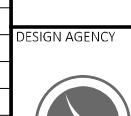


SHEET NUM.					PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.			
3	5	6	13	14	01/IMS/06	02/NHS/06	03/STR/06									
ROADWAY																
			350				300	50	202	38200	350	FT	GUARDRAIL REMOVED FOR REUSE			
			610				310	300	202	75000	610	FT	FENCE REMOVED			
			LS				LS	LS	202	98000	LS		REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"	3		
LS									LS	98000	LS		REMOVAL MISC.: PRIVATELY OWNED GASLINE	3		
			350				300	50	606	16500	350	FT	GUARDRAIL REBUILT, TYPE 5			
			610				310	300	607	15000	610	FT	FENCE, TYPE 47			
EROSION CONTROL																
							97	30	71	601	32000	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER			
			198				21	38		601	32100	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER			
			59				3			601	32200	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER			
			3				15,350	5,250	1,500	659	00510	SY	SEEDING AND MULCHING, CLASS 2			
			22,100				2.07	0.7	0.2	659	20000	TON	COMMERCIAL FERTILIZER			
			2.97													
			4.56				3.18	1.08	0.3	659	31000	ACRE	LIME			
			119				83	28	8	659	35000	MGAL	WATER			
							10,000	3,000	3,000	832	30000	EACH	EROSION CONTROL			
DRAINAGE																
							4,725			509	25000	4,725	LB	UNCOATED STEEL REINFORCEMENT		
			4,725				1.1	1.2	1	511	47010	3.3	CY	CLASS QC1 CONCRETE, CULVERT		
			3.3						214	611	96550	214	FT	FIELD PAVING OF EXISTING PIPE, CORRUGATED METAL SECTIONAL PLATE PIPE, 72"		
			214							611	96551	1,132	FT	FIELD PAVING OF EXISTING PIPE, AS PER PLAN, CORRUGATED METAL SECTIONAL PLATE PIPE, 72"	3	
			1,132						272	833	10000	272	FT	CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, 54"		
			272													
			120					120	833	10000	120	FT	CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, 60"			
			115					115	833	10000	115	FT	CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, 72"			
			404					404	837	10000	404	FT	LINER PIPE, 42", 707.33, 707.35 OR SS 937			
			315					315	837	10000	315	FT	LINER PIPE, 48", SS 937			
			396					396	837	10000	396	FT	LINER PIPE, 60", 707.33, 707.35 OR SS 937			
			312					312	837	10000	312	FT	LINER PIPE, 72", SS 937			
			66					66	837	10000	66	FT	LINER PIPE, 96", SS 937			
			94					94		837	21000	94	FT	BACKFILL FOR LINER PIPE, 42"		
			34					34		837	21000	34	FT	BACKFILL FOR LINER PIPE, 48"		
			126					126		837	21000	126	FT	BACKFILL FOR LINER PIPE, 60"		
			117					117	837	21000	117	FT	BACKFILL FOR LINER PIPE, 72"			
			32					32	837	21000	32	FT	BACKFILL FOR LINER PIPE, 96"			
			286					286		899	10000	286	FT	CURED-IN-PLACE PIPE LINER, 18" DIAMETER		
			365					365		899	10000	365	FT	CURED-IN-PLACE PIPE LINER, 30" DIAMETER		
			602					602		899	10000	602	FT	CURED-IN-PLACE PIPE LINER, 36" DIAMETER		
			180					180		899	10000	180	FT	CURED-IN-PLACE PIPE LINER, 42" DIAMETER		
MAINTENANCE OF TRAFFIC																
			100					60	20	20	614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
			14					12	2		614	12380	14	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
			70					60	10		614	13310	70	EACH	BARRIER REFLECTOR, TYPE 1, 1WAY	
			70					60	10		614	13350	70	EACH	OBJECT MARKER, ONE WAY	
			32					20	6	6	614	18601	32	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6
			2,408					2,064	344		622	41100	2,408	FT	PORTABLE BARRIER, UNANCHORED	
INCIDENTALS																
				LS				LS	LS	624	10000	LS		MOBILIZATION		
				LS				LS	LS	614	11000	LS		MAINTAINING TRAFFIC		
				LS				LS	LS	623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN		

