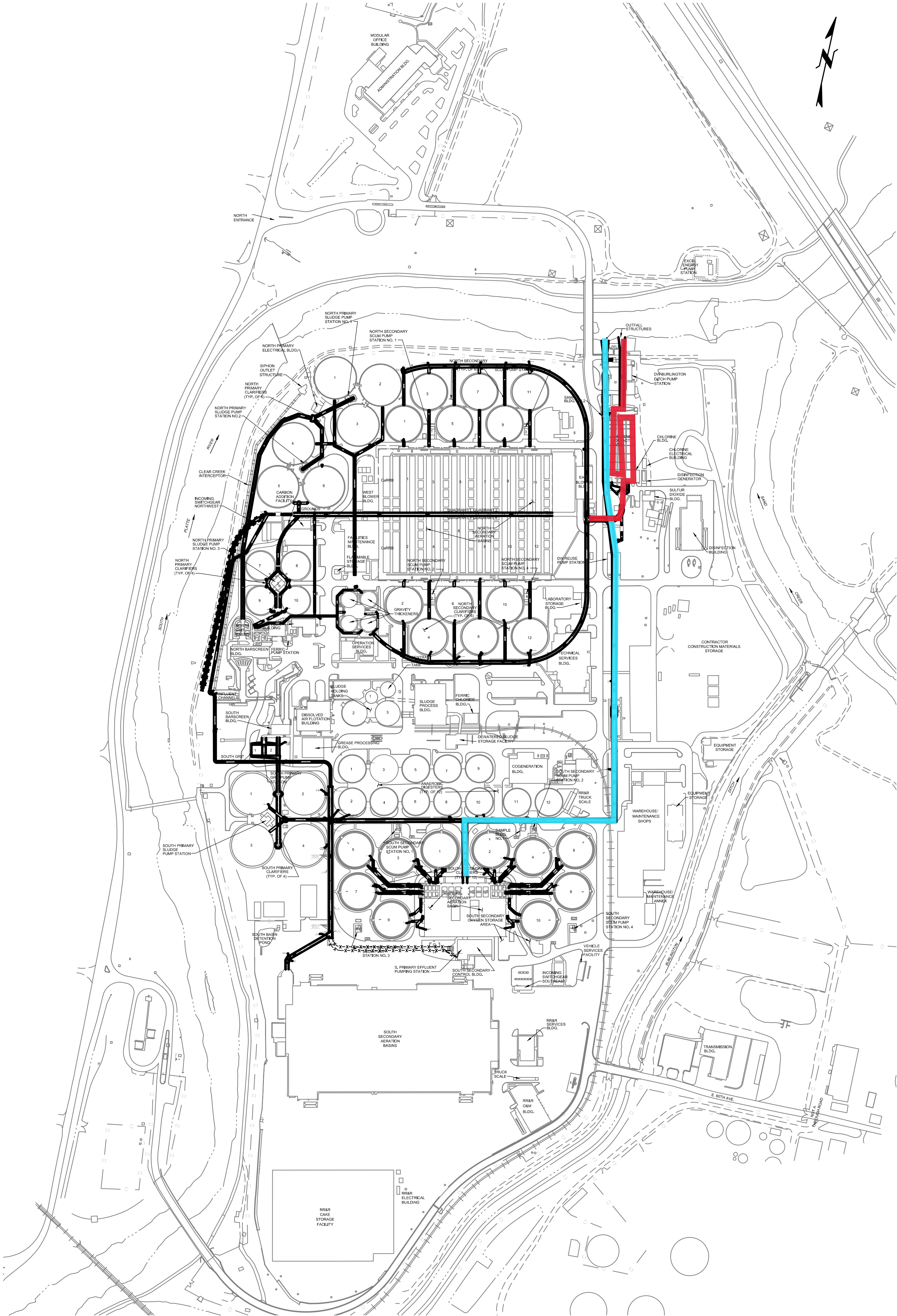


# METRO WASTEWATER RECLAMATION DISTRICT

## CHANNELS AND CONDUITS




LOCATION MAP  
SCALE: NOT TO SCALE

### PAR 1314 PAA

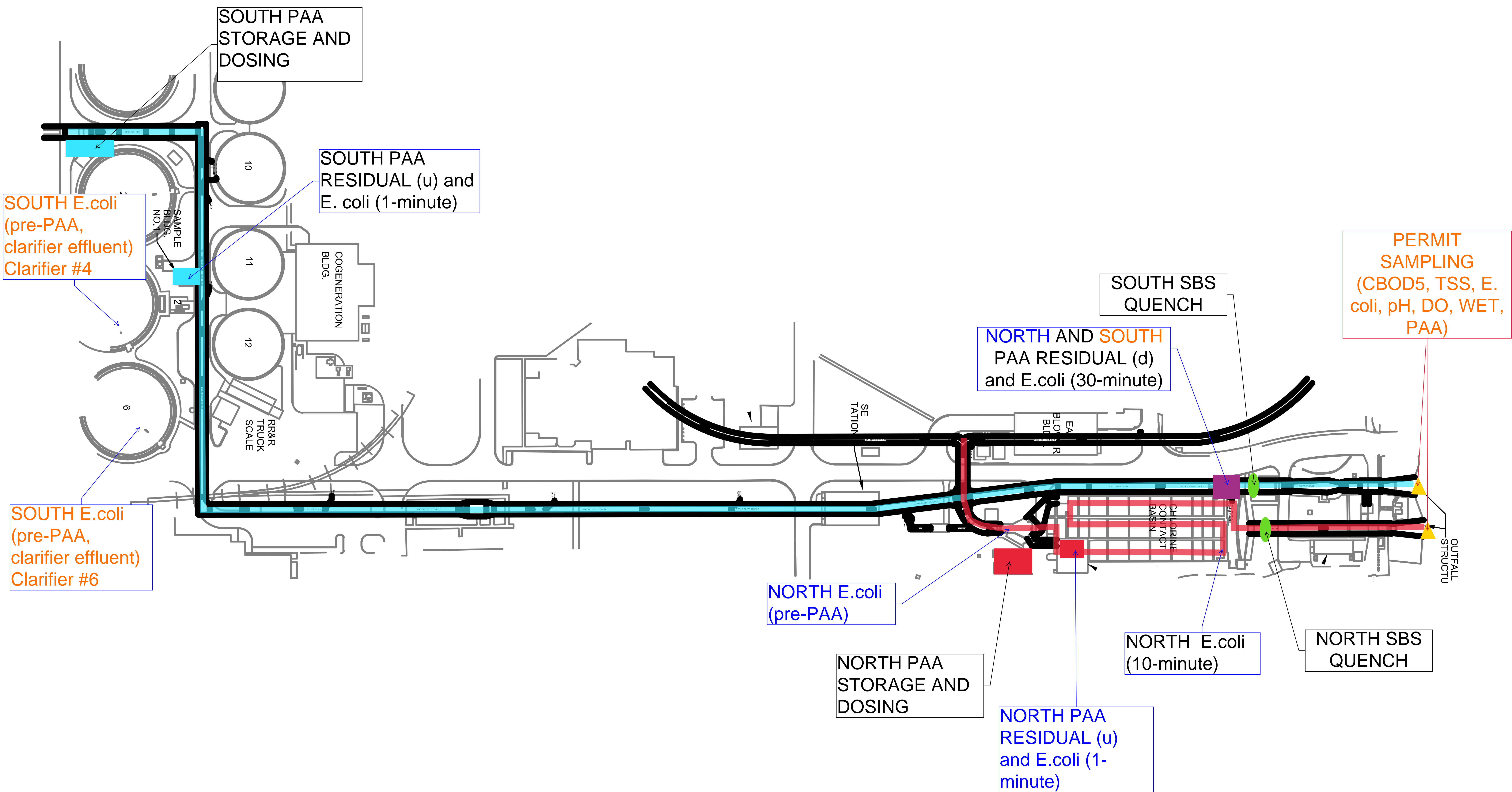
### Disinfection System

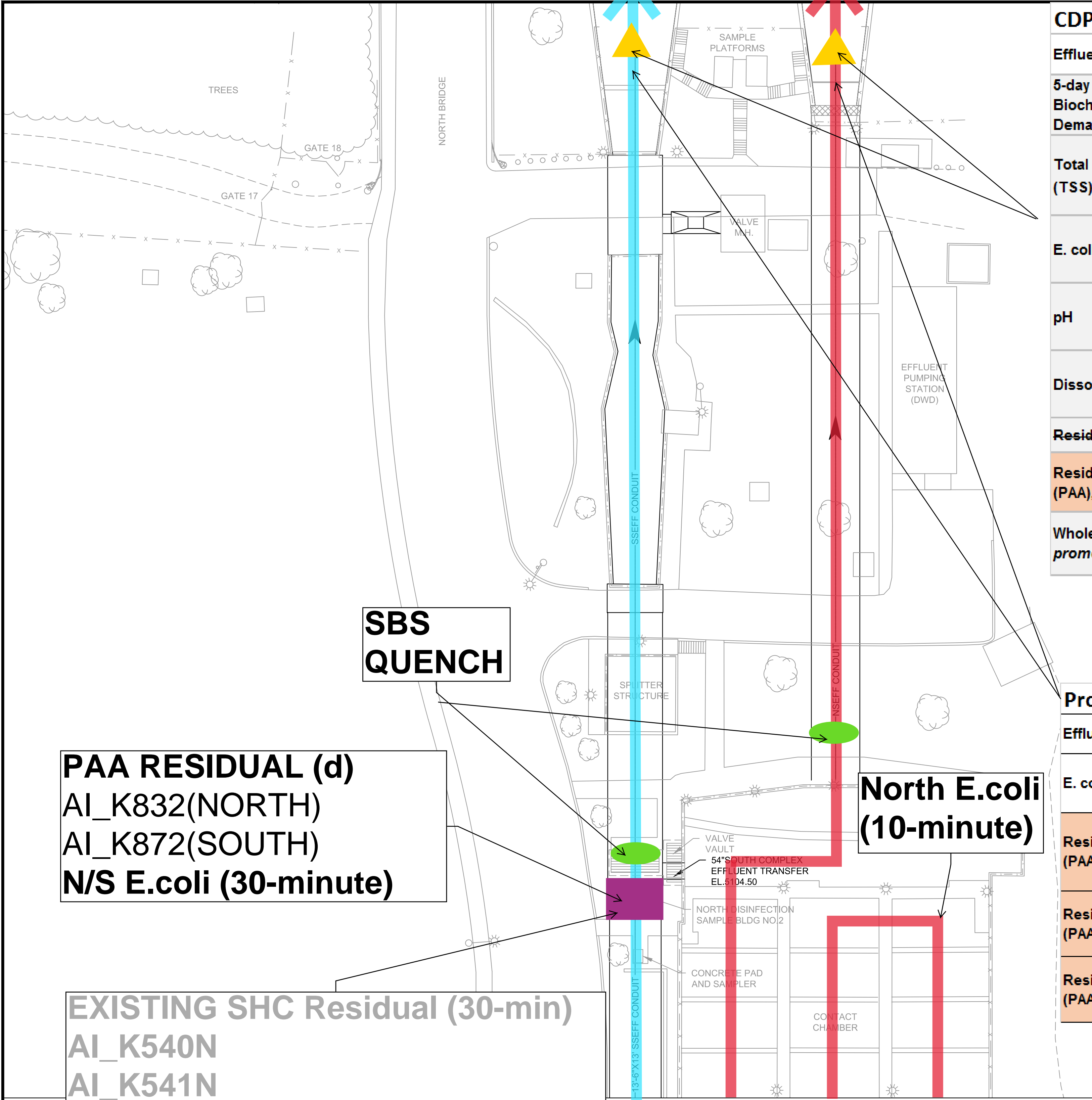
### Plans and Sampling Locations

					VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0" = 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
2-16	PAR 1085	MGS	WK		
3-09	ADDED CAC-I-P1-3 PER PAR 1044	WK	AJN		
2-05	CREATED NEW SHEET NUMBERS	MGS	SA		
DATE	REVISION	BY	APP		
<div> METRO WASTEWATER RECLAMATION DISTRICT</div>					
CHANNELS & CONDUITS					
CIVIL					
COVER SHEET					
DESIGNED BY	-	CHECKED BY	-	DRAWING NUMBER	CAC-CV-001
DRAWN BY	-	APPROVED BY	-		
PAR NO.	-	DATE	10-3	SHT	1



