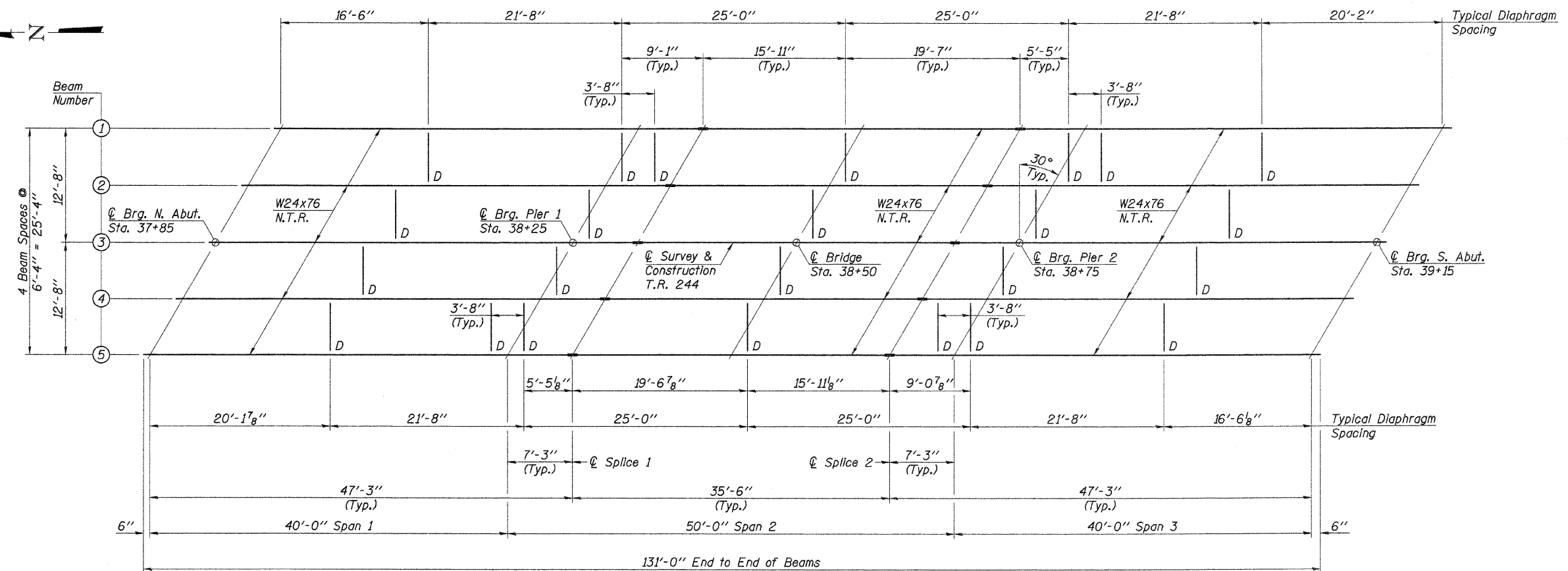
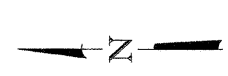
FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
DATE: 12/04/09

JOB NO.: 48341
FILE: RAIL_S1-3.dgn

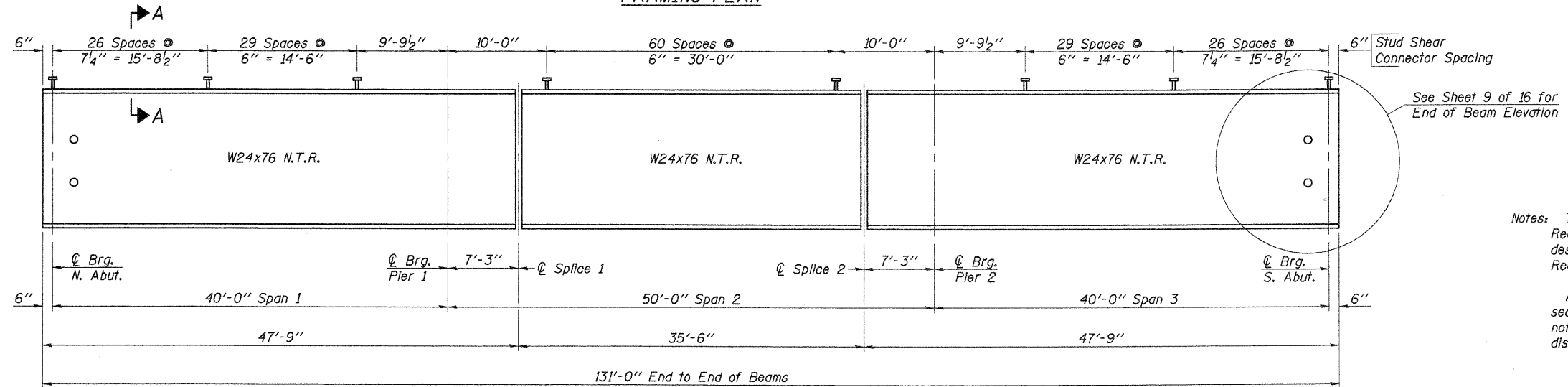
DESIGNED - A.R.K.
CHECKED - A.L.S.
DRAWN - S.A.P.
CHECKED - A.R.K. & A.L.S.

R-23A

10-1-08 (10'-9" Maximum Post Spacing)



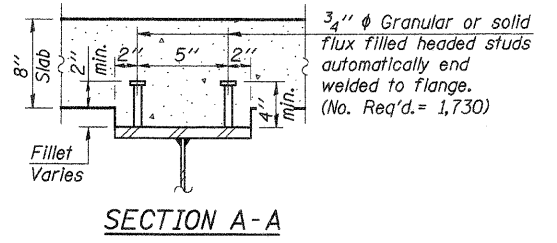
FRAMING PLAN



ELEVATION

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

	Beam 1 or 5	Beam 2 or 4	Beam 3
⊕ Brg. N. Abut.	626.61	626.71	626.81
⊕ Brg. Pier #1	626.55	626.65	626.75
⊕ Splice #1	626.54	626.64	626.74
⊕ Splice #2	626.54	626.64	626.74
⊕ Brg. Pier #2	626.55	626.65	626.75
⊕ Brg. S. Abut.	626.61	626.71	626.81



Notes: The designation "N.T.R." indicates that Notch Toughness Requirements are applicable. Load carrying components designated "N.T.R." shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Work this sheet with sheet 9 & 10 of 16.

DESIGNED	A.R.K.
CHECKED	A.L.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & A.L.S.

STRUCTURAL STEEL
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8800 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS <small>REGISTERED PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS OF ILLINOIS</small>	JOB NO.: 48341 FILE: STEEL.DGN DATE: 12/04/09
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		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I_s	(in ⁴)	2,100	2,100	2,100
$I_c(n)$	(in ⁴)	7,125	---	7,125
$I_c(3n)$	(in ⁴)	5,409	---	5,409
S_s	(in ³)	176	176	176
$S_c(n)$	(in ³)	288	---	288
$S_c(3n)$	(in ³)	261	---	261
Z	(in ³)	---	200	---
DC1	(k/')	0.750	0.750	0.750
M _{DC1}	(k)	80	150	78
DC2	(k/')	0.040	0.040	0.040
M _{DC2}	(k)	1.8	2.2	2.1
DW	(k/')	0.300	0.300	0.300
M _{DW}	(k)	38	48	45
M _{ℓ + IM}	(k)	391	231	465
M _u (Strength I)	(k)	844	667	981
*** $\phi_r M_n, \phi_r M_{nc}$	(k)	1,450	833	1,450
f_s DC1	(ksi)	5.4	10.2	5.3
f_s DC2	(ksi)	0.1	0.2	0.1
f_s DW	(ksi)	1.8	3.3	2.1
f_s 1.3(ℓ+IM)	(ksi)	21.2	20.5	25.2
f_s (Service II)	(ksi)	28.5	34.2	32.7
**** f_s (Total)(Strength I)	(ksi)	38.1	45.5	43.8
V _f	(k)	20.1	---	18.6

*** Compact sections
 **** Non-Compact and slender sections

		Abuts.	Pier 1 & 2
R _{DC1}	(k)	10.8	36.5
R _{DC2}	(k)	0.2	0.7
R _{DW}	(k)	4.8	14.7
R _{ℓ + IM}	(k)	64.2	93.2
R _{Total}	(k)	80	145.1

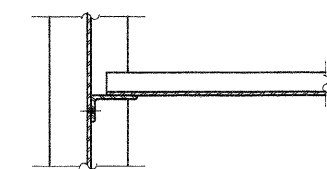
I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).

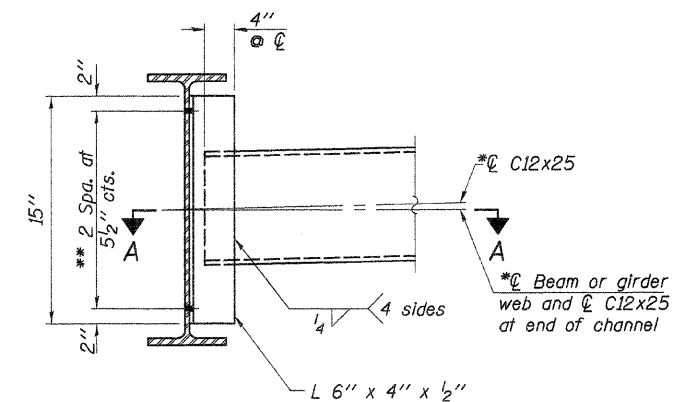
$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).

Z: Plastic Section Modulus of the steel section in non-composite areas.

