

NOT TO SCALE

DEPARTMENT OF TRANSPORTATION D07 / D08 -

GR-FY2025

STATE OF OHIO

VARIOUS LOCATIONS **ODOT DISTRICTS 7 & 8**

PROJECT EARTH DISTURBED AREA:

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	HIO811.org Before You Dig
	1, or 1-800-362-2764 must be called directly)
PLAN	

UNDERGROUND UTILITIES

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BP-5.	1 7/15/22	RM-4.3 7/15/22	MT-95.3	7/19/19		800-2023 1/19/24	
		RM-4.4 7/21/23	MT-95.31	7/21/23		809 1/19/24	
MGS-1	1.1 7/16/21	RM-4.5 7/21/17	MT-95.3	4/19/19		821 4/20/12	
MGS-2	2.1 1/19/18	RM-4.6 7/19/13	MT-95.45	1/17/20		832 7/21/23	
MGS-3	3.1 1/19/18		MT-95.61	4/19/19		921 4/20/12	
MGS-3	3.2 1/18/13	BR-1-13 1/17/14	MT-97.10	4/19/19			
MGS-4	4.2 7/19/13	DBR-2-73 7/19/02	MT-98.11	1/17/20			
MGS-4	4.3 1/18/13		MT-98.2	4/19/19			
MGS-5	5.2 7/15/16		MT-98.22	1/17/20			
MGS-5	5.3 7/15/16		MT-98.28	1/17/20			
MGS-6	5.1 1/19/18		MT-98.2	1/17/20			
MGS-E	6.2 7/19/19		MT-105.1	1/17/20			
			TC-61.30	7/19/19			
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FEDERAL PROJECT NO.

E240684

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

DISTRICT 8 AND MONTGOMERY COUNTY GUARDRAIL REPAIR AND UPGRADE CONTRACT FOR FISCAL YEAR 2025.

EARTH DISTURBED AREAS

3.0 ACRE ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.0 ACRE NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED) * ROUTINE MAINTENANCE PROJECT

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.

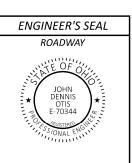
I HEARBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY WILL BE AS SET FORTH ON THE PLANS AND ESTIMATE.

Janny K Compell

District Deputy Director

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Jack Marchbanks, PhD Director, Department of Transportation



TITLE SHEET

ESIGN AGENC



DATE:	_ WORK ORDER:	PROJECT N	IUMBER:
ROUTE:		COUNTY:	
SIDE ROAD:			
MILE POST:		AT INTERSECTION WITH	l:
OR MILES OF:			
REFERENCE NUMBE	R DESCRIPTION	QUANTITY	UNIT
LOCATIONS SHOW	N ABOVE, ALL WORK	IRING THE DAMAGED GUAI SHALL CONFORM AND A PARTMENT OF TRANSPOR	DHERE TO ALL STAN
LOCATIONS SHOW AND SPECIFICATIC SPECIFICATIONS (N ABOVE. ALL WORK DNS OF THE OHIO DE DF THIS CONTRACT.	SHALL CONFORM AND A	DHERE TO ALL STANL TATION AND TO THE
LOCATIONS SHOW, AND SPECIFICATIONS (SPECIFICATIONS (SUBMITTED BY: APPROVED BY:	N ABOVE. ALL WORK DNS OF THE OHIO DE DF THIS CONTRACT.	DATE:	DHERE TO ALL STANL TATION AND TO THE
LOCATIONS SHOW, AND SPECIFICATIONS SPECIFICATIONS (SUBMITTED BY: APPROVED BY: (ODC	N ABOVE. ALL WORK DNS OF THE OHIO DE DF THIS CONTRACT. DT PROJECT SUPERVI	DATE:	DHERE TO ALL STAN

GENERAL INFORMATION

THIS IS A "GUARDRAIL REPAIR PROJECT" FOR BUTLER, CLERMONT, CLINTON, GREENE, HAMILTON, MONTGOMERY, PREBLE, AND WARREN COUNTIES, VARIOUS ROUTES AND SECTIONS.

THE INTENT OF THIS PROJECT IS TO REPAIR OR REPLACE DAMAGED GUARDRAIL, IMPACT ATTENUATORS, BRIDGE TERMINAL ASSEMBLIES, AND OTHER ITEMS THROUGHOUT THE LISTED COUNTIES, AND TO UPGRADE EXISTING OUTDATED BARRIER COMPONENTS.

THE LOCATION AND ESTIMATED AMOUNT OF RAIL TO BE REPAIRED SHALL BE FURNISHED TO THE ENGINEER BY THE PERSON OR PERSONS DESIGNATED BY THE HIGHWAY MANAGEMENT ADMINISTRATOR.

DO NOT PERFORM ANY GUARDRAIL REPAIR WORK UNTIL RECEIVING AUTHORIZATION FROM THE ENGINEER. THIS AUTHORIZATION SHALL BE IN THE FORM OF A "GUARDRAIL REPAIR WORK ORDER". AN EXAMPLE OF THE AFOREMENTIONED WORK ORDER APPEARS ABOVE. WORK ORDERS WILL BE PROVIDED ELECTRONICALLY.

THE ENGINEER SHALL FURNISH A COMPLETED AND SIGNED "WORK ORDER" FOR EACH LOCATION OF DAMAGED GUARDRAIL BEFORE THE REPAIR WORK CAN BEGIN.

WHEN MULTIPLE ORDERS HAVE BEEN ISSUED AND REMAIN INCOMPLETE, PERFORM WORK ON THE LOCATIONS IN ORDER OF PRIORITY AS DIRECTED BY THE ENGINEER.

UPON RECEIVAL OF A WORK ORDER, THE INDICATED WORK SHALL BE COMPLETED WITHIN SIX (6) WEEKS. FAILURE TO COMPLETE THIS WORK WITHIN THE SPECIFIED TIME FRAME SHALL BE SUBJECT TO DISINCENTIVES PER THE NOTE ON SHEET 6. NO NEW WORK LOCATIONS SHALL BE INITIATED PRIOR TO THE COMPLETION OF WORK AT ANY GIVEN LOCATION, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

NOTIFY THE PROJECT ENGINEER PER THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE ON SHEET 6.

BEGIN WORK START DATE

WORK FOR THIS CONTRACT SHALL START ON OCTOBER 1, 2024.

TERM AND TERMINATION OF THE CONTRACT

IN ADDITION TO THE GENERAL PROVISIONS AS SPECIFIED IN SECTION 100 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION, IT IS STIPULATED THAT THE CONTRACT SHALL LAST NO LONGER THAN THE SPECIFIED COMPLETION DATE. UPON WRITTEN NOTICE FROM THE DIRECTOR OF TRANSPORTATION TO THE CONTRACTOR, OF NOT LESS THAN 15 CALENDER DAYS. THE DIRECTOR MAY TERMINATE THE CONTRACT AT ANYTIME.

