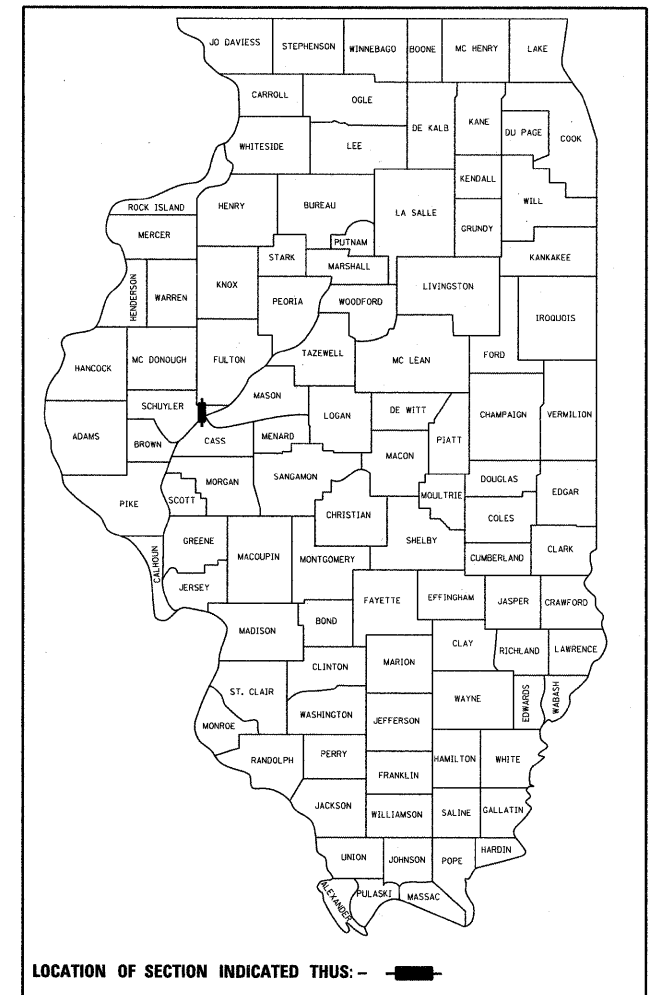


F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 93499		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR  
PROPOSED LOCAL AGENCY IMPROVEMENTS  
HIGHWAY BRIDGE PROGRAM  
AMERICAN RECOVERY & REINVESTMENT ACT**

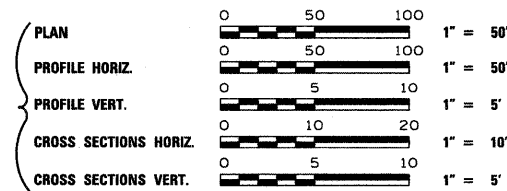


**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES & GENERAL NOTES
3	TYPICAL SECTIONS AND DETAILS
4	SCHEDULE OF QUANTITIES
5	PLAN AND PROFILE
6	EROSION CONTROL & REMOVAL AND ADJUSTMENT PLAN
7 - 8	RIGHT OF WAY PLAN
9 - 25	BRIDGE PLANS
26 - 30	CROSS SECTIONS

**STANDARDS**

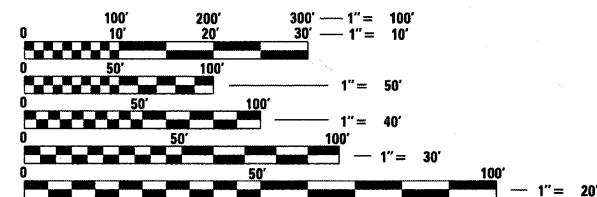
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
515001-03	NAME PLATE FOR BRIDGES
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
601101-01	CONCRETE HEADWALLS FOR PIPE DRAIN
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
666001-01	RIGHT OF WAY MARKERS
701901-01	TRAFFIC CONTROL DEVICES
B.L.R. 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 26-2	STEEL PLATE BEAM GUARDRAIL 27 1/2" HEIGHT
B.L.R. 27-1	TRAFFIC BARRIER TERMINAL TYPE 5A



**CH 8 / FAS ROUTE 454  
SECTION 04-00070-00-BR  
SCHUYLER COUNTY  
PROJECT BRS-ARA-0454(104)  
JOB NUMBER C-96-202-10**

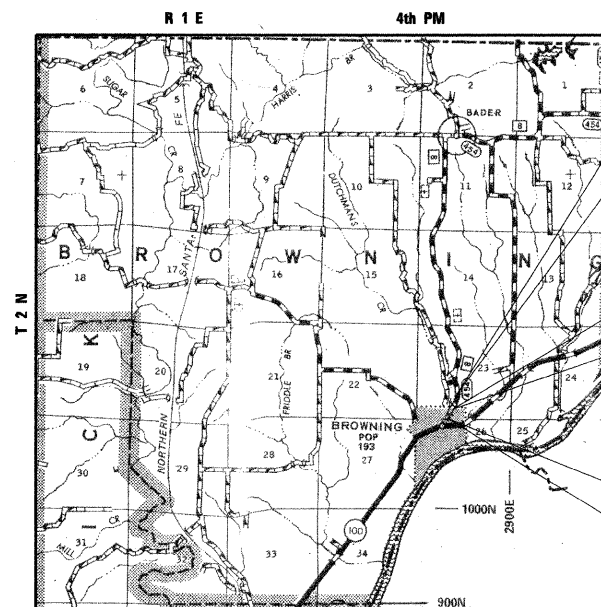
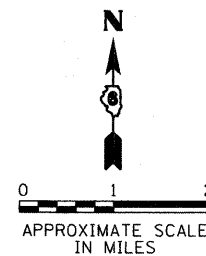
**UTILITIES**

AMEREN CIPS  
AT&T  
SPOON RIVER ELECTRIC COOPERATIVE  
VILLAGE OF BROWNING



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  
OR 811



**LOCATION MAP**

NET LENGTH OF PROJECT = 540.00 FEET = 0.178 MILES

**DESIGN DESIGNATION**

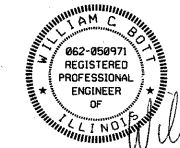
MINOR COLLECTOR: ADT = 650  
DESIGN SPEED: 40 MPH

STA. 9+40.00  
END IMPROVEMENTS  
SECTION 04-00070-00-BR

EXISTING STRUCTURE  
SN 085-3081  
TWO SPAN REINFORCED CONCRETE DECK W/STEEL WF BEAMS ON CLOSED TIMBER ABUTMENTS AND A TIMBER PILE BENT PIER (62'-0" LENGTH X 23'-0" WIDE) TO BE REMOVED.

PROPOSED STRUCTURE  
SN 085-3055  
SINGLE SPAN CONCRETE DECK ON ROLLED I-BEAMS ON REINFORCED CONCRETE INTEGRAL ABUTMENTS (82'-0" LENGTH X 30'-0" WIDE).

STA. 0+00.00  
BEGIN IMPROVEMENTS  
SECTION 04-00070-00-BR



*William C. Bost*  
09/11/09

EXPIRES: 11/30/09

APPROVED	<i>September 11</i> 20 09 <i>David J. DeWald</i> COUNTY ENGINEER
PASSED	<i>October 14</i> 20 09 <i>Terrance H. Fountain</i> DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS
PASSED	<i>October 13</i> 20 09 <i>Ron Chubb</i> DISTRICT SIX ENGINEER OF CONSTRUCTION
Releasing For Bid Based on Limited Review	<i>October 14</i> 20 09 <i>Roger J. Driskell</i> DEPT. DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

PLOT DATE = 9/11/2009 10:28:02 AM  
FILE NAME = J:\07258\CADD\CAD\Sheets\07258-sht-cover.dgn  
PLOT SCALE = 50.0000 / 1"  
PLOT DRIVER = VBI.LDS700.PS\_LOCAL.plt  
OPERATOR = msh



**PROJECT ENGINEER  
PROJECT MANAGER**

**CONTRACT NO. 93499**

S&B PROJECT: 07258

COMPUTER FILE NO. 07258-sht-cover.dgn  
PROJECT 07258  
9/11/09 - MDS



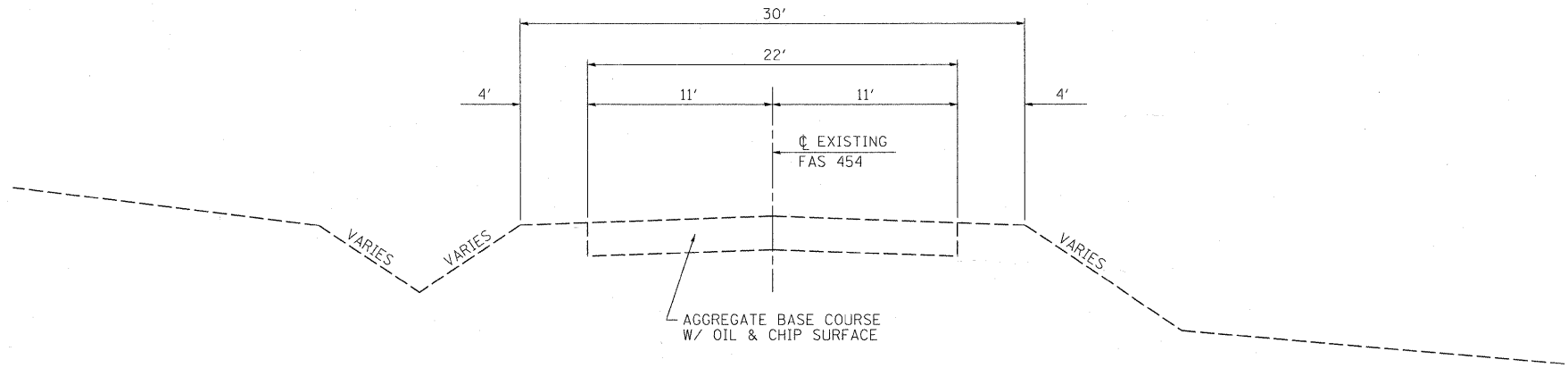
**PAVEMENT DESIGN DATA**

THE FINAL PAVEMENT DESIGN WILL BE BUILT IN TWO PHASES. PHASE 1 WILL BE CONSTRUCTED UNDER THIS PROJECT. PHASE 2 WILL BE FUTURE CONSTRUCTION.

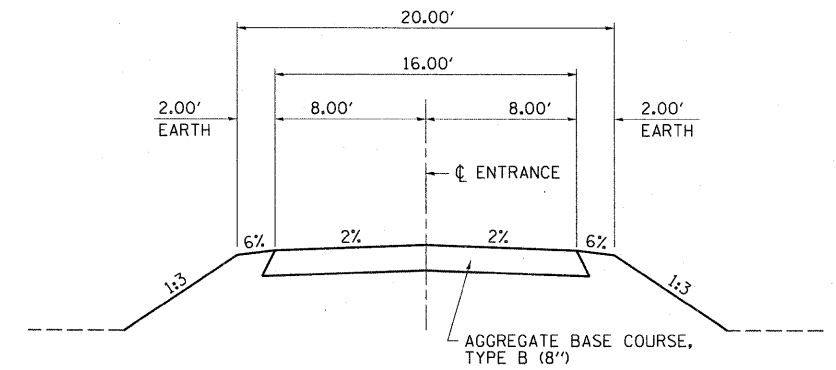
CLASS III ROADWAY  
 DESIGN PERIOD : 20 YEARS  
 STRUCTURAL DESIGN TRAFFIC (SDT):  
 YEAR = 2019  
 PV = 664  
 SU = 53  
 MU = 38  
 TRAFFIC FACTOR (TF) = 0.2049  
 MINIMUM SOIL SUPPORT :  $E_{RI} = 3$

PAVEMENT PROVIDED:  
 PHASE 1:  
 12" AGGREGATE BASE COURSE, TYPE B  
 A-3 BITUMINOUS SURFACE TREATMENT (BY OTHERS)  
 PHASE 2:  
 1 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50  
 3 1/2" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50

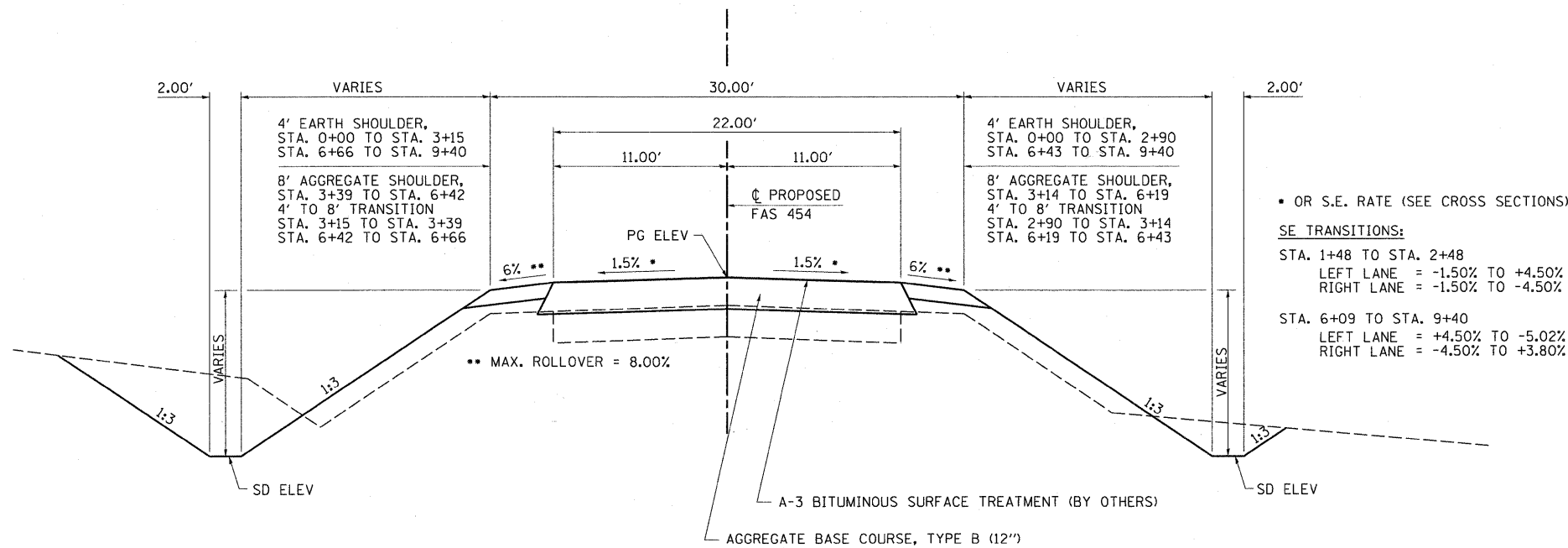
ITEM	HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
	AGGREGATE COMPOSITION	ASPHALT GRADE	VOIDS
HMA BINDER COURSE	IL-19.0	PG 64 -22	4.0% @ N50
HMA SURFACE COURSE	IL-9.5 or 12.5 Mix "C"	PG 64 -22	4.0% @ N50



**EXISTING TYPICAL ROADWAY SECTION**

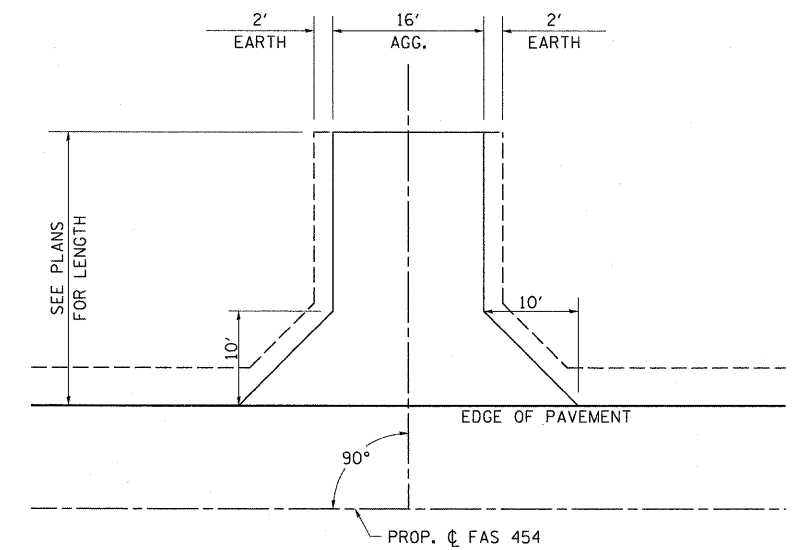


**PROPOSED TYPICAL ENTRANCE SECTION**



**EXISTING TYPICAL ROADWAY SECTION**

BRIDGE OMISSION:  
 STA. 4+38.00 TO STA. 5+20.00



**PROPOSED TYPICAL ENTRANCE DETAIL**

GREENE & BRAEFORD, INC.  
 CIVIL ENGINEERS  
 1000 W. MONROE ST., SUITE 100  
 CHICAGO, ILLINOIS 60606  
 TEL: (312) 467-1000  
 FAX: (312) 467-1001  
 WWW.GRENEANDBRAEFORD.COM



FILE NAME = J:\07258\CADD\CADsheets\07258-sht:typical.dgn	USER NAME = frankv	DESIGNED - WCB	REVISED -
PLOT SCALE = 50.0000' / in.	CHECKED - WCB	DATE - 7/10/39	REVISED -
PLOT DATE = 9/18/2009			

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTIONS AND DETAILS**

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	3
CONTRACT NO. 93499				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0454(103)				

C&B PROJECT: 07258  
 PLOT DRIVER = V8...TDS700.PS\_LOCAL\_IDOT.pltcf

PAVEMENT SCHEDULE		
LOCATION	AGGREGATE BASE COURSE, TYPE B (TON)	AGGREGATE SHOULDERS, TYPE B (TON)
STA. 0+00 TO STA. 4+38	765	
LT. STA. 3+00, PE	130	
RT. STA. 2+90 TO RT. STA. 4+33		44
LT. STA. 3+15 TO LT. STA. 4+45		40
RT. STA. 5+14 TO RT. STA. 6+43		40
STA. 5+20 TO STA. 9+40	735	
LT. STA. 5+23 TO LT. STA. 6+66		44
<b>TOTALS</b>	<b>1630</b>	<b>168</b>

TREE REMOVAL SCHEDULE			
	6 TO 15 UNITS DIA. (UNIT)	OVER 15 UNITS DIA. (UNIT)	ACRES (ACRE)
STA. 2+33, 38' LT.	15		
STA. 2+38, 27' RT.	15		
STA. 2+57, 33' LT.	15		
STA. 5+52, 42' LT.		18	
STA. 6+09, 29' LT.		36	
STA. 2+51 RT. TO STA. 5+73 RT.			0.1
STA. 5+19 LT. TO STA. 6+21 LT.			0.1
<b>TOTALS</b>	<b>45</b>	<b>54</b>	<b>0.2</b>

SEEDING AND EROSION CONTROL SCHEDULE				
LOCATION	SEEDING, CLASS 2 (SPECIAL) (ACRE)	TEMPORARY EROSION CONTROL SEEDING (3 APPLICATIONS) (POUND)	TEMPORARY DITCH CHECKS (EACH)	PERIMETER EROSION BARRIER (FOOT)
STA. 0+00, 35' RT. TO STA. 4+19, 43' LT.				410
LT. STA. 0+00 TO LT. STA. 2+92	0.21	63		
RT. STA. 0+00 TO RT. STA. 4+53	0.27	81		
LT. STA. 0+50			1	
STA. 2+68, 46' LT. TO STA. 2+76, 126' LT.				80
LT. STA. 3+08 TO LT. STA. 4+76	0.12	36		
STA. 3+25, 118' LT. TO STA. 3+31, 48' LT.				70
LT. STA. 3+50			1	
STA. 4+19, 43' RT. TO STA. 4+30, 19' RT.				26
STA. 4+25, 48' LT. TO STA. 4+58, 42' LT.				34
STA. 4+45, 19' LT. TO STA. 4+58, 52' LT.				35
RT. STA. 4+87 TO RT. STA. 9+40	0.27	81		
STA. 5+04, 48' RT. TO STA. 5+14, 19' RT.				30
STA. 5+04, 48' RT. TO STA. 9+40, 28' RT.				432
LT. STA. 5+05 TO LT. STA. 9+40	0.40	120		
LT. STA. 5+50			1	
LT. STA. 8+50			1	
PRIVATE ENTRANCE, LT. STA. 3+00	0.13	39		
<b>TOTALS</b>	<b>1.40</b>	<b>420</b>	<b>4</b>	<b>1117</b>

RIGHT-OF-WAY MARKER SCHEDULE	
LOCATION	FUR. AND ERECT. RIGHT-OF-WAY MARKERS (EACH)
STA. 0-73.59, 37.18' RT.	1
STA. 0-23.10, 27.93' LT.	1
STA. 2+23.42, 50' LT.	1
STA. 2+57.80, 36.98' RT.	1
STA. 2+58.12, 45' LT.	1
STA. 4+25, 50' LT.	1
STA. 5+25, 65' LT.	1
STA. 6+33.64, 65' LT.	1
STA. 6+33.64, 50' RT.	1
STA. 8+00, 30' RT.	1
STA. 9+75, 30' LT.	1
<b>TOTALS</b>	<b>11</b>

EARTHWORK SCHEDULE					
LOCATION	EARTH EXCAVATION (UNADJUSTED) (CUYD)	CHANNEL EXCAVATION (CUYD)	EXCAVATION (ADJUSTED FOR 25% SHRINKAGE) (CUYD)	EMBANKMENT (FILL) (CUYD)	FURNISHED EXCAVATION (CUYD)
STA. 0+00 TO STA. 9+40 (INCLUDES PRIVATE ENTRANCE STA. 3+00 LT.)	870	650	1140	4432	3292
NORTH ABUTMENT CONE				120	120
<b>TOTALS</b>	<b>870</b>	<b>650</b>	<b>1140</b>	<b>4552</b>	<b>3412 *</b>

\* ASSUMES 100% CHANNEL EXCAVATION SUITABLE FOR EMBANKMENT CONSTRUCTION.

