

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

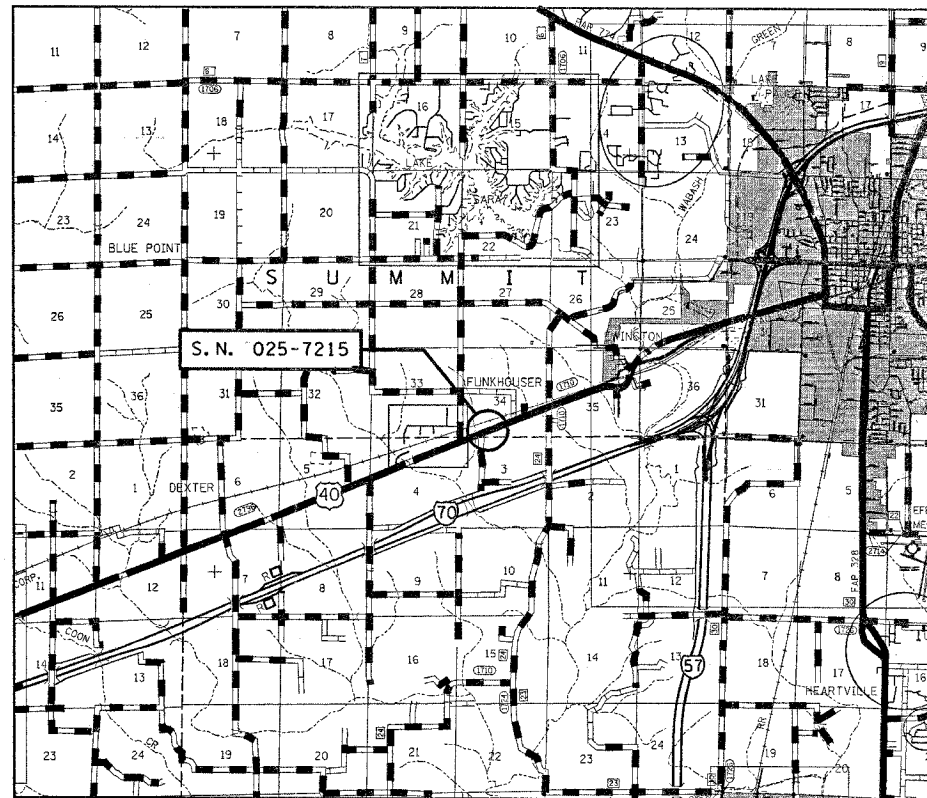
**PROPOSED
HIGHWAY PLANS**

FAS ROUTE 2796
SECTION (L,K)B

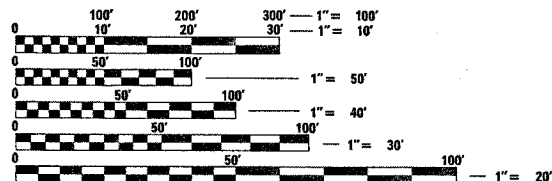
EFFINGHAM COUNTY
BOX CULVERT REPLACEMENT

C-97-033-02

FOR INDEX OF SHEETS, SEE SHEET NO. 2



2005 ADT = 4450



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

GROSS LENGTH = 700 FEET = 0.13 MILES
NET LENGTH = 700 FEET = 0.13 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 26, 2006
Chris W. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 8, 2006
Eric E. Horn
Interim ENGINEER OF DESIGN AND ENVIRONMENT

December 8, 2006
Milton R. Sees
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

PLOT DATE = 10/26/2006
FILE NAME = c:\p\projects\94942\d\01002p.dgn
PLOT SCALE = 20,0000 / IN.
USER NAME = feasleyck

CONTRACT NO. 94942

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	0L, K1B	EFFINGHAM	35	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

INDEX OF SHEETS

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" INDICATED ON THE CHECK SHEET, AND "THE SPECIAL PROVISIONS" INCLUDED IN THE PROPOSAL.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF REPLACING THE EXISTING BOX CULVERT WITH A PRE-CAST BOX WITH CAST-IN-PLACE END SECTIONS. THIS WORK INCLUDES THE REMOVAL OF THE EXISTING BOX AND APRON, CONSTRUCTION OF PCC PAVEMENT, HOT-MIX ASPHALT SHOULDER, GUARDRAIL, AND ALL OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

ANY SECTION CORNERS DISTURBED DURING CONSTRUCTION SHALL BE REESTABLISHED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON U.S.G.S. DATUM. BENCHMARK IS LOCATED ON TOP OF EXISTING WINGWALL AT THE SOUTHEAST CORNER. ELEVATION IS 559.714.

ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS SHALL BE FERTILIZED AND SEEDED. SEEDING SHALL BE CLASS 2 (SPECIAL) IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE APPLICABLE ARTICLES OF SECTION 250 OF THE STANDARD SPECIFICATIONS.

PERIMETER EROSION BARRIER IS FOR PLACEMENT AT THE TOE OF THE PROPOSED FILL SLOPE. EROSION CONTROL BLANKET IS FOR PLACEMENT BESIDE THE PROPOSED GUTTER AND THE PROPOSED WINGWALLS.

TREE REMOVAL AREAS WERE MEASURED AS BEING BOUNDED BY THE CONSTRUCTION LIMITS AND THE TOPOGRAPHY LINE FOR BRUSH IN THE PLAN VIEW.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF ACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

RIGHT-OF-WAY MARKERS SHALL BE ERECTED WITH THE BACK FACE OF THE MARKER ON THE RIGHT-OF-WAY LINE UNLESS THE NEW RIGHT-OF-WAY LINE HAS BEEN SURVEYED AND PINNED, IN WHICH INSTANCE THE RIGHT-OF-WAY MARKER WILL BE ERECTED 12 INCHES INSIDE THE NEW RIGHT-OF-WAY LINE.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESS TO THE BITUMINOUS PLANT QUALITY CONTROL LAB SO THAT BITUMINOUS PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICES FOR OTHER ITEMS IN THE CONTRACT.

AGGREGATE FOR AGGREGATE SHOULDERS SHALL BE CRUSHED STONE OR RAP.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

APPLICATION	AC/PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE
HOT-MIX ASPHALT SHOULDER	PG 58-22 (PG 52-28 IF RAP > 20%)	2.0% @ N=30	N/A	N/A

SHEET NO.

TITLE

- 1 COVER SHEET
- 2 GENERAL NOTES, INDEX OF SHEETS, HIGHWAY STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4-5 TYPICAL SECTIONS
- 6 SCHEDULES
- 7-8 PLAN AND PROFILE SHEETS
- 9-10 DETOUR SIGNING
- 11 BOX CULVERT END SECTIONS
- 12 DETAIL OF PRECAST CONCRETE BOX CULVERT M259M
- 13-35 CROSS SECTIONS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-01 AREAS OF REINFORCEMENT BARS
- 280001-03 TEMPORARY EROSION CONTROL SYSTEMS
- 420001-06 PAVEMENT JOINTS
- 420601-04 7.2 M (24') PCC PAVEMENT
- 420701-01 PAVEMENT FABRIC
- 482006-02 BITUMINOUS SHOULDER ADJACENT TO RIGID PAVEMENT
- 515001-02 NAME PLATE FOR BRIDGES
- 542401 METAL END SECTION FOR PIPE CULVERTS
- 606201-01 TYPE B GUTTER (INLET, OUTLET AND ENTRANCE)
- 606206-02 OUTLET, TYPE 1 FOR TYPE B GUTTER
- 609001-03 BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
- 630001-07 STEEL PLATE BEAM GUARDRAIL
- 630201-04 PCC/BIT STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-04 SHOULDER WIDENING FOR TYPE 1 GUARDRAIL TERMINALS
- 631011-03 TRAFFIC BARRIER TERMINAL, TYPE 2
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-01 REFLECTOR MARKER AND MOUNTING DETAILS
- 666001 RIGHT-OF-WAY MARKERS
- 701001-01 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-02 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-01 OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
- 701301-02 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-02 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701326-02 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
- 702001-06 TRAFFIC CONTROL DEVICES
- 780001-01 TYPICAL PAVEMENT MARKINGS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**INDEX OF SHEETS,
GENERAL NOTES,
LIST OF STANDARDS**

SCALE: VERT.
HORIZ.
DATE

DRAWN BY
CHECKED BY

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			100% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		Y007		
20100500	TREE REMOVAL, ACRES	ACRE	0.3	0.3		
20200600	EXCAVATING AND GRADING EXISTING SHOULDER	UNIT	11	11		
20400800	FURNISHED EXCAVATION	CU YD	1063	1063		
20700220	POROUS GRANULAR EMBANKMENT	CU YD	1400	1400		
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.7	0.7		
* 25100630	EROSION CONTROL BLANKET	SQ YD	280	280		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	140	140		
28000400	PERIMETER EROSION BARRIER	FOOT	450	450		
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	170	170		
31101200	SUB-BASE GRANULAR MATERIAL, TYPE B 4"	SQ YD	240	240		
31101900	SUB-BASE GRANULAR MATERIAL, TYPE C	TON	3	3		
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ YD	220	220		
42001200	PAVEMENT FABRIC	SQ YD	220	220		
44000100	PAVEMENT REMOVAL	SQ YD	220	220		
48101600	AGGREGATE SHOULDERS, TYPE B 8"	SQ YD	50	50		
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	990	990		
51500100	NAME PLATES	EACH	1	1		
54001000	BOX CULVERT END SECTIONS	EACH	2	2		
54011210	PRECAST CONCRETE BOX CULVERT 12' X 10'	FOOT	78	78		
54213447	END SECTIONS 12"	EACH	3	3		
60100945	PIPE DRAINS 12"	FOOT	40	40		
60403500	GRATES, TYPE B	EACH	3	3		
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	11	11		
60602800	CONCRETE GUTTER, TYPE B	FOOT	330	330		
60900515	CONCRETE THRUST BLOCKS	EACH	3	3		
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	700	700		
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1		
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	3	3		
63200310	GUARDRAIL REMOVAL	FOOT	263	263		
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	6	6		
67100100	MOBILIZATION	L SUM	1	1		
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	4	4		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	3	3		

SUMMARY OF QUANTITIES			100% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		Y007		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1200	1200		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	11	11		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	3	3		
* A2002366	TREE, BETULA NIGRA (RIVER BIRCH), 6' HEIGHT, CLUMP FORM, BALLED AND BURLAPPED	EACH	50	50		
* A2007612	TREE, TAXODIUM DISTICHUM (COMMON BALD CYPRESS), 1-1/2" CALIPER, BALLED AND BURLAPPED	EACH	50	50		
* B2001166	TREE, CERCIS CANADENSIS (EASTERN REDBUD) 6' HEIGHT, CLUMP FORM, BALLED AND BURLAPPED	EACH	50	50		
X0324952	DETOUR SIGNING	L SUM	1	1		
X0545000	BOX CULVERT REMOVAL	FOOT	61	61		

* SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

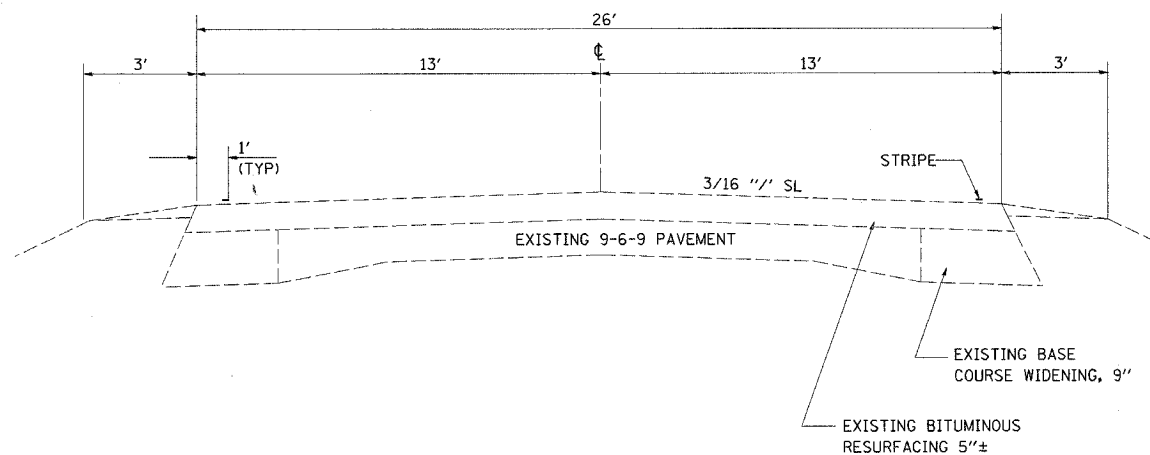
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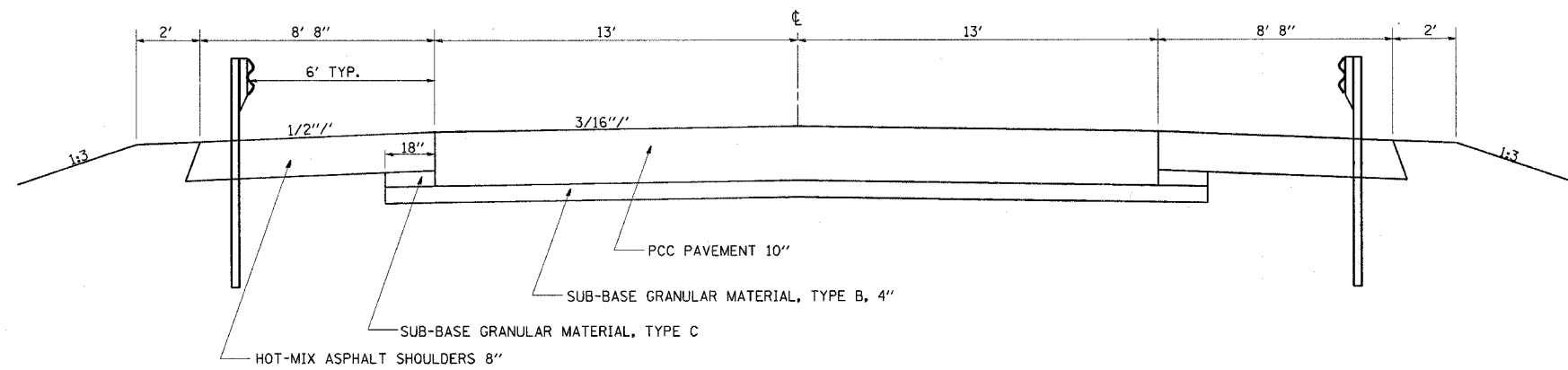
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



EXISTING SECTION



PROPOSED SECTION

STA. 1222+06 TO STA. 1222+80

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REVISIONS	
NAME	DATE

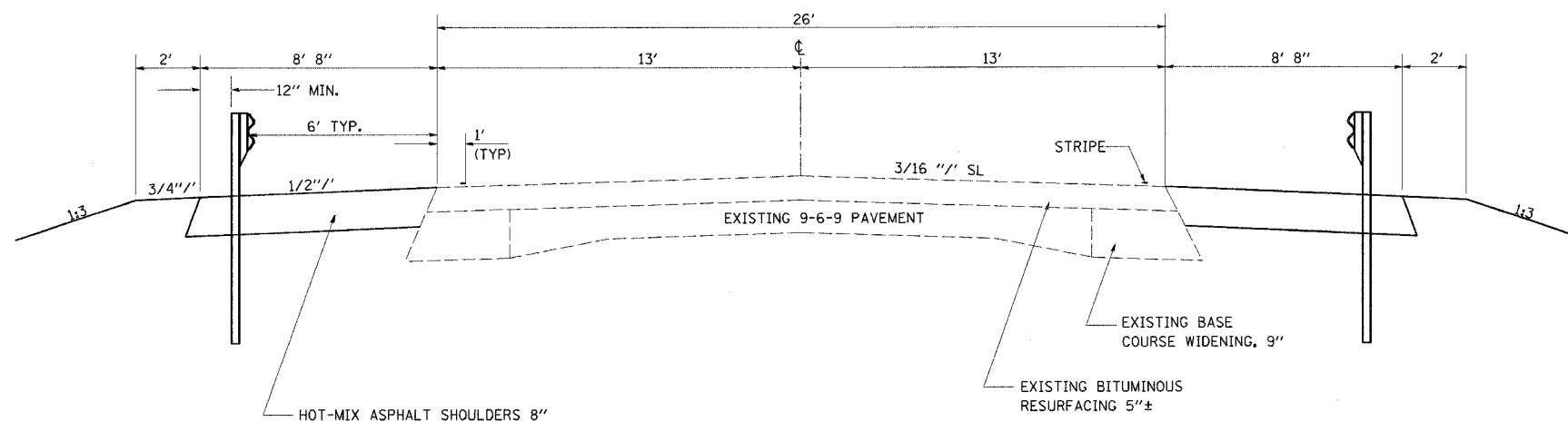
ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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DATE

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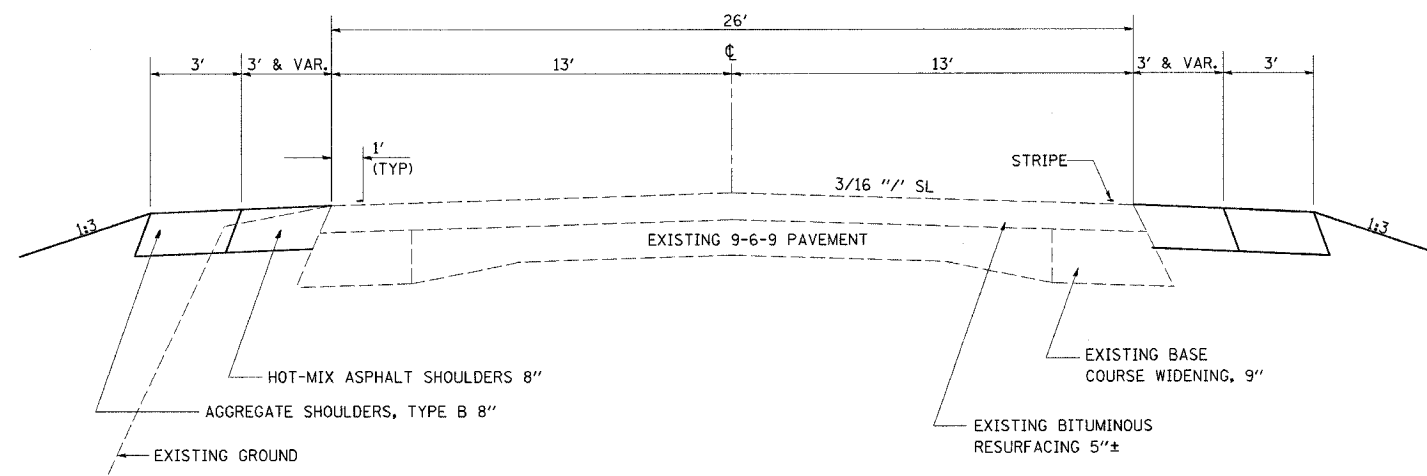
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2796	(L,K)B	EFFINGHAM	35	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PROPOSED SECTION

