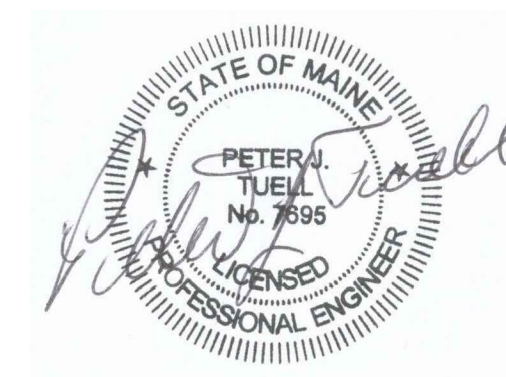


# REPAIR OF ALKALI-SILICA REACTION CRACKING WASTE WATER TREATMENT PLANT

BANGOR, MAINE

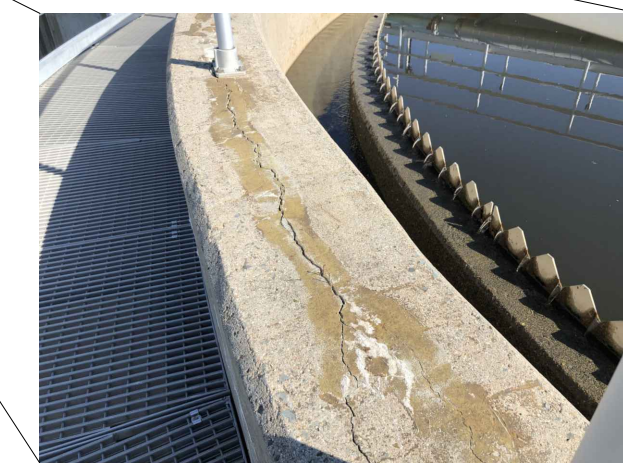
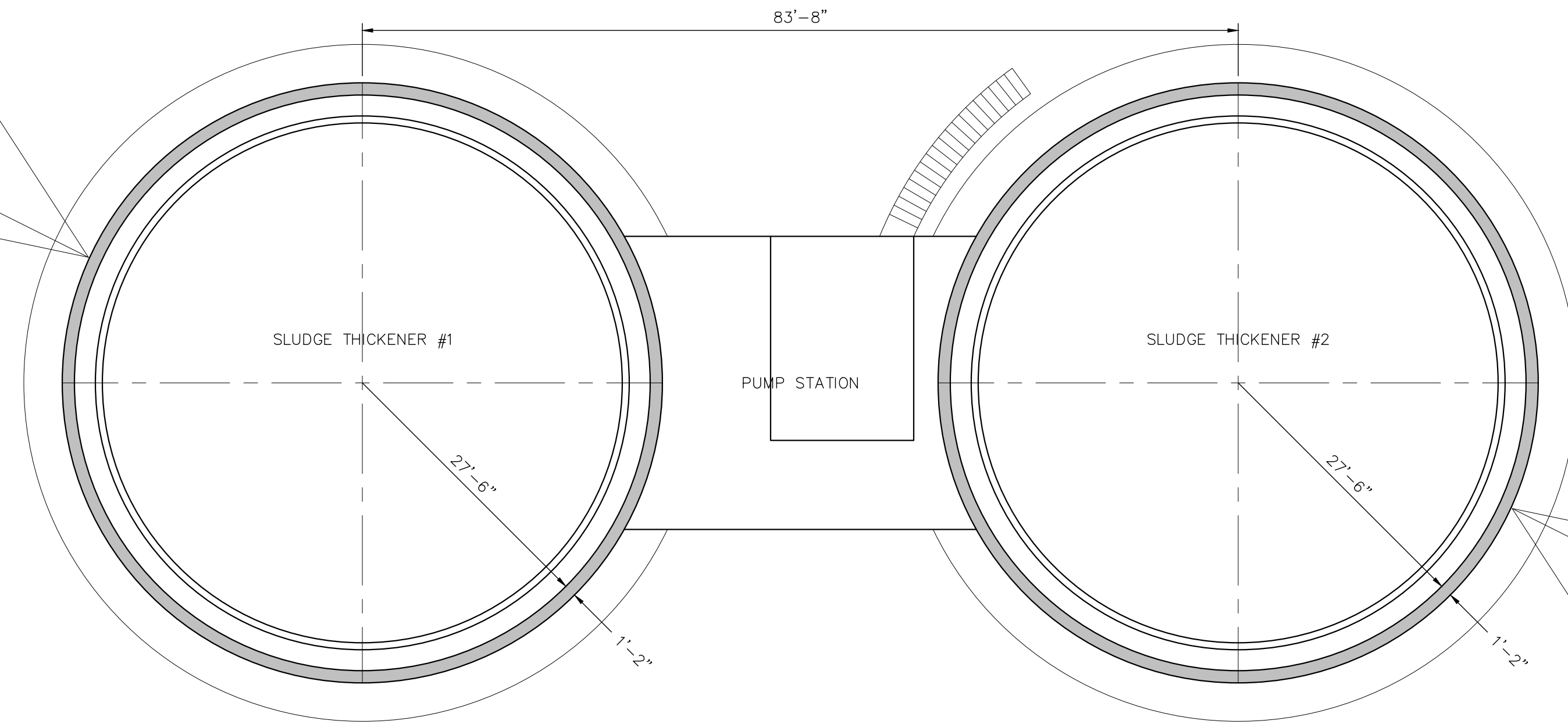
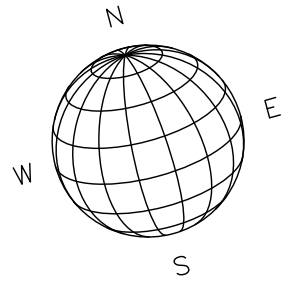
## INDEX OF DRAWINGS

