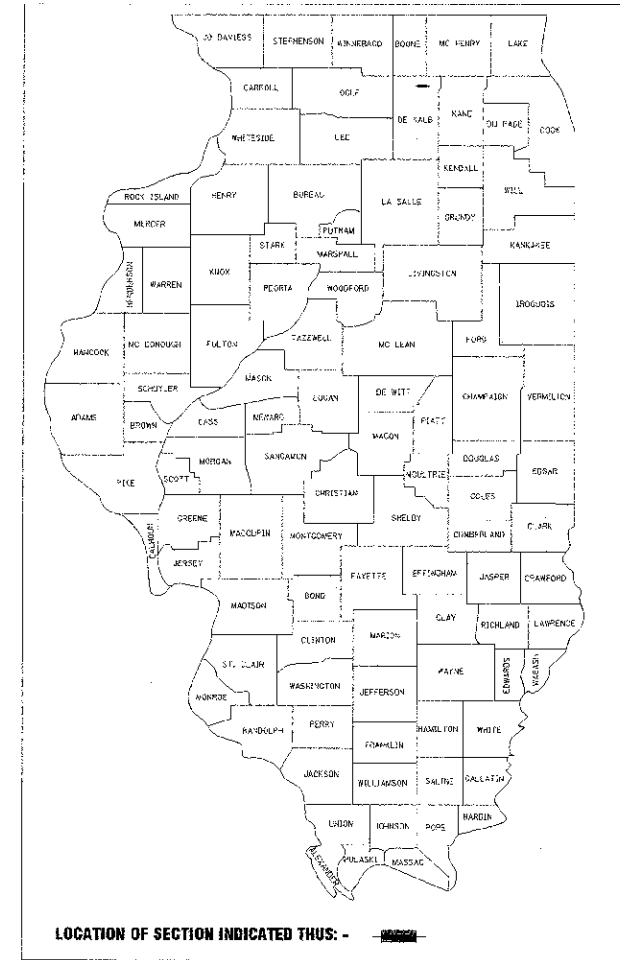


PLANS FOR PROPOSED FEDERAL-AID HIGHWAY BRIDGE PROGRAM PROJECT

**T.R. 61 - BASE LINE ROAD
STRUCTURE NO. 019-4500
SECTION 08-18121-00-BR
PROJECT NO. BROS-0037(051)
SYCAMORE ROAD DISTRICT
DEKALB COUNTY**

JOB NO. C-93-140-10

TWP. RITE. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	1
ILLINOIS PROJECT BROS-0037(051)				
* 08-18121-00-BR				
CONTRACT NO. 87467				



INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES, TYPICAL SECTION, AND DETAILS
3. PLAN AND PROFILE
4. GENERAL PLAN AND ELEVATION OF BRIDGE
- 5-6. DECK ELEVATIONS
- 7-8. SUPERSTRUCTURE DETAILS
9. STEEL BRIDGE RAIL, TYPE SM
10. BEARING DETAILS
11. STRUCTURAL STEEL DETAILS
12. SUBSTRUCTURE - ABUTMENTS
- 13-18. EXISTING PLANS

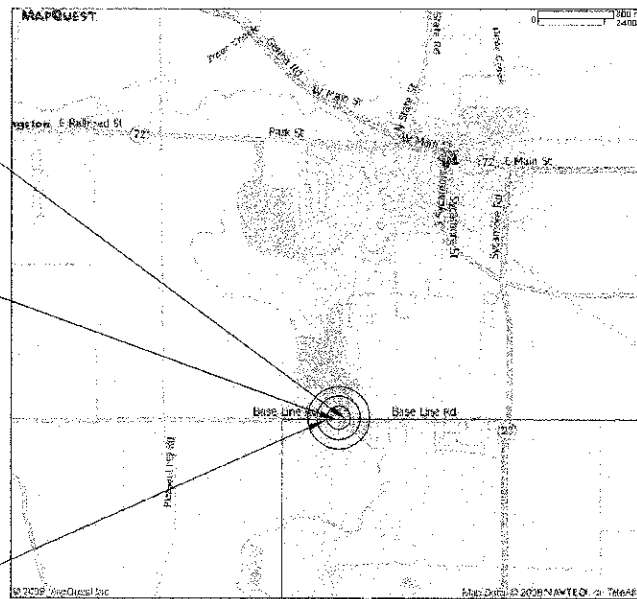
STANDARDS:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
515001-03	NAME PLATE FOR BRIDGES
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

SECTION 08-18121-00-BR
ENDS AT STA. 18+30

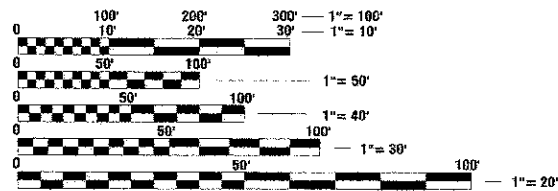
SECTION 08-18121-00-BR
INCLUDES THE REMOVAL OF THE SUPERSTRUCTURE OF A THREE-SPAN CONCRETE SLAB BRIDGE (EXIST. SN 019-4500), AND REPLACEMENT WITH A THREE-SPAN REINFORCED CONCRETE SLAB BRIDGE ON THE EXISTING SUBSTRUCTURE. 18'-6" BK.-BK. ABUTS. ALSO INCLUDED ARE NECESSARY MINOR REPAIRS AND MODIFICATIONS TO THE SUBSTRUCTURE TO RECEIVE NEW BEARINGS.

SECTION 08-18121-00-BR
BEGINNS AT STA. 16+20



LOCATION MAP

GROSS LENGTH OF SECTION = 210 FEET (0.04 MILE)
NET LENGTH OF SECTION = 210 FEET (0.04 MILE)



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 87467

ROADWAY	DESIGN CRITERIA			
	DESIGN CLASSIFICATION	ADT 2009	ADT 2029	DESIGN SPEED
BASE LINE	LOCAL ROAD	1080	1500	55



Scott A. Brown 12/27/2012
DATE
SCOTT A. BROWN
OXFORD, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-053649
EXPIRES 11-30-2013

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 17, 2012

Scott A. Brown COUNTY ENGINEER

PASSED 12-27 2012

Donald R. Brown DISTRICT 3 LOCAL ROADS AND STREETS ENGINEER

RELEASED FOR BID BASED ON LIMITED REVIEW 12-27 2012

Paul A. Johnson DEPUTY DIRECTOR OF HIGHWAYS, REGION 2 ENGINEER



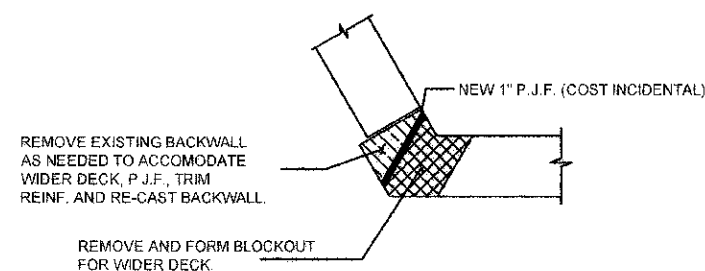
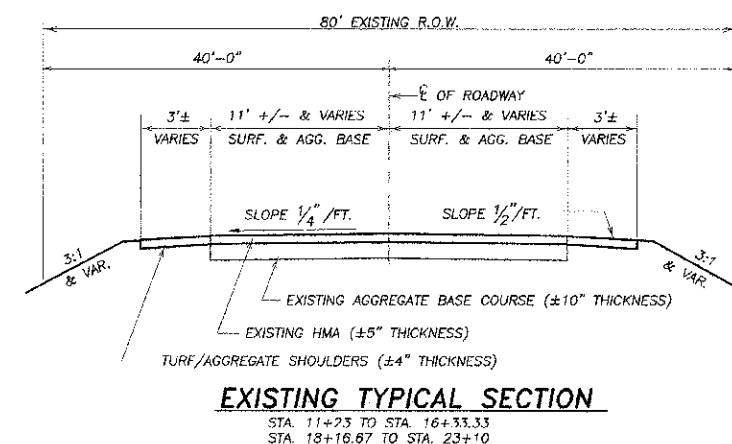
**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

SUMMARY OF QUANTITIES
FUNDING CODE: X071-2A

TWP. R.F.E. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	2
ILLINOIS PROJECT BROS-0037(051)				
* 08-18121-00-BR				
CONTRACT NO. 87467				

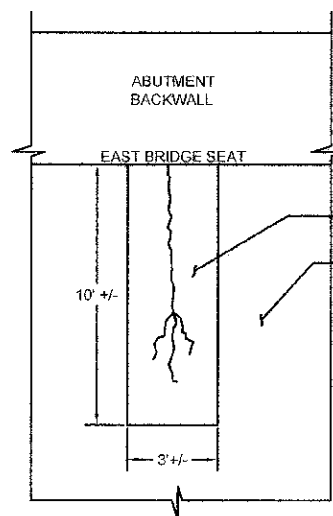
CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	9.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	145.5
50300260	BRIDGE DECK GROOVING	SQ YD	611.2
50300300	PROTECTIVE COAT	SQ YD	665.5
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	2700
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	38,690
Δ 50901050	STEEL RAILING, TYPE SM	FOOT	369
51500100	NAME PLATES	EACH	1
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	15
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Z0012155	STRUCTURAL REPAIR OF CONCRETE (DEPTH > 5 IN.)	SQ FT	21
Z0013154	STRUCTURAL REPAIR OF CONCRETE (DEPTH ≤ 5 IN.)	SQ FT	30

QUANTITY NOTES:
Δ SPECIALTY ITEMS
SEE SPECIAL PROVISIONS



NOTE:
COSTS ASSOCIATED WITH MODIFYING THE BACKWALL TO ACCOMMODATE THE NEW DECK SHALL BE INCIDENTAL TO THE COST OF THE PROJECT. SEE STRUCTURAL REPAIR OF CONCRETE DETAILS FOR ADDITIONAL INFO.

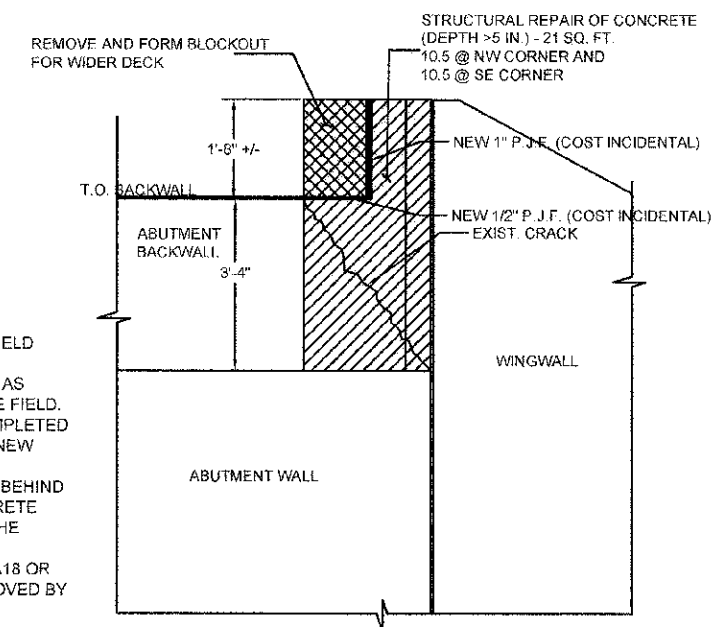
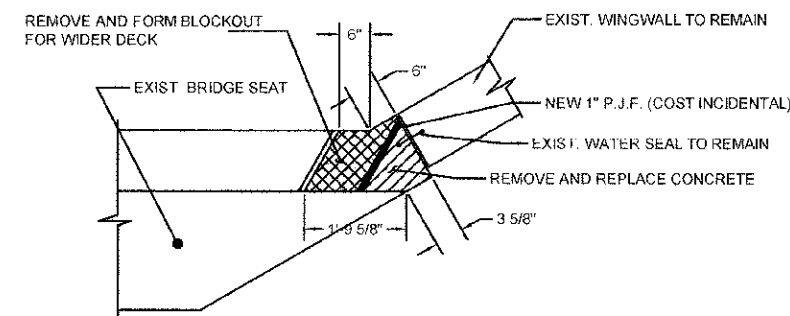
SHORT WINGWALL MODIFICATIONS



STRUCTURAL REPAIR OF CONCRETE (DEPTH ≤ 5 IN.) - 30 SQ. FT.

- NOTES:**
- ALL EXISTING DIMENSIONS TO BE FIELD VERIFIED.
 - LIMITS OF REPAIR AREAS SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.
 - CONCRETE REPAIRS SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF THE NEW SUPERSTRUCTURE.
 - EARTH EXCAVATION AND BACKFILL BEHIND WINGWALLS REQUIRED FOR CONCRETE REPAIR SHALL BE INCIDENTAL TO THE COST OF STRUCTURAL REPAIR OF CONCRETE. BACKFILL SHALL BE CA18 OR EXISTING FILL MATERIALS, IF APPROVED BY THE COUNTY.

STRUCTURAL REPAIR OF CONCRETE DETAILS



SUMMARY OF QUANTITIES SECTION 08-18121-00-BR
BASE LINE ROAD DEKALB COUNTY

REVISION	DATE	BY

wendler
GROUND-BREAKING SOLUTIONS
engineers, surveyors - scientists
www.wendlergs.com ph: 815.258.2261
Illinois Professional Design Firm No. 134-00848

SUMMARY OF QUANTITIES AND DETAILS
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
SUMMARY

JOB NUMBER
2080362

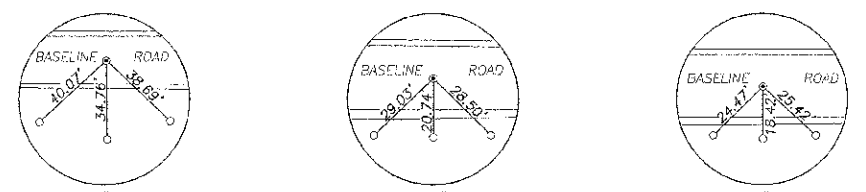
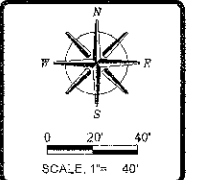
DATE
12/14/2012

SHEET NO.

2 of 18

TWP. RTE. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	3

ILLINOIS PROJECT BROS-0037(051)
 * 08-16121-00-BR
 CONTRACT NO. 87467



CONTROL POINT #10-STA. 11+43.91
 SET SURVEY NAIL
 ALL TIES ARE SET 5/8" STEEL PINS

CONTROL POINT #11-STA. 19+92.38
 SET SURVEY NAIL
 ALL TIES ARE SET 5/8" STEEL PINS

CONTROL POINT #12-STA. 22+81.63
 SET SURVEY NAIL
 ALL TIES ARE SET 5/8" STEEL PINS

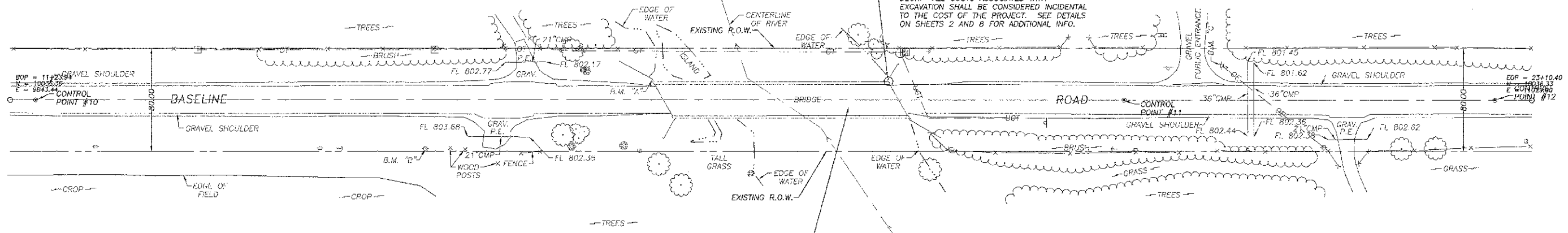
BENCHMARK INFORMATION

S.M. "A" - FOUND MASONRY NAIL IN TOP OF NORTHWEST WINDOW OF EXISTING STRUCTURE. ELEV=809.18

B.M. "B" - SET RAILROAD SPIKE IN SECOND POWER POLE WEST OF BRIDGE, SOUTH SIDE OF ROAD. ELEV=807.82

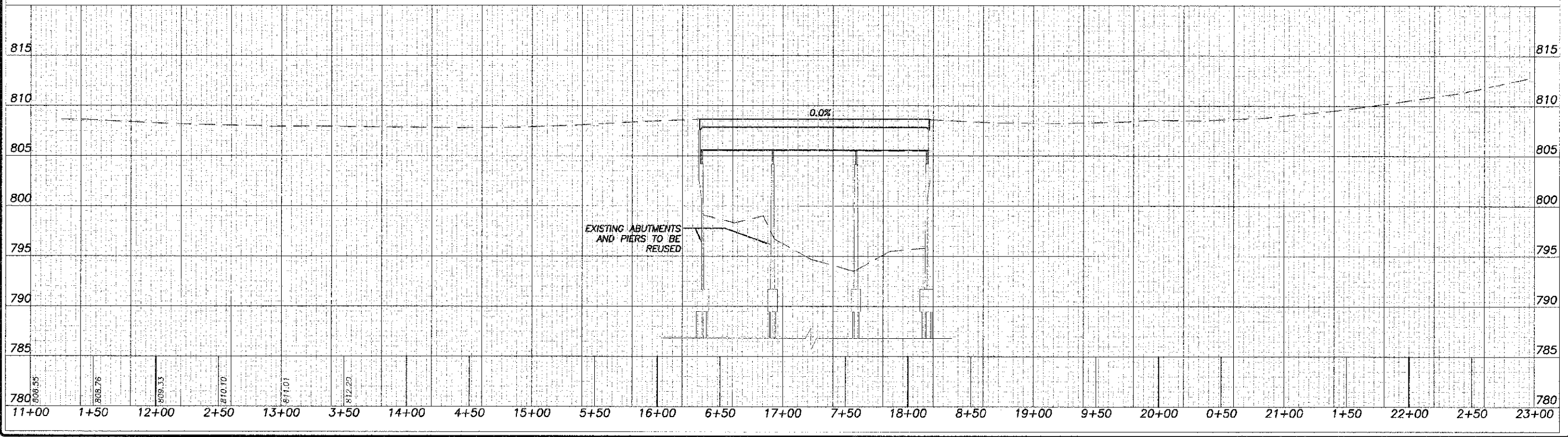
B.M. "C" - SET RAILROAD SPIKE IN LIGHT POLE ON THE EAST SIDE OF ENTRANCE TO PARKING AREA FOR "KNUTE OLSON JR. FOREST PRESERVE" NORTH SIDE OF ROAD, ±250' EAST OF BRIDGE. ELEV=807.33

EXCAVATION WILL BE REQUIRED AT FOUR CORNERS FOR STRUCTURAL REPAIR OF CONCRETE AND BACKWALL/WINGWALL MODIFICATIONS AND AT END OF EXISTING DECK. ALL COSTS ASSOCIATED WITH EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT. SEE DETAILS ON SHEETS 2 AND 8 FOR ADDITIONAL INFO.



STRUCTURE NO. 019-4500
 NEW SUPERSTRUCTURE INCLUDING, POURED DECK, STEEL COMPOSITE W27X146 I-BEAMS, AND BEARINGS SUPPORTED BY EXISTING ABUTMENTS AND PIERS. SEATS TO BE ADJUSTED AS REQUIRED TO ACCOMMODATE NEW SUPERSTRUCTURE. EXISTING WINGWALLS TO REMAIN IN PLACE. WORK ALSO INCLUDES CONCRETE REPAIR TO EXISTING SUBSTRUCTURE.

