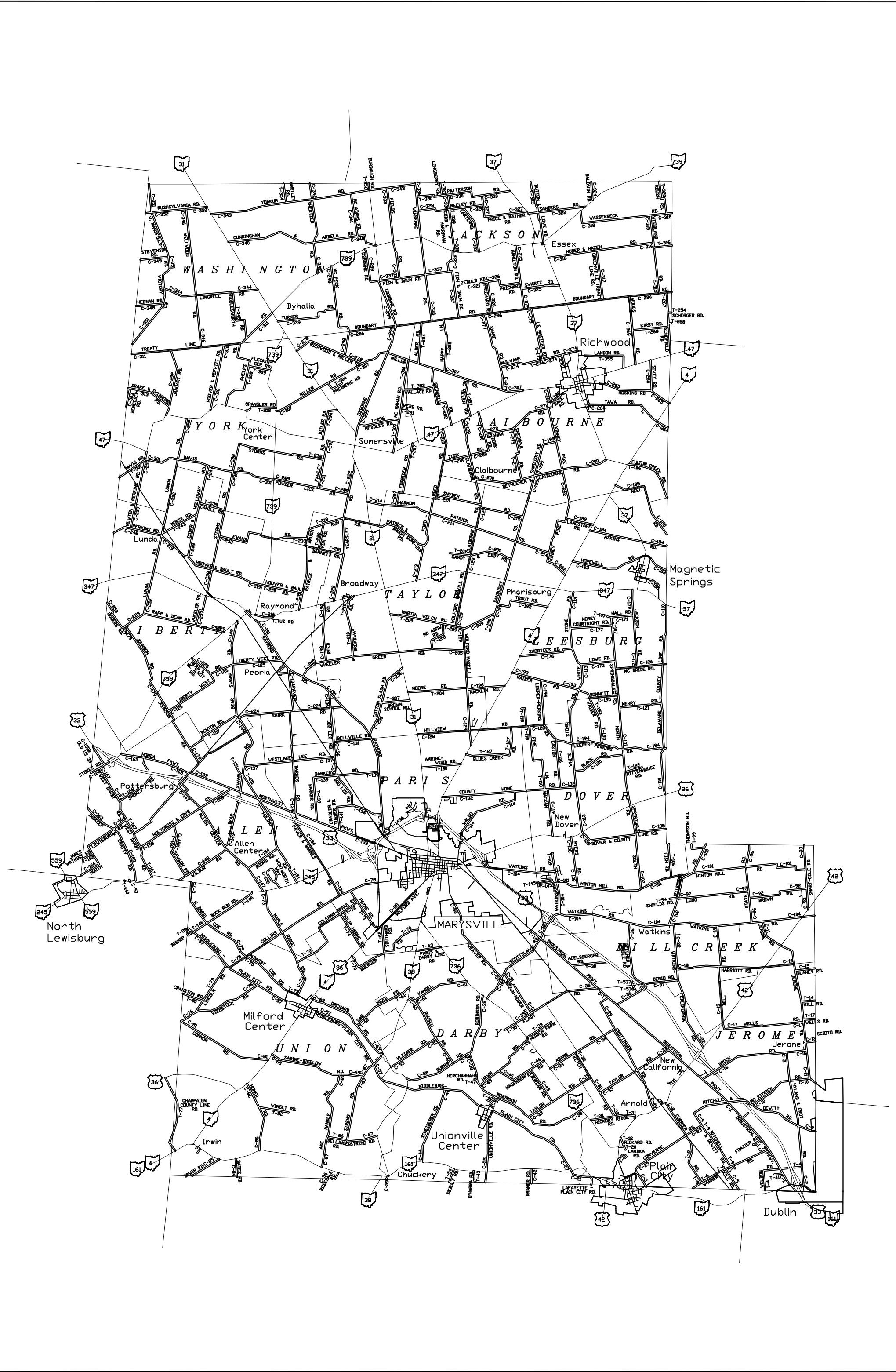
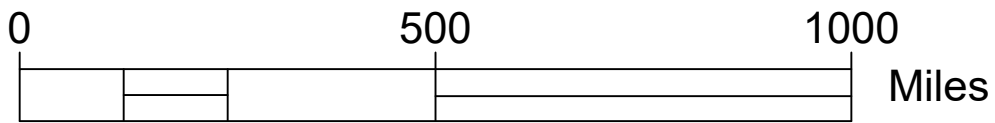




LOCATION MAP



DESIGN EXCEPTIONS

NONE REQUIRED

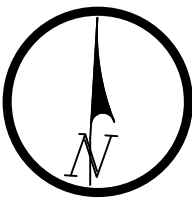
DISCLAIMER:
NOTHING IN THESE COMMENTS SHOULD
BE CONSTRUED AS AUTHORIZATION TO
PERFORM EXTRA WORK. DO NOT
PERFORM EXTRA WORK UNTIL/UNLESS A
MODIFICATION HAS BEEN APPROVED.

ENGINEER'S SEAL



SIGNED: _____

DATE: _____



2025 UNION COUNTY
GUARDRAIL UPGRADE
PROGRAM
ALLEN, DOVER, & JEROME
TOWNSHIPS

INDEX OF SHEETS:

- 1 - TITLE SHEET
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- 7 - CR 147 - ALLEN CENTER ROAD - MM 2.24
- 8 - CR 147 - ALLEN CENTER ROAD - MM 3.16
- 9 - CR 179 - JOHNSON ROAD - MM 0.12
- 10 - CR 179 - JOHNSON ROAD - MM 0.45
- 12 - CR 179 - JOHNSON ROAD - MM 0.98
- 11 - CR 179 - JOHNSON ROAD - MM 0.78
- 13 - CR 179 - JOHNSON ROAD - MM 1.37
- 14 - CR 179 - JOHNSON ROAD - MM 1.68
- 15 - CR 73 - MAPLE RIDGE ROAD - MM 0.10
- 16 - CR 73 - MAPLE RIDGE ROAD - MM 0.66
- 17 - CR 09 - MITCHELL-DEWITT ROAD - MM 2.85

PLAN PREPARED BY:

UNION COUNTY ENGINEER
233 WEST SIXTH ST.
MARYSVILLE, OHIO 43040
937.645.3021

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	
GR-1.1	07-20-12	MGS-1.1	07-21-21		800-2019	01-21-22
GR-2.1	07-20-12	MGS-2.1	01-19-18			
GR-2.2	07-20-12	MGS-2.3	01-20-23			
GR-2.4	07-20-12					
GR-3.4	07-20-18					
GR-4.1	07-20-12					
GR-4.2	07-20-12					

PROJECT DESCRIPTION

THIS PROJECT WILL UPGRADE GUARDRAIL FACILITIES ALONG VARIOUS
COUNTY ROADS WITHIN UNION COUNTY.

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 NOT REQUIRE THE CLOSING TO TRAFFIC OF
THE HIGHWAY, AND THAT PROVISIONS FOR THE MAINTENANCE AND
SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND
ESTIMATES.

APPROVED _____

DATE _____ UNION COUNTY ENGINEER

APPROVED _____

DATE _____ UNION COUNTY COMMISSIONER

APPROVED _____

DATE _____ UNION COUNTY COMMISSIONER

APPROVED _____

DATE _____ UNION COUNTY COMMISSIONER



FEDERAL PROJECT No
NONE

PID No.
N/A

LPA AGREEMENT NO.
NONE

RAILROAD INVOLVEMENT
NONE

UNI-VARIOUS-2025GR

GENERAL

THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS HERETO, SHALL GOVERN THE MATERIALS AND WORKMANSHIP OF THE PROJECT IMPROVEMENTS.

ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS POVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.

UNDERGROUND UTILITIES

THE CONTRACTOR SHALL GIVE NOTICE IF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE (O.U.P.S.) AND TO OWNERS OF UNDERGROUND UTILITIES THAT ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE. NOTICE SHALL BE GIVEN AT LEAST 2 WORKING DAYS BEFORE START OF CONSTRUCTION.

THE IDENTITY AND LOCATIONS OF KNOWN EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREAS HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UTILITY. UNION COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE PLANS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF THE SAME.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONSTRUCTION LAYOUT STAKES, AS PER PLAN

THIS ITEM SHALL ADDITIONALLY INCLUDE VERIFICATION BY THE CONTRACTOR OF TUBULAR BACKUP MEASUREMENTS, INLET MOUNTED POSTS, TYPE 1 OR 2 BRIDGE POSTS, AND ANY OTHER ITEMS REQUIRING FABRICATION. ANY PRELIMINARY SITE VISITS FOR LAYOUT, UTILITIES, ETC, SHALL ALSO BE INCLUDED UNDER THIS ITEM.

COMMENCEMENT OF WORK AND WORKING HOURS

THE PROGRAM SHALL NOT COMMENCE BEFORE 07/14/2025, AND SHALL BE COMPLETE BY 10/30/2025. ADDITIONALLY, THE TOTAL WORK PERIOD (WITHIN MAY-SEPTEMBER WINDOW) SHALL NOT EXCEED SIXTY (60) CONSECUTIVE CALENDAR DAYS.

WORKING HOURS FOR THIS PROJECT SHALL BE LIMITED TO MONDAYS THROUGH FRIDAYS, FROM 7:00 TO 7:00 PM.

CONSTRUCTION INITIATION

THE CONTRACTOR SHALL ADVISE THE UNION COUNTY ENGINEER AT 937-645-3021 FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE UNION COUNTY ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT. AN ADDITIONAL TWO (2) DAYS NOTICE SHALL BE GIVEN TO THE UNION COUNTY ENGINEER AND AN INSPECTOR PRIOR TO COMMENCEMENT OF WORK.

ITEM 614 - MAINTAINING TRAFFIC

TRAFFIC AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH ANY PROPERTY OWNERS ON ACCESS DETAILS IF THERE IS A POSSIBILITY THAT ACCESS MAY BE AFFECTED BY CONSTRUCTION. ANY DRIVE SHALL BE MAINTAINED TO AT LEAST PARTIAL WIDTH UNLESS AN ALTERNATIVE METHOD IS AGREED UPON, IN WRITING.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN

GUARDRAIL, POSTS, AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL ARE THE PROPERTY OF UNION COUNTY AND SOME MATERIAL MAY BE SALVAGED AT THE DIRECTION OF THE ENGINEER. ALL OTHER MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR, PAID FOR UNDER ITEM 202, GUARDRAIL REMOVED, AS PER PLAN. REMOVE ANCHORING FROM CONCRETE AND MAKE IT FLUSH. DRIVE CONCRETE INTO GROUND 4". BACKFILL AS NEEDED. GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE THE GUARDRAIL REMOVED FOR THE ANCHOR ASSEMBLY. THESE QUANTITIES ARE SEPARATE LINE ITEMS.

MISCELLANEOUS EARTHWORK

SOME ADDITIONAL GUARDRAIL EARTHWORK MAY BE REQUIRED TO MEET SPECIFIC SITE CONDITIONS, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 203 EMBANKMENT, AS PER PLAN 1,044 CU. YD.

LINEAR GRADING, AS PER PLAN

THIS ITEM SHALL CONSIST OF MINOR GRADING OR RESHAPING ALONG THE SHOULDER WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE NEW GUARDRAIL IS TO BE ERECTED, ENSURING A SMOOTH, DRAINABLE SURFACE. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ANCHOR ASSEMBLY, TYPE E, AS PER PLAN

ITEM 209 - RESHAPING UNDER GUARDRAIL, AS PER PLAN 3,010 LIN FT.

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A SPECIFIC NUMBER OF END TERMINALS, COMPATIBLE WITH TYPE 5 GUARDRAIL, PER ODOT SPECIFICATIONS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. THE UNIT BID PRICE SHALL INCLUDE ALL OTHER MATERIAL, TOOLS, EQUIPMENT AND NECESSARY LABOR NECESSARY.

ON-SITE GRADING SHALL ENSURE THAT THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES NOT PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE ITEM SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606 - ANCHOR ASSEMBLY, TYPE E, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT, AND EXCAVATION NOT SPECIFIED SEPARATELY.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN ON THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC, AND MEET STATE REQUIREMENTS.

GUARDRAIL REBUILT, TYPE 5, AS PER PLAN

THIS ITEM SHALL REPRESENT THE COST OF MATERIAL AND LABOR NEEDED TO REPLACE EXISTING ROTTEN OR DAMAGED GUARDRAIL POSTS ON EXISTING GUARDRAIL RUN LOCATIONS. THIS WORK SHALL INCLUDE RAIL REMOVAL, POST REMOVAL, REPLACEMENT AND INSTALL, AND RAIL RE-INSTALL. UNLESS OTHERWISE DIRECTED, POST AND MEMBER SPACING SHALL REMAIN THE SAME PRIOR TO POST REPLACEMENT. IT SHALL BE ASSUMED THAT ANY GUARDRAIL REBUILT SHALL BE PERFORMED USING STANDARD LENGTH GUARDRAIL POSTS. THIS ITEM HAS A CONTINGENCY OF 250 LF IN THE EVENT OTHER LOCATIONS NEED REBUILT. ITEM 606 - GUARDRAIL REBUILT, TYPE 5, AS PER PLAN 300 LIN. FT.

ITEM SPECIAL - BRIDGE POSTS, AS PER PLAN

THE GUARDRAIL HEIGHT ON THE BRIDGE ALONG ALLEN CENTER ROAD, AT APPROXIMATE MILE MARKER 2.24, (SHEET 7), NEEDS TO BE RAISED IN ORDER TO SATISFY CURRENT ODOT STANDARDS. IN ORDER TO RAISE THE GUARDRAIL, NEW STEEL BEAM POSTS SHALL BE MOUNTED, PER ODOT SCD DBR-2-73 (OR NEWER EQUIVALENT), ALONG THE SIDES OF THE BRIDGE, UTILIZING EXISTING DECK BOLT HOLES. NEW TYPE 5 RAIL, WITH TUBULAR BACK-UP SHALL BE INSTALLED AND FASTENED TO THE PROPOSED BRIDGE TO ALLOW A SMOOTH TRANSITION TO THE PROPOSED BRIDGE TERMINAL ASSEMBLY, TYPE 4. THE CONTRACTOR SHALL VISIT TO SITE OF PROPOSED IMPROVEMENTS TO CONFIRM THAT THE PROPOSED BRIDGE POSTS ARE SUFFICIENT FOR THE PROPOSED WORK.

CURRENT BRIDGE POST LENGTH: 46 INCHES
CURRENT BRIDGE GUARDRAIL HEIGHT: 26 INCHES

PROPOSED BRIDGE POST LENGTH (APPROXIMATE): 51 INCHES
PROPOSED BRIDGE GUARDRAIL HEIGHT: 31 INCHES

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ANY HAZARD WHICH MUST BE LEFT DURING NON-WORKING HOURS SHALL BE ADEQUATELY PROTECTED WITH DRUMS OR BARRICADES, OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR ANY SUCH WORK REQUIRED SHALL BE INCLUDED IN THE ITEM 606 GUARDRAIL, TYPE 5.

