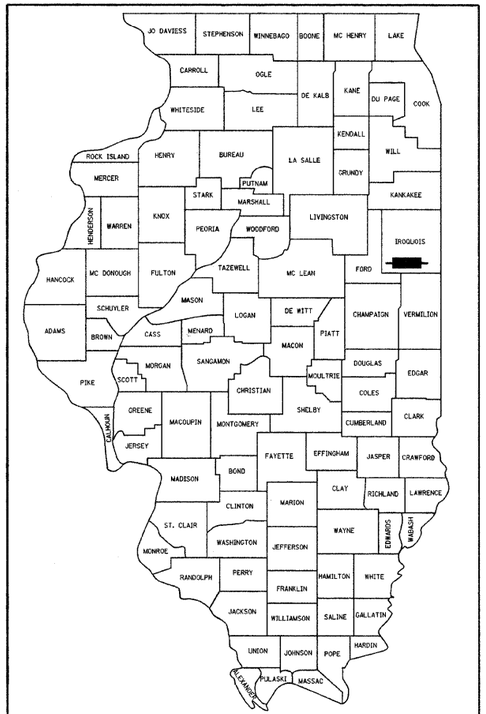
04-27-12 LETTING ITEM 126

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 351	08-22102 -01-BR	IROQUOIS	25	1
		ILLINOIS	PIGEON GROVE ROAD DISTRICT	

CONTRACT NO. 87493

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

SECTION 08–22102–01–BR
IROQUOIS COUNTY
PROJECT NO. BROS–0075(146)
PIGEON GROVE ROAD DISTRICT
C–93–125–11
CONTRACT NO. 87493
T.R. 351



LOCATION OF SECTION INDICATED THUS: – ■–

CLASSIFICATION: LOCAL ROAD (NON–URBAN)
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 31 (2011)
DESIGN SPEED: 30 MPH

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

INDEX OF SHEETS

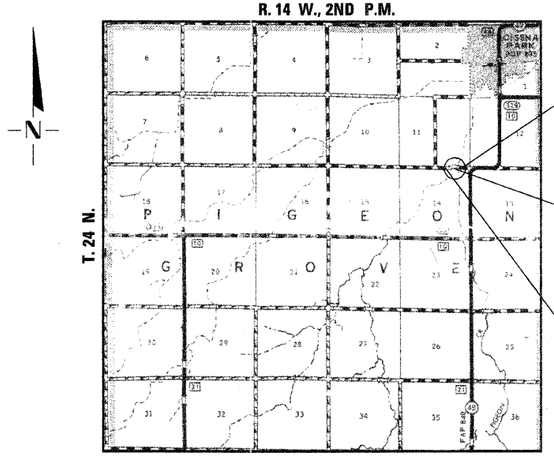
STANDARDS

000001–06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001–06	TEMPORARY EROSION CONTROL SYSTEMS
515001–03	NAME PLATE FOR BRIDGES
601101–01	CONCRETE HEADWALL FOR PIPE DRAINS
635006–03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901–02	TRAFFIC CONTROL DEVICES
720011–01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
728001–01	TELESCOPING STEEL SIGN SUPPORT
729001–01	APPLICATIONS OF TYPES A AND B METAL POSTS (FOR SIGNS AND MARKERS)
BLR 21–9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SCALES

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

R. 14 W., 2ND P.M.



IMPROVEMENT ENDS
STA. 13+50.00

STA. 9+50.00 – SINGLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE WITH INTEGRAL ABUTMENTS; 30′–0″ O.–O. DECK, 128′–0″ BK.–BK. ABUTS., 15° SKEW (LT.)
EXISTING S.N. 038–5129
PROPOSED S.N. 038–5157

IMPROVEMENT BEGINS
STA. 5+50.00

LOCATION PLAN

GROSS LENGTH OF SECTION = 800 FEET = 0.152 MILES
NET LENGTH OF SECTION = 800 FEET = 0.152 MILES

0 1 2 3 4 5
SCALE IN MILES

CARY J. CARTWRIGHT 43408 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Gary J. Cartwright 2-13-12
ILLINOIS PROFESSIONAL NO. 43408
EXPIRES 11-30-13

PASSED Feb 14 20 12
Dan Baum
ROAD DISTRICT COMMISSIONER

APPROVED Feb 14, 20 12
COUNTY ENGINEER

PASSED 02 – 16 – 20 12
DISTRICT THREE IMPLEMENTATION ENGINEER

RELEASED FOR BID BASED ON LIMITED REVIEW 02 – 16 – 20 12
DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

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

*11-137

SUMMARY OF QUANTITIES

CONSTRUCTION CODE 0011

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY
	20200100	EARTH EXCAVATION	CU YD	1,007
	20300100	CHANNEL EXCAVATION	CU YD	966
	20400800	FURNISHED EXCAVATION	CU YD	3,528
	20700220	POROUS GRANULAR EMBANKMENT	CU YD	151
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	135
	28000305	TEMPORARY DITCH CHECKS	FOOT	180
	28000400	PERIMETER EROSION BARRIER	FOOT	1,736
	28000500	INLET AND PIPE PROTECTION	EACH	1
*	28100209	STONE RIPRAP, CLASS A5	TON	568
	28200200	FILTER FABRIC	SQ YD	512
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1,207
*	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	160
	50300225	CONCRETE STRUCTURES	CU YD	30.9
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	134.2
	50300260	BRIDGE DECK GROOVING	SQ YD	398
	50300280	CONCRETE ENCASEMENT	CU YD	8.7
	50300300	PROTECTIVE COAT	SQ YD	473
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
	50500505	STUD SHEAR CONNECTORS	EACH	1,300
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	37,750
Δ	50900205	STEEL RAILING, TYPE S1	FOOT	256
	51201800	FURNISHING STEEL PILES HP14X73	FOOT	960
	51202305	DRIVING PILES	FOOT	960
	51203800	TEST PILE STEEL HP14X73	EACH	1
	51500100	NAME PLATES	EACH	1
	52100540	ANCHOR BOLTS, 1 1/2"	EACH	20
	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	74
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	71
	60801018	FLAP GATE 18"	EACH	1
	67100100	MOBILIZATION	L SUM	1
*	70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Δ*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.3
*	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	130
*	XX004633	FIELD TILE ADJUSTMENT	EACH	2

*SEE SPECIAL PROVISIONS

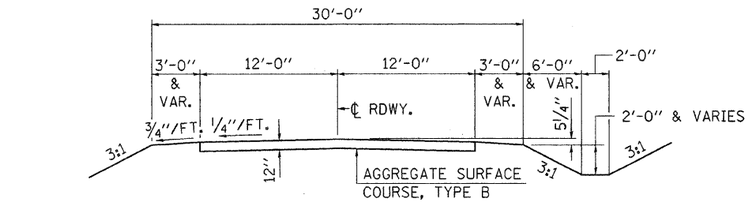
Δ SPECIALTY ITEMS

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 OR MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

APPICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE SURFACE COURSE ..... 2.05 TON/CU YD
STONE RIPRAP ..... 1.65 TON/CU YD



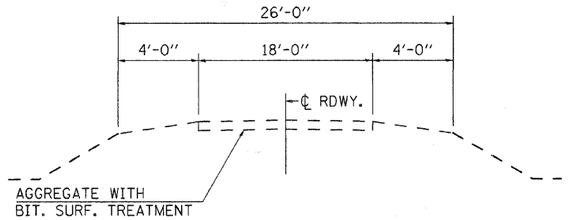
SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN BY
STATION CROSS SECTIONS

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN BY
STATION CROSS SECTIONS

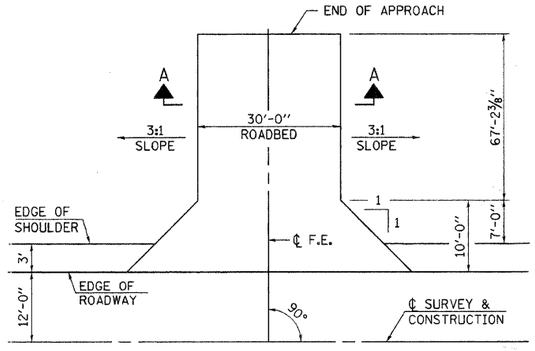
TYPICAL PROPOSED CROSS SECTION

STA. 6+00 TO STA. 8+86 AND
STA. 10+14 TO STA. 13+00

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 5+50 TO STA. 6+00 AND FROM STA. 13+00 TO STA. 13+50.

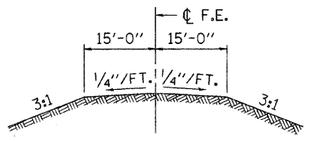


TYPICAL EXISTING CROSS SECTION



FIELD ENTRANCE DETAIL

F.E. LT. STA. 8+50



SECTION A-A

FILE NAME = 11-137_SUMTYP.DGN	DESIGNED - G.J.C.	REVISED -	
	DRAWN - S.A.P.	REVISED -	
	CHECKED -	REVISED -	
	DATE - 01/04/12	REVISED -	

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

SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTIONS

PROPOSED STRUCTURE @ STA. 9+50.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	2
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137

SURVEYED
PLOTTED
ALIGNMENT CHECKED
CADD FILE NAME

PLAN
NOTE BOOK
NO.

DATE | BY

7" SPIKE NAIL IN EDGE OF ROAD 11.50'
7" SPIKE NAIL IN EDGE OF ROAD 11.42'
7" SPIKE NAIL IN EDGE OF ROAD 11.57'
℄ SURVEY & CONSTRUCTION

P.O.T. STA. 5 + 00.00
IRON PIN (FLUSH)

N. 1/4 COR. OF SEC. 14, T. 24 N., R. 14 W., 2ND P.M.
I. ROD W/ CAP (FOUND)

SOUTH LINE, SEC. 11
NORTH LINE, SEC. 14

PIPES TO BE REMOVED

RT. STA. 8+85, 18" CMP, 62' LONG
LT. STA. 9+02, 18" CMP, 62' LONG
RT. STA. 9+97, 30" CMP, 64' LONG
LT. STA. 10+12, 18" CMP, 62' LONG
COST INCLUDED IN "EARTH EXCAVATION".

SEC. 11, T. 24 N., R. 14 W., 2ND P.M.

DEAN F. KAEB

LT. STA. 8+50, F.E.
PIPE CULVERTS, CLASS D, TYPE 1 18"
74' LONG WITH FLAP GATE

RUTH E. KAEB AS SUCCESSOR TRUSTEE UNDER THE EDWARD F. KAEB REVOCABLE TRUST & RUTH E. KAEB AS TRUSTEE UNDER THE RUTH E. KAEB REVOCABLE TRUST

7" SPIKE NAIL IN EDGE OF ROAD 12.16'
7" SPIKE NAIL IN EDGE OF ROAD 11.29'
℄ SURVEY & CONSTRUCTION
7" SPIKE NAIL IN EDGE OF ROAD 11.66'

P.O.T. STA. 14 + 99.11
IRON PIN (FLUSH)

NE. COR. SEC. 14, T. 24 N., R. 14 W., 2ND P.M.
NAIL (FOUND)

CROPS
PROPOSED R.O.W. LINE
EXIST. R.O.W.
IMPROVEMENT BEGINS STA. 5+50.00
IMPROVEMENT ENDS STA. 13+50.00
℄ SURVEY & CONSTRUCTION
+00 50' LT.
+50 30' LT.
+00 95' LT. / +00 70' LT.
+15 95' LT. / +15 70' LT.
+73.76 70' LT.
+40 70' LT.
+50 30' LT.
+00 75' RT.
+75 75' RT.
+50 40' RT.
+50 45' RT.
+50 40' RT.
POT STA 5+00.00
POT STA 14+99.11
30'
40'
5+00
10+00
IR. 351
OIL & CHIP SURFACE
18" CMP
30" CMP
12" TILE
F.E. (EARTH)
FLOW
PIGEON CREEK

CHANNEL EXCAVATION

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

CHANNEL EXCAVATION = 966 CU. YD.

ENTRANCES TO BE BUILT

LT. STA. 8+50, F.E., -15.0%, 30' ROADBED
QUANTITIES INCLUDED IN THOSE LISTED

LOUIS D. NEUKOMM, JR.

INDICATES TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED

PROPOSED S.N. 038-5157
STA. 9+50.00 - SINGLE SPAN STEEL PLATE GIRDER COMPOSITE (48" WEB) BRIDGE WITH INTEGRAL ABUTMENTS. 30'-0" O.-O. DECK, 128'-0" BK.-BK. ABUTS., 15° SKEW (LT.)

LOUIS D. NEUKOMM, JR.

SEC. 14, T. 24 N., R. 14 W., 2ND P.M.

EXISTING S.N. 038-5129

STA. 9+50.00 - THREE-SPAN PRECAST CONCRETE CHANNEL BEAM BRIDGE ON SPILL-THRU PILE BENT ABUTS. AND PILE BENT PIERS. 3 SPANS @ 32'-0"; 97'-6" BK.-BK. ABUTS.; 24'-3" ROADWAY WITH 1'-0" CURBS, 26'-3" O.-O. DECK; 15° SKEW.

REMOVAL OF EXISTING STRUCTURES = 1 EACH

UTILITIES

FRONTIER COMMUNICATIONS
MARY RUTH WILLIS 309-454-1470

PROFILE
REVISED
PLOTTED
GRADES CHECKED
ALIGNMENT
STRUCTURE NO(FAP)NG CK'KD
NOTE BOOK
NO.

