

CONSTRUCTION PLANS  
FOR  
LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY, FLORIDA

SEPTEMBER 2023  
MANATEE COUNTY PROJECT #6109670



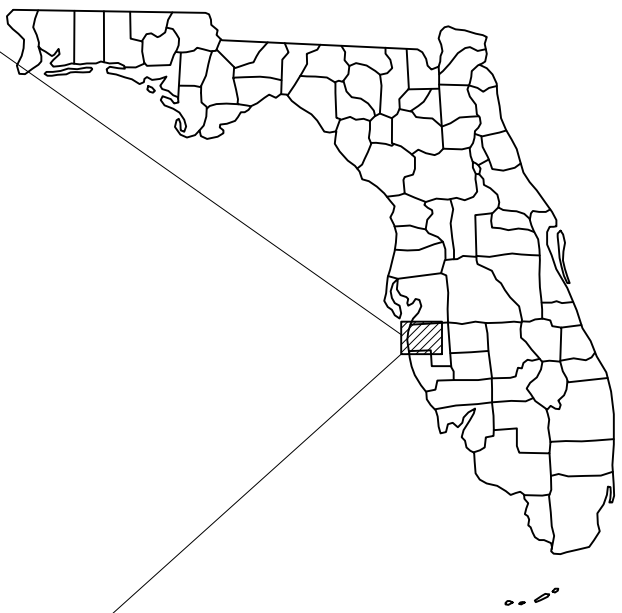
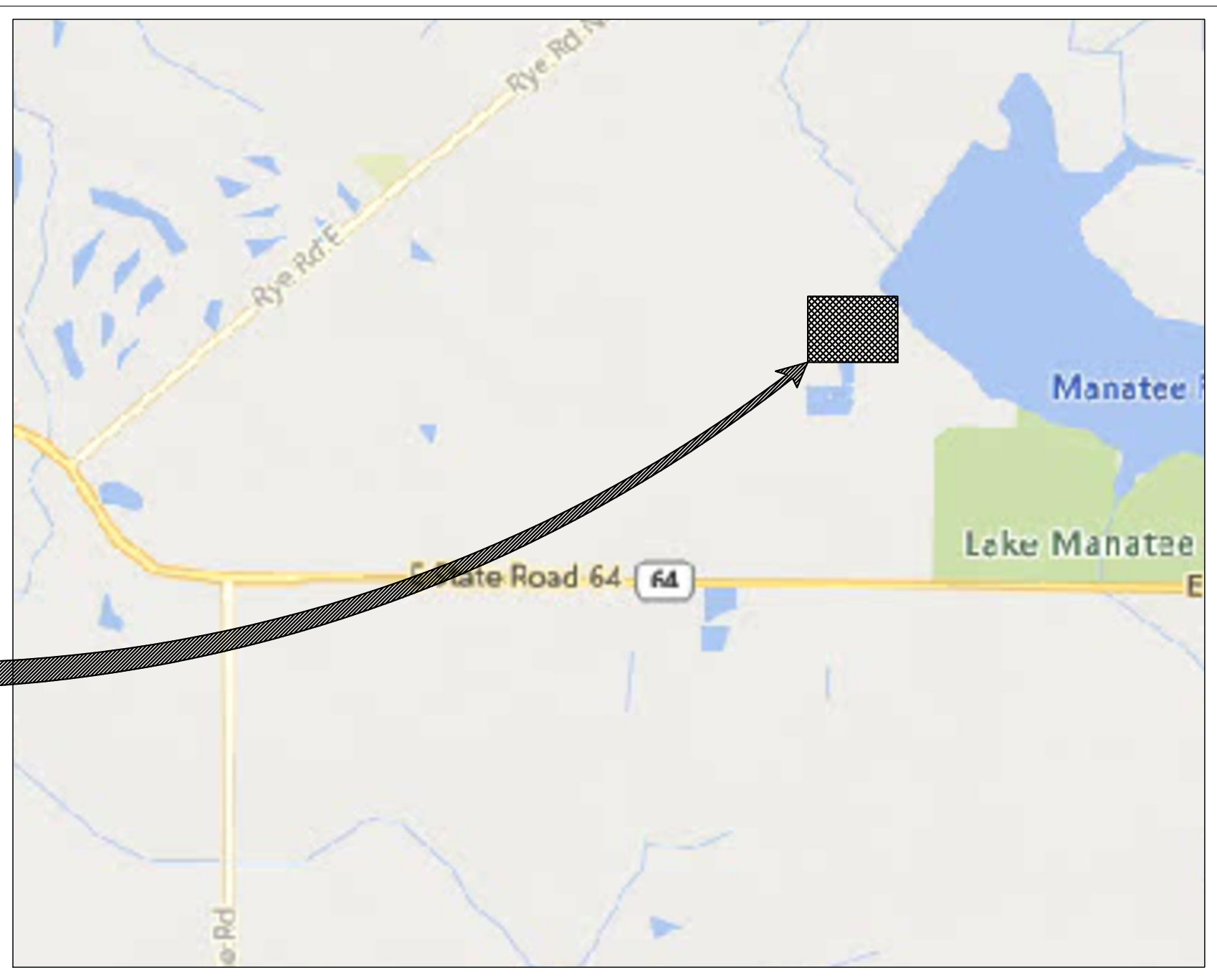
PROJECT TEAM:

**OWNER:**  
MANATEE COUNTY  
1022 26TH AVE. E.  
BRADENTON, FL 34208  
CONTACT: TOM GREENE, P.E.  
941-708-7450 EXT. 7412

**ELECTRICAL ENGINEER:**  
THOMAS ENGINEERING  
777 S. HARBOUR ISLAND BLVD.  
TAMPA, FLORIDA 33602  
CONTACT: TIM THOMAS, P.E.  
813-227-9190

**ENGINEER:**  
KIMLEY-HORN AND ASSOCIATES, INC.  
100 2ND AVENUE SOUTH, SUITE 105N  
ST. PETERSBURG, FL 33701  
CONTACT: MICHAEL A. SEMAGO, P.E.  
727-498-3633

SITE  
LOCATION



PROJECT VICINITY MAP  
N.T.S.

100% DESIGN

PREPARED BY  
**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVE, SUITE 600  
ST. PETERSBURG, FL 33701  
PHONE (727) 547-3999  
WWW.KIMLEY-HORN.COM Registry No. 35106

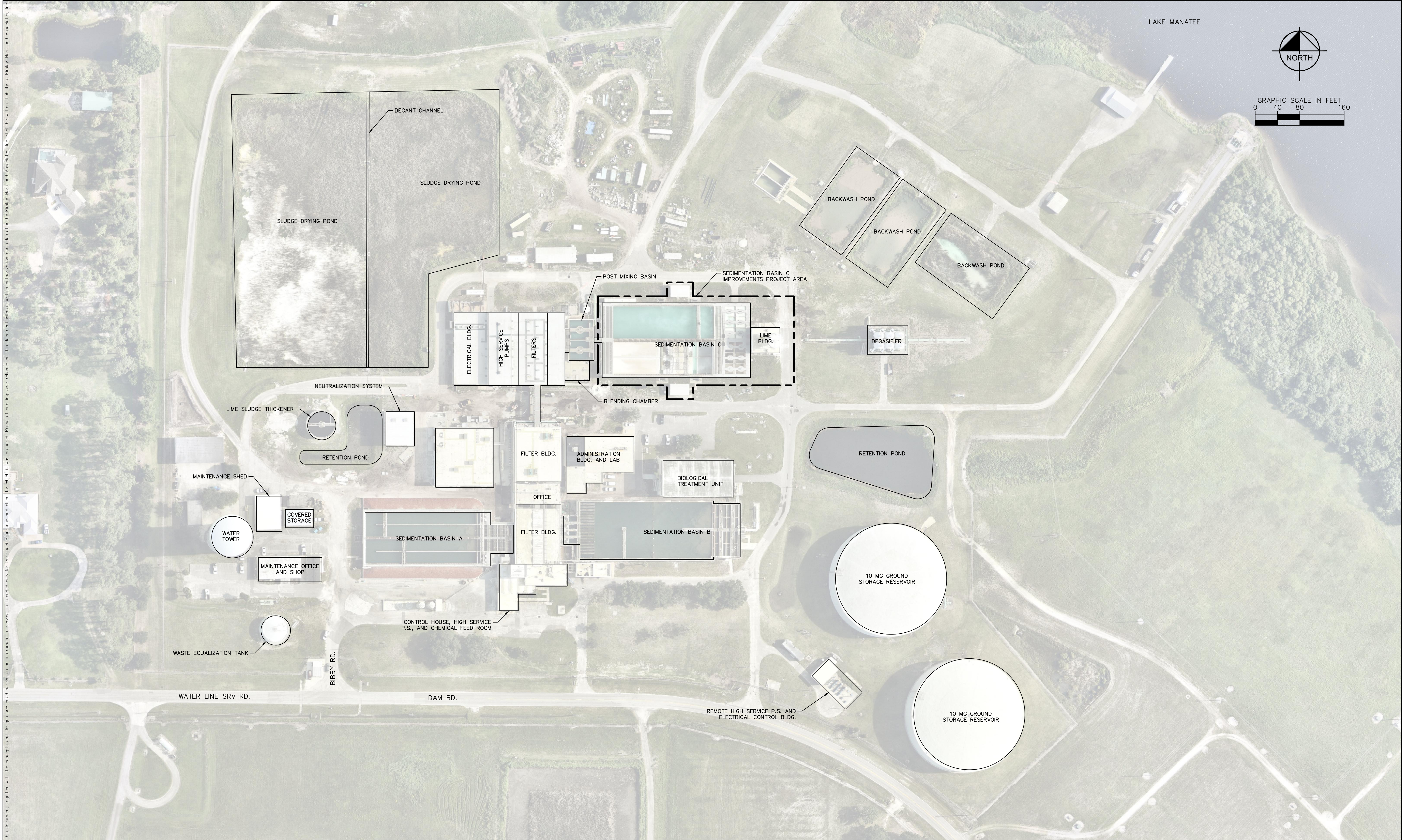
THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

				THIS DOCUMENT IS PROTECTED BY SECTION 106 OF THE "UNITED STATES COPYRIGHT ACT" REPRODUCTION OR ALTERATION OF THIS DOCUMENT OR THE INFORMATION CONTAINED HEREON BY ANY MEANS WHATSOEVER IS STRICTLY PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF KIMLEY-HORN AND ASSOCIATES, INC. CONSENT IS HEREBY GRANTED SPECIFICALLY TO GOVERNMENTAL AGENCIES TO REPRODUCE THIS DOCUMENT IN COMPLIANCE WITH F.S. CHAPTER 119.		MICHAEL A. SEMAGO, P.E. FLORIDA LICENSE NUMBER: 87501	DATE SEP 2023 PROJECT NO. 148400096 SHEET NUMBER G-1
No.	REVISIONS	DATE	BY				