ITEM SPECIAL-REMOVE & REPLACE GUARDRAIL BLOCK/POSTS, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING AND REPLACING DAMAGED GUARDRAIL BLOCK AND/OR POSTS.

GUARDRAIL STEEL POSTS REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING STEEL GUARDRAIL POSTS THAT ARE ANCHORED TO THE BOX CULVERT ALONG ALLEN CENTER ROAD AT APPROXIMATE MILE MARKER 3.16 (SHEET 8).

THE GUARDRAIL HEIGHT IN THIS LOCATION NEEDS TO BE RAISED IN ORDER TO SATISFY CURRENT ODOT STANDARDS.

CURRENT GUARDRAIL HEIGHT: 25 INCHES

PROPOSED GUARDRAIL HEIGHT: 31 INCHES

GUARDRAIL, TYPE MGS, LONG-SPAN, AS PER PLAN

THIS ITEM SHALL CONSIST OF INSTALLING LONG-SPAN GUARDRAIL OVER THE CULVERT ON ALLEN CENTER ROAD AT APPROXIMATE MILE MARKER 3.16 (SHEET 8). THE FIRST POSTS SHALL HAVE AN OFFSET OF 3.5 FT FROM THE EDGE OF EACH SIDE OF THE CULVERT AND THEN FOLLOW THE SPECIFICATIONS IN ODOT STANDARD DRAWING MGS-2.3.

CONNECTIONS BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "BEAM RAIL SPLICE" AS SHOWN ON STANDARD DRAWINGS GR-1.1. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE GUARDRAIL RUNS.

PROTECTION OF WATER QUALITY

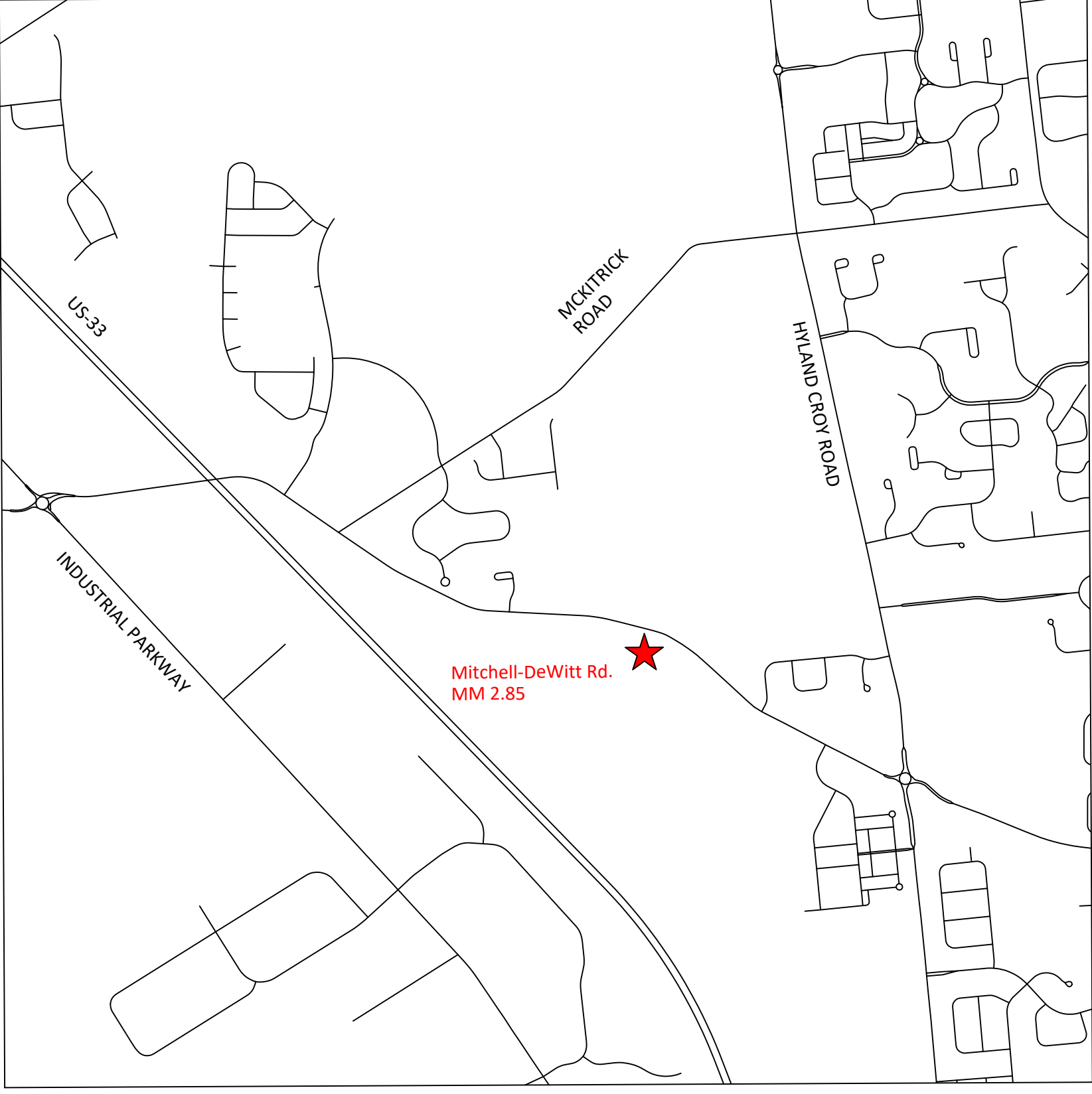
NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES OR BODIES OF WATER. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL NOT BE DISPOSED OF WITHIN A FLOODPLAIN BELOW THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT LIQUIDS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE (e.g. PAINT, SEALER, SOLVENT) FROM ENTERING STREAMS, WETLANDS OR OTHER "WATERS OF THE UNITED STATES" AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

