

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	1
FRIENDS CREEK TOWNSHIP ILLINOIS		CONTRACT NO. 95777		

**INDEX OF SHEETS**

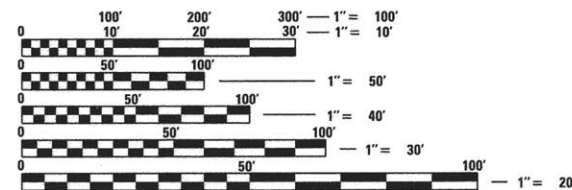
- 1 COVER SHEET
- 2 GENERAL NOTES, SUMMARY OF QUANTITIES AND RATES OF APPLICATION
- 3 SCHEDULE OF QUANTITIES
- 4 ROADWAY TYPICAL SECTIONS
- 5 PLAN AND PROFILE
- 6 GRADING PLAN
- 7-16 SN 058-3400 STRUCTURE PLANS
- 17-31 CROSS SECTIONS

**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATES FOR BRIDGES
- 630001-10 STEEL PLATE BEAM GUARDRAIL
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 701901-05 TRAFFIC CONTROL DEVICES
  - 725001 OBJECT AND TERMINAL MARKERS
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

**UTILITIES**

ELECTRIC: AMEREN ILLINOIS



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

HLC PROJECT NO. 5845  
HLC FIELD BOOK NO. 506  
CONTRACT NO. 95777

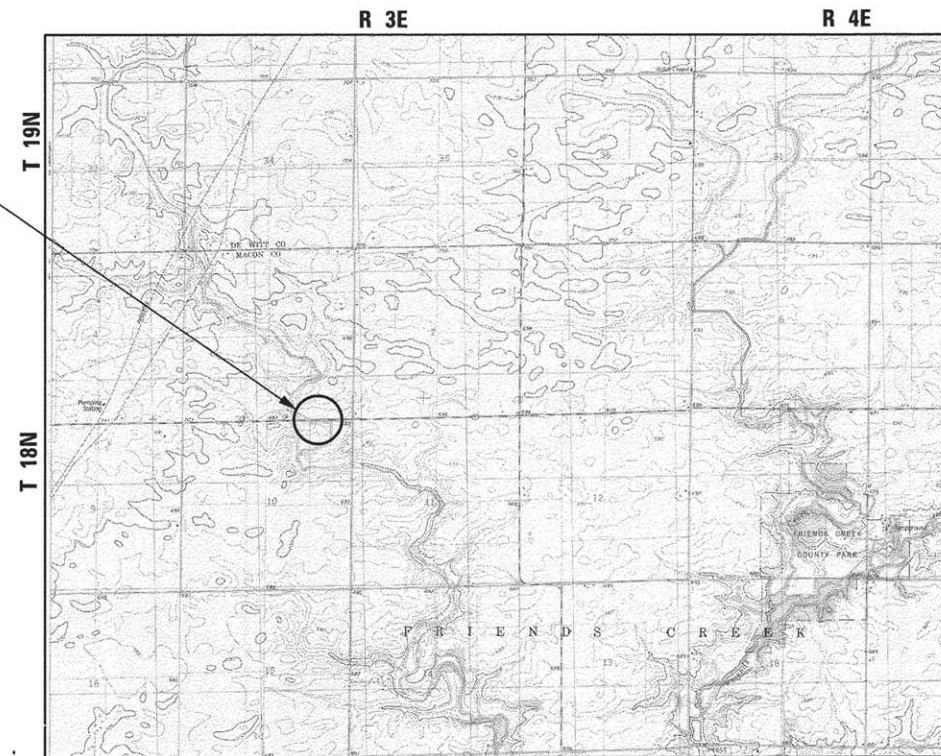


*Alex C. Benz*  
ALEX C. BENZ, P.E.  
LICENSE EXPIRES 11/30/17

5/11/16  
DATE

PLANS FOR PROPOSED  
SURFACE TRANSPORTATION /  
BRIDGE PROGRAM

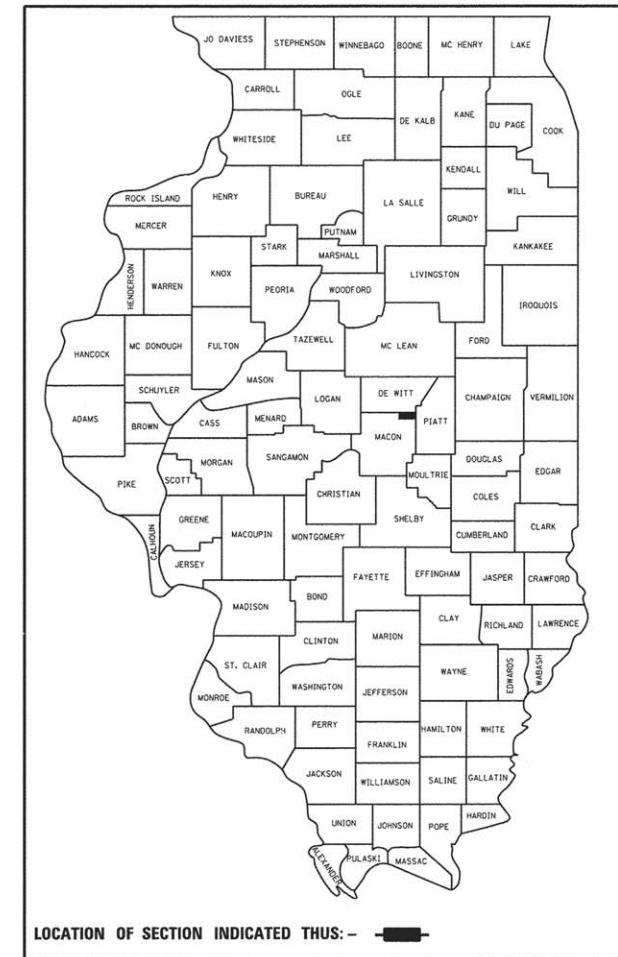
FAS 548A (CH 38) OVER TRIBUTARY TO FRIENDS CREEK  
MACON COUNTY  
SECTION 12-00246-00-BR  
PROJECT BRS-0548(105)  
JOB C-97-047-14



3RD PM  
LOCATION MAP

TOTAL LENGTH = 450 FT. = 0.09 MILE  
NET LENGTH = 450 FT. = 0.09 MILE

THE PROPOSED IMPROVEMENT CONSISTS OF REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM (33" DEPTH) BRIDGE, PILE BENT ABUTMENTS, 27'-0" CLEAR ROADWAY AND 78'-6 1/2" BACK TO BACK ABUTMENTS, 45 DEGREE SKEW, AND OTHER MINOR COLLATERAL WORK.



FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR (RURAL)  
2014 ADT = 325  
DESIGN SPEED = 40 MPH

APPROVED May 18 20 16  
*John N. B.*  
COUNTY ENGINEER

PASSED 5/26 20 16  
*Margaret E. Kestler*  
DISTRICT SEVEN ENGINEER OF  
LOCAL ROADS AND STREETS

Releasing For  
Bid Based on  
Limited Review 5/26 20 16  
*Jeffrey M. Douthett*  
REGION FOUR ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS  
DECATUR (217) 422-8544  
SCHAUMBURG (773) 714-0050  
ROCKFORD (815) 489-0050  
184-001397

**SUMMARY OF QUANTITIES**

Code Number	Pay Item	Unit	Total
20100210	Tree Removal (Over 15 Units Diameter)	Units	90
20200100	Earth Excavation	Cu. Yd.	211
20300100	Channel Excavation	Cu. Yd.	859
20400800	Furnished Excavation	Cu. Yd.	144
25100630	Erosion Control Blanket	Sq. Yd.	230
28000400	Perimeter Erosion Barrier	Foot	742
28100207	Stone Riprap, Class A4	Ton	383
28200200	Filter Fabric	Sq. Yd.	574
30200650	Processing Modified Soil 12"	Sq. Yd.	926
30201700	Portland Cement	Ton	40
40701841	Hot-Mix Asphalt Pavement (Full Depth), 8"	Sq. Yd.	830
48101200	Aggregate Shoulders, Type B	Ton	106
50100100	Removal of Existing Structures	Each	1
50200100	Structure Excavation	Cu. Yd.	82
50300225	Concrete Structures	Cu. Yd.	36.8
50300260	Bridge Deck Grooving	Sq. Yd.	212
50300300	Protective Coat	Sq. Yd.	230
50400605	Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2070
50800205	Reinforcement Bars, Epoxy Coated	Pound	8600
Δ 50901050	Steel Railing, Type SM	Foot	154
51200957	Furnishing Metal Shell Piles 12" x 0.250"	Foot	242
51202305	Driving Piles	Foot	242
51203200	Test Pile Metal Shells	Each	1
51500100	Name Plates	Each	1
59300100	Controlled Low-Strength Material	Cu. Yd.	47
Δ 63000001	Steel Plate Beam Guardrail, Type A, 6 Foot Posts	Foot	79
Δ 63100075	Traffic Barrier Terminal, Type 5A	Each	2
Δ 63100167	Traffic Barrier Terminal, Type 1 (Special) Tangent	Each	2
Δ 63200310	Guardrail Removal	Foot	141
67100100	Mobilization	L Sum	1
70101830	Traffic Control and Protection, Standard BLR 21	L Sum	1
Δ 78201000	Terminal Marker - Direct Applied	Each	4
X2501000	Seeding, Class 2 (Special)	Acre	0.5
X5030305	Concrete Wearing Surface, 5"	Sq. Yd.	230

Δ SPECIALTY ITEMS

MIX DESIGN INFORMATION		
* MIXTURE USE(S)	6" HMA BINDER	2" HMA SURFACE
PG	PG 64-28	PG 64-28
DESIGN AIR VOIDS	4.0 % @ Ndes = 50	4.0 % @ Ndes = 50
MIX COMP (GRADATION)	IL 19.0	IL 9.5
FRICITION AGGREGATE	MIX C	MIX C

\* PAID FOR AS HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 8"

**RATES OF APPLICATION**

ITEMS	RATE OF APPLICATION
AGGREGATE SHOULDERS	= 2.05 TONS/ CU YD
RIPRAP	= 1.5 TONS/ CU YD
PORTLAND CEMENT	= 8% BY WEIGHT

**GENERAL NOTES**

WHEREVER IN THE PLANS OR SPECIFICATIONS THE TERM STANDARD SPECIFICATIONS IS USED, IT SHALL BE UNDERSTOOD BY THE CONTRACTOR TO MEAN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS PREPARED BY THE DEPARTMENT OF TRANSPORTATION OF THE STATE OF ILLINOIS AND ADOPTED APRIL 1, 2016.

EXISTING ROAD SIGNS THAT CONFLICT WITH CONSTRUCTION OPERATIONS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE CONTRACT PAY ITEMS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR.

EXCEPT WHERE DESIGNATED OTHERWISE, THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS & MUST BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES. CONTACT J.U.L.I.E., PHONE 800-892-0123, AND ALL UTILITY COMPANIES PRIOR TO DIGGING.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION OPERATIONS.

THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PROTECT PUBLIC AND PRIVATE PROPERTY. IF AT ANY TIME THE CONTRACTOR DAMAGES OR DESTROYS PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, RESTORE SUCH PROPERTY TO A CONDITION EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE.

THE CONTRACTOR SHALL NOTIFY THE MACON COUNTY HIGHWAY DEPARTMENT RESIDENT ENGINEER AND THE COUNTY ENGINEER 72 HOURS IN ADVANCE OF CONSTRUCTION WORK.

UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES AT THE TIME OF CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THEY PERFORM THEIR WORK.

GRADING SHALL BE DONE BY HAND AROUND LIGHTS POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES OR OTHER NATURAL OR MAN-MADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THE ITEMS. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

TEMPORARY EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS SHOWN IN THE PLAN AND PROFILE AND AS DIRECTED BY THE ENGINEER.

SEEDING SHALL BE DONE ON ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED RIGHT-OF-WAY LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMIT SHALL BE SEEDDED AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

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USER NAME =	DESIGNED - AB	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>GENERAL NOTES, SUMMARY OF QUANTITIES AND RATES OF APPLICATION</b>	F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 2
PLOT SCALE =	CHECKED - AB	REVISED -				FRIENDS CREEK TOWNSHIP		CONTRACT NO. 95777		
PLOT DATE =	DATE - 6/2015	REVISED -				PROJECT 5845		ILLINOIS FED. AID PROJECT		
						SCALE:	SHEET NO. OF SHEETS	STA. TO STA.		

EARTHWORK SCHEDULE					
LOCATION	1	2	3	4	5
	20200100 EARTH EXCAVATION  ( CU YD)	20300100 CHANNEL EXCAVATION  ( CU YD)	*EXCAVATION TO BE USED IN EMBANKMENT ( ADJUSTED FOR SHRINKAGE) ( COL 1 + COL 2 ) X 0.75 ( CU YD)	*EMBANKMENT ( FILL)  ( CU YD)	20400800 FURNISHED EXCAVATION ( COL 4 - COL 3) ( CU YD)
8+00.00 to 12+50.00	211	859	802	946	144
TOTAL	211	859	802	946	144

EARTH EXCAVATION SHRINKAGE FACTOR ASSUMED TO BE 25%

ITEMS MARKED WITH AN ASTERISK (\*) ARE FOR INFORMATIONAL PURPOSES ONLY

GUARDRAIL REMOVAL			
			63200310 GUARDRAIL REMOVAL
STATION	LT/RT	STATION	FOOT
9+60.00	L+	9+90.00	30
9+97.00	R+	10+35.00	38
10+74.00	L+	11+12.00	38
11+18.00	R+	11+53.00	35
TOTAL			141

EROSION CONTROL SCHEDULE					
				25100630 EROSION CONTROL BLANKET	28000400 PERIMETER EROSION BARRIER
STATION	TO	STATION	LT/RT	SQ YD	FOOT
8+00.00		9+83.23	LT		183
8+00.00		10+03.23	RT		203
9+50.00		9+81.23	LT	54	
9+83.23		10+22.83	RT	83	
10+50.38		10+81.77	LT	77	
10+61.77		12+50.00	LT		188
10+81.77		12+50.00	RT		168
10+83.77		11+00.00	RT	16	
11+00.00			LT		
12+00.00			LT		
TOTAL				230	742

SEEDING SCHEDULE			
			X2501000 SEEDING, CLASS 2 ( SPECIAL)
STATION	LT/RT	STATION	ACRE
8+00.00	LT	9+83.23	0.04
8+00.00	RT	10+03.23	0.05
10+03.23	RT	10+81.77	0.03
10+61.77	LT	12+50.00	0.08
10+81.77	RT	12+50.00	0.13
TOTAL			0.33
ROUNDED TOTAL			0.50

PAVING SCHEDULE						
		30200650 PROCESSING MODIFIED SOIL 12"	40701841 HOT-MIX ASPHALT PAVEMENT ( FULL DEPTH), 8"	48101200 AGGREGATE SHOULDERS, TYPE B		
STATION	LT/RT	STATION	SO YD	SO YD	TON	
8+00.00	LT	9+83.23			26	
8+00.00	LT/RT	10+03.23	481	431		
8+00.00	RT	10+06.03			29	
10+58.97	LT	12+50.00			27	
10+61.77	LT/RT	12+50.00	445	399		
10+81.77	RT	12+50.00			24	
TOTAL			926	830	106	

TREE REMOVAL SCHEDULE			
			20100210 TREE REMOVAL ( OVER 15 UNITS DIAMETER)
STATION	O/S		UNITS
10+63.0	55.4 RT		18
10+96.6	80.1 RT		36
11+15.4	81.1 RT		36
TOTAL			90

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PLOT DATE =	DATE - 6/2015	REVISED -

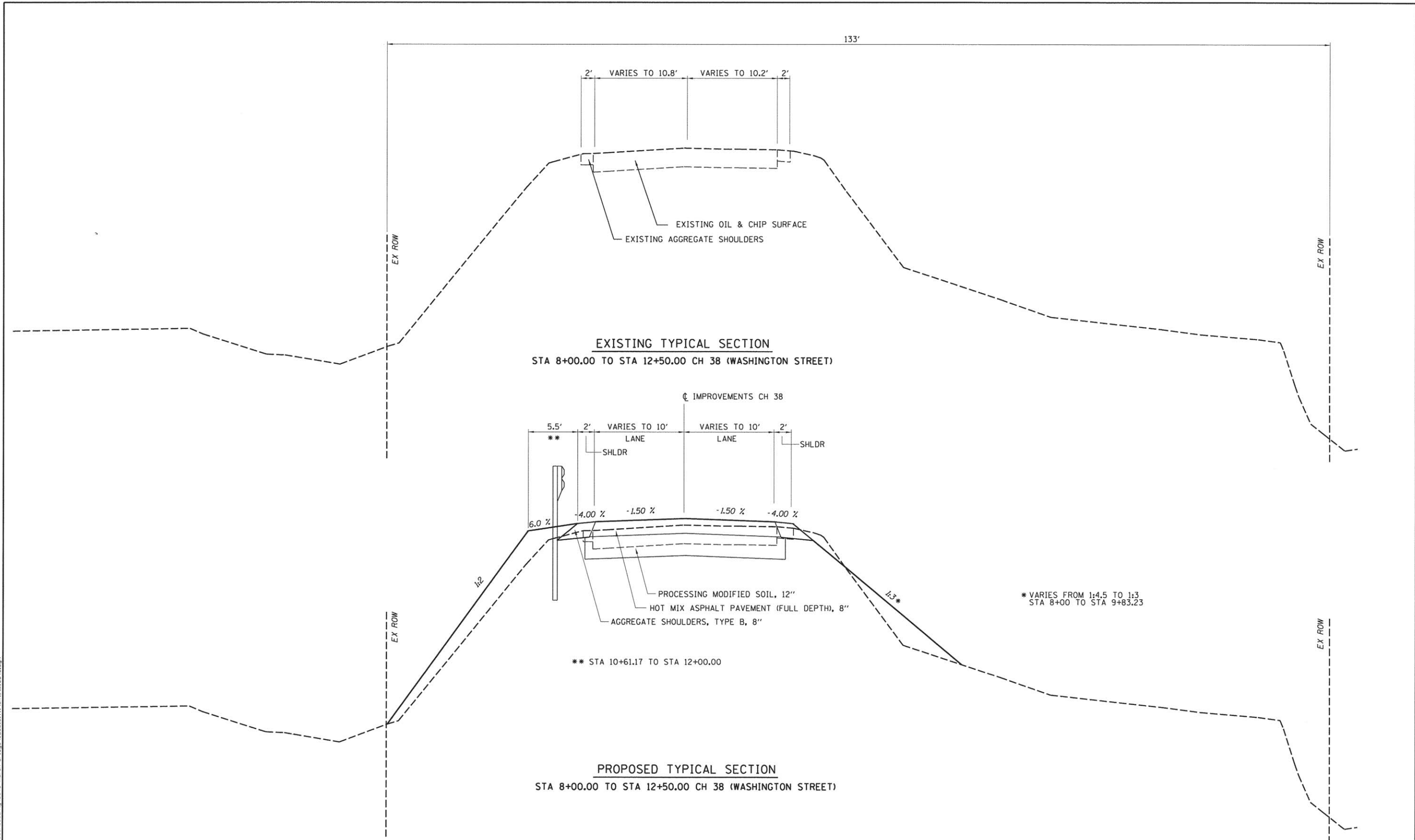
**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS

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SCHAUMBURG (773) 714-0050  
ROCKFORD (815) 489-0050  
184-001397

**SCHEDULE OF QUANTITIES**

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	3
FRIENDS CREEK TOWNSHIP		CONTRACT NO. 95777		
PROJECT 5845		ILLINOIS FED. AID PROJECT		