B.M. #1 - RR. SPIKE IN EDGE OF ROAD 8' RT., STA. 5+50 EL. 103.89

B.M. #2 - CHISELED "□" ON TOP OF SE. COR. BRIDGE CURB EL. 104.38 (FROM PLANS)

B.M. #3 - CHISELED "□" ON TOP OF EAST HEADWALL 22' RT., STA. 14+00, EL. 101.17

EXISTING PROFILE GRADE

P.O.T. STA. 5+50.00 EL. 104.00
P.T. STA. 5+75.00 EL. 104.00
L = 150' E = 0.41' K = 68'
P.I. STA. 6+50.00 EL. 104.00
P.R.C. STA. 7+25.00 EL. 105.65
P.I. STA. 8+00.00 EL. 107.30
L = 150' E = 0.41' K = 68'
P.T. STA. 8+75.00 EL. 107.30
P.C. STA. 10+25.00 EL. 107.30
P.I. STA. 11+00.00 EL. 107.30
L = 150' E = 0.39' K = 71'
P.R.C. STA. 11+75.00 EL. 106.72
P.I. STA. 12+60.00 EL. 104.15
L = 150' E = 0.39' K = 71'
P.T. STA. 13+25.00 EL. 104.15
P.O.T. STA. 13+50.00 EL. 104.15

+0.00% +2.20% -2.10% +0.00%

100 YR. H.W.E. 101.1
15 YR. H.W.E. 99.4

+00 EL. 97.11
+00 EL. 96.45
S.D. RT. -1.14%
S.D. LT. -1.70%
+00 EL. 94.75
S.D. LT. -0.50%
+50 EL. 94.26
+50 EL. 94.00
+50 EL. 95.00
S.D. LT. & RT. +0.40%
+00 EL. 95.60
S.D. LT. +2.50%
S.D. RT. +0.40%
+00 EL. 98.10
+00 EL. 96.00

CHANNEL EXCAVATION
•2½:1 @ RT./L'S

EARTH EXCAVATION	=	1,007 CU. YD.
SUITABLE CHANNEL EXCAVATION	=	484 CU. YD.
FURNISHED EXCAVATION	=	3,528 CU. YD.
EMBANKMENT (FOR INFORMATION ONLY)	=	4,646 CU. YD.

FLOWLINE ELEV. 85.1

120 / 115 / 110 / 105 / 100 / 95 / 90 / 85 / 80

103.93 103.92 103.93 103.95 103.98 104.02 104.00 104.00 104.00 104.05 104.09 104.41 104.07 105.15 105.65 105.72 106.15 103.67 106.89 103.66 107.25 107.30 107.30 103.46 107.30 103.52 107.30 103.56 107.30 107.30 103.76 107.26 103.71 106.91 103.60 106.21 105.72 103.71 105.24 103.79 104.54 103.92 104.19 104.15 104.15 104.15 104.24 104.21 104.25 104.60 104.97 105.41

3+00 4+00 5+00 +75 6+00 7+00 +25 8+00 +75 9+00 10+00 +25 11+00 +75 12+00 13+00 +25 14+00 15+00 16+00

FILE NAME = 11-137_P&P.DGN	DESIGNED - G.J.C.	REVISED -	
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -	
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -	
PLOT DATE = 03/09/11	DATE - 01/04/12	REVISED -	

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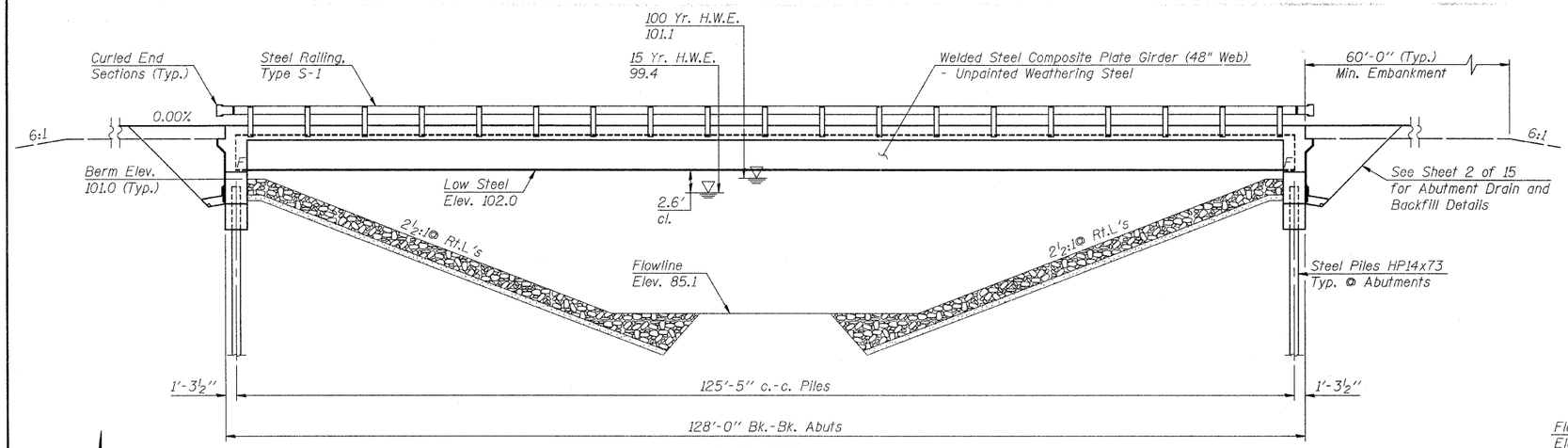
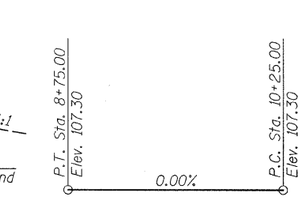
PLAN AND PROFILE – T.R. 351

STA. 5+00.00 TO STA. 14+99.11

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	3
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

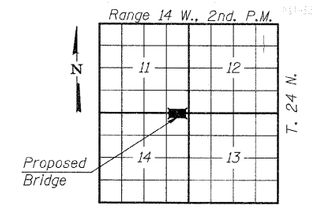


ELEVATION



PROFILE GRADE

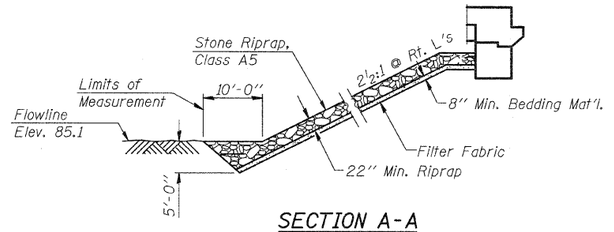
(Along ℄ Roadway)



LOCATION PLAN

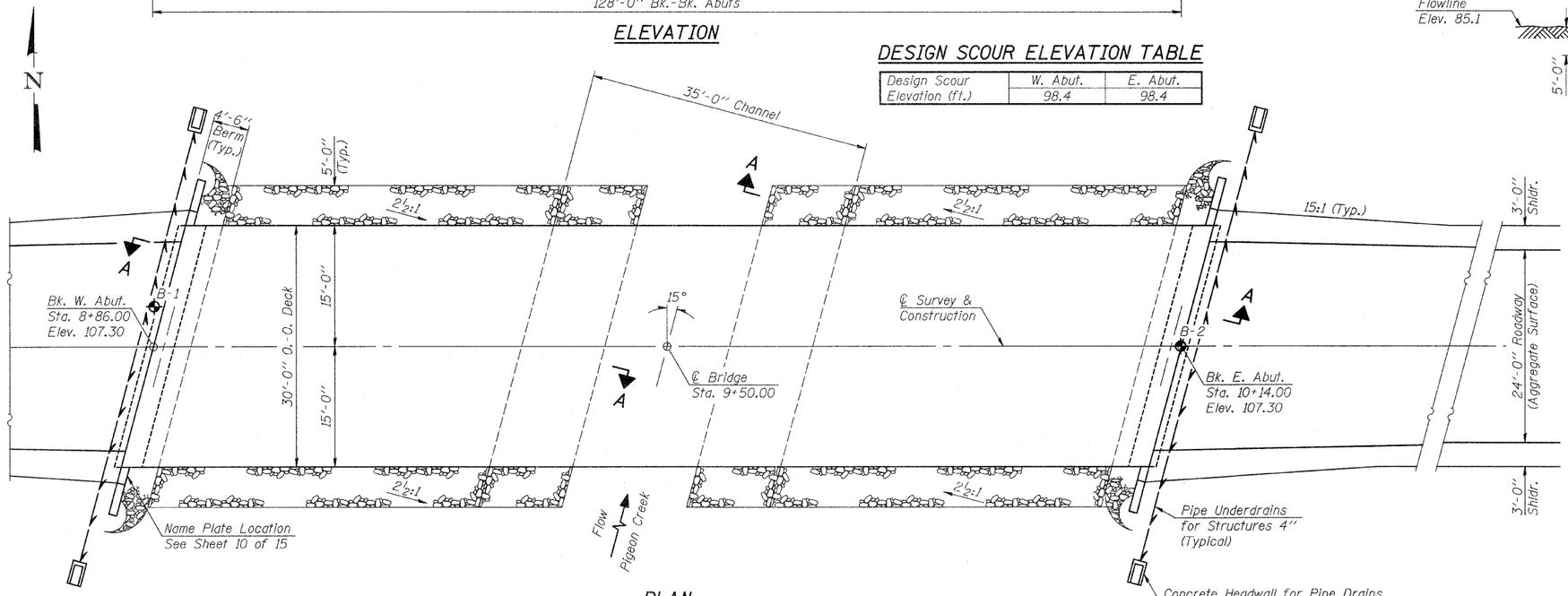
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	98.4	98.4



SECTION A-A
RIPRAP PLACEMENT DETAIL

Note: Excavation and aggregate bedding will not be paid for as separate items and shall be considered as included in Stone Riprap, Class A5.



PLAN

INDEX OF SHEETS

WATERWAY INFORMATION

Drainage Area	30.23 Sq. Mi.
Existing Opening (15 Yr.)	709 Sq. Ft.
Required Opening (15 Yr.)	1,012 Sq. Ft.
Proposed Opening (15 Yr.)	1,012 Sq. Ft.
Design Discharge (15 Yr.)	3,810 C.F.S.
Created Head (15 Yr.)	0.2 Ft.
100 Year Discharge	6,400 C.F.S.
100 Yr. Created Head	0.3 Ft.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.117g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.191g
Soil Site Class = D

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

"I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'".

John A. Morris — 2/13/12
ILLINOIS STRUCTURAL NO. 4277 (Expires 11/30/12)

JOHN A. MORRIS NO. 81-4277 — ILLINOIS REGISTERED STRUCTURAL ENGINEER — STATE OF ILLINOIS

GENERAL PLAN & ELEVATION
T.R. 351
SECTION 08-22102-01-BR
IROQUOIS COUNTY
STATION 9+50.00
S.N. 038-5157

FILE NAME = 11-137_GPE.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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

GENERAL PLAN & ELEVATION
S.N. 038-5157
SHEET NO. 1 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	4
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

GENERAL NOTES

See Sheets 12 to 15 of 15 for Boring Data.

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{3}{4}$ in. ϕ, holes $\frac{15}{16}$ in. ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 154,900 Pounds

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

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

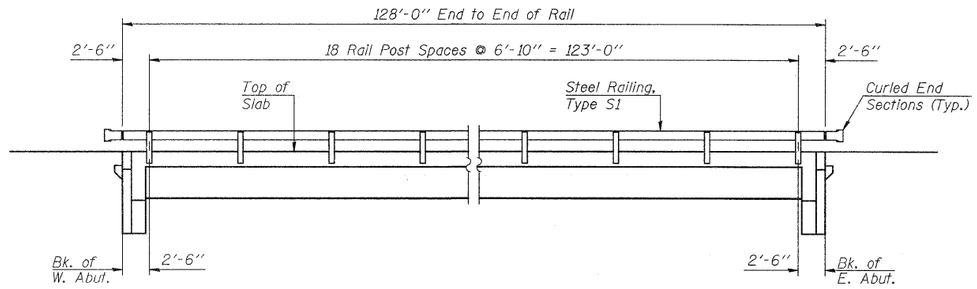
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted 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 (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

All exposed surfaces of abutments and wingwalls 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.

The Contractor shall drive one Steel HP14x73 Test Pile in a permanent location at the east abutment, as directed by the Engineer, before ordering the remainder of piles.

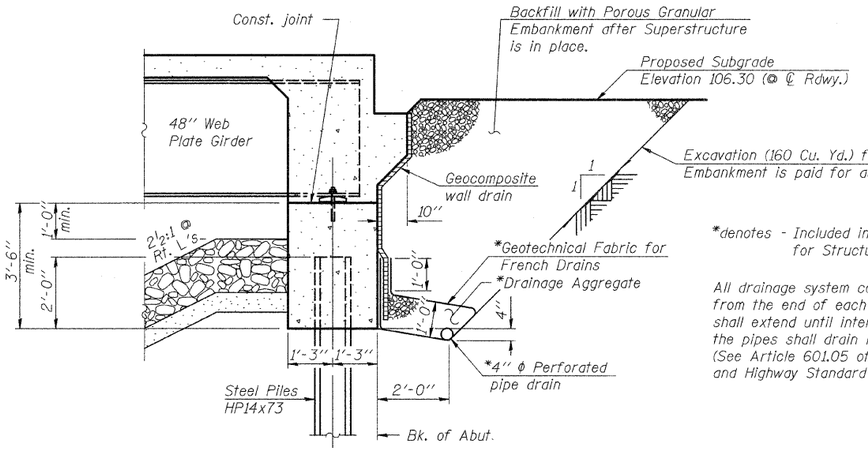


RAIL POST SPACING DETAIL

PIGEON CREEK
BUILT 20__ BY
PIGEON GROVE ROAD DISTRICT
IROQUOIS COUNTY
SEC. 08-22102-01-BR
STR. NO. 038-5157
LOADING HL-93

LETTERING FOR NAME PLATE

See Std. 515001



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)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.		30.9	30.9
Concrete Superstructure	Cu. Yd.	134.2		134.2
Reinforcement Bars, Epoxy Coated	Pound	30,500	7,250	37,750
Steel Railing, Type S1	Foot	256		256
Name Plates	Each		1	1
Furnishing Steel Piles HP14x73	Foot		960	960
Driving Piles	Foot		960	960
Test Pile Steel HP14x73	Each		1	1
Stone Riprap, Class A5	Ton		568	568
Filter Fabric	Sq. Yd.		512	512
Concrete Encasement	Cu. Yd.		8.7	8.7
Structure Excavation	Cu. Yd.		160	160
Removal of Existing Structures	Each		1	1
Protective Coat	Sq. Yd.	473		473
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,300		1,300
Bridge Deck Grooving	Sq. Yd.	398		398
Pipe Underdrains for Structures 4"	Foot		130	130
Geocomposite Wall Drain	Sq. Yd.		71	71
Porous Granular Embankment	Cu. Yd.		151	151
Anchor Bolts, 1½"	Each	20		20

FILE NAME = 11-137_NOTES.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -	
		CHECKED - R.E.A.	REVISED -	
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -	
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -	

