

ITEM 606 - GUARDRAIL, MISC.: END PANEL, REMOVED AND REPLACED

THIS ITEM OF WORK WILL BE USED WHERE ONLY MINOR DAMAGE HAS OCCURRED TO THE END PANEL (FLARED END, ROUNDED END, BUFFER END, ETC.) AND NO REPLACEMENT OF POSTS IS REQUIRED. THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE END PANEL AND ANY REQUIRED HARDWARE. PAYMENT FOR THIS ITEM WILL BE FOR EACH INSTALLATION COMPLETE AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - GUARDRAIL, MISC.: END PANEL, REMOVED AND REPLACED.

**ITEM 606 - GUARDRAIL REBUILT, TYPE 5, AS PER PLAN
ITEM 606 - GUARDRAIL REBUILT, TYPE MGS WITH LONG POSTS, AS PER PLAN**

THIS ITEM WILL INCLUDE ALL WORK NECESSARY TO REMOVE AND REBUILD DAMAGED SECTIONS OF TYPE 5 GUARDRAIL OR TYPE MGS GUARDRAIL AS DIRECTED BY THE ENGINEER. THIS ITEM WILL INCLUDE REPLACING DAMAGED GUARDRAIL PANELS, POSTS AND ASSOCIATED HARDWARE WITHIN THE LENGTH OF THE REPAIR AND ALL OTHER WORK NEEDED TO RESET AND ALIGN POSTS AND GUARDRAIL DEEMED REUSABLE BY THE ENGINEER. NEW POSTS WILL BE EITHER STEEL OR WOOD PER STANDARD DRAWINGS AND WILL MATCH THE EXISTING POST TYPE FOR EACH PARTICULAR GUARDRAIL RUN. THE TYPE OF POST WILL BE SPECIFIED BY THE ENGINEER ON THE WORK ORDER. IT IS ESTIMATED THAT OF THE TOTAL PLAN QUANTITY, 85% WILL BE USING WOOD POST CONSTRUCTION WITH THE BALANCE USING STEEL POST CONSTRUCTION. ADJUSTMENTS TO ADJACENT RAIL SECTIONS TO RE ESTABLISH PROPER POST SPACING, IF REQUIRED BY THE ENGINEER, WILL BE CONSIDERED INCIDENTAL TO THIS ITEM AND WILL BE INCLUDED IN THE UNIT PRICE BID PER FOOT. THE ENGINEER WILL DESIGNATE REMOVAL AND REPLACEMENT LIMITS. MATERIALS WILL BE NEW OR USABLE SALVAGED MATERIALS FROM THE REMOVAL ITEMS OF THIS CONTRACT. THE COST OF NEW STEEL AND WOOD POSTS WILL BE INCORPORATED INTO THE UNIT BID FOR THIS ITEM AND WILL NOT BE PAID FOR SEPARATELY UNLESS THE ENGINEER REQUIRES 9 FT. LONG POSTS, ONLY ON TYPE 5 GUARDRAIL. IN THIS CASE, THE COST FOR PROVIDING THE ADDITIONAL LENGTH OVER AND ABOVE THE COST OF THE NORMAL LENGTH POST IS PAID AS A SEPARATE PAY ITEM.

**ITEM 606 - GUARDRAIL REBUILT, BARRIER DESIGN, TYPE 5, AS PER PLAN
ITEM 606 - GUARDRAIL REBUILT, BARRIER DESIGN, TYPE MGS, AS PER PLAN**

THIS ITEM OF WORK WILL INCLUDE ALL LABOR, TOOLS, MATERIALS (36 IN. ANCHOR NOT INCLUDED), AND EQUIPMENT TO RECONSTRUCT TYPE 5 GUARDRAIL (BARRIER DESIGN) OR TYPE MGS GUARDRAIL (BARRIER DESIGN) IN ACCORDANCE WITH STANDARD DRAWINGS AND AS DIRECTED BY THE ENGINEER. THIS ITEM OF WORK WILL INCLUDE REMOVING AND REPLACING ANY AND ALL MATERIALS WHICH ARE DEEMED NOT REUSABLE BY THE ENGINEER, INCLUDING THE REPLACEMENT OF GUARDRAIL PANELS. PAYMENT FOR THIS ITEM WILL BE MADE FOR THE NUMBER OF FEET FOR COMPLETE INSTALLATIONS OF REBUILT GUARDRAIL RUNS AND INCLUDED IN THE BID PRICE

