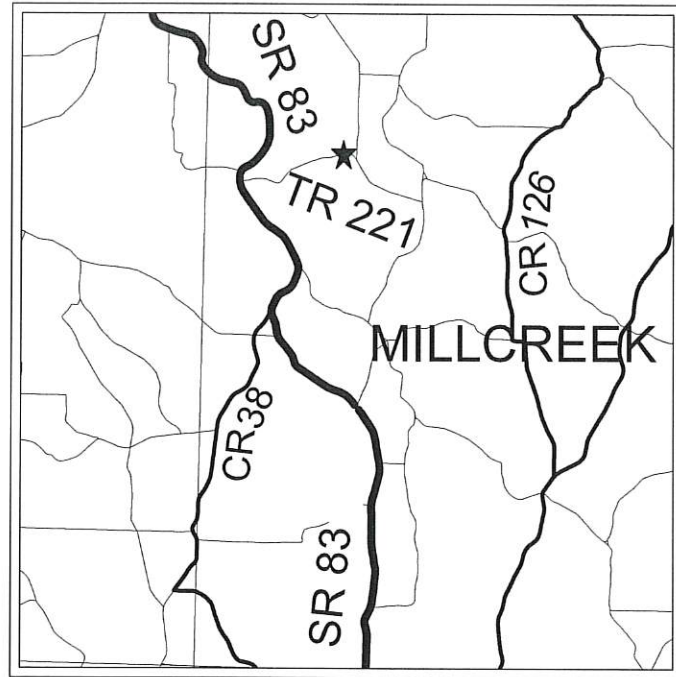


I:\Bridge Plan\Bridges Construction Files\2022 Bridges\TR 221 Bridge #1 1633066 OPWC Box Culvert\Drawings\TR 221 Bridge 1 Title Sheet.dwg 19-Jul-22 8:08 AM



LOCATION MAP

LATITUDE: 40° 25' 54" LONGITUDE: -81° 52' 26"
NOT SHOWN TO SCALE



LOCATION TO BE IMPROVED _____ ★
STATE ROUTE _____
COUNTY ROADS _____
TOWNSHIP ROADS _____

COSHOCTON COUNTY
ENGINEER'S OFFICE

TR 221 BRIDGE 1
REPLACEMENT
MILLCREEK TOWNSHIP

INDEX OF SHEETS:

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GENERAL NOTES AND SUMMARY	2
CULVERT PLAN AND PROFILE	3
CULVERT PLAN / ELEVATION DETAIL	4
BOX CULVERT DETAILS	5

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REPLACEMENT OF TR 221 BRIDGE 1 WITH A 12' X 7' X 40' CONCRETE BOX CULVERT INCLUDING STRUCTURE REMOVAL, EXCAVATION, EMBANKMENT, DEWATERING, ROAD CONSTRUCTION AND CONSTRUCTION OF CONCRETE CUTOFF WALLS AND PRECAST CONCRETE BLOCK WINGWALLS.

LIMITED ACCESS

ROAD WILL REMAIN CLOSED TO ALL TRAFFIC DURING CONSTRUCTION.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



ENGINEERS SEAL	STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
	DM-4.3	1-15-16	800	4-15-22
	DM-4.4	1-15-16	832	10-19-18

SIGNED: *Frederick T. Wachtel*
DATE: 7/19/22

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE ROAD.

APPROVED

Frederick T. Wachtel

DATE 7/19/22 COSHOCTON COUNTY ENGINEER

DESIGN AGENCY: COSHOCTON COUNTY ENGINEER'S OFFICE
 PROJ. NO.: DNY02
 TITLE SHEET: TR 221 BRIDGE 1 REPLACEMENT
 COSHOCTON COUNTY ENGINEER'S OFFICE

UTILITIES

THE LOCATIONS OF UNDERGROUND UTILITIES HAVE NOT BEEN FIELD LOCATED BY THE ENGINEER AND ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES FROM THEIR RESPECTIVE OWNERS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL PROVIDE THE ENGINEER ALL OUPS REFERENCE NUMBERS FOR THIS PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR CALLING THE OHIO UTILITIES PROTECTION SERVICE AT LEAST TWO DAYS BEFORE DIGGING.

