04-25-2025 LETTING ITEM 078

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- SUMMARY OF QUANTITIES
 - TYPICAL SECTIONS
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- PLAN DETAILS FOR COMMERCIAL ENTRANCE,
 - STA. 122+40 RT. (WALMART DR.)
- REMOVAL DETAILS FOR COMMERCIAL ENTRANCE,
- STA. 122+40 RT. (WALMART DR.)
- CONSTRUCTION DETAILS FOR COMMERCIAL
- ENTRANCE, STA. 122+40 RT. (WALMART DR.) GENERAL PLAN AND ELEVATION FOR STRUCTURE
- PRECAST CONCRETE BOX CULVERT APRON END
 - SECTION
 - MISCELLANEOUS DETAILS

HIGHWAY STANDARDS

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001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
515001-04	NAME PLATE FOR BRIDGES
606001-08	CONCRETE CURB TYPE B AND COMBINATION CONCRETE
	CONCRETE CURB AND GUTTER
606301-04	PC CONCRETE ISLANDS AND MEDIANS
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM
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701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901 ·10	TRAFFIC CONTROL DEVICES

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

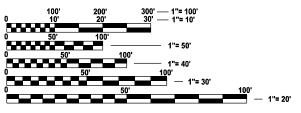
PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 673 (IL 116) SECTION (112X)CLV-1 CMP ENTRANCE CULVERT REM/REPL WITH PRECAST CONCRETE **BOX CULVERT** LIVINGSTON COUNTY

C-93-075-25

PROJECT LOCATION

0.61 MI. EAST OF F.A.I. ROUTE 55 (I-55) AT COMMERCIAL ENTRANCE (WALMART DR.) STRUCTURE NO. 053-2598 AT STA, 122+40 RT,



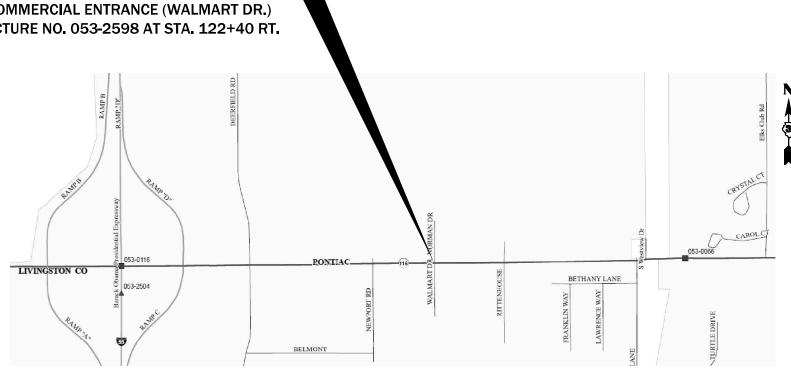
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.

 \circ

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123

PROJECT ENGINEER JUNIOR SENAT UNIT CHIEF RON WOODSHANK DISTRICT 3 (815)434-6131 CONTRACT NO. 66R28



LIVINGSTON 14 1 ILLINOIS CONTRACT NO. 66R28

D-93-050-25



FUNCTIONAL CLASSIFICATION

URBAN - OTHER PRINCIPAL ARTERIAL (OPA) F.A.P. ROUTE 673 (IL 116)

2023 ADT = 9,550

P.V. 96.1 % S.U. 1.9 % M.U. 2.0 %

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** February 5,20 25 REGIONAL ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION 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 WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

ADDITIONAL CONSTRUCTION PROJECTS MAY BE UNDER CONTRACT WITHIN OR NEAR THE LIMITS OF THIS PROJECT WHEN IT IS IN FORCE. THE CONTRACTOR FOR THIS PROJECT SHALL COOPERATE WITH THE CONTRACTORS ON THE OTHER PROJECTS ACCORDING TO ARTICLE 105.08 OF THE STANDARD SPECIFICATIONS. CONTRACTS ANTICIPATED TO BE IN THE VICINITY OF THIS CONTRACT ARE:

CONTRACT 66E54: IMPROVEMENT BEGINS AT EWING DR. (EAST OF I-55) AND END AT O.R. 66

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

BEFORE ORDERING BOX CULVERTS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES (100 MILLIMETERS) IN AREAS TO BE SEEDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF FURNISHED EXCAVATION.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS / CU YD
HMA RESURFACING	112	LBS / SQ YD / IN

KNOWN UTILITIES TO BE WITHIN THE PROJECT LIMITS

CAMPUS COMMINICATIONS COMED FRONTIER CIRBN LLC

NICOR IL - AMERICAN WATER

PONTIAC, CITY OF MEDIACOM

COMMITMENTS

THE ENGINEER SHALL NOTIFY ADJACENT BUSINESSES, EMERGENCY SERVICES, COUNTY ENGINEER A MINIMUM OF 72 HOURS IN ADVANCE OF CLOSING A SIDE ROAD OR COMMERCIAL ENTRANCES. THE ENGINEER SHALL ALSO SUPPLY AN APPROXIMATE LENGTH OF CLOSURE

IDOT'S TRAFFIC SECTION IS TO BE CONTACTED 48 HOURS PRIOR TO WORK BEING PERFORMED AT THIS LOCATION THAT WILL DAMAGE THE EXISTING DETECTOR LOOPS ON WALMART DR. EXISTING DETECTOR LOOPS ARE TO BE REPLACE WITH VIDEO DETECTION BY OTHERS.

HMA MIXTURE REQUIREMENT TABLE

LOCATION(S):	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT
MIXTURE USE(S):	CLASS D PATCH	CLASS D PATCH	CLASS D PATCH
	SURFACE LIFT 3"	INTERMEDIATE LIFT 4"	BOTTOM LIFT 4"
BINDER GRADE (PG):	SBS PG 70-28	SBS PG 70-28	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N70	4.0% @ N70	4.0% @ N70
MIXTURE COMPOSITION:	IL 9.5	IL 9.5	IL 9.5
(MIXTURE GRADATION)	12 9.5	IL 9.5	IL 9.5
FRICTION AGGREGATE:	MIXTURE D		
MIXTURE WEIGHT:	112.0 LB/SY/IN	112.0 LB/SY/IN	112.0 LB/SY/IN
QUALITY MANAGEMENT PROGRAM:	QC/QA	QC/QA	QC/QA
SUBLOT SIZE:	N/A	N/A	N/A
DENSITY TEST METHOD:	NUCLEAR / CORES	NUCLEAR / CORES	NUCLEAR / CORES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

SUPERVISING CONSTRUCTION FIELD ENGINEER

RESIDENT ENGINEER / TECHNICIAN

START & END DATES
OF CONSTRUCTION:

INSPECTORS:

