

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.S. ROUTE 2936 (OLD US 51)
SECTION 14A(B-1)
PROJECT ACRS-2936 (114)
STRUCTURE REPLACEMENT
PULASKI COUNTY

C-99-024-13

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2936	14A(B-1)	PULASKI	10	1
		ILLINOIS	CONTRACT NO. 78354	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

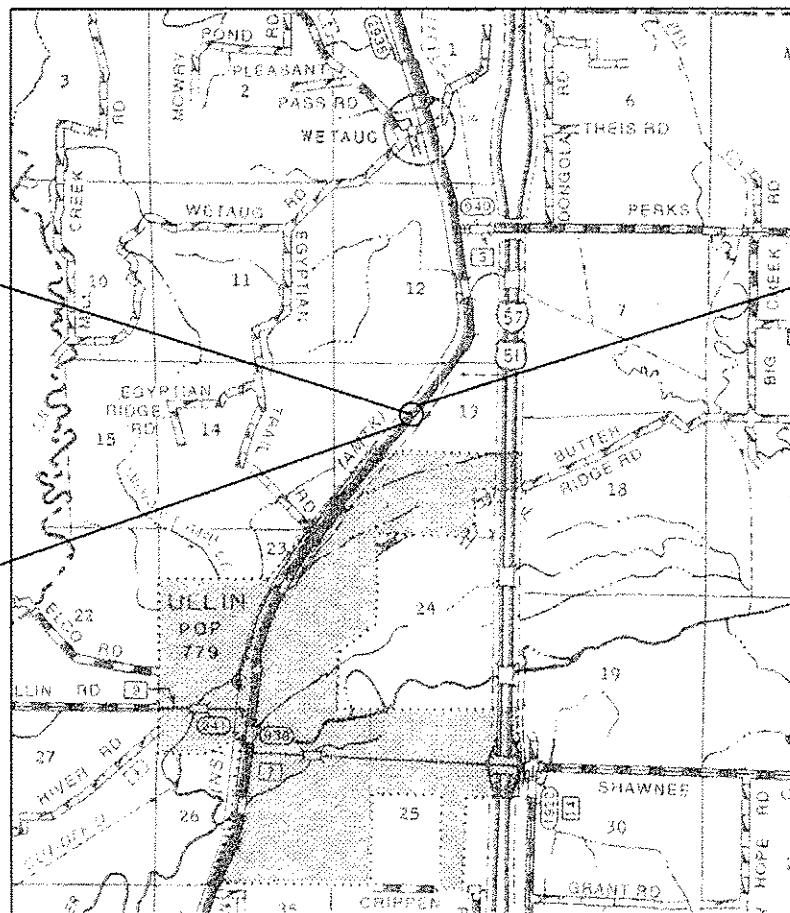
TRAFFIC DATA
2013 ADT = 1100
3% TRUCKS

TOWNSHIP
COUNTY UNIT ROAD DISTRICT

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

PROJECT DESIGNER: RUSS WALKER
PROJECT MANAGER: DAVID PICHE (618) 351-5227

CONTRACT NO. 78354



PROJECT LOCATION
SN 077-7057 (E)
SN 077-7060 (P)

PROPOSED PROJECT ENDS
STA 720+91

PROPOSED PROJECT BEGINS
STA 720+69



GROSS LENGTH = 22 FT.
NET LENGTH = 22 FT.



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *October 16 20 13*

John D. Baranzelli, PE
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

John D. Baranzelli, PE
ENGINEER OF DESIGN AND ENVIRONMENT

Amr Osman, PE
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

GENERAL NOTES

- 1) THE THICKNESS OF HOT-MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT-MIX ASPHALT MIXTURE IS PLACED.
- 2) FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:
 ALL HOT-MIX ASPHALT: 2.016 TONS / CU YD
 ALL AGGREGATE: 2.05 TONS / CU YD
 RIP RAP: 1.50 TONS / CU YD
- 3) AT ALL LOCATIONS WHERE EXISTING HOT-MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT-MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.
- 4) THE CONTRACTOR MAY USE P.C.C. PAVEMENT 10' WITH PAVEMENT FABRIC FOLLOWING STANDARD 420601 IN LIEU OF THE HMA PAVEMENT SHOWN IN THE PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED. A CALCIUM CHLORIDE ACCELERATOR WILL BE ALLOWED ONLY IN THE P.C.C. PAVEMENT. THE CONCRETE SHALL BE CLASS PP-1 OR PP-2 PER ARTICLE 1020 OF THE STANDARD SPECS.
- 5) COMMITMENTS: PULASKI COUNTY SHERIFF'S DEPARTMENT SHALL BE CONTACTED PRIOR TO THE 2 WEEK NOTIFICATION SIGNING AND PRIOR TO ANY WORK INVOLVING TRAFFIC CONTROL AND PROTECTION THAT AFFECTS THE PUBLIC. PHONE: 1-618-748-9374 EMAIL: PAULAPILGRAM@YAHOO.COM

MIXTURE REQUIREMENTS

Location(s):	Hot-Mix Asphalt Surface Course
Mixture Uses(s):	Hot-Mix Asphalt Surface Course, Mix C, N90
AC/PG:	PG64-22
ABR % (Max):	See BDE Special Provision
Design Air Voids:	4.0 %, 90 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-9.5 mm
Friction Aggregate:	C Surface

Location(s):	Hot-Mix Asphalt Binder Course
Mixture Uses(s):	Hot-Mix Asphalt Binder Course, N90, IL-19.0
AC/PG:	PG64-22
ABR % (Max):	See BDE Special Provision
Design Air Voids:	4.0 %, 90 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-19.0 mm
Friction Aggregate:	None