GENERAL SUMMARY



DESIGNER HG

REVIEWER XXX MM-DD-YR

PROJECT ID 107367

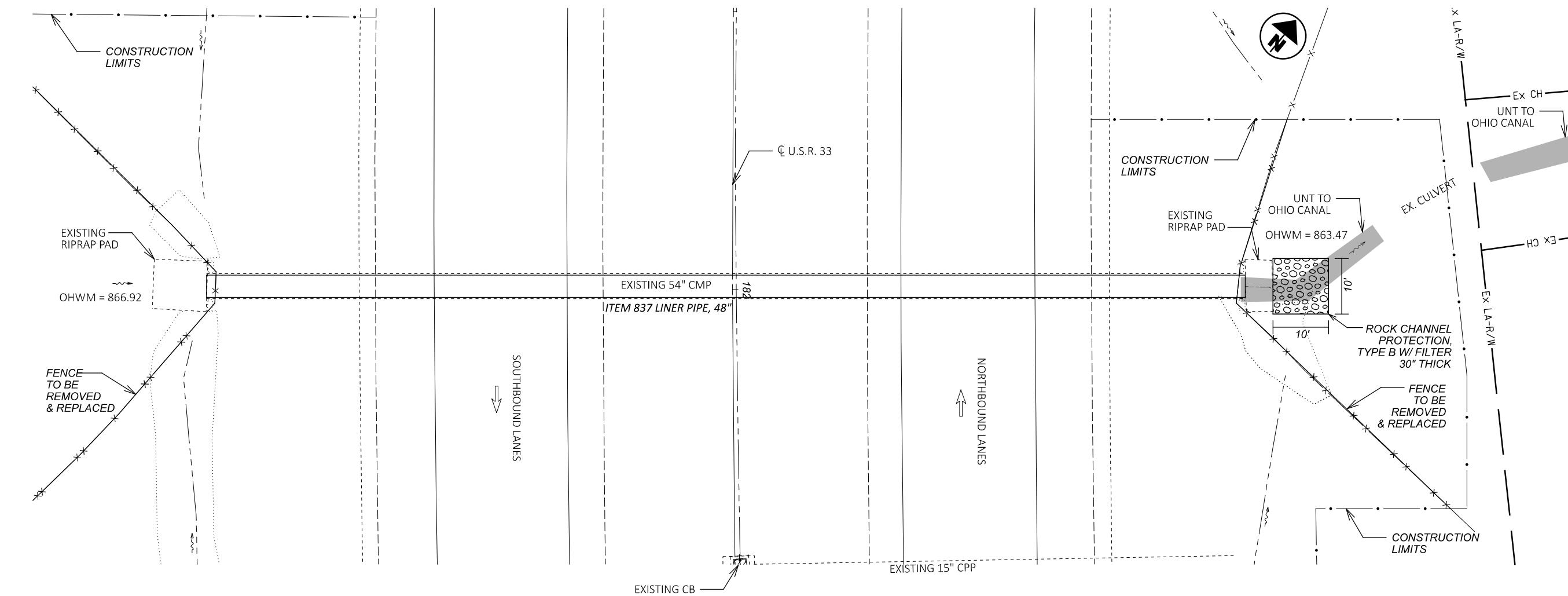
SHEET TOTAL P.12 47

LOCATION

PLAN SPLIT CODE		SHEET NO.		LOCATION		SUB-SUMMARY																																			
ITEM	DESCRIPTION	GUARDRAIL REMOVED FOR REUSE		FENCE REMOVED		REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"		COFFERDAMS AND EXCAVATION BRACING		UNCOATED STEEL REINFORCEMENT		CLASS QC1 CONCRETE, CULVERT		ROCK CHANNEL PROTECTION, TYPE A WITH FILTER		ROCK CHANNEL PROTECTION, TYPE B WITH FILTER		ROCK CHANNEL PROTECTION, TYPE C WITH FILTER		GUARDRAIL REBUILT, TYPE 5		FENCE, TYPE 47		FIELD PAVING OF EXISTING PIPE, CORRUGATED METAL SECTIONAL PLATE PIPE, 72" AS PER PLAN		FIELD PAVING OF EXISTING PIPE, CORRUGATED METAL SECTIONAL PLATE PIPE, 72" AS PER PLAN		CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, (54" DIAMETER)		CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, (60" DIAMETER)		CONDUIT RENEWAL USING SPRAY APPLIED STRUCTURAL LINER, ROUND CONDUIT, (72" DIAMETER)		LINER PIPE, 48", SS 937		LINER PIPE, 60", SS 937		LINER PIPE, 72", SS 937		LINER PIPE, 96", SS 937	
		UNIT	QUANTITY	FT	FT	LS	LS	LB	CY	CY	CY	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT												
02/NHS/06	31	LOCATION 1: FAI-33-9.343				180	LS	LS		0.2		9			180												185														
02/NHS/06	16 & 32	LOCATION 2: FAI-33-15.271		50	120	LS	LS		0.8		29		50	120													312														
03/STR/06	33	LOCATION 3: FAI-664-10.813				LS	LS		1	44																		66													
02/NHS/06	34	LOCATION 4: FAI-RA23016-0.049				LS	LS		0.2	30																	130														
01/IMS/06	35	LOCATION 5: GUE-70-19.123				LS	LS	1753		31					420																										
03/STR/06	36	LOCATION 6: GUE-285-7.886				LS	LS								214																										
01/IMS/06	21 & 38	LOCATION 7: GUE-RA30039-0.019		25		LS	LS	2972					25		712												115														
01/IMS/06	39	LOCATION 8: LIC-70-17.312				LS	LS					3																													
01/IMS/06	23 & 40	LOCATION 9: LIC-70-24.645		50		LS	LS					50																													
01/IMS/06	24 & 41	LOCATION 10: MUS-70-4.05		50		LS	LS			8		50																													
01/IMS/06	25 & 42	LOCATION 11: MUS-70-4.221		50	140	LS	LS		0.5	17		50	140													404															
01/IMS/06	26 & 43	LOCATION 12: MUS-70-7.942		25		LS	LS			6		25																													
01/IMS/06	27 & 44	LOCATION 13: MUS-70-8.073		25	65	LS	LS			7		25	65																												
01/IMS/06	28 & 45	LOCATION 14: MUS-70-15.934		50	45	LS	LS		0.6	27		50	45														396														
01/IMS/06	29 & 46	LOCATION 15: MUS-70-16.164		25	60	LS	LS			22		25	60		272																										
03/STR/06	47	LOCATION 16: PER-13-21.64				LS	LS			27					120																										
TOTALS CARRIED TO GENERAL SUMMARY		350	610	LS	LS	4725	3	198	59	3	350	610	214	1132	272	120	115	404	315	396	312	66	P.13	47																	

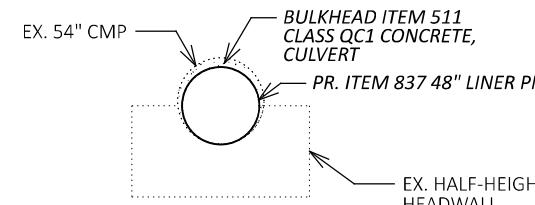
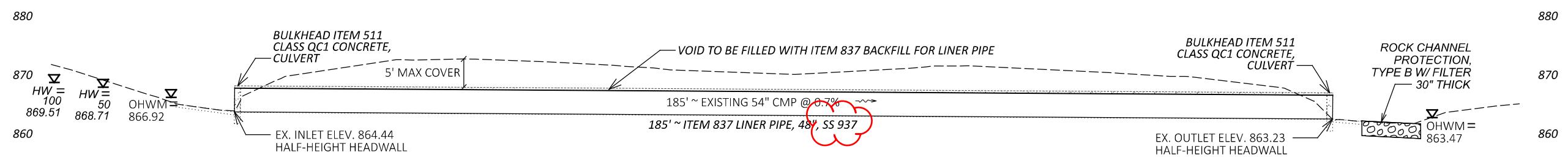
HORIZONTAL
SCALE IN FEET
0 5 10 20

CULVERT DETAIL SHEET (LOCATION 1)
FAI-33-9-343 (CFN 1883715)



EXISTING STRUCTURE	
CFN: 1883715	
TYPE: CORRUGATED METAL PIPE	
DIAMETER: 54"	
LENGTH: 185'	
SKEW: 0°	
LAT: 39.76472	
LONG: -82.68806	

DRAINAGE AREA = 37 AC	
$Q_{50} = 85 \text{ CFS}$	$V_{50} = 10.7 \text{ FPS}$
$Q_{100} = 106 \text{ CFS}$	$V_{100} = 11.2 \text{ FPS}$