SCALES:
 1" = 40' HOR
 1" = 5' VER



REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: _____

CHECKED BY: _____

DRAWN BY: _____

DATE: 2/20/12

SCALE: _____

PROJECT NO.: _____

wendler

GROUND-BREAKING SOLUTIONS
 engineers - surveyors - scientists
 www.wendlergs.com ph: 815.288.2281
 Illinois Professional Design Firm No. 184.002848

PLAN AND PROFILE
 OF
 BASELINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
PLAN & PROFILE

JOB NUMBER
 2083382

DATE
 12/14/2012

SHEET NO.
3 of 18

TWP.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	4

BLINDS PROJECT BROS-0817(091)
 * 08-18121-00-BR
 CONTRACT NO. 67487

GENERAL NOTES

COMPLETE PLANS FOR THE EXISTING STRUCTURE ARE AVAILABLE FROM THE DEKALB COUNTY HIGHWAY OFFICE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THESE PLANS PRIOR TO CONSTRUCTION TO FAMILIARIZE HIMSELF WITH DETAILS OF THE EXISTING STRUCTURE.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY USED AT THE UNIT PRICE BID FOR THE WORK.

THE CONTRACTOR SHALL COORDINATE THE WORK REQUIRED TO REMOVE AND REATTACH THE EXISTING UTILITIES ATTACHED TO THE EXISTING SUPERSTRUCTURE. EXISTING TELEPHONE CABLE SHALL BE DETACHED FROM THE EXISTING STRUCTURE AND BE REATTACHED TO THE NEW STRUCTURE IN ACCORDANCE WITH REQUIREMENTS OF THE UTILITY COMPANY. ALL SHOP DRAWINGS FOR ATTACHING THE UTILITY TO THE NEW SUPERSTRUCTURE SHALL BE APPROVED BY THE ENGINEER.

FOR UTILITY INFORMATION, CALL J.U.L.I.E. 800-882-0123

CALCULATED WEIGHT OF STRUCTURAL STEEL - 150,627 POUNDS AASHTO M270 GRADE 50 BEAMS, DIAPHRAGMS, SPLICES, FIXED BEARING PLATES, AND ASSOCIATED FASTENERS. WEIGHTS FOR STEEL AND FASTENERS FOR TYPE I ELASTOMERIC BEARING ASSEMBLIES, INCLUDING SIDE RETAINERS, ARE NOT INCLUDED.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIAMETER, OPEN HOLES 13/16" DIAMETER UNLESS OTHERWISE NOTED.

TIGHTENING AND INSPECTION OF ALL HIGH STRENGTH BOLT CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ISSUE OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 (M184) OR A490 (M283) BOLTS FOR SLIP-CRITICAL CONNECTIONS. EXCEPT TIGHTENING METHODS USING EITHER THE LOAD INDICATING WASHERS OR THE CALIBRATED WRENCH ARE NOT ALLOWED.

REMOVAL OF EXISTING STRUCTURES INCLUDE THE COMPLETE REMOVAL AND SATISFACTORY DISPOSAL OF THE EXISTING SUPERSTRUCTURE INCLUDING BEARINGS AND RELATED HARDWARE.

REMOVAL OF EXISTING STRUCTURES SHALL BE ACCOMPLISHED BY ANY METHOD THE CONTRACTOR ELECTS TO USE BUT MUST CONFORM TO ALL REQUIREMENTS OF THE U.S. ARMY CORPS OF ENGINEERS PERMIT CONDITIONS ALONG WITH ANY OTHER AGENCY REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL CONCRETE AND DEBRIS THAT FALLS INTO THE CREEK AS A RESULT OF ANY CONSTRUCTION OPERATION. REMOVAL METHODS SHALL NOT DAMAGE PORTIONS OF THE STRUCTURE TO REMAIN IN PLACE.

PROTECTIVE COAT HAS BEEN INCLUDED FOR THE TOP OF DECK AND THE NORTH AND SOUTH EDGE OF THE DECK TO THE DRIPNOTCH.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

THE MAIN LOAD-CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE (THE WIDE FLANGE BEAMS) (THE TENSION FLANGES, WEBS) AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS.

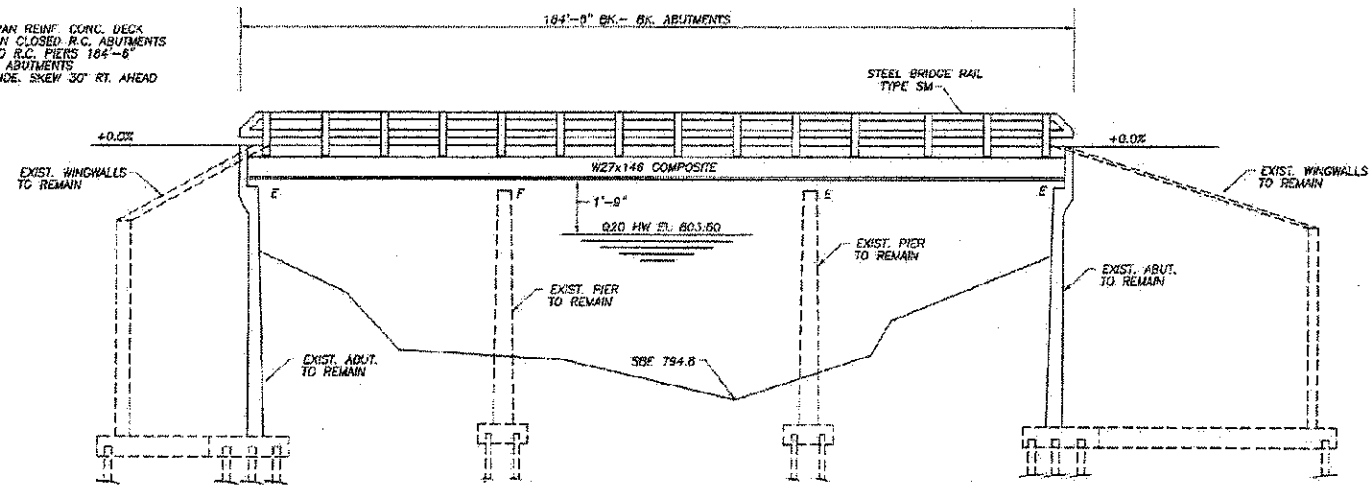
BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8" INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE DOTON BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

THE CONTRACTOR SHALL MAKE ALLOWANCE FOR THE DEFLECTION OF FORMS, SHRINKAGE AND SETTLEMENT OF FALSEWORK, IN ADDITION TO ALLOWANCE FOR DEAD LOAD DEFLECTION.

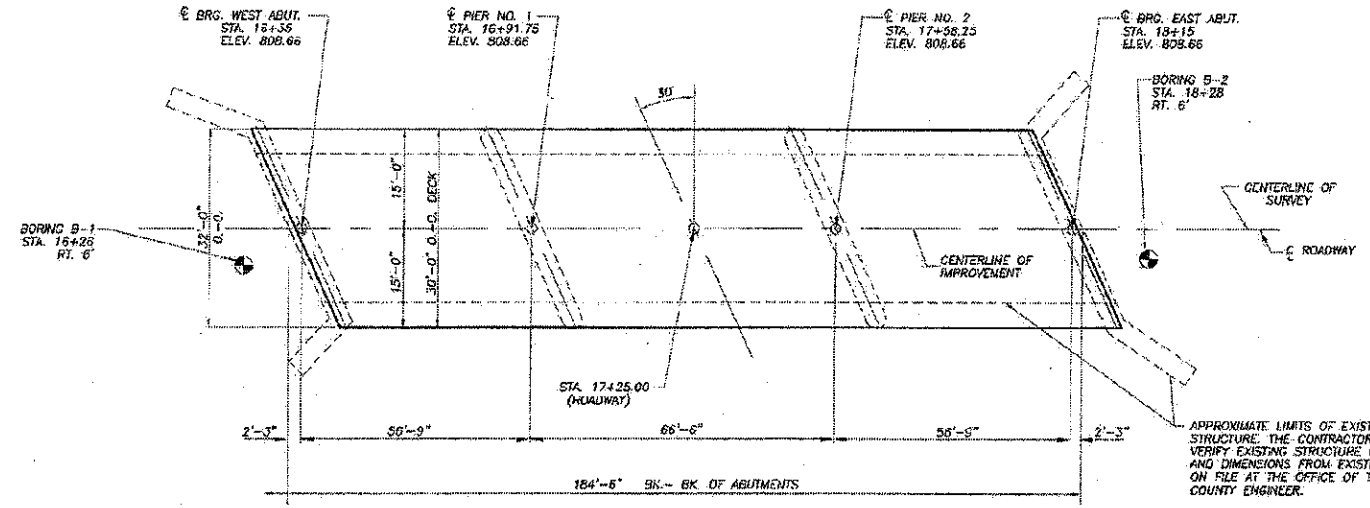
IF GANTLEVER FORMING BRACKETS ARE USED ON THE EXTERIOR BEAMS OR GIRDERS, THE BRACKETS SHALL BE PLACED AT THE SAME LOCATIONS AS REQUIRED FOR THE HARDWOOD BLOCKING IN ARTICLE 503.06(b) OF THE STANDARD SPECIFICATIONS. IF ADDITIONAL GANTLEVER FORMING BRACKETS ARE REQUIRED, HARDWOOD BLOCKING SHALL BE WEDGED BETWEEN THE EXTERIOR AND FIRST INTERIOR BEAM AT EACH OF THESE ADDITIONAL BRACKET LOCATIONS.

STRUCTURAL STEEL SHALL ONLY BE PAINTED FOR A DISTANCE EQUAL TO THE DEPTH OF EMBEDMENT INTO THE CONCRETE CAP PLUS 3 IN. PAINTED AREAS SHALL BE PRIMED IN THE SHOP WITH A DEPARTMENT APPROVED ZINC RICH PRIMER. FIELD PAINTING WILL NOT BE REQUIRED.

EXISTING STRUCTURE: THREE SPAN REINF. CONC. DECK BRIDGE ON CLOSED R.C. ABUTMENTS AND SOLID R.C. PIERS 184'-6" BK - BK ABUTMENTS
 28'-4" WIDE, SKEW 30° RT. AHEAD
 SALVAGE: NONE



ELEVATION



PLAN

ALL DIMENSIONS REFERENCING THE EXISTING STRUCTURE SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING WORK OR PROCURING ANY MATERIALS DEPENDENT UPON THOSE DIMENSIONS.

LOADING HS 20-44
 ALLOW 25 psf FOR FUTURE WEARING SURFACE

DESIGN SPECIFICATIONS
 A.A.S.H.T.O. 2007 SPECIFICATIONS AND 2008 INTERIMS

DESIGN DATA
 A.D.T. 1000 (CURRENT)
 7500 (20 YEAR)

DESIGN SPEED 50 MPH

DESIGN STRESSES
 $f_c = 5000 \text{ psi}$
 $f_y = 60,000 \text{ psi (REINFORCEMENT)}$
 $f_y = 50,000 \text{ psi (STRUCTURAL STEEL)}$
 (AASHTO M270, GRADE 50W)

WATERWAY INFORMATION

DRAINAGE AREA= 230 SQ.MI. LOW GRADE ELEV. 808.66 AT STA. 17+25

FLOOD	FREQ. YR.	Q C.F.S.	OPENING SO. FT.	NAT. H.W.E. EXIST.	PROP. H.W.E. EXIST.	HEAD-FT. EXIST.	HEAD-FT. PROP.	HEADWATER EL. EXIST.	HEADWATER EL. PROP.
DESIGN	20	4358	1287	1287	803.6	0.2	0.2	803.6	803.6
BASE	100	6280	1487	1487	805.0	0.4	0.3	804.8	804.9
MAX. CALC.	600	7677			805.8	1.1	0.7	805.9	805.9

SOUTH BRANCH OF KISHWAUKEE
 STA 17+25.00
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 BUILT 2010 LOADING HS20
 STR. NO. 019-4500

LETTERING FOR NAME PLATE
 SEE STD. 618001-03

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	



I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS BRIDGE/BOX CULVERT DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

GENERAL PLAN & ELEVATION
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

BILL OF MATERIAL BRIDGE

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
REMOVAL OF EXISTING SUPERSTRUCTURES	EACH			1
CONCRETE STRUCTURES	CU YD		9.3	9.3
CONCRETE SUPERSTRUCTURE	CU YD	145.5		145.5
BRIDGE DECK GROOVING	SQ YD	811.2		811.2
PROTECTIVE COAT	SQ YD	685.5		685.5
FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	1		1
STUD SHEAR CONNECTORS	EACH	2700		2700
REINFORCEMENT BARS (EPOXY COATED)	POUND	37642	1048	38690
NAMEPLATES	EACH	1		1
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	15		15
STEEL BRIDGE RAIL, TYPE SM	FOOT	369		369
STRUCTURAL REPAIR OF CONCRETE (DEPTH > 5")	SQ FT		21	21
STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5")	SQ FT		30	30

REVISIONS

wendler
 GROUND-BREAKING SOLUTIONS
 ENGINEERS SURVEYORS SCIENTISTS
 www.wendlerinc.com ph: 815.288.2921
 Illinois Professional Design Firm No. 184-002840

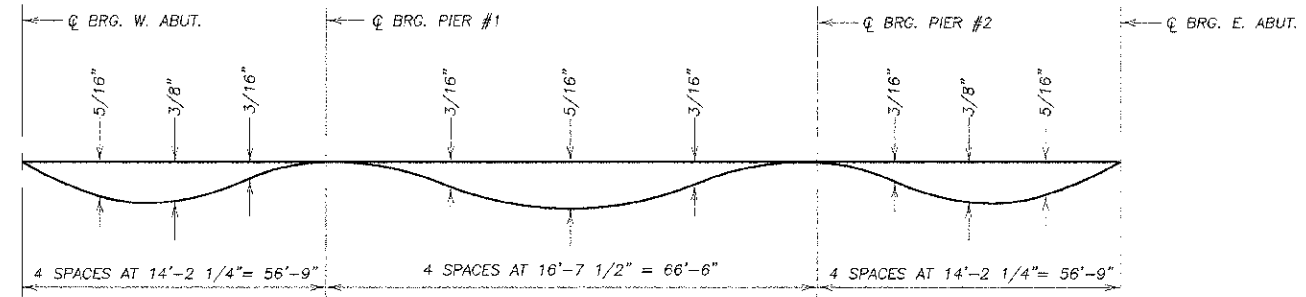
GENERAL PLAN AND ELEVATION
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
 GPE

JOB NUMBER
 2080382

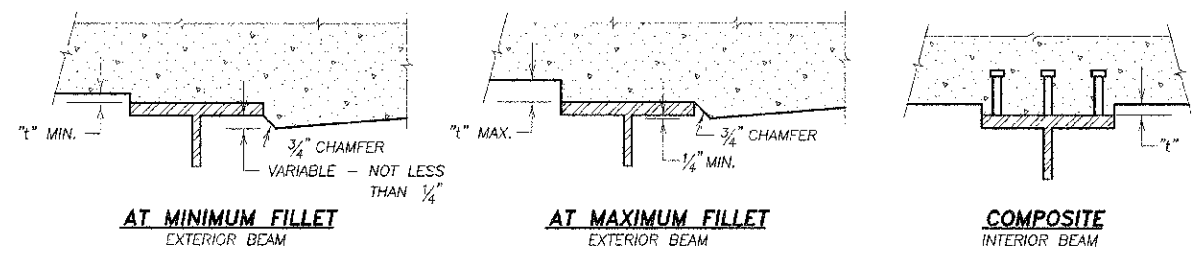
DATE
 2/6/2013

SHEET NO.
 4 of 18



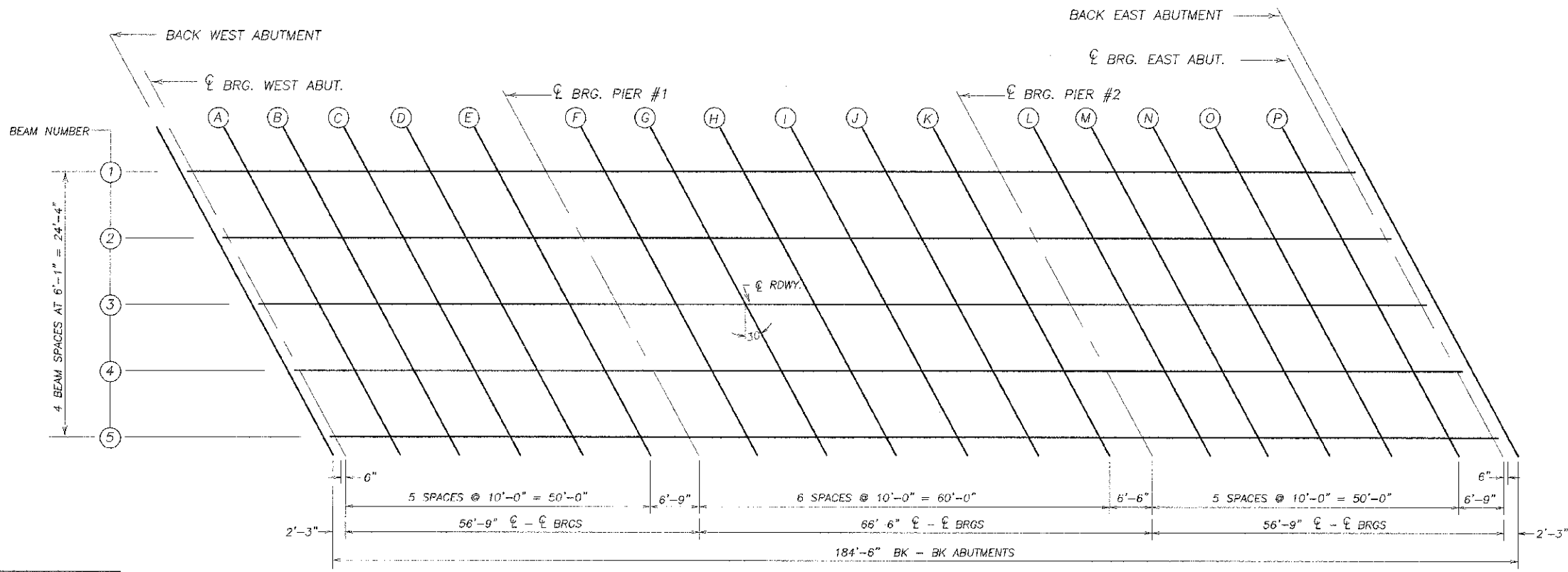
DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)

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 BELOW.



NOTE: TO DETERMINE "t" - AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT THE STATIONS SHOWN. THESE ELEVATIONS SUBTRACTED FROM THE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS, MINUS FLOOR THICKNESS, EQUALS THE FILLET HEIGHTS ABOVE TOP FLANGE OF BEAMS.

FILLET HEIGHTS



PLAN

DECK LAYOUT
SECTION 08-18121-00-BR
DEKALB COUNTY
S.N. 019-4500

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

REVISION	DATE

DESIGNED BY:	RLR
DRAWN BY:	BDS
CHECKED BY:	
SUBMITTED BY:	
DATE:	

wendler
GROUND-BREAKING SOLUTIONS
engineers - surveyors - scientists
www.wendlerps.com ph: 815.288.2261
Illinois Professional Design Firm No. 184.000346

DECK ELEVATION LAYOUT
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
DECK ELEVATION LAYOUT

JOB NUMBER
2080382

DATE
12/14/2012

SHEET NO.