MOBILIZATION, AS PER PLAN

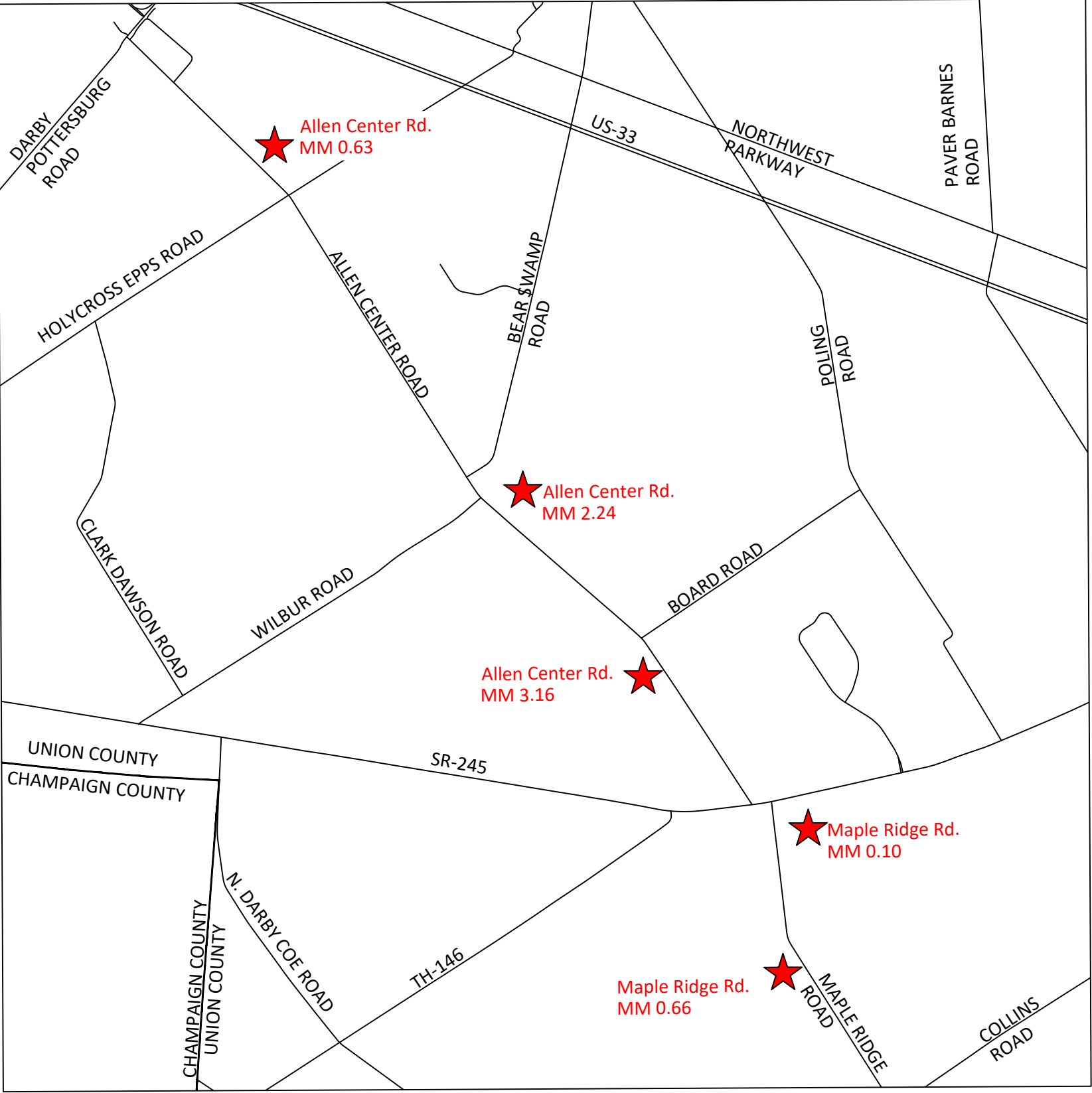
THE ITEM SHALL REPRESENT THE LUMP SUM COST INCURRED FOR ALL PREPARATORY WORK, INCLUDING MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO ALL PROJECT SITES, COMBINED. PAYMENT FOR ALL MOBILIZATION COSTS SHALL BE INCLUDED IN A LUMP SUM CONTRACT PRICE FOR ITEM 624, MOBILIZATION, AS PER PLAN.



CR 101 - HINTON MILL ROAD

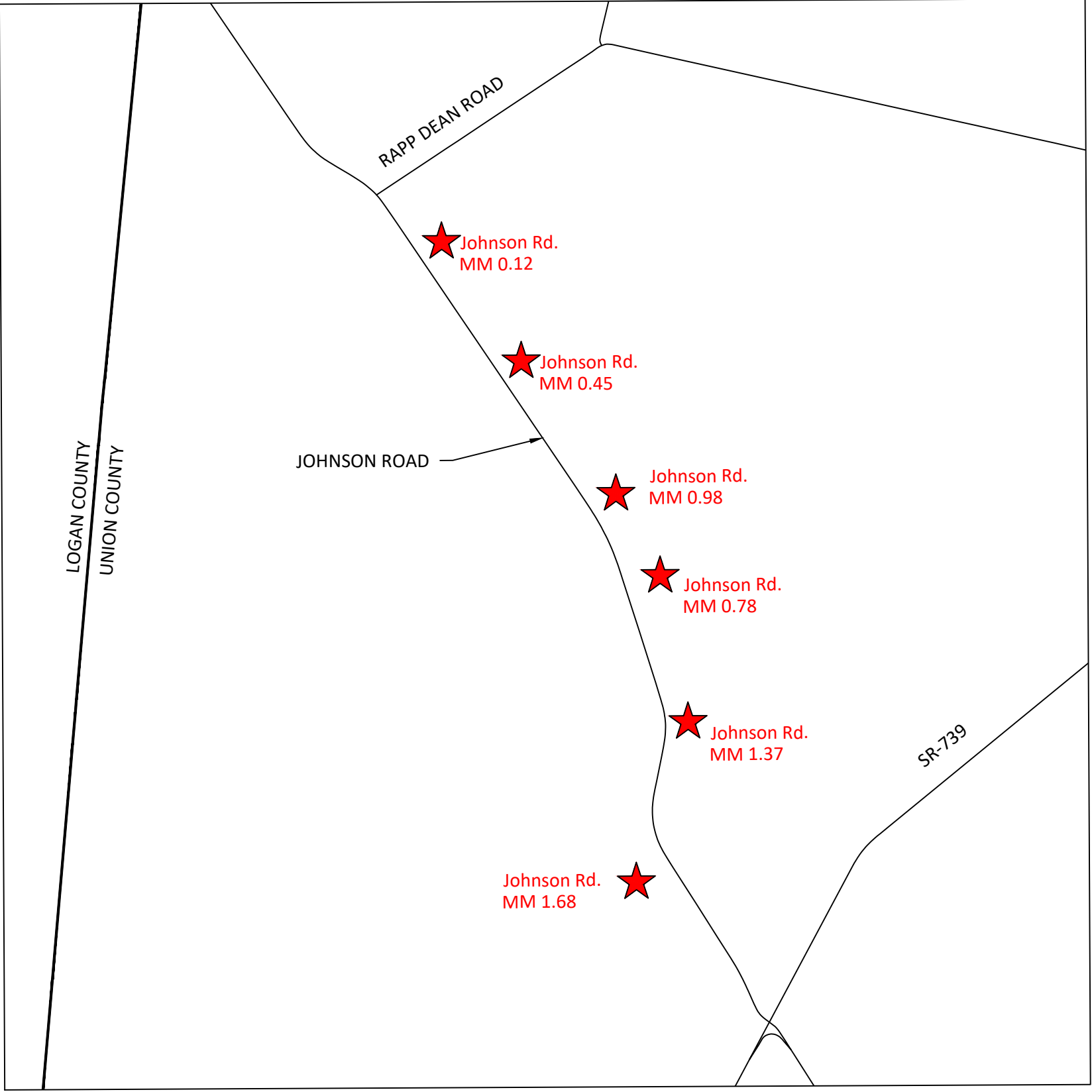


CR 57 - MITCHELL-DEWITT ROAD



CR 147 - ALLEN CENTER ROAD

CR 73 - MAPLE RIDGE ROAD



CR 179 - JOHNSON ROAD

NOTE: SEE NEXT SHEET FOR GENERAL SUMMARY.