INDEX OF SHEETS

- 1) COVER SHEET
- 2) SIGNATURES, STANDARDS, GENERAL NOTES, MIXTURE REQUIREMENTS, & INDEX OF SHEETS
- 3-4) SUMMARY OF QUANTITIES
- 5) PLAN VIEW
- 6) EROSION CONTROL PLAN
- 7) TEMPORARY AND FINAL SECTIONS
- 8) SECTION THRU PROPOSED BOX
- 9) PROPOSED CAST-IN-PLACE APRON END SECTION

HIGHWAY STANDARDS

- | | |
|-----------|---|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS |
| 001001-02 | AREAS OF REINFORCEMENT BARS |
| 420601-05 | 24' PCC PAVEMENT |
| 701001-02 | OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY |
| 701006-05 | OFF-ROAD OPERATIONS, 2L, 2W, 15' TO EOP |
| 701201-04 | LANE CLOSURE 2L, 2W, DAY ONLY |
| 701901-03 | TRAFFIC CONTROL DEVICES |
| BLR 21-9 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |

Prepared By:	<i>Joe Zankiewicz</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>Joe Zankiewicz</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>Carrie Nelson</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>Karl Kelly</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>KR</i> DISTRICT PROJECT IMPLEMENTATION ENGINEER
Examined By:	<i>Dan J. Duff</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>Burton Piles</i> DISTRICT MATERIALS ENGINEER

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE: 0040 FUNDING: 80% FED 20% STATE
20200100	EARTH EXCAVATION	CU YD	100
20700220	POROUS GRANULAR EMBANKMENT	CU YD	45
25000200	SEEDING, CLASS 2	ACRE	0.1
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	9
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	9
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	9
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.2
25100630	EROSION CONTROL BLANKET	SQ YD	135
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	10
28000400	PERIMETER EROSION BARRIER	FOOT	159
28100107	STONE RIPRAP, CLASS A4	SQ YD	34
28200200	FILTER FABRIC	SQ YD	34
40603090	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90	TON	29
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	4

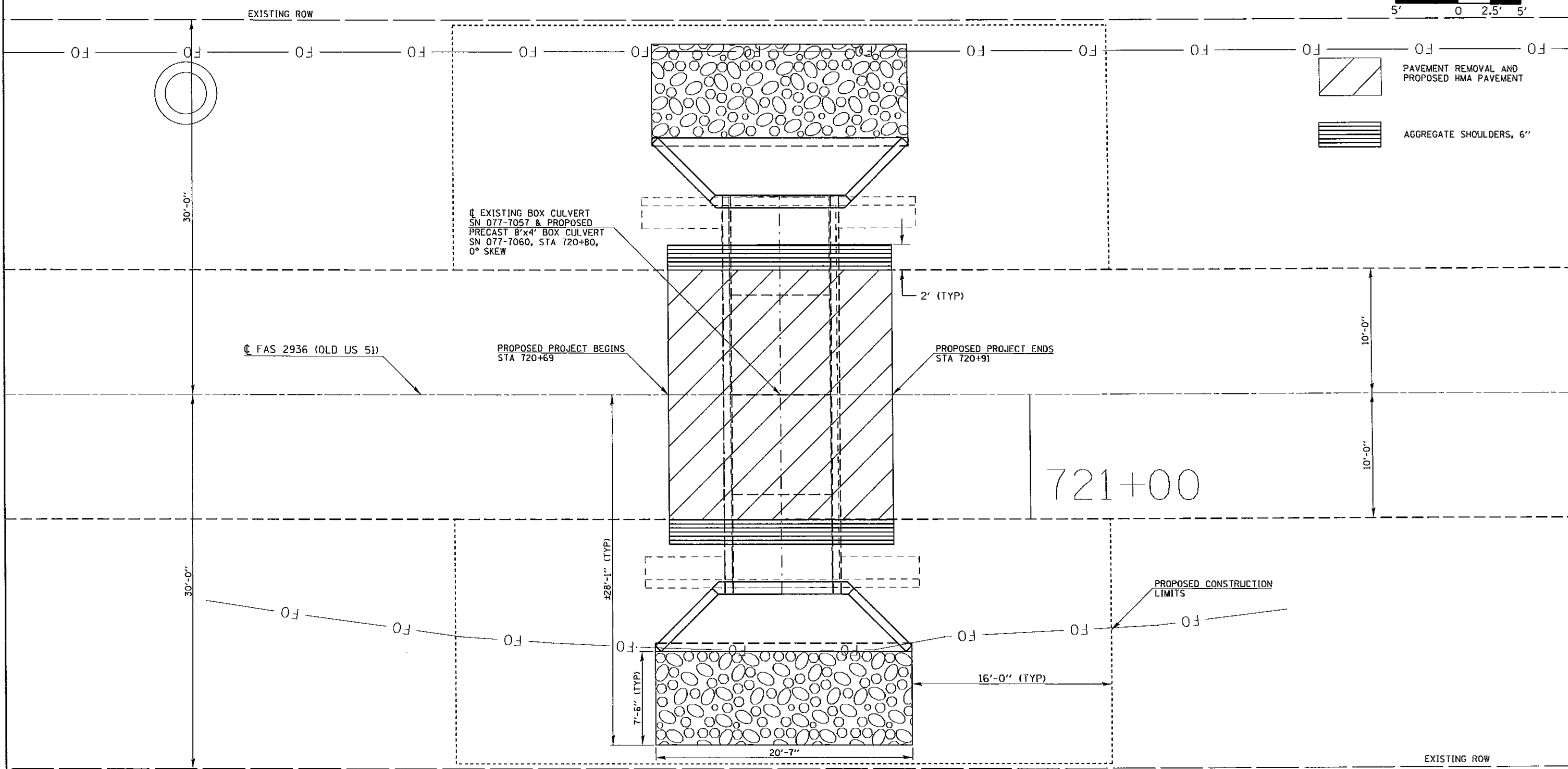
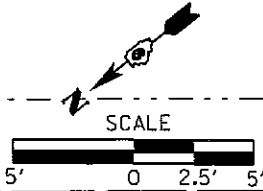
FILE NAME =	USER NAME = walkerr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.S. RTE. 2936	SECTION 14A(B)-II	COUNTY PULASKI	TOTAL SHEETS 10	SHEET NO. 3
Default	4-977-design.dgn	DRAWN -	REVISED -		SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____					
	PLOT SCALE = 1/8" = 1' / 1/4"	CHECKED -	REVISED -							
	PLOT DATE = 10/18/2013	DATE -	REVISED -							
(ILLINOIS) FED. AID PROJECT										