No.	REVISIONS	DATE	BY

 © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701 PHONE: 727-547-3999 WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106	KHA PROJECT 148400096	 <b>LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE</b> MANATEE COUNTY	LICENSED PROFESSIONAL  MICHAEL A. SEMAGO, P.E.  FL LICENSE NUMBER 87501	<b>PROJECT LOCATION MAP</b>	SHEET NUMBER  <b>G-3</b>
	DATE SEP 2023				
	SCALE AS SHOWN				
	DESIGNED BY MAS				
	DRAWN BY JAK				
CHECKED BY JWW	FL DATE:				




This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

No.	REVISIONS	DATE	BY



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY MAS
DRAWN BY JAK
CHECKED BY JWW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

MICHAEL A. SEMAGO, P.E.

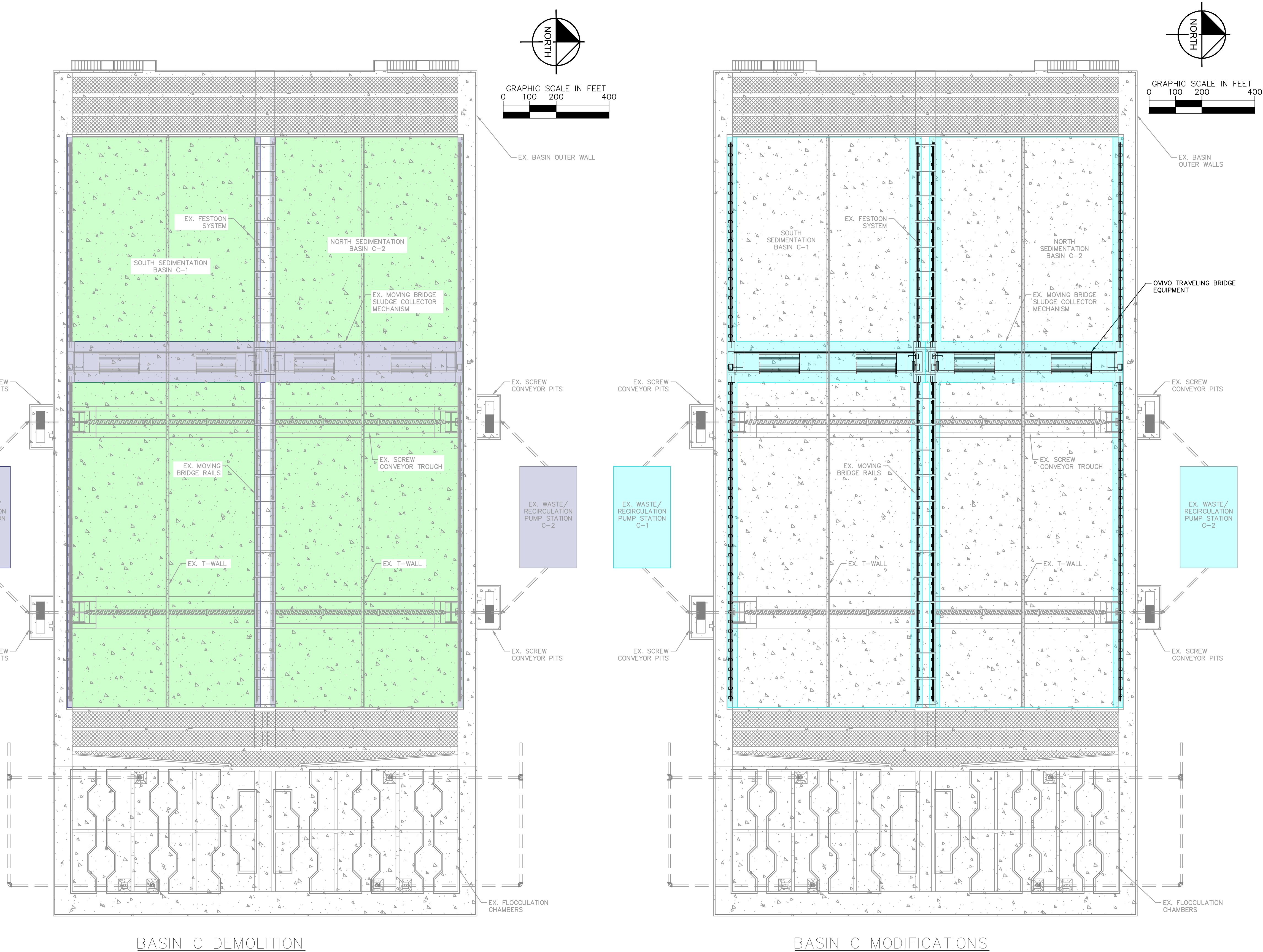
FL LICENSE NUMBER  
87501

FL DATE:

SHEET NUMBER

**G-4**

PROJECT PHASING PLAN



- CONSTRUCTION SEQUENCING:**
- PHASE I BASIN OPERATION**
- PHASE I MAINTENANCE OF BASIN OPERATION:**
- 1 COORDINATE WITH PLANT OPERATOR TO ISOLATE AND DRAIN BASIN C-1 AND BASIN C-2 A MINIMUM OF 30-DAYS PRIOR TO BEGINNING CONSTRUCTION.
  - 2 COMPLETION OF INSTALLATION, CERTIFICATION, AND APPROVAL OF THE OVIVO TRAVELING BRIDGE SYSTEM SHALL BE COMPLETED WITHIN 3 MONTHS OF THE START OF CONSTRUCTION WHILE BASIN C IS BEING BYPASSED
- PHASE I DEMOLITION**
- PHASE I DEMOLITION/REMOVAL OF EXISTING EQUIPMENT:**
- 3 COUNTY STAFF WILL CLEAN AND REMOVE LIME SLUDGE BUILD UP IN BOTH BASIN C-1 AND BASIN C-2. THIS OPERATION WILL TAKE 2 WEEKS. CONTRACTOR CAN WORK ON REMOVAL OF ACTIONS 4, 5, AND 6 BELOW WHILE THE BASINS ARE BEING CLEANED
  - 4 REMOVE EXISTING TRAVELING BRIDGE AND EQUIPMENT
  - 5 REMOVE EXISTING TRAVELING BRIDGE RAIL SYSTEM
  - 6 REMOVE AND REPLACE VALVES AT THE EXISTING WASTE/RECIRCULATION PUMP STATIONS. SEE SHEET G-5 FOR DETAILS
- PHASE I MODIFICATIONS**
- PHASE I BASIN C MODIFICATIONS:**
- 7A COMPLETE REQUIRED INTERIOR STRUCTURAL BASIN SPOT-REPAIRS. SEE STRUCTURAL SHEETS FOR DETAILS
  - 7B PERFORM REQUIRED EXTERIOR STRUCTURAL BASIN CONCRETE SURFACE SPOT-REPAIRS. SEE STRUCTURAL SHEETS FOR DETAILS (EXTERNAL BASIN REPAIRS CAN BE COMPLETED AFTER THE INSTALLATION OF THE NEW TRAVELING BRIDGES ARE COMPLETE)
  - 8 THE OVIVO TRAVELING BRIDGE COG TRACK AND RUNNING RAILS SHALL BE INSTALLED IN 6-PLATE INCREMENTS PER THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATION SECTION 464314. CONTRACTOR TO COMPLETE INSTALLATION OF THE 6-PLATE LONG COG TRACK, VERIFY ALIGNMENT, THEN MOVE TO THE NEXT 6-PLATE LONG INSTALLATION.
  - 9 UPON COMPLETION OF TRAVELING BRIDGE COG TRACK AND RUNNING RAIL, INSTALL OVIVO TRAVELING BRIDGE MECHANISM, AND EQUIPMENT
  - 10 THE OVIVO TRAVELING BRIDGE SYSTEM MUST BE IN OPERATION A MINIMUM OF TWO WEEKS OR OBTAIN COUNTY APPROVAL PRIOR TO CERTIFICATION AND APPROVAL TO BEGIN NORMAL OPERATION
- PLANT OPERATIONS HAS PRIORITY AT ALL TIMES. THE WATER TREATMENT PLANT IS FUNCTIONAL AT ALL TIMES AND SECURITY MUST BE MAINTAINED. THE CONTRACTOR SHALL PROVIDE 30-DAYS NOTICE MINIMUM TO THE COUNTY BEFORE THE CONTRACTOR IS TO START WORK ON THE BASIN TO PROVIDE THE COUNTY TIME TO CLEAN OUT THE BASIN.



