Supplemental Rev 04-22-2016

TN TDOT
Department of
Transportation

Contract No. 8756

NH-11(81) / 19028-2245-14

SUPPLEMENT TO UTILITY RELOCATION CONTRACT

THIS SUPPLEMENT #1 to Contract No. 8756 made and entered into by and between the State of Tennessee acting through its Department of Transportation, hereinafter called "TDOT", and Metro Nashville Water & Sewer Department (Water), hereinafter called the "Utility".

WITNESSETH:

WHEREAS, TDOT and the Utility entered into Contract No. 8756, dated the 11th day of April, 2018, in which the parties agreed to certain matters concerning the relocation of utilities on PIN Number 105766.02, SR- 11 from North of Mill Creek to near SR-254, located in Davidson County, Tennessee.; and

WHEREAS, it is desired by the parties that the hereinafter mentioned changes be made in said original contract;

NOW, THEREFORE, for a valuable consideration it is agreed by and between the parties as follows:

To change the paragraphs,

WHEREAS, TDOT plans to construct PIN Number 105766.02, SR- 11 from North of Mill Creek to near SR-254, located in Davidson County, Tennessee (hereinafter called the "Project"), and for said Project to be constructed it will be necessary for the Utility to relocate certain of its facilities, 85 percent of which are located on public highway right-of-way and 15 percent of which are located on private utility right-of-way; and

WHEREAS, TDOT is liable for the relocation of utility facilities located on private utility right-of-way and is authorized, in accordance with TCA §54-5-804, to reimburse the Utility for the relocation of utility facilities located on public highway right-of-way but is not liable for any utility betterment costs; and

WHEREAS, in accordance with TDOT policy, the reimbursement of actual allowable costs for relocating utility facilities on public highway right-of-way for municipally owned utilities, Utility Districts, or Utility Cooperatives, as defined in TDOT's Policy #340-07, shall be capped at a maximum reimbursement of \$1,750,000, and for all other utilities the reimbursement shall be limited to 75% of actual allowable costs up to a maximum reimbursement cap of \$1,750,000.

WHEREAS, the Utility has furnished TDOT with an estimate, plans, and specifications showing the cost and manner of relocating these facilities, which estimate is in the amount of \$3,959,370.00, including the amount of \$0.00 for the cost of engineering, which may be inclusive of preliminary engineering authorized on March 11, 2016; including the amount of \$0.00 for the cost of inspection provided by the Utility; including the amount of \$1,663,116.00 for the cost of betterment to the Utility's facilities (hereinafter called the "Betterment Cost"), and including the amount of \$1,864,931.90 for deposit for the utility work in the State

Supplemental Rev 04-22-2016

contract, and of which 15 percent represents the pro-rata share to which the Utility is entitled to reimbursement for relocation of utility facilities located on private utility right-of-way, and 85 percent represents the pro-rata share for relocation of utility facilities located on public highway right-of-way, reimbursement being for the cost of construction, engineering and inspection, excluding betterment and the cost over the maximum TDOT reimbursement amount; and

To the following,

WHEREAS, TDOT plans to construct PIN Number 105766.02, SR- 11 from North of Mill Creek to near SR-254, located in Davidson County, Tennessee (hereinafter called the "Project"), and for said Project to be constructed it will be necessary for the Utility to relocate certain of its facilities, 48 percent of which are located on public highway right-of-way and 52 percent of which are located on private utility right-of-way; and

WHEREAS, TDOT is liable for the relocation of utility facilities located on private utility right-of-way and is authorized, in accordance with TCA §54-5-804, to reimburse the Utility for the relocation of utility facilities located on public highway right-of-way but is not liable for any utility betterment costs; and

WHEREAS, in accordance with TDOT policy, the reimbursement of actual allowable costs for relocating utility facilities on public highway right-of-way for municipally owned utilities, Utility Districts, or Utility Cooperatives, as defined in TDOT's Policy #340-07, shall be capped at a maximum reimbursement of \$1,750,000, and for all other utilities the reimbursement shall be limited to 75% of actual allowable costs up to a maximum reimbursement cap of \$1,750,000.