GENERAL SUMMARY

	GEN NOTES			CR 101	CR 147	CR 179	CR 73	CR 9		REF #	ITEM	GRAND TOTAL	UNIT	ITEM DESCRIPTION
SHEET	2			5	6-8	9-14	15-16	17						
	CONTINGENCY			50	375	550	175	50		1	202	1,200	LF	GUARDRAIL REMOVED, AS PER PLAN
				2	10	20	8	3		2	202	43	EA	ANCHOR ASSEMBLY REMOVED
	36			24	240	456	240	48		3	203	1,044	CY YD	EMBANKMENT, AS PER PLAN
					50					4	606	50	LF	GUARDRAIL, TYPE MGS, LONG-SPAN
						50				5	606	50	LF	GUARDRAIL, TYPE 5
	250				150					6	606	400	LF	GUARDRAIL, TYPE 5, REBUILT, AS PER PLAN
					125					7	606	125	LF	GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP
					4		4			8	606	8	EA	GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4
				2	10	20	8	3		9	626	43	EA	BARRIER REFLECTORS, TYPE A2
				2	10	20	7	2		10	606	41	EA	ANCHOR ASSEMBLY, TYPE E
							1	1		11	606	2	EA	ANCHOR ASSEMBLY, TYPE T
				130	825	1340	520	195		12	209	3,010	LF	LINEAR GRADING - RESHAPING UNDER GUARDRAIL, AS PER PLAN
				60	600	1140	600	90		13	659	2,490	SQ YD	REPAIR SEEDING AND MULCHING
					20					14	202	20	EA	BRIDGE RAILING (POST) REMOVED
					20					15	SPEC	20	EA	BRIDGE POSTS, AS PER PLAN
						14				16	SPEC	14	EA	REMOVE & REPLACE GUARDRAIL BLOCK/POSTS, AS PER PLAN
														MISCELLANEOUS
										17	614	1	LP	MAINTAINING TRAFFIC
										18	623	1	LP	CONSTRUCTION LAYOUT
										19	624	1	LP	MOBILIZATION
										20	103	1	LP	PERFORMANCE BOND

NOTE: INDIVIDUAL LOCATION
SUBSUMMARY SHOWN ON
EACH LOCATION SHEET.



CR 101 - HINTON MILL ROAD - MM 0.38

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY

				202	202	203	606	606	606	606	626	606	606	209	659	SPEC
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, MGS	GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING	BRIDGE POSTS, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-101	1-R		SE	25	1											
	2-R		NE	25	1											
	1-G		SE			12					1	1		65	30	
	2-G		NE			12					1	1		65	30	
TOTALS				50	2	24					2	2		130	60	

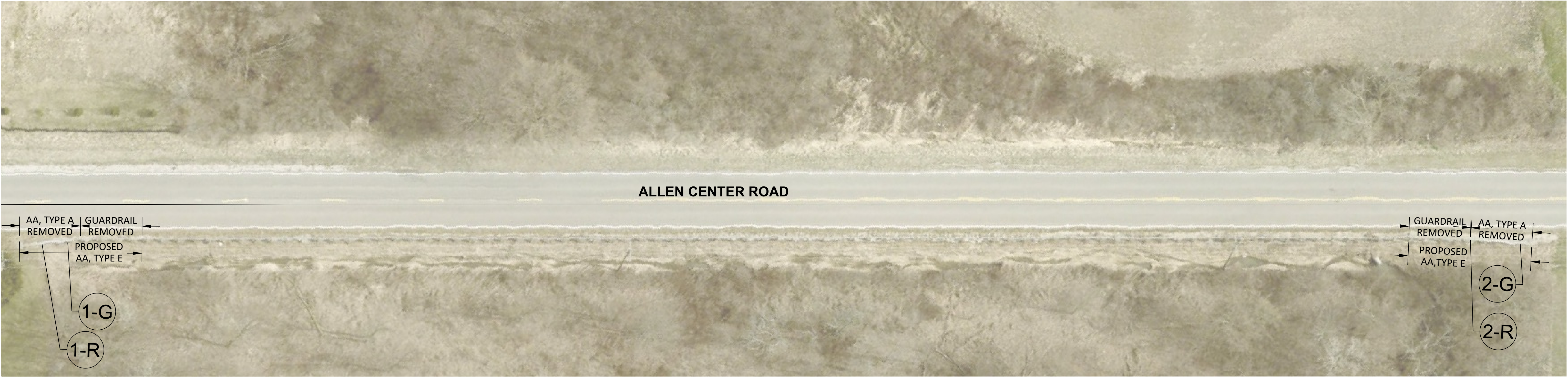
NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

CALCULATED
A/H
CHECKED
JAS

CR 101 - HINTON MILL ROAD - MM 0.38

UNI-VARIOUS-2025GR

5
17



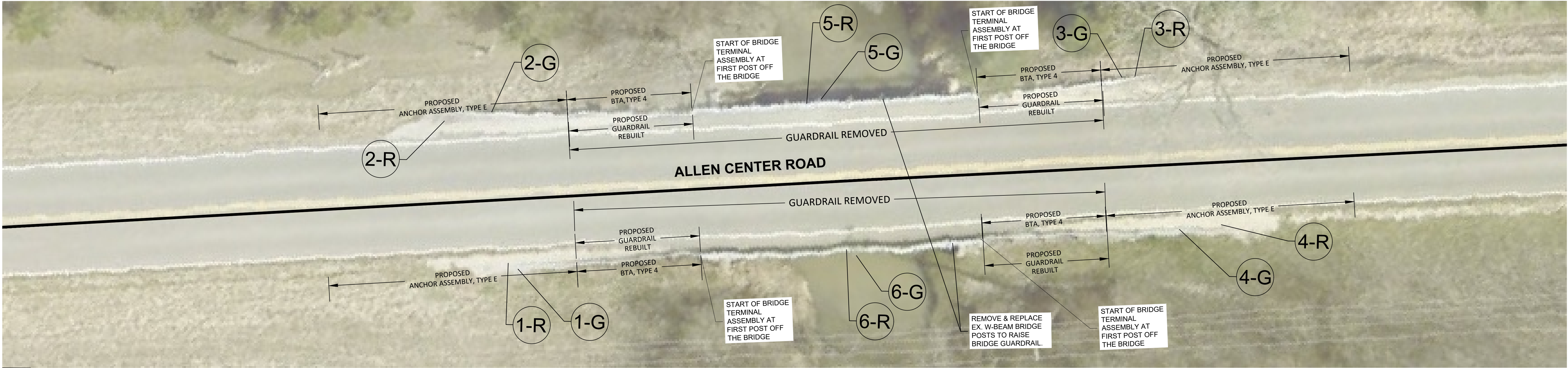
CR 147 - ALLEN CENTER ROAD - MM 0.63

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																	
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE T	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC BRIDGE POSTS, APP	
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA	
CR-147	1-R		SW	25	1												
	2-R		SE	25	1												
	1-G		SW			12					1	1		65	30		
	2-G		SE			12					1	1		65	30		
TOTALS				50	2	24					2	2		130	60		