STA. 1221+45 TO STA. 1222+06
 STA. 1222+80 TO STA. 1223+81

(SEE GUARDRAIL SCHEDULE FOR ACTUAL GUARDRAIL STATIONS)



PROPOSED SECTION

STA. 1219+00 TO STA. 1219+88
 STA. 1225+62 TO STA. 1226+00 (LT SIDE ONLY)

OMIT AGG. SHOULDER AND INCLUDE
 CONCRETE GUTTER:
 LT. STA. 1219+88 TO STA 1221+45
 LT. STA. 1223+81 TO STA 1225+62
 RT. STA. 1219+09 TO STA 1220+69

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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 DATE

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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

GUARDRAIL SCHEDULE

A=STEEL PLATE BEAM GUARDRAIL, TYPE A
 B=GUARDRAIL REMOVAL
 C=TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)
 D=TRAFFIC BARRIER TERMINAL, TYPE 2
 H=GUARDRAIL MARKER, TYPE A
 I=TERMINAL MARKER, DIRECT APPLIED

	A FT	B FT	C EACH	D EACH	H EACH	I EACH
LT STA 1220+34 TO STA 1225+34 RT STA 1219+55 TO STA 1222+80	400 300	263	2 1	1	6 5	2 1
TOTALS	700	263	3	1	11	3

PIPE DRAIN SCHEDULE

GRATES, TYPE B

RT STA 1220+68	1 EACH
LT STA 1221+44	1 EACH
LT STA 1223+82	1 EACH
TOTAL	3 EACH

PIPE DRAINS 12"

RT STA 1220+68	20 FEET
LT STA 1221+44	10 FEET
LT STA 1223+82	10 FEET
TOTAL	40 FEET

CONCRETE THRUST BLOCKS

RT STA 1220+68	1 EACH
LT STA 1221+44	1 EACH
LT STA 1223+82	1 EACH
TOTAL	3 EACH

END SECTIONS 12"

RT STA 1220+68	1 EACH
LT STA 1221+44	1 EACH
LT STA 1223+82	1 EACH
TOTAL	3 EACH

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU. YD.	EXCAVATION TO BE USED IN EMBANKMENT ADJUSTED FOR SHRINKAGE CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE WASTE(+) / SHORTAGE(-) CU. YD.
CUT SECTIONS	284	213		213
SHOULDER EXCAVATION	138	104		104
FILL SECTIONS		0	2430	-2430
EXCAVATION FOR BOX	1400	1050		1050
TOTALS	1822	1367	2430	-1063

EXCAVATING AND GRADING EXISTING SHOULDER

LT STA 1219+00 TO 1226+00	7 UNIT
RT STA 1219+00 TO 1222+75	4 UNIT
TOTAL	11 UNIT

POROUS GRANULAR EMBANKMENT

STA 1222+06 TO 1222+80 1400 C. Y.

GUTTER SCHEDULE

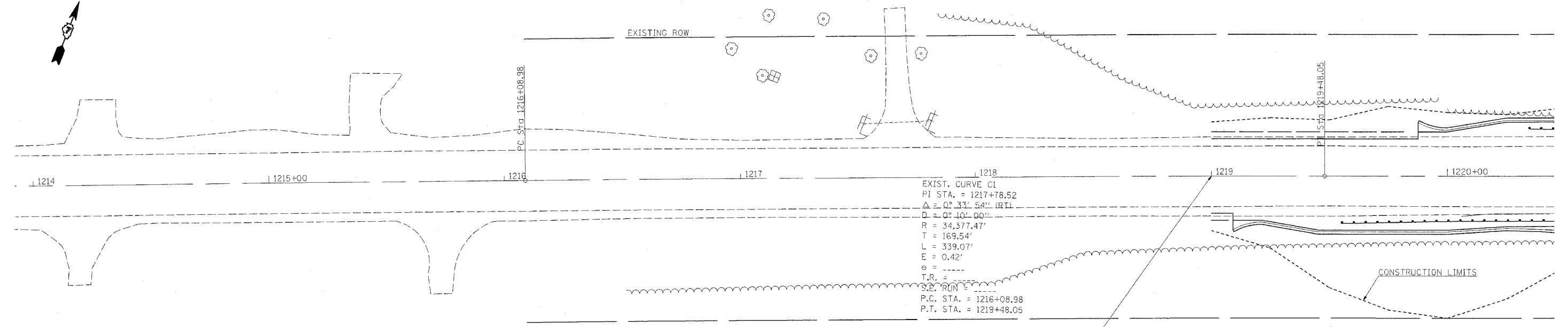
LOCATION	CLASS SI CONCRETE OUTLET CU. YD.	CONCRETE GUTTER TYPE B FOOT
RT STA 1219+09 TO 1219+22	0.66	
RT STA 1219+22 TO 1220+25		103
RT STA 1220+25 TO 1220+69	3.00	
LT STA 1219+88 TO 1220+00	0.66	
LT STA 1220+00 TO 1221+02		102
LT STA 1221+02 TO 1221+45	3.00	
LT STA 1223+81 TO 1224+25	3.00	
LT STA 1224+25 TO 1225+50		125
LT STA 1225+50 TO 1225+62	0.66	
TOTALS	11.0	330

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		SCHEDULES

SCALE: VERT. / HORIZ.
DATE: / / DRAWN BY: / / CHECKED BY: / /

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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	7
STA. 1214+00	TO STA. 1220+40			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PROJECT BEGINS
1219+00

580

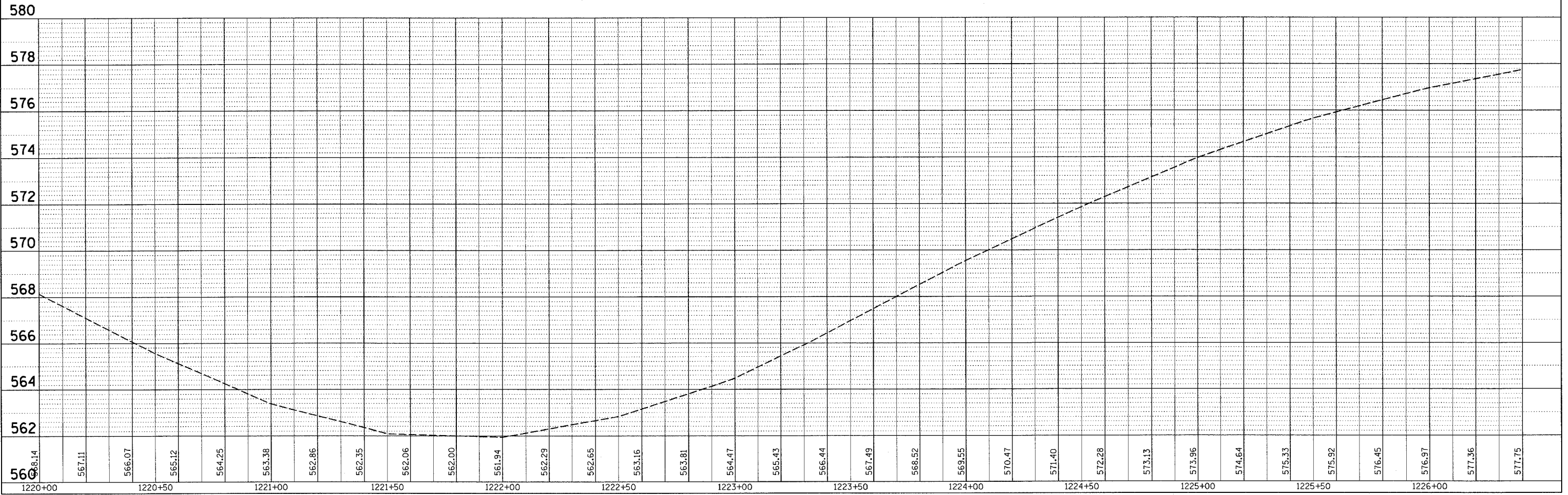
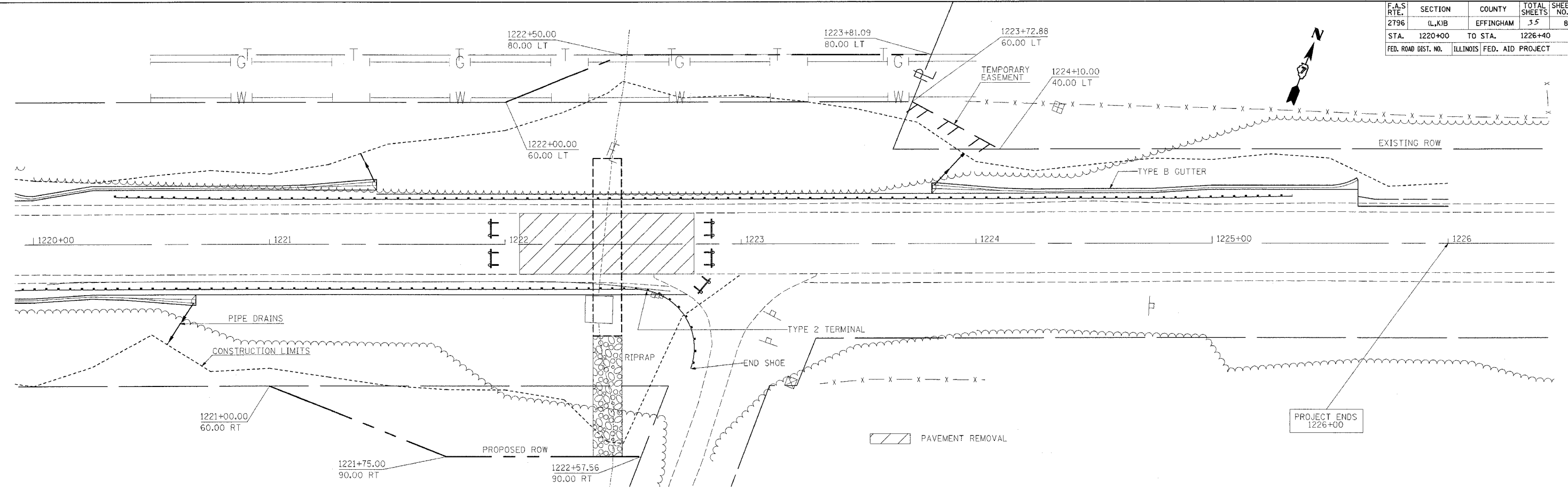


PLAN
 SURVEYED BY
 ALIGNED CHECKED
 NOTE BOOK NO.
 DATE

PROFILE
 SURVEYED BY
 GRADES CHECKED
 NOTE BOOK NO.
 DATE

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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	8
STA. 1220+00	TO STA. 1226+40			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



PLAN

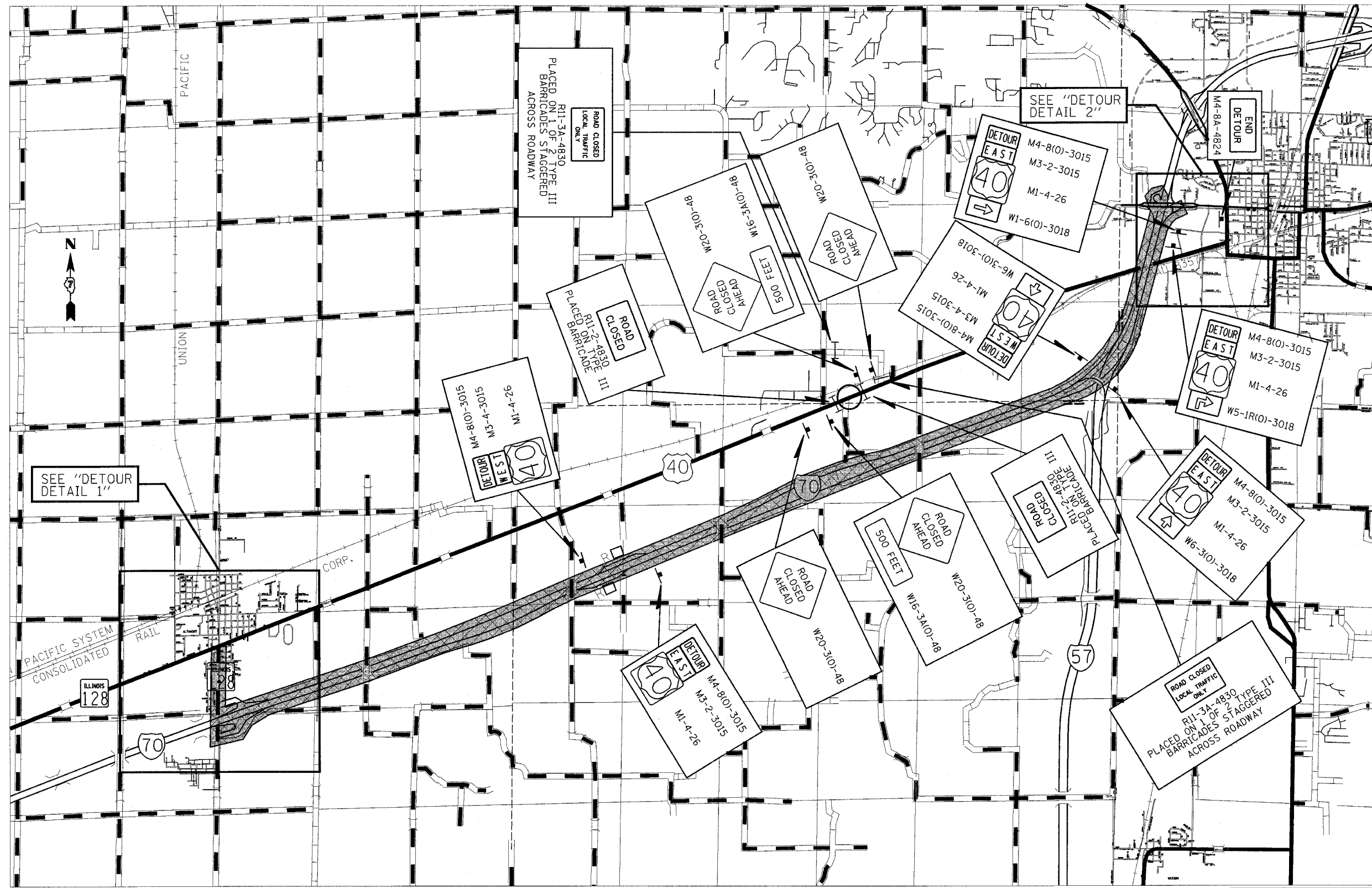
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SEE "DETOUR
DETAIL 1"

SEE "DETOUR
DETAIL 2"