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S101	SLUDGE THICKENERS PLAN
S102	SECONDARY COMPLEX PLAN
S103	SECONDARY CLARIFIERS PLAN



APRIL 2024





SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
SLUDGE THICKENER #1 = 176 LINEAR FEET

SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
SLUDGE THICKENER #2 = 176 LINEAR FEET

SLUDGE THICKENERS PLAN  
3/32" = 1'-0"

REPAIR PROCEDURE:

CRACKS TO BE FILLED WITH SIKAGROUT 528 SF.

SURFACE PREPARATION:

1) AREAS TO BE REPAIRED MUST BE CLEAN, SOUND, AND FREE OF CONTAMINANTS. ALL LOOSE AND DETERIORATED CONCRETE SHALL BE REMOVED BY MECHANICAL MEANS. MECHANICALLY PREPARE CONCRETE SUBSTRATE TO OBTAIN A SURFACE PROFILE OF ± 1/8" (CSP 6 OR GREATER AS PER ICRI GUIDELINES) WITH A NEW EXPOSED AGGREGATE SURFACE. AREA TO BE PATCHED SHALL NOT BE LESS THAN 1/4" IN DEPTH.

2) WHERE REINFORCING STEEL WITH ACTIVE CORROSION IS ENCOUNTERED, SANDBLAST THE STEEL TO A WHITE METAL FINISH TO REMOVE ALL CONTAMINANTS AND RUST. WHERE CORROSION HAS OCCURRED DUE TO THE PRESENCE OF CHLORIDES, THE STEEL SHALL BE HIGH PRESSURE WASHED AFTER MECHANICAL CLEANING. PRIME STEEL WITH 2 COATS OF SIKA® ARMATEC® 110 EPOCEM AS PER THE PRODUCT DATA SHEET.

