REQUEST FOR CONSTRUCTION CONTRACT CHANGE
CHANGE ORDER NO. 2

City of Franklin Engineering Office 109 Third Avenue South Franklin, Tn 37064	Contract Number: 2017-0264 Project Name: Water Reclamation Facility Modifications & Expansion

Background

The Board of Mayor and Alderman passed a resolution to award a contract on July 10, 2018 for the Franklin Water Reclamation Facility Modifications and Expansion Project to Kiewit Infrastructure South Co., (Kiewit), contingent upon approval by the State Revolving Fund (SRF) Program, which was received on August 23, 2018. The amount of the contract entered into by the City of Franklin and Kiewit was for $132,890,000.00 (which included an Owner contingency of $4,000,000). A substantial completion date of February 20, 2022, and a final completion date of May 26, 2022 were requirements in the contract.

The Franklin Water Reclamation Facility Modifications and Expansion Project included, among other scope, construction of a new headworks facility, an equalization basin, odor control systems, two ultraviolet disinfection systems, an alum storage and feed system, an electrical building, modifications to the biological nutrient removal facilities, the reclaimed water pump station, return sludge pump station and RAS/WAS pump station, construction of a new solids treatment system, upgrades to the instrumentation and control system, installation of new yard piping and demolition.

Reason for Change Order:

During the course of the project to date, the need for various changes to Kiewit's scope became apparent to include work not captured in the original contract, changes due to alternate items of equipment proposed by Kiewit, or to realize savings to the City of Franklin. Those changes were memorialized in Construction Change Authorizations (CCAs) or responses to Requests for Proposal (RFPs) as shown on Attachment A. The specific language of the scope changes is detailed in the CCA/RFP documents

Attachments (List documents supporting change):

Attachment A – CCA/RFP Summary Sheet
RFP1 Contractor Proposal
CCA 1 w/Contractor Proposal
CCA 2 w/Contractor Proposal
CCA 3 w/Contractor Proposal
CCA 4 w/Contractor Proposal
CCA 5 w/Contractor Proposal
CCA 8 w/Contractor Proposal
CCA 14 w/Contractor Proposal
CCA 15 w/Contractor Proposal
CCA 16 w/Contractor Proposal

CHANGE IN CONTRACT PRICE:	
Original Contract Price:	$132,890,000.00
Net Increase in Contract Price From Previous Change Orders:	$180,565.00
Contract Price Prior to This Change Order:	$133,070,565
Net Increase or <Decrease> of This Change Order:	($6,480.00)
Contract Price with All Approved Change Orders:	$133,064,085.00

CHANGE IN CONTRACT TIMES	
Original Contract Times	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022
Net Change From Previous Change Orders	
Substantial Completion	0 Days
Final Completion	0 Days
Contract Times Prior to This Change	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022
Increase in Time This Change Order	
Substantial Completion	-0- Days
Final Completion	-0- Days
Contract Times with All Approved Change Orders	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022

Now, Therefore, Kiewit Infrastructure South Co., hereby agrees to this Change Order, consisting of the above mentioned schedule changes, and agrees that this Change Order is hereby made a part of the original contract and will be performed by this Contractor in accordance with specifications thereof, and that the original contract remains in full force and effect, except in so far as specifically modified by this Change Order.

RECOMMENDED FOR APPROVAL BY:

ENGINEER

Name: Daniel A. Harris

Signature:

Date: 9/5/19

CITY PROJECT MANAGER

Name: Brian Goodwin

Signature:

Date: 10/25/2019

CITY WATER MANAGEMENT DIRECTOR

Name: Michelle Hatcher

Signature:

Date: 11/11/19

ACCEPTED BY CONTRACTOR:

Name: Chris Tennyson

Title: Proj. Mgr.

Signature:

Date: 11/11/19

APPROVED BY OWNER:

Name: Eric S. Stuckey

Title: City Administrator

Signature:

Date:

Law Dept. reviewed 09.24.19

Attachment A

CCA/RFP Summary

CCA Number	RFP Number	Description	Cost	Time Extension	Date Sent to SRF for Review	Date Approved by SRF
	1	Lead based paint/asbestos conaining material remediation	$9,450.00	0		
1		Escalation for pre-selected items	$ 89,893.00	0	4/25/2019	4/30/2019
2		Reissued site/civil drawings to reflect City SWPPP review comments	$0.00	0	8/29/2019	9/3/2019
3		Revised stair/beam configuration	$0.00	0	8/29/2019	9/3/2019
4		Reissued Electrical Building structural drawings to clarify drafting discrepancy	$0.00	0	3/8/2019	3/8/2019
5		Construct berms in lieu of removing excess spoils	($80,000.00)	0	3/6/2019	3/6/2019
8		Provide power circuitry to WAS pump motor heaters	$3,206.00	0	8/29/2019	9/3/2019
14		Battery powered in lieu of AC powered autolubrication equipment	($5,031.00)	0	8/29/2019	9/3/2019
15		Single wall in lieu of double wall alum tanks	($19,572.00)	0	8/29/2019	9/3/2019
16		Delete redundant mixing valve SP-MXV-1	($4,426.00)	0	7/18/2019	7/29/2019
Total Change			($6,480.00)			
Owner's Contingency Amount			$4,000,000.00			
Remaining Owner's Contingency			$4,000,000.00			
Total Time Extension (Calendar Days)				0		

Kiewit Infrastructure South Co.
4405 International Blvd., NW, Suite C-101
Norcross, GA 30093

April 18, 2019

To: Attn: Mr. Dan Harris

LET-KIEWIT-00015.00

CDM Smith, Inc.
210 25th Avenue North
Suite 1102
Nashville, TN 37203

Reference: Franklin WRF Modifications & Expansion Project
COF Contract No. 2017-0264

Subject: Asbestos Remediatoin

Dear Mr. Harris,

This letter is in response to CDM Smith's letter dated January 18, 2019 requesting a proposal for remediation and removal of lead based paint and asbestos containing materials identified as part of Phase I and II Pre-Demolition Hazardous Materials Assessment.

Kiewit proposes to complete the remediation and removal of lead based paint and asbestos containing materials identified in the Phase I and II Pre-Demolition Hazardous Materials Assessment for a total price of **Nine Thousand Four Hundred Fifty Dollars ($9,450).**

If you have any questions, please do not hesitate to contact me at (678) 794-2121.

Sincerely,

Steve Davis
Project Manager

cc: File
Michelle Hatcher

Kiewit Infrastructure South Co.
4405 International Blvd, Suite #C101
Norcross, Georgia 30093

DATE: March 11, 2019

PCO NO.: 001 - Asbestos Remediation
(Phase I Demolition)

PREPARED BY: Steve Davis

DESCRIPTION	QTY	UNIT	MH Per Unit	Total MH	DIRECT LABOR		INDIRECT LABOR		MATERIAL		EQUIPMENT		SUBCONTRACT		OTHER		TOTAL AMOUNT
					Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	
Asbestos Remediation	1.00	LS				$ -		$ -		$ -		$ -	9,000.00	$ 9,000.00			$ 9,000.00
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
OTHER																	
STS - small tools, consumables, safety equip, (5% of direct labor, plus 6% sales tax: Formula = Total Direct Labor Subtotal *.05 * 1.0925)						$ -										$ -	$ -
TAX: (9.25% of Material, Equipment, Other)						$ -		$ -		$ -		$ -				$ -	$ -
BOND (2% of total)																	
SUBTOTALS						$ -		$ -		$ -		$ -		$ 9,000.00		$ -	$ 9,000.00
MARKUP %						15.00%		15.00%		15.00%				5.00%		15.00%	$ 450.00
SUBTOTALS WITH MARKUPS APPLIED						$ -		$ -		$ -		$ -		$ 9,450.00		$ -	$ 9,450.00
BOND																	$ -
TOTAL																	$ 9,450.00

DEMO PLUS INC
Demolition+Abatement+Recycling

Quote Submitted to:

Kyle D. Krajco
General Superintendent
KIEWIT WATER FACILITIES SOUTH CO.
City of Franklin Waste Water
135 Claude Yates Dr. Franklin, TN 37064
Cell: 608-628-2561
kyle.krajco@kiewit.com
kyle.krajco@ibberson.com

Date: 12/19/2018

Job # 17-0342A

We hereby submit our Proposal for: Franklin WRF Rev

Demolition Pricing:

Phase 1 Abatement	$	9,000.00
Total	**$**	**9,000.00**

Abatement

- Obtain permits
- Remove 300 ln ft of window seal
- Remove 300 ln ft of door seal
- Remove 70 sq ft of roofing material
- Provide manifests and documentation

We will complete all work as specified above (weather permitting) upon receipt of duly signed agreement and/or notice that the owner is ready for work to commence on the job. We are adequately covered with Public Liability, Property Damage and Workman's Compensation Insurance. **LIC#00058732**

We will furnish all labor, materials, machinery, equipment and services, and perform and complete the work as specified above for the consideration of all ***salvageable materials*** on the premises, with the exceptions as noted above. Terms are Net 30 days.

Upon completion of the project as specified above, interest charges will be added at 1.5% per month on past due invoices. In the event collection of any amount due hereunder is placed in the hands of an attorney for collection, or in the event it becomes necessary for Demo Plus, Inc. to bring legal action to enforce any provision of this agreement, the undersigned agrees to pay to Demo Plus, Inc., in addition to all other relief to which Demo Plus, Inc. may be entitled, all costs and expenses of such collection or enforcement including, but not limited to, reasonable attorney's fees, and all such relief shall be cumulative.

BY: *Chase Huffstutler*

Eric Sloan *Project Manager/Estimator*
Phone: 615.620.3366 (ext.)210 ***Mobile:*** *615.293.5534* **Fax:** 615.620.3375
Email: chaseh@demoplusinc.com

NOTE: This proposal may be withdrawn by us if not accepted within 30 (thirty) days.

ACCEPTANCE OF PROPOSAL

CONSTRUCTION CHANGE AUTHORIZATION

TO:	Mr. Steve Davis Project Manager Kiewit Water Facilities South 4405 International Blvd., NW, Suite C-101 Norcross, Georgia 30093 (770) 940-8044	**FROM:**	CDM Smith 3715 Northside Parkway NW Building 300, Suite 400 Atlanta, GA 30327 (404) 720-1400
DATE:	December 6, 2018		
PROJECT:	City of Franklin, Tennessee Franklin WRF Modifications & Expansion Project		
CCA NUMBER:	001	**CDM SMITH PROJ. NO.:**	14915-231666
SUBJECT:	Escalation of Certain Bid Prices	**CITY PROJECT NO.:**	2017-0264
REFERENCE:	N/A		

DESCRIPTION:

The contract scope, conditions and prices were pre-negotiated for the UV Disinfection System equipment and vendor services, the Thermal Hydrolysis Pretreatment equipment and vendor services, and the retrofitting of the existing Gorman Rupp T3 scum pumps. The pre-selection agreements for those items included clauses to escalate negotiated prices from the quote dates to the bid advertisement dates. The prices inserted in the bid form at the time of bid were inflated to September 2017, the bid advertisement date for the original bid, but were not escalated again when the project was rebid. The purpose of this Construction Change Authorization is to escalate the prices to April 2018, the bid advertisement date for the rebid.

The calculations to arrive at the escalated prices assuming a bid advertisement date of April 2018 are presented on the attached calculation sheet. The escalated prices are compared against the prices that were inserted in the bid sheet in Table 1 below.