# North and South PAA System Overview





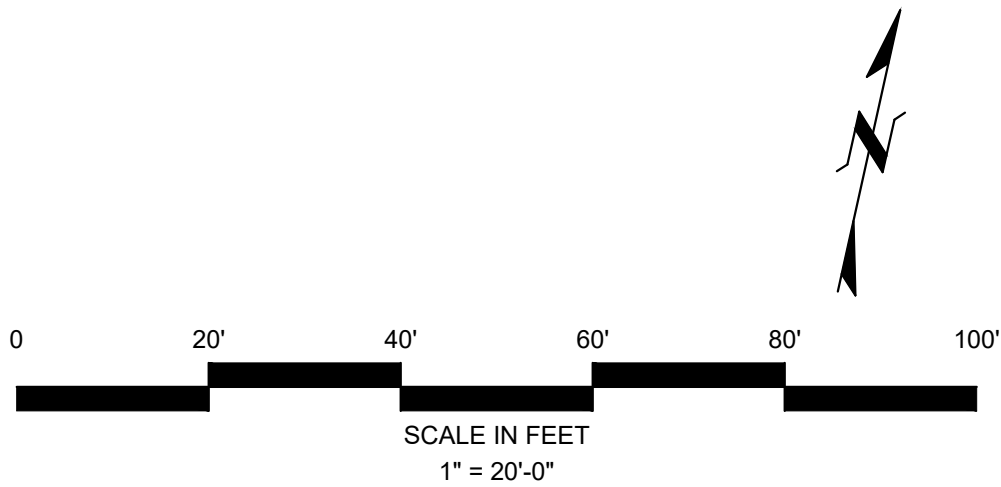
CDPS Effluent Sampling						
Effluent parameter	30-day average	7-day average	Daily maximum	Monitoring frequency	Sample type	Comment
5-day Carbonaceous Biochemical Oxygen Demand (CBOD5), mg/l	17	25	N/A	Daily	24-h composite	Ensure PAA does not markedly increase CBOD5. 2016 pilot results showed a minor increase in CBOD5 (a few mg/L), but not enough to exceed permit limits.
Total suspended solids (TSS), mg/l <sup>1</sup>	30	45	N/A	Daily	24-h composite	Characterize any decrease (improvement in TSS due to PAA disinfection). 2016 pilot results showed a slight decrease in TSS (few mg/L) with PAA disinfection.
E. coli, #/100 ml	126	252	N/A	Daily	Grab	Ensure compliance with disinfection requirements.
pH	N/A	N/A	6.0-9.0	Daily	Grab	Ensure PAA does not change pH. 2016 pilot results showed a minor decrease in pH with PAA disinfection (less than 0.2 standard pH units).
Dissolved Oxygen, mg/l		> 5.0	> 3.0	Daily	Grab	Characterize any increase (improvement) in DO due to PAA disinfection. Monitor DO depletion due to SBS quenching.
Residual chlorine				Every 6 hours?		Discontinue sampling and analysis.
Residual peracetic acid (PAA), mg/l	0.4	N/A	0.7	Every 6 hours + 1 random lab	Grab	N,N-diethyl-p-phenylenediamine (DPD) method. MAX ALLOWABLE: 1.0 mg/L
Whole Effluent Toxicity, Chronic (both <i>C. dubia</i> and <i>P. promelas</i> )				Monthly	3 composites per test	Ensure compliance with toxicity requirements.


Process Control Sampling					
Effluent parameter	Monitoring frequency	Sample type	Method	Location	Comment
E. coli, #/100 ml	Daily - with compliance grabs	Grab		Pre-PAA, 1-minute, 10-minute (North only), and 30-minute	Additional process control upstream of CDPS location. M-F Phase III- Phase IV. Cut back to MWF after first week in Phase IV.
Residual peracetic acid (PAA), mg/l	Every 6 hours - prior to compliance test	Grab	N,N-diethyl-p-phenylenediamine (DPD) method	Process Control at Outfall	Additional process control upstream of CDPS location. Sampling frequency will increase with increasing CDPS sampling frequency.
Residual peracetic acid (PAA), mg/l	Continuous	In-line	Amperometric	Upstream PAA residual (approx. 1 minute)	Process control for determining dose
Residual peracetic acid (PAA), mg/l	Continuous	In-line	Amperometric	Downstream PAA residual (approx. 30 minute)	Process control for determining dose

PAA RESIDUAL (d)  
AI\_K832(NORTH)  
AI\_K872(SOUTH)  
N/S E.coli (30-minute)