WHEREAS, the Utility has furnished TDOT with an estimate, plans, and specifications showing the cost and manner of relocating these facilities, which estimate is in the amount of \$6,021,700.00, including the amount of \$0.00 for the cost of engineering, which may be inclusive of preliminary engineering authorized on March 11, 2016; including the amount of \$0.00 for the cost of inspection provided by the Utility; including the amount of \$1,737,120.00 for the cost of betterment to the Utility's facilities (hereinafter called the "Betterment Cost"), and including the amount of \$2,043,718.40 for deposit for the utility work in the State contract, and of which 52 percent represents the pro-rata share to which the Utility is entitled to reimbursement for relocation of utility facilities located on private utility right-of-way, and 48 percent represents the pro-rata share for relocation of utility facilities located on public highway right-of-way, reimbursement being for the cost of construction, engineering and inspection, excluding betterment and the cost over the maximum TDOT reimbursement amount; and

It is understood that the above are the only changes made in said contract.

Supplemental Rev 04-22-2016

IN WITNESS WHEREOF, the parties have EXECUTED this agreement

UTILITY	STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION		
Metro Nashville Water & Sewer Department (Water) Docusigned by: BY: Suff Poffur 994F7DDAF02B458	BY: Howard H. Eley Commissioner		
TITLE: Director	DATE:		
DATE: 6/2/2023	APPROVED AS TO FORM:		
	BY: John H. Reinbold General Counsel		



Buy America

Rev. 12-23-2013

The Tennessee Department of Transportation (TDOT) in compliance with Federal Highway Administration (FHWA) directive **Effective February 29, 2016**All utility and railroad relocation construction must comply with 23 U.S.C. 313 and 23 CFR 635.410 **Buy America requirements**

All Utility / Railroad invoices submitted to TDOT for Payment *MUST ATTACH THIS CERTIFICATION*.

Utility / Railroad Name			
Ounty / Rainoau Name			
Street Address			
City	State	Zip	
Certification: All products used in attached invoice that are manufactor exceed the requirements set for requirements.	tured of steel or iron	for permanent installation	n meet
Certification documentation is available, the Mill Test Report (M statement (or similar) that the ste States." All manufacturing proce the United States.	TR) for ALL steel p eel/iron was "melted	roducts that have the cell and manufactured in the	ertification he United
Per the Utility / Railroad Relocation	n Contract:		
The Utility / Railroad agrees to co 645A / 23 CFR 140 and 23 CFR 6		t, applicable provisions o	of 23 CFR
The Utility acknowledges possession of 23 CFR 140 and 23		5A / The Railroad ackn	owledges
The Utility / Railroad is subject to a payment has been received.	audit for a period of t	hree (3) full years after fi	nal
The Utility / Railroad shall com regulations in the performance of agrees that remedies for non-com the Contract.	its duties under thi	s Contract. The Utility	/ Railroad
I have reviewed the material promaterial on the attached invoice			•
Signature of representative Authorized for financial	obligations Title	Date	

Code of Federal Regulations

Title 23 United States Code, Section 313

§ 313. Buy America

- (a) Notwithstanding any other provision of law, the Secretary of Transportation shall not obligate any funds authorized to be appropriated to carry out the Surface Transportation Assistance Act of 1982 (96 Stat. 2097) or this title and administered by the Department of Transportation, unless steel, iron, and manufactured products used in such project are produced in the United States.
- (b) The provisions of subsection (a) of this section shall not apply where the Secretary finds--
 - (1) that their application would be inconsistent with the public interest;
 - (2) that such materials and products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
 - (3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.
 - [(4) Redesignated (3)]
- (c) For purposes of this section, in calculating components' costs, labor costs involved in final assembly shall not be included in the calculation.
- (d) The Secretary of Transportation shall not impose any limitation or condition on assistance provided under the Surface Transportation Assistance Act of 1982 (96 Stat. 2097) or this title that restricts any State from imposing more stringent requirements than this section on the use of articles, materials, and supplies mined, produced, or manufactured in foreign countries in projects carried out with such assistance or restricts any recipient of such assistance from complying with such State imposed requirements.
- (e) Intentional violations.--If it has been determined by a court or Federal agency that any person intentionally--
 - (1) affixed a label bearing a "Made in America" inscription, or any inscription with the same meaning, to any product used in projects to which this section applies, sold in or shipped to the United States that was not made in the United States; or
 - (2) represented that any product used in projects to which this section applies, sold in or shipped to the United States that was not produced in the United States, was produced in the United States:

that person shall be ineligible to receive any contract or subcontract made with funds authorized under the Intermodal Surface Transportation Efficiency Act of 1991 pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations.