ANY AND ALL WORK REQUIRED FOR REMOVING, RELOCATING & CONSTRUCTION OF NEW FACILITIES FOR PRIVATE OR PUBLIC UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THE RESPECTIVE OWNERS UNLESS OTHERWISE NOTED IN THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR OPERATIONS WITH THE WORK OF UTILITY OWNERS OR OTHERS WHO MAY BE MAKING THE RELOCATIONS IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

STANDARD DRAWINGS

REFERENCE SHOULD BE MADE TO THE MOST CURRENT ODOT STANDARD DRAWINGS SHOWN IN THE TABLE ON THE COVER SHEET.

BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICES (BMP's) FOR SOIL EROSION AND SEDIMENT CONTROL SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S "CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL SUPPLEMENTAL, SPECIFICATION 832, AND STANDARD DRAWINGS" SHALL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL, ALONG WITH ADDITIONAL PROTECTIVE MEASURES TO AVOID IMPACTS TO ADJACENT PROPERTIES AND WETLANDS FROM CONSTRUCTION ACTIVITIES. EROSION/SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BMP's FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE PLAN SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA STABILIZED AS ACCEPTED BY THE ENGINEER. THEY SHALL ALSO COMPLY WITH ODOT'S "HANDBOOK OF SEDIMENT AND EROSION CONTROL."

REMOVAL OF TEMPORARY EROSION CONTROL ITEMS

ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BEFORE THE PROJECT IS ACCEPTED. REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH THE APPROPRIATE C&MS SPECIFICATIONS

RIGHT OF WAY (ROW)

ALL NECESSARY CONSTRUCTION WILL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY FOR THIS PROJECT.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY AASHTO 7TH EDITION - 2014, INCLUDING THE 2015 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL 2007.

DESIGN LOADING

HL-93 WITH 60 LBS/SQUARE FT WEARING SURFACE

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE). REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI.

ITEM 611 12' X 7' CONDUIT, TYPE A, 706.05, AS PER PLAN

DESIGN COVER FOR 12' x 7' CONCRETE BOX CULVERT SHALL BE 0' TO 2'. ALL #57 GRAVEL SHALL BE INCLUDED WITH THE UNIT PRICE FOR ITEM 611 12' x 7' CONDUIT, TYPE A, 706.05, AS PER PLAN.

WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

ITEM 659 SEEDING AND MULCHING, AS PER PLAN

SEEDING AND MULCHING AND 2 INCHES OF TOPSOIL SHALL BE APPLIED TO ALL DISTURBED AREAS.

ITEM 202 FENCE REMOVED FOR REUSE, AS PER PLAN

EXISTING FENCE IS TO BE REMOVED AND STORED FOR REUSE. CONTRACTOR IS TO REINSTALL FENCE AT EXISTING LOCATION. IF FENCE CANNOT BE SALVAGED FOR REUSE, CONTRACTOR SHALL INSTALL NEW FENCE THAT MATCHES STYLE OF EXISTING FENCE. PAYMENT FOR NEW FENCE SHALL BE INCLUDED IN THE CONTRACT PRICE BID PER FOOT FOR ITEM 202 - FENCE REMOVED FOR REUSE, AS PER PLAN.