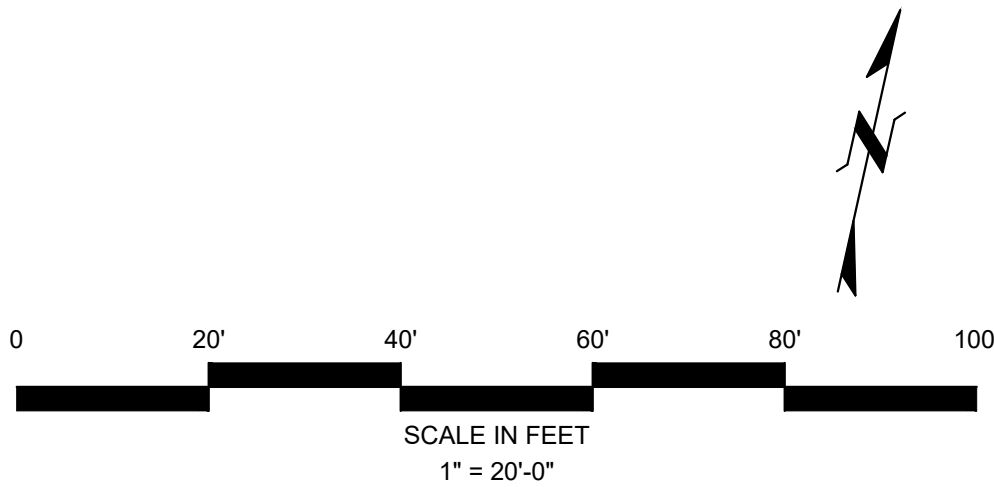
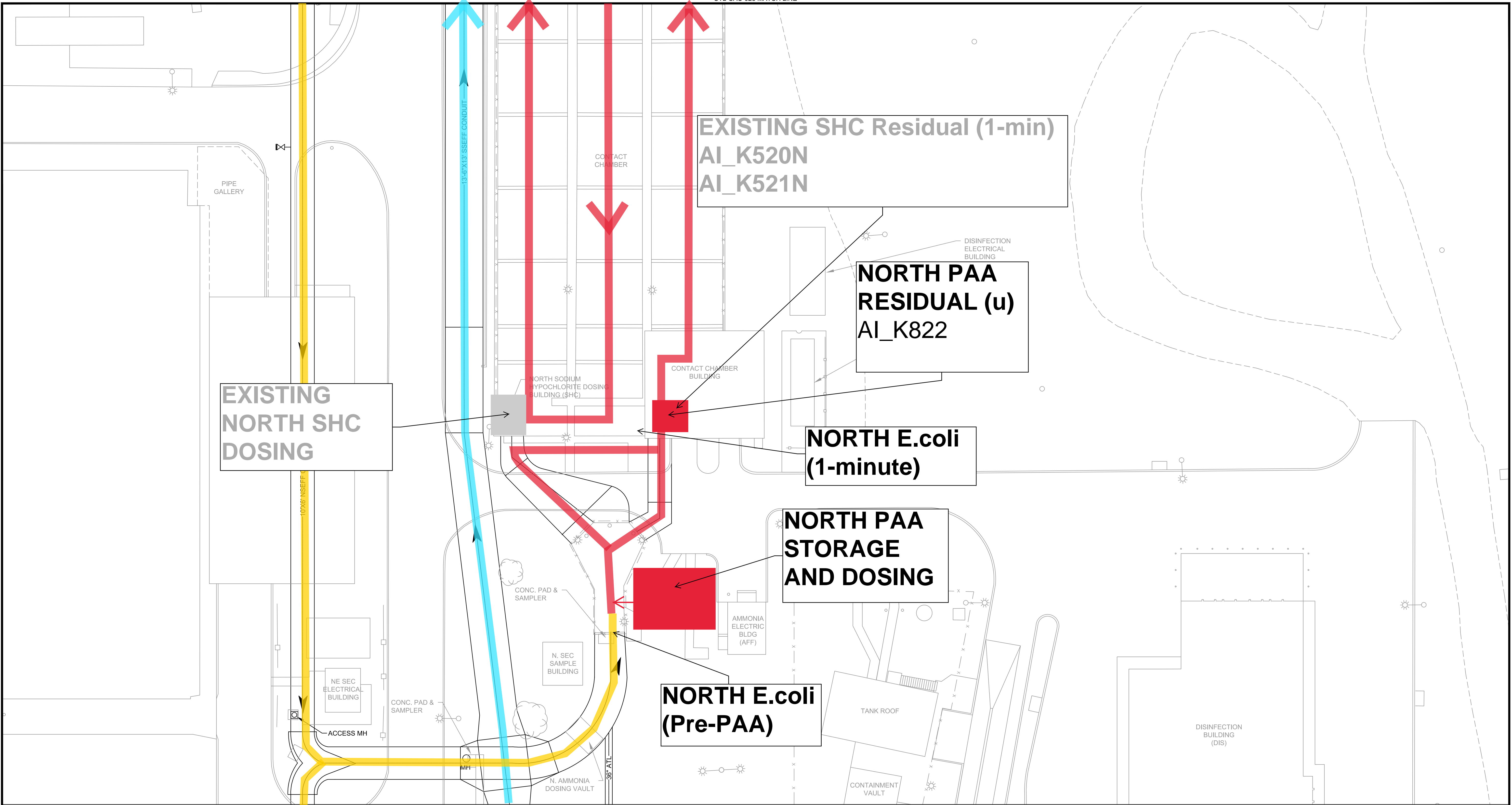
EXISTING SHC Residual (30-min)  
AI\_K540N  
AI\_K541N  
AI\_K540S  
AI\_K541S

North E.coli (10-minute)



				DESIGNED BY -	RWHTF - UTILITIES		
				DRAWN BY -	CHANNELS AND CONDUITS SYSTEM		
				CHECKED BY -	CIVIL		
				APPROVED BY -	SITE MAP		
				DATE -	- - -		
							DWG.
					METRO WASTEWATER RECLAMATION DISTRICT		UTL-CAC-028
DATE	REVISION DESCRIPTION	BY	APP				SH.  028