PERSONNEL

MAINTAIN A MINIMUM FOUR (4) PERSON CREW OF QUALIFIED PERSONNEL AND EQUIPMENT, DURING NORMAL WORKING HOURS, TO PERFORM THE WORK FOR THE DURATION OF THE CONTRACT, UNLESS OTHERWISE REQUIRED BY THE ENGINEER.

PUBLIC SAFETY

BEFORE WORK BEGINS, SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. PLACE OR REPLACE NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN TRAVELED PAVEMENT SAFELY.

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE, GRADE, AND REINSTALL 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 AND READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF COMPLIANCE.

GUARDRAIL POST AND GUARD POST HOLES

ALL HOLES REMAINING AFTER REMOVAL OF GUARDRAIL POSTS OR GUARD POSTS SHALL BE FILLED WITH GRANULAR MATERIAL, EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION OR EXCESS MATERIAL FROM BERM RESHAPING FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. MATERIAL PLACED IN HOLES SHALL BE THOROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE GUARDRAIL ITEM.

MATERIAL ON HAND

AT ALL TIMES, MAINTAIN ON HAND, AND HAVE IN STOCK, GUARDRAIL MATERIAL* SUFFICIENT TO COMPLETE 25% OF THE INCOMPLETE CONTRACT BID ITEMS, UP TO THE TIME THAT 75% OF THE WORK IS COMPLETED. AT THIS TIME, STOCK SUFFICIENT MATERIALS* TO COMPLETE THE PROJECT AS DIRECTED BY THE ENGINEER.

PAYMENT SHALL BE RECEIVED FOR THESE MATERIALS* IN ACCORDANCE WITH CMS SECTION 109.10, PAYMENT FOR DELIVERED MATERIALS. ODOT SHALL PURCHASE ALL SURPLUS GUARDRAIL MATERIAL* PURCHASED BY THE CONTRACTOR AND NOT USED ON THIS PROJECT.

*MATERIALS: GALVANIZED BEAM RAIL, STEEL POST, WOOD POST, SPACER BLOCKS, FLARED END SECTIONS, TERMINAL CONNECTORS, NUTS BOLTS AND WASHERS AS SHOWN IN PLAN INSERT SHEETS GR-1.1, GR-2.1, GR-2.2, GR-2.4, GR-3.1, GR-3.2, GR-3.3, GR-3.4, GR-3.5, GR-3.6, GR-4.2, AND GR-4.5 AS WELL AS THOSE IN ALL MGS STANDARD DRAWINGS

CONNECTION 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 W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12. EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

CURVED RAILING

CURVED RAIL ELEMENTS, WHERE CALLED FOR IN A RUN, SHALL BE INCLUDED IN THE TOTAL LENGTH OF RUN SHOWN IN THE GUARDRAIL OR GUARDRAIL REBUILT ITEMS. CURVED RAIL ELEMENT TOTAL SHALL BE INCLUDED WITH THE GUARDRAIL OR GUARDRAIL REBUILT TOTALS ON THE GENERAL SUMMARY SHEET.

ITEM 202 GUARDRAIL REMOVED

ANY SECTION OF GUARDRAIL OR POST AND ASSOCIATED HARDWARE DEEMED RE-USABLE BY THE ENGINEER MAY BE RE-USED. GUARDRAIL, POSTS, AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF PROPERLY.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 202 GUARDRAIL REMOVED. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 202 FT GUARDRAIL REMOVED

ITEM 202 GUARDRAIL POST REMOVED

THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING GUARDRAIL POSTS. EXISTING GUARDRAIL AND ASSOCIATED HARDWARE SHALL BE DETACHED FROM THE POST PRIOR TO REMOVAL, AND RE-USED IF DEEMED RE-USABLE BY THE ENGINEER.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 202 GUARDRAIL POST REMOVED. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 202 EACH GUARDRAIL POST REMOVED

ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN

WHERE DESIGNATED, EXISTING ANCHOR ASSEMBLIES INCLUDING ALL POSTS AND HARDWARE SHALL BE REMOVED. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF THE ENTIRE CONCRETE ANCHOR AND CONCRETE ENCASEMENT. ALL HOLES LEFT AFTER REMOVAL OF ASSEMBLIES AND POSTS SHALL BE FILLED WITH GRANULAR MATERIAL AS DIRECTED BY THE ENGINEER. PAYMENT SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE WORK AS INDICATED ABOVE. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 202 EACHANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN

ITEM 606 GUARDRAIL EXCAVATED MATERIAL

ALL MATERIAL EXCAVATED FOR POST HOLES OR CONCRETE ANCHORS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH 503.07 OF THE SPECIFICATIONS, AND AREA RESTORED TO A NEAT CONDITION SATISFACTORY TO THE ENGINEER. THE COST OF THIS WORK IS TO BE INCLUDED IN THE APPROPRIATE GUARDRAIL BID ITEM. THE LOCATIONS OF GUARDRAIL RUNS ARE SUBJECT TO ADJUSTMENTS TO ASSURE THAT THE PLANNED INSTALLATION WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ITEM 606 GUARDRAIL POST

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS TO INSTALL A GUARDRAIL POST IN ACCORDANCE WITH ALL SPECIFICATIONS, PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 606 EACH GUARDRAIL POST

TEM 606 GUARDRAIL, TYRE 5 VARIOUS

UNIT BID PRICE.

ITEM UNIT DESCRIPTION 606 FT GUARDRAIL, TYPE 5 606 FT GUARDRAIL, BARRIER DESIGN TYPE 5

ITEM 606 GUARDRAIL, MISC.: TYPE 5 REBUILT USING STEEL OR WOOD POST

THIS ITEM SHALL FOLLOW THE REQUIREMENTS OF CMS ITEM 606 AND SHALL INCLUDE ALL WORK NECESSARY TO REMOVE AND REPLACE DAMAGED GUARDRAIL, POSTS, AND/OR ASSOCIATED HARDWARE WITHIN THE LENGTH DESIGNATED FOR REPAIR AND ALL WORK NECESSARY TO RESET AND ALIGN POST AND GUARDRAIL DEEMED "FIT" FOR RE-USE BY THE ENGINEER. ADJUSTMENTS OF ADJACENT RAIL OUTSIDE THE LIMITS DESIGNATED FOR REPLACEMENT, IF NECESSARY, IN ORDER TO RE-ESTABLISH SPACING, WILL BE CONSIDERED INCIDENTAL TO THIS ITEM. SECTIONS TO BE REPLACED WILL BE DESIGNATED BY THE ENGINEER FROM CENTER OF POST TO CENTER OF POST.