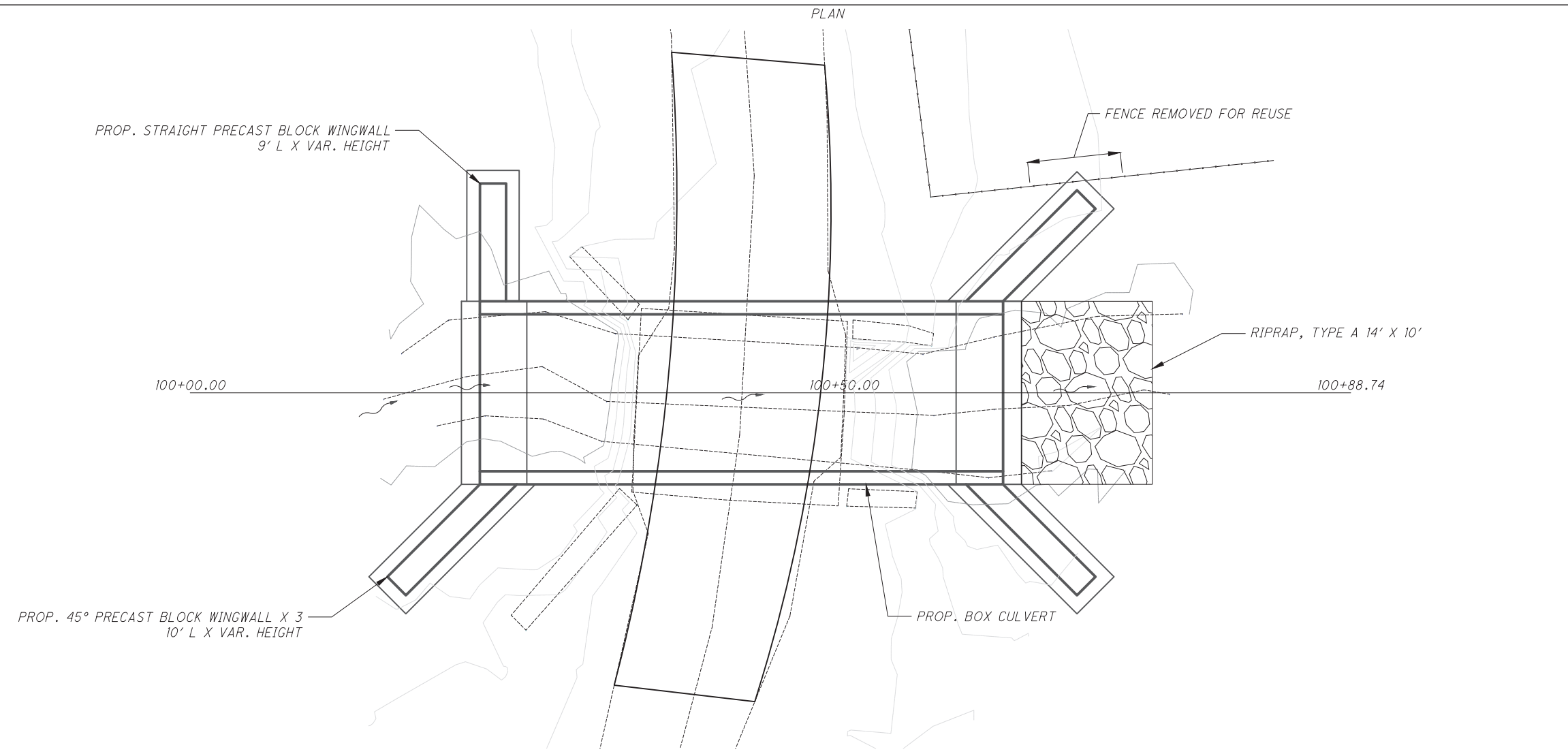
ITEM 202 STRUCTURE REMOVED, AS PER PLAN

REMOVE STRUCTURE ACCORDING TO CMS 202.03. ALL SANDSTONE FROM STRUCTURE IS TO BE REMOVED AS CAREFULLY AS POSSIBLE TO PREVENT DAMAGE. THE COUNTY WILL RETAIN OWNERSHIP OF ALL SANDSTONE. ALL SANDSTONE IS TO BE LOADED ON COUNTY OWNED TRUCKS FOR TRANSPORT. ALL REMAINING MATERIAL ASSOCIATED WITH THE STRUCTURE REMOVAL SHALL BE THE CONTRACTORS RESPONSIBILITY FOR DISPOSAL.