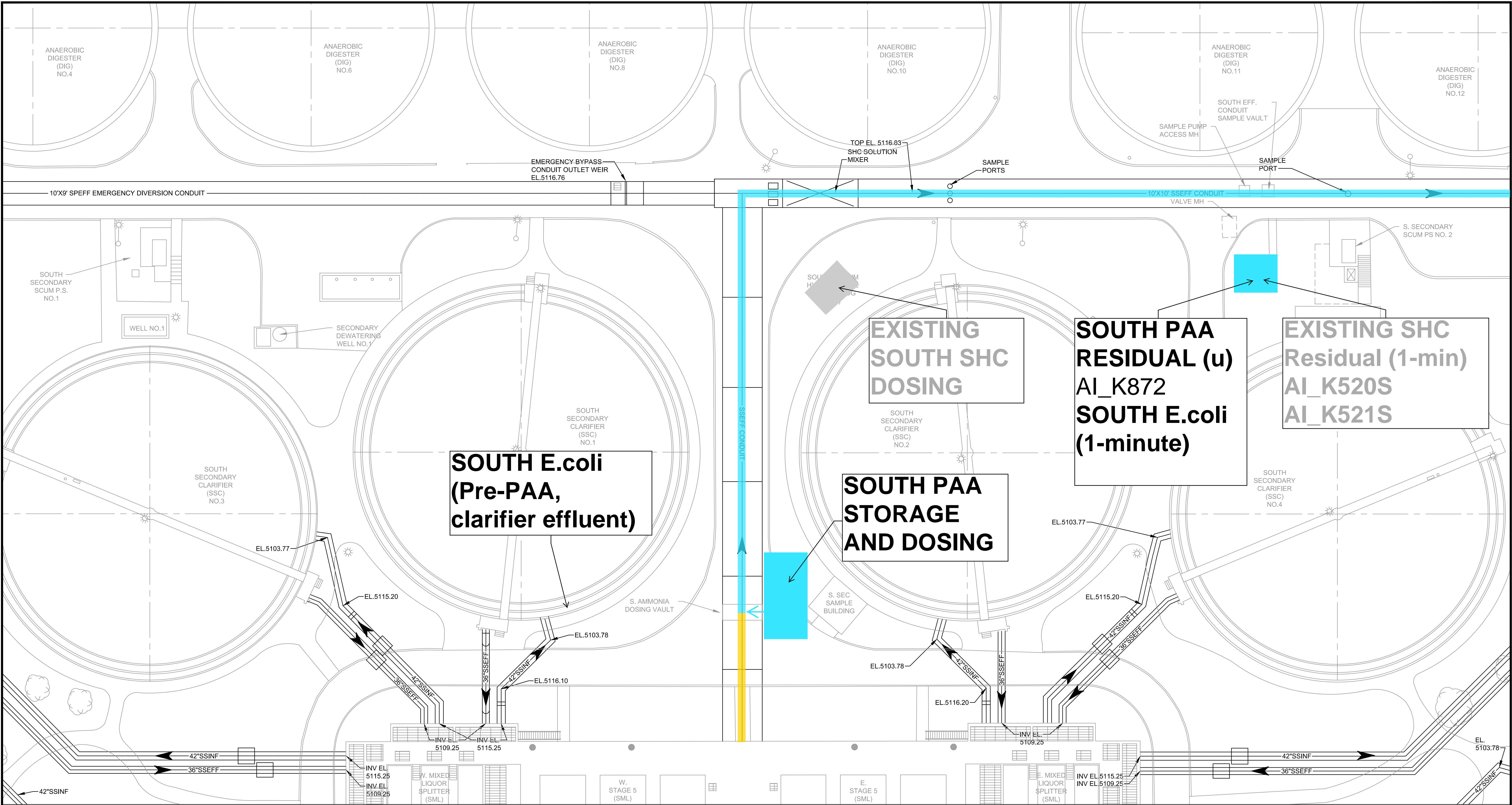
DATE	REVISION DESCRIPTION	BY	APP

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DRAWN BY -  
CHECKED BY -  
APPROVED BY -  
DATE -

RWHTF - UTILITIES  
**CHANNELS AND CONDUITS SYSTEM**  
CIVIL  
SITE MAP  
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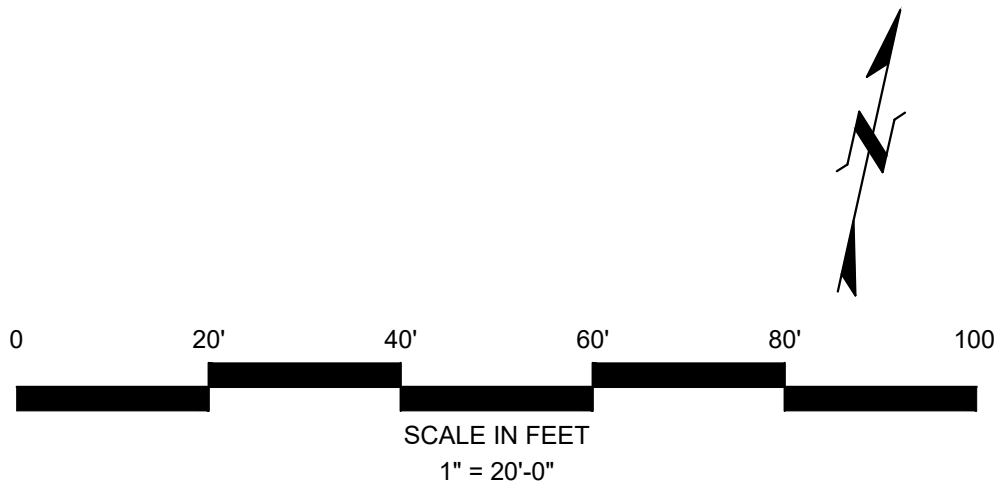
METRO WASTEWATER  
RECLAMATION DISTRICT