SUMMARY OF QUANTITIES - CONT

CODE NUMBER	ITEM DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE: 0040 FUNDING: 80% FED 20% STATE
44000100	PAVEMENT REMOVAL	SQ YD	49
50102400	CONCRETE REMOVAL	CU YD	26.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	620
54003000	CONCRETE BOX CULVERTS	CU YD	11.1
54010804	PRECAST CONCRETE BOX CULVERTS 8' X 4'	FOOT	32
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1
67100100	MOBILIZATION	L SUM	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	44
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	15
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	44

* SPECIALTY ITEM

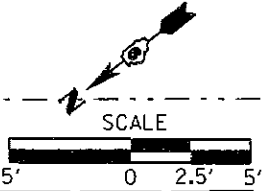
FILE NAME =	USER NAME = walke-ro	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwwork\owid\walke-ro\8334982\783	4-877-design.dgn	DRAWN - _____	REVISED - _____			2936	14A18-11	PULASKI	10	4	
Default	PLDT SCALE = 100.0000' / 1"	CHECKED - _____	REVISED - _____			SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____					
	PLDT DATE = 9/5/2013	DATE - _____	REVISED - _____			ILLINOIS FED. AID PROJECT CONTRACT NO. 78354					



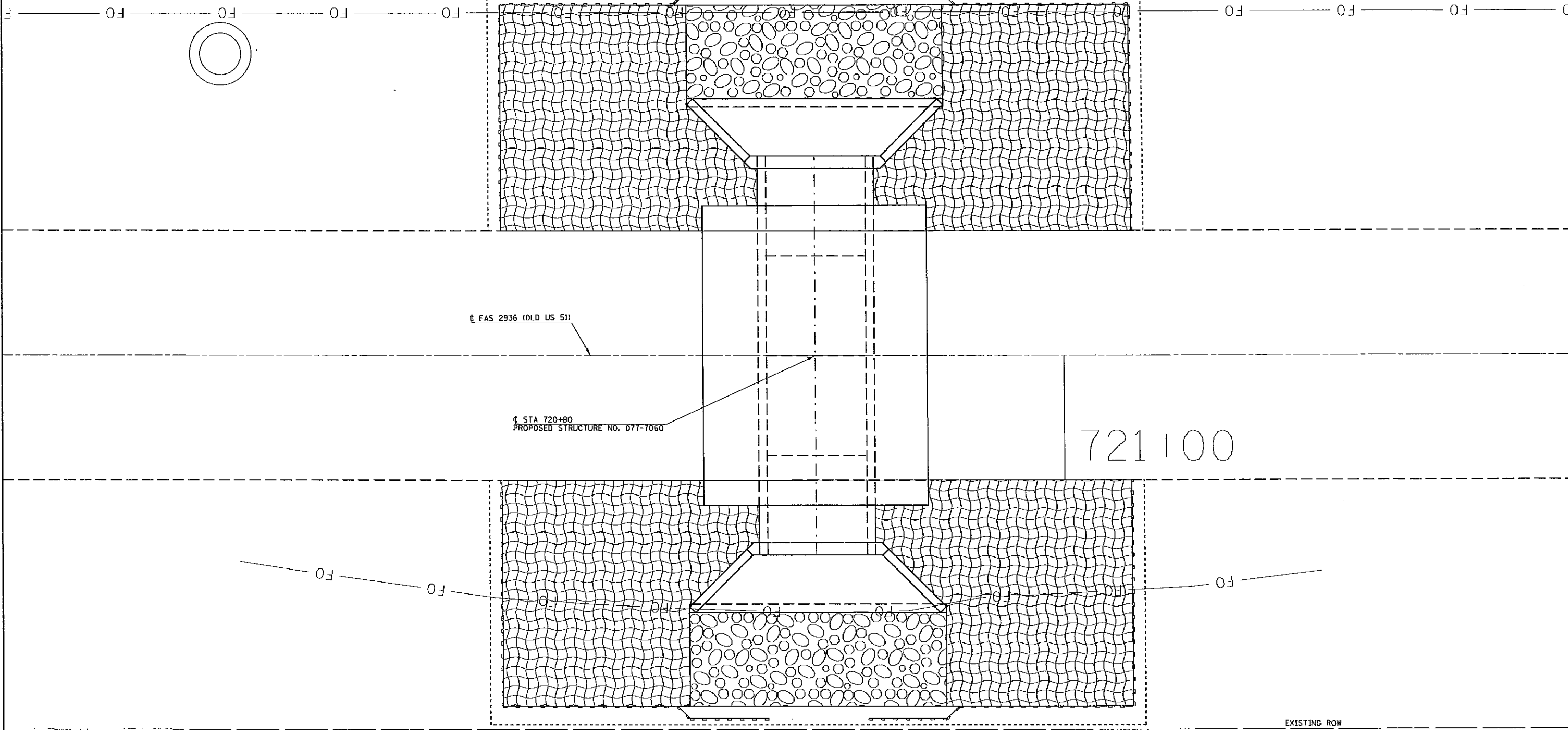
BM 077-536 - CUT "X" ON TOP OF 5/8" REBAR PROTRUDING FROM NORTH END OF WEST HEADWALL OF SN 077-7057 ELEV. = 340.921'