- (f) Limitation on applicability of waivers to products produced in certain foreign countries.--If the Secretary, in consultation with the United States Trade Representative, determines that--
 - (1) a foreign country is a party to an agreement with the United States and pursuant to that agreement the head of an agency of the United States has waived the requirements of this section, and
 - (2) the foreign country has violated the terms of the agreement by discriminating against products covered by this section that are produced in the United States and are covered by the agreement,

the provisions of subsection (b) shall not apply to products produced in that foreign country.

[(g) Redesignated (f)]

Updated: 04/07/2011

The following link is the current FHWA site for Buy America compliance and shall be reviewed: http://www.fhwa.dot.gov/construction/cqit/buyam.cfm

Code of Federal Regulations

Title 23 – Highways

Volume: 1 Date: 2001-04-01

Original Date: 2001-04-01

Title: Section 635.410 - Buy America requirements.

Context: Title 23 - Highways.

CHAPTER I - FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION.

SUBCHAPTER F - TRANSPORTATION INFRASTRUCTURE MANAGEMENT.

PART 635 - CONSTRUCTION AND MAINTENANCE. Subpart D - General Material Requirements.

§ 635.410 Buy America requirements.

- (a) The provisions of this section shall prevail and be given precedence over any requirements of this subpart which are contrary to this section. However, nothing in this section shall be construed to be contrary to the requirements of § 635.409(a) of this subpart.
- (b) No Federal-aid highway construction project is to be authorized for advertisement or otherwise authorized to proceed unless at least one of the following requirements is met:
- (1) The project either: (i) Includes no permanently incorporated steel or iron materials, or (ii) if steel or iron materials are to be used, all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.
- (2) The State has standard contract provisions that require the use of domestic materials and products, including steel and iron materials, to the same or greater extent as the provisions set forth in this section.
- (3) The State elects to include alternate bid provisions for foreign and domestic steel and iron materials which comply with the following requirements. Any procedure for obtaining alternate bids based on furnishing foreign steel and iron materials which is acceptable to the Division Administrator may be used. The contract provisions must (i) require all bidders to submit a bid based on furnishing domestic steel and iron materials, and (ii) clearly state that the contract will be awarded to the bidder who submits the lowest total bid based on furnishing domestic steel and iron materials unless such total bid exceeds the lowest total bid based on furnishing foreign steel and iron materials by more than 25 percent.
- (4) When steel and iron materials are used in a project, the requirements of this section do not prevent a minimal use of foreign steel and iron materials, if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or \$2,500, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the project.
- (c)(1) A State may request a waiver of the provisions of this section if;
- (i) The application of those provisions would be inconsistent with the public interest; or
- (ii) Steel and iron materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.
- (2) A request for waiver, accompanied by supporting information, must be submitted in writing to the Regional Federal Highway Administrator (RFHWA) through the FHWA Division Administrator. A request must be submitted sufficiently in advance of the need for the waiver in order to allow time for proper review and action on the request. The RFHWA will have approval authority on the request.
- (3) Requests for waivers may be made for specific projects, or for certain materials or products in specific geographic areas, or for combinations of both, depending on the circumstances.
- (4) The denial of the request by the RFHWA may be appealed by the State to the Federal Highway Administrator (Administrator), whose action on the request shall be considered administratively final.
- (5) A request for a waiver which involves nationwide public interest or availability issues or more than one FHWA region may be submitted by the RFHWA to the Administrator for action.
- (6) A request for waiver and an appeal from a denial of a request must include facts and justification to support the granting of the waiver. The FHWA response to a request or appeal will be in writing and made available to the public upon request. Any request for a nationwide waiver and FHWA's action on such a request may be published in the **Federal Register** for public comment.
- (7) In determining whether the waivers described in paragraph (c)(1) of this section will be granted, the FHWA will consider all appropriate factors including, but not limited to, cost, administrative burden, and delay that would be imposed if the provision were not waived
- (d) Standard State and Federal-aid contract procedures may be used to assure compliance with the requirements of this section.

