

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

TOLEDO EDISON
6099 ANGOLA RD.
HOLLAND, OH 43528
(419) 249-5218

NORTHWESTERN THE DISTRICT WATER AND SEWER
12560 MIDDLETON PIKE
BOWLING GREEN, OH 43402
419-354-9090
ATTN.: MARK BERFIELD
mberfield@nwwsd.org

CENTURYLINK
175 ASHLAND ROAD
MANSFIELD, OH 44902
419-755-7183

AMPLEX INTERNET
22690 PEMBERVILLE ROAD
LUCKEY, OH 43443
419-837-5015
ATTN.: KATHY BAUGHER
kbaugher@amplex.net

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY COMPANY NOTIFICATION

PRIOR TO THE START OF EXCAVATION, THE CONTRACTOR SHALL NOTIFY AMPLEX INTERNET USING THE CONTACT INFORMATION ABOVE.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: RTK GPS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONIC CONFORMAL
COORDINATE SYSTEM: OHIO STATE PLANE NORTH
COMBINED SCALE FACTOR: 0.99993589
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- 659, TOPSOIL 12 CU. YD.
- 659, SEEDING AND MULCHING 105 SQ. YD.
- 659, REPAIR SEEDING AND MULCHING 6 SQ. YD.
- 659, INTER-SEEDING 6 SQ. YD.
- 659, COMMERCIAL FERTILIZER 0.01 TON
- 659, LIME 0.02 ACRES
- 659, WATER 1 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

PAVEMENT MARKING COORDINATION

PAVEMENT MARKINGS MUST BE PLACED PRIOR TO OPENING THE PROJECT TO TRAFFIC. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER FOURTEEN (14) DAYS IN ADVANCE OF THE NEED TO PLACE THE PAVEMENT MARKINGS. THE PROJECT ENGINEER SHALL CONTACT THE DISTRICT TRAFFIC MAINTENANCE ENGINEER AT 419-373-4303 TO SCHEDULE THE PAVEMENT MARKING PLACEMENT PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

RAISED PAVEMENT MARKER COORDINATION

THE PROJECT ENGINEER SHALL ALSO CONTACT THE DISTRICT RAISED PAVEMENT MARKER (RPM) MAINTENANCE CONTRACT PROJECT MANAGER TO HAVE THE RPMS THAT WERE REMOVED FROM THE PROJECT REPLACED AT THE EARLIEST POSSIBLE DATE. RPMS WILL NOT BE REQUIRED TO BE PLACED PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

RAISED PAVEMENT MARKER REMOVED, 1 EACH

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 611 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

- 611 4" CONDUIT, TYPE F 20 FT.
- 611 6" CONDUIT, TYPE F 20 FT.

UNKNOWN CONDUIT OUTLETS

THE OUTLETS OF CERTAIN CONDUITS NEAR THE PROJECT LIMITS WERE NOT LOCATED. SEE SHEET 8 FOR THE LOCATION OF THESE CONDUITS. PROVIDE UNOBSTRUCTED OUTLETS FOR ANY OF THESE CONDUITS IF THE EXISTING OUTLETS ARE REQUIRED TO BE REMOVED FOR CONSTRUCTION PURPOSES. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK:

611 15" CONDUIT, TYPE B, 706.02 20 FT.

STATION	OFFSET	PG NORTHING	PG EASTING	GRID NORTHING	GRID EASTING	ELEV.	DESCRIPTION	POINT
PROJECT CONTROL								
862+98.73	7.723' LT.	651207.77600	1707156.80250	651166.027100	170747.356700	649.17	CNPT/PRIMARY	SV1
871+67.19	7.974' RT.	651148.36201	1707971.98102	651106.613109	1707862.535222	650.13	CNPT/AZIMUTH	SV2
863+43.84	45.087' RT.	651146.33983	1707106.70729	651104.590926	1706997.261490	648.03	CNPT/PRIMARY	SV3
CL R/W								
863+43.84	CL	651162.72563	1707148.70816	651120.976732	1707039.262358	649.66	MAG	SV15
889+79.72	CL	651142.27110	1709784.50982	651100.5222005	1709675.0640225	653.38	MAG	SV619