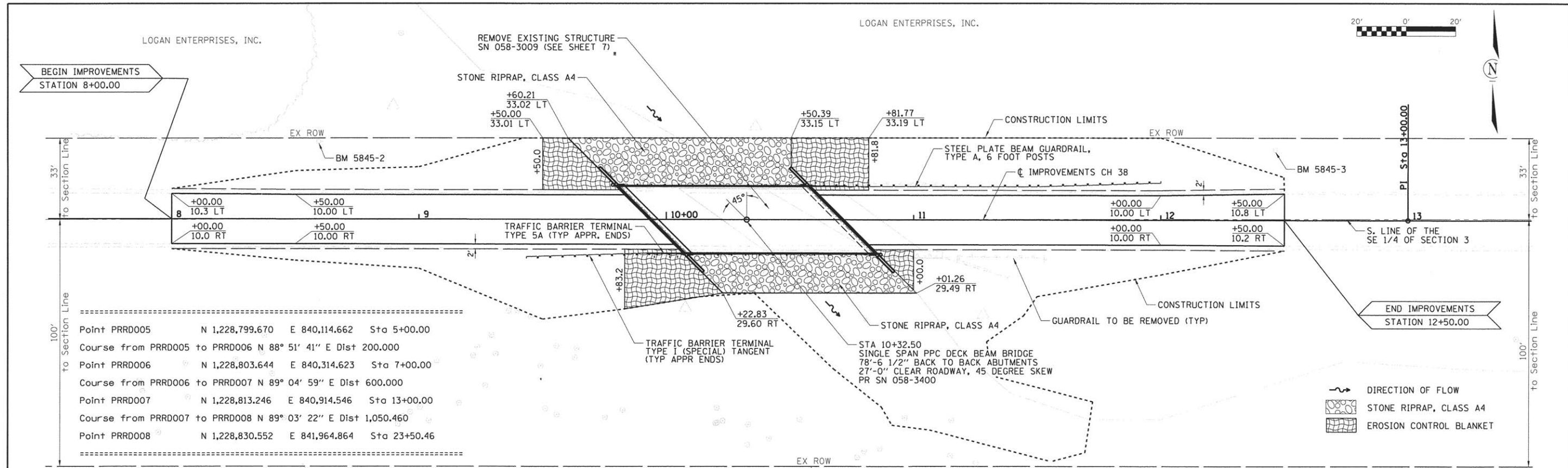


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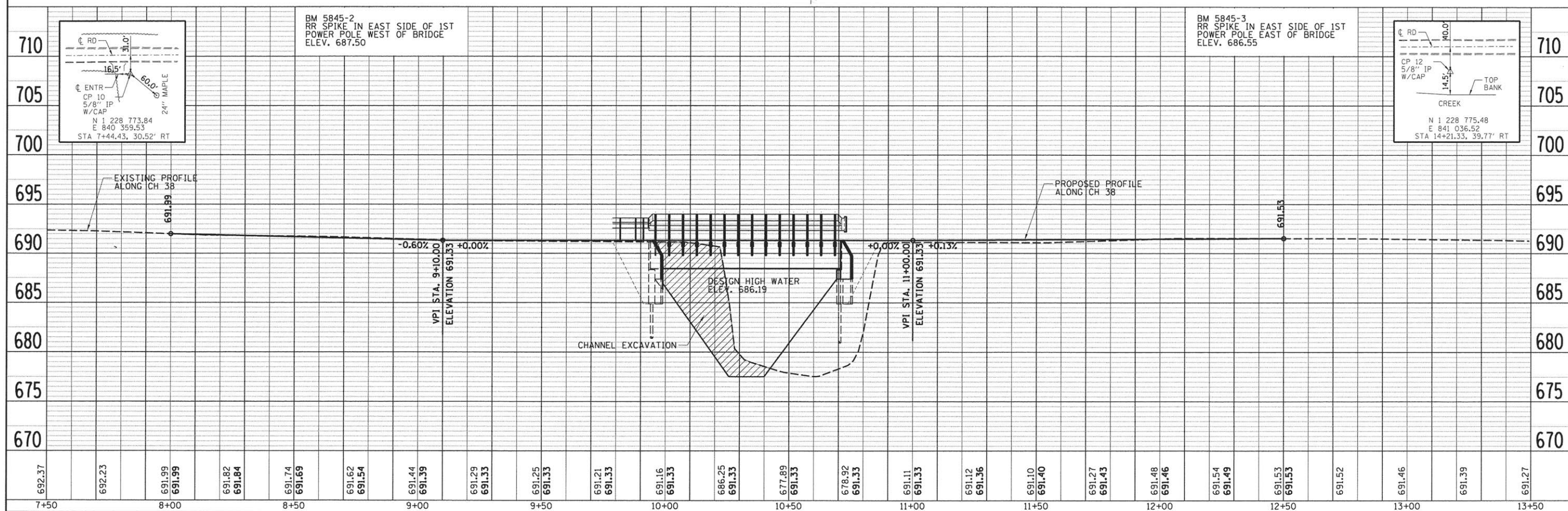
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.												
548A	12-00246-00-BR	MACON	31	4												
FRIENDS CREEK TOWNSHIP PROJECT 5845 ILLINOIS FED. AID PROJECT <b>CONTRACT NO. 95777</b>																

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	DATE	
	FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	DATE	
	FILE NAME	



Point PRRD005 N 1,228,799.670 E 840,114.662 Sta 5+00.00  
 Course from PRRD005 to PRRD006 N 88° 51' 41" E Dist 200.000  
 Point PRRD006 N 1,228,803.644 E 840,314.623 Sta 7+00.00  
 Course from PRRD006 to PRRD007 N 89° 04' 59" E Dist 600.000  
 Point PRRD007 N 1,228,813.246 E 840,914.546 Sta 13+00.00  
 Course from PRRD007 to PRRD008 N 89° 03' 22" E Dist 1,050.460  
 Point PRRD008 N 1,228,830.552 E 841,964.864 Sta 23+50.46



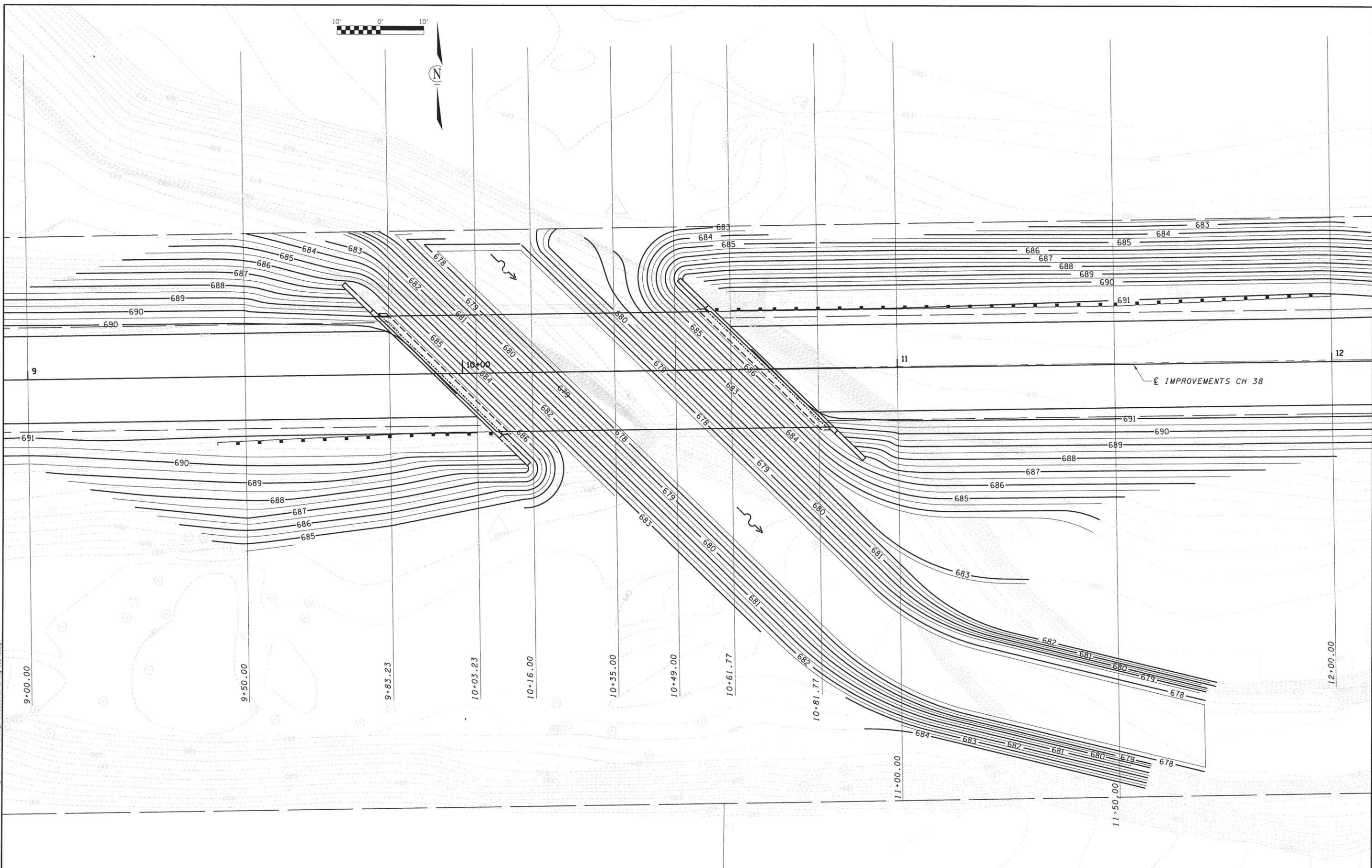
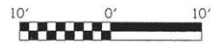
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PLOT DATE = 5/11/2016		DATE - 6/2015	REVISED -

**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS

DECATUR (217) 422-8544  
 SCHAUMBURG (773) 714-0050  
 ROCKFORD (815) 489-0050  
 184-001397

**PLAN AND PROFILE**  
 SCALE: 1"=20'  
 SHEET NO. OF SHEETS STA. 7+50.00 TO STA. 13+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	5
FRIENDS CREEK TOWNSHIP			CONTRACT NO. 95777	
ILLINOIS FED. AID PROJECT				



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	DATE - 6/2015	REVISED -

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**GRADING PLAN**  
SCALE: SHEET NO. OF SHEETS STA. TO STA.

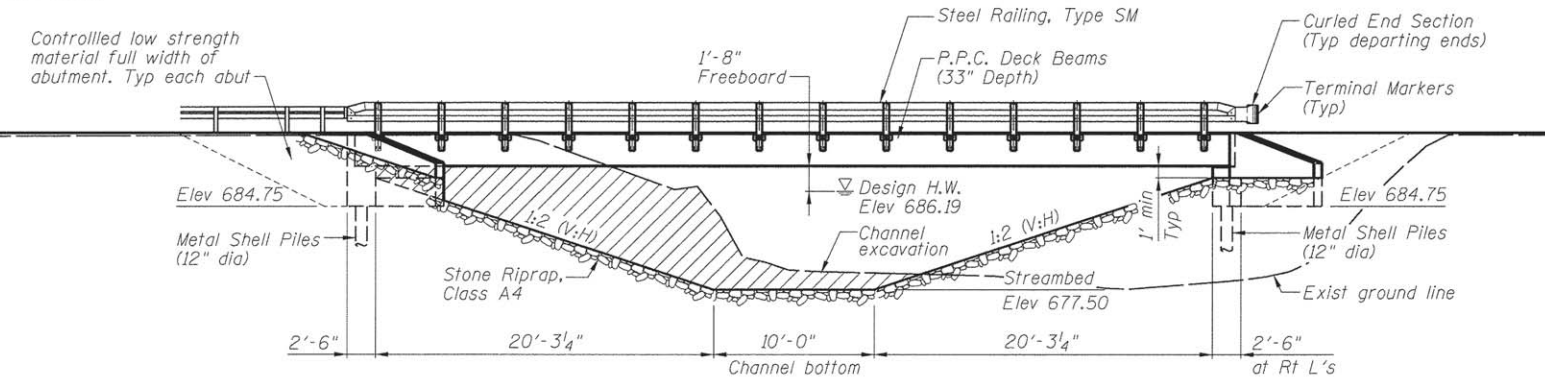
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	6
PROJECT 5845		ILLINOIS FED. AID PROJECT		
FRIENDS CREEK TOWNSHIP		CONTRACT NO. 95777		

**BENCH MARKS:**

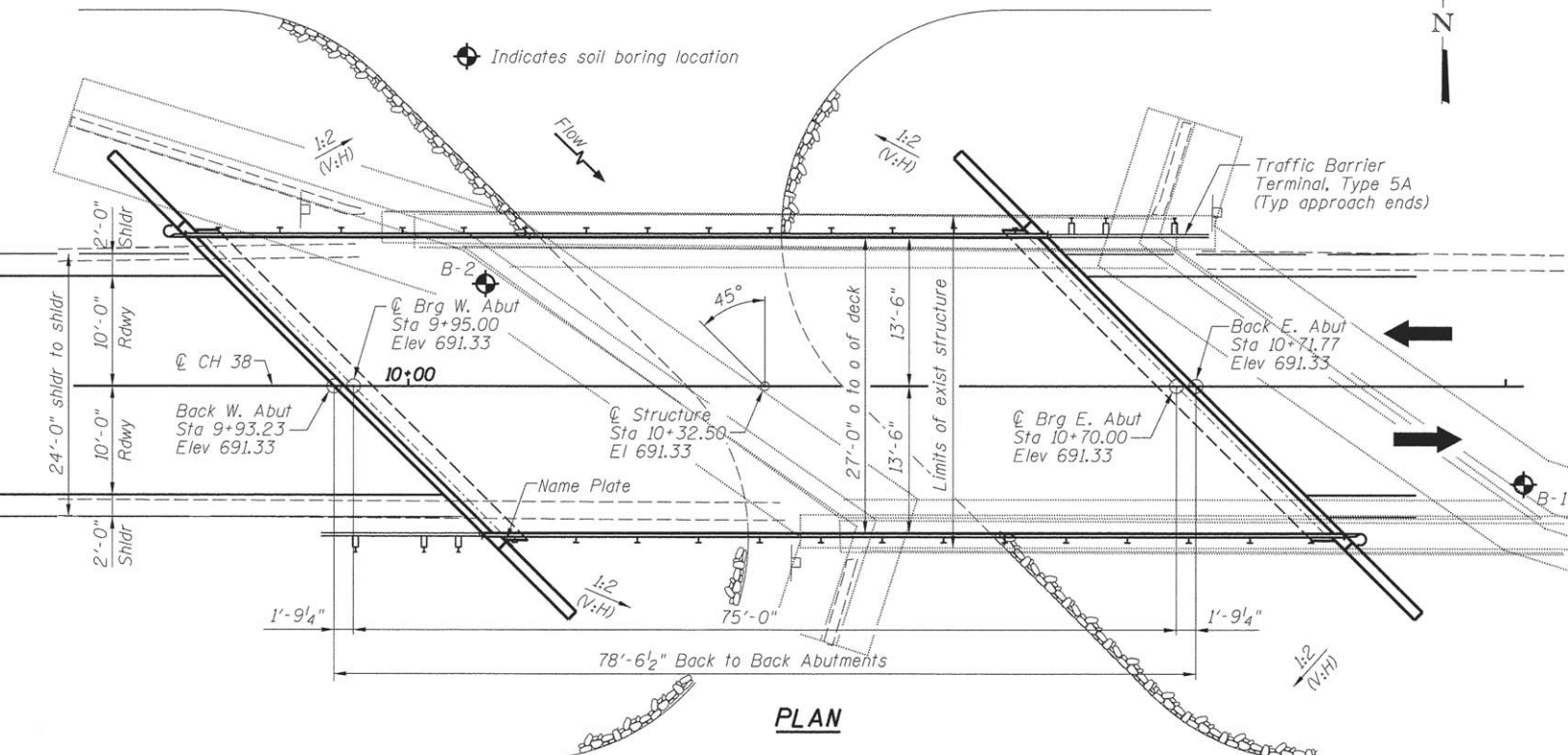
5845-2 RR spike set in east face of 1st power pole west of existing bridge. Elev. 687.50  
 5845-3 RR spike set in east face of 1st power pole east of existing bridge. Elev. 686.55

The existing bridge is a 59.0' long single span precast reinforced channel beam bridge on closed abutments. PPC Deck beams were added along each face of the bridge in 1976 to widen the bridge to 30.0 ft.

Road to be closed during construction.  
 No salvage.



**ELEVATION**

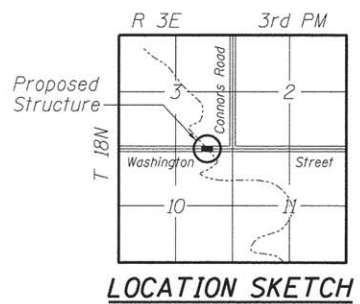


**PLAN**

**WATERWAY INFORMATION TABLE**

Flood		Q		Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater E.I.	
Freq. Yr.	C.F.S.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
10	1581	184	231	685.74	2.12	2.17	687.86	687.91			
20	1978	200	251	686.19	3.51	2.81	689.70	689.00			
100	2885	229	294	687.07	4.83	4.26	691.90	691.33			
Overlapping Existing	103	2915	229	--	687.10	4.84	--	691.94	--		
Overlapping Proposed	390	3677	--	328	687.76	--	4.55	--	692.31		
Max. Calc.	500	3839	229	333	687.86	4.64	4.86	692.50	692.72		

Drainage Area = 21.52 sq mi Existing Overtopping Elev. 691.07 @ Sta 9+50 Proposed Overtopping Elev. 691.33 @ Sta 10+00  
 10 Yr. velocity thru exist. bridge = 7.74 ft/s 10 Yr. velocity thru prop. bridge = 5.01 ft/s



**LOCATION SKETCH**

**MARSH BRIDGE OVER TRIBUTARY TO FRIENDS CREEK BUILT 20 BY MACON COUNTY SEC. 12-00246-00-BR STA. 10+32.50 STR. NO. 058-3400 LOADING HL-93**

**NAME PLATE**  
 See Std. 515001

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications 7th Edition with 2015 Interims

**DESIGN STRESSES**

**FIELD UNITS**

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

**PRECAST PRESTRESSED UNITS**

f'c = 6,000 psi  
 f'ci = 5,000 psi  
 f's = 270,000 psi (1/2" φ low-relaxation strands)  
 f'si = 202,000 psi (1/2" φ low-relaxation strands)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec (S<sub>m</sub>) = 0.100g  
 Design Spectral Acceleration at 0.2 sec (S<sub>0.2</sub>) = 0.186g  
 Soil Site Class = C

**DESIGN SCOUR ELEVATION TABLE**

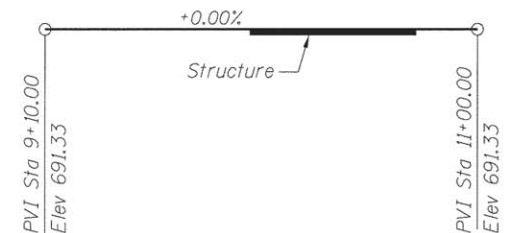
Event/Limit	Design Scour Elevations (ft.)	Item
State	W. Abut. E. Abut.	113
Q100	684.8 684.8	8
Q200	684.8 684.8	
Design	684.8 684.8	
Check	684.8 684.8	

**GENERAL NOTES:**

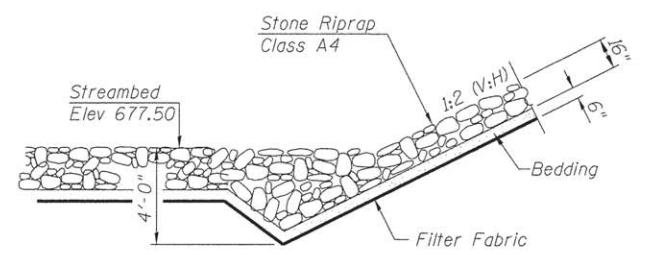
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 All Construction joints shall be bonded.  
 See Roadway Plans for channel excavation limits and quantities.  
 See Roadway Plans for additional riprap limits and quantities.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 Stream shall be diverted during the construction of the east abutment embankment.

