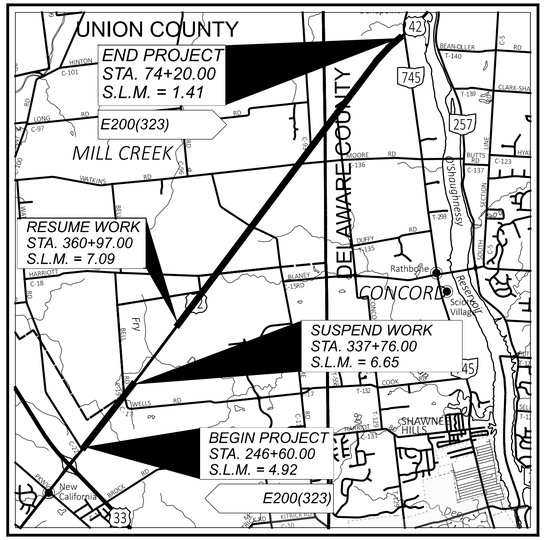
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
UNI/DEL-42-4.92/0.00

MILLCREEK TOWNSHIP
JEROME TOWNSHIP
CONCORD TOWNSHIP
UNION COUNTY
DELAWARE COUNTY



LOCATION MAP

LATITUDE: 40°13'10" LONGITUDE: 83°10'29"

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2020)	*11,500*
DESIGN YEAR ADT (2040)	*17,500*
DESIGN HOURLY VOLUME (2020)	*2,100*
DIRECTIONAL DISTRIBUTION	*64%*
TRUCKS (24 HOUR B&C)	*19%*
DESIGN SPEED	*55 MPH*
LEGAL SPEED	*55 MPH*
DESIGN FUNCTIONAL CLASSIFICATION:	
03 PRINCIPAL ARTERIAL (RURAL)	
NHS PROJECT	*YES*

DESIGN EXCEPTIONS

DESIGN FEATURE:	*APPROVAL DATES:*	*SHEET NUMBERS:*
SHOULDER WIDTH	*05/27/2022*	*P.3 - P.5*

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

ENGINEER'S SEAL:
ROADWAY
SHEETS: P.1 - P.6, P.47 - P.60, P.73 - P.82, P.91 - P.383
STATE OF OHIO · BRENT B DOWNING 62886 · REGISTERED PROFESSIONAL ENGINEER
Brent Downing
Digitally signed by Brent Downing DN: C=US, E=bdowning@jmt.com, O=JMT, CN=Brent Downing Date: 2025.04.21 17:19:20-04'00'

ENGINEER'S SEAL:
DRAINAGE
SHEETS: P.61 - P.72, P.83 - P.90, P.384-P.430
STATE OF OHIO · CHARLES T. WEST 56424 · REGISTERED PROFESSIONAL ENGINEER
Charles T. West
Digitally signed by Charles T. West DN: C=US, E=west@erobinson.com, O=E. L. Robinson Engineers of Ohio, CN=Charles T. West Date: 2025.04.22 06:10:54-04'00'

ENGINEER'S SEAL:
MOT, TRAFFIC CONTROL
SHEETS: P.10 - P.46, P.431 - P.448
STATE OF OHIO · MARK JAMES HUNTER 56376 · REGISTERED PROFESSIONAL ENGINEER
Mark Hunter
Digitally signed by Mark Hunter DN: C=US, E=mhunter@eec-eng.com, CN=Mark Hunter Date: 2025.04.22 07:00:06-04'00'

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	*1/21/22*	*MH-3*	*7/21/23*	*RM-1.1*	*1/20/23*	*MT-97.10*	*4/19/19*	*TC-41.10*	*7/19/13*	*800-2023*	*1/17/25*
BP-3.2	*1/18/19*			*RM-4.2*	*4/17/20*	*MT-97.12*	*1/20/17*	*TC-41.30*	*4/21/23*	*832*	*7/19/24*
BP-4.1	*7/1913*	*DM-1.1*	*7/17/20*			*MT-97.20*	*4/19/19*	*TC-42.20*	*10/18/13*	*840*	*4/17/19*
		DM-4.2	*7/20/12*			*MT-101.60*	*4/21/23*	*TC-52.10*	*10/18/13*	*872*	*1/21/22*
CB-2-2B	*1/20/23*	*DM-4.3*	*1/15/16*	*DBR-2-73*	*7/19/02*	*MT-101.70*	*4/21/23*	*TC-52.20*	*1/15/21*	*874*	*4/17/20*
CB-2-3	*1/20/23*	*DM-4.4*	*1/15/16*	*DBR-3-11*	*7/15/11*	*MT-101.75*	*7/21/23*	*TC-61.30*	*7/19/19*	*875*	*1/18/19*
CB-4A	*7/16/21*					*MT-101.90*	*7/21/20*	*TC-64.10*	*7/21/23*		
CB-7	*7/16/21*			*DS-1-92*	*7/15/22*	*MT-105.10*	*1/17/20*	*TC-65.10*	*1/17/14*		
CB-8	*7/16/21*							*TC-65.11*	*7/15/22*		
				HW-1.1	*7/20/18*			*TC-71.10*	*4/21/23*		
MGS-1.1	*7/16/21*			*HW-2.1*	*7/15/22*						
MGS-2.1	*1/19/18*			*HW-2.2*	*7/20/18*						
MGS-3.1	*1/19/18*										
MGS-3.2	*1/18/13*										
MGS-5.3	*7/15/16*										

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

WATERWAY PERMIT 4/16/24

FEDERAL PROJECT NUMBER

E200(323)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

UPGRADING 6.37 MILES OF US 42 BY WIDENING AND RESURFACING, INCLUDING CULVERT REPLACEMENT, TRAFFIC CONTROL SIGNS, CENTERLINE AND EDGE LINE RUMBLE STRIPES AND PAVEMENT MARKINGS AND ADDING LEFT TURN LANES AT JEROME ROAD.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	*36.26 ACRES*
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	*0.25 ACRES*
NOTICE OF INTENT EARTH DISTURBED AREA:	*36.51 ACRES*

2023 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC IN THE SOUTHBOUND DIRECTION OF THE HIGHWAY AND THAT A DETOUR WILL BE PROVIDED AS INDICATED ON SHEET P.45 & 46 .

DISTRICT DEPUTY DIRECTOR

Anthony C. Turowski, P.E.
06

DIRECTOR, DEPARTMENT OF TRANSPORTATION

Pamela Boratyn

TITLE SHEET

DESIGN AGENCY
JMT
2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231

DESIGNER SKG
REVIEWER DFD 07/30/24
PROJECT ID 111381
SHEET P.1 TOTAL 485

UNI/DEL-42-4.92/0.00
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 12:01:05 AM USER: COza
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111138\1400-Engineering\Roadway\Sheets\111381_GT002.dgn

UTILITIES

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

AEP
ATTN: PAUL PAXTON
700 MORRISON RD.
GAHANNA, OHIO 43230
PTPAXTON@AEP.COM
614-883-6831

CITY OF MARYSVILLE
ATTN: JEREMY HOYT
125 EAST SIXTH ST.
MARYSVILLE, OHIO 43040
JHOYT@MARYSVILLEOHIO.ORG
937-645-7358

CHARTER COMMUNICATIONS
ATTN: SAM LUTZ
3760 INTERCHANGE RD.
COLUMBUS, OHIO 43204
SAMUEL.LUTZ@CHARTER.COM
614-402-1979
ATTN: JEFFERY WHATLEY
3760 INTERCHANGE RD.
COLUMBUS, OHIO 43204
JEFFERY.WHATLEY1@CHARTER.COM
614-402-1979

CONSOLIDATED ELECTRIC COOP
ATTN: RUSS KENDALL
5255 STATE ROUTE 95
MT. GILEAD, OHIO 43338
RKENDALL@CONSOLIDATED.COOP
614-570-0567

AES
ATTN: WILLIAM WARD
1900 DRYDEN RD.
DAYTON, OHIO 45439
WILLIAM.WARD@DPLINC.COM
937-554-9063

DEL-CO WATER
ATTN: BILL WINTER
3855 LEWIS CENTER RD.
DELAWARE, OHIO 43015
BWINTER@DELCOWATER.COM
740-548-7746 EXT 2408

FRONTIER COMMUNICATIONS
ATTN: ROBERT CHANDLER
1300 COLUMBUS-SANDUSKY RD.
MARION, OHIO 43302
ROBERT.I.CHANDLER@FTR.COM
740-383-0686
ATTN: CHRIS AVERY
1300 COLUMBUS-SANDUSKY RD.
MARION, OHIO 43302
LRA.AVERY@FTR.COM
740-383-0551

MADISON ENERGY COOP.
ATTN: KEVIN KOMARA
4100 HOLIDAY ST. NW STE. 201
CANTION, OHIO 44718
KKOMARA@UTILITYPIPELINELTD.COM
330-498-9130 EXT 347

ODOT DISTRICT 6
ATTN: DAVID CARLIN
400 EAST WILLIAM ST.
DELAWARE, OHIO 43015
DAVID.CARLIN@DOT.OHIO.GOV
740-833-8267

OHIO EDISON
ATTN: CHRIS HARPER
2600 ERIE ST. SOUTH
MASSILLON, OHIO 44646
HARPERC@FIRSTENERGY.COM
330-830-7092

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.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE BELOW 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: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID 12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011) (EPOCH 2010.0)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC 2 STANDARD PARALLEL
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 0.99999329
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.

DELAWARE COUNTY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
130	204197.087	1781681.135	963.63	IPINS
131	204843.093	1782173.215	961.66	IPINS
132	208819.038	1785424.928	914.69	IPINS
133	208266.358	1784756.634	930.01	IPINS
134	207577.678	1784258.805	937.02	IPINS
135	206933.927	1783701.164	939.64	IPINS
136	206239.875	1783231.818	948.05	IPINS
137	205576.526	1782663.621	953.20	IPINS
138	203671.502	1781289.131	960.01	IPINS
230	204213.890	1781623.118	965.28	BM
231	204899.102	1782143.617	959.93	BM
233	208258.669	1784865.218	934.40	BM
234	207644.028	1784331.252	939.65	BM
235	206953.214	1783797.644	940.36	BM
236	206285.056	1783271.015	949.52	BM
237	205688.724	1782742.477	953.93	BM

PAVEMENT REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF CONCRETE BASE AS CALLED OUT ON THE PLANS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ITEM 202 - PAVEMENT REMOVAL AS PER PLAN SHALL BE AT THE UNIT PRICE BID PER SY AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND DISPOSE OF THE PAVEMENT.

UNION COUNTY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
MN5	203119.158	1780869.190	956.23	IPID
MN6	202373.810	1780307.764	953.26	IPID
158	182011.223	1764877.615	1016.86	IPINS
159	182689.354	1765403.951	1001.22	IPINS
160	183321.243	1765898.511	978.18	IPINS
161	183987.830	1766413.424	996.23	IPINS
162	184626.681	1766914.084	993.84	IPINS
163	185296.838	1767380.003	995.84	IPINS
164	186024.885	1767989.103	990.47	IPINS
165	186700.847	1768510.992	982.82	IPINS
166	187418.489	1768998.372	975.87	IPINS
167	188114.841	1769531.168	970.00	IPINS
168	188756.832	1770089.780	973.77	IPINS
169	189439.136	1770603.053	976.95	IPINS
170	190172.101	1771066.726	976.37	IPINS
171	190811.809	1771629.820	972.99	IPINS
172	191557.327	1772118.383	973.39	IPINS
173	192229.876	1772684.863	967.77	IPINS
174	192968.058	1773162.955	964.95	IPINS
175	193643.878	1773749.000	964.26	IPINS
176	194363.171	1774225.702	968.14	IPINS
177	195014.118	1774771.778	970.45	IPINS
178	195662.369	1775247.938	969.74	IPINS
179	196381.388	1775724.815	965.56	IPINS
180	196742.467	1776078.662	968.54	IPINS
181	197441.978	1776522.386	974.13	IPINS
182	198120.265	1777100.376	963.67	IPINS
183	198806.409	1777611.197	959.52	IPINS
184	199528.533	1778101.192	958.41	IPINS
185	200213.511	1778629.585	953.67	IPINS
186	200889.303	1779202.109	949.89	IPINS
187	201657.275	1779718.222	950.63	IPINS
258	182209.823	1765034.495	1015.55	BM
259	182904.811	1765591.013	1006.50	BM
260	183556.632	1766091.095	997.11	BM
261	184175.647	1766576.533	996.67	BM
262	184638.114	1766936.710	995.84	BM
263	185328.470	1767467.663	995.90	BM
265	186923.825	1768618.595	983.34	BM
266	187386.527	1769033.575	978.00	BM
267	188248.393	1769614.913	970.00	BM
268	189059.173	1770310.242	974.94	BM
269	189700.023	1770791.539	983.28	BM
270	190130.943	1771113.400	978.49	BM
271	191000.774	1771764.431	974.79	BM
272	191548.421	1772175.938	974.56	BM
273	192208.436	1772669.915	970.68	BM
274	193087.269	1773328.012	968.62	BM
275	193771.754	1773841.289	965.67	BM
276	194415.387	1774323.426	971.36	BM
277	195075.493	1774819.044	974.08	BM
278	195624.054	1775228.192	972.20	BM
279	196276.567	1775719.230	969.24	BM
280	196777.308	1776094.785	970.82	BM
281	197678.869	1776772.198	974.29	BM
282	198233.866	1777191.891	966.58	BM
283	198791.568	1777613.793	961.75	BM
284	199455.299	1778114.458	959.87	BM
285	200151.812	1778643.699	954.66	BM
286	200896.331	1779204.693	952.25	BM
287	201865.407	1779864.177	954.88	BM
288	202381.327	1780254.492	954.90	BM
289	203201.392	1780868.315	955.89	BM
130	204197.087	1781681.135	963.63	IPINS
131	204843.093	1782173.215	961.66	IPINS
132	208819.038	1785424.928	914.69	IPINS
133	208266.358	1784756.634	930.01	IPINS
134	207577.678	1784258.805	937.02	IPINS
135	206933.927	1783701.164	939.64	IPINS
136	206239.875	1783231.818	948.05	IPINS
137	205576.526	1782663.621	953.20	IPINS
138	203671.502	1781289.131	960.01	IPINS
230	204213.890	1781623.118	965.28	BM
231	204899.102	1782143.617	959.93	BM
233	208258.669	1784865.218	934.40	BM
234	207644.028	1784331.252	939.65	BM
235	206953.214	1783797.644	940.36	BM
236	206285.056	1783271.015	949.52	BM
237	205688.724	1782742.477	953.93	BM

CLEARING AND GRUBBING

REMOVE ALL STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF STUMPS TO BE REMOVED.