SCALE: 1" = 40'

REVISIONS	DATE	BY	REASON

DESIGNED BY	RLR
CHECKED BY	RLR
DRAWN BY	RLR
DATE	

wendler
 GROUND-BREAKING SOLUTIONS
 engineers - surveyors - scientists
 www.wendlergs.com ph: 815.288.2281
 Illinois Professional Design Firm No. 16-C-00948

DECK ELEVATION LAYOUT
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE

DECK ELEVATIONS

JOB NUMBER
2080382

DATE
12/14/2012

SHEET NO.
6 of 18

BEAM # 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ADJUSTED FOR DEAD LOAD DEFLECTION
BK. W. ABUT.	16+25.73	12.17	808.470	808.470
CL. BRG. W. ABUT.	16+27.98	12.17	808.470	808.470
A	16+37.98	12.17	808.470	808.491
B	16+47.98	12.17	808.470	808.503
C	16+57.98	12.17	808.470	808.502
D	16+67.98	12.17	808.470	808.491
E	16+77.98	12.17	808.470	808.476
CL. BRG. W. PIER	16+84.73	12.17	808.470	808.470
F	16+94.73	12.17	808.470	808.470
G	17+04.73	12.17	808.470	808.489
H	17+14.73	12.17	808.470	808.496
I	17+24.73	12.17	808.470	808.494
J	17+34.73	12.17	808.470	808.485
K	17+44.73	12.17	808.470	808.473
CL. BRG. E. PIER	17+51.23	12.17	808.470	808.470
L	17+61.23	12.17	808.470	808.481
M	17+71.23	12.17	808.470	808.498
N	17+81.23	12.17	808.470	808.504
O	17+91.23	12.17	808.470	808.500
P	18+01.23	12.17	808.470	808.484
CL. BRG. E. ABUT.	18+07.98	12.17	808.470	808.470
BK. E. ABUT.	18+10.23	12.17	808.470	808.470

BEAM # 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ADJUSTED FOR DEAD LOAD DEFLECTION
BK. W. ABUT.	16+29.24	6.08	808.565	808.565
CL. BRG. W. ABUT.	16+31.40	6.08	808.565	808.565
A	16+41.49	6.08	808.565	808.586
B	16+51.49	6.08	808.565	808.598
C	16+61.49	6.08	808.565	808.597
D	16+71.49	6.08	808.565	808.586
E	16+81.49	6.08	808.565	808.571
CL. BRG. W. PIER	16+88.24	6.08	808.565	808.565
F	16+98.24	6.08	808.565	808.565
G	17+08.24	6.08	808.565	808.584
H	17+18.24	6.08	808.565	808.591
I	17+28.24	6.08	808.565	808.589
J	17+38.24	6.08	808.565	808.580
K	17+48.24	6.08	808.565	808.568
CL. BRG. E. PIER	17+54.74	6.08	808.565	808.565
L	17+64.74	6.08	808.565	808.576
M	17+74.74	6.08	808.565	808.591
N	17+84.74	6.08	808.565	808.599
O	17+94.74	6.08	808.565	808.595
P	18+04.74	6.08	808.565	808.579
CL. BRG. E. ABUT.	18+11.49	6.08	808.565	808.565
BK. E. ABUT.	18+13.74	6.08	808.565	808.565

BEAM # 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ADJUSTED FOR DEAD LOAD DEFLECTION
BK. W. ABUT.	16+32.75	0.00	808.660	808.660
CL. BRG. W. ABUT.	16+35.00	0.00	808.660	808.660
A	16+45.00	0.00	808.660	808.681
B	16+55.00	0.00	808.660	808.693
C	16+65.00	0.00	808.660	808.692
D	16+75.00	0.00	808.660	808.681
E	16+85.00	0.00	808.660	808.666
CL. BRG. W. PIER	16+91.75	0.00	808.660	808.660
F	17+01.75	0.00	808.660	808.660
G	17+11.75	0.00	808.660	808.679
H	17+21.75	0.00	808.660	808.686
I	17+31.75	0.00	808.660	808.684
J	17+41.75	0.00	808.660	808.675
K	17+51.75	0.00	808.660	808.663
CL. BRG. E. PIER	17+58.25	0.00	808.660	808.660
L	17+68.25	0.00	808.660	808.671
M	17+78.25	0.00	808.660	808.696
N	17+88.25	0.00	808.660	808.694
O	17+98.25	0.00	808.660	808.690
P	18+08.25	0.00	808.660	808.674
CL. BRG. E. ABUT.	18+15.00	0.00	808.660	808.660
BK. E. ABUT.	18+17.25	0.00	808.660	808.660

BEAM # 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ADJUSTED FOR DEAD LOAD DEFLECTION
BK. W. ABUT.	16+36.26	6.08	808.565	808.565
CL. BRG. W. ABUT.	16+38.51	6.08	808.565	808.565
A	16+48.51	6.08	808.565	808.586
B	16+58.51	6.08	808.565	808.598
C	16+68.51	6.08	808.565	808.597
D	16+78.51	6.08	808.565	808.586
E	16+88.51	6.08	808.565	808.571
CL. BRG. W. PIER	16+95.26	6.08	808.565	808.565
F	17+05.26	6.08	808.565	808.565
G	17+15.26	6.08	808.565	808.584
H	17+25.26	6.08	808.565	808.591
I	17+35.26	6.08	808.565	808.589
J	17+45.26	6.08	808.565	808.580
K	17+55.26	6.08	808.565	808.568
CL. BRG. E. PIER	17+61.76	6.08	808.565	808.565
L	17+71.76	6.08	808.565	808.576
M	17+81.76	6.08	808.565	808.591
N	17+91.76	6.08	808.565	808.599
O	18+01.76	6.08	808.565	808.595
P	18+11.76	6.08	808.565	808.579
CL. BRG. E. ABUT.	18+18.51	6.08	808.565	808.565
BK. E. ABUT.	18+20.76	6.08	808.565	808.565

BEAM # 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ADJUSTED FOR DEAD LOAD DEFLECTION
BK. W. ABUT.	16+39.77	12.17	808.470	808.470
CL. BRG. W. ABUT.	16+42.02	12.17	808.470	808.470
A	16+52.02	12.17	808.470	808.491
B	16+62.02	12.17	808.470	808.503
C	16+72.02	12.17	808.470	808.502
D	16+82.02	12.17	808.470	808.491
E	16+92.02	12.17	808.470	808.476
CL. BRG. W. PIER	16+98.77	12.17	808.470	808.470
F	17+08.77	12.17	808.470	808.470
G	17+18.77	12.17	808.470	808.489
H	17+28.77	12.17	808.470	808.496
I	17+38.77	12.17	808.470	808.494
J	17+48.77	12.17	808.470	808.485
K	17+58.77	12.17	808.470	808.473
CL. BRG. E. PIER	17+65.27	12.17	808.470	808.470
L	17+75.27	12.17	808.470	808.481
M	17+85.27	12.17	808.470	808.496
N	17+95.27	12.17	808.470	808.504
O	18+05.27	12.17	808.470	808.500
P	18+15.27	12.17	808.470	808.484
CL. BRG. E. ABUT.	18+22.02	12.17	808.470	808.470
BK. E. ABUT.	18+24.27	12.17	808.470	808.470

DECK ELEVATIONS
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

TWP. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
61	*	DEKALB	18	7

ILLINOIS PROJECT BRGS-0037(051)
 * 08-18121-00-BR
 CONTRACT NO. 87487

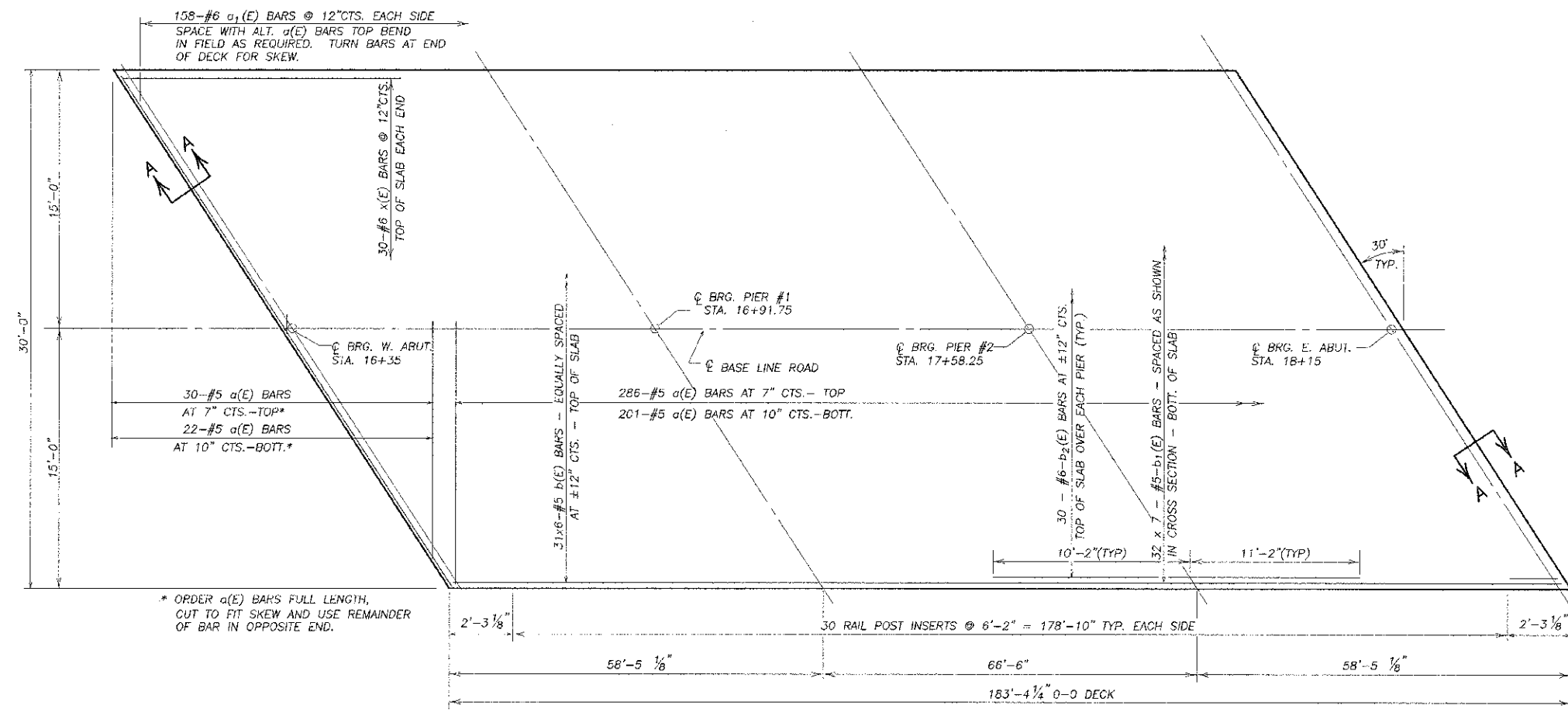
SCALE: 1"=10'

REVISIONS	DATE

DESIGNED BY:	RLR
DRAWN BY:	BDS
CHECKED BY:	
DATE:	

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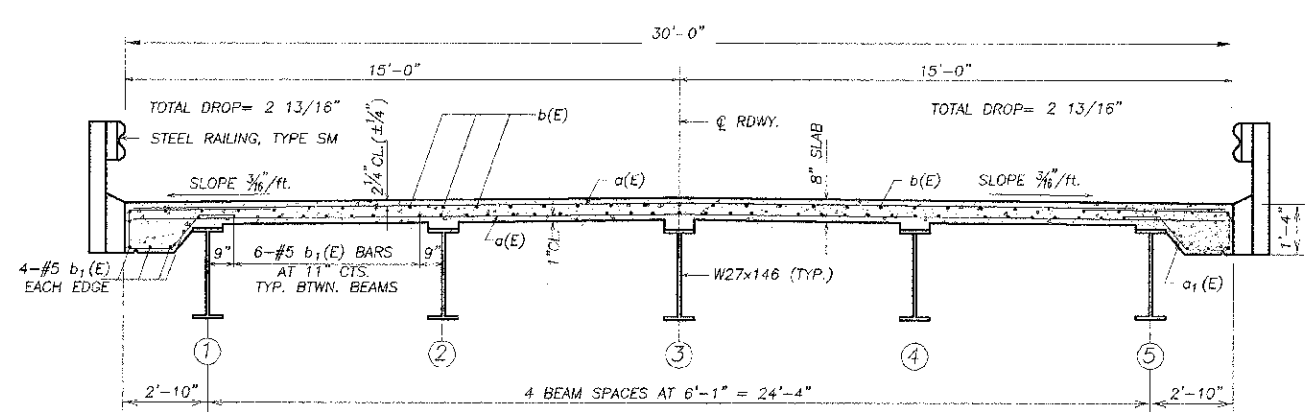
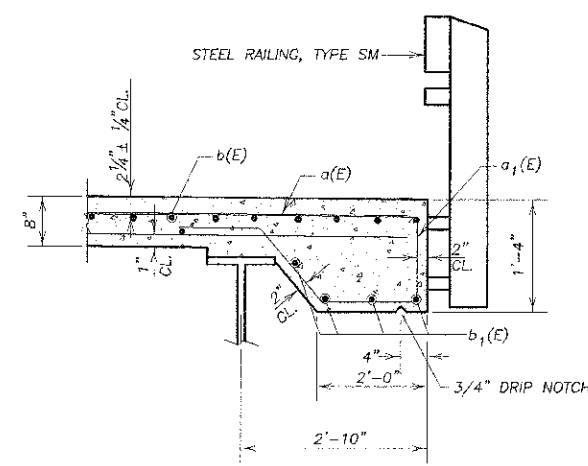
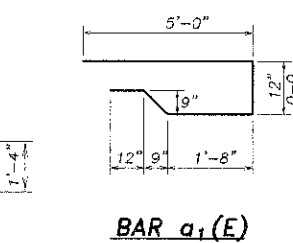
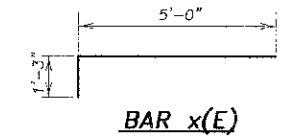
SUPERSTRUCTURE OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY



* ORDER a(E) BARS FULL LENGTH, CUT TO FIT SKEW AND USE REMAINDER OF BAR IN OPPOSITE END.

MIN. LAP

#5	2'-5"
#6	2'-9"



DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

SUPERSTRUCTURE SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

SHEET TITLE

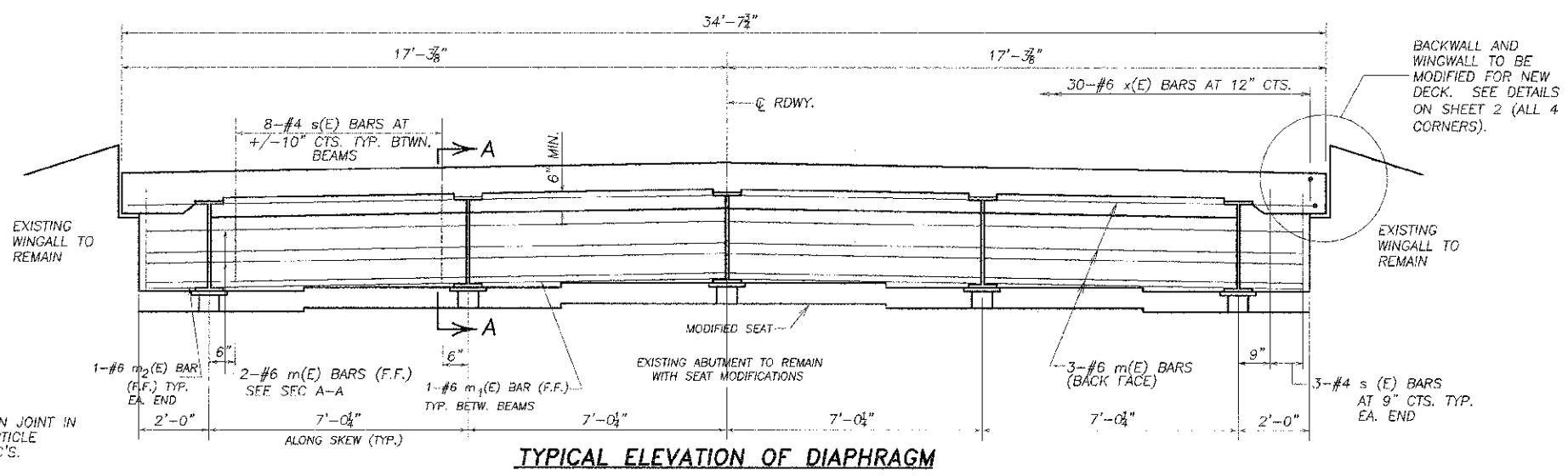
SUPER STRUCTURE

JOB NUMBER
2080382

DATE
12/14/2012

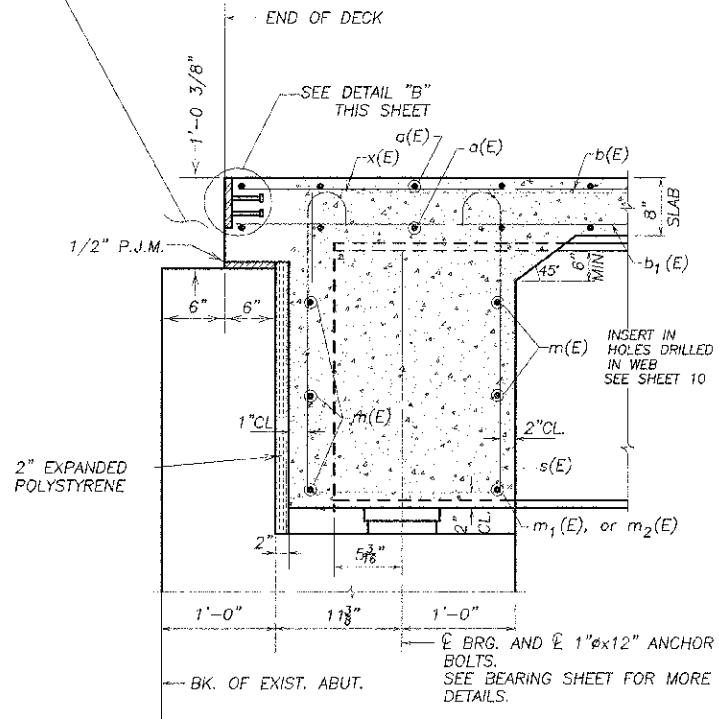
SHEET NO.

7 of 18



**BONDED CONSTRUCTION JOINT IN ACCORDANCE WITH ARTICLE 503.09 OF STD. SPEC'S.

NOTE: PAVEMENT REMOVED TO ALLOW FOR CONSTRUCTION OF NEW BRIDGE SUPERSTRUCTURE SHALL BE REPLACED IN LIKE KIND WITH COSTS BEING INCIDENTAL TO THE COST OF THE PROJECT.



SECTION A-A
 DIM. @ RIGHT ANGLES TO ABUT.

BEAM MOMENT TABLE

	THREE SPAN UNIT		
	0.4 SPAN 1 0.6 SPAN 3	PIER 1 OR 2	0.5 SPAN 2
I _s (in ⁴)	5660	5660	5660
I _c (in ⁴)(n)	15173	0	15173
I _c (in ⁴)(3n)	11380	0	11380
S _e (in ³)	414	414	414
S _c (in ³)(n)	599	0	599
S _c (in ³)(3n)	546	0	546
DC1 (k/ft)	0.78	0.78	0.78
M _{DC1} (ft.-k)	182	-294	135
DC2 (k/ft)	0.025	0.025	0.025
M _{DC2} (ft.-k)	6	-9	5
DW (k/ft)	0.3	0.3	0.3
M _{DW} (ft.-k)	76	-104	64
M _{LL+M} (ft.-k)	572	-385	548
M _U (Str. I)(ft.-k)	1352	-1208	1231
φ _f M _n (ft.-k)	2850	1487	2852
f _s DC1 (ksi)	5.5	8.5	4.0
f _s DC2 (ksi)	0.2	0.3	0.2
f _s DW (ksi)	1.7	3.0	1.4
f _s 1.3(LL+M)(ksi)	14.95	11.2	14.3
f _s (Service II)(ksi)	22.35	23.0	19.9
V _f (k)	15	24	16

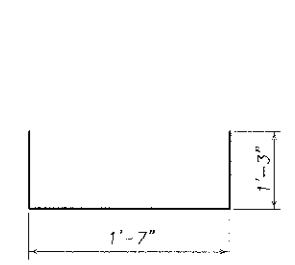
BILL OF MATERIAL - SUPERSTRUCTURE

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	539	#5	29'-8"	—
a ₁ (E)	316	#6	9'-8"	—
m(E)	10	#6	31'-9"	—
m ₁ (E)	8	#6	6'-8"	—
m ₂ (E)	4	#6	1'-8"	—
b(E)	186	#5	32'-7"	—
b ₁ (E)	224	#5	28'-3"	—
b ₂ (E)	60	#6	21'-4"	—
s(E)	76	#4	7'-10"	□
s ₁ (E)	164	#4	4'-1"	□
p(E)	60	#6	6'-8"	—
x(E)	60	#6	6'-3"	—
CONCRETE SUPERSTRUCTURE			CU. YD.	145.5
REINFORCEMENT BARS EPOXY COATED			LBS.	38690
PROTECTIVE COAT **			SQ. YD.	665.5
BRIDGE DECK GROOVING			SQ. YD.	611.2

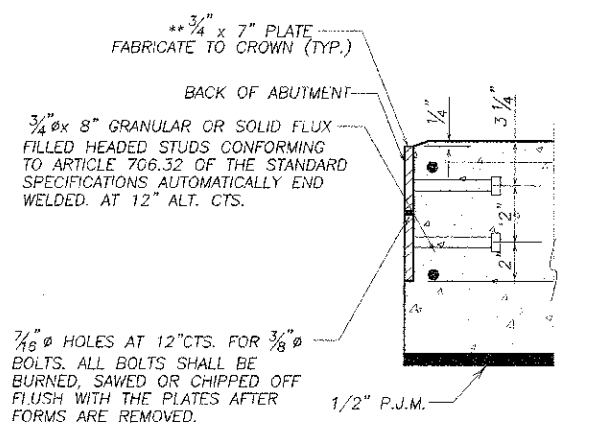
REINFORCEMENT BARS INDICATED (E) SHALL BE EPOXY COATED. SEE SHEET 7 OF 12 FOR SUPERSTRUCTURE DETAILS

** INCLUDES TOP OF DECK AND EDGES TO THE DRIP NOTCH.

BAR s(E)



BAR s₁(E)



DETAIL "B"

NOTE: AFTER FABRICATION ALL SURFACES OF THE STEEL PLATES SHALL BE GIVEN ONE SHOP COAT OF PAINT SPECIFIED FOR STRUCTURAL STEEL. NO FIELD PAINTING REQUIRED.