MIXING AND APPLICATION:

1) FOR BEST RESULTS USE A COLLOIDAL MIXER SIMILAR TO CHEMGROUT® CG-600 SERIES OR OTHER TYPE OF HIGH SHEAR MIXER AT APPROXIMATELY 1,800 RPM. MIX FOR MINIMUM OF 3 MINUTES AFTER THE ADDITION OF THE LAST BAG OR UNTIL A HOMOGENEOUS MIX IS ACHIEVED. CONTINUE TO AGITATE MATERIAL IN THE HOLDING HOPPER TO ACHIEVE BEST FLOW. ALTERNATIVELY, FOR QUANTITIES LESS THAN 1 BAG, MECHANICALLY MIX WITH HIGH-SPEED DRILL (2,500 RPM) AND SIKA JIFFY PADDLE FOR A MINIMUM OF 6 MINUTES. METHOD OF MIXING MAY SIGNIFICANTLY AFFECT THE MATERIAL PROPERTIES, PARTICULARLY FLOW. PROJECT SPECIFIC TESTING BY THE ENGINEER IS RECOMMENDED TO ENSURE THAT THE MIXING AND PLACEMENT METHODS RESULT IN THE SPECIFIED REQUIREMENTS. ADD APPROPRIATE QUANTITY OF CLEAN POTABLE WATER. ADD BAG OF MATERIAL TO MIXING VESSEL. START BY USING 11.5 PINTS OF WATER PER 50 LB. BAG OF MATERIAL. AS WITH ANY CEMENTITIOUS PRODUCT MOST PROPERTIES ARE BEST WHEN THE LEAST MIXING WATER IS USED. ONLY ADD ADDITIONAL WATER AS NEEDED UP TO A TOTAL MAXIMUM OF 12.5 PINTS.

2) AT THE TIME OF APPLICATION, THE SUBSTRATE SHALL BE SATURATED SURFACE DRY WITH NO STANDING WATER. MAKE SURE ALL FORMING, MIXING, PLACING, AND CLEAN-UP MATERIALS ARE ON HAND. THE GROUT SHALL BE USED WITHIN 60 MINUTES FROM THE START OF MIXING. A MOCK-UP SHOULD BE COMPLETED ON-SITE AND INSPECTED BY THE ENGINEER TO ENSURE THAT THE PLACEMENT MEANS AND METHODS YIELD THE SPECIFIED RESULTS.

3) TAPER GROUT AT TOP OF WALL TO PROVIDE POSITIVE DRAINAGE.

4) ADHERE TO ALL PROCEDURES AND LIMITATIONS FOR THE HIGH-PERFORMANCE GROUT IN THE MANUFACTURERS CURRENT PRINTED PRODUCT DATA SHEET (PDS) AND LITERATURE.

TOP OF WALL TO BE SEALED WITH SIKALASTIC 726 BALCONY ONE SHOT.

SURFACE PREPARATION:

1) SUBSTRATES SHALL BE CLEAN, DRY, SOUND AND FREE OF SURFACE CONTAMINANTS, WITH AN OPEN TEXTURE. REMOVE ALL TRACES OF DUST, LAITANCE, GREASE, OILS, CURING COMPOUNDS, FORM RELEASE AGENTS AND FOREIGN PARTICLES BY MECHANICAL MEANS, SUCH AS MILLING, SCARIFYING, OR SHOTBLASTING, AS ACCEPTABLE TO THE ENGINEER. BLOW SURFACE FREE OF DUST USING COMPRESSED AIR LINE-EQUIPPED WITH AN OIL TRAP. ALL PROJECTIONS, DEPRESSIONS AND ROUGH SPOTS SHOULD BE DRESSED OFF TO ACHIEVE A FLAT SURFACE PRIOR TO THE APPLICATION.