 USER NAME
 = ronald.woodshank
 DESIGNED
 RW
 REVISED

 DRAWN
 RW
 REVISED

 CHECKED
 JS
 REVISED

 PLOT DATE
 = 1/24/2025
 DATE
 12/4/2024
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

MODEL: Default FILE NAME: c:\pw work\pwidot\v

				100% STATE BOX CULVERT
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0004 URBAN
20400800	FURNISHED EXCAVATION	CU YD	30	30
20700110	POROUS GRANULAR EMBANKMENT	TON	406	406
21400100	GRADING AND SHAPING DITCHES	FOOT	250	250
25000210	SEEDING, CLASS 2A	ACRE	0.25	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23	23
25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	900	900
31101000	SUBBASE GRANULAR MATERIAL, TYPE B	TON	168	168
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	48	48
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	65	65
44201783	CLASS D PATCHES, TYPE IV, 11 INCH	SQ YD	186	186
50104650	SLOPE WALL REMOVAL	SQ YD	46	46
50105220	PIPE CULVERT REMOVAL	FOOT	252	252

*SPECIALITY ITEMS

 USER NAME
 = ronald,woodshank
 DESIGNED
 RW
 REVISED

 DRAWN
 RW
 REVISED

 CHECKED
 JS
 REVISED

 PLOT DATE
 = 1/24/2025
 DATE
 12/4/2024
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

SUMMARY OF QUANTITIES

SHEET 1 OF 3 SHEETS STA. TO STA.

CONSTRUCTION CODE

				STATE
				BOX CULVERT
CODE			TOTAL	0004
NO.	ITEM	UNIT	QUANTITY	URBAN
	-			
51500100	NAME PLATES	EACH	1	1
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2	2
54010804	PRECAST CONCRETE BOX CULVERTS 8' X 4'	FOOT	78	78
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	103	103
		1		
60600605	CONCRETE CURB, TYPE B	FOOT	65	65
60623800	CONCRETE BARRIER MEDIAN	SQ FT	128	128
67100100	MOBILIZATION	L SUM	1	1
78009006	MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	FOOT	20	20
78009008	MODIFIED URETHANE PAVEMENT MARKING - LINE 8"	FOOT	40	40
78009024	MODIFIED URETHANE PAVEMENT MARKING - LINE 24"	FOOT	40	40
V4400000	CONODE TE MEDIAN DEMOVAL	00.77	400	400
X4403300	CONCRETE MEDIAN REMOVAL	SQ FT	128	128
X5810103	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	103	103
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1
X8860100	LOOP DETECTOR TESTING	EACH	1	1
*SBECIALI				

*SPECIALITY ITEMS

 USER NAME
 = ronald.woodshank
 DESIGNED
 RW
 REVISED

 DRAWN
 RW
 REVISED

 CHECKED
 JS
 REVISED

 PLOT DATE
 = 1/24/2025
 DATE
 12/4/2024
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

SUMMARY OF QUANTITIES

SHEET 2 OF 3 SHEETS STA. TO STA.

CONSTRUCTION CODE 100%

					CONSTRUCTION CODE
					100%
		_			STATE
					BOX CULVERT
CODE				TOTAL	0004
NO.	ITEM		UNIT	QUANTITY	URBAN
X8860105	DETECTOR LOOP REPLACEMENT		FOOT	100	100
*CDECIAL I					*

*SPECIALITY ITEMS

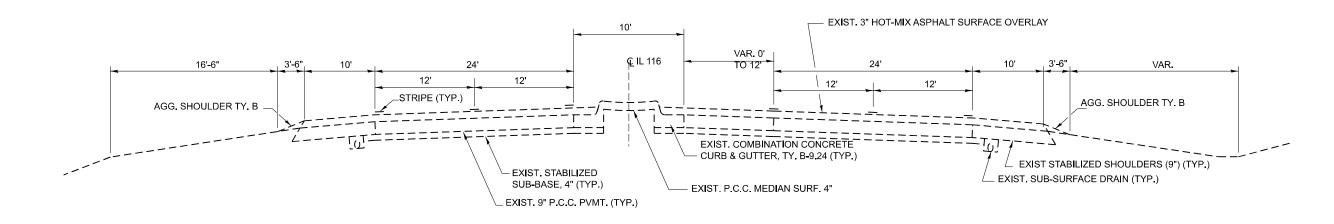
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	DRAWN	-	RW	REVISED	-
	CHECKED	-	JS	REVISED	-
PLOT DATE = 1/24/2025	DATE	_	12/4/2024	REVISED	_

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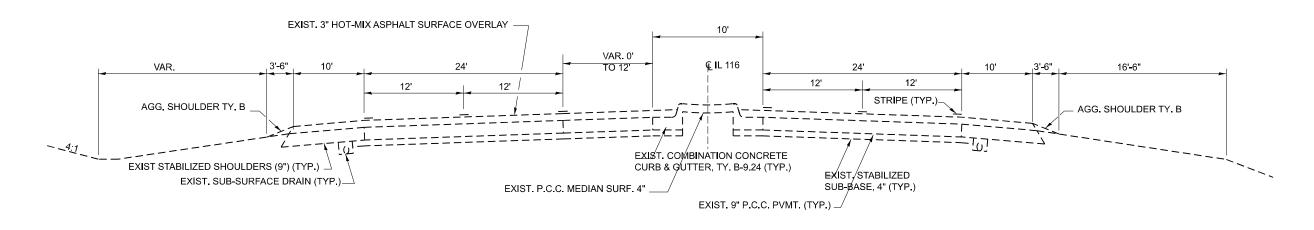
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SHEET	3	OF	3	SHEETS	STA.	TO STA.	

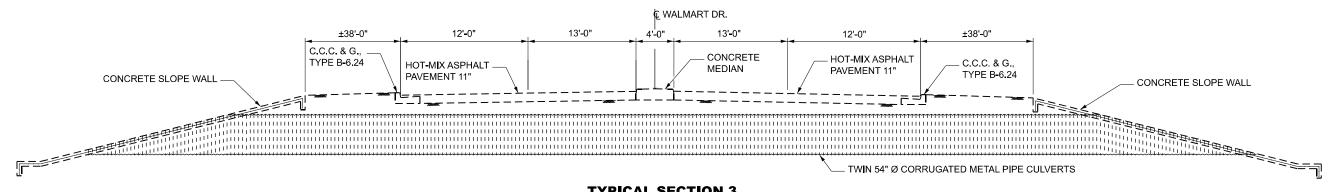
LP.	SEC ⁻	LION		COUNTY	TOTAL SHEETS	SHE
	(112X)	CLV-1		LIVINGSTON	14	5
				CONTRACT	NO. 66F	₹28
		ILLINOIS	FED. AI	PROJECT		