DC1: Un-factored non-composite dead load (kips/ft.).
 M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
 M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
 M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 M_{ℓ + IM}: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\ell + IM}$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
 f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{\ell + IM}$
 f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\ell + IM}$
 V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



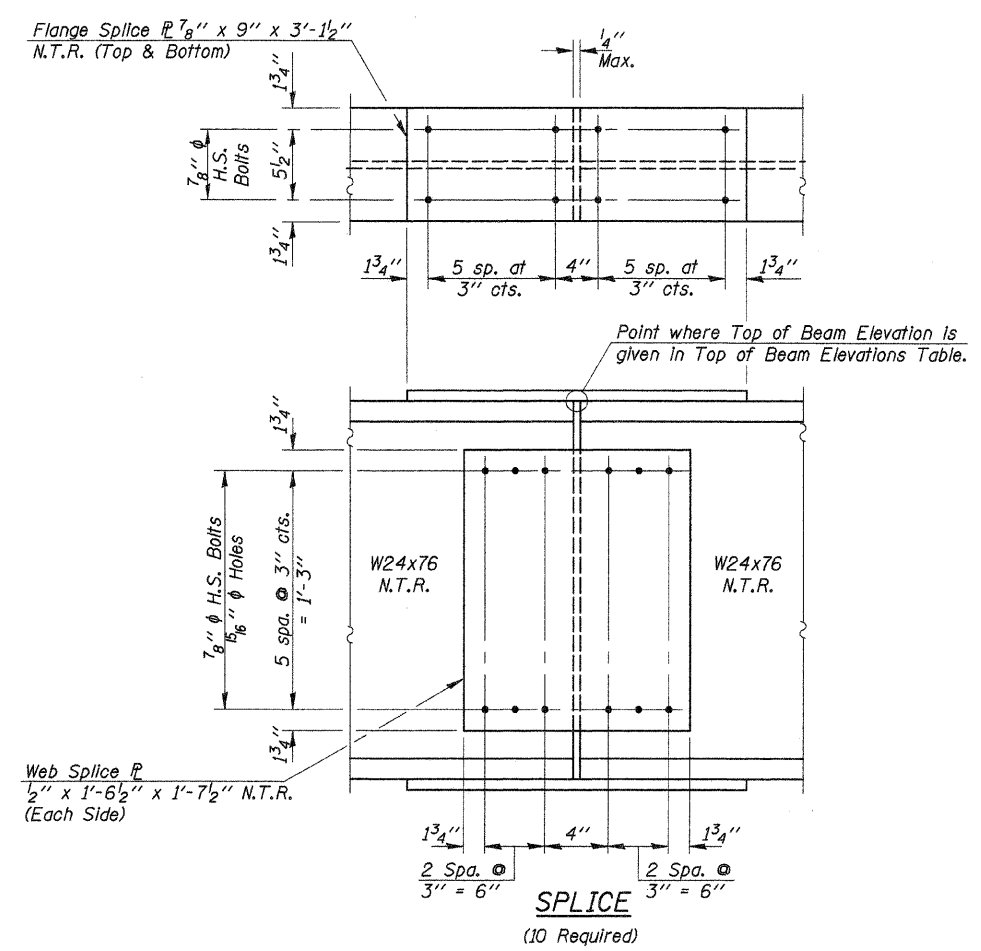
SECTION A-A



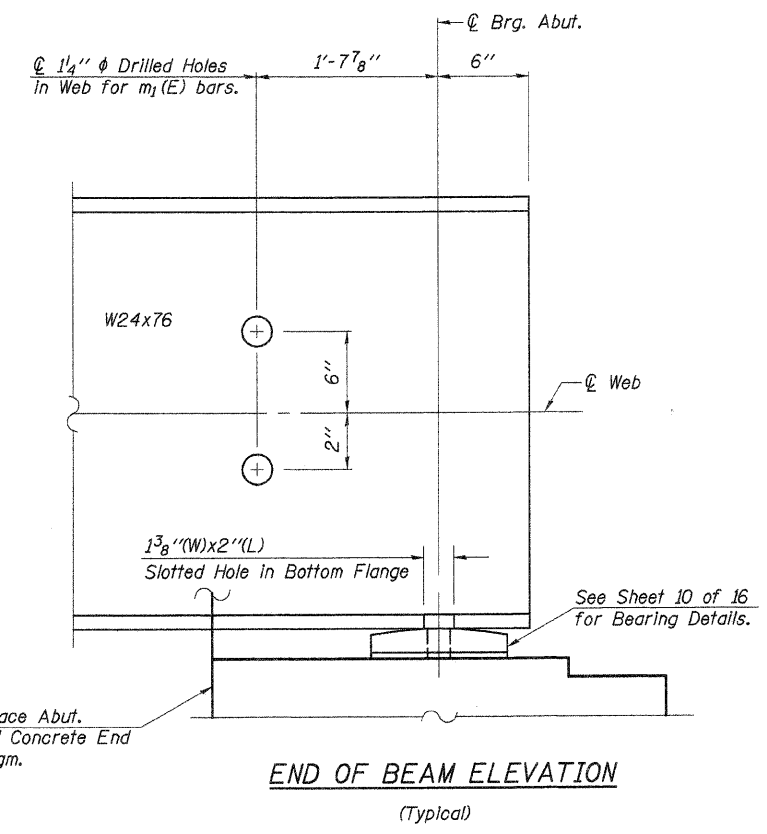
INTERIOR DIAPHRAGM - D
(24 Required)

Note:
 Two hardened washers required for each set of oversized holes.
 *Alternate channels C12x30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
 The alternate, if utilized, shall be provided at no additional cost to the Department.
 **3/4" φ HS bolts, 15/16" φ holes

Work this Sheet with Sheets 8 & 10 of 16.



SPlice
(10 Required)

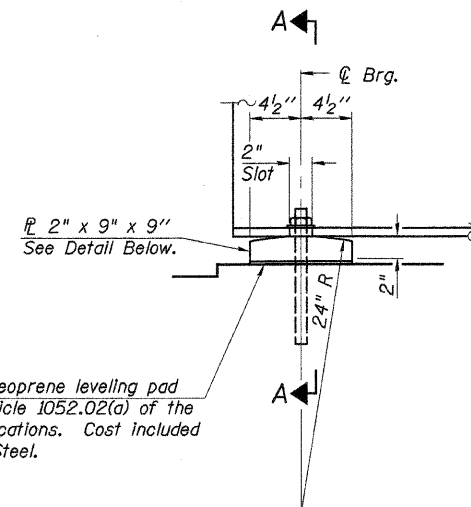


END OF BEAM ELEVATION
(Typical)

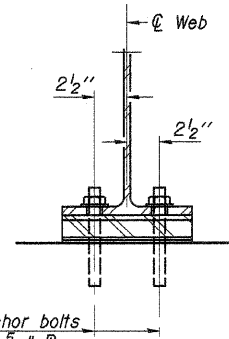
DESIGNED -	A.R.K.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

STRUCTURAL STEEL
 SECTION 04-16101-02-BR
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 38+50

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS P.O. BOX 1000, ROCKFORD, IL 61105-1000	JOB NO.: 48341 FILE: STEEL.DGN DATE: 12/04/09
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ELEVATION AT ABUTMENTS

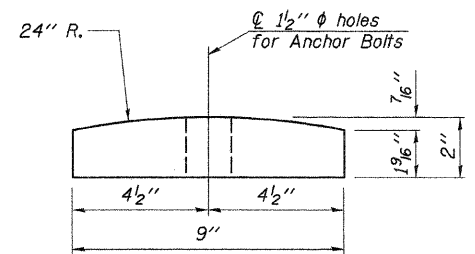


SECTION A-A

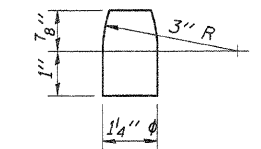
1/8" elastomeric neoprene leveling pad according to Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

1" diameter anchor bolts with 2 1/4" x 2 1/4" x 5/16" plate washer under nut. 1 3/8" x 2" slotted hole in flange. 1/2" diameter holes in bearing plate.

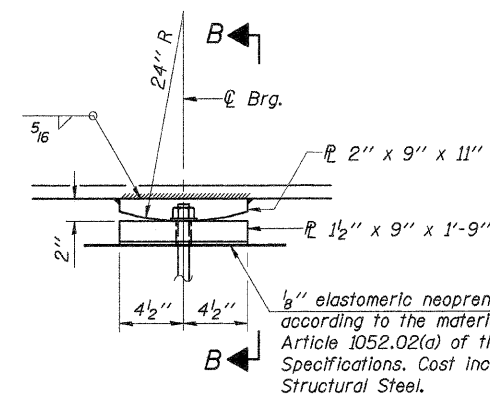
ABUTMENT BEARING
(10 Required)
Weight included with Structural Steel.



BEARING PLATE DETAIL

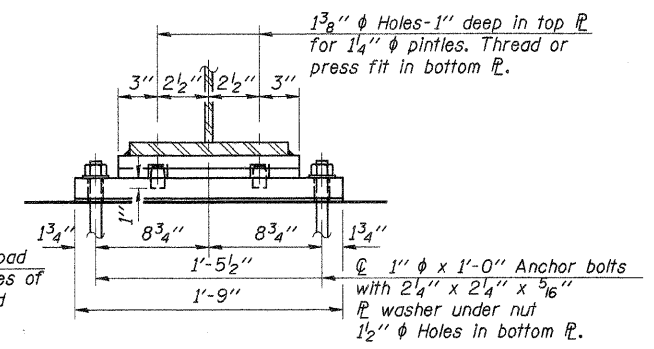


PINTLE



ELEVATION AT PIERS 1 & 2

FIXED BEARING
(10 Required)
Weight included with Structural Steel.



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts 1"	Each	40

Notes: Two 1/8" adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
Anchor bolts shall be ASTM F1554 Grade 36, all-thread of the diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

DESIGNED	A.L.S.
CHECKED	A.R.K.
DRAWN	S.A.P.
CHECKED	A.R.K. & A.L.S.