BEAM REACTION TABLE

	ABUTMENTS	PIER
R _{DC1} (k)	17.3	53.5
R _{DC2} (k)	0.7	1.5
R _{DW} (k)	7	20
R _{LL+M} (k)	73	92
R _{TOTAL} (k)	98	167

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: RLR
 DRAWN BY: BDS
 CHECKED BY:
 DATE:
 DRAWING NAME:
 SURVEYOR:
 BRIDGE NO:
 ILLINOIS PROFESSIONAL DESIGNER No. 184-000340

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SUPERSTRUCTURE DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
 SUPER
 STRUCTURE
 DETAIL

JOB NUMBER
 2080362

DATE
 12/14/2012

SHEET NO.

SUPERSTRUCTURE DETAILS
 SECTION 08-18121-00-BR
 DEKALB COUNTY
 S.N. 019-4500

REVISIONS	DATE	BY	CHKD.

DESIGNED BY:	RLR
DRAWN BY:	BDS
CHECKED BY:	
DATE:	

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TYPE SM RAIL DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE

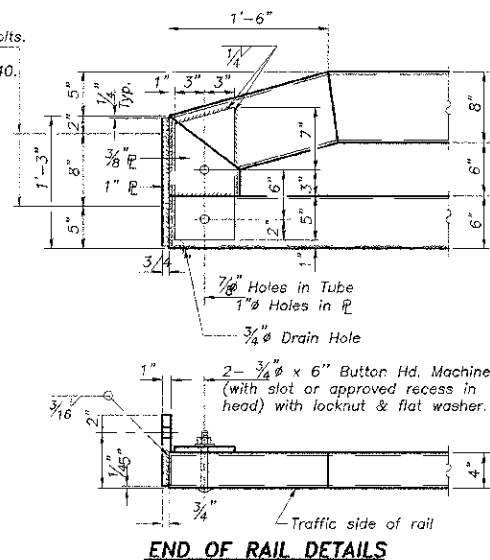
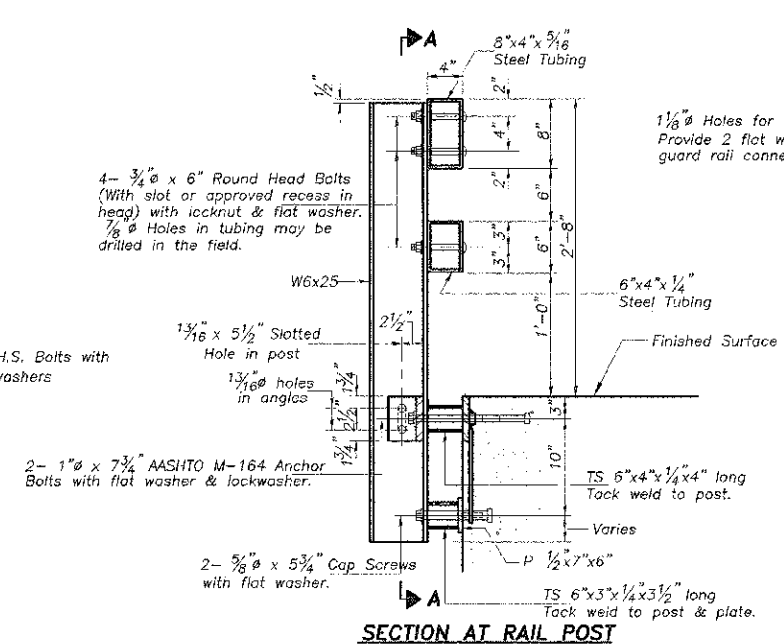
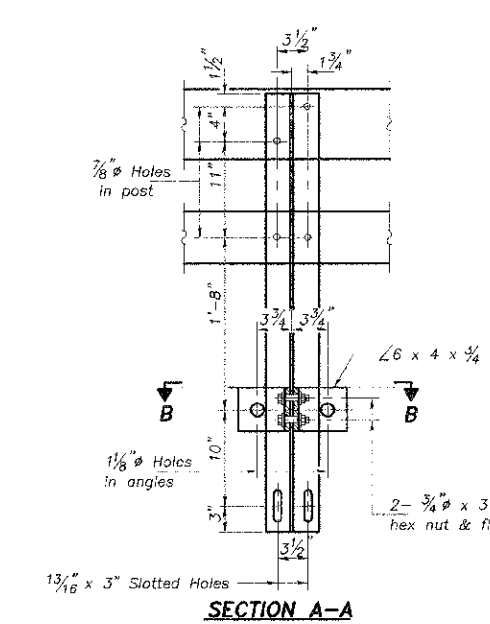
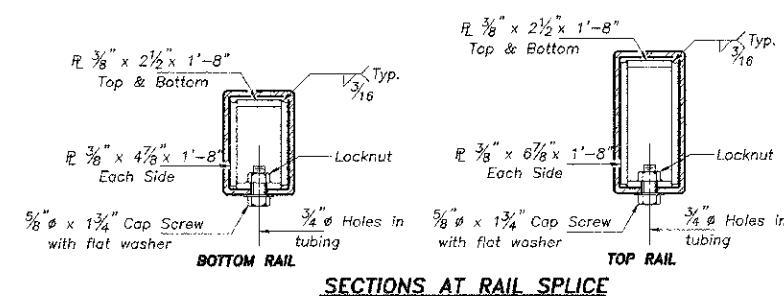
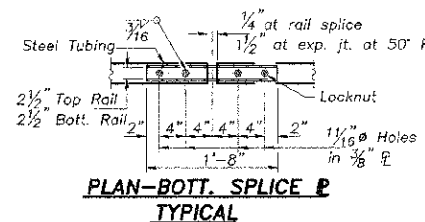
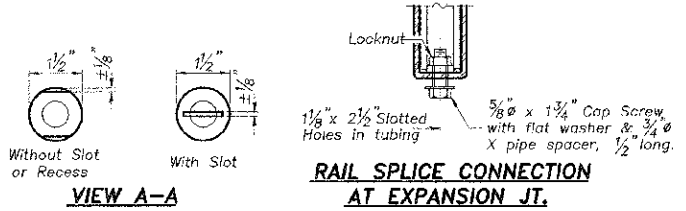
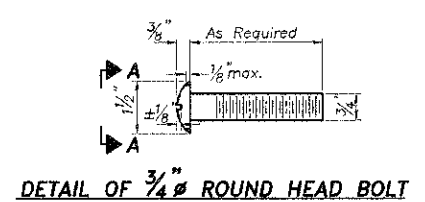
RAIL DETAILS

JOB NUMBER
2080382

DATE
12/14/2012

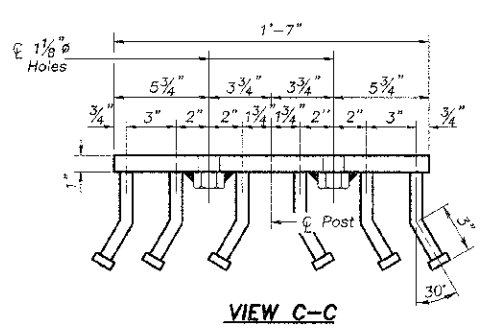
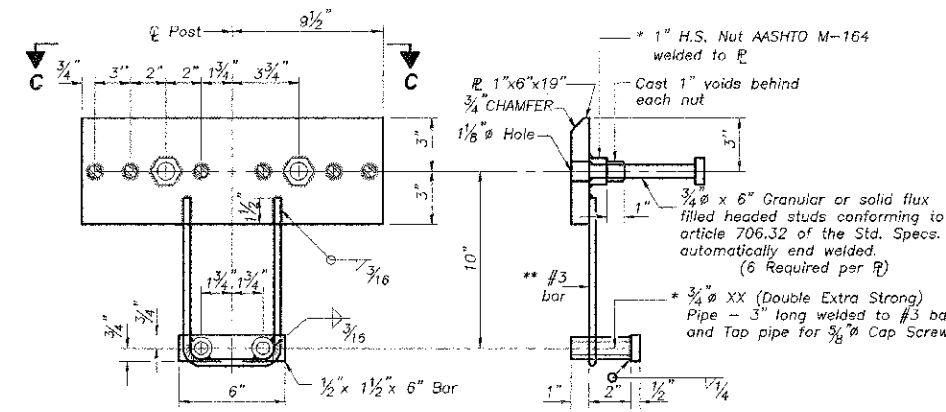
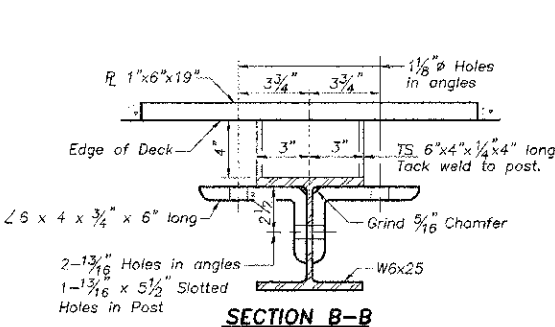
SHEET NO.

9 of 18



GENERAL NOTES

Follow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
 All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.
 Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.
 All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.
 Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL BRIDGE RAIL, TYPE SM.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span PPC Deck bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to STEEL BRIDGE RAIL, TYPE SM.
 Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.



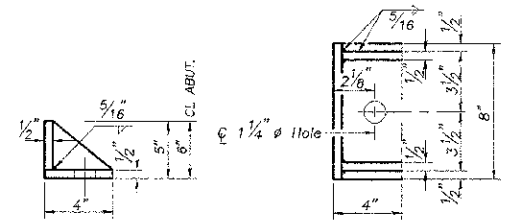
BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	369

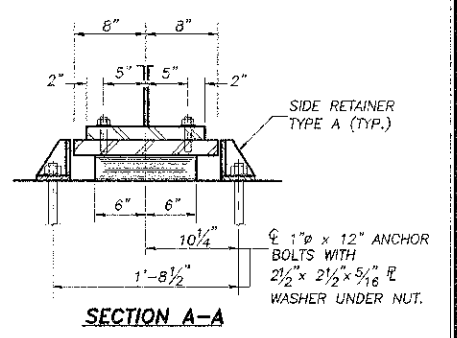
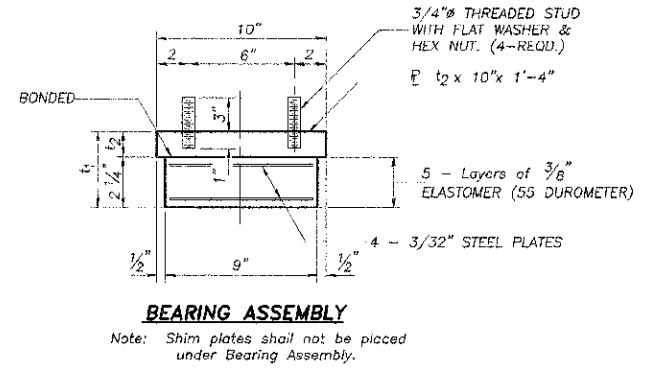
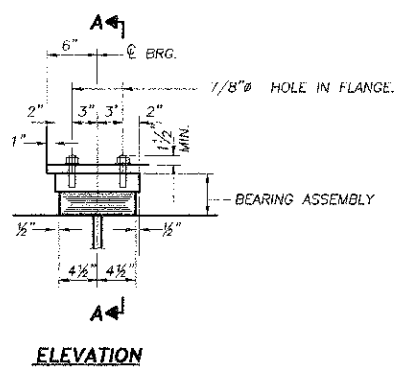
TYPE SM
 STEEL BRIDGE RAIL SIDE MOUNTED
 SECTION 08-18121-00-BR
 BASE LINE ROAD
 DEKALB COUNTY
 SN 019-4500

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

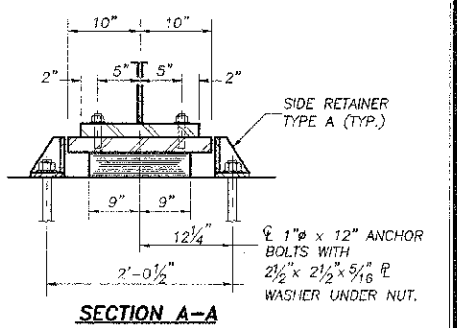
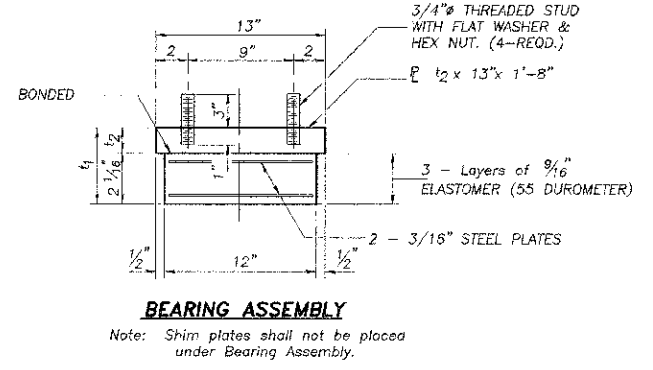
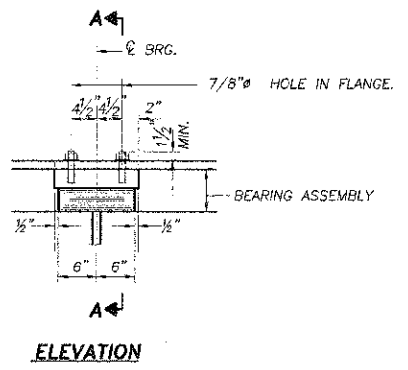
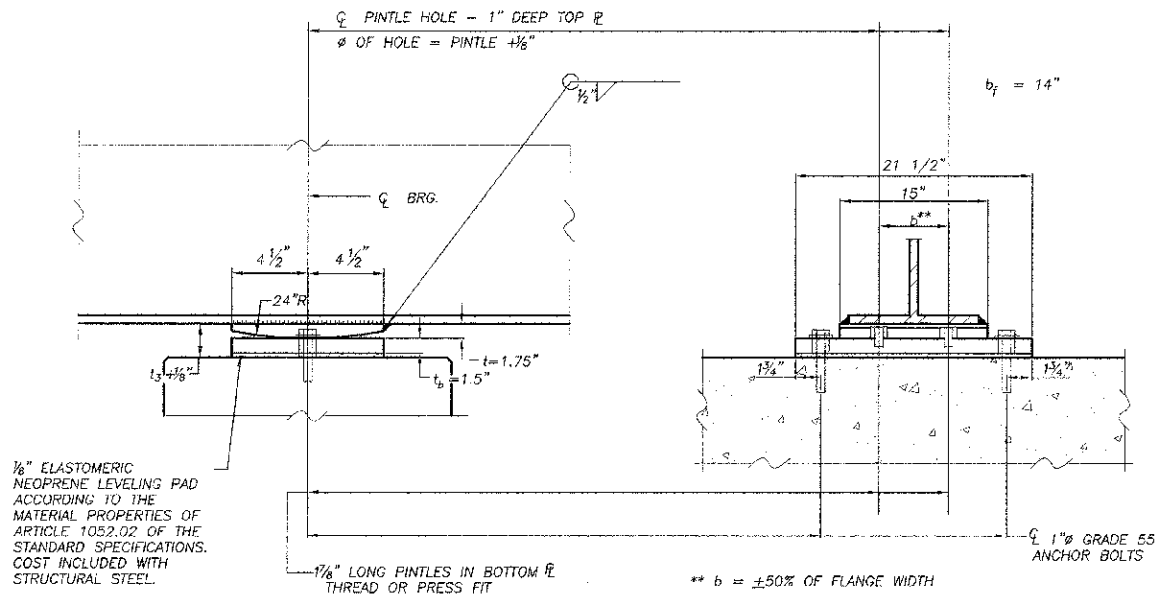
ANCHOR DEVICE
 * Threaded areas shall be plugged or blocked off during casting of beam galvanized after fabrication.
 ** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



NOTE: THE STRUCTURAL STEEL BEARING PLATES OF THE ELASTOMERIC BEARING ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GRADE 50.



