06-17-11 LETTING ITEM 263

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 373	07-04121 -00-BR	SHELBY	18	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95656	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

PROJECT BROS-173(174)
SECTION 07-04121-00-BR
COLD SPRING ROAD DISTRICT
SHELBY COUNTY
T.R. 373
PROPOSED STRUCTURE NO. 087-3572
JOB NO. C-97-061-11

INDEX OF SHEETS

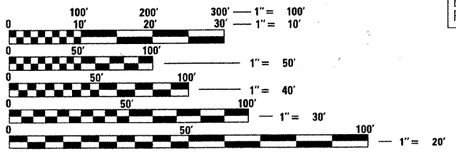
HIGHWAY STANDARDS:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEM
515001-03	NAME PLATE FOR BRIDGES
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 23-3	TRAFFIC BARRIER TERMINAL TYPE 1
BLR 27-1	TRAFFIC BARRIER TERMINAL TYPE 5A

UTILITIES

CONSOLIDATED COMMUNICATIONS
121 SOUTH 17TH STREET
MATTOON, ILLINOIS 61938
ATTN: GERRY MYERS

SHELBY ELECTRIC CO-OPERATIVE
PO BOX 560
SHELBYVILLE, ILLINOIS 62565
ATTN: JIM MATLOCK

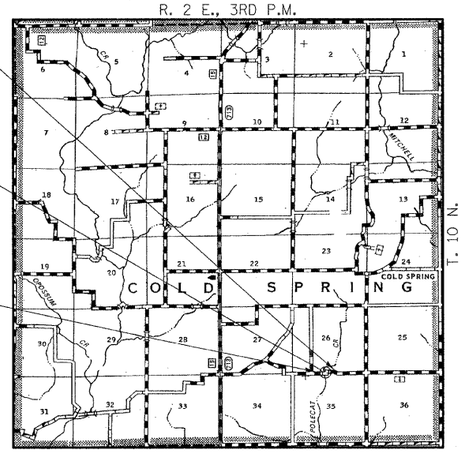


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

IMPROVEMENT ENDS STATION 10+50

STA. 8+26
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN @ 54'-0"
24'-0" RDWY.; SKEW = 20° LT. FORWARD
EXISTING STRUCTURE NO. 087-3323
PROPOSED STRUCTURE NO. 087-3572

IMPROVEMENT BEGINS STATION 6+40



LOCATION MAP

APPROXIMATE SCALE: 0 — 1 MILE

NET LENGTH OF SECTION = 410 FEET = 0.078 MILES

LOCATION OF SECTION INDICATED THUS: —■—

FUNCTIONAL CLASSIFICATION: LOCAL ROAD 0-250 ADT
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 125 ADT (2027)

WARNING

CALL J.U.L.I.E. TOLL FREE 1-800-892-0123

CALL 811 BEFORE YOU DIG

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 4-6 20 11
COUNTY ENGINEER

APPROVED 4-6 20 11
ROAD COMMISSIONER

PASSED 4-22 20 11
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 4/22 20 11
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 4/5/2011

LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
STEVEN W. MEGGINSON
062-50051
EXPIRES: 11/30/2011

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 07.0476.130 DATE: 04/04/11

CONTRACT NO. 95656

SUMMARY OF QUANTITIES

CODE NO.	ITEM	CONSTRUCTION TYPE CODE 0011 UNIT	TOTAL
20100500	TREE REMOVAL, ACRES	ACRE	0.2
20200100	EARTH EXCAVATION	CU YD	225
20300100	CHANNEL EXCAVATION	CU YD	75
20400800	FURNISHED EXCAVATION	CU YD	490
25000200	SEEDING, CLASS 2	ACRE	0.4
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	36
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	36
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	36
25100115	MULCH, METHOD 2	ACRE	0.4
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100
28000305	TEMPORARY DITCH CHECKS	FOOT	56
28000500	INLET AND PIPE PROTECTION	EACH	2
28100207	STONE RIPRAP, CLASS A4	TON	265
28200200	FILTER FABRIC	SQ YD	350
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	405
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	24.8
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,296
50800105	REINFORCEMENT BARS	POUND	2,750
* 50900205	STEEL RAILING, TYPE S1	FOOT	111
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	420
51202305	DRIVING PILES	FOOT	420
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	34
542D0241	PIPE CULVERTS, CLASS D, TYPE 1 36"	FOOT	40
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POST	FOOT	25
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
* LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2

* SPECIALTY ITEMS

INLET & PIPE PROTECTION

STA	O/S	QUANTITY
6+56	RIGHT	1.0 EACH
9+14	RIGHT	1.0 EACH
	TOTAL	2.0 EACH

TEMPORARY DITCH CHECKS

STA	O/S	LENGTH
7+00	LEFT	8.0 FT
8+00	LEFT	8.0 FT
8+00	RIGHT	8.0 FT
8+40	RIGHT	8.0 FT
8+75	LEFT	8.0 FT
10+00	LEFT	8.0 FT
10+00	RIGHT	8.0 FT
	TOTAL	56.0 FT

TREE REMOVAL ACRES

LOCATION	ACRE 20100500
TR 373	
LT. STA 6+39.12 TO LT. STA 10+50.00	0.02
RT. STA 6+39.12 TO RT. STA 10+50.00	0.12
TOTAL	0.14
USE	0.20

GENERAL NOTES

1 ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2007," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2 ALL CLEARING AND GRUBBING, FENCE REMOVAL AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

3 THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

4 WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

5 THE CONTRACTOR SHALL CONSULT THE ENGINEER IN REGARD TO THE EXACT LENGTH OF PIPE CULVERTS AND PIPE DRAINS BEFORE ORDERING THESE ITEMS.

6 THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.

7 THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES.

AGGREGATE SURFACE COURSE	**2.05 TON/CU YD**
STONE RIPRAP, CLASS A4	**1.75 TON/CU YD**
NITROGEN FERTILIZER NUTRIENT	**90 LBS/ACRE**
PHOSPHORUS FERTILIZER NUTRIENT	**90 LBS/ACRE**
POTASSIUM FERTILIZER NUTRIENT	**90 LBS/ACRE**
TEMPORARY EROSION CONTROL SEEDING	**200 LBS/ACRE**

8 THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
ESTIMATED QUANTITY = 0.4 ACRES

9 TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER. THE AREA DESIGNATED FOR REMOVAL SHALL BE MARKED AND MEASURED FOR PAYMENT BY THE ENGINEER BEFORE REMOVAL.

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU.YD.	CHANNEL EXCAVATION CU.YD.	SHRINKAGE FACTOR	PERCENT USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE CU.YD.	EMBANKMENT REQUIRED CU.YD.	EARTHWORK BALANCE CU.YD.
TR 373							
STA 6+40.00 TO STA 7+98.66	123		25.00%	100.00%	92	278	-186
STA 8+53.71 TO STA 10+50.00	101		25.00%	100.00%	76	345	-269
CHANNEL EXCAVATION		75	25.00%	70.00%	39	0	39
ENTRANCE EMBANKMENT						70	-70
TOTAL	224	75			207	693	-486
USE	225	75			210	695	-490

FURNISHED EXCAVATION= 490 CU YDS

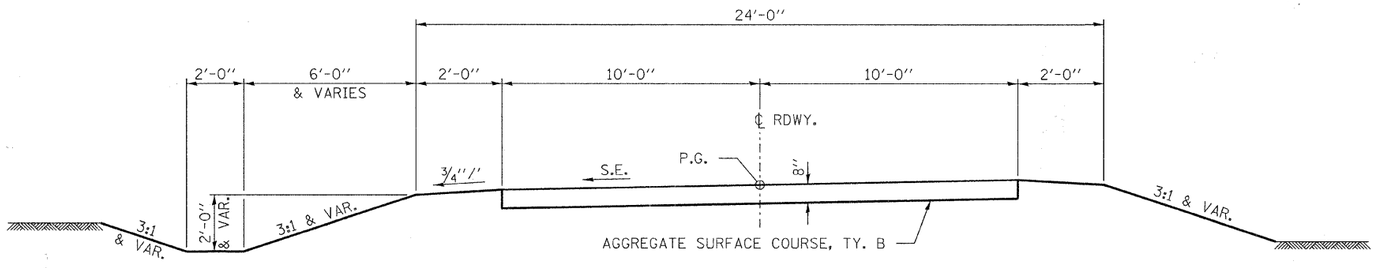
SEEDING TABLE

LOCATION	SEEDING, CLASS 2 25000200 ACRE	NITROGEN FERTILIZER NUTRIENT (90 LBS/ACRE) 25000400 POUND	PHOSPHORUS FERTILIZER NUTRIENT (90 LBS/ACRE) 25000500 POUND	POTASSIUM FERTILIZER NUTRIENT (90 LBS/ACRE) 25000600 POUND	MULCH, METHOD 2 25100115 ACRE	TEMPORARY EROSION CONTROL SEEDING (200 LBS/ACRE) 28000250 POUND
TR 373						
STA 6+39.12 TO STA 8+25.00	0.18	16	16	16	0.18	35
STA 8+35.00 TO STA 10+50.00	0.19	17	17	17	0.19	39
TOTAL	0.37	33	33	33	0.37	74
USE	0.40	36	36	36	0.40	100

FILE NAME = 078476-sht-summary.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT	SUMMARY OF QUANTITIES AND GENERAL NOTES T.R. 373 / CORLEY RIDGE ROAD
		DRAWN - D.T.M.	REVISED -		
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		
	PLOT DATE = 4/4/2011	DATE - 04/04/11	REVISED -		

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	2
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-1731(174)		



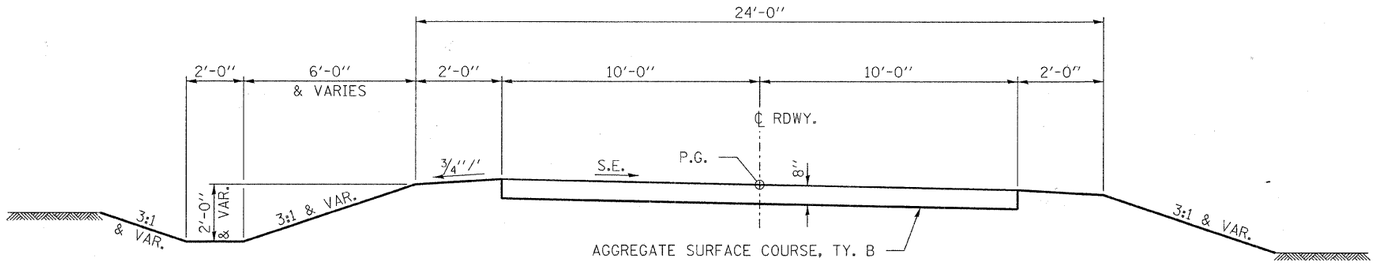
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

STA. 6+40.00 TO STA. 9+11.05

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 6+40.00 TO 6+90.00. SEE SHEET 9 FOR TRANSITION AT BRIDGE.



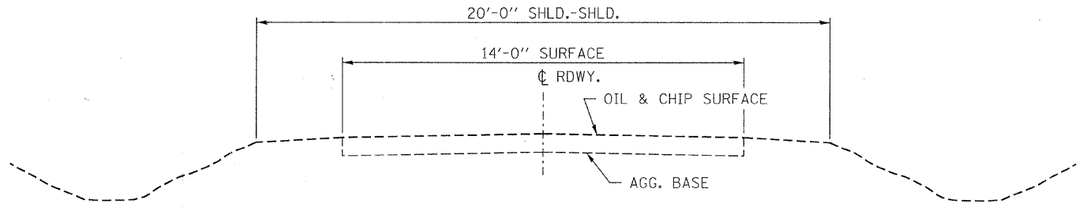
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

STA. 9+11.05 TO STA. 10+50

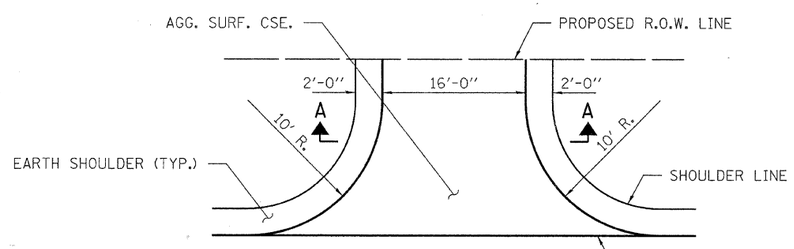
SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. STA. 10+00 TO 10+50. SEE SHEET 9 FOR TRANSITION AT BRIDGE.