I-2E-2 10-1-08

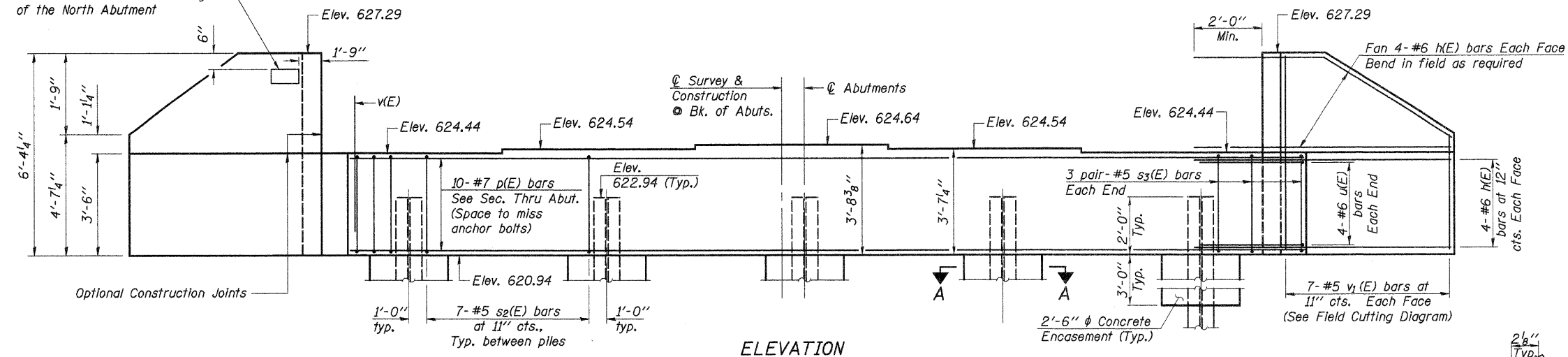
Work this sheet with sheets 8 & 9 of 16.

BEARING DETAILS
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

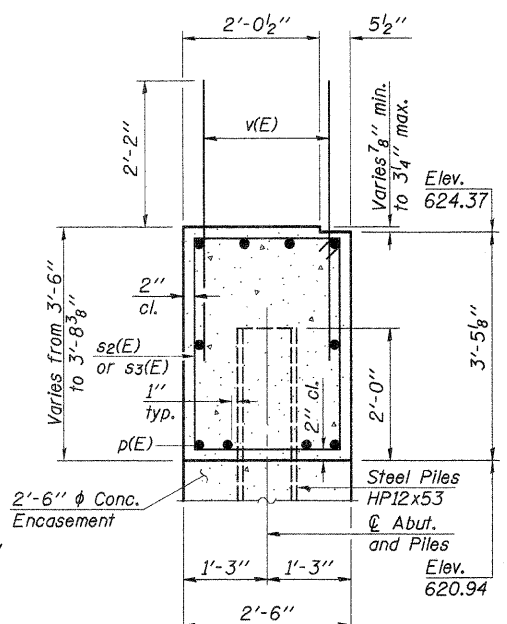
4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS MEMBER: S. SOCIETY OF PROFESSIONAL ENGINEERS	JOB NO.: 48341 FILE: BEARING.DGN DATE: 12/04/09
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Notes: Four steps monolithically with cap.

Name Plate shall be placed on the outside face of the West Wing of the North Abutment



ELEVATION

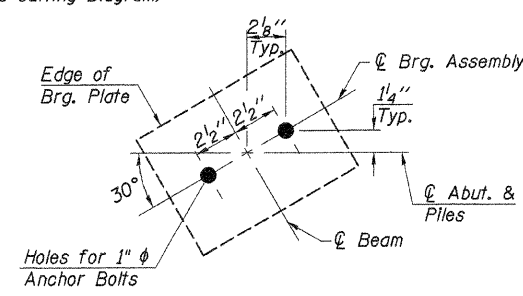
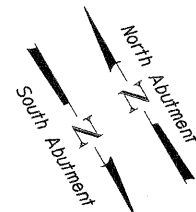


SEC. THRU ABUT.

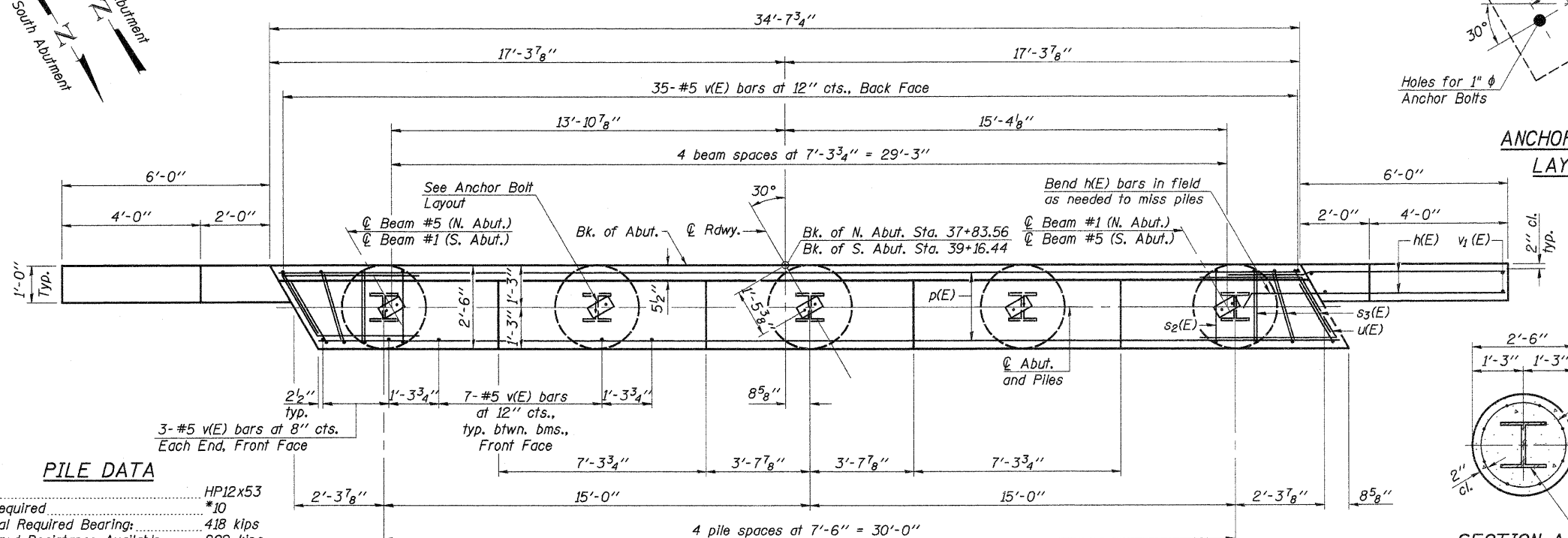
2 ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	64	#6	8'-6"		
p(E)	20	#7	34'-3"		
s2(E)	56	#5	11'-7"	□	
s3(E)	24	#5	7'-6"	□	
u(E)	16	#6	13'-8"	△	
v(E)	138	#5	4'-4"		
v1(E)	28	#5	10'-6"		
Concrete Structures				Cu. Yd.	27.9
Reinforcement Bars, Epoxy Coated				Pound	4,340
Furnishing Steel Piles, HP12x53				Foot	540
Driving Piles				Foot	540
Test Pile, HP12x53				Each	1
Concrete Encasement				Cu. Yd.	5.5
Protective Coat				Sq. Yd.	11

For Pile Details See Sheet 13 of 16.
Reinforcement Bars designated (E) shall be epoxy coated.



ANCHOR BOLT LAYOUT



PLAN

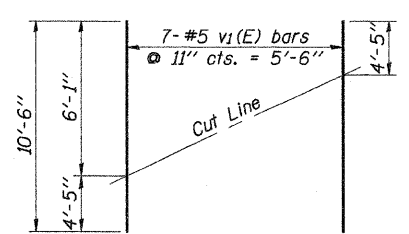
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit. Extend welded wire fabric 2'-0" min. into Abutment cap.

SECTION A-A
Concrete Encasement

PILE DATA

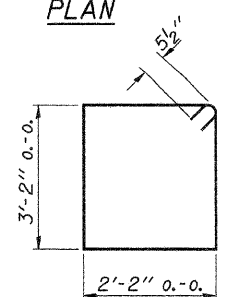
Type:	HP12x53
No. Required:	*10
Nominal Required Bearing:	418 kips
Factored Resistance Available:	209 kips
Est. Length:	60 Foot/Pile

*Includes 1 Test Pile to be driven in a permanent location at the north abutment.
The steel H-piles shall be according to AASHTO M270, Grade 50.
The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated above.