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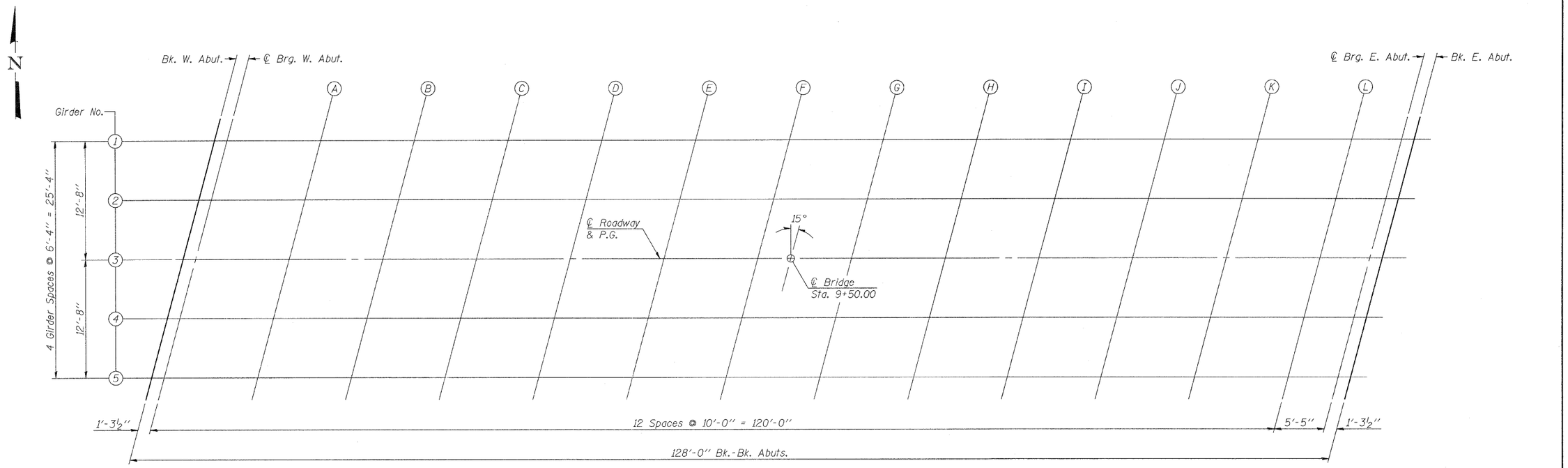
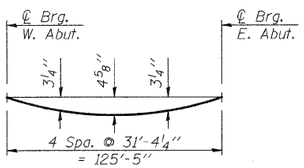
GENERAL NOTES, BILL OF MATERIALS & DETAILS
S.N. 038-5157
SHEET NO. 2 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	5
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137



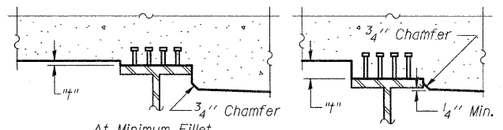
PLAN



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 15.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders 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 15, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

FILE NAME = 11-137_SLAB.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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TOP OF SLAB ELEVATIONS
S.N. 038-5157
SHEET NO. 3 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	6
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

*11-137

GIRDER #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	8+89.394	-12.667	107.036	107.036
CL BRG. W. ABUT.	8+90.688	-12.667	107.036	107.036
A	9+00.688	-12.667	107.036	107.123
B	9+10.688	-12.667	107.036	107.211
C	9+20.688	-12.667	107.036	107.298
D	9+30.688	-12.667	107.036	107.342
E	9+40.688	-12.667	107.036	107.378
F	9+50.688	-12.667	107.036	107.415
G	9+60.688	-12.667	107.036	107.398
H	9+70.688	-12.667	107.036	107.362
I	9+80.688	-12.667	107.036	107.325
J	9+90.688	-12.667	107.036	107.258
K	10+00.688	-12.667	107.036	107.171
L	10+10.688	-12.667	107.036	107.083
CL BRG. E. ABUT.	10+16.105	-12.667	107.036	107.036
BK. E. ABUT.	10+17.399	-12.667	107.036	107.036

GIRDER #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	8+87.697	-6.333	107.168	107.168
CL BRG. W. ABUT.	8+88.991	-6.333	107.168	107.168
A	8+98.991	-6.333	107.168	107.255
B	9+08.991	-6.333	107.168	107.343
C	9+18.991	-6.333	107.168	107.430
D	9+28.991	-6.333	107.168	107.474
E	9+38.991	-6.333	107.168	107.510
F	9+48.991	-6.333	107.168	107.547
G	9+58.991	-6.333	107.168	107.530
H	9+68.991	-6.333	107.168	107.494
I	9+78.991	-6.333	107.168	107.457
J	9+88.991	-6.333	107.168	107.390
K	9+98.991	-6.333	107.168	107.303
L	10+08.991	-6.333	107.168	107.215
CL BRG. E. ABUT.	10+14.408	-6.333	107.168	107.168
BK. E. ABUT.	10+15.702	-6.333	107.168	107.168

℄ ROADWAY, PROFILE GRADE & GIRDER #3

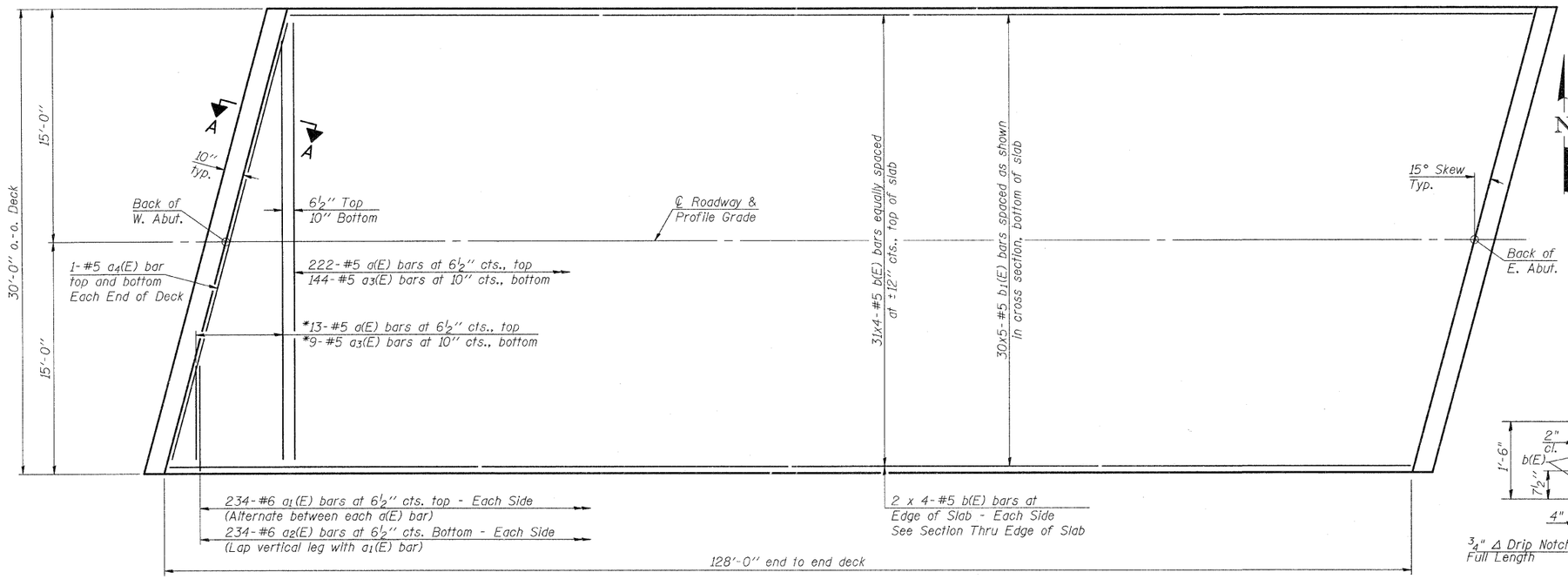
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	8+86.000	0.000	107.300	107.300
CL BRG. W. ABUT.	8+87.294	0.000	107.300	107.300
A	8+97.294	0.000	107.300	107.387
B	9+07.294	0.000	107.300	107.475
C	9+17.294	0.000	107.300	107.562
D	9+27.294	0.000	107.300	107.606
E	9+37.294	0.000	107.300	107.642
F	9+47.294	0.000	107.300	107.679
G	9+57.294	0.000	107.300	107.662
H	9+67.294	0.000	107.300	107.626
I	9+77.294	0.000	107.300	107.589
J	9+87.294	0.000	107.300	107.522
K	9+97.294	0.000	107.300	107.435
L	10+07.294	0.000	107.300	107.347
CL BRG. E. ABUT.	10+12.711	0.000	107.300	107.300
BK. E. ABUT.	10+14.000	0.000	107.300	107.300

GIRDER #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	8+84.303	6.333	107.168	107.168
CL BRG. W. ABUT.	8+85.597	6.333	107.168	107.168
A	8+95.597	6.333	107.168	107.255
B	9+05.597	6.333	107.168	107.343
C	9+15.597	6.333	107.168	107.430
D	9+25.597	6.333	107.168	107.474
E	9+35.597	6.333	107.168	107.510
F	9+45.597	6.333	107.168	107.547
G	9+55.597	6.333	107.168	107.530
H	9+65.597	6.333	107.168	107.494
I	9+75.597	6.333	107.168	107.457
J	9+85.597	6.333	107.168	107.390
K	9+95.597	6.333	107.168	107.303
L	10+05.597	6.333	107.168	107.215
CL BRG. E. ABUT.	10+11.014	6.333	107.168	107.168
BK. E. ABUT.	10+12.308	6.333	107.168	107.168

GIRDER #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	8+82.606	12.667	107.036	107.036
CL BRG. W. ABUT.	8+83.900	12.667	107.036	107.036
A	8+93.900	12.667	107.036	107.123
B	9+03.900	12.667	107.036	107.211
C	9+13.900	12.667	107.036	107.298
D	9+23.900	12.667	107.036	107.342
E	9+33.900	12.667	107.036	107.379
F	9+43.900	12.667	107.036	107.415
G	9+53.900	12.667	107.036	107.398
H	9+63.900	12.667	107.036	107.362
I	9+73.900	12.667	107.036	107.325
J	9+83.900	12.667	107.036	107.258
K	9+93.900	12.667	107.036	107.171
L	10+03.900	12.667	107.036	107.083
CL BRG. E. ABUT.	10+09.317	12.667	107.036	107.036
BK. E. ABUT.	10+10.611	12.667	107.036	107.036

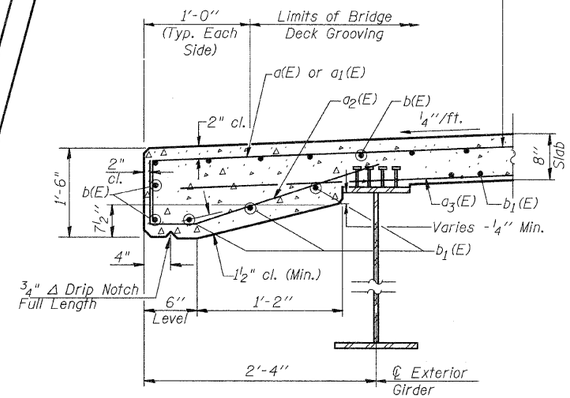


PLAN

* Order a(E) and a_3(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

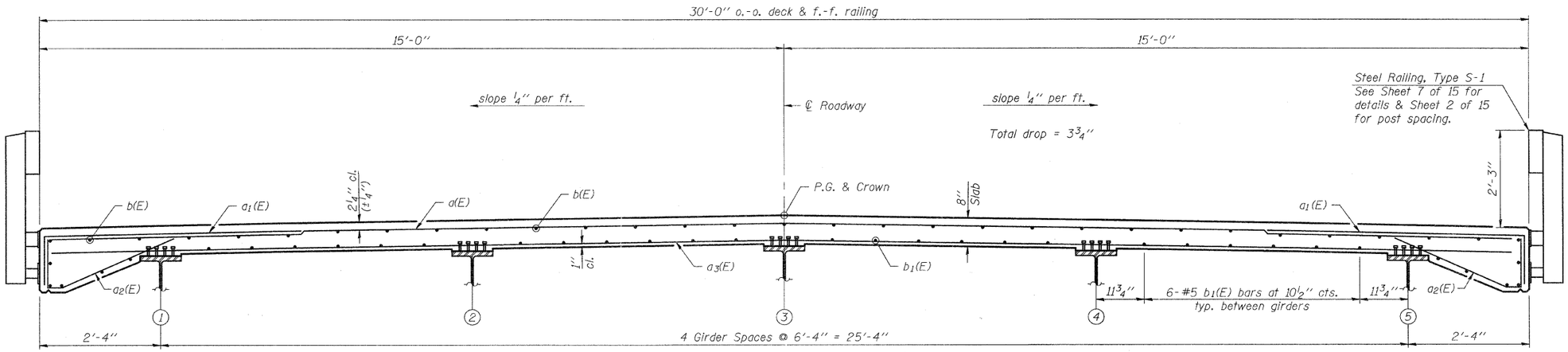
Notes:
See Sheet 6 of 15 for Section A-A, superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

Reinforcement bars in the top of the deck shall be placed with a 2" minimum clearance in the area of the rail post anchor devices. The studs of the anchor device shall be placed below the top reinforcement bars a(E) and a_1(E) and the outermost longitudinal reinforcement bar b(E) shall be placed directly above the anchor device studs.



SECTION THRU EDGE OF SLAB
(Looking East)

MIN. BAR LAP
#5 bar = 3'-3"



CROSS SECTION
(Looking East)

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

SI-1-L 7-1-10

Work this sheet with sheet 6 of 15.