SIZES	NO. STUMPS REMAINING	NO. STUMPS	TOTALS
18"	16	4	20
30"	4	0	4
48"	4	0	4
60"	1	0	1

NOTE THAT THERE ARE TREES MARKED TO BE REMOVED IN THE PLANS BUT THOSE TREES SHOULD HAVE BEEN REMOVED BY OTHERS. THE TREES WILL BE REMOVED BUT THE STUMPS WILL REMAIN AND WILL NEED TO BE REMOVED AS PART OF THIS CONTRACT. A COLUMN HAS BEEN INCLUDED ABOVE TO INDICATE HOW MANY STUMPS REMAIN AFTER THE TREE REMOVAL. THESE TOTALS HAVE BEEN INCLUDED IN THE TOTAL COLUMN.

REMOVAL MISC.: STONE RETAINING WALLS REMOVED

THIS ITEM SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF EXISTING STONE RETAINING WALLS AS CALLED OUT ON THE PLANS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ITEM 202 - REMOVAL MISC.: STONE RETAINING WALLS REMOVED SHALL BE AT THE UNIT PRICE BID PER EACH AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND DISPOSE OF THE STONE RETAINING WALL.

REMOVAL MISC.: BOULDER REMOVED

THIS ITEM SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF EXISTING BOULDERS AS CALLED OUT ON THE PLANS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ITEM 202 - REMOVAL MISC.: BOULDERS REMOVED SHALL BE AT THE UNIT PRICE BID PER EACH AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND DISPOSE OF THE BOULDER.

REMOVAL MISC.: RIP RAP REMOVED

THIS ITEM SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF EXISTING RIP RAP AS CALLED OUT ON THE PLANS AS DIRECTED BY THE ENGINEER.

~~PAYMENT FOR ITEM 202 - REMOVAL MISC.: RIP RAP REMOVED SHALL BE INCLUDED IN THE LUMP SUM PRICE BID AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE~~ AND DISPOSE OF THE RIP RAP.

REMOVAL MISC.: GROUND WIRED LIGHTING REMOVED

THIS ITEM SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF EXISTING GROUND WIRED LIGHTING AS CALLED OUT ON THE PLANS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ITEM 202 - REMOVAL MISC.: GROUND WIRED LIGHTING REMOVED SHALL BE AT THE UNIT PRICE BID PER EACH AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND DISPOSE OF THE GROUND WIRED LIGHTING.

ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS), (T=3"), AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 441 AT SPECIFIED LOCATIONS NOTED IN THE PLANS. INSTEAD OF THE NORMAL 2" THICKNESS OF ASPHALT SURFACE COURSE FOR A DRIVEWAY, A THICKNESS OF 3" SHALL BE USED.

GENERAL NOTES

DESIGN AGENCY
JMT
2600 Corporate Exchange Drive, Suite 250,
Columbus, OH 43231

DESIGNER
SKG
REVIEWER
DFD 07/30/24
PROJECT ID
111381
SHEET P.7 TOTAL 485

UNI/DEL-42-4.92/0.00
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/22/2025 TIME: 10:05:08 AM USER: COza
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381400-Engineering\Roadway\Sheets\111381_GN001.dgn

ENVIRONMENTAL COMMITMENTS

1. ODOT SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.

2. ALL NECESSARY SPECIAL PROVISIONS SHALL BE ATTACHED TO THE FINAL PLAN SET. THE CONTRACTOR SHALL FOLLOW ALL SPECIAL PROVISIONS THROUGHOUT CONSTRUCTION.

3. ENSURE IMPACTS TO THE FEDERALLY LISTED AND PROTECTED BAT SPECIES ARE AVOIDED AND MINIMIZED. DO NOT REMOVE TREES FROM APRIL 1 THROUGH SEPTEMBER 30. PERFORM ALL NECESSARY TREE REMOVAL FROM OCTOBER 1 THROUGH MARCH 31. DEMARCATE CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

GENERAL NOTES

DESIGN AGENCY
JMT
2900 Corporate Exchange Drive, Suite 250,
Columbus, OH 43231

DESIGNER
SKG

REVIEWER
DFD 07/30/24

PROJECT ID
111381

SHEET P.9A | TOTAL 485

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/18/2025 TIME: 3:39:01 PM USER: COza
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-0011111381\400-Engineering\Roadway\Sheets\111381_GN003A.dgn

SHEET NUM.													PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.8	P.9	P.55	P.56	P.57	P.58	P.59	P.60	P.71	P.72	P.82	P.83	RW-2	01/NHS/05	02/NHS/04	03/NHS/04						
																				ROADWAY	
LS														LS		201	11000	LS		CLEARING AND GRUBBING	
								2						2		202	11004	2	EACH	STRUCTURE REMOVED	
								15						15		202	20010	15	EACH	HEADWALL REMOVED	
		56,570	1,772	2,219									60,561			202	23000	60,561	SY	PAVEMENT REMOVED	
				168									168			202	23001	168	SY	PAVEMENT REMOVED, AS PER PLAN	P.7
		78												78		202	30000	78	SF	WALK REMOVED	
		134												134		202	32000	134	FT	CURB REMOVED	
								21,372						19,520	1,852	202	35100	21,372	FT	PIPE REMOVED, 24" AND UNDER	
								69							69	202	35200	69	FT	PIPE REMOVED, OVER 24"	
		1,585												1,585		202	38000	1,585	FT	GUARDRAIL REMOVED	
		3												3		202	42206	3	EACH	ANCHOR ASSEMBLY REMOVED	
		4												4		202	47000	4	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
		46												46		202	53100	46	EACH	MAILBOX REMOVED	
								57						57		202	58100	57	EACH	CATCH BASIN REMOVED	
		LS												LS		202	98000	LS		REMOVAL MISC.: RIPRAP REMOVED	P.7
		9												9		202	98100	9	EACH	REMOVAL MISC.:BOULDER REMOVED	P.7
		16												16		202	98100	16	EACH	REMOVAL MISC.: GROUND WIRED LIGHTING REMOVED	P.7
		32												32		202	98400	32	SF	REMOVAL MISC.: STONE RETAINING WALLS REMOVED	P.7
					21,121	20,407	8,352							49,880		203	10000	49,880	CY	EXCAVATION	
					3,167	5,883	2,047							11,097		203	20000	11,097	CY	EMBANKMENT	
			2,520	2,960									5,480			204	10000	5,480	SY	SUBGRADE COMPACTION	
1,200													600	600		204	13000	1,200	CY	EXCAVATION OF SUBGRADE	
1,200													600	600		204	30010	1,200	CY	GRANULAR MATERIAL, TYPE B	
40													20	20		204	45000	40	HOUR	PROOF ROLLING	
3,600													1,800	1,800		204	50000	3,600	SY	GEOTEXTILE FABRIC	
3,600													1,800	1,800		204	51000	3,600	SY	GEOGRID	
										82,866			62,873	19,993		206	10020	82,866	SY	LIME STABILIZED SUBGRADE, 14 INCHES DEEP	
										278			211	67		206	10300	278	TON	LIME	
										39			31	8		206	20000	39	HOUR	TEST ROLLING	
		1,075												1,075		606	15050	1,075	FT	GUARDRAIL, TYPE MGS	
		8												8		606	26150	8	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
		4												4		606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	P.336
												67		67		623	40520	67	EACH	RIGHT-OF-WAY MONUMENT, TYPE B	
		38												38		SPECIAL	69050100	38	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	P.8
		7												7		SPECIAL	69050200	7	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	P.8
																				EROSION CONTROL	
								12						12		601	10000	12	SY	RIPRAP	
								~~53~~						~~53~~		601	21060	~~53~~	SY	TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT	
								~~41~~						~~41~~		601	32100	~~41~~	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
								~~29~~						~~29~~		601	32200	~~29~~	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
8,907														8,907		659	00300	8,907	CY	TOPSOIL	
80,165														80,165		659	10000	80,165	SY	SEEDING AND MULCHING	
4,008														4,008		659	14000	4,008	SY	REPAIR SEEDING AND MULCHING	
4,008														4,008		659	15000	4,008	SY	INTER-SEEDING	
11.63														11.63		659	20000	11.63	TON	COMMERCIAL FERTILIZER	
16.56														16.56		659	31000	16.56	ACRE	LIME	
455														455		659	35000	455	MGAL	WATER	
									17,849					17,849		670	00500	17,849	SY	SLOPE EROSION PROTECTION	
									5,354					5,354		670	00700	5,354	SY	DITCH EROSION PROTECTION	
											LS			LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											LS			LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
											LS			LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
											575,460			575,460		832	30000	575,460	EACH	EROSION CONTROL	
																				DRAINAGE	
								~~23~~						~~23~~		602	20000	~~23~~	CY	CONCRETE MASONRY	
								~~645~~						~~645~~		605	06000	~~645~~	FT	4" BASE PIPE UNDERDRAINS	
11,970														11,970		605	31100	11,970	FT	AGGREGATE DRAINS	
								39						39		611	00400	39	FT	4" CONDUIT, TYPE E	
	50							39						89		611	00406	89	FT	4" CONDUIT, TYPE F	

GENERAL SUMMARY

DESIGN AGENCY
JMT
2800 Corporate Exchange Drive, Suite 250,
Columbus, OH 43231

DESIGNER
SKG

REVIEWER
DFD 07/30/24

PROJECT ID
111381

SHEET P.47 TOTAL 485

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 1:57:03 AM USER: COza
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381\400-Engineering\Roadway\Sheets\111381_GG001.dgn

SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.8	P.9	P.11	P.12	P.56	P.57	P.55	P.71	P.72	P.82	01/NHS/05	02/NHS/04	03/NHS/04						
																	DRAINAGE (CONT.)	
	50						213				263		611	01400	263	FT	6" CONDUIT, TYPE E	
							223				223		611	01400	223	FT	6" CONDUIT, TYPE E , 706.08	
							30				30		611	02000	30	FT	8" CONDUIT, TYPE C	
	50						172				143	79	611	02500	222	FT	8" CONDUIT, TYPE E	
							809				189	620	611	04400	809	FT	12" CONDUIT, TYPE B	
							6,570				6,570		611	04600	6,570	FT	12" CONDUIT, TYPE C	
							1,024				1,024		611	04900	1,024	FT	12" CONDUIT, TYPE D	
							7,453				7,453		611	05100	7,453	FT	12" CONDUIT, TYPE E	
							114					114	611	05700	114	FT	15" CONDUIT, TYPE A, 706.02, 707.01 (0.188)GALVANIZED), 707.01 ALUMINIZED, 707.21, 707.33, 707.65	
							71					71	611	05900	71	FT	15" CONDUIT, TYPE B	
							2,261				2,261		611	06100	2,261	FT	15" CONDUIT, TYPE C	
							421				421		611	06400	421	FT	15" CONDUIT, TYPE D	
							64				64		611	06400	64	FT	15" CONDUIT, TYPE D , 706.02, 707.33 OR 707.65	
							108					108	611	07200	108	FT	18" CONDUIT, TYPE A , 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65	
							2,052				2,052		611	07600	2,052	FT	18" CONDUIT, TYPE C	
							135				135		611	07900	135	FT	18" CONDUIT, TYPE D	
							14				14		611	09100	14	FT	21" CONDUIT, TYPE C	
							188				53	135	611	10400	188	FT	24" CONDUIT, TYPE B	
							628				628		611	10600	628	FT	24" CONDUIT, TYPE C	
							192				192		611	10900	192	FT	24" CONDUIT, TYPE D	
							96				96		611	13900	96	FT	30" CONDUIT, TYPE D	
							1,388				1,388		611	16600	1,388	FT	36" CONDUIT, TYPE C	
							12				12		611	16600	12	FT	36" CONDUIT, TYPE C, 706.02	
							648				648		611	16900	648	FT	36" CONDUIT, TYPE D	
							80					80	611	19400	80	FT	42" CONDUIT, TYPE B	
							34				34		611	19600	34	FT	42" CONDUIT, TYPE C	
							580				580		611	21100	580	FT	48" CONDUIT, TYPE C	
							814				814		611	24000	814	FT	60" CONDUIT, TYPE C	
							175					175	611	52200	175	FT	14" X 23" CONDUIT, TYPE A, 706.04	
							62					62	611	52202	62	FT	14" X 23" CONDUIT, TYPE B, 706.04	
							192				192		611	52206	192	FT	14" X 23" CONDUIT, TYPE D, 706.04	
							112					112	611	52300	112	FT	19" X 30" CONDUIT, TYPE A, 706.04	
							68				68		611	52306	68	FT	19" X 30" CONDUIT, TYPE D, 706.04	
							244					244	611	52400	244	FT	22" X 34" CONDUIT, TYPE A, 706.04	
							56					56	611	52500	56	FT	24" X 38" CONDUIT, TYPE A, 706.04	
							71					71	611	52502	71	FT	24" X 38" CONDUIT, TYPE B, 706.04	
							62				62		611	52504	62	FT	24" X 38" CONDUIT, TYPE C, 706.04	
							60					60	611	52700	60	FT	29" X 45" CONDUIT, TYPE A, 706.04	
							64				64		611	52706	64	FT	29" X 45" CONDUIT, TYPE D, 706.04	
							73					73	611	53102	73	FT	43" X 68" CONDUIT, TYPE B, 706.04	
							60				60		611	53201	60	FT	48" X 76" CONDUIT, TYPE A, 706.04, AS PER PLAN	
							88					88	611	53300	88	FT	53" X 83" CONDUIT, TYPE A, 706.04	
	100										100		611	97400	100	FT	CONDUIT, MISC.:TYPE E FOR DRAINAGE CONTINUANCE	P.9
	100										100		611	97400	100	FT	CONDUIT, MISC.:TYPE F FOR DRAINAGE CONTINUANCE	P.9
	200										200		611	97400	200	FT	CONDUIT, MISC.:CONDUIT REMOVAL FOR DRAINAGE CONTINUANCE	P.9
								7			7		611	98390	7	EACH	CATCH BASIN, NO. 7	
								48			48		611	98410	48	EACH	CATCH BASIN, NO. 8	
								1			1		611	98434	1	EACH	CATCH BASIN, NO. 8A	
								70			70		611	98470	70	EACH	CATCH BASIN, NO. 2-2B	
								2			2		611	98510	2	EACH	CATCH BASIN, NO. 2-3	
								1			1		611	98540	1	EACH	CATCH BASIN, NO. 2-4	
								19			19		611	99574	19	EACH	MANHOLE, NO. 3	
																	PAVEMENT	
300										300			251	01041	300	SY	PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN	P.8
			1,500						46,289	47,789			254	01000	47,789	SY	PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE DEPTH, 1.5" AVG.)	
						63,839				63,839			255	20000	63,839	FT	FULL DEPTH PAVEMENT SAWING	
15		1,300							16,999	14,596	3,718		301	56000	18,314	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
				510	519				18,134	14,883	4,280		304	20001	19,163	CY	AGGREGATE BASE, AS PER PLAN	P.8
				47	28					75			407	10000	75	GAL	TACK COAT	
			120						18,552	15,984	2,688		407	20000	18,672	GAL	NON-TRACKING TACK COAT	

