

06-10-2016 LETTING ITEM 107

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

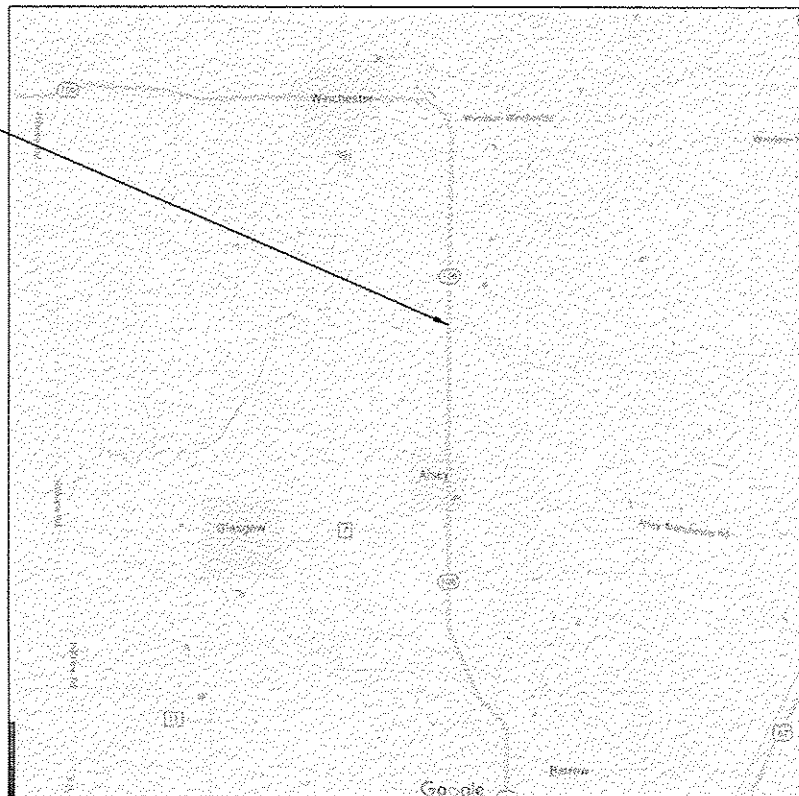
FAP 566 (IL ROUTE 106)
SECTION (1) SCR, DR
SCOUR COUNTERMEASURES
SCOTT COUNTY

C-96-022-16

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
566	(1) SCR, DR	SCOTT	5	1
		ILLINOIS	CONTRACT NO. 72110	



SCOUR MITIGATION
AT SN 086-0013,
IL 106 OVER
LITTLE SANDY CREEK,
N39.587576, W90.430434



J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: B. DUDLEY, 217-785-9290
PROJECT MANAGER