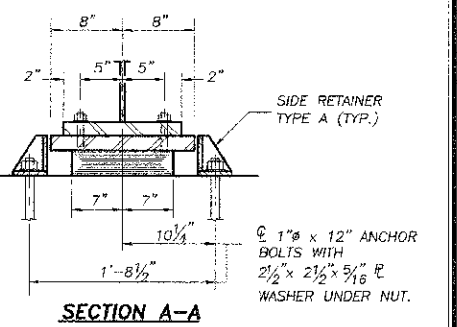
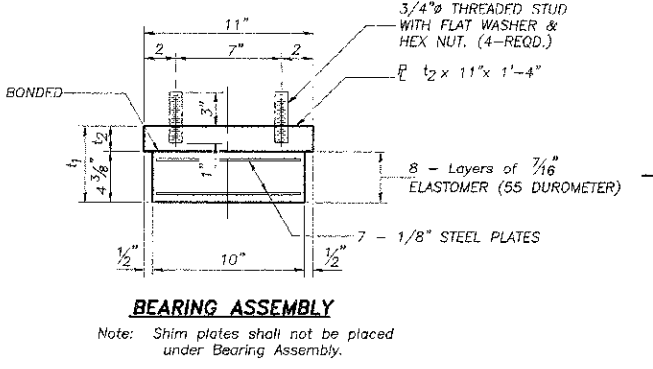
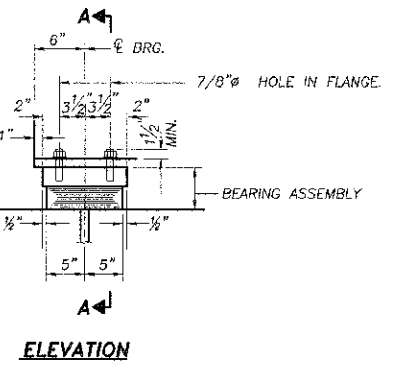
TYPE I ELASTOMERIC EXPANSION BRG. - WEST ABUT.
(5 REQUIRED)



TYPE I ELASTOMERIC EXPANSION BRG. - EAST PIER
(5 REQUIRED)

BEAM LINE	W. ABUT.		W. PIER	E. PIER		E. ABUT.	
	t_1^*	t_2	t_3^*	t_1^*	t_2	t_1^*	t_2
① NORTH	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
②	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
③	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
④	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"
⑤ SOUTH	4"	1 3/4"	3 3/8"	4 9/16"	2 1/2"	6 1/8"	1 3/4"

* THICKNESS MAY BE MADE UP OF 2" MINIMUM PLATES FULL PERIMETER SHOP WELD ON ALL PLATES



TYPE I ELASTOMERIC EXPANSION BRG. - EAST ABUT.
(5 REQUIRED)

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type I	EACH	15

BEARING DETAILS
SECTION 08-18121-00-BR
BASE LINE ROAD BRIDGE
DEKALB COUNTY
SN 019-4500

REVISIONS

NO.	DATE	DESCRIPTION

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BEARING DETAILS
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

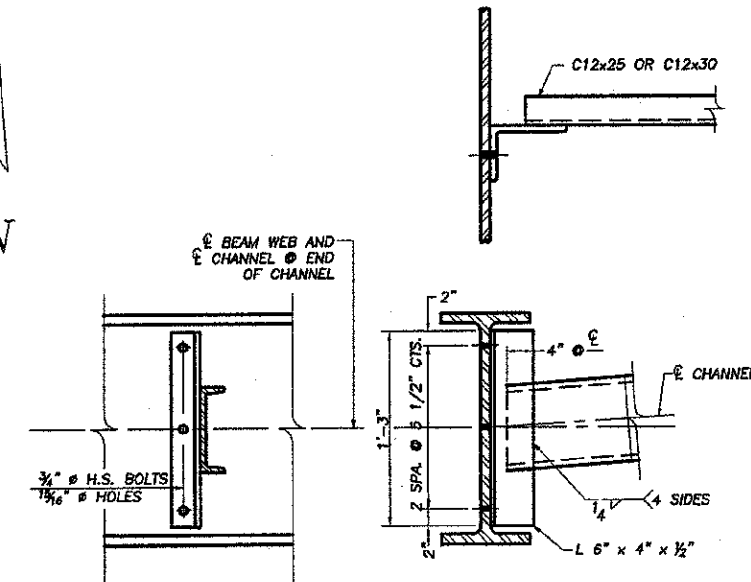
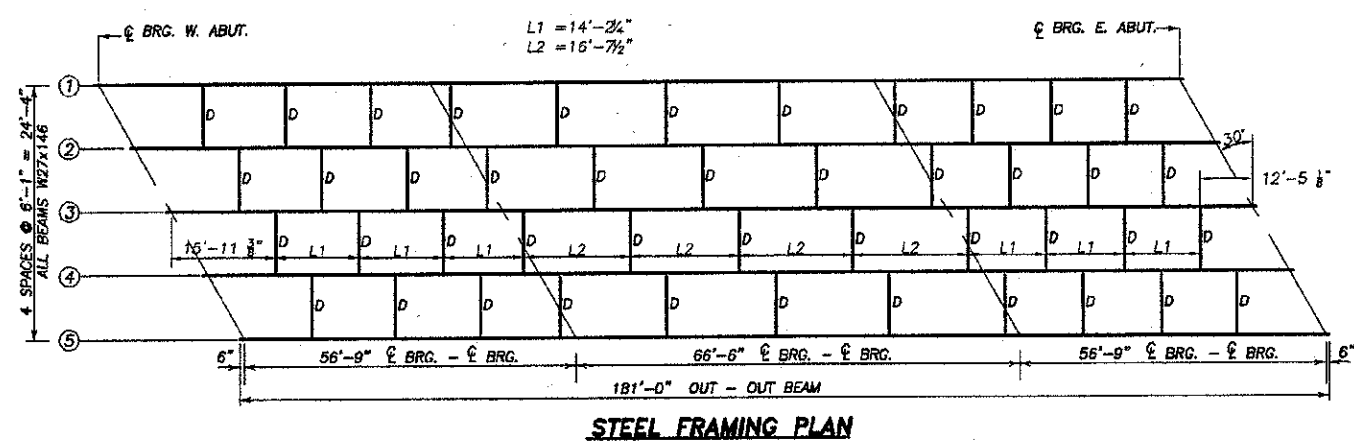
SHEET TITLE
BEARING

JOB NUMBER
2080382

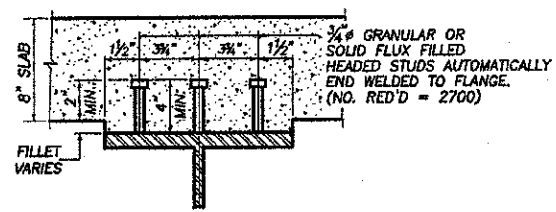
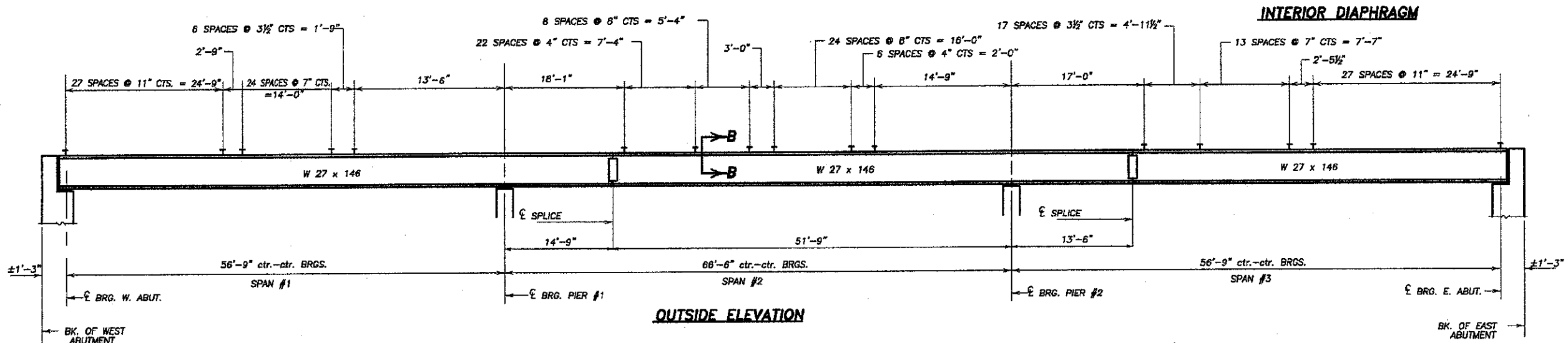
DATE
12/14/2012

SHEET NO.
10 of 18

W.P. NO.	61	SEC.	DEKALB	COUNTY	TOTAL SHEETS	18	SHEET NO.	11
ILLINOIS PROJECT BROS-0037(051)								
* 08-18121-00-BR								
CONTRACT NO. 87457								



NOTE: TWO HARDENED WASHERS REQUIRED FOR EACH SET OF OVERIZED HOLES.

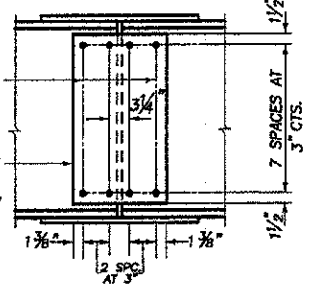
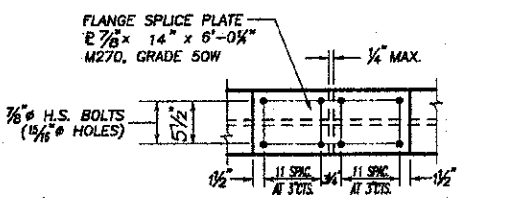


SECTION B-B
PROPOSED TOP OF BEAM ELEVATIONS *

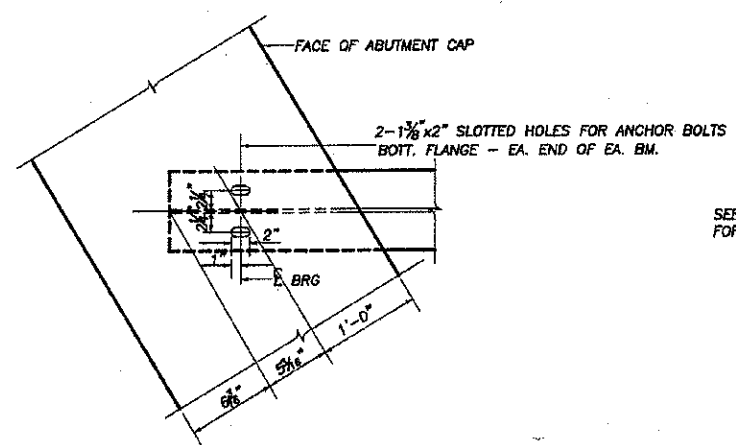
LOCATION	BEAM No.	1	2	3	4	5
☉ BRG. W. ABUT.	807.67	807.77	807.87	807.77	807.67	
☉ BRG. W. PIER (#1)	807.67	807.77	807.87	807.77	807.67	
☉ BRG. E. PIER (#2)	807.67	807.77	807.87	807.77	807.67	
☉ BRG. E. ABUT.	807.67	807.77	807.87	807.77	807.67	

* ALLOW FOR 1/8" POSITIVE FILLET

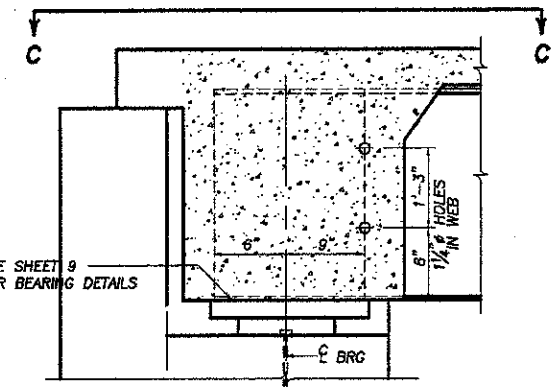
DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	



DETAIL OF SPLICE
(ALL SPLICE PLATES N.T.R.)



DETAIL C-C



SECTION AT ABUT.
(ALONG BEAM ☉)

STRUCTURAL STEEL DETAILS
SECTION 08-18121-00-BR
BASE LINE ROAD
DEKALB COUNTY
SN 019-4500

wendler
GROUND BREAKING SOLUTIONS
engineers, surveyors, scientists
www.wendlerps.com ph: 815.283.2261
Illinois Professional Design Firm No. 184-000848

STRUCTURAL STEEL DETAILS
OF
BASE LINE ROAD BRIDGE PROJECT
FOR
DEKALB COUNTY HIGHWAY

SHEET TITLE
STEEL DETAILS

JOB NUMBER
2080382

DATE
2/6/2013

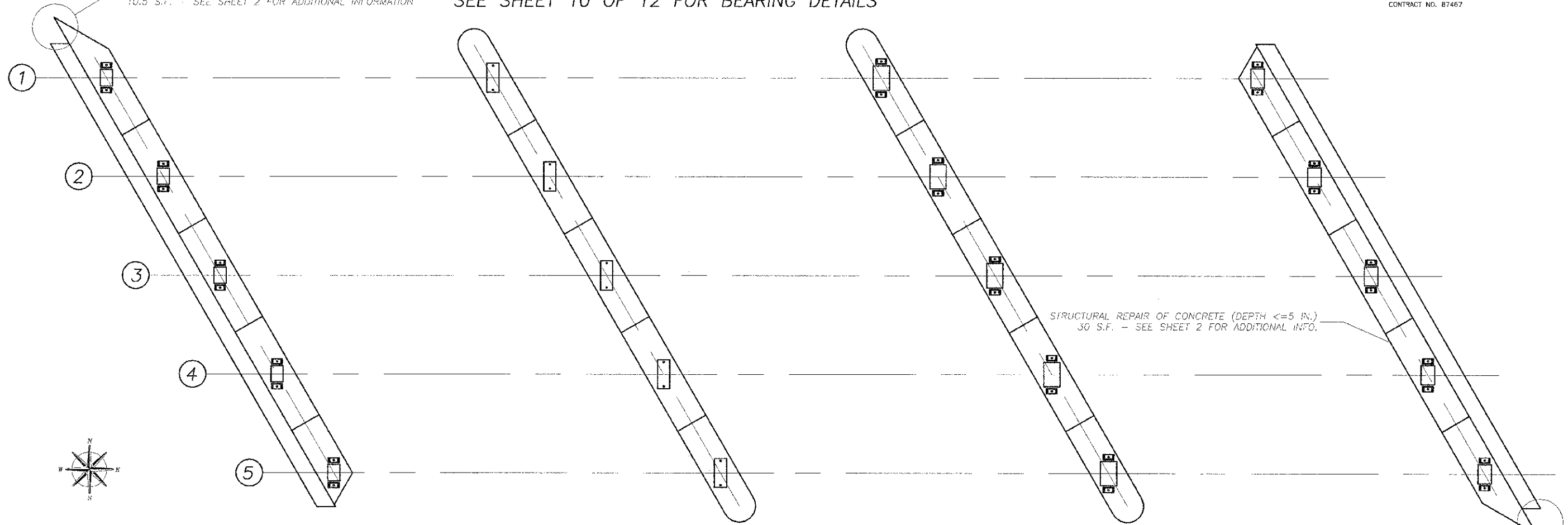
SHEET NO.
11 of 18

STRUCTURAL REPAIR OF CONCRETE (DEPTH >5 IN.)
10.5 S.F. - SEE SHEET 2 FOR ADDITIONAL INFORMATION

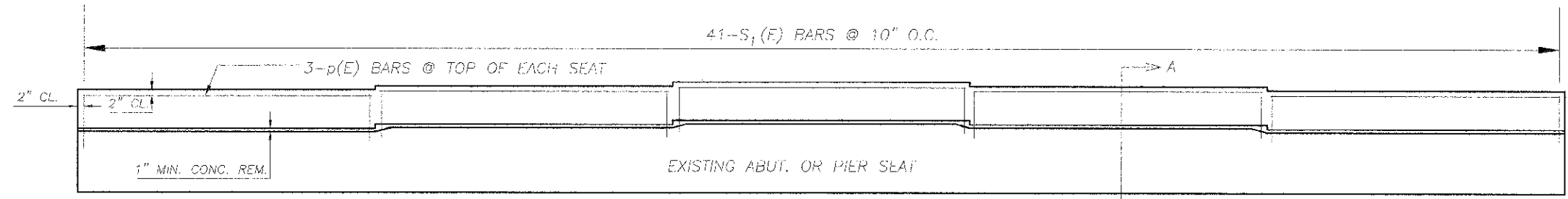
SEE SHEET 10 OF 12 FOR BEARING DETAILS

STRUCTURAL REPAIR OF CONCRETE (DEPTH <=5 IN.)
30 S.F. - SEE SHEET 2 FOR ADDITIONAL INFO.

STRUCTURAL REPAIR OF CONCRETE (DEPTH >5 IN.)
10.5 S.F. - SEE SHEET 2 FOR ADDITIONAL INFORMATION



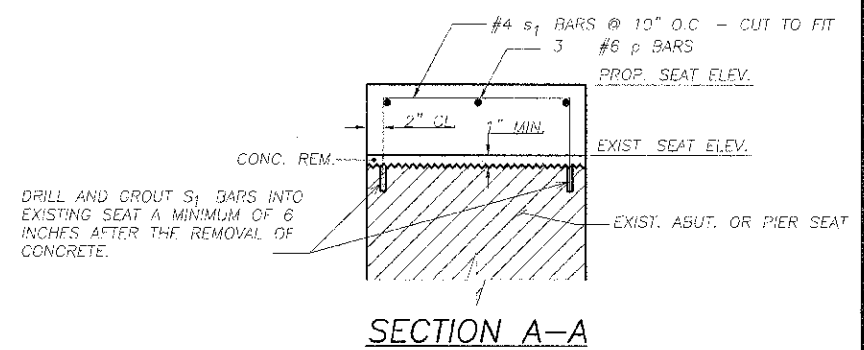
PLAN



ELEVATION

* CONTRACTOR SHALL VERIFY EXISTING SEAT ELEVATIONS.

	SEAT ELEVATIONS											
	W. ABUT.			W. PIER			E. PIER			E. ABUT.		
	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*	EXIST.*	PROP.	DIFF.*
BEAM 1	804.15	805.06	+0.91	804.20	805.10	+0.90	804.12	805.01	+0.89	804.15	804.88	+0.73
BEAM 2	804.25	805.16	+0.91	804.30	805.20	+0.90	804.22	805.11	+0.89	804.25	804.98	+0.73
BEAM 3	804.35	805.25	+0.90	804.40	805.29	+0.89	804.32	805.20	+0.88	804.35	805.07	+0.72
BEAM 4	804.25	805.16	+0.91	804.30	805.20	+0.90	804.22	805.11	+0.89	804.25	804.98	+0.73
BEAM 5	804.15	805.06	+0.91	804.20	805.10	+0.90	804.12	805.01	+0.89	804.15	804.88	+0.73



SECTION A-A

DESIGNED:	RLR
DRAWN:	BDS
CHECKED:	
DATE:	

NO.	DATE	REVISION

DESIGNED BY:	RLR
DRAWN BY:	RLR
CHECKED BY:	
DATE:	

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 GEOTECHNICAL ENGINEERING
 ENGINEERS - SURVEYORS - SCIENTISTS
 www.wendlergs.com ph: 615.266.2221
 Illinois Professional Engineer Firm No. 164-00046

ABUTMENT AND PIER DETAILS
 OF
 BASE LINE ROAD BRIDGE PROJECT
 FOR
 DEKALB COUNTY HIGHWAY

SHEET TITLE
 ABUTMENT & PIER DETAILS

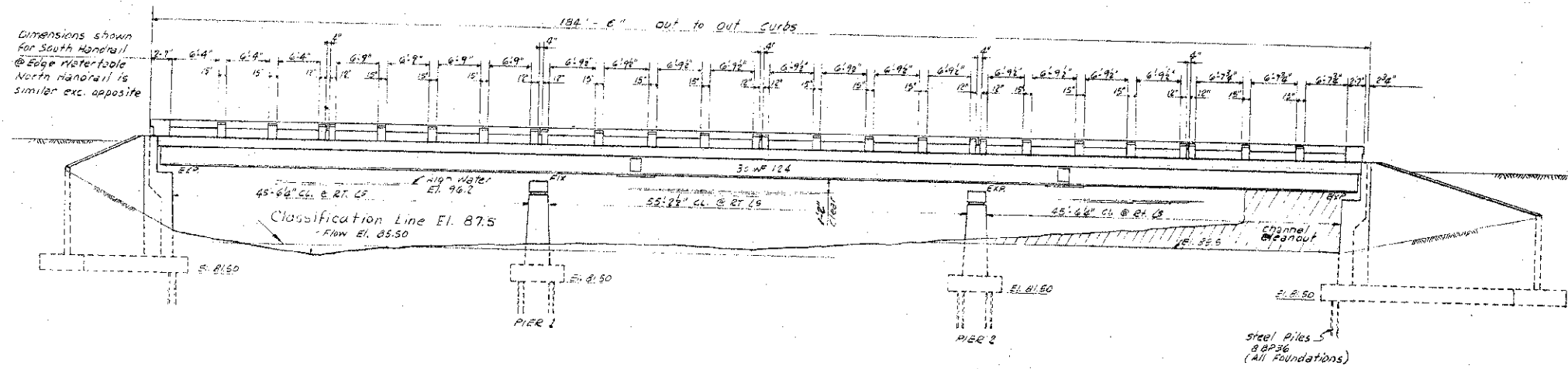
JOB NUMBER
 2080382

DATE
 12/14/2012

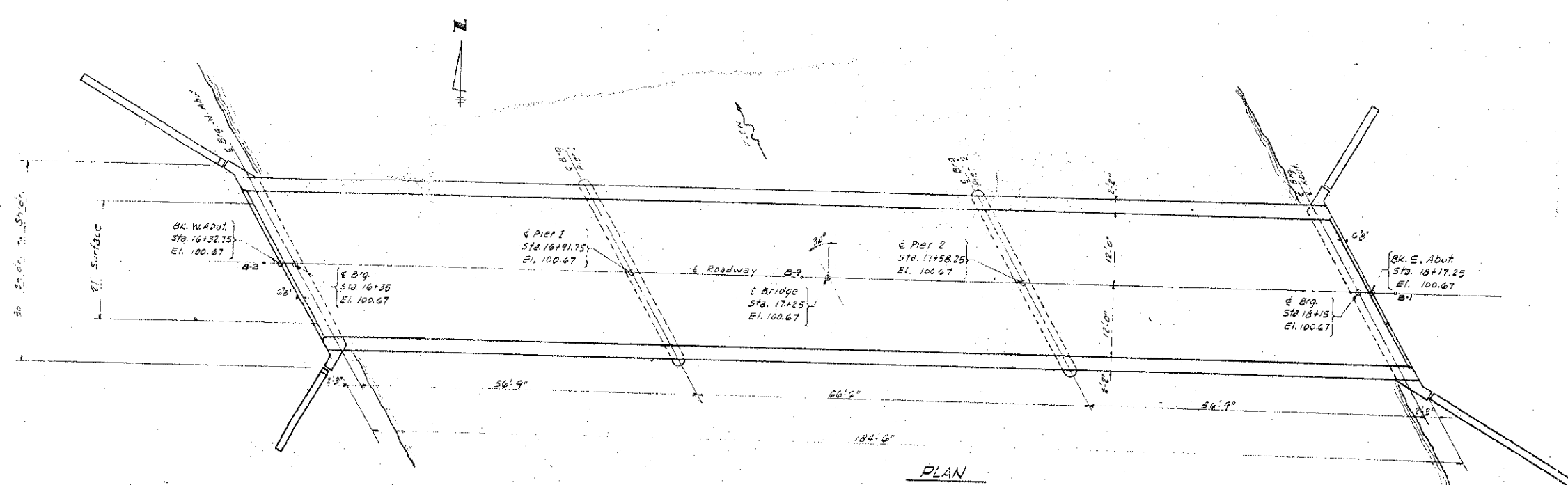
SHEET NO.