GENERAL SUMMARY

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 12:16:57 PM USER: COza
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381400_Engineering\Roadway\Sheets\111381_GG002.dgn

DESIGN AGENCY
JMT
2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231

DESIGNER SKG
REVIEWER DFD 07/30/24
PROJECT ID 111381
SHEET P.48 TOTAL 485

DRAINAGE SUBSUMMARY - CULVERTS & EROSION CONTROL

REF NO.	SHEET NO.	STATION TO STATION	202 HEADWALL REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 CATCH BASIN REMOVED	202 STRUCTURE REMOVED	601 TIED CONCRETE BLOCK MAT, TYPE 2	601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	602 CONCRETE MASONRY	602 CONCRETE MASONRY, AS PER PLAN	611 15" CONDUIT, TYPE A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65	611 18" CONDUIT, TYPE A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65	611 14" X 23" CONDUIT, TYPE A, 706.04	611 19" X 30" CONDUIT, TYPE A, 706.04	611 22" X 34" CONDUIT, TYPE A, 706.04	611 24" X 38" CONDUIT, TYPE A, 706.04	611 29" X 45" CONDUIT, TYPE A, 706.04	611 48" X 76" CONDUIT, TYPE A, 706.04, AS PER PLAN	611 53" X 83" CONDUIT, TYPE A, 706.04		670 SLOPE EROSION PROTECTION
			EACH	FT	FT	EACH	LS	SY	CY	CY	CY	CY	FT	FT	FT	FT	FT	FT	FT	FT	FT		SY
		U.S. 42																					
	419	380+49 & 380+54 LT&RT		45						4							184						
	420	391+30 LT&RT			50				17.2		3.3										88		
	421	452+04 & 452+07 & 452+10 LT&RT		49							1.16				118								
	422	458+98 LT&RT	1	45						2	0.8						60						
	423	471+91 LT&RT		49						1	0.6				57								
	424	489+62 LT&RT		46						1	0.6			52									
	425	496+13 LT&RT	1	45							0.5		54										
	426	503+07 & 503+10 LT&RT	2	46		1				2	1.4					112							
	427	14+15 LT&RT		62						1	0.4		60										
	428	35+93 LT&RT		60						3	1								60				
	429	46+32 LT&RT		55						3	0.9							56					
	430	51+28 LT&RT		50							0.6			56									
	418	251+63 & 251+95 RT & LT					1		2			7								60			
		U.S. 42																					
EC1	84	259+78 LT TO 267+96 LT																					1364
EC2	84	268+78 LT TO 269+90 LT																					187
EC3	84	270+20 LT TO 270+77 LT																					95
EC4	84	271+16 LT TO 277+75 LT																					1099
EC5	84	283+64 RT TO 287+47 RT																					639
EC6	84	285+00 LT TO 285+53 LT																					89
EC7	84	285+90 LT TO 287+97 LT																					345
EC8	84	290+84 LT TO 291+81 LT																					162
EC9	84	292+20 LT TO 300+15 LT																					1325
EC10	84-85	300+47 LT TO 311+14 LT																					1779
EC10A	85	306+75 RT TO 308+25 RT																					250
EC11	85	311+50 RT TO 315+60 RT																					684
EC12	85	316+00 RT TO 320+00 RT																					667
EC13	85	322+50 LT TO 326+32 LT																					637
EC14	85	326+84 LT TO 332+62 LT																					964
EC15	85	332+99 LT TO 335+31 LT																					387
EC16	85	335+31 LT TO 336+76 LT																					242
EC17	85	336+83 RT TO 337+76 RT																					155
EC18	86	362+71 LT TO 363+47 LT																					127
EC19	86	363+79 LT TO 372+29 LT																					1417
EC20	86	372+67 LT TO 382+00 LT																					1555
EC21	86	382+34 LT TO 382+65 LT																					52
EC22	86	382+97 LT TO 388+06 LT																					849
EC23	87	437+41 LT TO 451+92 LT																					2419
NOTE:. PLACE ITEM 611 - TIED CONCRETE BLOCK MAT, TYPE 2 ALONG THE BACKSLOPE OF THE NEW ROADWAY DITCHES AT THE FOLLOWING LOCATIONS TO PROTECT WHERE CONCENTRATED OFFSITE FLOWS ARE CONVEYED TO THE NEW ROADWAY DITCHES:		269+75 RT						2.5														
		275+00 RT						2.5															
		311+00 LT						14.4															
		311+90 LT						14.4															
		397+25 RT						4															
		408+48 LT						2.5															
		443+00 LT						2.5															
		447+00 LT						2.5															
		447+90 LT						2.5															
		482+00 LT						2.5															
		505+50 LT						2.5															
TOTALS CARRIED TO DRAINAGE SUMMARY			4	552	50	1	1	53	20	17	12	7	114	108	175	112	244	56	60	60	88		17,489

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/2/2025 TIME: 2:32:26 PM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001111381\400-Engineering\Drainage\Sheets\111381_DS002.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CDS
REVIEWER CTW 07/30/24
PROJECT ID 111381
SHEET P.64 TOTAL 485

DRAINAGE SUBSUMMARY - STORM SEWERS

REF NO.	SHEET NO.	STATION TO STATION	601 RIPRAP		601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	602 CONCRETE MASONRY	611 6" CONDUIT, TYPE E	611 6" CONDUIT, TYPE E, 706.08		611 8" CONDUIT, TYPE E	611 12" CONDUIT, TYPE B	611 12" CONDUIT, TYPE C		611 15" CONDUIT, TYPE C	611 24" CONDUIT, TYPE C	611 14" X 23" CONDUIT, TYPE B, 706.04	611 24" X 38" CONDUIT, TYPE B, 706.04	611 24" X 38" CONDUIT, TYPE C, 706.04	611 CATCH BASIN, NO. 8	611 CATCH BASIN, NO. 2-3	611 CATCH BASIN, NO. 2-2B	611 MANHOLE, NO. 3	670 DITCH EROSION PROTECTION
			SY		CY	CY	FT	FT		FT	FT	FT		FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	SY
		U.S. 42																					
D5A1	100	363+19 LT TO 363+00 LT						21															
D5A	100	363+00 LT TO 362+81 LT						21													1		
D5A2	99-100	362+81 LT TO 361+00 LT						181															
D6A	100	369+05 RT TO 372+00 RT					12					295									1		
D6B	100	372+00 RT TO 374+30 RT										230									1		
D6C	100-101	374+30 RT TO 377+25 RT					8					295									1		
D6D	101	377+25 RT TO 380+25 RT										300									1		
D6E	101	380+25 RT TO 380+25 RT										18									1		
D6EMH	101	380+25 RT TO 380+61 RT										36										1	
D6K	101	380+61 RT TO 380+75 RT								20											1		
D6J	100	369+14 LT TO 372+00 LT					22					286									1		
D6I	100	372+00 LT TO 374+30 LT										230									1		
D6H	100-101	374+30 LT TO 377+30 LT					10					300									1		
D6G	101	377+30 LT TO 380+25 LT										295									1		
D6F	101	380+25 LT TO 380+25 RT									64										1		
D7A	101	381+00 LT TO 382+00 LT										100									1		
D7B	101	382+00 LT TO 382+50 LT										50									1		
D7C	101	382+50 LT TO 385+50 LT										300									1		
D7D	101	385+50 LT TO 387+75 LT										225									1		
D7E	101-102	387+75 LT TO 388+19 LT												44							1		
D7F	102	388+19 LT TO 388+67 RT	3			0.44											71	14				1	
D7G	102	388+67 RT TO 389+00 RT			2	0.44												48				1	
D7K	101	381+00 RT TO 383+30 RT										230									1		
D7J	101	383+30 RT TO 386+30 RT										300									1		
D7I	101	386+30 RT TO 388+00 RT												170							1		
D7H	102	388+00 RT TO 388+67 RT												67							1		
D8A	102	401+00 RT TO 398+00 RT										300							1				126
D8B	102	398+00 RT TO 397+25 RT										75										1	
D8C	102	397+25 RT TO 394+25 RT													300				1				140
D8D	102	394+25 RT TO 394+25 RT													7				1				125
D8E	102	394+25 RT TO 391+38 RT				0.46									260							1	
D9A	103	408+50 LT TO 409+25 LT												75					1				125
D9B	103	409+25 LT TO 409+70 LT												45					1				56
D9C	103	409+70 LT TO 410+45 LT												75					1				
D9D	103	410+45 LT TO 410+45 RT														62				1			
D9E	103	410+45 RT TO 410+54 RT					16			79										1			
TOTALS CARRIED TO DRAINAGE SUMMARY			3		2	2	68	223		99	64	3,865		476	567	62	71	62	6	2	21	5	572

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 17X11 (in.) DATE: 4/2/2025 TIME: 2:38:21 PM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381400-Engineering\Drainage\Sheets\111381_DS005.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800
Cleveland, Ohio
950 Goodale Blvd. Suite 180
Grandview Heights, Ohio

DESIGNER
CDS

REVIEWER
CTW 07/30/24

PROJECT ID
111381

SHEET P.68 | TOTAL 485

DRAINAGE QUANTITIES SUMMARY

SHEET NO.	202 Headwall Removed	202 Pipe Removed, 24" And Under	202 Pipe Removed, Over 24"	202 Structure Removed	202 Catch Basin Removed		601 Riprap	601 Tied Concrete Block Mat With Type 2 Underlayment	601 Rock Channel Protection, Type B With Filter	601 Rock Channel Protection, Type C With Filter		602 Concrete Masonry	602 Concrete Masonry, As Per Plan	605 4" Base Pipe Underdrains		611 4" Conduit, Type E	611 4" Conduit, Type F	611 6" Conduit, Type E	611 6" Conduit, Type E, 706.08	611 8" Conduit, Type C	611 8" Conduit, Type E		611 12" Conduit, Type B	611 12" Conduit, Type C	611 12" Conduit, Type D	611 12" Conduit, Type E
	Each	FT	FT	Each	Each		SY	SY	CY	CY		CY	CY	FT		FT	FT	FT	FT	FT	FT		FT	FT	FT	FT
63	11	20,969	19	1	56																					
64	4	552	50	1	1			53	20	17		12	7													
65																									1024	
66																									213	
67									21	10		6												1288		
68							3			2		2						68	223		99		64	3865		
69							5			5		3				39		105			73		295	728		5883
70														645			39	40		30			450	689		1570
TOTALS	15	21521	69	2	57		8	53	41	34		23	7	645		39	39	213	223	30	172		809	6570	1237	7453

SHEET NO.	611 15" Conduit, Type A, 706.02, 707.01 (0.188)GALVANIZED), 707.01 ALUMINIZED, 707.21, 707.33, 707.65	611 15" Conduit, Type B	611 15" Conduit, Type C	611 15" Conduit, Type D	611 15" Conduit, Type D, 706.02, 707.33 OR 707.65		611 18" Conduit, Type A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65	611 18" Conduit, Type C	611 18" Conduit, Type D		611 21" Conduit, Type C		611 24" Conduit, Type B	611 24" Conduit, Type C	611 24" Conduit, Type D		611 30" Conduit, Type D		611 36" Conduit, Type C	611 36" Conduit, Type C, 706.02	611 36" Conduit, Type D		611 42" Conduit, Type B	611 42" Conduit, Type C		611 48" Conduit, Type C
	FT	FT	FT	FT	FT		FT	FT	FT		FT		FT	FT	FT		FT		FT	FT	FT		FT	FT		FT
63																										
64	114						108																			
65				421	64				135						192		96				648					
66				41																						
67		71	1485					680			14		188	61					1388	12				14		580
68			476											567												
69			300					1372															80	20		
70																										
TOTALS	114	71	2261	462	64		108	2052	135		14		188	628	192		96		1388	12	648		80	34		580