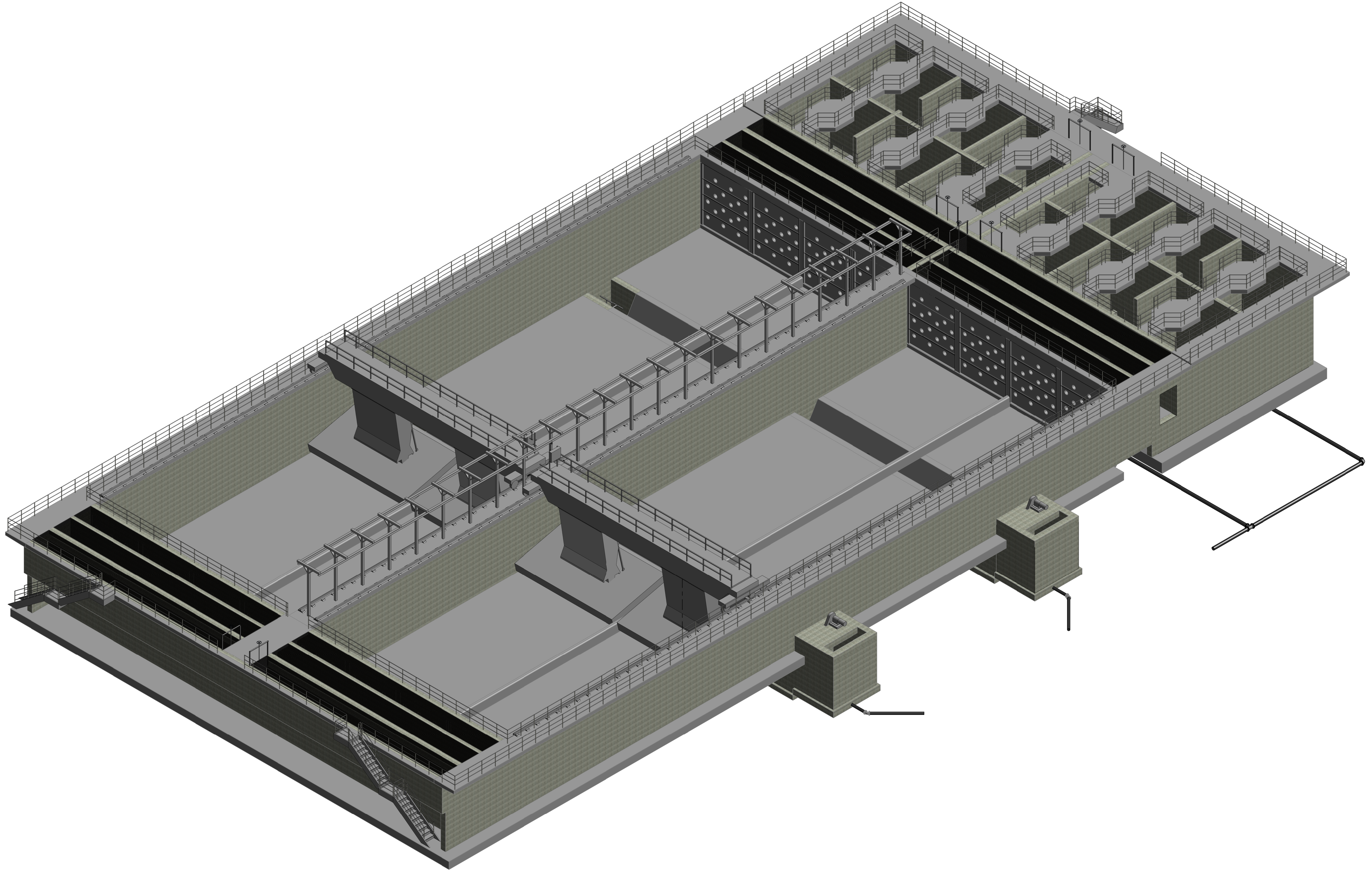
No.	REVISIONS	DATE	BY



PUMP STATION NAME	QTY.	VALVE SIZE AND MANUFACTURER	MODEL NUMBER
SOUTH C-1	3	6" DEZURIK	APCO CVS-6000-AC SWING CHECK VALVE WITH AIR CUSHION SPECIFICATION
	12	6" PRATT (MUELLER)	0600-601N1-TC, 6" 601 FULL ROUND PORT PLUG VALVE, 175 PSI, FLANGED ENDS
	3	4" PRATT (MUELLER)	0400-601N1-TC, 4" 601 FULL ROUND PORT PLUG VALVE, 175 PSI, FLANGED ENDS
	3	4" VALMATIC	VM-2004SV-M, 4" AWWA CLASS 150B AMERICAN BFV W/ HANDWHEEL
NORTH C-2	3	6" DEZURIK	APCO CVS-6000-AC SWING CHECK VALVE WITH AIR CUSHION SPECIFICATION
	12	6" PRATT (MUELLER)	0600-601N1-TC, 6" 601 FULL ROUND PORT PLUG VALVE, 175 PSI, FLANGED ENDS
	3	4" PRATT (MUELLER)	0400-601N1-TC, 4" 601 FULL ROUND PORT PLUG VALVE, 175 PSI, FLANGED ENDS
	3	4" VALMATIC	VM-2004SV-M, 4" AWWA CLASS 150B AMERICAN BFV W/ HANDWHEEL







100% DESIGN PLANS

No.	Revisions	By	Date



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVE. SUITE 600  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY N. 35106

KHA PROJECT  
148400096


DATE  
SEP 2023

SCALE: AS SHOWN

DESIGNED BY: MAS

DRAWN BY: JAK

CHECKED BY: JWW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

LICENSED PROFESSIONAL:

MICHAEL A. SEMAGO, P.E.