Table 1
Escalation of Certain Bid Prices to April 2018

Bid Item	Description	Bid Sheet Amount	Price Escalated to February 2018	Construction Change Authorization Amount
12	Retrofit of existing scum pumps	$8,869	$9,048	$179
18	Pre-negotiated ultraviolet (UV) disinfection system and services	$806,353	$822,640	$16,288
27	Pre-negotiated thermal hydrolysis pretreatment (THP) system and services.	$3,232,721	$3,294,500	$61,779
Total				$78,245

The total amount for each of the associated bid items shall increase by the amount in the right-hand column of the Table 1. Measurement and payment terms shall remain consistent with those established in the contract documents.

ATTACHMENTS: Escalation Calculations

CDM SMITH:

By: _____

Date: 12/7/18

CONTRACTOR

By: _____

Date: 12/21/2018

City of Franklin:

By: _____

Date: 12/7/18

City of Franklin, Tennessee
Franklin WRF Modifications & Expansion Project
Escalation of Pre-Negotiated Item Pricing - Re-Bid

Bid Advertisement Date	4/8/2018	
Release Dates for PPI Detailed Reports		
April 2018	5/9/2018	<--- was not available as of Bid Advertisement Date
Link to PPI Detailed Reports Web Page:	https://www.bls.gov/ppi/ppi_dr.htm	

Bid Item C: Pre-Negotiated Ultraviolet (UV) Disinfection System and services as supplied by TrojanUV

Base Selling Price	$ 750,700	
Base Selling Price valid as of	6/28/2013	Due Date for UV Proposals
PPI as of Due Date for UV Proposals	184.7	ref: June 2013 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
PPI as of Bid Advertisement Date (April 2018)	202.4	ref: April 2018 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
Adjusted Selling Price	**$ 822,640**	

Bid Item D: Pre-Negotiated Thermal Hydrolysis Pretreatment (THP) System and services as supplied by Cambi, Inc.

Base Selling Price	$ 3,091,035	*Does not include Optional One Year Service Contract, Does include 60 day operator shadowing.
Base Selling Price valid as of	10/31/2014	
PPI as of 10/31/2014	189.9	ref: October 2014 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
PPI as of Bid Advertisement Date (April 2018)	202.4	ref: April 2018 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
Adjusted Selling Price	**$ 3,294,500**	

Bid Item F: Parts and service provided by Southern Sales Company to change the speed of two sets of two (2) existing Gorman Rupp T3 scum pumps (See Appendix E and Drawings M-48 and M-49)

Base Selling Price	$ 8,775	
Base Selling Price valid as of	10/7/2016	Date of Southern Sales Company Quote No. 13342BF
PPI as of October 7, 2016	196.3	ref: October 2016 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
PPI as of Bid Advertisement Date (April 2018)	202.4	ref: April 2018 PPI Finished Goods Less Foods and Energy (Not Seasonally Adjusted)
Adjusted Selling Price	**$ 9,048**	

Notes:

PPI = Producer Price Index for Finished Goods Less Foods and Energy, not seasonally adjusted.

PPI for Capital Equipment was available at the time the method of cost escalation was written, but categories changed in January 2014 when the BLS changed from the Stage of Processing (SOP) aggregation system to the Final Demand-Intermediate Demand (FD-ID) system. The Method of Cost Escalation allows the PPI for Finished Goods Less Foods and Energy, not seasonally adjusted, to be used in the event that the PPI for Capital Equipment is not available.

Kiewit Infrastructure South Co.
4405 International Blvd., NW, Suite C-101
Norcross, GA 30093

February 7, 2019

To: Attn: Mr. Dan Harris

GC-KIEWIT-00008.00

CDM Smith, Inc.
210 25th Avenue North
Suite 1102
Nashville, TN 37203

Reference: Franklin WRF Modifications & Expansion Project
COF Contract No. 2017-0264

Subject: Escalation of Certain Bid Items

Dear Mr. Harris,

This letter is in response to CDM Smith's letter dated December 6, 2018 regarding escalation of certain bid items. That letter defined the escalation for the pre-negotiated contract scope, conditions, and prices for the UV Disinfection System equipment and vendor services, the Thermal Hydrolysis Pretreatment (THP) equipment and vendor services, and the retrofitting of the existing Gorman Rupp T3 scum pumps. Table 1 in the above referenced letter outlined a total construction change authorization amount of **Seventy-Eight Thousand Two Hundred Forty-Six Dollars ($78,246)**.

After conversations with CDM Smith it was agreed that a Fifteen Percent (15%) markup to this construction change authorization is applicable per Article 12 – *Change of Contract Price; Change of Contract Times* of the General Conditions (Section 00700). The total amount of this construction change authorization will be **Eighty-Nine Thousand Nine Hundred Eighty-Three Dollars ($89,983)**.

If you have any questions, please do not hesitate to contact me at (678) 794-2121.

Sincerely,

Steve Davis
Project Manager

cc: File
Michelle Hatcher

Kiewit Infrastructure South Co.
4405 International Blvd, Suite #C101
Norcross, Georgia 30093

Kiewit

DATE: 4/16/2019

PCO NO.:

PREPARED BY: Michael Sheston

DESCRIPTION	QTY	UNIT	MH Per Unit	Total MH	DIRECT LABOR		INDIRECT LABOR		MATERIAL		CONST. EQUIPMENT		SUBCONTRACT		OTHER		TOTAL AMOUNT
					Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
Escalation of Certain Bid Items						$ -		$ -		$ -		$ -		$ -		$ -	$ -
Retrofit of existing scum pumps	1	PLS				$ -		$ -	$ 179.00	$ 179.00		$ -		$ -		$ -	$ 179.00
Pre-negotiated (UV) Disinfection System and Services	1	PLS				$ -		$ -	$ 16,288.00	$ 16,288.00		$ -		$ -		$ -	$ 16,288.00
Pre-negotiated (THP) system and services	1	PLS				$ -		$ -	$ 61,779.00	$ 61,779.00		$ -		$ -		$ -	$ 61,779.00
This equipment is considered tax exempt						$ -		$ -		$ -		$ -		$ -		$ -	$ -
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
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						$ -		$ -		$ -		$ -		$ -		$ -	$ -
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
OTHER						$ -		$ -		$ -		$ -		$ -		$ -	$ -
STS - small tools, consumables, safety equip, (5% of direct labor, plus 9.75% sales tax: Formula = Total Direct Labor Subtotal *.05 * 1.0975)						$ -		$ -		$ -		$ -		$ -		$ -	$ -
						$ -		$ -		$ -		$ -		$ -		$ -	$ -
TAX: (9.75% of Material, Equipment, Other)																	$ -
BOND (2% of total)																	$ -
SUBTOTALS						$ -		$ -		$ 78,246.00		$ -		$ -		$ -	$ 78,246
MARKUP %						15.00%		15.00%		15.00%		15.00%		5.00%		15.00%	$ 11,737
SUBTOTALS WITH MARKUPS APPLIED										$89,982.90							$ 89,983
BOND																	$ -
TOTAL																	$ 89,983

CONSTRUCTION CHANGE AUTHORIZATION

TO:	Mr. Steve Davis Project Manager Kiewit Water Facilities South 4405 International Blvd., NW, Suite C-101 Norcross, Georgia 30093 (770) 940-8044	**FROM:**	CDM Smith 3715 Northside Parkway NW Building 300, Suite 400 Atlanta, GA 30327 (404) 720-1400
DATE:	December 12, 2018		
PROJECT:	City of Franklin, Tennessee Franklin WRF Modifications & Expansion Project		
CCA NUMBER:	002	**CDM SMITH PROJ. NO.:**	14915-231666
SUBJECT:	Reissuance of Select Civil Drawings and Final SWPPP	**CITY PROJECT NO.:**	2017-0264
REFERENCE:	N/A		

DESCRIPTION:

In working through the final details of the stormwater and erosion and sedimentation control design for the site with the City's Engineering Department, a few modifications had to be made to the civil drawings to satisfy their requirements. The modified drawings (C-32, C-42A, C-42B, C-42C, C-43A, C-43B, C-43C, and CD-9) are reissued as part of this construction change authorization (CCA). The changes, which are clouded, focus on more clearly delineating conservation areas to ensure they are not disturbed during construction and addition of a sediment trap in Pond 2. There are also modifications to the tables in the sediment pond detail to provide more detail.

In addition to the design drawing modifications, a few changes had to be made to the drawings in the SWPPP as well. The changes to the drawings in the SWPPP are either expansion on previous site information or the same as the changes to the contract drawings.

No change in cost or schedule is authorized by this CCA. However, if the Contractor believes the changes identified in this CCA will result in a change in cost he shall produce a detailed estimate of the additional cost for consideration.

ATTACHMENTS:

CDM SMITH:

By: _____

Date: 12/12/2018

CONTRACTOR:

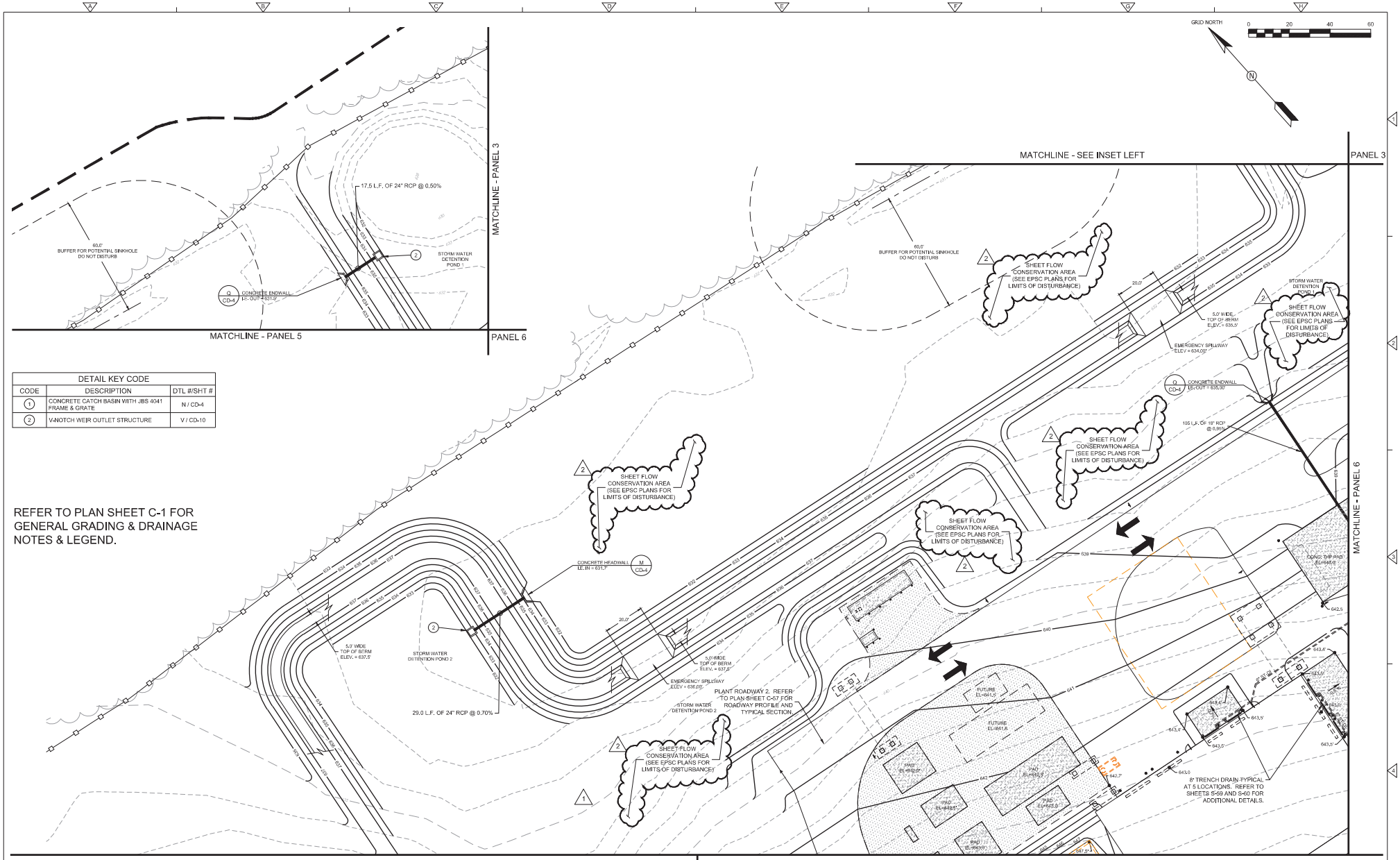
By: _____

Date: 2/26/2019

City of Franklin:

By: _____

Date: 12/12/2018



DETAIL KEY CODE		
CODE	DESCRIPTION	DTL #/SHT #
1	CONCRETE CATCH BASIN WITH JBS 4041 FRAME & GRATE	N / CD-4
2	V-NOTCH WEIR OUTLET STRUCTURE	V / CD-10

REFER TO PLAN SHEET C-1 FOR GENERAL GRADING & DRAINAGE NOTES & LEGEND.