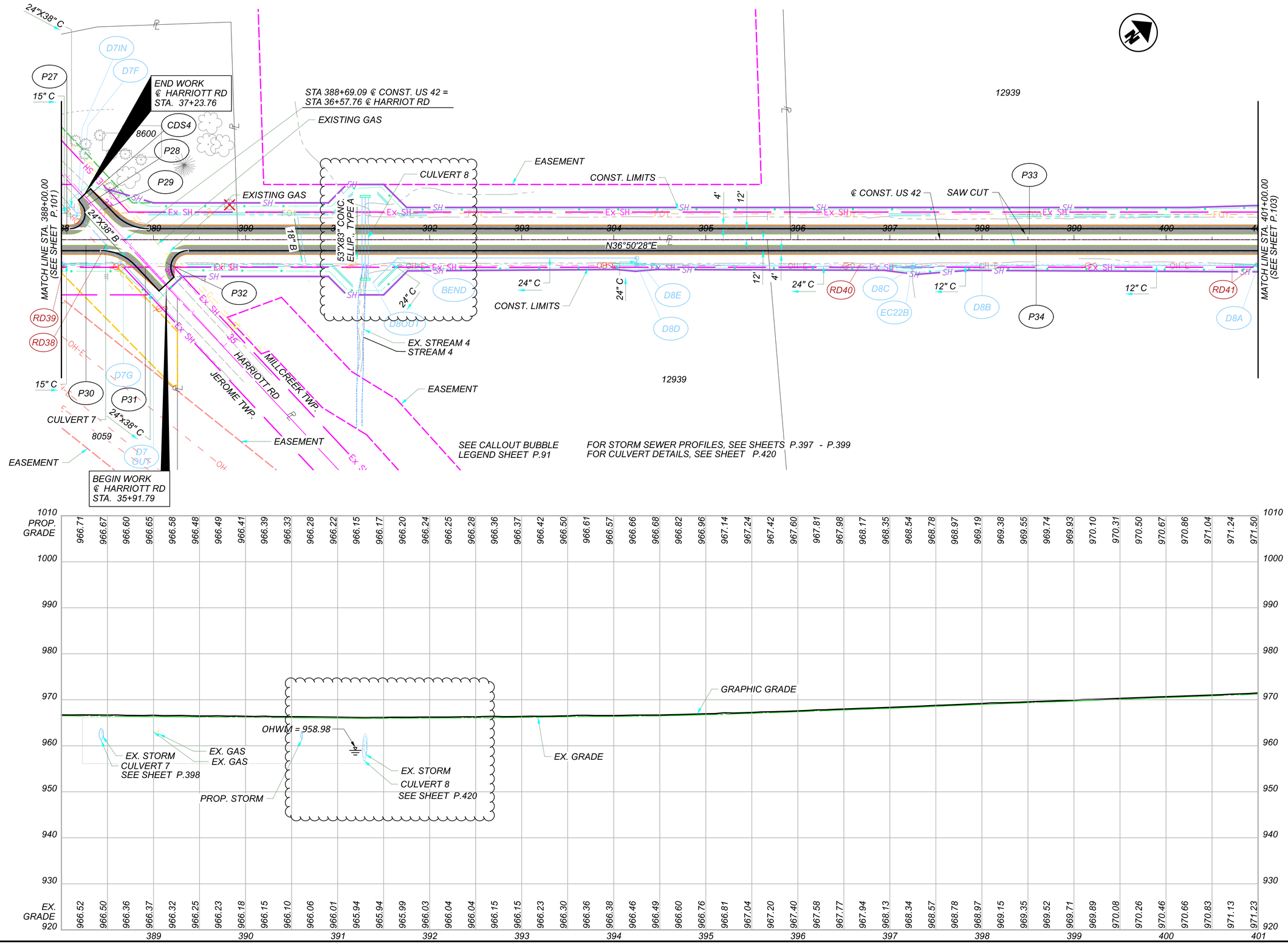
SHEET NO.	611 60" Conduit, Type C		611 14" X 23" Conduit, Type A, 706.04	611 14" X 23" Conduit, Type B, 706.04	611 14" X 23" Conduit, Type D, 706.04		611 19" X 30" Conduit, Type A, 706.04	611 19" X 30" Conduit, Type D, 706.04		611 22" X 34" Conduit, Type A, 706.04		611 24" X 38" Conduit, Type A, 706.04	611 24" X 38" Conduit, Type B, 706.04	611 24" X 38" Conduit, Type C, 706.04		611 29" X 45" Conduit, Type A, 706.04	611 29" X 45" Conduit, Type D, 706.04		611 43" X 68" Conduit, Type B, 706.04	611 48" X 76" Conduit, Type A, 706.04, As Per Plan	611 53" X 83" Conduit, Type A, 706.04					
	FT		FT	FT	FT		FT	FT		FT		FT	FT	FT		FT	FT		FT	FT	FT					
63																										
64			175				112			244		56				60				60	88					
65					192			68									64									
66																										
67	814																		73							
68				62									71	62												
69																										
70																										
TOTALS	814		175	62	192		112	68		244		56	71	62		60	64		73	60	88					

UNI/DEL-42-4.92/0.00

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/4/2025 TIME: 7:14:27 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001111381\400-Engineering\Drainage\Sheets\111381_DQ001.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800
Cleveland, Ohio
950 Goodale Blvd, Suite 180
Grandview Heights, Ohio

DESIGNER: CTW
REVIEWER: ENB 07/30/24
PROJECT ID: 111381
SHEET: P.71 TOTAL: 485



HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE
STA 388+00 TO STA 401+00

DESIGN AGENCY
JMT
2900 Corporate Exchange Drive, Suite 250,
Columbus, OH 43231

DESIGNER
SKG

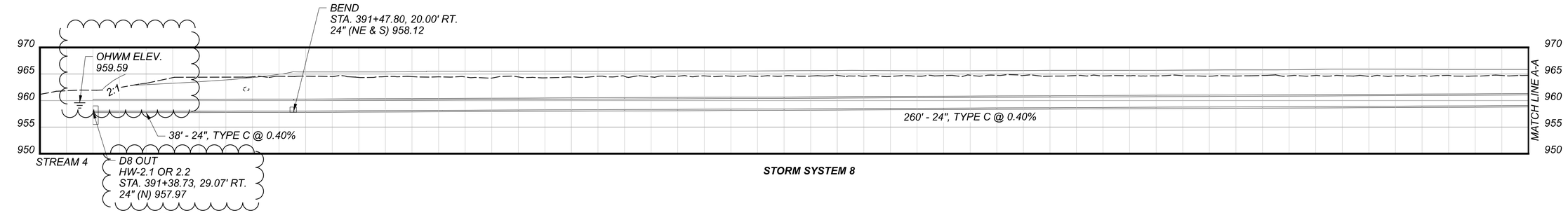
REVIEWER
DFD 07/30/24

PROJECT ID
111381

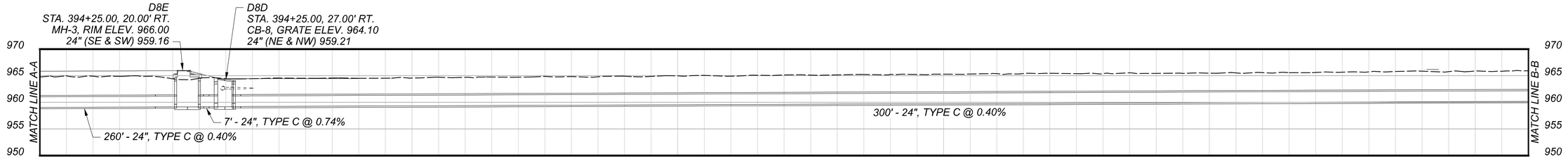
SHEET P.102 TOTAL 485

UNI/DEL-42-4.92/0.00

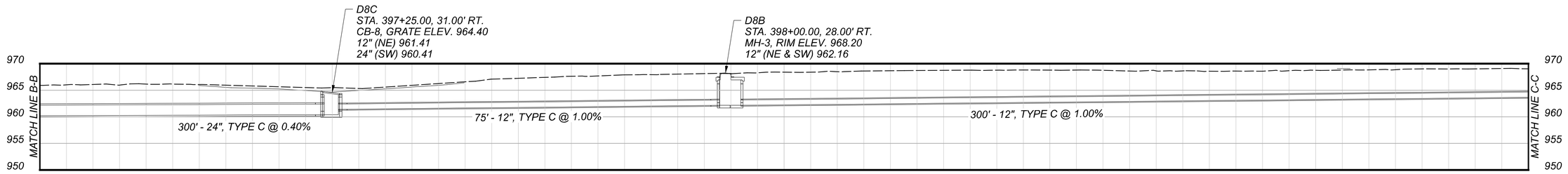
MODEL: III38L_GP01 PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 1:37:55 PM USER: C0za
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\III38L\400-Engineering\Roadway\Sheets\III38L_GP01.dgn



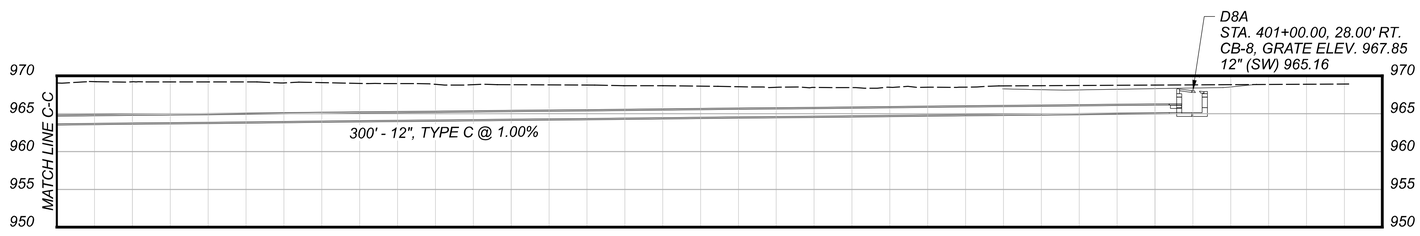
STORM SYSTEM 8



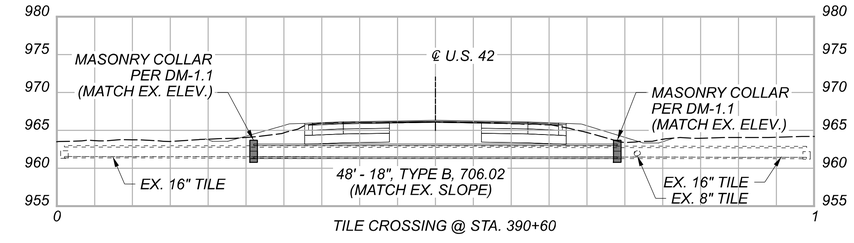
STORM SYSTEM 8



STORM SYSTEM 8



STORM SYSTEM 8

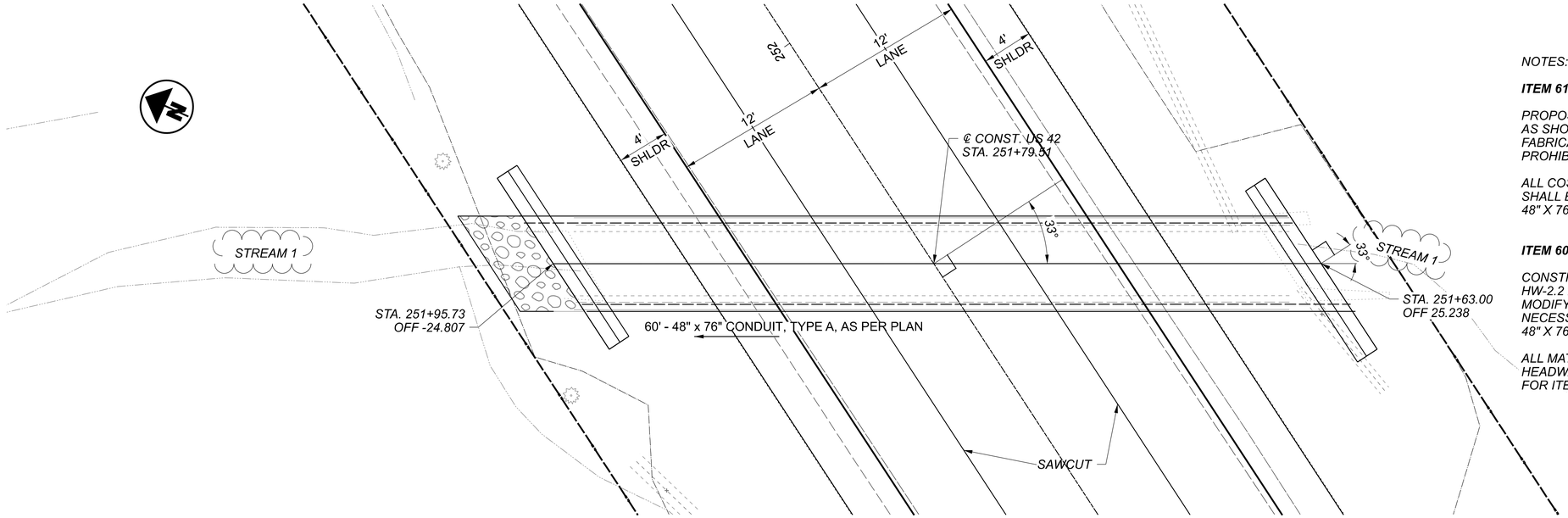


TILE CROSSING @ STA. 390+60

STORM SEWER PROFILES

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800
Cleveland, Ohio
950 Goodale Blvd. Suite 180
Grandview Heights, Ohio
DESIGNER
CTW
REVIEWER
ENB 07/30/24
PROJECT ID
111381
SHEET P.399 TOTAL 485

UNI/DEL-42-4.92/0.00
MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/8/2025 TIME: 10:09:41 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-037\98-001\111113811400-Engineering\Drainage\Sheets\111381_DF208.dgn



NOTES:

ITEM 611 - 48' X 76" CONDUIT, TYPE A, 706.04 AS PER PLAN

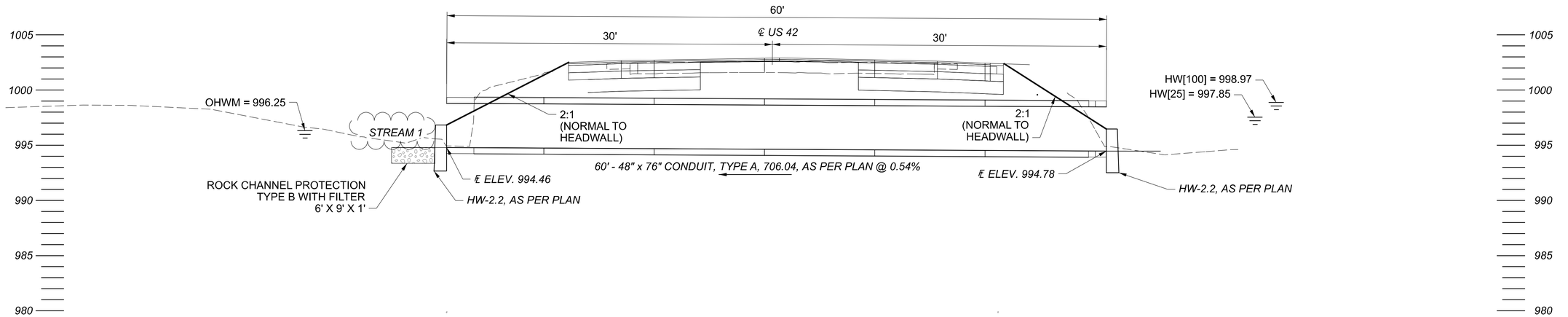
PROPOSED CULVERT SHALL HAVE SKEWED END SECTIONS AS SHOWN IN THE PLANS. THE SKEWED ENDS SHALL BE FABRICATED BY THE MANUFACTURER. FIELD CUTTING IS PROHIBITED.

ALL COST ASSOCIATED WITH THE SKEWED END SECTIONS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 611 - 48" X 76" CONDUIT, TYPE A, 706.04, AS PER PLAN.