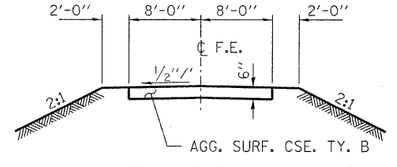


EXISTING CROSS SECTION

STA. 6+25 TO 14+50



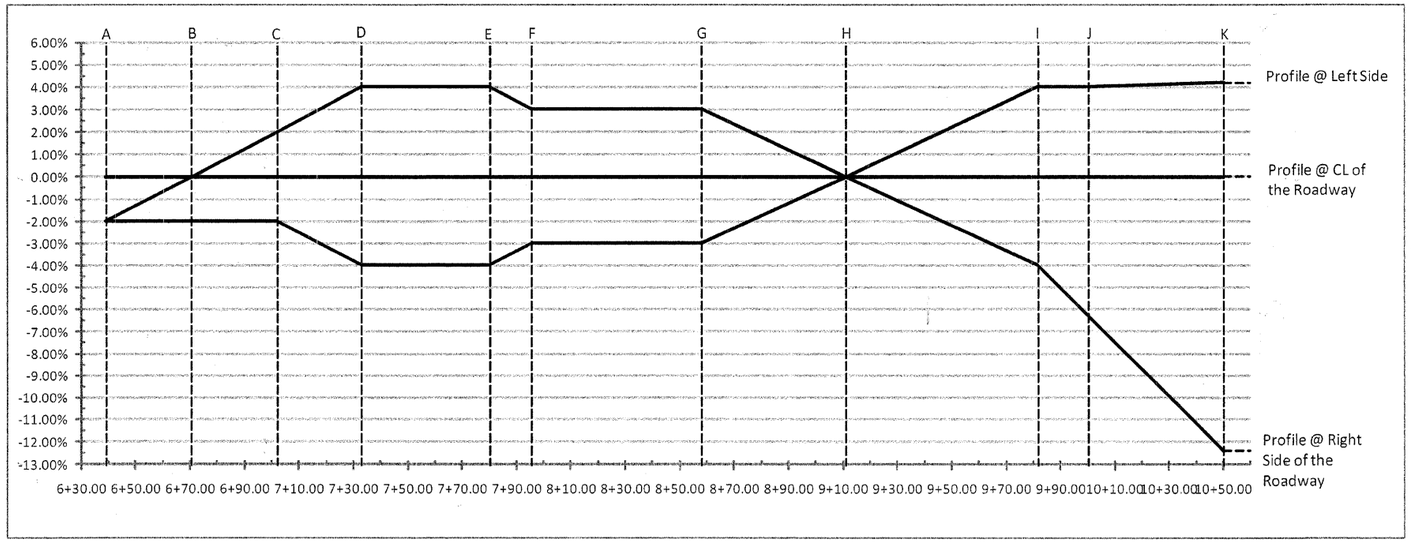
FIELD ENTRANCE DETAIL



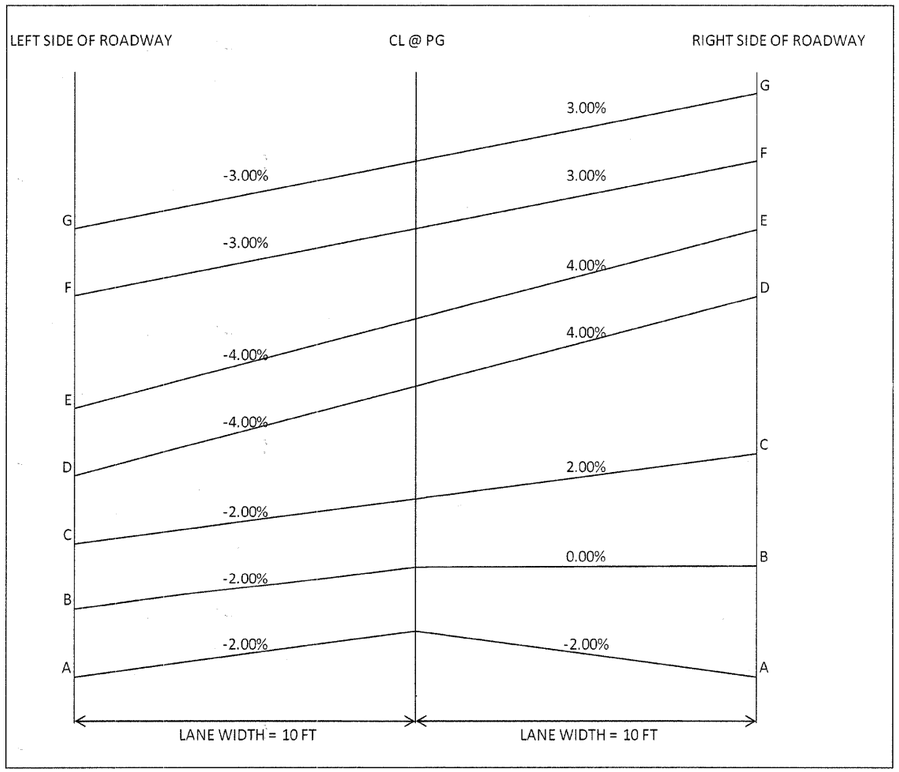
SECTION A-A

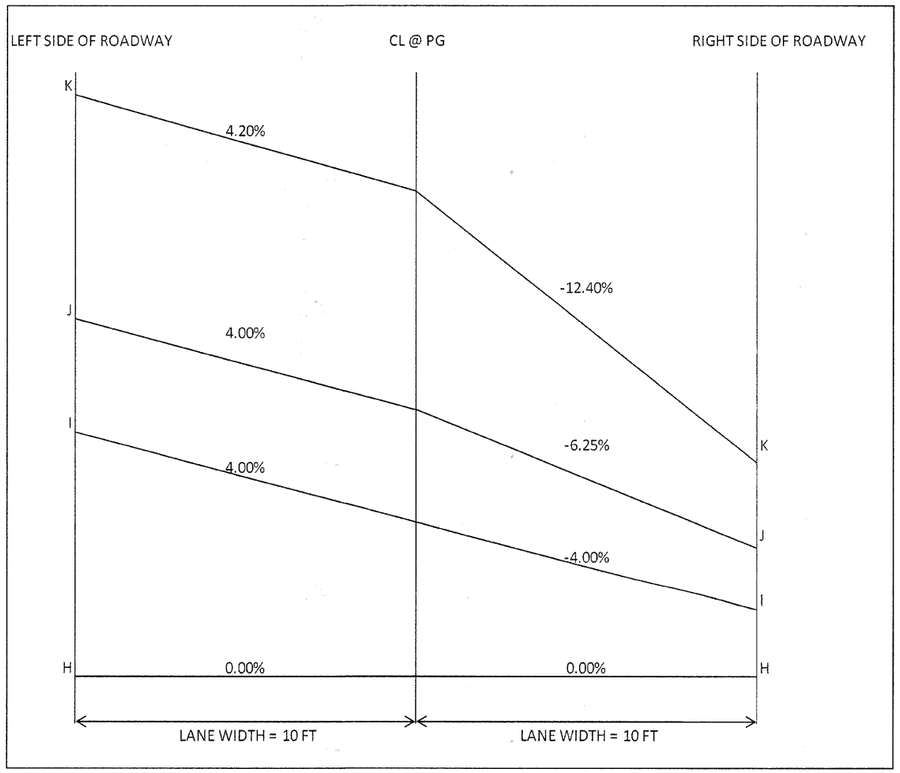
FILE NAME = 070476-sht-typsections.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT	TYPICAL CROSS SECTIONS T.R. 373 / CORLEY RIDGE ROAD
HAMPTON, LENZINI AND RENWICK, INC. ELGIN · SPRINGFIELD 184.005658 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION		DRAWN - D.A.B.	REVISED -		
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		
	PLOT DATE = 4/4/2011	DATE - 04/04/11	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	3
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-173(174)		



	STATION	SUPERELEVATION		
		LT SIDE	CL	RT SIDE
A	6+39.12	-2.00%	0.00%	-2.00%
B	6+70.55	-2.00%	0.00%	0.00%
C	7+01.97	-2.00%	0.00%	2.00%
D	7+33.09	-4.00%	0.00%	4.00%
E	7+80.09	-4.00%	0.00%	4.00%
F	7+95.60	-3.00%	0.00%	3.00%
G	8+58.08	-3.00%	0.00%	3.00%
H	9+11.05	0.00%	0.00%	0.00%
I	9+81.68	4.00%	0.00%	-4.00%
J	10+00.00	4.00%	0.00%	-6.25%
K	10+50.00	4.20%	0.00%	-12.40%





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		DRAWN - D.A.B.	REVISED -		
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		SCALE:
	PLOT DATE = 4/4/2011	DATE - 04/04/11	REVISED -		SHEET NO. OF SHEETS STA. TO STA.

SUPERELEVATION TRANSITIONS
T.R. 373 / CORLEY RIDGE ROAD

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	4
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-173(174)		

N

0 20' 40'
GRAPHIC SCALE

P.K. NAIL IN POWER POLE
20.13'
75.15°
P.K. NAIL IN 24" TREE

P.O.T. STA. 5+00
IRON PIN (SET)
N. 998,813.988
E. 998,234.224

P.K. NAIL IN 8" TREE
44.23'
28.80°
38.17'
S.W. COR. OF NORTH GIRDER
S.W. COR. OF SOUTH GIRDER

P.I. STA. 7+74.70
IRON PIN (SET)
N. 998,813.988
E. 998,508.924

CURVE DATA #1
PI Sta. 7+74.70
Δ = 23° 49' 54" (LT)
D = 19° 00' 00"
T = 63.64'
R = 301.56'
L = 125.43'
E = 6.64'
PC Sta. 7+11.06
PT Sta. 8+36.49
S.E. = 4.0%
S.E. TRANSITIONS:
STA. 6+39.12 TO STA. 7+33.09
STA. 7+80.09 TO STA. 9+11.05

MAURICE & MARCELEEN MATHIAS
SW¼, SE¼, SEC 26, T. 10 N., R. 2 E., 3RD P.M.

IMPROVEMENT BEGINS STATION 6+40

℄ PROPOSED IMPROVEMENT

STATION 8+26
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN ℄ 54'-0" 24'-0" RDWY.; SKEW = 20° LT. FORWARD; S.E.=3.0%
PROPOSED STRUCTURE NO. 087-3572

TIMBER
TIMBER
TIMBER
GRASS
GRASS

PROPOSED R.O.W. LINE
PROPOSED R.O.W. LINE

CREEK
POLE CAT

PC STA. 7+11.06
PI STA. 7+74.70
PT STA. 8+36.49
PC STA. 9+59.35
PI STA. 10+53
PT STA. 11+45.40

IMPROVEMENT ENDS STATION 10+50

CURVE DATA #2
PI Sta. 10+53.35
Δ = 20° 11' 28" (RT)
D = 10° 51' 09"
T = 94.00'
R = 527.95'
L = 186.05'
E = 8.30'
PC Sta. 9+59.35
PT Sta. 11+45.40
S.E. = 0.040%
S.E. TRANSITIONS:
STA. 9+11.05 TO STA. 9+81.68
STA. 9+81.68 TO STA. 10+50.00
(TRANSITION TO MEET EXISTING CROSS SLOPE)

RT. STA. 9+00 F.E.
PIPE CULVERTS, CL. D, TY. 1, 36"
LENGTH = 40 FT.
EXISTING CMP TO BE REMOVED.