FL. LICENSE NUMBER  
87501

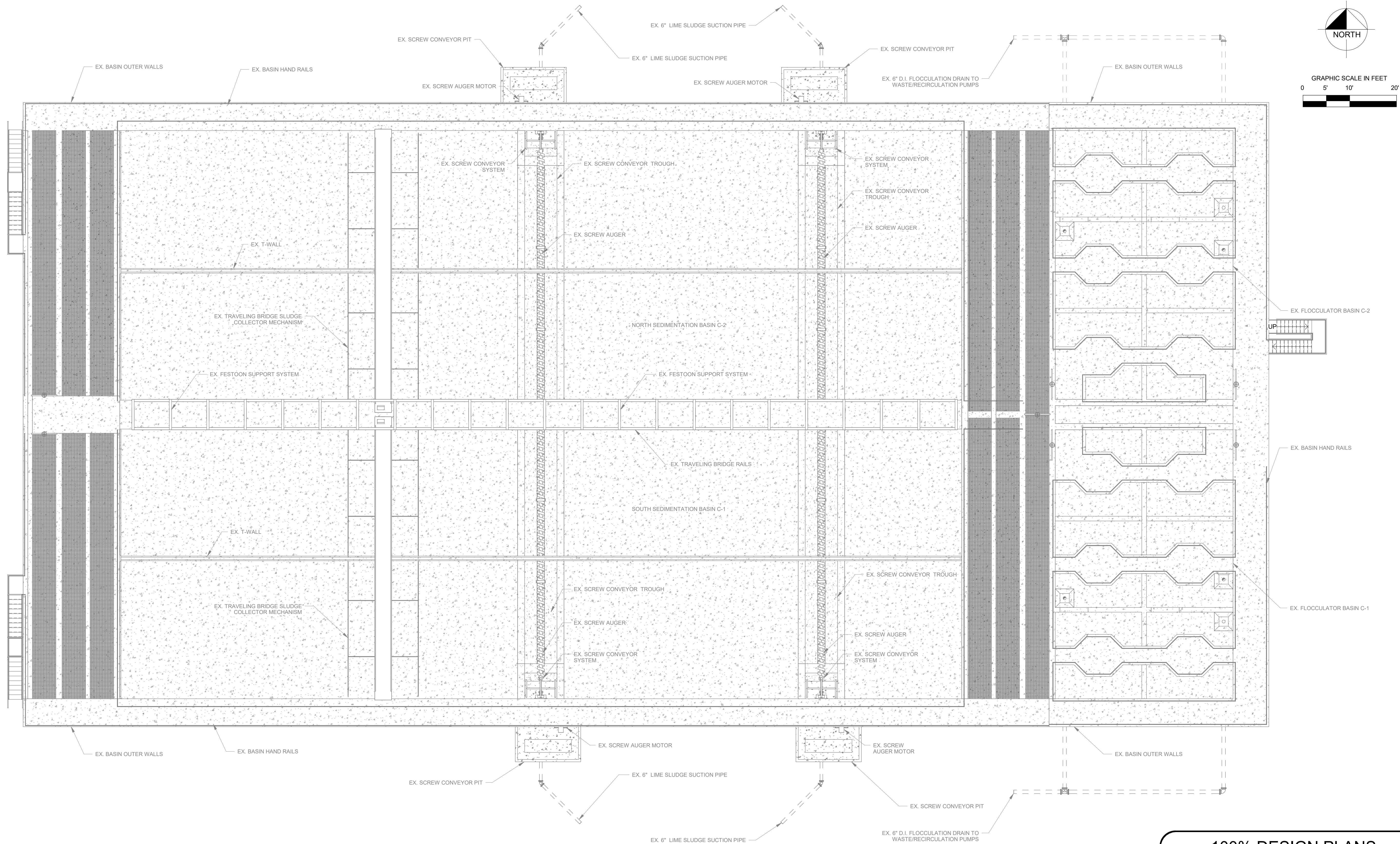
ISOMETRIC VIEW  
MECHANICAL PLAN

SHEET NUMBER

M-1



BM 360: /148400096 LMWTP Line Sludge Improvements/LMWTP Line Sludge Improvements.rvt



100% DESIGN PLANS

No.	Revisions	By	Date



© 2022 KIMLEY-HORN AND ASSOCIATES, INC.

200 CENTRAL AVE. SUITE 600  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY N. 35106

KHA PROJECT  
148400096

DATE  
MAY 2023

SCALE: AS SHOWN

DESIGNED BY: MAS

DRAWN BY: JAK

CHECKED BY: JWW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

LICENSED PROFESSIONAL:

MICHAEL A. SEMAGO, P.E.