ITEM 602 - CONCRETE MASONRY, AS PER PLAN

CONSTRUCT THE HEADWALL USING THE STANDARD HW-2.2 FOR A 63" X 98" ELLIPTICAL CONCRETE PIPE. MODIFY THE PIPE OPENING IN THE HEADWALL AS NECESSARY TO ACCOMODATE THE PROPOSED 48" X 76" CONDUIT.

ALL MATERIALS NECESSARY FOR CONSTRUCTION OF THE HEADWALL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 602- CONCRETE MASONRY, AS PER PLAN.



EXISTING STRUCTURE	
TYPE:	*5' X 4' REINF. CONC. BOX*
LENGTH:	*55' +/-*
SKEW:	*_°*
WEARING SURFACE:	*ASPHALT CONCRETE*
YEAR BUILT:	*_____*
CONDITION:	
CFN:	*1884226*

PROPOSED STRUCTURE	
TYPE:	*48" X 76" CONCRETE ELLIPTICAL CULVERT*
LENGTH:	*60'*
SKEW:	*33° LF*
WEARING SURFACE:	*ASPHALT CONCRETE*
pH:	
SERVICE LIFE:	*75 YEARS*
ABRASION LEVEL:	
CFN:	*1998168*

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	*101*	*AC*
Q25	=	*82*	*CFS*
Q100	=	*128*	*CFS*
HW50	=	*997.85*	
HW100	=	*998.97*	
V25	=	*8.8*	*FPS*
V100	=	*10.2*	*FPS*
ORDINARY HIGH WATER MARK	=	*996.25*	*FT*
SERVICE LIFE	=	*75*	*YR*
pH	=	*7.8*	
ABRASION LEVEL	=	*1*	

S.R. 42 STA. 251+79.51 - ESTIMATED QUANTITIES

ITEM	*QUANTITY*	*UNIT*	*DESCRIPTION*
202	*LUMP*	*LS*	*STRUCTURE REMOVED*
601	*2.0*	*CY*	*ROCK CHANNEL PROTECTION, TYPE B WITH FILTER*
602	*7.0*	*CY*	*CONCRETE MASONRY, AS PER PLAN*
611	*60*	*FT*	*48" X 76" CONDUIT, TYPE A, 706.04, AS PER PLAN*

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

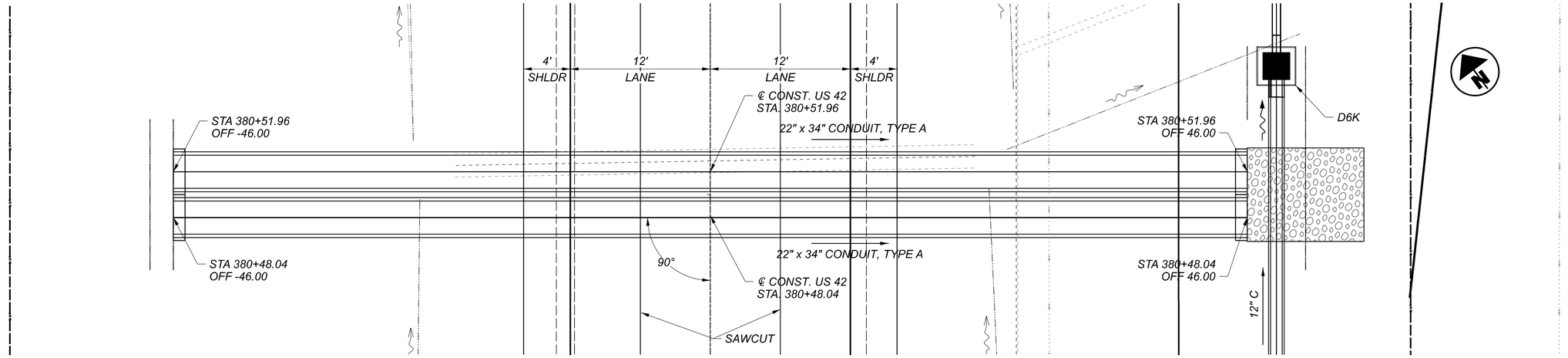
CULVERT DETAILS US 42 STA. 251+79

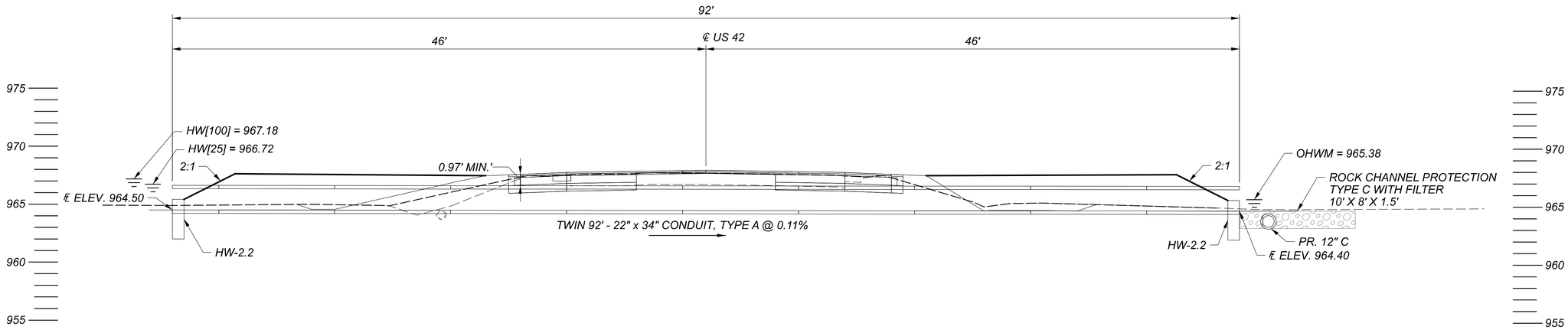
UNI/DEL-42-4.92/0.00

MODEL: SS-1- Plan [Sheet] PAPERSIZE: 17x11in) DATE: 4/8/2025 TIME: 10:53:36 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-00\111381\400-Engineering\Drainage\Sheets\111381_DC101A

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 0 TOTAL 0
SHEET 418 TOTAL 485





EXISTING STRUCTURE	
380+53	
TYPE:	24" CIP/RCP COMBO.
LENGTH:	45' +/-
SKEW:	_°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884233

PROPOSED STRUCTURE	
TYPE:	TWIN 22" X 34" CONCRETE ELLIPTICAL
LENGTH:	2 X 92'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998181

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	37.5	AC
Q25	=	39	CFS
Q100	=	48	CFS
HW25	=	966.72	
HW100	=	967.18	
V25	=	6.18	FPS
V100	=	6.80	FPS
ORDINARY HIGH WATER MARK	=	965.38	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 380+49 & STA. 380+54 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	45	FT	PIPE REMOVED, 24" AND UNDER
601	4.4	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	1.5	CY	CONCRETE MASONRY
611	184	FT	22" X 34" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

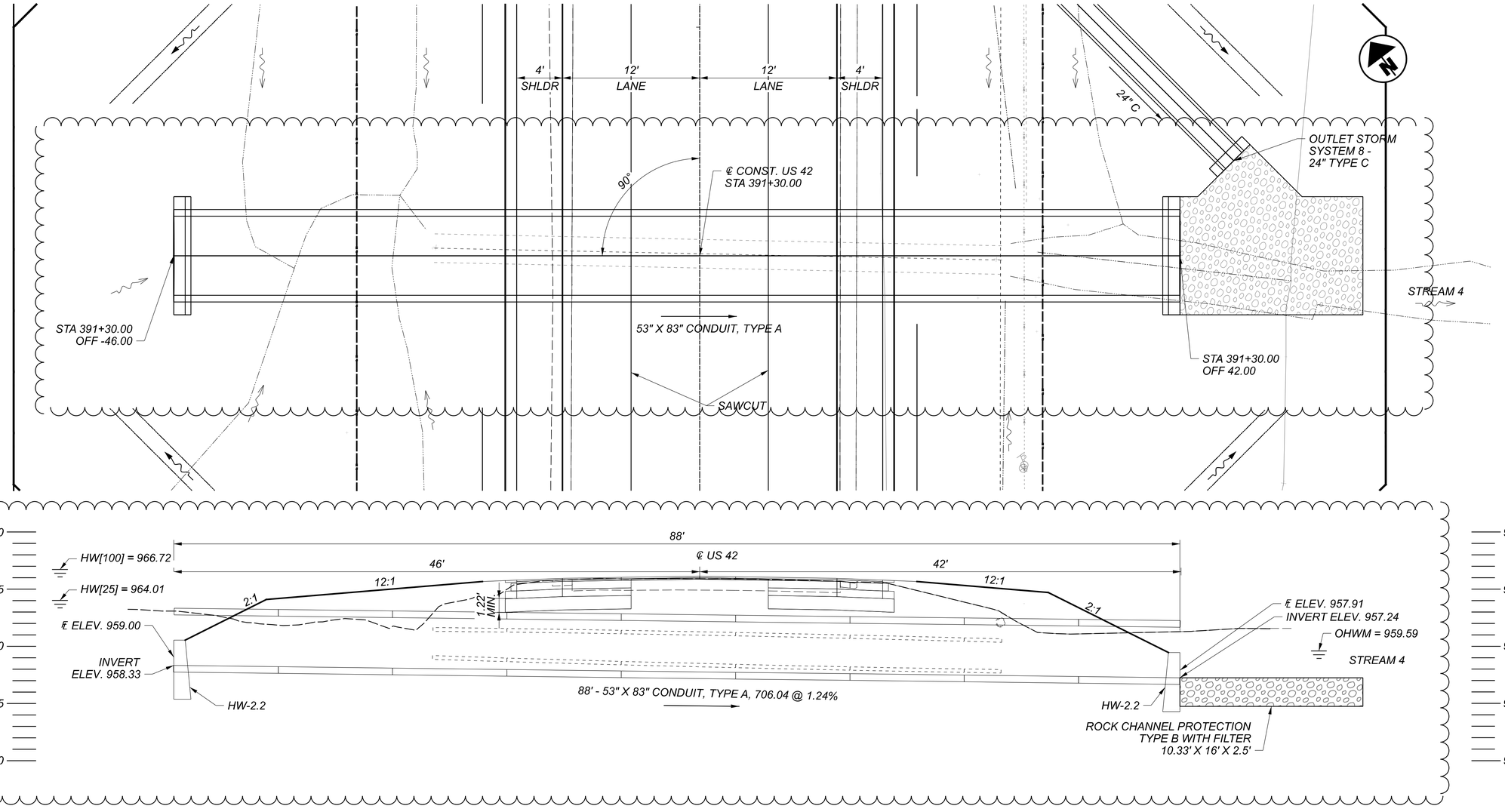
CULVERT #6 DETAILS - US 42 STA. 380+49 & STA. 380+54

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800 Cleveland, Ohio
950 Goodale Blvd. Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.419 TOTAL 485

UNI/DEL-42-4.92/0.00

MODEL: Culvert 6 - Plan Groups [Sheet] PAPERSIZE: 17x11(in.) DATE: 4/8/2025 TIME: 10:18:50 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381\400-Engineering\Drainage\Sheets\111381_DC206.dgn



EXISTING STRUCTURE	
TYPE:	30" DIP/RCP COMBO.
LENGTH:	50' +/-
SKEW:	1°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884235

PROPOSED STRUCTURE	
TYPE:	53" X 83" CONCRETE ELLIPTICAL w/8" OF BURY
LENGTH:	88'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998169

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	312	AC
Q25	=	176	CFS
Q100	=	261	CFS
HW25	=	964.01	
HW100	=	966.72	
V25	=	9.45	FPS
V100	=	10.92	FPS
ORDINARY HIGH WATER MARK	=	959.59	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 391+30 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	50	FT	PIPE REMOVED, OVER 24"
601	17.2	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
602	3.3	CY	CONCRETE MASONRY
611	88	FT	53" X 83" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

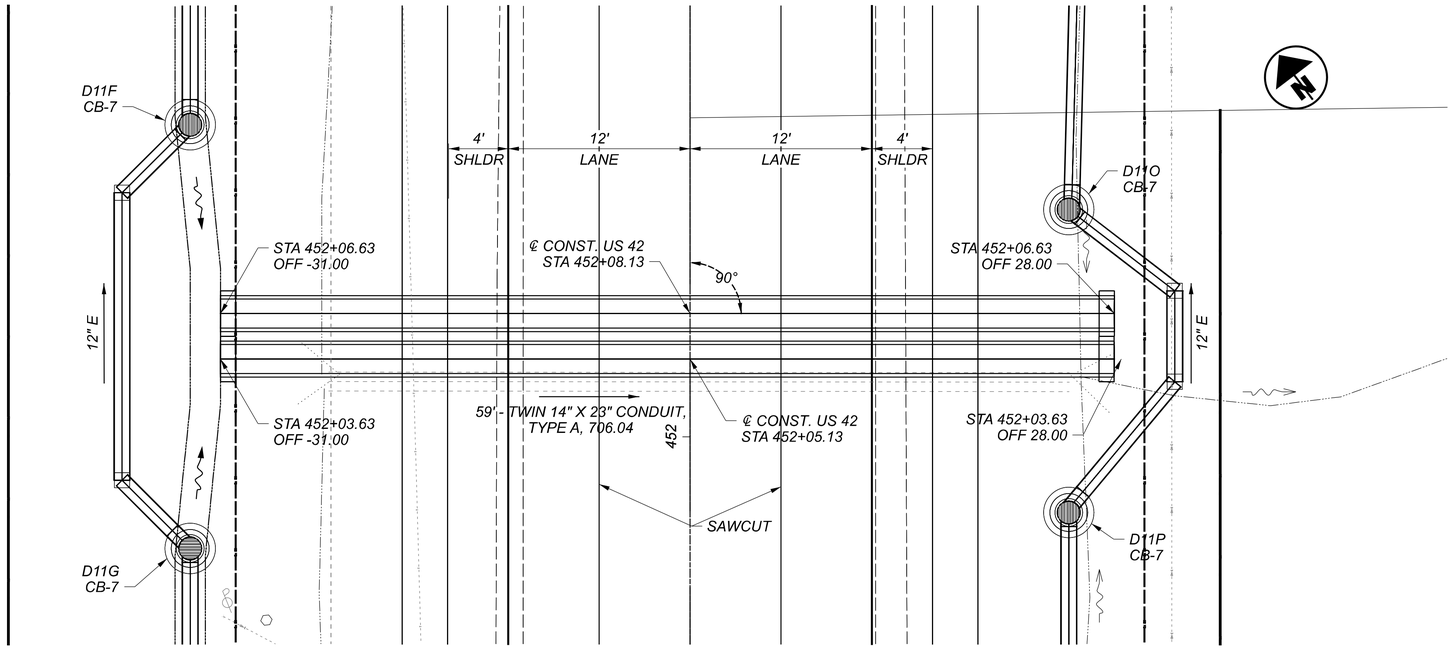
HORIZONTAL SCALE IN FEET
0 2.5 5 10

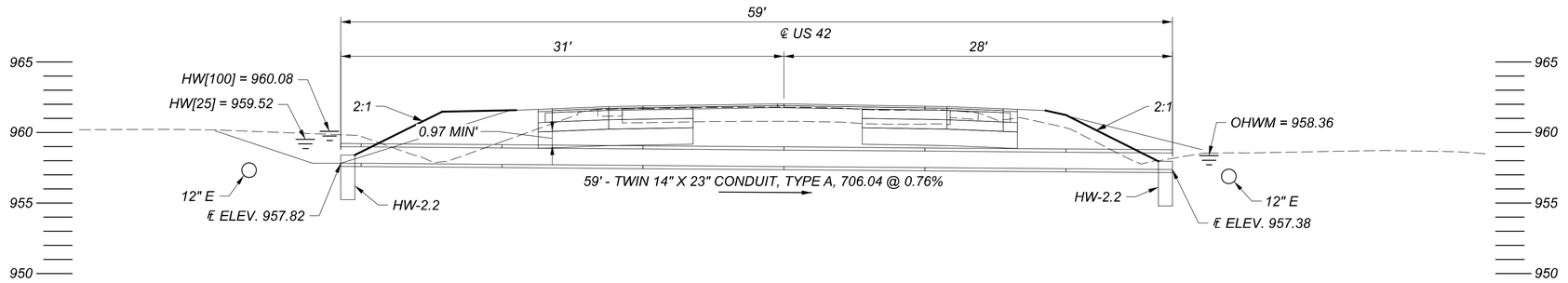
CULVERT #8 DETAILS - US 42 STA. 391+30

UNI/DEL-42-4.92/0.00

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800
Cleveland, Ohio
950 Goodale Blvd. Suite 180
Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 04/03/25
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.420 TOTAL 485