CONTRACT NO. 72110

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

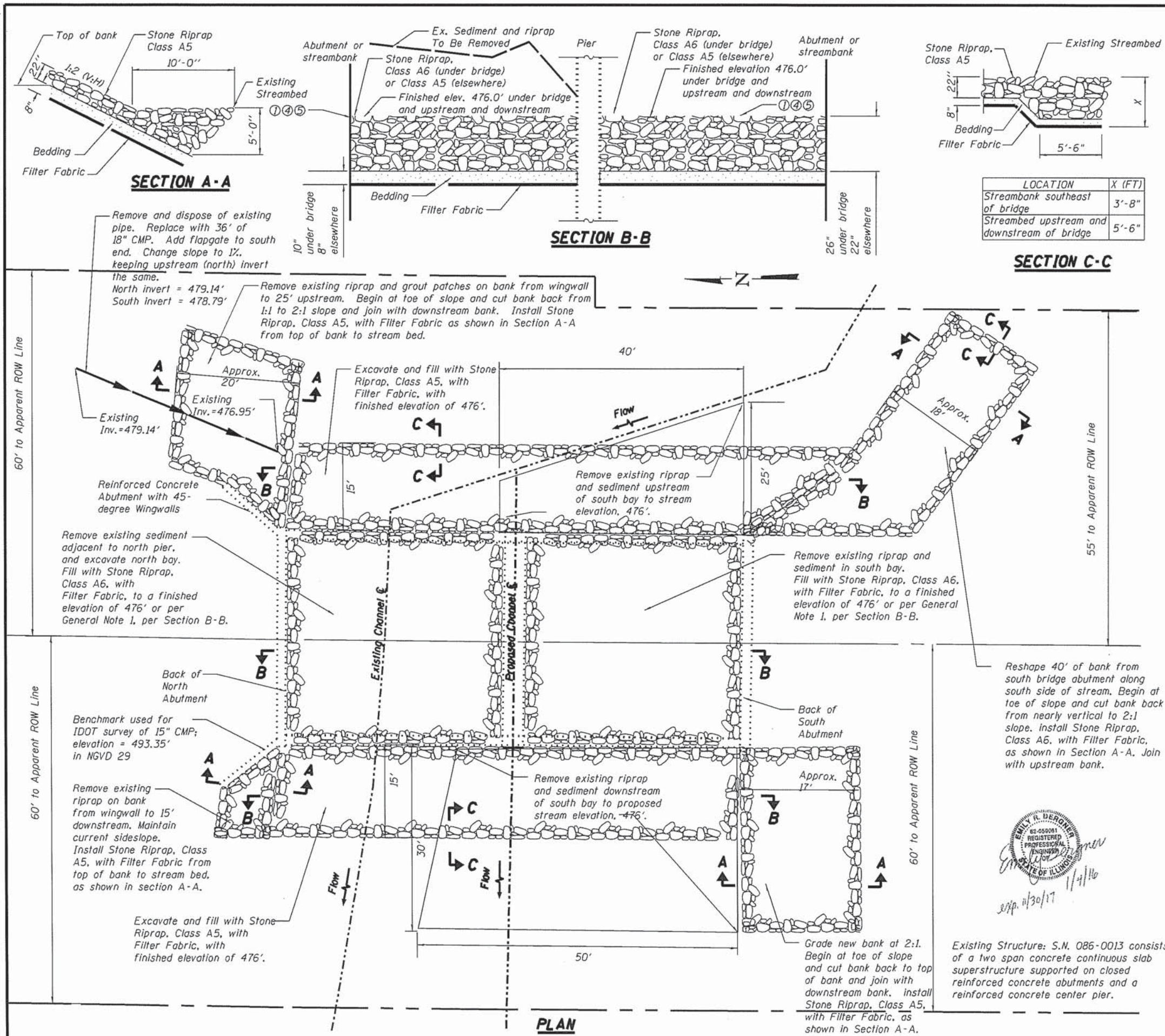
SUBMITTED 3/16 2016

[Signature]
REGION FOUR ENGINEER

May 6 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

May 6 2016
[Signature]
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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GENERAL NOTES

- No excavation below the top of the abutments and pier footings is allowed. In the event the top of footing is exposed, the placement of the bedding will start at the top of the footing with the riprap on top of the bedding. If the top of the riprap elevation is above the proposed flowline (476.0'), grade the channel so that the center of each bridge bay is at the proposed flowline (476.0').
- Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work; however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
- Layout of the erosion control protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- Grade streambed so that the top of the Stone Riprap approximately matches the proposed stream profile as directed by the Engineer.
- Additional excavation and reshaping of channel and bank may be required to facilitate proper placement of Stone Riprap as directed by the Engineer.
- Contractor to locate existing underground utilities. Where existing underground utilities conflict with riprap placement, the Contractor shall adjust the layout as directed by the Engineer.
- Elevation view shown as of September 2015. Actual conditions may vary.
- Estimated quantities. Actual quantities to be determined in the field.
- No excavation should occur within 1' of abutment or pier footings.
- Pipe protruding from stream bank southeast of bridge should be identified and relocated or protected.
- Elevations are in datum NAVD 88, except when otherwise noted.



ELEVATION VIEW (Looking Northwest)