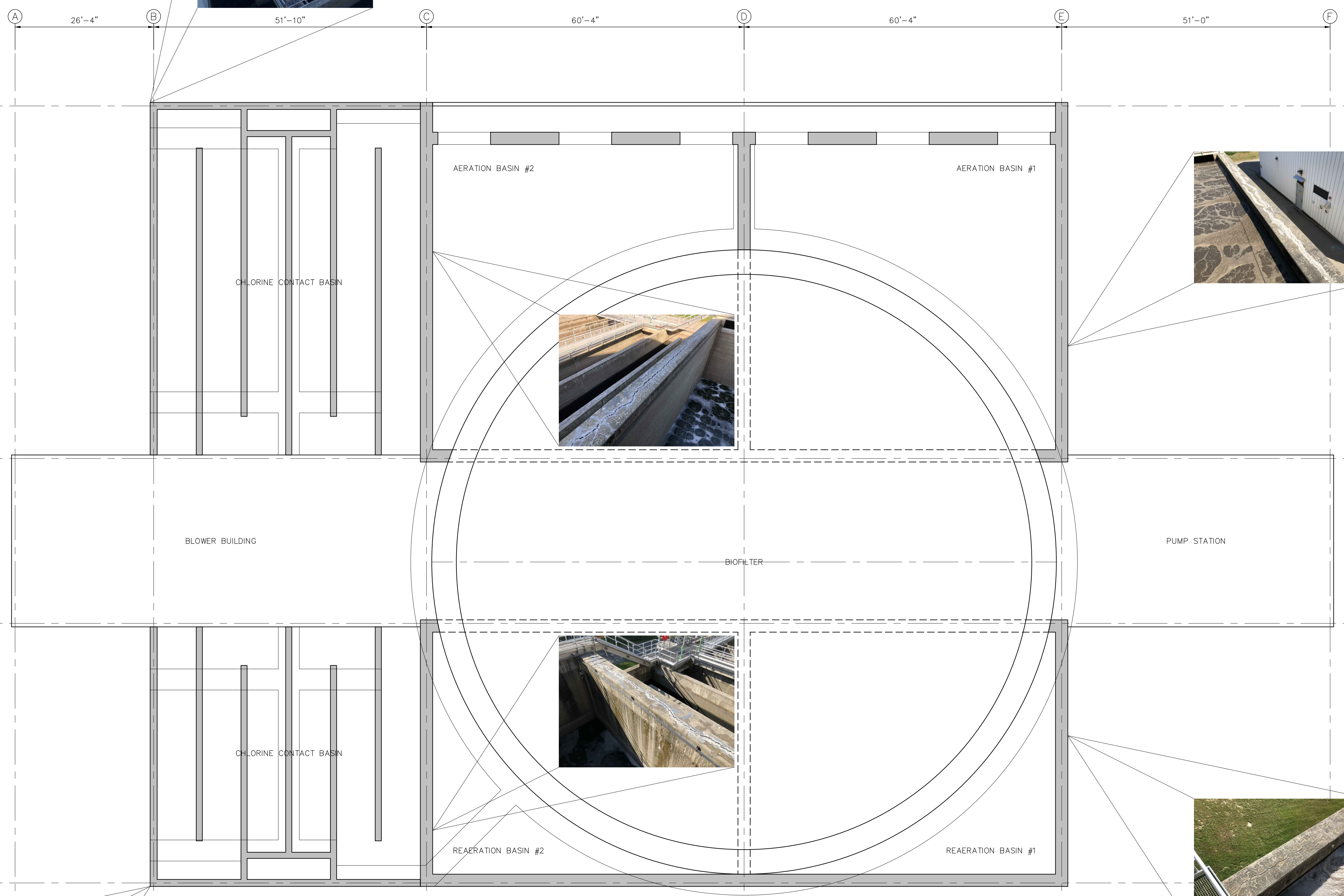
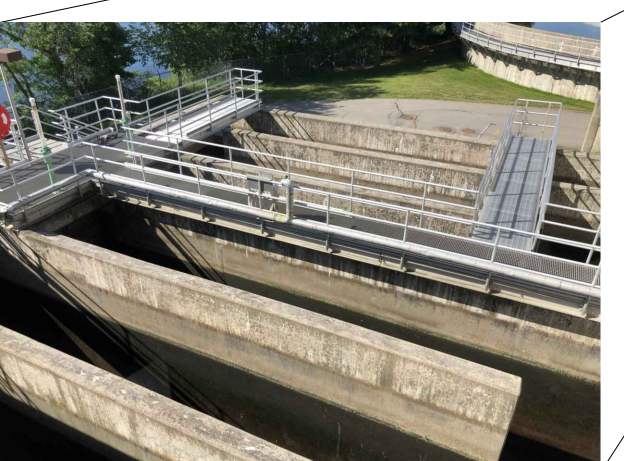
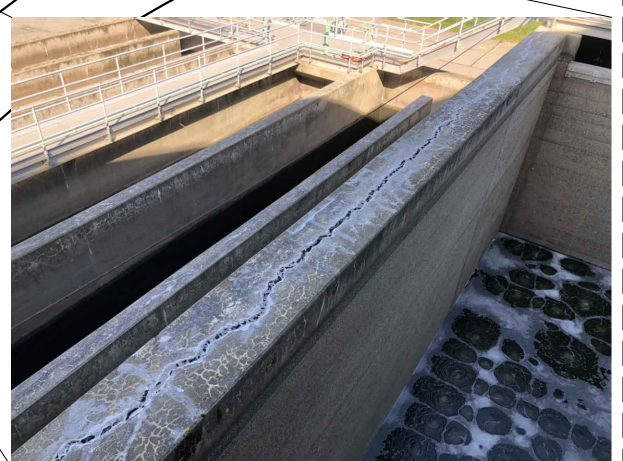
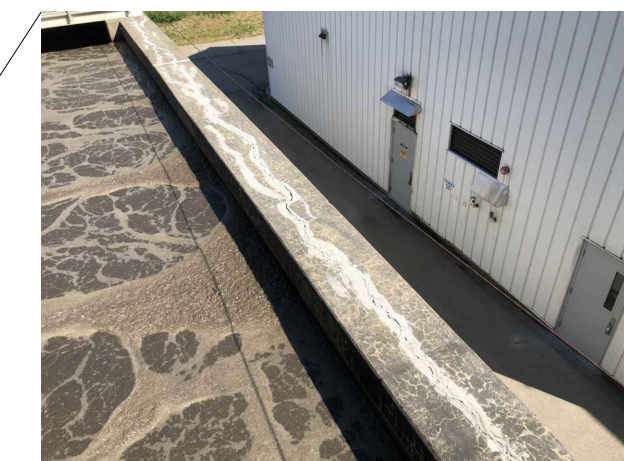
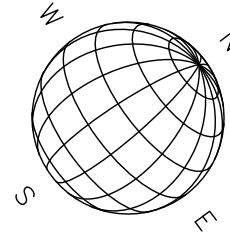
MIXING AND APPLICATION:

1) PREMIX THE PART A COMPONENT USING A LOW SPEED (400-600 RPM) MECHANICAL MIXER AND JIFFY PADDLE (2-5 GALLON MODEL) TO OBTAIN UNIFORM COLOR, MAKING SURE TO SCRAPE THE SOLIDS FROM THE BOTTOM AND SIDES OF THE PAIL. POUR PART C SLOWLY INTO PART A AND ENSURE AGGREGATE FROM PART C IS FULLY MIXED INTO PART A. SLOWLY POUR PART B INTO PART A/C MIX AND WHILE MIXING SCRAPE THE SIDE OF THE CONTAINER. MIX THE COMBINED MATERIAL THOROUGHLY UNTIL A HOMOGENEOUS MIXTURE AND UNIFORM COLOR IS OBTAINED (TYPICALLY 3 MINUTES). USE CARE NOT TO ALLOW THE ENTRAPMENT OF AIR INTO THE MIXTURE. DO NOT BREAK DOWN KITS INTO SMALLER QUANTITIES; PORTIONS ARE PREMEASURED. USE CARE NOT TO ALLOW THE ENTRAPMENT OF AIR INTO THE MIXTURE. APPLY AT THE RECOMMENDED COVERAGE RATE OF 43 SQ.FT./GALLON TO YIELD 38 WFT, USING A 1/4" NOTCHED SQUEEGEE OR TROWEL, AND BACKROLL USING A 3/8" PHENOLIC RESIN CORE ROLLER. EXTEND COATING OVER ENTIRE AREA INCLUDING PREVIOUSLY DETAILED CRACKS AND CONTROL JOINTS. COATING SHOULD BE TACK FREE AFTER ABOUT 6 HOURS AT 70°F AND 50% RH; BASE COAT MUST BE TACK FREE BEFORE OVERCOATING. ALLOW IT TO CURE MINIMUM OF 8 HOURS BEFORE OPENING TO PEDESTRIAN TRAFFIC.