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	11/30/18	TLH	RPH	CONSTRUCTION CHANGE AUTHORIZATION
	8/18	TLH	RPH	CONFORMED DRAWING
1	4/18	TLH	RPH	REISSUED FOR BID CHANGES

DESIGNED BY: TLH
DRAWN BY: TLH
SHEET CHK'D BY: RPH
CROSS CHK'D BY: RPH
APPROVED BY: T. HAGGARD
DATE: APRIL 2018

CDM Smith
210 25th Avenue North, Suite 1102
Nashville, TN 37203
Tel: (615) 320-3161

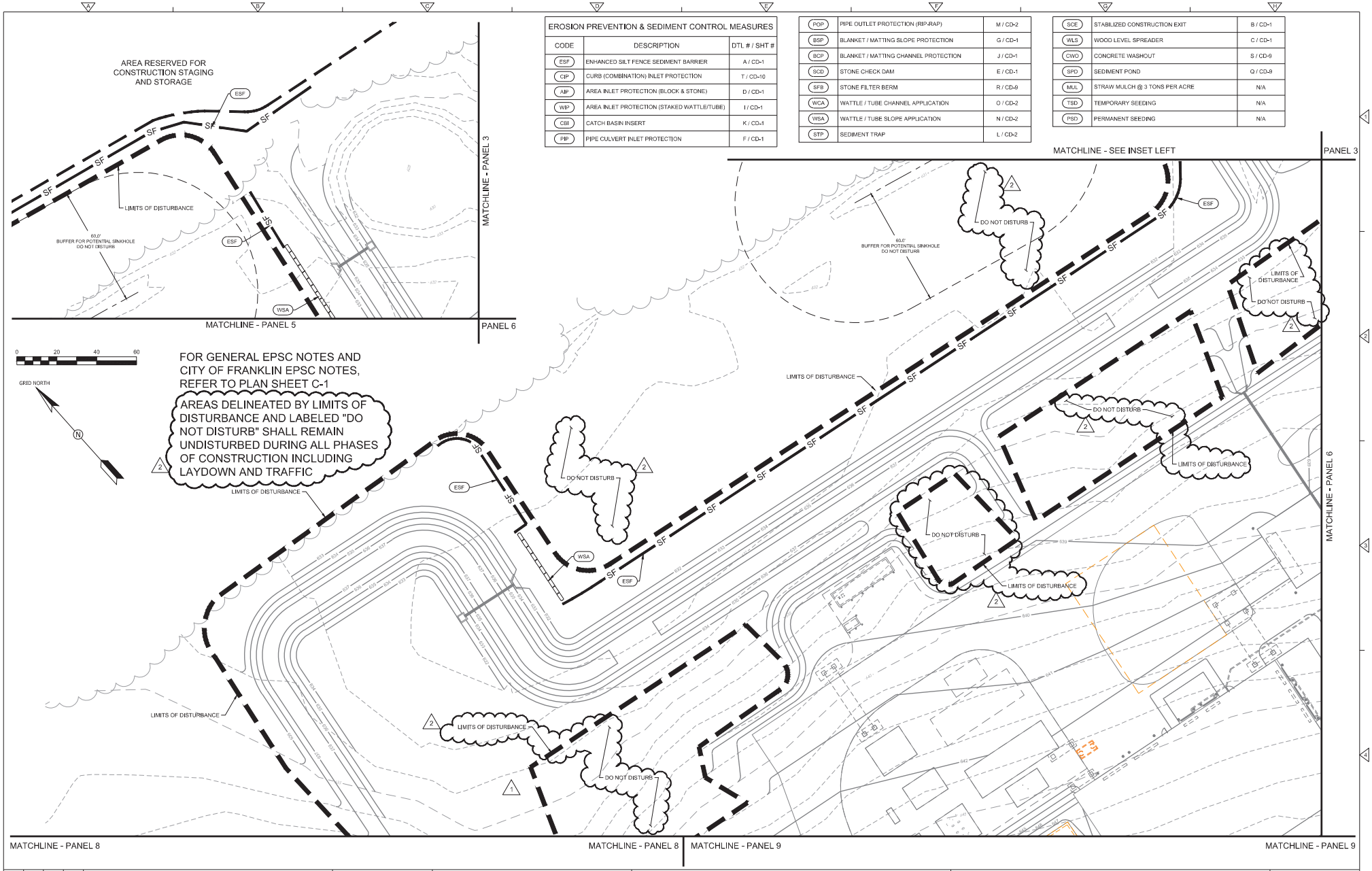
TLG INFRASTRUCTURE ASSOCIATES
307 Hickerson Drive
Murfreesboro, TN 37129
Tel: (615) 663-7678

CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

GRADING AND DRAINAGE PLAN
PANEL 5

PROJECT NO. 14915-96594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-32

CONFORMED DRAWING - AUGUST 2018



EROSION PREVENTION & SEDIMENT CONTROL MEASURES		
CODE	DESCRIPTION	DTL # / SHT #
ESF	ENHANCED SILT FENCE SEDIMENT BARRIER	A / CD-1
CIP	CURB (COMBINATION) INLET PROTECTION	T / CD-10
AIP	AREA INLET PROTECTION (BLOCK & STONE)	D / CD-1
WIP	AREA INLET PROTECTION (STAKED WATTLE/TUBE)	I / CD-1
CBI	CATCH BASIN INSERT	K / CD-1
PIP	PIPE CULVERT INLET PROTECTION	F / CD-1

POP	PIPE OUTLET PROTECTION (RIP-RAP)	M / CD-2
BSP	BLANKET / MATTING SLOPE PROTECTION	G / CD-1
BCP	BLANKET / MATTING CHANNEL PROTECTION	J / CD-1
SCD	STONE CHECK DAM	E / CD-1
SFB	STONE FILTER BERM	R / CD-9
WCA	WATTLE / TUBE CHANNEL APPLICATION	O / CD-2
WSA	WATTLE / TUBE SLOPE APPLICATION	N / CD-2
STP	SEDIMENT TRAP	L / CD-2

SCE	STABILIZED CONSTRUCTION EXIT	B / CD-1
WLS	WOOD LEVEL SPREADER	C / CD-1
CWO	CONCRETE WASHOUT	S / CD-9
SPD	SEDIMENT POND	Q / CD-9
MUL	STRAW MULCH @ 3 TONS PER ACRE	N/A
TSD	TEMPORARY SEEDING	N/A
PSD	PERMANENT SEEDING	N/A

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	11/30/18	TLH	RPH	CONSTRUCTION CHANGE AUTHORIZATION
				CONFORMED DRAWING
1	4/18	TLH	RPH	REISSUED FOR BID CHANGES

DESIGNED BY: TLH
DRAWN BY: TLH
SHEET CHK'D BY: RPH
CROSS CHK'D BY: RPH
APPROVED BY: T. HAGGARD
DATE: APRIL 2018

CDM Smith
210 25th Avenue North, Suite 1102
Nashville, TN 37203
Tel: (615) 320-3161

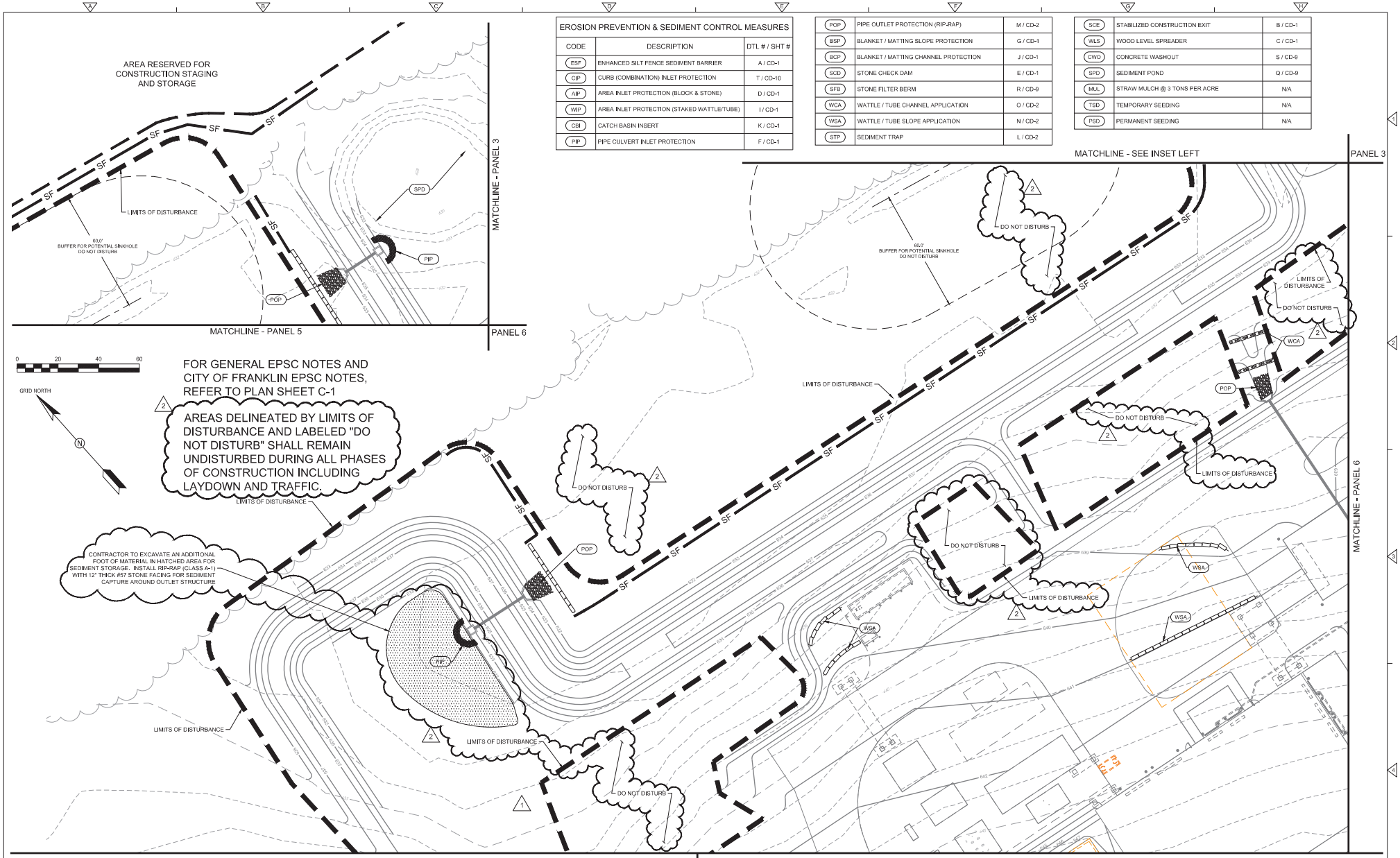
TLG INFRASTRUCTURE ASSOCIATES
307 Hickerson Drive
Murfreesboro, TN 37129
Tel: (615) 663-7678

CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 5 - INITIAL PHASE

PROJECT NO. 14915-06594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-42A

CONFORMED DRAWING - AUGUST 2018



EROSION PREVENTION & SEDIMENT CONTROL MEASURES		
CODE	DESCRIPTION	DTL # / SHT #
ESF	ENHANCED SILT FENCE SEDIMENT BARRIER	A / CD-1
CIP	CURB (COMBINATION) INLET PROTECTION	T / CD-10
AIP	AREA INLET PROTECTION (BLOCK & STONE)	D / CD-1
WIP	AREA INLET PROTECTION (STAKED WATTLE/TUBE)	I / CD-1
CBI	CATCH BASIN INSERT	K / CD-1
PIP	PIPE CULVERT INLET PROTECTION	F / CD-1

POP	PIPE OUTLET PROTECTION (RIP-RAP)	M / CD-2
BSP	BLANKET / MATTING SLOPE PROTECTION	G / CD-1
BCP	BLANKET / MATTING CHANNEL PROTECTION	J / CD-1
SCD	STONE CHECK DAM	E / CD-1
SFB	STONE FILTER BERM	R / CD-9
WCA	WATTLE / TUBE CHANNEL APPLICATION	O / CD-2
WSA	WATTLE / TUBE SLOPE APPLICATION	N / CD-2
STP	SEDIMENT TRAP	L / CD-2

SCE	STABILIZED CONSTRUCTION EXIT	B / CD-1
WLS	WOOD LEVEL SPREADER	C / CD-1
CWO	CONCRETE WASHOUT	S / CD-9
SPD	SEDIMENT POND	Q / CD-9
MUL	STRAW MULCH @ 3 TONS PER ACRE	N/A
TSD	TEMPORARY SEEDING	N/A
PSD	PERMANENT SEEDING	N/A

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	11/30/18	TLH	RPH	CONSTRUCTION CHANGE AUTHORIZATION
				CONFORMED DRAWING
1	4/18	TLH	RPH	REISSUED FOR BID CHANGES

DESIGNED BY: TLH
DRAWN BY: TLH
SHEET CHK'D BY: RPH
CROSS CHK'D BY: RPH
APPROVED BY: T. HAGGARD
DATE: APRIL 2018

CDM Smith
210 25th Avenue North, Suite 1102
Nashville, TN 37203
Tel: (615) 320-3161

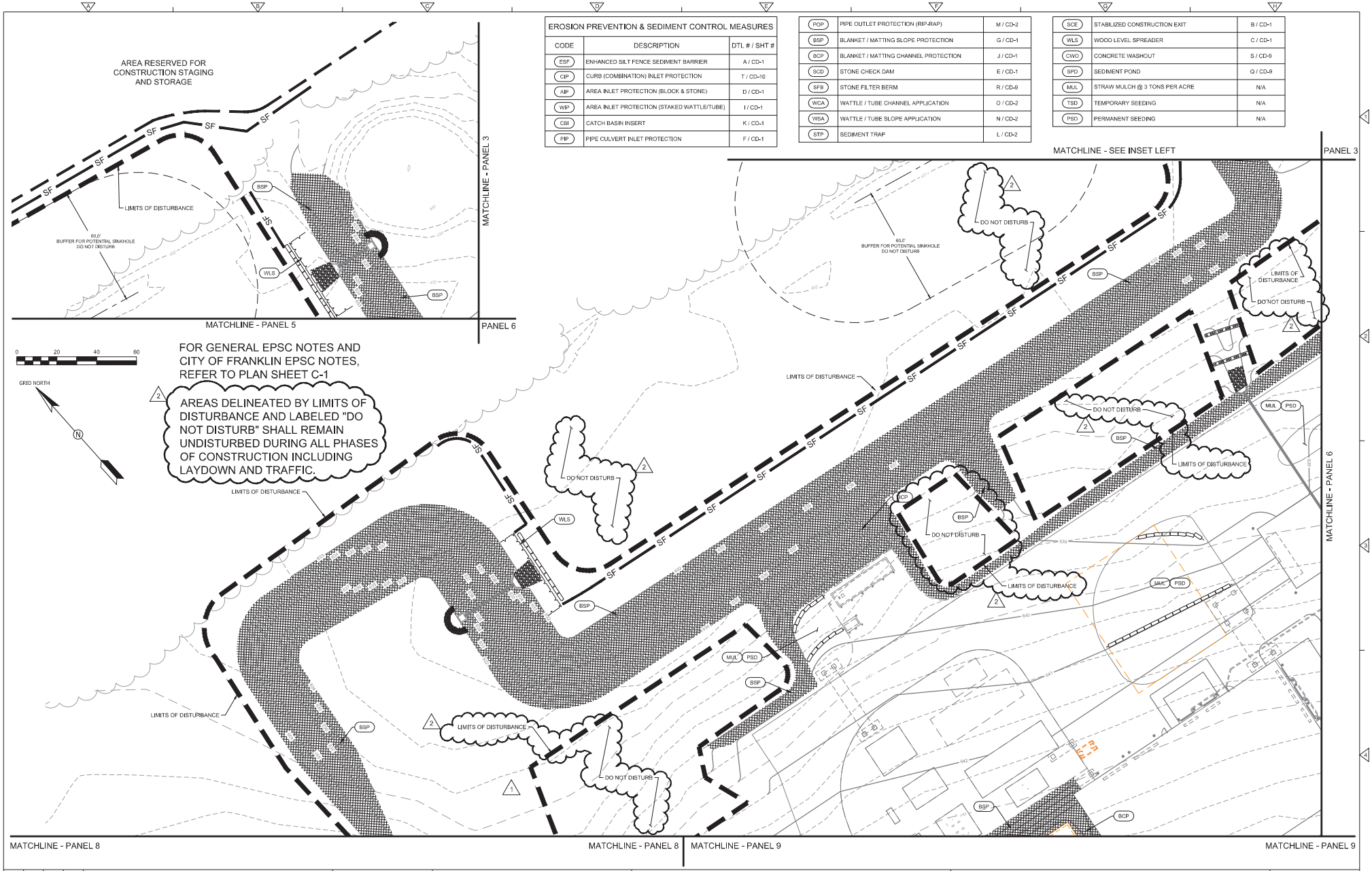
TLG INFRASTRUCTURE ASSOCIATES
307 Hickerson Drive
Murfreesboro, TN 37129
Tel: (615) 663-7678

CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 5 - INTERIM PHASE

PROJECT NO. 14915-06594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-42B

CONFORMED DRAWING - AUGUST 2018



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REV. NO.	DATE	DRWN	CHKD	REMARKS
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				CONFORMED DRAWING
1	4/18	TLH	RPH	REISSUED FOR BID CHANGES

DESIGNED BY: TLH
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SHEET CHK'D BY: RPH
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CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
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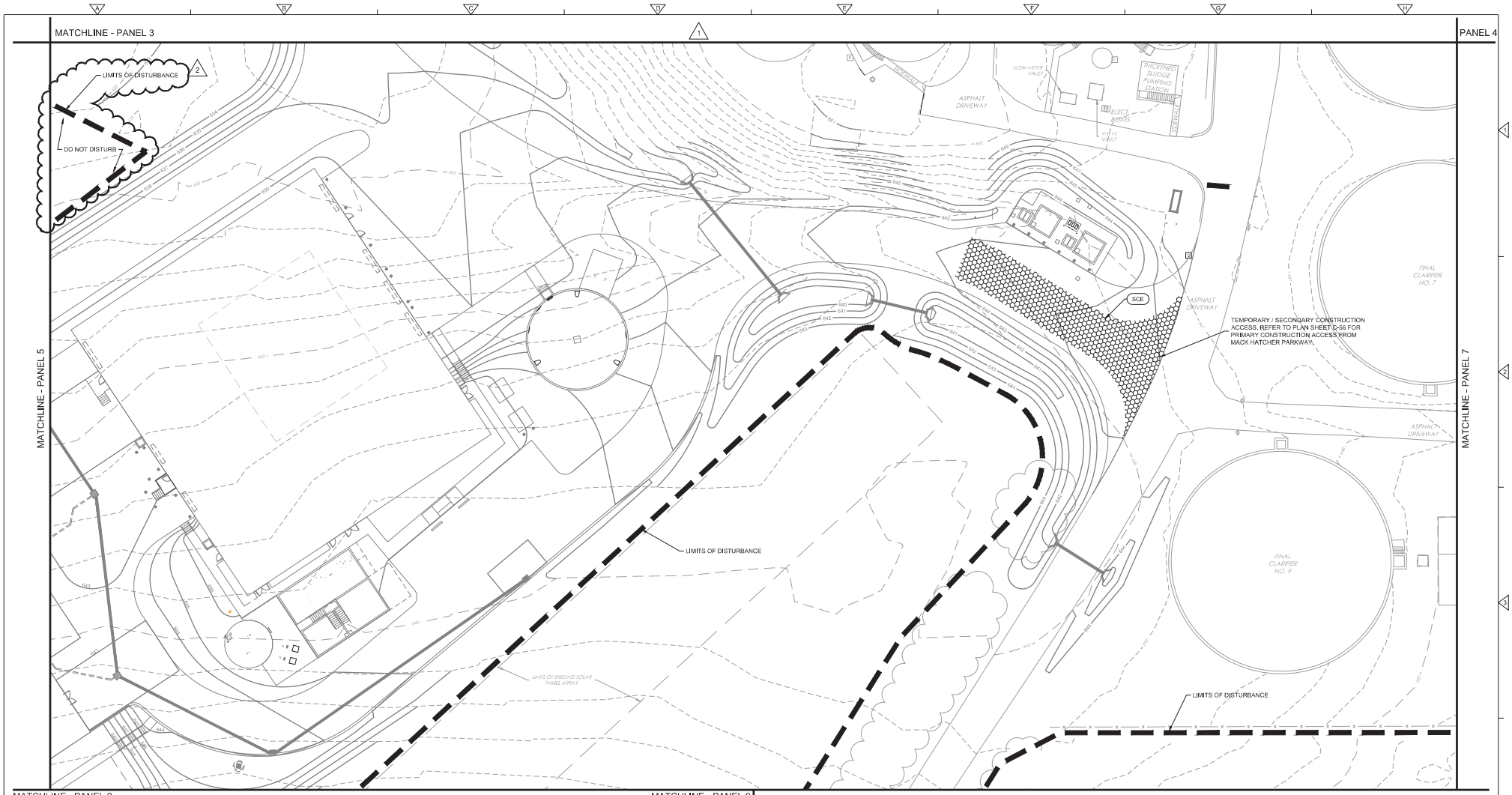
COF CONTRACT NO. 2017-0264

EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 5 - FINAL PHASE

PROJECT NO. 14915-06594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-42C

CONFORMED DRAWING - AUGUST 2018



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FOR GENERAL EPSC NOTES AND CITY OF FRANKLIN EPSC NOTES, REFER TO PLAN SHEET C-1

2 AREAS DELINEATED BY LIMITS OF DISTURBANCE AND LABELED "DO NOT DISTURB" SHALL REMAIN UNDISTURBED DURING ALL PHASES OF CONSTRUCTION INCLUDING LAYDOWN AND TRAFFIC.