RT. STA. 9+00 F.E.
PIPE CULVERTS, CL. D, TY. 1, 18"
LENGTH = 34 FT.

INLET AND PIPE PROTECTION
TEMPORARY DITCH CHECKS

EXISTING STRUCTURE NO. 087-3323
STATION 8+28 - SINGLE SPAN I-BEAM BRIDGE WITH TIMBER DECK ON CLOSED TIMBER ABUTMENTS AND WINGWALLS.
29.4' FC.-FC. ABUTS; 20.7' o.-o. DECK; SKEW=15° LT.

MAURICE & MARCELEEN MATHIAS
SE¼, SW¼, SEC 26, T. 10 N., R. 2 E., 3RD P.M.

PLAN | SURVEYED | PLOTTED | NOTE BOOK | NO. | BY | DATE

PROFILE | SURVEYED | PLOTTED | NOTE BOOK | NO. | BY | DATE

BM#1 - SOUTH END OF CULVERT APPRX. 12' WEST OF F.E. SOUTH SIDE OF ROAD ELEV. 597.34

BM#2 - NAIL LOCATED NEAR THE BOTTOM OF 5TH POWER POLE FROM INTERSECTION ELEV. 598.50

BM#3 - S.W. CORNER OF THE N.W. SIDE OF BRIDGE RAIL ELEV. 588.98

V.P.C.
V.P.I. STA. 7+05 ELEV. 588.80
V.P.T.
K = 38
110' V.C.

100 YEAR H.W. ELEV. 589.4
15 YEAR H.W. ELEV. 587.8

PROPOSED ℄ GRADE
EXISTING ℄ GRADE
-0.72%
+2.174%
-2.16%
-1.80%
+4.00%
+3.50%
587.54 LT.
585.00 RT.
583.20 RT.
584.30 LT.
587.50 RT.
591.00 LT.
595.00 LT.
594.50 RT.
CHANNEL EXCAVATION
* 2H:1V @ RT. ℄'S
STONE RIPRAP, CLASS A4
℄ ELEV. 579.8

	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50
EXISTING ELEVATION	591.8	590.8	589.8	589.27	589.2	588.7	588.3	588.8	590.0	591.2	592.9	594.9	596.3
PROPOSED ELEVATION				589.20	589.17	589.79	590.87	591.95	593.04	594.13	595.21	596.30

610 605 600 595 590 585 580 575 570 565

FILE NAME = 070476-sht-ppl.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -
		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/4/2011	DATE - 02/18/10	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

HLR

PLAN & PROFILE
T.R. 373 / CORLEY RIDGE ROAD

SCALE: 20H:5V | SHEET NO. 1 OF 1 SHEETS | STA. 5+00 TO STA. 11+00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	5
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-173(174)		

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

595
590
585

C = 44 F = 6

PROP. R.O.W.

EXIST. R.O.W.

24'

587.15

588.92

583.10

589.13

RT. STA. +76 F.F.

5.5%

EXIST. R.O.W.

584.60

PROP. R.O.W.

PIPE CULVERTS, 36"

6 + 76.00

6 + 40 IMPROVEMENT BEGINS

AHEAD C = 8 F = 0
BACK C = 0 F = 0

595
590
585

EXIST. R.O.W.

EXIST. R.O.W.

6 + 00.00

595
590
585

EXIST. R.O.W.

EXIST. R.O.W.

5 + 00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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

FILE NAME = 070476-sht-sxs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT
		DRAWN - D.T.M.	REVISED -	
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -	
	PLOT DATE = 4/4/2011	DATE - 02/18/10	REVISED -	

HLR

SCALE: 5H:5V

CROSS SECTIONS
CORLEY RIDGE ROAD

SHEET NO. OF SHEETS STA. 5+00.00 TO STA. 6+76.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	6
		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-173(174)	

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

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

8 + 53.71 BK. EAST ABUTMENT

AHEAD C = 9 F = 89
BACK C = 0 F = 0

PROP. R.O.W. 2:1 EXIST. R.O.W. 590.56 584.30 EXIST. R.O.W. PROP. R.O.W.

8 + 00.00

7 + 98.66 BK. WEST ABUTMENT

AHEAD C = 0 F = 0
BACK C = 5 F = 83

C = 5 F = 83

PROP. R.O.W. 2:1 3:1 EXIST. R.O.W. 589.39 589.79 590.19 586.10 EXIST. R.O.W. 2:1 PROP. R.O.W.

7 + 50.00

C = 40 F = 33

PROP. R.O.W. 2:1 3:1 EXIST. R.O.W. 588.97 589.17 589.36 586.80 EXIST. R.O.W. 3:1 2:1 PROP. R.O.W. 584.20

7 + 00.00

595 590 585 580

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

FILE NAME = Ø70476-sht-sxs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -
		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/4/2011	DATE - 02/18/10	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

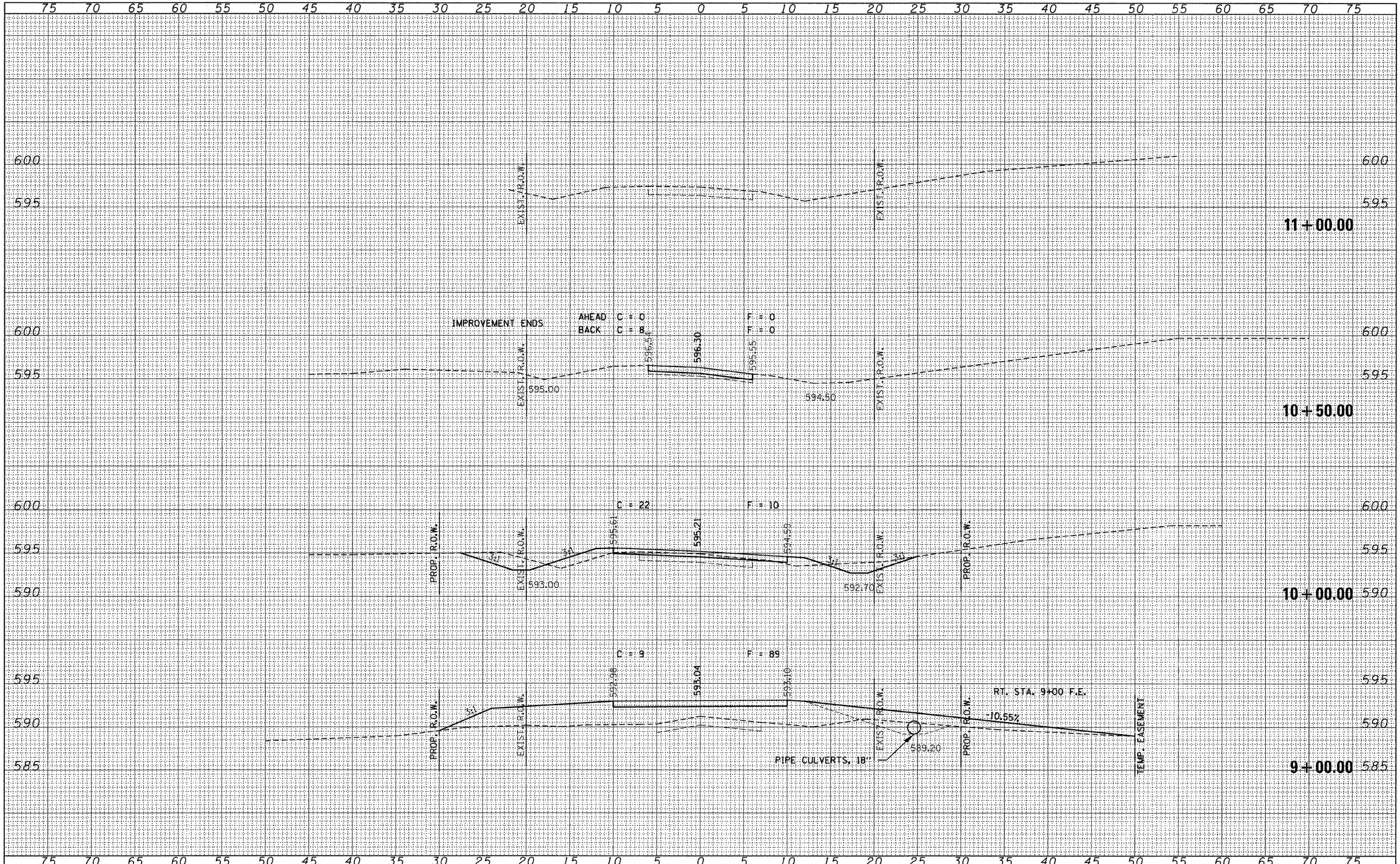
SCALE: 5H:5V

CROSS SECTIONS
CORLEY RIDGE ROAD

SHEET NO. OF SHEETS STA. 7+00.00 TO STA. 8+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	7
		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-173(174)	

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



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	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

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	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/4/2011	DATE - 02/18/10	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

SCALE: 5Ht5V

CROSS SECTIONS
CORLEY RIDGE ROAD

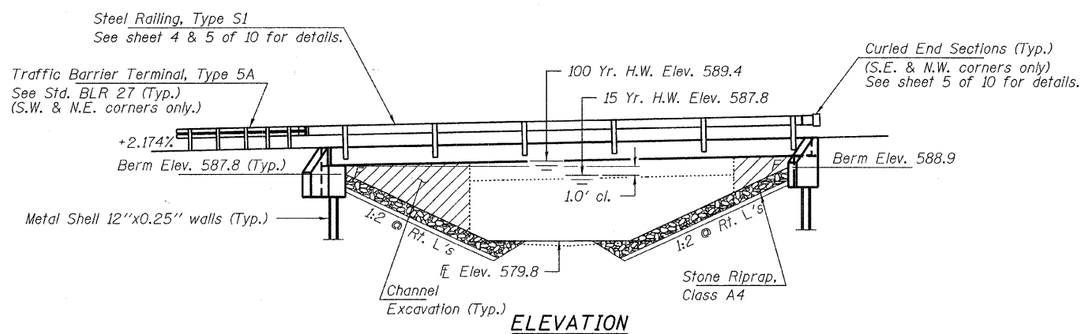
SHEET NO. OF SHEETS STA. 9+00.00 TO STA. 11+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	8
		CONTRACT NO. 95656		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-173(174)		

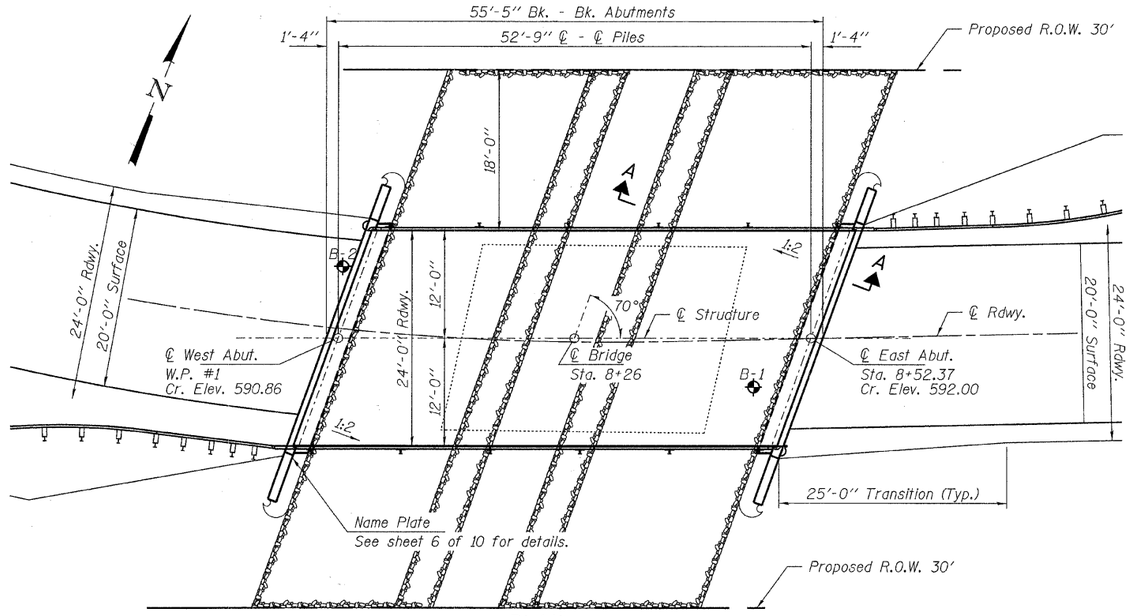
BENCHMARK: Nail located near the bottom of 5th power pole from intersection; Elev. 598.50

EXISTING STRUCTURE NO. 087-3323: Sta. 8+28 - Single span I-beam bridge with timber deck on closed timber abutments and wingwalls. 29.4' fc.-fc. abuts.; 20.7' o.-o. deck Structure closed to traffic.