DWG.  
UTL-CAC-032  
SH.  
**032**



UTL-CAC-050 MATCH LINE

UTL-CAC-056 MATCH LINE



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APPROVED BY -  
DATE -

RWHTF - UTILITIES

CHANNELS AND CONDUITS SYSTEM

CIVIL

SITE MAP

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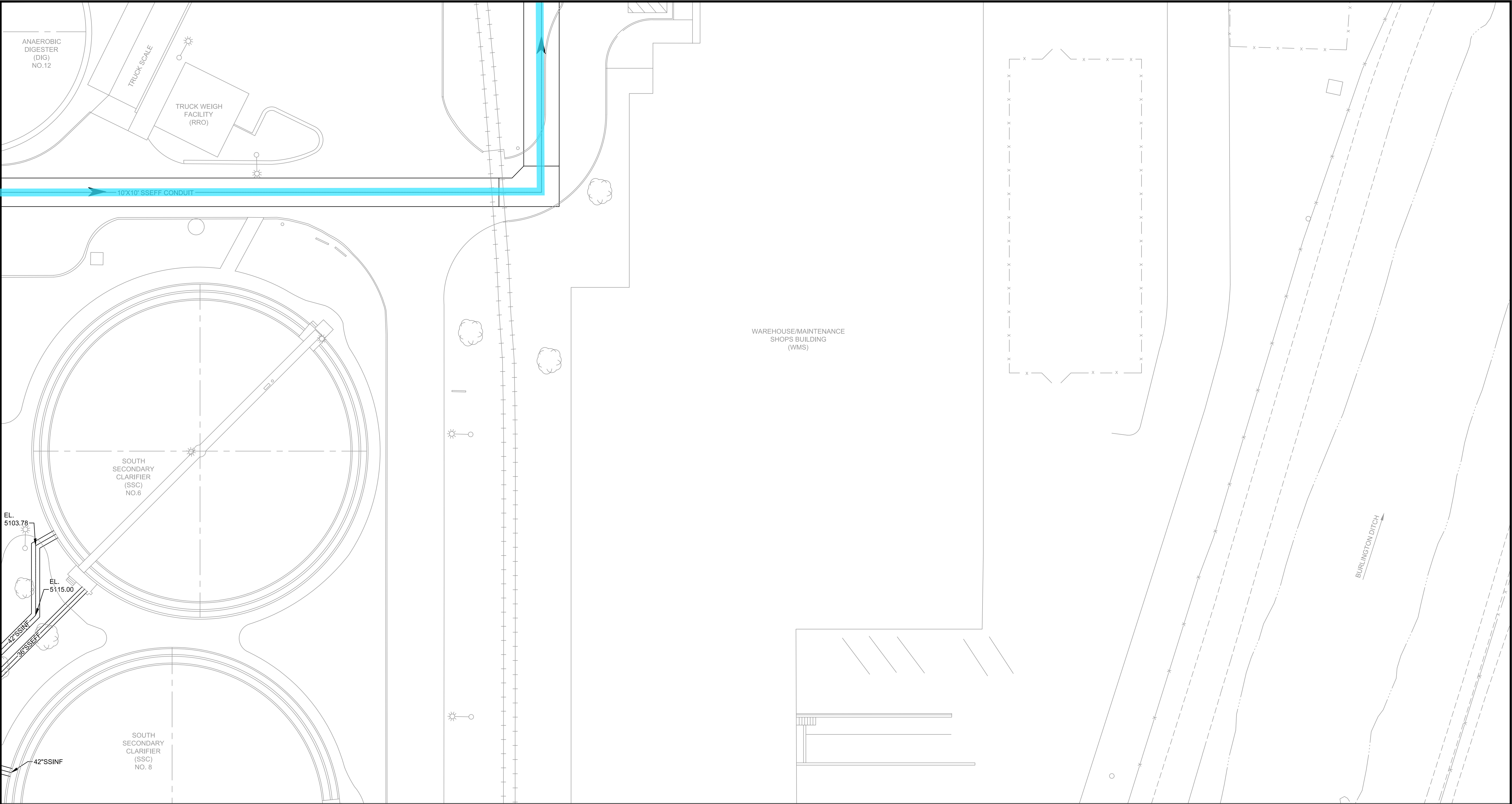
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METRO WASTEWATER RECLAMATION DISTRICT

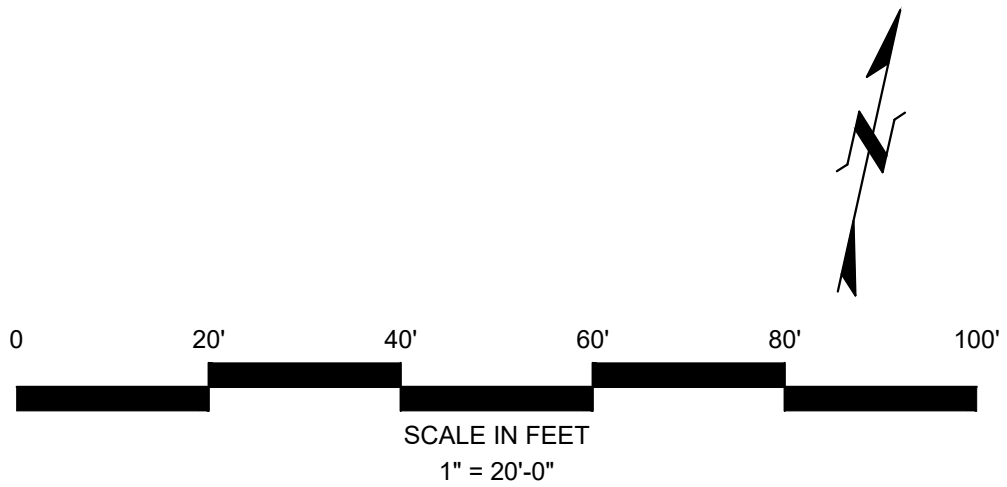
DWG. UTL-CAC-051

SH. 051





UTL-CAC-051 MATCH LINE



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CHECKED BY	-
APPROVED BY	-
DATE	-