MATERIALS SHALL BE NEW OR USEABLE SALVAGE UNDER THE REMOVAL ITEMS OF THIS CONTRACT. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM	UNIT	DESCRIPTION	
606	FT	GUARDRAIL, MISC.	:
606	FT	GUARDRAIL, MISC.	:

1

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL, AND EQUIPMENT NECESSARY TO CONSTRUCT THE FOLLOWING GUARDRAIL TYPES IN ACCORDANCE WITH THE PLAN INSERT SHEETS OR AS DIRECTED BY THE ENGINEER. PAYON SHALL BE AT THE

TYPE 5 REBUILT USING STEEL POST JARDRAIL, MISC.: TYPE 5 REBUILT USING WOOD POST

GENERAL NOTE ESIGN AGENC JED REVIEWE JDO 114292 2 35

ITEM 606 GUARDRAIL REBUILT, TYPE 5 VARIOUS

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL TO REMOVE, REPLACE, AND ALIGN DAMAGED COMPONENTS OF THE FOLLOWING GUARDRAIL TYPES IN ACCORDANCE WITH THE SPECIFICATIONS, PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER, SECTIONS TO BE REPLACED WILL BE DESIGNATED BY THE ENGINEER FROM CENTER OF POST. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION

606 FT GUARDRAIL REBUILT, BARRIER DESIGN TYPE 5

ITEM 606 GUARDRAIL, MISC.: URGENT REPAIR

IN THE EVENT THAT A GUARDRAIL REPAIR WORK ORDER BE DESIGNATED "URGENT REPAIR" BY THE PROJECT ENGINEER, COMPLETE THE WORK ORDER WITHIN 72 HOURS AFTER RECIEPT OF THE WORK ORDER. 72 HOURS AFTER NOTIFICATION SHALL BE DEEMED AN INTERIM COMPLETION DATE, SUBJECT TO DISINENTIVES. DISINCENTIVES SHALL BE APPLIED PER THE NOTE ON SHEET 6

FOR ANY PORTION OF A CALENDAR DAY THAT HAS EXCEEDED SUCH TIMEFRAME THE INTENT OF THIS ITEM OF WORK IS TO COMPENSATE THE CONTRACTOR FOR HIS COST TO QUICKLY RESPOND TO THE URGENT REPAIR REQUEST. PAYMENT FOR THIS ITEM OF WORK SHALL BE FOR EACH URGENT REPAIR REQUEST SUCESSFULLY COMPLETED WITHIN THE 72 HOURS ALLOTTED. ALL MATERIAL, LABOR, EQUIPMENT, ETC. REQUIRED FOR THE REPAIR WILL BE PAID AT THE UNIT BID PRICE OF EACH.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM QUANTITY UNIT DESCRIPTION

EACH GUARDRAIL, MISC .: URGENT REPAIR 606 45

ITEM 606, ANCHOR ASSEMBLY, TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF AND THE GRADING AROUND. THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 29 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

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

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

D07/D08-GR-FY202

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION

TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER. ON-SITE GRADING IS REOUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE. THE FACE OF THE TYPE B

IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING,

ITEM 606 ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.191.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 29 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606. ANCHOR ASSEMBLY, TYPE E. EACH, 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 SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE VARIOUS (1 AND 2) AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL TO REMOVE, REPLACE, AND ALIGN DAMAGED COMPONENTS OF THE ASSEMBLIES IN ACCORDANCE WITH THEIR RESPECTIVE SPECIFICATIONS. PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 606 EACHBRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN 606 EACHBRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 2, AS PER PLAN

ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE 1

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL AND EQUIPMENT NECESSARY TO CONSTRUCT BRIDGE TERMINAL ASSEMBLIES IN ACCORDANCE WITH THEIR RESPECTIVE SPECIFICATIONS, PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 606 EACHBRIDGE TERMINAL ASSEMBLY, TYPE 1

ITEM 606 ANCHOR ASSEMBLY, TYPE T

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL AND EQUIPMENT NECESSARY TO CONSTRUCT THE FOLLOWING ANCHOR ASSEMBLES IN ACCORDANCE WITH THE PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION 606 EACHANCHOR ASSEMBLY, TYPE T

ITEM 606 ANCHOR ASSEMBLY REBUILT, TYPE VARIOUS, AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIAL TO REMOVE. REPLACE AND ALIGN DAMAGED COMPONENTS OF THE FOLLOWING ASSEMBLIES IN ACCORDANCE WITH THE SPECIFICATIONS, PLAN INSERT SHEETS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

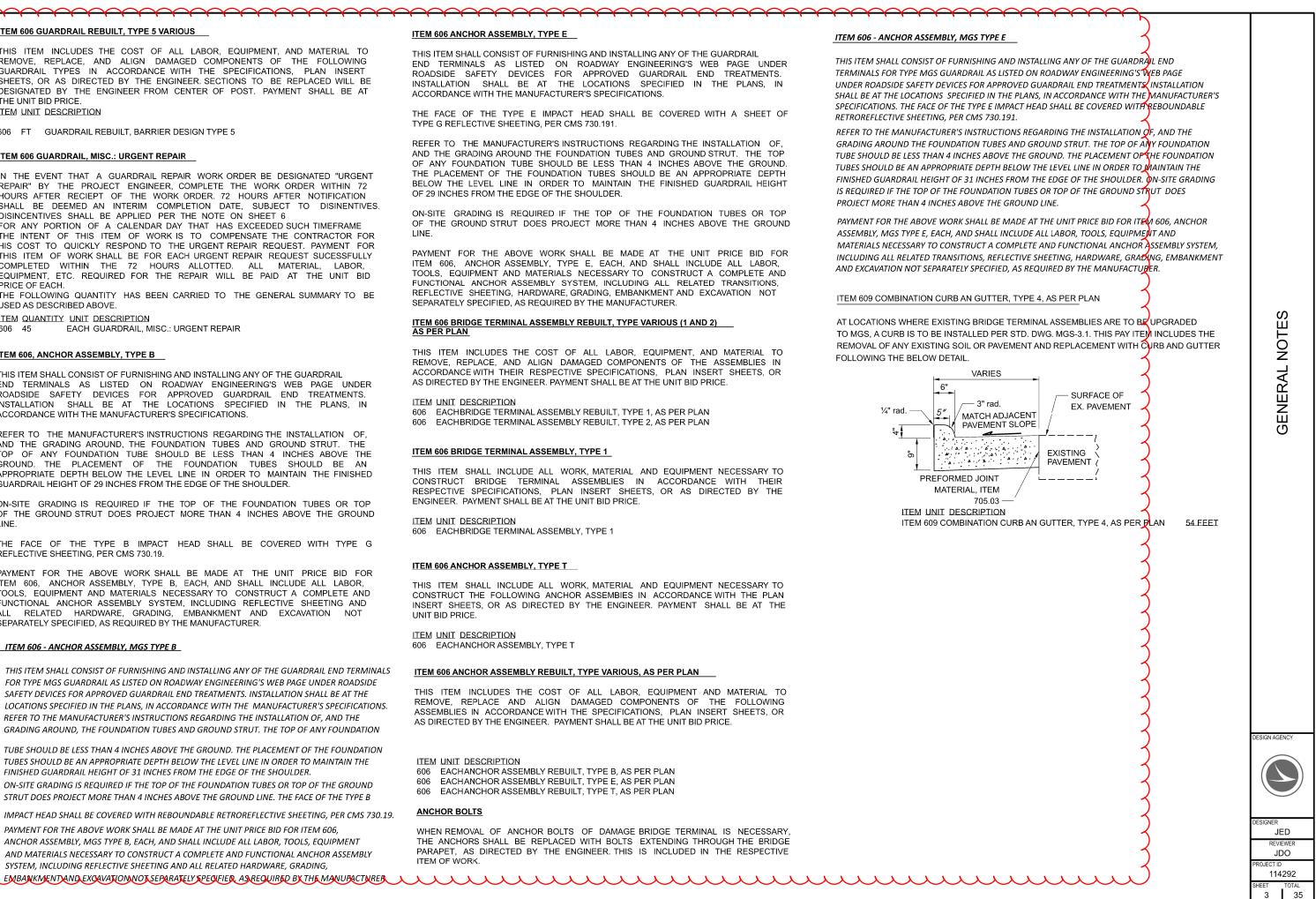
ITEM UNIT DESCRIPTION

- 606 EACHANCHOR ASSEMBLY REBUILT, TYPE B, AS PER PLAN
- 606 EACHANCHOR ASSEMBLY REBUILT, TYPE E, AS PER PLAN
- 606 EACHANCHOR ASSEMBLY REBUILT, TYPE T, AS PER PLAN