FL. LICENSE NUMBER  
87501

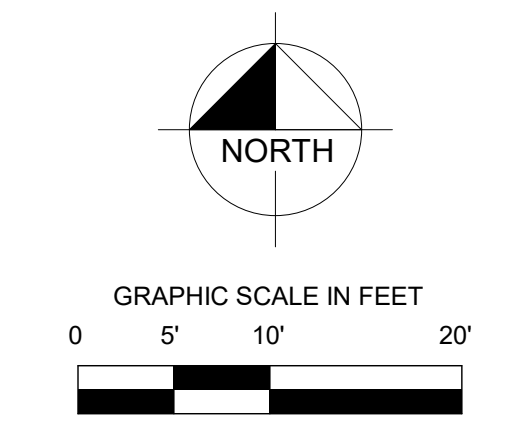
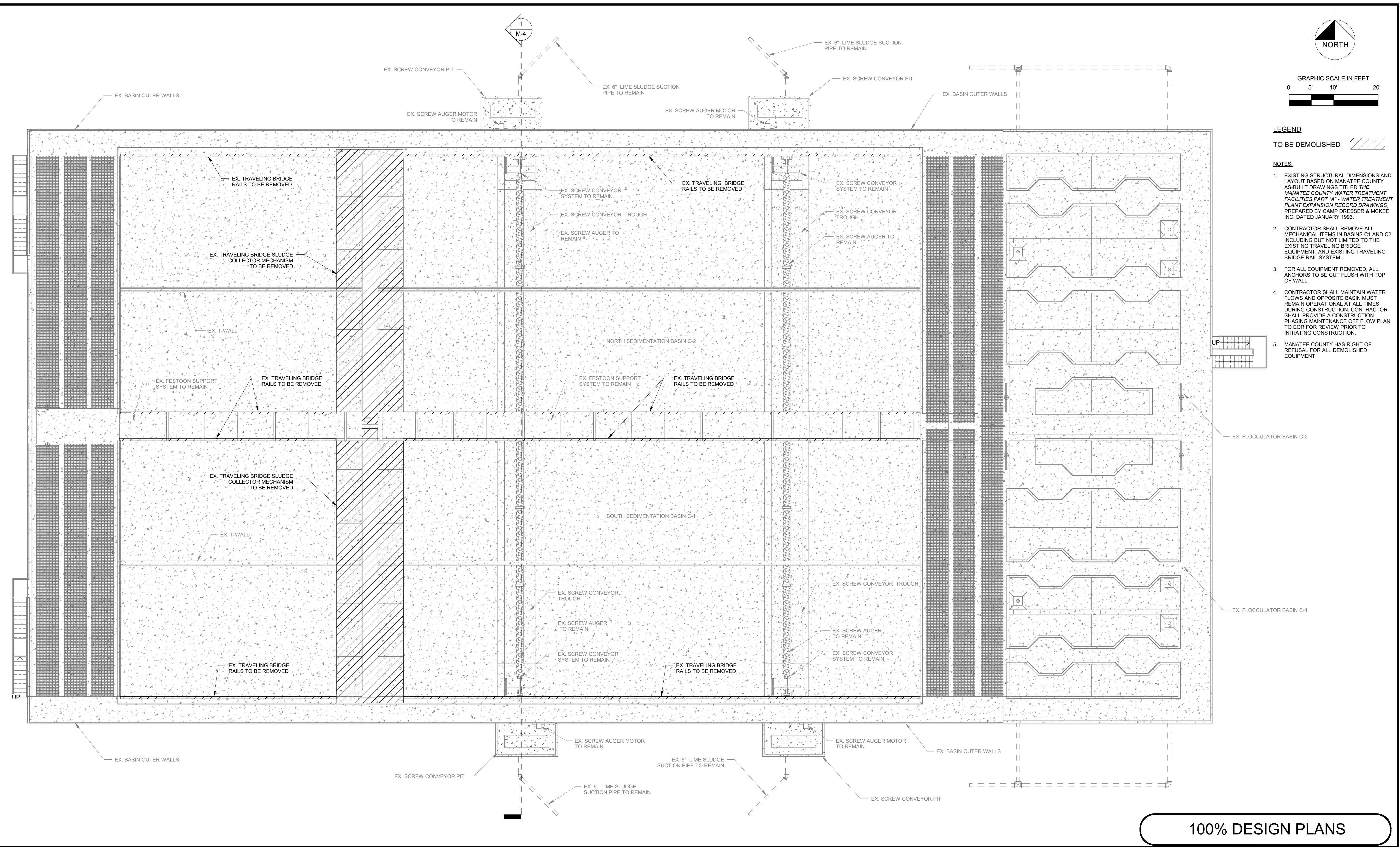
BASIN C EXISTING SITE  
PLAN

SHEET NUMBER

M-2



BM 360: /148400096 LMWTP Line Sludge Improvements/LMWTP Line Sludge Improvements.rvt



**LEGEND**  
TO BE DEMOLISHED

- NOTES:**
1. EXISTING STRUCTURAL DIMENSIONS AND LAYOUT BASED ON MANATEE COUNTY AS-BUILT DRAWINGS TITLED *THE MANATEE COUNTY WATER TREATMENT FACILITIES PART "A" - WATER TREATMENT PLANT EXPANSION RECORD DRAWINGS*, PREPARED BY CAMP DRESSER & MCKEE INC. DATED JANUARY 1993.
  2. CONTRACTOR SHALL REMOVE ALL MECHANICAL ITEMS IN BASINS C1 AND C2 INCLUDING BUT NOT LIMITED TO THE EXISTING TRAVELING BRIDGE EQUIPMENT, AND EXISTING TRAVELING BRIDGE RAIL SYSTEM.
  3. FOR ALL EQUIPMENT REMOVED, ALL ANCHORS TO BE CUT FLUSH WITH TOP OF WALL.
  4. CONTRACTOR SHALL MAINTAIN WATER FLOWS AND OPPOSITE BASIN MUST REMAIN OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE A CONSTRUCTION PHASING MAINTENANCE OFF FLOW PLAN TO EOR FOR REVIEW PRIOR TO INITIATING CONSTRUCTION.
  5. MANATEE COUNTY HAS RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT

100% DESIGN PLANS

No.	Revisions	By	Date



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVE. SUITE 600  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY N. 35106

KHA PROJECT  
148400096

DATE  
SEP 2023

SCALE: AS SHOWN

DESIGNED BY: MAS

DRAWN BY: JAK

CHECKED BY: JWW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

LICENSED PROFESSIONAL:

MICHAEL A. SEMAGO, P.E.

FL. LICENSE NUMBER  
87501

BASIN C SITE DEMOLITION  
PLAN

SHEET NUMBER

M-3





TO BE DEMOLISHED 

1. EXISTING STRUCTURAL DIMENSIONS AND LAYOUT BASED ON MANATEE COUNTY AS-BUILT DRAWINGS TITLED THE "MANATEE COUNTY WATER TREATMENT PLANT'S PART 'A' BRIDGE TREATMENT PLANT EXPANSION RECORD DRAWINGS", PREPARED BY CAMP DRESSER & MCKEE INC. DATED JANUARY 1993.
2. CONTRACTOR SHALL REMOVE ALL MECHANICAL ITEMS IN BASINS C1 AND C2 INCLUDING BUT NOT LIMITED TO THE EXISTING TRAVELING BRIDGE TREATMENT EQUIPMENT, AND EXISTING TRAVELING BRIDGE RAIL SYSTEM.
3. FOR ALL EQUIPMENT REMOVED, ALL ANCHORS TO BE CUT FLUSH WITH TOP OF WALL.
4. CONTRACTOR SHALL MAINTAIN WATER FLOWS AND OPPOSITE BASIN MUST REMAIN OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE A CONSTRUCTION PHASING MAINTENANCE OFF FLOW PLAN TO EOR FOR REVIEW PRIOR TO INITIATING CONSTRUCTION.
5. MANATEE COUNTY HAS RIGHT OF REMOVAL OF ALL DEMOLISHED EQUIPMENT.