RWHTF - UTILITIES

### CHANNELS AND CONDUITS SYSTEM

CIVIL

SITE MAP

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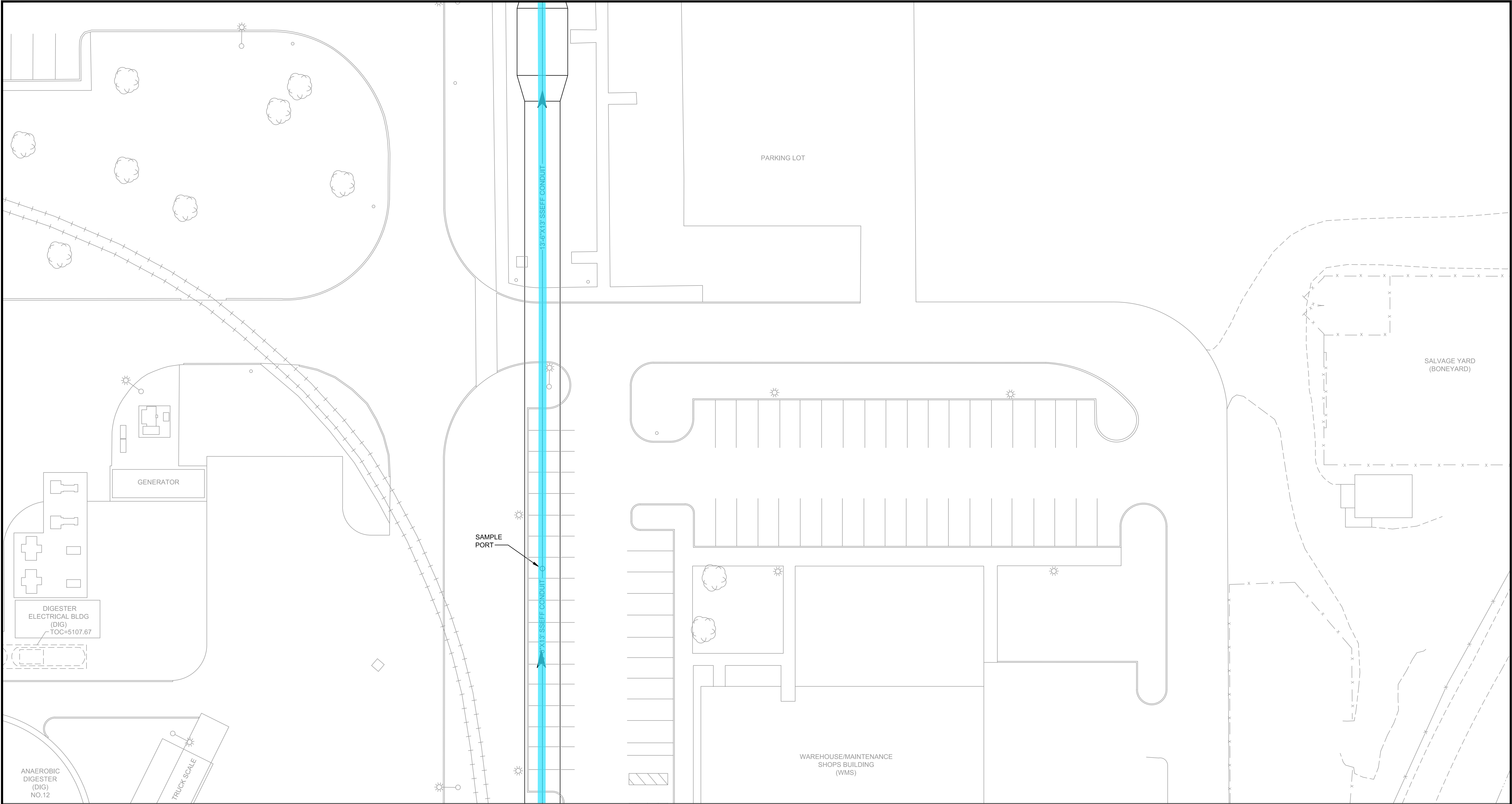
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METRO WASTEWATER RECLAMATION DISTRICT