GRID NORTH

0 20 40 60

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	11/30/18	TLH	RPH	CONSTRUCTION CHANGE AUTHORIZATION
				CONFORMED DRAWING
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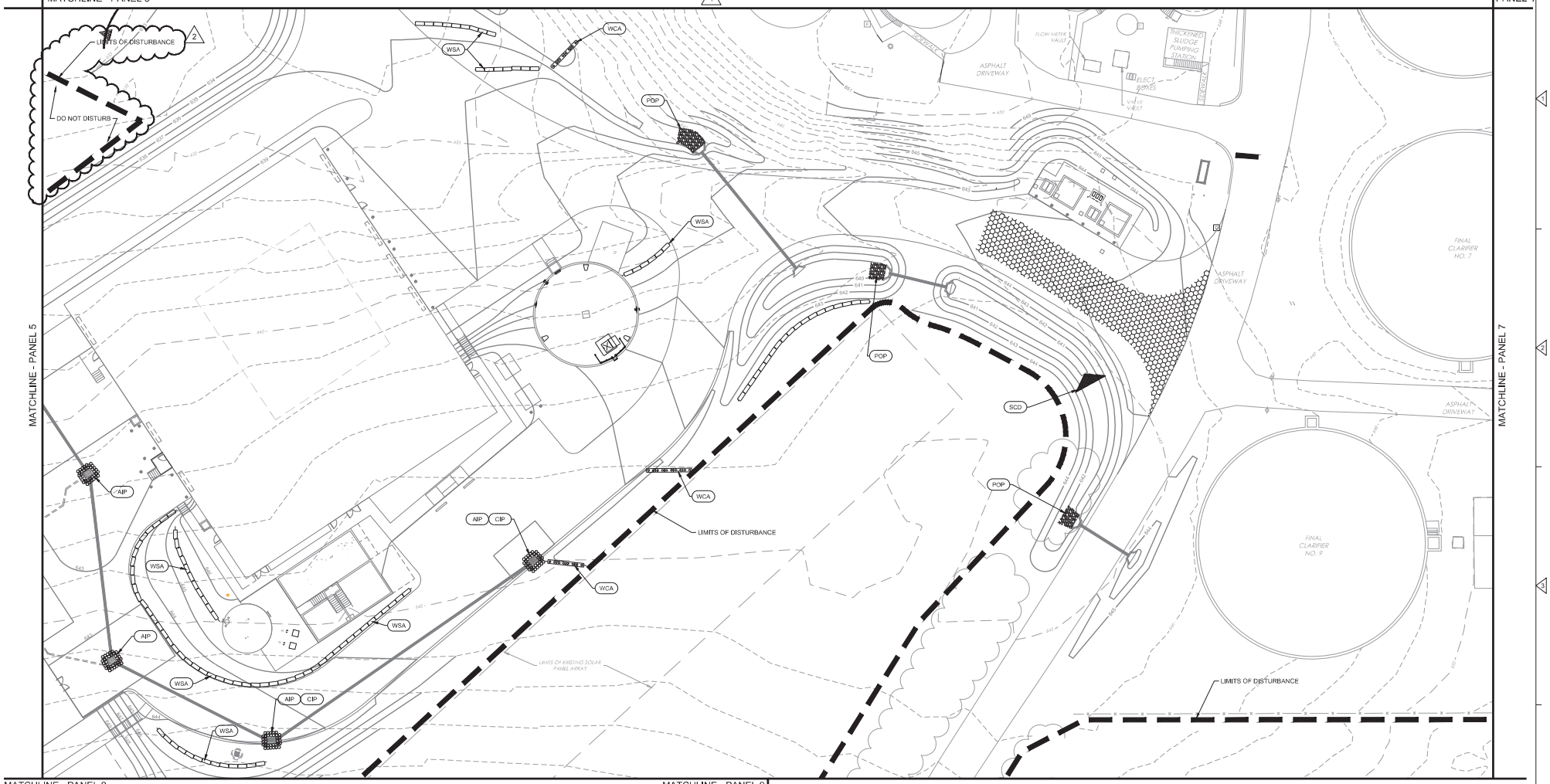
CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 6 - INITIAL PHASE

PROJECT NO. 14915-96594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-43A

CONFORMED DRAWING - AUGUST 2018



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GRID NORTH

0 20 40 60

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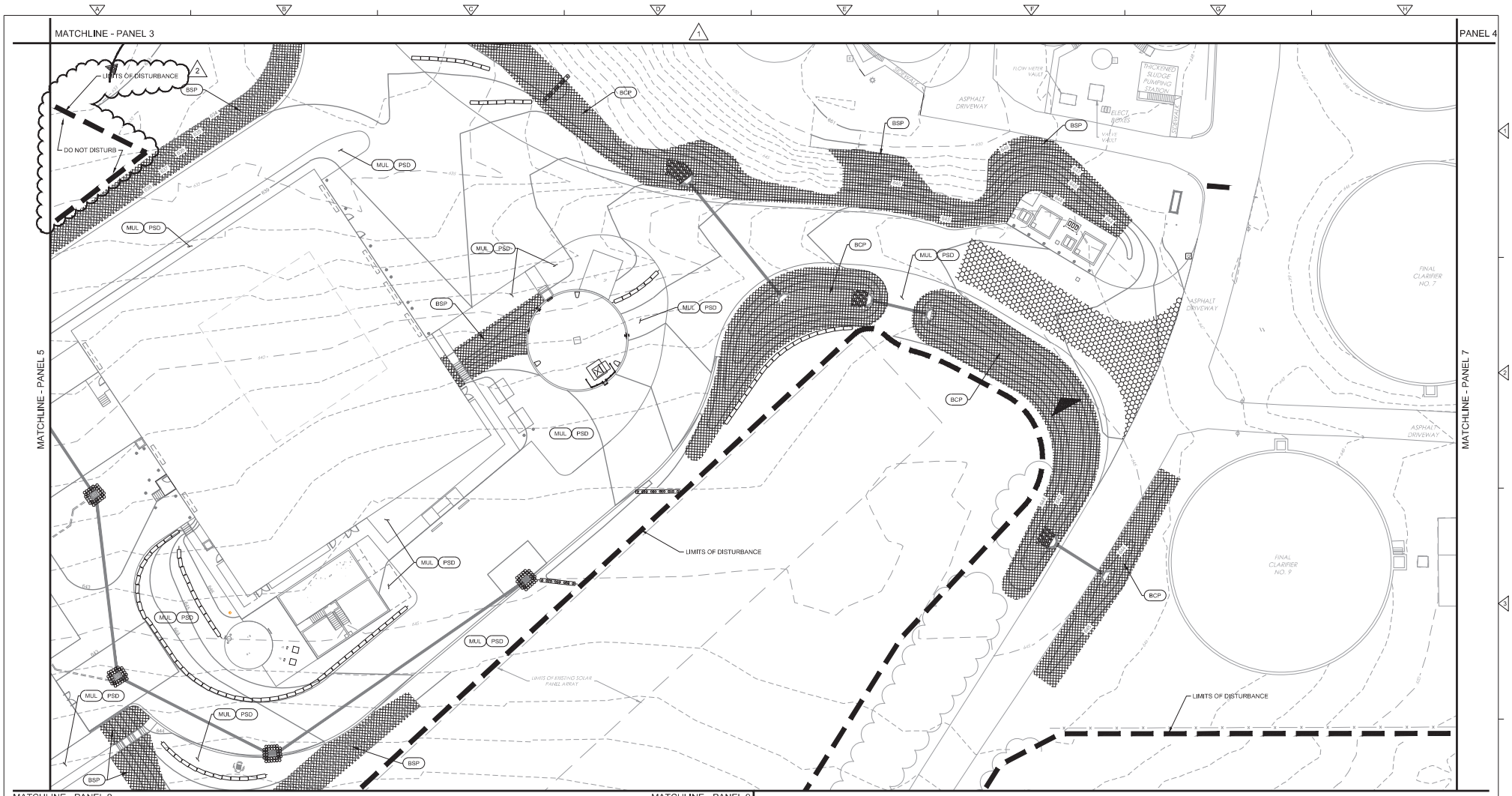
CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 6 - INTERIM PHASE

PROJECT NO. 14915-96594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-43B

CONFORMED DRAWING - AUGUST 2018



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GRID NORTH

0 20 40 60

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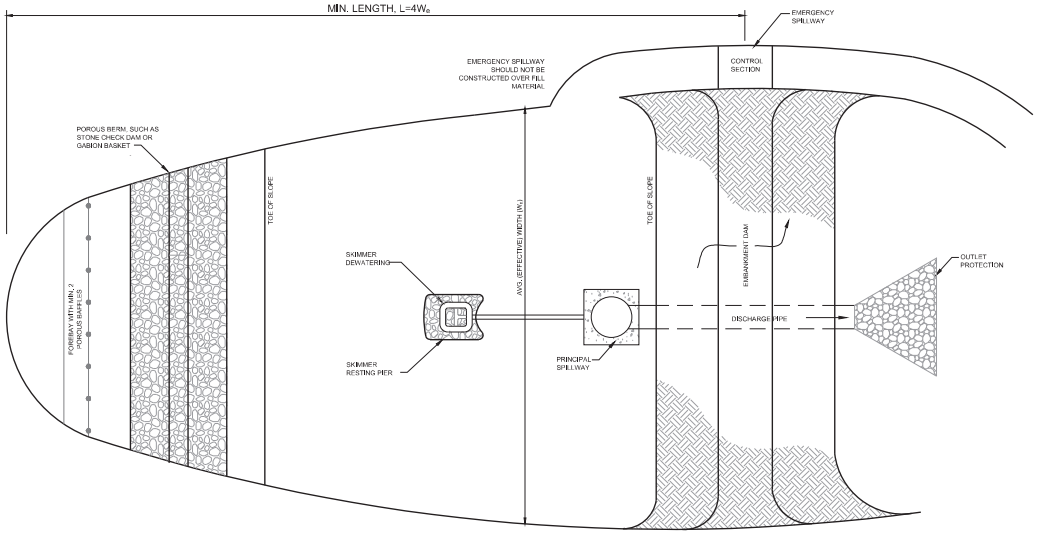
CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