CALCULATIONS	
ITEM 511 CLASS QC1 CONCRETE, CULVERT	
$15.90 \text{ SF} - 12.96 \text{ SF} = 2.94 \text{ SF} \times (2 \times 1 \text{ FT}) = 5.88 \text{ CF} / 27 \text{ CF} = 0.2 \text{ CY}$	
ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
$10 \text{ FT} \times 10 \text{ FT} \times 2.5 \text{ FT} = 250 \text{ CF} / 27 \text{ CF} = 9 \text{ CY}$	
ITEM 837 BACKFILL FOR LINER PIPE, 48"	
$15.90 \text{ SF} - 12.96 \text{ SF} = 2.94 \text{ SF} \times (185 \text{ FT} - 2 \text{ FT}) = 538.0 \text{ CF} / 27 \text{ CF} = 20 \text{ CY}$	

ITEM 202 FENCE REMOVED	180 FT
REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"	LS
ITEM 503 COFFERDAMS AND EXCAVATION BRACING	LS
ITEM 511 CLASS QC1 CONCRETE, CULVERT	0.2 CY
ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	9 CY
ITEM 607 FENCE, TYPE 47	180 FT
ITEM 837 LINER PIPE, 48", SS 937	185 FT
ITEM 837 BACKFILL FOR LINER PIPE, 48"	20 CY

QUANTITIES CARRIED TO SUBSUMMARY



DESIGNER
HG

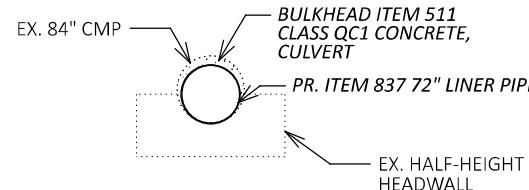
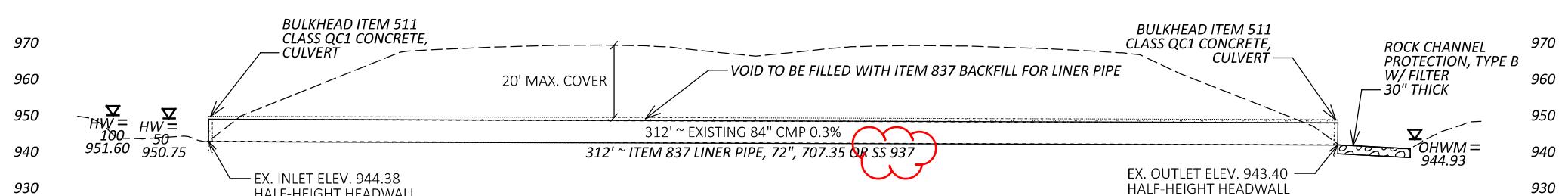
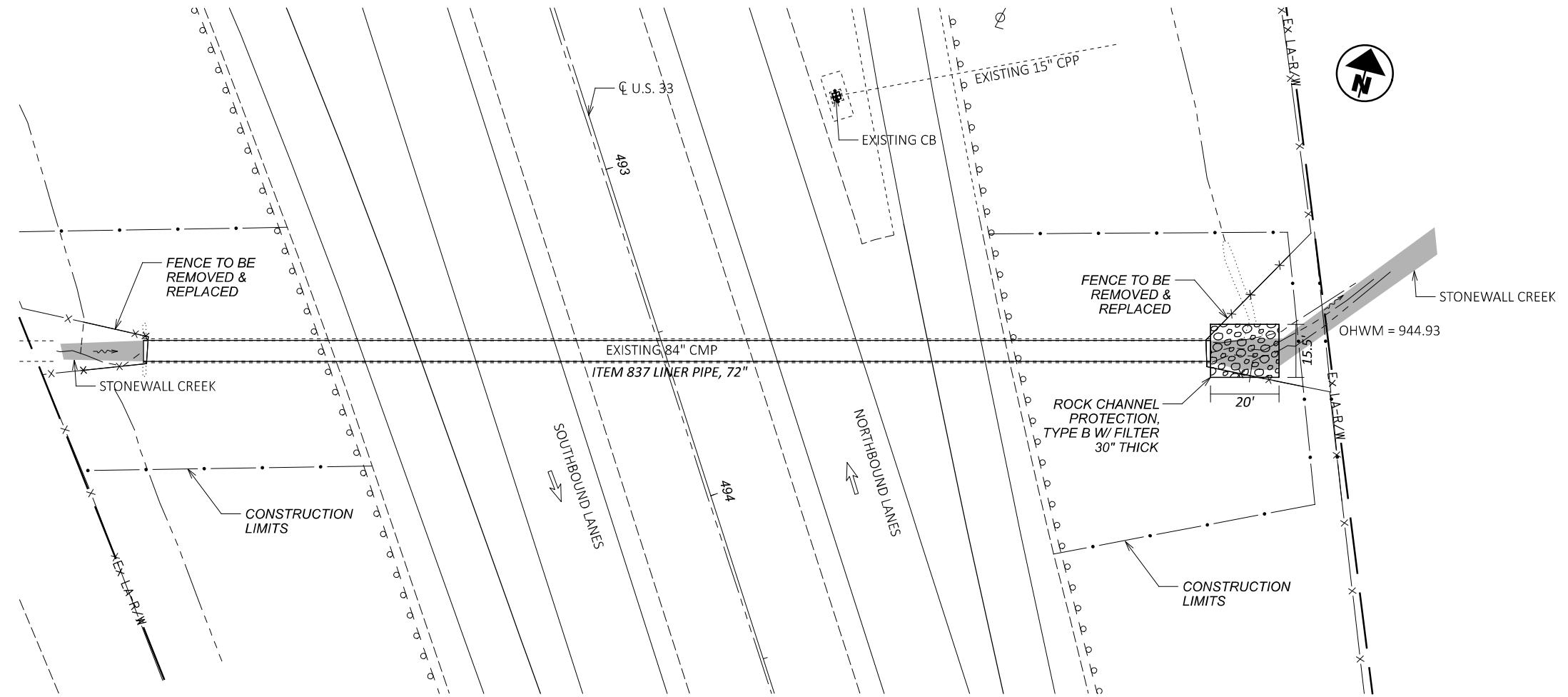
REVIEWER
XXX MM-DD-YR