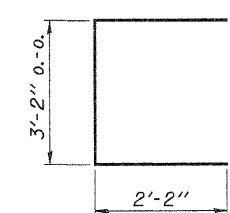


FIELD CUTTING DIAGRAM

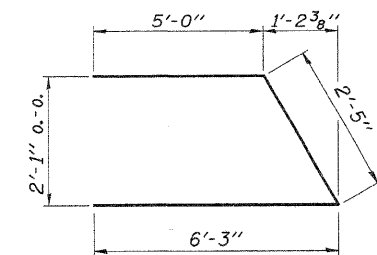
Order v1(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E)

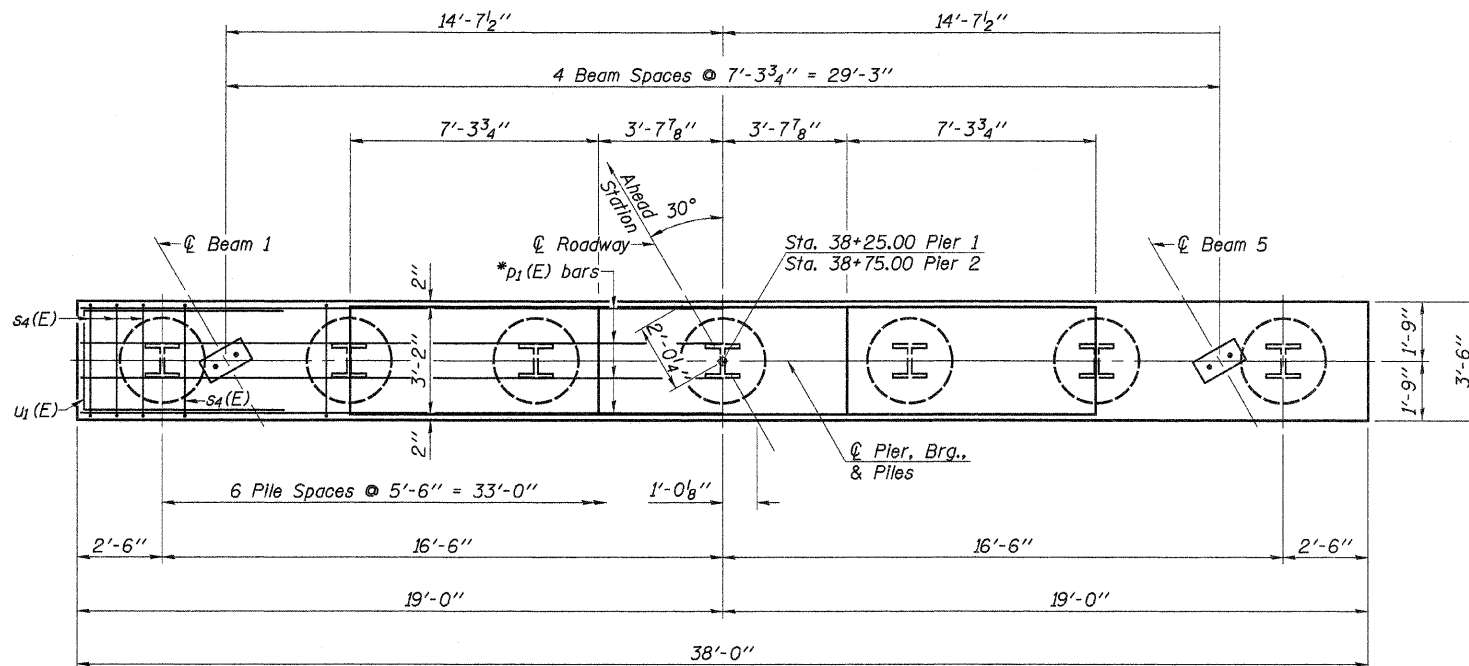


BARS s3(E)

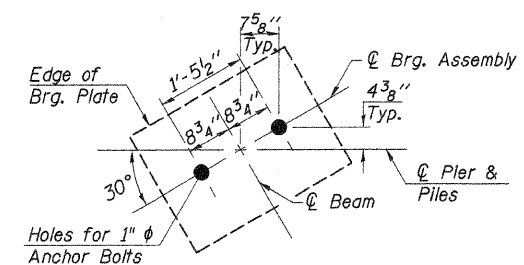
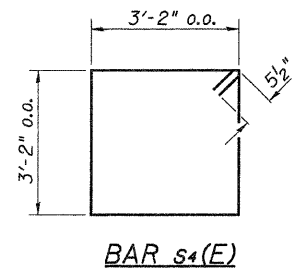
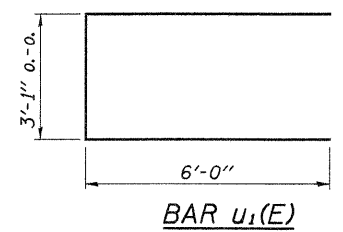
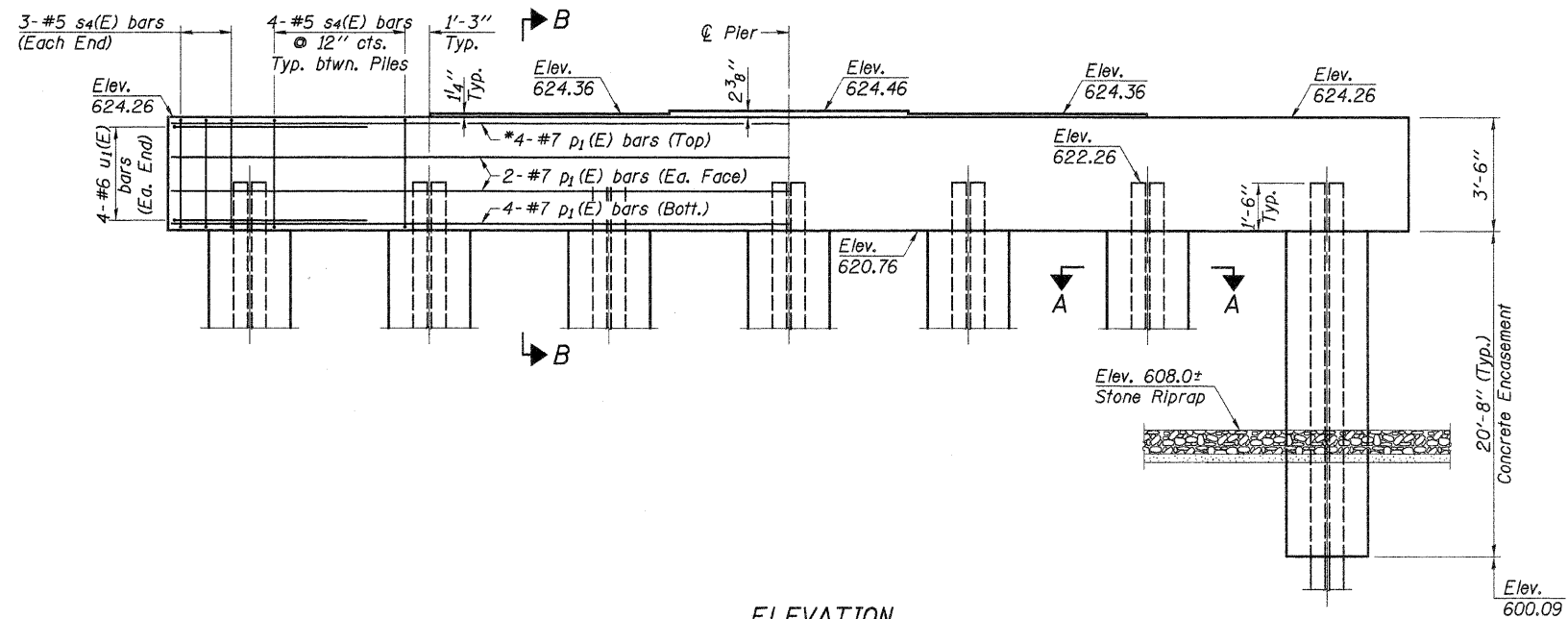
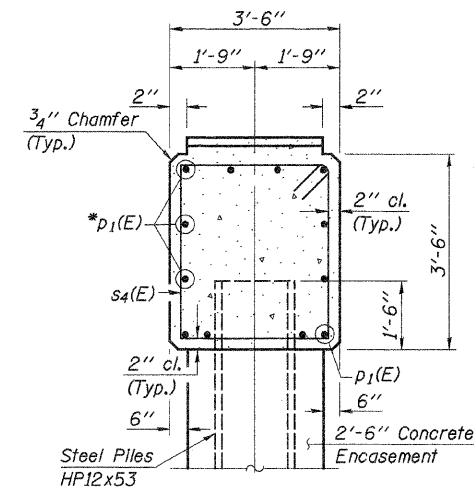
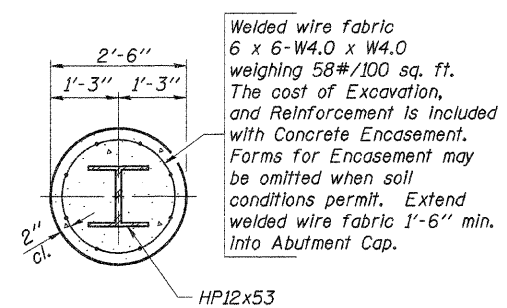


BAR u(E)

ABUTMENTS
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50



*Note: Space p₁(E) bars in top of pier cap to miss anchor bolts.



PILE DATA

Type: HP12x53
 No. Required: **14
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 209 kips
 Est. Length: 60 Foot/Pile

**Includes 1 Test Pile to be driven in a permanent location at Pier 2.

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

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated above.

BILL OF MATERIAL - 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
p ₁ (E)	24	#7	37'-8"	—
s ₄ (E)	60	#5	13'-7"	□
u ₁ (E)	16	#6	15'-1"	□
Concrete Structures		Cu. Yd.	35.2	
Reinforcement Bars, Epoxy Coated		Pound	3,060	
Steel Piles HP12x53		Foot	780	
Driving Piles		Foot	780	
Test Pile, Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	52.6	
Underwater Structure Excavation Protection - Location 1		Each	1	
Underwater Structure Excavation Protection - Location 2		Each	1	

See Sheet 13 of 16 for Pile Details.

Reinforcement Bars designated (E) shall be epoxy coated.

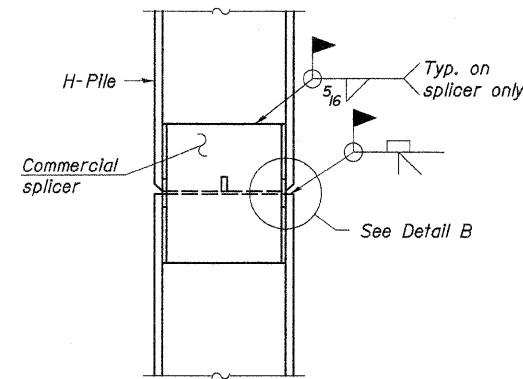
DESIGNED	A.L.S.
CHECKED	A.R.K.
DRAWN	S.A.P.
CHECKED	A.R.K. & A.L.S.