FILE NAME = 11-137_SUPER.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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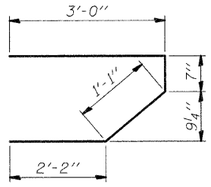
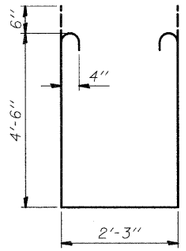
SUPERSTRUCTURE
S.N. 038-5157
SHEET NO. 5 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	8
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

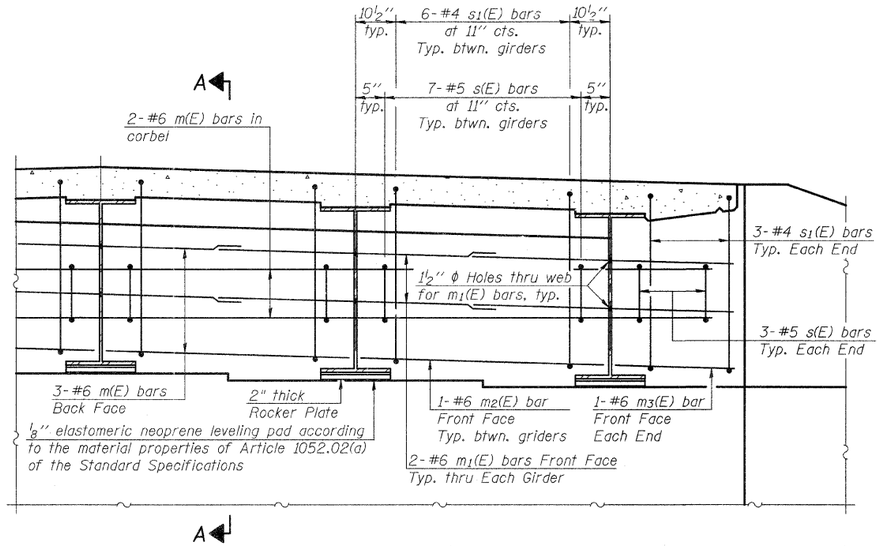
#11-137



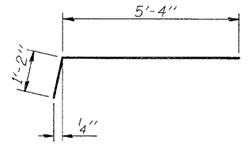
BAR s(E)



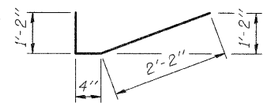
BAR s_1(E)



DIAPHRAGM ELEVATION AT ABUTMENT



BAR a_1(E)



BAR a_2(E)

Notes:

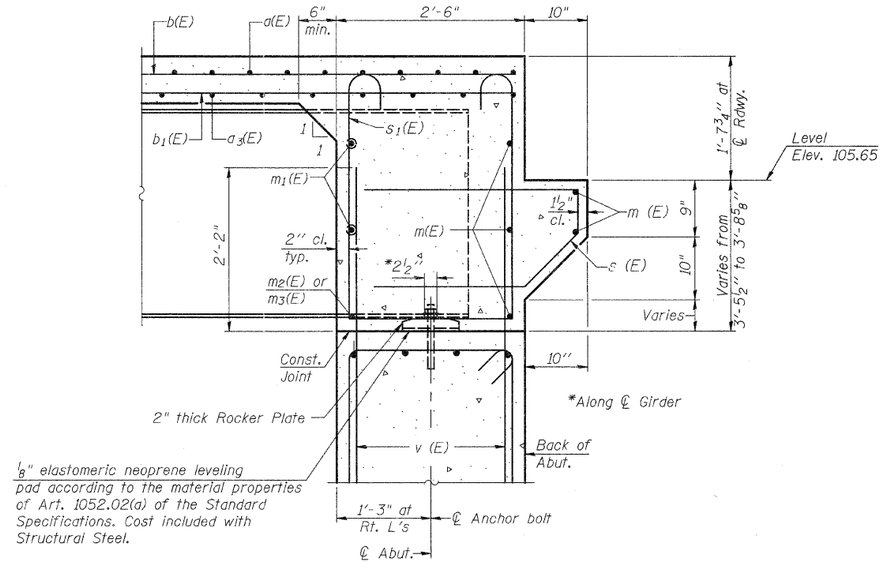
Reinforcement bars in diaphragm are billed with superstructure.

Concrete in diaphragm is included with Concrete Superstructure

The s(E) and s_1(E) bars shall be placed parallel to the girders. Spacing for these bars shall be at right angles to the girders.

MIN. BAR LAP

#6 bar = 3'-10"



SECTION A-A

Dimensions at right angles to abutment, except as shown.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	235	#5	29'-8"	
a_1(E)	468	#6	6'-6"	
a_2(E)	468	#6	3'-8"	
a_3(E)	153	#5	29'-4"	
a_4(E)	4	#5	30'-9"	
b(E)	140	#5	34'-5"	
b_1(E)	150	#5	28'-2"	
m(E)	10	#6	30'-8"	
m_1(E)	20	#6	10'-5"	
m_2(E)	8	#6	6'-3"	
m_3(E)	4	#6	2'-2"	
s(E)	68	#5	6'-10"	
s_1(E)	60	#4	12'-3"	
Reinforcement Bars, Epoxy Coated		Pound	30,500	
Concrete Superstructure		Cu. Yd.	134.2	
Bridge Deck Grooving		Sq. Yd.	398	
Protective Coat		Sq. Yd.	473	

SI-DS1 7-1-10

Work this sheet with sheet 5 of 15.

FILE NAME = 11-137_SUPER.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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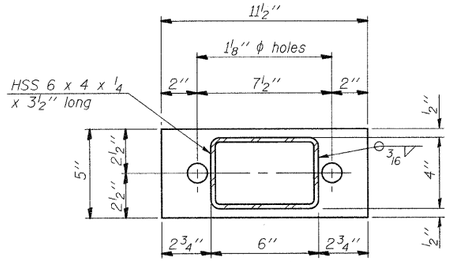
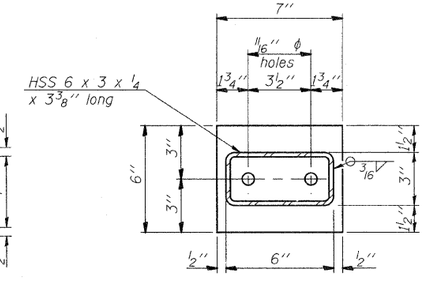
INTEGRAL ABUTMENT DIAPHRAGM DETAILS
S.N. 038-5157
SHEET NO. 6 OF 15 SHEETS

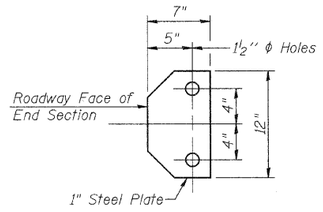
TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	9
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		



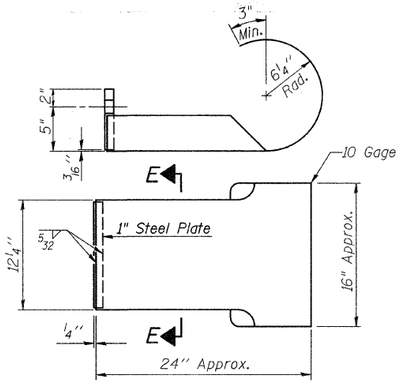
PL ½" x 11½" x 5"



PL ½" x 7" x 6"



SECTION E-E



CURLED END SECTION DETAILS
(4 Required)

Notes:

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

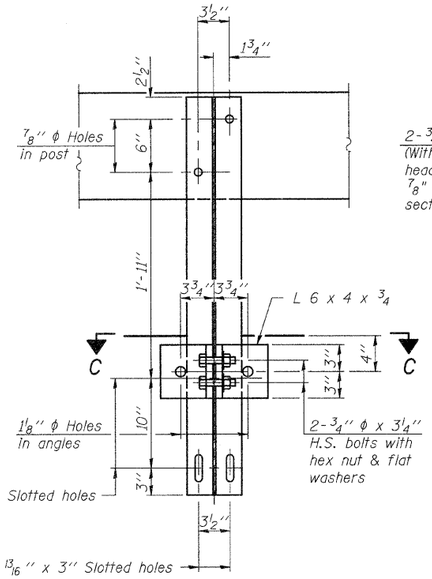
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

* *Threaded areas of nuts or pipes used for anchor devices shall be plugged or blocked off during casting of beam.*

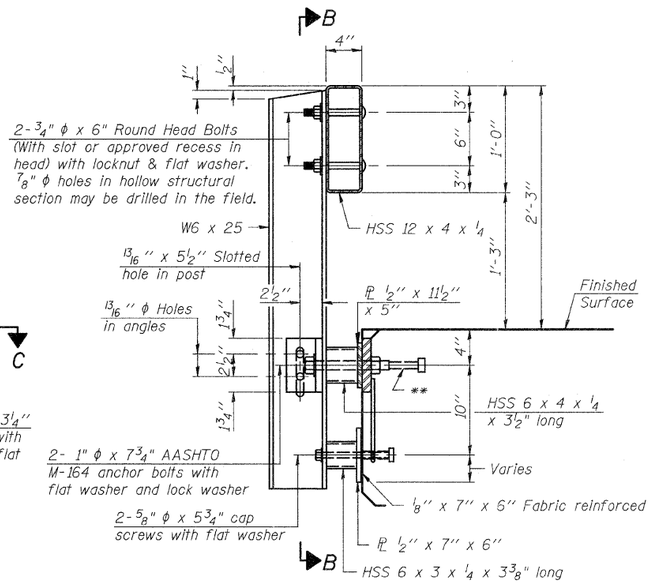
** *The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.*

The Cost of Curled End Sections is included in the cost of "Steel Railing, Type S1".

See Sheet 2 of 15 for Rail Post Spacing.

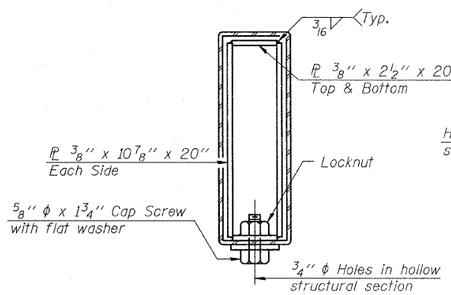


SECTION B-B

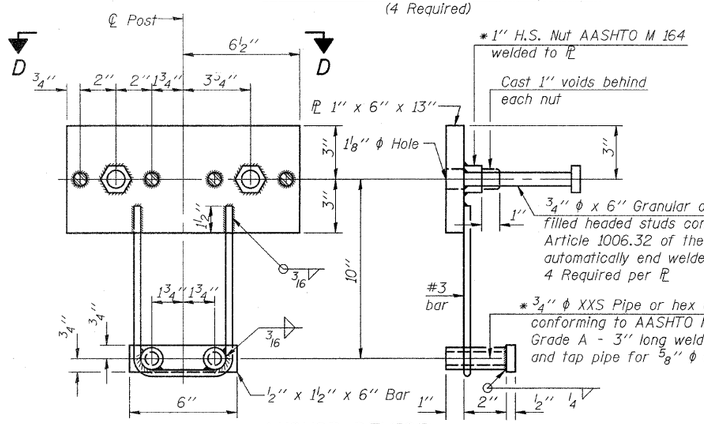


SECTION AT RAILING POST

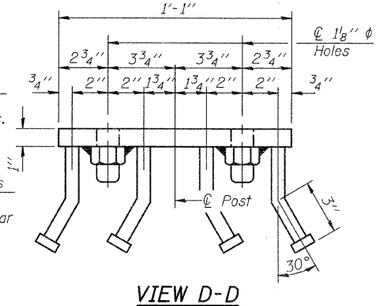
SECTION C-C



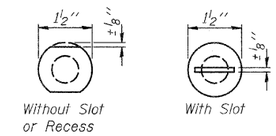
SECTIONS AT RAIL SPLICE



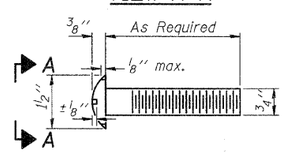
ANCHOR DEVICE



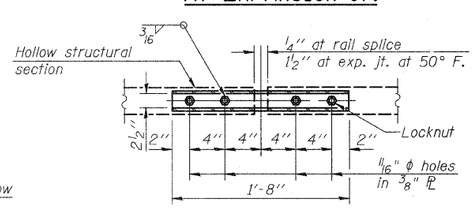
VIEW D-D



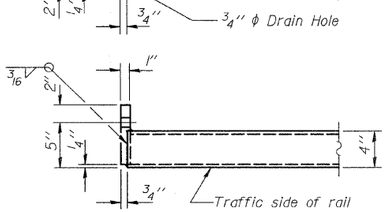
VIEW A-A



ROUND HEAD BOLT



PLAN-BOTT. SPLICE PL
TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	256

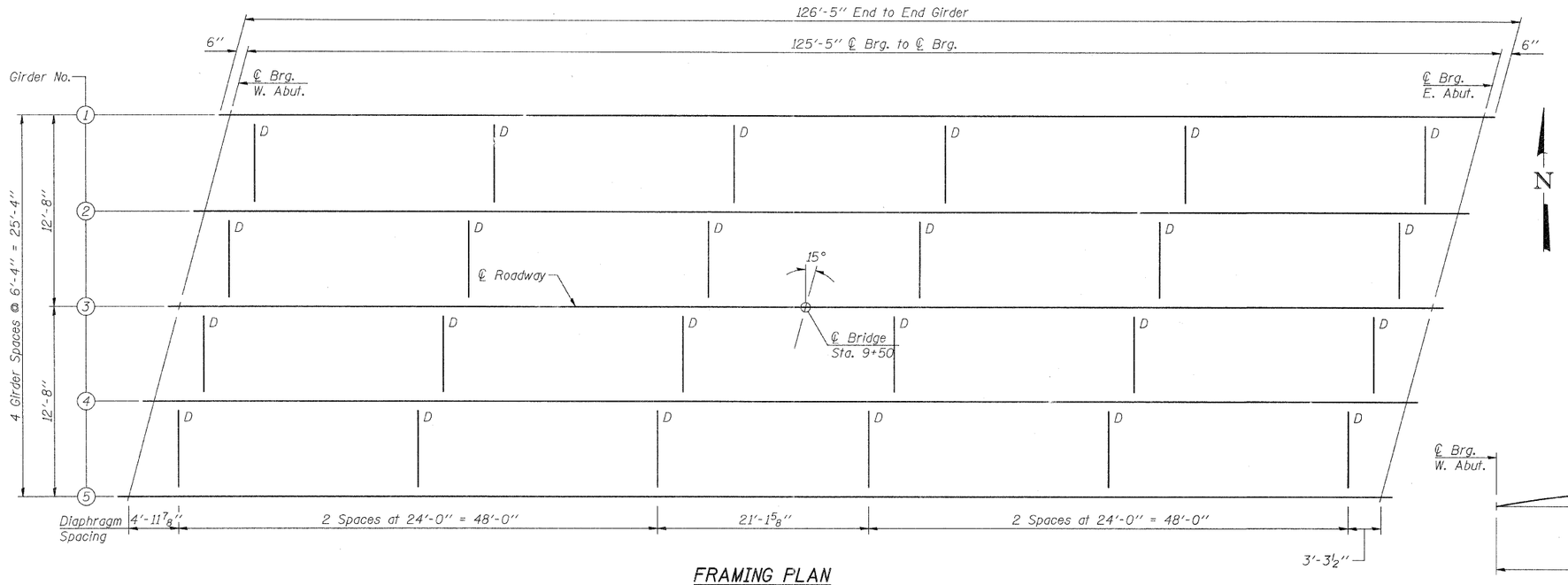
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 11-137_RAIL_S1.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