PROJECT ID
107367

SHEET TOTAL
P.31 47

EXISTING STRUCTURE	
CFN: 1884264	
TYPE: CORRUGATED METAL PIPE	
DIAMETER: 84"	
LENGTH: 312'	
SKEW: 18°	
LAT: 39.6854	
LONG: -82.65683	

DRAINAGE AREA = 166 AC	
$Q_{50} = 209 \text{ CFS}$	$V_{50} = 10.6 \text{ FPS}$
$Q_{100} = 256 \text{ CFS}$	$V_{100} = 11.6 \text{ FPS}$



CALCULATIONS

ITEM 511 CLASS QC1 CONCRETE, CULVERT
 $38.47 \text{ SF} - 28.26 \text{ SF} = 10.21 \text{ SF} \times (2 \times 1 \text{ FT}) = 20.42 \text{ CF} / 27 \text{ CF} = 0.8 \text{ CY}$

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
 $20 \text{ FT} \times 15.5 \text{ FT} \times 2.5 \text{ FT} = 775 \text{ CF} / 27 \text{ CF} = 29 \text{ CY}$

ITEM 837 BACKFILL FOR LINER PIPE, 72"
 $38.47 \text{ SF} - 28.26 \text{ SF} = 10.21 \text{ SF} \times (312 \text{ FT} - 2 \text{ FT}) = 3,165.1 \text{ CF} / 27 \text{ CF} = 117 \text{ CY}$

ITEM 202 FENCE REMOVED	120 FT
REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"	LS
ITEM 503 COFFERDAMS AND EXCAVATION BRACING	LS
ITEM 511 CLASS QC1 CONCRETE, CULVERT	0.8 CY
ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	29 CY
ITEM 607 FENCE, TYPE 47	120 FT
ITEM 837 LINER PIPE, 72", SS 937	312 FT
ITEM 837 BACKFILL FOR LINER PIPE, 72"	117 CY

QUANTITIES CARRIED TO SUBSUMMARY



DESIGN AGENCY
 STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION

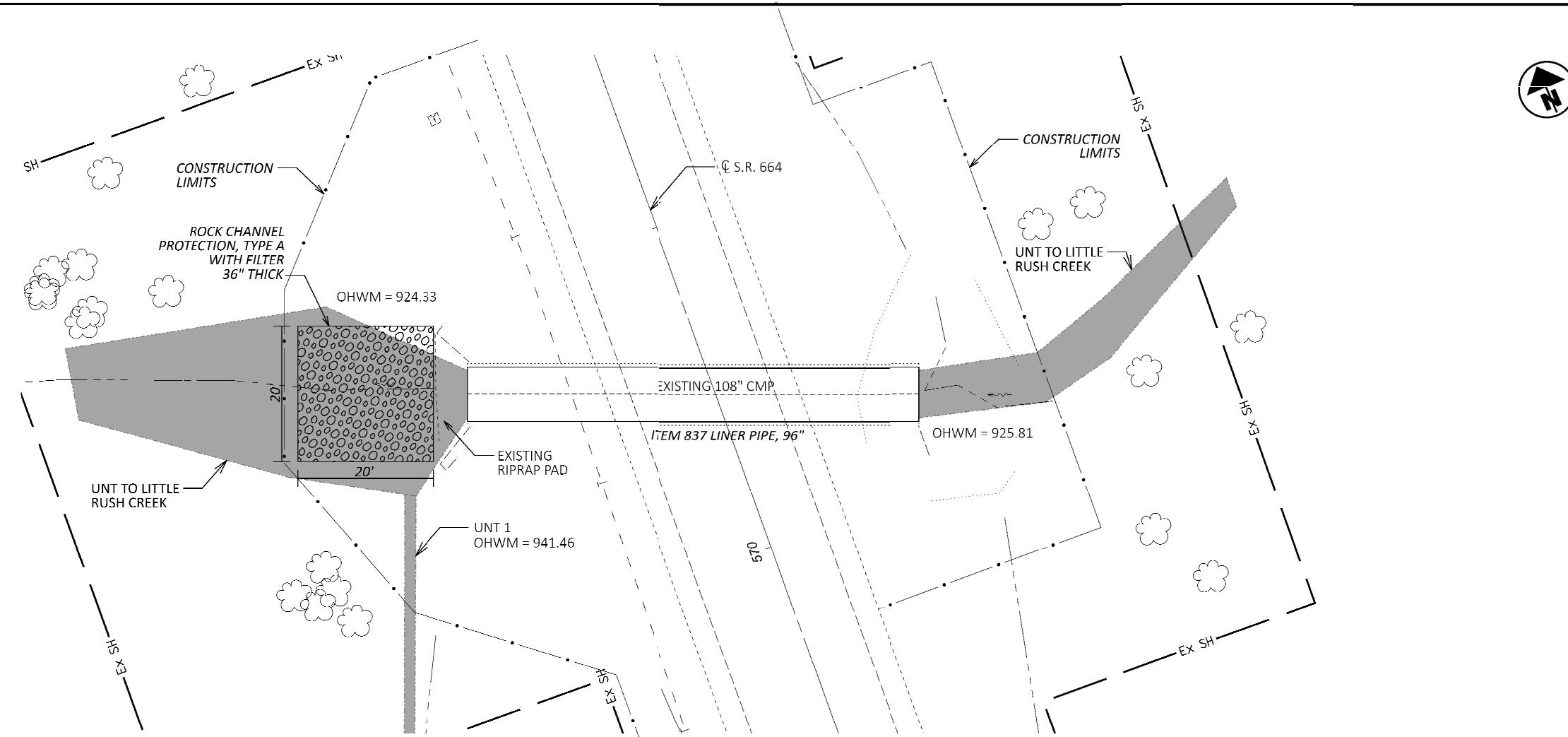
DESIGNER	HG
REVIEWER	XXX MM-DD-Y
PROJECT ID	107367
SHEET	TOTAL
P.32	47

CULVERT DETAIL SHEET (LOCATION 2) FAI-33-15-271 (CFN 1884264)