NOTE: GUARDRAIL REMOVED QUANTITY **DOES NOT** INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



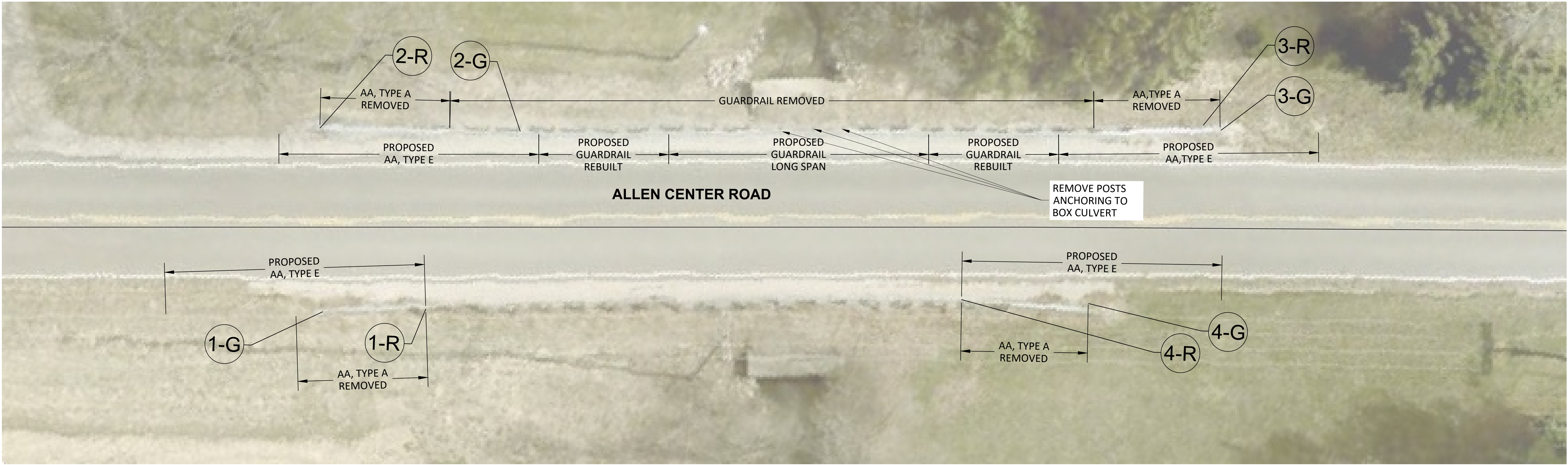
CR 147 - ALLEN CENTER ROAD - MM 2.24

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																	
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202	202	203	606	606	606	606	626	606	606	209	659	202	SPEC
				GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5 REBUILT	GUARDRAIL, MGS	GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING	BRIDGE POSTS REMOVED	BRIDGE POSTS, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.		EA
CR-147	1-R		SW	25	1												
	2-R		NW	31.25	1												
	3-R		NE	25	1												
	4-R		SE	31.25	1												
	5-R		N	43.75													
	6-R		S	43.75													
	1-G		SW			36	25			1	1	1		90	90		
	2-G		NW			36	25			1	1	1		90	90		
	3-G		NE			36	25			1	1	1		90	90		
	4-G		SE			36	25			1	1	1		90	90		
	5-G		N						62.5							10	10
	6-G		S						62.5							10	10
TOTALS				200	4	144	100		125	4	4	4		360	360	20	20

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTE: REUSE BRIDGE TUBULAR BACKING IF POSSIBLE.
BTA: BRIDGE TERMINAL ASSEMBLY



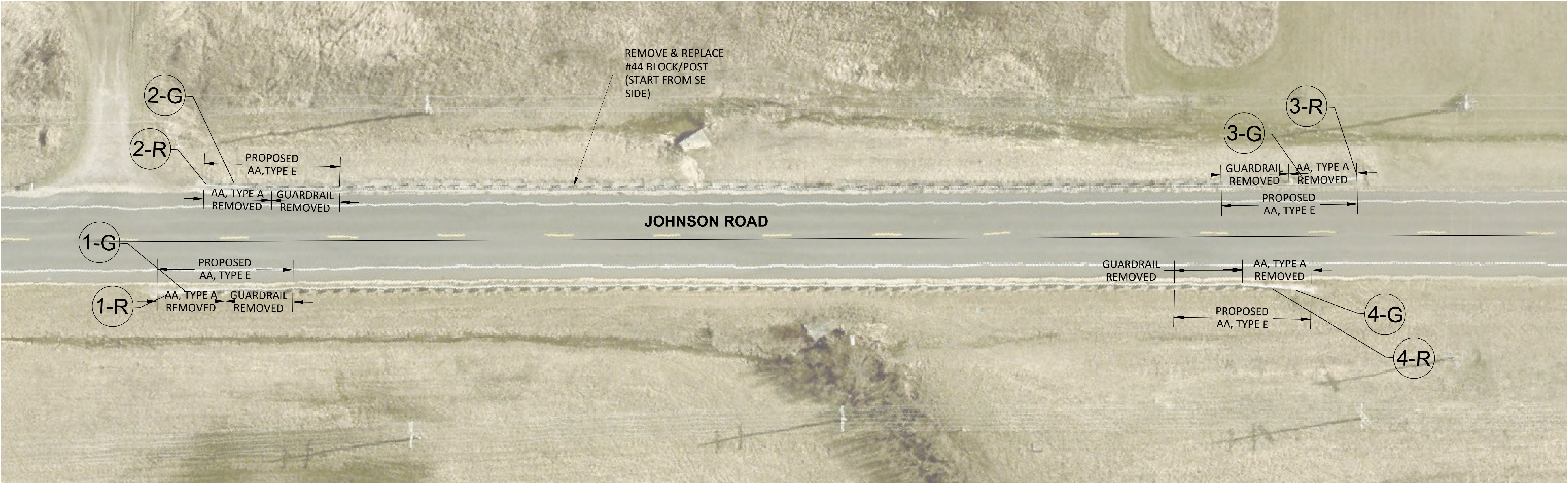
CR 147 - ALLEN CENTER ROAD - MM 3.16

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE MGS, LONG-SPAN, APP	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC BRIDGE POSTS, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-147	1-R		NW		1											
	2-R		N		1											
	3-R		SE	125	1											
	4-R		S		1											
	1-G		NW			12					1	1		65	30	
	2-G		N			12					1	1	25	65	30	
	3-G		SE			36		50			1	1	25	140	90	
	4-G		S			12					1	1		65	30	
TOTALS				125	4	72		50			4	4	50	335	180	

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



CR 179 - JOHNSON ROAD - MM 0.12

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		NW	25	1											
	2-R		N	25	1											
	3-R		SE	25	1											1
	4-R		S	25	1											
	1-G		NW			24					1	1		65	60	
	2-G		N			24					1	1		65	60	
	3-G		SE			24					1	1		65	60	
	4-G		S			24					1	1		65	60	
TOTALS				100	4	96					4	4		260	240	1

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY

CALCULATED

AUH

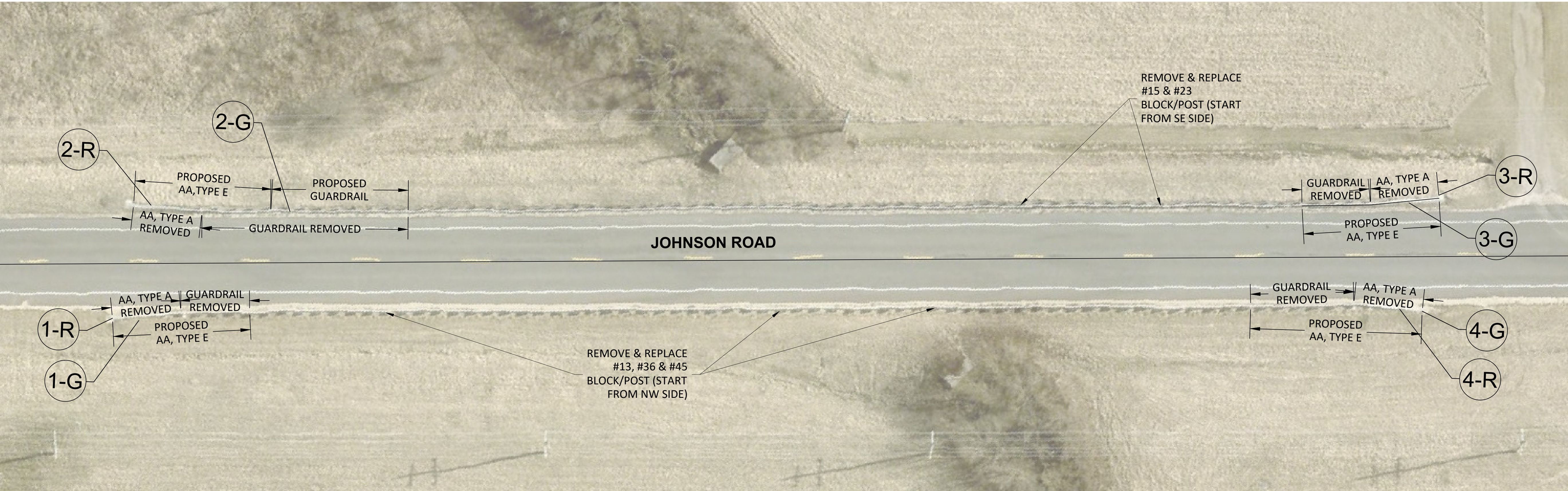
CHECKED

JAS

CR 179 - JOHNSON ROAD - MM 0.12

UNI-VARIOUS-2025GR

917



CR 179 - JOHNSON ROAD - MM 0.45

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		NW	25	1											3
	2-R		N	75	1											
	3-R		SE	25	1											2
	4-R		S	25	1											
	1-G		NW			24					1	1		65	60	
	2-G		N			24	50				1	1		115	60	
	3-G		SE			24					1	1		65	60	
	4-G		S			24					1	1		65	60	
TOTALS				150	4	96	50				4	4		310	240	5