DETOUR ROUTE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETOUR MAP

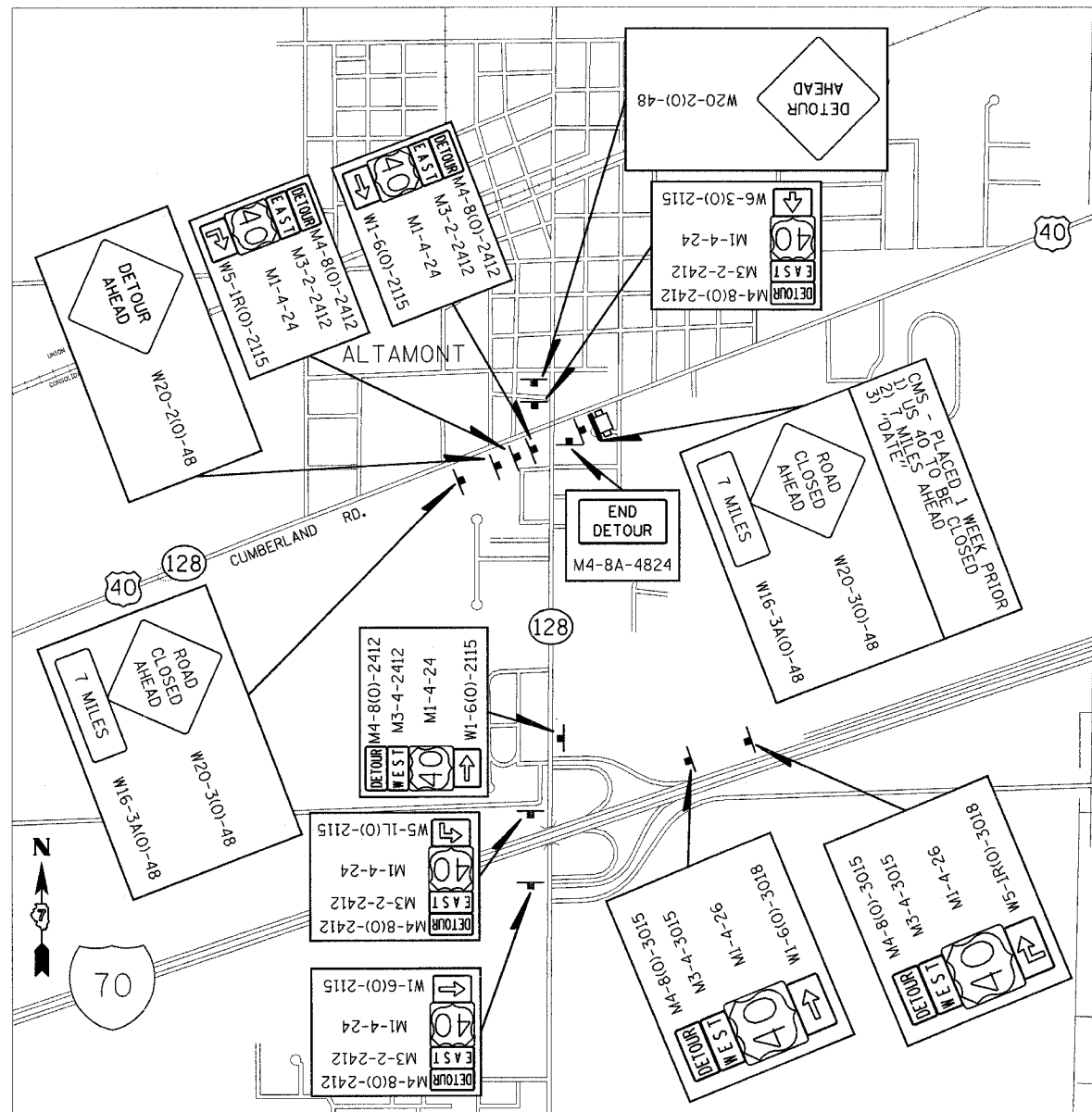
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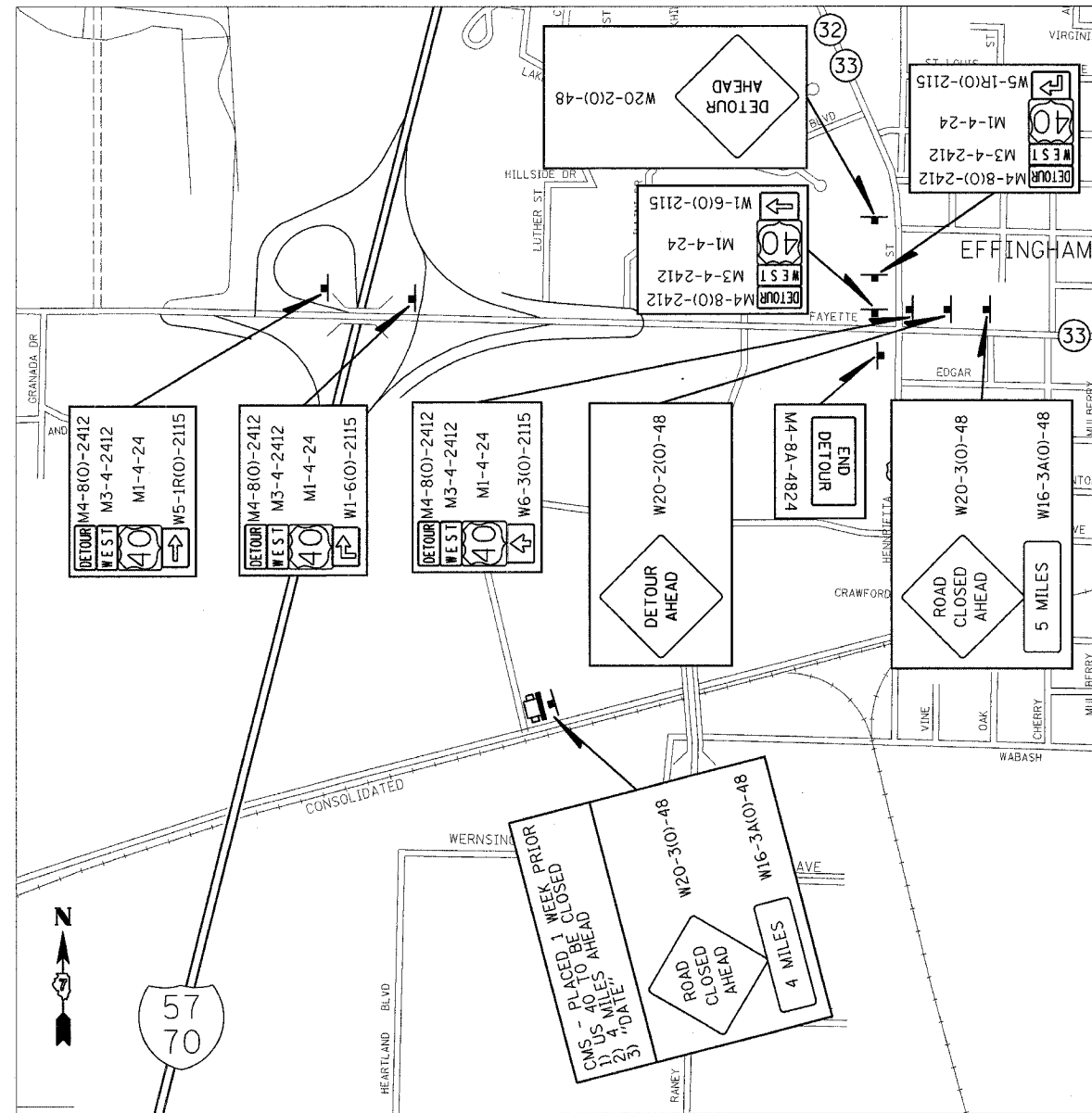
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CONTRACT NO. 94942			
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
2796	IL,KJB	EFFINGHAM	35 10
STA.		TO STA.	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

DETOUR DETAIL 1



DETOUR DETAIL 2



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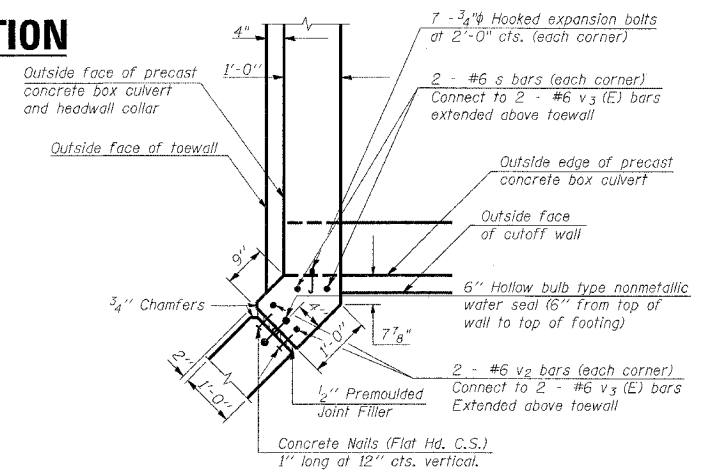
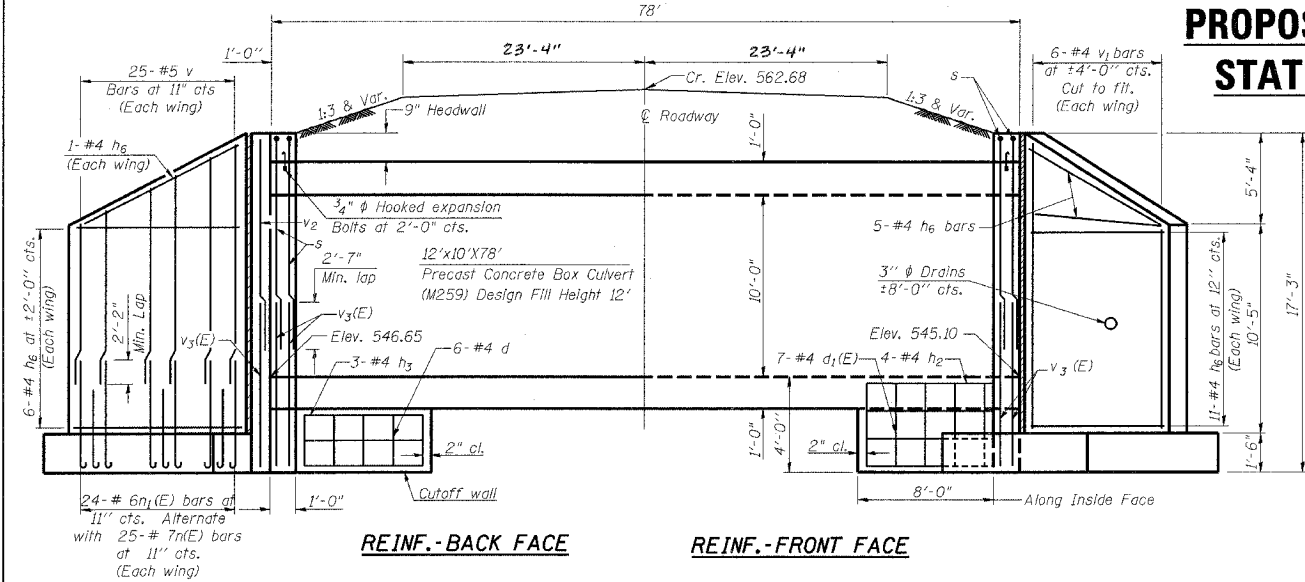
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**DETOUR
 DETAILS
 1 & 2**
 SCALE: VERT.
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	11
STA. TO STA.				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DETAIL OF CAST IN PLACE BOX CULVERT END SECTION

PROPOSED S.N. 025-7215
STATION 1222 + 43.32



CAST-IN-PLACE CORNER DETAIL FOR HEADWALL COLLAR

NOTES

- Concrete and Rebar quantities and lengths calculated for the cast-in-place End Sections will vary based on the precast box culverts supplied.
- End Sections will be paid for at the contract unit price each for BOX CULVERT END SECTION, as outlined in Art. 540.08, which prices shall include all concrete, rebar, and all other items necessary to complete the proposed work.
- Drain holes shall be provided in accordance with Art. 503.12.
- voids between the Precast Concrete Box Culvert and the Cast-in-place toewall / cutoff wall shall be filled with Non-shrink grout.
- Drawings not to scale.
- All bars shall conform to the requirements of Art. 1006.10 of Standard Specs.
- Class SI Concrete shall be used throughout.
- The Precast Concrete Box Culvert Sections shall conform to the requirements of AASHTO M259.
- Reinforcement bars designated (E) shall be epoxy coated.
- All construction joints shall be bonded.
- Expansion bolts shall be 3/4" ϕ hooked bolts. Hooked bolts shall extend 6" into concrete collar. The cost of the bolts shall be included in the cost of Box Culvert End Section.
- All dimensions are in FEET (')-INCHES (") unless otherwise noted.

NAME PLATE

STATION 1222+43.32
BUILT - - - BY
STATE OF ILLINOIS
F.A.S. RTE. 2796 SEC. (L,K)B
LOADING HS 20-44
STR. NO. 025-7215

* See Highway Standard 515001-02 for dimensions and placement.

* Name Plate will be paid for at the contract unit price per "EACH" for "NAME PLATES".

DESIGN STRESSES

$f_y = 60,000$ psi
 $f'_c = 3,500$ psi

Max. Soil Pressure under footing = 3,575 psf

LOADING HS 20-44

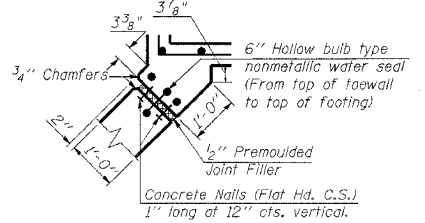
BILL OF MATERIAL (ONE END SECTION)

Bar	No.	Size	Length	Shape
d	21	#4	2'-8"	
d ₁ (E)	23	#4	3'-8"	
h	3	#4	13'-0"	
h ₁	4	#4	14'-5"	
h ₂	8	#4	8'-10"	
h ₃	6	#4	8'-0"	
h ₄	16	#4	1'-2"	
h ₅	16	#4	9"	
h ₆	48	#4	21'-6"	
n(E)	50	#7	7'-6"	
n ₁ (E)	46	#6	4'-7"	
s	4	#6	19'-11"	
t	100	#5	8'-0"	
v	25	#5	19'-2"	
v ₁	12	#4	15'-6"	
v ₂	4	#6	12'-8"	
v ₃ (E)	8	#6	6'-10"	
w	28	#5	21'-6"	

Concrete/End Section	Cu. Yd.	48.3
Reinforcement Bars, Epoxy Coated	Pound	931
Reinforcement Bars	Pound	3144
Expansion Bolt 3/4" ϕ	Each	22

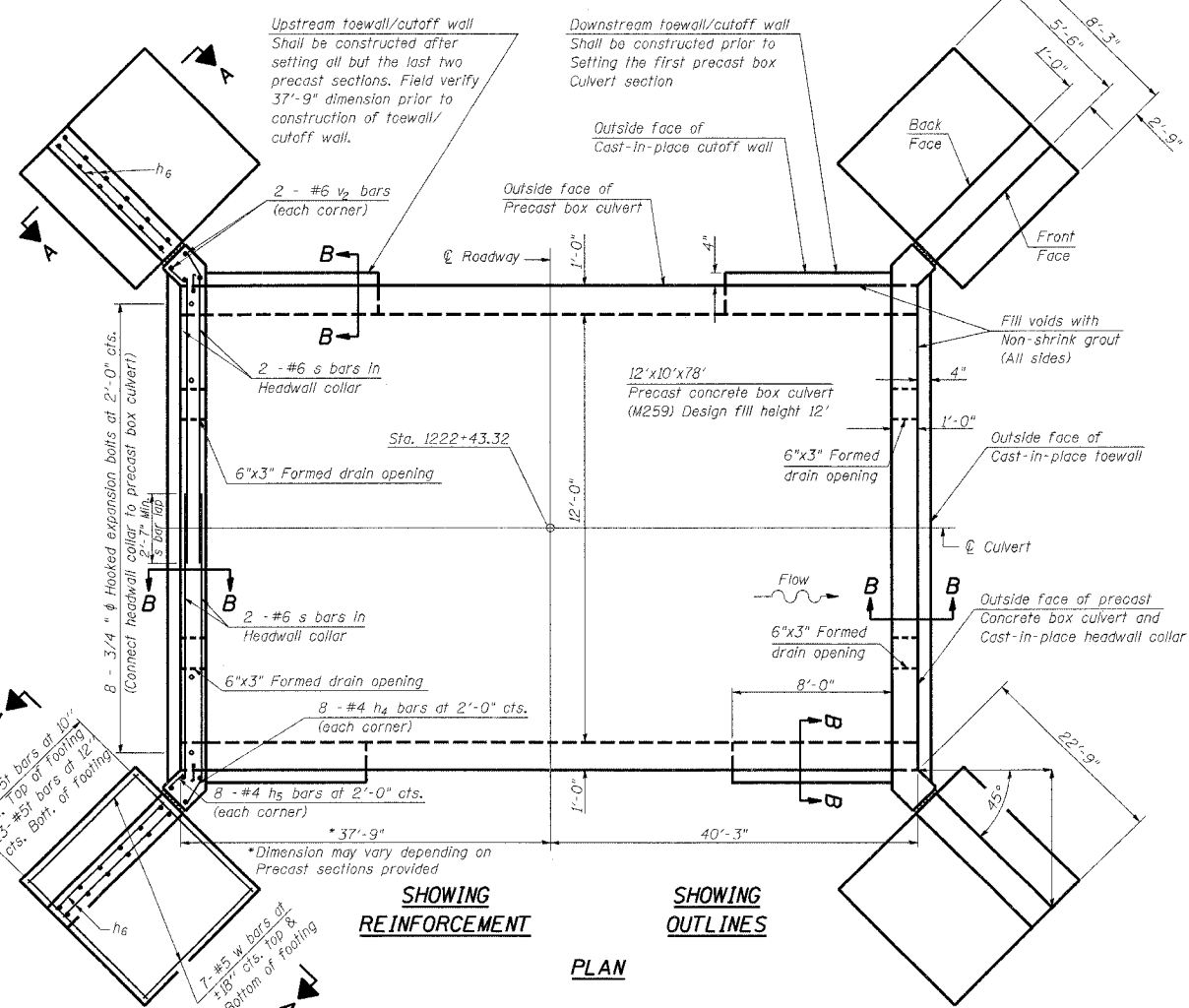
Pay Item	Unit	Qty.
Box Culvert End Sections	Each	2.0

CORNER DETAIL C



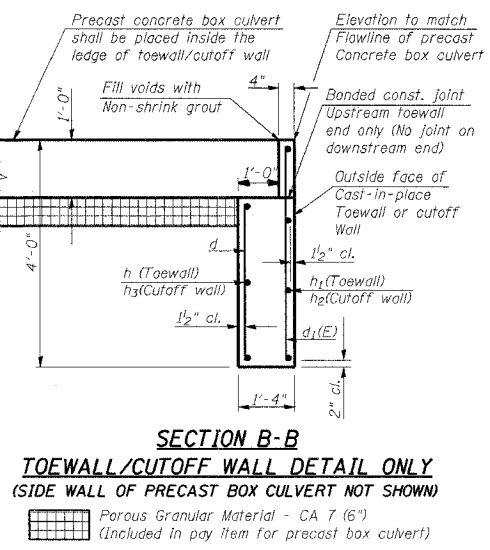
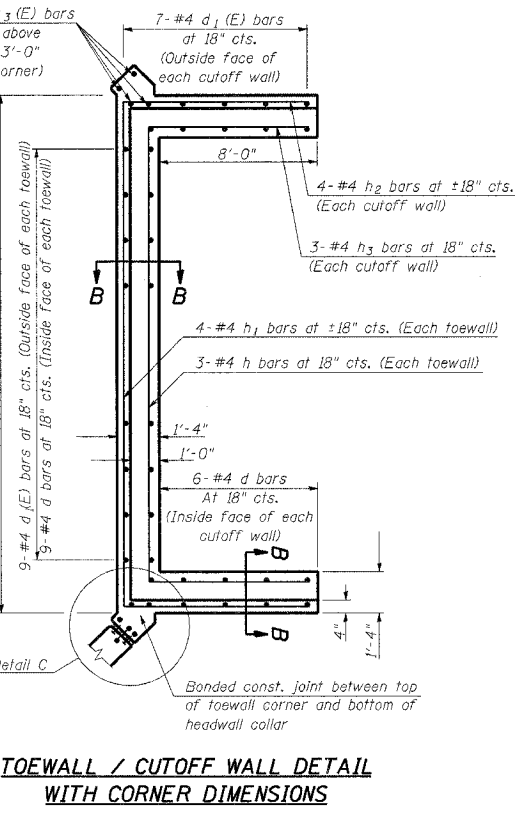
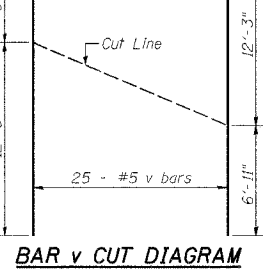
ILLINOIS DEPARTMENT OF TRANSPORTATION
BOX CULVERT END SECTION DETAIL
PROPOSED S.N. 025-7215
F.A.S. 2796
SECTION (L,K)B
EFFINGHAM COUNTY
SCALE: NOT TO SCALE
DATE: 07/17/06
DRAWN BY:
CHECKED BY:

WINGWALL ELEVATION



BAR s

BARS n(E) and n₁(E)

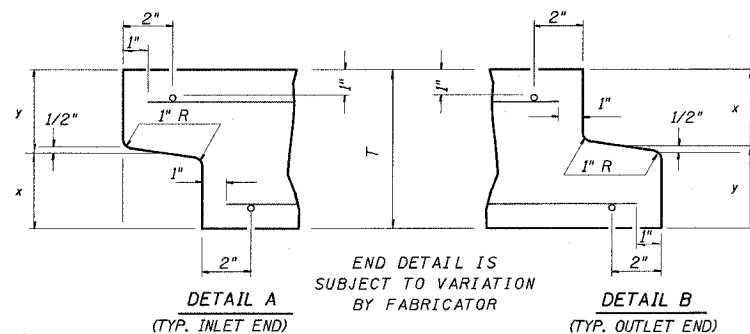


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FILE NAME = c:\projects\94942\vd0102ba.dgn
PLOT SCALE = 20.0000 1" = 10'
USER NAME = srichter\jw

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	(L,K)B	EFFINGHAM	35	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DETAIL OF PRECAST CONCRETE BOX CULVERT M259M

AASHTO DESIGNATION M259M
(ASTM DESIGNATION C-789M)
DESIGN LOADING = MS18



END DETAIL IS SUBJECT TO VARIATION BY FABRICATOR
DETAIL A (TYP. INLET END)
DETAIL B (TYP. OUTLET END)
NOTE: INLET AND OUTLET ENDS SHALL BE COMPATIBLE.

