

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, OHIO811, THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS (MICHELLE CHANEY AT 330-786-2267) AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

CURVED RAIL ELEMENTS

THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE CORRECT RADIUS REQUIRED FOR EACH INSTALLATION. THE LENGTH OF CURVED RAIL ELEMENTS WILL BE INCLUDED IN THE TOTAL LENGTH OF THE RUN AND INCLUDED IN THE GUARDRAIL OR GUARDRAIL REBUILT ITEM FOR PAYMENT.

PROTECTION OF INCOMPLETE WORK

ANY HAZARD DURING NON-WORKING HOURS WILL BE ADEQUATELY PROTECTED WITH DRUMS OR BARRICADES, OR AS DIRECTED BY THE ENGINEER. FOR ANY SUCH WORK REQUIRED, IT WILL BE CONSIDERED AS INCIDENTAL AND INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE REPAIR ITEMS.

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.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)

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.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 (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 - ANCHOR ASSEMBLY, MGS TYPE B (MASH 2016)

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 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, 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 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

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.

THE FACE OF THE TYPE E IMPACT HEAD SHALL 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 LEVEL 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 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, MGS 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.

MGS BTA TYPE 1 PLAN INSERT SHEETS/ARCHIVED STANDARD DRAWINGS

MULTIPLE LOCATIONS REQUIRE TYPE 1 MGS BRIDGE TERMINAL ASSEMBLIES TO CORRECTLY TIE INTO EXISTING STRUCTURE RAILING. ARCHIVED STANDARD DRAWINGS OF TYPE 1 MGS BTA ARE PROVIDED AS PLAN INSERT SHEETS ON ROADWAY ENGINEER'S PLAN INSERT SHEETS WEB PAGE:

<http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/roadway/Pages>

MGS BTA TYPE 2 PLAN INSERT SHEETS/ARCHIVED STANDARD DRAWINGS

MULTIPLE LOCATIONS REQUIRE TYPE 2 MGS BRIDGE TERMINAL ASSEMBLIES TO CORRECTLY TIE INTO EXISTING STRUCTURE RAILING. ARCHIVED STANDARD DRAWINGS OF TYPE 2 MGS BTA ARE PROVIDED AS PLAN INSERT SHEETS ON ROADWAY ENGINEER'S PLAN INSERT SHEETS WEB PAGE:

<http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/roadway/Pages>

BTA TYPE 3 PLAN INSERT SHEETS/ARCHIVED STANDARD DRAWINGS

MULTIPLE LOCATIONS REQUIRE TYPE 3 BRIDGE TERMINAL ASSEMBLIES TO CORRECTLY TIE INTO EXISTING STRUCTURE RAILING. ARCHIVED STANDARD DRAWINGS OF TYPE 3 BTA ARE PROVIDED AS PLAN INSERT SHEETS ON ROADWAY ENGINEER'S PLAN INSERT SHEETS WEB PAGE:

<http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/roadway/Pages>

BTA TYPE TST PLAN INSERT SHEETS/ARCHIVED STANDARD DRAWINGS

MULTIPLE LOCATIONS REQUIRE TYPE TST BRIDGE TERMINAL ASSEMBLIES TO CORRECTLY TIE INTO EXISTING STRUCTURE RAILING. ARCHIVED STANDARD DRAWINGS OF TYPE TST BTA ARE PROVIDED AS PLAN INSERT SHEETS ON ROADWAY ENGINEER'S PLAN INSERT SHEETS WEB PAGE:

<http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/roadway/Pages>

ADDITIVE ALTERNATES

ADDITIVE ALTERNATES FOR THIS PROJECT ARE PROVIDED AS DESCRIBED BELOW. WHEN EVALUATING BIDS, THE WORK TO BE PERFORMED WILL BE CONSIDERED IN THIS ORDER:

- 1) BASE BID (BID ITEMS 1 - 18), COMPLETION DATE 7/1/24
- 2) ADDITIVE ALTERNATE #1 (TRU-303; PRIORITY 1), COMPLETION DATE 7/1/24

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 1

NOTE THAT THIS BTA WILL NEED TO BE ATTACHED AS PER THE "CONNECTION DETAILS TO CONNECT THRIE BEAM TO PREEXISTING WALLS/ PARAPETS" PANEL ON SHEET 2/2 OF MGS-3.1 WHICH REQUIRES A 14' PANEL.

ITEM SPECIAL - AS-BUILT CONSTRUCTION RECORD DRAWINGS

PRIOR TO FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL FURNISH THE DEPARTMENT FORMAL AS-BUILT CONSTRUCTION RECORD-DRAWING PLANS. THE FORMAL AS-BUILT CONSTRUCTION RECORD-DRAWING SHALL INCLUDE ALL RED-LINED CHANGES. RED-LINE CHANGE SHALL BE DENOTED UTILIZING CLOUDING IN MICROSTATION (OR OTHER CAD SOFTWARE) OR CLOUDING IN PDF EDITING SOFTWARE. THE AS-BUILT CONSTRUCTION RECORD-DRAWING SHALL HAVE A SIGNED VERIFICATION ON THE TITLE SHEET FROM THE CONTRACTOR INDICATING THAT ALL RED-LINED AND FIELD CHANGES HAVE BEEN INCORPORATED INTO AS-BUILT CONSTRUCTION RECORD-DRAWINGS.

THE CONTRACTOR'S VERIFICATION STATEMENT INDICATES ALL KNOWN FIELD MODIFICATIONS MADE HAVE BEEN INCLUDED IN THE FORMAL RECORD-DRAWING. THE CONTRACTOR'S VERIFICATION STATEMENT SHALL BE SIGNED BY THE CONTRACTOR'S PROJECT MANAGER (OR ACCEPTABLE REPRESENTATIVE).