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 Steel Railing, Type SM with Concrete Wearing Surface
- 3 Superstructure Plan and Cross Section
- 4 Superstructure Details
- 5 33"x36" PPC Deck Beam
- 6 33"x36" PPC Deck Beam Details
- 7 West Abutment Details
- 8 East Abutment Details
- 9 Metal Shell Pile Details
- 10 Soil Boring Logs



**CONSTRUCTION PROFILE**



**STONE RIPRAP ANCHOR DETAIL**

**TOTAL BILL OF MATERIAL**

Item	Unit	Quantity
Removal of Existing Structures	Each	1
Structure Excavation	Cu Yd	82
Concrete Structures	Cu Yd	36.8
Bridge Deck Grooving	Sq Yd	212
Protective Coat	Sq Yd	230
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq Ft	2070
Reinforcement Bars, Epoxy Coated	Pound	8600
Steel Railing, Type SM	Foot	154
Furnishing Metal Shell Piles 12"x 0.250"	Foot	242
Driving Piles	Foot	242
Test Pile Metal Shells	Each	1
Name Plates	Each	1
Controlled Low-Strength Material	Cu Yd	47
Terminal Marker - Direct Applied	Each	4
Concrete Wearing Surface, 5"	Sq Yd	230



Jeremy Buening, P.E., S.E.  
 License Expires 11/30/16  
 Date 11/23/15

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

FILE NAME = I:\Municipal\Users\Macon\County\5845\_Marsh\_Bridge\CADD\_Structure\1\gbl.kwd

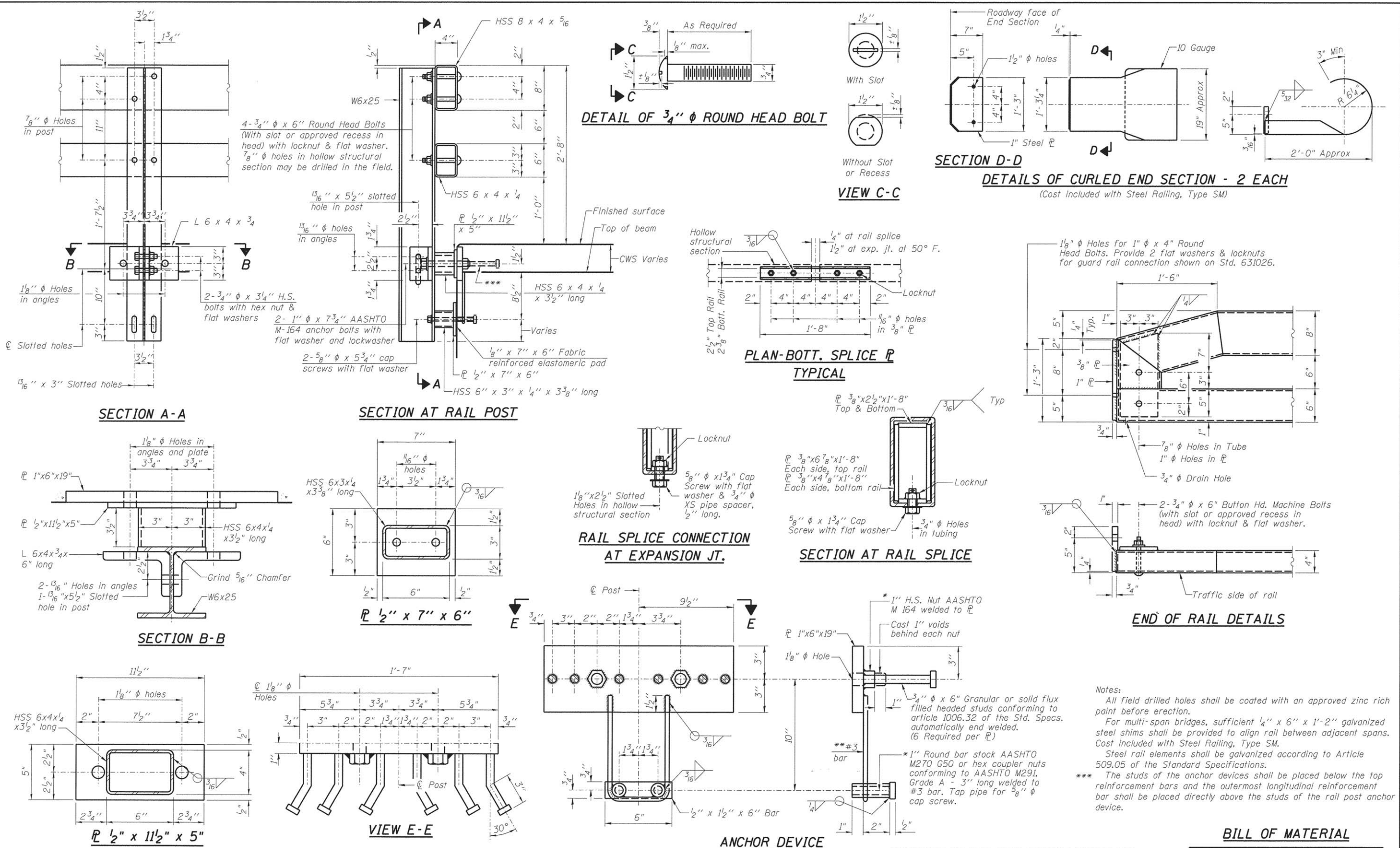
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PLOT SCALE = 8.0000 1/4" = 1'	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

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 CONSULTING ENGINEERS

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 SCHAUMBURG (773) 714-0050  
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 184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**GENERAL PLAN AND ELEVATION**  
 SCALE: SHEET NO. 1 OF 10 SHEETS STA. TO STA.

FAS RTE 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 7
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				



R-34CWS 7-1-10 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/2" maximum CWS thickness)

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

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

**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 SM.  
 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.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type SM	Foot	154

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PLOT SCALE = 1:8000' / in.	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

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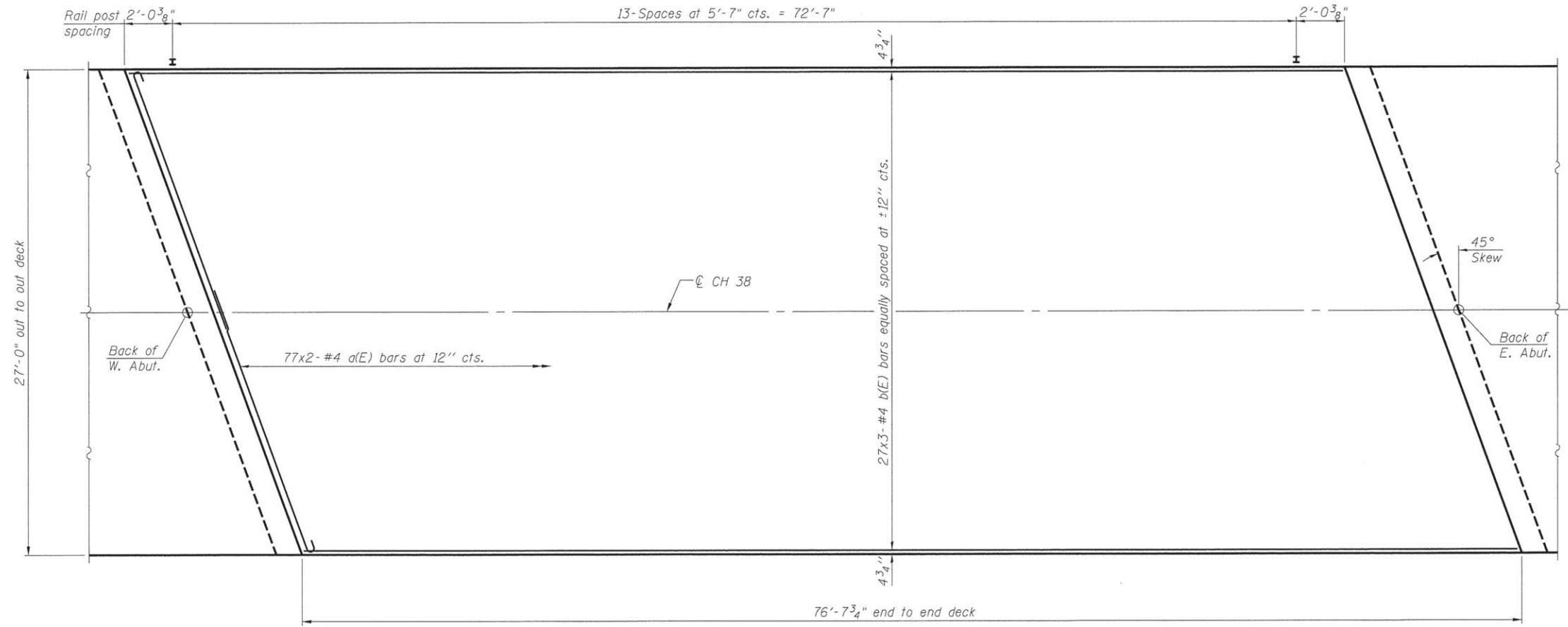
DECATUR (217) 422-8544  
 SCHAUMBURG (773) 714-0050  
 ROCKFORD (815) 489-0050  
 184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**STEEL RAILING, TYPE SM WITH CONCRETE WEARING SURFACE**

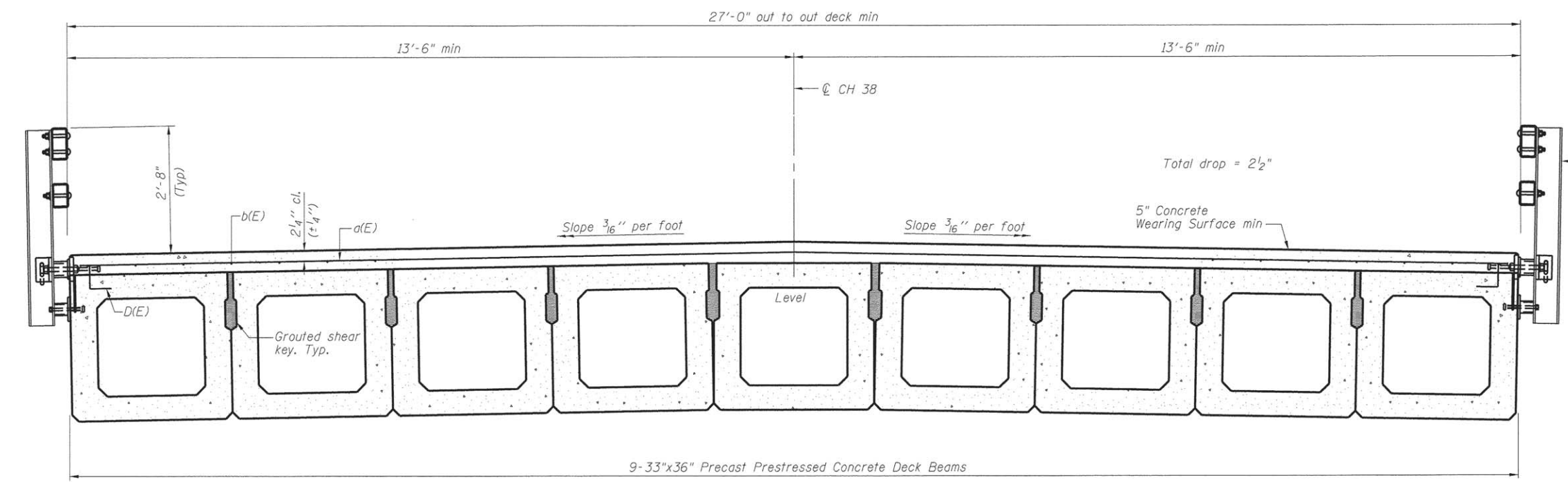
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CONTRACT 959177		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 2 OF 10 SHEETS STA. TO STA.





**PLAN**



**CROSS SECTION**  
(Looking East)

**MINIMUM BAR LAP**  
#4 bar = 2'-7"

Notes:  
See sheet 4 of 10 for Superstructure Details and Bill of Material.  
Bars indicated thus 20 x 2-#4 etc. indicates 20 lines of bars with 2 lengths per line.  
Spacing of a(E) bars shall be measured along the  $\text{CL}$  of structure.

FILE NAME: J:\Municipal\Users\Meson, County\98945 Meson, Bridge\CH38, Structure\1\updates\14.dwg

PDS-S-R34-R 7-1-10

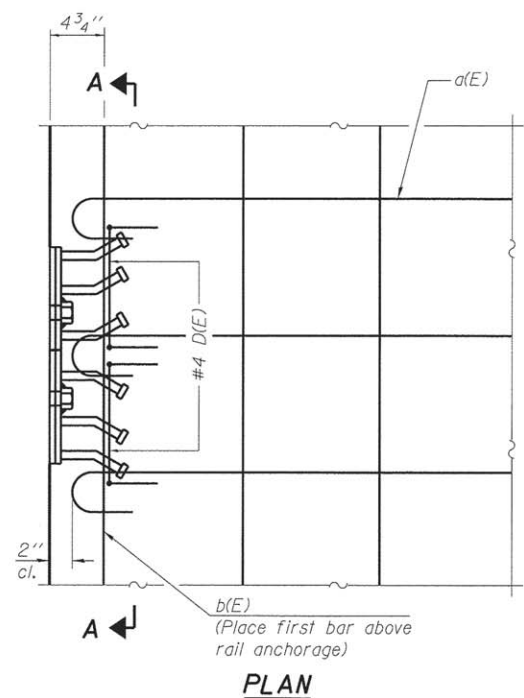
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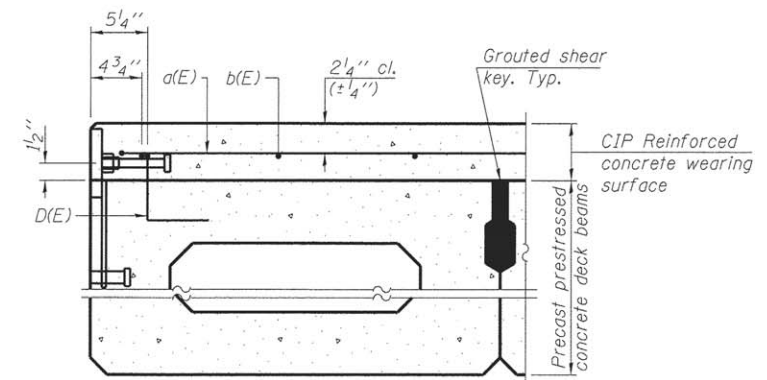
DECATUR (217) 422-8544  
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ROCKFORD (815) 489-0050  
184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**SUPERSTRUCTURE PLAN AND CROSS SECTION**  
SCALE: SHEET NO. 3 OF 10 SHEETS STA. TO STA.

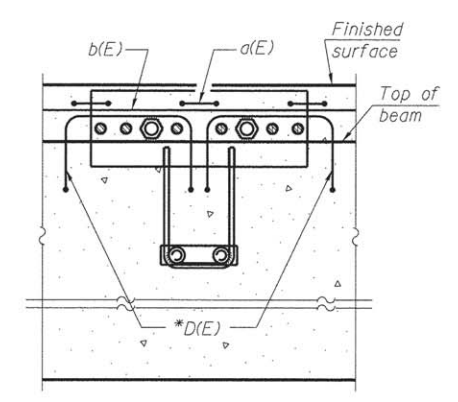
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548A	12-00246-00-BR	MACON	31	9
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				



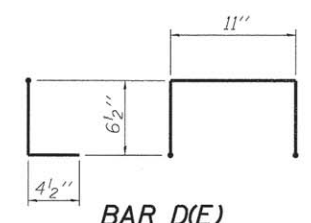
Notes:  
Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam.



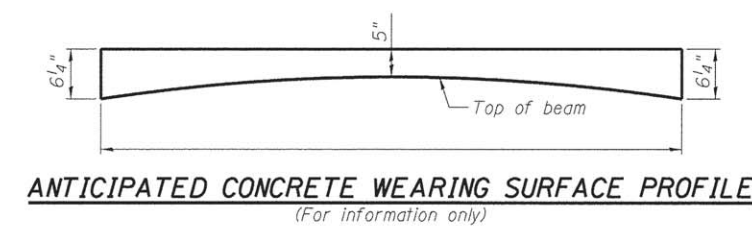
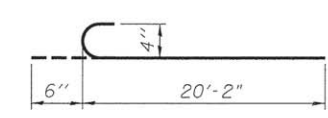
**SECTION THRU FASCIA BEAM**



**SECTION A-A**



\* Place 2- #4 D(E) bars in beam at each post location as shown. D(E) bar included in cost of beam.



**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	154	#4	20'-8"	C
b(E)	81	#4	27'-2"	—
Reinforcement Bars, Epoxy Coated		Pound	3600	
Concrete Wearing Surface, 5"		Sq. Yd.	230	
Bridge Deck Grooving Protective Coat		Sq. Yd.	230	

FILE NAME = I:\Municipal\Ipswich\Wason\County\58045 Ipswich Bridge\CD00\_Structural\superdetail.dgn

PDS-S-R34-D 1-27-12

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PLOT SCALE = 1.0000 ' / in.	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

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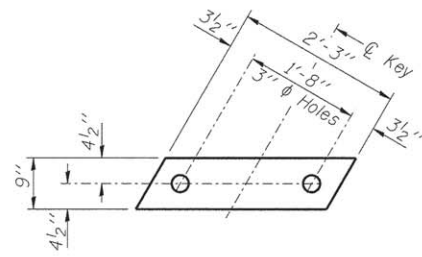
DECATUR (217) 422-8544  
SCHAUMBURG (773) 714-0050  
ROCKFORD (815) 489-0050  
184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**SUPERSTRUCTURE DETAILS**

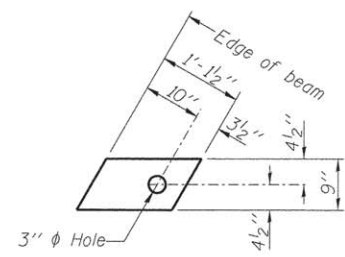
SCALE: SHEET NO. 4 OF 10 SHEETS STA. TO STA.