FILE NAME =	USER NAME = walkarra	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN VIEW		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pwork\puidot\walkarra\d0334983\78354-077-sht-pln.dgn	14-077-sht-pln.dgn	DRAWN -	REVISED -		2936	14A(B-1)	PULASKI	10	5		
Default	PLOT SCALE = 8.0000' / in.	CHECKED -	REVISED -		SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____		CONTRACT NO. 78354		ILLINOIS FED. AID PROJECT		
	PLOT DATE = 10/1/2013	DATE -	REVISED -								



EXISTING ROW






± FAS 2936 (OLD US 51)

± STA 720+80
PROPOSED STRUCTURE NO. 077-7060

721+00

EXISTING ROW

-  EROSION CONTROL BLANKET
-  STONE RIPRAP, CLASS A4
-  PERIMETER EROSION BARRIER

FILE NAME =	USER NAME = walkerra	DESIGNED -	REVISED -
ca:\pwr\work\pwr\dot\walkerra\10334983\78354-077-sht.plt.dgn		DRAWN -	REVISED -
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	PLOT DATE = 10/1/2013	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

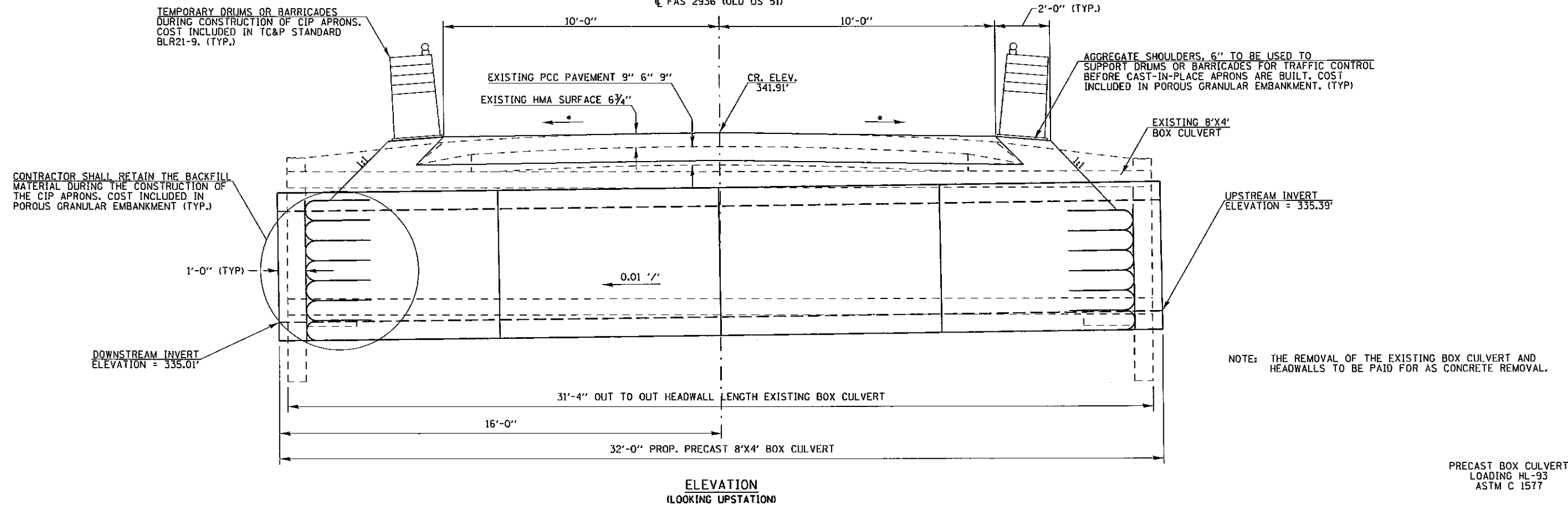
**EROSION CONTROL PLAN
SN 077-7060**

SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2936	14A(B-1)	PULASKI	10	6
				CONTRACT NO. 78354
ILLINOIS FED. AID PROJECT				