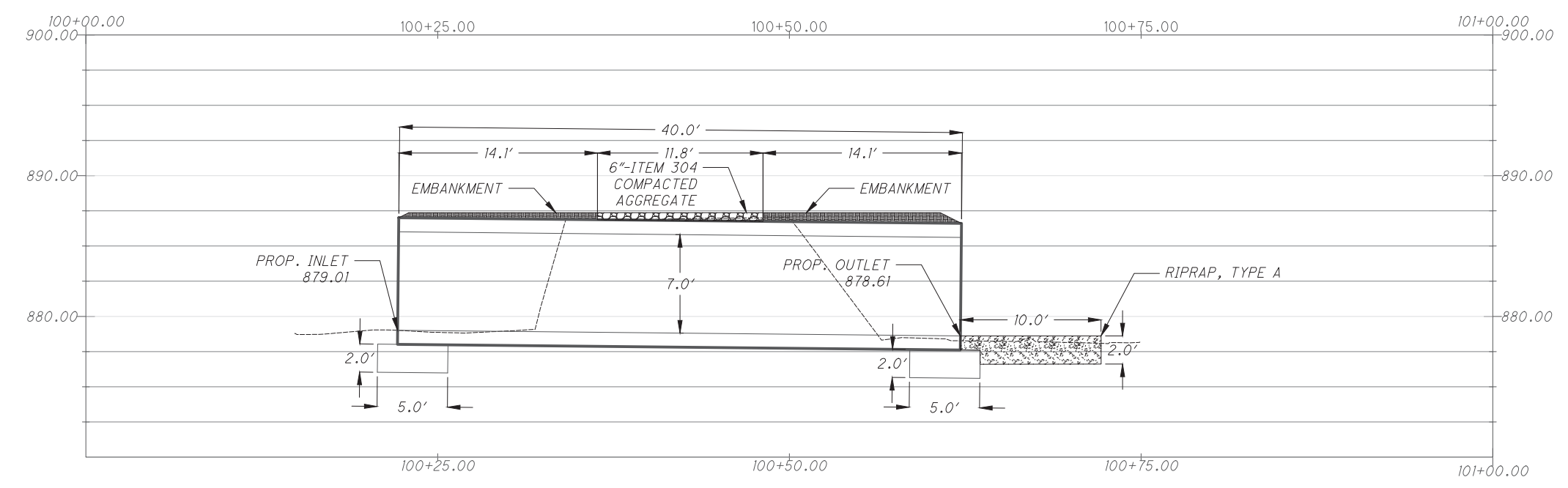
ITEM 602 MASONRY MISC.: PRECAST CONCRETE BLOCK, AS PER PLAN

THE WINGWALLS SHALL BE PRECAST CONCRETE BLOCKS. THE BLOCKS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION AND SHALL BE PAID FOR UNDER THE LUMP SUM FEE FOR ITEM 602 MASONRY MISC.: PRECAST CONCRETE BLOCK. BLOCK GROUND REINFORCING, IF REQUIRED BY THE MANUFACTURER, SHALL BE INSTALLED AS PER THE MANUFACTURER'S REQUIREMENTS. THIS ITEM SHALL INCLUDE ALL MATERIALS AND LABOR INCLUDING AGGREGATE LEVELING PAD, GROUND REINFORCING, DRAIN PIPE, AND ANY OTHER ITEMS TO INSTALL.

ITEM	ITEM	GRAND	UNIT	DESCRIPTION
	EXT	TOTAL		
201	11000	LS		CLEARING AND GRUBBING
202	11001	LS		STRUCTURE REMOVED, AS PER PLAN
202	75201	15	FT	FENCE REMOVED FOR REUSE, AS PER PLAN
203	20000	33	CY	EMBANKMENT
304	20000	14	CY	AGGREGATE BASE
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING
503	21300	LS		UNCLASSIFIED EXCAVATION
509	10000	590	LB	EPOXY COATED REINFORCING STEEL
511	46510	11	CY	CLASS QC1 CONCRETE, FOOTING
512	33000	72	SY	TYPE 2 WATERPROOFING
601	10970	16	SY	RIPRAP, TYPE A
602	98000	LS		MASONRY, MISC.: PRECAST CONCRETE BLOCK, AS PER PLAN
611	95901	40	FT	12' X 7' CONDUIT, TYPE A, 706.05, AS PER PLAN
613	41200	170	CY	LOW STRENGTH MORTAR BACKFILL
623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING
624	10000	LS		MOBILIZATION
659	00501	LS		SEEDING AND MULCHING, CLASS 1, AS PER PLAN
832	30000	LS		EROSION CONTROL