TYPICAL SECTION 1STA. 118+00 to STA. 122+40

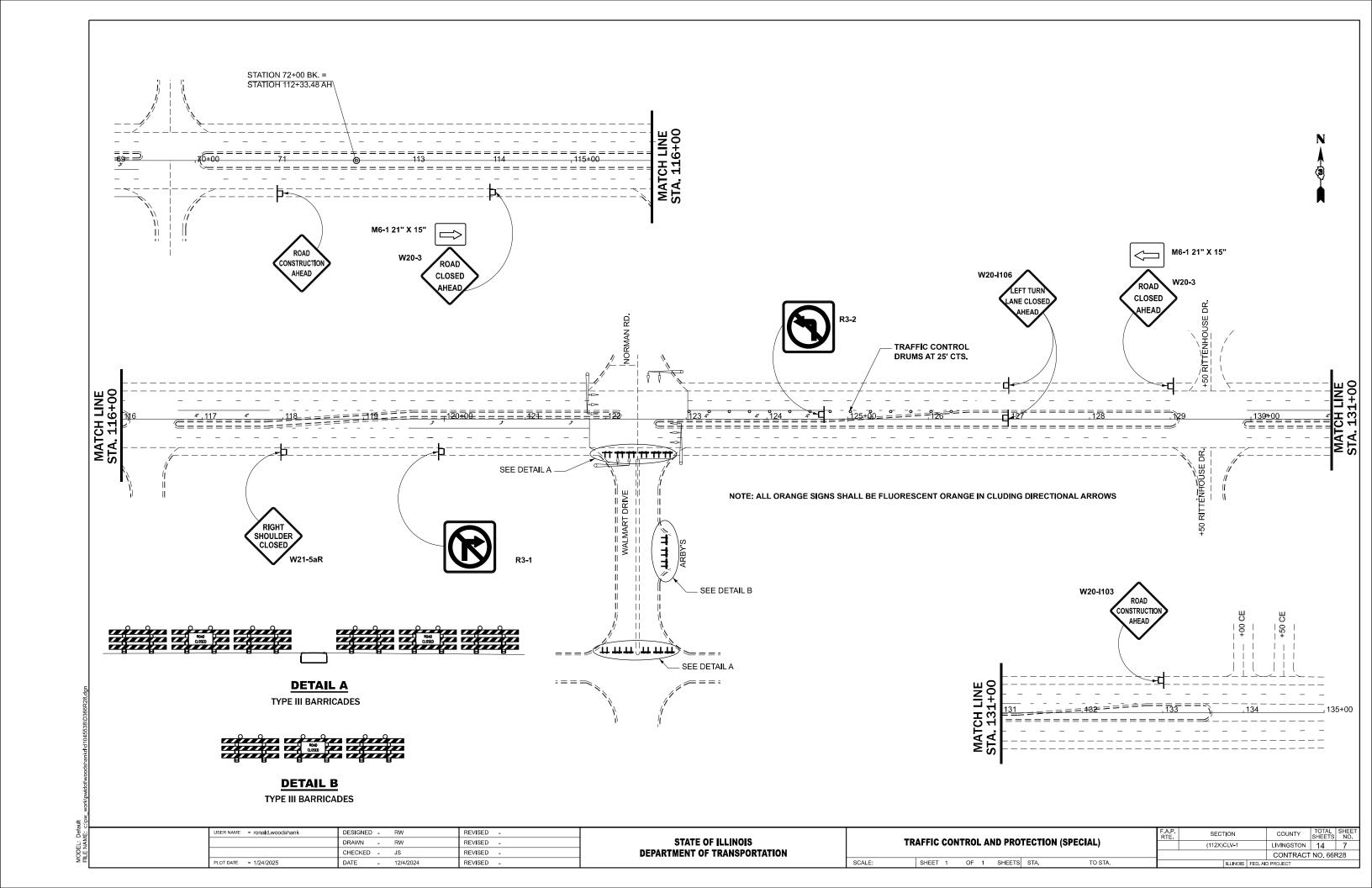


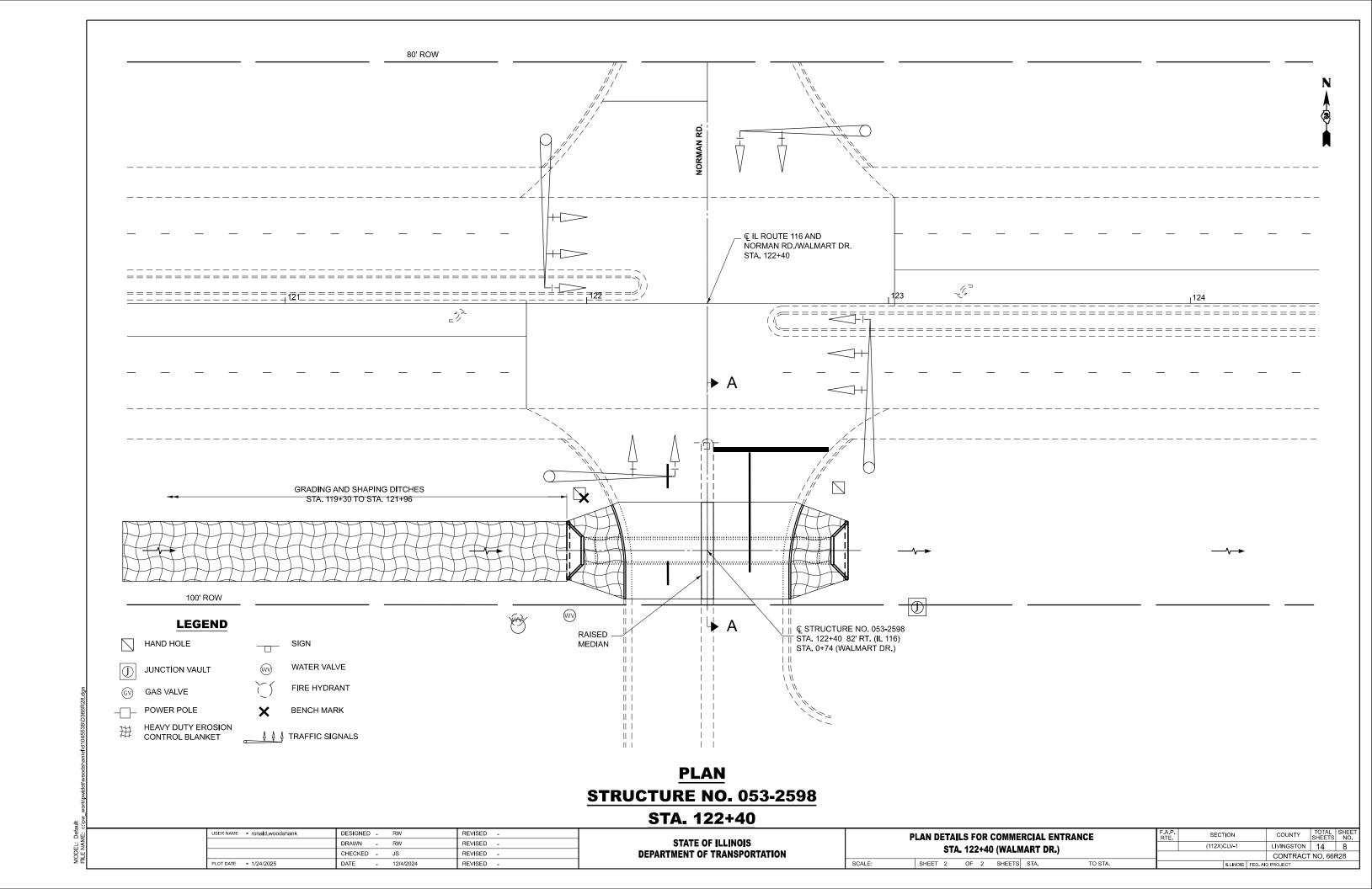
TYPICAL SECTION 2 STA. 122+40 to STA. 126+50