CULVERT SIZE	DIMENSIONS			
	T (INCHES)	A (FT-IN)	B (FT-IN)	C (INCHES)
2x2	4	2-8	2-8	4
3x2	4	3-8	2-8	4
3x3	4	3-8	3-8	4
4x2	5	4-10	2-10	5
4x3	5	4-10	3-10	5
4x4	5	4-10	4-10	5
5x2	6	6-0	3-0	6
5x3	6	6-0	4-0	6
5x4	6	6-0	5-0	6
5x5	6	6-0	6-0	6
6x2	7	7-2	3-2	7
6x3	7	7-2	4-2	7
6x4	7	7-2	5-2	7
6x5	7	7-2	6-2	7
6x6	7	7-2	7-2	7
7x4	8	8-4	5-4	8
7x5	8	8-4	6-4	8
7x6	8	8-4	7-4	8
7x7	8	8-4	8-4	8
8x4	8	9-4	5-4	8
8x5	8	9-4	6-4	8
8x6	8	9-4	7-4	8
8x7	8	9-4	8-4	8
8x8	8	9-4	9-4	8
9x5	9	10-6	6-6	9
9x6	9	10-6	7-6	9
9x7	9	10-6	8-6	9
9x8	9	10-6	9-6	9
9x9	9	10-6	10-6	9
10x5	10	11-8	6-8	10
10x6	10	11-8	7-8	10
10x7	10	11-8	8-8	10
10x8	10	11-8	9-8	10
10x9	10	11-8	10-8	10
10x10	10	11-8	11-8	10
11x4	11	12-10	5-10	11
11x6	11	12-10	7-10	11
11x8	11	12-10	9-10	11
11x10	11	12-10	11-10	11
11x11	11	12-10	12-10	11
12x4	12	14-0	6-0	12
12x6	12	14-0	8-0	12
12x8	12	14-0	10-0	12
12x10	12	14-0	12-0	12
12x12	12	14-0	14-0	12

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 504.04(d) OF THE STANDARD SPECIFICATIONS.

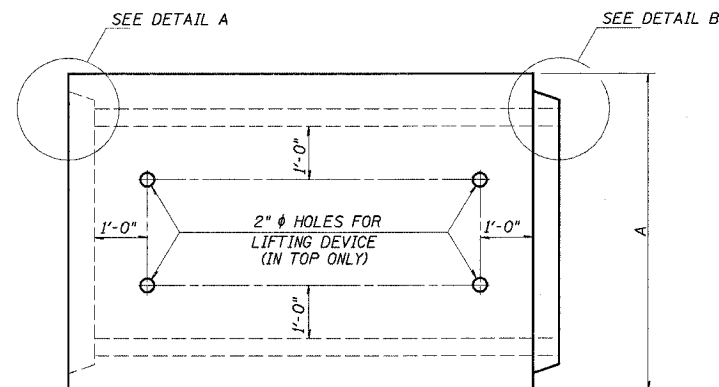
MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED IN ACCORDANCE WITH ARTICLE 542.04(d) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

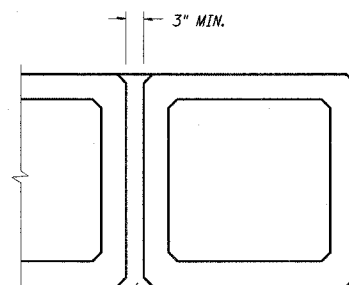
THE TERMS A_{S1} , A_{S2} , AND A_{S4} DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN ASSHTO M259M. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO ASSHTO M55M.

LIFTING HOLES SHALL BE FILLED WITH CONCRETE PLUGS AND MASTIC AFTER THE BOX SECTIONS ARE IN PLACE.

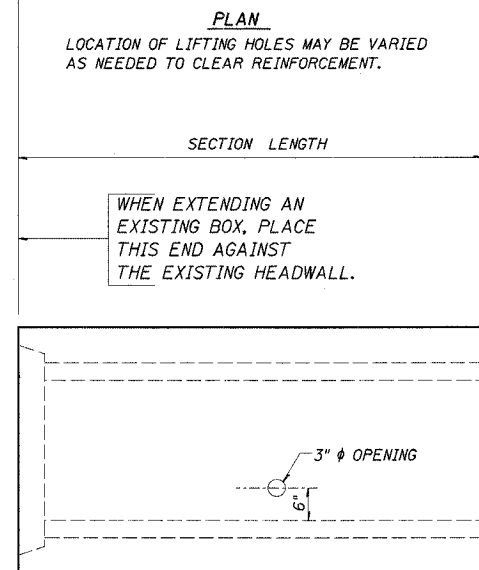
DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.12 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.



PLAN
LOCATION OF LIFTING HOLES MAY BE VARIED AS NEEDED TO CLEAR REINFORCEMENT.

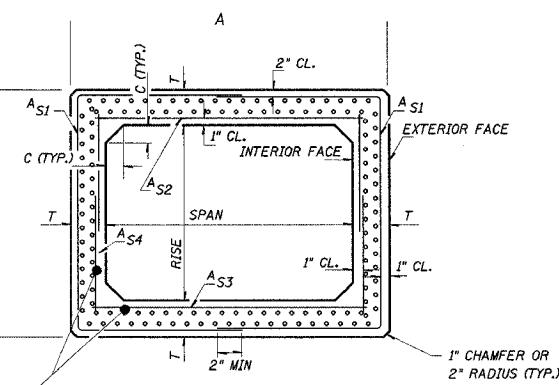


CLASS SI CONCRETE
MULTIPLE UNIT PLACEMENT



WHEN EXTENDING AN EXISTING BOX, PLACE THIS END AGAINST THE EXISTING HEADWALL.

ELEVATION



GROSS SECTION

REVISIONS	
NAME	DATE
JEH	06/01

ILLINOIS DEPARTMENT OF TRANSPORTATION
DETAIL OF PRECAST CONCRETE BOX CULVERT SECTION
SCALE: VERT. DATE: REVISED: 05/28/99
DRAWN BY: CHECKED BY:

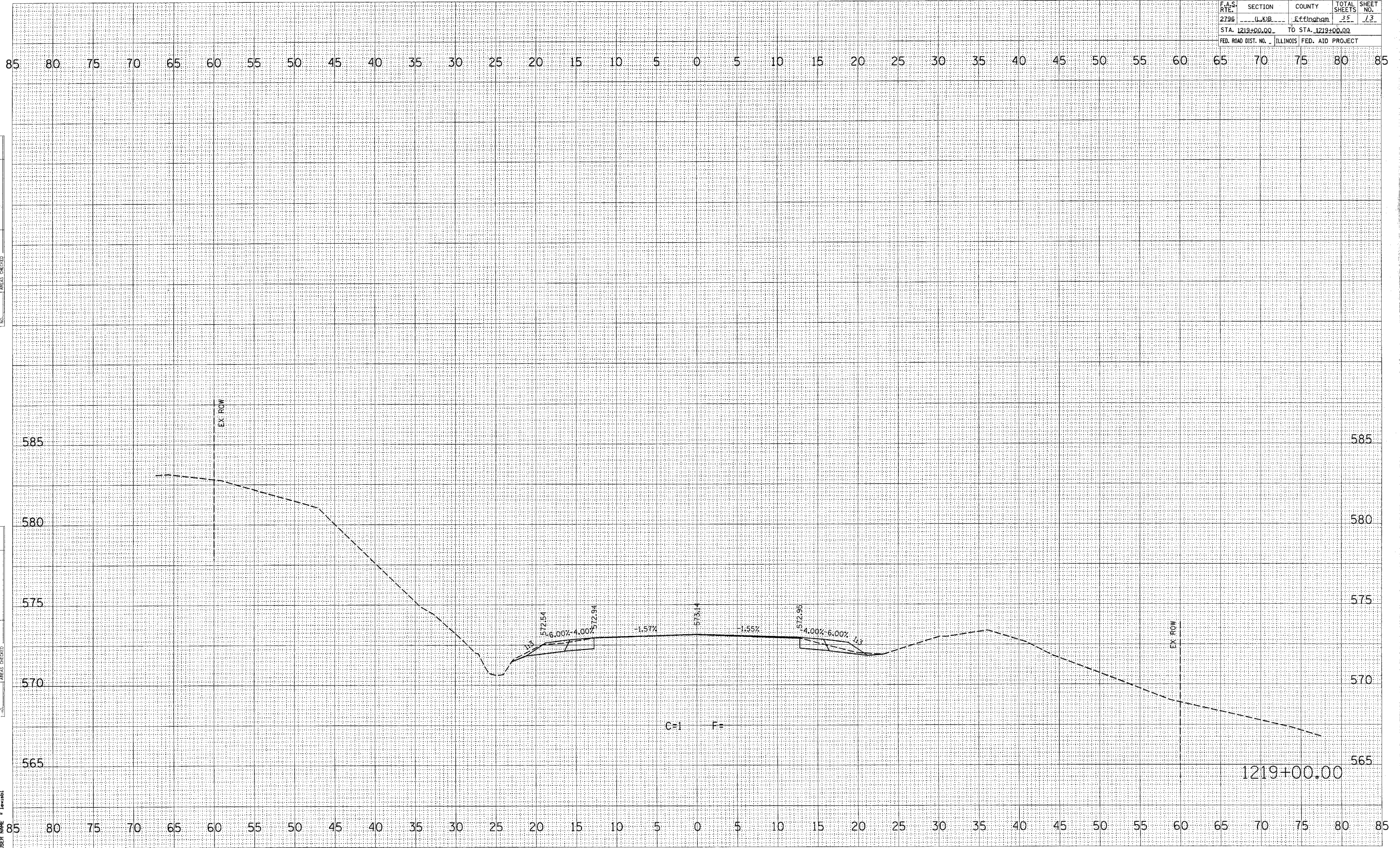
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USER NAME = schaefer,j

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	LKIR	Efingham	35	13
STA. 1219+00.00		TO STA. 1219+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

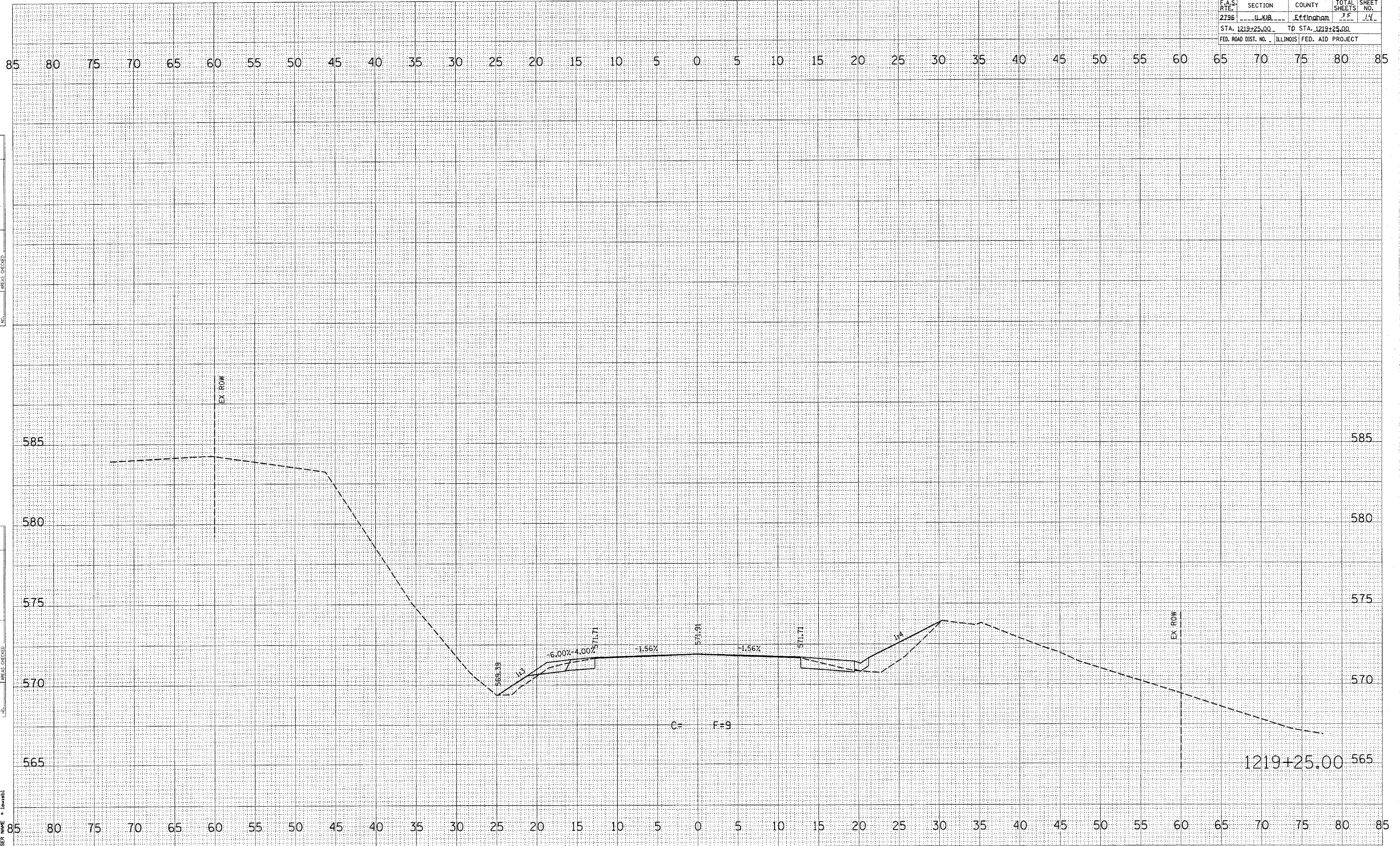
BY	DATE

ORIGINAL SURVEY	SURVEYED	PI. OTED	DATE

PLOT DATE = 10/27/2006
 PLOT SCALE = 1" = 20.000'
 USER NAME = jmrab1



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
279B	U.K.B.	Efingham	25	14
STA. 1219+25.00		TO STA. 1219+25.00		
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT		

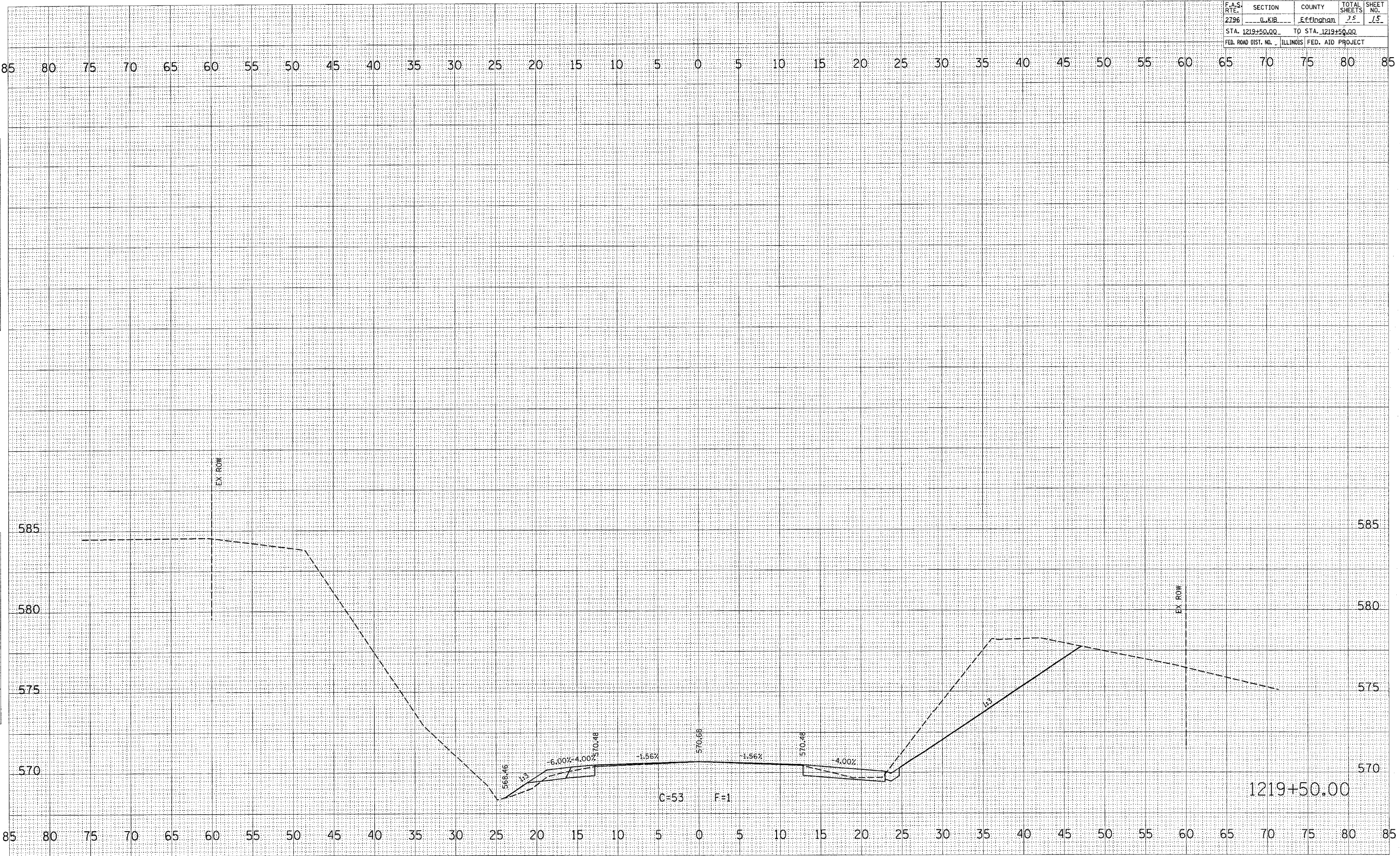


FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		

PLOT DATE = 10/27/2006
 PLOT SCALE = 5/8" = 1' IN.
 USER NAME =

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	L&B	Effingham	25	15
STA. 1219+50.00 TO STA. 1219+50.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