ITEM 606 - GUARDRAIL POST, 9 FT

AN ESTIMATED NUMBER OF 9 FT GUARDRAIL POSTS HAVE BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER TO MAINTAIN PROPER ELEVATION AND ALIGNMENT OF GUARDRAIL RUNS. THE UNIT PRICE BID FOR EACH 9 FT POST WILL BE FOR THE DIFFERENCE IN THE UNIT COST FOR SUPPLYING THE 9 FT POST IN LIEU OF STANDARD LENGTH POSTS INCLUDED IN ITEM 606 GUARDRAIL BID ITEMS. STANDARD LENGTH POSTS REQUIRED TO COMPLETE THE VARIOUS GUARDRAIL RUNS WILL BE INCLUDED IN THE 606 GUARDRAIL BID ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE A

NEW INSTALLATIONS OF TYPE A ANCHOR ASSEMBLIES WILL NOT BE INSTALLED ON INTERSTATES OR INTERSTATE LOOK-A-LIKES.

EXISTING TYPE A ANCHOR ASSEMBLIES ON INTERSTATES OR INTERSTATE LOOK-A-LIKES IN NEED OF REPAIR WILL NOT BE REBUILT AND WILL BE REPLACED WITH AN APPROPRIATE ANCHOR ASSEMBLY FOR USE ON INTERSTATES.

ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE A, AS PER PLAN

THIS ITEM OF WORK IS TO BE USED TO RECONSTRUCT AN EXISTING TYPE A ANCHOR ASSEMBLY AS DIRECTED BY THE ENGINEER. THE UNIT BID PRICE WILL INCLUDE ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT TO REMOVE AND REBUILD ALL DAMAGED COMPONENTS NOT INCLUDING THE 36 INCH CONCRETE ANCHOR. THIS ITEM WILL ALSO INCLUDE ANY REALIGNMENT OF ADJACENT RAIL SECTIONS TO CONNECT TO THE REBUILT ANCHOR ASSEMBLY. ALL WORK WILL BE PER STANDARD DRAWINGS AT THE LOCATION AND OFFSET DIRECTED BY THE ENGINEER. PAYMENT FOR THIS ITEM WILL BE FOR EACH INSTALLATION COMPLETE AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE A, AS PER PLAN.

**ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE T, AS PER PLAN
ITEM 606 - ANCHOR ASSEMBLY REBUILT, MGS TYPE T, AS PER PLAN**

THIS ITEM OF WORK IS TO BE USED TO RECONSTRUCT AN EXISTING INSTALLATION OF A TYPE T ANCHOR ASSEMBLY OR MGS TYPE T ANCHOR ASSEMBLY AS DIRECTED BY THE ENGINEER. THE UNIT BID PRICE WILL INCLUDE ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT TO REMOVE AND REBUILD ALL DAMAGED COMPONENTS INCLUDING CONCRETE POST ENCASEMENT. THIS ITEM WILL ALSO INCLUDE ANY REALIGNMENT OF ADJACENT RAIL SECTIONS TO CONNECT TO THE REBUILT ANCHOR ASSEMBLY. ALL WORK WILL BE PER STANDARD DRAWINGS AT THE LOCATION AND OFFSET AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS ITEM WILL BE FOR EACH INSTALLATION COMPLETE AND INCLUDED IN THE UNIT PRICE BID.

ITEM 511 - CONCRETE MISC.: CONCRETE REPAIR

SAWCUT AND REMOVE DAMAGED AREAS OF EXISTING PARAPETS, D-WALLS, ETC. TO A MINIMUM DEPTH OF 6" AND A MAXIMUM DEPTH AS DIRECTED BY THE ENGINEER. CARE WILL BE TAKEN WHEN REMOVING CONCRETE TO SALVAGE THE EXISTING REBAR. CLASS QC2 CONCRETE WILL BE USED TO PERFORM THE REPAIRS. REBAR WHICH CANNOT BE SALVAGED WILL BE REPLACED WITH EPOXY COATED REBAR. THE REMOVAL OF CONCRETE, PREPARATION OF THE SURFACES, FORMS, REBAR, AND CLASS QC2 CONCRETE WILL BE INCIDENTAL AND INCLUDED WITH THIS ITEM.