No Salvage



ELEVATION



PLAN

GENERAL NOTES

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

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

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

Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

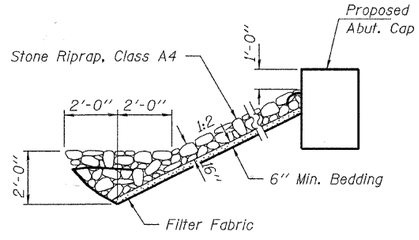
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

POLE CAT CREEK
BUILT 201_ BY
SHELBY COUNTY
SEC. 07-04121-00-BR
COLD SPRING ROAD DISTRICT
STR. NO. 087-3572
LOADING HL-93

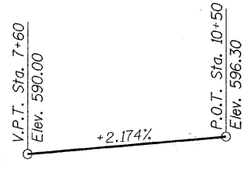
NAME PLATE

See Std. 515001

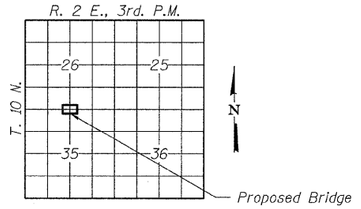


SECTION A-A

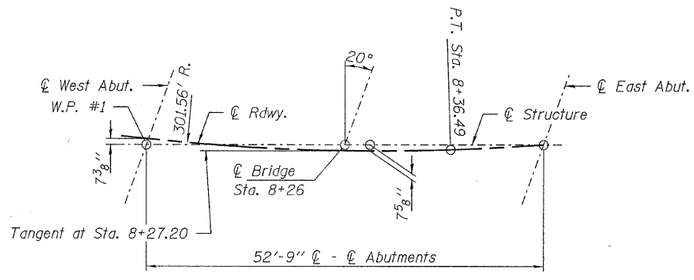
Note: See Special Provisions for Stone Riprap, Class A4.



PROFILE GRADE



LOCATION SKETCH



OFFSET SKETCH

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½"ϕ low lax. strands)
fpbt = 201,960 psi (½"ϕ low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.286g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.652g
Soil Site Class = E

WATERWAY INFORMATION

Drainage Area = 2.0 Sq. Mi.

Existing Low Grade Elev. 588.4 @ Sta. 7+50
Proposed Low Grade Elev. 589.2 @ Sta. 7+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	1310	200	240	587.8	0.8	0.0	588.6	587.8
Base	100	2300	200	290	589.4	0.5	0.7	589.9	590.1
Exist. Overtop	15	1310	0	0	587.8	0.8	0.0	588.6	587.8
Prop. Overtop	100	2300	160	10	589.4	0.5	0.7	589.9	590.1
Max. Calc.	500	3300	200	300	590.3	0.3	0.5	590.6	590.8

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 Specifications."

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Steven W. Megginson 11/15/2011
ILLINOIS STRUCTURAL NO. 081-6064 Expires 11-30-2012

TOTAL BILL OF MATERIAL

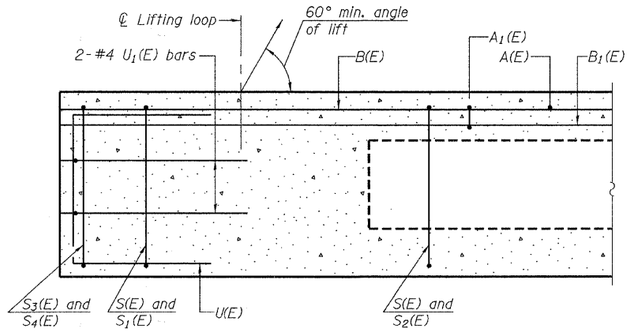
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			75
Stone Riprap, Class A4	Ton			265
Filter Fabric	Sq. Yd.			350
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		24.8	24.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,296		1,296
Reinforcement Bars	Pound		2,750	2,750
Steel Railing, Type S1	Foot	111		111
Furnishing Piles Metal Shell 12"	Foot		420	420
Driving Piles	Foot		420	420
Test Pile Metal Shell	Each		1	1
Name Plates	Each		1	1

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3583 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.005859	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

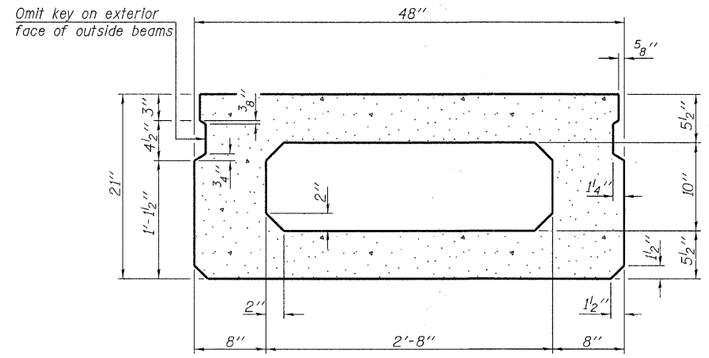
STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 087-3572
SHEET NO. 1 OF 10 SHEETS

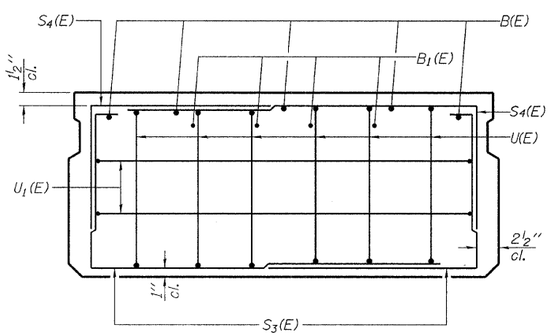
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	9
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			



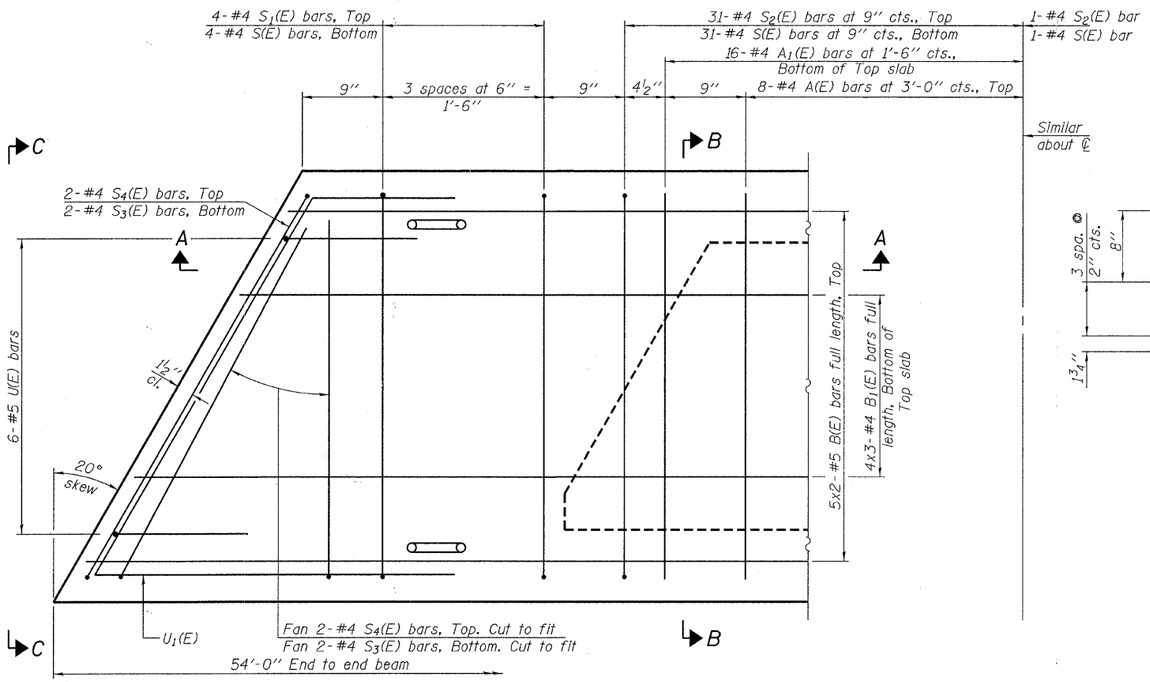
SECTION A-A



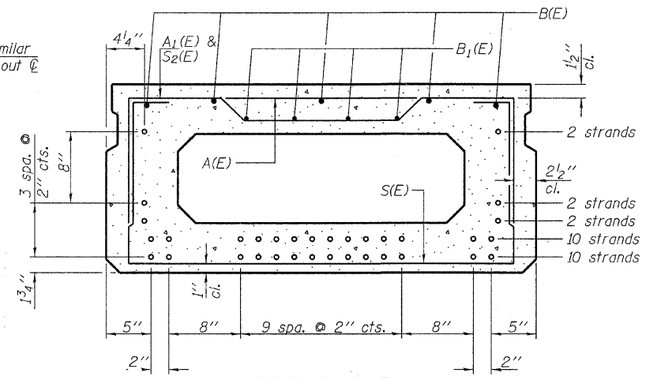
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	3′-7″	—
$A_1(E)$	32	#4	3′-10″	~
B(E)	10	#5	28′-2″	—
$B_1(E)$	12	#4	19′-3″	—
S(E)	71	#4	7′-5″	⊔
$S_1(E)$	8	#4	5′-11″	⊓
$S_2(E)$	63	#4	6′-2″	⊓
$S_3(E)$	8	#4	4′-9″	⊔
$S_4(E)$	8	#4	4′-0″	⊔
U(E)	12	#5	4′-0″	⊏
$U_1(E)$	4	#4	7′-6″	⊏

Note: See sheet 3 & 4 of 10 for additional details and Bill of Material.