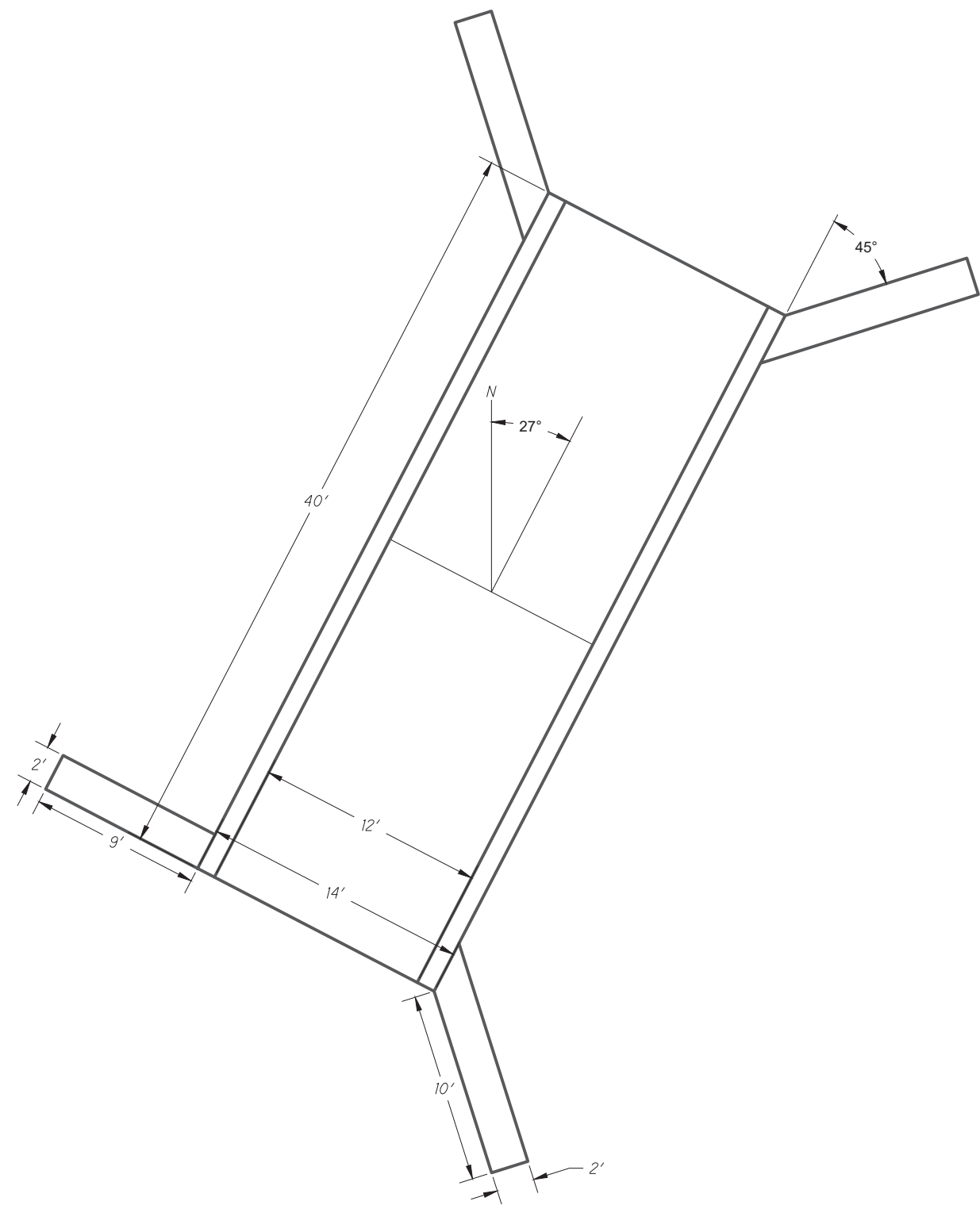
PROFILE



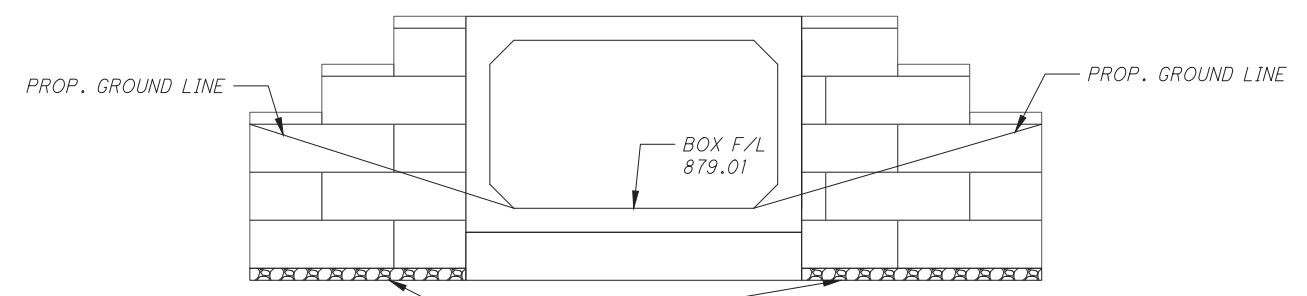
12' X 7' X 40' CONDUIT
TYPE A @ 1.00%
TR 221 CULVERT PROFILE LOOKING WEST

CULVERT PLAN AND PROFILE
TR 221 BRIDGE 1 REPLACEMENT

COSHOCTON COUNTY