EXISTING STRUCTURE	
452+04	
TYPE:	15" RCP
LENGTH:	49' +/-
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	
CFN:	1884237

PROPOSED STRUCTURE	
TYPE:	TWIN X 14" X 23" ELLIP. CONC. Culvert
LENGTH:	2 X 59'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	
CFN:	1998182

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	15.4	AC
Q25	=	17.5	CFS
Q100	=	21.3	CFS
HW25	=	959.52	
HW100	=	960.08	
V25	=	4.92	FPS
V100	=	5.99	FPS
ORDINARY HIGH WATER MARK	=	958.36	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 452+04 & STA. 452+07 & STA. 452+10 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	49	FT	PIPE REMOVED, 24" AND UNDER
602	1.2	CY	CONCRETE MASONRY
611	118	FT	14" X 23" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

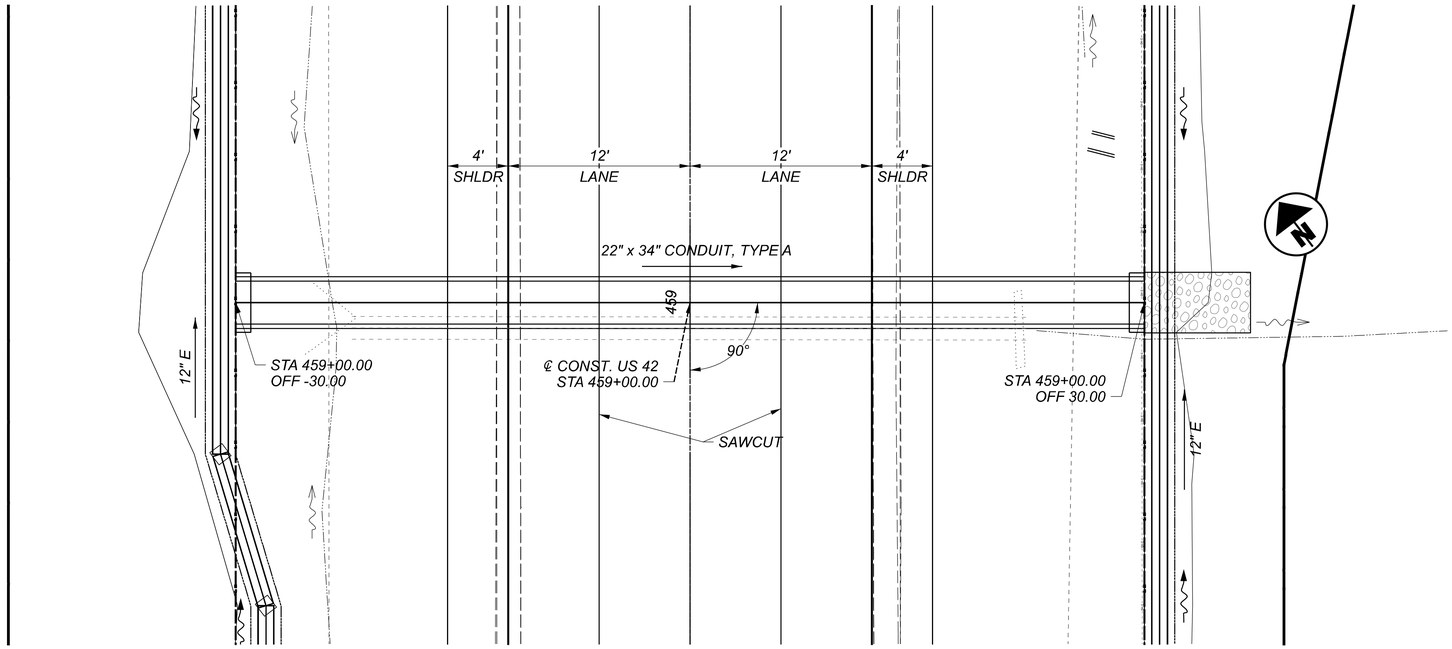
CULVERT #11 DETAILS - US 42 STA. 452+04 & STA. 452+07 & STA. 452+10

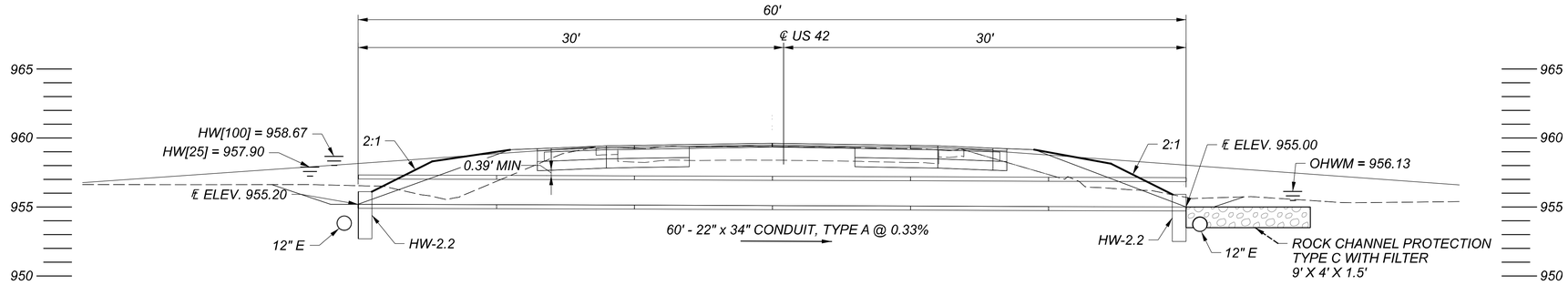
UNI/DEL-42-4.92/0.00

MODEL: Culvert II - Plan Groups [Sheet] PAPERSIZE: ITxII(In.) DATE: 4/8/2025 TIME: 10:28:10 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-00\III38I\400-Engineering\Drainage\Sheets\III38I_DC3II.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.421 TOTAL 485





EXISTING STRUCTURE	
TYPE:	18" RCP
LENGTH:	45' +/-
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	
CFN:	

PROPOSED STRUCTURE	
TYPE:	22" X 34" CONCRETE ELLIPTICAL CULVERT
LENGTH:	60'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998180

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	27.1	AC
Q25	=	25.7	CFS
Q100	=	31.8	CFS
HW25	=	957.90	
HW100	=	958.67	
V25	=	7.03	FPS
V100	=	8.03	FPS
ORDINARY HIGH WATER MARK	=	956.13	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 458+98 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	1	EACH	HEADWALL REMOVED
202	45	FT	PIPE REMOVED, 24" AND UNDER
601	2	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.8	CY	CONCRETE MASONRY
611	60	FT	22" X 34" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

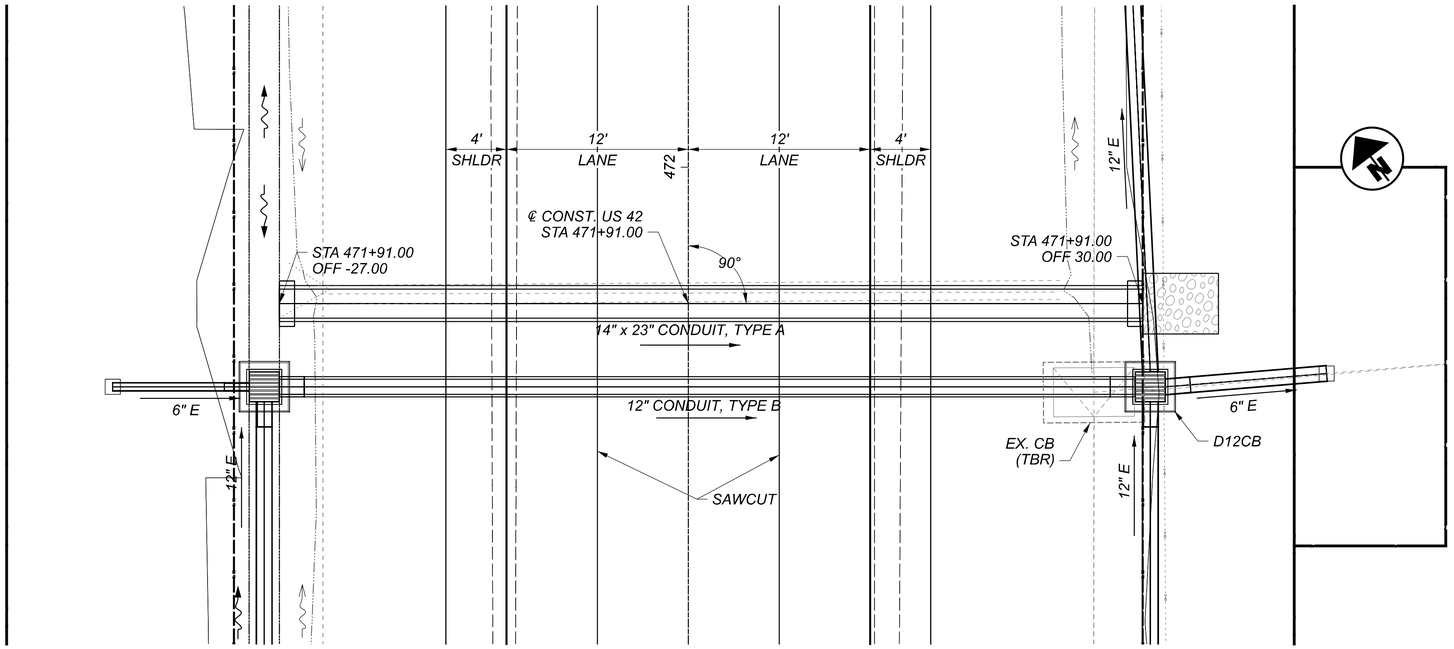
HORIZONTAL SCALE IN FEET
0 2.5 5 10

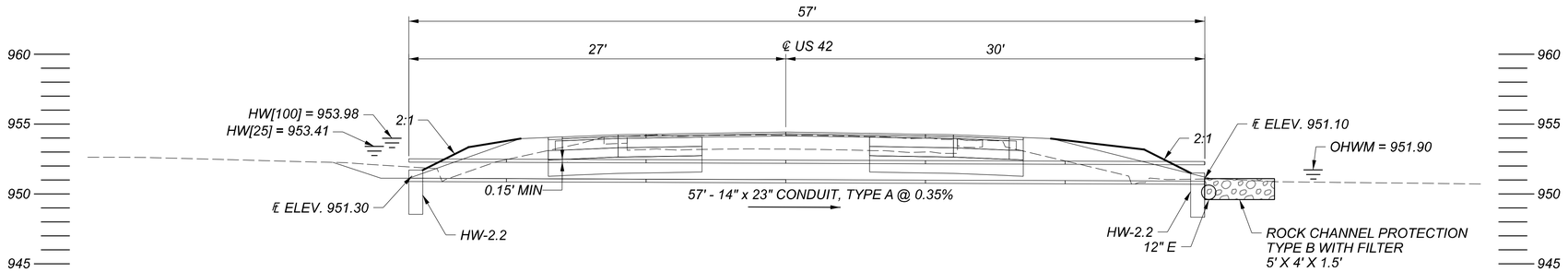
CULVERT #11A DETAILS - US 42 STA. 458+98

UNI/DEL-42-4.92/0.00

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800
Cleveland, Ohio
950 Goodale Blvd, Suite 180
Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.422 TOTAL 485





EXISTING STRUCTURE	
TYPE:	15" RCP
LENGTH:	49' +/-
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884238

PROPOSED STRUCTURE	
TYPE:	14" X 23" CONCRETE ELLIPTICAL CULVERT
LENGTH:	57'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998183

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	6.7	AC
Q25	=	10.1	CFS
Q100	=	12.1	CFS
HW25	=	953.41	
HW100	=	953.98	
V25	=	6.17	FPS
V100	=	7.08	FPS
ORDINARY HIGH WATER MARK	=	951.90	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 471+91 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	49	FT	PIPE REMOVED, 24" AND UNDER
601	1.1	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.6	CY	CONCRETE MASONRY
611	57	FT	14" X 23" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