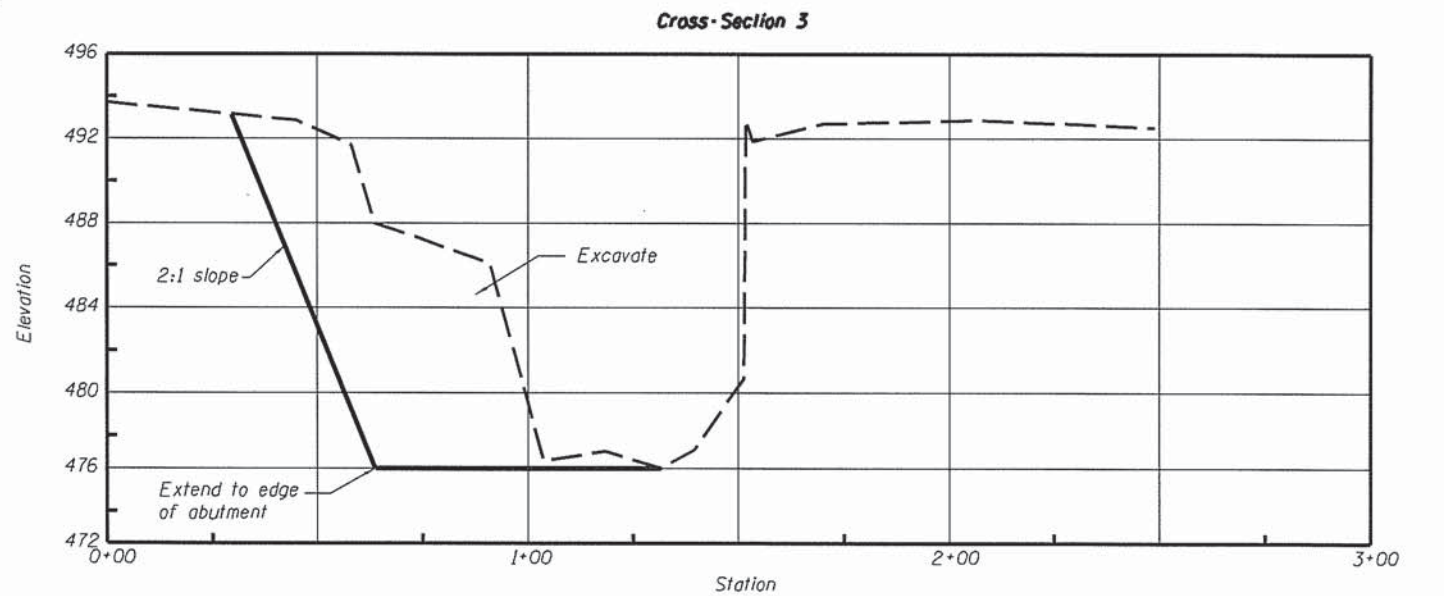
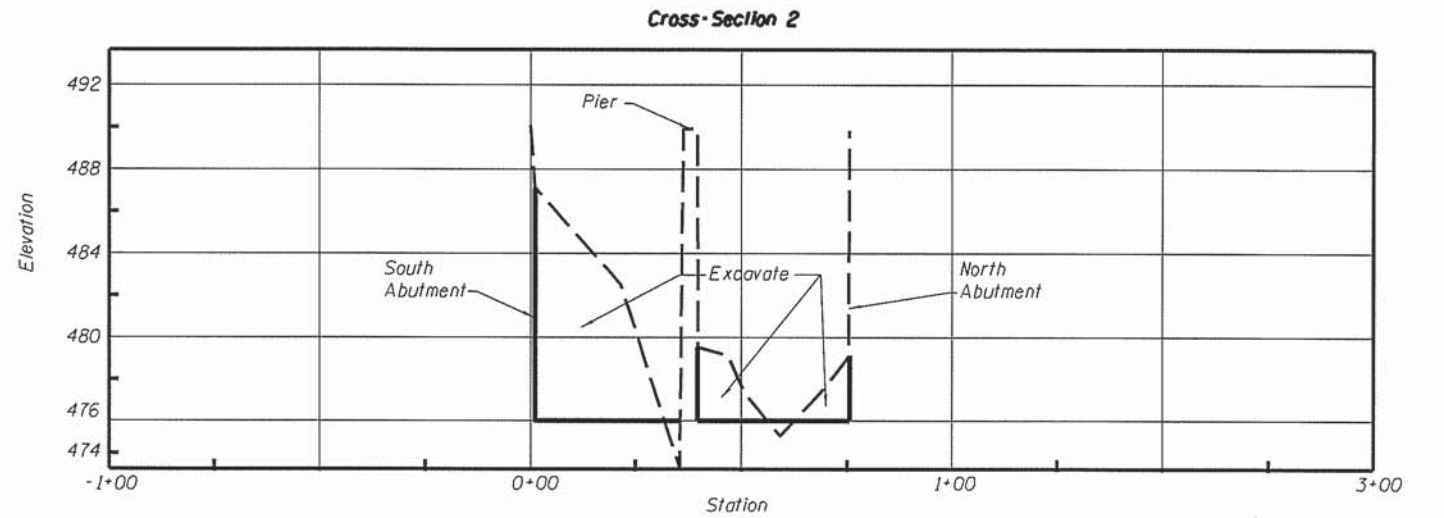
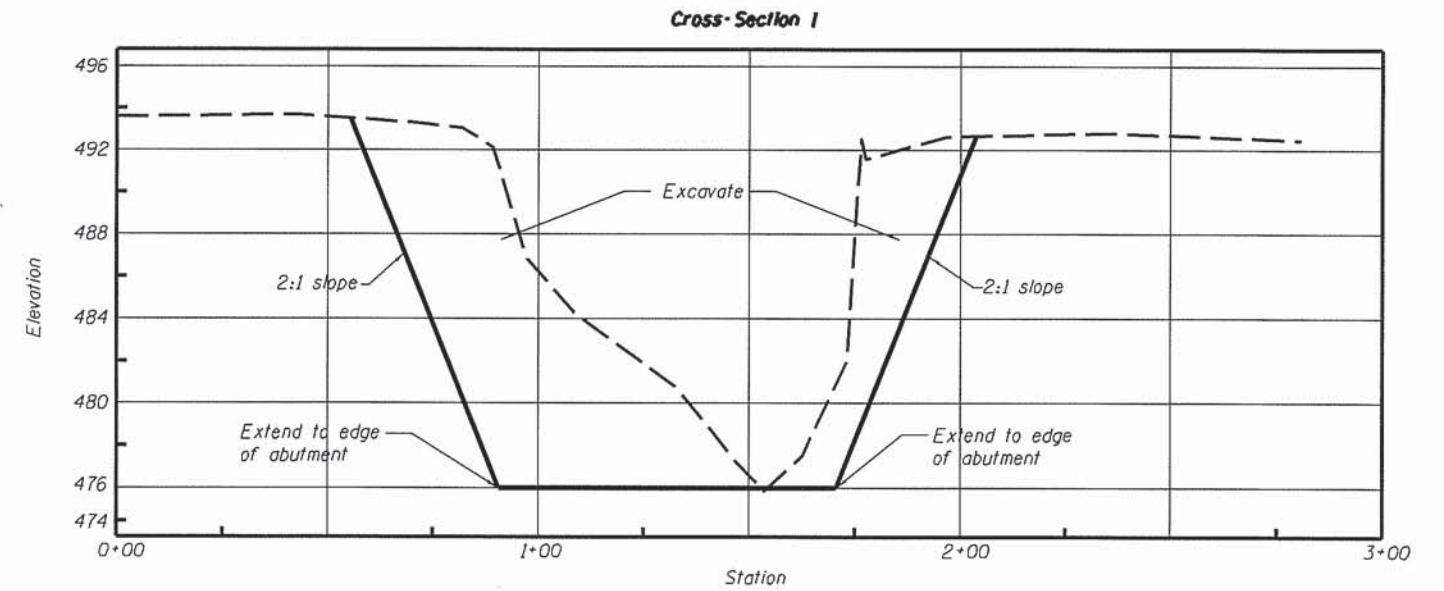
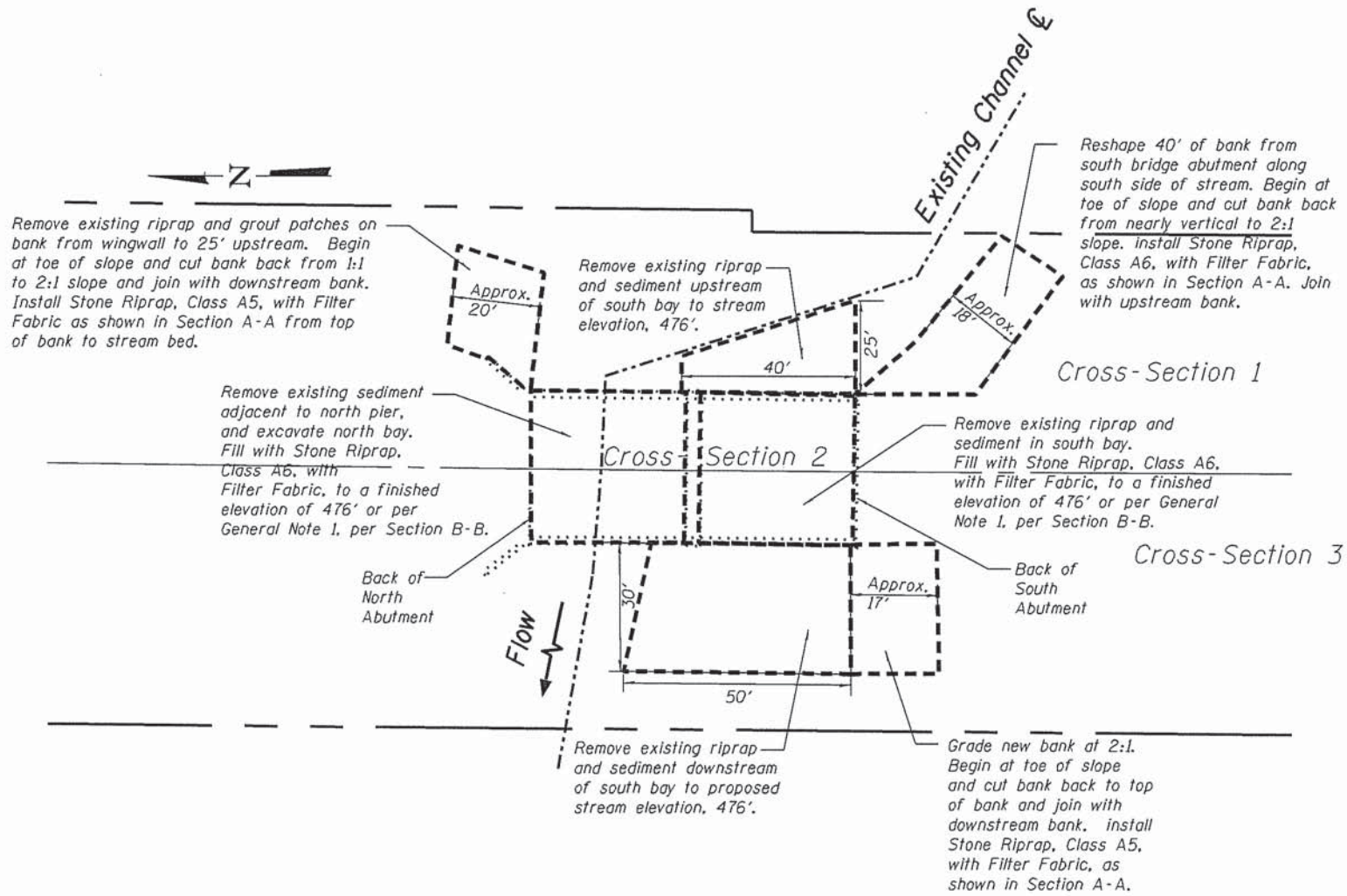
SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
28100109	Stone Riprap, Class A5	50 YD	410
28100111	Stone Riprap, Class A6	50 YD	360
28200200	Filter Fabric	50 YD	770