FINAL SURVEY

DATE: _____

BY: _____

SURVEYED: _____

NOTE BOOK: _____

AREAS CHECKED: _____

ORIGINAL SURVEY

DATE: _____

BY: _____

SURVEYED: _____

NOTE BOOK: _____

AREAS CHECKED: _____

PLOT DATE: 10/27/2006

FILE NAME: c:\pco\pco\94992\2006\1219+50.dwg

PLOT SCALE: 5.0000' / 1"

USER NAME: jwhabi

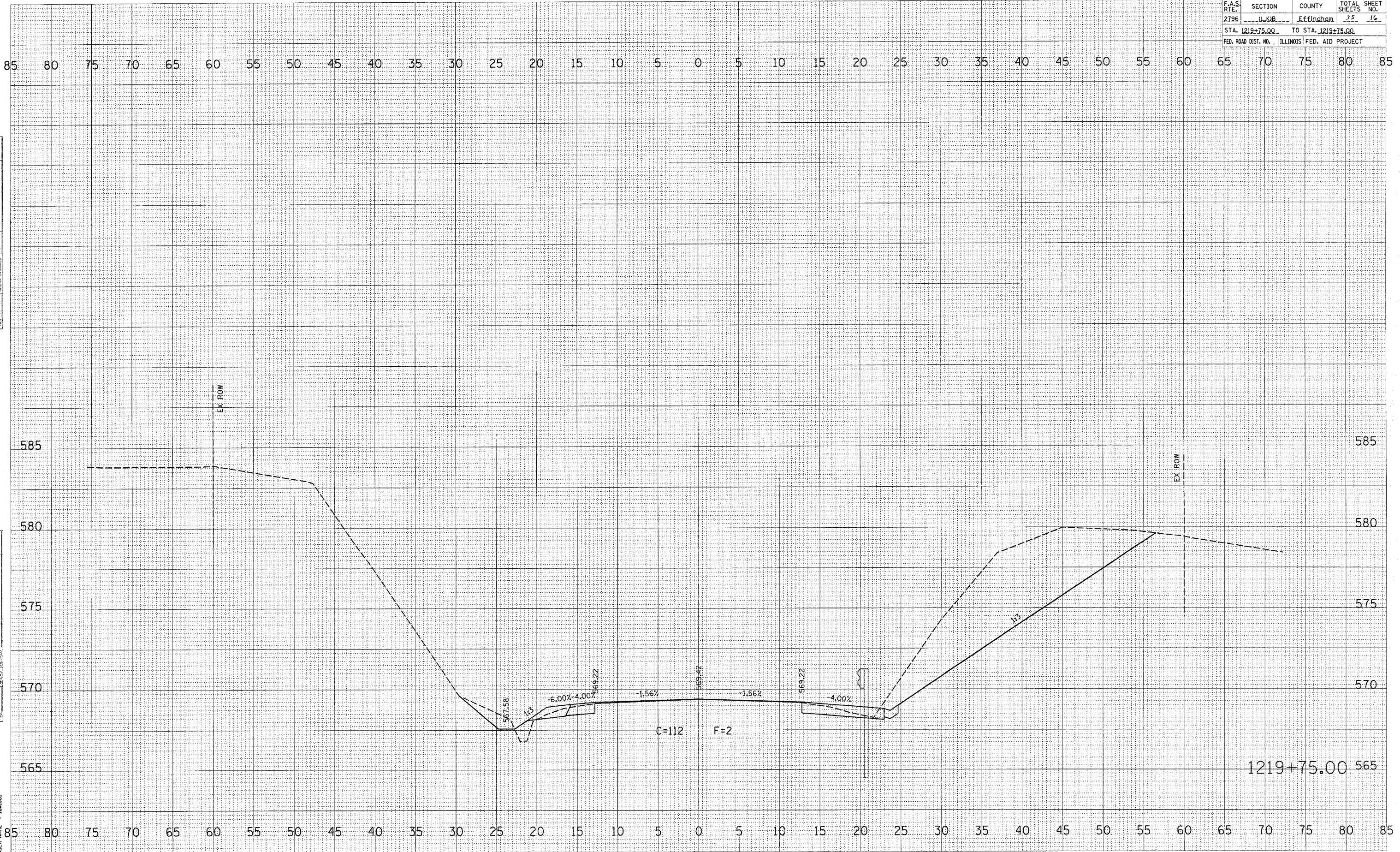
1219+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2196	U.K.R.	Efingham	35	16
STA. 1219+75.00 TO STA. 1219+75.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

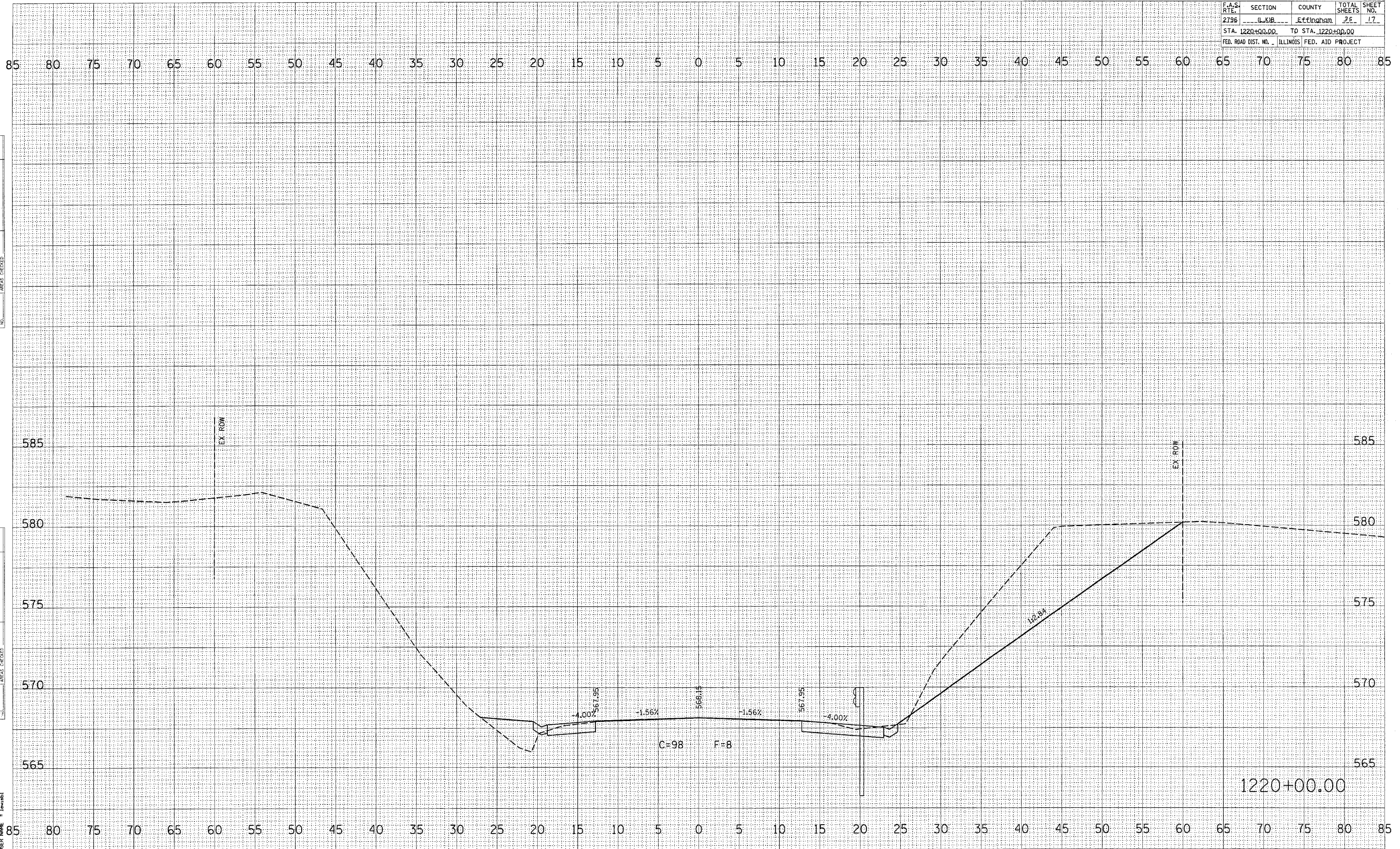
FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	

ORIGINAL SURVEY	DATE
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	

PLOT DATE = 10/27/2006
 PLOT SCALE = 5/8" = 100'
 USER NAME = jmh161



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U.K.B.	Effingham	25	17
STA. 1220+00.00		TO STA. 1220+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

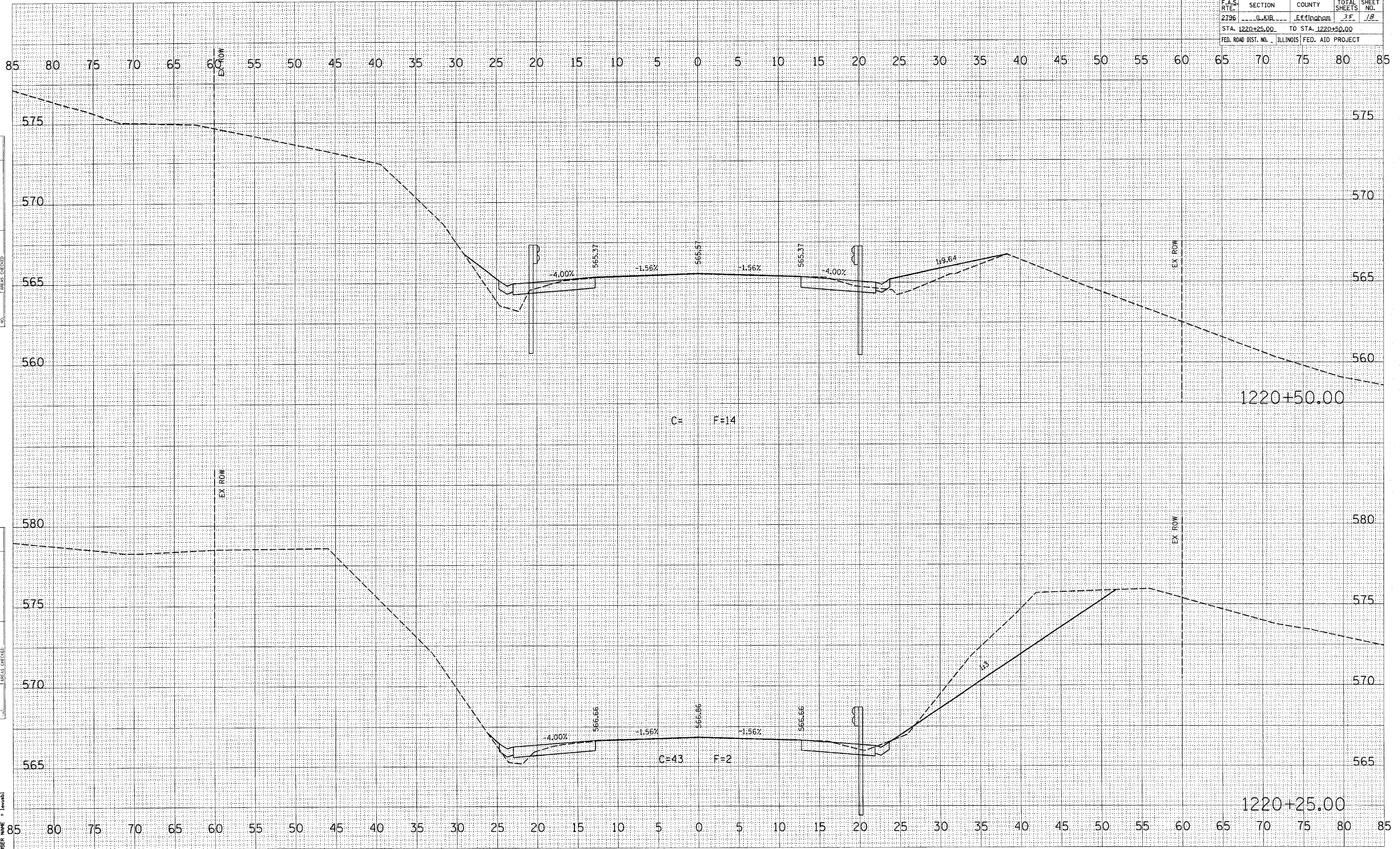


FINAL SURVEY BY: _____ DATE: _____
 SURVEYED BY: _____
 NOTE BOOK NO. _____
 TEMPL. AREAS CHECKED _____

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

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 USER NAME = jmorabi

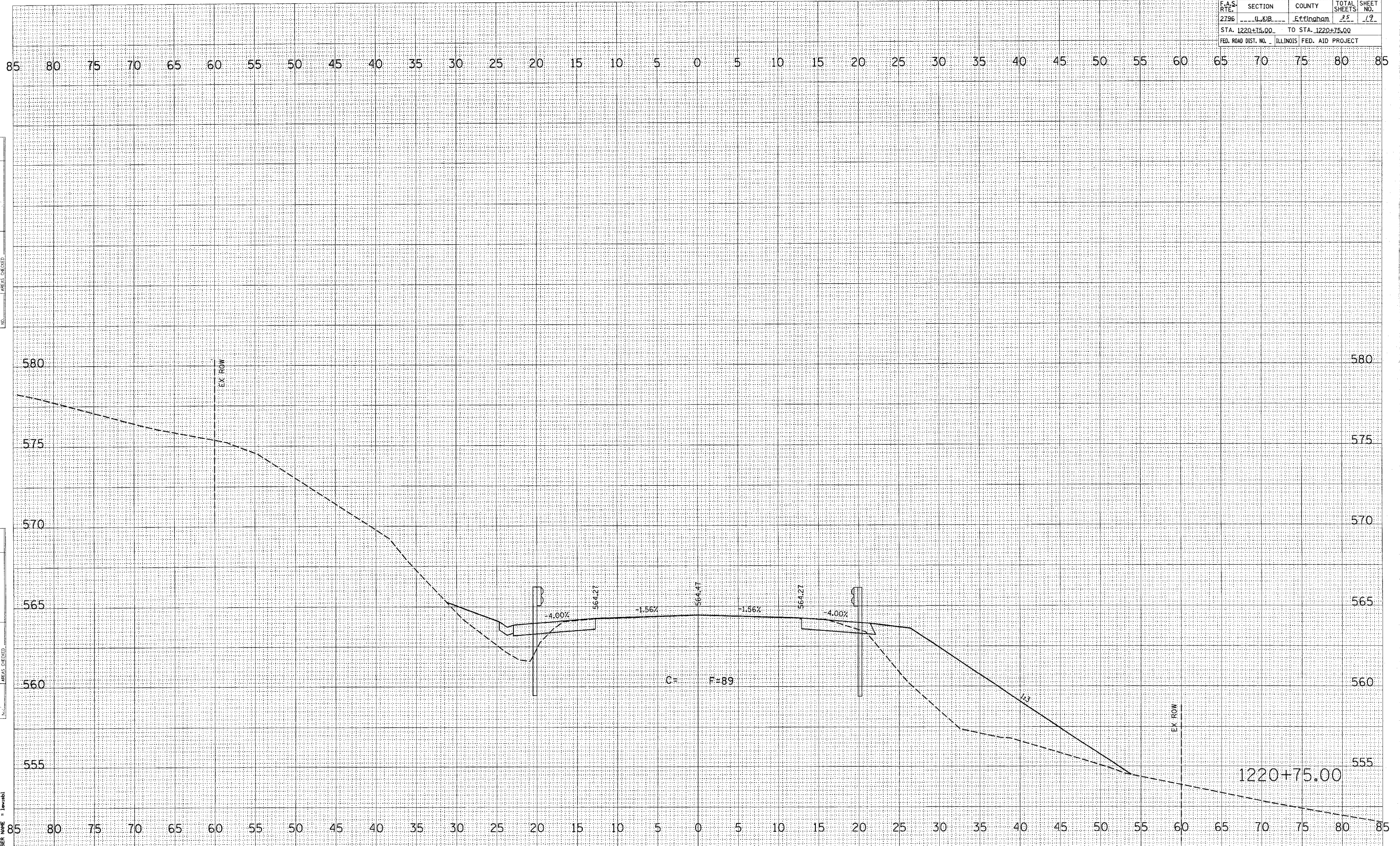
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U.K.R.	Efingham	35	18
STA. 1220+25.00 TO STA. 1220+50.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

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 USER NAME = jtrabbi

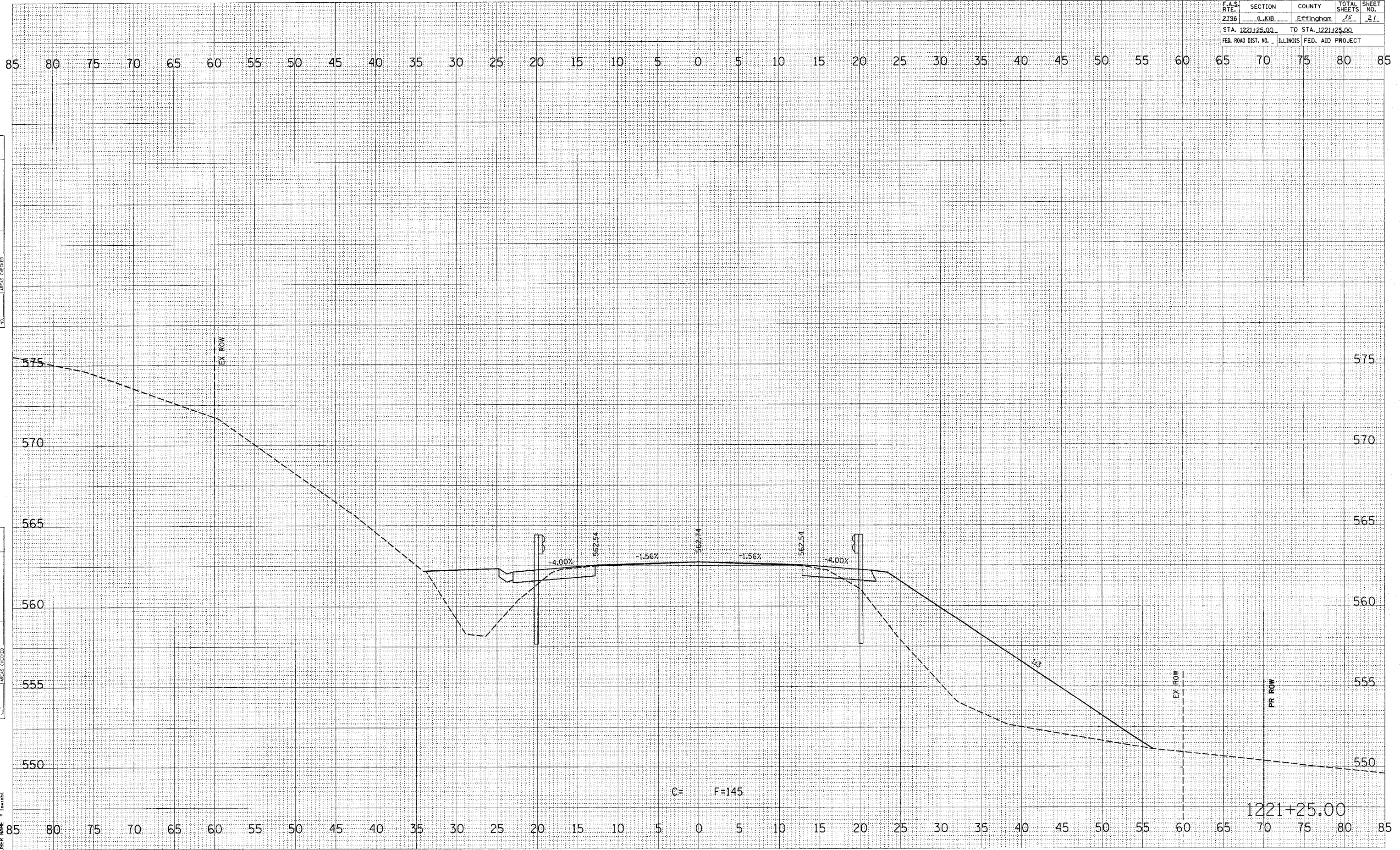


DATE	BY

DATE	BY

PLOT DATE = 10/27/2006
 PLOT SCALE = 5.0000 / IN.
 USER NAME = jwrtab1

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U.K.B.	Effingham	25	21
STA. 1221+25.00		TO STA. 1221+25.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