ENGINEER'S OFFICE

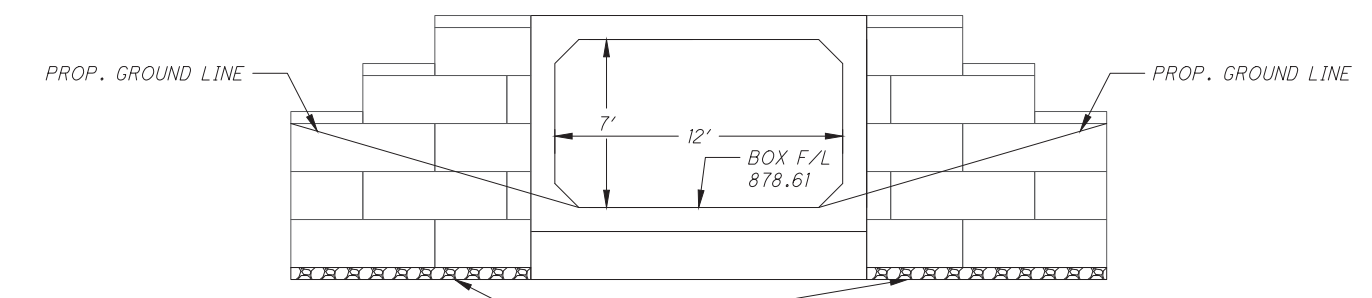


CULVERT & WINGWALL LAYOUT

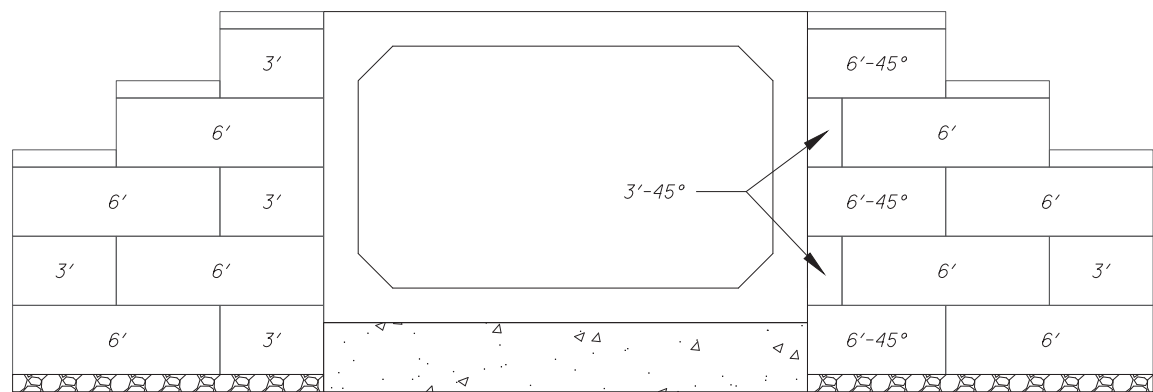


INLET ELEVATION

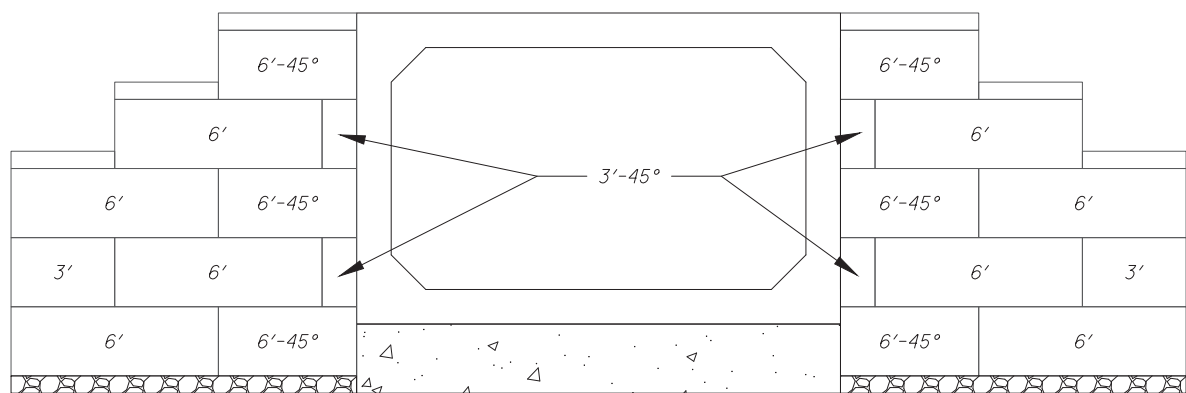
NOTE: BOX FLOOR, ROOF, AND WALL THICKNESS = 1'