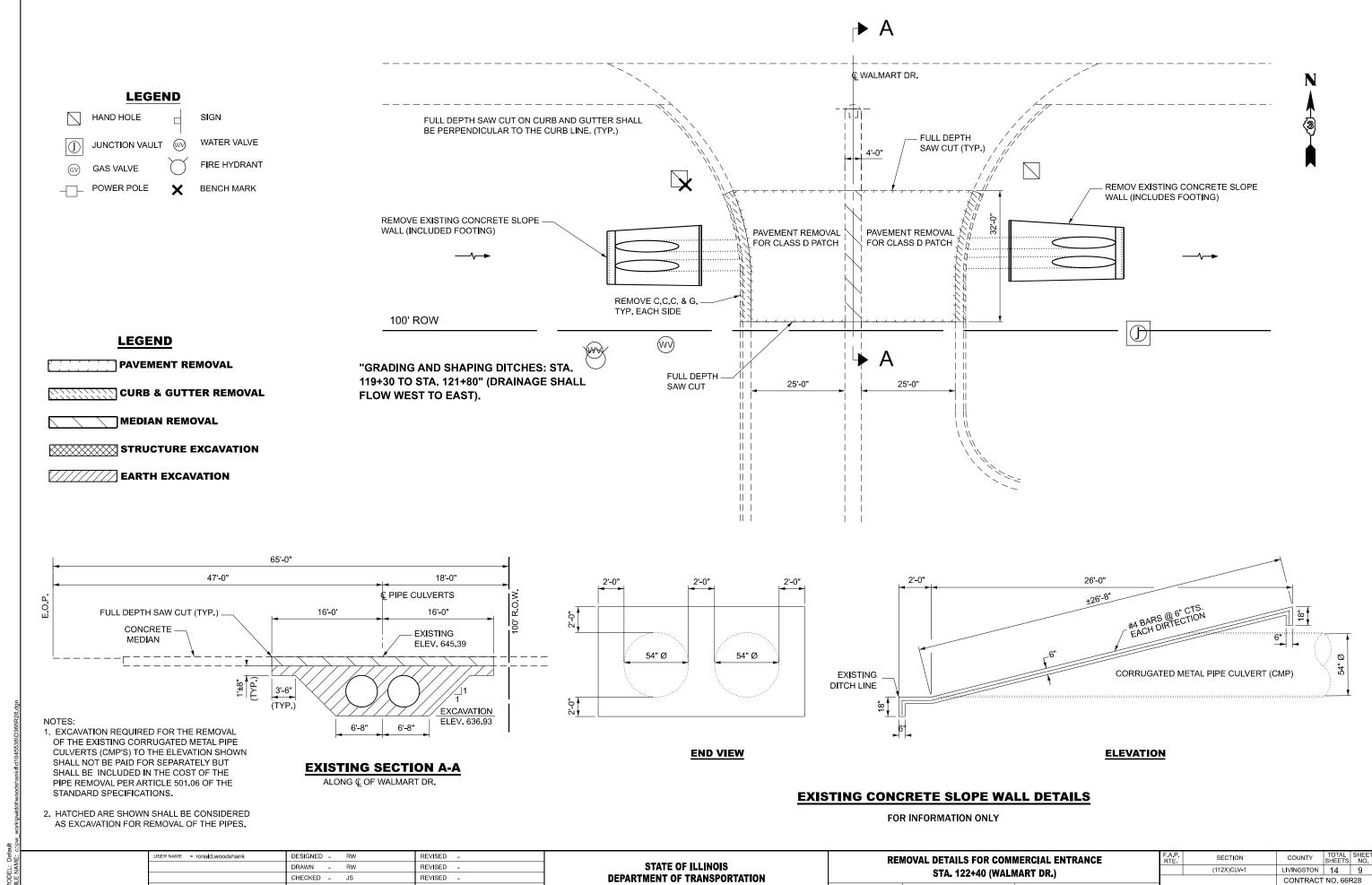


TYPICAL SECTION 3 WALMART DR.

USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -		l	F.A.P. RTF	SECTION	COUNTY	TOTAL	SHEET				
	DRAWN - RW	REVISED -	STATE OF ILLINOIS		TYF	PICAL SECT	ΓIONS		IXIE.	(112X)CLV-1	LIVINGSTON	14	6
	CHECKED - JS	REVISED -	DEPARTMENT OF TRANSPORTATION								CONTRACT	T NO. 66F	(28
PLOT DATE = 1/24/2025	DATE - 12/4/2024	REVISED -		SCALE:	SHEET 1 OF	1 SHEETS	STA.	TO STA.		ILLINOIS FEE	AID PROJECT		