Notes: Spacing of S(E) and $S_2(E)$ bars may be adjusted up to 4″ in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

MINIMUM BAR LAP
#4 bar = 2′-0″
#5 bar = 2′-6″

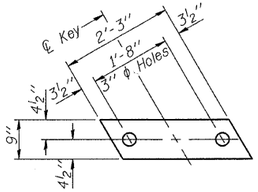
PD-2148-L 7-1-10

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

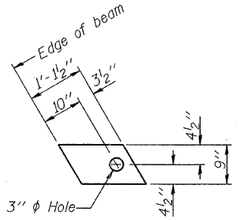
STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

21″ x 48″ PPC DECK BEAM
STRUCTURE NO. 087-3572
SHEET NO. 2 OF 10 SHEETS

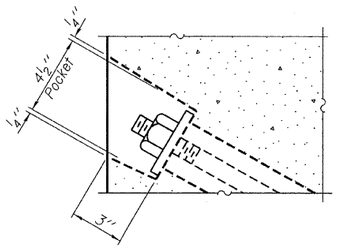
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	10
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			



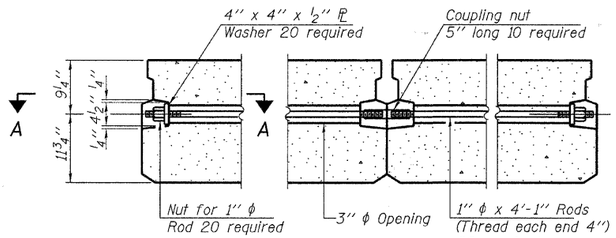
FABRIC BEARING PAD
(Interior - 10 Required)



FABRIC BEARING PAD
(Exterior - 4 Required)



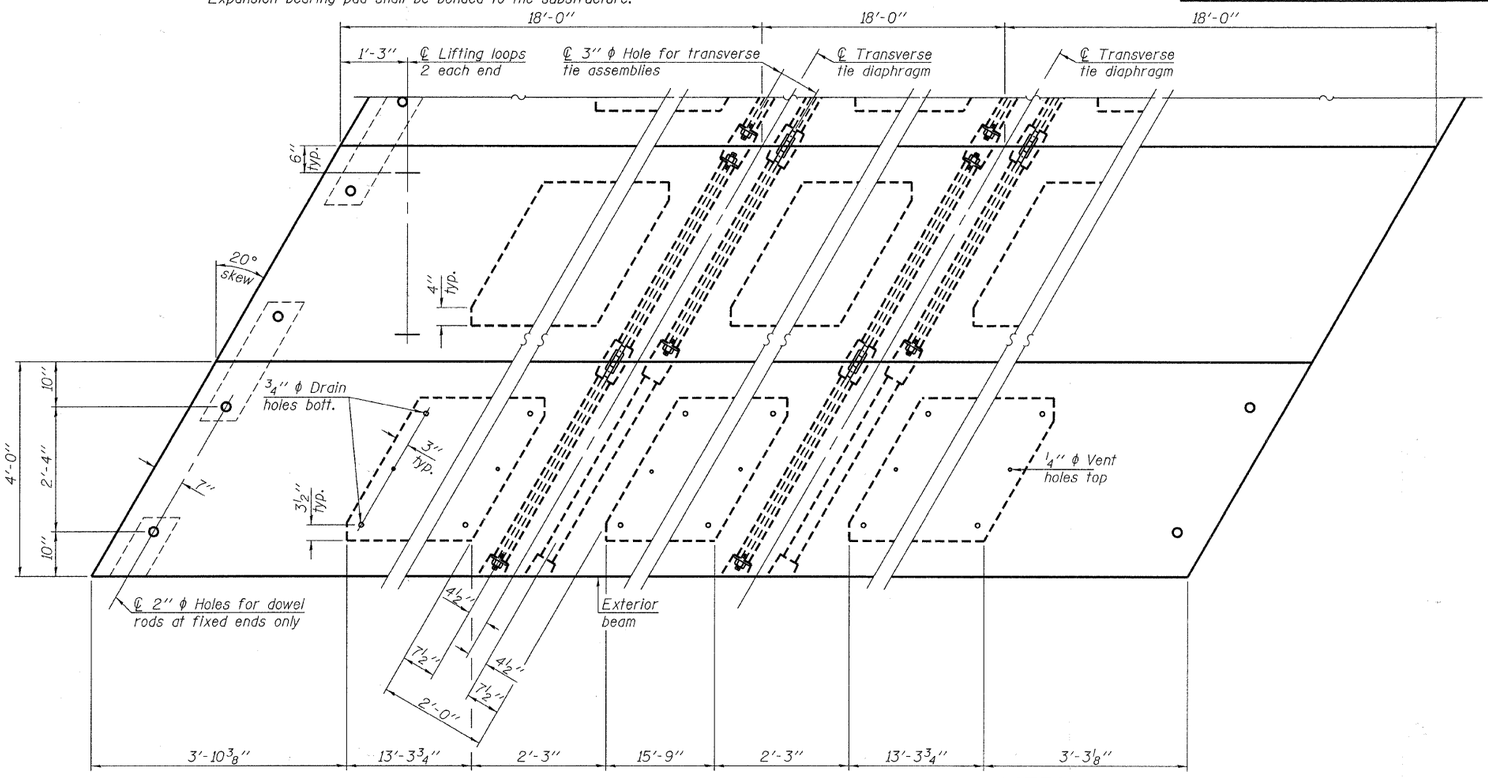
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

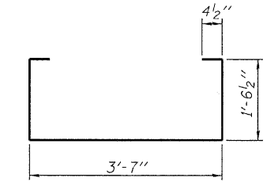
FIXED

Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.

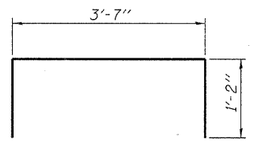


PLAN VIEW

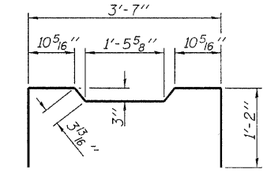
Note: Connect beams in pairs with the transverse tie configuration shown.



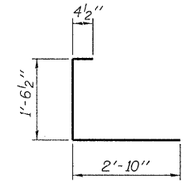
BAR S(E)



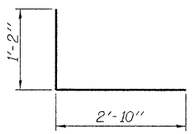
BAR S_1(E)



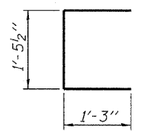
BAR S_2(E)



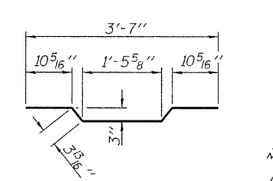
BAR S_3(E)



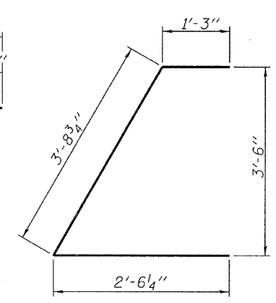
BAR S_4(E)



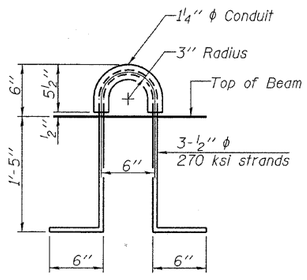
BAR U(E)



BAR A_1(E)



BAR U_1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

All bars shall be epoxy coated.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,296

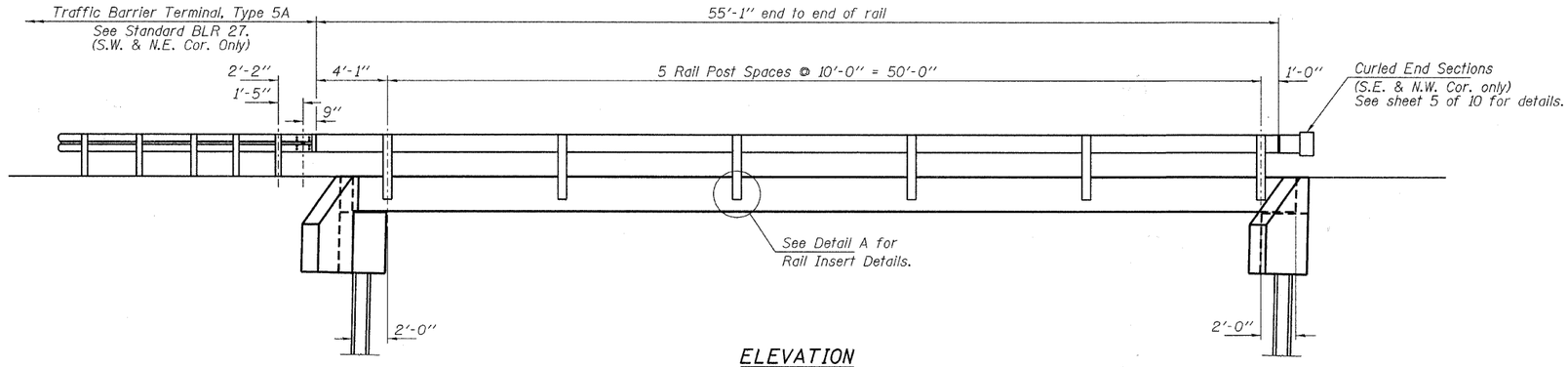
PD-2148-LD 7-1-10

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM 1.S / P.E / S.E CORP. 184.000859		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

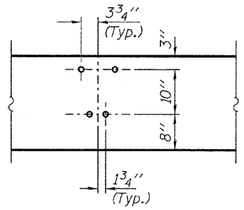
21" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 087-3572
SHEET NO. 3 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	11
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			

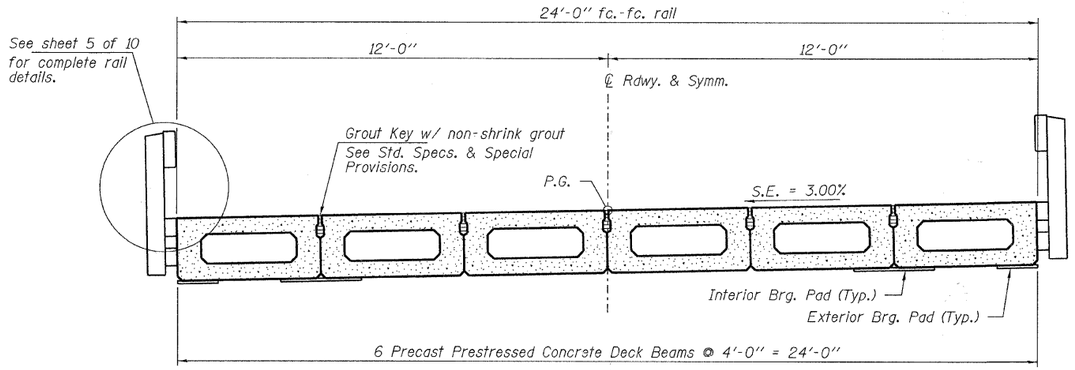


ELEVATION

Showing Rail Post Spaces
See sheet 5 of 10 for Railing Details.

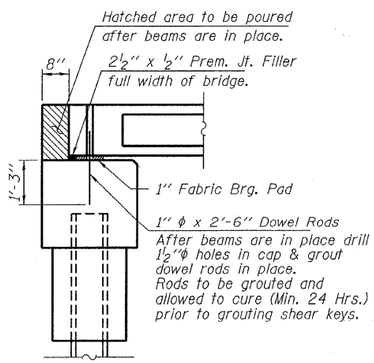


DETAIL A



CROSS SECTION

See sheets 2 & 3 of 10 for Superstructure.