C.M. Spike in Telephone Pole
 48' Lt. Sta. 1918 El. 96.45
 EXIST. STRUCT: 2 span thru steel truss
 on conc. filled steel cession piers
 and abutments (sheet steel backing)
 12' Plank Roadway.
 To be Removed by Contractor
 SALVAGE: None

CONTRACT 87467



ELEVATION



PLAN

STRESS TABLE

	MAX. MOMENTS		MAX. REACTIONS	
	0.4 Sp. 1	0.5 Sp. 2	Abut.	Pier
DL	177.0	287.0	16.4	51.7
LL	246.6	218.0	23.8	28.5
IMP.	67.9	58.1	6.8	7.0
TOTAL	491.5	563.1	46.7	87.8

DESIGN STRESSES

f_c (Superstructure) = 1400 P.S.I.
 f_c (Substructure) = 1000 P.S.I.
 f_s (Reinforcement) = 20000 P.S.I.
 f_s (Structural Steel) = 20000 P.S.I.
 $n = 10$

WATERWAY INFORMATION

Drainage Area = 147360 A.
 Character Level, Cultivated
 Present Opening = 2100 S.F.
 Required Opening (13 yr. Flood) = 1300 S.F.
 Proposed Opening = 1317 S.F.

BASE LINE BRIDGE
 BUILT 1905 BY
 KINGSTON ROAD DISTRICT
 SCYAMORE ROAD DISTRICT
 DEKALB COUNTY
 LOADING HS15

LETTERING FOR NAMEPLATE
 REFER TO STD. 2113-1.

GENERAL NOTES

course Aggregate to be used in handrails and end-pasts must be absolutely free of chert, flint, limonite, lignite, and soft sandstone. The concrete floor slab shall be finished in accordance with Art. 51.19 of the Standard Specifications.

The handrail concrete in posts and rail shall be poured in separate operations.

All reinforcement bars shall be lapped 20 bar diameters unless otherwise shown.

All structural steel shall comply with specification for structural steel, A.S.T.M. Designation A-36.

All rockers, bolsters, bearing plates, lead plates, pintles and Anchor bolts shall be fabricated and set in accordance with Art. 51.15 of the Std. Specs., and are included in the quantity of structural steel.

Rivets 3/4" Open Holes 1/2" unless noted.

Anchor bolts shall be set before riveting diaphragms over supports.

The exposed surfaces of the Armor Angle shall be given two shop coats of red lead paint. Contact surfaces shall be given one shop coat of red lead paint. Anchor studs shall not be painted. Armor Angles are included in quantity of structural steel.

Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of Aluminum paint. See Arts. 56.1 to 56.5 of the Std. Specs.

All paint shall be furnished and applied by the Contractor.

The cost of Class A and Class B Excavation for Structures shall be included in the Contract unit price per Cu.Yd. of Class X Concrete, and no additional compensation will be allowed.

The backs of Abutments shall be waterproofed from top of footing to ground surface in accordance with Art. 51.21 of the Standard Specifications.

The Contractor shall drive 4 Test Piles in permanent locations as directed by the Engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL - BRIDGE

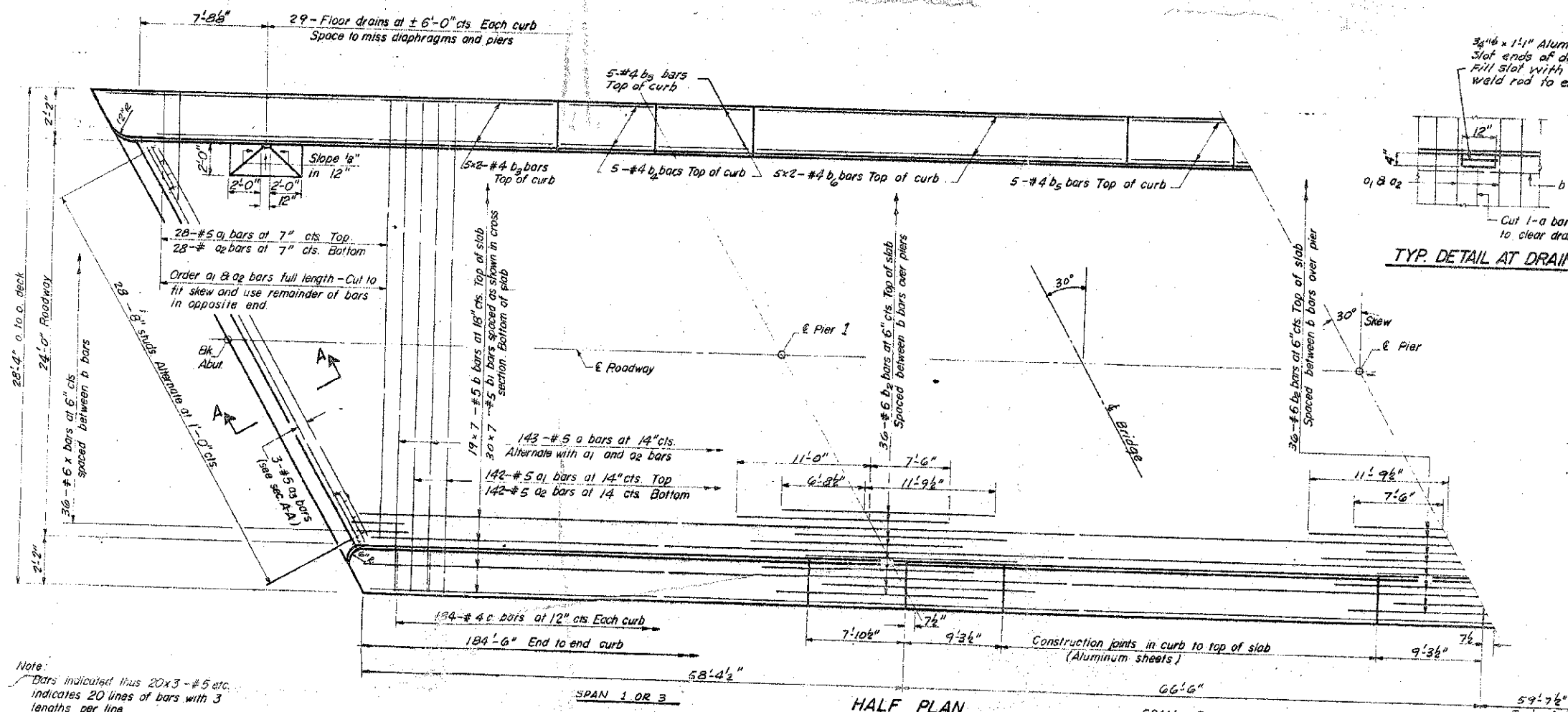
ITEM	SUPER	SUB.	TOTAL
Class X Concrete	Cu.Yds. 134.4	245.4	379.8
Class A Concrete	Cu.Yds.	117.4	117.4
Handrail Concrete	Cu.Yds.	13.3	13.3
Reinforcement Bars	Lbs. 38530	29300	67830
Furn. and Erect. Structural Steel	Lbs. 136050		136050
Removal of Existing Structures	Each		
Name Plates	Each	1	1
Furnishing Steel Piles (8 BP 36)	Lin.Ft.	3260	3260
Driving Steel Piles	Lin.Ft.	3260	3260
Test Piles (8 BP 36)	Each	4	4

EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

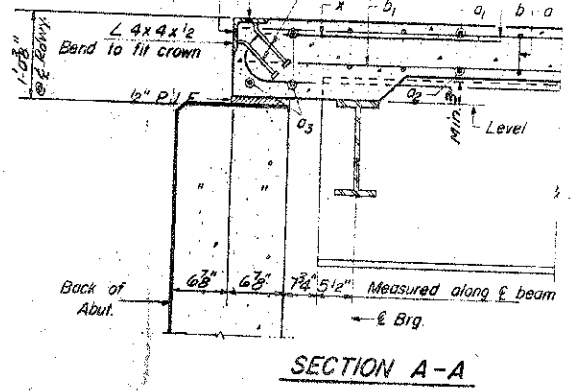
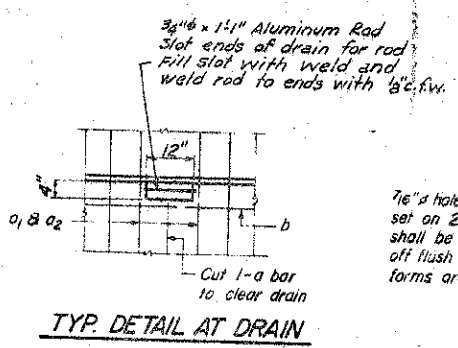
PROJECT NO. 3
 KINGSTON SCYAMORE ROAD DISTRICTS
 DEKALB COUNTY
 GENERAL PLAN AND ELEVATION

DESIGNED BY	PLANS PREPARED BY	REVISIONS
D.E.H.	S. W. KHETSCH AND ASSOCIATES	
DATE APRIL 1965		
TRACED BY		
D.E.H.		
DATE MAY 1965		
CHECKED BY		
M.P.W.		
DATE MAY 1965		
APPROVED BY		
DATE		

LOADING HS15-44

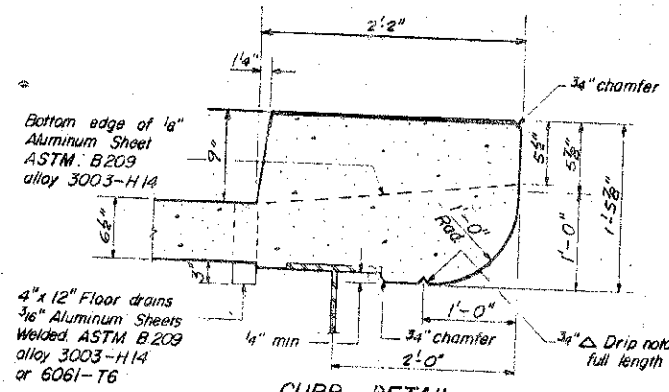
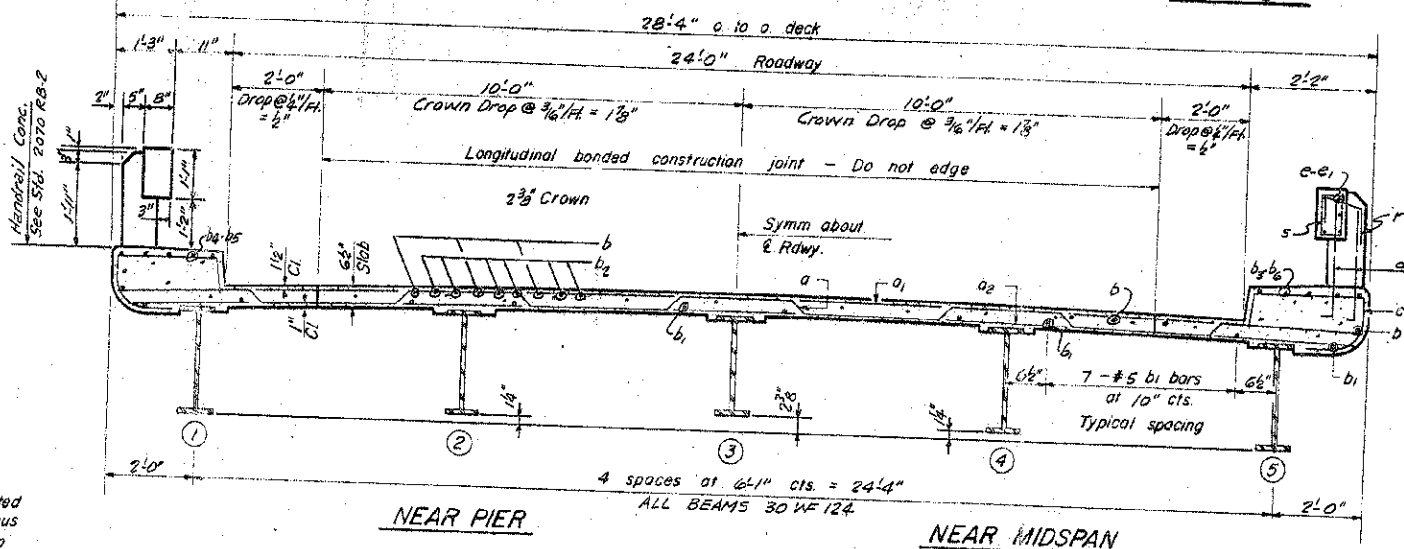


Note:
Bars indicated thus 20x3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
Min bar laps = 20 dia.

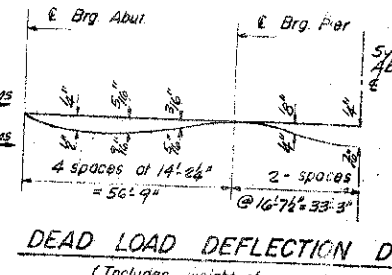


STANDARD FILLET DETAIL

To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheet 3. These elevations subtracted from the "Grade Elevations Adjusted for Dead Load Deflections" shown on sheet 3, minus slab thickness, equals the fillet heights "f" above top of beams.



Cost of Aluminum Drains and Sheets shall be incidental to Class X Concrete.



(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

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	143	#5	29'-0"	
a ₁	170	#5	27'-10"	
a ₂	170	#5	27'-3"	
a ₃	6	#5	32'-6"	
d	284	#3	3'-3"	
b	133	#5	27'-1"	
b ₁	210	#5	27'-1"	
b ₂	72	#6	18'-6"	
b ₃	40	#6	26'-6"	
b ₄	20	#6	7'-6"	
b ₅	20	#6	9'-6"	
b ₆	20	#6	24'-6"	
c	24	#8	5'-0"	
e ₁	48	#9	27'-9"	
c	368	#4	5'-0"	
f	112	#4	3'-6"	
x	72	#5	3'-6"	
s	192	#3	3'-6"	
Reinforcement Bars		Lbs	38530	
Structural Steel		Lbs	136050	
Class X Concrete		Cu. Yd.	134.1	
Handrail Concrete		Cu. Yd.	13.3	

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

Weight of bearing assemblies with lead lugs and anchor bolts are included as structural steel. E-111 = 5055#

For reinf. details for handrail, see Std. 2070 RB-2.

DESIGNED		19
CHECKED		
DRAWN		
CHECKED		
EXAMINED		
PASSED		
APPROVED		

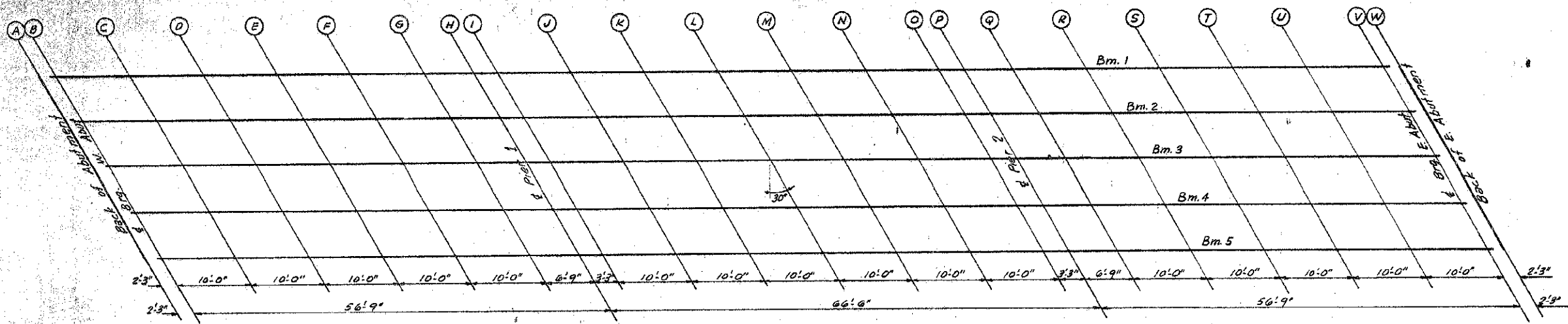
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