GUARD RAIL AND TRAFFIC BARRIER TERMINAL SCHEDULE					
LOCATION	GUARDRAIL REMOVAL (FOOT)	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS (FOOT)	TRAFFIC BARRIER TERMINAL, TYPE 5A (EACH)	TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT) (EACH)	TERMINAL MARKER - DIRECT APPLIED (EACH)
SE CORNER EXISTING BRIDGE	87.5				
NW CORNER EXISTING BRIDGE	87.5				
SE CORNER PROPOSED BRIDGE		12.5	1	1	1
SW CORNER PROPOSED BRIDGE			1	1	1
NE CORNER PROPOSED BRIDGE			1	1	1
NW CORNER PROPOSED BRIDGE		12.5	1	1	1
<b>TOTALS</b>	<b>175</b>	<b>25</b>	<b>4</b>	<b>4</b>	<b>4</b>

NOTE: GUARDRAIL REMOVAL LENGTH INCLUDES TRAFFIC BARRIER TERMINALS



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PLOT DATE = 9/18/2009		CHECKED - WCB	REVISED -
		DATE - 6/17/09	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	4
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 03499	
			BRS-0454(103)	

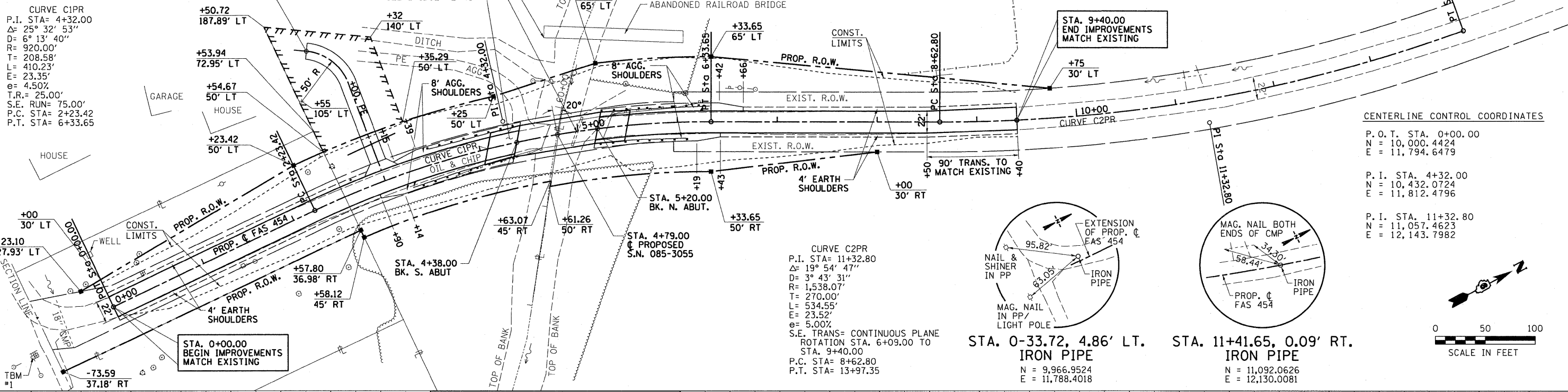
TBM #1: STA. 0+95, 11' RT.  
RR SPIKE IN POWER POLE  
ELEV = 446.75

TBM #2: CHISELED "□" IN S.E. WING  
ABANDONED RR BRIDGE  
ELEV = 452.01

CURVE C1PR  
P.I. STA= 4+32.00  
Δ= 25° 32' 53"  
D= 6° 13' 40"  
R= 920.00'  
T= 208.58'  
L= 410.23'  
E= 23.35'  
e= 4.50%  
T.R.= 25.00'  
S.E. RUN= 75.00'  
P.C. STA= 2+23.42  
P.T. STA= 6+33.65

EXISTING 2 SPAN BRIDGE  
CONCRETE DECK ON STEEL STRINGERS  
TIMBER PILE BENT PIER AND  
CLOSED TIMBER ABUTMENTS  
S.N. 085-3081

BRIDGE APPROACH  
SLAB (TYP.)  
SEE BRIDGE PLANS

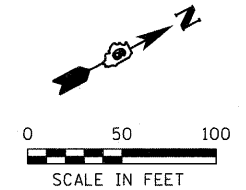
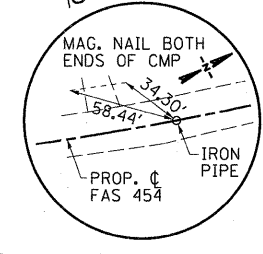
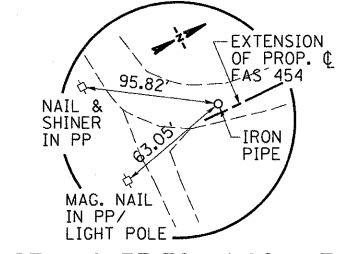


CENTERLINE CONTROL COORDINATES

P.O.T. STA. 0+00.00  
N = 10,000.4424  
E = 11,794.6479

P.I. STA. 4+32.00  
N = 10,432.0724  
E = 11,812.4796

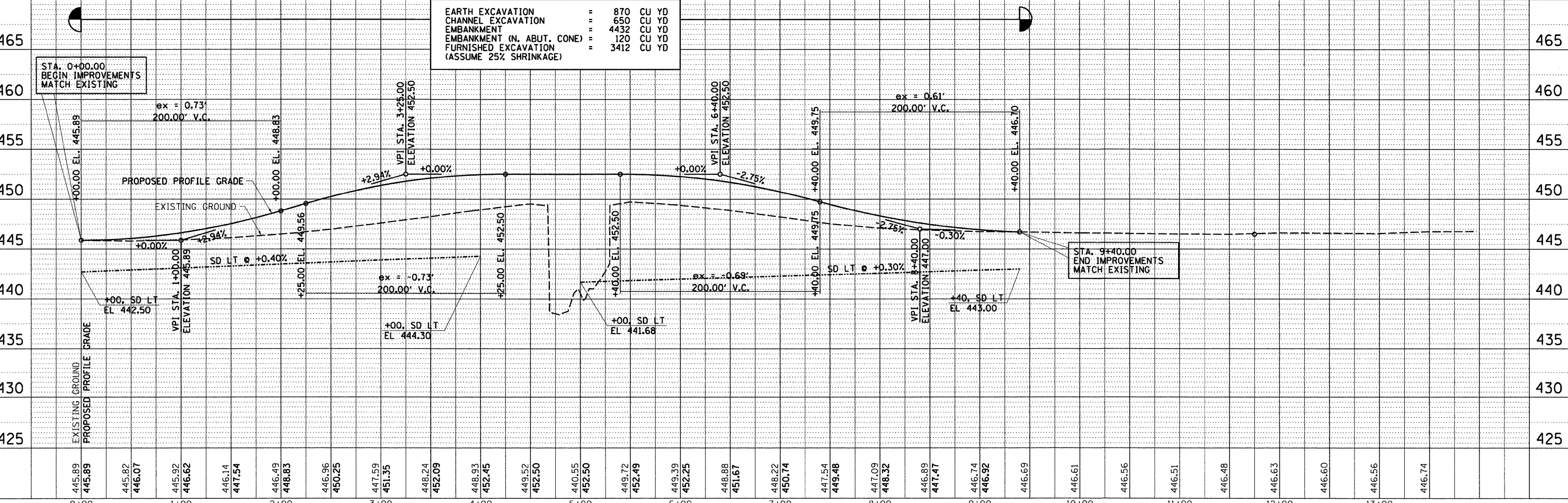
P.I. STA. 11+32.80  
N = 11,057.4623  
E = 12,143.7982



CURVE C2PR  
P.I. STA= 11+32.80  
Δ= 19° 54' 47"  
D= 3° 43' 31"  
R= 1,538.07'  
T= 270.00'  
L= 534.55'  
E= 23.52'  
e= 5.00%  
S.E. TRANS= CONTINUOUS PLANE  
ROTATION STA. 6+09.00 TO  
STA. 9+40.00  
P.C. STA= 8+62.80  
P.T. STA= 13+97.35

STA. 0-33.72, 4.86' LT. IRON PIPE  
N = 9,966.9524  
E = 11,788.4018

STA. 11+41.65, 0.09' RT. IRON PIPE  
N = 11,092.0626  
E = 12,130.0081



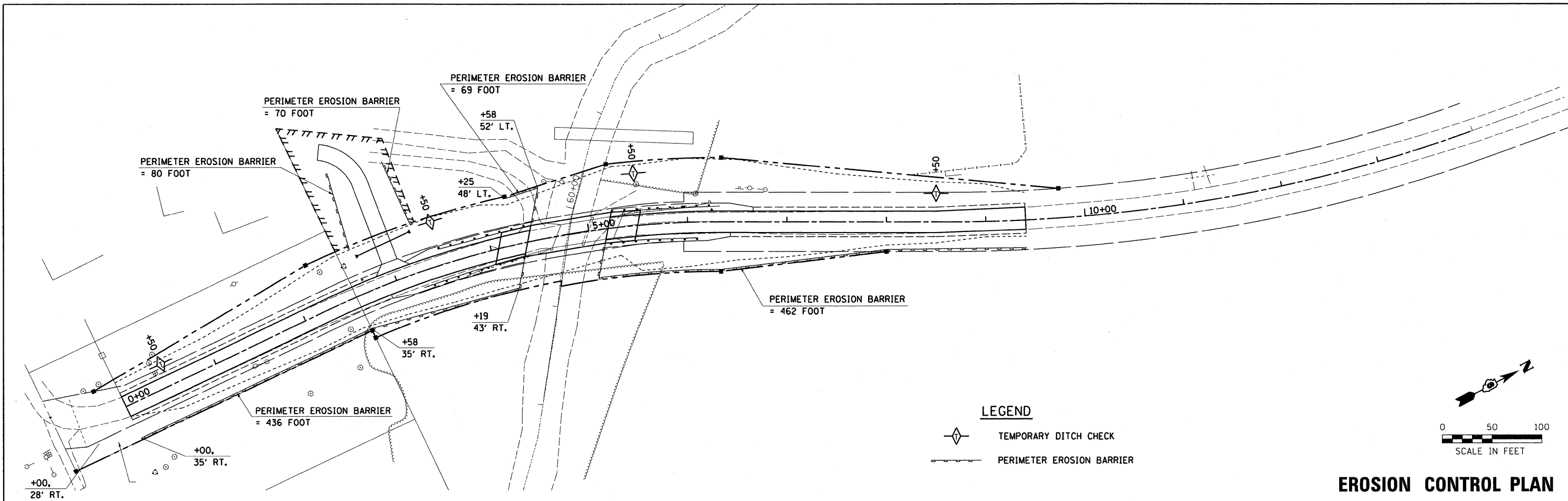
EARTH EXCAVATION = 870 CU YD  
CHANNEL EXCAVATION = 650 CU YD  
EMBANKMENT = 4432 CU YD  
EMBANKMENT (N. ABUT. CONE) = 120 CU YD  
FURNISHED EXCAVATION (ASSUME 25% SHRINKAGE) = 3412 CU YD

FILE NAME = J:\07258\CADD\CAD\07258-shr-pln\prof.dgn	USER NAME = Franky	DESIGNED - DG	REVISED - 9/10/09 IDOT REVIEW	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND PROFILE</b> SCALE: 1" = 50' SHEET NO. 1 OF 1 SHEETS STA. 0+00 TO STA. 14+50	F.A.S. RTE. 454	SECTION 04-00070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 5	
G&B PROJECT: 07258	PLOT SCALE = 50.0000' / in.	CHECKED - WCB	REVISED -			FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT BRS-0454(103)	CONTRACT NO. 93499			
PLOT DATE = 9/18/2009	PLOT DATE = 9/18/2009	DRAWN - MDS	REVISED -								
		DATE - 9/30/08	REVISED -								

DATE \_\_\_\_\_ BY \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
PLAN \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_  
NO. \_\_\_\_\_

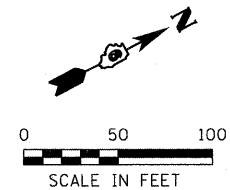
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NOTE BOOK \_\_\_\_\_  
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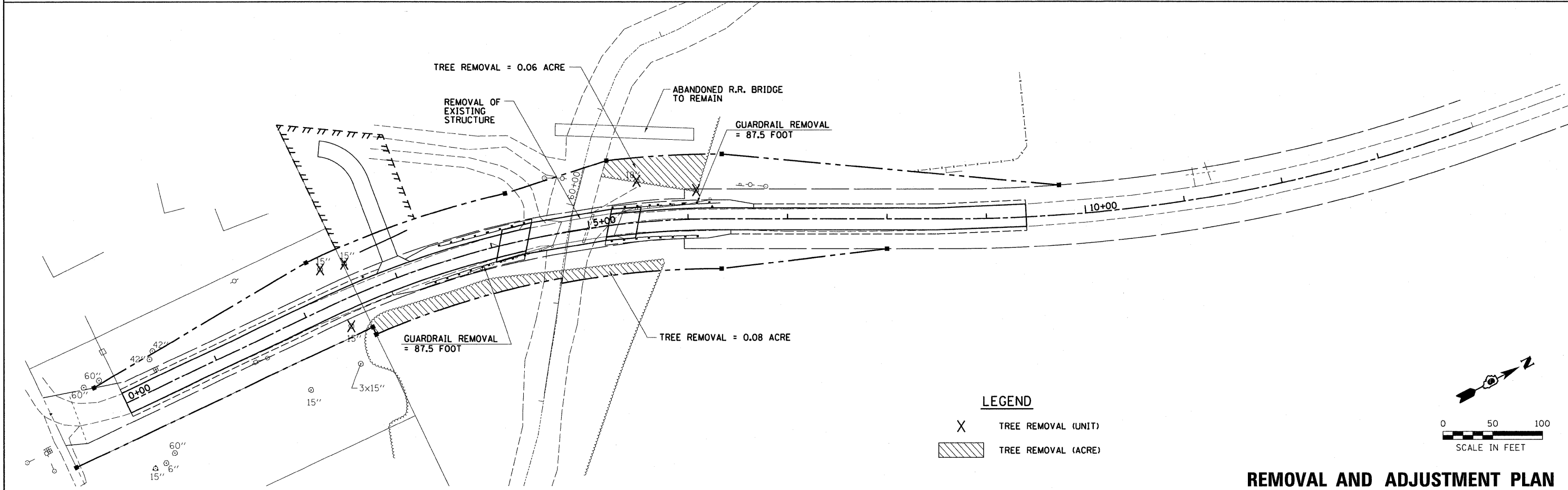


**LEGEND**

- TEMPORARY DITCH CHECK
- PERIMETER EROSION BARRIER

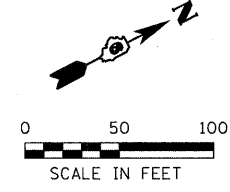


**EROSION CONTROL PLAN**



**LEGEND**

- TREE REMOVAL (UNIT)
- TREE REMOVAL (ACRE)



**REMOVAL AND ADJUSTMENT PLAN**

GREENE & BRADFORD, INC.  
 OF SPRINGFIELD  
 REGISTERED PROFESSIONAL ENGINEERS  
 LICENSE NO. 12121  
 1001 N. WASHINGTON ST.  
 SPRINGFIELD, ILL. 62761  
 TEL: 217/223-1111 FAX: 217/223-1112  
 WWW: WWW.GRENEANDBRADFORD.COM

FILE NAME = J:\07258\CADD\CADsheets\07258-sht-ren.dgn	USER NAME = Frankv	DESIGNED - WCB	REVISED -
PLOT SCALE = 50.0000' / in.		DRAWN - MDS	REVISED -
PLOT DATE = 9/18/2009		CHECKED - WCB	REVISED -
		DATE - 9/16/08	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EROSION CONTROL & REMOVAL AND ADJUSTMENT PLANS**

SCALE: 1" = 50'    SHEET NO. 1 OF 1 SHEETS    STA. 0+00    TO STA. 11+75

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	6
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 93499	
			BRS-04541031	

# RIGHT OF WAY PLAT

SW 1/4, SECTION 23, T2N, R1E, 4th P.M.

**PARCEL 1**  
**VILLAGE OF BROWNING**

PROP. R. O. W. 0.5815 AC.  
EXIST. R. O. W. 0.3207 AC.  
NET R. O. W. 0.2608 AC.

**PARCEL 4**  
**VIRGIL & MARSHA HAMM**

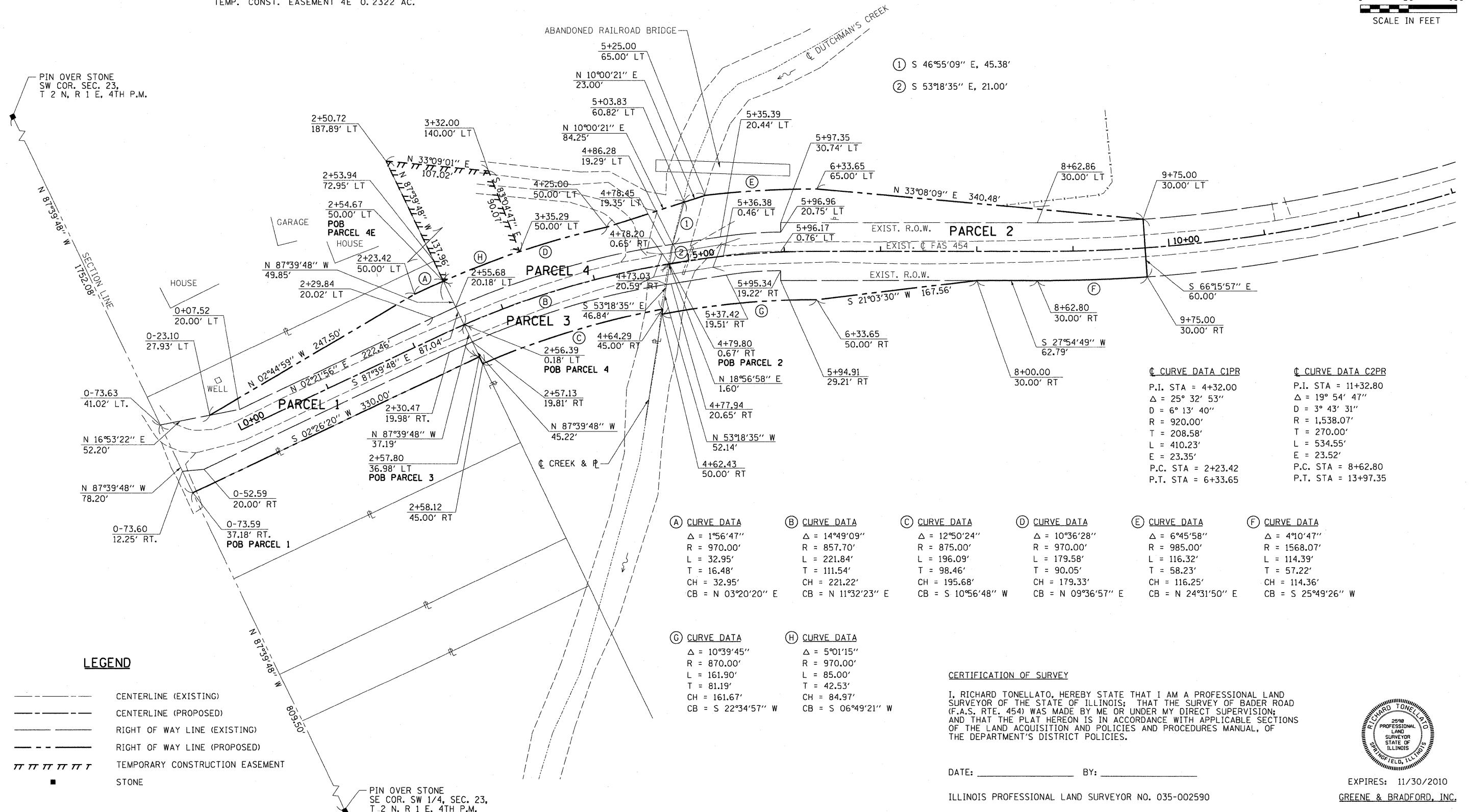
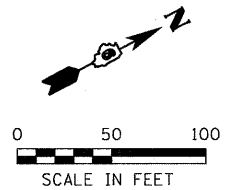
PROP. R. O. W. 0.2837 AC.  
EXIST. R. O. W. 0.1054 AC.  
NET R. O. W. 0.1783 AC.  
TEMP. CONST. EASEMENT 4E 0.2322 AC.

**PARCEL 3**  
**VIRGIL & MARSHA HAMM**

PROP. R. O. W. 0.2173 AC.  
EXIST. R. O. W. 0.0998 AC.  
NET R. O. W. 0.1175 AC.

**PARCEL 2**  
**BURTON FARMS INC.**

PROP. R. O. W. 1.0551 AC.  
EXIST. R. O. W. 0.6185 AC.  
NET R. O. W. 0.4366 AC.



Curve Data C1PR	Curve Data C2PR
P.I. STA = 4+32.00	P.I. STA = 11+32.80
Δ = 25° 32' 53"	Δ = 19° 54' 47"
D = 6° 13' 40"	D = 3° 43' 31"
R = 920.00'	R = 1,538.07'
T = 208.58'	T = 270.00'
L = 410.23'	L = 534.55'
E = 23.35'	E = 23.52'
P.C. STA = 2+23.42	P.C. STA = 8+62.80
P.T. STA = 6+33.65	P.T. STA = 13+97.35

A CURVE DATA	B CURVE DATA	C CURVE DATA	D CURVE DATA	E CURVE DATA	F CURVE DATA
Δ = 1°56'47"	Δ = 14°49'09"	Δ = 12°50'24"	Δ = 10°36'28"	Δ = 6°45'58"	Δ = 4°10'47"
R = 970.00'	R = 857.70'	R = 875.00'	R = 970.00'	R = 985.00'	R = 1568.07'
L = 32.95'	L = 221.84'	L = 196.09'	L = 179.58'	L = 116.32'	L = 114.39'
T = 16.48'	T = 111.54'	T = 98.46'	T = 90.05'	T = 58.23'	T = 57.22'
CH = 32.95'	CH = 221.22'	CH = 195.68'	CH = 179.33'	CH = 116.25'	CH = 114.36'
CB = N 03°20'20" E	CB = N 11°32'23" E	CB = S 10°56'48" W	CB = N 09°36'57" E	CB = N 24°31'50" E	CB = S 25°49'26" W

G CURVE DATA	H CURVE DATA
Δ = 10°39'45"	Δ = 5°01'15"
R = 870.00'	R = 970.00'
L = 161.90'	L = 85.00'
T = 81.19'	T = 42.53'
CH = 161.67'	CH = 84.97'
CB = S 22°34'57" W	CB = S 06°49'21" W

**CERTIFICATION OF SURVEY**  
I, RICHARD TONELLATO, HEREBY STATE THAT I AM A PROFESSIONAL LAND SURVEYOR OF THE STATE OF ILLINOIS; THAT THE SURVEY OF BADER ROAD (F.A.S. RTE. 454) WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION; AND THAT THE PLAT HEREON IS IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE LAND ACQUISITION AND POLICIES AND PROCEDURES MANUAL, OF THE DEPARTMENT'S DISTRICT POLICIES.

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-002590



EXPIRES: 11/30/2010  
GREENE & BRADFORD, INC.

FILE NAME J:\07258\CADD\CAD\sheets\07258-sht\rowpln.dgn	USER NAME = franky	DESIGNED - DG	REVISED -	<b>STATE OF ILLINOIS</b>	<b>RIGHT OF WAY PLANS</b>	F.A.S. RTE. 454	SECTION 04-00070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 7
G&B PROJECT: 07258	PLOT SCALE = 50.0000' / 1" IN.	CHECKED - RT	REVISOR -	<b>DEPARTMENT OF TRANSPORTATION</b>	PROJECT BRS-0454(103)	JOB NO.		<b>CONTRACT NO. 93499</b>		
PLOT DRIVER = vbi_tds700.ps.LOCAL.IDOT.pltcf	PLOT DATE = 9/18/2009	DATE = 7/06/09	REVISOR -	SCALE: 1"=50'		SHEET NO. 1 OF 2 SHEETS	STA. 0-73.63	TO STA. 9+75.00		FED. ROAD DIST. NO. [ILLINOIS]

# RIGHT OF WAY PLAT

## LEGAL DESCRIPTIONS

### PARCEL 1

PART OF OUTLOT 5 OF ASSESSOR'S SUBDIVISION OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE FOURTH PRINCIPAL MERIDIAN; DESCRIBED MORE PARTICULARLY AS FOLLOWS:

COMMENCING AT AN IRON PIN OVER A STONE MARKING THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE AFOREMENTIONED SECTION 23, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 809.50 FEET TO THE TRUE POINT OF BEGINNING, THENCE CONTINUING NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 78.20 FEET, THENCE NORTH 16 DEGREES 53 MINUTES 22 SECONDS EAST, 52.20 FEET, THENCE NORTH 02 DEGREES 44 MINUTES 59 SECONDS WEST, 247.50 FEET TO A POINT MARKING THE BEGINNING OF A 970.00 FOOT RADIUS, TANGENT CURVE TO THE RIGHT, THENCE NORTHERLY 32.95 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS NORTH 03 DEGREES 20 MINUTES 20 SECONDS EAST FOR A DISTANCE OF 32.95 FEET TO A POINT ON THE NORTH LINE OF THE AFOREMENTIONED OUTLOT 5, THENCE SOUTH 87 DEGREES 39 MINUTES 48 SECONDS EAST ALONG SAID NORTH LINE A DISTANCE OF 87.04 FEET, THENCE SOUTH 02 DEGREES 26 MINUTES 20 SECONDS WEST 330.00 FEET TO THE TRUE POINT OF BEGINNING. SAID PARCEL CONTAINS 0.5815 ACRE, MORE OR LESS OF WHICH 0.3207 ACRE IS WITHIN THE EXISTING RIGHT-OF-WAY OF COUNTY ROAD, ALL IN THE COUNTY OF SCHUYLER, STATE OF ILLINOIS.