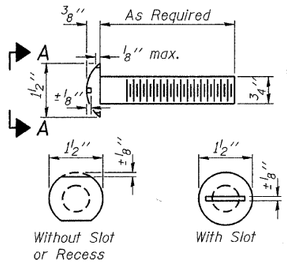


SECTION AT ABUTMENTS

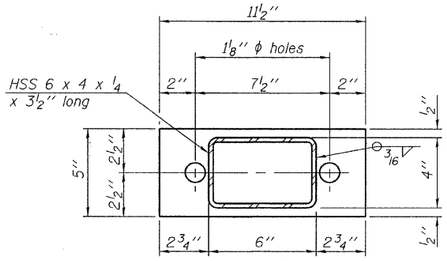
℄ Rt. L's

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	STATE OF ILLINOIS SHELBY COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 087-3572 SHEET NO. 4 OF 10 SHEETS
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LB / PD / SE CORP. 184.000869		CHECKED - S.W.M.	REVISED -		
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -		
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -		

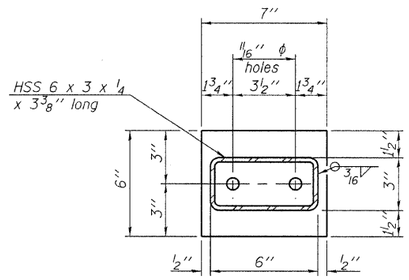
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	12
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			



VIEW A-A
ROUND HEAD BOLT

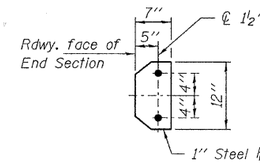


PL 1/2" x 11 1/2" x 5"

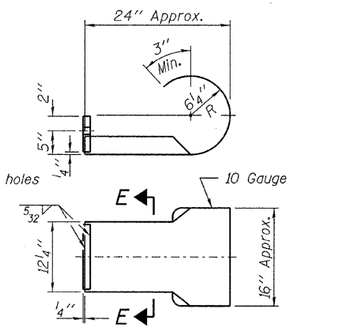


PL 1/2" x 7" x 6"

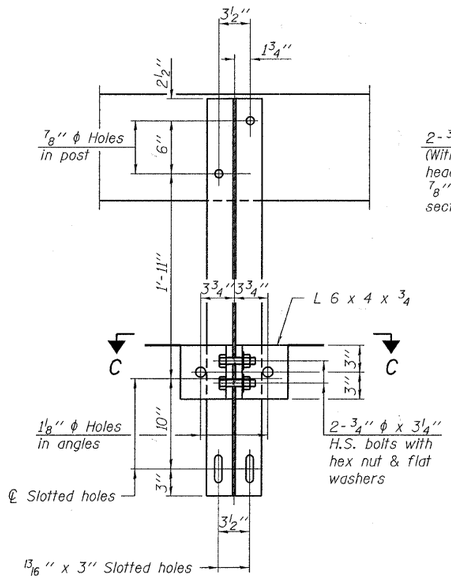
Note: Cost of curled end sections shall be included with the Steel Railing. (2 Required)



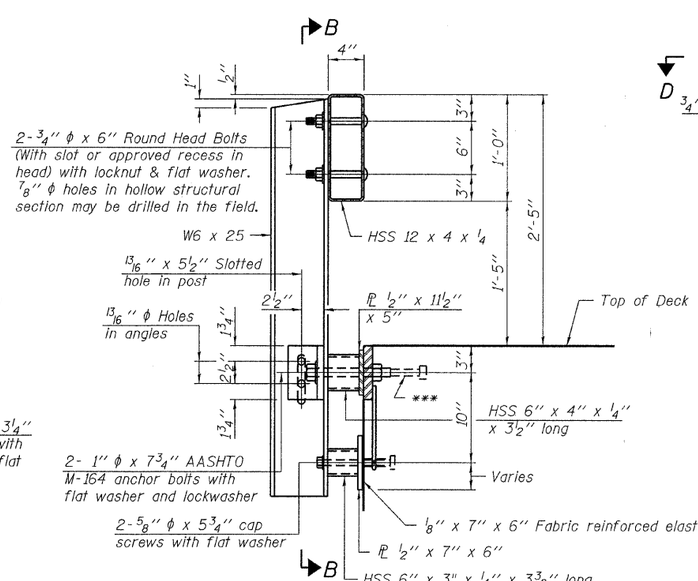
SECTION E-E



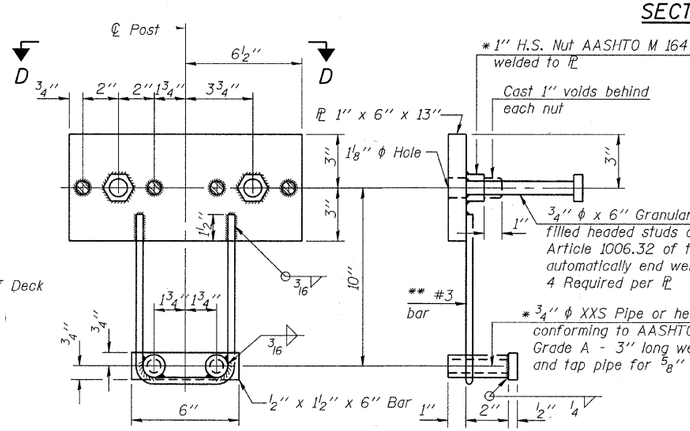
CURLED END SECTION DETAILS



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

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

Notes:

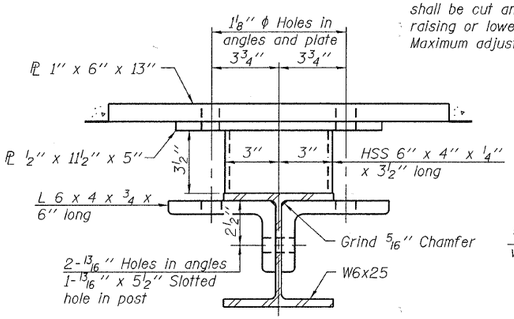
All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

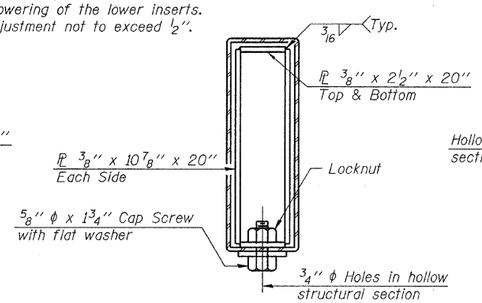
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

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

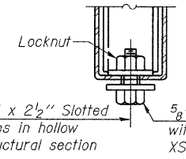
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



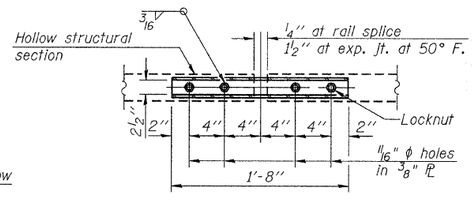
SECTION C-C



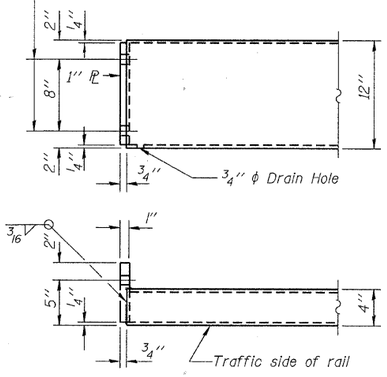
SECTIONS AT RAIL SPLICE



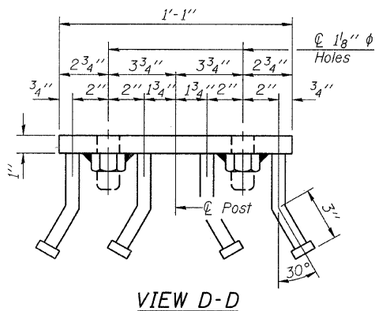
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE PL TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	111

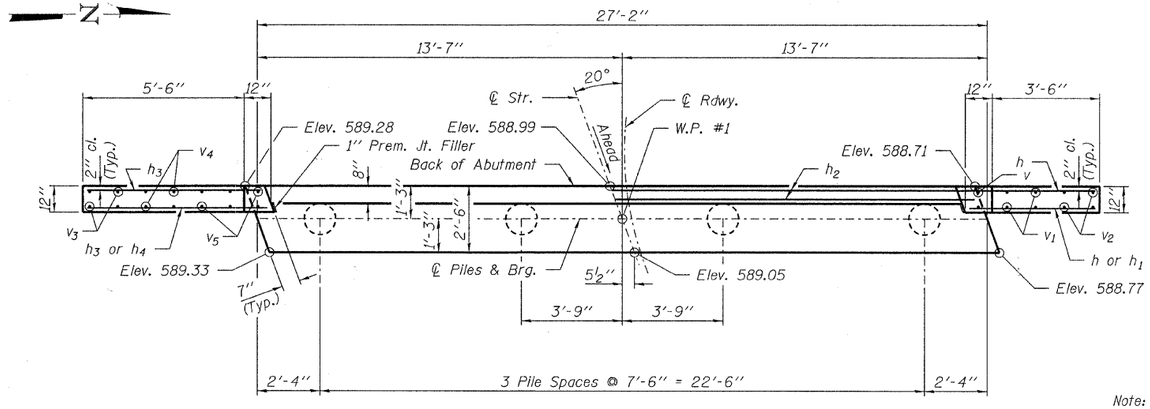
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000969		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

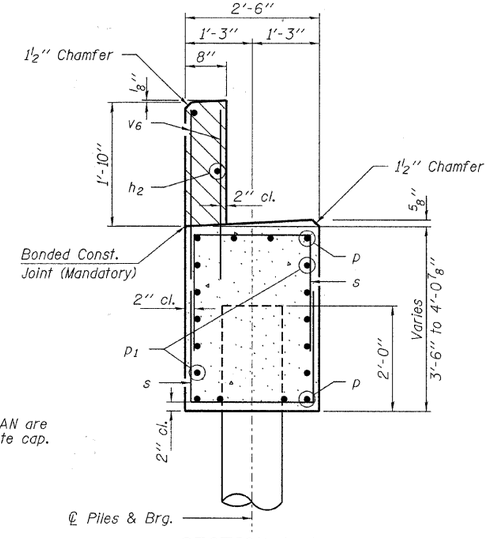
STEEL RAILING, TYPE S-1
STRUCTURE NO. 087-3572
SHEET NO. 5 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	13
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-1731(74)			



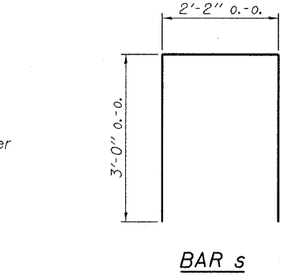
PLAN

Note: Elevations in PLAN are to top of concrete cap.

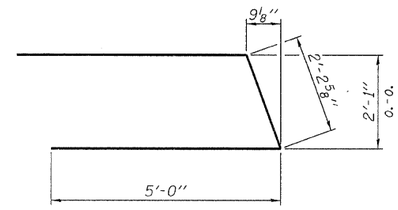


SECTION A-A

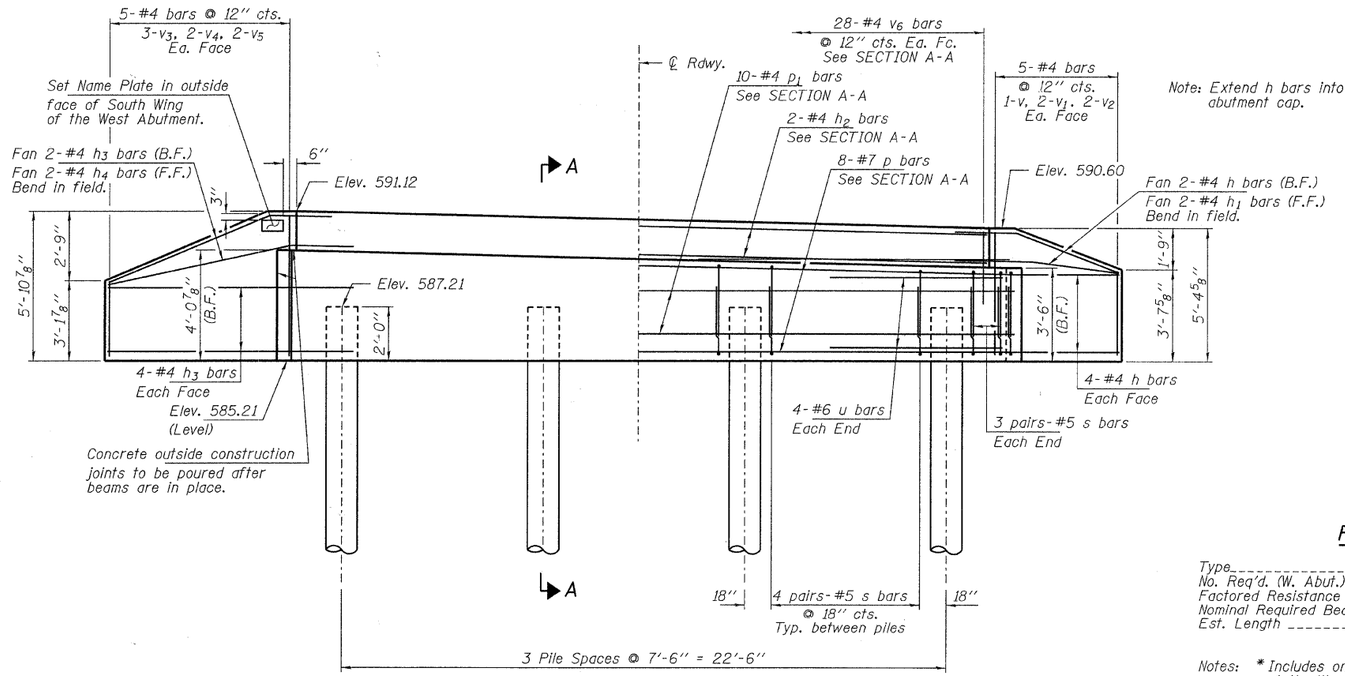
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

(Looking West)

Note: Extend h bars into abutment cap.