ANCHOR BOLTS

WHEN REMOVAL OF ANCHOR BOLTS OF DAMAGE BRIDGE TERMINAL IS NECESSARY. THE ANCHORS SHALL BE REPLACED WITH BOLTS EXTENDING THROUGH THE BRIDGE PARAPET, AS DIRECTED BY THE ENGINEER. THIS IS INCLUDED IN THE RESPECTIVE ITEM OF WORK.

FOLLOWING THE BELOW DETAIL.



ITEM 606 GUARDRAIL REBUILT, TYPE MGS VARIOUS

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL TO REMOVE, REPLACE, AND ALIGN DAMAGED COMPONENTS OF THE FOLLOWING GUARDRAIL TYPES IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. SECTIONS TO BE REPLACED WILL BE DESIGNATED BY THE ENGINEER FROM CENTER OF POST. PAYMENT SHALL BE AT THE UNIT BID PRICE.

VIEW UNIT WESSCRIPTION 606 FT GUARDRAIL REBUILT, TYPE MGS

- 606 FT GUARDRAIL REBUILT, TYPE MGS WITH LONG POSTS FΤ
- GUARDRAIL REBUILT, BARRIER DESIGN, TYPE MGS 606

ITEM 606 ANCHOR ASSEMBLY REBUILT, MGS TYPE VARIOUS, AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIAL TO REMOVE. REPLACE AND ALIGN DAMAGED COMPONENTS OF THE FOLLOWING ASSEMBLIES IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARD DRAWINGS, DR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION

- 606 EACHANCHOR ASSEMBLY REBUILT, MGS TYPE B, AS PER PLAN
- 606 EACHANCHOR ASSEMBLY REBUILT, MGS TYPE E, AS PER PLAN
- 606 EACHANCHOR ASSEMBLY REBUILT, MGS TYPE T, AS PER PLAN

UNDERGROUND UTILITIES STATE OWNED (ODOT)

THE OHIO DEPARTMENT OF TRANSPORTATION HAS UTILITY FACILITIES (HIGHWAY LIGHTING, TRAFFIC SIGNALS, ITS) WITHIN THE LIMITS OF THIS PROJECT.

EVEN THOUGH ODOT IS LISTED AS A MEMBER OF OHIO811, THE CONTRACTOR IS REQUIRED TO CONTACT ODOT DISTRICT 8 TRAFFIC DEPARTMENT DIRECTLY SO THAT THE ODOT UTILITIES, LOCATED WITHIN THIS PROJECT, ARE MARKED. ODOT ITS WILL BE CONTACTED THROUGH THE OHIO811 PROCESS.

THE CONTRACTOR SHALL NOTIFY DISTRICT 8 TRAFFIC AT 513-933-6689. AND THE PROJECT ENGINEER, FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK, FOR THE NEED TO MARK ODOT OWNED UTILITIES.

THE ABOVE REQUIREMENTS ARE IN ADDITION TO SECTION 105.07 & 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE COST FOR THE ABOVE DESCRIBED WORK IS INCIDENTAL TO THE OVERALL BID PRICE OF THE PROJECT.

ITEM 202 REMOVAL MISC.: IMPACT ATTENUATOR REMOVED WITH SITE PREPARATION

THIS ITEM SHALL INCLUDE THE REMOVAL OF AN EXISTING IMPACT ATTENUATOR AS WELL AS PREPARATION OF THE EXISTING SITE (FOOTPRINT OF THE EXISTING ATTENUATOR) FOR A NEW ATTENUATOR INSTALLATION. ALL EXISTING ATTENUATOR COMPONENTS, INCLUDING ANY DETACHED DAMAGED COMPONENTS, SHALL BE REMOVED AND DISPOSED OF TO THE SATISFACTION OF THE ENGINEER. IN ADDITION TO THE REMOVAL WORK, THE EXISTING SITE, INCLUDING THE EXISTING PAVEMENT AND ANY OTHER EXISTING SURFACE WHICH A NEW ATTENUATOR WOULD CONNECT TO, SHALL BE PREPARED FOR INSTALLATION OF A NEW ATTENUATOR (NEW ATTENUATOR COVERED UNDER SEPARATE PAY ITEM) TO THE SATISFACTION OF THE ENGINEER. SITE PREPARATION SHALL INCLUDE, BUT IS NOT LIMITED TO, PAVEMENT REPLACEMENT, PAVEMENT REPAIR, CONCRETE REMOVAL AND REPLACEMENT, CONCRETE PATCHING, AND DEBRIS REMOVAL. THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK AND BE PAID FOR AS BELOW.

ITEM UNIT DESCRIPTION

202 EACHREMOVAL MISC.: IMPACT ATTENUATOR REMOVED WITH SITE PREPARATION

GUARDRAIL INSTALLATION AT HAM-50-32.52

THE EXISTING GUARDRAIL RUN STARTING AT HAM-50-32.52, RIGHT SIDE (ACROSS FROM THE EXISTING BILLBOARDS), IS TO BE MODIFIED AS NOTED:

REMOVE THE EXISTING TYPE E END ANCHOR. REPLACE WITH 50' OF MGS LONG POST GUARDRAIL AND EXTEND THE GUARDRAIL RUN TO THE SOUTH WITH 487.5' OF MGS LONG POST GUARDRAIL. THEN INSTALL AN ANCHOR ASSEMBLY, MGS TYPE E. THE EXISTING GUARDRAIL RUN FOOTPRINT WILL INCREASE BY ROUGHLY 537.5'.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 202 TYPE E ANCHOR REMOVED	1 EACH
ITEM 606 GUARDRAIL, TYPE MGS WITH LONG POSTS	537.5 FT
ITEM 606 ANCHOR ASSEMBLY, MGS TYPE E	1 EACH
ITEM 626 BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	6 EACH

ITEM 606 - IMPACT ATTENUATOR, MISC.: VARIOUS DESCRIPTIONS

ALL "606 IMPACT ATTENUATOR. MISC.:" ITEMS SHALL BE USED TO REPAIR DAMAGED ATTENUATORS AS DIRECTED BY THE ENGINEER. ALL ITEMS SHALL BE BID TO INCLUDE LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY FOR REMOVAL OF DAMAGED COMPONENTS AND INSTALLATION OF INDIVIDUAL COMPONENTS NEEDED TO PROVIDE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR.