### PARCEL 2

PART OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE FOURTH PRINCIPAL MERIDIAN; DESCRIBED MORE PARTICULARLY AS FOLLOWS:

COMMENCING AT AN IRON PIN OVER A STONE MARKING THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE AFOREMENTIONED SECTION 23, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 809.50 FEET, THENCE NORTH 02 DEGREES 26 MINUTES 20 SECONDS EAST 330.00 FEET, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 37.19 FEET TO THE CENTER OF A TOWNSHIP ROAD, THENCE NORTHEASTERLY 221.84 FEET ALONG SAID CENTER OF A TOWNSHIP ROAD WITH A 857.70 FOOT RADIUS CURVE TO THE RIGHT HAVING A LONG CHORD THAT BEARS NORTH 11 DEGREES 32 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 221.22 FEET, THENCE NORTH 18 DEGREES 56 MINUTES 58 SECONDS EAST ALONG SAID CENTER OF A TOWNSHIP ROAD A DISTANCE OF 1.60 FEET TO THE CENTER OF DUTCHMAN'S CREEK, BEING THE TRUE POINT OF BEGINNING, THENCE NORTH 53 DEGREES 18 MINUTES 35 SECONDS WEST 21.00 FEET ALONG SAID CREEK, THENCE NORTH 46 DEGREES 55 MINUTES 09 SECONDS WEST 45.38 FEET ALONG SAID CREEK, THENCE NORTH 10 DEGREES 00 MINUTES 21 SECONDS EAST 23.00 FEET TO A POINT MARKING THE BEGINNING OF A 985.00 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THENCE NORTHEASTERLY 116.32 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS NORTH 24 DEGREES 31 MINUTES 50 SECONDS EAST FOR A DISTANCE OF 116.25 FEET, THENCE NORTH 33 DEGREES 08 MINUTES 09 SECONDS EAST 340.48 FEET, THENCE SOUTH 86 DEGREES 15 MINUTES 57 SECONDS EAST 60.00 FEET TO A POINT MARKING THE BEGINNING OF A 1,588.07 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THENCE SOUTHWESTERLY 114.39 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS SOUTH 25 DEGREES 49 MINUTES 26 SECONDS WEST FOR A DISTANCE OF 114.38 FEET, THENCE SOUTH 27 DEGREES 54 MINUTES 49 SECONDS WEST 62.79 FEET, THENCE SOUTH 21 DEGREES 03 MINUTES 30 SECONDS WEST 167.56 FEET TO A POINT MARKING THE BEGINNING OF A 870.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, THENCE SOUTHWESTERLY 161.90 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS SOUTH 22 DEGREES 34 MINUTES 57 SECONDS WEST FOR A DISTANCE OF 161.67 FEET TO THE CENTER OF DUTCHMAN'S CREEK, THENCE NORTH 53 DEGREES 18 MINUTES 35 SECONDS WEST 52.14 FEET TO THE TRUE POINT OF BEGINNING. SAID PARCEL CONTAINS 1.0551 ACRES, MORE OR LESS OF WHICH 0.6185 ACRE IS WITHIN THE EXISTING RIGHT-OF-WAY OF COUNTY ROAD, ALL IN THE COUNTY OF SCHUYLER, STATE OF ILLINOIS.

### PARCEL 3

PART OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE FOURTH PRINCIPAL MERIDIAN; DESCRIBED MORE PARTICULARLY AS FOLLOWS:

COMMENCING AT AN IRON PIN OVER A STONE MARKING THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE AFOREMENTIONED SECTION 23, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 809.50 FEET, THENCE NORTH 02 DEGREES 26 MINUTES 20 SECONDS EAST 330.00 FEET TO THE TRUE POINT OF BEGINNING, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 37.19 FEET TO THE CENTER OF A TOWNSHIP ROAD, THENCE NORTHEASTERLY 221.84 FEET ALONG SAID CENTER OF A TOWNSHIP ROAD WITH A 857.70 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT HAVING A LONG CHORD THAT BEARS NORTH 11 DEGREES 32 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 221.22 FEET, THENCE NORTH 18 DEGREES 56 MINUTES 58 SECONDS EAST A DISTANCE OF 1.60 FEET, THENCE SOUTH 53 DEGREES 18 MINUTES 35 SECONDS EAST ALONG THE CENTER OF A CREEK A DISTANCE OF 46.84 FEET, THENCE SOUTHWESTERLY 196.09 FEET ALONG A 875.00 FOOT RADIUS, NON-TANGENT CURVE TO THE LEFT HAVING A LONG CHORD THAT BEARS SOUTH 10 DEGREES 56 MINUTES 48 SECONDS WEST FOR A DISTANCE OF 195.68 FEET, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 8.03 FEET TO THE TRUE POINT OF BEGINNING. SAID PARCEL CONTAINS 0.2173 ACRE, MORE OR LESS OF WHICH 0.0998 ACRE IS WITHIN THE EXISTING RIGHT-OF-WAY OF COUNTY ROAD, ALL IN THE COUNTY OF SCHUYLER, STATE OF ILLINOIS.

### PARCEL 4

PART OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE FOURTH PRINCIPAL MERIDIAN; DESCRIBED MORE PARTICULARLY AS FOLLOWS:

COMMENCING AT AN IRON PIN OVER A STONE MARKING THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE AFOREMENTIONED SECTION 23, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 809.50 FEET, THENCE NORTH 02 DEGREES 26 MINUTES 20 SECONDS EAST 330.00 FEET, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 37.19 FEET TO THE CENTER OF A TOWNSHIP ROAD BEING THE TRUE POINT OF BEGINNING, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 49.85 FEET TO A POINT MARKING THE BEGINNING OF A 970.00 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THENCE NORTHEASTERLY 179.58 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS NORTH 09 DEGREES 36 MINUTES 57 SECONDS EAST FOR A DISTANCE OF 179.33 FEET, THENCE NORTH 10 DEGREES 00 MINUTES 21 SECONDS EAST 84.25 FEET TO THE CENTER OF DUTCHMAN'S CREEK, THENCE SOUTH 46 DEGREES 55 MINUTES 09 SECONDS EAST 45.38 FEET ALONG THE CENTER OF SAID CREEK, THENCE SOUTH 53 DEGREES 18 MINUTES 35 SECONDS EAST 21.00 FEET ALONG THE CENTER OF SAID CREEK TO THE CENTER OF A TOWNSHIP ROAD, THENCE SOUTH 18 DEGREES 56 MINUTES 58 SECONDS WEST A DISTANCE OF 1.60 FEET, THENCE SOUTHWESTERLY 221.84 FEET ALONG SAID CENTER OF A TOWNSHIP ROAD WITH A 857.70 FOOT RADIUS, NON-TANGENT CURVE TO THE LEFT HAVING A LONG CHORD THAT BEARS SOUTH 11 DEGREES 32 MINUTES 23 SECONDS WEST FOR A DISTANCE OF 221.22 FEET TO THE TRUE POINT OF BEGINNING. SAID PARCEL CONTAINS 0.2837 ACRES, MORE OR LESS OF WHICH 0.1054 ACRE IS WITHIN THE EXISTING RIGHT-OF-WAY OF COUNTY ROAD, ALL IN THE COUNTY OF SCHUYLER, STATE OF ILLINOIS.

### PARCEL 4E

PART OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE FOURTH PRINCIPAL MERIDIAN; DESCRIBED MORE PARTICULARLY AS FOLLOWS:

COMMENCING AT AN IRON PIN OVER A STONE MARKING THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE AFOREMENTIONED SECTION 23, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST ALONG THE SECTION LINE A DISTANCE OF 809.50 FEET, THENCE NORTH 02 DEGREES 26 MINUTES 20 SECONDS EAST 330.00 FEET, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 87.04 FEET TO THE TRUE POINT OF BEGINNING, THENCE NORTH 87 DEGREES 39 MINUTES 48 SECONDS WEST 137.96 FEET, THENCE NORTH 33 DEGREES 09 MINUTES 01 SECONDS EAST 107.02 FEET, THENCE SOUTH 83 DEGREES 04 MINUTES 47 SECONDS EAST 90.07 FEET TO A POINT MARKING THE BEGINNING OF A 970.00 FOOT RADIUS, NON-TANGENT CURVE TO THE LEFT, THENCE SOUTHWESTERLY 85.00 FEET ALONG SAID CURVE HAVING A LONG CHORD THAT BEARS SOUTH 06 DEGREES 49 MINUTES 21 SECONDS WEST FOR A DISTANCE OF 84.97 FEET TO THE TRUE POINT OF BEGINNING. SAID PARCEL CONTAINS 0.2322 ACRE, MORE OR LESS, ALL IN THE COUNTY OF SCHUYLER, STATE OF ILLINOIS.

### CERTIFICATION OF SURVEY

I, RICHARD TONELLATO, HEREBY STATE THAT I AM A PROFESSIONAL LAND SURVEYOR OF THE STATE OF ILLINOIS; THAT THE SURVEY OF BADER ROAD (F.A.S. RTE. 454) WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION; AND THAT THE PLAT HEREON IS IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE LAND ACQUISITION AND POLICIES AND PROCEDURES MANUAL, OF THE DEPARTMENT'S DISTRICT POLICIES.



DATE: \_\_\_\_\_ BY: \_\_\_\_\_

EXPIRES: 11/30/2010

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-002590

GREENE & BRADFORD, INC.

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
SURVEYING & ENGINEERING  
1000 N. WASHINGTON ST., SUITE 100  
SPRINGFIELD, ILLINOIS 62761  
TEL: 217-223-1111 FAX: 217-223-1112  
WWW.GREENE-AND-BRADFORD.COM



FILE NAME	USER NAME = frankv	DESIGNED - DG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				RIGHT OF WAY PLANS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
J:\07258\CADD\CADsheets\07258-shr-rwopl.dgn		DRAWN - MDS	REVISED -					PROJECT BRS-0454(103) JOB NO.		454	04-00070-00-BR	SCHUYLER	30	8
		CHECKED - RT	REVISED -							SCALE: 1"=50'		SHEET NO. 2 OF 2 SHEETS STA. TO STA.		CONTRACT NO. 03499
G&B PROJECT: 07258		PLOT SCALE = 50.0000' / in.	REVISED -							FED. ROAD DIST. NO. [ILLINOIS]		FED. AID PROJECT BRS-0454(103)		
		PLOT DATE = 9/18/2009	REVISED -											
PLOT DRIVER = VB1.T05700.PS.LOCAL.IDOT.plt0fg														



Benchmarks: BM #1 Sta. 0+53, 30' Rt. RR Spike in Power Pole, Elev. = 446.75  
 BM #2 Chiseled "□" in S.E. Wing Abandoned RR Bridge, Elev. = 452.01

Existing Structure: S.N. 085-3081, Originally built in 1935 as section 6-B-MFT. The original structure consisted of a two-span reinforced concrete deck with steel WF beams on closed timber abutments and a timber pile bent pier. The back to back abutment length is 62'-0" and out to out deck width is 23'-0".

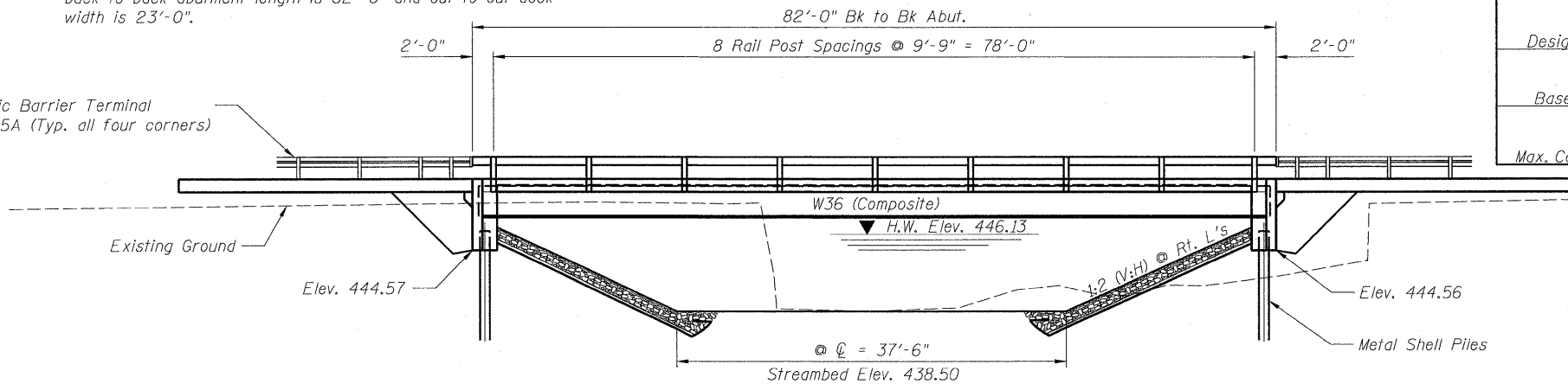
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

WATERWAY INFORMATION

Freq. Year	Discharge (cfs)	Opening (sq ft)	Existing Low Grade Elevation 446.50ft.		Proposed Low Grade Elevation 446.50ft.		Headwater Elevation				
			Exist.	Prop.	Natural H.W.E.	Exist.	Prop.	Exist.	Prop.		
Design 30	Bridge	1806	1806	329.7	402.6	446.13	0.34	0.28	446.47	446.41	
	Over-the-Road	0	0	0.0	0.0						
	Total	1806	1806	329.7	402.6						
Base 100	Bridge	2302.5	2302.5	332.2	410.8	446.25	0.59	0.47	446.84	446.72	
	Over-the-Road	179.5	179.5	104.5	104.5						
	Total	2482	2482	436.7	515.3						
Max. Calc. 500	Bridge	3035.4	3035.4	344.6	425.9	446.47	1.18	0.90	447.65	447.37	
	Over-the-Road	394.6	394.6	187.0	187.0						
Total		3430	3430	531.6	612.9						

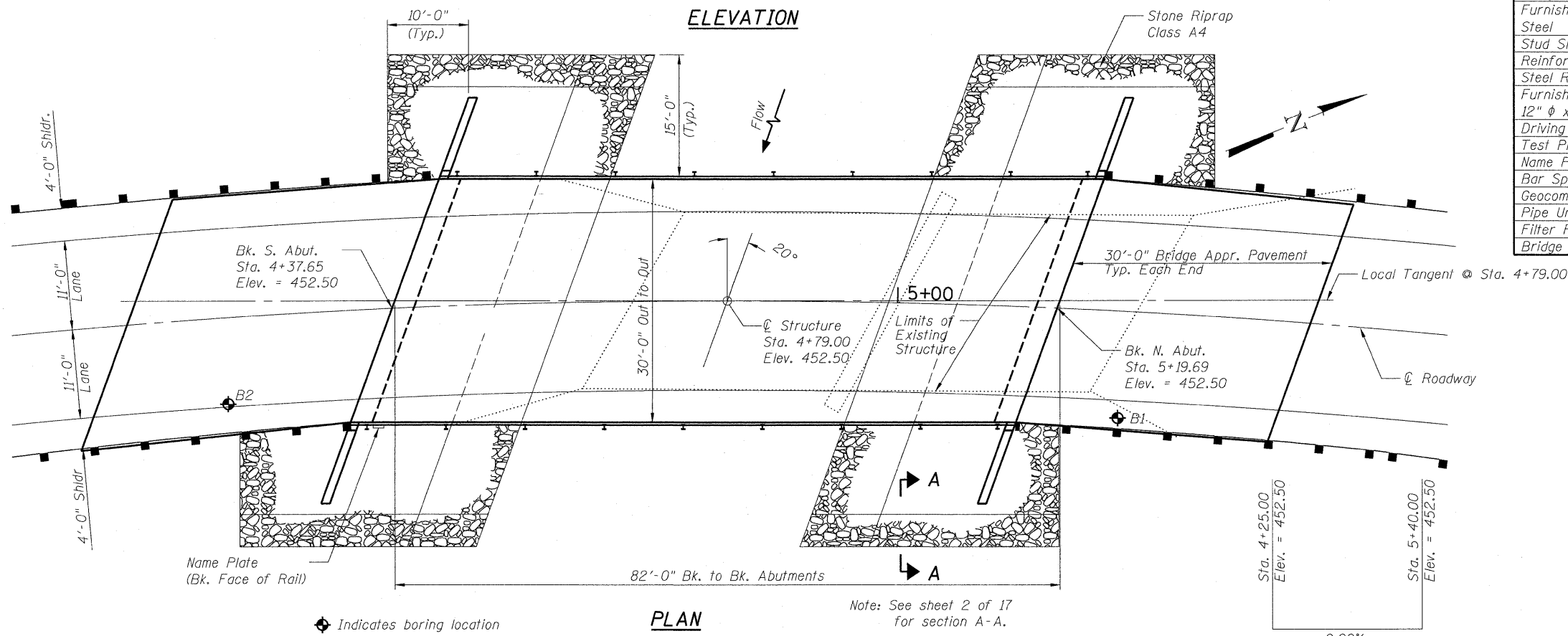
No Salvage

Traffic Barrier Terminal  
 Type 5A (Typ. all four corners)



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu Yd	-	116.4	116.4
Stone Riprap, Class A4	Ton	-	315	315
Removal of Existing Structures	Each	-	-	1
Structure Excavation	Cu Yd	-	118	118
Protective Coat	Sq Yd	300	-	300
Concrete Structures	Cu Yd	-	31.2	31.2
Concrete Superstructure	Cu Yd	88.8	-	88.8
Bridge Deck Grooving	Sq Yd	274	-	274
Furnishing and Erecting Structural Steel	L Sum	1	-	1
Stud Shear Connectors	Each	930	-	930
Reinforcement Bars, Epoxy Coated	Pound	17,200	4,400	21,600
Steel Railing, Type S1	Foot	164	-	164
Furnishing Metal Shell Piles	Foot	-	410	410
12" $\phi$ x 0.25"	Foot	-	410	410
Driving Piles	Foot	-	410	410
Test Pile Metal Shells	Each	-	1	1
Name Plates	Each	1	-	1
Bar Splicers	Each	62	-	62
Geocomposite Wall Drain	Sq Yd	-	66.0	66.0
Pipe Underdrains for Structure, 4"	Foot	-	132	132
Filter Fabric	Sq Yd	-	475	475
Bridge Approach Pavement (Special)	Sq Yd	200	-	200



LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement)  
 $f_y$  = 50,000 psi (M270 Grade 50 Structural Steel)

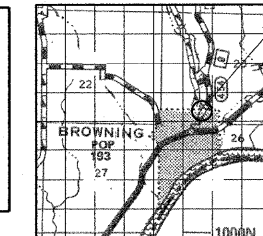
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
 Bedrock Acceleration Coefficient (A) = 0.046g  
 Site Coefficient (S) = 1.0

PROFILE GRADE

(Along  $\phi$  Roadway)

Range 1 E, 4th P.M.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

F.A.S. ROUTE 454 OVER  
 DUTCHMAN'S CREEK  
 SECTION 04-00070-00-BR  
 SCHUYLER COUNTY  
 STATION 4+79.00  
 S.N. 085-3055

DESIGN SCOUR ELEVATION	N & S Abut. 444.56
------------------------	-----------------------

Note: See sheet 2 of 17 for section A-A.



DESIGNED	NIWINSKI
CHECKED	TRELLO
DRAWN	VERENSKI
CHECKED	TRELLO



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 A.A.S.H.T.O. L.R.F.D. Bridge Design Specifications.

Expires: 11/30/10

*Michael J. Trello*  
 Signed  
 9/13/09  
 Dated

NAME PLATE

See Std. 515001

DUTCHMAN'S CREEK  
 BUILT 20 BY  
 SCHUYLER COUNTY  
 SECTION 04-00070-00-BR  
 F.A.S. RTE 454 STATION 4+79.00  
 S.N. 085-3055  
 LOADING HL-93

SHEET NO. 1 17 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	454	04-00070-00-BR	SCHUYLER	30	9
FED. ROAD DIST. NO. -			ILLINOIS	FED. AID PROJECT	
				CONTRACT NO.	93499

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 3/4" in.  $\phi$ , holes 5/8" in.  $\phi$ , unless otherwise noted.

Calculated weight of Structural Steel = 71,660 lbs.

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

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

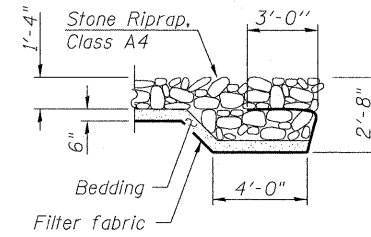
Reinforcement bars designated (E) shall be epoxy coated.

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

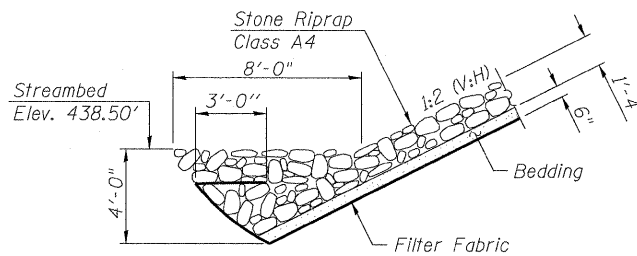
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

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

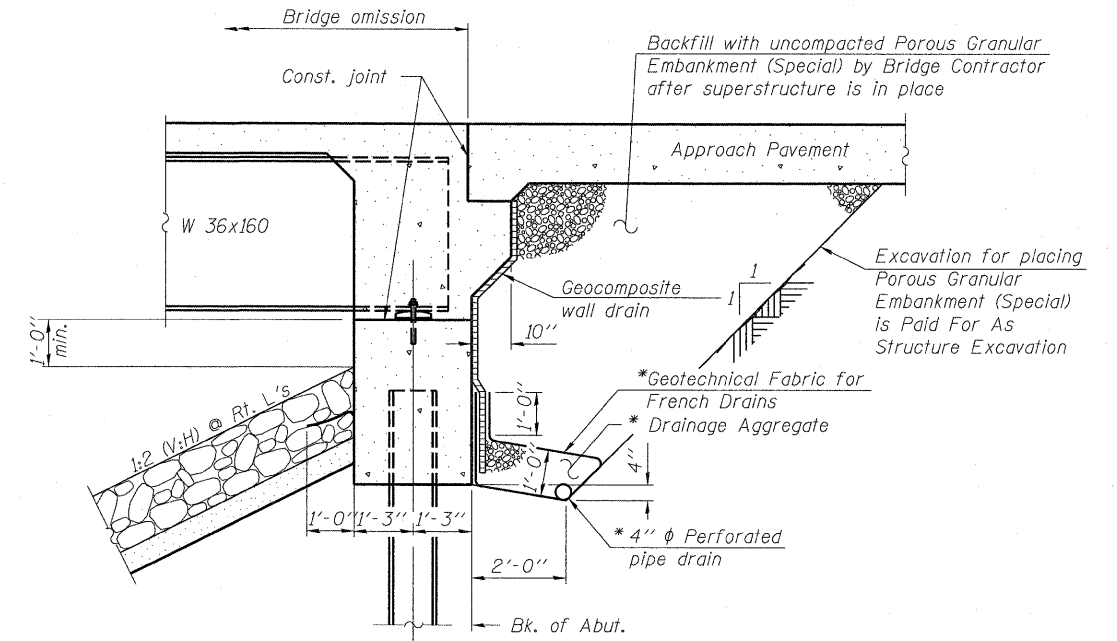
IDNR/OWR has issued permit DS2008073 for the construction of this project.