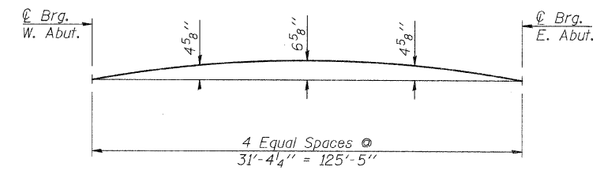
FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

STEEL RAILING, TYPE S-1
S.N. 038-5157
SHEET NO. 7 OF 15 SHEETS

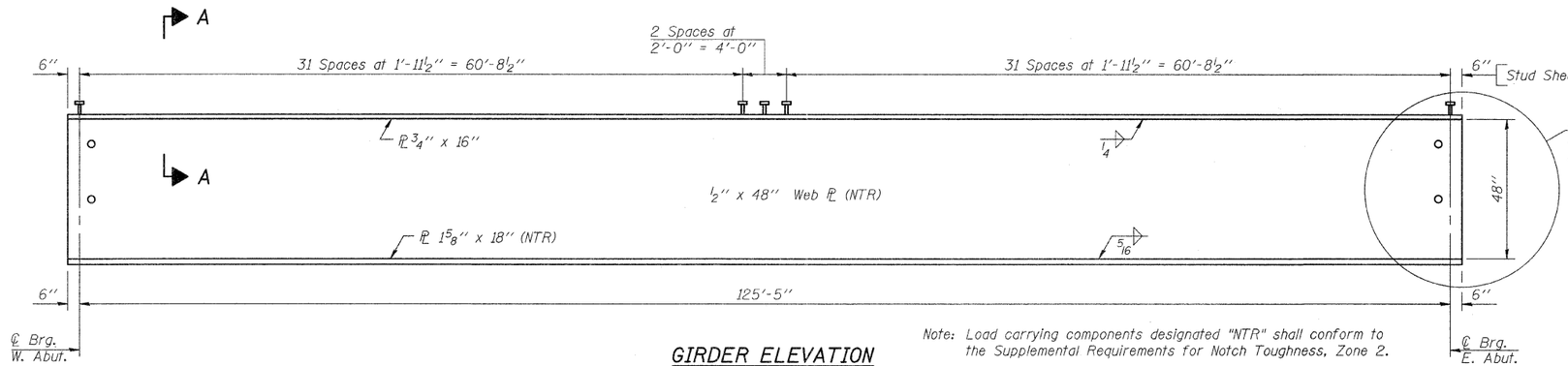
TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	10
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		



FRAMING PLAN



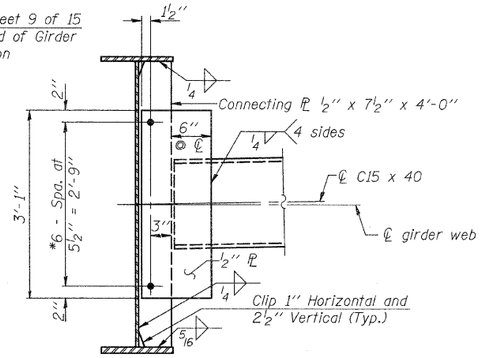
CAMBER DIAGRAM



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

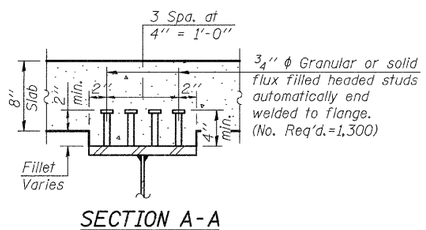
Note: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.



TYPICAL INTERIOR DIAPHRAGM - D

(24 Required)

Note:
Two hardened washers required for each set of oversized holes.
Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on C15x40 sections. The alternate, if utilized, shall be provided at no extra cost.
*3/4" ϕ HS bolts, 15/16" ϕ holes



SECTION A-A

TOP OF WEB ELEVATIONS

(For Fabrication Only)

	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
℄ Brg. W. Abut.	106.24	106.37	106.50	106.37	106.24
℄ Brg. E. Abut.	106.24	106.37	106.50	106.37	106.24

G-1

7-1-10

FILE NAME = 11-137_STEEL.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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

STRUCTURAL STEEL
S.N. 038-5157
SHEET NO. 8 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	11
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137

INTERIOR GIRDER MOMENT TABLE		
		0.5 Span
I_s	(in^4)	26,876
$I_c(n)$	(in^4)	71,211
$I_c(3n)$	(in^4)	49,496
S_s	(in^3)	1,416
$S_c(n)$	(in^3)	1,886
$S_c(3n)$	(in^3)	1,731
DC1	(k/')	0.930
M_{DC1}	('k)	1,829
DC2	(k/')	0.030
M_{DC2}	('k)	59
DW	(k/')	0.300
M_{DW}	('k)	590
M_{L+IM}	('k)	2,000
M_u (Strength I)	('k)	6,745
f_s DC1	(ksi)	15.5
f_s DC2	(ksi)	0.4
f_s DW	(ksi)	4.1
f_s 1.3(L+IM)	(ksi)	16.5
f_s (Service II)	(ksi)	36.5
f_s (Total)(Strength I)	(ksi)	48.4
V_f	(k)	54.0

INTERIOR GIRDER REACTION TABLE		
		Abutment
R_{DC1}	(k)	57.7
R_{DC2}	(k)	1.9
R_{DW}	(k)	18.8
R_{L+IM}	(k)	88.9
R_{Total}	(k)	167.3

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 (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: 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) in uncracked sections, due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: 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) in uncracked sections, due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

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.).

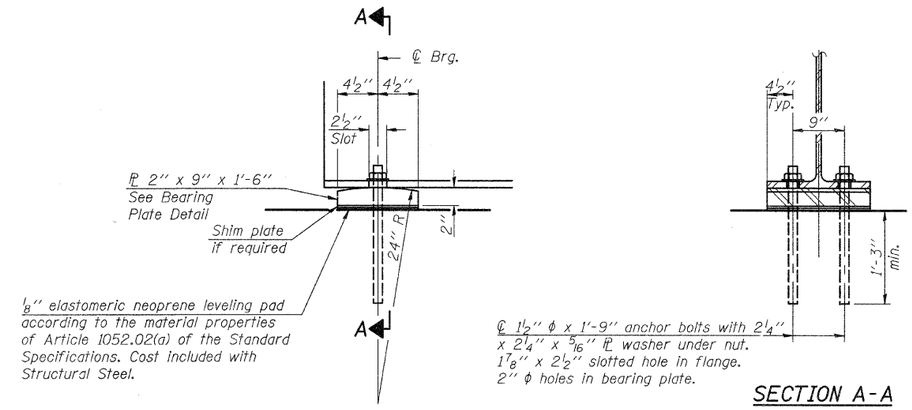
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) ((kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

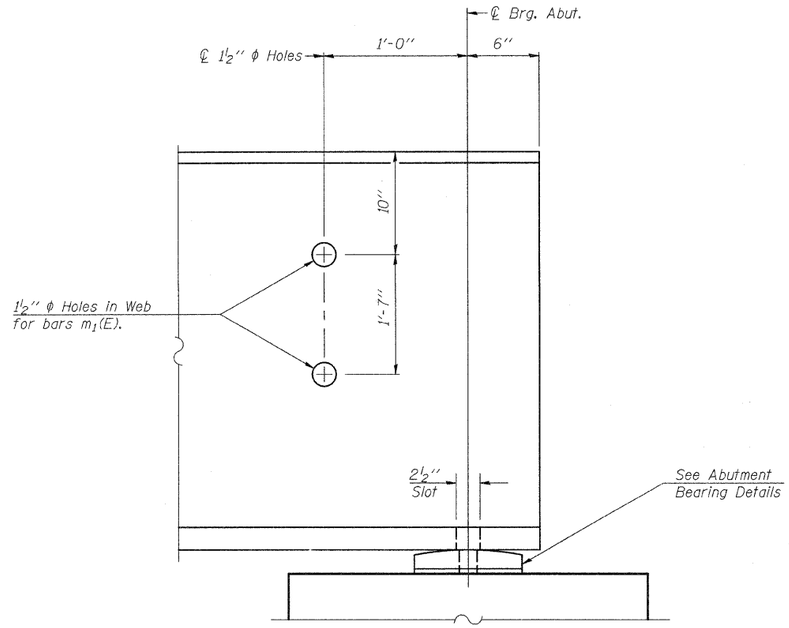
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{sL+IM}$

V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



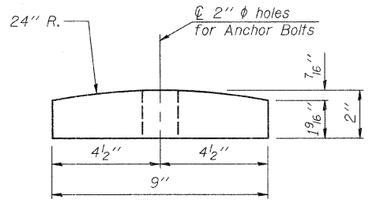
SECTION A-A

ELEVATION AT ABUTMENTS



GIRDER END ELEVATION

(Typical)



BEARING PLATE DETAIL

ABUTMENT BEARING

(10 Required)
Weight included with Structural Steel

Notes: Two ⅛" 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.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Structural steel plates of the Bearing Assemblies shall conform to the requirements of AASHTO M270 Grade 50W.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1½"	Each	20

FILE NAME = 11-137_STEEL.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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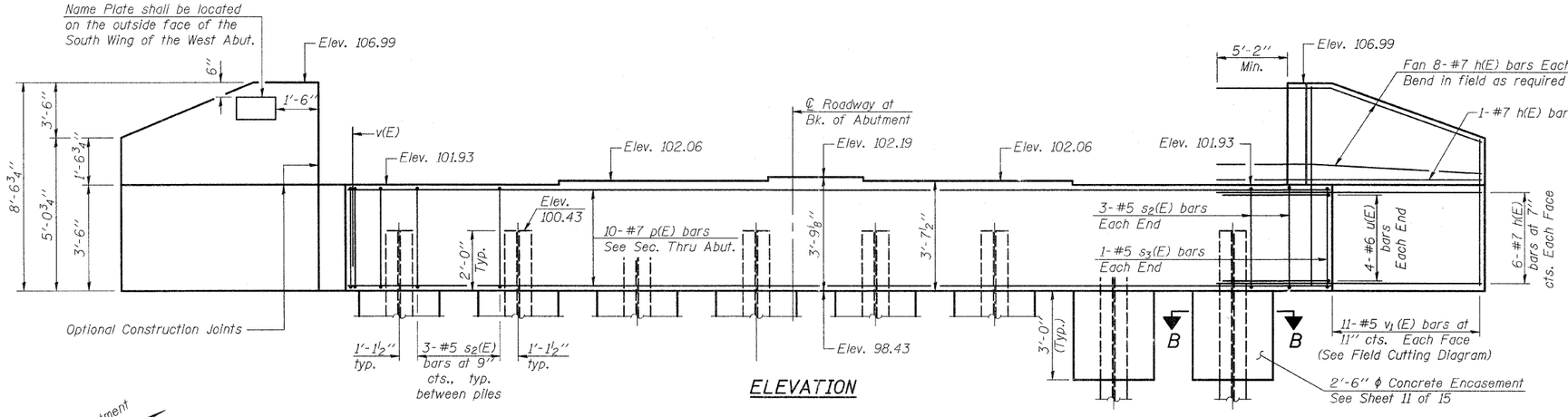
STRUCTURAL STEEL
S.N. 038-5157
SHEET NO. 9 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	12
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

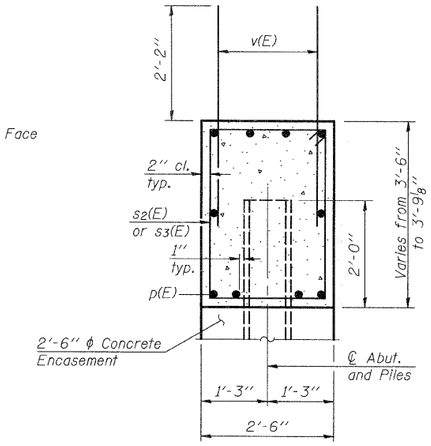
s11-137

Notes:
Pour steps monolithically with cap.

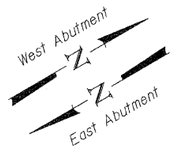
Name Plate shall be located on the outside face of the South Wing of the West Abut.



ELEVATION

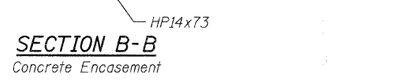


SEC. THRU ABUT.



PLAN

Note: Bend h(E) bars in field as needed to miss piles.

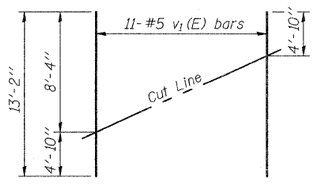


SECTION B-B

Concrete Encasement

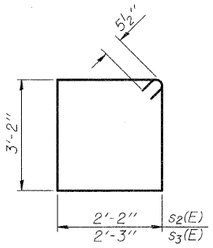
PILE DATA

Type:	Steel HP14x73
Nominal Required Bearing:	295 kips
Factored Resistance Available:	162 kips
Est. Length:	64 Ft.
No. Production Piles:	15
No. Test Piles:	1 (E. Abut.)

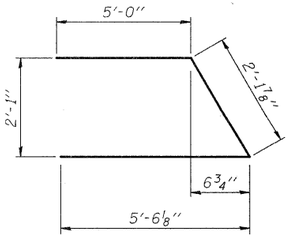


FIELD CUTTING DIAGRAM

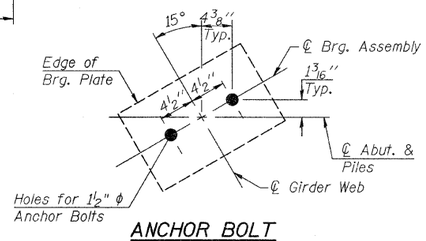
Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BARS $s_2(E)$ & $s_3(E)$



BAR u(E)



ANCHOR BOLT LAYOUT

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	120	#7	15'-5"	
p(E)	20	#7	30'-8'	
s2(E)	54	#5	11'-7"	
s3(E)	4	#5	11'-9"	
u(E)	16	#6	12'-8"	
v(E)	134	#5	4'-4"	
v1(E)	44	#5	13'-2"	
Concrete Structures		Cu. Yd.	30.9	
Reinforcement Bars, Epoxy Coated		Pound	7,250	
Furnishing Steel Piles HP14x73		Foot	960	
Driving Piles		Foot	960	
Test Pile Steel HP14x73		Each	1	
Concrete Encasement		Cu. Yd.	8.7	

For details of piles and Concrete Encasement, see sheet 11 of 15.