WHEN DAMAGED COMPONENTS ARE REQUIRED TO BE REPLACED, REFER TO THE APPROPRIATE ATTENUATOR (TYPE 1, 2, AND 3) NOTE FOUND IN THESE PLANS. SAID NOTES CONTAIN INFORMATION REGARDING ODOT APPROVED MANUFACTURER SHOP DRAWINGS WHICH ARE TO BE REFERENCED DURING WORK ACTIVITIES.

ANY DAMAGED EXISTING CHEVRON SIGNS LOCATED ON THE IMPACT ATTENUATOR SHALL BE REPLACED. ALL LABOR, EQUIPMENT, AND MATERIAL ASSOCIATED WITH THE COST OF INSTALLING NEW CHEVRON SIGNS SHALL BE INCIDENTAL TO THE COST OF THE PLAN DESIGNATED REPLACEMENT ITEMS.

IN CERTAIN CASES IMPACT ATTENUATORS CAN BE IMPACTED BUT NOT SUSTAIN DAMAGE OTHER THAN THE NEED FOR THE ATTENUATOR TO BE RESET TO ITS ORIGINAL, PRE-IMPACTED POSITION. THE "IMPACT ATTENUATOR, MISC.: RESET ITEM SHALL INVOLVE RESETTING AN ATTENUATOR AFTER IT HAS ATTENUATOR" BEEN HIT AND NO DAMAGED COMPONENTS ARE FOUND PER THE DIRECTION OF THE ENGINEER. THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO RESET AN IMPACTED ATTENUATOR. REFER TO THE APPROPRIATE ODOT APPROVED SHOP DRAWINGS FOR MORE DETAILS. PAYMENT ITEMS INCLUDED AS FOLLOWS:

\frown	TEM	UNIT DESCRIPTI		\sim	$\sim \sim$	$\gamma \gamma \gamma \gamma$	\sim
-	606	EACH IMPACT AT	TENUATOR, MISC.:	CARTRID	GE, TYPE 1 (Q	UADGUARD)	
	606	EACH IMPACT AT	TENUATOR, MISC.	: CARTRID	GE, TYPE 2 (Q	UADGUARD)	
~	606	EACH IMPACT AT	TENUATOR, MISC.	BELT NO	SE ASSEMBLY	(QUADGUARD)	1
	606	EACH IMPACT	ATTENUATOR,	MISC.:	DIAPHRAM	ASSEMBLY	(24"-36")
~	(QUA	DGUARD)					
~	606	EACH IMPACT	ATTENUATOR,	MISC.:	DIAPHRAM	ASSEMBLY	(69"-90")
	(QUA	DGUARD)					

- 606 EACH IMPACT ATTENUATOR, MISC.: FENDER PANEL ASSEMBLY (QUADGUARD)
- 606 EACH IMPACT ATTENUATOR, MISC.: CYLINDER QE1 (QUADGUARD ELITE)
- 606 EACH IMPACT ATTENUATOR, MISC.: CYLINDER QE2 (QUADGUARD ELITE)
- 606 EACH IMPACT ATTENUATOR, MISC.: PLASTIC NOSE PIECE (TRACC 2005)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE 1 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 [(UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 IMPACT ATTENUATOR, TYPE 2 (70 MPH, 36") (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19

FOR BIDDING PURPOSES A 70MPH AT 36" WIDE ATTENUATOR IS SPECIFIED, BUT ACTUAL FIELD CONDITIONS COULD RESULT IN A DIFFERENT ATTENTUATOR TYPE (LOWER SPEED, WIDER OR NARROWER WIDTH. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 (70 MPH), HAZARD WIDTH (36 INCHES), (UNIDIRECTIONAL OR BIDIRECTIONAL)I. EACH. AND SHALL INCLUDE ALL LABOR. TOOLS. EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS. TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

ITEM 606 - IMPACT ATTENUATOR, TYPE 3

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED. THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 3, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS. EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

BIDIRECTIONAL), AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL TO REMOVE, REPLACE, AND ALIGN DAMAGED COMPONENTS OF THE ATTENUATOR IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION PLAN

606 EACH IMPACT ATTENUATOR REBUILT, TYPE 1 (BIDIRECTIONAL), AS PER PLAN

POST), AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIAL TO REMOVE, REPLACE AND ALIGN DAMAGED COMPONENTS OF THE RAILING IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARD DRAWINGS. SHOP DRAWINGS AND FABRICATING APPROVAL NOT REQUIRED FOR REPLACING MATERIAL. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM UNIT DESCRIPTION

517 FT RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACK-UP AND TYPE 1 STEEL POST), WITH STEEL TUBULAR BACK-UP AS PER PLAN 517 FT RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACK-UP AND TYPE 2 STEEL POST), AS PER PLAN

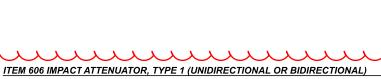
ITEM 626 BARRIER REFLECTOR, TYPE 2

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL, AND EQUIPMENT NECESSARY TO INSTALL BARRIER REFLECTOR, TYPE 2 IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. INSTALLATION OF REPLACEMENT BARRIER REFLECTOR, TYPE 2 SHALL MATCH THE EXISTING REFLECTOR SPACING UNLESS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

ITEM 626	QUANTITY 100	UNIT EACH	
626	25	EACH	BARF
ΤΟΤΑΙ	L = 125 CAF	RRIED T	O THE

OMIT POST OPTION WITH MGS GUARDRAIL

AT THE DIRECTION OF THE ENGINEER, A POST MAY BE OMITTED FROM A STANDARD RUN OF MGS TO AVOID AN UNDERGROUND UTILITY OR OTHER UNDERGROUND CONFLICT. FIFTY (50) FEET OF GUARDRAIL (WHICH MAY INCLUDE THE ANCHOR) SHOULD BE AVAILABLE BOTH UPSTREAM AND DOWNSTREAM OF THE OMITTED POST TO MAINTAIN TENSION IN THE SYSTEM POSTS SHOULD NOT BE OMITTED WHERE CURB IS PRESENT



ITEM 606 IMPACT ATTENUATOR REBUILT, TYPE 1 (UNIDIRECTIONAL OR

GOG EACH/IMRACT AFTEWDATOR REBUNCT, TYPE (TUMIDURESTIONALL AS REA

TEM 517 RAILING (DEEP BEAM RAIL WITH STEEL JUBULAR BACK-UP AND STEEL

CRIPTION

RIER REFLECTOR, TYPE 2, BIDIRECTIONAL (WHITE)

RIER REFLECTOR, TYPE 2, BIDIRECTIONAL (YELLOW)

GENERAL SUMMARY

GENERAL NOTE



DESIGNER
JED
REVIEWER
JDO
PROJECT ID
114292
SHEET TOTAL
4 35

MONTGOMERY COUNTY WORK/PAY ITEMS

THE ONLY QUANTITIES TO BE USED IN MONTGOMERY COUNTY ARE PROVIDED IN THE GENERAL SUMMARY UNDER THE PARTICIPATION COLUMN TITLED "02/SAF/21".