**SECTION A-A**



**STONE RIPRAP ANCHOR DETAIL**



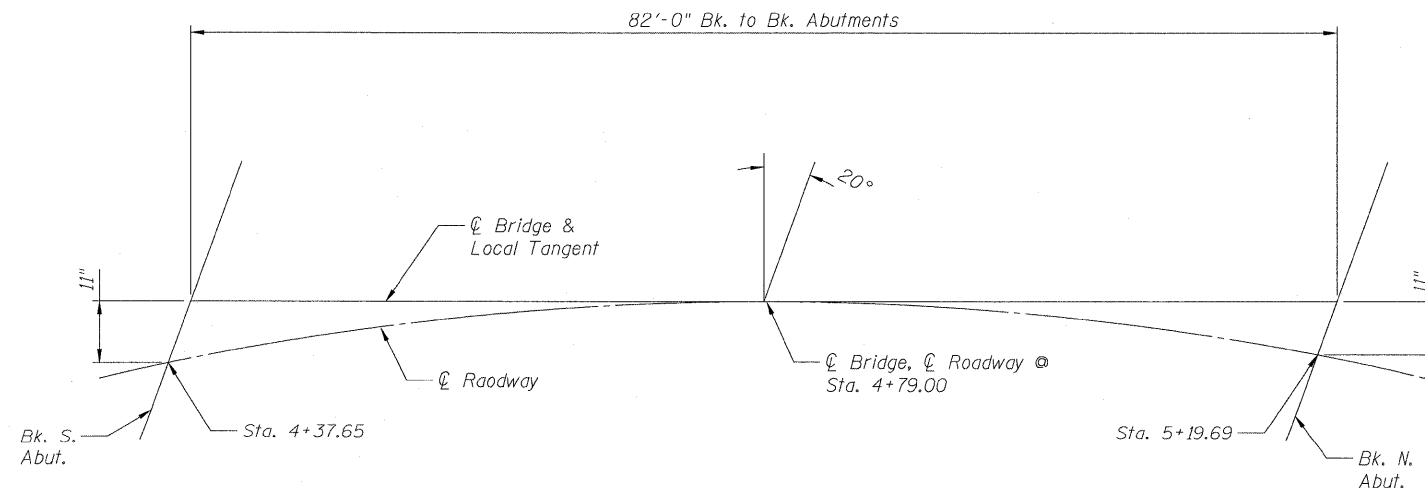
**SECTION THRU INTEGRAL ABUTMENT**

(Horiz. dim. @ Rt. L's)

Note:

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

\* Included in the cost of Pipe Underdrains for Structures, 4"



**OFFSET SKETCH**

**CURVE DATA**

PI Sta. = 4+32.00  
 $\Delta = 25^{\circ}32'53''$   
 $D = 6^{\circ}13'40''$   
 $T = 208.58'$   
 $L = 410.23'$   
 $R = 920.00'$   
 $E = 23.35'$   
 $e = 4.50\%$   
 $TR = 25.00'$   
 $SE Run = 75.00'$   
 $PC Sta. = 2+23.42$   
 $PT Sta. = 6+33.65$

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 General Data
- 3-4 Top of Slab Elevations
- 5 Superstructure
- 6 Superstructure Details
- 7 Steel Railing, Type S-1
- 8 Structural Steel Details
- 9 North Abutment
- 10 South Abutment
- 11-12 Bridge Approach Slab Details
- 13 Metal Shell Piles
- 14 Anchor Bolt Details
- 15 Bar Splicer Assembly Details
- 16-17 Soil Boring Logs

**GENERAL DATA**  
**F.A.S. ROUTE 454**  
**SECTION 04-00070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**

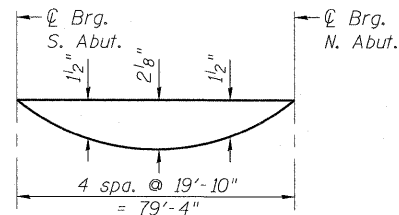


DESIGNED **NIWINSKI**  
 CHECKED **TRELLO**  
 DRAWN **VERENSKI**  
 CHECKED **TRELLO**

G&B PROJECT: - PLOT DRIVER = VB1.TDS700.PS.LOCAL.IDOT.pltcf  
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 PLOT DATE = 9/18/2009 PLOT SCALE = 42.0000 '1' = in. USER NAME = Frankv

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17 SHEETS	454	04-00070-00-BR	SCHUYLER	30	10
			CONTRACT NO. 93499		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

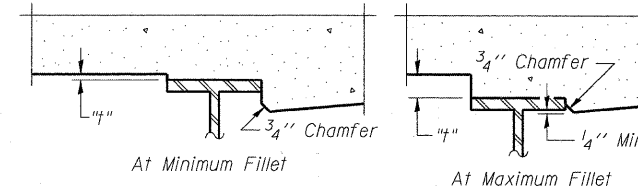


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

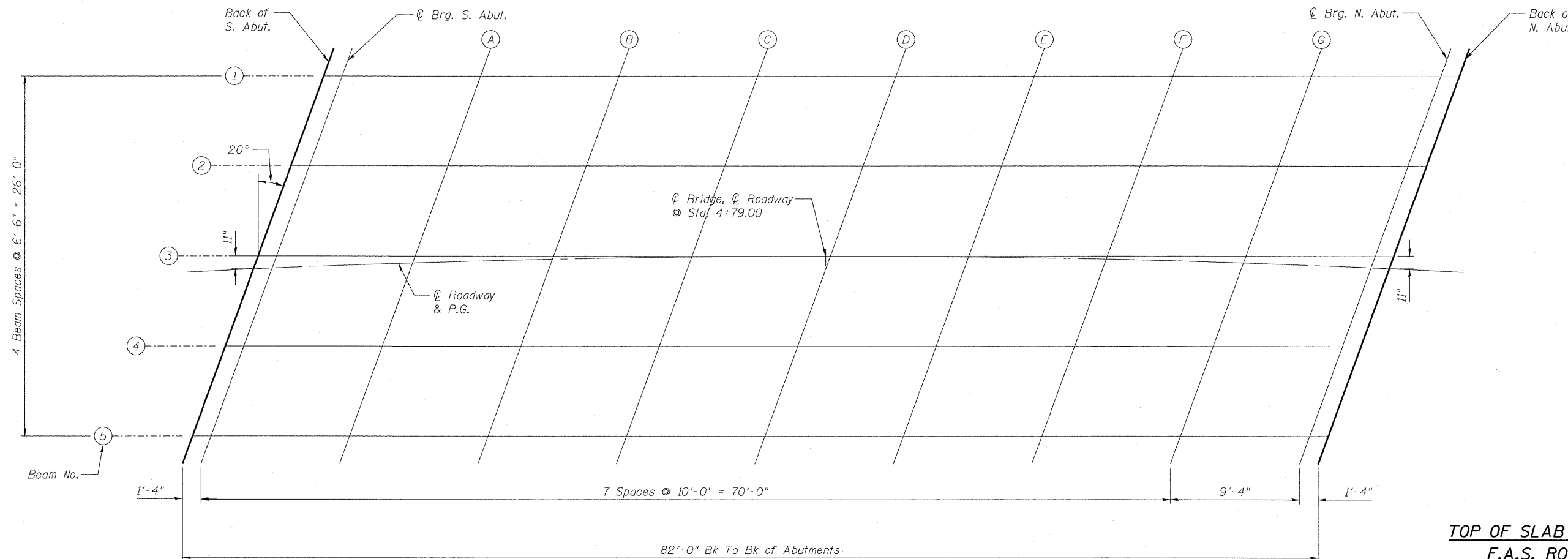
Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 4 of 17.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 4 of 17, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN**

**TOP OF SLAB ELEVATIONS**  
**F.A.S. ROUTE 454**  
**SECTION 04-00070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**



DESIGNED **NIWINSKI**  
CHECKED **TRELLO**  
DRAWN **VERENSKI**  
CHECKED **TRELLO**

SHEET NO. 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17 SHEETS	454	04-00070-00-BR	SCHUYLER	30	11
			CONTRACT NO. 93499		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+43.25	-13.70	453.117	453.117
CL Brg. S. Abut	04+44.57	-13.65	453.114	453.114
A	04+54.42	-13.33	453.100	453.170
B	04+64.27	-13.12	453.090	453.218
C	04+74.13	-13.01	453.085	453.250
D	04+83.99	-13.01	453.085	453.264
E	04+93.85	-13.12	453.090	453.254
F	05+03.71	-13.34	453.100	453.224
G	05+13.56	-13.66	453.115	453.180
CL Brg. N. Abut.	05+22.75	-14.06	453.133	453.133
Bk. Of N. Abut.	05+24.06	-14.12	453.135	453.135

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+40.66	-7.31	452.829	452.829
CL Brg. S. Abut	04+41.98	-7.25	452.826	452.826
A	04+51.90	-6.90	452.811	452.881
B	04+61.82	-6.66	452.800	452.927
C	04+71.75	-6.53	452.794	452.959
D	04+81.68	-6.50	452.793	452.971
E	04+91.61	-6.59	452.797	452.960
F	05+01.54	-6.78	452.805	452.929
G	05+11.46	-7.08	452.819	452.884
CL Brg. N. Abut.	05+20.71	-7.45	452.835	452.835
Bk. Of N. Abut.	05+22.03	-7.51	452.838	452.838

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+38.03	-0.91	452.541	452.541
CL Brg. S. Abut	04+39.36	-0.85	452.538	452.538
A	04+49.34	-0.48	452.522	452.592
B	04+59.34	-0.21	452.509	452.637
C	04+69.33	-0.05	452.502	452.667
D	04+79.33	0.00	452.500	452.678
E	04+89.33	-0.06	452.503	452.666
F	04+99.33	-0.22	452.510	452.634
G	05+09.32	-0.50	452.523	452.588
CL Brg. N. Abut.	05+18.64	-0.85	452.538	452.538
Bk. Of N. Abut.	05+19.97	-0.91	452.541	452.541

CENTERLINE AND P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+37.65	0.00	452.500	452.500
CL Brg. S. Abut	04+39.00	0.00	452.500	452.500
A	04+49.15	0.00	452.500	452.570
B	04+59.25	0.00	452.500	452.628
C	04+69.31	0.00	452.500	452.665
D	04+79.33	0.00	452.500	452.678
E	04+89.31	0.00	452.500	452.663
F	04+99.25	0.00	452.500	452.624
G	05+09.16	0.00	452.500	452.565
CL Brg. N. Abut.	05+18.37	0.00	452.500	452.500
Bk. Of N. Abut.	05+19.69	0.00	452.500	452.500

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+35.36	5.47	452.254	452.254
CL Brg. S. Abut	04+36.70	5.53	452.251	452.251
A	04+46.75	5.94	452.233	452.303
B	04+56.82	6.23	452.220	452.347
C	04+66.88	6.42	452.211	452.376
D	04+76.95	6.50	452.208	452.386
E	04+87.02	6.47	452.209	452.372
F	04+97.09	6.32	452.216	452.340
G	05+07.16	6.07	452.227	452.292
CL Brg. N. Abut.	05+16.55	5.74	452.242	452.242
Bk. Of N. Abut.	05+17.89	5.68	452.244	452.244

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Of S. Abut.	04+32.65	11.85	451.967	451.967
CL Brg. S. Abut	04+34.00	11.91	451.964	451.964
A	04+44.13	12.35	451.944	452.014
B	04+54.26	12.67	451.930	452.057
C	04+64.40	12.89	451.920	452.085
D	04+74.54	12.99	451.915	452.094
E	04+84.68	12.98	451.916	452.079
F	04+94.82	12.87	451.921	452.045
G	05+04.96	12.64	451.931	451.996
CL Brg. N. Abut.	05+14.42	12.33	451.945	451.945
Bk. Of N. Abut.	05+15.77	12.28	451.947	451.947

TOP OF SLAB ELEVATIONS  
F.A.S. ROUTE 454  
SECTION 04-00070-00-BR  
SCHUYLER COUNTY  
STATION 4+79.00  
S.N. 085-3055



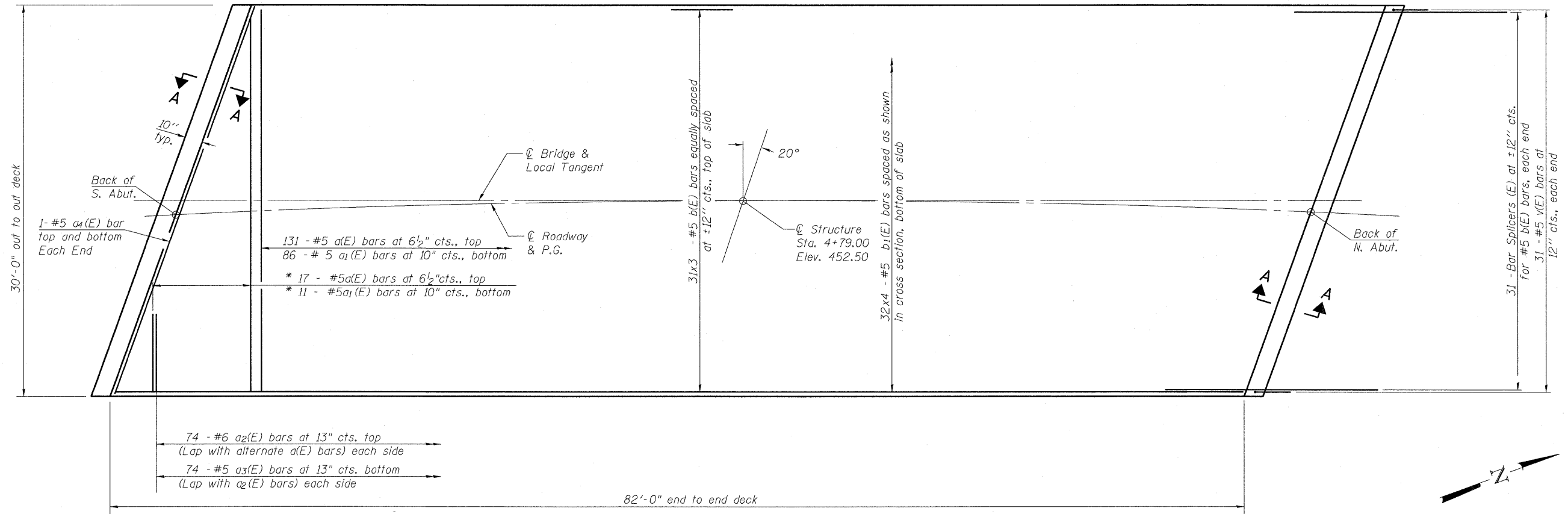
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CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

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PLOT DATE = 9/18/2009 PLOT SCALE = 4:2 1/2" = 1' USER NAME = Frankv

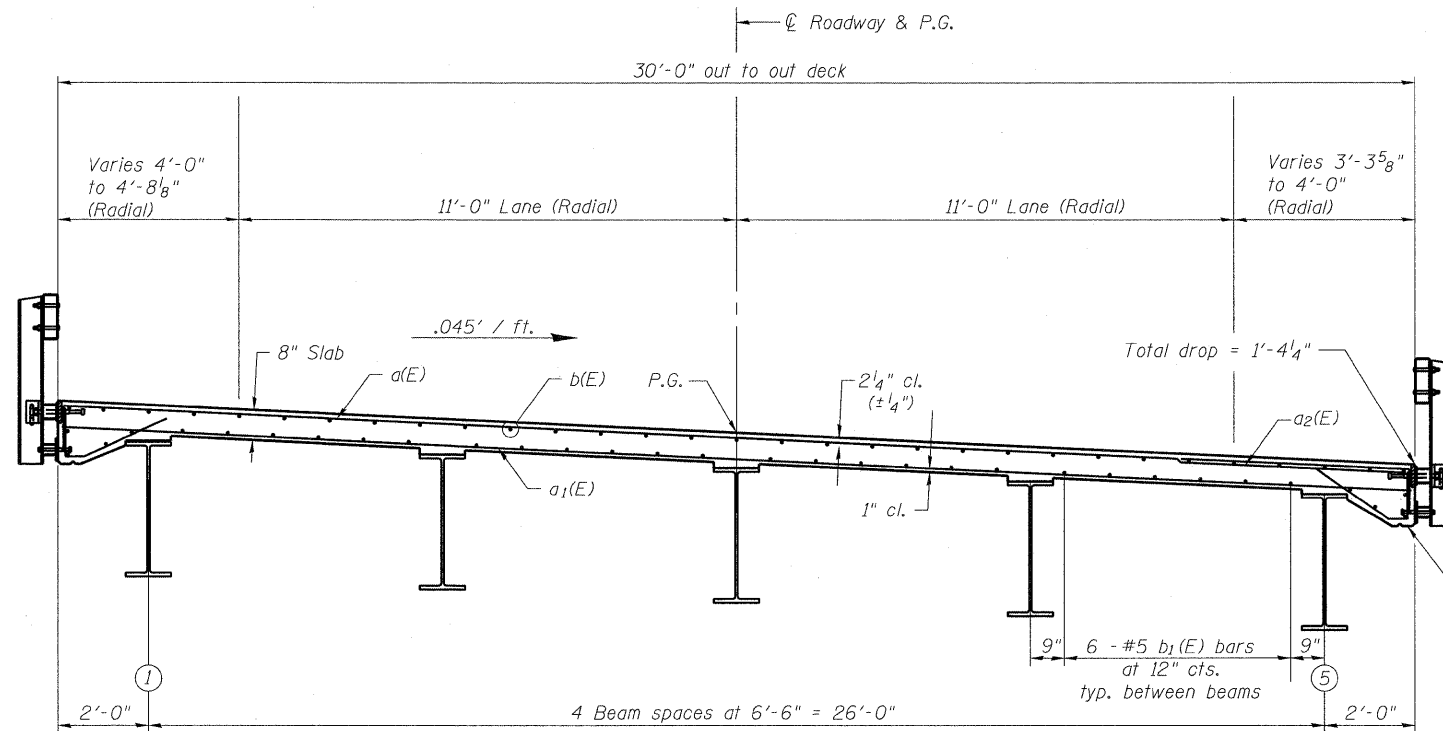
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	454	04-00070-00-BR	SCHUYLER	30	12
FED. ROAD DIST. NO. -			ILLINOIS FED. AID PROJECT		
				CONTRACT NO. 93499	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

\* Order a(E) and a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



PLAN



CROSS SECTION  
(Looking North)

Notes:  
See Sheet 6 of 17 for superstructure details  
and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates  
20 lines of bars with 3 lengths per line.  
See Sheet 6 of 17 for Section A-A.  
See Sheet 15 of 17 for Bar Splicer Details.

**MIN. BAR LAP**  
#5 bar = 2'-2"

**SUPERSTRUCTURE**  
**F.A.S. ROUTE 454**  
**SECTION 04-00070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

G&B PROJECT: - PLOT DRIVER = V61.TDS700.PS.LOCAL\_ID01.pltcf g  
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PLOT DATE = 9/18/2009 PLOT SCALE = 24' 1" / 1" USER NAME = frankv

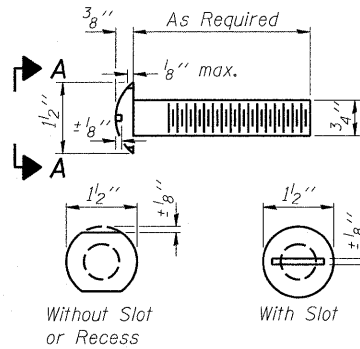
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			CONTRACT NO. 93499		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

SI-1-L

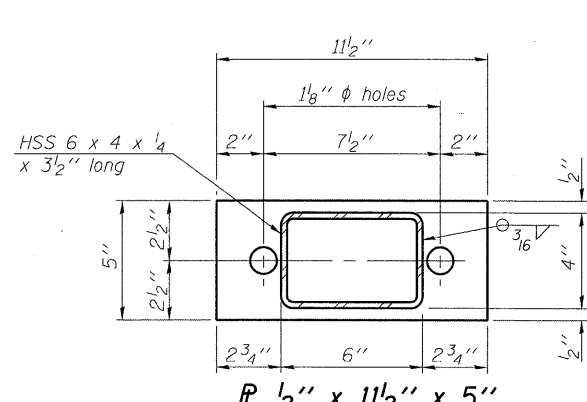
10-1-08



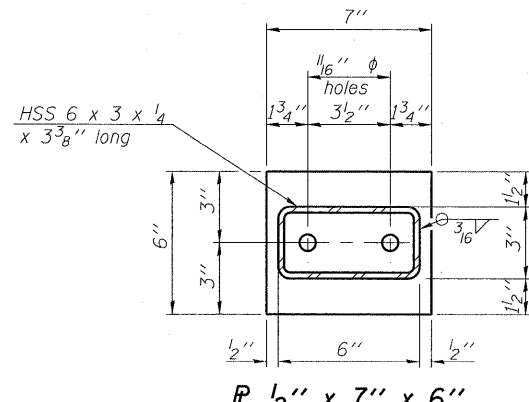
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



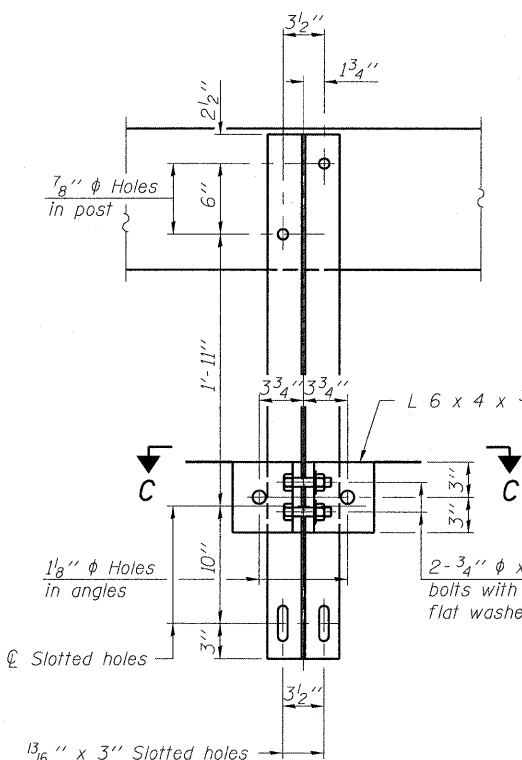
VIEW A-A  
ROUND HEAD BOLT



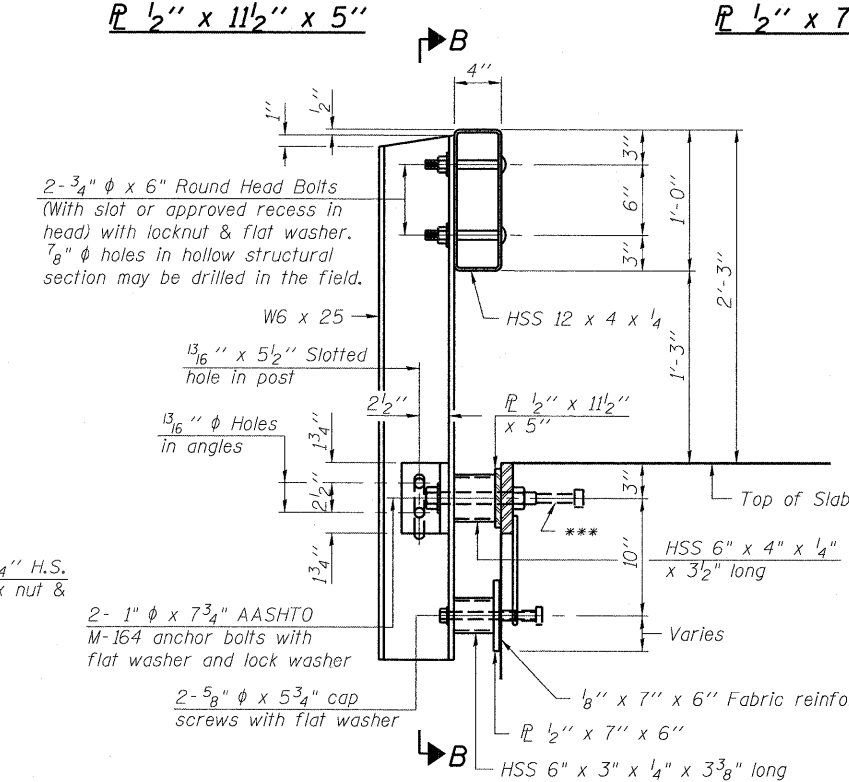
SECTION B-B  
R 1/2" x 11 1/2" x 5"