**IL ROUTE 106 OVER LITTLE SANDY CREEK
STRUCTURE NO. 086-0013**

GENERAL NOTES

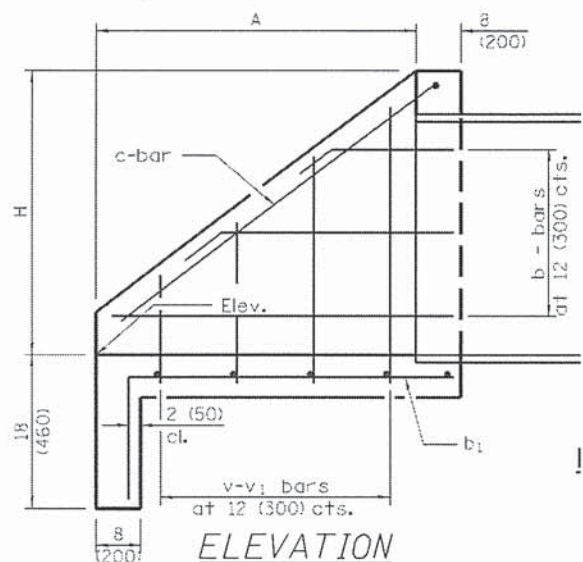
The channel and banks shall be reshaped to the grades shown prior to excavating for riprap. Excavated material shall be disposed of by the contractor. All excavation and material disposal shall be considered incidental to riprap placement and shall not be measured for payment separately.



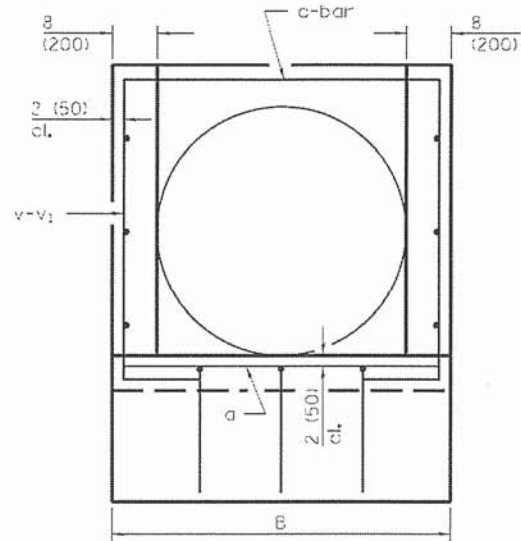
--- Existing
 — Proposed

CROSS-SECTIONS (looking downstream, west)