AI-L 7-1-10

FILE NAME = 11-137_ABUTMENTS.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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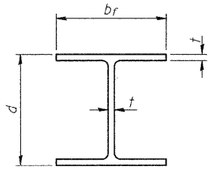
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ABUTMENT DETAILS
S.N. 038-5157
SHEET NO. 10 OF 15 SHEETS

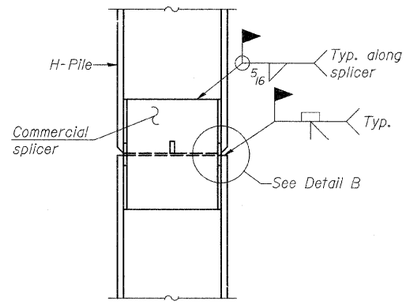
TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	13
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

811-177

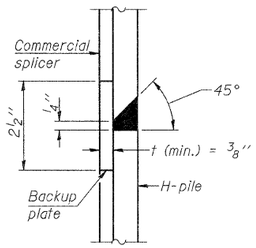


STEEL PILE TABLE

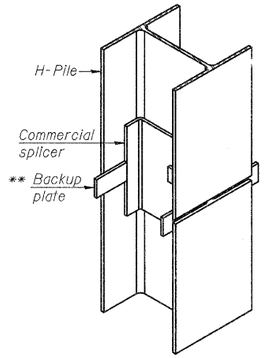
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



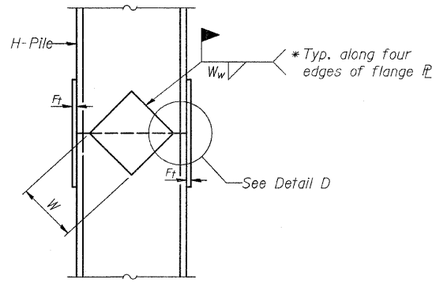
ELEVATION



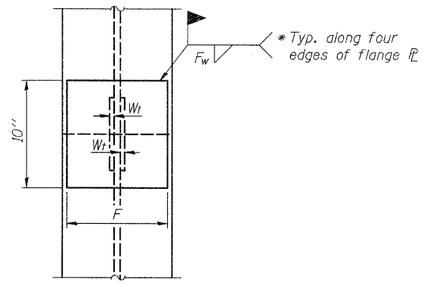
DETAIL "B"



ISOMETRIC VIEW

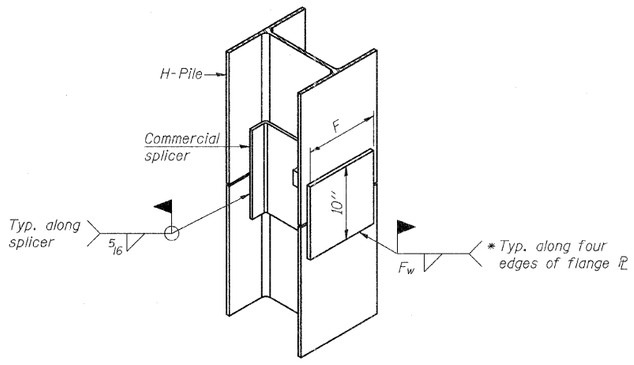


ELEVATION

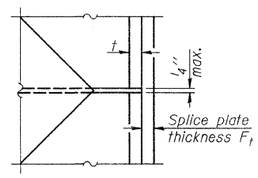


END VIEW

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



DETAIL D

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"	11/16"	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"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	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"

WELDED PLATE FIELD SPLICE

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

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

F-HP 7-1-10

FILE NAME = 11-137_HP-PILES.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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

HP PILE DETAILS
S.N. 038-5157
SHEET NO. 11 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	14
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

*11-137

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 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 103.60
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: 5' Left of Station 8+86

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV. 103.60	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
102.60			1								
101.60			2								
100.60	Stiff Black And Dark Brown Silty Clay (Fill)		3	1	SS	1.6	7	B	21		
99.60			4								
98.60			5	2	SS	1.4	10	B	22		
97.60			6								
96.60			7								
95.60			8	3	SS	1.4	9	B	36		
94.60			9								
93.60	Stiff Dark Brown Silty Clay		10	4	SS	1.6	10	B	26		
92.60			11								
91.60			12								
90.60	Hard Brownish Gray Silty Clay Till		13	5	SS	4.5	18	B	19		
89.60			14								
88.60	Very Stiff Brownish Gray Silty Clay Till		15								
87.60			16	6	SS	2.3	13	B	21		
86.60			17								
85.60	Stiff Gray Silty Clay Till		18	7	SS	1.8	8	B	21		
84.60			19								
83.60			20								
				8	SS	1.6	10	B	24		

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

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 2 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 103.60
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: 5' Left of Station 8+86

DRILLED BY: Randy Safranski; CME-55; Diedrich D-120

(DEPTH) ELEV. 82.60	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
81.60			22								
80.60	Stiff Gray Silty Clay Till		23	9	SS	1.2	11	S	23		
79.60			24								
78.60	Very Stiff Gray Silty Clay Till		25								
77.60			26	10	SS	2.3	14	S	23		
76.60			27								
75.60			28	11	SS	1.9	13	B	21		
74.60			29								
73.60	Stiff To Very Stiff Clayey Silt		30								
72.60			31	12	SS	1.7	13	B	20		
71.60			32								
70.60			33	13	SS	2.0	14	B	20		
69.60			34								
68.60			35								
67.60	Hard Gray Silty Clay Till With Sand Seams		36	14	SS	4.1	26	B	10		
66.60			37								
65.60			38								
64.60			39								
63.60	Dense Yellowish Brown Fine To Coarse Sand (Clean)		40								
62.60			41	15	SS	---		---	---		

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

FILE NAME = 11-137_BORINGS.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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

SOIL BORING LOGS
S.N. 038-5157
SHEET NO. 12 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	15
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

*11-137

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 3 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 103.60
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: 5' Left of Station 8+86

DRILLED BY: Randy Safranski, CME-55, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
61.60											
60.60			43								
59.60			44								
58.60			45	16	SS	---	35	---	---		
57.60			46								
56.60			47								
55.60			48								
54.60			49								
53.60			50	17	SS	---	39	---	---		
52.60	Dense Yellowish Brown To Brownish Gray Fine Sand (Clean)		51								
51.60			52								
50.60			53								
49.60			54								
48.60			55	18	SS	---	33	---	---		
47.60			56								
46.60			57								
45.60			58								
44.60			59								
43.60			60								
42.60			61	19	SS	---	36	---	---		
41.60			62								

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

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3705 Progress Blvd.
Peru, IL 61354
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BORING LOG

Sheet 4 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-1
Surface Elev. 103.60
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: 5' Left of Station 8+86

DRILLED BY: Randy Safranski, CME-55, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
40.60											
39.60			64								
38.60			65								
37.60	Dense Brownish Gray Fine Sand (Clean)		66	20	SS	---	43	---	---		
36.60			67								
35.60			68								
34.60			69								
33.60	Hard Gray Silty Loam Till		70								
32.60			71	21	SS	4.3	37	S	10		
31.60	Boring Terminated		72								
30.60			73								
29.60			74								
28.60			75								
27.60			76								
26.60			77								
25.60			78								
24.60			79								
23.60			80								
22.60			81								
21.60			82								
20.60			83								

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

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e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-2
Surface Elev. 103.40
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: Centerline Station 10+14

DRILLED BY: Randy Safranski
Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
103.40										
102.40	Stiff Black And Brown Silty Clay (Fill)	1								
101.40		2								
100.40		3	1	SS	2.1	10	S	19		
99.40		4								
98.40		5	2	SS	2.3	14	B	18		
97.40	Very Stiff Black Silty Clay	6								
96.40		7								
95.40		8	3	SS	1.6	8	B	12		
94.40	Stiff Brown Sandy Clay	9								
93.40		10								
92.40		11	4	SS	1.2	7	B	27		
91.40		12								
90.40		13	5	SS	4.7	14	B	18		
89.40	Hard Brownish Gray To Gray Silty Clay	14								
88.40		15								
87.40		16	6	SS	5.1	19	B	22		
86.40		17								
85.40	Stiff Gray Clay Till	18	7	SS	1.7	10	B	25		
84.40		19								
83.40		20	8	SS	1.2	8	B	26		

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

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3705 Progress Blvd.
Peru, IL 61354

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e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-2
Surface Elev. 103.40
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: Centerline Station 10+14

DRILLED BY: Randy Safranski
CME-55
Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
82.40										
81.40		22								
80.40	Soft To Medium Gray Clay Till	23	9	SS	0.5	3	B	24		
79.40		24								
78.40		25	10	SS	0.8	5	B	25		
77.40		26								
76.40		27								
75.40	Stiff Gray Clay Till	28	11	SS	1.8	8	S	23		
74.40		29								
73.40		30								
72.40		31	12	SS	2.4	13	B	18		
71.40	Very Stiff Gray Silty Clay Till	32								
70.40		33	13	SS	2.5	13	B	19		
69.40		34								
68.40		35								
67.40		36	14	SS	5.0	19	S	16		
66.40	Hard Gray Silty Clay Till	37								
65.40		38								
64.40		39								
63.40		40								
62.40		41	15	SS	5.5	26	B	14		
	Dense Yellowish Brown Fine Sand									

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

FILE NAME = 11-137_BORINGS.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

SOIL BORING LOGS
S.N. 038-5157
SHEET NO. 14 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	17
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137

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 3 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-2
Surface Elev. 103.40
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: Centerline Station 10+14

DRILLED BY: Randy Safranski, CME-55, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
61.40											
60.40			43								
59.40			44								
58.40			45								
				16	SS	---	38	---	---		
57.40			46								
56.40			47								
55.40			48								
54.40			49								
53.40			50								
				17	SS	---	42	---	---		
52.40	Dense Yellowish Brown To Brownish Gray Fine Sand (Clean)		51								
51.40			52								
50.40			53								
49.40			54								
48.40			55								
				18	SS	---	35	---	---		
47.40			56								
46.40			57								
45.40			58								
44.40			59								
43.40			60								
				19	SS	---	33	---	---		
42.40			61								
41.40			62								

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

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3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
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e-mail: mts37@comcast.net

BORING LOG

Sheet 4 of 4

Client: Fehr-Graham & Associates, LLC
Project Name: Section 08-22102-01-BR Pigeon Grove Rd. District
Project Site: Iroquois County, Illinois

Boring No. B-2
Surface Elev. 103.40
Auger Depth 71' Rotary Depth NA
Start Date 07/17/11 Finish Date 07/17/11

Location: Centerline Station 10+14

DRILLED BY: Randy Safranski, CME-55, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
40.40											
39.40			64								
38.40			65								
				20	SS	---	38	---	---		
37.40	Dense Brownish Gray Fine Sand (Clean)		66								
36.40			67								
35.40			68								
34.40			69								
33.40			70								
				21	SS	4.7	48	S	9		
32.40	Hard Gray Silty Loam Till		71								
	Boring Terminated										
31.40			72								
30.40			73								
29.40			74								
28.40			75								
27.40			76								
26.40			77								
25.40			78								
24.40			79								
23.40			80								
22.40			81								
21.40			82								
20.40			83								

Groundwater Data: Static water level after auger removal elevation - 90.5.
Comments:

FILE NAME = 11-137_BORINGS.DGN	USER NAME = S.A.P.	DESIGNED - A.R.K.	REVISED -
		CHECKED - R.E.A.	REVISED -
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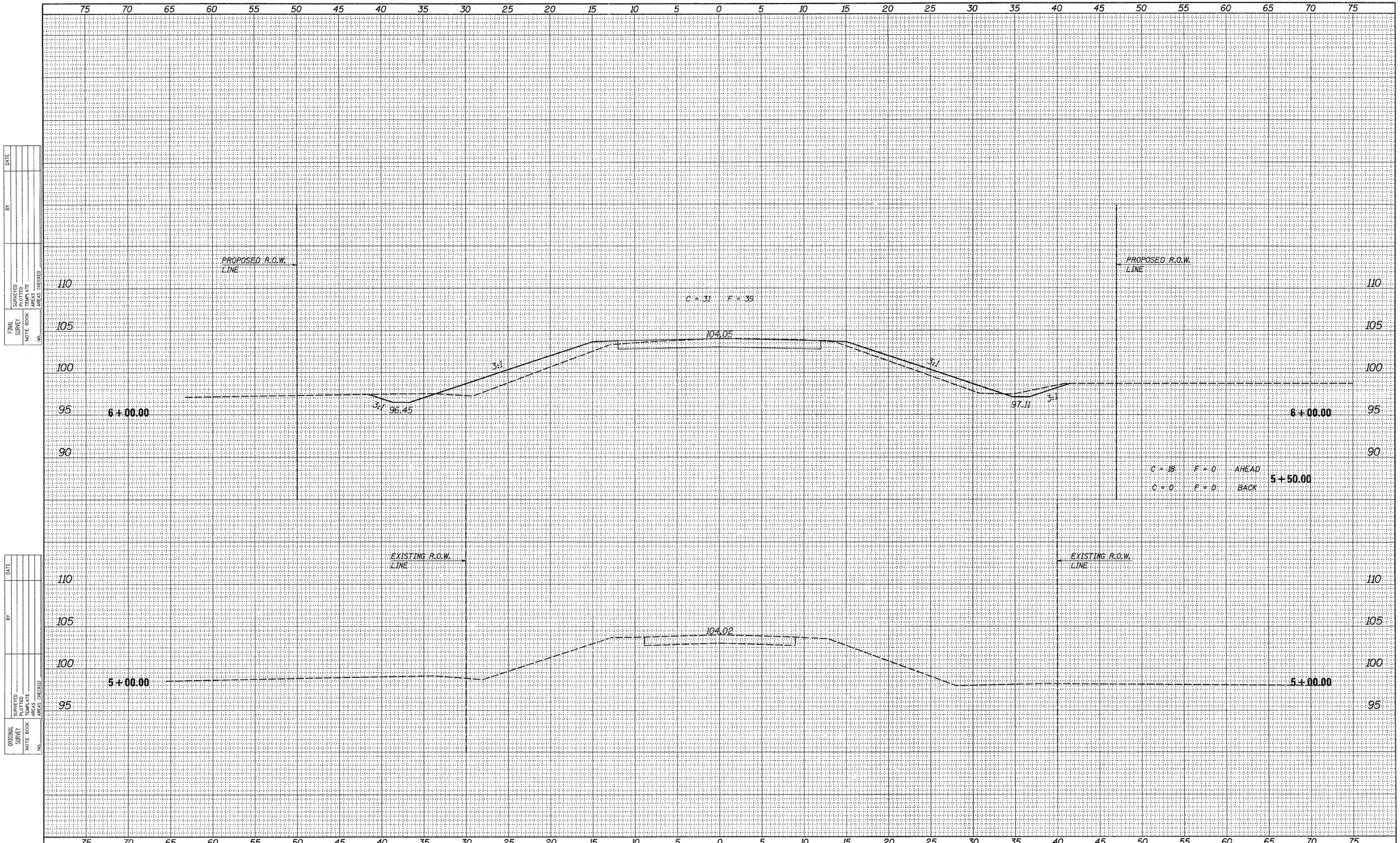
	PLOT DATE = 01/04/12	CHECKED - A.R.K.	REVISED -