HORIZONTAL SCALE IN FEET

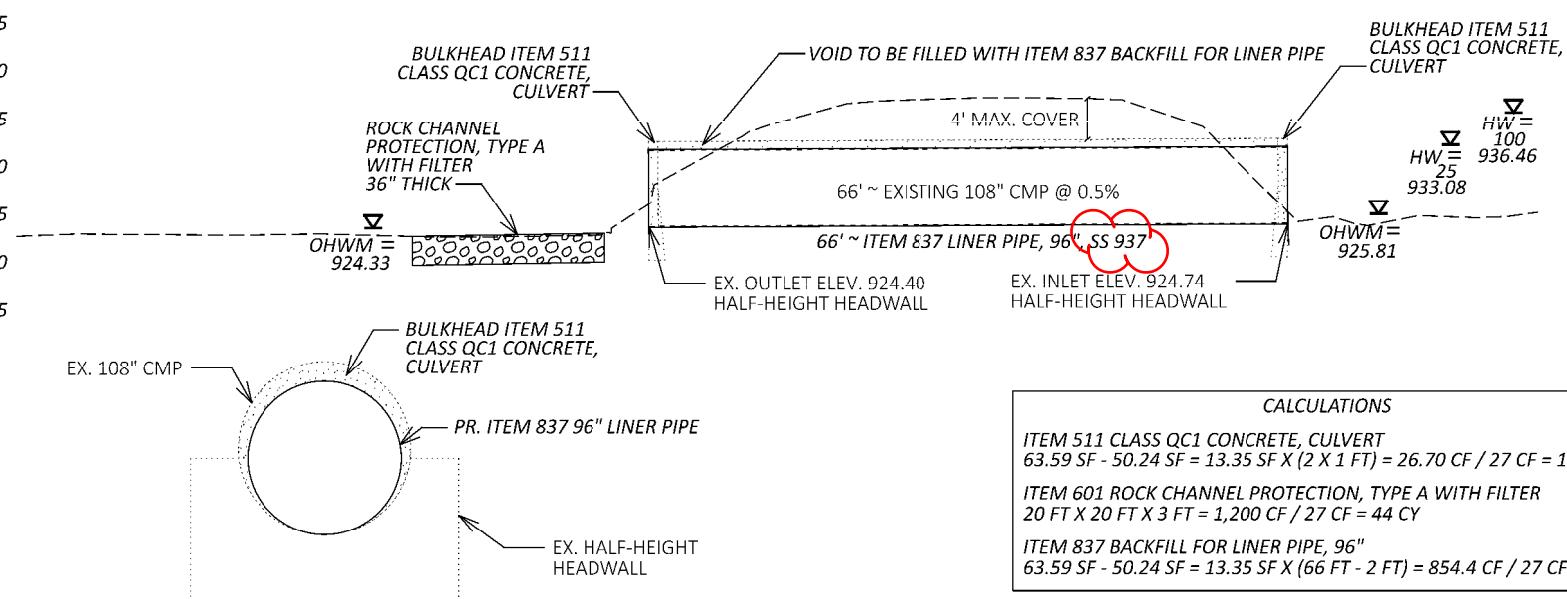
EXISTING STRUCTURE	
CFN: 1886369 TYPE: CORRUGATED METAL PIPE DIAMETER: 108" LENGTH: 66' SKew: 17° LAT: 39.808435 LONG: -82.426967	DRAINAGE AREA = 740 AC $Q_{25} = 471 \text{ CFS}$ $V_{25} = 15.0 \text{ FPS}$ $Q_{100} = 709 \text{ CFS}$ $V_{100} = 16.0 \text{ FPS}$

DRAINAGE AREA = 740 AC	
$Q_{25} = 471 \text{ CFS}$	$V_{25} = 15.0 \text{ FPS}$
$Q_{100} = 709 \text{ CFS}$	$V_{100} = 16.0 \text{ FPS}$



CULVERT DETAIL SHEET (LOCATION 3)
FAI-664-10.813 (CFN 1886369)

HORIZONTAL SCALE IN FEET
0 5 10 15 20



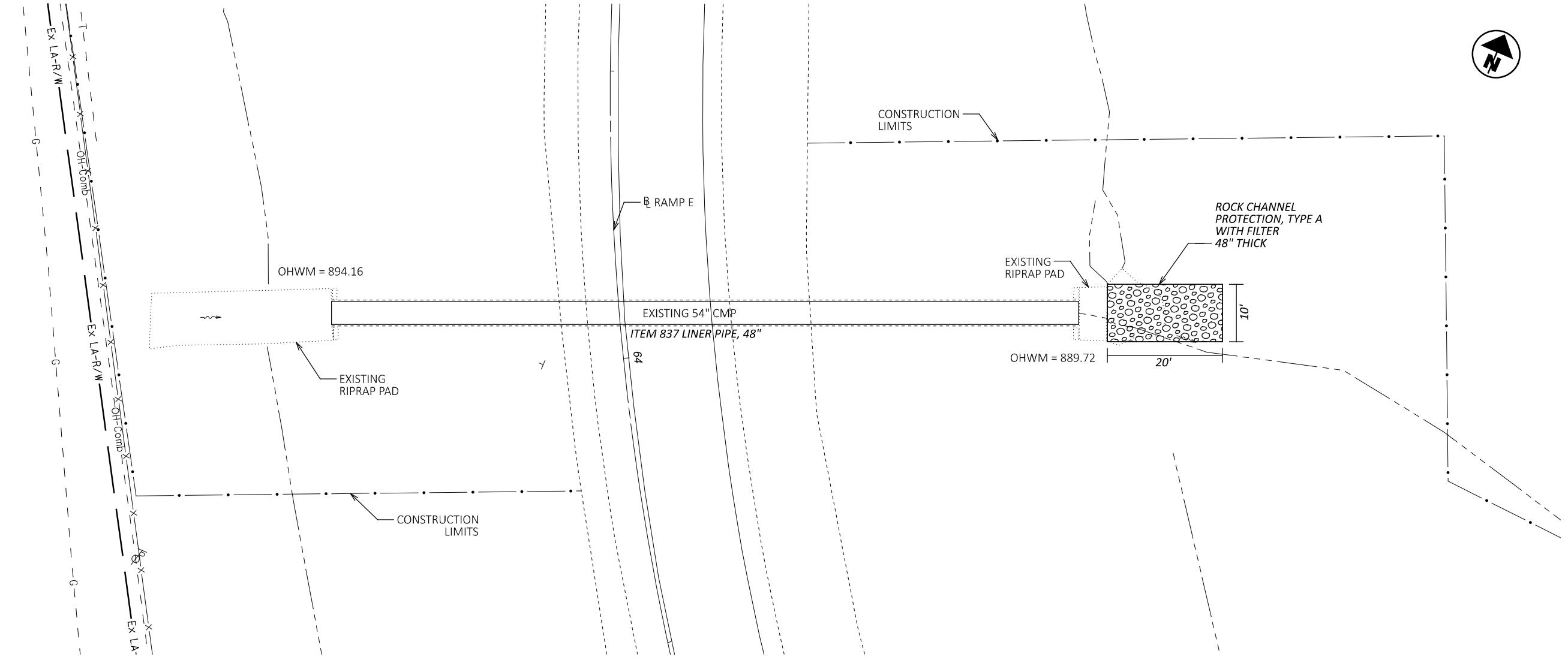
CALCULATIONS	
ITEM 511 CLASS QC1 CONCRETE, CULVERT	LS
$63.59 \text{ SF} - 50.24 \text{ SF} = 13.35 \text{ SF} \times (2 \times 1 \text{ FT}) = 26.70 \text{ CF} / 27 \text{ CF} = 1.0 \text{ CY}$	
ITEM 601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	1.0 CY
$20 \text{ FT} \times 20 \text{ FT} \times 3 \text{ FT} = 1,200 \text{ CF} / 27 \text{ CF} = 44 \text{ CY}$	
ITEM 837 BACKFILL FOR LINER PIPE, 96"	44 CY
$63.59 \text{ SF} - 50.24 \text{ SF} = 13.35 \text{ SF} \times (66 \text{ FT} - 2 \text{ FT}) = 854.4 \text{ CF} / 27 \text{ CF} = 32 \text{ CY}$	
ITEM 837 LINER PIPE, 96" SS 937	66 FT
ITEM 837 BACKFILL FOR LINER PIPE, 96"	32 CY

REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"	
ITEM 503 COFFERDAMS AND EXCAVATION BRACING	LS
ITEM 511 CLASS QC1 CONCRETE, CULVERT	1.0 CY
ITEM 601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	44 CY
ITEM 837 LINER PIPE, 96" SS 937	66 FT
ITEM 837 BACKFILL FOR LINER PIPE, 96"	32 CY

QUANTITIES CARRIED TO SUBSUMMARY

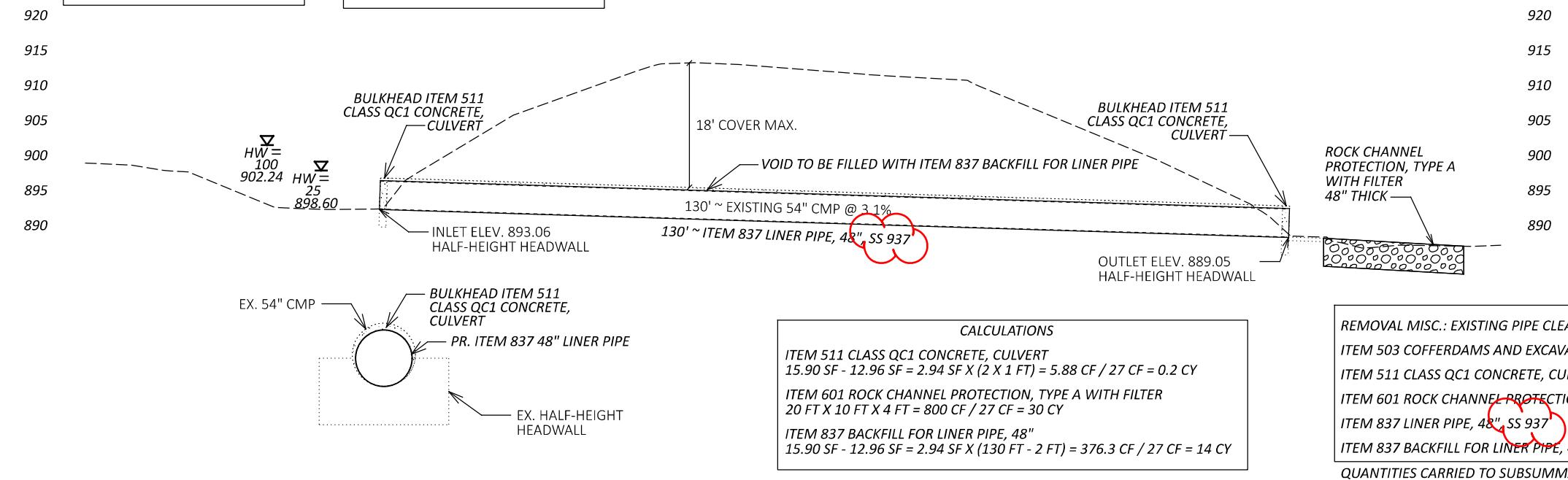


DESIGN AGENCY	STATE OF OHIO DEPARTMENT OF TRANSPORTATION
DESIGNER	HG
REVIEWER	XXX MM-DD-Y
PROJECT ID	0
SHEET TOTAL	P.33 47



EXISTING STRUCTURE	
CFN: 1883740	
TYPE: CORRUGATED METAL PIPE	
DIAMETER: 54"	
LENGTH: 130'	
SKEW: 0°	
LAT: 39.71769	
LONG: -82.67586	

DRAINAGE AREA = 109 AC	
$Q_{25} = 117 \text{ CFS}$	$V_{25} = 20.9 \text{ FPS}$
$Q_{100} = 180 \text{ CFS}$	$V_{100} = 23.2 \text{ FPS}$