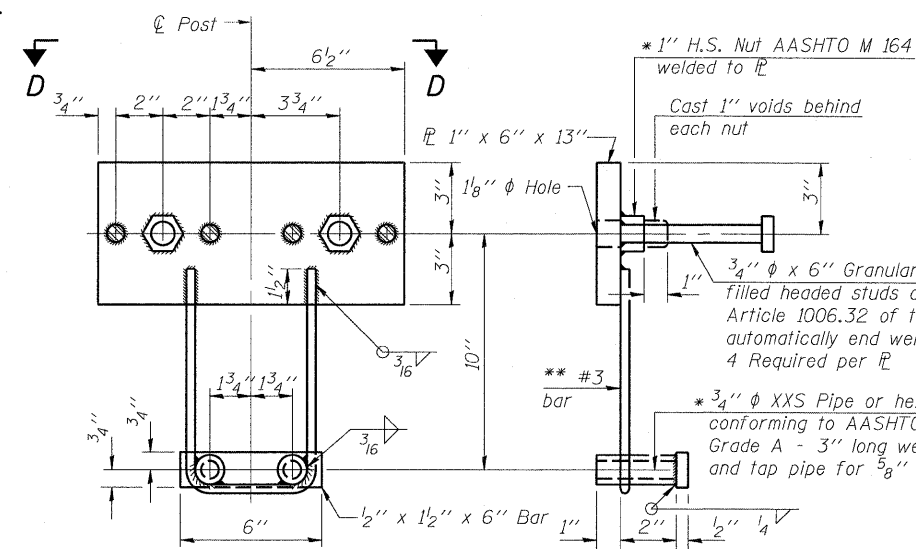
SECTION AT RAILING POST  
R 1/2" x 7" x 6"



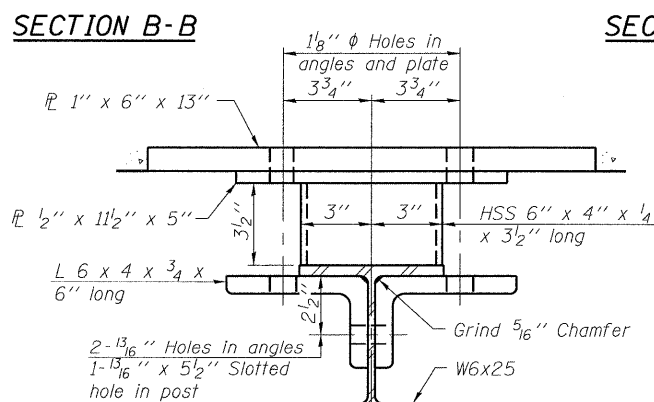
SECTION C-C



SECTION AT RAILING POST

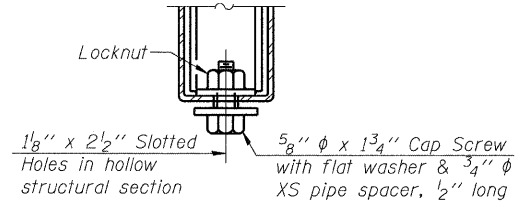


ANCHOR DEVICE

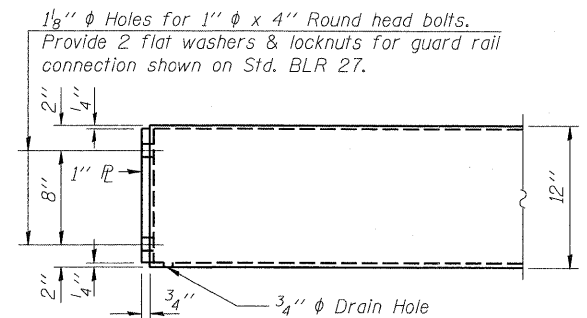


SECTION C-C

\*\* 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".

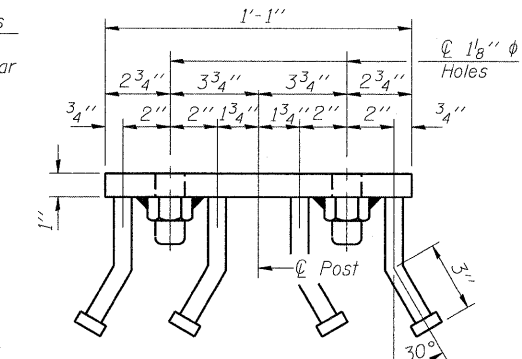


RAIL SPLICE CONNECTION  
AT EXPANSION JT.



END OF RAIL DETAILS

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.

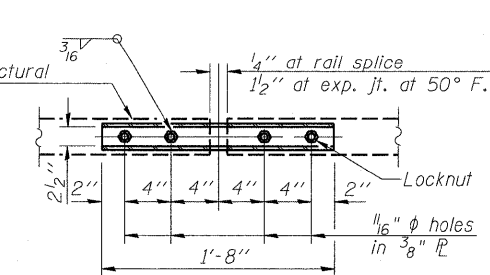


VIEW D-D

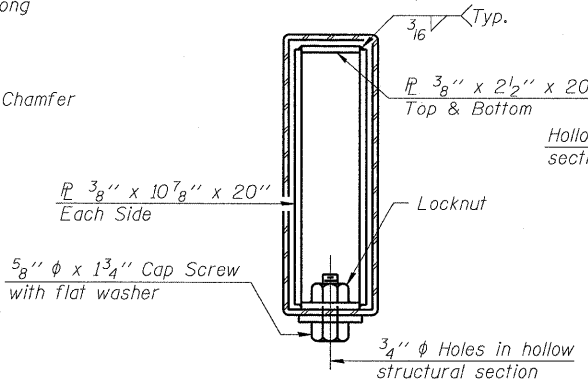
**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	164

**STEEL RAILING, TYPE S-1**  
**F.A.S. ROUTE 454**  
**SECTION 04-0070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**



PLAN-BOTT. SPLICE R  
TYPICAL



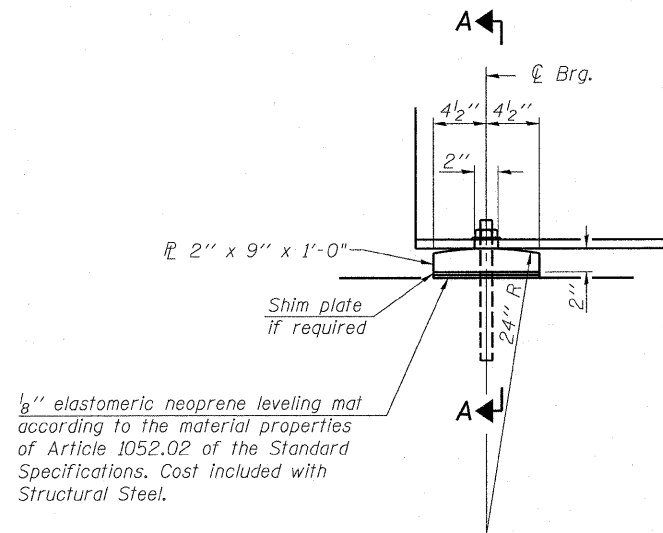
SECTIONS AT RAIL SPLICE

SHEET NO. 7	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17 SHEETS	454	04-0070-00-BR	SCHUYLER	30	15
			CONTRACT NO. 93499		
FED. ROAD DIST. NO. -		ILLINOIS FED. AID PROJECT			



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

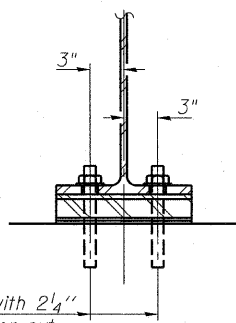


ELEVATION AT ABUTMENT

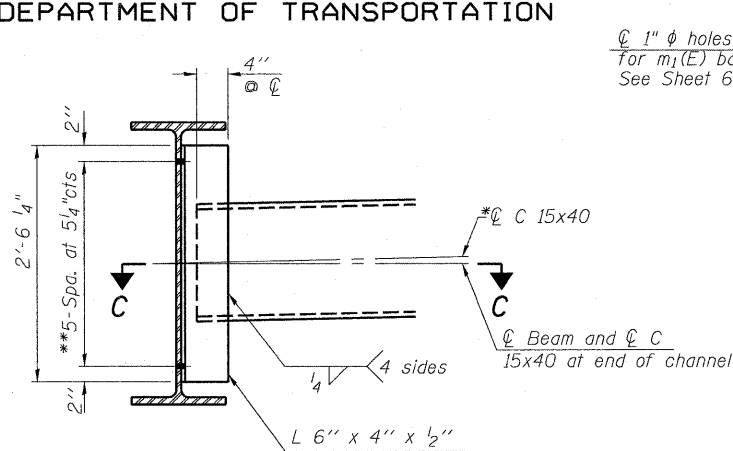
1/8" elastomeric neoprene leveling mat according to the material properties of Article 1052.02 of the Standard Specifications. Cost included with Structural Steel.

1"  $\phi$  x 12" anchor bolts with 2 1/4" x 2 1/4" x 5/16"  $\mathbb{E}$  washer under nut. 1 3/8" x 2" slotted hole in flange. 1/2"  $\phi$  holes in bearing plate.

FIXED BEARING



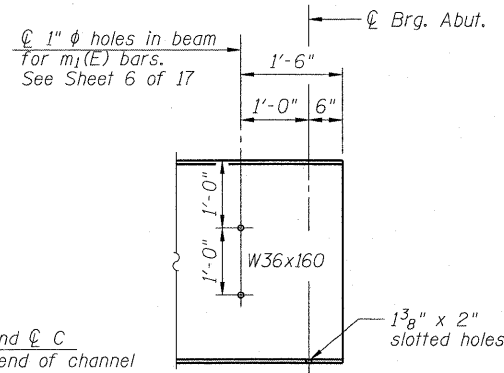
SECTION A-A



INTERIOR DIAPHRAGM D

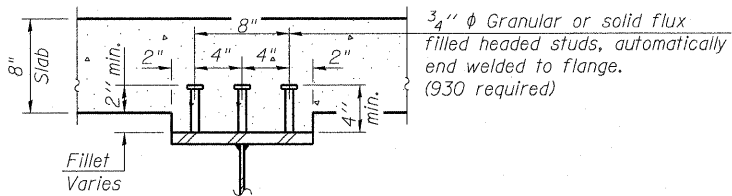
20 Required

Note:  
Two hardened washers required for each set of oversized holes.  
\*Alternate channel (C15x50) is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.  
\*\*3/4"  $\phi$  HS bolts, 1 5/16"  $\phi$  holes

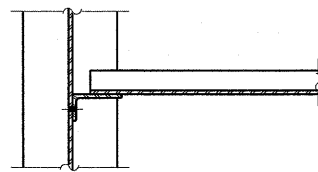


TYP. END OF BEAM ELEVATION

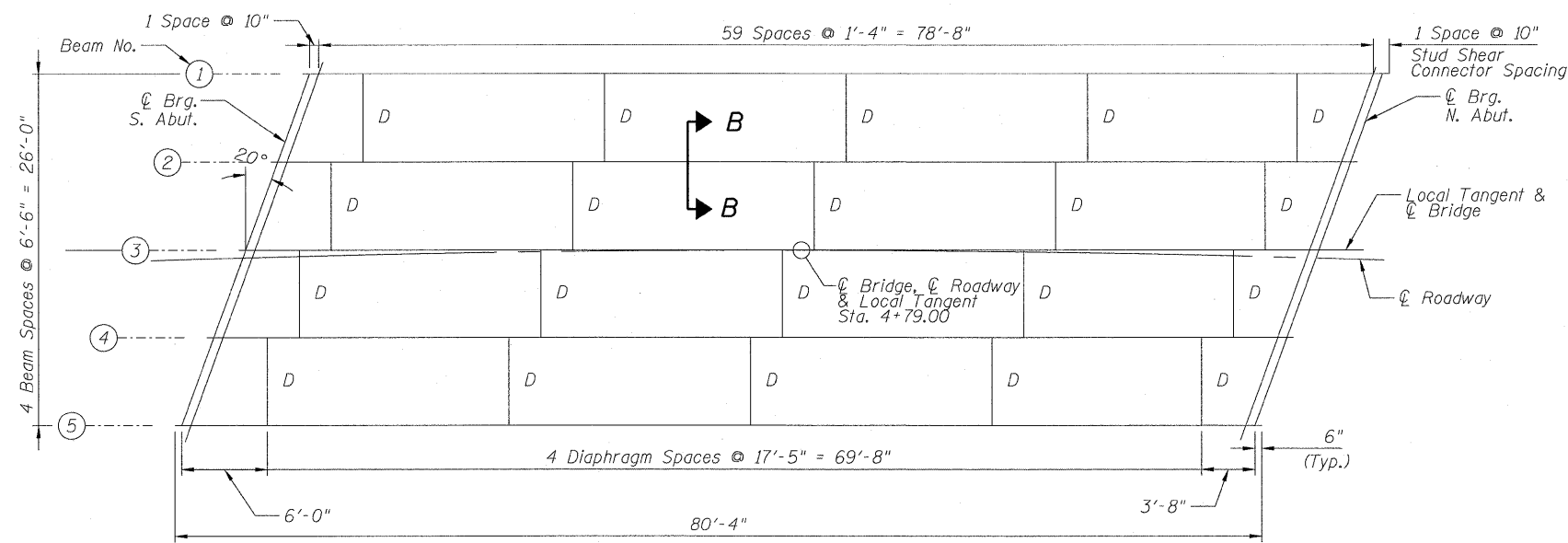
Notes:  
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.



SECTION B-B



SECTION C-C



FRAMING PLAN

(All Beams W36x160 "NTR" - M270 GR. 50)

INTERIOR GIRDER MOMENT TABLE		
		0.5 Span
$I_s$	(in <sup>4</sup> )	9760
$I_c(n)$	(in <sup>4</sup> )	23,693
$I_c(3n)$	(in <sup>4</sup> )	18,329
$S_s$	(in <sup>3</sup> )	542
$S_c(n)$	(in <sup>3</sup> )	761
$S_c(3n)$	(in <sup>3</sup> )	716
DC1	(k/')	0.855
M <sub>DC1</sub>	(k')	675.5
DC2	(k/')	0.020
M <sub>DC2</sub>	(k')	15.8
DW	(k/')	0.30
M <sub>DW</sub>	(k')	237.0
M $\phi$ + IM	(k')	1179.8
M <sub>u</sub> (Strength I)	(k)	3284.3
$\phi_r M_n$	(k')	3847.6
$f_s$ DC1	(ksi)	15.0
$f_s$ DC2	(ksi)	0.26
$f_s$ DW	(ksi)	4.0
$f_s$ 1.3( $\phi$ +IM)	(ksi)	24.2
$f_s$ (Service II)	(ksi)	43.5
$f_s$ (Total)(Strength I)	(ksi)	
V <sub>r</sub>	(k)	27.2

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

INTERIOR GIRDER REACTION TABLE		
		Abut.
R <sub>DC1</sub>	(k)	34.0
R <sub>DC2</sub>	(k)	0.80
R <sub>DW</sub>	(k)	11.9
R $\phi$ + IM	(k)	85.3
R <sub>Total</sub>	(k)	132.0

$I_s$ ,  $S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(n)$ ,  $S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n)$ ,  $S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).

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

STRUCTURAL STEEL DETAILS  
F.A.S. ROUTE 454  
SECTION 04-00070-00-BR  
SCHUYLER COUNTY  
STATION 4+79.00  
S.N. 085-3055

GREENE & BRADFORD, INC.  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
300 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62777-1001  
PROFESSIONAL DESIGNER LICENSE NO. 000793  
REGISTERED PROFESSIONAL ENGINEER LICENSE NO. 000793  
ILLINOIS PROFESSIONAL ENGINEERING BOARD  
021 793-8844, 021 793-8227 FAX: 021 793-8844  
www.greeneandbradford.com

DESIGNED	NIWINSKI
CHECKED	TRELLO
DRAWN	VERENSKI
CHECKED	TRELLO

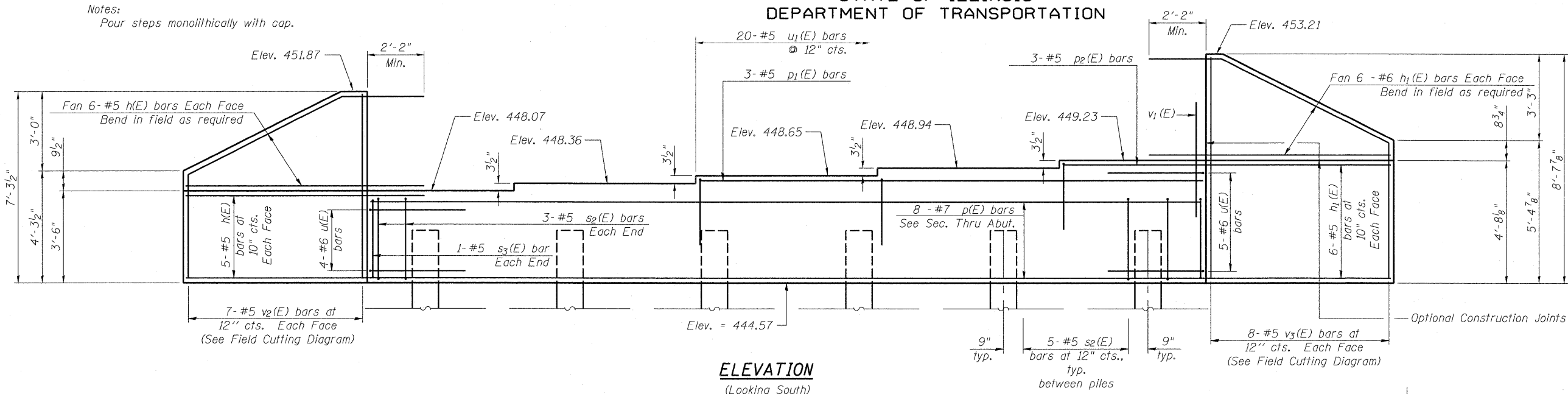
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			CONTRACT NO. 93499		
FED. ROAD DIST. NO. _			ILLINOIS FED. AID PROJECT		



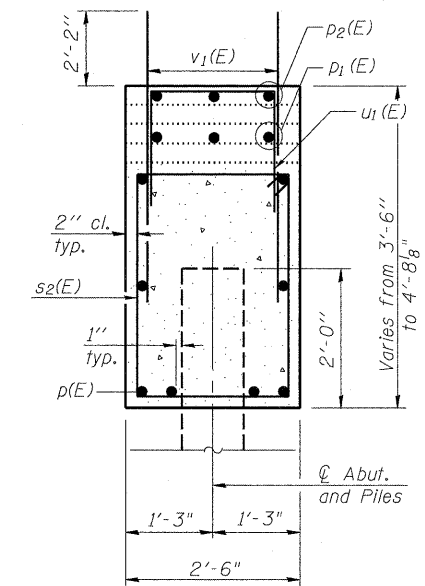


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:  
Pour steps monolithically with cap.



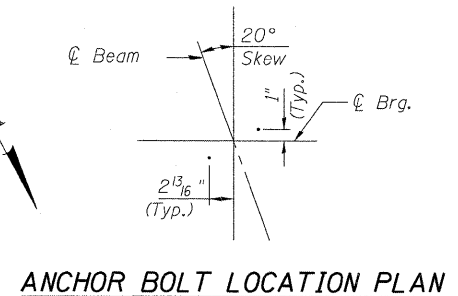
**ELEVATION**  
(Looking South)



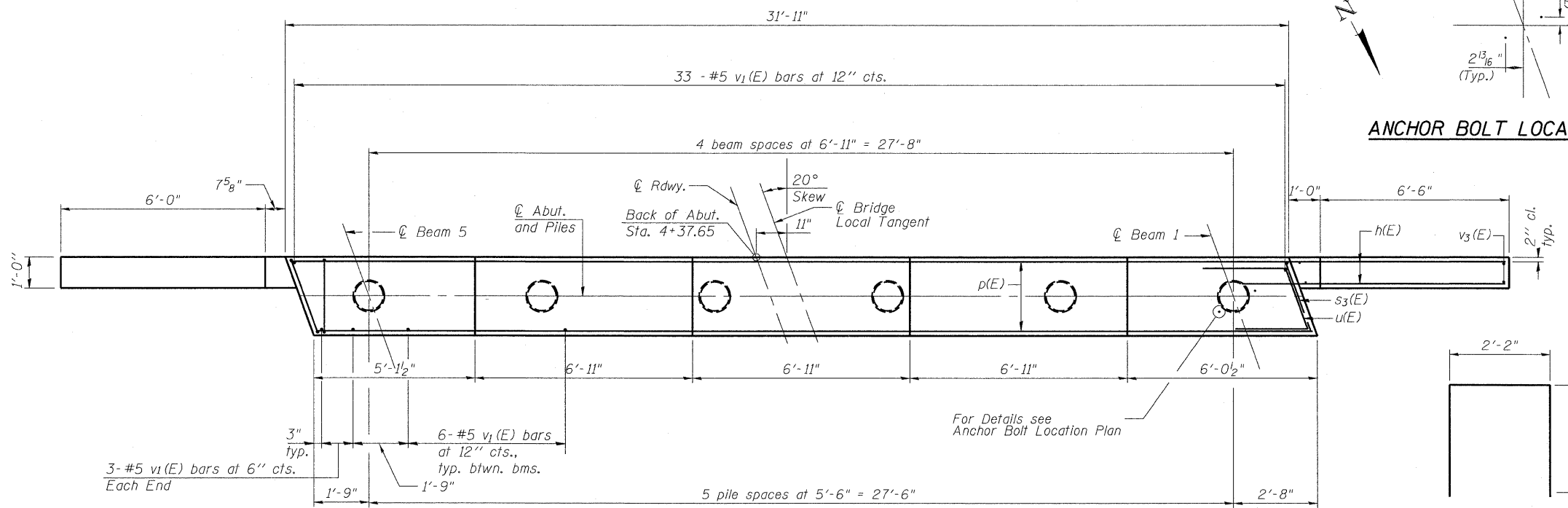
**SEC. THRU ABUT.**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	22	#5	9'-2"	—
h1(E)	24	#5	9'-8"	—
p(E)	8	#7	31'-7"	—
p1(E)	3	#5	19'-0"	—
p2(E)	3	#5	4'-9"	—
s2(E)	31	#5	11'-5"	□
s3(E)	2	#5	11'-9"	□
u(E)	9	#6	10'-2"	┌
u1(E)	20	#5	7'-2"	┌
v1(E)	63	#5	4'-4"	—
v2(E)	7	#5	10'-10"	—
v3(E)	8	#5	13'-5"	—
Structure Excavation			Cu. Yd.	59
Concrete Structures			Cu. Yd.	15.6
Reinforcement Bars, Epoxy Coated			Pound	2,200
Furnishing - Metal Shell Piles, 12" φ x 0.25"			Foot	200
Driving Piles			Foot	200
Test Pile, Metal Shells			Each	1

For details of piles see sheet 13 of 17.