FINAL SURVEY BY DATE

SURVEYED _____

NOTE BOOK _____

NO. _____

FORM DATE _____

AREAS CHECKED _____

ORIGINAL SURVEY BY DATE

SURVEYED _____

NOTE BOOK _____

NO. _____

FORM DATE _____

AREAS CHECKED _____

PLOT DATE = 10/27/2006

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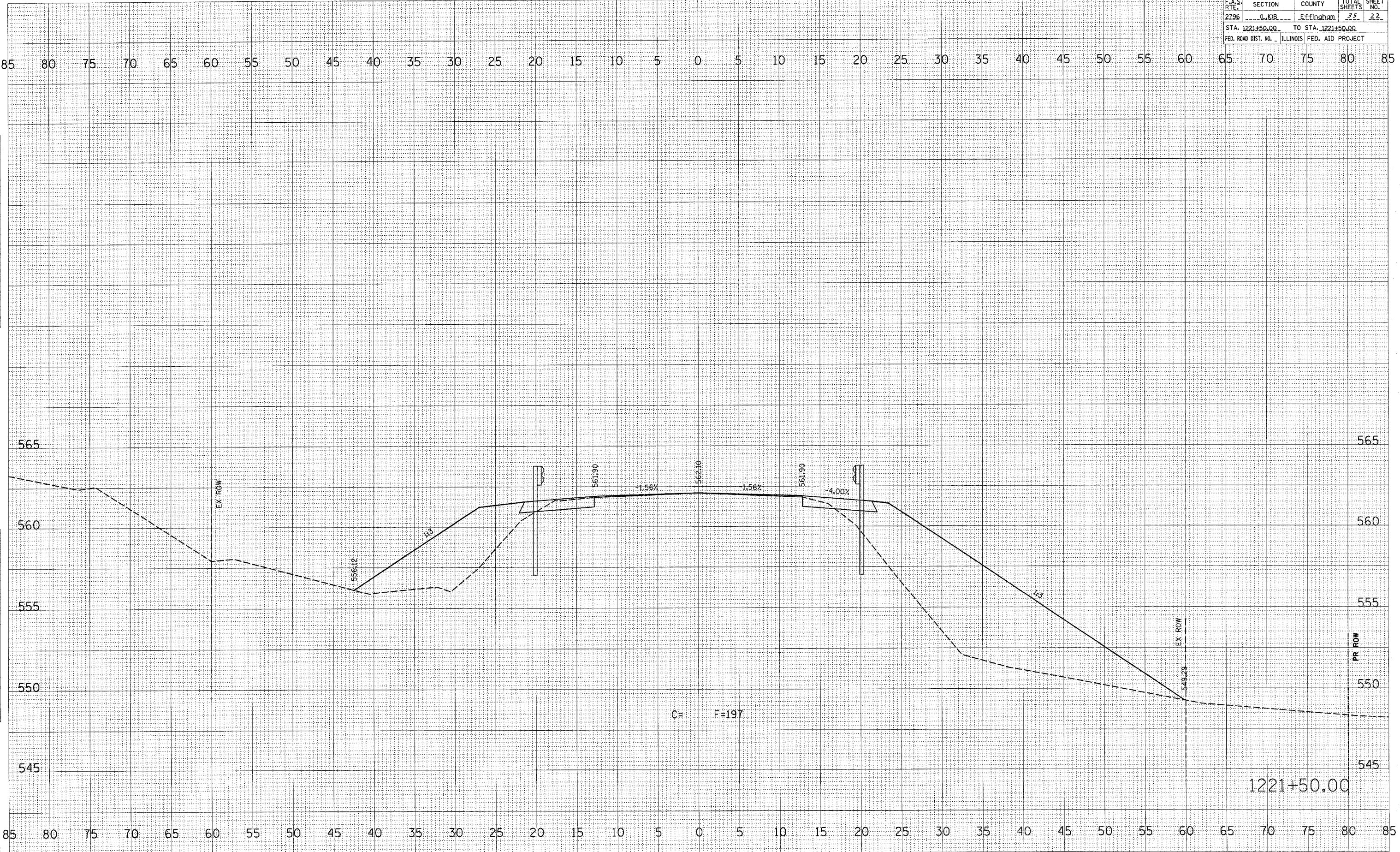
PLOT SCALE = 5,0000 / 1in.

USER NAME = 1aurabi

C= F=145

1221+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U&B	Effingham	25	22
STA. 1221+50.00		TO STA. 1221+50.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPL. DATE: _____
 AREAS CHECKED: _____
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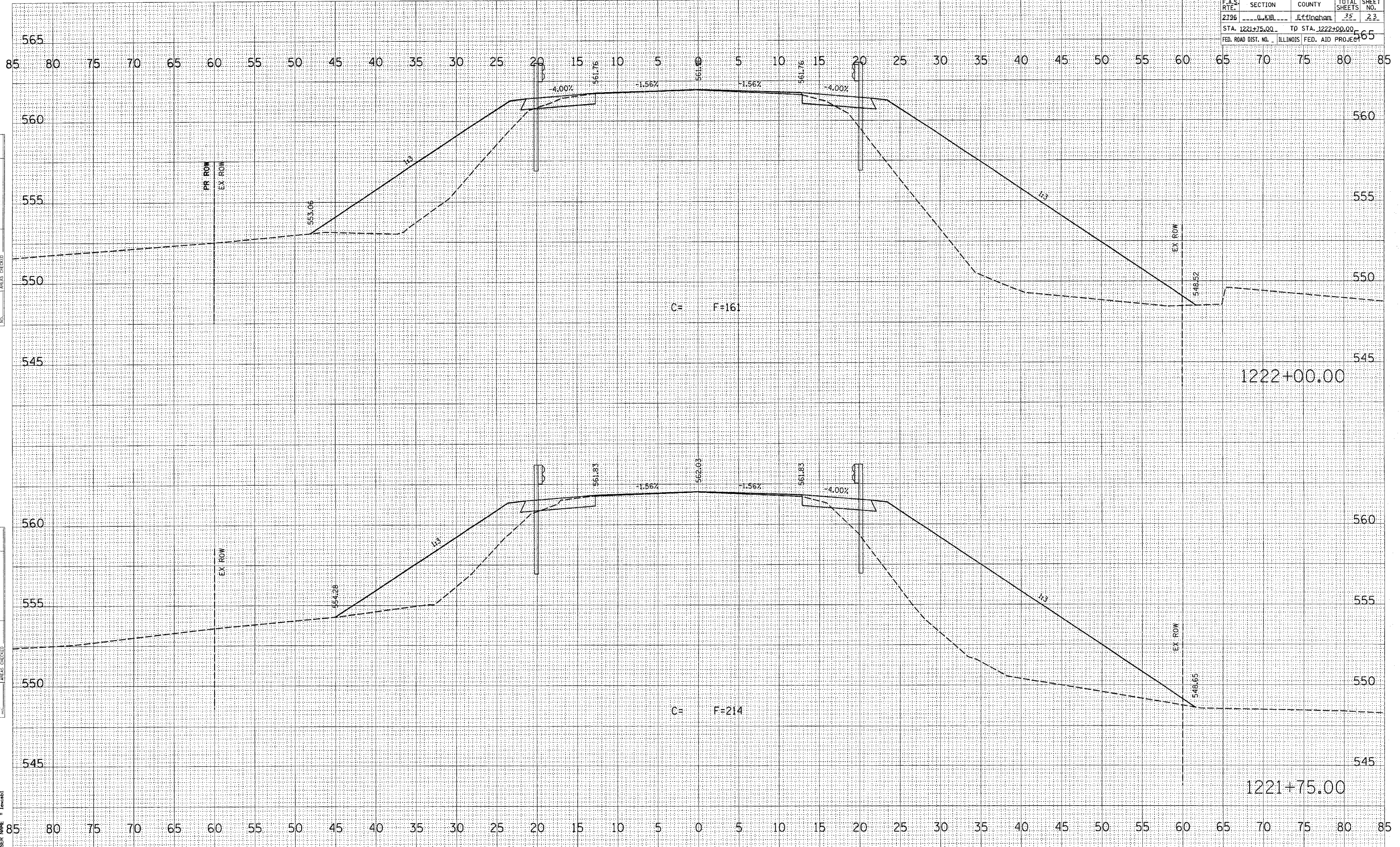
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 BY: _____
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 NO.: _____

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 USER NAME = lewrb1

C= F=197

1221+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	0-0-0	Effingham	35	23
STA. 1221+75.00 TO STA. 1222+00.00				
ILLINOIS FED. AID PROJECT				



DATE: _____
 BY: _____
 SUPERVISED: _____
 FINAL SURVEY: _____
 NOTE BOOK: _____
 NO. _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SUPERVISED: _____
 ORIGINAL SURVEY: _____
 NOTE BOOK: _____
 NO. _____
 AREAS CHECKED: _____

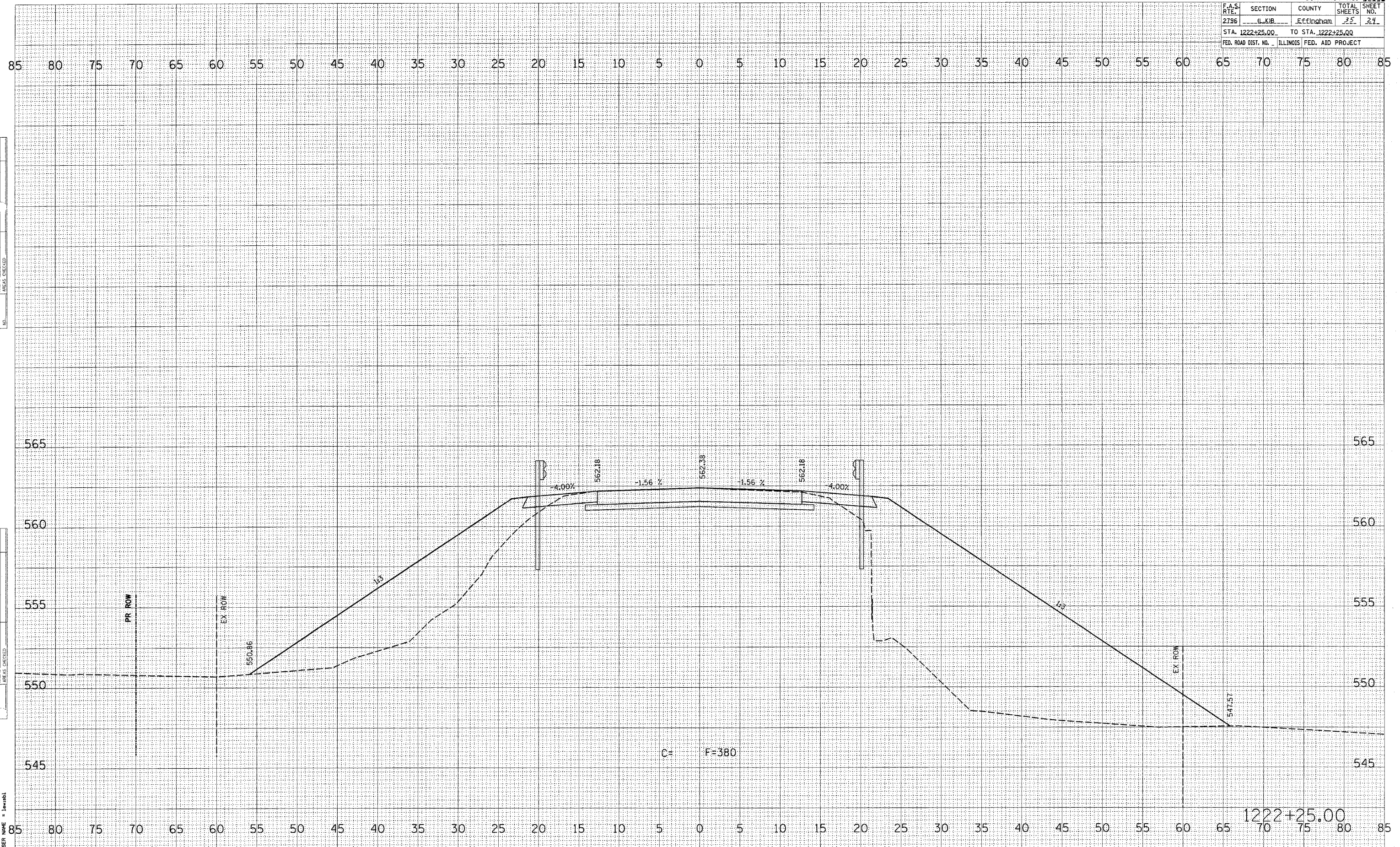
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 USER NAME: tcm1

CONTRACT NO. 94942

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U.K.B.	Efingham	25	24

STA. 1222+25.00 TO STA. 1222+25.00

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



FINAL	BY	DATE
SURVEY		
NOTE BOOK		
NO.		

ORIGINAL	BY	DATE
SURVEY		
NOTE BOOK		
NO.		

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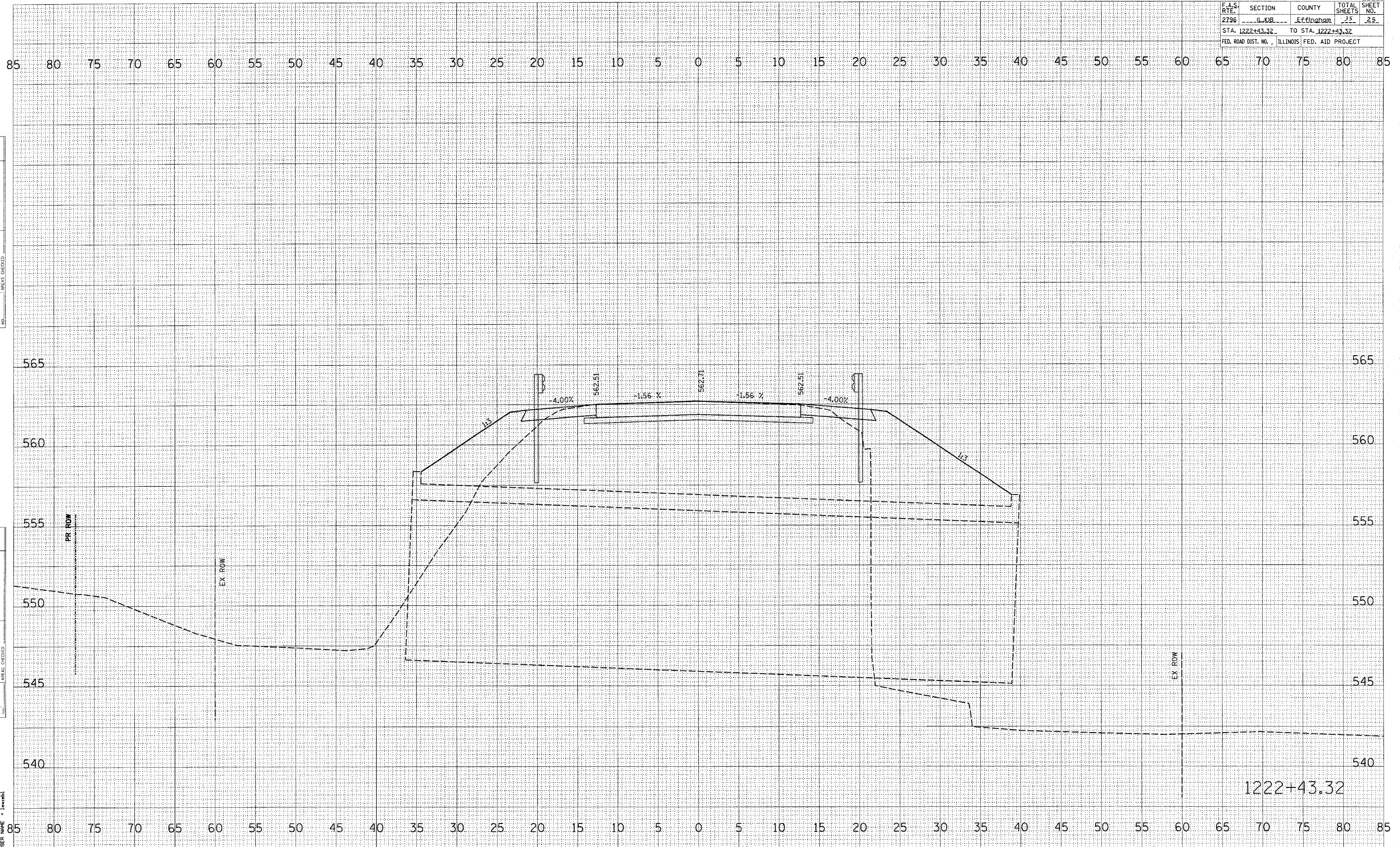
1222+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	L. & B.	Effingham	25	25
STA. 1222+43.32		TO STA. 1222+43.32		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