MINIMUM REQUIREMENTS TO OPEN TO TRAFFIC

• 3/16" / FT OR MATCH EXISTING



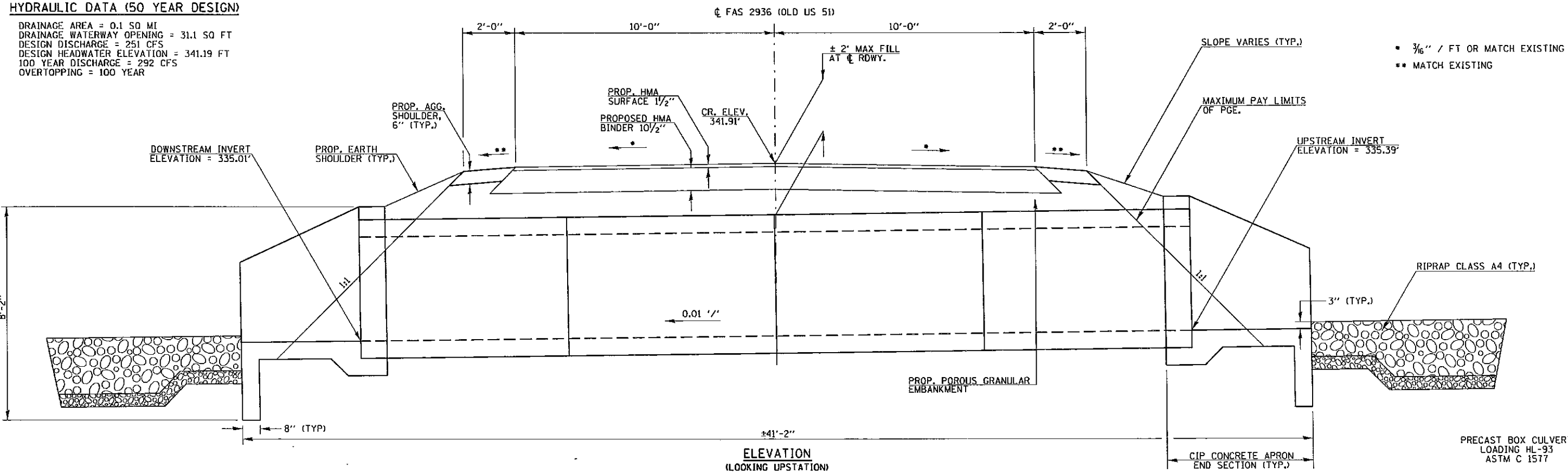
ELEVATION
(LOOKING UPSTATION)

PRECAST BOX CULVERT
LOADING HL-93
ASTM C 1577

FINAL SECTION AFTER CONSTRUCTION OF CAST-IN-PLACE APRONS

HYDRAULIC DATA (50 YEAR DESIGN)

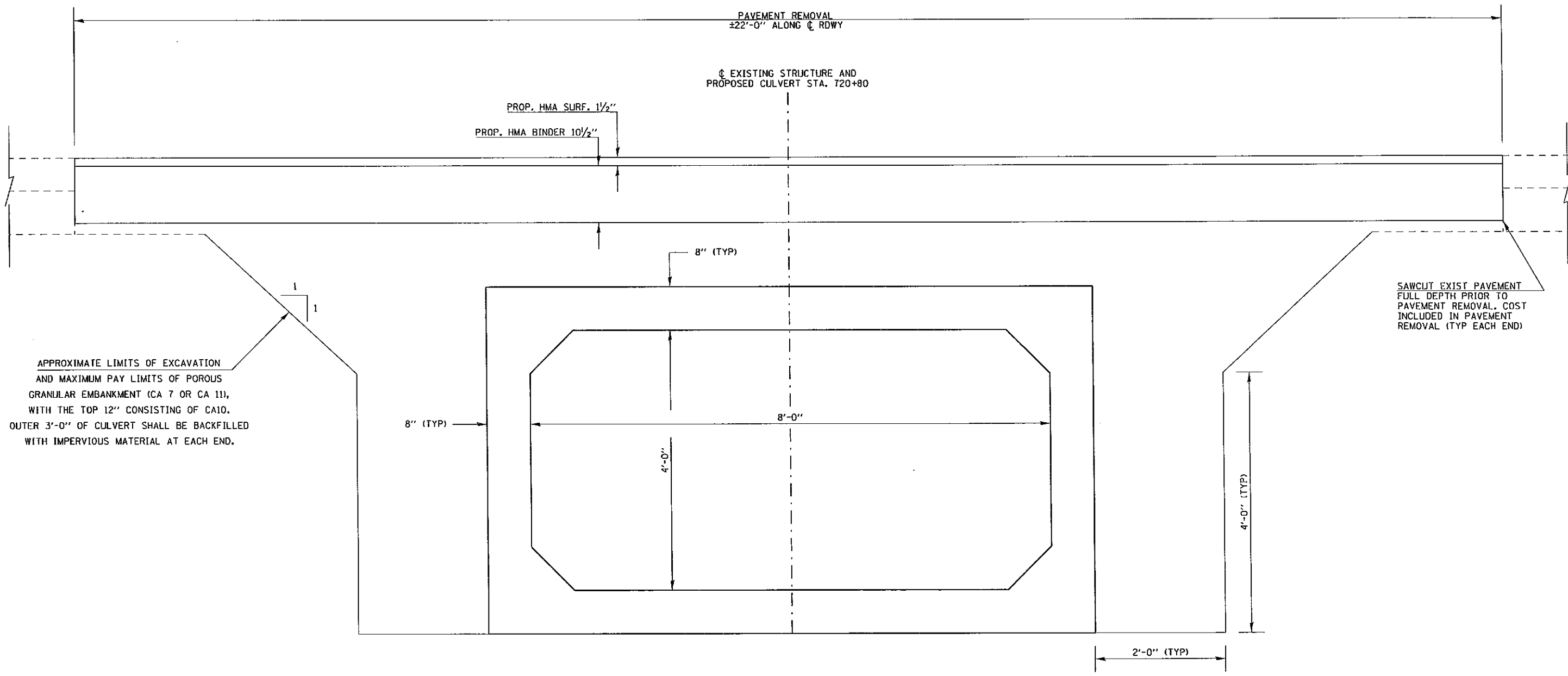
DRAINAGE AREA = 0.1 SQ MI
DRAINAGE WATERWAY OPENING = 31.1 SQ FT
DESIGN DISCHARGE = 251 CFS
DESIGN HEADWATER ELEVATION = 341.19 FT
100 YEAR DISCHARGE = 292 CFS
OVERTOPPING = 100 YEAR