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



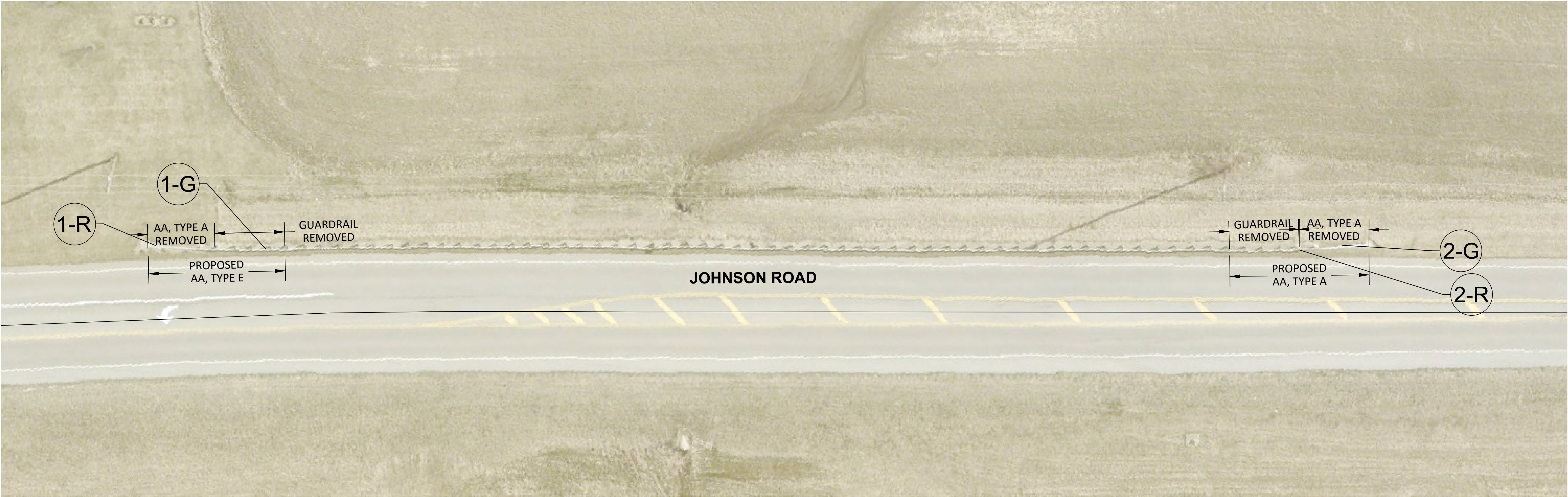
CR 179 - JOHNSON ROAD - MM 0.78

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		N	25	1											
	2-R		SE	25	1											2
	1-G		N			24					1	1		65	60	
	2-G		SE			24					1	1		65	60	
TOTALS				50	2	48					2	2		130	120	2

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



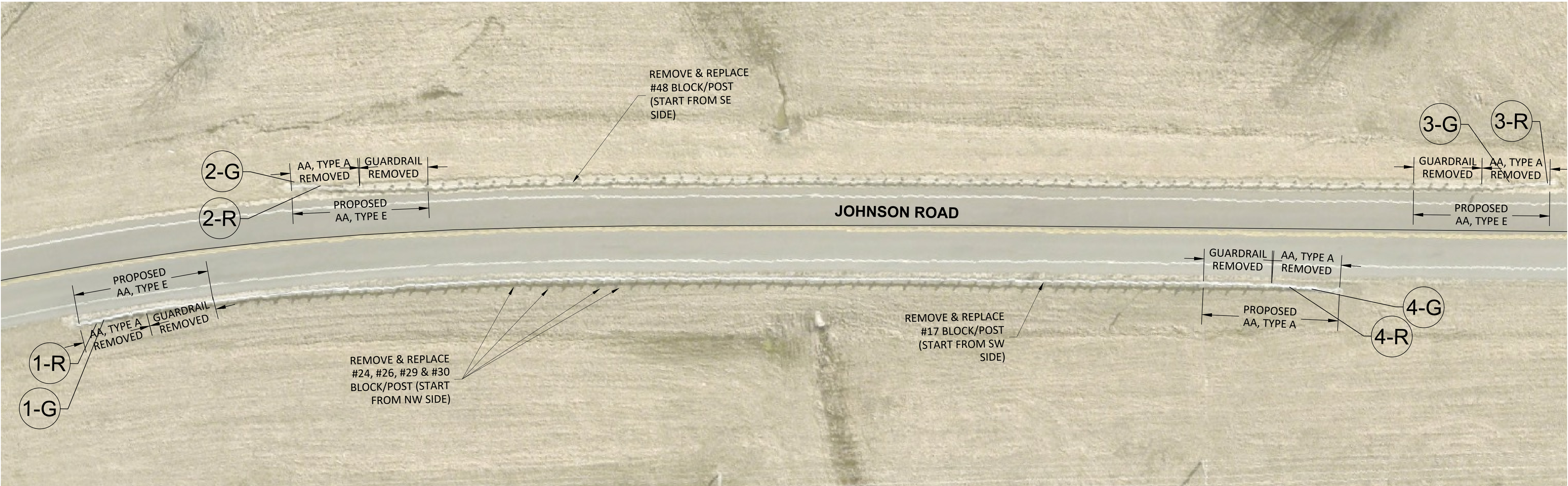
CR 179 - JOHNSON ROAD - MM 0.98

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		N	25	1											
	2-R		SE	25	1											
	1-G		N			12					1	1		60	30	
	2-G		SE			12					1	1		60	30	
TOTALS				50	2	24					2	2		120	60	

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



CR 179 - JOHNSON ROAD - MM 1.37

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		NW	25	1											4
	2-R		NE	25	1											
	3-R		SE	25	1											1
	4-R		SW	25	1											1
	1-G		NW			24					1	1		65	60	
	2-G		NE			24					1	1		65	60	
	3-G		SE			24					1	1		65	60	
	4-G		SW			24					1	1		65	60	
TOTALS				100	4	96					4	4		260	240	6

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY

CALCULATED

AUH

CHECKED

JAS

CR 179 - JOHNSON ROAD - MM 1.37

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13

17



CR 179 - JOHNSON ROAD - MM 1.68

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202	202	203	606	606	606	606	626	606	606	209	659	SPEC
				GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, MGS	GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	GUARDRAIL,T YPE 5, REBUILT	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING	REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-179	1-R		NW	25	1											
	2-R		N	25	1											
	3-R		SE	25	1											
	4-R		S	25	1											
	1-G		NW			24					1	1		65	60	
	2-G		N			24					1	1		65	60	
	3-G		SE			24					1	1		65	60	
	4-G		S			24					1	1		65	60	
TOTALS				100	4	96					4	4		260	240	