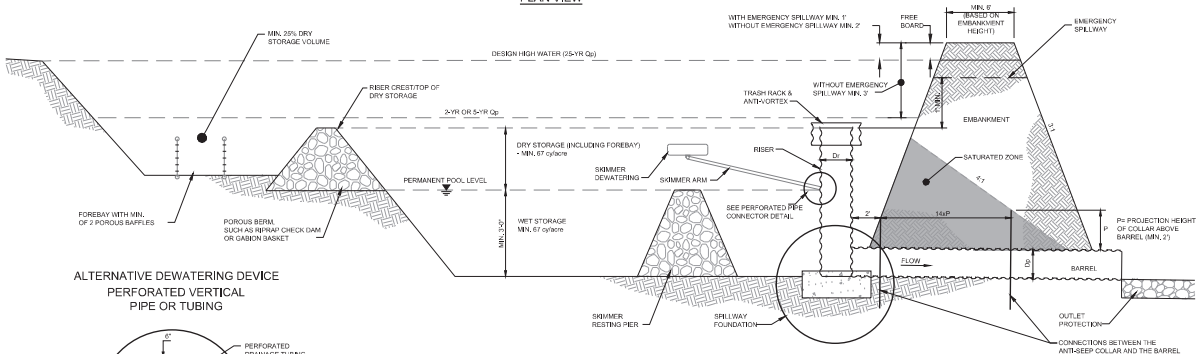
EROSION PREVENTION & SEDIMENT CONTROL PLAN
PANEL 6 - FINAL PHASE

PROJECT NO. 14915-36594-WRF
FILE NAME: CoF_WRF_Civil
SHEET NO.
C-43C

CONFORMED DRAWING - AUGUST 2018

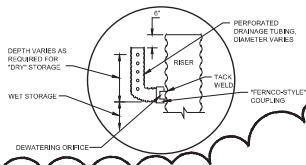


PLAN VIEW



SECTION VIEW

ALTERNATIVE DEWATERING DEVICE
PERFORATED VERTICAL PIPE OR TUBING



PERFORATED PIPE DEWATERING DEVICE SPECIFICATIONS

FACILITY	PIPE DIAMETER	INLET ELEVATION	NUMBER OF SLOTS/HOLES
BASIN 1	8"	633.25	8

SKIMMER DEWATERING DEVICE SPECIFICATIONS

FACILITY	SKIMMER NO.	ARM DIAMETER	ORIFICE DIAMETER
BASIN 1	1	6"	0.75"

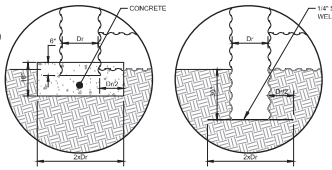
BASIN SCHEDULE

FACILITY	RISER PIPE DIA. (IN)	BARREL PIPE DIA. (IN)	PERMANENT POOL ELEVATION	PRINCIPAL SPILLWAY ELEVATION FEET, AMSL	EMERGENCY SPILLWAY ELEVATION FEET, AMSL	EMERGENCY SPILLWAY WIDTH	EMERGENCY SPILLWAY SIDESLOPE	TOP OF EMBANKMENT ELEVATION FEET, AMSL	BOTTOM OF BASIN ELEVATION FEET, AMSL
BASIN 1	24"	24"	633.25'	634.25'	635.00'	20'	3H:1V	636.50'	628.00'

BASIN DESIGN VOLUME

FACILITY	TOTAL DRAINAGE AREA (SF)	TOTAL DRAINAGE AREA (ACRES)	REQUIRED TOTAL STORAGE VOLUME (CY)	REQUIRED TOTAL STORAGE VOLUME (CF)	REQUIRED WET STORAGE VOLUME (CF)	REQUIRED DRY STORAGE VOLUME (CF)	TOTAL BASIN CAPACITY (CF)	WET STORAGE CAPACITY (CF)	DRY STORAGE CAPACITY (CF)
BASIN 1	553,212	12.7	1702	45,948	22,974	22,974	63,825	23,004	22,146

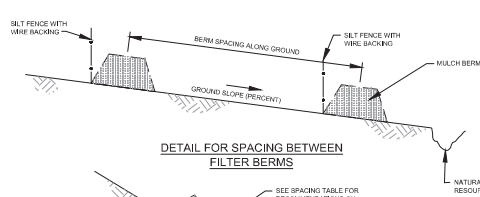
SPILLWAY FOUNDATIONS FOR RISER HEIGHTS <10'



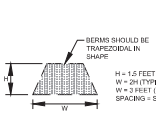
CONCRETE BASE FOR EMBANKMENT 10' OR LESS IN HEIGHT

STEEL BASE FOR EMBANKMENT 10' OR LESS IN HEIGHT

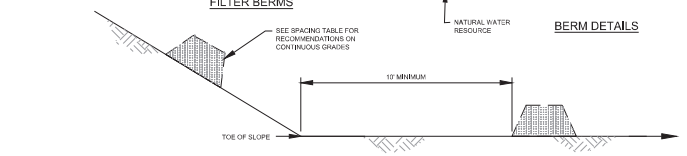
SEDIMENT POND Q
N.T.S.



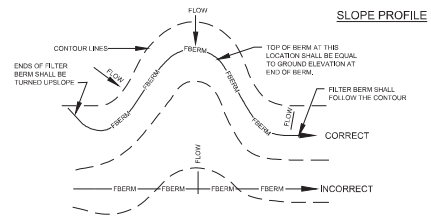
DETAIL FOR SPACING BETWEEN FILTER BERMS



BERM DETAILS



SLOPE PROFILE

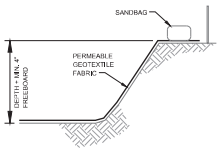


PLAN VIEW

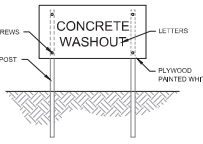
FILTER BERM SPACING

GROUND SLOPE (%)	RECOMMENDED SPACING BETWEEN BERMS ALONG GROUND (FT)
<2	110
2-5	100
5-10	75
10-20	25
>20	NOT ALLOWED

STONE FILTER BERM R
N.T.S.

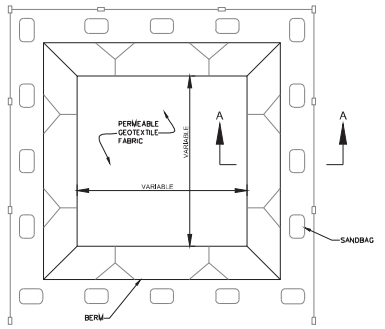


SECTION A-A
NOT TO SCALE



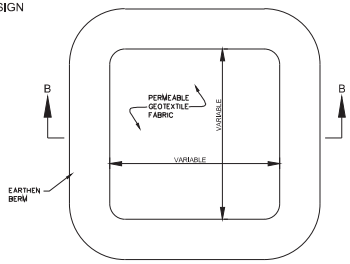
CONCRETE WASHOUT SIGN (OR EQUIVALENT)

SECTION B-B
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

TYPE "BELOW GRADE"



PLAN VIEW
NOT TO SCALE

TYPE "ABOVE GRADE" WITH EATHERN BERMS

NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT. OF THE WASHOUT FACILITY.

CONCRETE WASHOUT S
N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS
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	8/18	TLH	RPH	CONFORMED DRAWING

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CITY OF FRANKLIN, TENNESSEE
WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264

CIVIL DETAILS

PROJECT NO. 14915-36594-WRF
FILE NAME: C-Details
SHEET NO.
CD-9

CONFORMED DRAWING - AUGUST 2018

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CITY OF FRANKLIN
WATER RECLAMATION FACILITY
MODIFICATIONS & EXPANSION PROJECT
135 Claude Yates Drive
Franklin, TN 37064
(Williamson County)

Owner/Developer:
City of Franklin
Water Management Department
124 Lumber Drive
Franklin, TN 37064

September 11, 2018

CIVIL INFRASTRUCTURE ASSOCIATES

307 Hickerson Drive
Murfreesboro, Tennessee 37129
Tel (615) 663-7678
www.cia-engineers.com

Preamble

The City of Franklin Water Management Department *(Owner)* has contracted with Kiewit Infrastructure South Co (*Operator*) to perform the construction activities described in this Storm Water Pollution Prevention Plan (SWPPP) under the authority of a NPDES Tennessee General Permit TNR 100000 for Storm Water Discharge from Construction Activities. The Owner shall ensure that Operator personnel are qualified to perform this work as defined by the regulations. The Owner is aware that compliance with all conditions of this Permit and that any non-compliance with the Permit constitutes a violation of the Clean Water Act and is grounds for an enforcement action, termination of Permit coverage, or denial of a permit renewal application.

General Purpose

Storm water pollution prevention plans, (SWPPPs), shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution, which one would reasonably expect to affect the quality of storm water discharges from the construction site. The plan shall describe and ensure the implementation of practices which will be used to reduce the pollutants in storm water discharge associated with construction activity at the construction site and to assure compliance with the terms and conditions of this permit.

Site/Owner Information

Site/Owner Name:	City of Franklin Water Reclamation Facility
Site Location:	135 Claude Yates Drive Franklin, TN 37064
Owner/Primary Permittee:	City of Franklin Water Management Department
Owner/Primary Permittee Address and Phone:	124 Lumber Drive Franklin, TN 37064 (615) 794-4554

SIGNATURE FORM

This Storm Water Pollution Prevention Plan (SWPPP) is developed in accordance with the Tennessee General NPDES Permit (TNR100000) for Storm Water Discharges Associated with Construction Activity (TNCGP) effective October 1, 2016, and is prepared using sound engineering practices.

As instructed by TNCGP, this plan and all attachments are hereby submitted to the local Environmental Assistance Center (EAC), along with the complete, correctly signed Notice of Intent (NOI). Construction will not be initiated prior to 30 days from the date of submittal of this document, or prior to receipt of a Notice of Coverage (NOC) from the Tennessee Department of Environment and Conservation (TDEC).

Developer / Owner: City of Franklin Water Management Department
124 Lumber Drive
Franklin, TN 37064
(615) 794-4554

Contact Person: Brian Goodwin, PE, Assistant Director

Permit Application Certification and Signature (must be signed by president, V.P. or equivalent, or ranking elected official)		
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury		
Representative of owner/developer; print or type Mark Hilty, Assist. City Adminstrator	Signature	Date

Primary Contractor: Kiewit Infrastructure South Co.
4405 International Blvd. NW, Suite C-101
Norcross, GA 30093
(678) 794-2121

Contact Person: Steve Davis, Project Manager

Certification for Contractor(s) (must be signed by president, V.P. or equivalent)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury		
1. Representative of primary contractor; print or type Tom Trimble, VP, Area Manager	Signature by representative of primary contractor	Date

The specific individual responsible for the implementation and maintenance of the construction site storm water control plan will be _____Lauren Micallef_____.

*****A COPY OF THE SWPPP AND THE NOTICE OF COVERAGE MUST BE *** MAINTAINED ON THE PROJECT SITE AT ALL TIMES.**

SPECIAL INSTRUCTIONS TO THE CONTRACTOR

The individual responsible for installation, maintenance, and inspections of erosion and sediment control measures will be Lauren Micallef of Kiewit Infrastructure South Co. The above signed individual has / has not (circle one) completed the *Fundamentals of Erosion Prevention and Sediment Control* course offered by the State of Tennessee. The above signed individual's mobile telephone number is (303) 515-1407.

Current versions of this SWPPP, the NOI, and the NOC will be kept on the site for the duration of the project. These items will be available for the use of all operators and site personnel involved with erosion and sediment controls, and will be available to TDEC personnel visiting the site. A notice will be posted near the construction entrance containing a copy of the NOC with the tracking number assigned by the EAC, the name, telephone number of a contact person for the construction project, and a brief description of the project.

If at any time there is a change of contractor, a new or revised NOI will be submitted to TDEC at least 48 hours prior to when the new contractor assumes operational control over the site or begins work at the site.

Any new contractor on the project that has any responsibility to install, inspect, or maintain erosion or sediment control measures will sign the contractor's certification on a copy of the NOI (Appendix H) and will submit it to the local EAC. Any correspondence with TDEC or any EAC will reference the tracking number assigned by TDEC to the project. The City of Franklin will submit a Notice of Termination (NOT; Appendix I) after the complete installation and successful establishment of the final stabilization activities at the site.