[48 FR 53104, Nov. 25, 1983, as amended at 49 FR 18821, May 3, 1984; 58 FR 38975, July 21, 1993]

Editorial Note:For a waiver document affecting § 635.410, see 60 FR 15478, Mar. 24, 1995.

Updated: 04/26/2012





Project No:	19028-3251-14	
County:	Davidson	
Date:	May 8, 2023	

	Submittal and completion of	f this f	orm is <u>required</u> for o	onsideration of reimbur	sement on this project.
Primary Contact:	Steve Nunley				TROT HOE ONLY
E-mail:	steve.nunley@nashville.gov		Phone:	615-862-4534	TDOT USE ONLY
Secondary Contact:		_			RG Approval and Date:
E-mail:			Phone:		Sean McDonough 05/08/2023
Utility Name:	Metro Water Services				Consult Appr. Date: U
Address:	1600 2nd Ave N				Amount Approved: \$ -
City, State:	Nashville, TN		Z	ip: 37208	HQ Approval and Date:
			<u>.</u>		Chris Johnston 5/9/2023
Percent On Private:			Poles / Length of facil		CH86 (∀) / (N PIN#: 105766.02
Percent On Public:			Poles / Length of facil		LET: / / Contract #: 8756 Sup 1
Total Percentage:	<u>100%</u>	Total #	Poles / Length of facil	ity:6635_ v	Easement Contract #
Is Utility Chapter	r 86 Certified (Obtained from C	ertifica	ation Sheet)?		
(If project does	not qualify for Chapter 86 Rei	mburs	ement, then "Percen	t on Private" will be use	d to calculate total amount due to Utility)
NO COS	ST / NO REIMBURSEMENT (STOP	HERE, REMAINDE	R OF FORM IS NOT R	EQUIRED)
	CHAPTER 86			NON-C	CHAPTER 86
REIMBURSEMENT	MOVE PRIOR			% Pı	rivate / Public Relocation
REQUESTED	MOVE IN State Contract	<		% Private / Public	MOVE IN State Contract
		<u> </u>			
(Please check ONE)	Move Again_	<u></u>		Utility Replacement Ea	asement Reimbursement
Description	ENGINEERING		Amount	L	JTILITY REIMBURSEMENT
Pre-Construction		\$	Amount	CHAPTER 86 MOVE-	IN CONTRACT: \$ -
Construction		э \$	-	CHAPTER 60 WOVE	THE CONTRACT.
Construction Inspection	on Private	φ \$	-	CHAPTER 86 MOVE	PRIOR: \$ -
Construction Inspection		φ	_	OTTAL TER COMOVE	T KIOK.
Reimbursable Expens		\$	_	NON-CHAPTER 86 M	IOVE-IN CONTRACT: \$ -
ENGINEERING COST		\$		11011 01111 121100 11	<u> </u>
		Ţ		NON-CHAPTER 86 %	PUBLIC/PRIVATE: \$ -
	NSTRUCTION (LABOR & MATI	ERIAL)		D F.4.	
Description			Amount		nate Exceed \$1.75M Cap? - Y
Installation Labor		\$	3,279,525.00	Does Es	stimate Require 75% Cap? - N
Installation Materials		\$	2,742,175.00		
Removal Labor Site Costs		\$	-	UTU	TV DEDOCIT (IE ADDI ICABI E)
Material Provided to S	State	\$ \$	-	UILI	TY DEPOSIT (IF APPLICABLE)
Salvage Materials	otate	э \$	-	RELOCATION EXCE	EDS \$1.75M CAP: \$306,598.4
Non-Usable Materials		Ф \$	-	RELOCATION EXCE	\$300,598.4
Non-Osable Materials		Ф	-	AMOUNT OVER 75%	6 REIMBURSEMENT: \$0.0
ESTIMATED CONSTI	RUCTION COST:	\$	6,021,700.00 🗸	AWOUNT OVER 757	6 REIMBORSEMENT: \$0.0
LOTHINATED CONCT	10011014 0001.	Ψ	0,021,700.00	ESTIMATED LITH ITY	BETTERMENT COST: \$1,737,120.0
	BETTERMENT			LOTHINATED OTILITY	φ1,707,120.0
Description			Amount	NON-CHAPTER 86 M	IOVE-IN CONS'T COST: \$0.0
Installation Labor		\$	893,560.00		Ψ0.0
Installation Materials		\$	843,560.00		
		*	3.5,500.00	TOTAL UTILITY DEP	OSIT: \$2,043,718.4
ESTIMATED UTILITY	BETTERMENT COST:	\$	1,737,120.00 🗸		V =30.037.101.
ESTIMATED DEDLAG	CEMENT EASEMENT COST:	\$	i		
	l above, separate Easement C	_	is needed		
ESTIMATED TOTAL	CONSTRUCTION COST:	\$	6,021,700.00		
The	Utility will reference the page nur	nber wi	nere designated on the	form when other Detail Co	est Estimate sheets are attached.