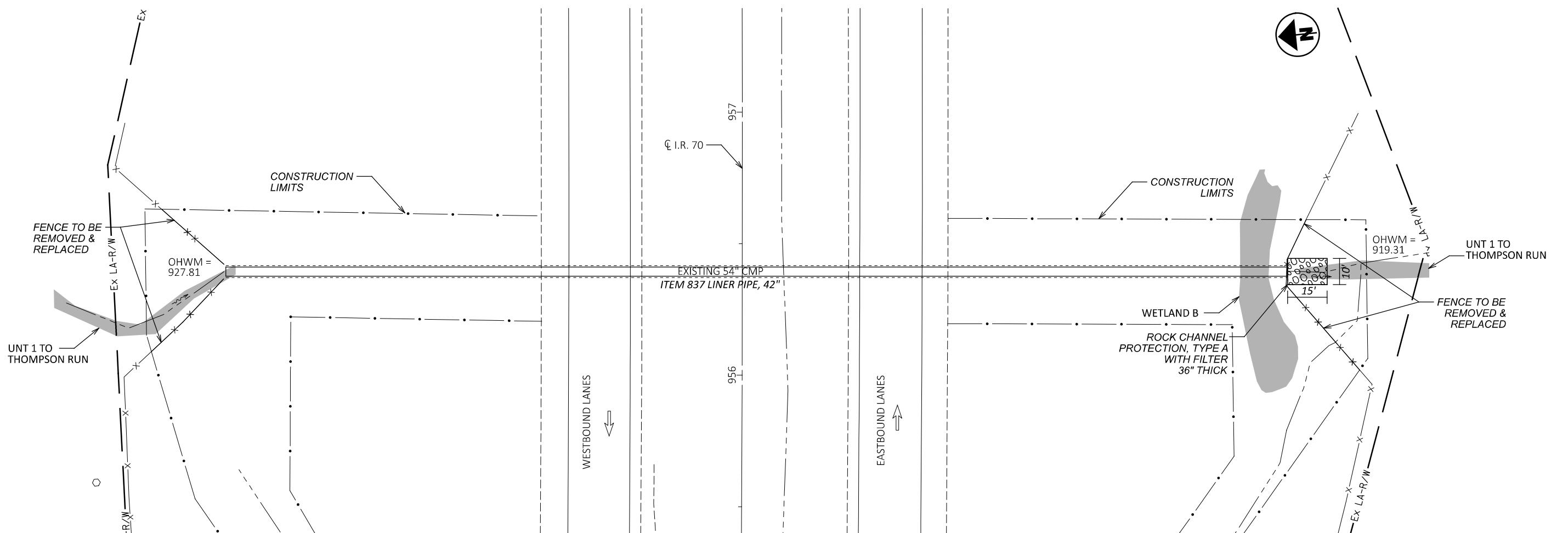


CULVERT DETAIL SHEET (LOCATION 4)
FAI-RA23016-0.049 (CFN 1883740)

HORIZONTAL SCALE IN FEET

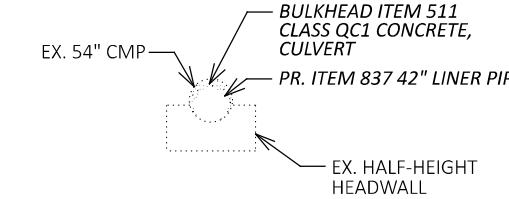
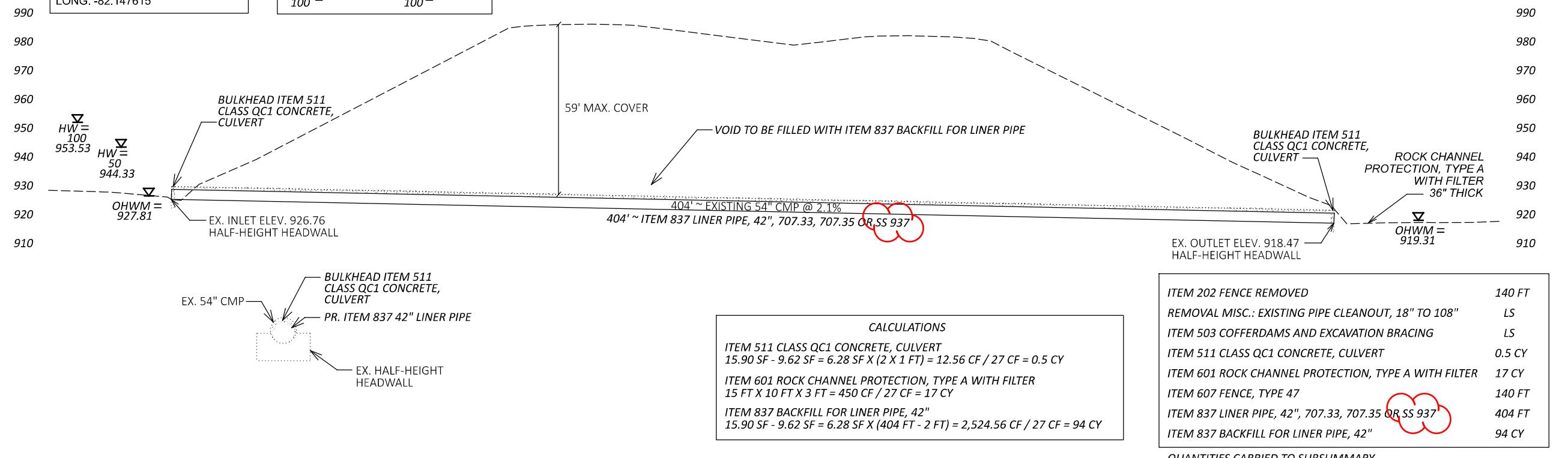


DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HG
REVIEWER
XXX MM-DD-Y
PROJECT ID
107367
SHEET TOTAL
P.34 47



EXISTING STRUCTURE	
CFN: 1876224	
TYPE: CORRUGATED METAL PIPE	
DIAMETER: 54"	
LENGTH: 404'	
SKEW: 0°	
LAT: 39.947079	
LONG: -82.147615	

DRAINAGE AREA = 90 AC	
$Q_{50} = 180 \text{ CFS}$	$V_{50} = 18.7 \text{ FPS}$
$Q_{100} = 224 \text{ CFS}$	$V_{100} = 23.3 \text{ FPS}$



CALCULATIONS	
ITEM 511 CLASS QC1 CONCRETE, CULVERT	
15.90 SF - 9.62 SF = 6.28 SF X (2 X 1 FT) = 12.56 CF / 27 CF = 0.5 CY	
ITEM 601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
15 FT X 10 FT X 3 FT = 450 CF / 27 CF = 17 CY	
ITEM 837 BACKFILL FOR LINER PIPE, 42"	
15.90 SF - 9.62 SF = 6.28 SF X (404 FT - 2 FT) = 2,524.56 CF / 27 CF = 94 CY	