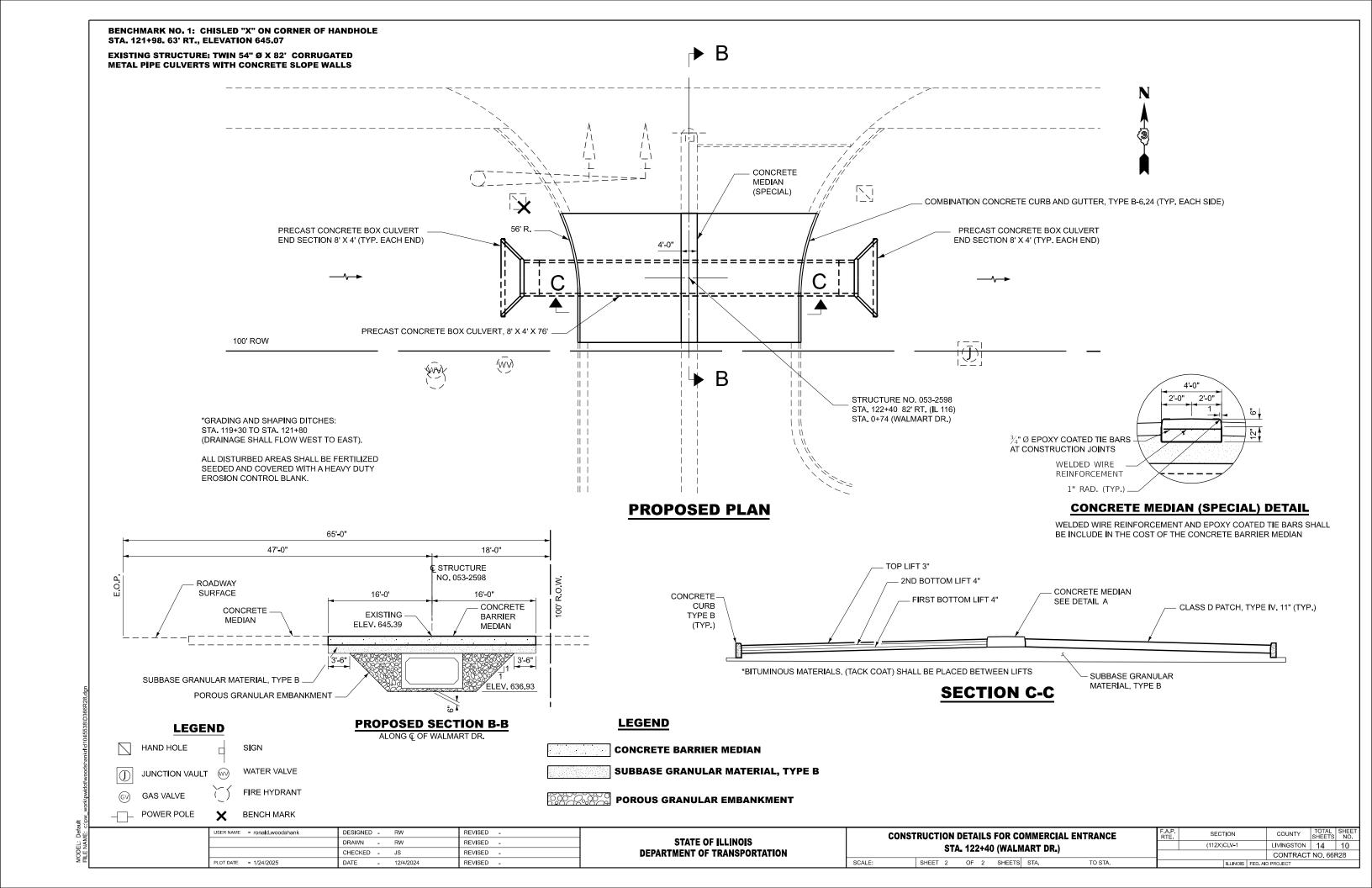


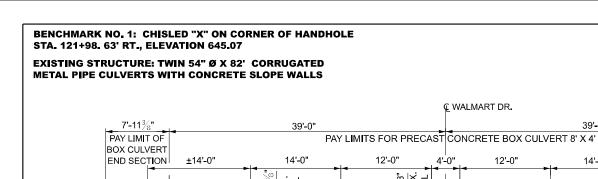


SHEET 2 OF 2 SHEETS STA.

PLOT DATE = 1/24/2025

REVISED





VARIES

3" Ø DRAIN HOLES

(SEE GENERAL NOTES)

FURNISHED

US INVERT

DRAINAGE AREA =

TEN - YEAR

DESIGN

BASE

SCOUR CHECK

MAX. CALC.

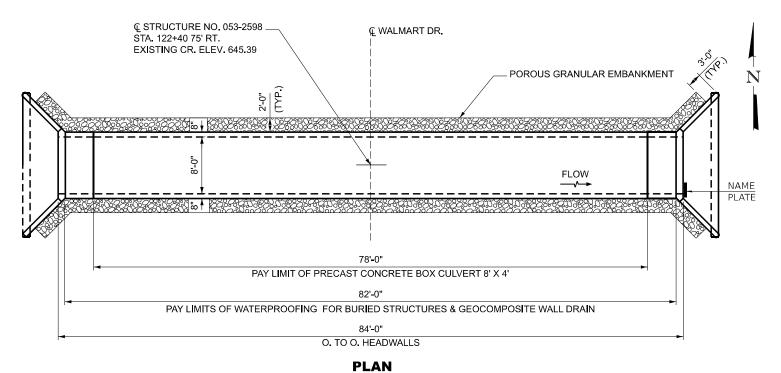
FREQ.

200

500

638.20

EXCAVATION



STRUCTURE NO. 053-2598

@ STA.

643.1

643.5

644.2

0.5 0.0 642.0 641.5

2.5 1.1 645.2 643.8

0.3

0.5

0.7

HEADWATER EL.

EXIST. PROP.

642.4

642.7

643.2

HEAD - FT.

EXIST. PROP.

1.7

ELEVATION

© WALMART DR.

12'-0"

39'-0"

14'-0"

0.21% SLOPE

GENERAL NOTES

THE DESIGN FILL HEIGHT FOR THIS BOX IS 1.4 FT. THE PRECAST BOX CULVERT SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF

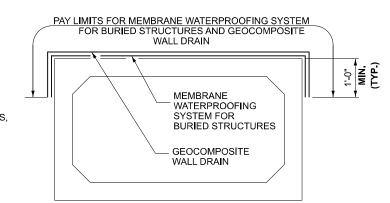
DRAIN HOLES SHALL BE PROVIDED ON EXTERIOR CULVERT WALLS FOR EACH PRECAST BOX SEGMENT WITH A CLEAR RISE GREATER THAN 3 FT. THE DRAIN HOLE SHALL BE LOCATED WITHIN 1/3 OF THE CLEAR RISE OF THE BOX CULVERT, SHALL NOT INTERCEPT THE HAUNCH, AND SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE 503,11 OF THE STANDARD SPECIFICATION.

NONWOVEN GEOTEXTILE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ART. 1080.01 OF THE STANDARD SPECIFICATIONS. THE MINIMUM WEIGHT OF THE FABRIC SHALL BE 6 OUNCES PER SQUARE YARD.

PRECAST CONCRETE BOX CULVERTS AND BOX CULVERT END SECTIONS SHALL BE BACKFILLED WITH POROUS GRANULAR EMBANKMENT IN THE REQUIRED EXCAVATION AREAS ON THE SIDES OF THE BOX CULVERT FROM THE TOP OF THE BOX CULVERT TO THE BOTTOM OF THE BOX CULVERT. THIS AREA OF PGE IS INCLUDED IN THE POROUS GRANULAR EMBANKMENT PAY ITEM. THE 6-INCH THICK LAYER OF POROUS GRANULAR MATERIAL REQUIRED UNDER THE PRECAST CONCRETE BOX CULVERT, ACCORDING TO SECTION 540.06 OF THE STANDARD SPECIFICATIONS, SHALL ALSO APPLY TO THE END SECTIONS. COST OF THIS POROUS GRANULAR MATERIAL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE OF THE WORK FOR WHICH IT IS REQUIRED.