ITEM 606 - GUARDRAIL MISC.: THRIE-BEAM PANEL REMOVED AND REPLACED

THIS ITEM OF WORK WILL BE USED WHERE ONLY MINOR DAMAGE HAS OCCURRED TO THE THRIE-BEAM PANEL OR TRANSITION SECTION AND NO REPLACEMENT OF POSTS IS REQUIRED. THIS ITEM WILL ALSO INCLUDE REMOVAL AND REPLACEMENT OF WOOD OR METAL SPACER BLOCKS AND HARDWARE, PER STANDARD DRAWINGS. PAYMENT FOR THIS ITEM WILL BE FOR EACH PANEL REPLACED AND INCLUDED IN THE UNIT BID PRICE FOR ITEM 606 - GUARDRAIL MISC.: THRIE-BEAM PANEL REMOVED AND REPLACED.

ITEM 626 - BARRIER REFLECTOR

THIS ITEM IS TO BE USED TO REPLACE BROKEN OR DAMAGED REFLECTORS IN EXISTING RUNS OF GUARDRAIL OR TO INSTALL NEW REFLECTORS ON NEW RUNS OF GUARDRAIL. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY ITEM - 626 BARRIER REFLECTOR 200 EACH

ITEM SPECIAL - RESHAPING BERM

THE CONTRACTOR WILL RESHAPE THE BERMS TO ENSURE A SMOOTH SURFACE FREE OF IRREGULARITIES AT LOCATIONS WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE NEW GUARDRAIL IS TO BE ERECTED. THE REMOVAL AND DISPOSAL OF THE EXCESS EXCAVATED MATERIAL RESULTING FROM THIS OPERATION WILL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AS DESCRIBED IN SECTION 203 AND WILL BE INCLUDED IN THE UNIT BID PRICE PER LIN FT RESHAPING BERM.

RESHAPING UNDER GUARDRAIL

THE FOLLOWING HAS BEEN INCLUDED IN THE PLAN TO PROVIDE THE NECESSARY SLOPES AT ANCHOR ASSEMBLY LOCATIONS.

- ITEM 209-BORROW: TO BE USED IF EXTRA MATERIAL IS NEEDED
- ITEM 209-LINEAR GRADING, AS PER PLAN: DISTURBED AREAS WILL BE SEEDED AND MULCHED IN ACCORDANCE WITH SECTION 659 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND WILL BE CONSIDERED INCIDENTAL TO THIS ITEM

PAYMENT FOR THESE ITEMS WILL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL TO PERFORM THE WORK.

ITEM 606 - GUARDRAIL, MISC. URGENT REPAIR

SHOULD A GUARDRAIL DAMAGE REPAIR WORK ORDER BE DESIGNATED "URGENT REPAIR" BY THE PROJECT ENGINEER. THE CONTRACTOR WILL HAVE 72 HOURS TO COMMENCE REPAIRS AFTER RECEIPT OF THE WORK ORDER. 72 HOURS AFTER NOTIFICATION WILL BE DEEMED AN INTERIM COMPLETION DATE SUBJECT TO LIQUIDATED DAMAGES. LIQUIDATED DAMAGES WILL BE APPLIED AS PER CMS. 108.07 FOR ANY PORTION OF A CALENDAR DAY THAT HAS EXCEEDED SUCH LIMITATION. THE INTENT OF THIS ITEM OF WORK IS TO COMPENSATE THE CONTRACTOR FOR COSTS TO QUICKLY RESPOND AND COMPLETE THE "URGENT REPAIR" WORK ORDER. PAYMENT FOR THIS ITEM OF WORK WILL BE FOR EACH "URGENT REPAIR" WORK ORDER SUCCESSFULLY COMPLETED WITHIN THE 72 HOURS ALLOTTED. ALL MATERIAL, LABOR, EQUIPMENT, MOBILIZATION, ETC. REQUIRED FOR THE REPAIR WILL BE PAID AT THE UNIT PRICES SET WITHIN THE PLAN.