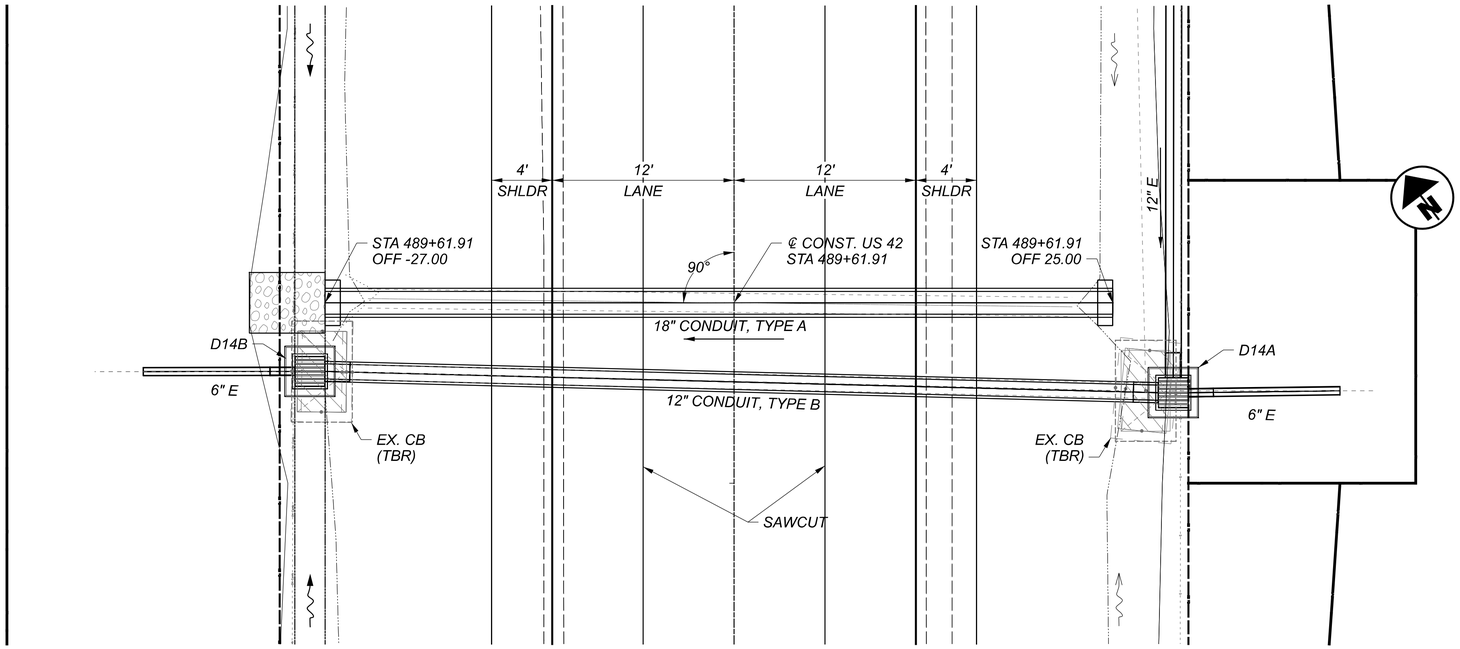
CULVERT #12 DETAILS - US 42 STA. 471+91

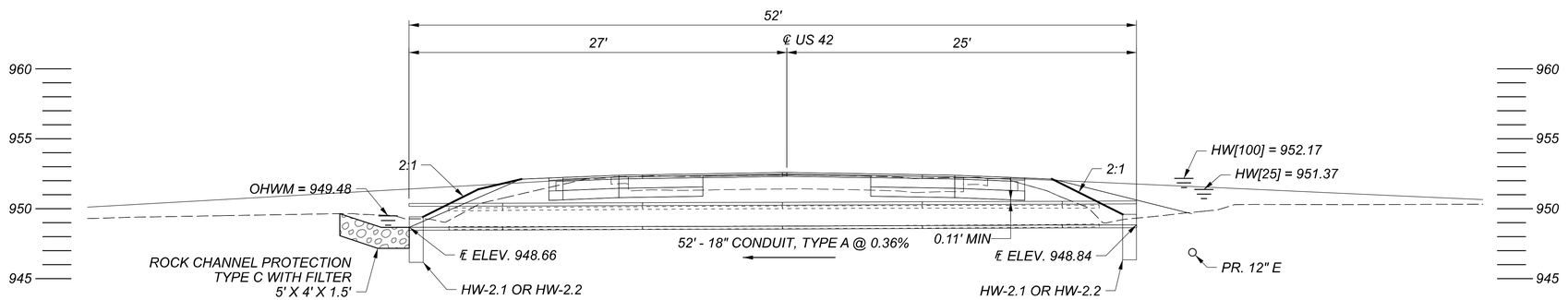
UNI/DEL-42-4.92/0.00

MODEL: Culvert 12 - Plan Groups [Sheet] PAPERSIZE: 17x11(in.) DATE: 4/8/2025 TIME: 10:35:49 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381\400-Engineering\Drainage\Sheets\111381_DC312.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.423 TOTAL 485





EXISTING STRUCTURE	
489+57	
TYPE:	15" RCP
LENGTH:	46' +/-
SKEW:	1° L.F.
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884240

PROPOSED STRUCTURE	
TYPE:	18" CULVERT, TYPE A
LENGTH:	52'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998175

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	8.7	AC
Q25	=	7.8	CFS
Q100	=	9.6	CFS
HW25	=	951.37	
HW100	=	952.17	
V25	=	5.72	FPS
V100	=	6.35	FPS
ORDINARY HIGH WATER MARK	=	949.48	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 489+62 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	46	FT	PIPE REMOVED, 24" AND UNDER
601	1.1	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.6	CY	CONCRETE MASONRY
611	52	FT	18" CONDUIT, TYPE A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

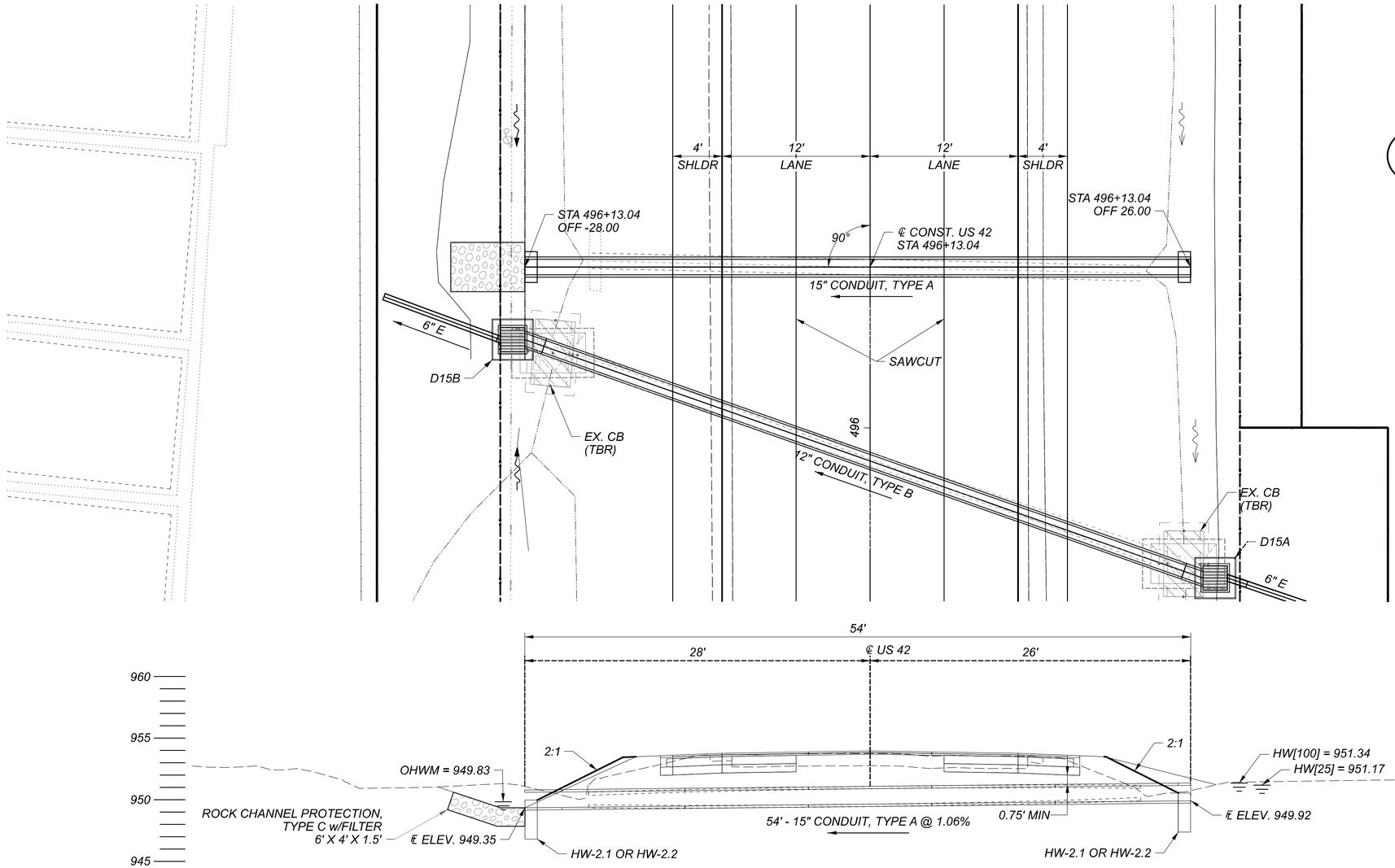
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CULVERT #14 DETAILS - US 42 STA. 489+62

UNI/DEL-42-4.92/0.00

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800
Cleveland, Ohio
950 Goodale Blvd. Suite 180
Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.424 TOTAL 485



EXISTING STRUCTURE	
TYPE:	15" RCP
LENGTH:	45' +/-
SKEW:	1° L.F.
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884242

PROPOSED STRUCTURE	
TYPE:	15" CULVERT, TYPE A
LENGTH:	54'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998184

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	1.5	AC
Q25	=	3.5	CFS
Q100	=	4.1	CFS
HW25	=	951.17	
HW100	=	951.34	
V25	=	5.77	FPS
V100	=	6.00	FPS
ORDINARY HIGH WATER MARK	=	949.83	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 496+13 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	1	EACH	HEADWALL REMOVED
202	45	FT	PIPE REMOVED, 24" AND UNDER
601	1.3	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.5	CY	CONCRETE MASONRY
611	54	FT	15" CONDUIT, TYPE A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

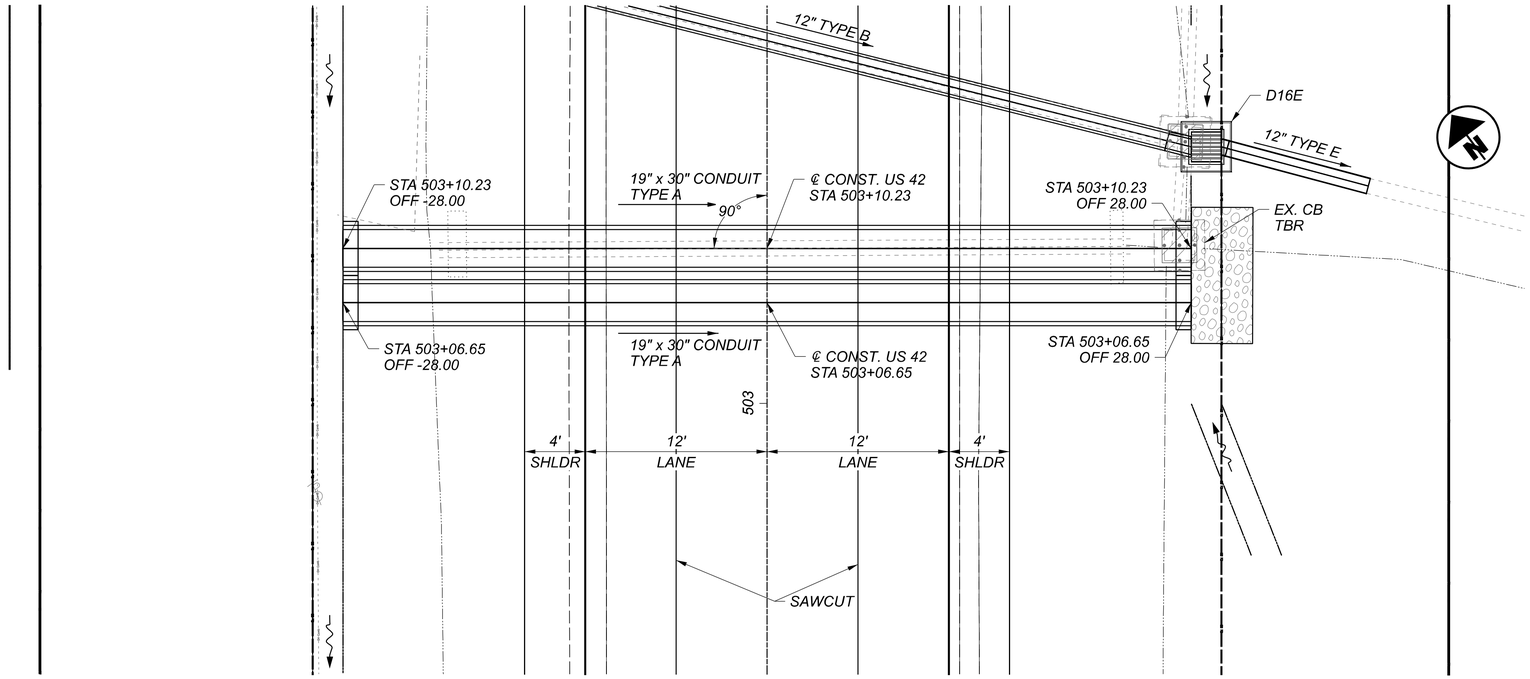
CULVERT #15 DETAILS - US 42 STA. 496+13

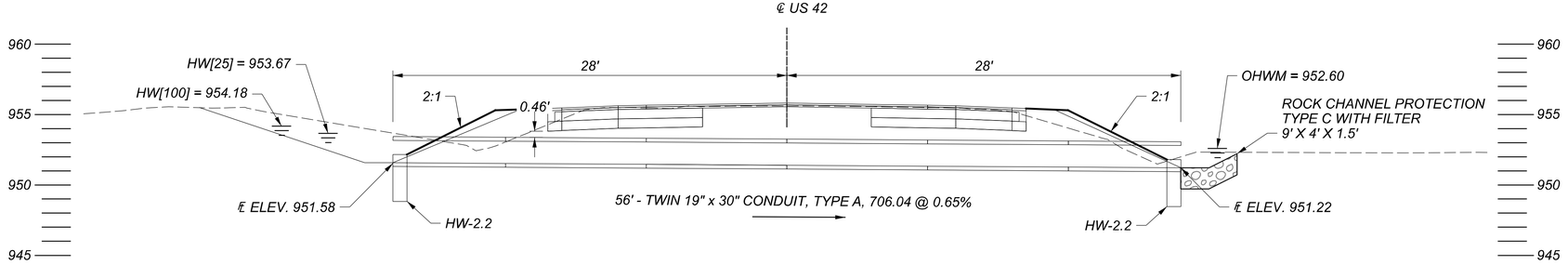
UNI/DEL-42-4.92/0.00

MODEL: Culvert 15 - Plan Groups (Sheet) PAPERSIZE: 7x11(in.) DATE: 4/8/2025 TIME: 11:15:17 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381\400-Engineering\Drainage\Sheets\111381_DC315.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St. Suite 800
Cleveland, Ohio
950 Goodale Blvd. Suite 180
Grandview Heights, Ohio