The duting will reference the page number where designated on the form when other bettin dost Estimate sheets are underlied.



Revision 10-25-2013

TDOT Utility Form 2013-16



In accordance with Tennessee Department of Transportation policy number 340-07, the following information is provided with regards to required compliance documentation for utility relocation reimbursement in accordance with TCA 54-5-804 and TCA 54-5-854.

PROJECT #/S:	19028	3-3251-14	_ COUNTY/S	Davidson	_
- FEDERAL:	NH-11(81)		- PIN	105766.02	_
rederal:			_ FIN	105766.02	_
1. The utility is seeking	reimbursement under pro	visions of TCA 54-5-804 as a	meneded by Public Acts 20	03, Chapter number 86.	
relocation plan, sche	dule, and cost estimate to	mpliance with TCA § 54-5-80- the Department within 120 d in accordance with TCA § 54-	ays after receipt of the Dep		
To the best of my knot facility on the public h		mpliance with TCA 54-5-804(b) in that the utility has a va	lid permit to locate its utility	
4. The utility is eligible for	or reimbursement in acco	rdance with the Limitation pro	ovisions of the TDOT Policy	340-07 in that it is:	
	Municipally Owned	X Utility District		Utility Cooperative	
5. The utility is consider	ed to be a specific utility o	category listed in accordance	with the Limitation provisio	ns of the TDOT Policy 340-0	7 :
✓ Water					
☐ Waste Water					
Gas	Distribution	Transmission			
☐ Electric	Distribution	Transmission			
☐ Communication	☐ CATV	Phone	Fiberoptic	Broadband	
☐ Street Lighting					
Other					
Signa	ture indicates this indiv	idual has the legal authorit	y to sign contracts and ac	reements to obligate the u	lility.
Signature:				Date:	
Print Name:	Michael Morris				
Title:		Engineer 3			
Utility Name:	Metro Water Services				
Utility Address:	1600 2nd Ave N				
City, State, Zip:	Nash	ville, TN 37208			
Phone Number:	6	15-335-1064			
Fax Number:					
Email Address:	michael.m	norris@nashville.gov			