PILE DATA

Type _____ Metal Shell Piles 12"x0.250"
No. Req'd. (W. Abut.) _____ 4*
Factored Resistance Available (Rf) __ 167 Kips/Pile
Nominal Required Bearing (Rn) _____ 334 Kips/Pile
Est. Length _____ 60 Ft/Pile

Notes: * Includes one test pile to be driven in permanent location, at the West Abutment.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

BILL OF MATERIAL - W. ABUT.

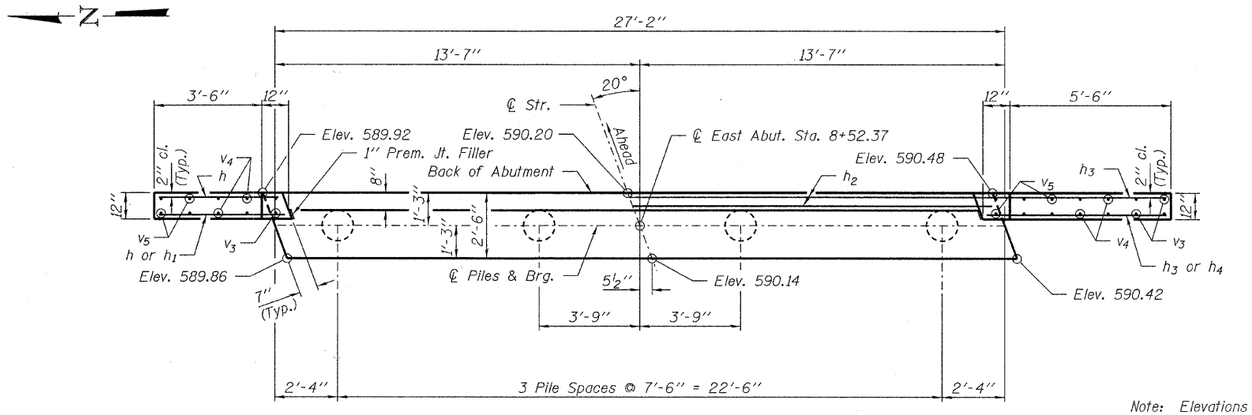
BAR	NO.	SIZE	LENGTH	SHAPE
h	10	#4	5'-9"	
h_1	2	#4	4'-3"	
h_2	2	#4	26'-10"	
h_3	10	#4	7'-9"	
h_4	2	#4	6'-3"	
p	8	#7	26'-10"	
p_1	10	#4	26'-10"	
s	36	#5	8'-2"	
u	8	#6	12'-3"	
v	2	#4	5'-0"	
v_1	4	#4	4'-4"	
v_2	4	#4	3'-4"	
v_3	6	#4	2'-10"	
v_4	4	#4	4'-6"	
v_5	4	#4	5'-6"	
v_6	56	#4	2'-8"	
Concrete Structures			Cu. Yd.	12.4
Reinforcement Bars			Pound	1,375
Metal Shell Piles 12"x0.250"			Foot	180
Test Pile Metal Shell			Each	1
Name Plates			Each	1

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.002959	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

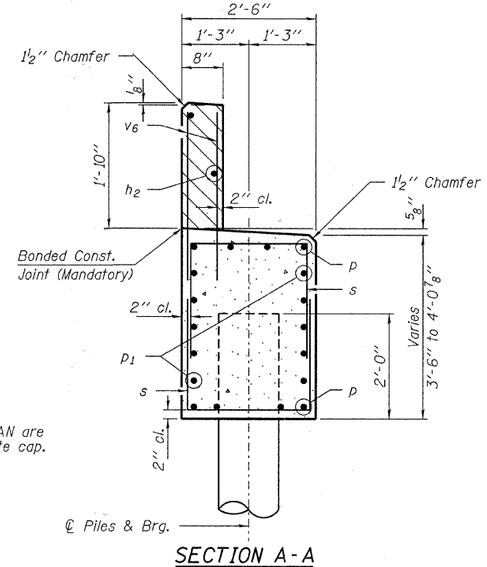
WEST ABUTMENT
STRUCTURE NO. 087-3572
SHEET NO. 6 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	14
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			



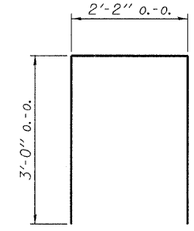
PLAN

Note: Elevations in PLAN are to top of concrete cap.

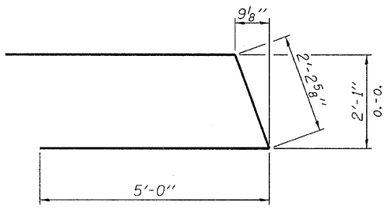


SECTION A-A

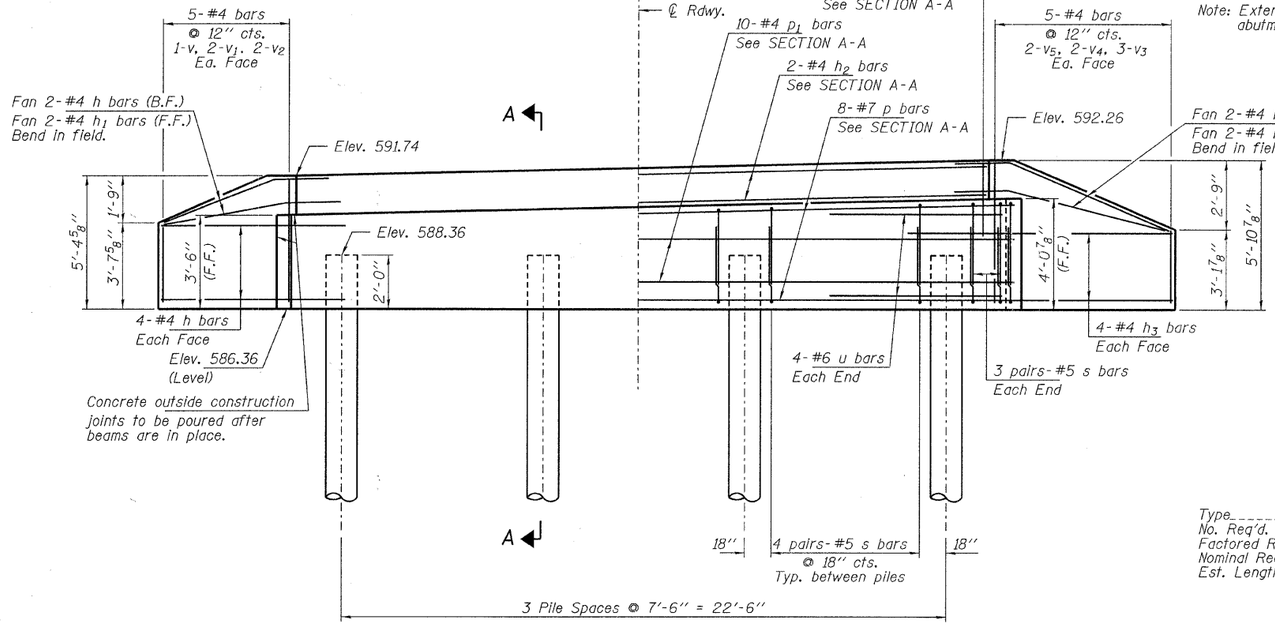
Hatched area to be poured after beams are in place.



BAR s & s



BAR u



ELEVATION

(Looking East)

Note: Extend h bars into abutment cap.

PILE DATA

Type _____ Metal Shell Piles 12"x0.250"
No. Req'd. (E. Abut.) _____ 4
Factored Resistance Available (Rf) _____ 167 Kips/Pile
Nominal Required Bearing (Rn) _____ 334 Kips/Pile
Est. Length _____ 60 Ft/Pile

BILL OF MATERIAL - E. ABUT.

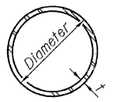
BAR	NO.	SIZE	LENGTH	SHAPE
h	10	#4	5'-9"	
h1	2	#4	4'-3"	
h2	2	#4	26'-10"	
h3	10	#4	7'-9"	
h4	2	#4	6'-3"	
p	8	#7	26'-10"	
p1	10	#4	26'-10"	
s	36	#5	8'-2"	
u	8	#6	12'-3"	
v	2	#4	5'-0"	
v1	4	#4	4'-4"	
v2	4	#4	3'-4"	
v3	6	#4	2'-10"	
v4	4	#4	4'-6"	
v5	4	#4	5'-6"	
v6	56	#4	2'-8"	
Concrete Structures			Cu. Yd.	12.4
Reinforcement Bars			Pound	1,375
Metal Shell Piles 12"x0.250"			Foot	240

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

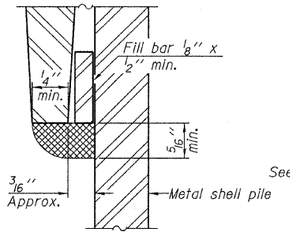
EAST ABUTMENT
STRUCTURE NO. 087-3572
SHEET NO. 7 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	15
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
	ILLINOIS FED. AID PROJECT BROS-173(174)			

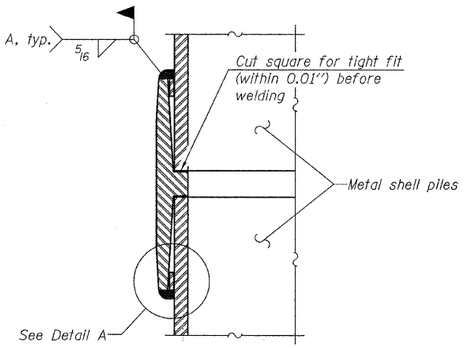


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd^3/ft.)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361

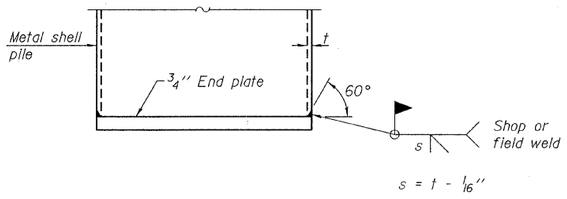


DETAIL A



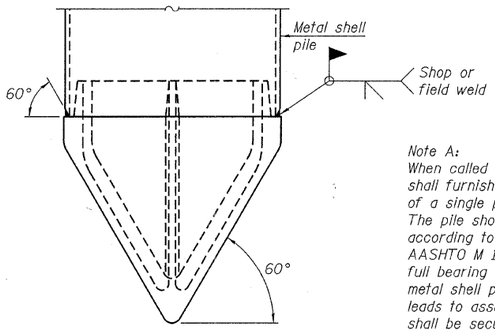
Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