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY

CALCULATED

AUH

CHECKED

JAS

CR 179 - JOHNSON ROAD - MM 1.68

UNI-VARIOUS-2025GR

14

17



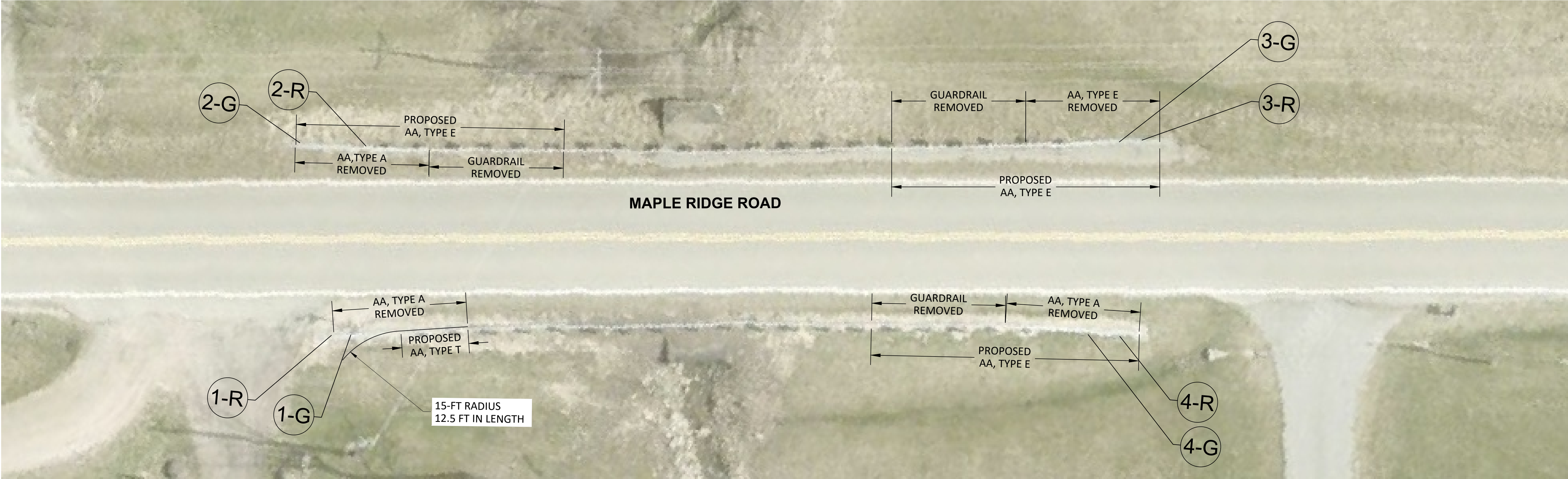
CR 73 - MAPLE RIDGE ROAD - MM 0.10

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 GUARDRAIL,T YPE 5, REBUILT	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-73	1-R		NW	25	1											
	2-R		NE	25	1											
	3-R		SE	25	1											
	4-R		SW	25	1											
	1-G		NW			36				1	1	1		65	90	
	2-G		NE			36				1	1	1		65	90	
	3-G		SE			36				1	1	1		65	90	
	4-G		SW			36				1	1	1		65	90	
TOTALS				100	4	144				4	4	4		260	360	

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



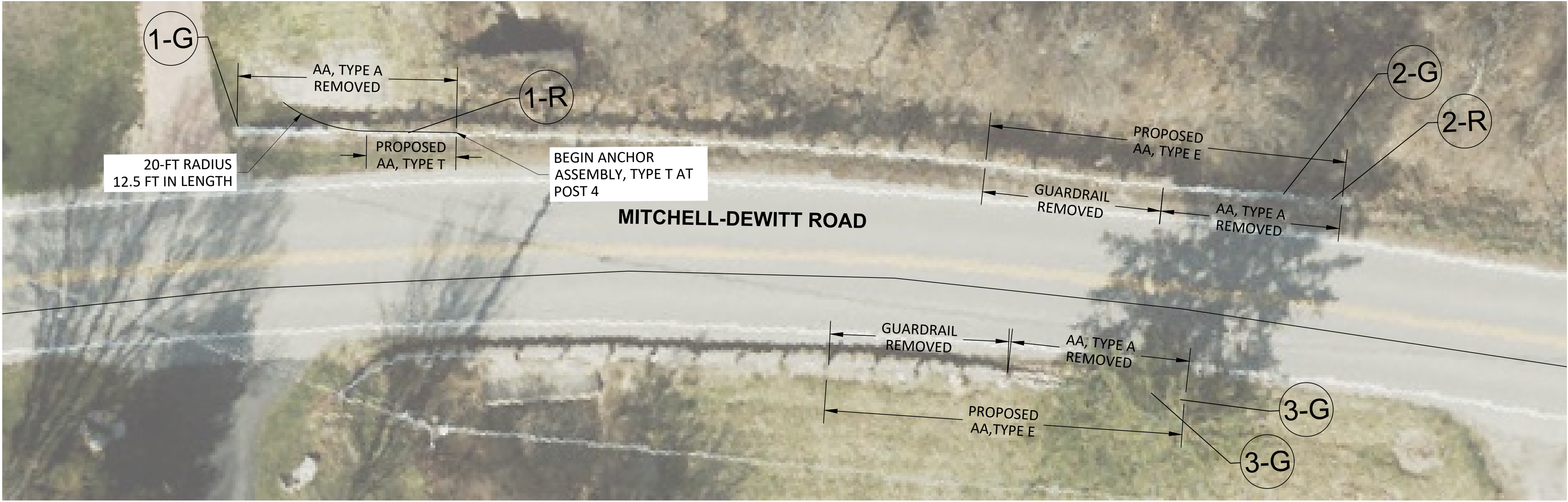
CR 73 - MAPLE RIDGE ROAD - MM 0.66

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE T	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-73	1-R		NW		1											
	2-R		N	25	1											
	3-R		SE	25	1											
	4-R		S	25	1											
	1-G		NW			24					1		1	65	60	
	2-G		N			24					1	1		65	60	
	3-G		SE			24					1	1		65	60	
	4-G		S			24					1	1		65	60	
TOTALS				75	4	96					4	3	1	260	240	

NOTE: GUARDRAIL REMOVED QUANTITY DOES NOT INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY

NOTES:
AA: ANCHOR ASSEMBLY



CR 09 - MITCHELL-DEWITT ROAD - MM 2.85

N.T.S.

ESTIMATED QUANTITIES - SUBSUMMARY																
ROAD NO.	REF. NO.	ITEM EXT.	SIDE	202 GUARDRAIL REMOVED, APP	202 ANCHOR ASSEMBLY REMOVED	203 EMBANKMENT, APP	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, MGS	606 GUARDRAIL, TYPE 5 W/ TUBULAR BACKUP	606 GUARDRAIL, TYPE 5, BRIDGE TERMINAL ASSEMBLY, TYPE 4	626 BARRIER REFLECTORS, TYPE A2	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE T	209 LINEAR GRADING, APP	659 REPAIR SEEDING AND MULCHING	SPEC REMOVE & REPLACE GUARDRAIL BLOCK/POST, APP
				FT	EA	CU. YD.	FT	FT	FT	EA	EA	EA	EA	FT	SQ. YD.	EA
CR-09	1-R		NW		1											
	2-R		NE	25	1											
	3-R		SE	25	1											
	1-G		NW			24					1		1	65	30	
	2-G		NE			12					1	1		65	30	
	3-G		SE			12					1	1		65	30	
TOTALS				50	3	48					3	2	1	195	90	

NOTE: GUARDRAIL REMOVED QUANTITY **DOES NOT** INCLUDE ANCHOR ASSEMBLY REMOVED QUANTITY