It is the intention and goal of the TNCGP and this SWPPP that any discharge from the property described in this document have no objectionable color contrast to the water body that receives it. The construction activity will be carried out in such a manner as will prevent any discharge that would

cause a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of the waters on the property or downstream of the property for fish and aquatic life, livestock watering and wildlife, recreation, irrigation, navigation, or industrial or domestic water supply.

This plan may be amended for reasons described below, or for other reasons. When the plans are revised, the contractor will implement the changes to erosion protection and sediment controls within 48 hours after the need for modification is identified. In the event of release of a reportable quantity of toxic or hazardous substances, the contractor will comply with the EPA's regulations that can be found under 40CFR, parts 117 and 302 at the EPA web site at www.epa.gov. Any generally significant spill should be cleaned up and not allowed to be transported in runoff into streams. The course of action should consist of the following steps:

1. Contractor will notify permittee
2. Permittee will notify National Response Center and Tennessee Emergency Management Agency

   (TEMA as well as Nashville Environmental Assistance Center (EAC)).
3. Permittee will revise the SWPPP to incorporate measures that will prevent reoccurrence of such releases.

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List of Figures (See Appendix D)

Appendices

1.0 Introduction

The City of Franklin (Owner) under contract with Kiewit Infrastructure South Co (Operator) plans to modify and expand their existing Water Reclamation Facility at 135 Claude Yates Drive. Under this project the City and Contractor propose to construct the site infrastructure including driveways, parking areas, drainage facilities, and utilities in accordance with the Tennessee Department of Environment and Conservation's (TDEC) General Permit TNR100000 (Permit) and the described activities in this Storm Water Pollution Prevention Plan (SWPPP). The Owner shall ensure that all contractor personnel are qualified to perform the work defined by these regulations. The Owner is fully aware of the importance of compliance with all conditions of this permit and that any non-compliance is a violation of the Clean Water Act and may result in termination of permit coverage or denial of any permit renewal application.

Thus, in accordance with Section 3 of the Tennessee Department of Environment and Conservation (TDEC) General Permit TNR100000, all components of the Storm Water Pollution Prevention Plan have been included herein. Also attached, for reference only, is a copy of the permit regulations (Appendix A) that are required to be on-site at all times.

2.0 Site Description

2.1 Construction Activity

Provide a description of the nature of the construction activity.

The project includes improvement and expansion of the existing Franklin Water Reclamation Facility at 135 Claude Yates Drive, Franklin, Tennessee. Improvements will include modification of existing structures, addition of new structures, additional of subsurface piping and utilities, paving and grading. Proposed construction activity for completion of the site improvements will be limited to an area encompassing approximately 40 acres; however, the entire area within this perimeter will not be disturbed during construction. Construction includes improvements to multiple isolated components of the facility as well as construction of new facility components which together make up the whole of the treatment facility. The construction activities for this project shall include grading activities, storm water drainage and utility installation, paving, building construction, and construction of tanks, junction structures, and other treatment facilities. Grading activities will include stripping of topsoil, stockpiling, excavation, fill placement, compaction, and placement of topsoil, mulching, and seeding.

2.2 Sequence

Provide a description of the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.).

The construction activities for the Franklin WRF Modifications and Expansion Project will occur in multiple phases over an approximate 3.5-year construction schedule. Construction sequencing shall generally be as follows:

1. Install Initial phase EPSC measures including construction entrance and all perimeter controls
2. New Headworks and Equalization Basin
    - Demolition of old BNR basins & Clarifiers 1-4
    - Excavation of Area for new construction
    - Construction of EQ Basin, Headworks Building, and Odor Control Facilities
    - Installation of connecting influent and effluent piping
    - Installation of associated utilities and piping
    - Backfilling, placing topsoil, and finish grading
    - Mulching and seeding
3. New Solids Processing Area
    - Stripping and stockpiling of topsoil
    - Grading including excavation, fill placement, and compaction for Biosolids facilities, access roadway, and stormwater detention ponds.
    - Trenching and installation of various utilities including storm water, sanitary service, plant waste, natural gas service, potable water, plant water, electric, odor control, and other process piping.
    - Building and Tank construction
    - Paving and site concrete placement
    - Backfilling landscape areas with topsoil and finish grading
    - Mulching and seeding
4. BNR Basin Modifications
    - Installation of new influent piping
    - Construction of new pipe junction/distribution structure
    - Demolition of existing pipe junction/distribution structures
    - Backfilling, placing topsoil, and finish grading
    - Mulching and seeding
5. New Electrical Building & Alum Pad
    - Grading and compaction
    - Building and Containment Facility Construction
    - Associated utility trenching and backfill
    - Placing topsoil and finish grading
    - Mulching and seeding
6. New UV Disinfection Facility
    - Partial demolition of existing Filter tanks
    - Excavation of area for new facility

- Construction of New UV facility and Junction structures
- Connection of influent/effluent piping
- Backfilling, placing topsoil, and finish grading
- Mulching and seeding

7. Modification of Clarifier Influent Distribution Box
   - Grading and excavation for structure modifications
   - Installation of new influent/effluent piping
   - Backfilling, placing topsoil, and finish grading
   - Mulching and seeding

All final phase erosion prevention and sediment control measures shall remain in place until suitable vegetation is established and the probability of erosion is eliminated.

2.3 Disturbed Area

Estimates of the total area of the site and total area of the site that is expected to be disturbed by excavation, grading, or other activities.

Total Site Area:	Approximately 109.6 Acres
Total Disturbed Area:	Approximately 40.3 Acres

2.4 Topography

Description of the topography of the site including an estimation of the percent slope and the variation in percent slope found on the site; based on the drainage area serving each outfall.

The site of the existing Water Reclamation Facility sits inside a bend of the Harpeth River above and outside the 100-year floodplain limits. The improved site is flat with gentle slopes and swales between various treatment process building and equipment. Areas of steep fill slopes exist along the south and east perimeter of the existing improved site where the site ties back down to the floodplain of the river. The north and west portions of the improved site as well as the majority of the balance of the property slopes inward (away from the river) toward on-site closed despressions. The area of the new biosolids processing facility is currently undeveloped and has slopes ranging from virtually flat (<1%) to 10%. Primary stormwater discharge from the site is via sheet flow toward the river along with a couple area of shallow concentrated flow.

2.5 Soils

Any data describing the soil (data may be referenced or summarized) or the quality of any discharge from the site.

According to USDA-NRCS Soil Survey maps, the following soils are present on site:

Map Unit	Map Unit (Soil) Name	Hydrologic Soil Group
ArA	Armour silt loam, 0 to 2 percent slopes	B
ArB2	Armour silt loam, 2 to 5 percent slopes, eroded	B
ArC2	Armour silt loam, 5 to 12 percent slopes, eroded	B
AtC3	Armour silty clay loam, 5 to 12 percent slopes, severely eroded	B
Hu	Huntington silt loam, phosphatic	B
MbB2	Maury silt loam, 2 to 5 percent slopes, eroded	A
MbC2	Maury silt loam, 5 to 12 percent slopes, eroded	A
McC3	Maury silty clay loam, 5 to 12 percent slopes, severely eroded	A

For a soil map, refer to Appendix B.

2.6 Runoff Coefficient

An estimate of the runoff coefficient of the site after construction activities are completed and how the runoff will be handled to prevent erosion at the permanent outfall and receiving stream.

Approximately 10.0 acres of the site will be considered impervious after construction with the balance of the site (99.6 acres) remaining pervious. A composite post developed runoff coefficient of 0.28 is anticipated. The increase in runoff anticipated from development will be mitigated through the construction of two on-site stormwater detention basins. Final EPSC stabilization includes implementation of turf reinforcement matting on slopes and swales to reduce the possibility of erosion resulting from development.

(Refer to Appendix C for calculations).

2.7 Maps

The following maps are included in this SWPPP. Figures 1 thru 4 are included in Appendix D.

a. Location Map which is based upon the USGS Topographic Quadrangle Map is attached as Figure 1;
b. Site Map which is based upon aerial photography is attached as Figure 2;
c. A Drainage Areas Map for Existing Conditions is included as Figure 3;
d. A Drainage Areas Map for Proposed Conditions is included as Figure 4

e. Major structural and non-structural controls are shown on the Erosion Prevention and Sediment Control Plan included in Appendix F.

2.8 Outfalls

Careful identification on the site map of outfall points for storm water discharges from the site; the plan shall identify outfall points intended for coverage under the general permit (see Figure 2 and Erosion Prevention and Sediment Control Plans, Appendix F).

Any stormwater runoff which leaves this site would enter the Harpeth River. Stormwater discharge from the Site is conveyed south and east primarily by sheet flow or shallow concentrated flow to the Harpeth River. There is a single 18"RCP point source discharge on the northeast side of the plant which conveys runoff from the existing paved drive located southeast of the main plant influent pump station. Stormwater runoff from the north and west portions of the site is conveyed by a combination of sheet flow and storm sewer conduit flow to existing on-site closed depressions.

2.9 Other Discharges

A description of any discharge associated with industrial activity other than construction storm water that originates on site and the location of that activity.

Reclaimed wastewater is discharged from the plant to the Harpeth River under NPDES Permit TN0028827 following treatment and disinfection.

2.10 Wetlands or Streams

Identification of any stream or wetland adjacent to the project, a description of any anticipated alteration of these waters and the permit number or the tracking number of the ARAP or Section 401 Certification issued for the alteration.

No alterations of protected waters are planned as a result of this project.

2.11 Receiving Waters

The name of the receiving water(s) and approximate size and location of affected wetland acreage at the site.

The receiving waters for the project site will be the Harpeth River.

3.0 EROSION PREVENTION AND SEDIMENT CONTROLS

3.1 Pre-Construction and During Construction

Storm water runoff controls for the proposed project will consist of the structural control measures themselves and the maintenance and inspection practices discussed later in this plan. The structural control measures, maintenance and inspection practices are designed to retain sediment on site, therefore they generally need to be placed and functional prior to earth moving activities beginning for the project. All structural control measures and phases for their use can be found in Erosion Control Plan sheets in Appendix F. The Operator shall be responsible for the installation and maintenance of all erosion control structures. The Owner shall be responsible for the inspection of all erosion control structures and for notifying the Operator of any maintenance issues. At no time will the existing vegetation be destroyed, removed or disturbed for more than 14 calendar days prior to grading unless temporary cover is installed. Any temporary erosion control measures used on site may be removed at the beginning of the workday and replaced at the end of the workday until all construction activities are done in the area and suitable vegetative cover is established. At no time will erosion control blanket be considered as final stabilizing vegetation nor will the area be considered 90% stable with just erosion control blanket and no vegetative growth. The goal of this plan is to protect the existing quality of the offsite receiving waters of this project.

3.2 Stabilization, Structural, and Non-Structural Controls

The following is a description of the sequence of construction activities that are planned for the project site along with the structural control and stabilization measures associated with each activity. EPSC measures have been designed to minimize erosion and maximize sediment removal resulting from a 2-year, 24-hour return interval storm.

3.2.1 Clearing, Grubbing, and Demolition

General Requirements: The Owner will refer to the TDEC Erosion and Sediment Control Handbook for details on general erosion and sediment control measures.