TDOT Utility Form 2013-16 Page 4.2 Revision 10-25-2013



Declaration of Scheduled Calendar Days

Project Number:	19028-3251-14	1	_		Date:	
Description:	SR 11 (US-31/	A) (Nolensville Pk	() from North o	Mill Creek to I	Near SR-254	
County:	Davidson		7			
Utility Name:	Metro Water S	ervices				
Address:	1600 2nd Ave	N				
	Nashville, TN			Zip	Code: <u>37208</u>	
Phone Number:	one Number: 615-862-4534		Fax Number:			
Type of Facilities:	✓ Water	☐ Sewer	Gas	☐ Telepho	ne 🗌 Electric	
	☐ CATV	☐ Fiberoptic	Other			
Required Period serv	vices cannot be	interrunted:	No more than	n a 4 hour perio	nd	
Toquirou i eriou serv	loos calliot be	miorrapiea.	TTO MOTO WAI	a + nour pono	<u>~</u>	
"On or B	Before" date all w	ork will be complet	ed. In accordance		can as an option subn s set forth in TCA 54-5	5-854.
Task		Days to 0	Complete		Special Condition	
Stock Pile Material (Includ material)	ding ordering	90				
Mobilize Work Force (incl process if Required)	luding Bidding	30				
Complete Relocation	-	300 420				
Total Days To Complete						
Special Conditions	:					
11 1101	long					
NUM & M	101/6	5-2-2023	Sean	McDonoug	h	05/08/2023
Signature of submitting		Date	-	of submitting		Date
Utility Representative	Representative State		State Repr	esentativé		

Subject to provisions of the TDOT Utility Office Maintenance of Traffic Procedures.

IN WITNESS WHEREOF, the parties hereto have executed this contract.

THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF WATER AND SEWERAGE SERVICES

RECOMMENDED BY:
Scott Potter
ூ∉otter, Director Water and Sewerage Services
DATE: 6/2/2023
APPROVED AS TO THE AVAILABILITY OF FUNDS: DocuSigned by:
telly Flannery —oKenyoFtannery, Director
──ଂ K党ฟy॰Ftan nery, Director Department of Finance
DATE: 6/2/2023
APPROVED AS TO FORM AND LEGALITY: Docusigned by: Tara Ladd
প্রত্তির প্রাপ্তি Metropolitan Attorney
DATE:6/2/2023
THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY:
John Cooper, Mayor
DATE:
ATTEST:
Metropolitan Clerk
DATE:



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

Metro Office Building 800 President Ronald Reagan Way P.O. Box 196300 Nashville, TN 37219-6300

May 31, 2023

To: Peggy Deaner Metro Water Services

Re: SUPPLEMENT 1 TO TDOT UTILITY RELOCATION CONTRACT #8756 WATER Planning Commission Mandatory Referral 2023M-020AG-001

On behalf of the Metropolitan Planning Commission, the following item, referred to the Commission as required by the Metro Charter, has been recommended for *approval* to the Metropolitan Council:

A resolution approving Supplement #1 to an Intergovernmental Agreement by and between the State of Tennessee, Department of Transportation, and The Metropolitan Government of Nashville and Davidson County, acting by and through the Department of Water and Sewerage Services, to construct PIN Number 105766.02, SR-11, (Nolensville Pike), from North of Mill Creek to near SR-254, located in Davidson County, Tennessee, (State Project No. 19028-2245-14, MWS Project No. 16-WG-0060 and Proposal No. 2023M-020AG-001.

The relevant Metro agencies (Metro Parks, Metro Public Works, Metro Water Services, Metro Emergency Communications, the Nashville Electric Service, Metro Finance – Public Property and the Metro Historical Commission) have reviewed the proposal and concur in the recommendation for approval. This request must be approved by the Metro Council to become effective. A sketch showing the location of the request is attached to this letter.

Conditions that apply to this approval: none

This recommendation for approval is given as set forth in the Metropolitan Planning Commission Rules and Procedures. If you have any questions about this matter, please contact Delilah Rhodes at delilah.rhodes@nashville.gov or 615-862-7208.

Sincerely

Lisa Milligan

Land Development Manager Metro Planning Department

cc: Metro Clerk

Re: SUPPLEMENT 1 TO TDOT UTILITY RELOCATION CONTRACT #8756 WATER Planning Commission Mandatory Referral # 2023M-020AG-001

A resolution approving Supplement #1 to an Intergovernmental Agreement by and between the State of Tennessee, Department of Transportation, and The Metropolitan Government of Nashville and Davidson County, acting by and through the Department of Water and Sewerage Services, to construct PIN Number 105766.02, SR-11, (Nolensville Pike), from North of Mill Creek to near SR-254, located in Davidson County, Tennessee, (State Project No. 19028-2245-14, MWS Project No. 16-WG-0060 and Proposal No. 2023M-020AG-001.