**ANCHOR BOLT LOCATION PLAN**



**PLAN**

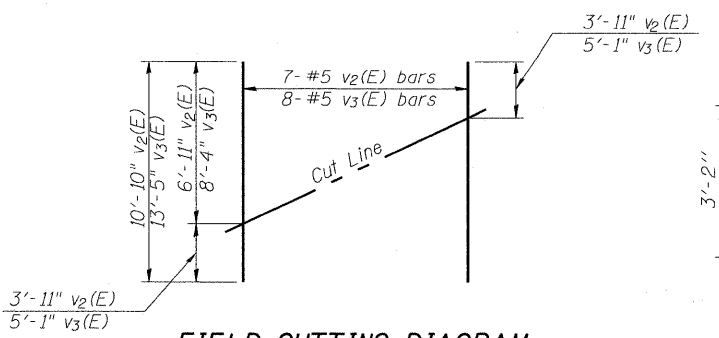
**BAR u1(E)**

**PILE DATA**

Type: Metal Shell - 12" Dia. x 0.25" wall  
Nominal Required Bearing: 321 Kips  
Factored Resistance Available: 161 Kips  
Est. Length: 40'  
No. Production Piles: 5  
No. Test Piles: 1

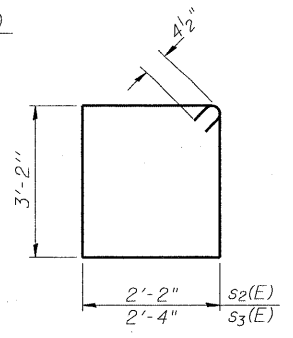
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3000 SPRINGFIELD DRIVE  
SPRINGFIELD, ILLINOIS 62707-1007  
PROFESSIONAL ENGINEERS  
ILLINOIS LICENSE NO. 021-0000000  
PROFESSIONAL & CONSULTING ENGINEERING CORPORATION  
618-783-6944, 1071-751-5237 FAX: 618-783-6944

DESIGNED	NIEWINSKI
CHECKED	TRELLO
DRAWN	VERENSKI
CHECKED	TRELLO

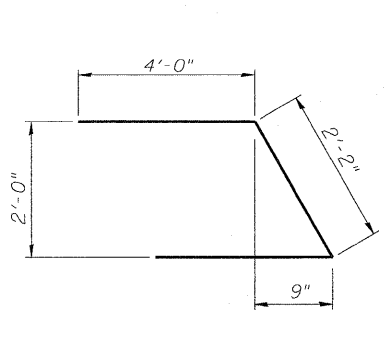


**FIELD CUTTING DIAGRAM**

Order v2(E) and v3(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s2(E) & s3(E)**



**BAR u(E)**

AI-L

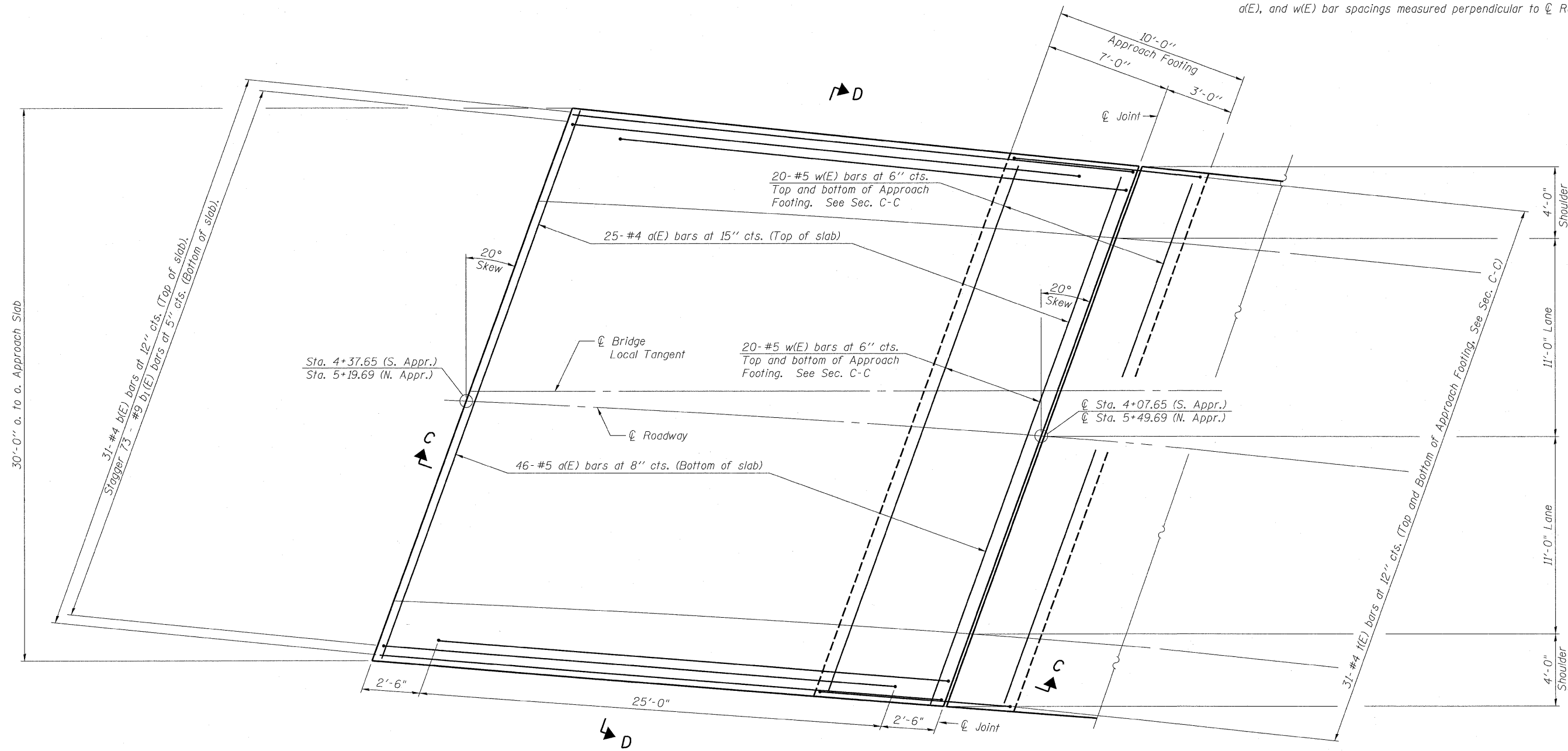
10-1-08

**SOUTH ABUTMENT**  
**F.A.S. ROUTE 454**  
**SECTION 04-0070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**

SHEET NO. 10 17 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	454	04-0070-00-BR	SCHUYLER	30	18
FED. ROAD DIST. NO. - ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 93499					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:  
See sheet 12 of 17 for Sections C-C & D-D.  
a(E), and w(E) bar spacings measured perpendicular to  $\phi$  Rdwy.



\* Tilt #9 b1(E) bars as required to maintain clearance.

PLAN

(Sheet 1 of 2)

**BRIDGE APPROACH SLAB DETAILS**  
**F.A.S. ROUTE 454**  
**SECTION 04-00070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

G&B PROJECT: - PLOT DRIVER = V81.TDS700.PS.LOCAL.ID01.plt\Fg  
FILE NAME = J:\07258\CADD\CAD\sheds\SN 085-3055\0853055-07258-Sht-Approach.dgn  
PLOT DATE = 9/18/2009 PLOT SCALE = 21:0000 '1' / in. USER NAME = Frankv

BA-L

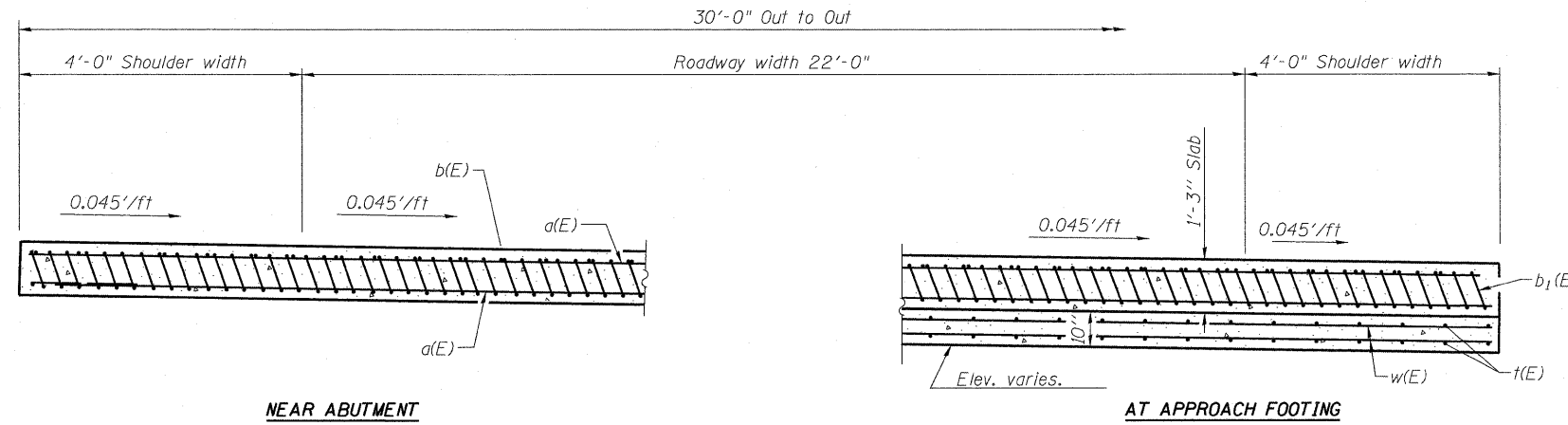
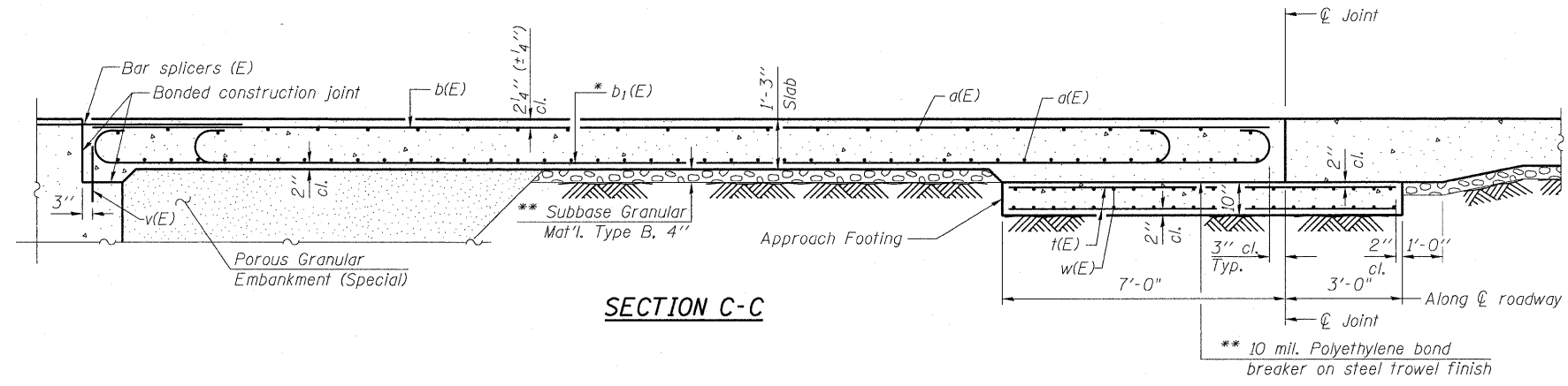
10-31-08

SHEET NO. 11	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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17 SHEETS	CONTRACT NO. 93499				
FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:

Approach slab, approach footing and reinforcement shall be paid for as Bridge Approach Pavement (Special).  
For v(E) bar details, see sheet 6 of 17.  
The approach footing maximum applied service bearing pressure (Q<sub>max</sub>) = 2.0 ksf.  
For bar splicer details, see sheet 15 of 17.  
Cost of excavation for approach footing included with Bridge Approach Pavement (Special).  
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 17.

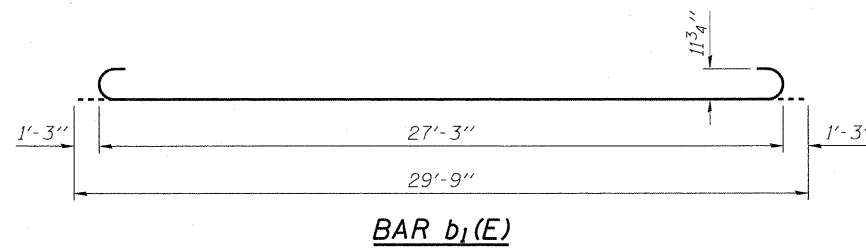


\* Tilt #9 b<sub>1</sub>(E) bars as required to maintain clearance.  
\*\* Cost included with Bridge Approach Pavement (Special).

**TWO APPROACHES  
BILL OF MATERIAL**  
(For information Only)

Bar	No.	Size	Length	Shape
a(E)	142	#4	31'-7"	—
b(E)	62	#4	29'-8"	—
b <sub>1</sub> (E)	146	#9	29'-9"	⌋
t(E)	124	#4	10'-4"	—
w(E)	80	#5	31'-7"	—
Approach Slab Concrete			Cu. Yd.	88.7
Approach Footing Concrete			Cu. Yd.	18.5
Reinforcement Bars, Epoxy Coated			Pound	22,480

**SECTION D-D**  
(See Plan for dimensions not shown)



(Sheet 2 of 2)  
**BRIDGE APPROACH SLAB DETAILS**  
**F.A.S. ROUTE 454**  
**SECTION 04-0070-00-BR**  
**SCHUYLER COUNTY**  
**STATION 4+79.00**  
**S.N. 085-3055**



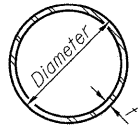
DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

G&B PROJECT: - PLOT DRIVER = V81.T05700.PS.LOCAL.1007.plt of g  
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PLOT DATE = 9/18/2009 PLOT SCALE = 21:0000 '1' / in. USER NAME = frankv

BA-L 10-31-08

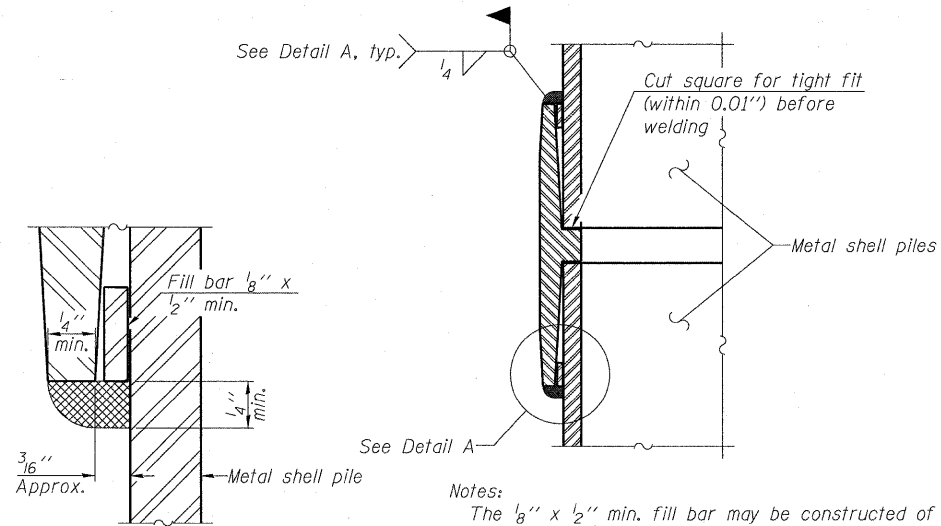
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	454	04-0070-00-BR	SCHUYLER	30	20
FED. ROAD DIST. NO. ILLINOIS			FED. AID PROJECT		
				CONTRACT NO. 93499	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**METAL SHELL PILE TABLE**

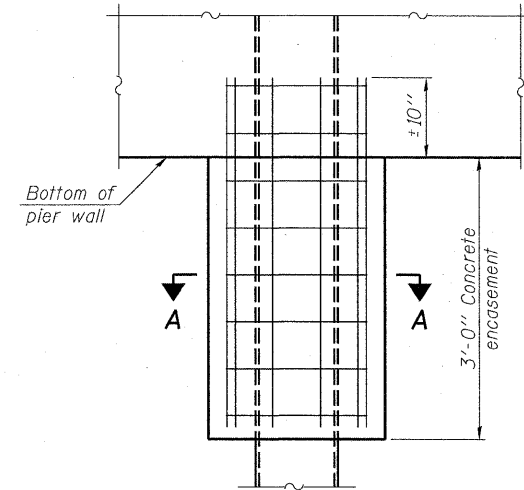
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



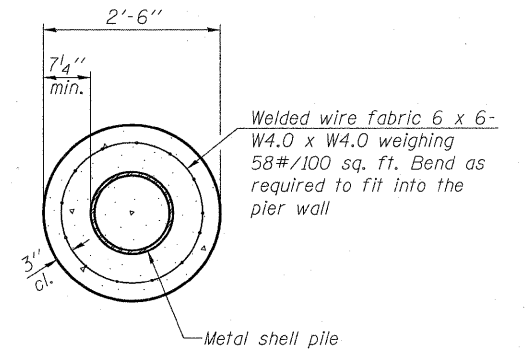
**DETAIL A**

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**



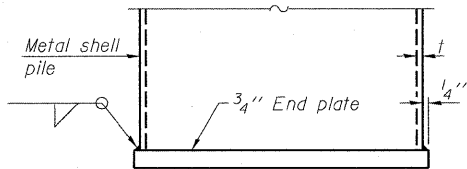
**ELEVATION**



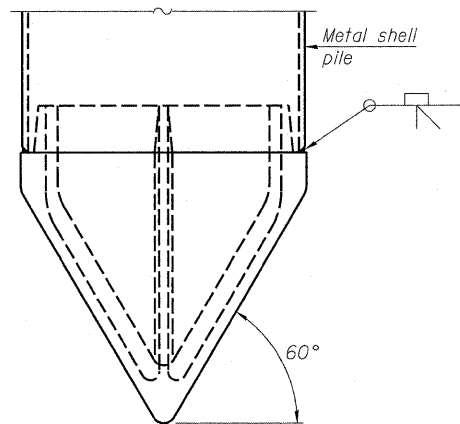
**SECTION A-A**

Note:  
Forms for encasement may be omitted when soil conditions permit.

**CONCRETE ENCASEMENT AT PIERS**



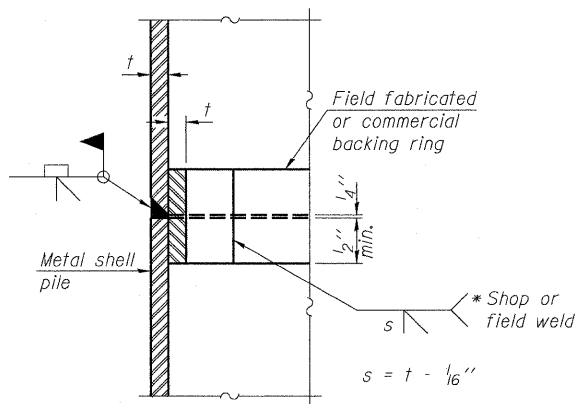
**END PLATE ATTACHMENT**



**METAL SHELL PILE SHOE ATTACHMENT**

(See Note A)

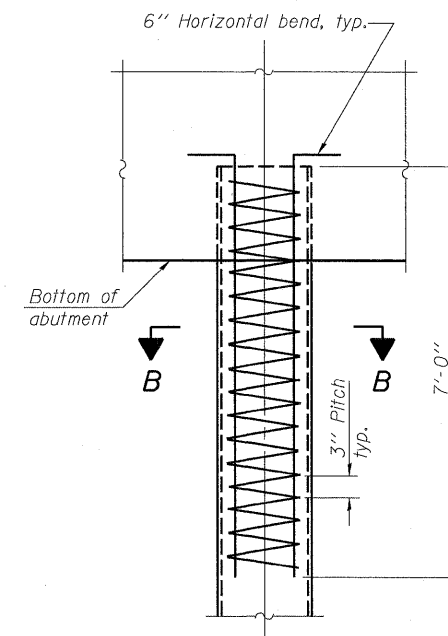
Note A:  
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over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



**COMPLETE PENETRATION WELD SPLICE**

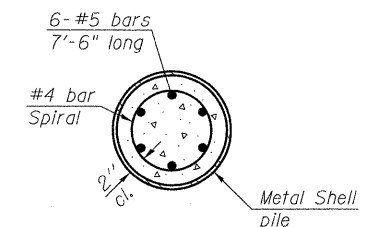
\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

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



**ELEVATION**

**METAL SHELL REINFORCEMENT AT ABUTMENTS**



**SECTION B-B**

**PILE DATA**  
F.A.S. ROUTE 454  
SECTION 04-00070-00-BR  
SCHUYLER COUNTY  
STATION 4+79.00  
S.N. 085-3055



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

SHEET NO. 13	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	454	04-00070-00-BR	SCHUYLER	30	21
17 SHEETS	CONTRACT NO. 93499				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**MATERIALS FOR ILLINOIS COIL-LOCK  
ANCHOR BOLT**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.  
The coil wire shall be made of any suitable soft steel wire.  
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS  
COIL-LOCK ANCHOR BOLT**

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
  2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A307

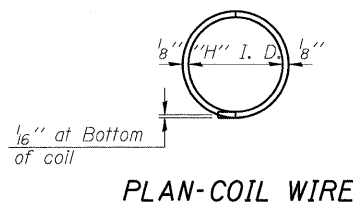
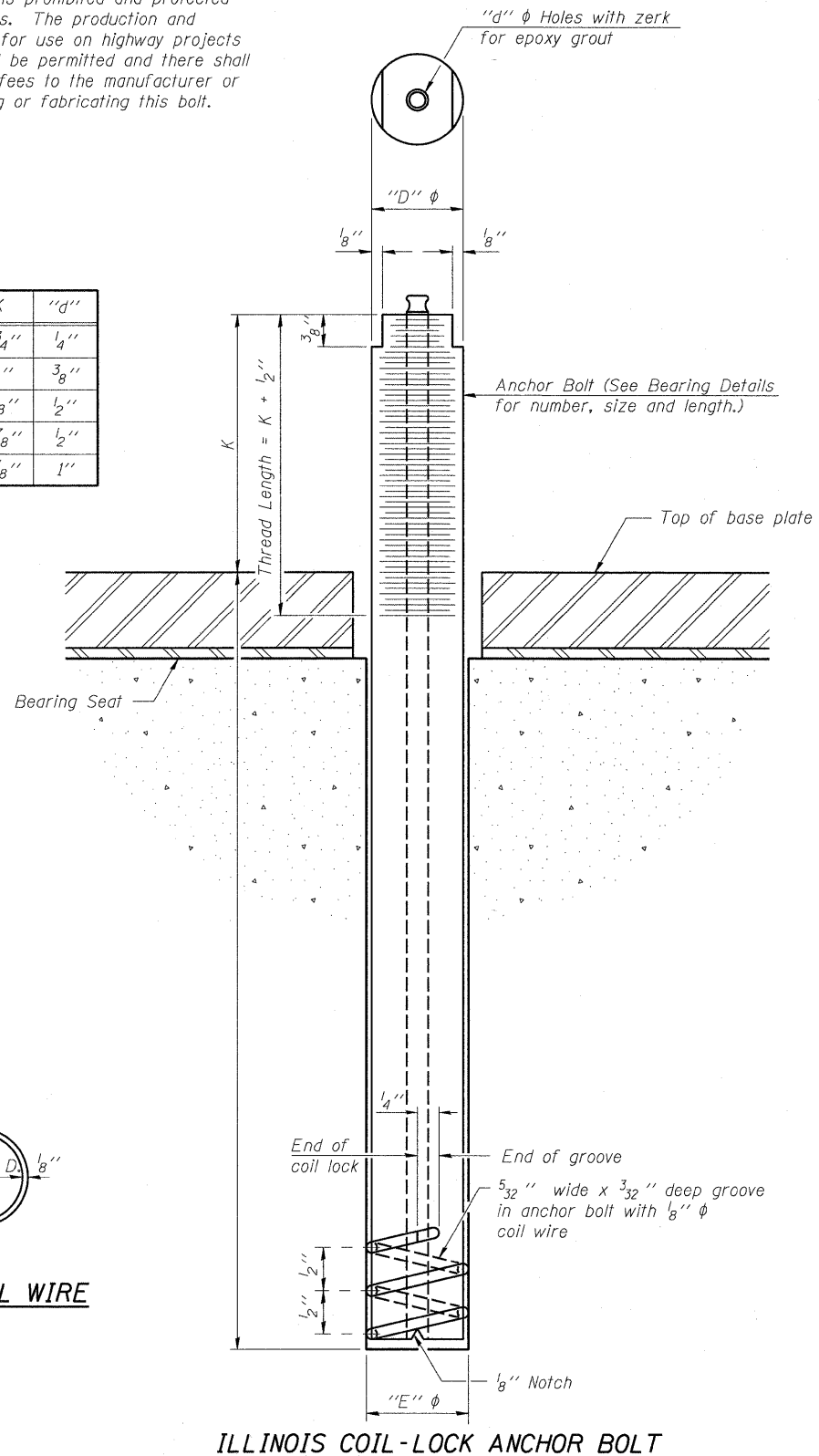
ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.  
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



**ILLINOIS COIL-LOCK ANCHOR BOLT**

**ANCHOR BOLT DETAILS  
FOR BEARINGS  
F.A.S. ROUTE 454  
SECTION 04-00070-00-BR  
SCHUYLER COUNTY  
STATION 4+79.00  
S.N. 085-3055**

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
330-CONTRACTOR DRIVE  
SPRINGFIELD, ILLINOIS 62707  
PROFESSIONAL ENGINEERS LICENSE NO. 00013  
PROFESSIONAL & STRUCTURAL ENGINEERING CORPORATION  
QTY 783-8814, QTY 783-5227 FAX E-MAIL: cdb@grbbradford.com

DESIGNED	NIEWINSKI
CHECKED	TRELLO
DRAWN	VERENSKI
CHECKED	TRELLO

SHEET NO. 14	F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	454	04-00070-00-BR	SCHUYLER	30	22
17 SHEETS	CONTRACT NO. 93499				
FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

The diameter of this part is equal or larger than the diameter of bar spliced.