Stabilization: Interim stabilization practices at phase-specific locations are detailed on the Erosion Prevention and Sediment Control Plan and details located in Appendix F. The only areas to be cleared shall be the areas where earth moving activities are planned within 14 days of clearing. Upon the completion of earth moving activities in the area, temporary seeding and mulch shall be used to stabilize the construction slopes until final dressing of slopes and final stabilization is required.

Structural Practices: Structural practices for this project shall include, but are not limited to, stabilized construction entrance, temporary enhanced silt fence, temporary wattle/tube channel application, and temporary water/tube

inlet protection. All structural items shall be installed prior to or during clearing operations, see Appendix F for details and locations.

Responsible Parties: The Operator shall be responsible for the installation and maintenance of all erosion control structures. The Owner shall be responsible for the inspection of all erosion control structures and for notifying the Operator of any maintenance issues.

3.2.2 Grading and Excavation

General Requirements: The Owner will refer to the TDEC Erosion and Sediment Control Handbook for details on general erosion and sediment control measures.

Stabilization Practices: All exposed slopes shall have temporary cover as soon as 7 days, but no later than 15 days, after work in the area has been completed.

Structural Practices: Structural practices for this project shall include, but are not limited to temporary silt fence, check dams, inlet protection for catch basins, wattle/tube channel applications, wattle/tube slope applications, and concrete wash down area. All structural items shall be installed prior to or during clearing operations, see Appendix E for details and locations.

Responsible Parties: The Operator shall be responsible for the installation and maintenance of all erosion control structures. The Owner shall be responsible for the inspection of all erosion control structures and for notifying the Operator of any maintenance issues.

3.2.3 Final Stabilization

General Requirements: Owner shall refer to the TDEC Erosion and Sediment Control Handbook for details on general erosion and sediment control measures.

Stabilization Practices: Final stabilization of all slopes shall take place after completion of the final grading. Final dressing of slopes shall include final grading of slopes, placing of top soil, seeding and mulching, sodding and/or placement of erosion control blanket as shown on the EPSC plans. Final stabilization shall occur as soon as 7 days, but no later than 15 days, of final slope dressing.

Structural Practices: Structural practices for this project shall include, but are not limited to, placement of top soil, seeding and mulching, and placement of erosion control blanket on slopes and channels. At no time shall erosion control blanket be considered as final stabilization. Areas covered with erosion control blanket shall be considered stabilized only when there is suitable vegetative growth on said areas.

Responsible Parties: The Operator shall be responsible for the installation and maintenance of all stabilization control measures. The Owner shall be responsible for the inspection of all stabilization control measures and for notifying the Operator of any maintenance issues. When the site has achieved 90% stability, the Owner can then post the Notice of Termination (NOT) thus releasing the Operator from their contractual requirements with respect to Erosion Prevention and Sediment Control.

3.3 Post-Construction

The Owner does not anticipate any problems with pollutants from the project site after construction operations have been completed. Maintenance of the storm water management measures is not required by the permit upon the completion of all construction activities on the site, therefore routine maintenance will not be provided by the Owner.

3.3.1 Pollutant Controls

Pollutant controls will include debris removal from drainage structures and trash removal from the right-of-way areas. The owner of the property will need to develop a mowing and maintenance program for the turf grass areas of the project site. Any solid or liquid spills from over the road vehicles will be kept from entering waters of the State by the owner of the property. There are no special types of structures included in this project to aid with these types of pollutants. Additional potential pollutants include potential wastewater chemicals used in the wastewater treatment and biosolids production processes. Structural containment areas are incorporated into the construction plans for these types of potential pollutants.

3.3.2 Velocity Controls

Pipe outlet protection in the form of Rip-Rap is shown at proposed points of discharge from all culverts and storm water pipe outlets. In addition, wood level spreaders are included at the outlets of the two stormwater detention ponds. No other velocity controls are anticipated.

4.0 STORM WATER MANAGEMENT

4.1 Required Records

The Operator shall maintain, at the site, the following records of construction activities:

a. The dates of all major grading activities.
b. The dates when construction activities temporarily or permanently ceased.
c. The dates when stabilization measures, temporary and permanent, were initiated.
d. Daily rainfall amounts (see Appendix G for sample form)

The Owner shall keep copies of the Storm Water Pollution Prevention Plan, all permits, all reports required by the permits and all records of data used to complete the Notice of Intent, for a period of no less than three years from the date of the Notice of Termination is filed. This length of time may be extended by a written request to the Tennessee Department of Environment and Conservation.

4.2 Maintenance

Maintenance operations shall be undertaken to insure that existing vegetation, proposed vegetation, erosion and sediment control measures and all other protective measures identified in the Erosion Control Plans shall be kept in effective operating condition. Maintenance issues identified by the Owner's inspector, or by other means, shall be repaired or replaced before the next storm event, but in no case more than seven days after the need is identified. In the case that maintenance in the area is impracticable at that time, a record shall be made and the issues shall be resolved at a later date if possible. All maintenance shall be monitored throughout the inspection procedure listed below, but shall not be limited to, the following practices:

a. The observation of installing the control measures in order to determine compliance with the manufacturer's specifications and good engineering practices for the use of the control.
b. Removal of site sediment accumulations so that sediment does not reach waters of the State and offsite impacts are minimized (Note: Sediment accumulations that reach waters of the State must not be removed until consulting with TDEC).
c. Removal of sediment from silt fence, check dams, wattle/tube applications, dumped rock dissipater, rock silt screens and other sediment controls when the design capacity has been reduced by 50%.

d. The pickup or prevention of litter, construction debris and construction chemicals from becoming pollutant sources prior to any anticipated storm events.

In addition to the practices listed above, the project shall be monitored by the Owner to ensure the maintenance and effectiveness of the erosion control measures. At any time the project Operator is found to be neglecting any erosion control measures, the Owner may withhold payment of future progress estimates until the project Operator has performed the necessary maintenance or corrective measures. At any time the project Operator refuses or fails to perform any of the necessary maintenance or corrective measures, the Owner may employ outside assistance or use their own department personnel to provide the needed protective measures. All direct costs plus engineering costs may be withheld from the project Operator's monthly progress estimate.

4.3 Inspections

The inspection process was designed to provide protection for the Owner against non-compliance with all permits and to ensure that erosion and sediment controls and all other protective measures are in place and maintained at all times during the construction process. Inspectors must have successfully completed the "Fundamentals of Erosion Prevention and Sediment Control" course, or equivalent course, for individuals involved in land-disturbing activities which provides a working knowledge of erosion prevention and sediment controls. A copy of the certification or training record for inspector certification should be kept on site.

4.3.1 Schedule

Care should be taken in any area that discharges offsite not to let any sediment enter "Waters of the State". The schedule of inspection by qualified personal will be as follows:

a. Before anticipated storm events or series of events such as intermittent showers over one of more days.
b. Within 24 hours after the end of a storm event that exceeds 0.5 inches (including weekends and state holidays).
c. At least twice every 7 days for the duration of the construction process, including weekends, state holidays and periods of time when no construction or grading activities are taking place.
d. Inspections shall be performed at least 72 hours apart.

Any required maintenance or repairs identified during an inspection shall be made before the next rain event if possible, but in no case more than 7 days after the need is identified.

4.3.2 Documentation Requirements

All inspections shall be documented in a written report and will include the following items:

a. Scope of the inspection.
b. Name(s), title and qualifications of the personnel making the inspection.
c. The date(s) of the inspection.
d. All maintenance issues, any sediment discharges at outlets, any pollutants from or on the site and any areas where controls failed to operate as designed or proved inadequate for a particular location.
e. All actions taken to replace, modify or repair any control measures identified as being inadequate for the area or in disrepair during inspections.

A sample of the inspection form for this project is included in Appendix G**.** The Owner shall certify, on a weekly basis, that the weekly inspections of erosion and sediment controls and outfall points inspections are performed and that all planned and designed erosion and sediment controls are installed and performing as designed. The inspector will certify on a weekly basis (on the form found in Appendix G) that the inspection described above has been performed and whether or not all of the erosion and sediment control measures are installed and in working order. The inspector shall also maintain a rain gauge on the project site and keep a daily log of gauge readings. Inspection documentation will be maintained on site and made available upon request. Inspections reports must be submitted to the division within 10 days of the request. The record of certifications on the form along with rain data will be submitted to the local EAC by the 15th of the month (postmarked) following the end of the quarter. Quarters are January – March, April – June, July – September, and October – December. The certification and rain data should be addressed to:

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Permit Section, 6th Floor
L & C Tower Annex
401 Church Street
Nashville, Tennessee, 37243

4.3.3 Areas to be Inspected

The Owner's qualified personnel will inspect all disturbed areas of the construction site that are not finally stabilized for evidence of, or the potential for, pollutants to enter the drainage system. These areas will include, but are not limited to, the following:

a. Disturbed areas and storage areas that are exposed to precipitation.
b. Erosion and sediment control measures called for in the plans.
c. Outfall points where discharges go offsite or could enter "Waters of the State".
d. All ingress/egress to public or private roads adjacent to the site for offsite tracking of sediment.

4.3.4 Repair, Modification and Revision

During the inspections, if there are any inadequate measures, maintenance issues or modifications required, these requirements should be carried out within 24 hours of the inspection unless conditions make it impractical, at which time the condition should be documented and a time line is set to meet the requirements as documented. If there are any revisions required to the Plans or the SWPPP, these revisions should be made no later than 7 calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 calendar days from the time of the inspection identifying the deficiency.

5.0 OTHER ITEMS REQUIRING CONTROL

5.1 Construction Materials

Construction materials that are anticipated to be stockpiled on the construction site include:

Lumber Masonry Structural Steel Rebar Drainage Structures Mineral aggregate Soil Ductile Iron Pipe and pipe fittings PVC Pipe and fittings Concrete Pipe Water Valves, Valve Boxes, and other water system appurtenances sanitary manhole structures and lids

All stockpiles of erodible construction materials shall have perimeter controls down grade of the stockpile. Any stockpiles of top soil shall have perimeter controls and temporary cover until such time of their use. Non-erodable construction materials shall be stored in areas free from run-on and runoff and in an organized manner.

5.2 Waste Materials

Waste material (earth and rock) from the construction project site shall be disposed of in an off-site area pre-approved by the Owner. The Operator shall be responsible for acquiring all necessary permits for the disposal, such as, but not limited to, NPDES, Aquatic Resources Alternation Permit, Corps of Engineers Section 404 Permit and TVA 26a Permit.

5.3 Other Materials

Other materials not used for construction, but required for construction, and stored at the site shall be placed in a protected area to prevent pollution of receiving waters. These items include, but are not limited to, the following:

a. Fertilizer and Lime
b. Diesel and Gas
c. Machinery Lubricants (Oil and Grease)

Refueling stations shall be checked daily for signs of spillage and leaks. All fuel storage tanks shall be checked daily for signs of leakage. Machinery shall be checked weekly for leaks of any material that would cause a visible floating scum, objectionable color or odor in the receiving streams. The Operator is responsible for compliance with all applicable EPA and USDOT guidelines regarding equipment related fluids as well as all National Fire Protection Association regulations regarding flammable liquids.

5.4 Non-Storm Water Discharges

The following non-storm water discharges have the potential of occurring from the site during construction:

a. Groundwater may be intercepted during construction. If this occurs then the Plans and the SWPPP shall be modified to incorporate the appropriate measures for these areas.
b. Water used to wash off pavement (where there has been no spillage or leakage of toxic or hazardous materials).
c. Dust suppression water.
d. Water used to wash machinery.

All non-storm water discharges shall be directed to stable reduction structures prior to leaving the site outfalls.