REV.	DATE	DESCRIPTION	BY	CHK.
<b>ISSUED FOR CONSTRUCTION</b>				
 One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.987.4824 WWW.HALEYWARD.COM				
<b>WASTE WATER TREATMENT PLANT</b> 760 MAIN STREET, BANGOR, MAINE 04401				
<b>SLUDGE THICKENERS PLAN</b>				
DATE: 2024.04.01		SCALE: 3/32" = 1'-0"		
DRAWN BY: RB	DESIGNED BY: PJT	CHECKED BY: PJT		
PROJECT No: 11816.004		DRAWING No: S101		

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SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
 CHLORINE CONTACT BASINS = 754 LINEAR FEET

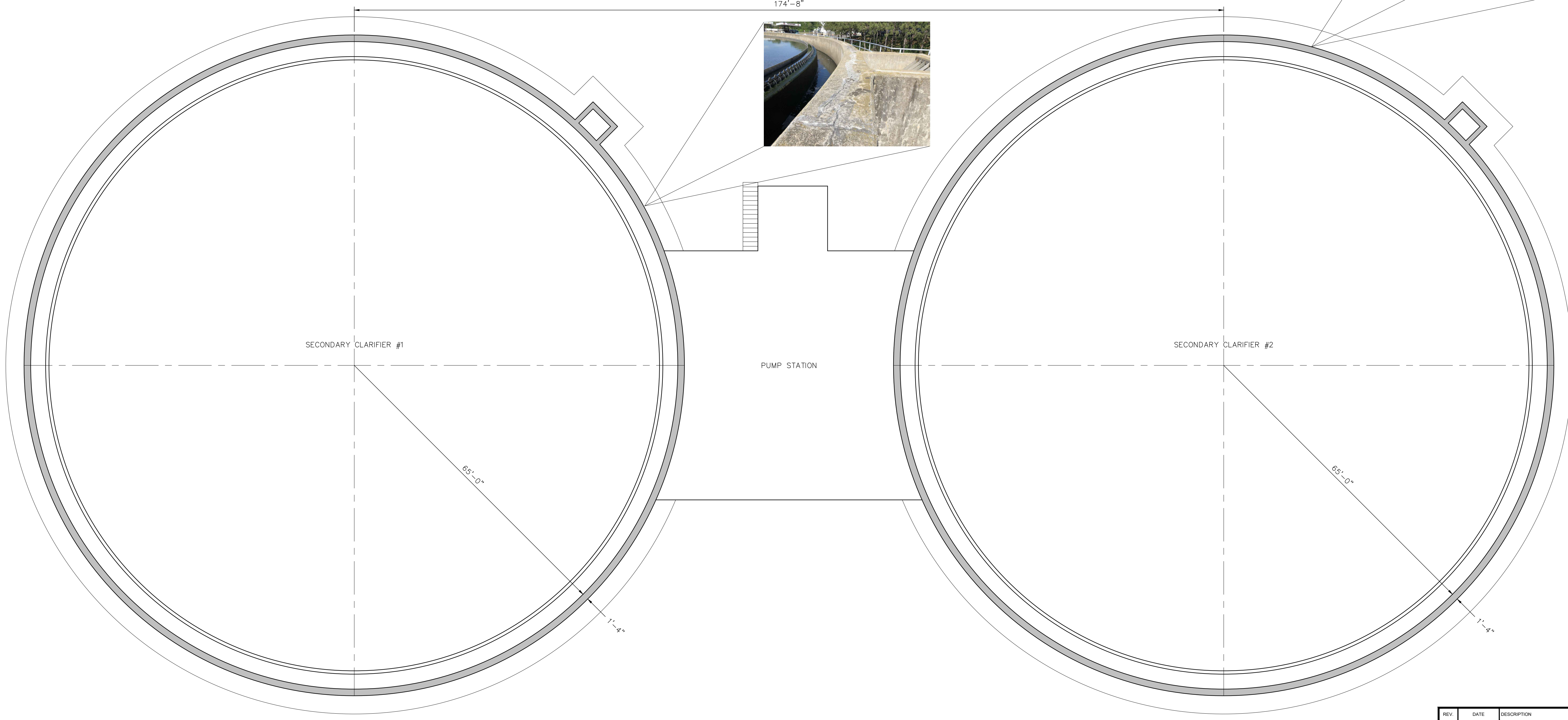
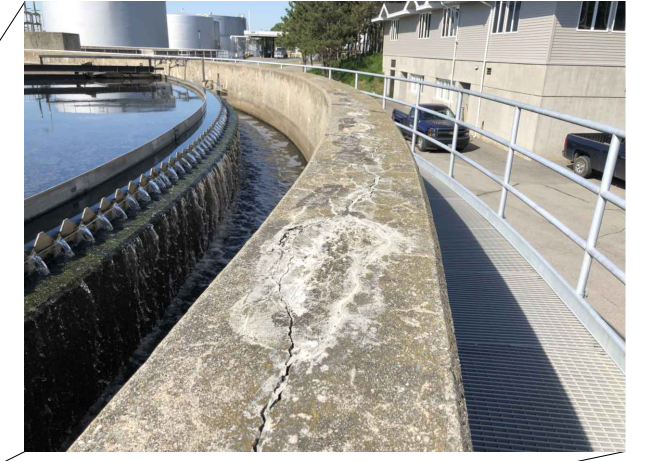
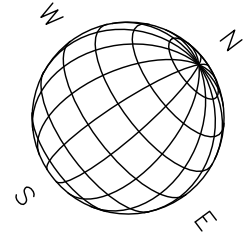
SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
 AERATION & REAERATION BASINS = 447 LINEAR FEET