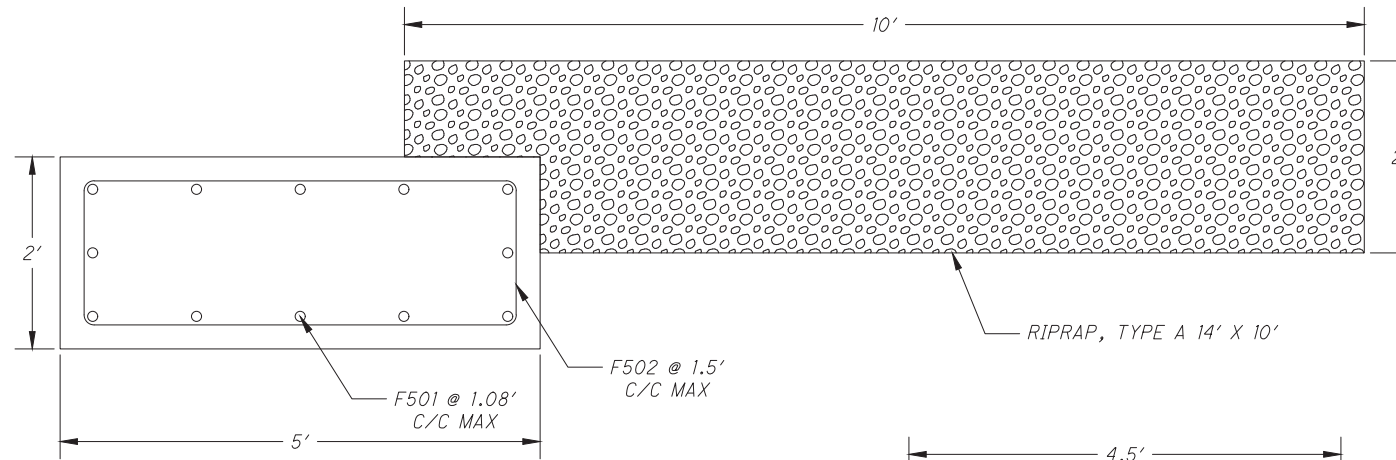
OUTLET ELEVATION



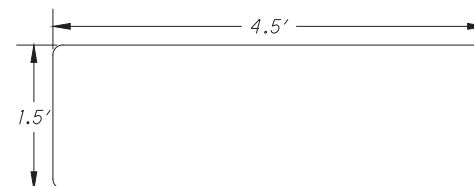
INLET ELEVATION



OUTLET ELEVATION

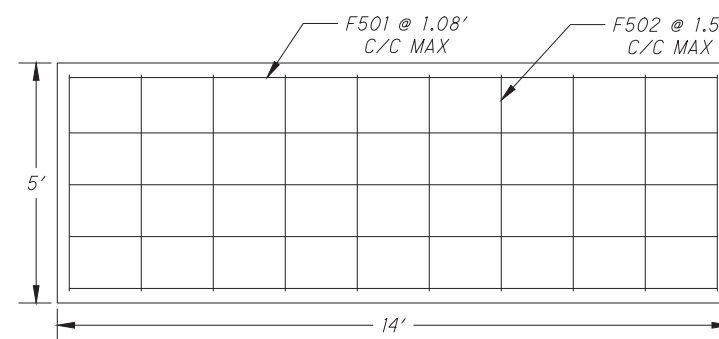


NO. 5 BARS
 F501: 24 @ 13.5' EACH
 F502: 20 @ 12' EACH

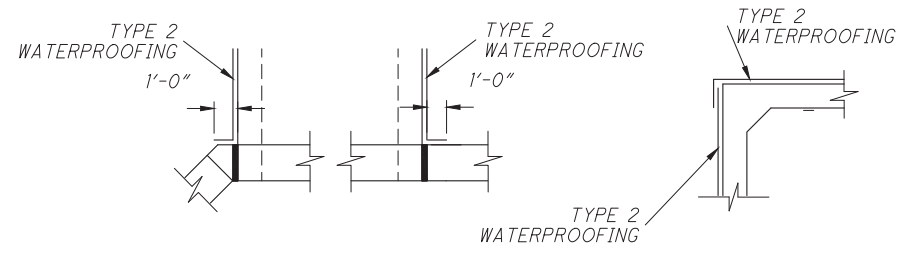


F502 BAR DIMENSIONS