PIERS
 SECTION 04-16101-02-BR
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 38+50

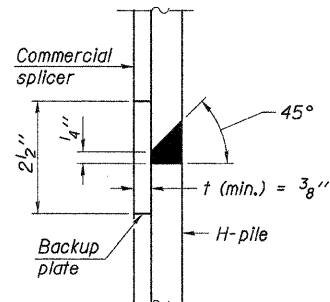
4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 793-8800
 www.fehr-graham.com

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 ENGINEERING AND SCIENCE CONSULTANTS

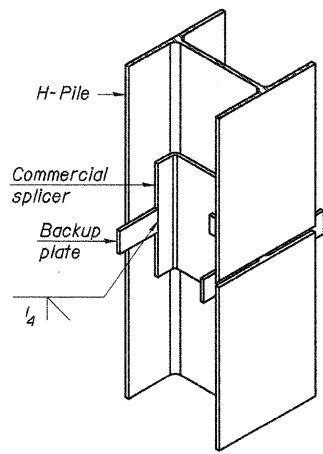
JOB NO.: 48341
 FILE: PIER-0.DGN
 DATE: 12/04/09



ELEVATION

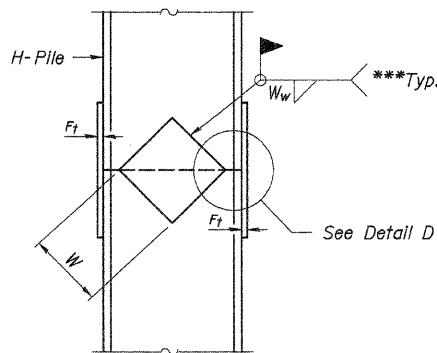


DETAIL "B"

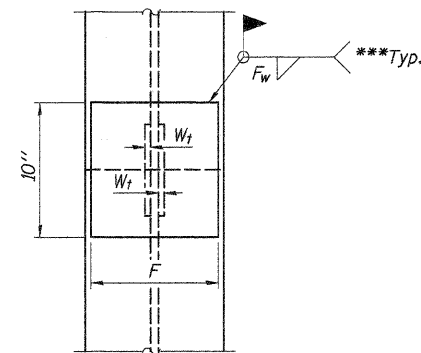


ISOMETRIC VIEW

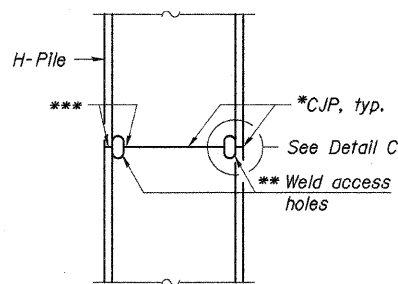
WELDED COMMERCIAL SPLICE



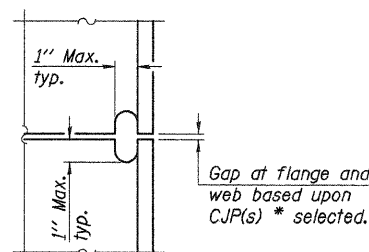
ELEVATION



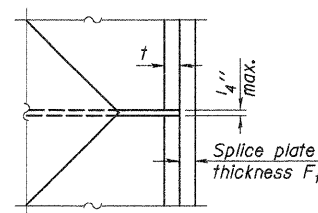
END VIEW



ELEVATION



DETAIL C



DETAIL D

COMPLETE PENETRATION WELD SPLICE

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/2"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/2"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/2"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

DESIGNED -	A.R.K.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

F-HP 11-1-06

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

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

STEEL PILE SPLICING DETAILS
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

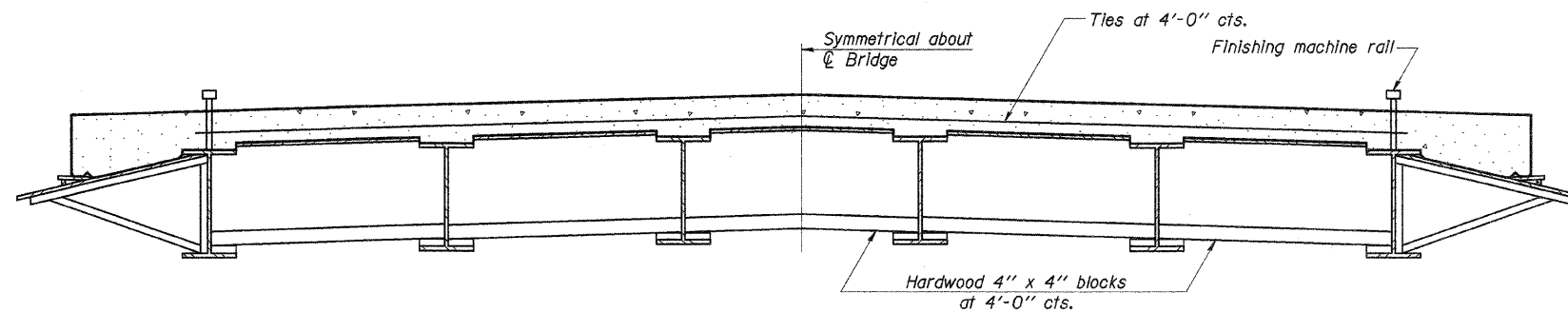
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(217) 793-8800
www.fehr-graham.com

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ENGINEERING AND SCIENCE CONSULTANTS

JOB NO.: 48341
FILE: PILES.DGN
DATE: 12/04/09

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 244	04-16101-02-BR	IROQUOIS	24	17
ROAD DIST.	ILLINOIS	MARTINTON		

Sheet 14 of 16 Contract No. 87445



**FORM BRACES FOR
STANDARD CONSTRUCTION**

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
 The finishing machine rails shall be placed on the top flange of the exterior beams.
 The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
 For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

DESIGNED -	A.R.K.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	A.R.K. & A.L.S.

SB-1

10-1-08

CANTILEVER FORMING BRACKETS
 SECTION 04-16101-02-BR
 MARTINTON ROAD DISTRICT
 IROQUOIS COUNTY
 STATION 38+50

4440 ASH GROVE
 SPRINGFIELD, IL 62711
 (217) 793-8800
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 ENGINEERING AND SCIENCE CONSULTANTS
 PEPPERVILL, MISSOURI, MISSOURI, MISSOURI, MISSOURI, MISSOURI, MISSOURI