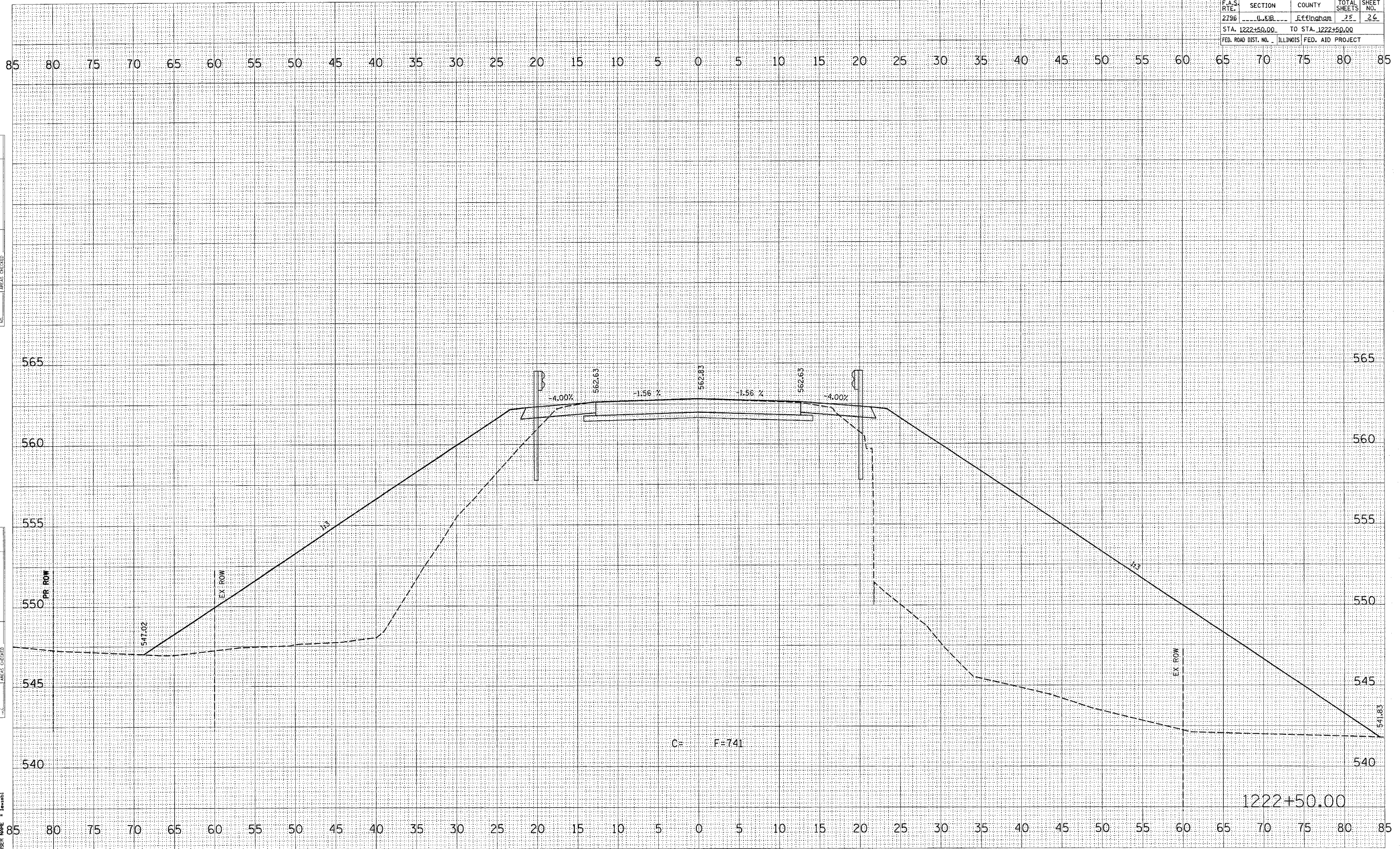
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BY	
CHECKED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS	
CHECKED	

DATE	
BY	
CHECKED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS	
CHECKED	

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 USER = jcmrbl



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U&R	Efingham	25	26
STA. 1222+50.00		TO STA. 1222+50.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

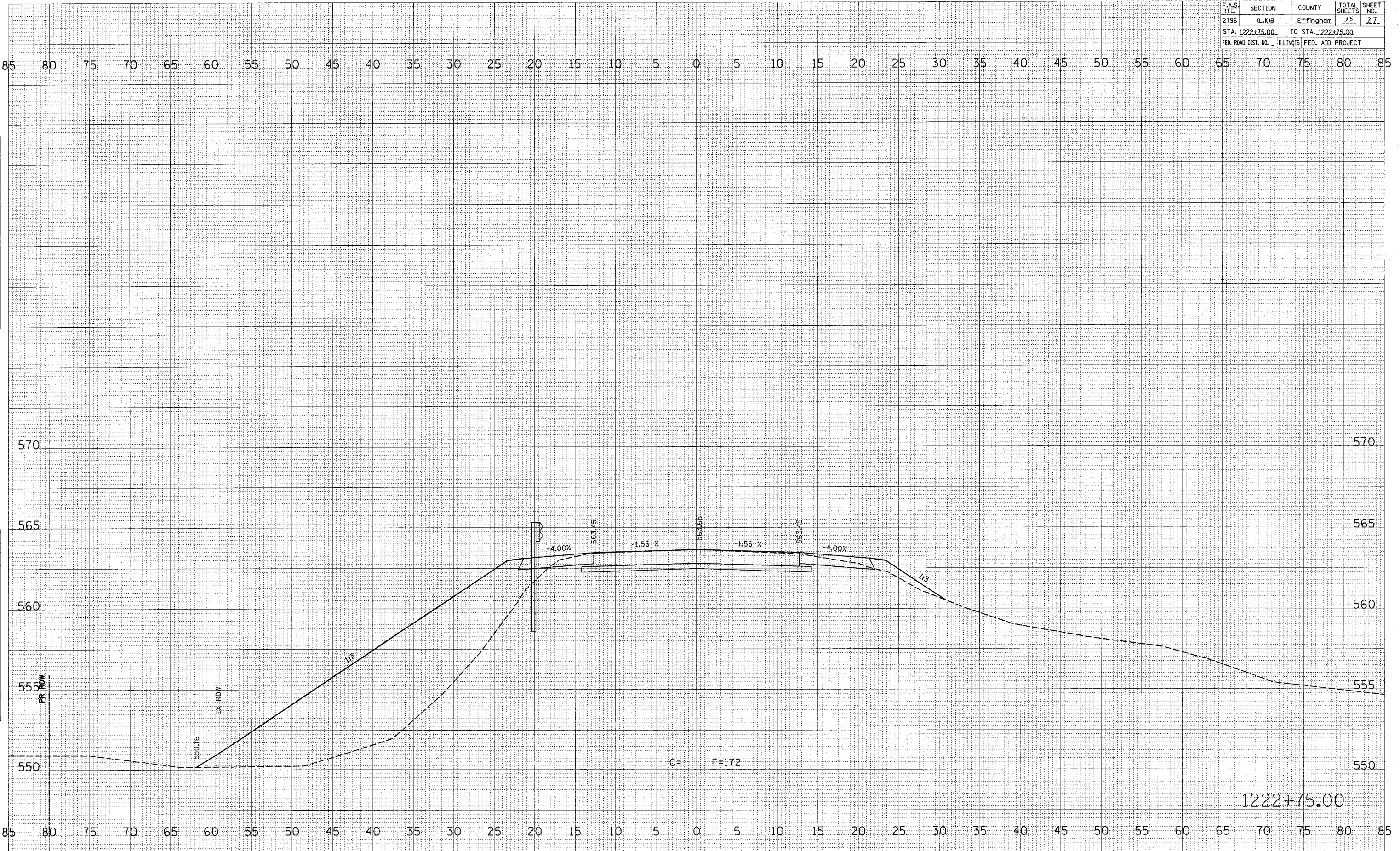


DATE _____
 BY _____
 SURVEYED _____
 TRIP DATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____

DATE _____
 BY _____
 ORIGINAL SURVEY _____
 TRIP DATE _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____

PLOT DATE = 10/27/2006
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 PLOT SCALE = 5.0000' / 1" IN.
 USER NAME = jrsmb

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U.K.B.	Efingham	35	27
STA. 1222+75.00		TO STA. 1222+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

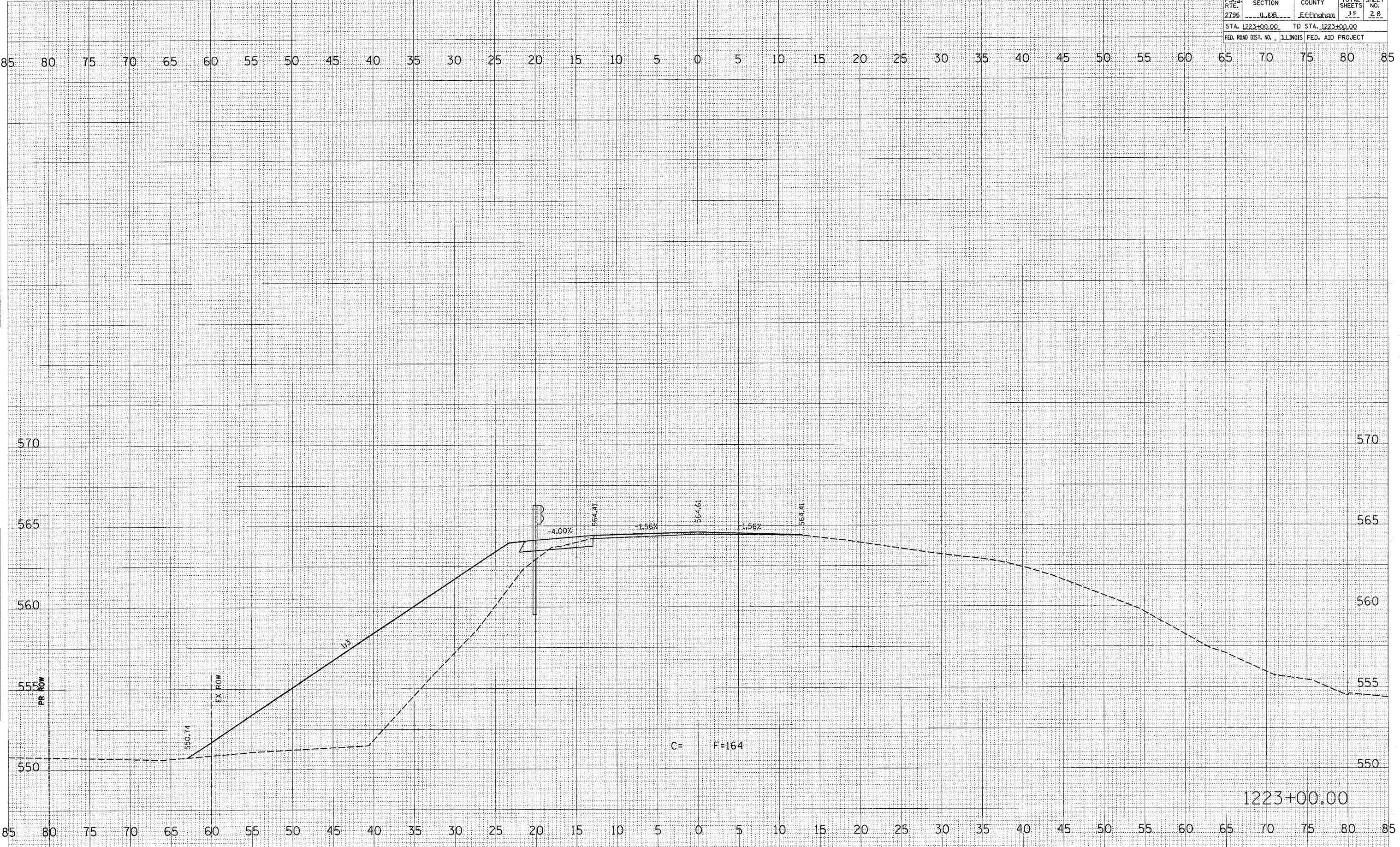


DATE	BY	NO.
ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	TEMPLATE	AREAS CHECKED

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

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 USER NAME = jehab1

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	U&R	Effingham	35	28
STA. 1223+00.00		TD STA. 1223+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



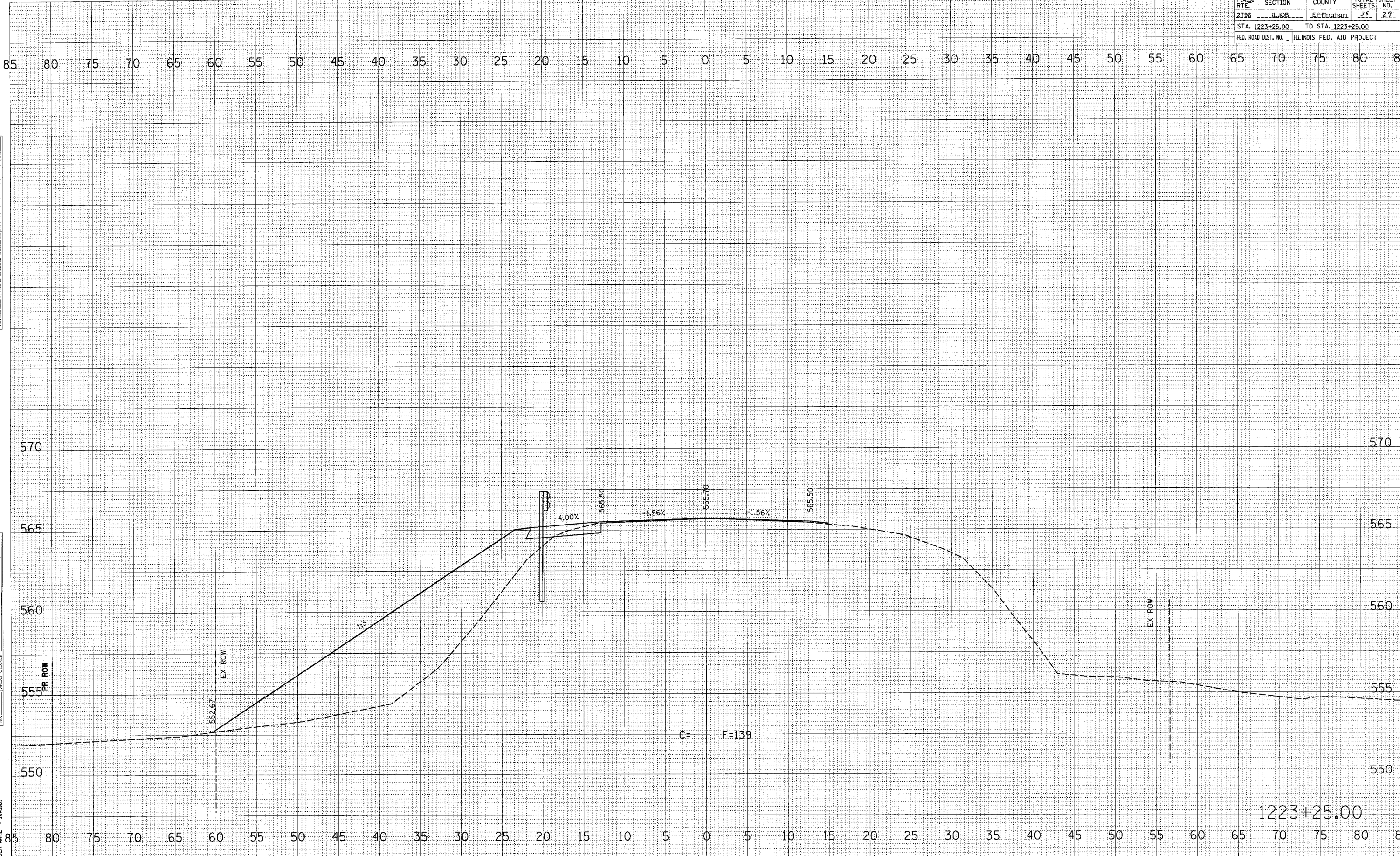
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SURVEYED	BY
NOTE BOOK	NO.
AREAS CHECKED	

ORIGINAL SURVEY	DATE
SURVEYED	BY
NOTE BOOK	NO.
AREAS CHECKED	

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 USER NAME = lenabi

1223+00.00

CONTRACT NO. 94942				
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	4-K-B	Effingham	25	27
STA. 1223+25.00 TO STA. 1223+25.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



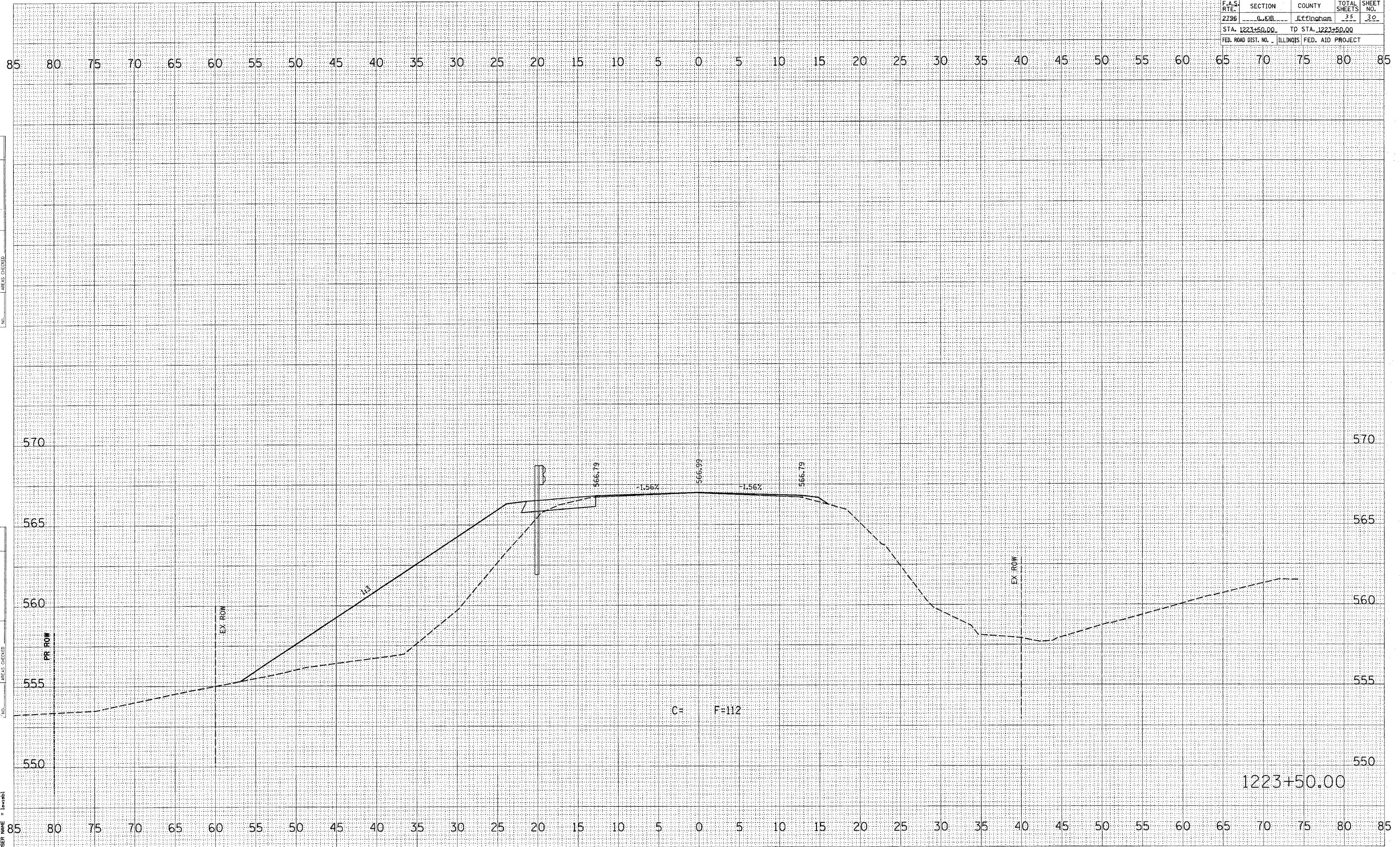
BY	DATE
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	DATE
	AREAS CHECKED