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	10
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				





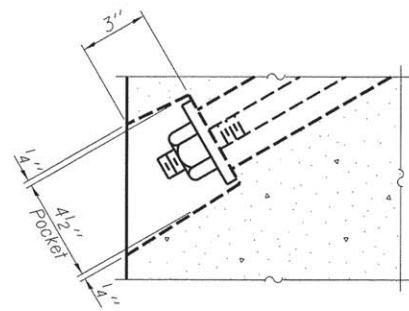
**FABRIC BEARING PAD**  
(Interior)



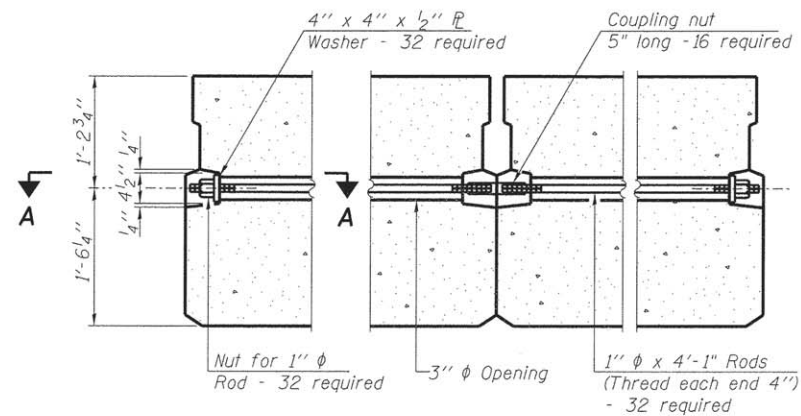
**FABRIC BEARING PAD**  
(Exterior)

**FIXED**

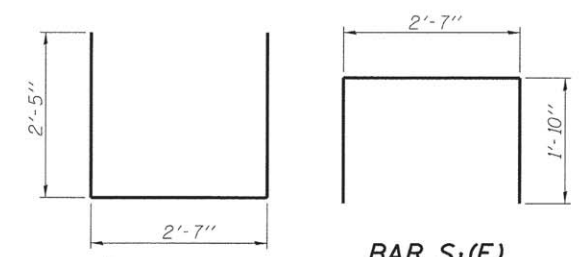
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

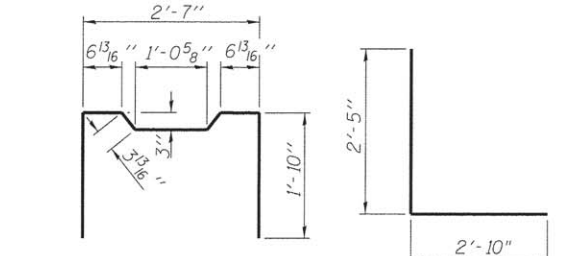


**TYPICAL TRANSVERSE TIE ASSEMBLY**



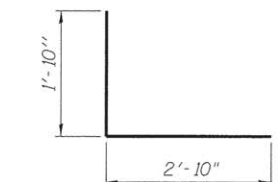
**BAR S1(E)**

**BAR S(E)**



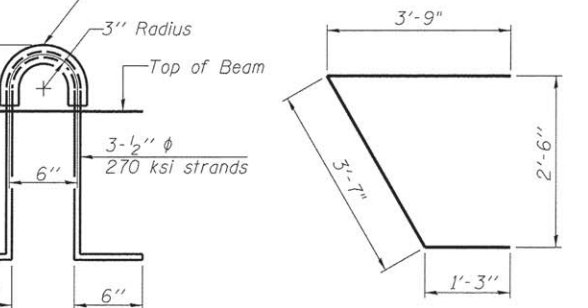
**BAR S2(E)**

**BAR S3(E)**

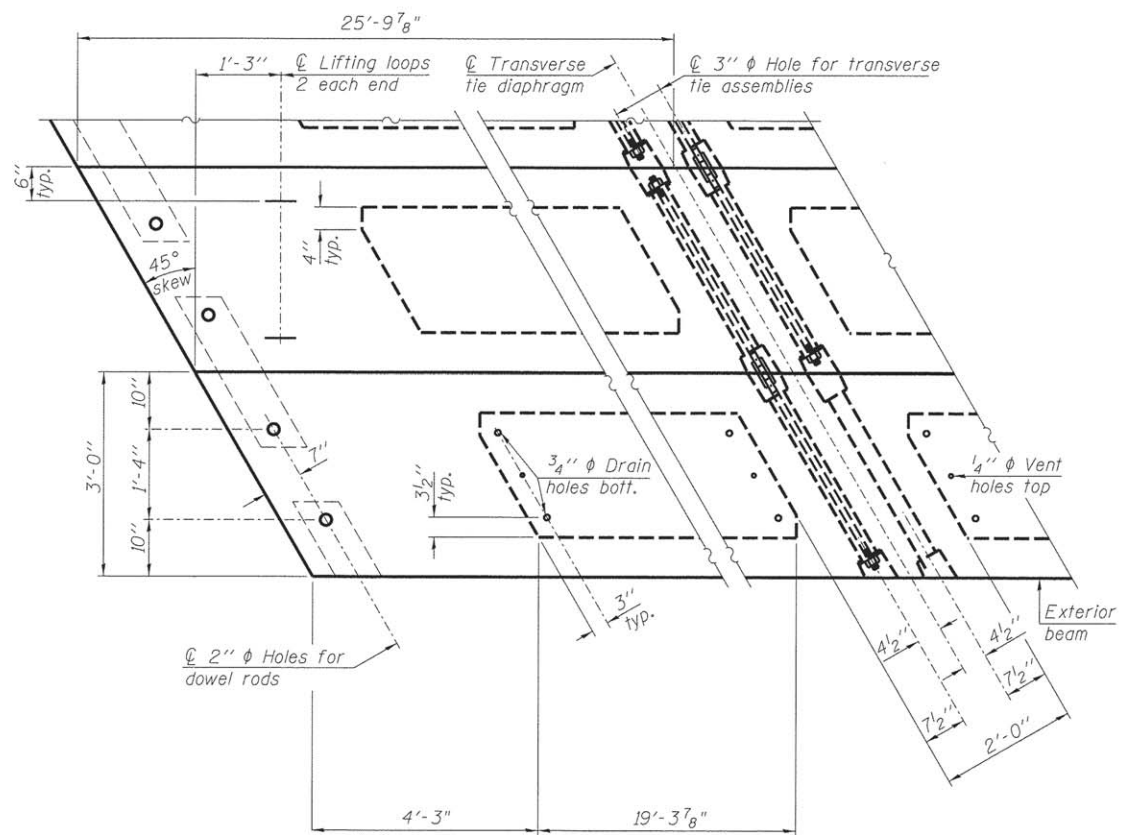


**BAR S4(E)**

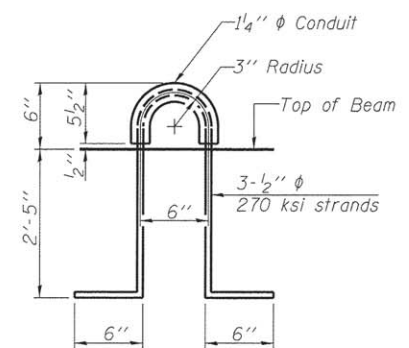
**BAR U(E)**



**BAR U1(E)**



**PLAN VIEW**



**LIFTING LOOP DETAIL**

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'cl, shall be 5000 psi.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2070
---	---------	------

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

PD-3336-RD

7-1-10

USER NAME = abenz	DESIGNED JMB	REVISED -
PLOT TIME = 9:43:50 AM	DRAWN RLK	REVISED -
PLOT SCALE = 1.0000 1/16"	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

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184-001397

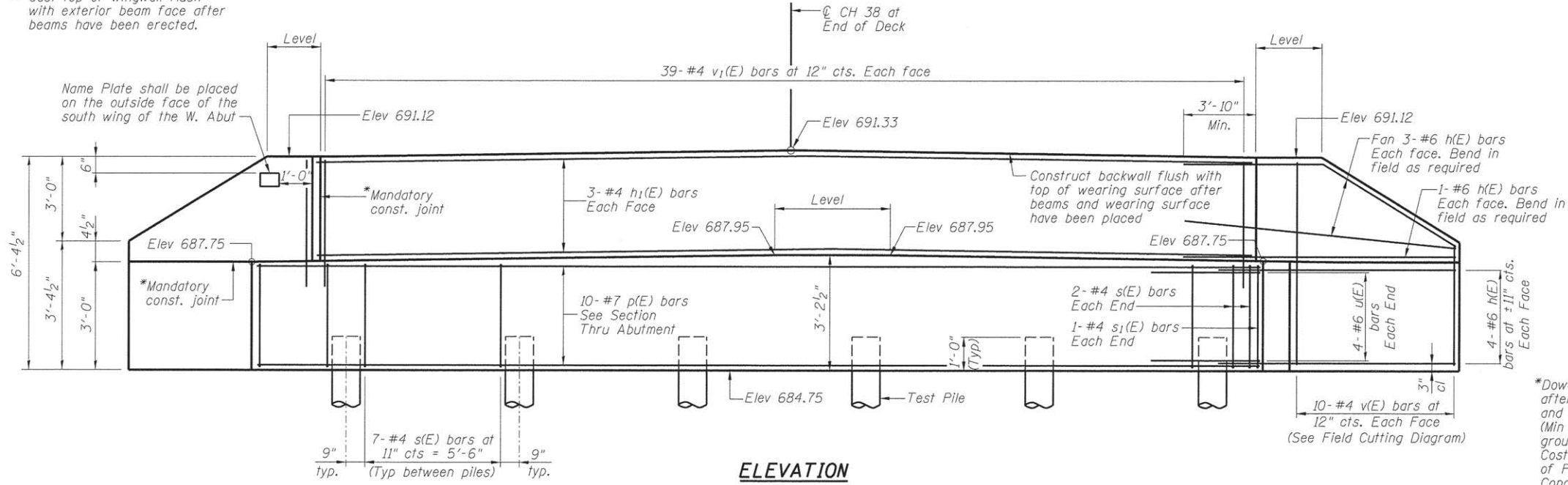
**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**33" x 36" PPC DECK BEAM DETAILS**

SCALE: SHEET NO. 6 OF 10 SHEETS STA. TO STA.

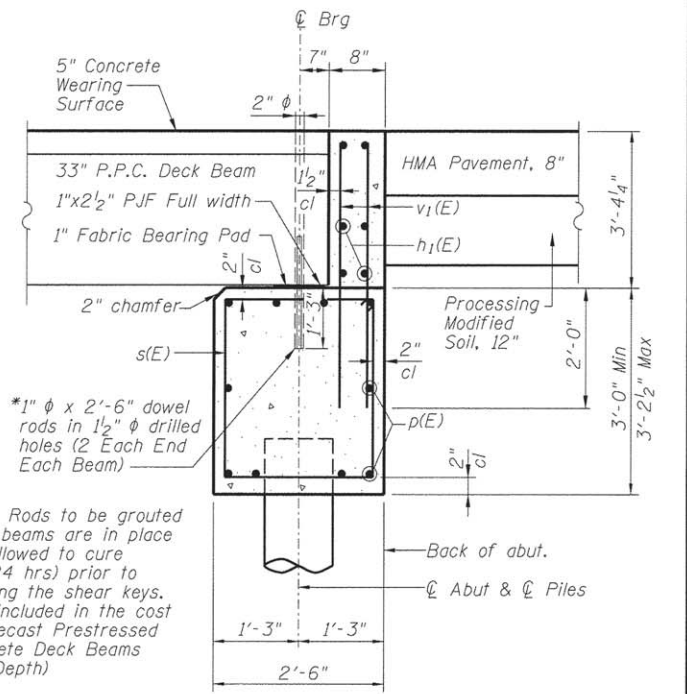
FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	12
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\Municipal\Iowa\Maccon\County\5845 Marsh Bridge\CADD\Structural\beam.dgn

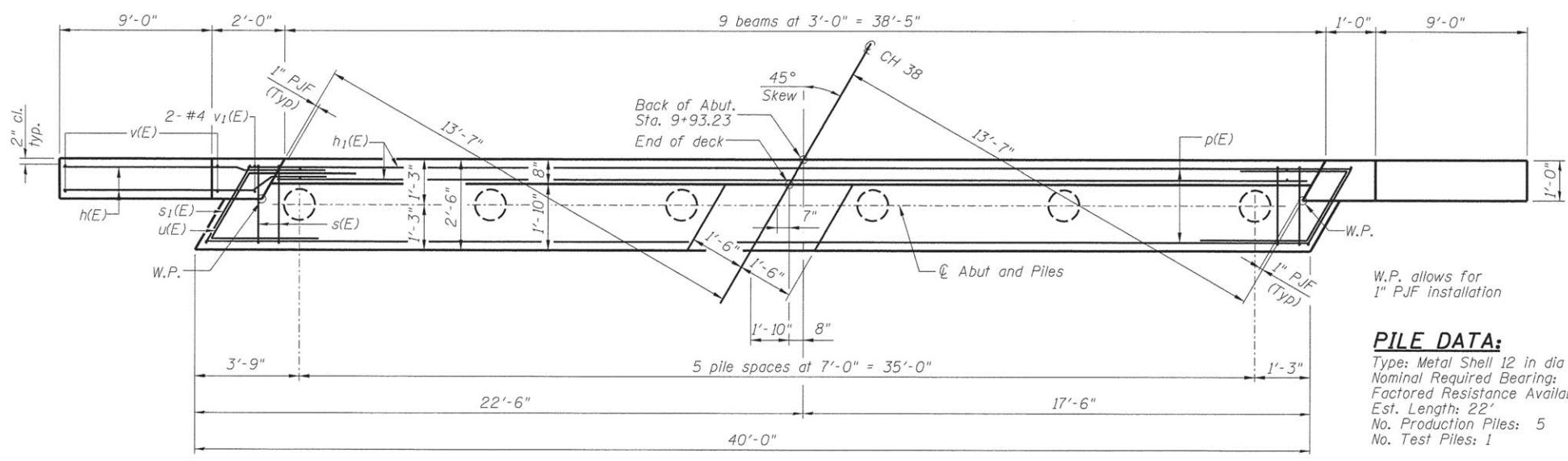
\* Cast top of wingwall flush with exterior beam face after beams have been erected.



**ELEVATION**



**SECTION THRU ABUTMENT**  
(Dimensions at Rt L's)

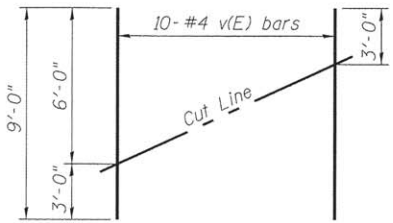


**PLAN**

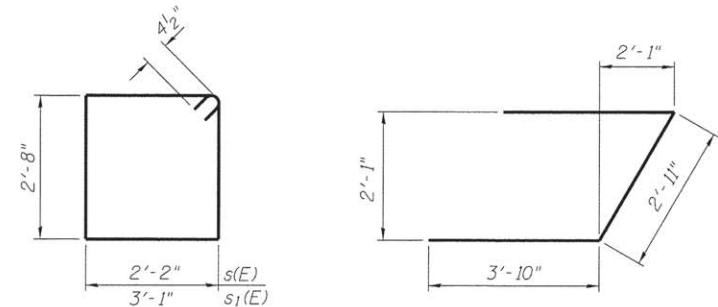
**PILE DATA:**  
Type: Metal Shell 12 in dia x 0.25 in walls  
Nominal Required Bearing: 293 k  
Factored Resistance Available: 161 k  
Est. Length: 22'  
No. Production Piles: 5  
No. Test Piles: 1

**BILL OF MATERIAL**

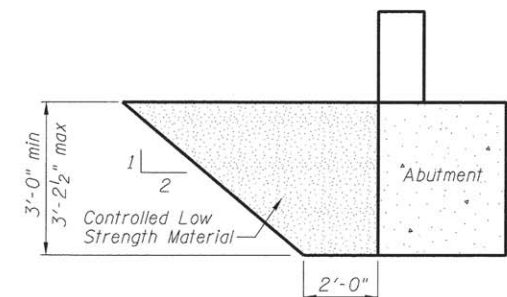
Bar	No.	Size	Length	Shape
h(E)	32	#6	15'-2"	—
h1(E)	6	#4	38'-0"	—
p(E)	10	#7	39'-8"	—
s(E)	39	#4	10'-5"	□
s1(E)	2	#4	12'-3"	□
u(E)	8	#6	10'-7"	┘
v(E)	20	#4	9'-0"	—
v1(E)	78	#4	5'-3"	—
Structure Excavation		Cu. Yd.	82	
Concrete Structures		Cu. Yd.	18.4	
Reinforcement Bars, Epoxy Coated		Pound	2500	
Furnishing Metal Shell Piles 12"x0.250"		Foot	110	
Driving Piles		Foot	110	
Test Pile Metal Shells		Each	1	
Controlled Low Strength Material		Cu. Yd.	23.5	



**FIELD CUTTING DIAGRAM**  
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s(E) & s1(E)**      **BAR u(E)**



**CONTROLLED LOW STRENGTH MATERIAL LIMITS**

Notes:  
For details of piles and Concrete Encasement, see sheet 9 of 10.

FILE NAME = I:\Municipal\Iowa\Wagon\_County\SBAS\_Marsh\_Bridge\CADD\_Structural\wabu1.dgn

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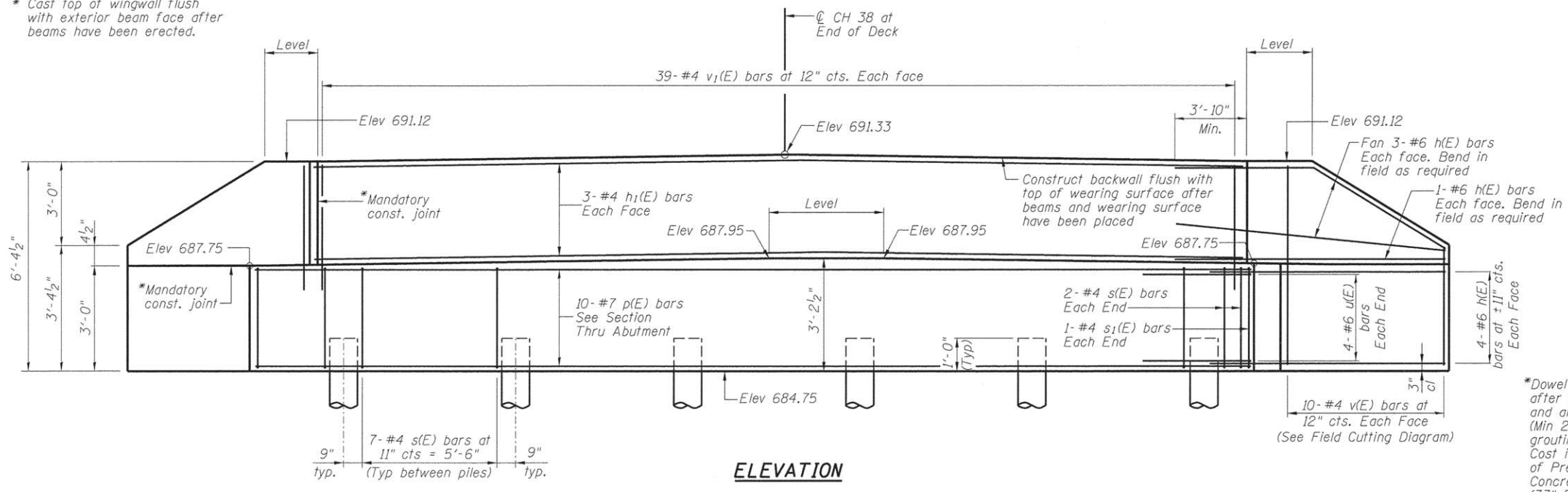
**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS

DECATUR (217) 422-8544  
SCHAUMBURG (773) 714-0050  
ROCKFORD (815) 489-0050  
184-001397

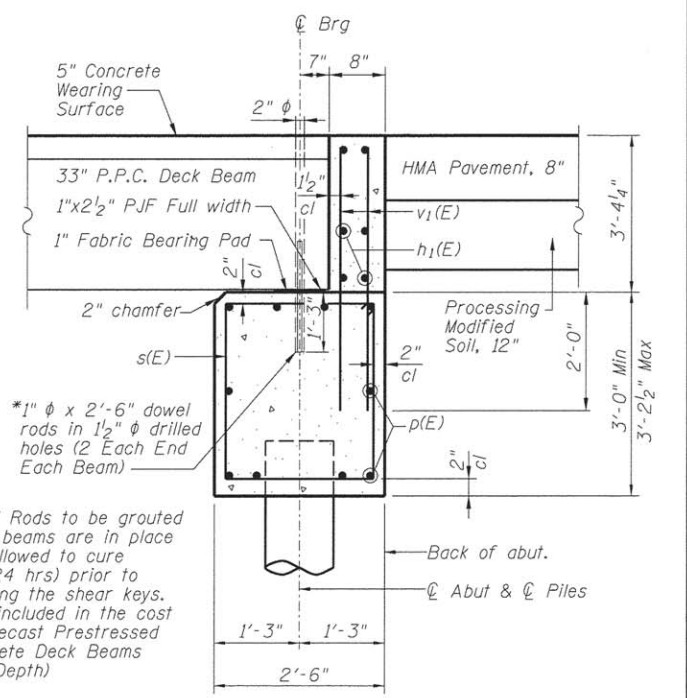
**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**WEST ABUTMENT DETAILS**  
SCALE: SHEET NO. 7 OF 10 SHEETS STA. TO STA.