ENGINEER OF DESIGN

CHIEF HIGHWAY ENGINEER

I-5-R (>15°) 10-10-62

SUPERSTRUCTURE PROJECT NO. 3
KINGSTON-SYCAMORE ROAD DIST.
DEKALB COUNTY



PLAN

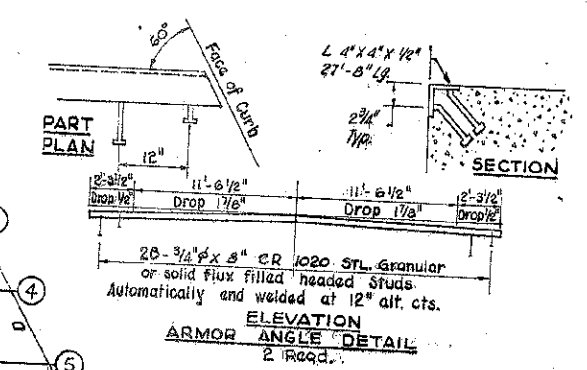
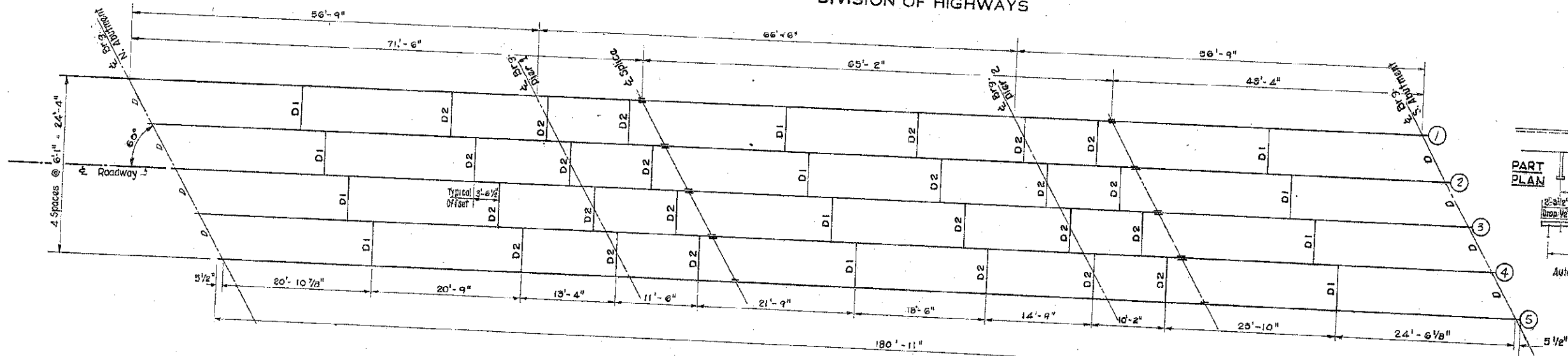
BEAM LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	GRADE ELEV. ADJUSTED FOR D.L. DEFLECTION	BEAM LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	GRADE ELEV. ADJUSTED FOR D.L. DEFLECTION	BEAM LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	GRADE ELEV. ADJUSTED FOR D.L. DEFLECTION	BEAM LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	GRADE ELEV. ADJUSTED FOR D.L. DEFLECTION
1	16+25.726	12.166	100.469	100.469	1	16+77.976	12.166	100.469	100.477	1	17+27.976	12.166	100.469	100.497	1	17+77.976	12.166	100.469	100.514
2	16+29.238	6.083	100.575	100.575	2	16+81.488	6.083	100.575	100.580	2	17+31.488	6.083	100.575	100.591	2	17+81.488	6.083	100.575	100.601
A 3	16+32.750	.000	100.670	100.670	G 3	16+85.000	.000	100.670	100.675	M 3	17+35.000	.000	100.670	100.686	S 3	17+85.000	.000	100.670	100.696
4	16+36.262	6.083	100.575	100.575	4	16+88.512	6.083	100.575	100.580	4	17+38.512	6.083	100.575	100.591	4	17+88.512	6.083	100.575	100.601
5	16+39.774	12.166	100.469	100.469	5	16+92.024	12.166	100.469	100.477	5	17+42.024	12.166	100.469	100.497	5	17+92.024	12.166	100.469	100.514
1	16+27.576	12.166	100.469	100.469	1	16+84.726	12.166	100.469	100.469	1	17+37.976	12.166	100.469	100.482	1	17+87.976	12.166	100.469	100.514
2	16+31.488	6.083	100.575	100.575	2	16+88.238	6.083	100.575	100.575	2	17+41.488	6.083	100.575	100.582	2	17+91.488	6.083	100.575	100.601
B 3	16+35.000	.000	100.670	100.670	H 3	16+91.750	.000	100.670	100.670	N 3	17+45.000	.000	100.670	100.677	T 3	17+95.000	.000	100.670	100.696
4	16+38.512	6.083	100.575	100.575	4	16+95.262	6.083	100.575	100.575	4	17+48.512	6.083	100.575	100.582	4	17+98.512	6.083	100.575	100.601
5	16+42.024	12.166	100.469	100.469	5	16+98.774	12.166	100.469	100.469	5	17+52.024	12.166	100.469	100.482	5	18+02.024	12.166	100.469	100.514
1	16+37.976	12.166	100.469	100.498	1	16+97.976	12.166	100.469	100.469	1	17+47.976	12.166	100.469	100.469	1	17+97.976	12.166	100.469	100.498
2	16+41.488	6.083	100.575	100.592	2	16+91.488	6.083	100.575	100.575	2	17+51.488	6.083	100.575	100.575	2	18+01.488	6.083	100.575	100.592
C 3	16+45.000	.000	100.670	100.687	I 3	16+95.000	.000	100.670	100.670	O 3	17+55.000	.000	100.670	100.670	U 3	18+05.000	.000	100.670	100.687
4	16+48.512	6.083	100.575	100.592	4	16+98.512	6.083	100.575	100.575	4	17+58.512	6.083	100.575	100.575	4	18+08.512	6.083	100.575	100.592
5	16+52.024	12.166	100.469	100.498	5	17+02.024	12.166	100.469	100.469	5	17+62.024	12.166	100.469	100.469	5	18+12.024	12.166	100.469	100.498
1	16+47.976	12.166	100.469	100.514	1	16+97.976	12.166	100.469	100.482	1	17+51.226	12.166	100.469	100.469	1	18+07.976	12.166	100.469	100.469
2	16+51.488	6.083	100.575	100.601	2	17+01.488	6.083	100.575	100.582	2	17+54.738	6.083	100.575	100.575	2	18+11.488	6.083	100.575	100.575
D 3	16+55.000	.000	100.670	100.696	J 3	17+05.000	.000	100.670	100.677	P 3	17+58.250	.000	100.670	100.670	V 3	18+15.000	.000	100.670	100.670
4	16+58.512	6.083	100.575	100.601	4	17+08.512	6.083	100.575	100.582	4	17+61.762	6.083	100.575	100.575	4	18+18.512	6.083	100.575	100.575
5	16+62.024	12.166	100.469	100.514	5	17+12.024	12.166	100.469	100.482	5	17+65.274	12.166	100.469	100.469	5	18+22.024	12.166	100.469	100.469
1	16+57.976	12.166	100.469	100.514	1	17+07.976	12.166	100.469	100.497	1	17+57.976	12.166	100.469	100.477	1	18+10.226	12.166	100.469	100.469
2	16+61.488	6.083	100.575	100.601	2	17+11.488	6.083	100.575	100.591	2	17+61.488	6.083	100.575	100.580	2	18+13.738	6.083	100.575	100.575
E 3	16+65.000	.000	100.670	100.696	K 3	17+15.000	.000	100.670	100.686	Q 3	17+65.000	.000	100.670	100.675	W 3	18+17.250	.000	100.670	100.670
4	16+68.512	6.083	100.575	100.601	4	17+18.512	6.083	100.575	100.591	4	17+68.512	6.083	100.575	100.580	4	18+20.762	6.083	100.575	100.575
5	16+72.024	12.166	100.469	100.514	5	17+22.024	12.166	100.469	100.497	5	17+72.024	12.166	100.469	100.477	5	18+24.274	12.166	100.469	100.469
1	16+67.976	12.166	100.469	100.498	1	17+17.976	12.166	100.469	100.504	1	17+67.976	12.166	100.469	100.498	1	18+10.226	12.166	100.469	100.469
2	16+71.488	6.083	100.575	100.592	2	17+21.488	6.083	100.575	100.595	2	17+71.488	6.083	100.575	100.592	2	18+13.738	6.083	100.575	100.575
F 3	16+75.000	.000	100.670	100.687	L 3	17+25.000	.000	100.670	100.690	R 3	17+75.000	.000	100.670	100.687	3	18+17.250	.000	100.670	100.670
4	16+78.512	6.083	100.575	100.592	4	17+28.512	6.083	100.575	100.595	4	17+78.512	6.083	100.575	100.592	4	18+20.762	6.083	100.575	100.575
5	16+82.024	12.166	100.469	100.498	5	17+32.024	12.166	100.469	100.504	5	17+82.024	12.166	100.469	100.498	5	18+24.274	12.166	100.469	100.469

Note: See Superstructure Sheet for D.L. Deflection Diagram.
 EXISTING BRIDGE PLANS FOR INFORMATION ONLY
 TOP OF SLAB ELEVATIONS
 PROJECT NO. 3
 KINGSTON-SYCAMORE ROAD DISTRICTS
 DEKALB COUNTY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

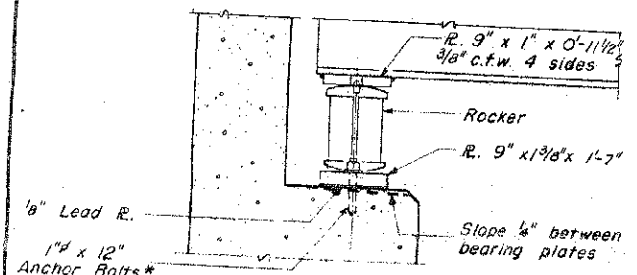
TOTAL SHEETS 18
SHEET NO. 16

CONTRACT 87467

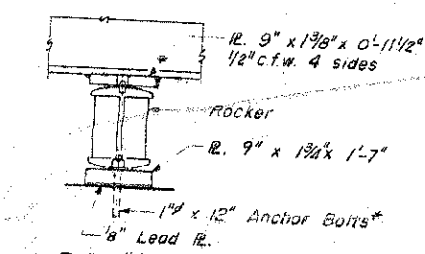


* Anchor Bolts to be grouted into drilled holes after beams are in place, or bolts of fixed piers may be built into the masonry.

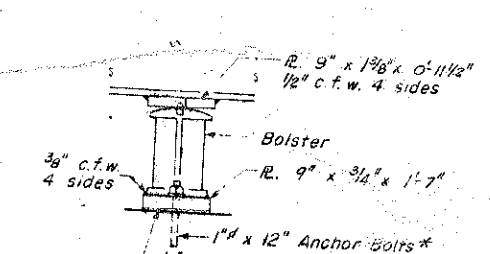
FRAMING PLAN
All Beams 30 WF 124



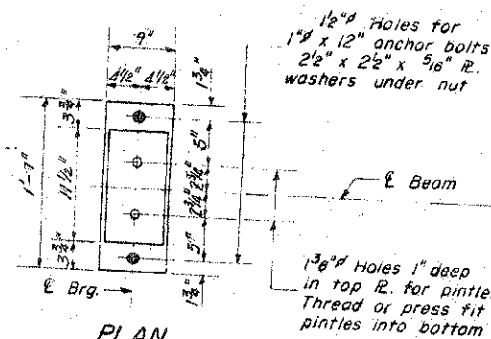
SECTION AT ABUTMENT



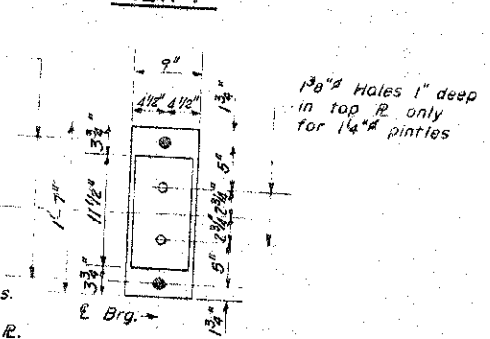
PIER #2



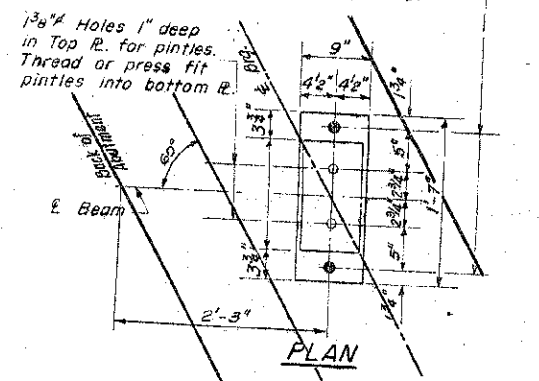
PIER #1



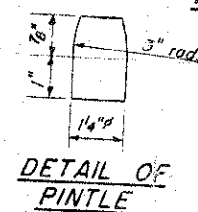
PLAN



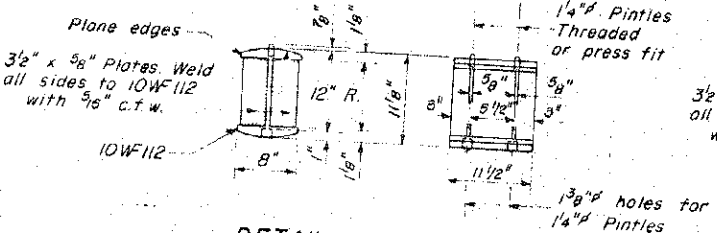
PLAN



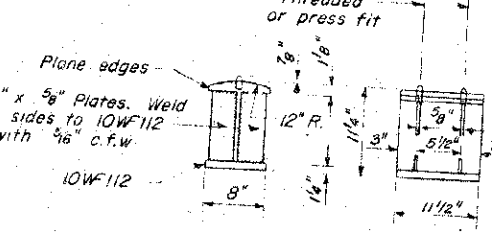
PLAN



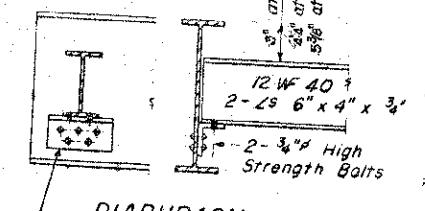
DETAIL OF PINTLE



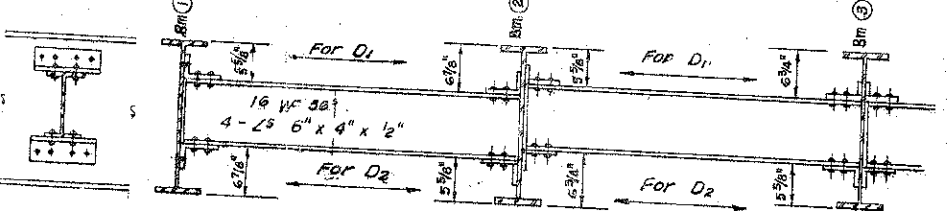
DETAIL OF ROCKER AT PIER 2 & ABUTMENTS



DETAIL OF BOLSTER AT PIER 1



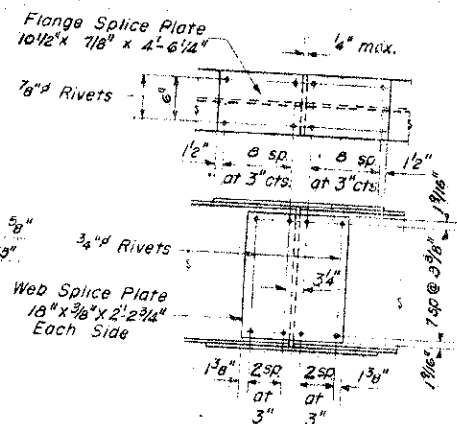
DIAPHRAGM D
B Required



DIAPHRAGM D1-D2
Required
12 - D1
24 - D2

ELEVATION TOP OF WF

Point	1 Bm or 5	2 Bm or 4	3 Bm
W. Abut.	99.878	99.982	100.076
Pier 1	99.878	99.982	100.076
Splice 1	99.878	99.982	100.076
Pier 2	99.878	99.982	100.076
Splice 2	99.878	99.982	100.076
E. Abut.	99.878	99.982	100.076



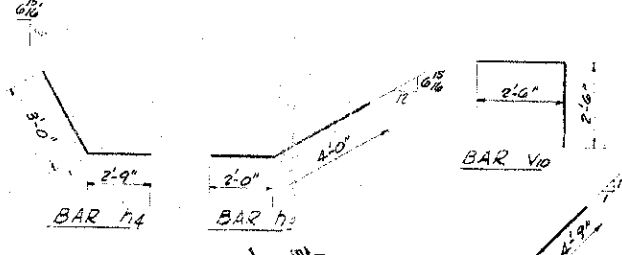
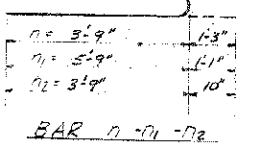
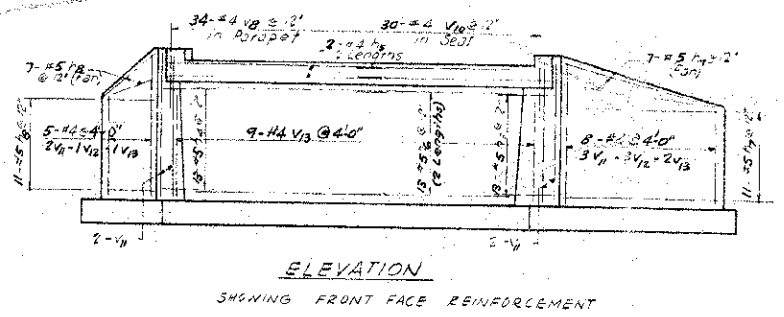
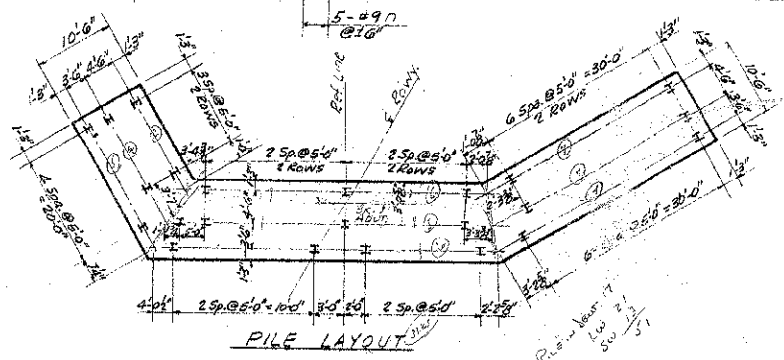
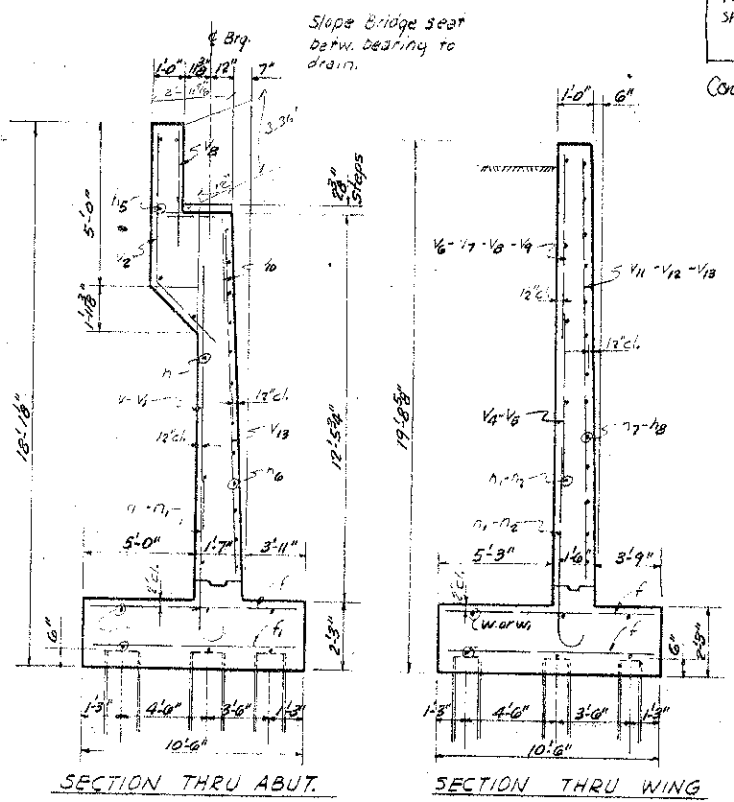
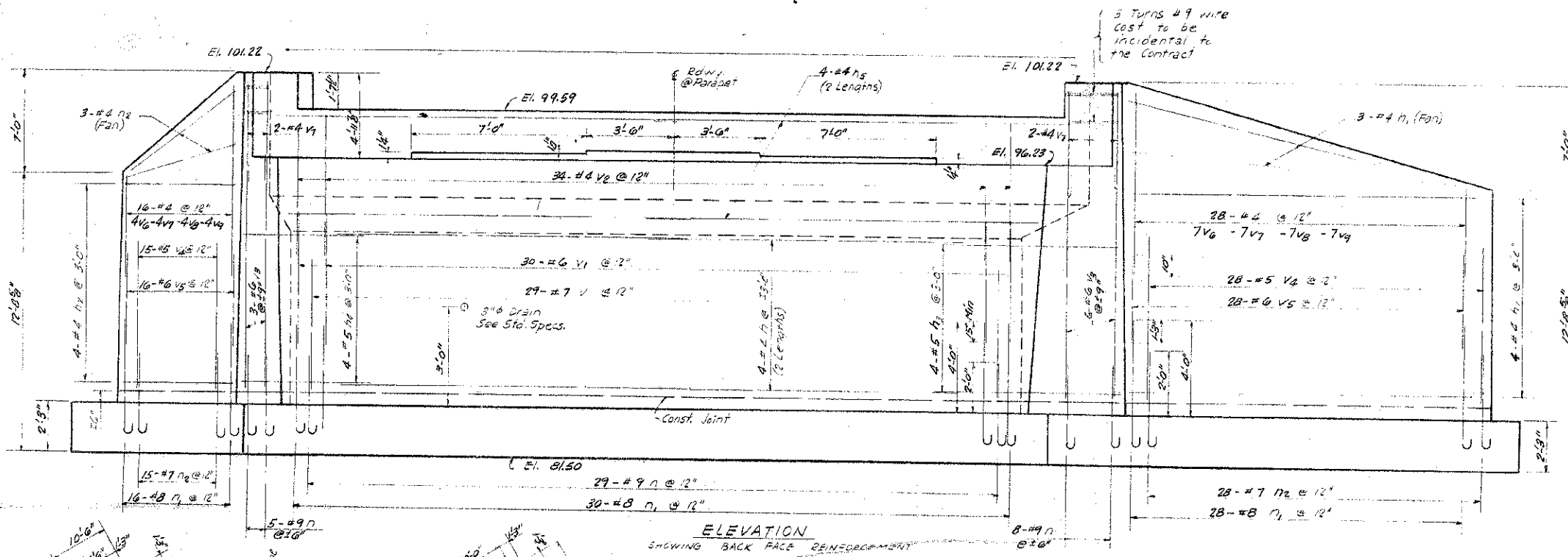
DETAIL OF SPLICE