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

PLOT DATE = 10/27/2006
 PLOT SCALE = 5/8" = 1' IN.
 USER NAME = jbrab1

1223+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	0.618	Ettingham	32	30
STA. 1223+50.00		TO STA. 1223+50.00		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



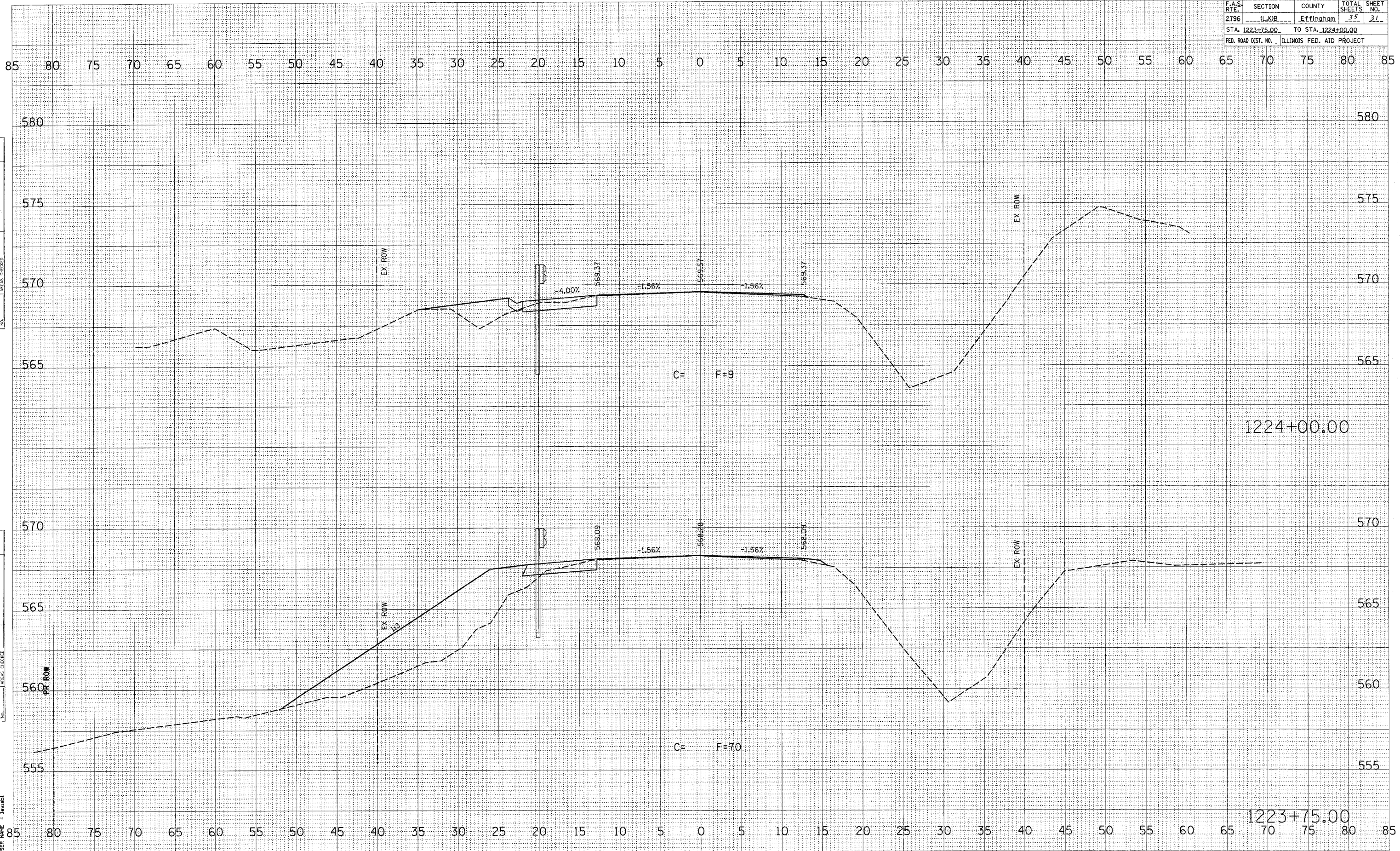
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BY	
FINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	

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1223+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	1.01B	Efingham	35	31
STA. 1223+75.00		TO STA. 1224+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DATE _____
 BY _____
 SURVEYED _____
 FINAL SURVEY _____
 NOTE BOOK _____
 NO. _____

DATE _____
 BY _____
 SURVEYED _____
 ORIGINAL SURVEY _____
 NOTE BOOK _____
 NO. _____

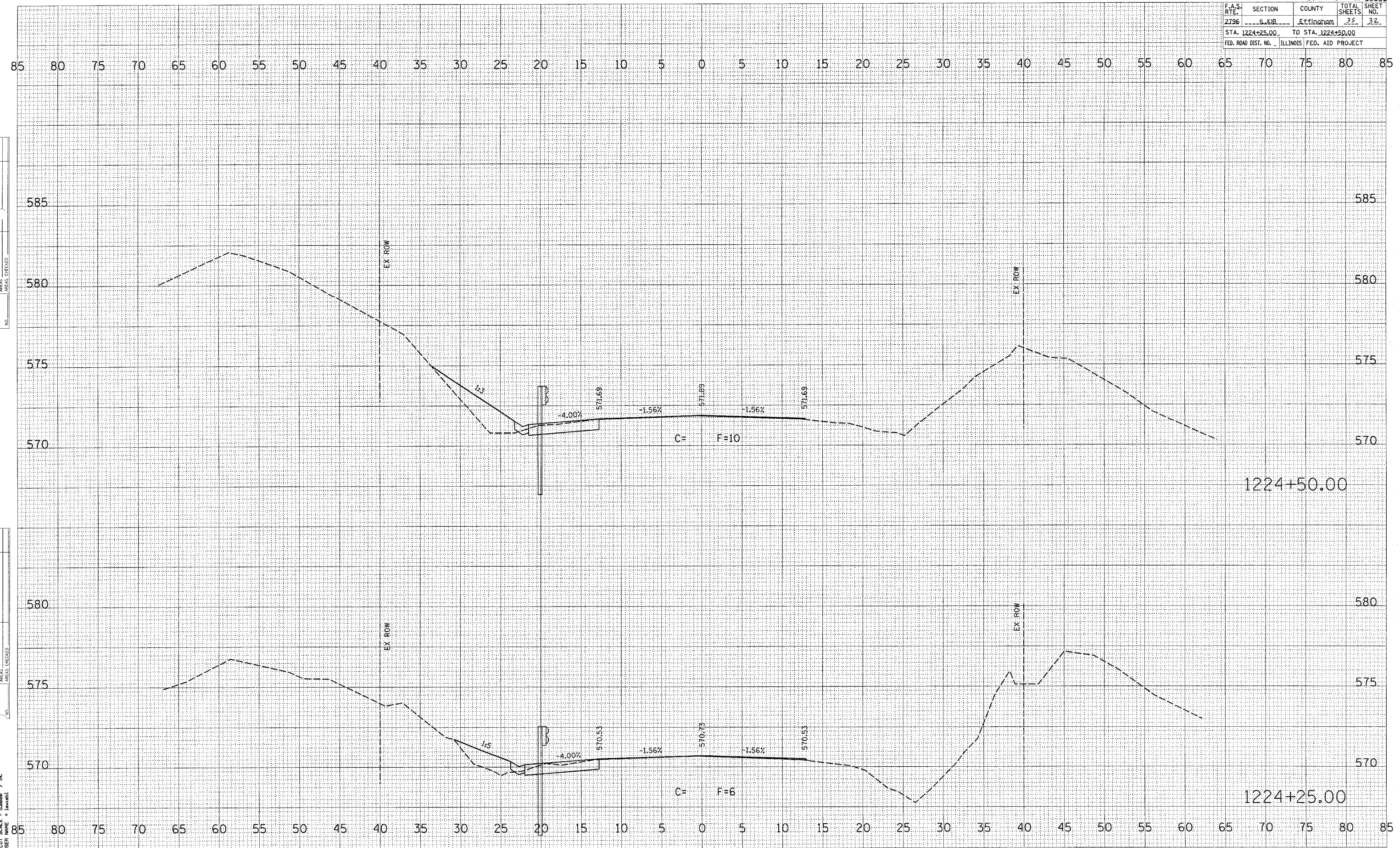
PLOT DATE = 10/27/2006
 FILE NAME = c:\pws\msta\94942a\010224.m32
 PLOT SCALE = 5.0000' / IN.
 USER NAME = jwraab1

CONTRACT NO. 94942			
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS
2796	L&R	Efingham	35
STA. 1224+25.00		TO STA. 1224+50.00	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

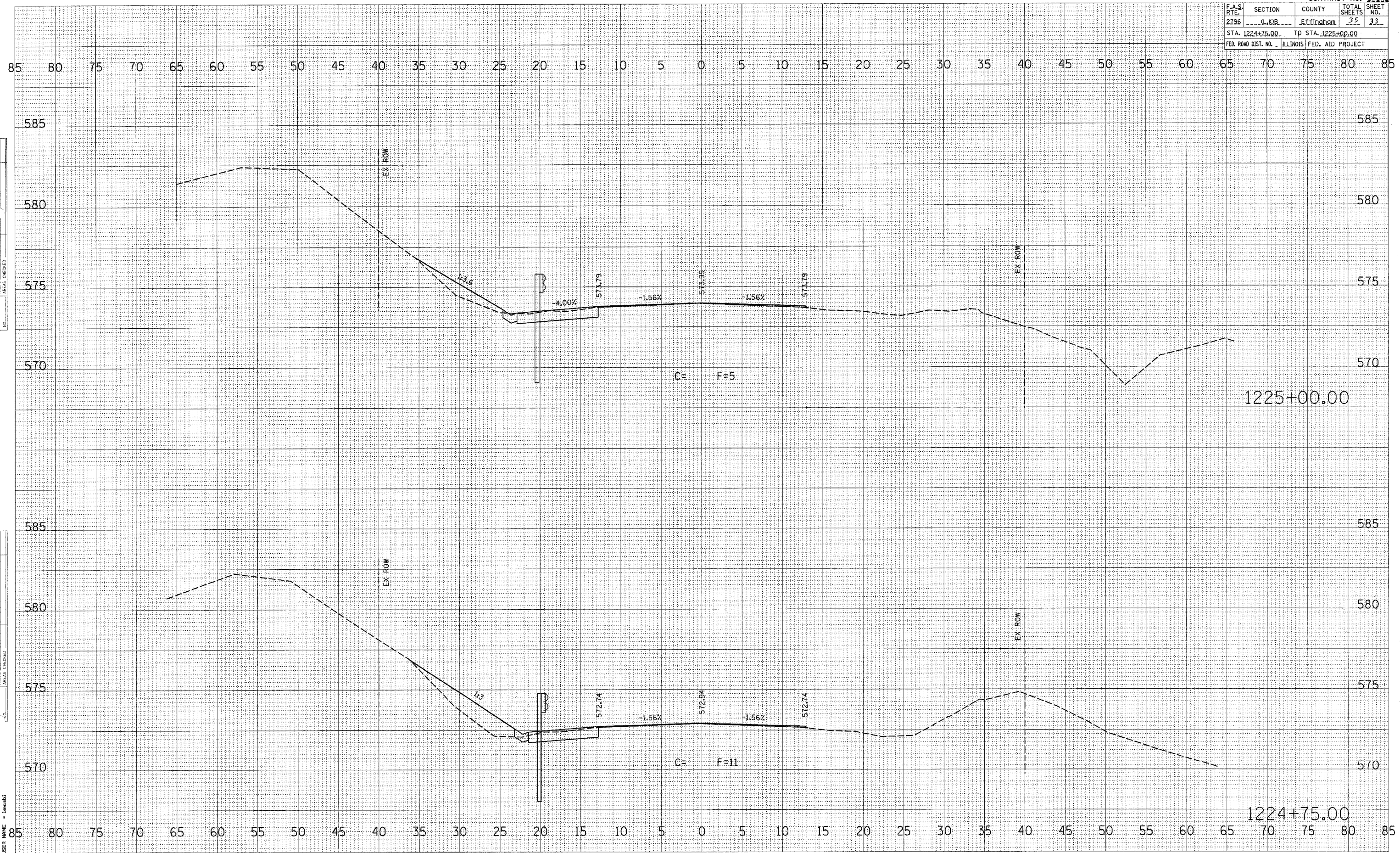
BY	DATE
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	AREAS CHECKED

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

PLOT DATE = 10/27/2006
 PLOT SCALE = 5/8" = 1' IN.
 USER NAME = jmrab1



CONTRACT NO. 94942				
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	0.81B	Efingham	35	33
STA. 1224+75.00		TO STA. 1225+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



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

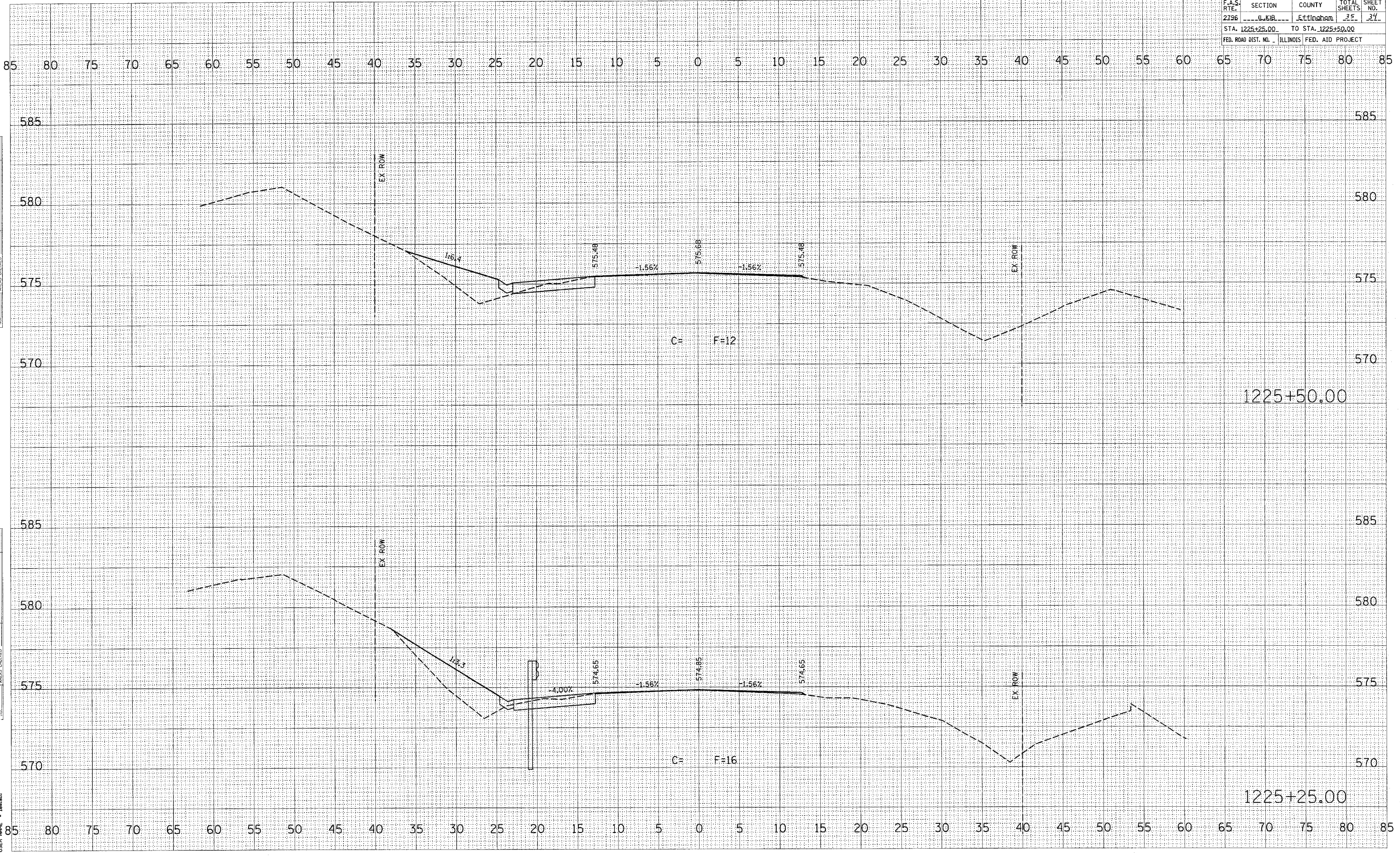
ORIGINAL SURVEYED BY DATE
 SURVEYED BY DATE
 NOTE BOOK NO.
 TEMPLATE NO.
 AREAS CHECKED

PLOT DATE = 10/27/2006
 FILE NAME = c:\p\proj\14942\100231.m32
 PLOT SCALE = 5.0000 / 1" = 100'
 USER NAME = jtwr151

DATE: _____ BY: _____
 SURVEYED: _____
 PLOTTED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

DATE: _____ BY: _____
 SURVEYED: _____
 PLOTTED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

PLOT DATE = 10/27/2006
 PLOT SCALE = 5/8" = 100'
 USER NAME = jwstabi



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2796	L&RB	Effingham	35	35
STA. 1225+75.00		TO STA. 1226+00.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

FINAL SURVEY	DATE
CONVERTED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

ORIGINAL SURVEY	DATE
CONVERTED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

PLOT DATE = 10/27/2006
 FILE NAME = c:\proj\p06\14942\101002.dwg
 PLOT SCALE = 5/8" = 1' / IN.
 USER = jw