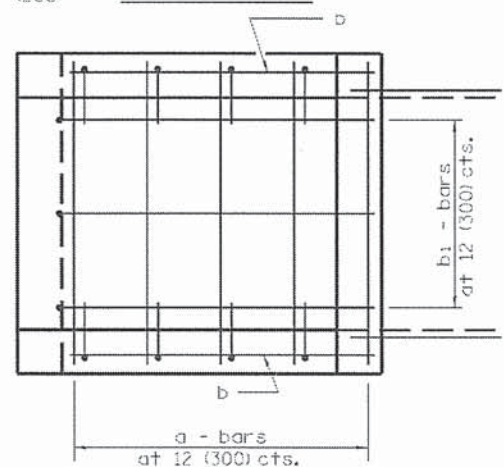
FILE NAME :	USER NAME : #USER#	DESIGNED EB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND CROSS-SECTIONS	F.A.P. RTE. 566	SECTION (I) SCR, DR	COUNTY SCOTT	TOTAL SHEETS 5	SHEET NO. 4		
#FILE#	PLOT SCALE = 1"=300'	DRAWN EB	REVISED -			SCALE:	SHEET OF SHEETS STA. TO STA.	CONTRACT NO. T2110				
#MODELNAME#	PLOT DATE = #DATE#	CHECKED MK	REVISED -			ILLINOIS FED. AID PROJECT						
		DATE 3/9/2016	REVISED -									



ELEVATION



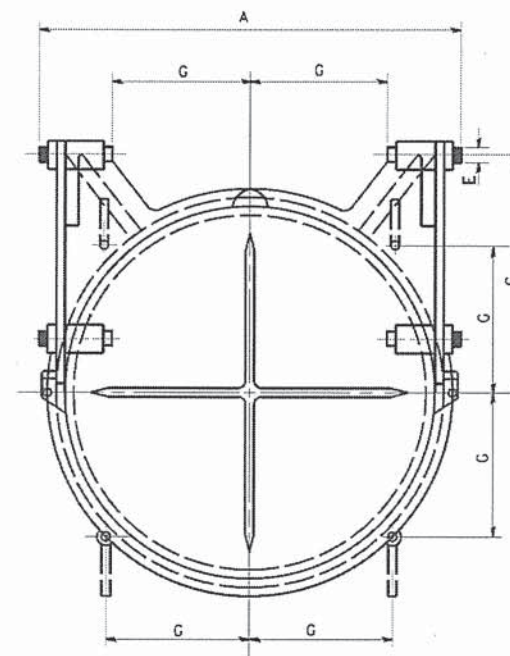
END ELEVATION



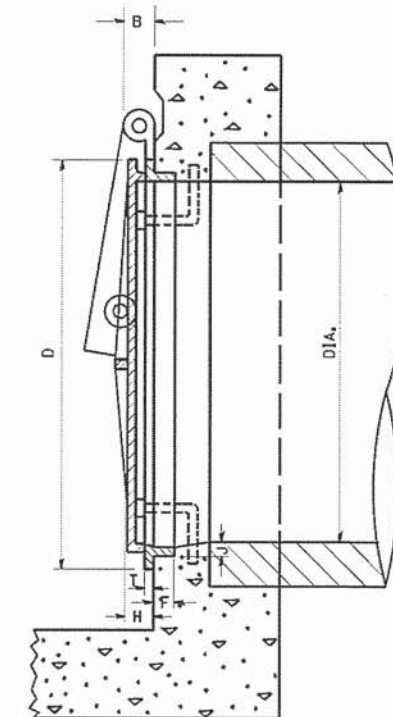
PLAN

BILL OF MATERIAL - PIPE ITEMS

ITEM	UNIT	QUANTITY
PIPE CULVERT REMOVAL	FOOT	36
PIPE CULVERTS, CLASS D, TYPE 3, 18"	FOOT	36
CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 30"	EACH	1
FLAP GATE 18"	EACH	1



FRONT ELEVATION



SECTION

IT IS INTENDED THAT THE AUTOMATIC FLAP GATES SHALL BE A COMMERCIAL PRODUCT BY A RELIABLE MANUFACTURER. THE GATE MAY BE MADE OF CAST IRON, CAST STEEL OR OTHER SUITABLE MATERIAL. THE DESIGN MAY DIFFER FROM THE DRAWING IF IT WILL WORK IN A SATISFACTORY, TROUBLE FREE MANNER AND WILL WITHSTAND THE WATER PRESURE AT THE INSTALLATION LOCATION.