ELEVATION
(LOOKING UPSTATION)

PRECAST BOX CULVERT
LOADING HL-93
ASTM C 1577

FILE NAME =	USER NAME = walkarra	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY AND FINAL SECTIONS			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pwork\puidot\walkarra\d0334982\78354-077-design.dgn	PLOT SCALE = 4.0000' / in.	DRAWN -	REVISED -					2936	14A(B-1)	PULASKI	10	7
Default	PLOT DATE = 10/10/2013	CHECKED -	REVISED -					CONTRACT NO. 78354				
		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				



SECTION THRU BOX

FILE NAME =	USER NAME = walkerra	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SECTION THRU PROPOSED BOX (SN 077-7057)	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca\p\work\p\dot\walkerra\d0334982\78354-077-design.dgn	PLOT SCALE = 1:6000 ' / in.	DRAWN -	REVISED -			2936	14A(B-1)	PULASKI	10	8
DeFault	PLOT DATE = 9/5/2013	CHECKED -	REVISED -			CONTRACT NO. 78354				
				SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____		ILLINOIS FED. AID PROJECT				

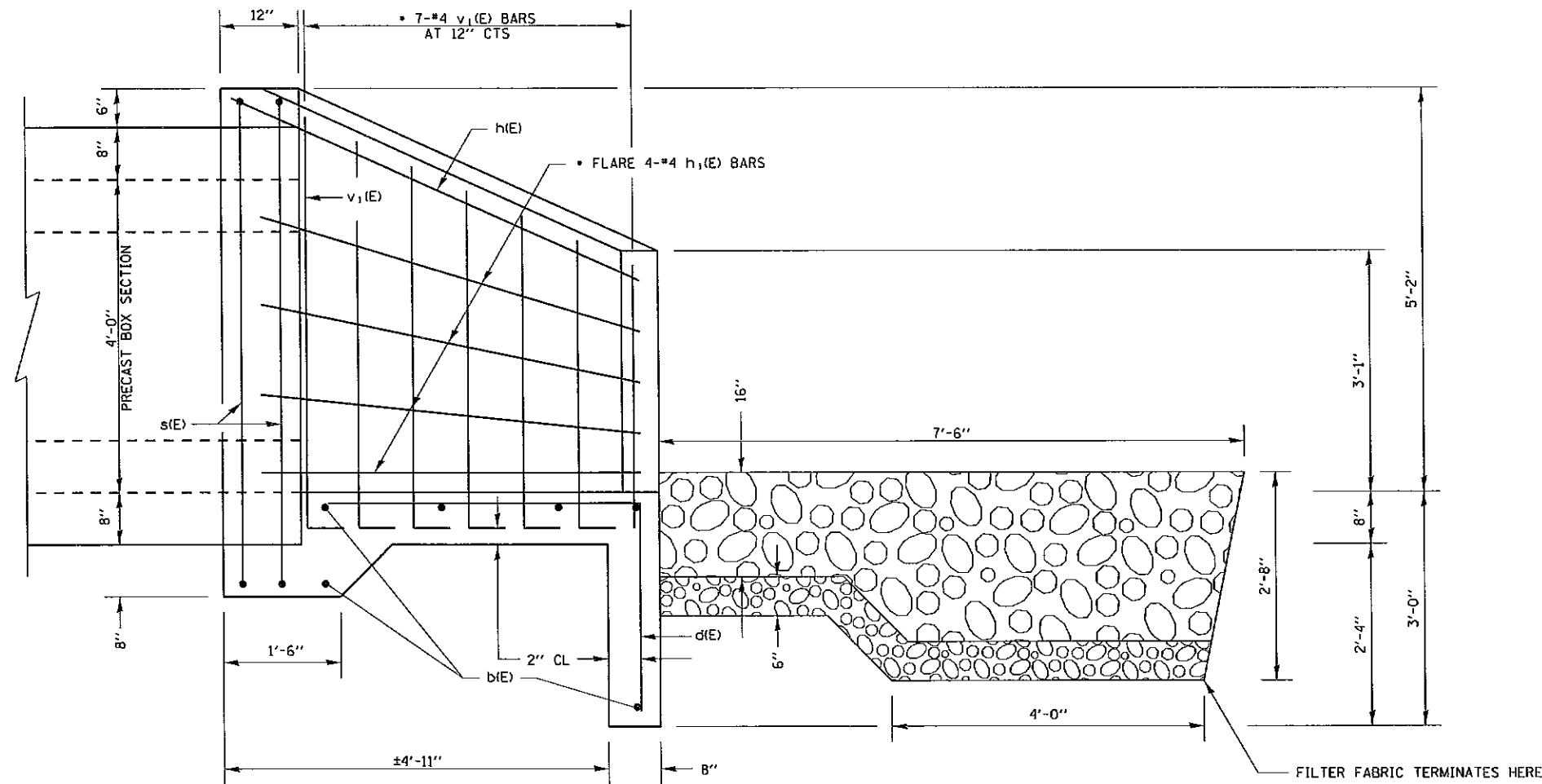
• CUT OR BEND TO FIT

MIN BAR LAP
#4 1'-8"