SECONDARY COMPLEX PLAN  
 3/32" = 1'-0"

REV.	DATE	DESCRIPTION	BY	CHK.
<b>ISSUED FOR CONSTRUCTION</b>				
		<b>HALEY WARD</b> ENGINEERING   ENVIRONMENTAL   SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.987.4824		
<b>WASTE WATER TREATMENT PLANT</b> 760 MAIN STREET, BANGOR, MAINE 04401				
<b>SECONDARY COMPLEX PLAN</b>				
DATE: 2024.04.01		SCALE: 3/32" = 1'-0"		
DRAWN BY: RB	DESIGNED BY: PJT	CHECKED BY: PJT		
PROJECT No.: 11816.004		DRAWING No.: <b>S102</b>		

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SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
SECONDARY CLARIFIER #1 = 429 LINEAR FEET

SHADED AREA DENOTES ALKALI-SILICA REACTION CRACKING @ TOP OF WALL  
SECONDARY CLARIFIER #2 = 429 LINEAR FEET

SECONDARY CLARIFIERS PLAN  
3/32" = 1'-0"

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REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
<b>ISSUED FOR CONSTRUCTION</b>				
		<b>HALEY WARD</b> ENGINEERING   ENVIRONMENTAL   SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.987.4824 WWW.HALEYWARD.COM		
PROJECT				
<b>WASTE WATER TREATMENT PLANT</b> 760 MAIN STREET, BANGOR, MAINE 04401				
TITLE				
<b>SECONDARY CLARIFIERS PLAN</b>				
DATE		2024.04.01	SCALE	
			3/32" = 1'-0"	
DRAWN BY	DESIGNED BY	CHECKED BY		
RB	PJT	PJT		
PROJECT No.		11816.004		
DRAWING No.		<b>S103</b>		