DESIGNER: CTW
REVIEWER: ENB 07/30/24
PROJECT ID: 111381
SUBSET 1 | TOTAL 1
SHEET P.425 | TOTAL 485





EXISTING STRUCTURE	
TYPE:	12" RCP
LENGTH:	46' +/-
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1935
CONDITION:	POOR
CFN:	1884243

PROPOSED STRUCTURE	
TYPE:	TWIN 19" x 30" CONCRETE ELLIPTICAL
LENGTH:	2 X 56'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998176

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	20.7	AC
Q25	=	32.5	CFS
Q100	=	39.3	CFS
HW25	=	953.67	
HW100	=	954.18	
V25	=	5.07	FPS
V100	=	6.13	FPS
ORDINARY HIGH WATER MARK	=	952.60	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 503+07 & STA. 503+10 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	EACH	HEADWALL REMOVED
202	46	FT	PIPE REMOVED, 24" AND UNDER
202	1	EACH	CATCH BASIN REMOVED
601	2	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	1.4	CY	CONCRETE MASONRY
611	112	FT	19" X 30" CONDUIT, TYPE A, 706.04

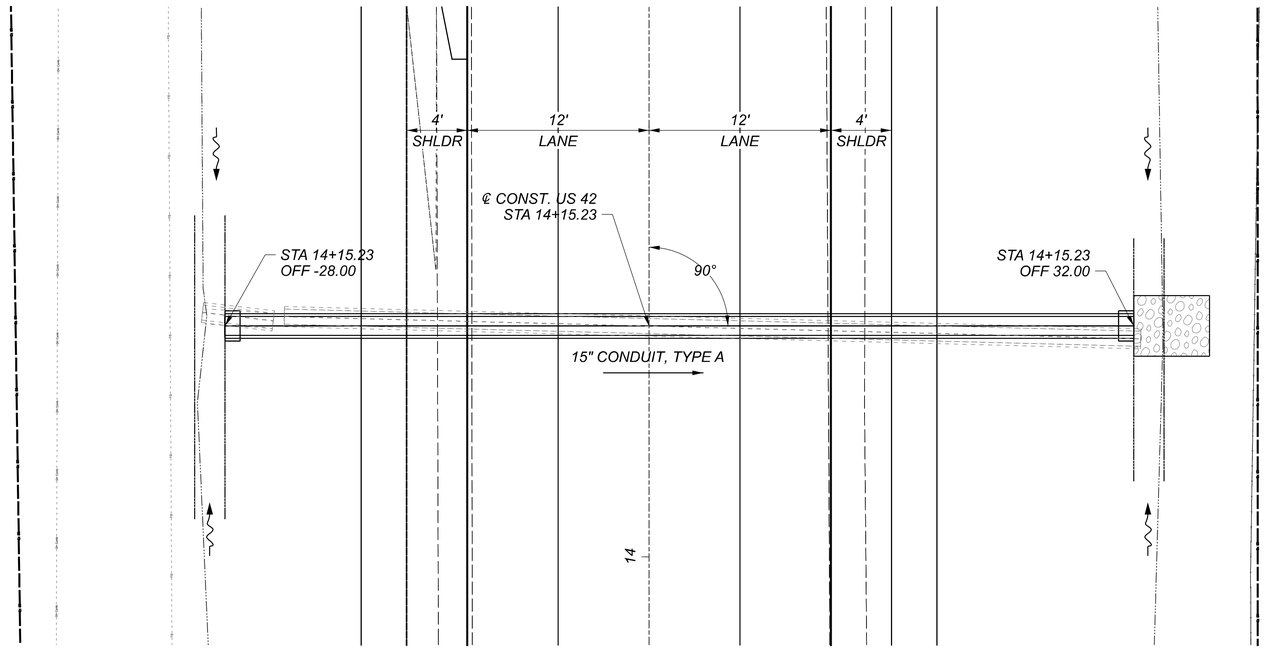
QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

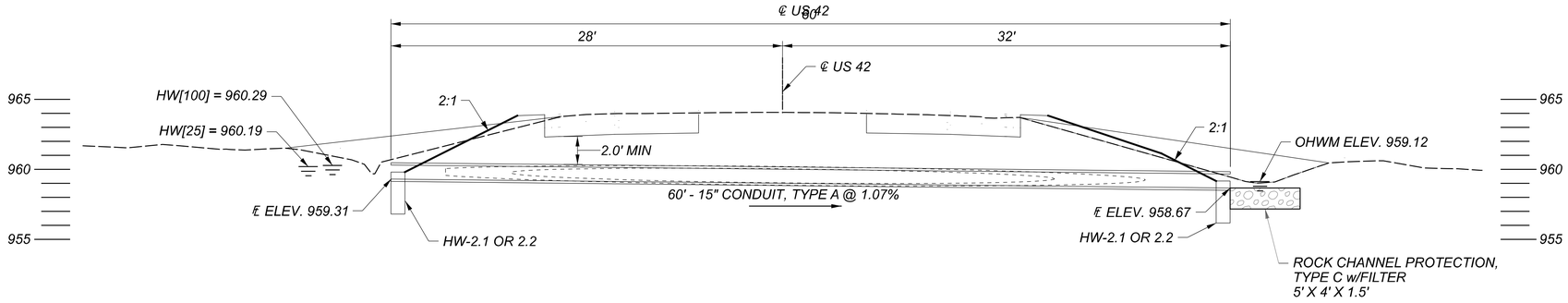
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CULVERT #16 DETAILS - US 42 STA. 503+07 & STA. 503+10

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.426 TOTAL 485





EXISTING STRUCTURE	
TYPE:	12" RCP
LENGTH:	57' +/-
SKEW:	1°
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1946
CONDITION:	POOR
CFN:	1821793

PROPOSED STRUCTURE	
TYPE:	15" CULVERT, TYPE A
LENGTH:	60'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998185

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	0.79	AC
Q25	=	2.0	CFS
Q100	=	2.4	CFS
HW25	=	960.19	
HW100	=	960.29	
V25	=	5.05	FPS
V100	=	5.31	FPS
ORDINARY HIGH WATER MARK	=	959.12	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 14+15 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	62	FT	PIPE REMOVED, 24" AND UNDER
601	1.1	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.4	CY	CONCRETE MASONRY
611	60	FT	15" CONDUIT, TYPE A, 706.02, 707.01 (0.188) GALVANIZED, 707.01 ALUMINIZED, 707.21, 707.33, 707.65

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

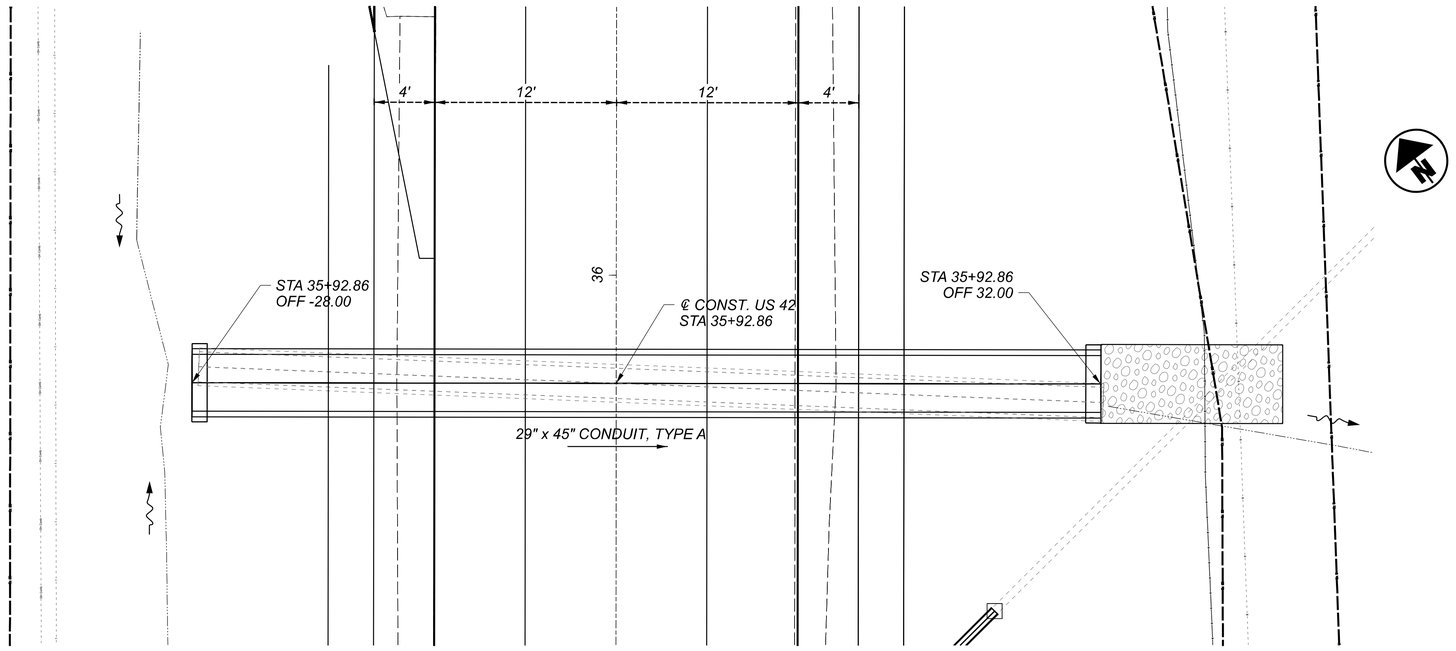
CULVERT #17 DETAILS - US 42 STA. 14+15

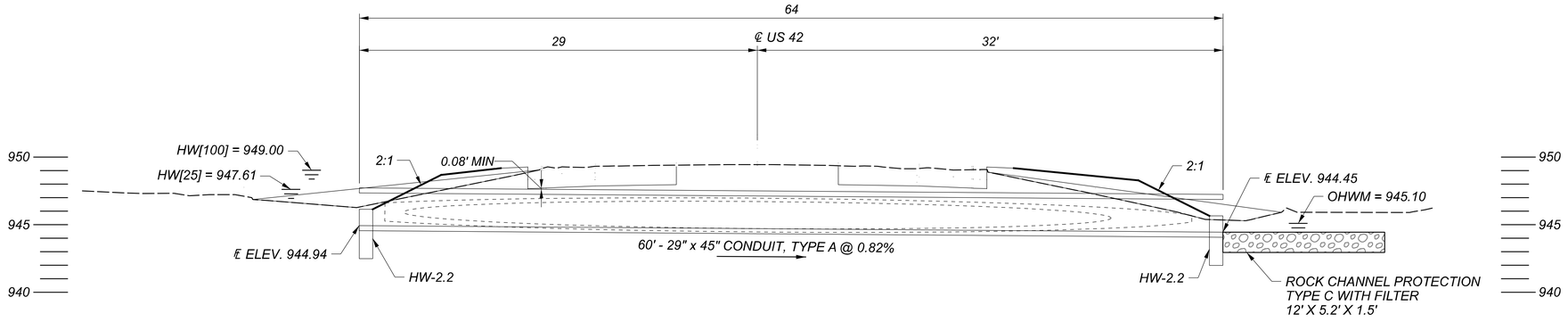
UNI/DEL-42-4.92/0.00

MODEL: Culvert 17 - Plan Groups (Sheet) PAPERSIZE: 17x11(in.) DATE: 4/8/2025 TIME: 10:53:21 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\111381\400-Engineering\Drainage\Sheets\111381_DC417.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800
Cleveland, Ohio
950 Goodale Blvd, Suite 180
Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.427 TOTAL 485





EXISTING STRUCTURE	
TYPE:	24" CMP
LENGTH:	60' +/-
SKEW:	2° L.F.
WEARING SURFACE:	ASPHALT CONCRETE
YEAR BUILT:	1946
CONDITION:	POOR
CFN:	1821794

PROPOSED STRUCTURE	
TYPE:	29" X 45" CONCRETE ELLIPTICAL CULVERT
LENGTH:	60'
SKEW:	0°
WEARING SURFACE:	ASPHALT CONCRETE
pH:	7.8
SERVICE LIFE:	75 YEARS
ABRASION LEVEL:	1
CFN:	1998178

HYDRAULIC DESIGN DATA			
DRAINAGE AREA:	=	34.3	AC
Q25	=	38	CFS
Q100	=	58	CFS
HW25	=	947.61	
HW100	=	949.00	
V25	=	8.85	FPS
V100	=	9.99	FPS
ORDINARY HIGH WATER MARK	=	945.10	FT
SERVICE LIFE	=	75	YR
pH	=	7.8	
ABRASION LEVEL	=	1	

U.S. 42 STA. 35+93 - ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	60	FT	PIPE REMOVED, 24" AND UNDER
601	3.5	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	1.0	CY	CONCRETE MASONRY
611	60	FT	29" X 45" CONDUIT, TYPE A, 706.04

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 62

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CULVERT #18 DETAILS - US 42 STA. 35+93

UNI/DEL-42-4.92/0.00

MODEL: Culvert 18 - Plan Groups [Sheet] PAPERSIZE: 17x11in) DATE: 4/8/2025 TIME: 10:56:45 AM USER: cwest
pw:\\jmt-pw.bentley.com:jmt-pw-01\Documents\Projects\2019\19-03798-001\III38\400-Engineering\Drainage\Sheets\III38L_DC418.dgn

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER CTW
REVIEWER ENB 07/30/24
PROJECT ID 111381
SUBSET 1 TOTAL 1
SHEET P.428 TOTAL 485