ITEM 606 MGS PAY ITEMS

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS TO INSTALL MGS PAY ITEMS IN ACCORDANCE WITH ALL SPECIFICATIONS, STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE.

- ITEM UNIT DESCRIPTION
- 606 FT GUARDRAIL, TYPE MGS
- 606 FT GUARDRAIL, TYPE MGS WITH LONG POSTS
- 606 FT GUARDRAIL, BARRIER DESIGN, TYPE MGS
- FT GUARDRAIL, TYPE MGS, LONG SPAN 606
- 606 EACHANCHOR ASSEMBLY, MGS TYPE B
- 606 EACHANCHOR ASSEMBLY, MGS TYPE E
- EACHANCHOR ASSEMBLY, MGS TYPE T 606
- 606 EACHMGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

ITEM 606 MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE VARIOUS, AS PER PLAN

THIS ITEM INCLUDES THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL TO REMOVE, REPLACE, AND ALIGN DAMAGED COMPONENTS OF THE ASSEMBLIES IN ACCORDANCE WITH THEIR RESPECTIVE SPECIFICATIONS, STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT BID PRICE

ITEM UNIT DESCRIPTION

606 EACHMGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN 606 EACHMGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 2, AS PER PLAN

PLAN INSERT SHEETS

D07/D08-GR-FY202

ANY REFERENCE TO STANDARD CONSTRUCTION DRAWINGS (SCD) FOUND WITHIN THE PLAN INSERT SHEETS REFER TO OTHER PLAN INSERT SHEETS WITH THE SAME DESIGNATION. AN EXAMPLE IS SCD GR-1.1 MENTIONED ON A PLAN INSERT SHEET REFERS TO PLAN INSERT SHEET GR-1.1.

GUARDRAIL REPLACEMENT DETERMINATION

GUARDRAIL TO BE INSTALLED SHALL, AS NOTED BELOW, BE EITHER TYPE MGS GUARDRAIL PER THE PROVIDED STANDARD DRAWINGS, OR THE PLAN INSERT SHEETS INCLUDED WITH THIS SET OF PLANS. BOTH THE TYPE MGS AND PLAN INSERT SHEET GUARDRAIL IS HIGHER THAN THE EXISTING GUARDRAIL HEIGHTS CURRENTLY FOUND THROUGHOUT THE DISTRICT. THE FOLLOWING DESCRIBES WHAT TYPE TO USE WHEN REPLACING DAMAGED GUARDRAIL, ASSEMBLIES, AND OTHER APPLICABLE ITEMS. NOTE THAT IF TYPE MGS IS NOT DESIGNATED, THEN USE PAY ITEMS PER THE PLAN INSERT SHEETS.

A SHORT RUN OF GUARDRAIL IS DEFINED AS 200 FEET OR LESS.

IF LESS THAN 50 PERCENT OF THE SHORT RUN OF GUARDRAIL IS TO BE REPLACED THEN REPLACE TO MATCH THE EXISTING GUARDRAIL TYPE AND HEIGHT UNLESS SAID HEIGHT IS LESS THAN 26.5 INCHES. IF THE EXISTING GUARDRAIL HEIGHT IS LESS THAN 26.5 INCHES THEN REPLACE WITH THE 29 INCH GUARDRAIL HEIGHT DESIGNATED IN THE PLAN INSERT SHEETS. USE A TRANSITION TAPER RATE OF 2 INCHES OVER 25 FEET TO TIE BACK INTO THE ADJACENT EXISTING GUARDRAIL HEIGHT

IF 50 PERCENT OR MORE OF THE SHORT RUN OF GUARDRAIL IS TO BE REPLACED THEN REPLACE THE ENTIRE GUARDRAIL RUN WITH TYPE MGS.

A LONG RUN OF GUARDRAIL IS DEFINED AS ANY RUN LONGER THAN 200 FEET.

IF LESS THAN 50 PERCENT OF THE LONG RUN OF GUARDRAIL IS TO BE REPLACED THEN REPLACE TO MATCH THE EXISTING GUARDRAIL TYPE AND HEIGHT UNLESS SAID HEIGHT IS LESS THAN 26.5 INCHES. IF THE EXISTING GUARDRAIL HEIGHT IS LESS THAN 26.5 INCHES THEN REPLACE WITH THE 29 INCH GUARDRAIL HEIGHT DESIGNATED IN THE PLAN INSERT SHEETS. USE A TRANSITION TAPER RATE OF 2 INCHES OVER 25 FEET TO TIE BACK INTO THE ADJACENT EXISTING GUARDRAIL HEIGHT.

IF 50 TO 74 PERCENT OF THE LONG RUN OF GUARDRAIL IS TO BE REPLACED THEN REPLACE WITH THE 29 INCH GUARDRAIL HEIGHT DESIGNATED IN THE PLAN INSERT SHEETS. USE A TRANSITION TAPER RATE OF 2 INCHES OVER 25 FEET TO TIE BACK INTO THE ADJACENT EXISTING GUARDRAIL HEIGHT

IF 75 PERCENT OR MORE OF THE LONG RUN OF GUARDRAIL IS TO BE REPLACED THEN REPLACE THE ENTIRE GUARDRAIL RUN WITH TYPE MGS.

GUARDRAIL INSTALLATION AFFECTING UTILITIES

THIS PROJECT REQUIRES THE INSTALLATION OF NEW GUARDRAIL POSTS. SURVEY WORK HAS NOT BEEN PERFORMED ON THIS PROJECT, NOR HAVE THE UTILITY LOCATIONS BEEN CONFIRMED IN THE FIELD. IN ADDITION TO CMS 105.07. IF. DURING THE COURSE OF INSTALLING ANY NEW GUARDRAIL COMPONENT, IT IS DETERMINED THAT A UTILITY CONFLICT MAY RESULT, THE CONTACTOR IS TO NOTIFY THE PROJECT ENGINEER IMMEDIATELY, UTILITES ARE NOT TO BE RELOCATED AS A RESULT OF THIS OPERATION. ADJUSTMENTS TO THE PROPOSED GUARDRAIL WILL ACCOMMODATE THE EXISTING UTILITY. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE GUARDRAIL VIA MEANS THAT WOULD BE COMPLIANT WITH THE IMPACTED UTILITY'S SAFETY GUIDELINES AS WELL AS STILL MEETING ODOT'S DESIGN CRITERIA. ANY MINOR ADJUSTMENTS MADE TO THE PROPOSED GUARDRAIL INSTALLATIONS SHALL BE INCIDENTAL TO PAY ITEM 606

ITEM 606 - SPECIAL-CABLE BARRIER, READJUST CABLE TENSION (REPAIR)

THIS ITEM SHALL INCLUDE ALL WORK, EQUIPMENT, AND MATERIAL NECESSARY TO RE-ADJUST TENSION IN THE CABLE TO THE MANUFACTURER'S SPECIFICATIONS. AS DIRECTED BY THE ENGINEER. ONLY THE DAMAGES CABLE WITHIN A RUN SHALL BE ADJUSTED. THE BID PRICE PER CABLE SHALL BE FOR ONE EACH.