FAS RTE 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 13
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				

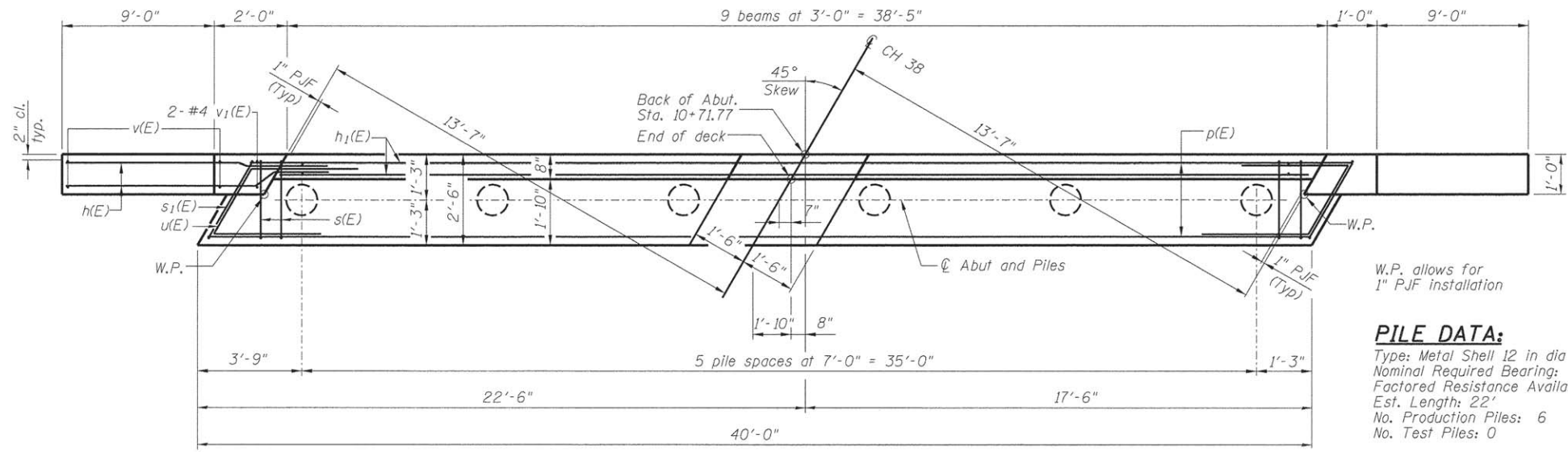
\* Cast top of wingwall flush with exterior beam face after beams have been erected.



**ELEVATION**



**SECTION THRU ABUTMENT**  
(Dimensions at Rt L's)



**PLAN**

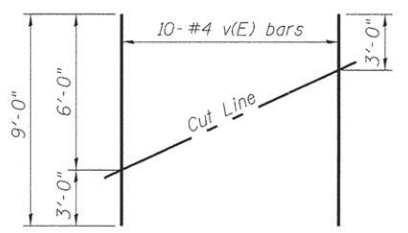
W.P. allows for 1\" P.J.F installation

**PILE DATA:**

Type: Metal Shell 12 in dia x 0.25 in walls  
Nominal Required Bearing: 293 k  
Factored Resistance Available: 161 k  
Est. Length: 22'  
No. Production Piles: 6  
No. Test Piles: 0

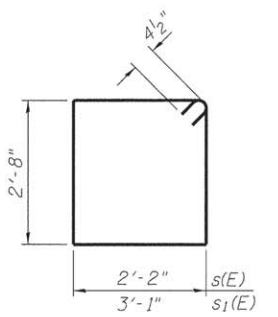
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h(E)	32	#6	15'-2"	—	
h <sub>1</sub> (E)	6	#4	38'-0"	—	
p(E)	10	#7	39'-8"	—	
s(E)	39	#4	10'-5"	□	
s <sub>1</sub> (E)	2	#4	12'-3"	□	
u(E)	8	#6	10'-7"	┘	
v(E)	20	#4	9'-0"	—	
v <sub>1</sub> (E)	78	#4	5'-3"	—	
Concrete Structures				Cu. Yd.	18.4
Reinforcement Bars, Epoxy Coated				Pound	2500
Furnishing Metal Shell Piles 12"x0.250"				Foot	132
Driving Piles				Foot	132
Controlled Low Strength Material				Cu. Yd.	23.5

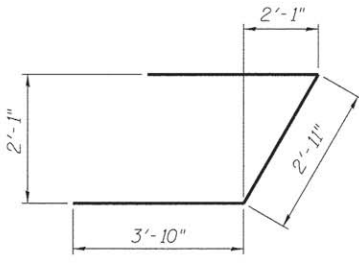


**FIELD CUTTING DIAGRAM**

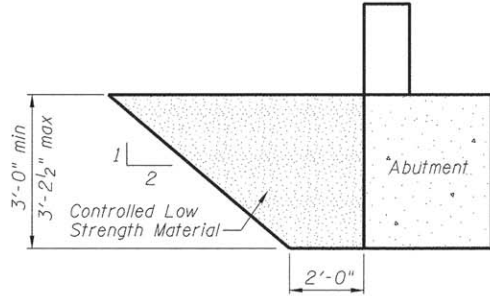
Order v(E) Full length. Cut as shown and use remainder of bars in opposite face.



**BARS s(E) & s<sub>1</sub>(E)**



**BAR u(E)**



**CONTROLLED LOW STRENGTH MATERIAL LIMITS**

Notes:  
For details of piles and Concrete Encasement, see sheet 9 of 10.

FILE NAME: I:\Municipal\Ilex\Wacon County\3845 Marsh Bridge\CRDD\_Structure\Abutment.dgn

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PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

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**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**EAST ABUTMENT DETAILS**

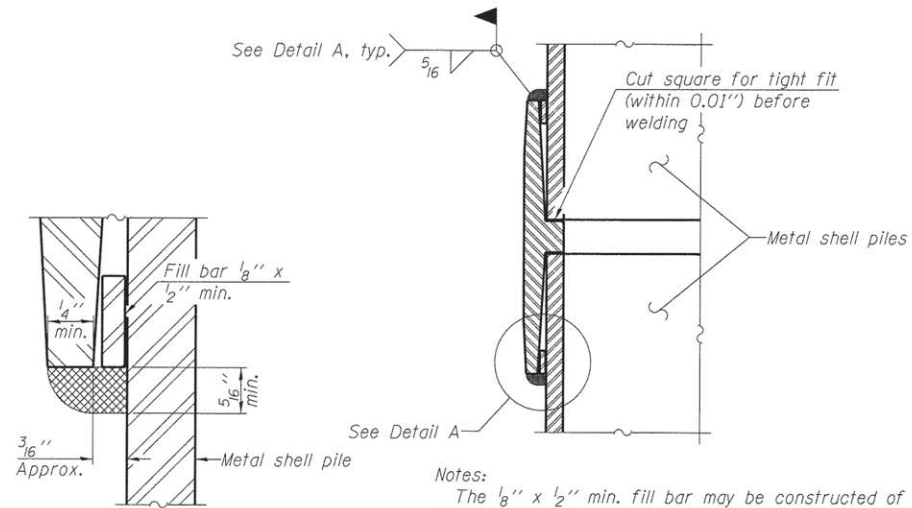
SCALE: SHEET NO. 8 OF 10 SHEETS STA. TO STA.

FAS RTE 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 14
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				



**METAL SHELL PILE TABLE**

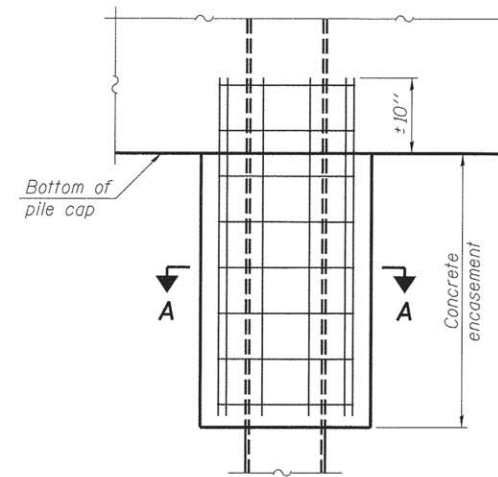
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



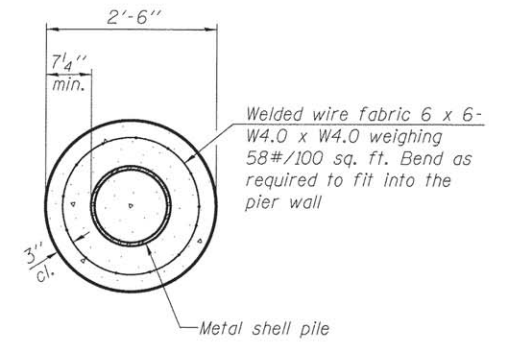
**DETAIL A**

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**



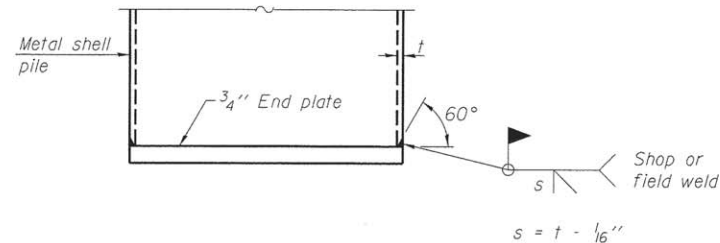
**ELEVATION**



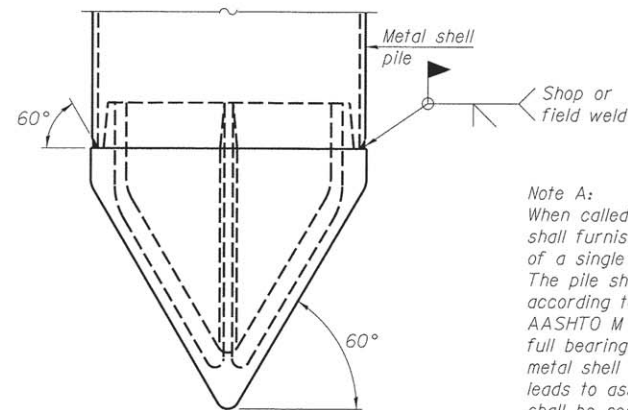
**SECTION A-A**

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

**CONCRETE ENCASEMENT AT PIERS**



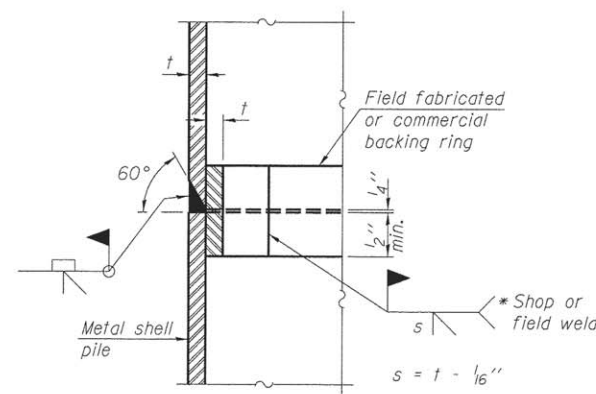
**END PLATE ATTACHMENT**



**METAL SHELL PILE SHOE ATTACHMENT**

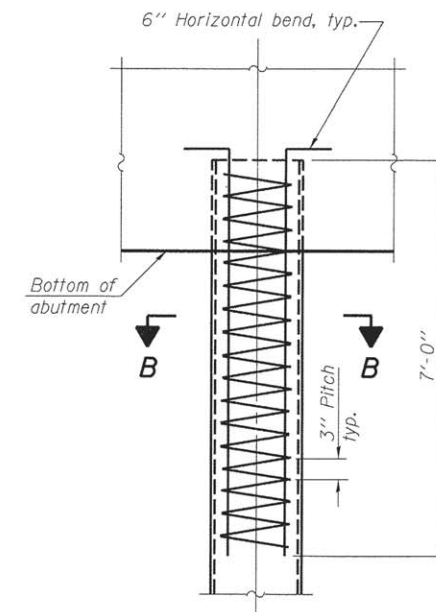
(See Note A)

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.

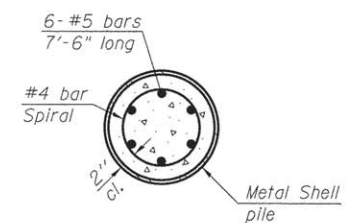


**COMPLETE PENETRATION WELD SPLICE**

\* 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.



**ELEVATION**



**SECTION B-B**

**METAL SHELL REINFORCEMENT AT ABUTMENTS**

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

FILE NAME = I:\Municipalities\Macomb\County\5845 Macomb Bridge\CADD\Structural\101as.dgn

F-MS

1-27-12

USER NAME = ebenz	DESIGNED JMB	REVISED -
PLOT TIME = 9:44:45 AM	DRAWN RLK	REVISED -
PLOT SCALE = 2.0000' / 1"	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

**CHASTAIN & ASSOCIATES LLC**  
 CONSULTING ENGINEERS

DECATUR (217) 422-8544  
 SCHAUMBURG (773) 714-0050  
 ROCKFORD (815) 489-0050  
 184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**METAL SHELL PILE DETAILS**

SCALE: SHEET NO. 9 OF 10 SHEETS STA. TO STA.

FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	15
CONTRACT 95777		STRUCTURE NO. 058-3400		
ILLINOIS FED. AID PROJECT				

**SOIL BORING LOG**

ROUTE \_\_\_\_\_ DESCRIPTION BRIDGE BORINGS LOGGED BY BG, CH  
SECTION \_\_\_\_\_ LOCATION E. WASHINGTON ST. 3 MILES NORTH OF ARGENTA, IL  
COUNTY MACON STRUCTURE NO. FRIENDS CREEK (Exist) X (Prop.)  
BORING NO. B-1 DRILLING METHOD HOLLOW STEM HAMMER TYPE 140# SAFETY HAMMER

Station	Offset	Ground Surface Elev. (ft.)	ELEV (ft.)	DEPTH (ft.)	BULGE (ft.)	SHEAR (tsf)	PENETROMETER (lb)	SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BULGE (ft.)	SHEAR (tsf)	PENETROMETER (lb)	Surface Water Elev.	Groundwater Elev.	First Encounter	Upon Completion	After	
														(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
3+56	R9	691.05						8" OIL & CHIP on SAND AND GRAVEL BASE						677.73					
				9		2.2	12.7	CLAY LOAM - A-6											
				11				Brown, moist, very stiff, low plasticity, with sand, trace gravel											
				5	4	8	16.8	CLAY - A-6											
				5				Gray-Mottled-Brown, moist, stiff, low plasticity, some sand, trace gravel											
				8		4.2	13.5	CLAY LOAM - A-6											
				10	9	4.5	13.3	Brown, moist, very stiff, low plasticity -hard											
				16															
				20															
				16		3.5	12.2	CLAY LOAM - A-6											
				20				Gray-Mottled-Brown, moist, hard, low plasticity, with sand, trace gravel											
				15	5	2.7	12.0	CLAY LOAM - A-6											
				8				Gray, moist, very stiff, low plasticity, with sand, trace gravel -hard											
				12															
				10		6.4	12.0	CLAY LOAM - A-6											
				17				Gray, moist, very stiff, low plasticity, with sand, trace gravel -hard											
				20		6.1	11.9												
				15															
				19															
				9		5.3	11.5												
				14															
				22															
				25		6.5	11.5												
				12															
				19															
				9		4.3	12.3												
				16															
				20															
				30		4.6	12.3												
				15															
				18															
				14		6.0	11.7												
				16															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).  
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

**SOIL BORING LOG**

ROUTE \_\_\_\_\_ DESCRIPTION BRIDGE BORINGS LOGGED BY TL, TH  
SECTION \_\_\_\_\_ LOCATION E. WASHINGTON ST. 3 MILES NORTH OF ARGENTA, IL  
COUNTY MACON STRUCTURE NO. FRIENDS CREEK (Exist) X (Prop.)  
BORING NO. B-2 DRILLING METHOD HOLLOW STEM HAMMER TYPE 140# SAFETY HAMMER

Station	Offset	Ground Surface Elev. (ft.)	ELEV (ft.)	DEPTH (ft.)	BULGE (ft.)	SHEAR (tsf)	PENETROMETER (lb)	SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BULGE (ft.)	SHEAR (tsf)	PENETROMETER (lb)	Surface Water Elev.	Groundwater Elev.	First Encounter	Upon Completion	After	
														(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
2+56	L8	691.15						8" OIL & CHIP						677.73					
				25				LOAM - A-4											
				34		18.3		Brown, moist, hard, low plasticity, some sand, trace gravel -stiff											
				25-5															
				5	7	2.2	11.2	CLAY LOAM - A-4											
				8				Gray-Mottled-Brown, moist, firm, low plasticity, with sand, trace gravel											
				3		6	17.9												
				4				CLAY LOAM - A-4											
				10	3	8	21.1	Gray-Mottled-Brown, moist, firm, low plasticity, with sand, trace gravel											
				5															
				4			24.4	LOAM - A-4											
				5				Gray, moist, hard, low plasticity, some sand, trace gravel											
				4				Gray, moist, hard, low plasticity, some sand, trace gravel (*free water @ 44.5')											
				4			24.4												
				5				SILTY LOAM - A-4											
				15	2	2.4	15.3	Dark Gray, moist, stiff, low plasticity, little sand, trace gravel											
				6				CLAY - A-6											
				6				Brown-Mottled-Gray, moist, stiff, low plasticity, some sand, trace gravel											
				10															
				20				CLAY LOAM - A-6											
				20				Gray, moist, hard, low plasticity, with sand, trace gravel											
				17		10.6	9.7												
				23															
				31															
				12		6.7	11.2												
				19															
				22															
				10		4.0	12.2												
				15															
				17															
				14		5.4	11.5												
				20															
				23															
				30		15	12.3												
				15															
				20															
				28															
				14		6.4	11.0												
				20															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).  
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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PLOT SCALE = 2.0000' / 1"	CHECKED ACB	REVISED -
PLOT DATE = 11/20/2015	DATE 3/17/14	REVISED -