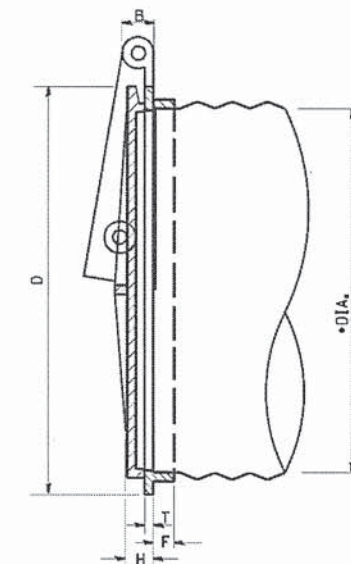
THE SIZE OF AUTOMATIC FLAP GATES SHALL REFER TO THE DIAMETER OF THE OUTLET PIPE OR OPENING.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR FLAP GATES OF THE SIZE SPECIFIED AND SHALL INCLUDE ALL MATERIALS AND COMPLETE INSTALLATION.

Pipe Dia. (nom.)	A	B	H	Reinforcing Steel No. 4 (No. 13) bars						Concrete 2 End Secs. cu. yds. (m ³)	Reinf. Bars 2 End Secs. lbs. (kg)
				a	b	b ₁	c	v	v ₁		
12 (300)	18 (460)	28 (710)	16 (460)	4 @ 24 (4 @ 610)	4 @ 21 (4 @ 540)	4 @ 31 (4 @ 790)	2 @ 5'-9" (2 @ 1.75 m)	4 @ 30 (4 @ 760)	4 @ 21 (4 @ 530)	0.59 (0.45)	40 (18.1)
15 (375)	24 (570)	31 (780)	21 (535)	4 @ 27 (4 @ 690)	4 @ 27 (4 @ 690)	4 @ 39 (4 @ 990)	2 @ 7'-0" (2 @ 2.13 m)	4 @ 33 (4 @ 840)	4 @ 24 (4 @ 610)	0.77 (0.59)	40 (18.1)
18 (450)	27 (685)	34 (860)	24 (610)	6 @ 30 (6 @ 760)	8 @ 30 (8 @ 760)	4 @ 3'-6" (4 @ 1.07 m)	2 @ 8'-0" (2 @ 2.44 m)	4 @ 36 (4 @ 910)	4 @ 27 (4 @ 690)	0.92 (0.70)	60 (27.2)
24 (600)	36 (915)	3'-4" (1.01 m)	30 (760)	6 @ 36 (6 @ 910)	8 @ 39 (8 @ 990)	6 @ 4'-3" (6 @ 1.2 m)	2 @ 10'-6" (2 @ 3.2 m)	8 @ 3'-6" (8 @ 1.07 m)	4 @ 30 (4 @ 760)	1.32 (1.01)	90 (40.8)
30 (750)	3'-9" (1.14 m)	3'-10" (1.16 m)	36 (915)	8 @ 3'-6" (8 @ 1.07 m)	12 @ 4'-0" (12 @ 1.22 m)	6 @ 5'-0" (6 @ 1.52 m)	2 @ 12'-6" (2 @ 3.81 m)	8 @ 4'-0" (8 @ 1.22 m)	4 @ 36 (4 @ 910)	1.79 (1.37)	120 (54.4)
36 (900)	4'-6" (1.37 m)	4'-4" (1.07 m)	3'-6" (1.07 m)	10 @ 4'-0" (10 @ 1.22 m)	12 @ 4'-9" (12 @ 1.45 m)	6 @ 5'-9" (6 @ 1.75 m)	2 @ 15'-0" (2 @ 4.57 m)	8 @ 4'-6" (8 @ 1.37 m)	8 @ 3'-6" (8 @ 1.07 m)	2.33 (1.85)	150 (68.0)
48 (1200)	6'-0" (1.83 m)	5'-4" (1.62 m)	4'-6" (1.37 m)	12 @ 5'-0" (12 @ 1.52 m)	16 @ 5'-0" (16 @ 1.52 m)	8 @ 6'-3" (8 @ 1.9 m)	2 @ 19'-3" (2 @ 5.87 m)	12 @ 5'-0" (12 @ 1.52 m)	8 @ 3'-6" (8 @ 1.07 m)	3.60 (2.60)	230 (104.3)