ITEM SPECIAL, 690 MISC.: CONCRETE REPAIR

THIS ITEM SHALL BE AS SPECIFIED IN 622.01 THROUGH 622.07 OF THE CMS AND SHALL INCLUDE THE REMOVAL AND ALL WORK NECESSARY TO REPAIR OR REPLACE SECTION OF CONCRETE BARRIER WALL, BARRIER END SECTIONS, AND CONCRETE SUPERSTRUCTURE PARAPETS. THE PROPOSED TYPE OF CONCRETE BARRIER SHALL MATCH THE EXISTING DESIGN INCLUDING BUT NOT LIMITED TO THE FOLLOWING STANDARD DRAWINGS: RM-4.3, RM-4.4, RM-4.5, RM-4.6, BR-1.

IN THE EVENT THAT A UTILITY WITHIN THE BARRIER HAS BEEN DAMAGED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO ADVISE THE DEPARTMENT OF THE NEEDED UTILITY REPAIR. IN THE EVENT THAT THIS IS AN EMERGENCY REPAIR ITEM, THE CONTRACTOR SHALL BE GIVEN 72 HOURS TO BEGIN WORK. THIS TIME SHALL BEGIN ONCE NOTIFIED OF THE UTILITY REPAIR BEING COMPLETED

THE DEPARTMENT WILL MEASURE CONCRETE BARRIER AND CONCRETE SUPERSTRUCTURE PARAPET BY THE AMOUNT OF CUBIC YARD COMPLETED AND ACCEPTED AND CONCRETE BARRIER END SECTIONS BY EACH. THESE ITEMS SHALL BE BID TO INCLUDE ALL LABOR, TOOLS, EQUIPMENT, HARDWARE, AND INCIDENTALS NECESSARY FOR THE REMOVAL OF DAMAGED BARRIER AND INSTALLATION INSTALLATION AND REPAIR SHALL INCLUDE ALL INCIDENTALS SUCH AS DOWELED REINFORCING STEEL AND AS SPECIFIED IN 622.09. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDE AND CARRIED TO THE GENERAL SUMMARY:

ITEM UNIT DESCRIPTION

690 EACHSPECIAL - MISC .: CONCRETE BARRIER END SECTION

- 690 CY SPECIAL MISC.: CLASS QC1, CONCRETE BARRIER REPAIR
- SPECIAL MISC.: CLASS QC2, SUPERSTRUCTURE BARRIER REPAIR 690 CY

ITEM 606 - SPECIAL - CABLE BARRIER, ANCHOR RECONSTRUCTED

THIS ITEM OF WORK WILL INCLUDE ALL WORK, EQUIPMENT AND MATERIAL NECESSARY TO RECONSTRUCT THE CABLE BARRIERANCHOR ASSEMBLY INCLUDING ALL ANCHOR POSTS ANDCONCRETE FOUNDATIONS TO THE CURRENT MANUFACTURER'SSPEC-IFICATIONS. THE RECONSTRUCTED ASSEMBLY WILL INCLUDE THE RE-TENSIONING OF THE ENTIRE SYSTEMS CABLES TO THEMANUFACTURER'S SPECIFICATIONS AS DIRECTED BY THE ENGINEER. THE PAYMENT FOR THIS ITEM WILL BE INCLUDED IN THE UNIT PRICE BID POB EACH JEM BOG SPECIAL CABLE BARRIER, ANCHORRECONSTRUCTED.

THIS ITEM OF WORK WILL INCLUDE ALL WORK, EQUIPMENT ANDMATERIAL NECESSARY TO REPAIR THE CABLE BARRIER ANCHORASSEMBLY INCLUDING ALL ANCHOR POSTS. THIS ITEM WILL NOTINCLUDE THE REPLACEMENT OF ANY OF THE CONCRETE ANCHOR FOUNDATIONS. THE REPAIR OF THE ASSEMBLY WILL INCLUDE THERE-TENSIONING OF THE ENTIRE SYSTEMS CABLES TO THEMANUFACTURER'S SPECIFICATIONS AS DIRECTED BY THEENGINEER. THE PAYMENT FOR THIS ITEM IS INCLUDED IN THEUNIT PRICE BID FOR EACH ITEM 606 - SPECIAL- CABLE BARRIER, ANCHOR REPAIR.

ITEM 606 - SPECIAL - CABLE BARRIER, TENSIONING

TENSIONING.

ITEM 606 - SPECIAL - CABLE BARRIER, ANCHOR REPAIR

THIS ITEM WILL INCLUDE ALL WORK, EQUIPMENT AND MATERIALNECESSARY TO RE-TENSION CABLE BARRIER OR ANNUAL TENSIONING OF RUNS THROUGHOUT THE DISTRICT (A LIST of ANNUAL TENSIONING LOCATIONS WILL BE GIVEN TO THE CONTRACTOR AT THE PRECON), TO THE MANUFACTURER'S SPECIFICATION AS DIRECTED BY THE ENGINEER. ITEM WILL BE FOR EACH AND INCLUDED IN THE UNIT BID PRICE BID FOR ITEM 606 - SPECIAL - CABLE BARRIER