IN ADDITION TO THE INFORMATION SHOWN ON THE CONSTRUCTION PLANS, THE AS-BUILT CONSTRUCTION RECORD-DRAWINGS SHALL SHOW THE FOLLOWING:

- 1. ALL DEVIATIONS FROM THE ORIGINAL APPROVED CONSTRUCTION PLANS WHICH RESULT IN A CHANGE OF LOCATION, MATERIAL, TYPE OR SIZE OF WORK.
- 2. ANY UTILITIES, PIPES, WELLHEADS, ABANDONED PAVEMENTS, FOUNDATIONS OR OTHER MAJOR OBSTRUCTIONS DISCOVERED AND REMAINING IN PLACE WHICH ARE NOT SHOWN, OR DO NOT CONFORM TO LOCATIONS OR DEPTHS SHOWN IN THE PLANS. UNDERGROUND FEATURES SHALL BE SHOWN AND LABELED ON THE RECORD-DRAWING PLAN IN TERMS OF STATION, OFFSET AND ELEVATION.
- 3. THE FINAL OPTION AND SPECIFICATION NUMBER SELECTED FOR THOSE ITEMS WHICH ALLOW SEVERAL MATERIAL OPTIONS UNDER THE SPECIFICATION (E.G., CONDUIT).
- 4. CHANGES TO THE PAY ITEMS AND FINAL QUANTITIES AS PAID SHALL BE SHOWN ON THE GENERAL SUMMARY AND SUBSUMMARIES.
- 5. ADDITIONAL PLAN SHEETS MAY BE NEEDED IF NECESSARY TO SHOW WORK NOT INCLUDED IN THE CONSTRUCTION PLANS. IF ADDITIONAL PLAN SHEETS ARE NEEDED, THEY ARE REQUIRED TO BE PREPARED IN CONFORMANCE WITH THE LOCATION AND DESIGN MANUAL, VOLUME 3, SECTION 1200 - PLAN PREPARATION.

NOTATION SHALL ALSO BE MADE OF LOCATIONS AND THE EXTENT OF USE OF MATERIALS, OTHER THAN SOIL, FOR EMBANKMENT CONSTRUCTION (ROCK, BROKEN CONCRETE WITHOUT REINFORCING STEEL, ETC.).

THE PLAN INDEX SHALL SHOW THE PLAN SHEETS WHICH HAVE CHANGES APPEARING ON THEM.

TWO COPIES OF THE AS-BUILT CONSTRUCTION RECORD-DRAWINGS SHALL BE DELIVERED TO THE PROJECT ENGINEER FOR APPROVAL UPON COMPLETION OF THE PHYSICAL WORK BUT PRIOR TO THE REQUEST FOR FINAL PAYMENT. AFTER THE DEPARTMENT HAS APPROVED THE AS-BUILT CONSTRUCTION RECORD-DRAWINGS, THE ASSOCIATED ELECTRONIC FILES SHALL BE DELIVERED TO THE DISTRICT CAPITAL PROGRAMS ADMINISTRATOR. ACCEPTANCE OF THESE PLANS AND DELIVERY OF THE ASSOCIATED ELECTRONIC FILES IS REQUIRED PRIOR TO THE WORK BEING ACCEPTED AND THE FINAL ESTIMATE APPROVED.

PAYMENT FOR ALL THE ABOVE SHALL BE LUMP SUM UPON PROPER EXECUTION OF ALL WORK OF THIS ITEM AS DETERMINED BY THE PROJECT ENGINEER.

DESIGN AGENCY



DESIGNER	ROF
REVIEWER	MJP
PROJECT ID	107764
SHEET	P.2
TOTAL	5

SHEET NUM.			PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
3	5		01/NFP/21		EXT	TOTAL			
								ROADWAY	
	11,461		11,461	202	38000	11,461	FT	GUARDRAIL REMOVED	
	10,499		10,499	606	15100	10,499	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
	16		16	606	26150	16	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
	13		13	606	26550	13	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
	1		1	606	32160	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
	5		5	606	35002	5	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
	2		2	606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
	11,461		11,461	209	15000	11,461	STA	RESHAPING UNDER GUARDRAIL	
	1		1	606	60012	1	EACH	IMPACT ATTENUATOR, TYPE 1 (BI-DIRECTIONAL)	
LUMP			LS	SPECIAL	69091000	LS		AS-BUILT CONSTRUCTION PLANS	
								EROSION CONTROL	
			1,000	832	30000	1,000	EACH	EROSION CONTROL	
								TRAFFIC CONTROL	
	48		48	626	00110	48	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)	
	65		65	626	00110	65	EACH	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	
								MAINTENANCE OF TRAFFIC	
180			180	614	11110	180	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
								INCIDENTALS	
			LS	614	11000	LS		MAINTAINING TRAFFIC	
			LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
			LS	624	10000	LS		MOBILIZATION	
								ADDITIVE ALTERNATE 1: TRU-303	
	970		970	202	38000	970	FT	GUARDRAIL REMOVED	
	895		895	606	15100	895	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
	2		2	606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B (MASH 2016)	
	1		1	606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
	1		1	606	35120	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 3	
	970		970	209	15000	970	STA	RESHAPING UNDER GUARDRAIL	
			LS	614	11000	LS		MAINTAINING TRAFFIC (TRU-303)	
	10		10	614	11110	10	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
			LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING (TRU-303)	
			LS	624	10000	LS		MOBILIZATION (TRU-303)	
	10		10	614	13312	10	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER: ROF
 REVIEWER: MJA
 PROJECT ID: 107764
 SHEET: P.4 TOTAL: 5