TABLE OF DIMENSIONS

DIA.	A	B	C	D	E	F	G	H	J	T
8	10 3/4	1 3/8	5 1/8	10	1/2	1 1/8	3 3/8	1 1/4	3/8	3/8
10	12 3/4	1 3/8	7 1/8	12 1/4	1/2	1 1/8	4 3/8	1 1/2	1/2	3/8
12	14 3/4	1 3/8	8 1/2	14 1/2	1/2	1 1/8	5 1/8	1 1/2	1/2	1/2
14	17 1/4	1 3/8	9 3/8	16 3/4	1/2	1 1/4	5 5/8	1 1/2	1/2	3/8
15	17 3/4	1 3/8	10 3/8	17 3/4	1/2	1 1/4	6 1/4	1 1/2	1/2	3/8
16	19 1/4	1 3/8	11 1/4	18 3/4	1/2	1 1/4	6 3/8	1 1/2	1/2	3/8
18	22 1/4	2	12 3/8	21	3/4	1 3/8	7 1/8	1 3/4	3/8	3/8
20	24 3/4	2	14 1/8	23 3/4	3/4	1 3/8	8 1/4	1 3/4	5/8	5/8
21	25 1/4	2	14 3/8	24 1/4	3/4	1 3/8	8 3/8	1 3/4	5/8	5/8
24	28 1/4	2	17	27 1/2	3/4	1 1/2	9 3/4	1 3/4	5/8	5/8
30	35 1/4	2 1/2	20 1/2	34	1	1 3/8	12	2	1 1/8	5/8
36	41 1/2	2 1/2	25	40 3/8	1	2 1/8	14 3/8	2 1/4	1 1/8	5/8
42	47 1/2	2 1/2	29 3/4	47	1	2 3/8	16 3/8	2 1/4	1 1/8	3/4
48	53 1/2	2 1/2	34	54	1	2 3/4	19 3/8	2 1/4	1 3/8	3/4
54	60 3/4	2 1/2	38	62 1/4	1 1/4	2 3/4	22	3	1 1/2	3/8
60	67	2 1/2	42	68 1/2	1 1/4	2 3/4	24 1/4	3	1 1/2	3/8
66	73 3/8	2 1/2	47	75	1 1/4	2 7/8	26 1/2	3	1 1/2	1
72	79	2 1/2	51	82	1 1/4	3	29	3	1 1/2	1
78	86	2 1/2	55 1/4	88 3/4	1 1/4	3 1/2	31 3/8	3	1 3/8	1 1/8
84	92 1/2	3 1/2	59 1/2	95 1/2	1 1/2	3 1/2	33 3/4	3	1 3/4	1 1/4



SECTION SHOWING METHOD OF APPLICATION TO CORRUGATED METAL PIPE

- NOTES:
1. THE END SECTION DIMENSIONS FOR A 30" PIPE SHALL BE USED TO ALLOW SUFFICIENT ROOM FOR FLAP GATE OPERATION. THE PIPE SHALL BE CENTERED HORIZONTALLY IN THE END SECTION AND SHALL BE SET HIGH ENOUGH SO THAT THE FLOOR OF THE END SECTION DOES NOT INTERFERE WITH FLAP GATE OPERATION.
 2. THE END SECTION AND PIPE SHALL BE RECESSED INTO THE BANK SUCH THAT THE FINISHED RIPRAP SURFACE IS EVEN WITH THE TOP EDGE OF THE END SECTION.
 3. THE PIPE SHALL BE ALIGNED HORIZONTALLY IN SUCH A MANNER TO MAKE THE END SECTION FLUSH WITH THE DITCH BANK.
 4. THE DESIGN HEAD FOR THE FLAP GATE SHALL BE 0'. THE FLAP GATE SHALL NOT RESTRICT DRAINAGE OF THE DITCH EXCEPT DURING HIGH WATER EVENTS ON LITTLE SANDY CREEK.
 5. BACKFILLING OF THE PROPOSED PIPE SHALL BE ACCOMPLISHED USING EXCAVATED MATERIAL AND SHALL RETURN THE BANK TO THE EXISTING GRADE. UPON COMPLETION OF BACKFILLING OPERATIONS, ALL DISTURBED AREAS WHICH WILL NOT BE COVERED IN RIPRAP SHALL BE SEEDED PER SECTION 250 OF THE STANDARD SPECIFICATIONS. CLASS 2 SEED MIX SHALL BE USED. ALL WORK AND MATERIALS ASSOCIATED WITH THIS NOTE SHALL BE CONSIDERED INCIDENTAL TO THE PIPE CULVERT PAY ITEM AND SHALL NOT BE MEASURED FOR PAYMENT SEPARATELY.

FLAP GATES
NOT TO SCALE