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GENERAL NOT

DESIGN AGEN	NCY
DESIGNER	
JE	D
REVIE	WER
JD	0
PROJECT ID	
1142	
SHEET	TOTAL
5	35

SHEET NUM.		PART.			IT. ITEM	ITEM	GRAND	UNIT	DESCRIPTION			
	3	4	5	8	01/SAF/21	02/SAF/21	03/SAE/21		EXT	TOTAL	UNIT	DESCRIPTION
												ROADWAY
					2,325	1,000		202	38000	3,325	FT	GUARDRAIL REMOVED
					2,525	1,000		202	38700	25	EACH	GUARDRAIL REMOVED
					1	1		202	42001	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN
		1					1	202	42010	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E
					1	1		202	98100	2	EACH	REMOVAL MISC.:IMPACT ATTENUATOR REMOVED WITH SITE PREPARATION
					100	100		606	13000	200	FT	GUARDRAIL, TYPE 5
					1,700	600		606	15050	2,300	FT	GUARDRAIL, TYPE MGS
		537.5			25	300	537.5	606	15100	862.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS
					25			606	15500	25	FT	GUARDRAIL, BARRIER DESIGN, TYPE 5
					25			606	15550	25	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS
					2,850	700		606	16050	3,550	FT	GUARDRAIL REBUILT, TYPE MGS
					25	50		606	16560	75	FT	GUARDRAIL REBUILT, TYPE MCS WITH LONG POSTS
					200			606	16600	200	FT	GUARDRAIL REBUILT, BARRIER DESIGN, TYPE 5
					25			606	16660	25	FT	GUARDRAIL REBUILT, BARRIER DESIGN, TYPE MGS
					25	1		606 606	17900 26000	25 2	EACH EACH	GUARDRAIL POST ANCHOR ASSEMBLY, TYPE B
						1		000	20000	۷	EAUH	ANUTON ASSEMULT, ITTE U
					1	1		606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B
					5	2		606	26100	7	EACH	ANCHOR ASSEMBLY, TYPE E
		1			32	3	1	606	26150	36	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)
					1	1 2		606 606	26500 26550	2	EACH EACH	ANCHOR ASSEMBLY, TYPE T ANCHOR ASSEMBLY, MGS TYPE T
					4	2		000	20000	0	LACH	ANGION ASSEMBLI, MOSTILI
					8	1		606	27841	9	EACH	ANCHOR ASSEMBLY REBUILT, TYPE B, AS PER PLAN
					1	1		606	27847	2	EACH	ANCHOR ASSEMBLY REBUILT, MGS TYPE B, AS PER PLAN
					120	1		606	27851 27861	121	EACH	ANCHOR ASSEMBLY REBUILT, TYPE E, AS PER PLAN
					75 12	6		606 606	27001	81 13	EACH EACH	ANCHOR ASSEMBLY REBUILT, MGS TYPE E, AS PER PLAN ANCHOR ASSEMBLY REBUILT, TYPE T, AS PER PLAN
					14			000	2.001		2.1011	
					4	1		606	27911	5	EACH	ANCHOR ASSEMBLY REBUILT, MGS TYPE T, AS PER PLAN
					2	1		606	35000	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE I
					/	/		606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1
					3	3		606	35011	6	ЕАСН	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN
					1	1		606	35013	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN
					3	1		606	35111	4	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 2, AS PER PLAN
					1	1		606 SPECIAL	35113 60654950	2	EACH EACH	MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 2, AS PER PLAN CABLE BARRIER, ANCHOR REPAIR
					4			SPECIAL	00054950	4	EACH	LADLE DARRIER, ANCHUR REPAIR
					6			SPECIAL	60654950	6	EACH	CABLE BARRIER, READJUST CABLE TENSION (REPAIR)
					6			SPECIAL	60655200	6	EACH	CABLE BARRIER, TENSIONING
					2	,		SPECIAL	60655210	2	EACH	CABLE BARRIER, ANCHOR RECONSTRUCTED
					1 8	4		606 606	60002 60012	2 12	EACH EACH	IMPACT ATTENUATOR, TYPE I (UNIDIRECTIONAL) IMPACT ATTENUATOR, TYPE I (BIDIRECTIONAL)
						7		000	00012	12		parties an renormony on a readenable (100me)
					1			606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)70 MPH, 36"
					1	1		606	60028	2	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)70 MPH, 36"
					1			606 606	60050 60060	1	EACH	IMPACT ATTENUATOR, TYPE 3 (BIDIRECTIONAL), 60 mph, 90" IMPACT ATTENUATOR REBUILT, TYPE 1 (UNIDIRECTIONAL), AS PER PLAN
					2			606	60060	2	EACH EACH	IMPACT ATTENUATOR REBUILT, TYPE I (UNIDIRECTIONAL), AS PER PLAN IMPACT ATTENUATOR REBUILT, TYPE I (BIDIRECTIONAL), AS PER PLAN
					-		1					
					20	34		606	61000	54	EACH	IMPACT ATTENUATOR, MISC.:CARTRIDGE, TYPE 1 (QUADGUARD)
					15	34		606	61000	49	EACH	IMPACT ATTENUATOR, MISC.:CARTRIDGE, TYPE 2 (QUARDGUARD)
					4 5	4		606 606	61000 61000	8 10	EACH EACH	IMPACT ATTENUATOR, MISC.:BELT NOSE ASSEMBLY (QUARDGUARD) IMPACT ATTENUATOR, MISC.:DIAPHRAM ASSEMBLY (24″-36″) (QUADGUARD)
					2	3		606	61000	5	EACH	IMPACT ATTENUATOR, MISC.:DIAPHRAM ASSEMBLY (69"-90") (QUADGUARD)
					_							
					15	10		606	61000	25	EACH	IMPACT ATTENUATOR, MISC.:FENDER PANEL ASSEMBLY (QUADGUARD)
					2	4		606	61000	6	EACH	IMPACT ATTENUATOR, MISC.:CYLINDER QEI (QUADGUARD ELITE)
					2	4		606 606	61000 61000	6 5	EACH EACH	IMPACT ATTENUATOR, MISC.:CYLINDER OE2 (OUADGUARD ELITE) IMPACT ATTENUATOR, MISC.:PLASTIC NOSE PIECE (TRACC 2005)
					750	50		606	98000	5 800	EALH FT	GUARDRAIL, MISC.: GUARDRAIL, MISC. : TYPE 5 REBUILT USING STEEL POST
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					7,000	400		606	98000	7,400	FT	GUARDRAIL, MISC.:TYPE 5 REBUILT USING WOOD POST
7	45				35	10		606	98100	45	EACH	GUARDRAIL, MISC.:URGENT REPAIR
						2		SPECIAL	69098000	2		MISC.: CONCRETE BARRIER END SECTION
						20 10		SPECIAL SPECIAL	69098700 69098700	20 10		MISC.: CLASS OCI, CONCRETE BARRIER REPAIR MISC.: CLASS OC2, SUPERSTRUCTURE BARRIER REPAIR
						10		JILUIAL	03030700	10	U I	MISC. CLASS QCZ, SOLLASTACTIONE DANALEN NEL ANA
(PAVEMENT
(36	18		609	23001	54		COMBINATION CURB AND GUTTER, TYPE 4, AS PER PLAN
<u>۲</u>					25	15		609	24510	40	FT	CURB, TYPE 4-C
<u>۲</u>												LIGHTING
7						1		625	14400	1	EACH	LIGHT POLE FOUNDATION REPAIR
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												IRAFFIC CONTROL
>		131			100	25	6	626	00110	131	EACH	BARRIER REFLECTOR, TYPE 2, BIDIRECTIONAL
(MISCELLANEOUS STRUCTU
(25	25		517	72205	50	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE I STEEL POSTS), AS PER PLAN
7					25	25		517	72307	50		RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN
۲												
\succ												MAINTENANCE OF TRAFF
				75	50	25		614	11110	75	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
>					150	5		614	13600	155	EACH	MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A TWO LANE HIGHWAY
· · · · ·					10	5		614	13700	15		MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A FOUR LANE UNDIVIDED HIGHWAY
					40 15	10		614 614	13800 13800	50 15		MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A 4 LANE OR GREATER DIVIDED HIGHWAY MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A 4 LANE OR GREATER DIVIDED HIGHWAY(CITY C
					10			011	15000	10	LACIT	MAINTENANCE OF THATTIC, ONE EARL DECISIONE ON A TEARLE ON GREATEN DIVIDED HIGHWATCHTT C
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٢					80			614	13900	80	EACH	MAINTENANCE OF TRAFFIC FOR SHOULDER CLOSURE(CITY OF CINCINNATI)
<u>۲</u>												INCIDENTALS
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