DESIGNED	15
CHECKED	
DRAWN	W. A. Sausman Jr.
CHECKED	
EXAMINED	
PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
APPROVED	ENGINEER OF HIGHWAYS

I-2-C 7-2-62 Rev. 11-9-62

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

STRUCTURAL STEEL
PROJECT NO. 3
KINGSTON-SYCAMORE ROAD DIST.
DEKALB COUNTY

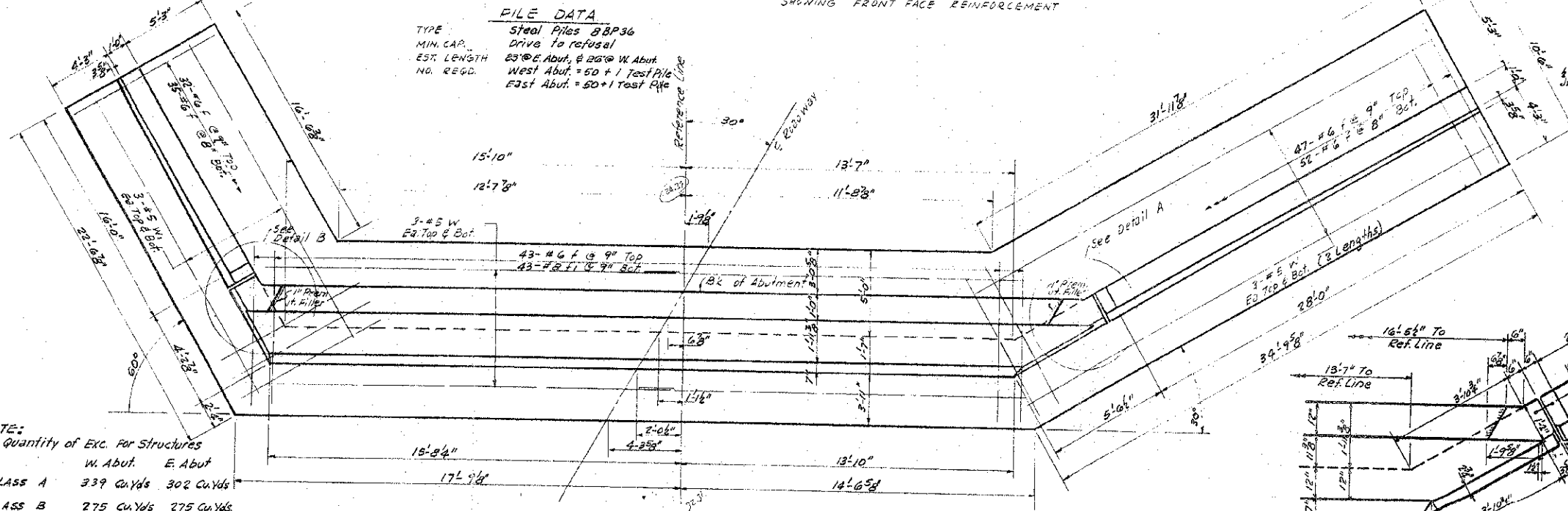


BILL OF MATERIAL - 2 ABUTS.

BAR NO.	NO.	SIZE	LENGTH	SHAPE
1	58	#7	7'0"	
2	60	#6	7'3"	
3	68	#4	8'6"	
4	18	#6	11'9"	
5	88	#5	5'6"	
6	88	#6	6'6"	
7	22	#4	8'10"	
8	30	#4	7'11"	
9	90	#4	5'4"	
10	22	#4	3'7"	
11	60	#4	5'0"	
12	18	#4	16'9"	
13	6	#4	14'3"	
14	24	#4	11'9"	
h	16	#4	15'0"	
h1	14	#4	23'0"	
h2	14	#4	23'0"	
h3	34	#4	5'0"	
h4	34	#4	5'0"	
h5	24	#4	17'3"	
h6	52	#4	12'0"	
h7	30	#5	23'2"	
h8	18	#4	16'2"	
n	48	#8	6'10"	
n1	48	#8	6'10"	
n2	86	#7	4'7"	
n3	16	#8	10'2"	
n4	48	#5	16'6"	
n5	12	#5	23'6"	

Concrete Cu Yds 205.4
 Reinforcement Bars Lbs. 23370
 Furnishing Steel Piles (BAP36) Lin. Ft. 2450
 Driving Steel Piles Lin. Ft. 2450
 Test Piles (BAP36) Each 2

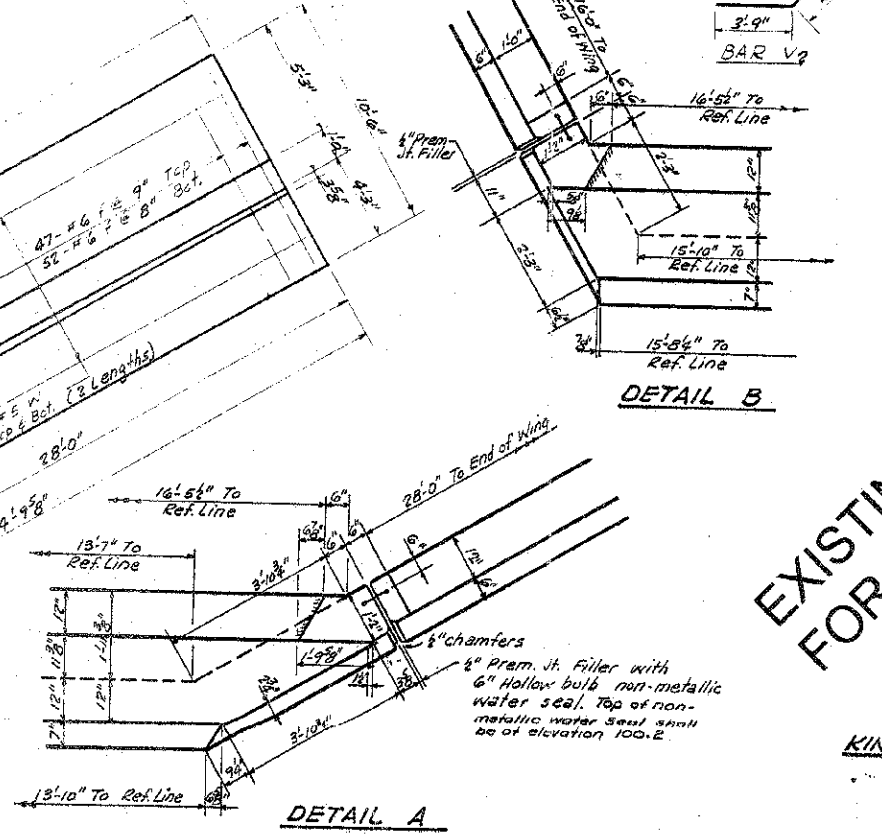
PILE DATA
 TYPE Steel Piles BAP36
 MIN. CAP. Drive to refusal
 EST. LENGTH 63' @ E. Abut. & 20' @ W. Abut.
 NO. REQD. West Abut. = 50 + 1 Test Pile
 East Abut. = 50 + 1 Test Pile



NOTE: Est. Quantity of Exc. For Structures

	W. Abut.	E. Abut.
CLASS A	339 Cu Yds	302 Cu Yds
CLASS B	275 Cu Yds	275 Cu Yds

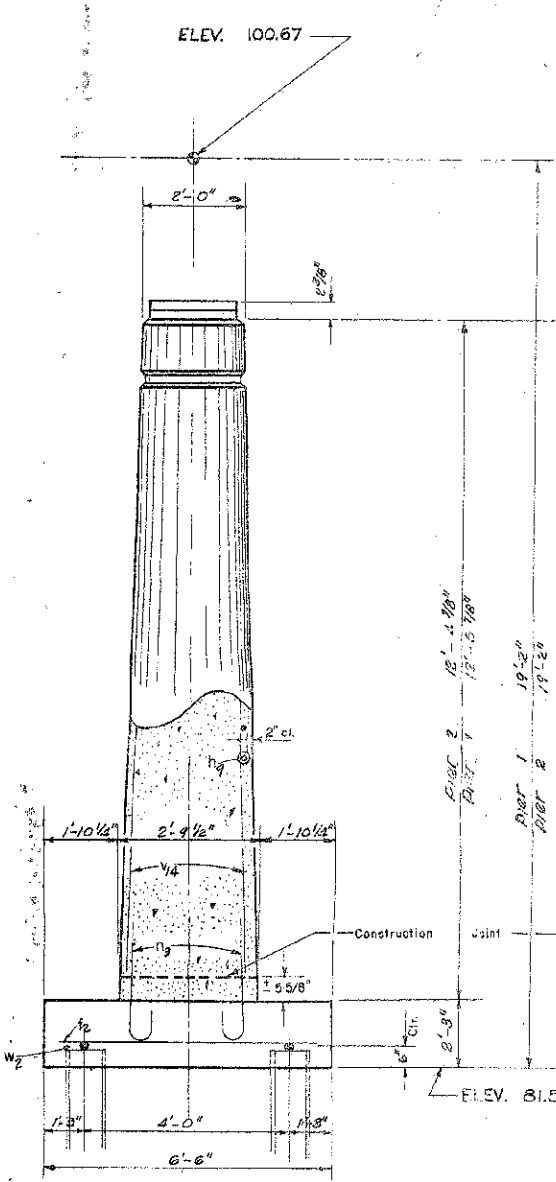
NOTE: See Pier plan for Spacing and location of anchor bolts for bearing assemblies



EXISTING BRIDGE PLANS FOR INFORMATION ONLY

ABUTMENT DETAILS
 PROJECT NO. 3
 KINGSTON-SYCAMORE ROAD DISTRICTS
 DEKALB COUNTY

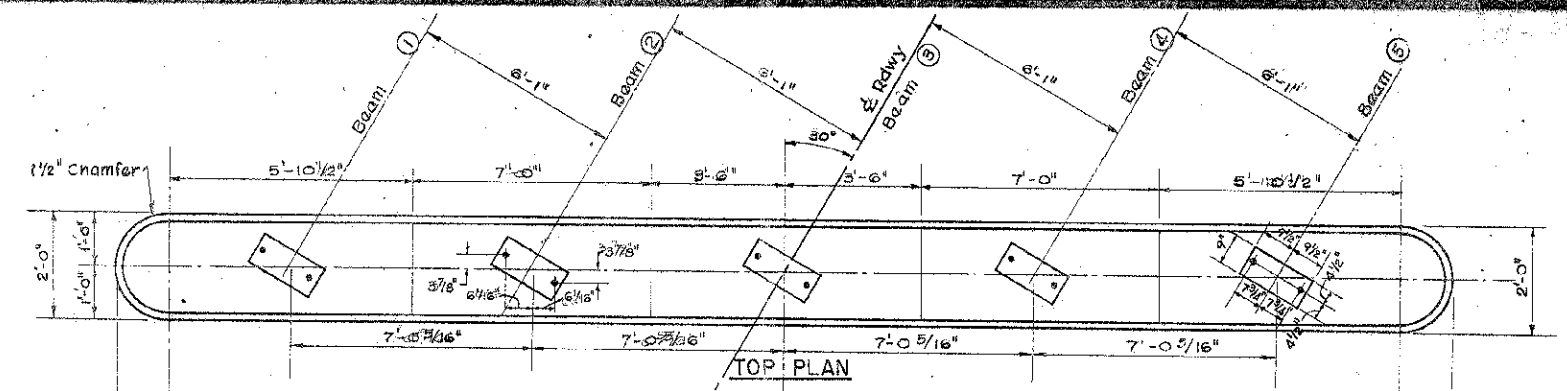
DEKALB COUNTY
 SYCAMORE ROAD
 BRIDGE



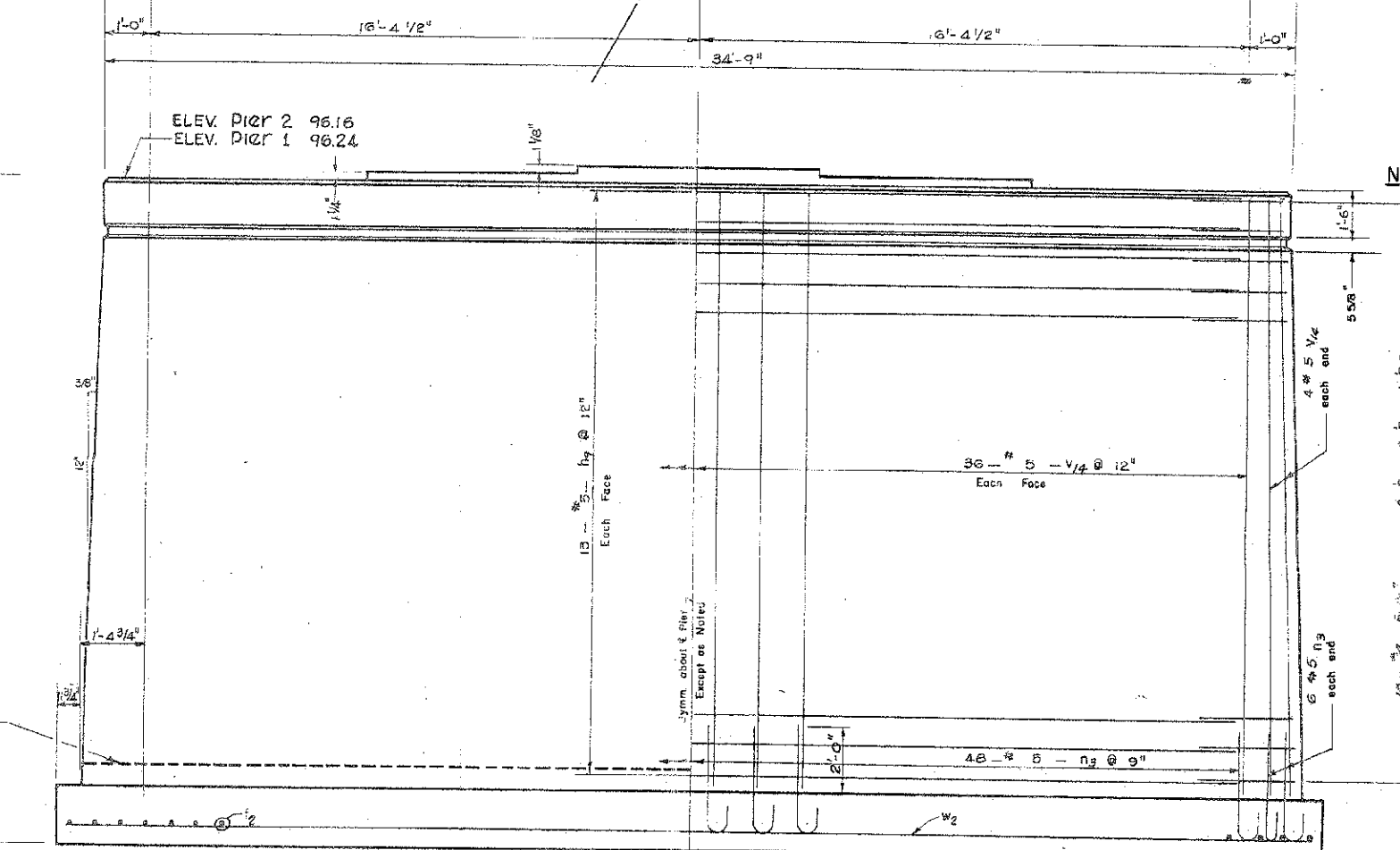
END VIEW

EST. QUANTITY of Class B Exc. for Structures

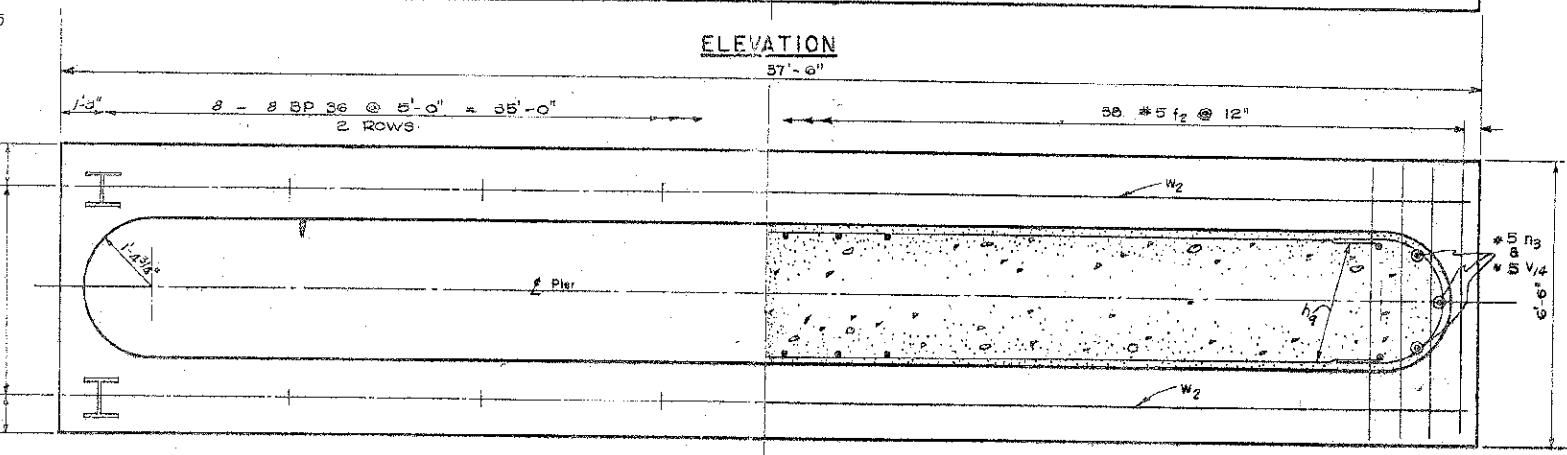
- Pier 1 = 97 cu. yds.
- Pier 2 = 97 cu. yds.



TOP PLAN



ELEVATION



FOOTING PLAN

NOTCH DETAIL

BAR - n₃

BAR	R	A
h ₁₀	0'-10"	2'-6"
h ₁₁	0'-11 1/2"	2'-10"
h ₁₂	1'-1 1/8"	2'-9"

DETAIL OF BARS
h₁₀-h₁₁-h₁₂

PILE DATA

- Type: 8 BP 36
- Min. Capacity: Drive to refusal
- Est. Length: 27'
- No. Reqd.: Pier 1: 15 plus 1 Test pile; Pier 2: 16 plus 1 Test pile

TOTAL BILL OF MATERIAL - PIER 1 & 2

BAR	NO	SIZE	LENGTH	BAR	NO	SIZE	LENGTH
V _{1/4}	160	#5	11'-9"	h ₉	104	#5	16'-10"
				h ₁₀	92	#5	4'-6"
n ₃	216	#5	4'-4"	h ₁₁	32	#5	4'-10"
				h ₁₂	40	#5	5'-0"
f ₂	76	#5	6'-2"				
w ₂	8	#5	19'-2"				
Class A Concrete				Cu. Yds. 112			
Reinforcement Bars				Lbs. 2930			
Furn. steel Piles (8 BP 36)				Lbs. 810			
Driving steel Piles				Lbs. 810			
Test Piles (8 BP 36)				Each 2			

EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

PIERS 1 AND 2
 PROJECT NO. 3
 KINGSTON-SYCAMORE ROAD DIST.
 DEKALB COUNTY