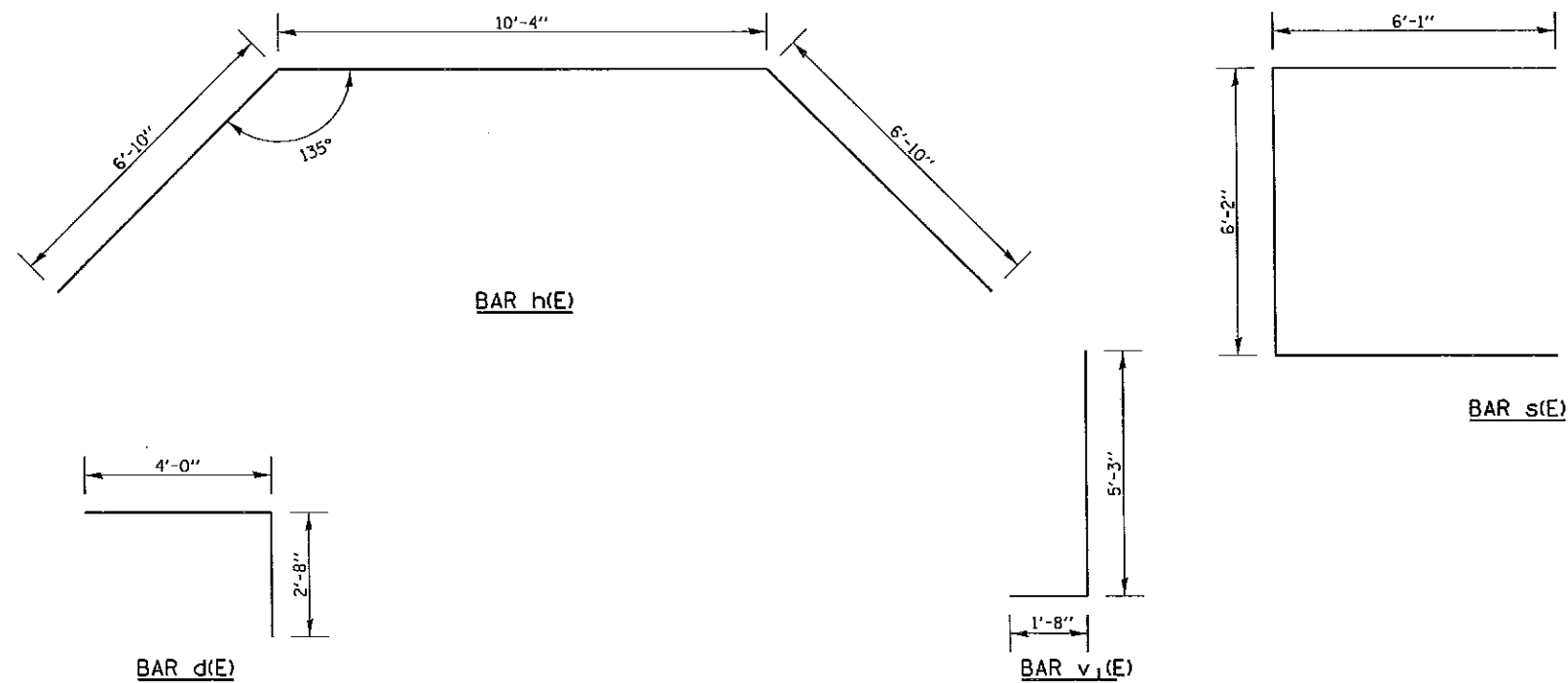
WORK THIS SHEET WITH
SHEET 10 OF 10

DESIGN STRESSES

$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$



HALF SIDE ELEVATION



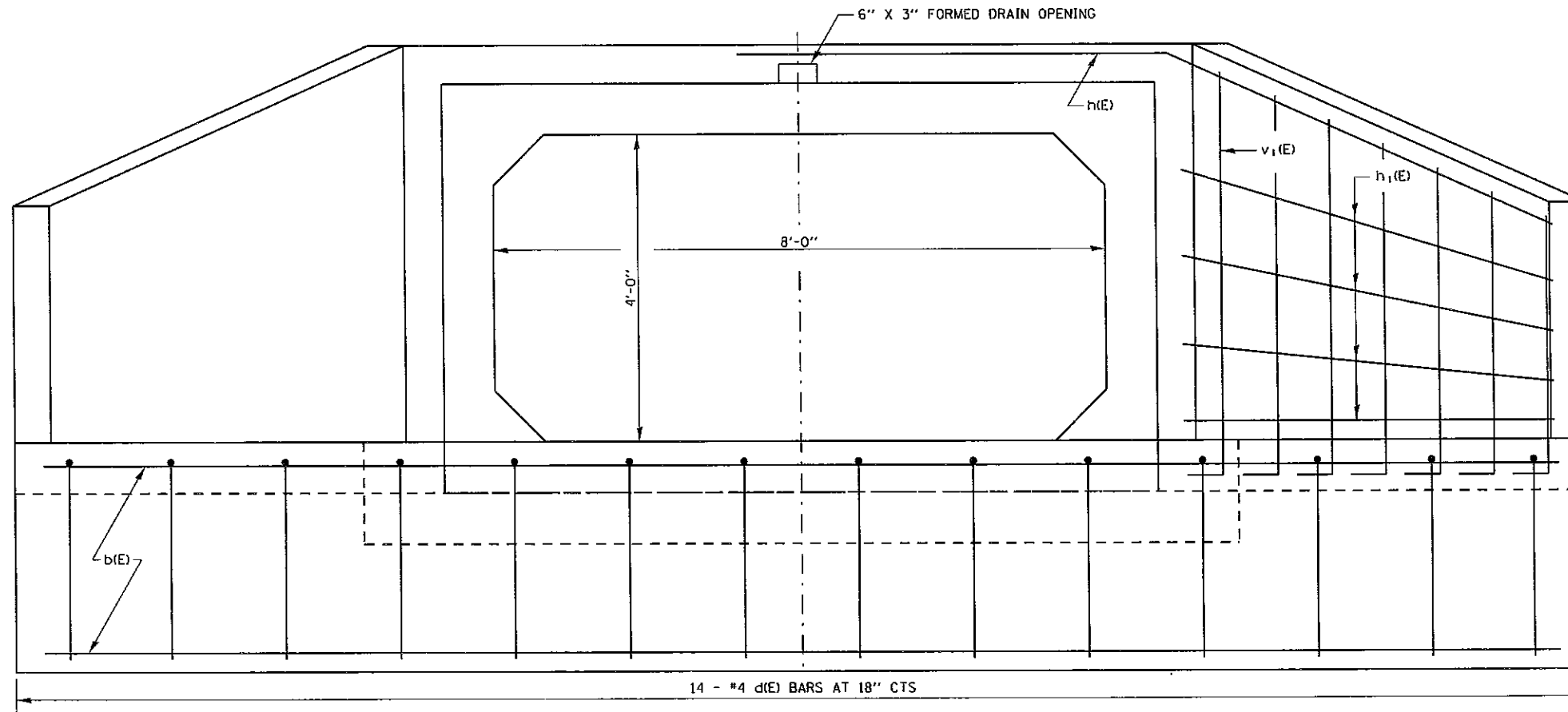
BILL OF MATERIAL (BOTH APRONS)