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

SOIL BORING LOGS
S.N. 038-5157
SHEET NO. 15 OF 15 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	18
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

11-137



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

BY	DATE

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

BY	DATE

FILE NAME = 11-137_XS-SHEETS.DGN	DESIGNED - G.J.C.	REVISED -
PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -
CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -
PLOT DATE = 03/09/11	DATE - 12/01/11	REVISED -

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

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

ROADWAY CROSS SECTIONS – T.R. 351

STA. 5+00.00 TO STA. 6+00.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	19
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

*11-137

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
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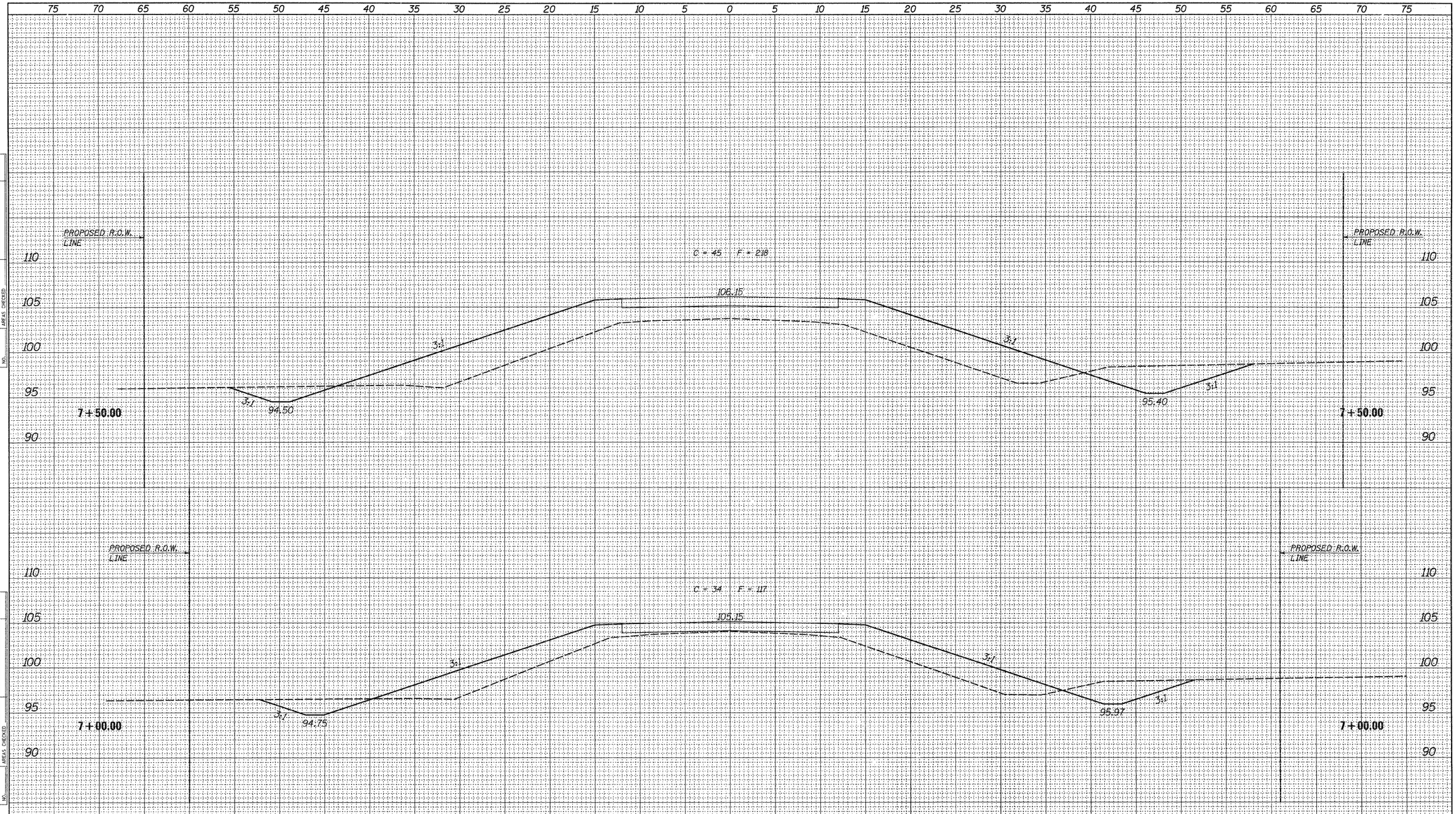

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NO.	TEMPLATE		
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PLOTTED BY = S.A.P.	DRAWN - S.A.P.	REVISED -
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PLOT DATE = 03/09/11	DATE - 12/01/11	REVISED -

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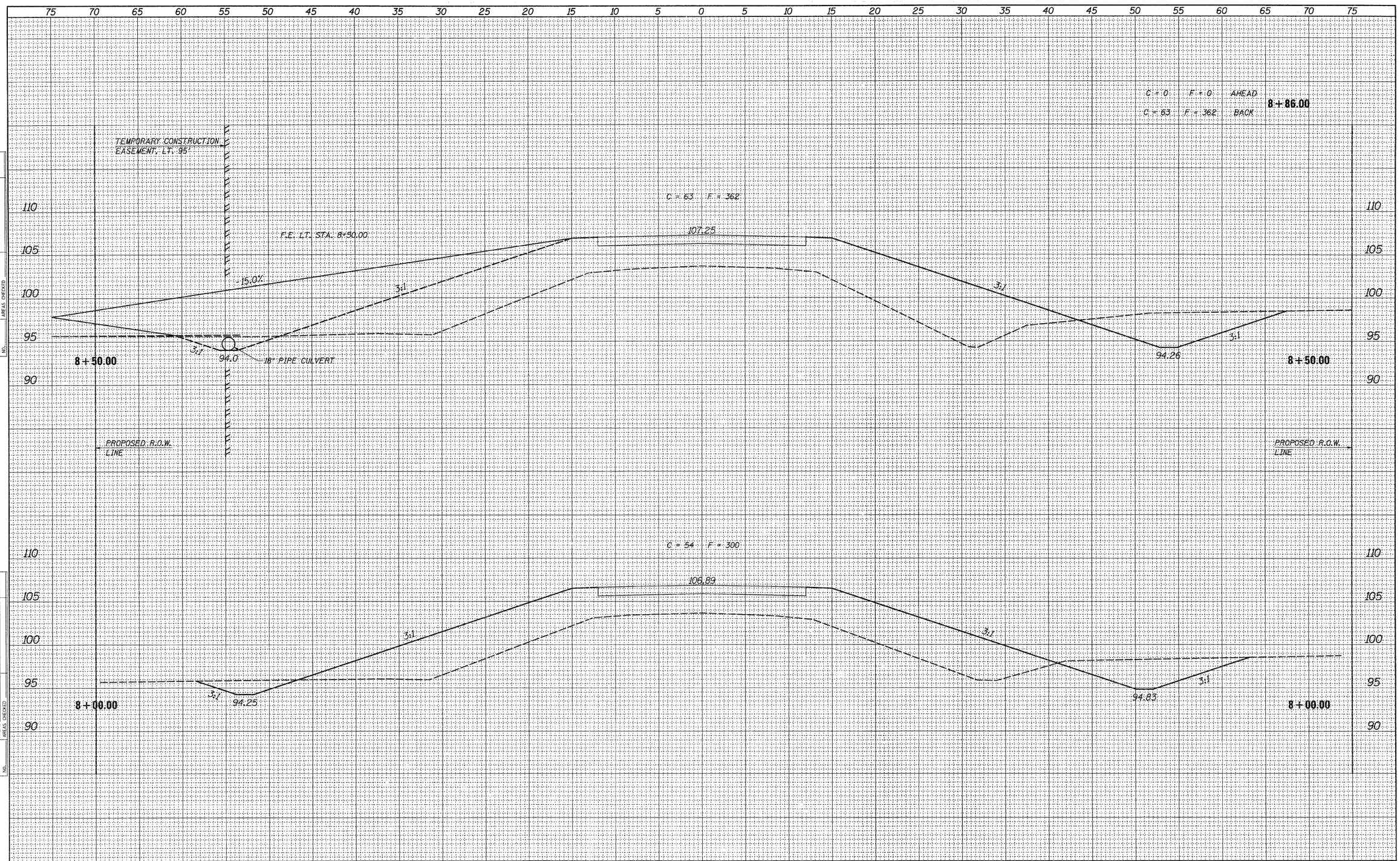
ROADWAY CROSS SECTIONS – T.R. 351

STA. 7+00.00 TO STA. 7+50.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	20
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

11-137



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

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

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CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -
PLOT DATE = 03/09/11	DATE - 12/01/11	REVISED -

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ROADWAY CROSS SECTIONS – T.R. 351

STA. 8+00.00 TO STA. 8+86.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	21
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

11-137

FINAL SURVEY	SURVEYED	BY	DATE
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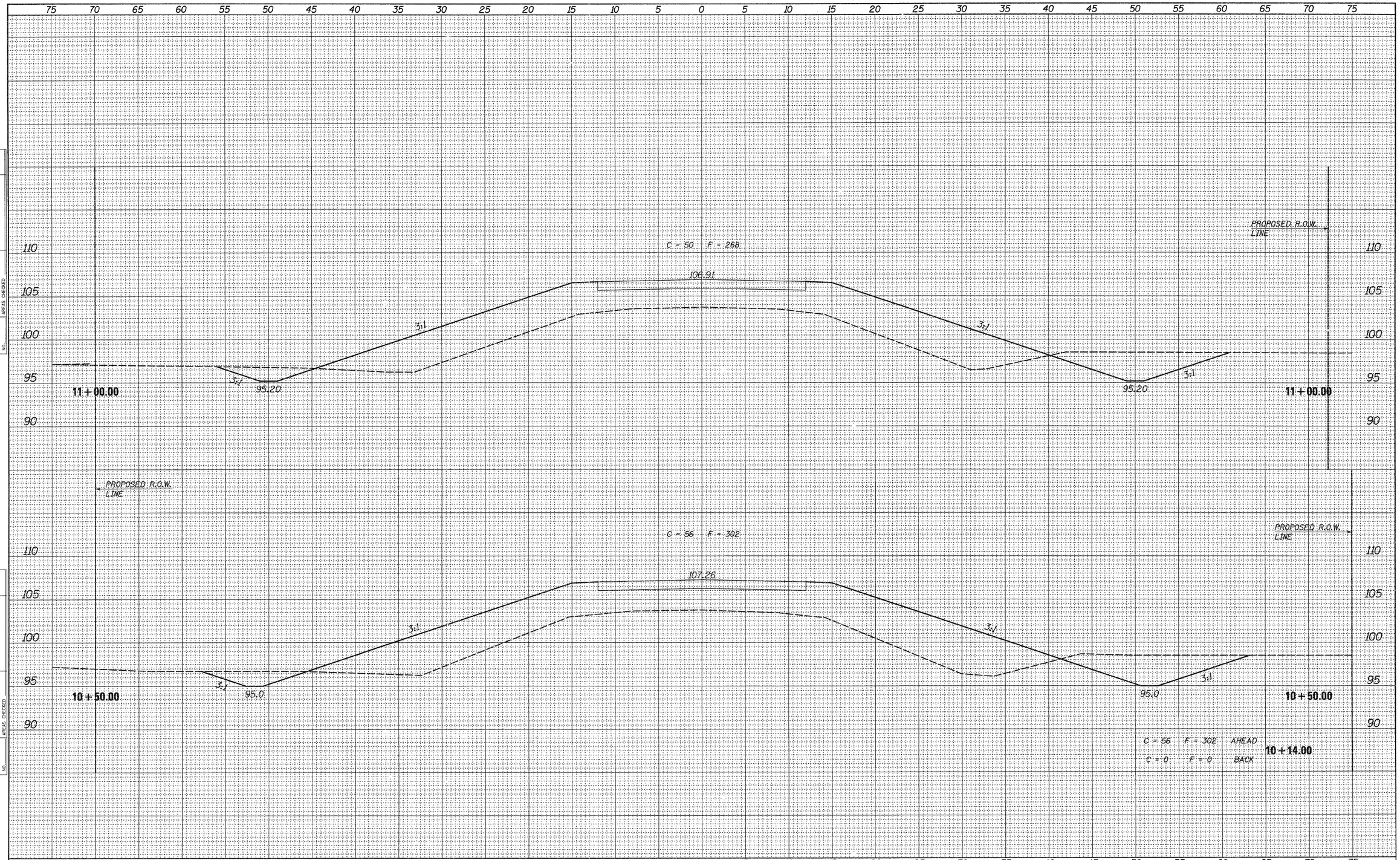

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NOTE BOOK	TEMPLATE		
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	AREAS CHECKED		