JOB NO.: 48341
 FILE: CANTILEVER.DGN
 DATE: 12/04/09

Midwest Testing Services, Inc. 3705 Progress Blvd. Peru, IL 61354 Phone: 815-223-6696 Fax: 815-223-6659 e-mail: mts37@comcast.net		BORING LOG Sheet 1 of 3 Boring No. 48341 Surface Elev. 625.54 Auger Depth 60.5' Start Date 08/30/08																																																																																																																																																																																																																																																																									
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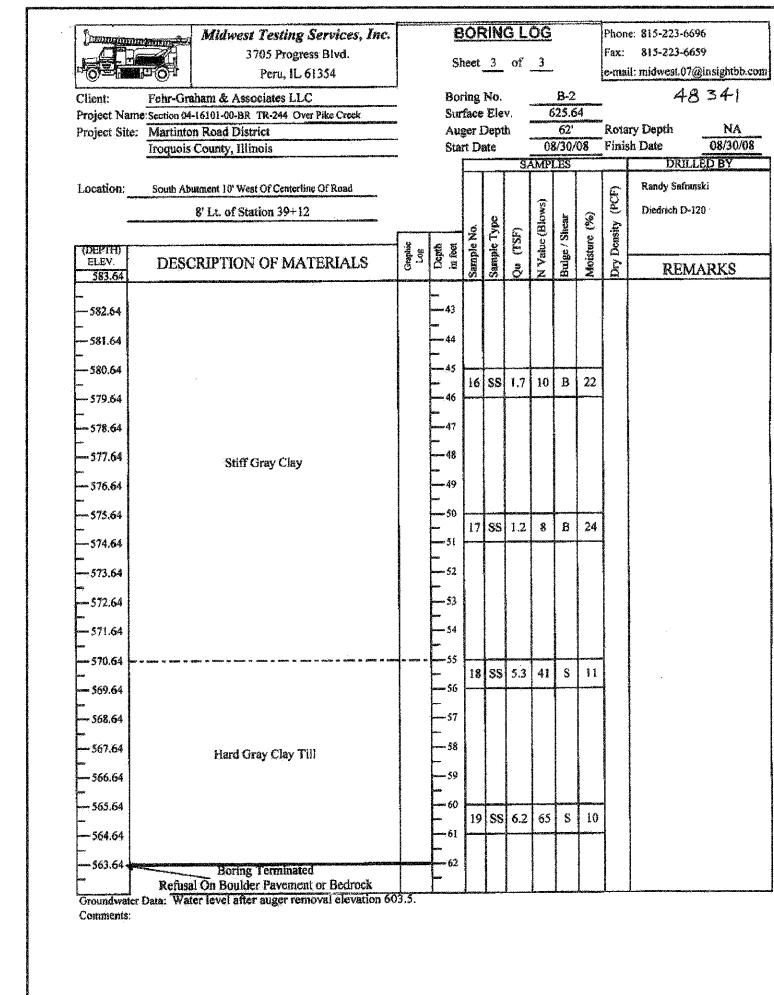
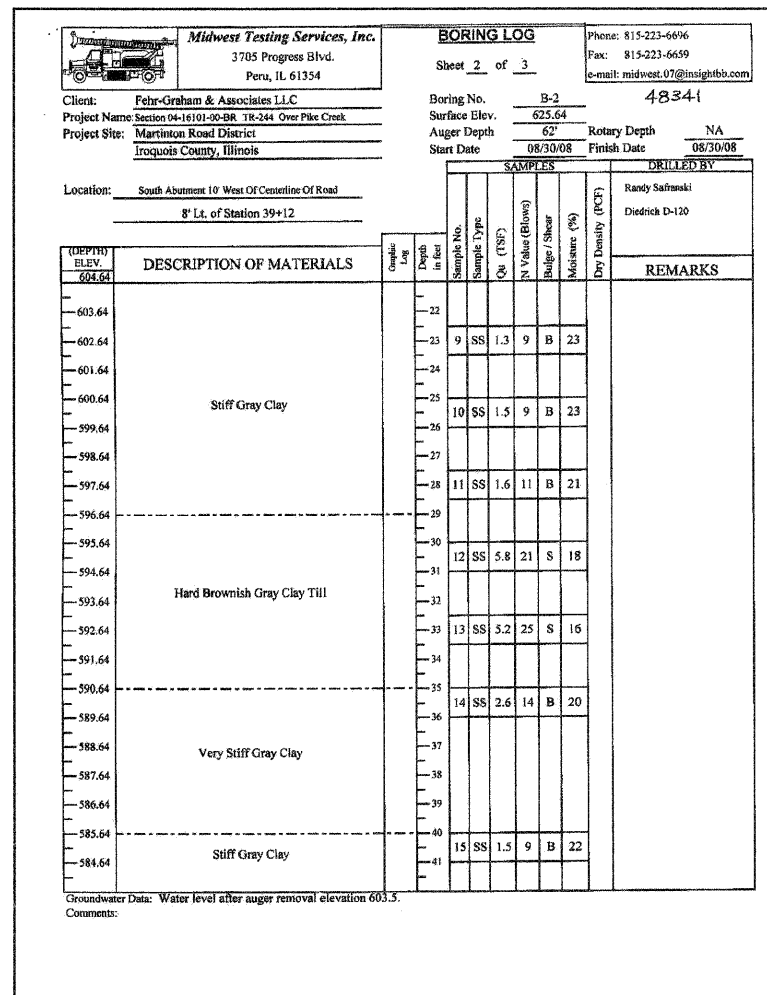
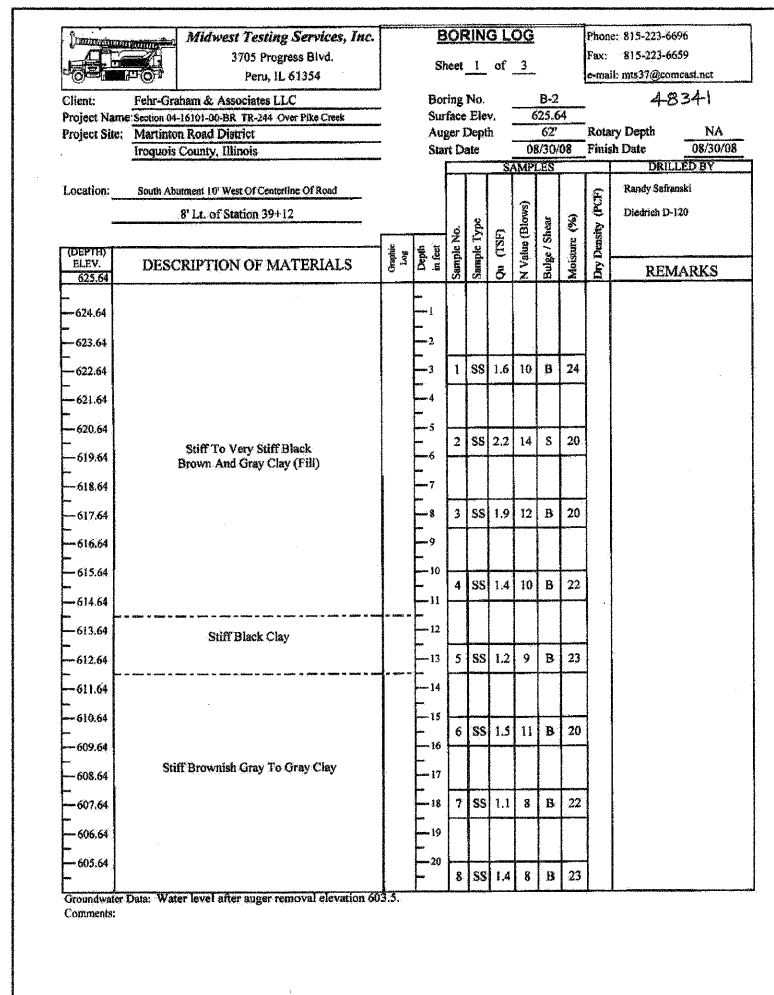
Midwest Testing Services, Inc. 3705 Progress Blvd. Peru, IL 61354 Phone: 815-223-6696 Fax: 815-223-6659 e-mail: midwest.07@insightbb.com		BORING LOG Sheet 2 of 3 Boring No. 48341 Surface Elev. 625.54 Auger Depth 60.5' Start Date 08/30/08																																																																																																																																																																																																																																																																									
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Midwest Testing Services, Inc. 3705 Progress Blvd. Peru, IL 61354 Phone: 815-223-6696 Fax: 815-223-6659 e-mail: midwest.07@insightbb.com		BORING LOG Sheet 3 of 3 Boring No. 48341 Surface Elev. 625.54 Auger Depth 60.5' Start Date 08/30/08																																																																																																																																																																																																																																																																									
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DESIGNED	-	A.R.K.
CHECKED	-	A.L.S.
DRAWN	-	S.A.P.
CHECKED	-	A.R.K. & A.L.S.

SOIL BORING NO. 1
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 783-8800 www.fehr-graham.com	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS <small>RESPECT, INTEGRITY, INNOVATION, SERVICE TO OUR CLIENTS</small>	JOB NO.: 48341 FILE: BORINGS.DGN DATE: 12/04/09
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DESIGNED	A.R.K.
CHECKED	A.L.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & A.L.S.

SOIL BORING NO. 2
SECTION 04-16101-02-BR
MARTINTON ROAD DISTRICT
IROQUOIS COUNTY
STATION 38+50

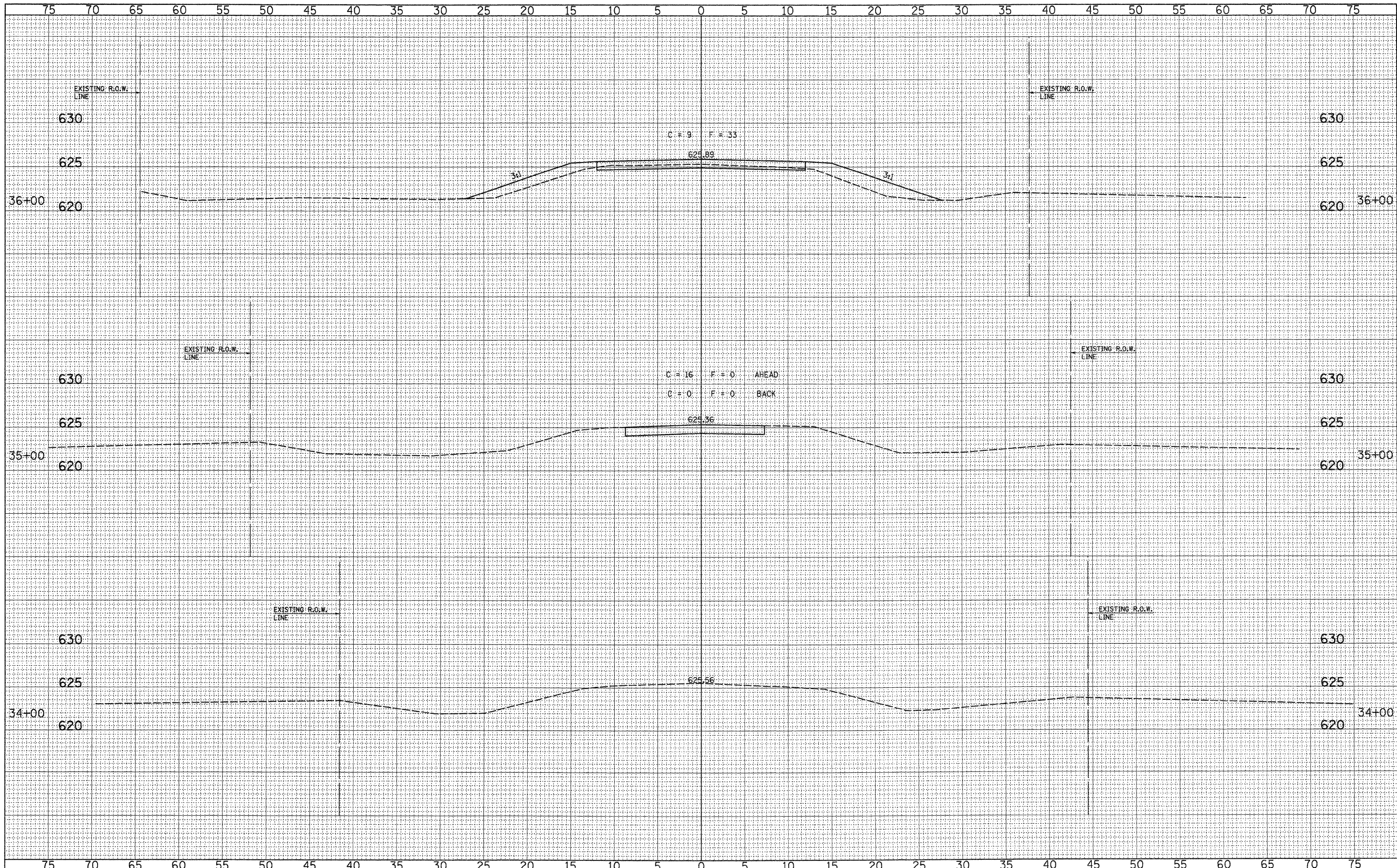
4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
www.fehr-graham.com