CUTOFF WALL STEEL DETAIL

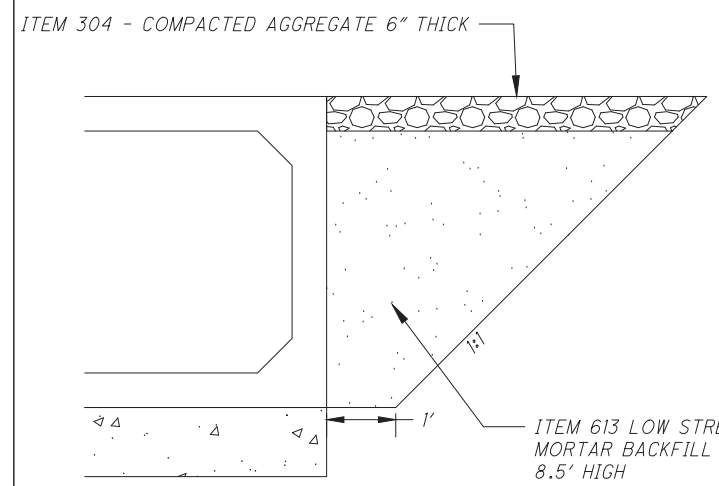


CUTOFF WALL PLAN VIEW

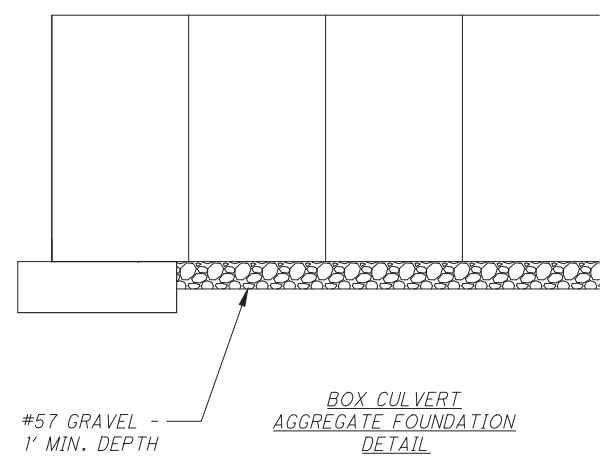


PLAN VIEW
 WATERPROOFING DETAILS

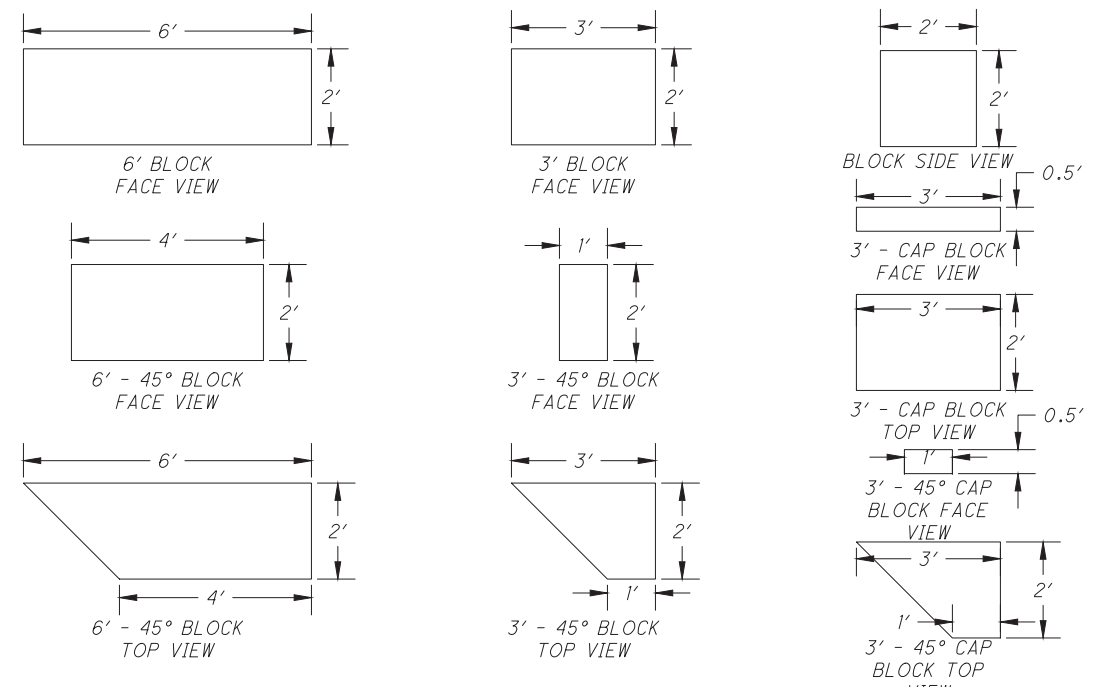
SECTION VIEW



LSM DETAIL



BOX CULVERT
 AGGREGATE FOUNDATION
 DETAIL



PRECAST CONCRETE BLOCK DETAILS