DESIGNED JMB	REVISED -
DRAWN RLK	REVISED -
CHECKED ACB	REVISED -
DATE 3/17/14	REVISED -



DECATUR (217) 422-8544  
SCHAUMBURG (773) 714-0050  
ROCKFORD (815) 489-0050  
184-001397

**CH 38 (WASHINGTON ST) OVER TRIBUTARY TO FRIENDS CREEK**  
**SOIL BORING LOGS**

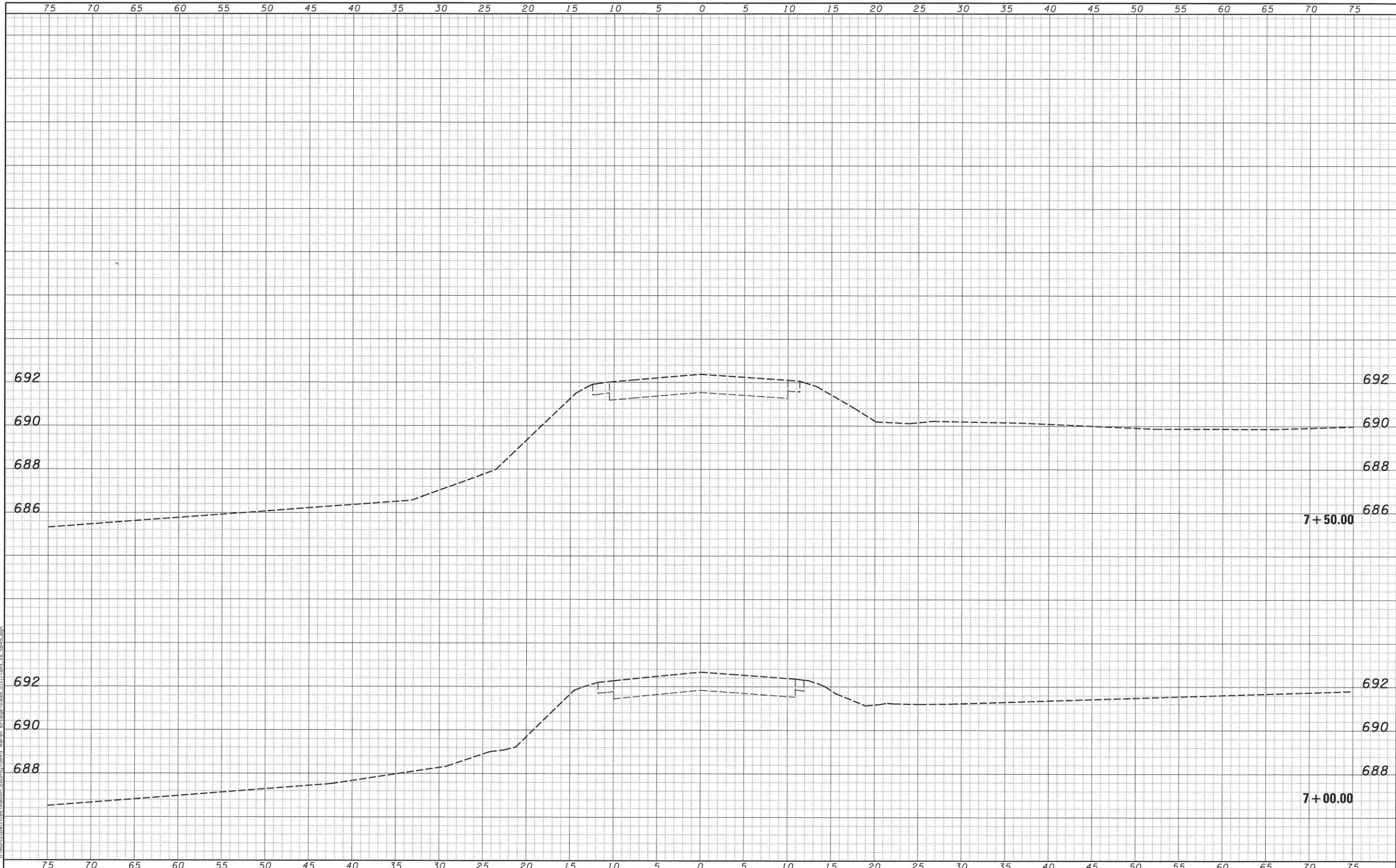
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FAS RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
548A	12-00246-00-BR	MACON	31	16
CONTRACT 95777	STRUCTURE NO. 058-3400		ILLINOIS FED. AID PROJECT	



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NOTE BOOK	PLOTTED	BY
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	CHECKED	

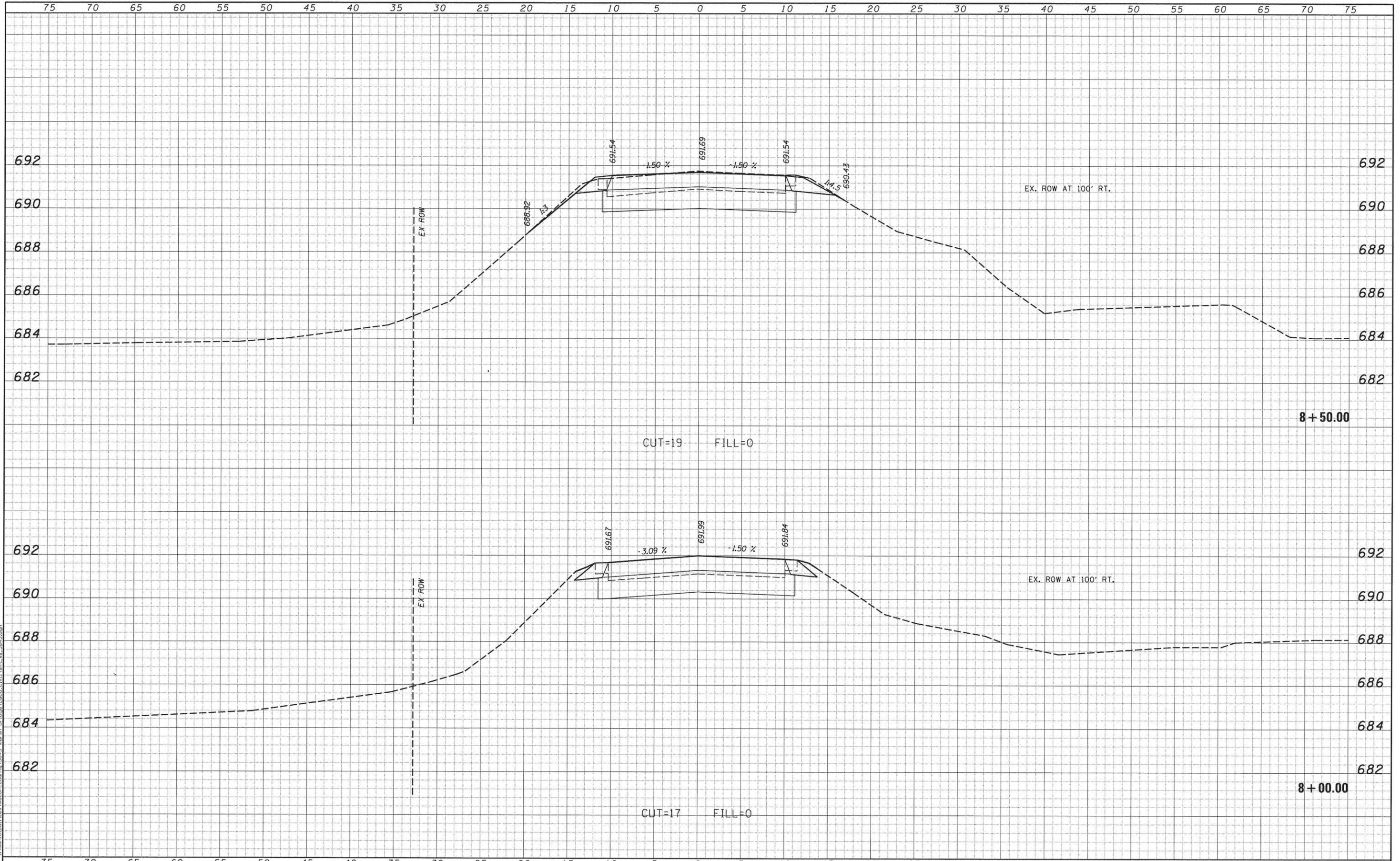
ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	AREAS	
	CHECKED	



USER NAME = abenz	DESIGNED -	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -					CONTRACT NO. 95717				
DATE -	REVISED -	SCALE: 5'H / 2'V SHEET NO. OF SHEETS STA. 7+00.00 TO STA. 7+50.00 ILLINOIS FED. AID PROJECT									

DATE	
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DATE	
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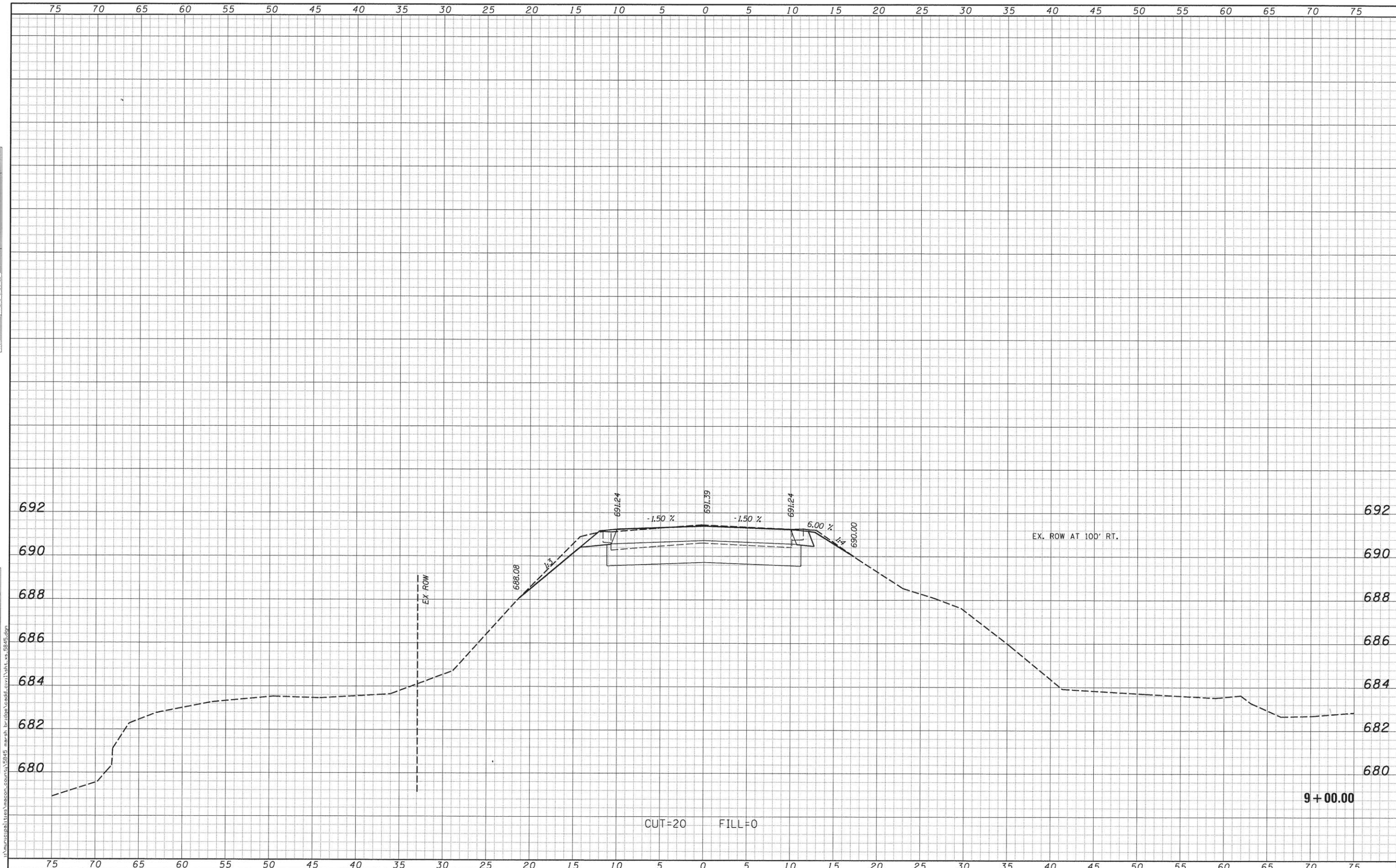
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SURVEYED	
PLOTTED	
DATE	
AREAS	
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ORIGINAL	
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USER NAME = obenz	DESIGNED -	REVISED -	<p><b>CHASTAIN &amp; ASSOCIATES LLC</b> CONSULTING ENGINEERS</p> <p>DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397</p>	<p><b>CH 38</b> <b>CROSS SECTIONS</b></p>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -		SCALE: 5'H / 2'V SHEET NO. OF SHEETS STA. 8+00.00 TO STA. 8+50.00		CONTRACT NO. 95177		ILLINOIS FED. AID PROJECT		
	DATE -	REVISED -								

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
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ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
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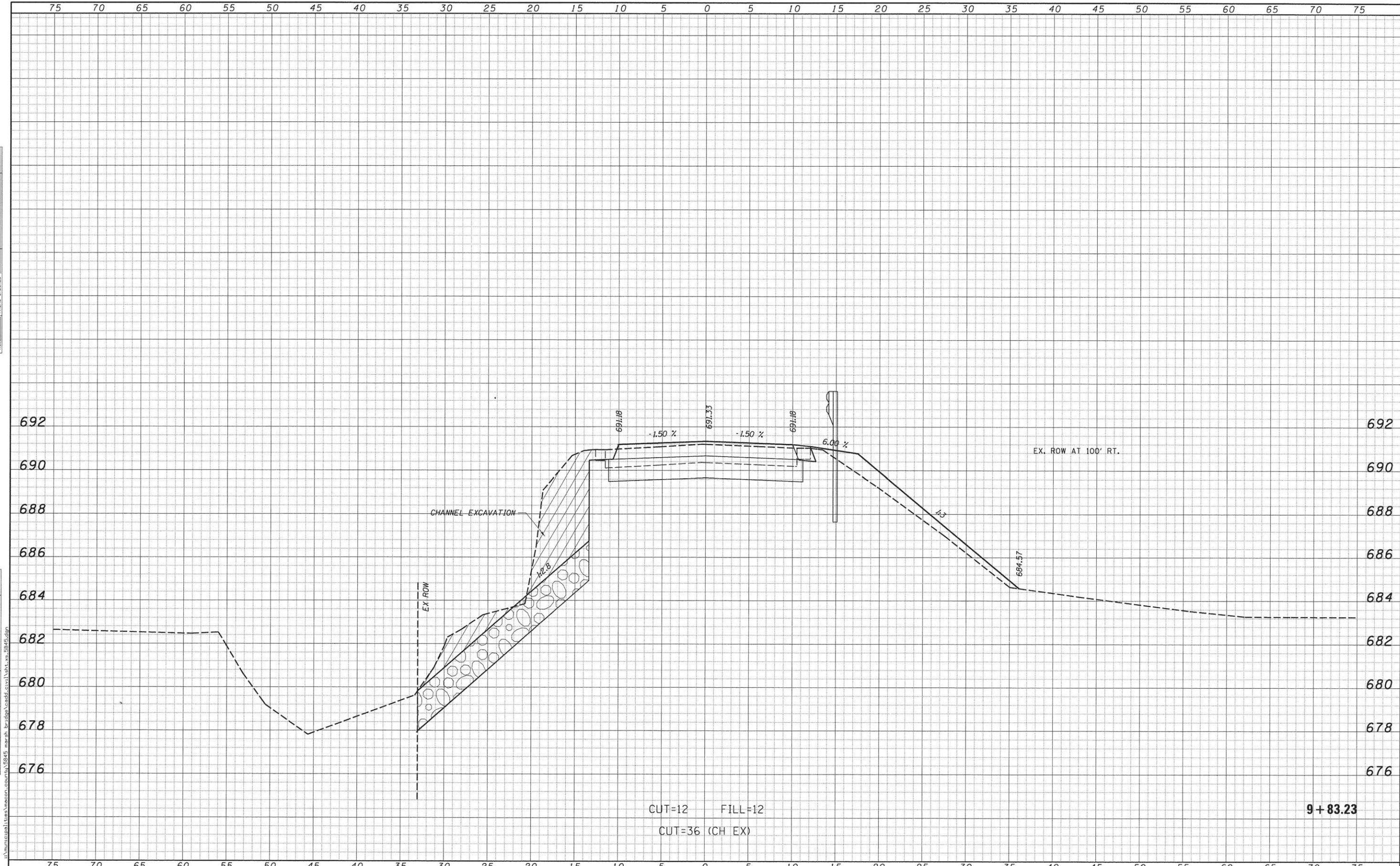


USER NAME = abenz	DESIGNED -	REVISED -	<b>CHASTAIN &amp; ASSOCIATES LLC</b> CONSULTING ENGINEERS DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	DATE -	REVISED -						ILLINOIS FED. AID PROJECT		



DATE	
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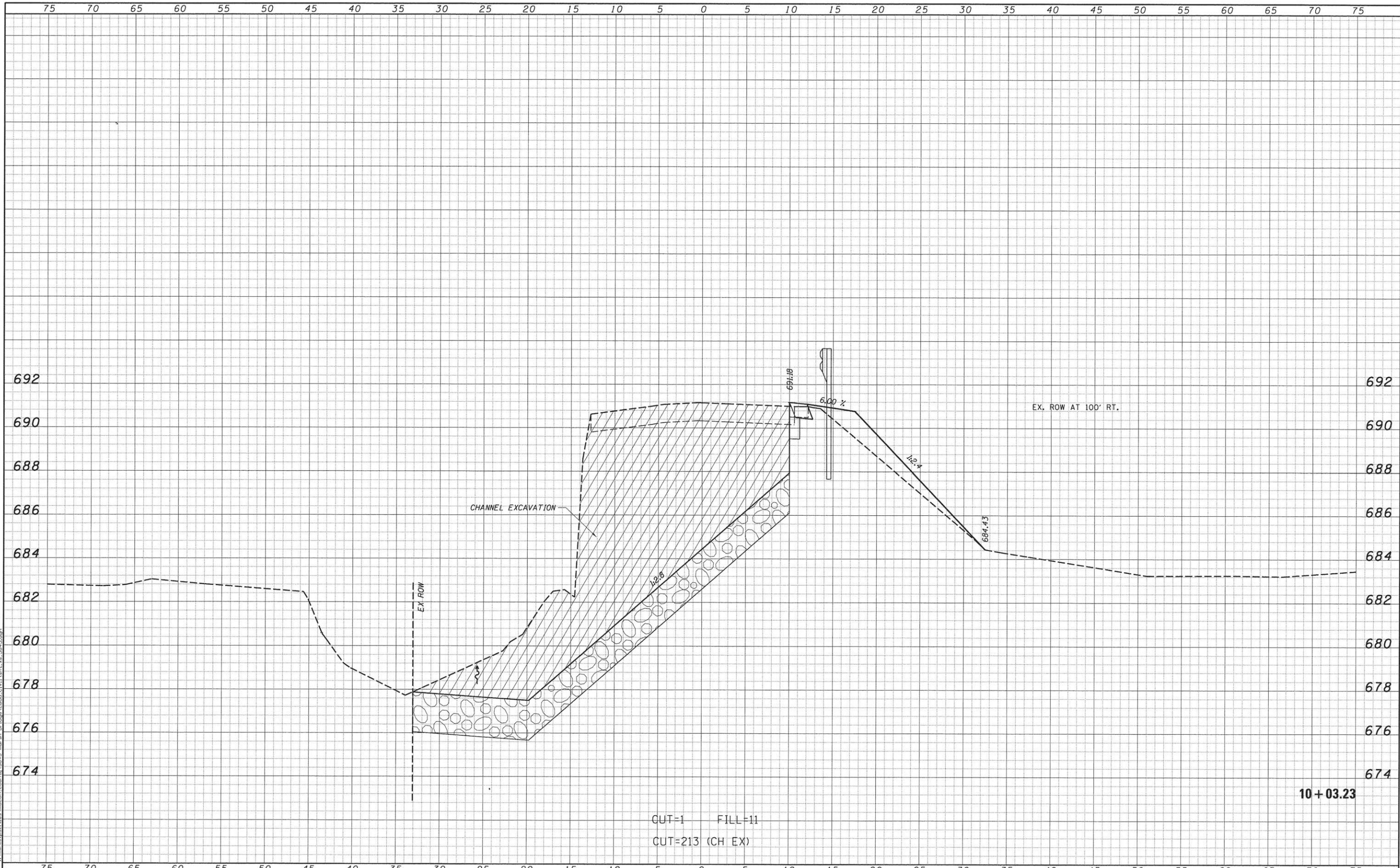
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USER NAME = abenz	DESIGNED -	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -					CONTRACT NO. 95717				
DATE -	DATE -	REVISED -					ILLINOIS FED. AID PROJECT				
SCALE: 5'H / 2'V			SHEET NO. OF SHEETS		STA. 9+83.23 TO STA. 9+83.23						