FOR BENCHMARK INFORMATION, SEE SHEET 8.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

DESIGN AGENCY



DESIGNER
ADB

REVIEWER
XXX MM-DD-YY

PROJECT ID
107717

SHEET TOTAL
P.3 16

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND THE BRIDGE DESIGN MANUAL.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL, $\phi_{bf} = 30^\circ$
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\phi_f = 28^\circ$
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, $S_{uf} \approx 1500$ PSF
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)

CONCRETE - COMPRESSIVE STRENGTH 4000 PSI
 (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
 GRADE 60 MINIMUM YIELD STRENGTH
 60,000 PSI (ALL REINFORCING SHALL BE
 EPOXY COATED)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED; OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

BASIS OF PAYMENT - CONCRETE & REINFORCING STEEL ITEMS

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE WINGWALLS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTINGS AND CUTOFF WALLS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, FOOTING.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FORESLOPE WALLS AND CLOSURE POURS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, HEADWALL.

PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED STEEL REINFORCEMENT.

ITEM 611 - 9' x 6' CONDUIT, TYPE A, 706.05, AS PER PLAN, DESIGN COVER 2 FT.:

THE CONTRACTOR SHALL FILL THE TOP EXTERIOR, SIDE INTERIOR AND EXTERIOR AND BOTTOM INTERIOR JOINT GAPS WITH MORTAR PRIOR TO APPLYING THE JOINT WRAP AND TYPE 2 WATERPROOFING.

GENERAL NOTES

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

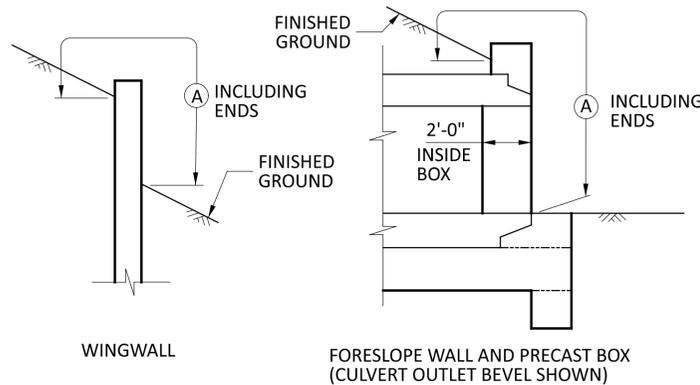
WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER: PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.

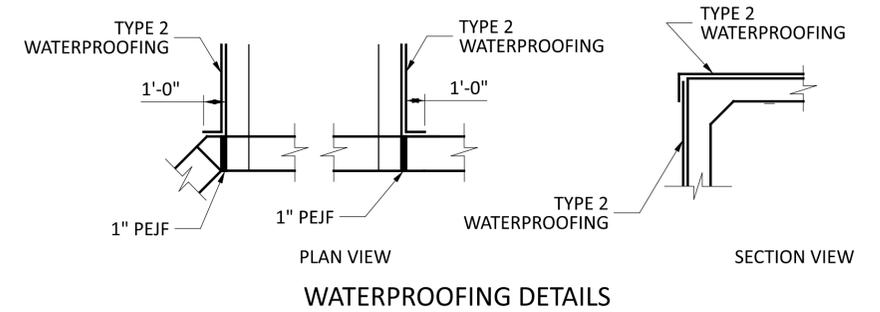
WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE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

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, 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.



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA



ESTIMATED QUANTITIES (01/STR/04)					
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	
202	11000	LS		STRUCTURE REMOVED	
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
503	21300	LS		UNCLASSIFIED EXCAVATION	
509	10000	4,505	LB	EPOXY COATED STEEL REINFORCEMENT	
511	46010	16	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	33	CY	CLASS QC1 CONCRETE, FOOTING	
511	46610	3	CY	CLASS QC1 CONCRETE, HEADWALL	
512	10050	41	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	33000	229	SY	TYPE 2 WATERPROOFING	
516	13600	40	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21230	LS		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
601	32100	17	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
611	94940	76	FT	9' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN	

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEET

DESIGN AGENCY



DESIGNER
ADB

REVIEWER
 XXX MM-DD-YY

PROJECT ID
 107717

SHEET TOTAL
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