Bar	No.	Size	Length	Shape	
b(E)	20	#4	11'-11"	—	
d(E)	28	#4	6'-8"	┌	
h(E)	2	#4	24'-0"	∧	
h1(E)	16	#4	7'-2"	—	
s(E)	8	#4	18'-4"	┌	
v1(E)	28	#4	6'-11"	└	
CONCRETE BOX CULVERTS				CU. YD.	11.1
REINFORCEMENT BARS, EPOXY COATED.				Pound	620

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

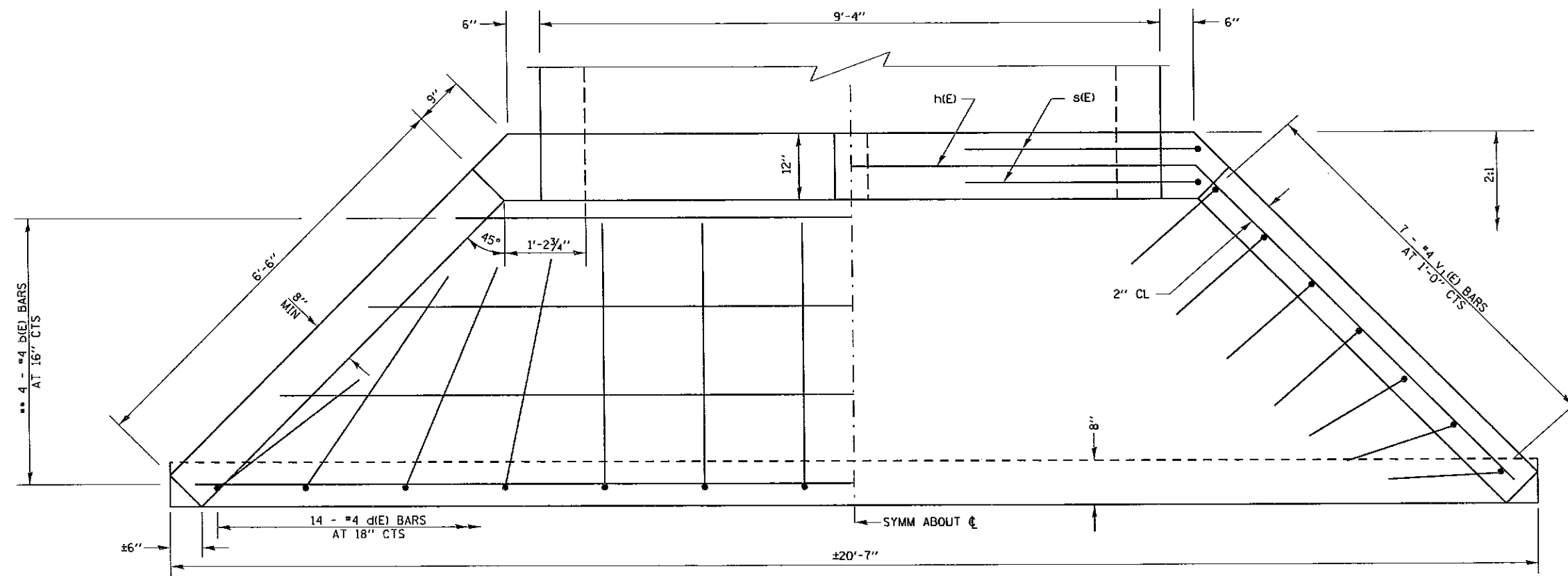
REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GRADE 60.

EXPOSED EDGES SHALL BE BEVELED $\frac{3}{4}$ ".



14 - #4 d(E) BARS AT 18" CTS

ELEVATION



PLAN

• CUT OR BEND TO FIT
 ** LAP BARS WHERE NECESSARY
 MIN BAR LAP
 #4 1'-8"
 WORK THIS SHEET WITH
 SHEET 9 OF 10

FILE NAME =	USER NAME = wolkerra	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED CAST-IN-PLACE APRON END SECTION (SN 077-7060)	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci:\pw\work\p10\dot\wolkerra\0334982\78354-077-design.dgn	PLOT SCALE = 2.0000' / 1"	DRAWN -	REVISED -			2936	14A(B-11)	PULASKI	10	10	
Default	PLOT DATE = 9/5/2013	CHECKED -	REVISED -			CONTRACT NO. 78354					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					