$s = t - 1/16''$

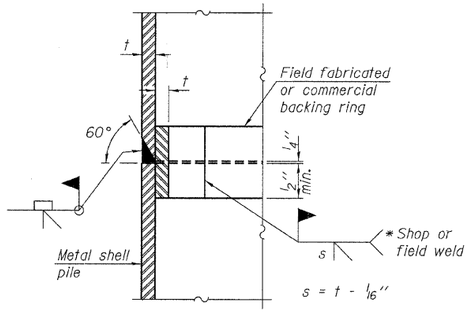
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

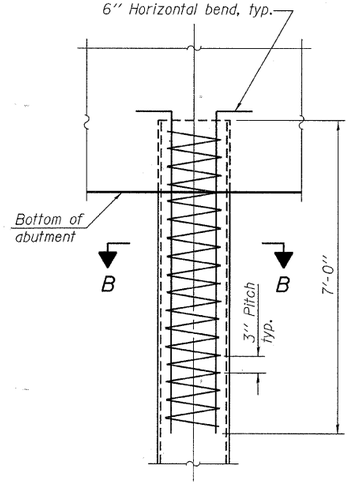
(See Note A)



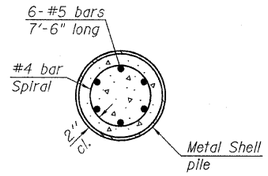
$s = t - 1/16''$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

F-MS 7-1-10

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

METAL SHELL PILE DETAILS
STRUCTURE NO. 087-3572
SHEET NO. 8 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	16
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			

Illinois Department of Transportation
Division of Highways
Reynolds Drilling Corp.

SOIL BORING LOG

Date 3/18/08

ROUTE County Road 400 North DESCRIPTION Bridge Replacement Boring LOGGED BY CE Jolly

SECTION 07-04121-00-BR LOCATION Cold Spring Tshp., SEC. 26, TWP. 10N, RNG. 2E, 3rd PM

COUNTY Shelby DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hydraulic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 1+20
Offset 5.40ft RT (589.8)
Ground Surface Elev. 100.30 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 91.00 ft

Groundwater Elev.:
First Encounter 92.3 ft ▼
Upon Completion 92.3 ft ▽
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Oil & chip roadway and subgrade 99.80			
Brown, moist to wet SILTY CLAY LOAM. (A-7-6) (589.3)			13.9
	4		
	5	2.0	11.2
	7	P	
-5	9		
	4	1.0	2.7
	7	P	
	2		
▼	2		22.0
	3		
-10	2		
	2		20.3
	1		
	3		
	2	1.0	66.7
	2	P	
(574.8) 85.30 -15	3		
Brown, wet PEAT, trace silt, trace clay. (A-8)	2	1.0	217.0
	1	P	
	2		
	2	1.5	109.0
	4	P	
-20	2		
Brown, wet PEAT, trace silt, trace clay. (A-8) (continued)	2	1.0	132.0
	4	B	
	3		
	3	1.9	91.0
(565.8) 76.30	3	B	
Gray, saturated, fine SANDY LOAM. (A-3)			
-25	0		
	0		42.4
	2		
	2		
	2		41.4
(560.8) 71.30	2		
Gray, moist SILTY LOAM. (A-5)			
-30	2		
	2	0.9	82.2
(558.3) 68.80	2	B	
Brown, wet PEAT. (A-8)			
	3		
	4	1.5	93.0
(555.8) 66.30	4	P	
Brown, moist SILTY CLAY LOAM. (A-6)			
-35	2		
	2	0.5	29.2
(553.0) 63.50	2	P	
Gray, wet SANDY LOAM, trace gravel. (A-3)			
	6		
	7		19.7
	14		
(550.8) 61.30			
Gray, wet to saturated SAND, trace gravel. (A-1)			
-40	6		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

U.S.G.S. Elev. 100.0 = 589.5±

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COUNTY Shelby DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hydraulic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 1+20
Offset 5.40ft RT (589.8)
Ground Surface Elev. 100.30 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 91.00 ft

Groundwater Elev.:
First Encounter 92.3 ft ▼
Upon Completion 92.3 ft ▽
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, wet to saturated SAND, trace gravel. (A-1) (continued)	6		23.1
(548.3) 58.80	7		
Gray, saturated SAND, with medium to coarse gravel. (A-1-a)			
	7		
	13		13.1
	13		
-45	6		
	14		16.8
	17		
	8		
	8		20.2
	17		
-50	14		
	18		11.0
	29		
	7		
	9		12.4
	11		
(535.8) 46.30			
Gray, moist SANDY LOAM, trace gravel. (A-3)			
-55	9		
	8	1.5	11.2
	15	P	
	10		
	11	4.5	10.6
	12	P	
(530.8) 41.30			
-60	9		
Gray, moist SILTY CLAY LOAM with occassional sand lenses. (A-4) (continued)			
	9		14.1
	14	B	
	5		
	9	1.9	15.4
	9	B	
-65	4		
	7	0.6	19.8
	5	B	
(523.3) 33.60			
Brown, moist SILTY LOAM. (A-6)			
	9		
	12	3.8	21.0
	17	B	
(520.8) 31.30			
Gray, moist SANDY LOAM. (A-3)			
-70	9		
	8	4.4	15.0
	19	B	
(518.3) 28.80			
Gray, moist SILTY CLAY LOAM. (A-6)			
	17		
	27	4.9	16.1
	31	B	
-75	15		
	19	3.6	16.1
	22	B	
	25		
	30	4.1	14.7
	30	B	
20.30 -80	25		

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SECTION 07-04121-00-BR LOCATION Cold Spring Tshp., SEC. 26, TWP. 10N, RNG. 2E, 3rd PM

COUNTY Shelby DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hydraulic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 1+20
Offset 5.40ft RT (589.8)
Ground Surface Elev. 100.30 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 91.00 ft

Groundwater Elev.:
First Encounter 92.3 ft ▼
Upon Completion 92.3 ft ▽
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, moist SILTY LOAM with shale fragments. (A-4)	31	2.2	20.5
	29	B	
	19		
	25	2.2	19.3
	30	B	
-85	19		
	40	6.3	19.5
(503.8) 14.30	20	B	
End of Boring			
-90			
-95			
-100			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
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BORING 1

FILE NAME = 070476-sht-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.005959		CHECKED - S.W.M.	REVISED -	
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -	
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -	

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

BORINGS
STRUCTURE NO. 087-3572
SHEET NO. 9 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	17
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			

Illinois Department of Transportation
Division of Highways
Reynolds Drilling Corp.

SOIL BORING LOG

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ROUTE County Road 400 North DESCRIPTION Bridge Replacement Boring LOGGED BY CE Jolly

SECTION 07-04121-00-BR LOCATION Cold Spring Tshp., SEC. 26, TWP. 10N, RNG. 2E, 3rd PM

COUNTY Shelby DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hydraulic

STRUCT. NO.
Station

BORING NO. B-2
Station 0+74.5
Offset 6.80ft LT (589.8)
Ground Surface Elev. 99.70 ft

Surface Water Elev. ft
Stream Bed Elev. 91.00 ft
Groundwater Elev.:
First Encounter 92.7 ft
Upon Completion 93.2 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Oil & chip roadway and subgrade 99.20				Gray, very moist to wet, sandy PEAT. (A-8) *(continued)*	2	1.5	106.2
Brown, moist to wet SILTY CLAY LOAM. (A-7-6) (588.7)			16.0		2	B	
	2			(567.7) 78.20			
	2	0.5	20.6	Gray, very moist to wet, SILTY LOAM. (A-6)	2		
	4	B			2	1.2	94.0
				(565.2) 75.70	2	B	
-5	2			Gray, saturated fine SANDY LOAM. (A-3)	-25		
	2	0.5	23.2		1		41.6
	4	P			2		
(582.2) 92.70 ▽							
Gray, saturated, fine SANDY LOAM. (A-3)	1				1		
	1		30.7		1		31.5
	1				2		
(580.2) 90.70				(560.2) 70.70			
Gray, fine to medium SAND. (A-1)				Gray, moist SILTY LOAM. (A-8)			
-10	6			-30	1		
	9		22.5		2	0.2	49.7
	9				1	B	
(577.7) 88.20							
Gray, very moist to wet, sandy PEAT. (A-8)							
	2				2		
	3	0.5	8.2		1	2.4	99.6
	3	P			3	B	
-15				-35			
	1				2		
	1	0.5	268.8		2	1.7	92.7
	3	P			4	B	
	1				2		
	2	1.5	147.9		1	0.5	24.6
	4	B			1	P	
				(550.4) 60.90			
-20	1			Gray, saturated fine SAND, trace fine gravel. (A-3) -40	8		

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COUNTY Shelby DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hydraulic

STRUCT. NO.
Station

BORING NO. B-2
Station 0+74.5
Offset 6.80ft LT (589.8)
Ground Surface Elev. 99.70 ft

Surface Water Elev. ft
Stream Bed Elev. 91.00 ft
Groundwater Elev.:
First Encounter 92.7 ft
Upon Completion 93.2 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, saturated fine SAND, trace fine gravel. (A-3) *(continued)*	5		23.6	Gray, saturated, medium to coarse SAND. (A-1) *(continued)*	16		11.3
	9				21		
				(527.7) 38.20			
	3			Gray, moist SILTY CLAY LOAM. (A-6)	11		
	5		23.3		16	3.6	13.9
	7				23	B	
				(525.2) 35.70			
-45	8			Gray, saturated SANDY LOAM. (A-3) -65	11		
	9		23.6		14	0.5	18.4
	9				11	P	
				(522.7) 33.20			
	10			Gray, moist SILTY LOAM. (A-6)	8		
	14		14.1		10	1.0	16.4
	12				10	B	
-60	6			-70	9		
	16		19.5		15	2.2	15.7
(538.2) 48.70	19				15	B	
Gray, saturated medium to coarse SAND. (A-1)				(517.7) 28.20			
	6			Gray, saturated, dense coarse SAND, with gravel. (A-1)	5		
	18		12.6		7		11.1
	23				11		
(535.2) 45.70				(515.4) 25.50			
Brown, saturated medium to coarse SANDY LOAM. (A-1-a)				Gray, moist, hard SILTY CLAY LOAM, trace sand, trace fine gravel. (A-6)			
-55	18			-75	15		
	18		7.5		24	4.6	17.9
	16				30	B	
	19				14		
	21		16.3		27	6.8	13.7
	22				29	B	
(530.2) 40.70							
Gray, saturated, medium to coarse SAND. (A-1) -60	9			-80	15		

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Ground Surface Elev. 99.70 ft

Surface Water Elev. ft
Stream Bed Elev. 91.00 ft
Groundwater Elev.:
First Encounter 92.7 ft
Upon Completion 93.2 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	27	6.6	11.2
(508.2) 18.70	34	B	
Gray, moist, hard SILTY LOAM, trace shale fragments. (A-4)			
	17		
	34	4.6	16.4
	26	B	
-85	20		
	30	2.9	14.2
(503.2) 13.70	30	B	
End of Boring			
-90			
-95			
-100			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
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BORING 2

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	PLOT SCALE =	DRAWN - D.T.M.	REVISED -		
	PLOT DATE = 4/4/2011	CHECKED - S.W.M.	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	07-04121-00-BR	SHELBY	18	18
COLD SPRING ROAD DISTRICT		CONTRACT NO. 95656		
ILLINOIS	FED. AID PROJECT BROS-173(174)			