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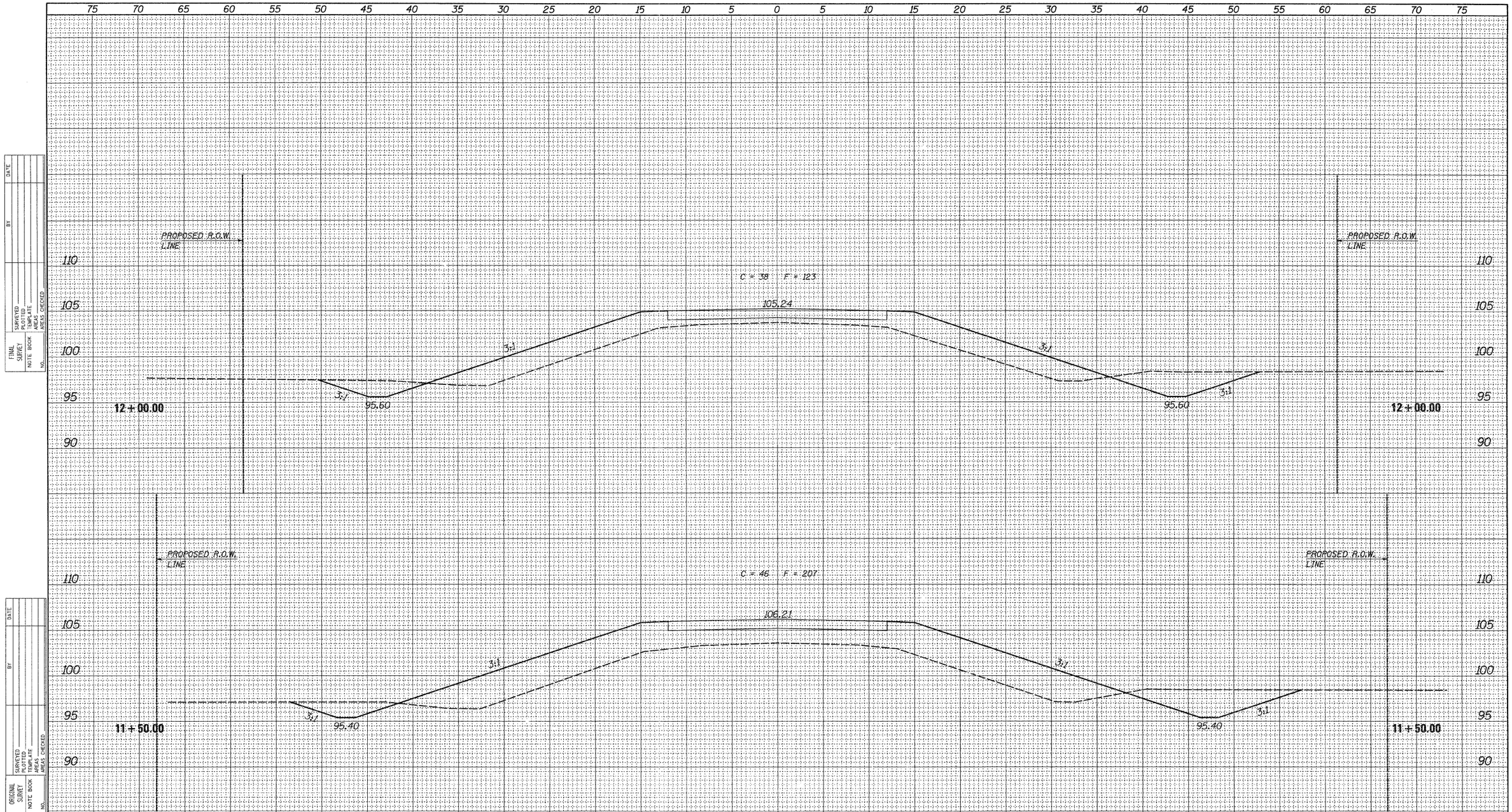
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ROADWAY CROSS SECTIONS – T.R. 351

STA. 10+14.00 TO STA. 11+00.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	22
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137



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

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
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	TEMPLATE	
	AREAS	
	AREAS CHECKED	

FILE NAME = 11-137_XS-SHEETS.DGN	DESIGNED - G.J.C.	REVISED -
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CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -
PLOT DATE = 03/09/11	DATE - 12/01/11	REVISED -

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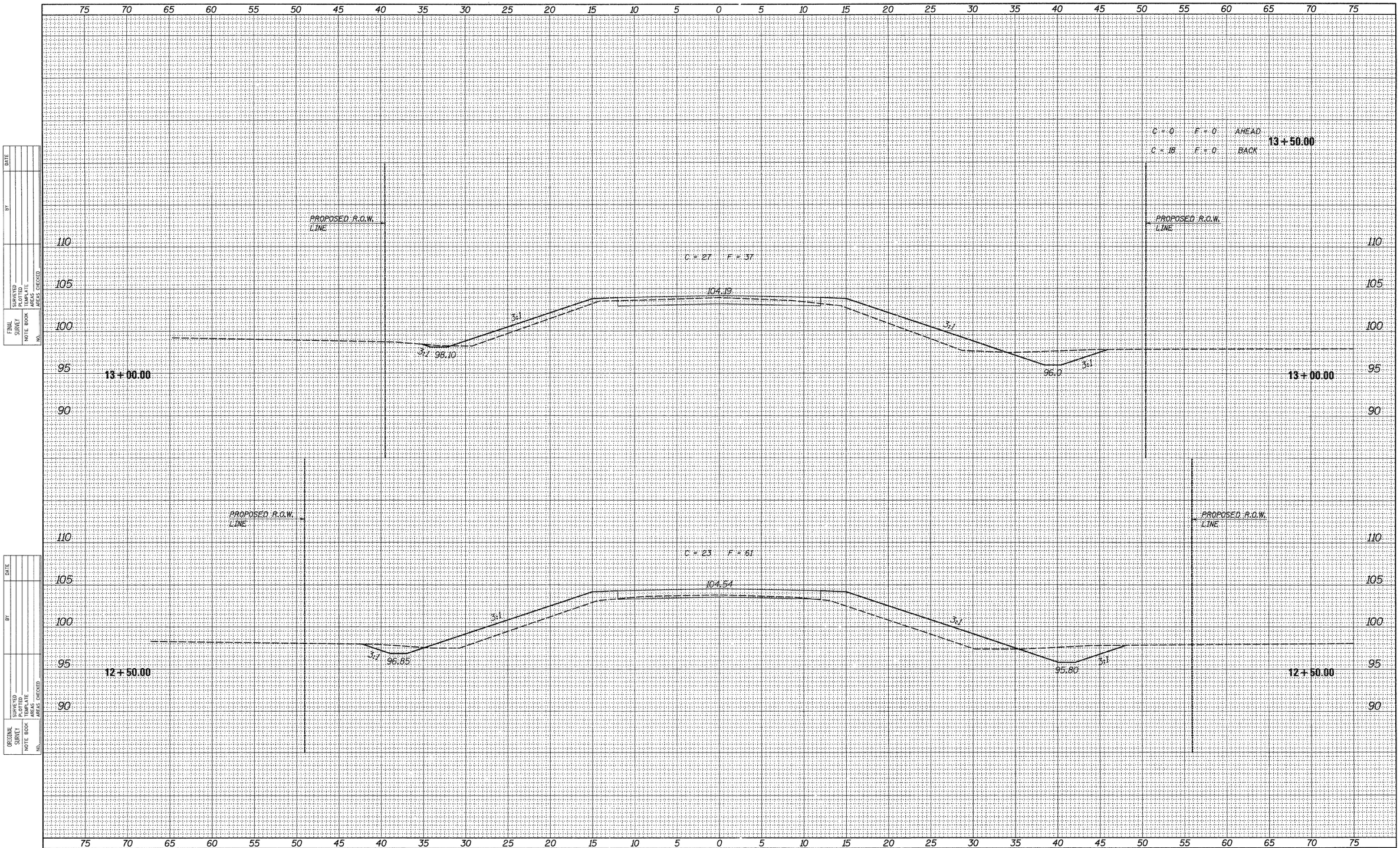
FREEPORT, IL. ROCKFORD, IL. ROCHELLE, IL. MONROE, WI SPRINGFIELD, IL.

ROADWAY CROSS SECTIONS – T.R. 351

STA. 11+50.00 TO STA. 12+00.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	23
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

#11-137



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CHECKED BY = G.J.C.	CHECKED - G.J.C.	REVISED -
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FEHR-GRAHAM & ASSOCIATES, LLC
ENGINEERING AND SCIENCE CONSULTANTS
FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

ROADWAY CROSS SECTIONS – T.R. 351

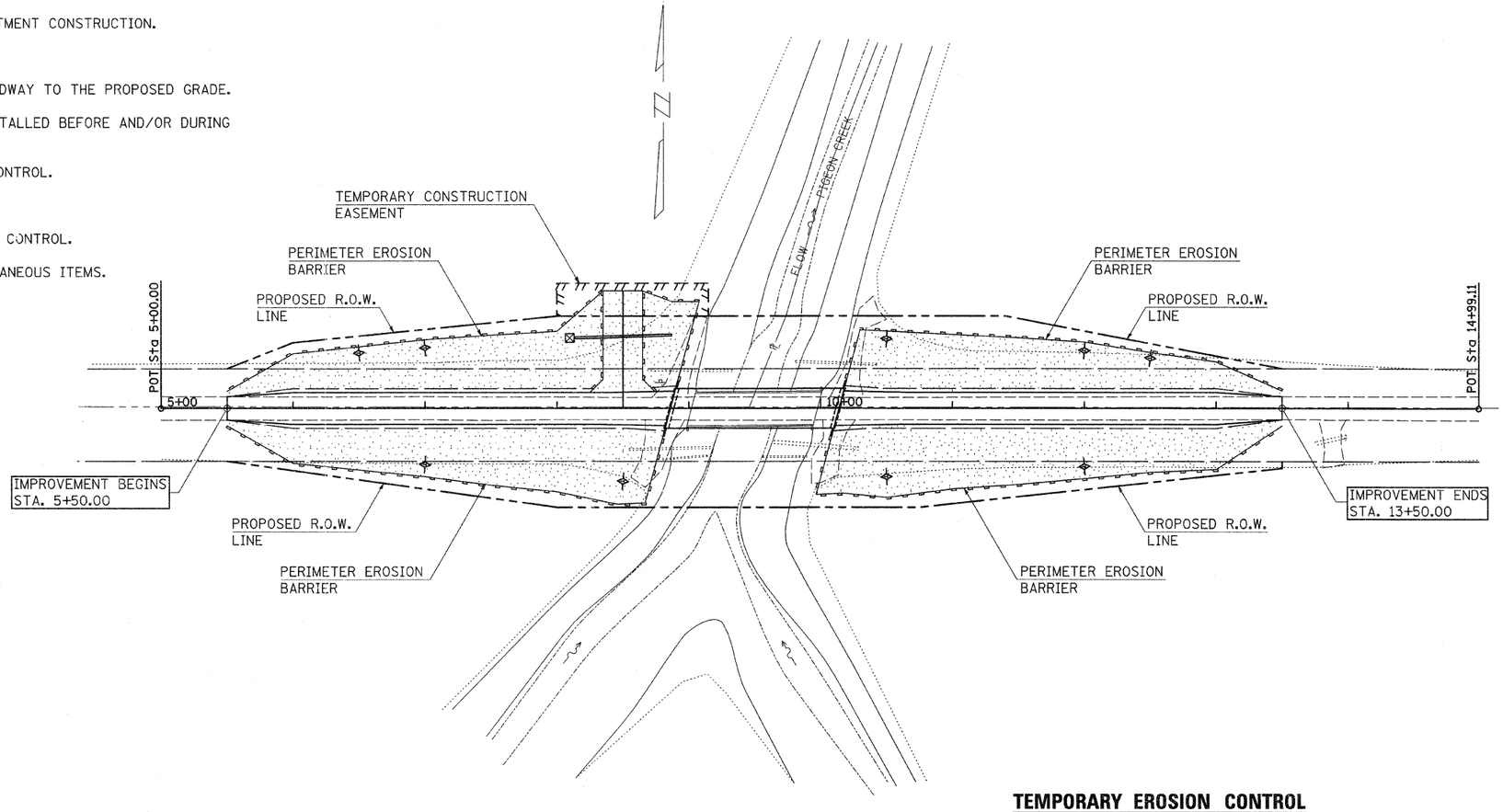
STA. 12+50.00 TO STA. 13+50.00

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	08-22102-01-BR	IROQUOIS	25	24
		CONTRACT NO. 87493		
	ILLINOIS	PIGEON GROVE ROAD DISTRICT		

11-137

DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. PLACEMENT OF PERIMETER EROSION CONTROL FENCE PRIOR TO THE COMMENCEMENT OF ANY ROAD OR BRIDGE WORK. SEE STD. 280001
2. REMOVAL OF EXISTING STRUCTURE.
3. PLACEMENT OF MINIMUM EMBANKMENT REQUIRED FOR ABUTMENT CONSTRUCTION.
4. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
5. PLACEMENT OF ROADWAY EMBANKMENT TO RAISE THE ROADWAY TO THE PROPOSED GRADE.
6. DRAINAGE STRUCTURES, INCLUDING DITCHES, WILL BE INSTALLED BEFORE AND/OR DURING THE COMPLETION OF THE EMBANKMENT.
7. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
8. PLACEMENT OF PERMANENT EROSION CONTROL.
9. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
10. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.



PERMANENT EROSION CONTROL:

SEEDING, CLASS 2 (SPECIAL) = 1.3 ACRES, INCLUDES FERTILIZERS & MULCH, METHOD 2

TEMPORARY DITCH CHECKS

LT. STA. 6+50	=	20 FOOT
LT. STA. 7+00	=	20 FOOT
RT. STA. 7+00	=	20 FOOT
RT. STA. 8+50	=	20 FOOT
LT. STA. 10+50	=	20 FOOT
RT. STA. 10+50	=	20 FOOT
LT. STA. 12+00	=	20 FOOT
RT. STA. 12+00	=	20 FOOT
LT. STA. 12+50	=	20 FOOT
TOTAL	=	180 FOOT

INLET AND PIPE PROTECTION

LT. STA. 8+13	=	1 EACH
TOTAL	=	1 EACH

TEMPORARY EROSION CONTROL BILL OF MATERIAL

ITEM	UNIT	QUANTITY	LEGEND
TEMPORARY EROSION CONTROL SEEDING	POUND	135	
TEMPORARY DITCH CHECKS	FOOT	180	
PERIMETER EROSION BARRIER	FOOT	1,736	
INLET AND PIPE PROTECTION	EACH	1	

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

FILE NAME = 11-137_EROSION.DGN	DESIGNED - G.J.C.	REVISED -	
	DRAWN - S.A.P.	REVISED -	
	CHECKED -	REVISED -	
	DATE - 01/04/12	REVISED -	

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EROSION CONTROL PLAN

PROPOSED STRUCTURE @ STA. 9+50.00

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