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

DATE	
BY	
ORIGINAL SURVEY	
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DATE	
AREAS CHECKED	



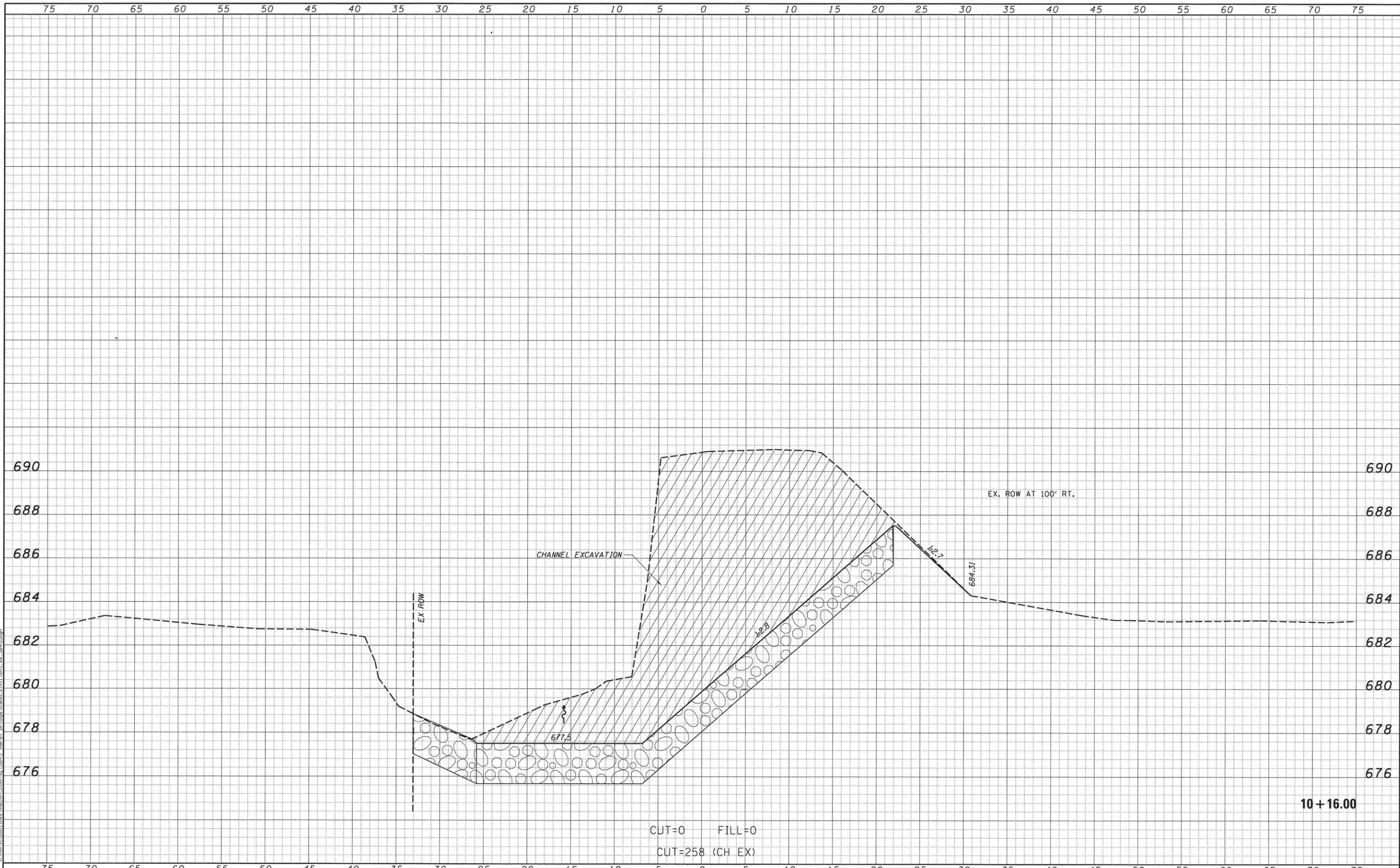
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10+03.23

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	DATE -	REVISED -					ILLINOIS FED. AID PROJECT				
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DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
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DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
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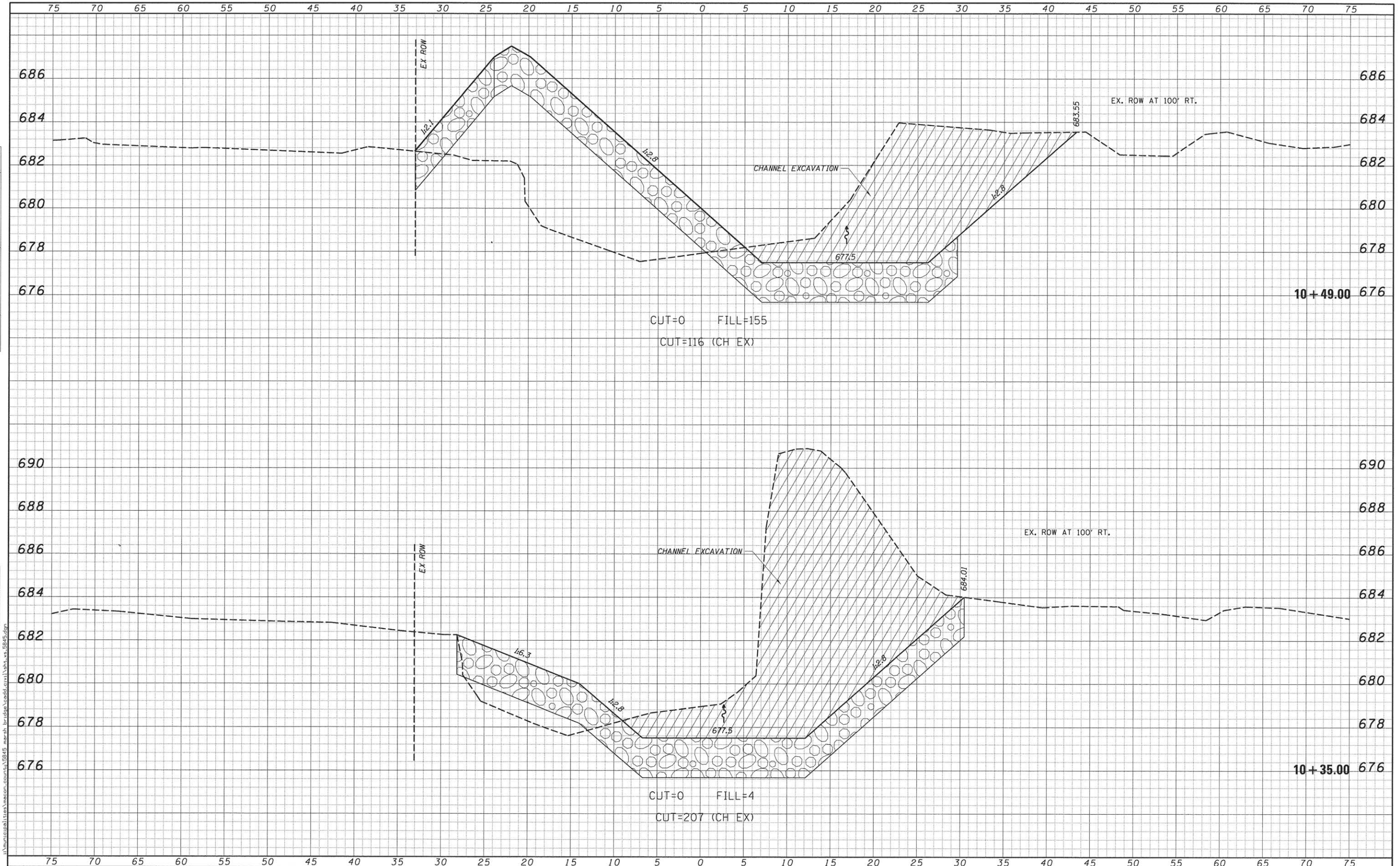
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10 + 16.00

USER NAME = abenz	DESIGNED -	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 23
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -							CONTRACT NO. 95777		
DATE -	REVISIED -	REVISED -									

DATE	
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NOTE BOOK	
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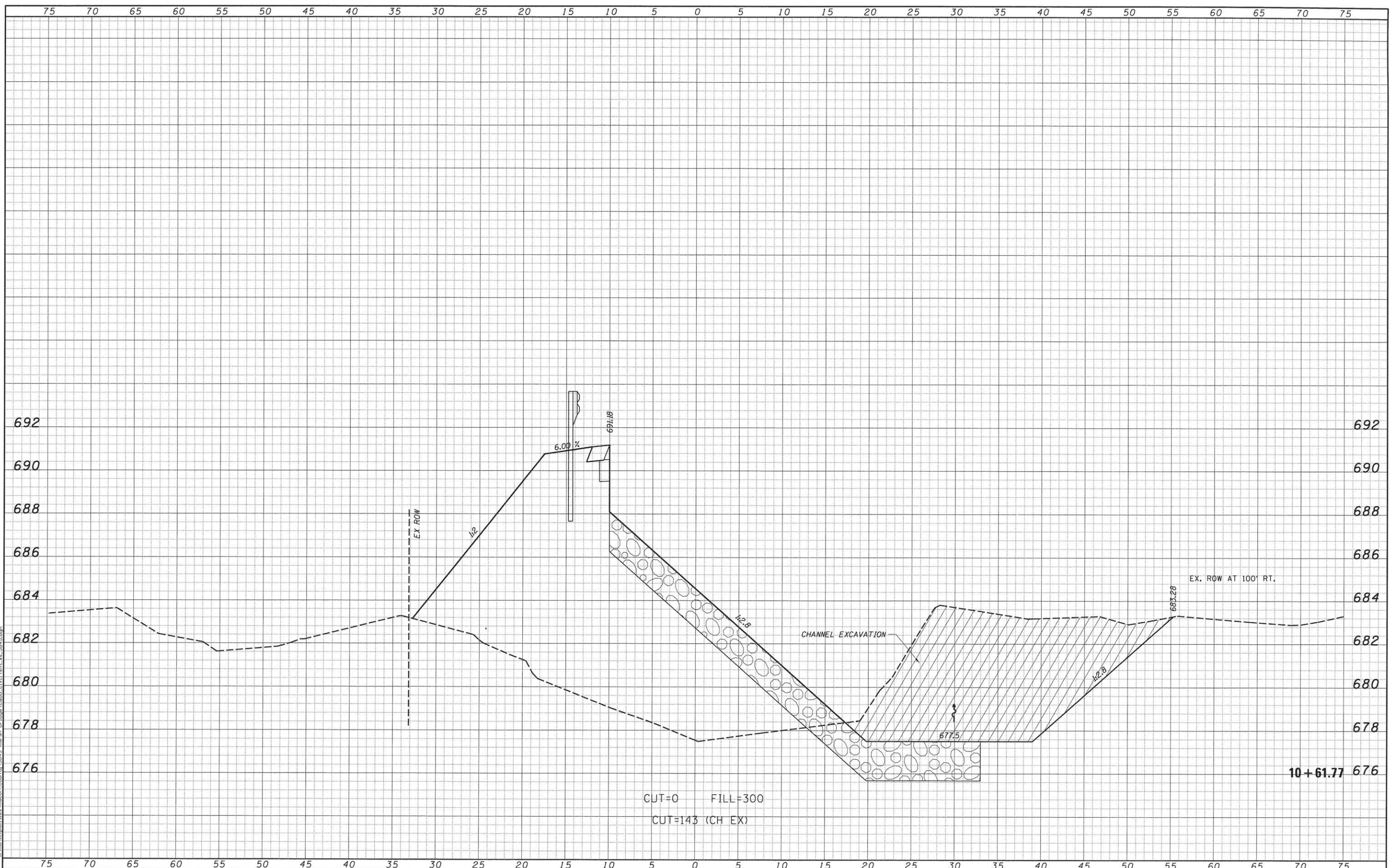


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PLOT SCALE = 5.0000' / 1"	CHECKED -	REVISED -				CONTRACT NO. 95717				
PLOT DATE = 5/11/2016	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				



DATE	
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FINAL SURVEY	
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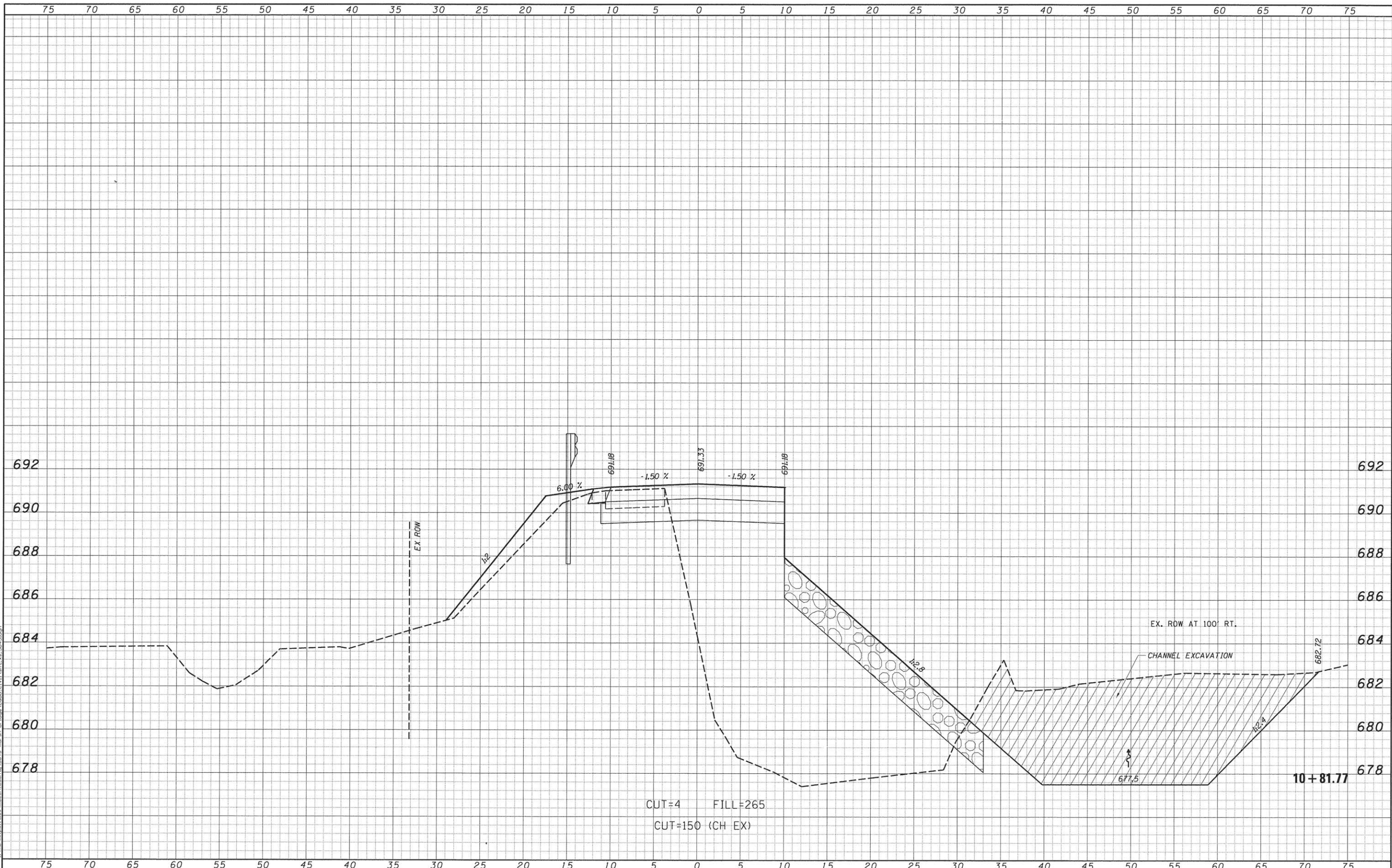
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USER NAME = abenz	DESIGNED -	REVISED -	<b>CHASTAIN &amp; ASSOCIATES LLC</b> CONSULTING ENGINEERS DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 25
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -		CONTRACT NO. 95777						
DATE -	DATE -	REVISED -								

DATE	
BY	
SURVEYED	
PLOTTED	
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DATE	
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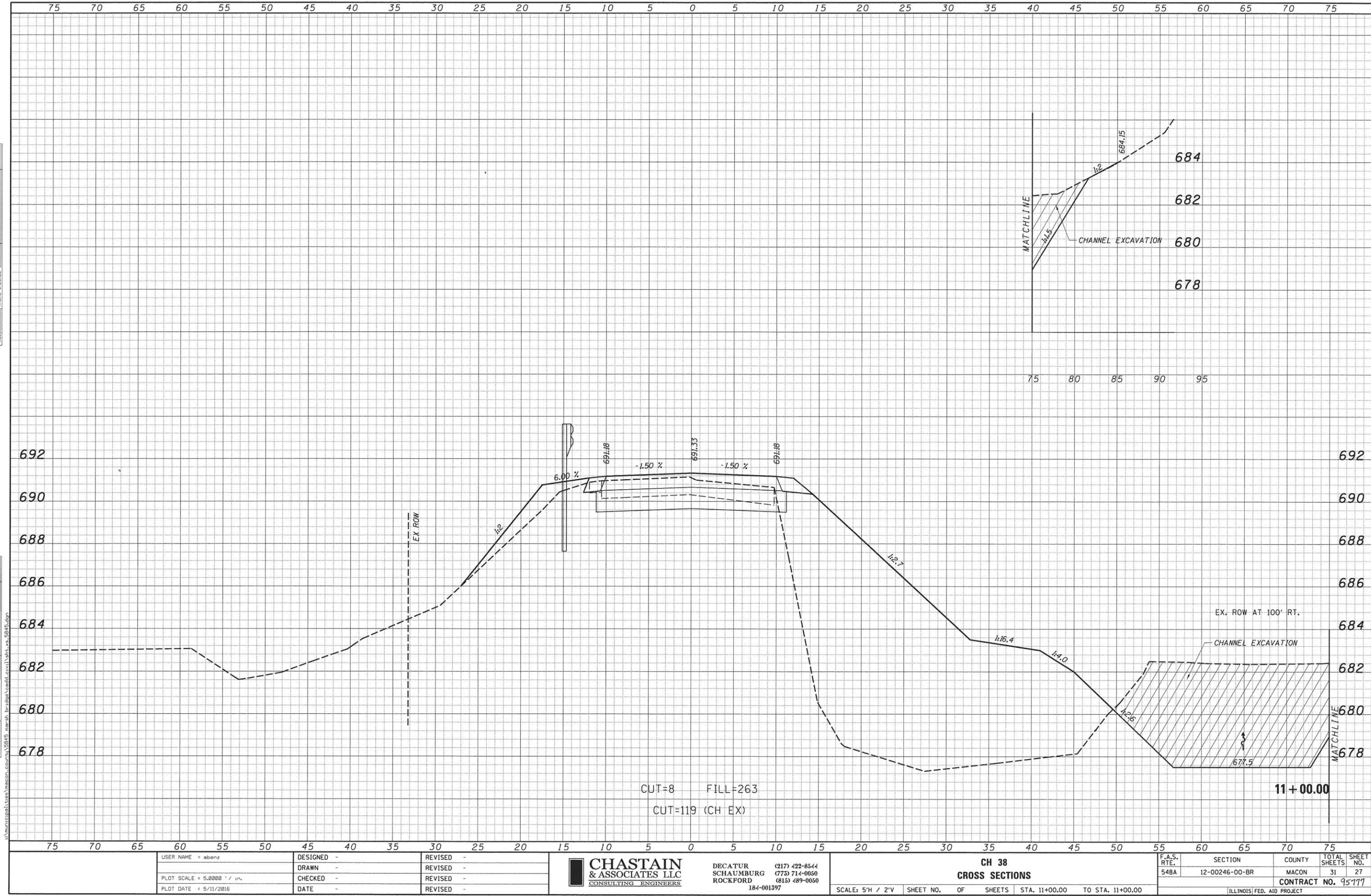