** SUITABLE EXCAVATED MATERIALS SHALL BE USED TO RECONSTRUCT EMBANKMENT SLOPES (TYP.).

IN THE EVENT THAT ADDITIONAL MATERIAL IS REQUIRED TO RECONSTRUCT THE EMBANKMENT ADJACENT TO THE NEW BOX CULVERT STRUCTURES, THE CONTRACTOR SHALL FURNISH AND PLACE MATERIAL ACCORDING TO SECTION 204 OF THE STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER. COST OF FURNISHING, PLACING AND COMPACTING THE MATERIAL SHALL BE ACCORDING TO ARTICLE 109,04 OF THE STANDARD SPECIFICATIONS.



MEMBRANE WATERPROOFING FOR BURIED STRUCTURE

STATION 122+40 BUILT BY STATE OF ILLINOIS F.A.P. RT. 673 SEC. (112X)CLV-1 LOADING HL-93 **STRUCTURE NO. 053-2598**

NAME PLATE

SEE STD, 515001

PAY LIMITS FOR "PGE"

TOTAL BILL OF MATERIAL

UNIT	TOTAL
FOOT	244
SQ. YD.	106
EACH	1
ΕΔCH	2
LACIT	
FOOT	78
1001	
TONS	406
SO VD	110
3Q. 1D.	110
SQ. YD.	103
	FOOT SQ. YD. EACH EACH FOOT TONS SQ. YD.

LOADING HL-93

SCALE:

DESIGN STRESSES PRECAST UNITS

DESIGN SPECIFICATIONS 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS CUSTOMARY U.S. UNITS, 9TH EDITION

= 65,000 PSI (WELDED WIRE REINFORCEMENT)

7'-11³/₈"

PAY LIMIT OF

BOX CULVERT

END SECTION

DS INVERT

638.00

±14'-0"

VARIES

1'-0"

POROUS GRANULAR EMBANKMENT

(TYP.)

COST OF FURNISHING AND INSTALLING TIE BARS AND WELDED WIRE REINFORCEMENT SHALL BE INCLUDED IN THE COST OF THE RELATED CONSTRUCTION WORK.

SHEET

GENERAL PLAN AND ELEVATION WALMART DR. OVER A DRAINAGE DITCH F.A.P. RTE. 673 SEC. (112X)CLV-1 LIVINGSTON COUNTY **STATION 122+40** S.N. 053-2598

USER NAME = ronald.woodshank	DESIGNED	-	RW	REVISED	-
	DRAWN	-	RW	REVISED	-
	CHECKED	-	JS	REVISED	-
PLOT DATE = 3/27/2025	DATE	-	12/4/2024	REVISED	-

LOW GRADE ELEV. =

NAT.

H.W.E.

641.5

642.1

642.3

642.5

WATERWAY INFORMATION

OPENING SQ. FT.

39

40

40

EXIST. PROP.

SQ MI.

28

29

30

31

C.F.S.

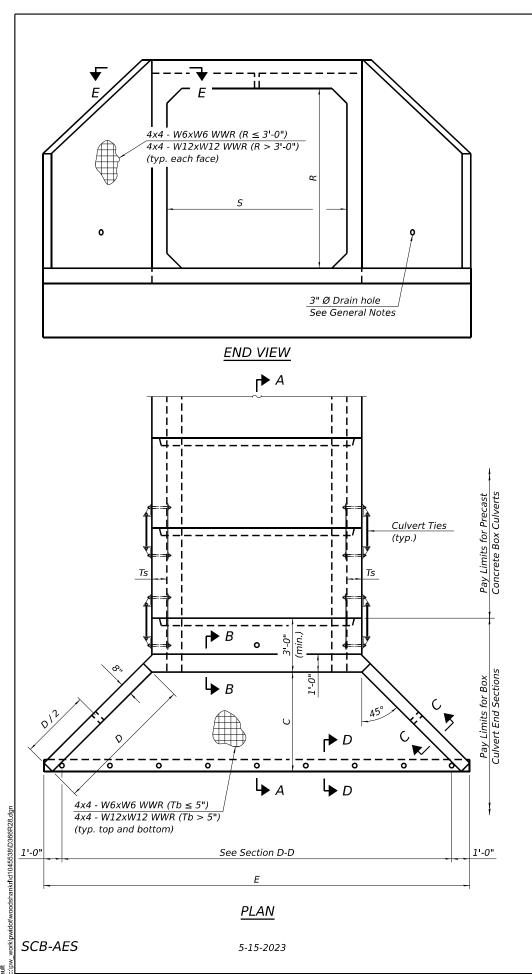
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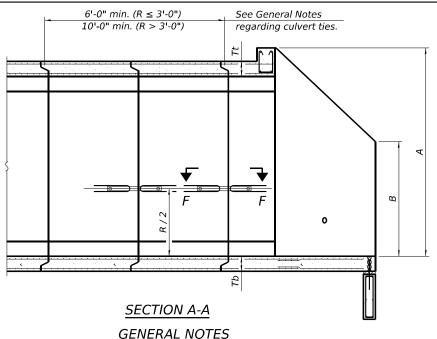
178

204

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CENERAL RIAN AND ELEVATION					F.A.P. RTE					TOTAL SHEETS	SHEET NO.	
GENERAL PLAN AND ELEVATION					(112X)CLV			LIVINGSTON	14	11		
										CONTRACT	NO. 66F	₹28
Γ 1	OF	1	SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT					





Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be ncreased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than ½" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire reinforcement (WWR). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in an area of reinforcement equal to or greater than that provided by the WWR. Minimum lap lengths detailed herein are applicable to WWR and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Snan	Dica									Concrete	Culvert Tie-
Span (S)	Rise (R)	Tt	Tb	Ts	Α	В	С	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-105/8"	4'-1"	10'-45/8"	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7%"	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ /8"	5'-6"	12-4 ⁵ / ₈ "	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7 ⁷ / ₈ "	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4 ¹ / ₂ "	2'-2½"	2'-113/8"	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8½"	3'-10"	11'-2 ³ / ₈ "	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4 ¹ / ₂ "	2'-8½"	3'-11 ³ ⁄8"	5'-7"	13'-81/8"	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8 ¹ / ₂ "	5'-3"	13'-2 ³ / ₈ "	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4 ¹ / ₂ "	3'-2½"	4'-11 ³ /8"	7'-0"	15'-8 ¹ / ₈ "	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-85/8"	6'-8"	15'-2 ¹ / ₂ "	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7 ¹ / ₄ "	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11 ³ / ₈	5'-7"	14'-10 ¹ /8"	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-71/4"	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11 ³ /8"	7'-0"	16'-10 ¹ / ₈ "	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9 ¹ ⁄ ₄ "	6'-9"	16'-5 ⁷ / ₈ "	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	18'-10 ¹ / ₈ "	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9 ¹ ⁄ ₄ "	8'-2"	18'-5 ⁷ / ₈ "	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11 ³ /8"	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-105/8"	4'-1"	13'-105/8"	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11 ³ ⁄8"	5'-7"	16'-01/8"	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10 ⁵ /8"	5'-6"	15'-10 ⁵ / ₈ "	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	18'-01/8"	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10¾"	6'-11"	17'-10 ³ / ₄ "	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11 ³ /8"	8'-5"	20'-01/8"	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10 ³ / ₄ "	8'-4"	19'-10 ³ / ₄ "	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11½"	9'-10"	22'-01/4"	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10 ³ / ₄ "	9'-9"	21'-10¾"	9.3	Yes
7'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-113/8"	4'-2"	15'-2"	4.9	Yes
7'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ /8"	5'-7"	17'-2 ¹ / ₈ "	6.1	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ /8"	7'-0"	19'-21/8"	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	21'-21/8"	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11½"	9'-10"	23'-21/4"	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-113/8"	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	18'-21/8"	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ /8"	7'-0"	20'-21/8"	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ /8"	8'-5"	22'-21/8"	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	24'-21/4"	11.0	Yes
9'-0"	2'-0"	9"	9"	9"	3'-6"	2'-3"	3'-03/4"	4'-4"	17'-6 ⁷ / ₈ "	6.2	Yes
9'-0"	3'-0"	9"	9"	9"	4'-6"	2'-9"	4'-03/4"	5'-9"	19'-67/8"	7.5	Yes
9'-0"	4'-0"	9'	9"	9"	5'-6"	3'-3"	5'-0 ³ / ₄ "	7'-2"	21'-67/8"	9.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0 ⁷ / ₈ "	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0 ¹ / ₈ "	9'-11"	25'-5%"	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1½"	4'-5"	18'-101/4"	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1½"	5'-10"	20'-101/4"	8.6	No
10'-0"	4'-0"	10"	10"	10"	5'-7"	3'-4"	5'-1½"	7'-3"	22'-103/8"	10.2	Yes
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-11/2"	8'-8"	24'-103/8"	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1½"	10'-1"	26'-103/8"	13.9	Yes
11'-0"	2'-0"	11"	11"	11"	3'-8"	2'-4"	3'-27/8"	4'-7"	20'-31/8"	8.2	No
11'-0"	3'-0"	11"	11"	11"	4'-8"	2'-10"	4'-27/8"	6'-0"	22'-31/8"	9.8	No
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-21/4"	7'-4"	24'-13/4"	11.5	Yes
11'-0"	5'-0"	11"	11"	11"	6'-8"	3'-10"	6'-21/4"	8'-9"	26'-13/4"	13.3	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-21/4"	10'-2"	28'-17/8"	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-35/8"	4'-8"	21'-6½"	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-35/8"	6'-1"	23'-6½"	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3 ⁵ / ₈ "	7'-6"	25'-6 ⁵ / ₈ "	13.0	Yes
12'-0"	5'-0"	12"	12"	12"	6'-9"	3'-11"	6'-35/8"	8'-11"	27'-65/8"	14.1	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-35/8"	10'-4"	29'-65/8"	17.4	Yes
Note:							, ,,,		1 23 0/8	-/.7	, 65
		pron e	end sec	tion d	imensions a	are shown a	above for so	me box cu	lvert sizes i	due to the i	top
	Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.										

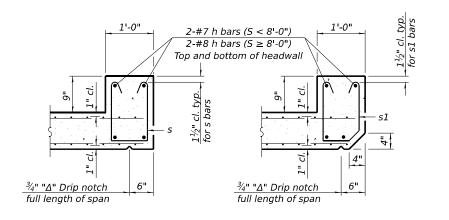
Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft. (Sheet 1 of 2)

USER NAME = ronald.woodshank	DESIGNED	-	RW	REVISED	-
	DRAWN	-	RW	REVISED	-
	CHECKED	-	JS	REVISED	-
PLOT DATE = 3/27/2025	DATE	_	12/4/2024	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

DDEGAG		<u> </u>	-	0 V	01111VE			F.A.P. RTE	SEC	TION	COUNTY	TOTAL SHEETS	SHEET NO.	
PRECAS	I CON	CKE	IFB	UX	CULVE	CI API	RON END SECTION		(112X)CLV-1		LIVINGSTON	14	12	
											CONTRACT	NO. 66	₹28	
	SHEET	1	OF	2	SHEETS	STA	TO STA	HUNDIO FED AID DOOLEGE						



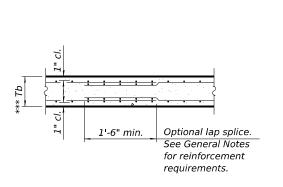


#4 s or s1 bars at spacing = Tt

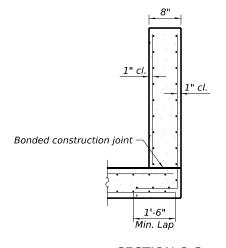
SECTION E-E

(Spacing need not be less than 8")

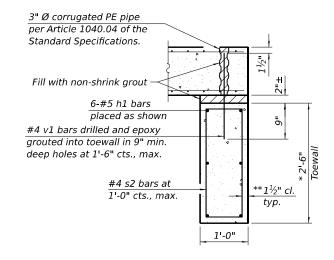
SECTION B-B



SECTION B-B (Bottom Slab)



SECTION C-C



SECTION D-D

1. Perform excavation and construct toewall.

2. Backfill accordingly and place bedding for

precast box culvert end sections. 3. Set precast box culvert end section.

TOEWALL CONSTRUCTION SEQUENCE

4. Drill and epoxy grout reinforcement in toewall in accordance

5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

with Section 584 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall.

** If soil conditions permit, the sides of the toewall may be poured

directly against the soil. The clear cover on the sides of the

toewall shall be increased to 3" by increasing the thickness of

The Contractor shall be responsible for the strength and stability

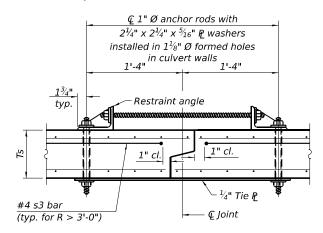
of the precast toewall during handling. Additional lifting points

may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the

(Top slab at downstream end)

(Top slab at upstream end)

*** This dimension shall be increased by 2" for CIP construction.

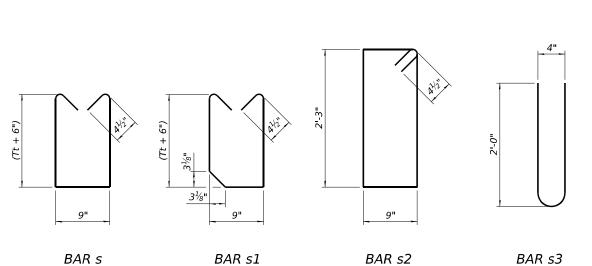


SECTION F-F (Showing culvert tie details)

1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. $2\frac{1}{4}$ " $x2\frac{1}{4}$ " $x\frac{5}{16}$ " plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional $\frac{1}{2}$ turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

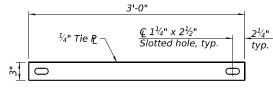
proposed handling method.

the toewall.