ITEM 606 - GUARDRAIL MISC.: POST REPLACEMENT

THIS ITEM WILL INCLUDE ALL WORK NECESSARY TO REMOVE AND REPLACE DAMAGED GUARDRAIL POSTS INCLUDING ASSOCIATED HARDWARE AS DIRECTED BY THE ENGINEER. NEW POSTS WILL BE EITHER STEEL OR WOOD PER STANDARD DRAWINGS AND WILL MATCH THE EXISTING POST TYPE FOR EACH PARTICULAR GUARDRAIL RUN. THE TYPE OF POST WILL BE SPECIFIED BY THE ENGINEER ON THE WORK ORDER. IT IS ESTIMATED THAT OF THE TOTAL PLAN QUANTITY, 85% WILL BE USING WOOD POST CONSTRUCTION WITH THE BALANCE USING STEEL POST CONSTRUCTION. THE ENGINEER WILL DESIGNATE REMOVAL AND REPLACEMENT LIMITS. MATERIALS WILL BE NEW OR USABLE SALVAGED MATERIALS FROM THE REMOVAL ITEMS OF THIS CONTRACT. ALL MGS POST SHALL BE 7.5 FT. THE COST OF NEW NEW STEEL AND WOOD POSTS WILL BE INCORPORATED INTO THE UNIT BID FOR THIS ITEM AND WILL NOT BE PAID FOR SEPARATELY UNLESS THE ENGINEER REQUIRES 9 FT. LONG POSTS. IN THIS CASE, THE COST FOR PROVIDING THE ADDITIONAL LENGTH OVER AND ABOVE THE COST OF THE NORMAL LENGTH POST IS PAID AS A SEPARATE PAY ITEM.

**ITEM 606 - REPLACE EXISTING GUARDRAIL BLOCKOUT
ITEM 606 - REPLACE EXISTING GUARDRAIL BLOCKOUT, TYPE MGS**

THIS ITEM IS TO BE USED TO REPLACE BROKEN OR DAMAGED BLOCKOUTS IN EXISTING RUNS OF TYPE 5 GUARDRAIL OR TYPE MGS GUARDRAIL.

ITEM 606 - SPECIAL - CABLE BARRIER, REPLACEMENT CABLE

THIS ITEM OF WORK INCLUDES ALL WORK, EQUIPMENT AND MATERIAL NECESSARY TO REPLACE AN INDIVIDUAL CABLE IN A RUN OF TENSIONED CABLE BARRIER AS DIRECTED BY THE ENGINEER. IT DOES NOT INCLUDE SPLICES OR RE-TENSIONING OF THE SYSTEMS CABLES. THE PAYMENT FOR THIS ITEM SHALL BE MEASURED BY THE NUMBER OF FEET OF THE COMPLETED REPAIR AS MEASURED BETWEEN THE TWO SPLICE POINTS OR BETWEEN THE SPLICE AND THE ANCHOR POINT OF THE SYSTEM.

ITEM 606 - SPECIAL - CABLE BARRIER, ANCHOR RECONSTRUCTED

THIS ITEM OF WORK WILL INCLUDE ALL WORK, EQUIPMENT, AND MATERIAL NECESSARY TO RECONSTRUCT THE CABLE RAIL ANCHOR ASSEMBLY INCLUDING 3-4 ANCHOR POSTS AND THE RESPECTIVE CONCRETE FOUNDATIONS FOR EACH POST TO THE CURRENT MANUFACTURER'S SPECIFICATIONS. ALL EXISTING FOUNDATIONS WILL BE REMOVED TO 1 FT BELOW THE GROUND LINE. THE RECONSTRUCTED ASSEMBLY WILL INCLUDE THE RE-TENSIONING OF THE ENTIRE SYSTEM'S CABLES TO THE MANUFACTURER'S SPECIFICATIONS AS DIRECTED BY THE ENGINEER. THE PAYMENT FOR THIS ITEM WILL BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM 606 - SPECIAL - CABLE RAIL, ANCHOR RECONSTRUCTED.

ITEM 606 - GUARDRAIL MISC.: CABLE RAIL ANCHOR REPAIR

THIS ITEM OF WORK WILL INCLUDE ALL WORK, EQUIPMENT, AND MATERIAL NECESSARY TO REPAIR THE CABLE RAIL ANCHOR ASSEMBLY INCLUDING ALL ANCHOR POSTS. THIS ITEM WILL NOT INCLUDE THE REPLACEMENT OF ANY OF THE CONCRETE ANCHOR POST FOUNDATIONS. THE REPAIR OF THE ASSEMBLY WILL INCLUDE THE RE-TENSIONING OF THE ENTIRE SYSTEM'S CABLES TO THE MANUFACTURER'S SPECIFICATIONS AS DIRECTED BY THE ENGINEER. THE PAYMENT FOR THIS ITEM IS INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM 606 - GUARDRAIL MISC.: CABLE RAIL ANCHOR REPAIR.