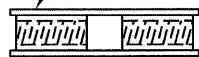
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

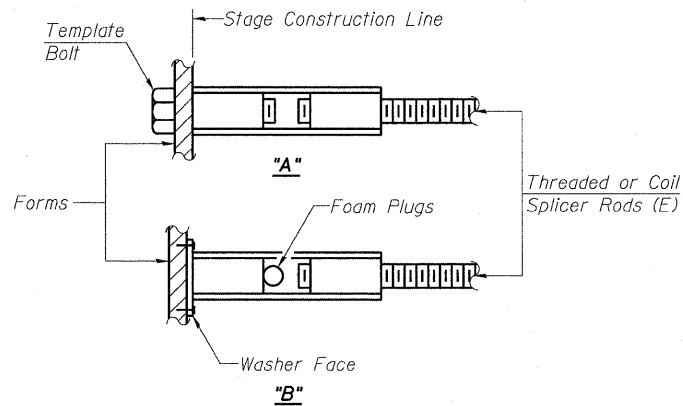
Wire Connector



WELDED SECTIONS

**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\*Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

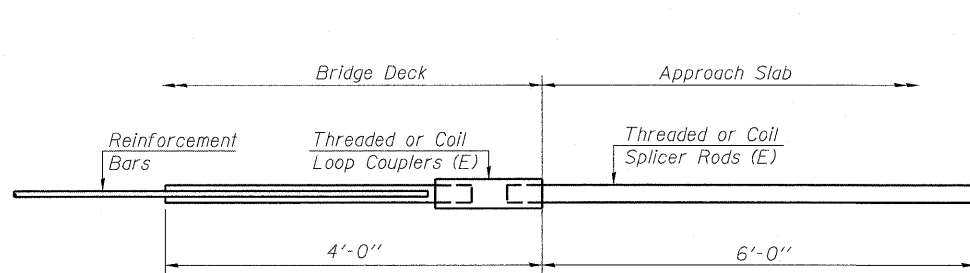
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**NOTES**

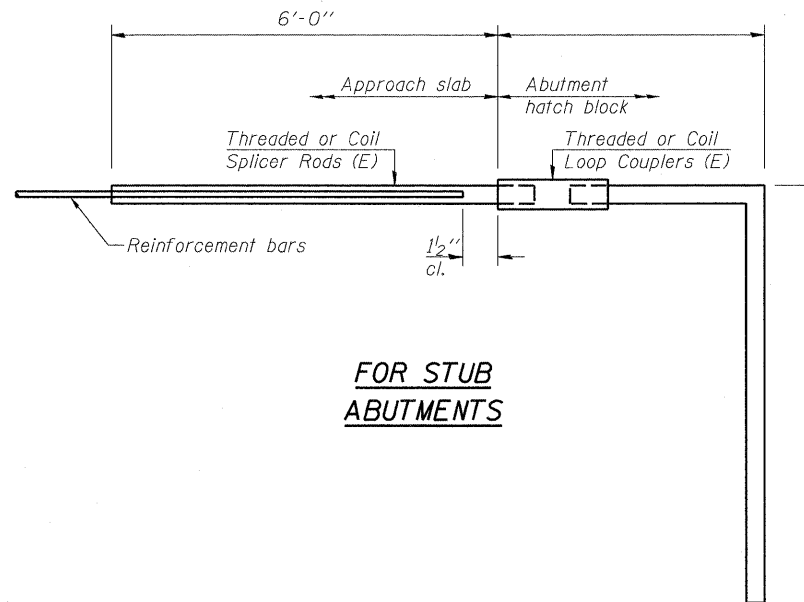
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

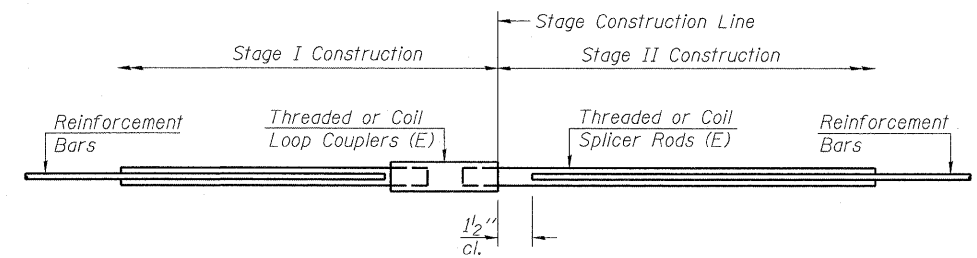
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**



**FOR STUB ABUTMENTS**



**STANDARD**

Bar Size	No. Assemblies Required	Location

**BAR SPLICER ASSEMBLY DETAILS**  
F.A.S. ROUTE 454  
SECTION 04-0070-00-BR  
SCHUYLER COUNTY  
STATION 4+79.00  
S.N. 085-3055

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 62

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

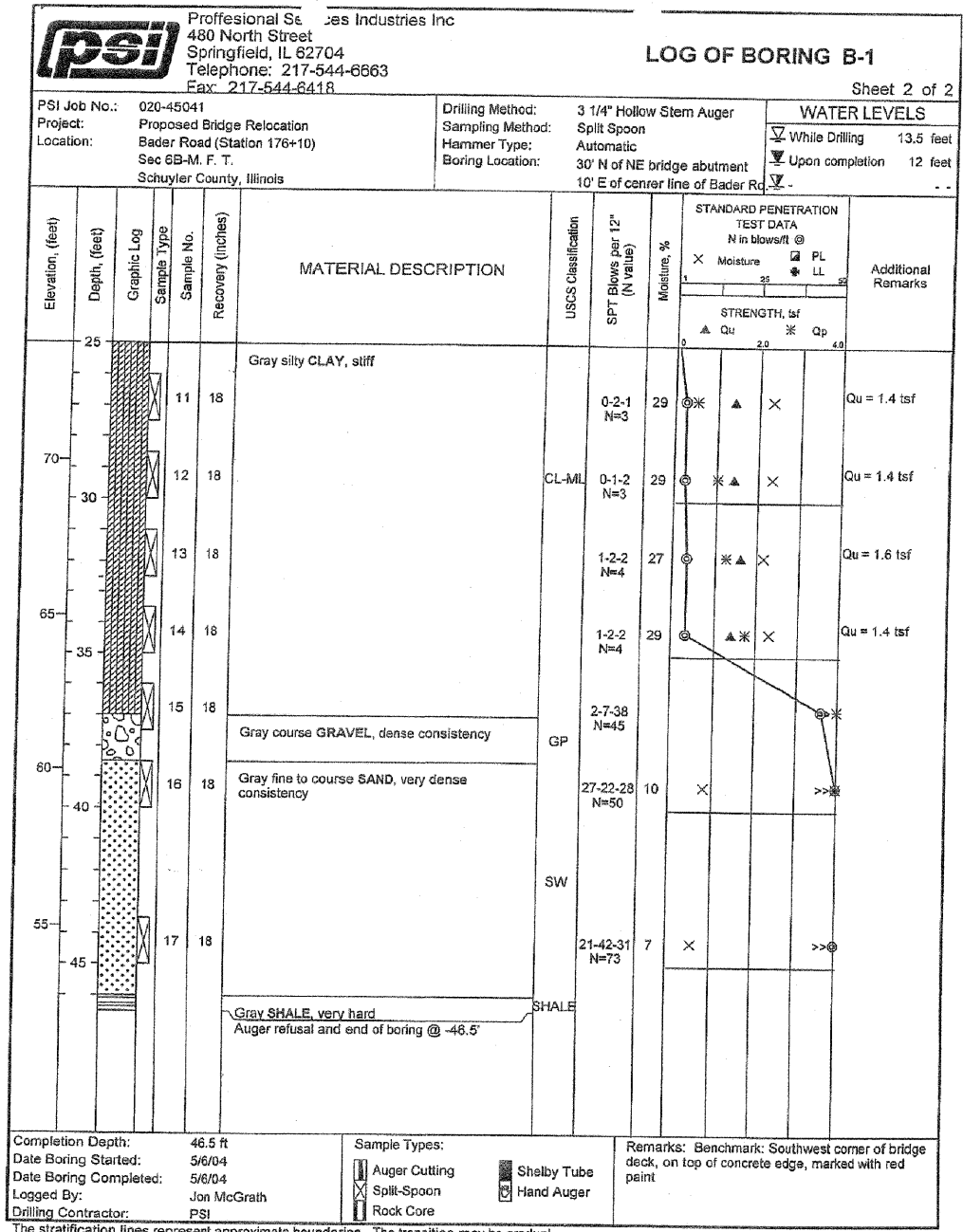
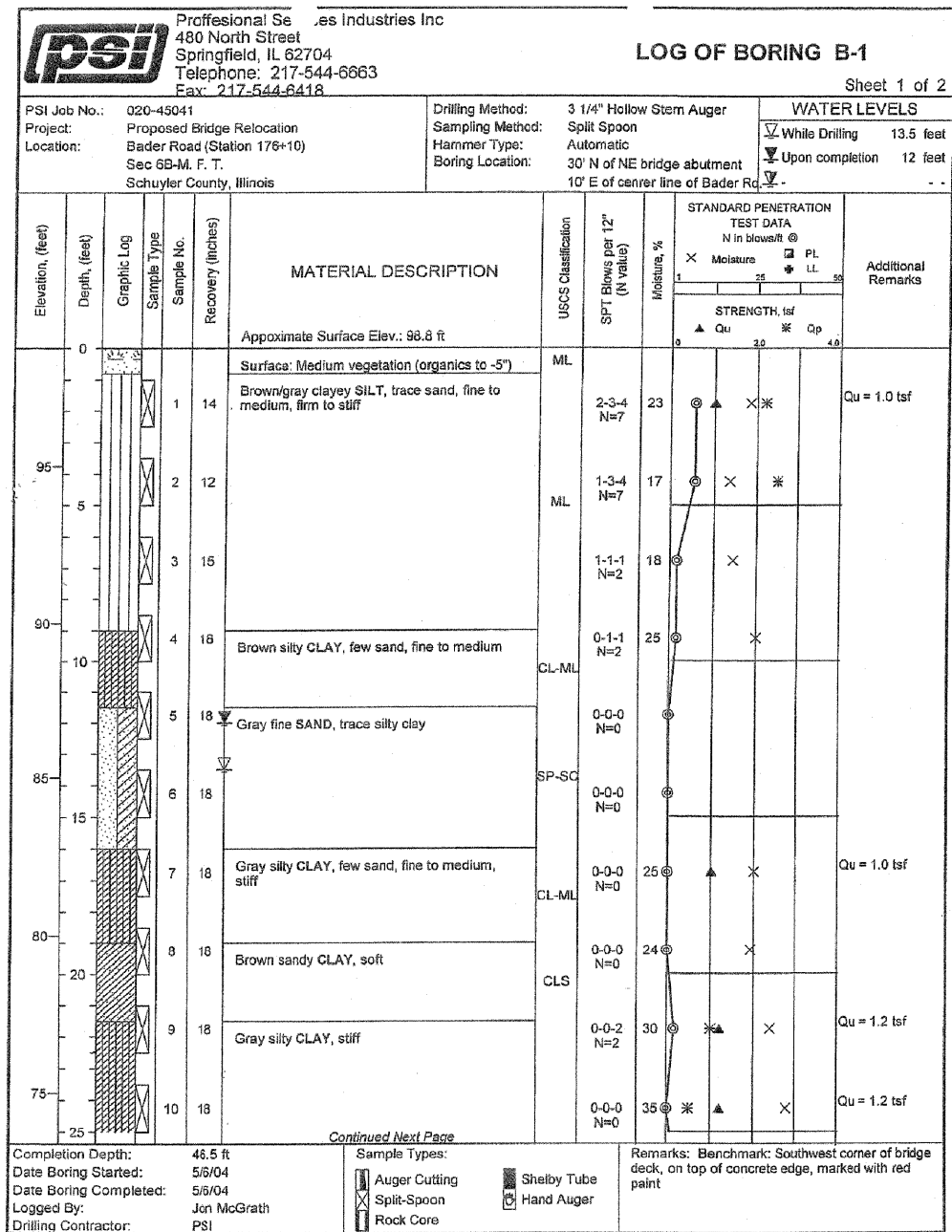
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PLOT DATE = 9/18/2009 PLOT SCALE = 4:2 ' / in. USER NAME = Frankv

BSD-1

10-1-08

SHEET NO. 15 17 SHEETS	F.A.S. RTE. 454	SECTION 04-0070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 23
	FED. ROAD DIST. NO. - ILLINOIS			CONTRACT NO. 93499	
FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
CORPORATION  
PROFESSIONAL ENGINEERS  
REGISTERED IN ILLINOIS  
PROFESSIONAL ENGINEERING CORPORATION  
4201 7th Street, Springfield, IL 62761  
TEL: 217-544-6663 FAX: 217-544-6418

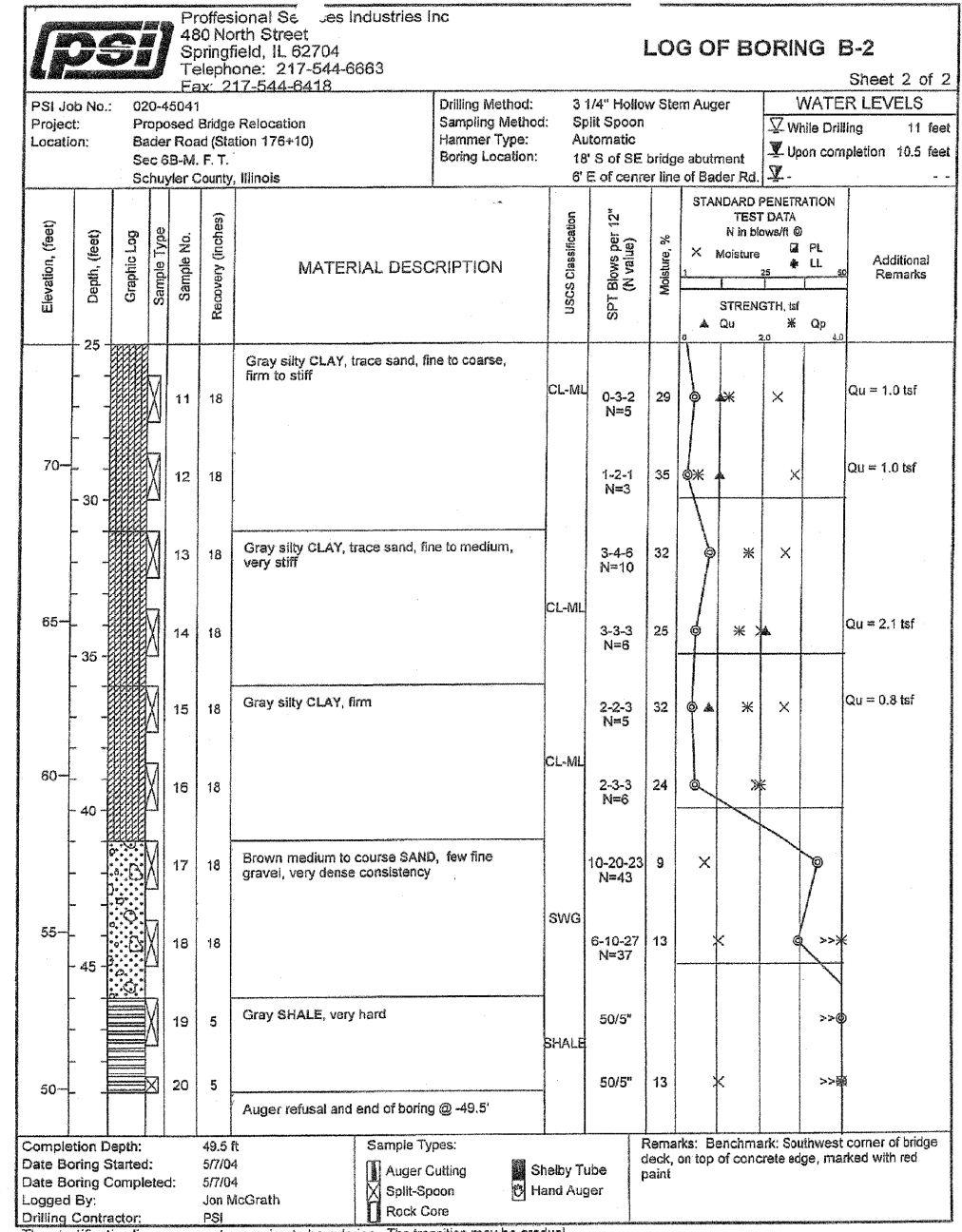
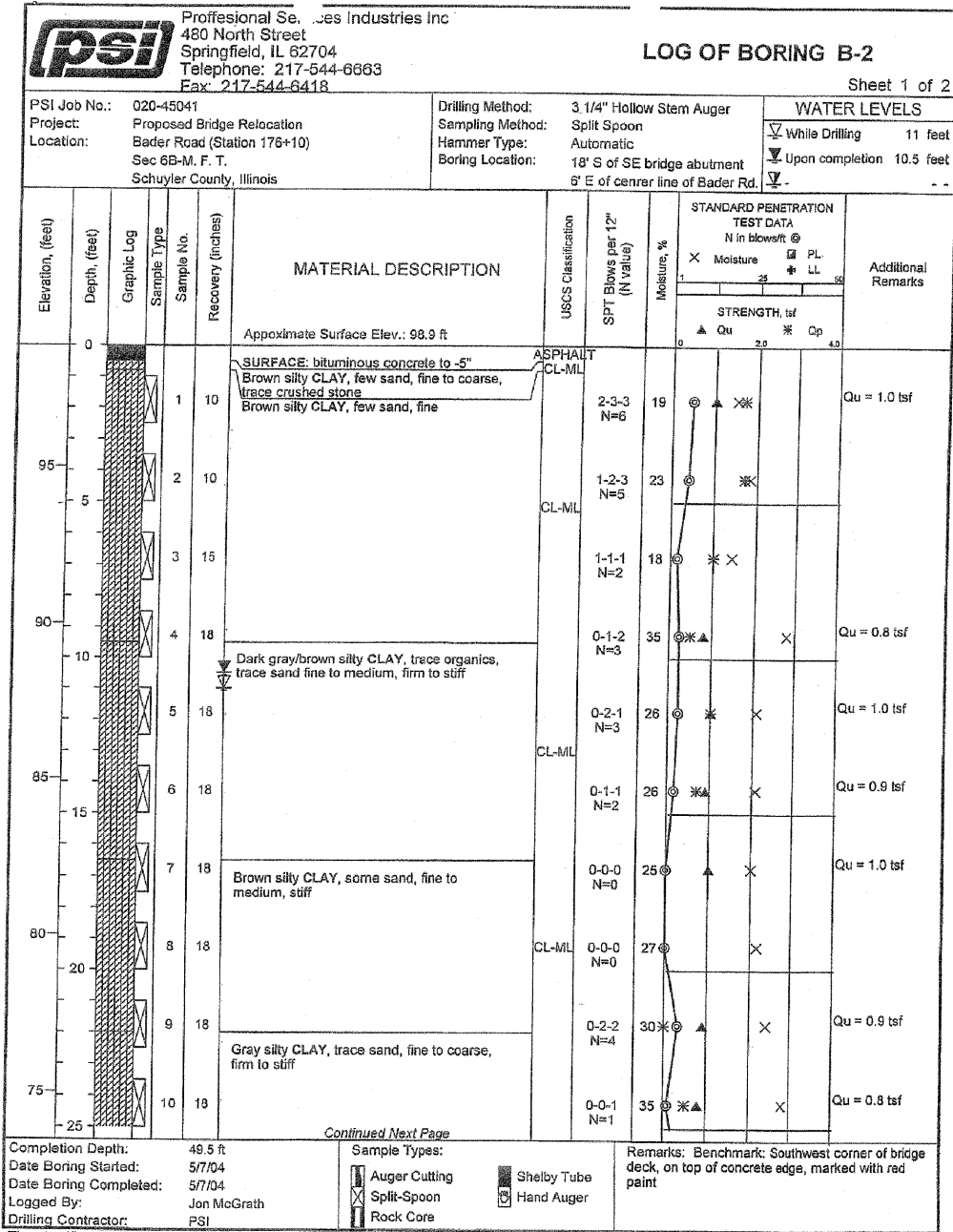
DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

**BORING LOGS**  
**F.A.S. ROUTE 454**  
**SECTION 04-00070-00-BR**  
**STATION 4+79.00**  
**SCHUYLER COUNTY**  
**S.N. 085-3055**

SHEET NO. 16	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	454	04-00070-00-BR	SCHUYLER	30	24
17 SHEETS	CONTRACT NO. 93499				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