 $\not\in 1^{1}\!\!/_{\!\!4}$ " \varnothing hole for 1" \varnothing ∠ 6" x 4" x ½" anchor rod with $\underline{\mathscr{C}}\,\,\mathbf{1}^{1}\!\!/_{\!\!4}$ " Ø hole in $2\frac{1}{4}$ " x $2\frac{1}{4}$ " x $\frac{5}{16}$ " bottom leg of angle R washer

RESTRAINT ANGLE DETAIL



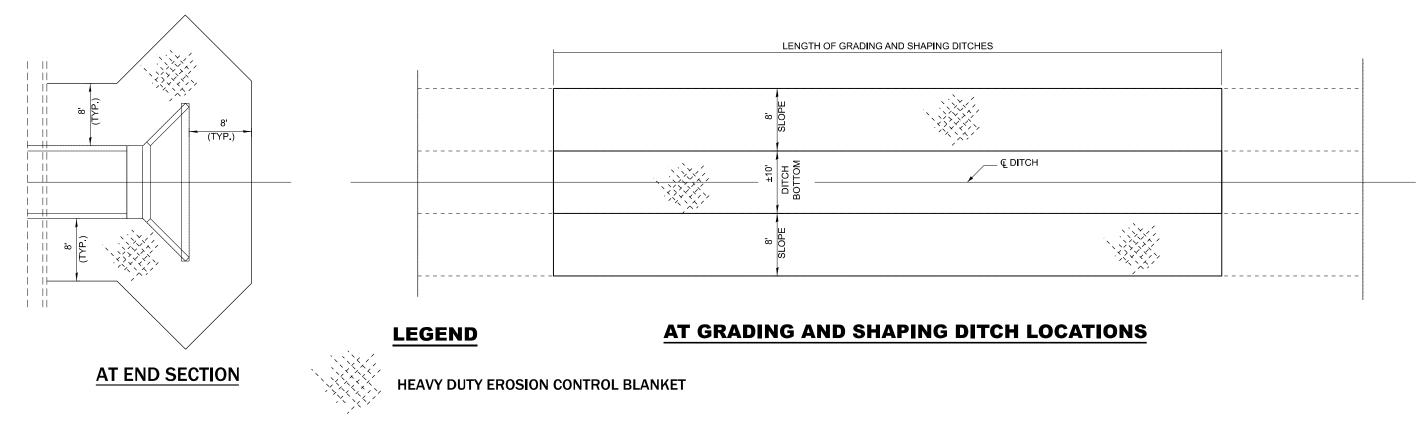
TIE PLATE DETAIL

SCB-AES

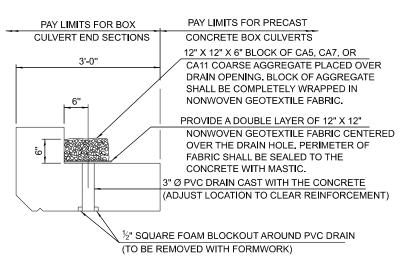
5-15-2023

(Sheet 2 of 2)

USER NAME = ronald.woodshank	DESIGNED -	RW	REVISED -				F A P RTE	SECTION	COUNTY TOTAL SHEET SHEETS NO.
	DRAWN -	RW	REVISED -	STATE OF ILLINOIS	PRECAS	ST CONCRETE BOX CULVERT APRON END SECTION		(112X)CLV-1	LIVINGSTON 14 13
	CHECKED -	JS	REVISED -	DEPARTMENT OF TRANSPORTATION					CONTRACT NO. 66R28
PLOT DATE = 3/27/2025	DATE -	12/4/2024	REVISED -		SCALE:	SHEET 2 OF 2 SHEETS STA. TO STA.		ILLINOIS FED. AI	D PROJECT

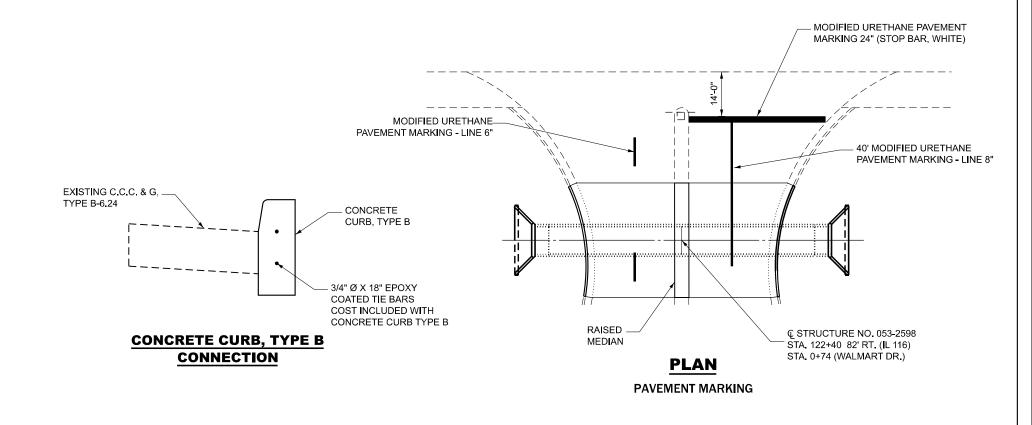


EROSION CONTROL BLANKET AT PRECAST CONCRETE BOX CULVERTS END SECTIONS AND DITCH CLEANING AREAS



DRAIN DETAIL

(ALL COSTS ASSOCIATED WITH FURNISHING AND CONSTRUCTING THE ABOVE DRAIN DETAIL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE ASSOCIATED WORK.)



	USER NAME = ronald.woodshank	DESIGNED - RW DRAWN - RW	REVISED -	STATE OF ILLINOIS		MISCELLANEOUS DETAILS	RTE.	SECTION (112X)CLV-1	COUNTY	SHEETS NO	5	
-	PLOT DATE = 1/24/2025	CHECKED - JS DATE - 12/4/2024	REVISED -	DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET 1 OF 1 SHEETS STA. TO	STA.		ILLINOIS F	CONTRACT ED. AID PROJECT	NO. 66R28	4
												_