ITEM 606 - GUARDRAIL, MISC.: CABLE RAIL POST

THIS ITEM WILL INCLUDE ALL WORK, EQUIPMENT, AND MATERIAL NECESSARY TO REPLACE CABLE RAIL POSTS AND WILL INCLUDE POSTS, POST STRAPS, CABLE SPACERS, REFLECTOR TAPE AND CAPS (REFLECTIVE AND NON-REFLECTIVE). ALL MISSING CAPS WILL BE REPLACED. THE PAYMENT FOR THIS ITEM WILL BE FOR EACH POST AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - GUARDRAIL, MISC.: CABLE RAIL POST.

ITEM 606 - SPECIAL - CABLE RAIL, SPLICE

THIS ITEM WILL INCLUDE ALL WORK, EQUIPMENT, AND MATERIAL NECESSARY TO SPLICE A CABLE RAIL TO THE MANUFACTURER'S SPECIFICATION AS DIRECTED BY THE ENGINEER. ALL CABLES WILL BE TENSIONED FOR EACH CABLE RAIL. THE PAYMENT FOR THIS ITEM WILL BE FOR EACH AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - SPECIAL - CABLE RAIL, SPLICE.

ITEM 606 - SPECIAL - CABLE RAIL, TENSIONING

THIS ITEM WILL INCLUDE ALL WORK, EQUIPMENT, AND MATERIALS NECESSARY TO TENSION ALL CABLES OF A CABLE RAIL SYSTEM TO THE MANUFACTURER'S SPECIFICATION AS DIRECTED BY THE ENGINEER. THIS ITEM ALSO INCLUDES ALL WORK, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE ANNUAL TENSIONING WORK ON CABLE RAIL RUNS THROUGHOUT THE DISTRICT. A LIST OF ANNUAL TENSIONING LOCATIONS WILL BE GIVEN TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. THIS ITEM WILL BE FOR EACH AND IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - SPECIAL - CABLE RAIL, TENSIONING.

ITEM 606 - SPECIAL - CABLE BARRIER, CONCRETE LINE POST FOUNDATION

THIS ITEM WILL INCLUDE ALL WORK, EQUIPMENT AND MATERIAL NECESSARY TO REPLACE CABLE RAIL POST FOUNDATIONS AND WILL INCLUDE ALL ASSOCIATED ITEMS NOT LISTED SEPERATLEY. THE PAYMENT FOR THIS ITEM WILL BE FOR EACH POST FOUNDATION AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 - SPECIAL - CABLE BARRIER, CONCRETE LINE POST FOUNDATION.

ITEM 202 - REMOVAL MISC.: CABLE BARRIER ANCHOR REMOVED

THIS ITEM OF WORK WILL INCLUDE ALL LABOR, EQUIPMENT, TOOLS, AND MATERIAL NECESSARY TO REMOVE THE CABLE RAIL ANCHOR ASSEMBLY, INCLUDING ALL FOUR ANCHOR POSTS AND THE RESPECTIVE CONCRETE FOUNDATIONS FOR EACH POST TO THE CURRENT MANUFACTURER'S SPECIFICATIONS. FOUNDATIONS SHALL BE REMOVED 1 FT BELOW THE GROUND LINE. PAYMENT FOR THIS ITEM WILL BE INCLUDED IN THE UNIT PRICE BID FOR EACH
 ITEM 202 - REMOVAL MISC.: CABLE BARRIER ANCHOR REMOVED.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM WILL CONSIST OF FURNISHING AND INSTALLING ANY OF THE APPROVED GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL. INSTALLATION WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD WILL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

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 GROUND LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 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 PROJECTS MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK WILL 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 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE APPROVED GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL. INSTALLATION SHALL BE 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 GROUND LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 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 PROJECTS 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, 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, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, ...

THE ITEMS LISTED BELOW WILL BE USED TO REBUILD A DAMAGED ANCHOR ASSEMBLY TYPE B OR ANCHOR ASSEMBLY, MGS TYPE B. THE BID PRICE FOR EACH ITEM LISTED BELOW WILL INCLUDE ALL EQUIPMENT, LABOR, MATERIALS, AND ANY ASSOCIATED ITEMS REQUIRED AND NOT LISTED SEPARATELY.

- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, 12.5 FT RAIL ELEMENT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, WOOD POST, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, STEEL POST, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, STEEL POST (TOP), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, STEEL POST (BOTTOM), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, CABLE ASSEMBLY (INCLUDE BRACKET, SLEEVE, ETC.), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, OFFSET STRUT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE B, BUFFERED END SECTION, EACH

BE REMINDED AS DESCRIBED ABOVE THE ITEMS LISTED WILL INCLUDE ALL ASSOCIATED ITEMS NOT LISTED SEPARATELY (I.E. BOLTS, NUTS, WASHERS, POST BLOCKS, SCREWS, FOUNDATION TUBES, ETC.) THE INTENT IS TO PAY FOR ANY OF THE DAMAGED ITEMS LISTED ABOVE AND THE ANCHOR ASSEMBLY WILL BE REBUILT SO AS TO CREATE A FULLY FUNCTIONAL ANCHOR ASSEMBLY. THE RE-INSTALLATION OR RE-ATTACHMENT OF EXISTING COMPONENTS DEEMED REUSABLE BY THE ENGINEER, AND WHICH ARE NECESSARY TO CREATE A FULLY FUNCTIONAL ANCHOR ASSEMBLY, AND THE REMOVAL AND DISPOSAL OF DAMAGED MATERIALS, WILL BE CONSIDERED INCIDENTAL TO THE WORK AND NOT PAID FOR SEPARATELY.

ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, ...

THE ITEMS LISTED BELOW WILL BE USED TO REBUILD A DAMAGED ANCHOR ASSEMBLY TYPE E OR ANCHOR ASSEMBLY, MGS TYPE E. THE BID PRICE FOR EACH ITEM LISTED BELOW WILL INCLUDE ALL EQUIPMENT, LABOR, MATERIALS, AND ANY ASSOCIATED ITEMS REQUIRED AND NOT LISTED SEPARATELY.

- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, 25 FT RAIL ELEMENT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, 12.5 FT RAIL ELEMENT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, WOOD POST, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, STEEL POST, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, STEEL POST (TOP), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, STEEL POST (BOTTOM), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, CABLE ASSEMBLY (INCLUDE BRACKET, SLEEVE, ETC.), EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, OFFSET STRUT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, EXTRUDER, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, SALVAGED EXTRUDER, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, ANCHOR PADDLE, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, IMPACT HEAD, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, ANCHOR POST, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, ANGLE STRUT, EACH
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, ANCHOR RAIL
- ITEM 606 - GUARDRAIL MISC.: ANCHOR ASSEMBLY, TYPE E, SYTP POST, EACH

BE REMINDED AS DESCRIBED ABOVE THE ITEMS LISTED WILL INCLUDE ALL ASSOCIATED ITEMS NOT LISTED SEPARATELY (I.E. BOLTS, NUTS, WASHERS, POST BLOCKS, SCREWS, FOUNDATION TUBES, ETC.) THE INTENT IS TO PAY FOR ANY OF THE DAMAGED ITEMS LISTED ABOVE AND THE ANCHOR ASSEMBLY WILL BE REBUILT SO AS TO CREATE A FULLY FUNCTIONAL ANCHOR ASSEMBLY. THE RE-INSTALLATION OR RE-ATTACHMENT OF EXISTING COMPONENTS DEEMED REUSABLE BY THE ENGINEER, AND WHICH ARE NECESSARY TO CREATE A FULLY FUNCTIONAL ANCHOR ASSEMBLY, AND THE REMOVAL AND DISPOSAL OF DAMAGED MATERIALS, WILL BE CONSIDERED INCIDENTAL TO THE WORK AND NOT PAID FOR SEPARATELY.



SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
										01/NFP/21		EXT	TOTAL				
																ROADWAY	
										5,300	202	38001	5,300	FT	GUARDRAIL REMOVED, AS PER PLAN	2	
										2	202	42001	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	2	
										1	202	43001	1	EACH	ANCHOR ASSEMBLY POST REMOVED, AS PER PLAN	2	
										2	202	98100	2	EACH	REMOVAL MISC.: 36 INCH CONCRETE ANCHOR REMOVED	2	
										2	202	98100	2	EACH	REMOVAL MISC.: CABLE BARRIER ANCHOR REMOVED	4	
										2	209	60201	2	STA	LINEAR GRADING, AS PER PLAN	3	
										10	209	70000	10	CY	BORROW		
										25	606	13020	25	FT	GUARDRAIL, TYPE 5 WITH DOUBLE RAILS		
										3,000	606	15100	3,000	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS		
										15,000	606	16501	15,000	FT	GUARDRAIL REBUILT, TYPE 5, AS PER PLAN	3	
										5,518	606	16561	5,518	FT	GUARDRAIL REBUILT, TYPE MGS WITH LONG POSTS, AS PER PLAN	3	
										225	606	16601	225	FT	GUARDRAIL REBUILT, BARRIER DESIGN, TYPE 5, AS PER PLAN	3	
										100	606	16661	100	FT	GUARDRAIL REBUILT, BARRIER DESIGN, TYPE MGS, AS PER PLAN	3	
										26	606	17700	26	EACH	REPLACE EXISTING GUARDRAIL BLOCKOUT		
										5	606	17750	5	EACH	REPLACE EXISTING GUARDRAIL BLOCKOUT, TYPE MGS		
										5	606	18500	5	EACH	GUARDRAIL POST, 9 FEET		
										10	606	26050	10	EACH	ANCHOR ASSEMBLY, MGS TYPE B		
										25	606	26150	25	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)		
										13	606	26550	13	EACH	ANCHOR ASSEMBLY, MGS TYPE T		
										1	606	27801	1	EACH	ANCHOR ASSEMBLY REBUILT, TYPE A, AS PER PLAN	3	
										30	606	27901	30	EACH	ANCHOR ASSEMBLY REBUILT, TYPE T, AS PER PLAN	3	
										10	606	27911	10	EACH	ANCHOR ASSEMBLY REBUILT, MGS TYPE T, AS PER PLAN	3	
										5	606	35002	5	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		
										11	606	35012	11	EACH	MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1		
										4	606	35102	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2		
										2	606	35112	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 2		
										1	606	35120	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 3		
										1	606	35130	1	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 3		
										1	606	35140	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4		
										1	606	35150	1	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 4		
										100	SPECIAL	60650000	100	FT	RESHAPING BERM	3	
										200	SPECIAL	60655020	200	FT	CABLE BARRIER, REPLACEMENT CABLE	3	
										20	SPECIAL	60655100	20	EACH	CABLE BARRIER, CONCRETE LINE POST FOUNDATION	4	
										6	SPECIAL	60655180	6	EACH	CABLE BARRIER, SPLICE	4	
										24	SPECIAL	60655200	24	EACH	CABLE BARRIER, TENSIONING (3 CABLES)	4	
										127	SPECIAL	60655200	127	EACH	CABLE BARRIER, TENSIONING (4 CABLES)	4	
										2	SPECIAL	60655210	2	EACH	CABLE BARRIER, ANCHOR RECONSTRUCTED	3	
										2	606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)		
										1	606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)		
										1	606	60040	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL		
										1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.: IMPACT ATTENUATOR REMOVED	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: REBUILT BAY	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 1, 12.5 FT SLOTTED RAIL	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 1, 25 FT SLOTTED RAIL	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 1, NOSE PLATE, 10 GAUGE ROLLED	5	
										8	606	61000	8	EACH	IMPACT ATTENUATOR, MISC.: TYPE 1, REBUILT	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 2, NOSE BELT ASSEMBLY	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 2, NOSE PLATE ASSEMBLY	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 2, REBUILT	5	
										5	606	61000	5	EACH	IMPACT ATTENUATOR, MISC.: TYPE 2, REBUILT BAY	5	
										1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.: TYPE 3, ATTENUATOR RESET	5	
										1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.: TYPE 3, CARTRIDGE INSERT	5	
										1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.: TYPE 3, NOSE PLATE ASSEMBLY	5	
										1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.: TYPE 3, REBUILT	5	
										1	606	70000	1	EACH	THRIE BEAM BULLNOSE		
										50	606	71000	50	FT	THRIE BEAM GUARDRAIL		
										2	606	98100	2	EACH	GUARDRAIL, MISC.: 25 FT PANEL, REMOVED AND REPLACED	2	
										60	606	98100	60	EACH	GUARDRAIL, MISC.: ANCHOR ASSEMBLY, TYPE B, 12.5 FT RAIL ELEMENT	4	

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
CMS
 REVIEWER
MJP
 PROJECT ID
10-20-22
114772
 SHEET TOTAL
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