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

JOB NO.: 48341
FILE: BORINGS.DGN
DATE: 12/04/09

DATE _____
 BY _____
 SURVEYED _____
 SURVEY _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____

DATE _____
 BY _____
 SURVEYED _____
 SURVEY _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____



FILE NAME = 48341_XSECTION_SHEETS.DGN

USER NAME = S.A.P.	DESIGNED - G.J.C.	REVISED -
PLOT SCALE = 5	DRAWN - S.A.P.	REVISED -
PLOT DATE = 08/19/08	CHECKED - R.J.C.	REVISED -
	DATE - 8/20/08	REVISED -

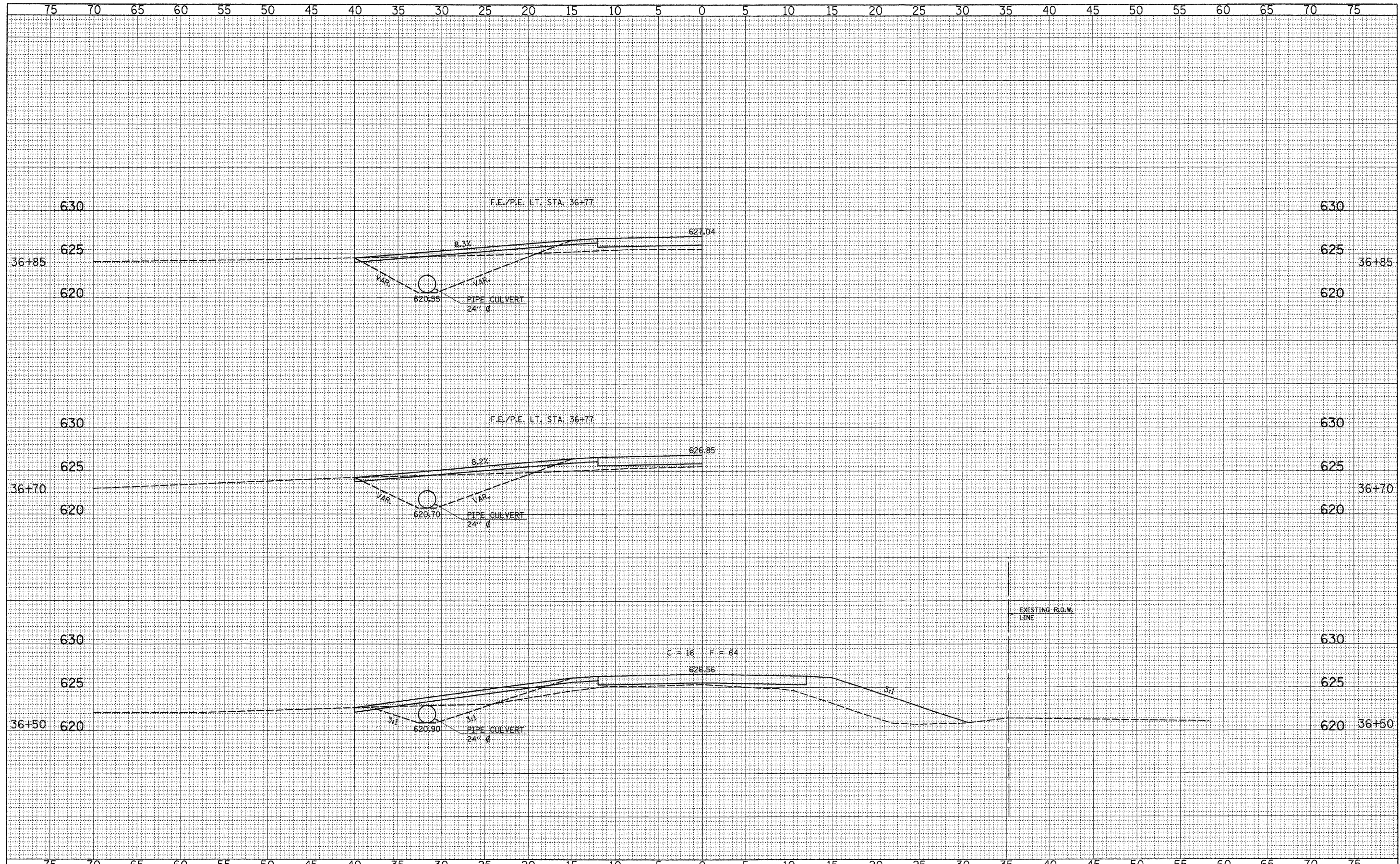
FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ROADWAY CROSS SECTIONS - T.R. 244
 SCALE: 1" = 5'
 SHEET NO. 1 OF 5 SHEETS
 STA. 34+00.00 TO STA. 36+00.00

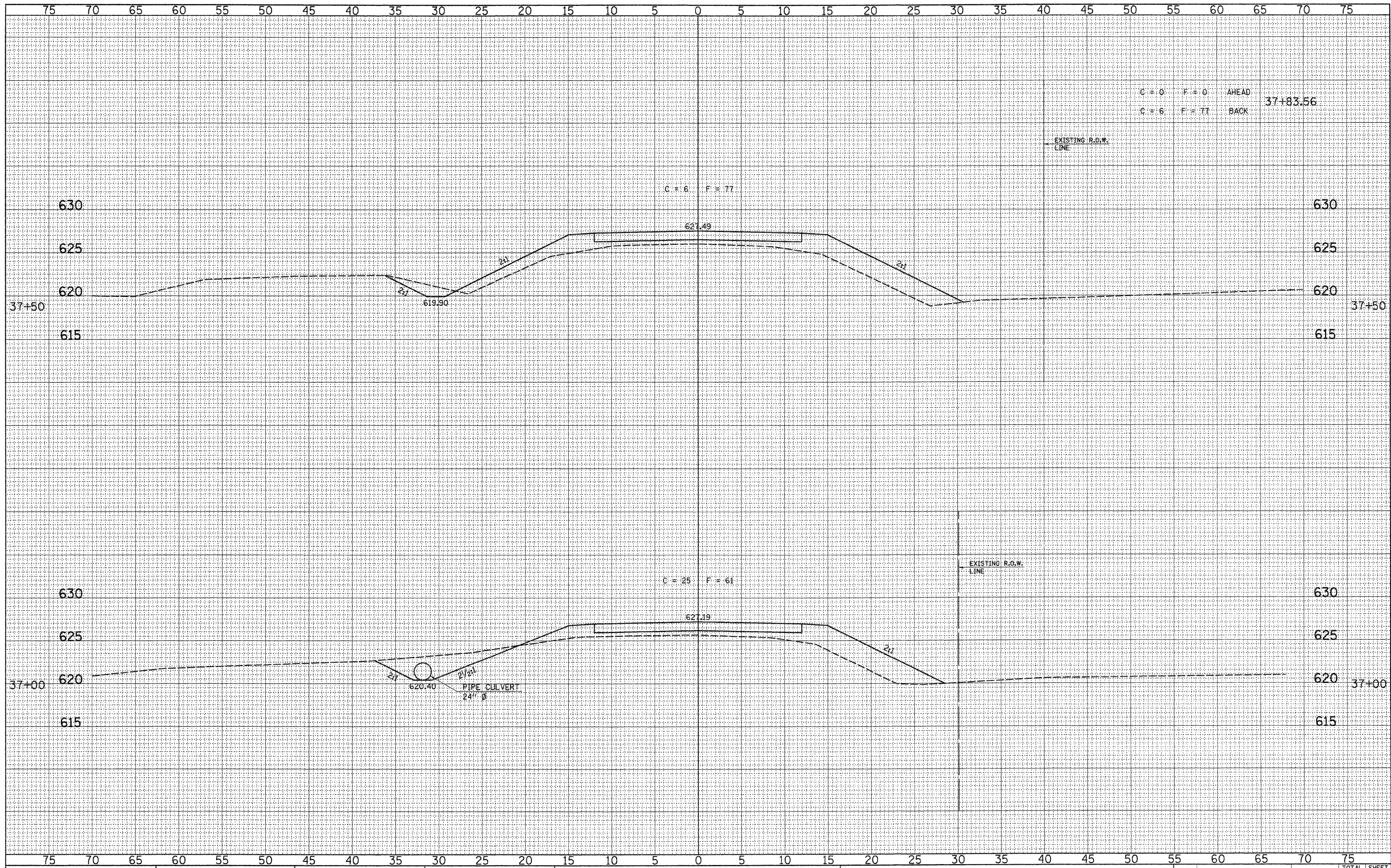
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
244	04-16101-02-BR	IROQUOIS	24	20
ILLINOIS			CONTRACT NO. 87445	
			MARTINTON ROAD DISTRICT	

DATE	
BY	
SURVEYED	
NOTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
NOTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



FILE NAME = 46341.XSECTION_SHEETS.DGN	USER NAME = S.A.P.	DESIGNED - G.J.C.	REVISED -	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL	ROADWAY CROSS SECTIONS - T.R. 244		T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 5		DRAWN - S.A.P.	REVISED -		244	04-16101-02-BR	IROQUOIS	24	21			
PLOT DATE = 08/19/08		CHECKED - R.J.C.	REVISED -		SCALE: 1" = 5'		SHEET NO. 2 OF 5 SHEETS		STA. 36+50.00 TO STA. 36+85.00		CONTRACT NO. 87445	
		DATE - 8/20/08	REVISED -						ILLINOIS		MARTINTON ROAD DISTRICT	