DESIGNED NIEWINSKI  
CHECKED TRELLO  
DRAWN VERENSKI  
CHECKED TRELLO

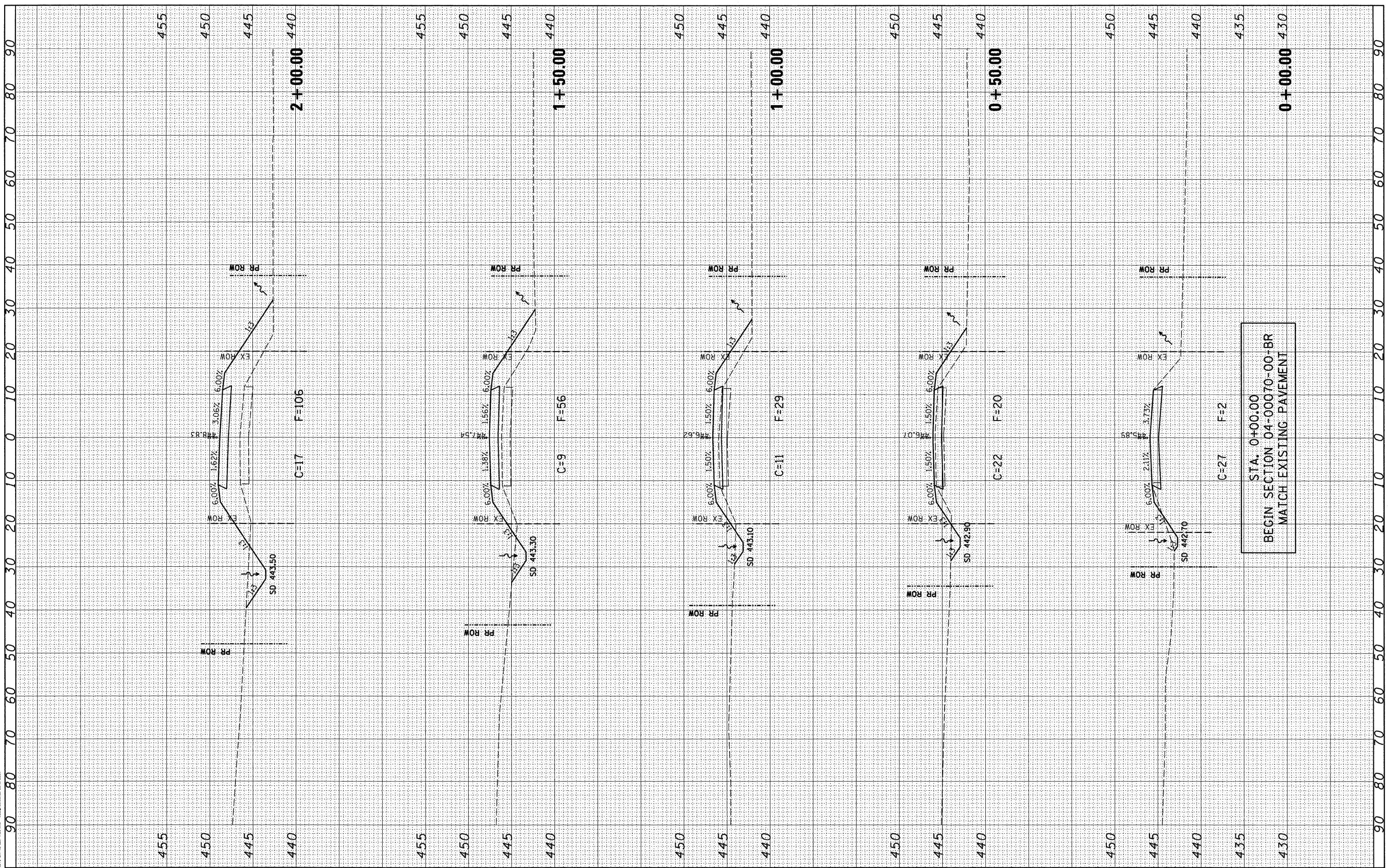
**BORING LOGS**  
F.A.S. ROUTE 454  
SECTION 04-00070-00-BR  
STATION 4+79.00  
SCHUYLER COUNTY  
S.N. 085-3055

SHEET NO. 17	F.A.S. RTE. 454	SECTION 04-00070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 25
17 SHEETS		CONTRACT NO. 93499		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

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

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

GREENE & BRADFORD, INC.  
SURVEYING & ENGINEERING  
1000 N. W. 10th St., Ft. Lauderdale, FL 33304  
TEL: (954) 576-1100 FAX: (954) 576-1101  
WWW.GREENE-AND-BRADFORD.COM



FILE NAME = J:\07258\CADD\CADsheets\07258-sht-xsht.dgn  
G&B PROJECT: 07258  
PLOT DRIVER = V8i\_TDS700\_PS\_LOCAL\_ID01.plt

USER NAME = frankv	DESIGNED - WCB	REVISED -
PLOT SCALE = 10.0000' / in.	DRAWN - MDS	REVISED -
PLOT DATE = 9/18/2009	CHECKED - WCB	REVISED -
	DATE - 7/14/09	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

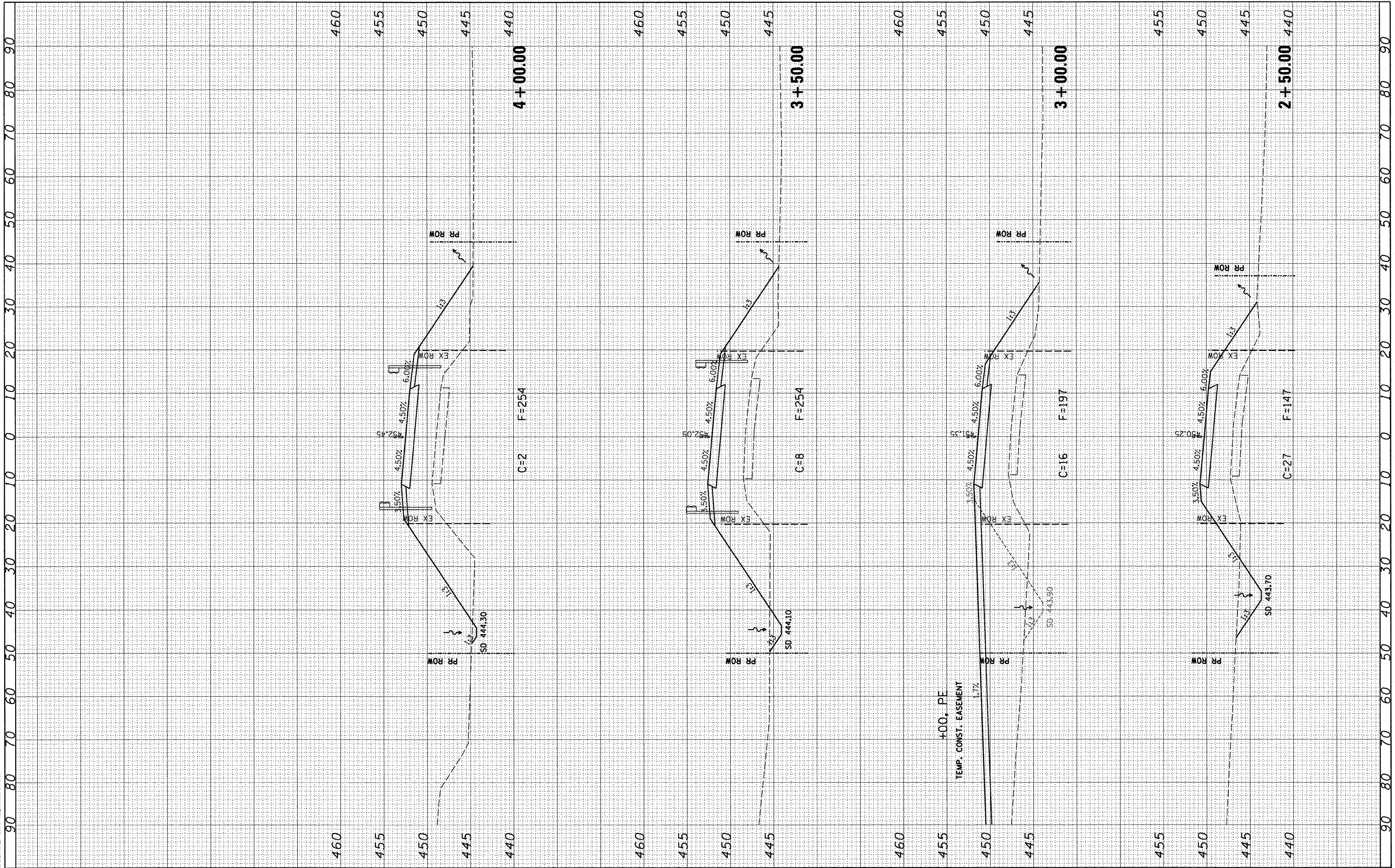
FAS 454 - CROSS SECTIONS  
SCALE: 1" = 10' SHEET NO. 1 OF 5 SHEETS STA. 0+00.00 TO STA. 2+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	26
CONTRACT NO. 93499				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0454103				

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

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

GREENE & BRADFORD, INC.  
 SURVEYING & ENGINEERING  
 1001 W. 10th St., Suite 100  
 Chicago, IL 60607  
 (773) 327-1100



FILE NAME = J:\07258\CADD\CADsheets\07258-sht-xsht.dgn  
 USER NAME = frankv  
 DESIGNED - WCB  
 DRAWN - MDS  
 CHECKED - WCB  
 DATE - 7/14/09  
 PLOT SCALE = 10.0000' / 1" / in.  
 PLOT DATE = 9/18/2009  
 C&B PROJECT: 07258  
 PLOT DRIVER = V8L\_TDS700\_PS\_LOCAL\_IDOT.pltcf

DESIGNED - WCB	REVISED -
DRAWN - MDS	REVISED -
CHECKED - WCB	REVISED -
DATE - 7/14/09	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 454 - CROSS SECTIONS**

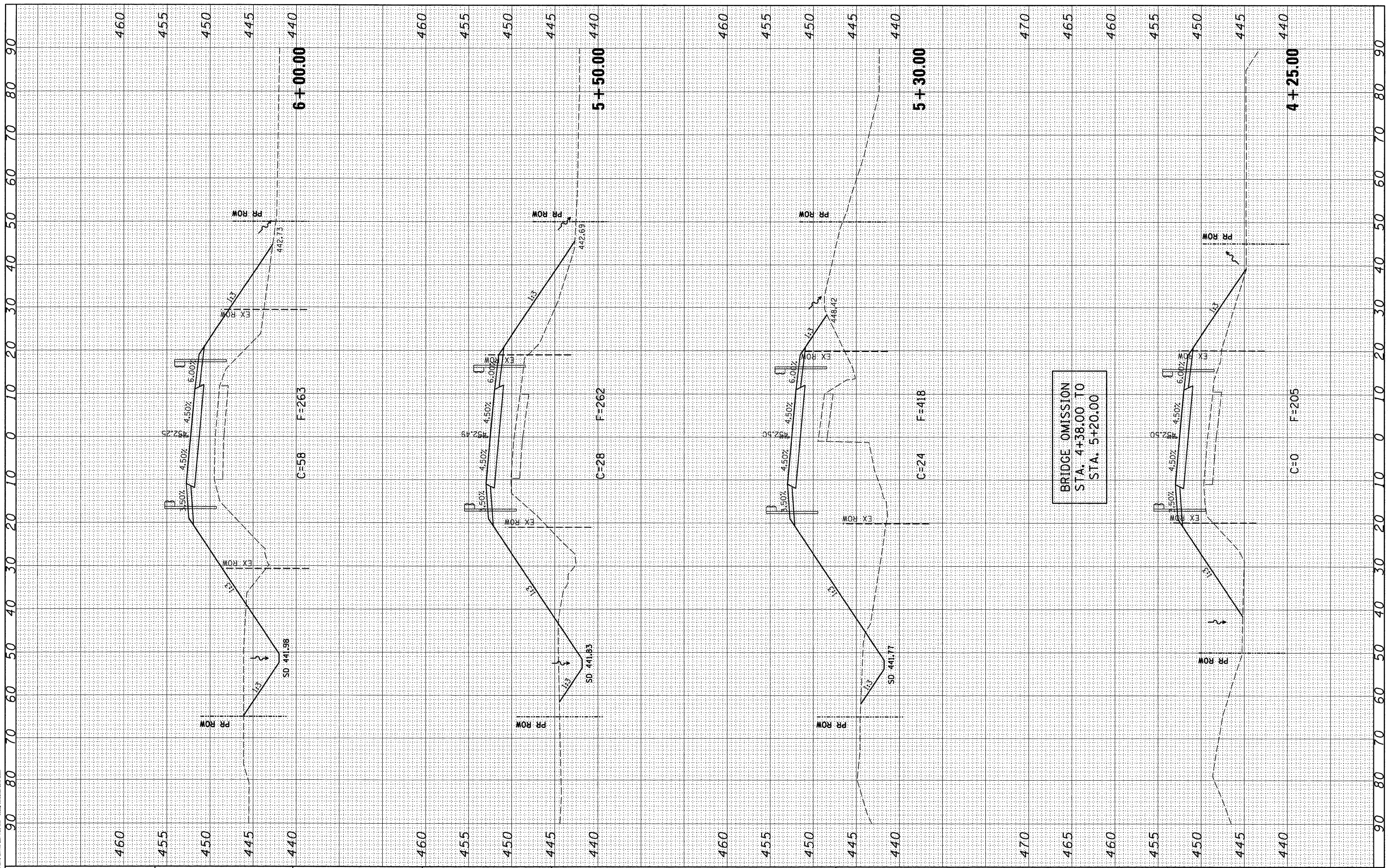
SCALE: 1" = 10'    SHEET NO. 2 OF 5 SHEETS    STA. 2+50.00 TO STA. 4+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	27
<b>CONTRACT NO. 93499</b>				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0454(103)				

FINAL SURVEY	SURVEYED	BY	DATE
NO.	NO.		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NO.	NO.		

GREENE & BRADFORD, INC.  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 1001 SOUTH BROADWAY  
 SPRINGFIELD, ILLINOIS 62760  
 (618) 261-1000



FILE NAME = J:\07258\CADD\CADsheets\07258-sht-xssht.dgn  
 G&B PROJECT: 07258  
 PLOT DRIVER = V81\_TDS700\_PS\_LOCAL\_IDOT.pltcf

USER NAME = Frankv	DESIGNED - WCB	REVISIONS
PLOT SCALE = 10.0000' / in.	DRAWN - MDS	REVISIONS
PLOT DATE = 9/18/2009	CHECKED - WCB	REVISIONS
	DATE - 7/14/09	REVISIONS

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 454 - CROSS SECTIONS**

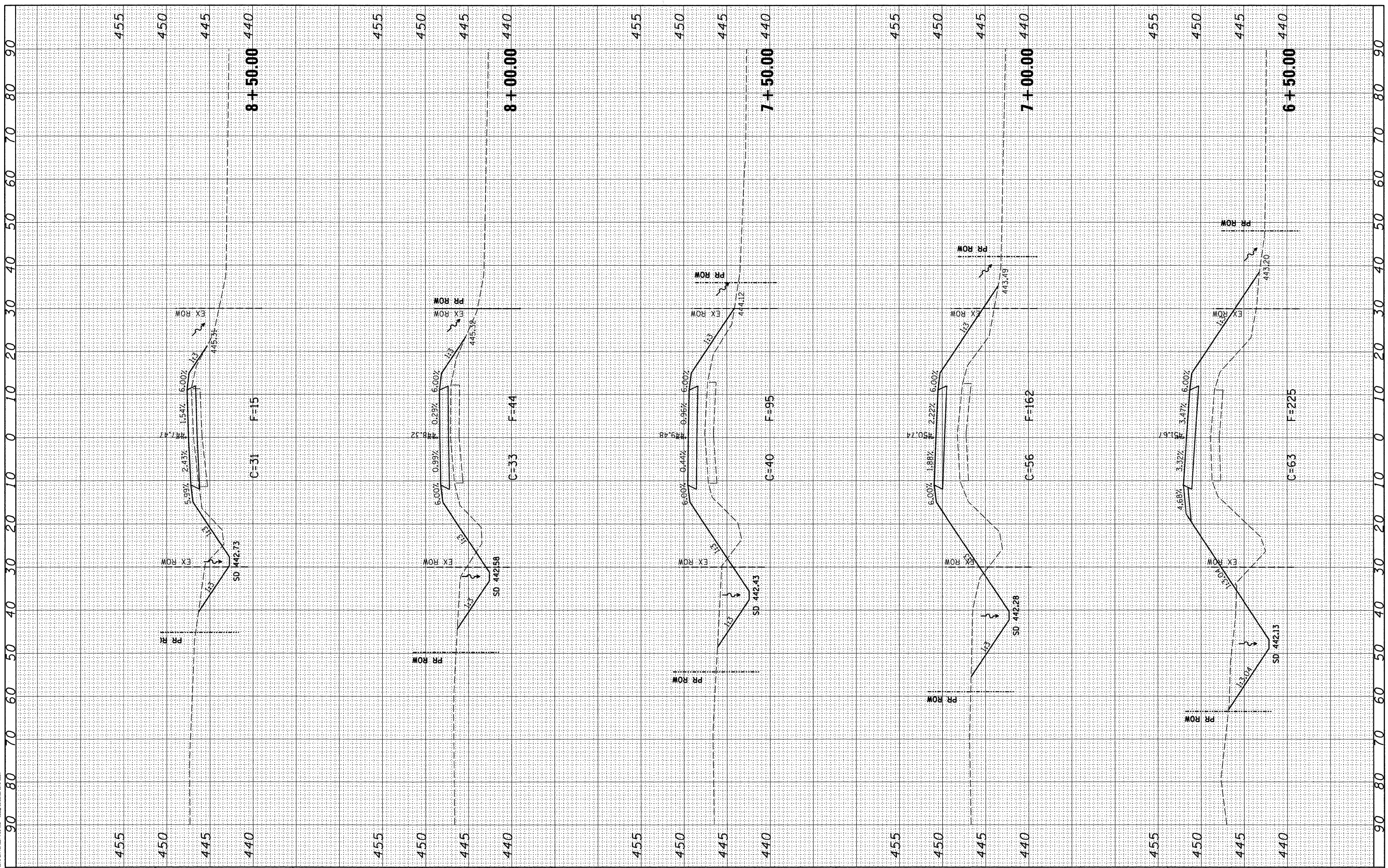
SCALE: 1" = 10'    SHEET NO. 3 OF 5 SHEETS    STA. 4+25.00 TO STA. 6+00.00

F.A.S. RTE. 454	SECTION 04-00070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 28
CONTRACT NO. 93499				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0454(103)				

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

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

GREENE & BRADFORD, INC.  
 SURVEYING & ENGINEERING  
 1000 N. WASHINGTON ST., SUITE 200  
 CHICAGO, ILLINOIS 60610  
 (312) 462-1000



FILE NAME = J:\07258\CADD\CADsheets\07258-ht-xssh.txdg  
 G&B PROJECT: 07258  
 PLOT DRIVER = V81.TDS700\_PS\_LOCAL\_IDOT.plt

USER NAME = Frankv	DESIGNED - WCB	REVISED -
PLLOT SCALE = 10.0000' / 1"	DRAWN - MDS	REVISED -
PLLOT DATE = 9/18/2009	CHECKED - WCB	REVISED -
DATE = 7/14/09	DATE = 7/14/09	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 454 - CROSS SECTIONS**

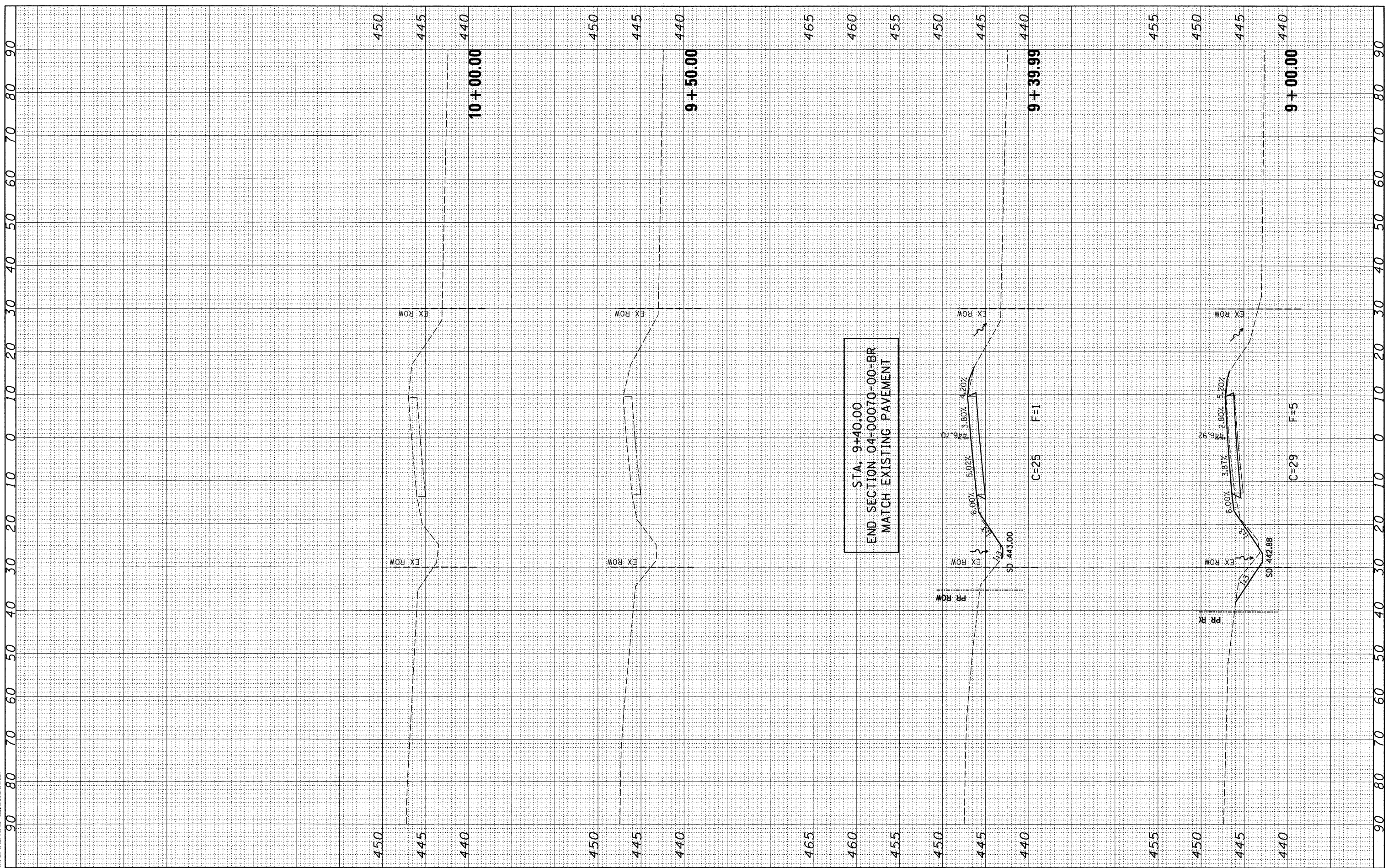
SCALE: 1" = 10'    SHEET NO. 4 OF 5 SHEETS    STA. 6+50.00 TO STA. 8+50.00

F.A.S. RTE. 454	SECTION 04-00070-00-BR	COUNTY SCHUYLER	TOTAL SHEETS 30	SHEET NO. 29
FED. ROAD DIST. NO. ILLINOIS			CONTRACT NO. 93499	
ILLINOIS FED. AID PROJECT BRS-0454103				

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

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

GREENE & BRAIDFORD, INC.  
 SURVEYING & ENGINEERING  
 1000 N. W. 10th St., Ft. Lauderdale, FL 33304  
 (954) 561-1100



FILE NAME = J:\07258\CADD\CADsheets\07258-sht-xxsht.dgn  
 C&B PROJECT: 07258  
 PLOT DRIVER = VB\_LTD5700\_PS\_LOCAL\_IDOT.plt

USER NAME = frankv	DESIGNED - WCB	REVISIONS
PLOT SCALE = 10.0000' / in.	DRAWN - MDS	REVISIONS
PLOT DATE = 9/18/2009	CHECKED - WCB	REVISIONS
	DATE - 7/14/09	REVISIONS

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 454 - CROSS SECTIONS**

SCALE: 1" = 10'    SHEET NO. 5 OF 5 SHEETS    STA. 9+00.00 TO STA. 10+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
454	04-00070-00-BR	SCHUYLER	30	30
CONTRACT NO. 3499				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0454(103)				