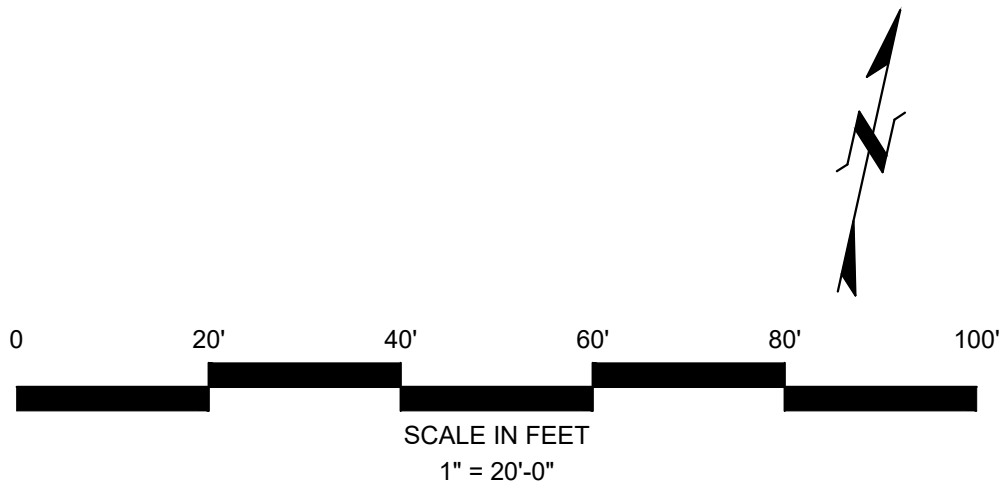
DWG. UTL-CAC-052

SH. 052

UTL-CAC-042 MATCH LINE



UTL-CAC-052 MATCH LINE



DATE	REVISION DESCRIPTION	BY	APP

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APPROVED BY -  
DATE -

RWHTF - UTILITIES  
**CHANNELS AND CONDUITS SYSTEM**  
CIVIL  
SITE MAP  
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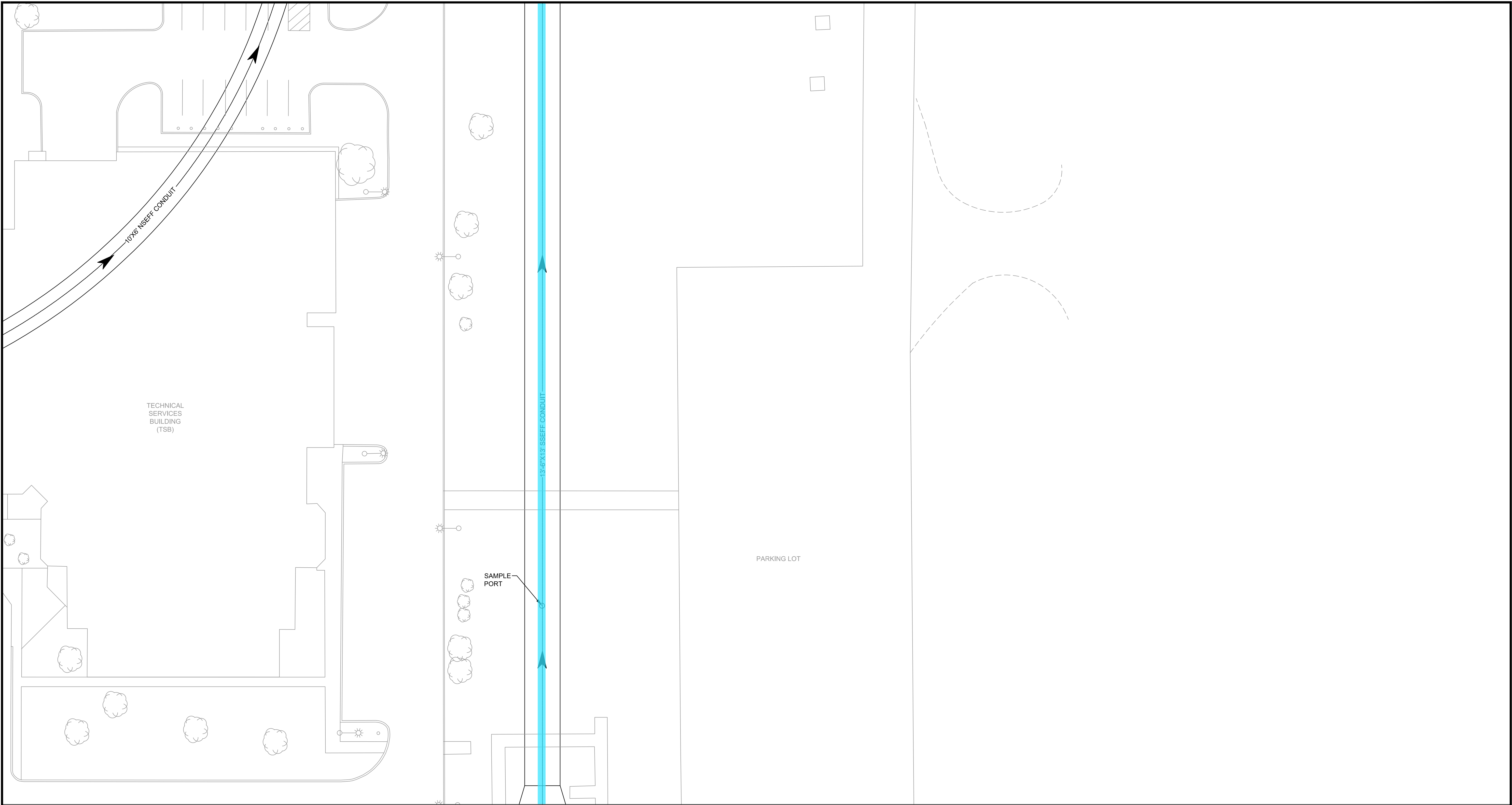


METRO WASTEWATER  
RECLAMATION DISTRICT

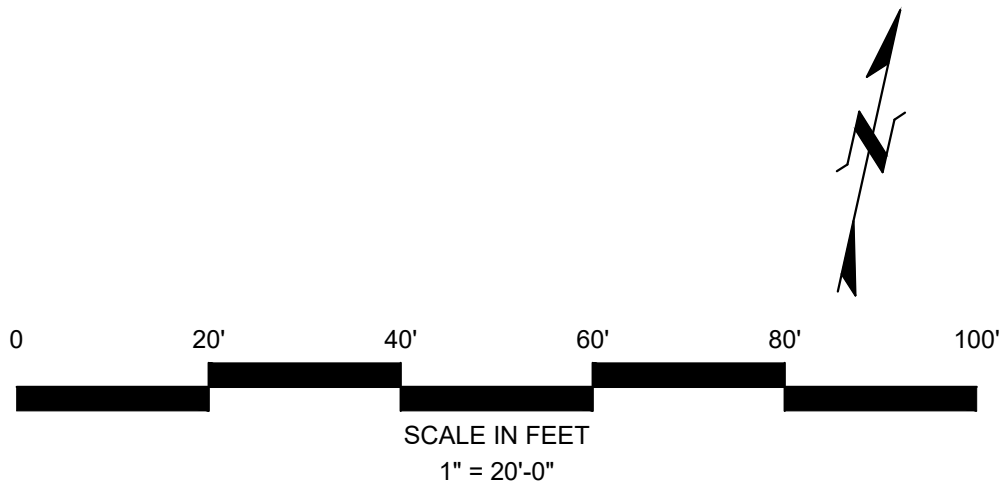
DWG.  
UTL-CAC-047  
SH.  
**047**

UTL-CAC-037 MATCH LINE

UTL-CAC-041 MATCH LINE




UTL-CAC-047 MATCH LINE



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RWHTF - UTILITIES  
**CHANNELS AND CONDUITS SYSTEM**  
CIVIL  
SITE MAP  
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METRO WASTEWATER  
RECLAMATION DISTRICT

DWG.  
SH. UTL-CAC-042  
**042**

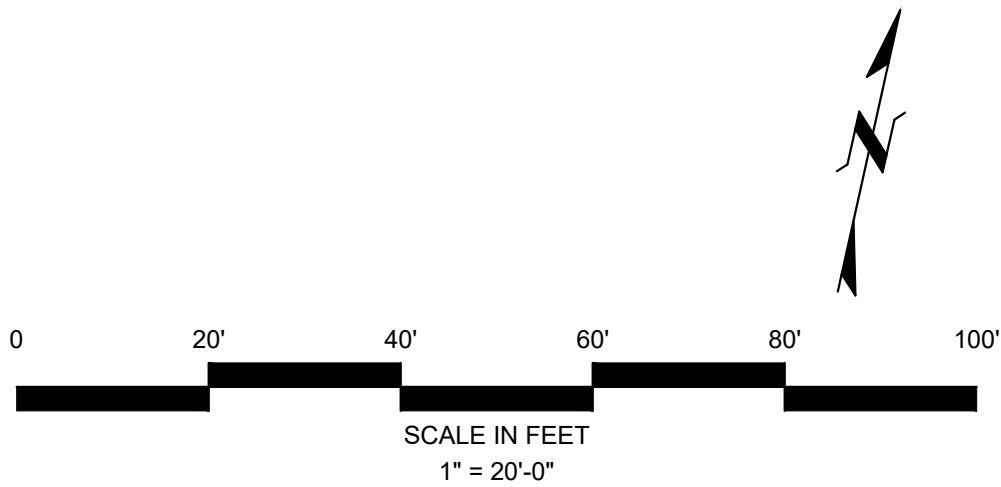




UTL-CAC-036 MATCH LINE

UTL-CAC-032 MATCH LINE

UTL-CAC-042 MATCH LINE



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**CHANNELS AND CONDUITS SYSTEM**  
CIVIL  
SITE MAP  
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METRO WASTEWATER  
RECLAMATION DISTRICT

DWG. UTL-CAC-037  
SH. 037