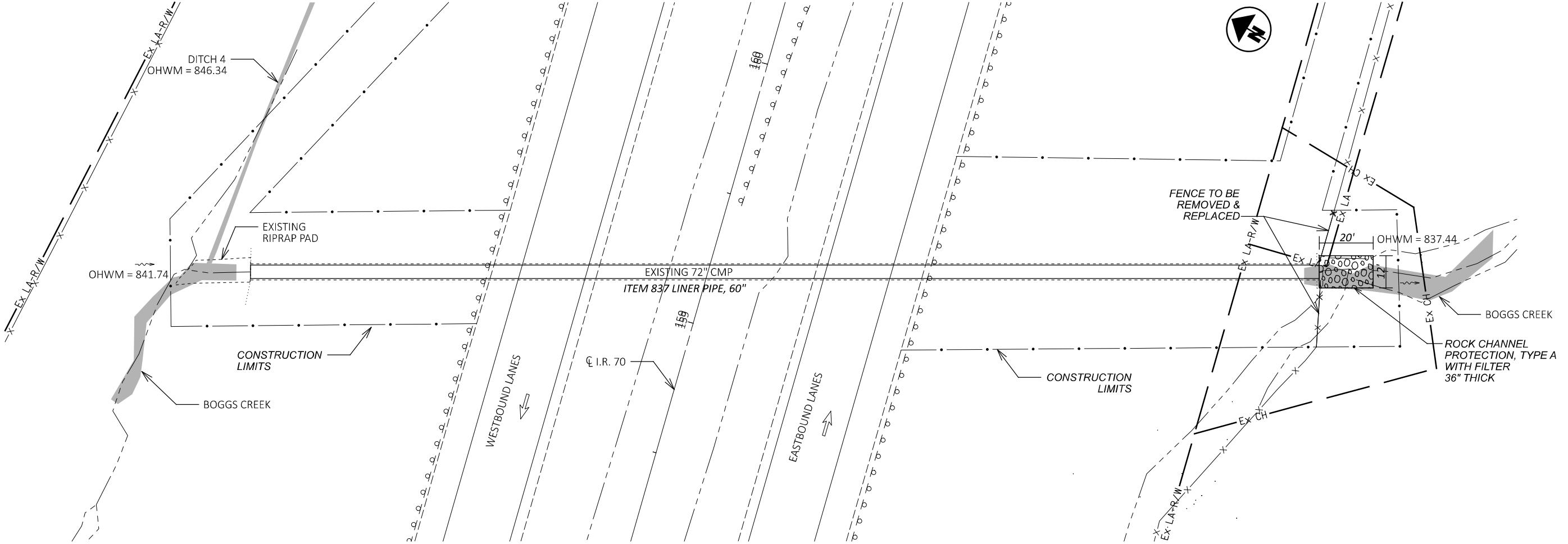
ITEM 202 FENCE REMOVED	140 FT
REMOVAL MISC.: EXISTING PIPE CLEANOUT, 18" TO 108"	LS
ITEM 503 COFFERDAMS AND EXCAVATION BRACING	LS
ITEM 511 CLASS QC1 CONCRETE, CULVERT	0.5 CY
ITEM 601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	17 CY
ITEM 607 FENCE, TYPE 47	140 FT
ITEM 837 LINER PIPE, 42", 707.33, 707.35 OR SS 937	404 FT
ITEM 837 BACKFILL FOR LINER PIPE, 42"	94 CY

QUANTITIES CARRIED TO SUBSUMMARY



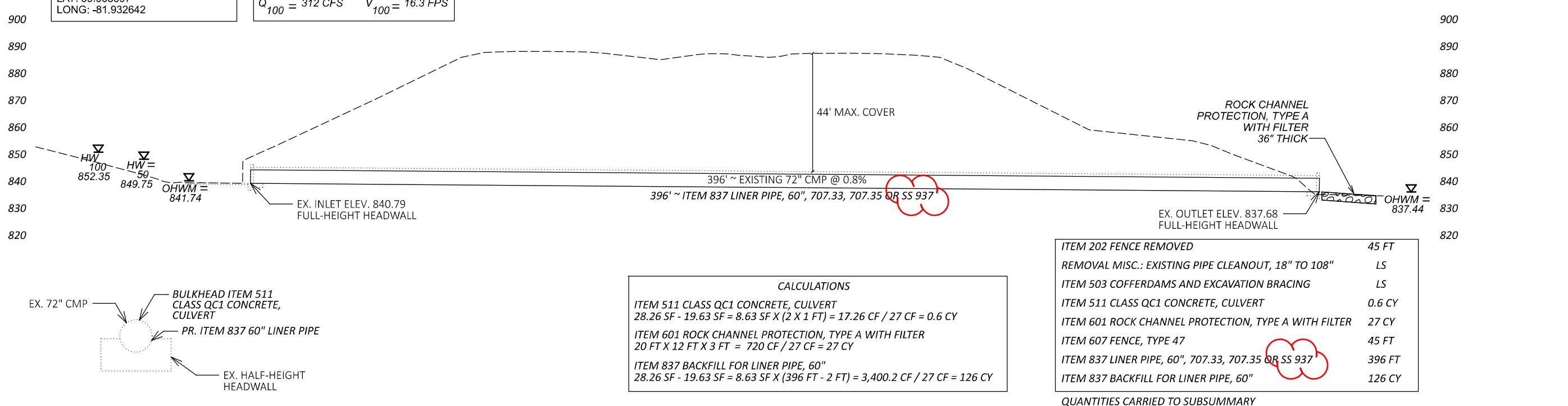
DESIGN AGENCY	STATE OF OHIO DEPARTMENT OF TRANSPORTATION
DESIGNER	HG
REVIEWER	XXX MM-DD-YR
PROJECT ID	0
SHEET TOTAL	P.42 47

CULVERT DETAIL SHEET (LOCATION 11)
MUS-70-4.221 (CFN 1876224)



EXISTING STRUCTURE	
CFN: 1973448	
TYPE: CORRUGATED METAL PIPE	
DIAMETER: 72"	
LENGTH: 396'	
SKEW: 16°	
LAT: 39.958897	
LONG: -81.932642	

DRAINAGE AREA = 250 AC	
$Q_{50} = 257 \text{ CFS}$	$V_{50} = 14.5 \text{ FPS}$
$Q_{100} = 312 \text{ CFS}$	$V_{100} = 16.3 \text{ FPS}$



CULVERT DETAIL SHEET (LOCATION 14)
MUS-70-15.934 (CFN 1973448)

HORIZONTAL SCALE IN FEET
0 10 20 40



DESIGN AGENCY	STATE OF OHIO DEPARTMENT OF TRANSPORTATION
DESIGNER	HG
REVIEWER	XXX MM-DD-YR
PROJECT ID	107367
SHEET TOTAL	P.45 47