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USER NAME = abenz	DESIGNED -	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 5/11/2016	DATE -	REVISED -					CONTRACT NO. 95777				
ILLINOIS FED. AID PROJECT											

DATE	
BY	
FINISHED SURVEY	
NOTED SURVEY	
PLANNED SURVEY	
TEMPERATURE	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
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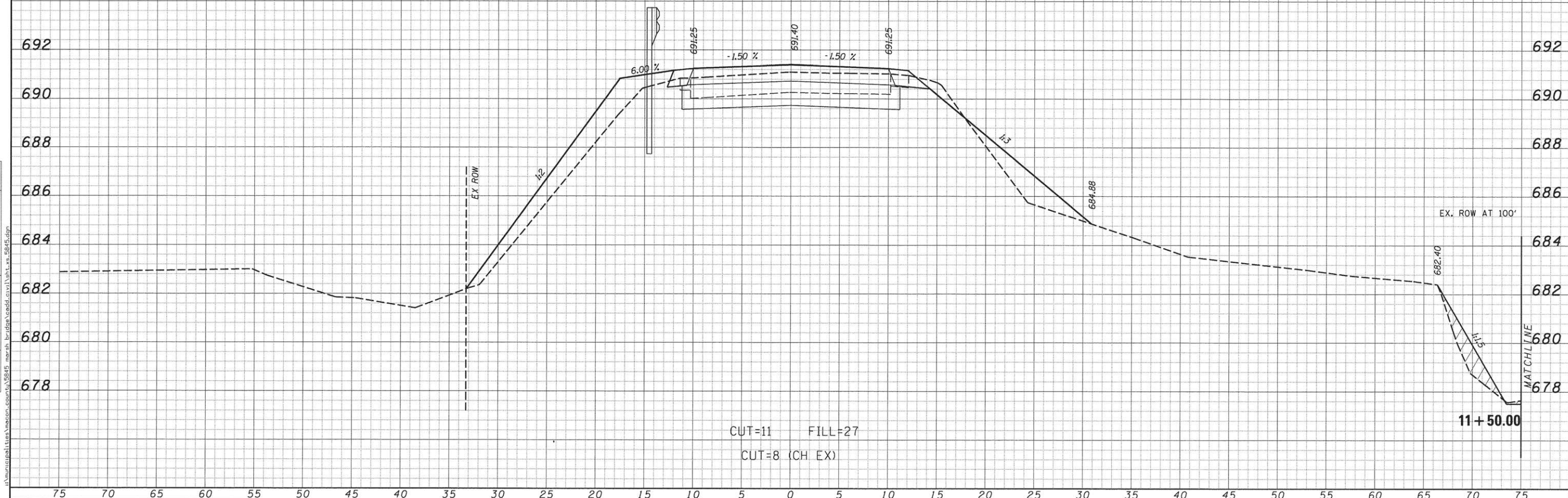
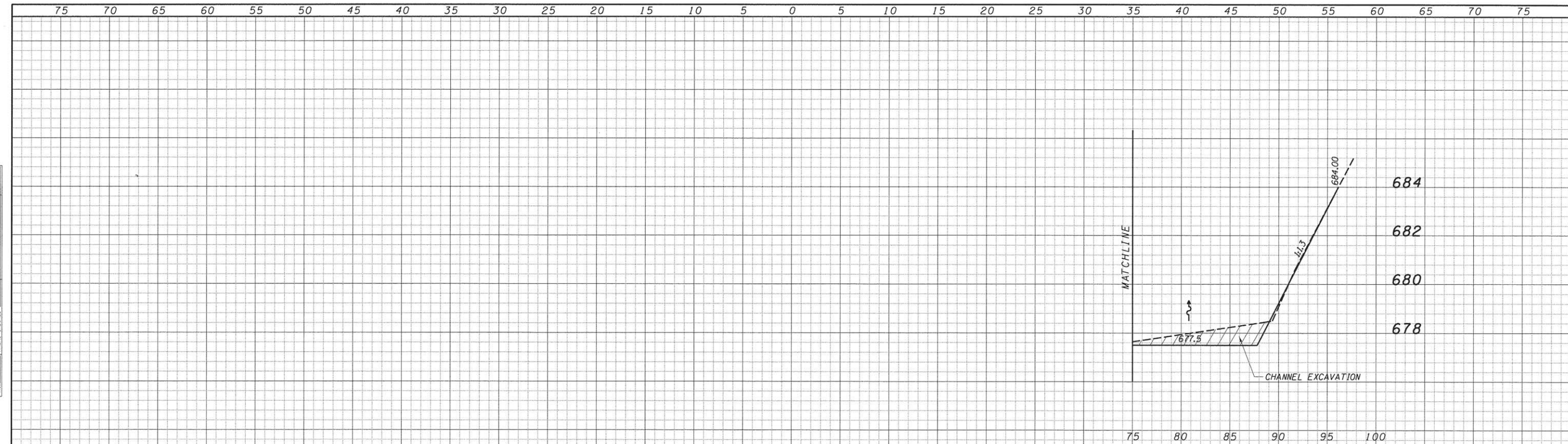


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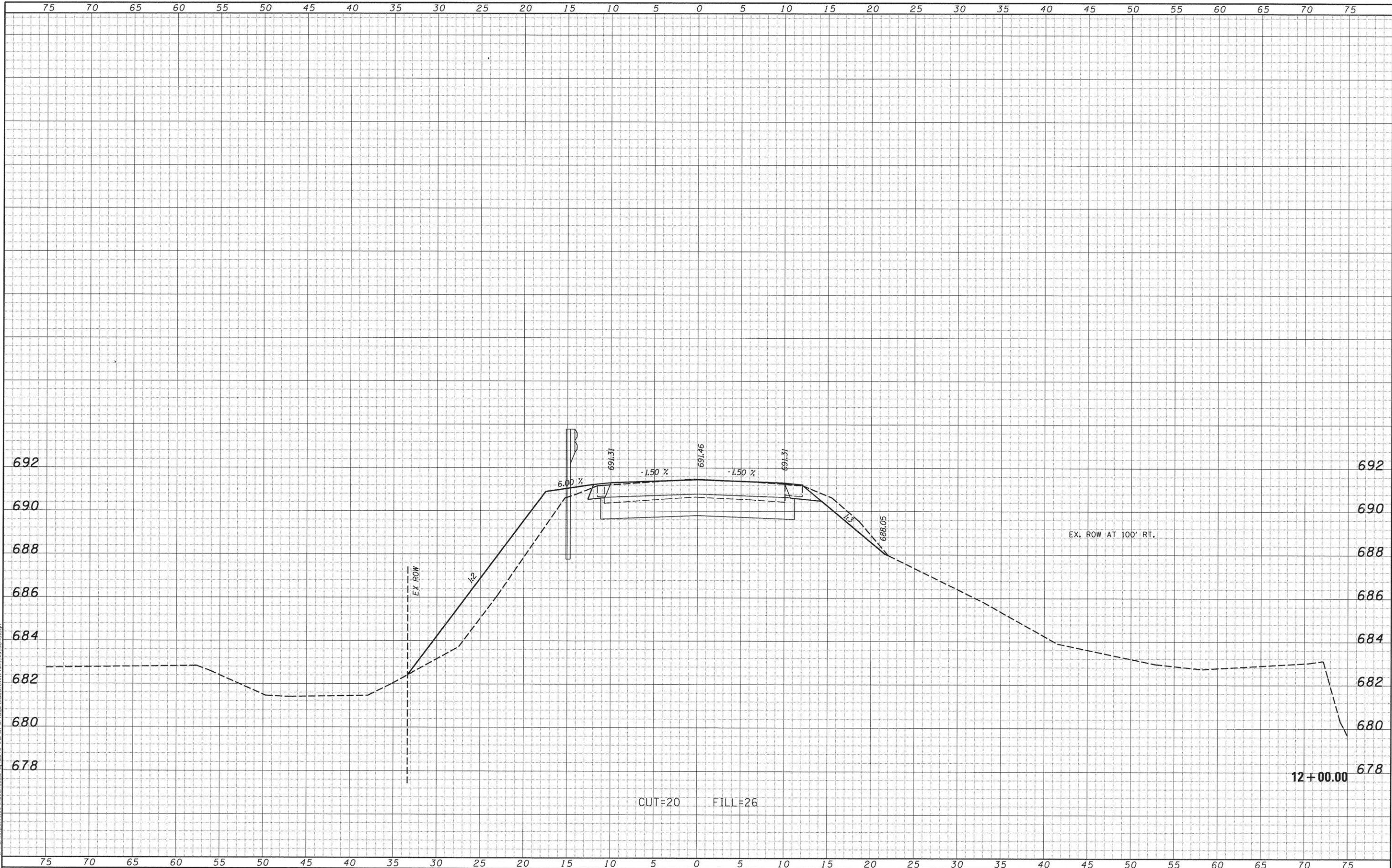
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PLOT SCALE = 5.0000' / 1" =	DRAWN -	REVISED -		SCHAUMBURG (773) 714-0050		SCALE: 5'H / 2'V	SHEET NO. OF SHEETS	STA. 11+00.00	TO STA. 11+00.00	CONTRACT NO. 951177	
PLOT DATE = 5/11/2016	CHECKED -	REVISED -		ROCKFORD (815) 489-0050		184-001397	ILLINOIS FED. AID PROJECT				
	DATE -	REVISED -									

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

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



USER NAME = abenz	DESIGNED -	REVISED -		<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 28	
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PLOT DATE = 5/11/2016	CHECKED -	REVISED -				DECATUR (217) 422-8544	SCHAUMBURG (773) 714-0050	ROCKFORD (815) 489-0050			
	DATE -	REVISED -				184-001397					



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

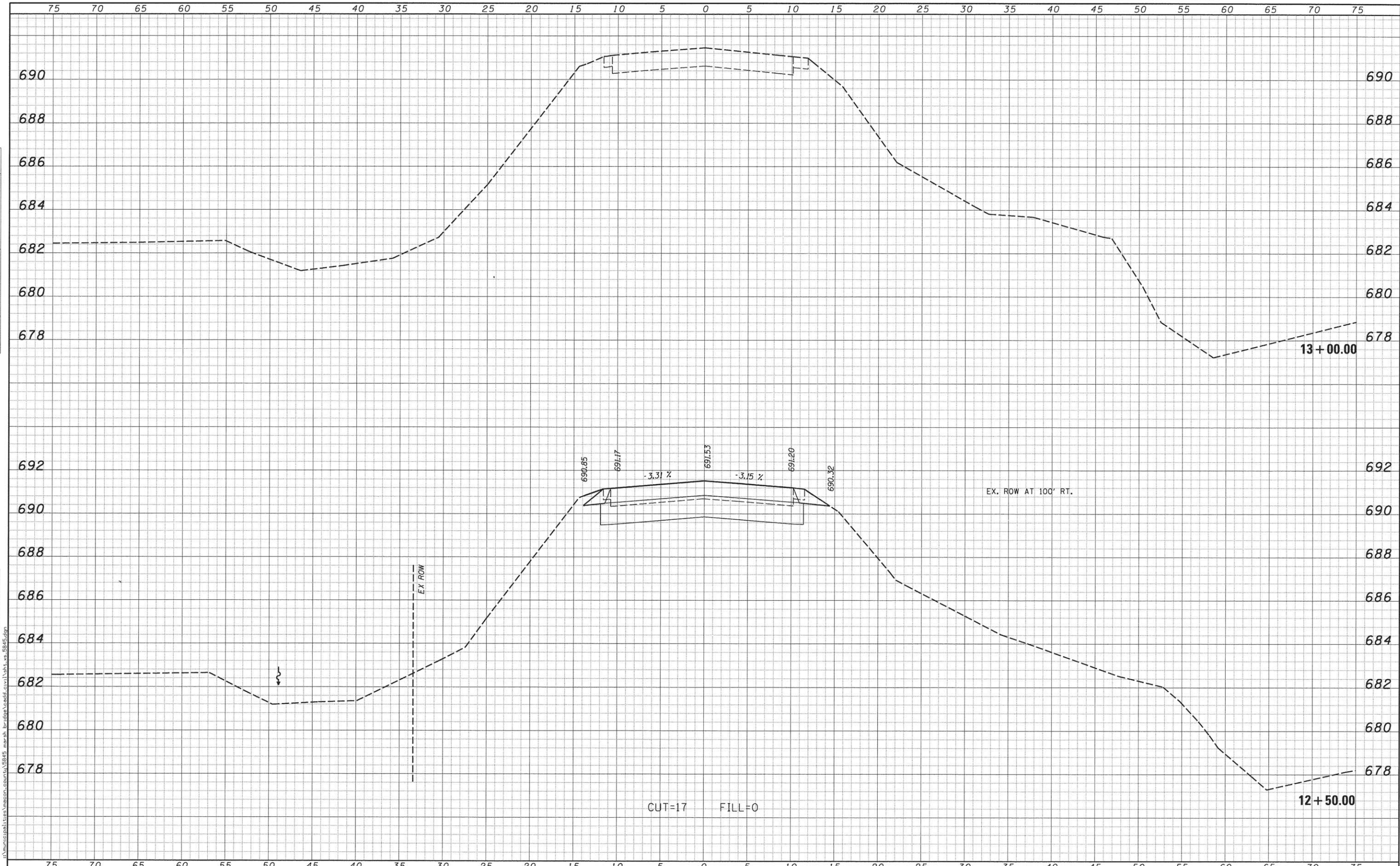
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NOTE BOOK	PLOTTED	BY
NO.	AREAS CHECKED	

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USER NAME = obenz	DESIGNED -	REVISED -	<b>CHASTAIN &amp; ASSOCIATES LLC</b> CONSULTING ENGINEERS DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 29	
PLOT SCALE = 5,0000' / in.	CHECKED -	REVISED -				SCALE: 5'H / 2'V		SHEET NO. OF SHEETS	STA. 12+00.00 TO STA. 12+00.00	CONTRACT NO. 95777	
PLOT DATE = 5/11/2016	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

DATE	
BY	
FINAL SURVEY	
NOTE BOOK	
NO.	

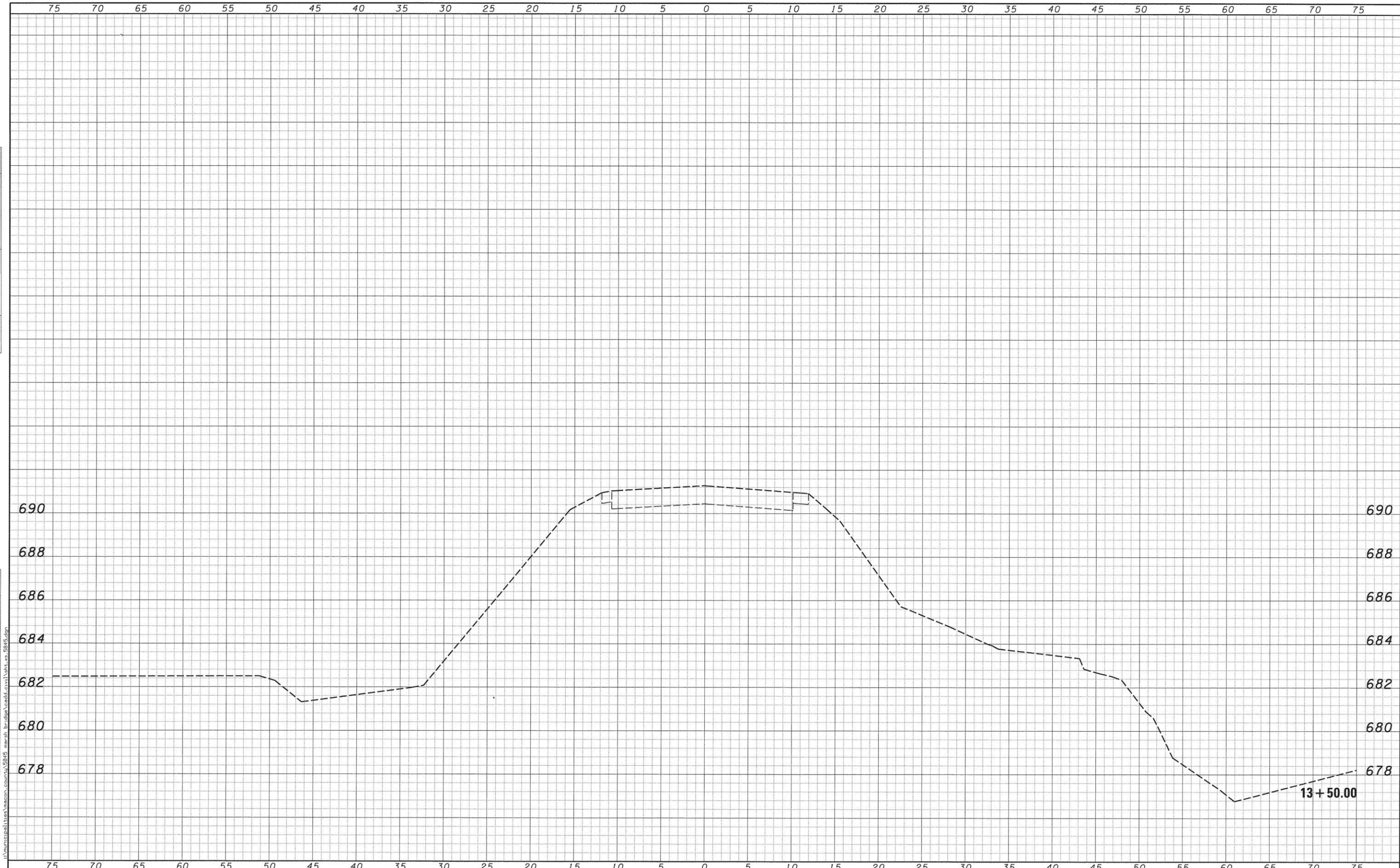
DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



USER NAME = obenz	DESIGNED -	REVISED -		DECATUR (217) 222-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	<b>CH 38</b> <b>CROSS SECTIONS</b>			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 5,0000' / 1" =	DRAWN -	REVISED -						548A	12-00246-00-BR	MACON	31	30
PLOT DATE = 5/11/2016	CHECKED -	REVISED -			SCALE: 5'H / 2"V SHEET NO. OF SHEETS STA. 12+50.00 TO STA. 13+00.00			CONTRACT NO. 95777				
DATE -	REVISIED -	REVISIED -			ILLINOIS FED. AID PROJECT							

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

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



USER NAME = abenz	DESIGNED -	REVISED -		<b>CH 38</b> <b>CROSS SECTIONS</b>		F.A.S. RTE. 548A	SECTION 12-00246-00-BR	COUNTY MACON	TOTAL SHEETS 31	SHEET NO. 31	
PLOT SCALE = 5,000' / 1"	DRAWN -	REVISED -		DECATUR (217) 422-8544 SCHAUMBURG (773) 714-0050 ROCKFORD (815) 489-0050 184-001397	SCALE: 5'H / 2'V	SHEET NO. OF SHEETS	STA. 13+50.00	TO STA. 13+50.00	CONTRACT NO. 95777 ILLINOIS FED. AID PROJECT		
PLOT DATE = 5/11/2016	CHECKED -	REVISED -									
	DATE -	REVISED -									