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

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

FILE NAME = 48341_XSECTION_SHEETS.DGN
 USER NAME = S.A.P.
 PLOT SCALE = 5
 PLOT DATE = 08/19/08

DESIGNED - G.J.C.	REVISED -
DRAWN - S.A.P.	REVISED -
CHECKED - R.J.C.	REVISED -
DATE - 8/20/08	REVISED -

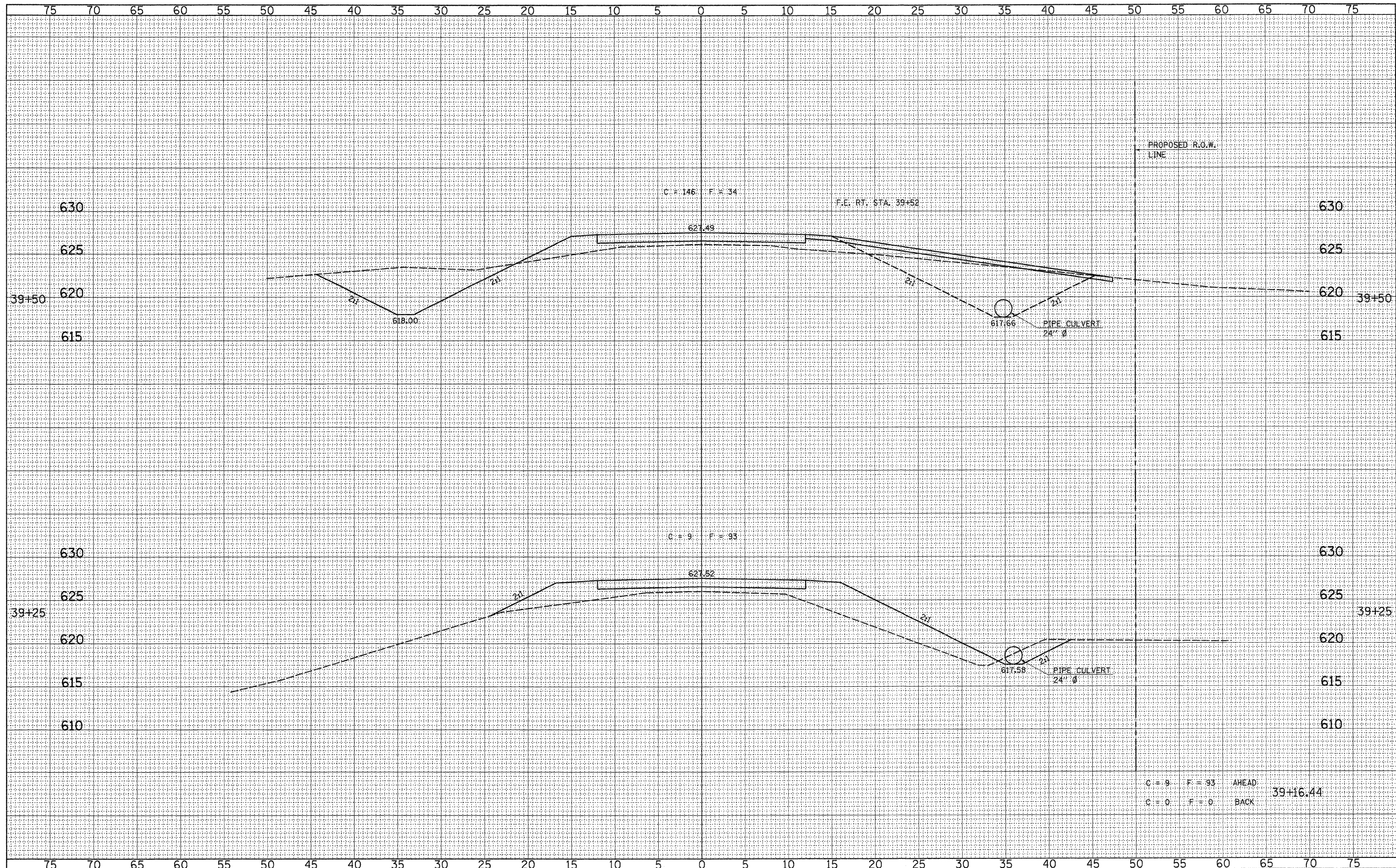
FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI. SPRINGFIELD, IL.

ROADWAY CROSS SECTIONS - T.R. 244
 SCALE: 1" = 5'
 SHEET NO. 3 OF 5 SHEETS
 STA. 37+00.00 TO STA. 37+83.56

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
244	04-16101-02-BR	IROQUOIS	24	22
CONTRACT NO. 87445			ILLINOIS MARTINSON ROAD DISTRICT	

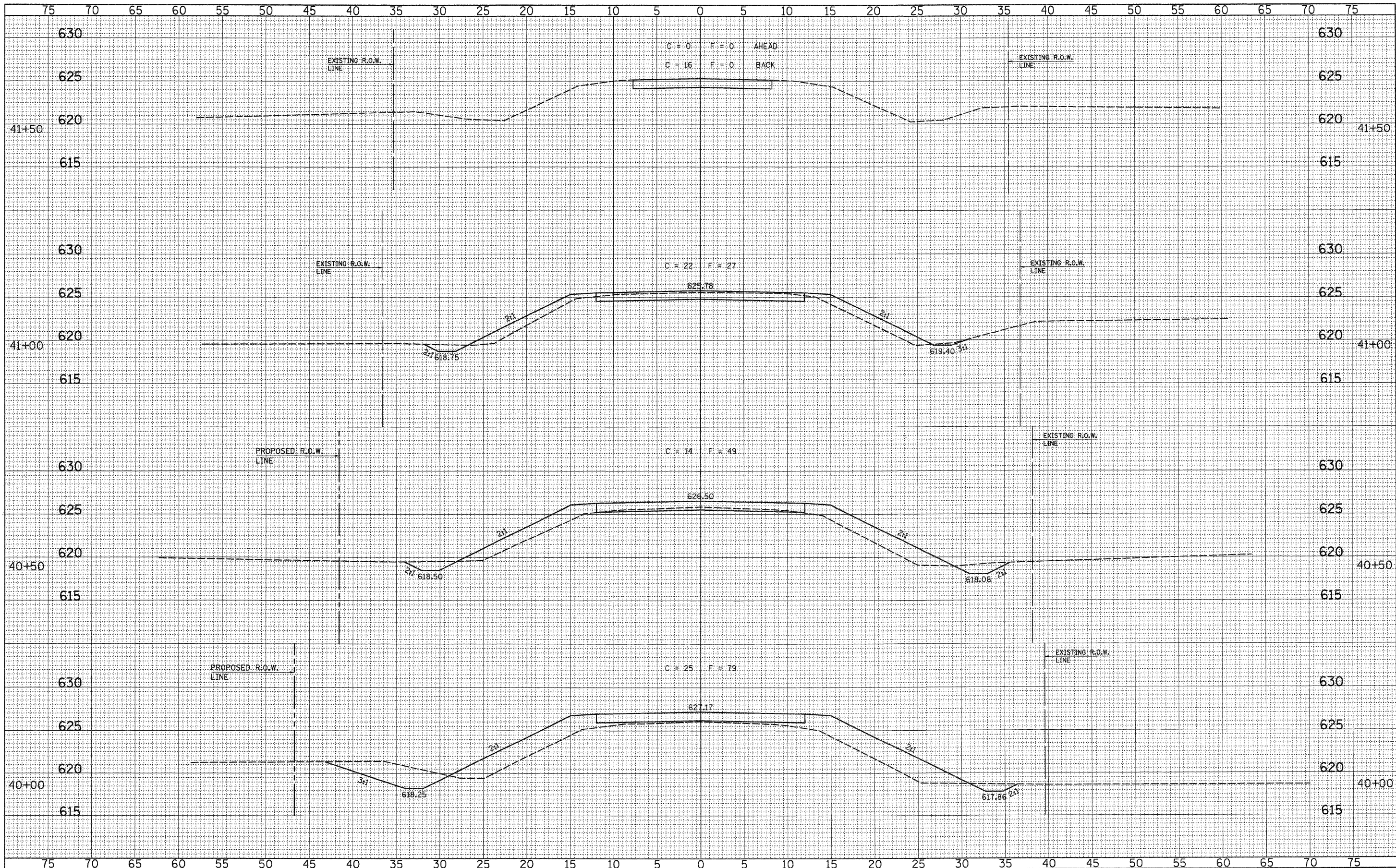
DATE	
BY	
FINAL SURVEY	
NOTE BOOK	
NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	
AREAS CHECKED	



C = 9 F = 93 AHEAD 39+16.44
 C = 0 F = 0 BACK

FILE NAME = 4834LXSECTION_SHEETS.DGN	USER NAME = S.A.P.	DESIGNED - G.J.C.	REVISED -	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL	ROADWAY CROSS SECTIONS - T.R. 244			T.R. 244	SECTION 04-16101-02-BR	COUNTY IROQUOIS	TOTAL SHEETS 24	SHEET NO. 23	
	PLOT SCALE = 5	DRAWN - S.A.P.	REVISED -		SCALE: 1" = 5'	SHEET NO. 4 OF 5 SHEETS	STA. 39+10.00 TO STA. 39+16.44	ILLINOIS		CONTRACT NO. 87445			
	PLOT DATE = 08/19/08	CHECKED - R.J.C.	REVISED -										
		DATE - 8/20/08	REVISED -		MARTINTON ROAD DISTRICT								



DATE	
BY	
FINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
NO.	

FILE NAME = 4834L_XSECTION_SHEETS.DGN

USER NAME = S.A.P.	DESIGNED - G.J.C.	REVISED -
PLOT SCALE = 5	DRAWN - S.A.P.	REVISED -
PLOT DATE = 08/19/08	CHECKED - R.J.C.	REVISED -
	DATE - 8/20/08	REVISED -

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ROADWAY CROSS SECTIONS - T.R. 244
 SCALE: 1" = 5' SHEET NO. 5 OF 5 SHEETS STA. 40+00.00 TO STA. 41+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
244	04-16101-02-BR	IROQUOIS	24	24
			CONTRACT NO. 87445	
			MARTINSON ROAD DISTRICT	