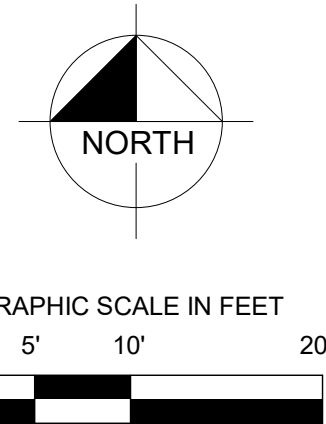
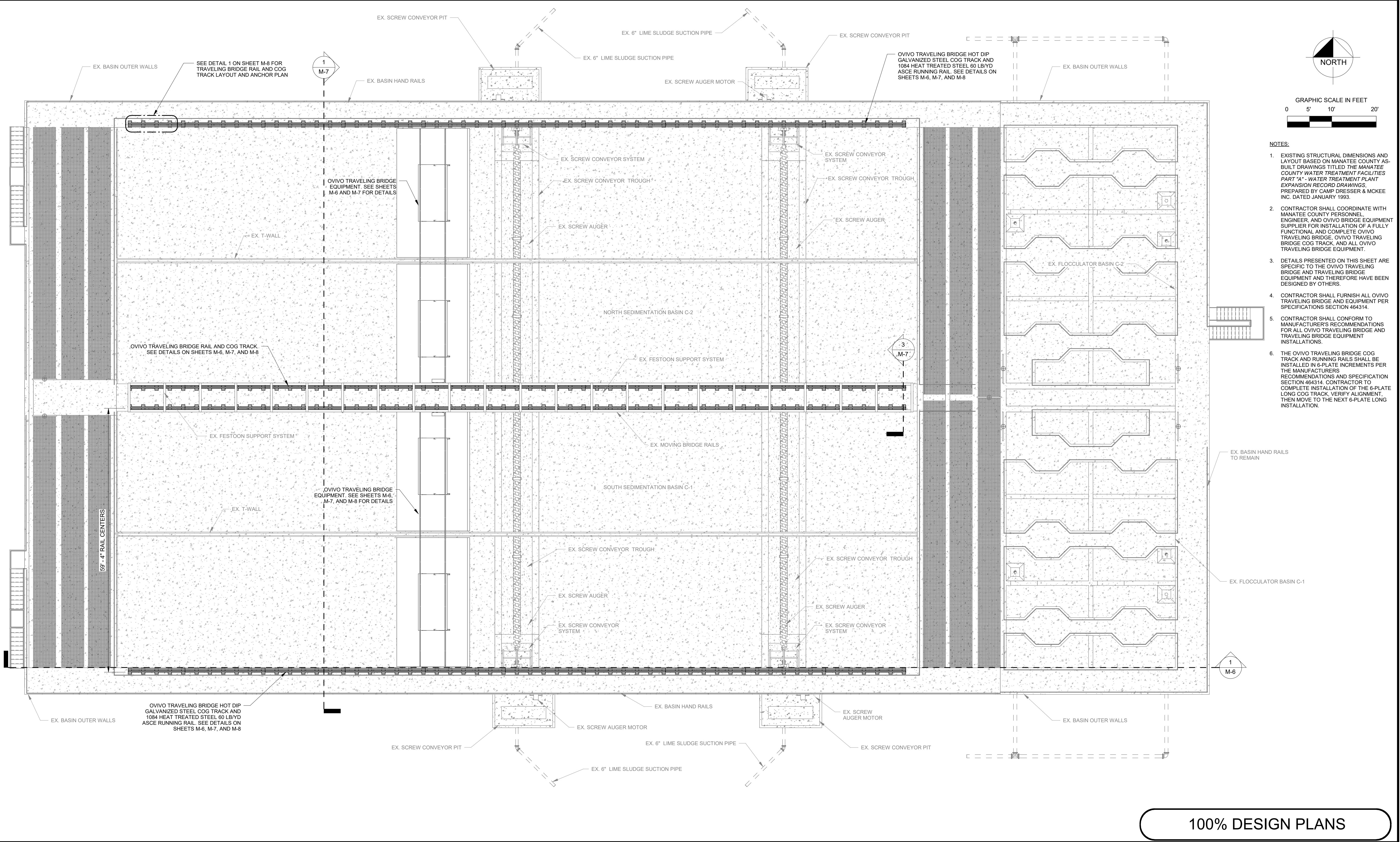
## 100% DESIGN PLANS

				<div><p>© 2023 KIMLEY-HORN AND ASSOCIATES, INC.</p><p>200 CENTRAL AVE, SUITE 600 PHONE: 727-547-3999 WWW.KIMLEY-HORN.COM    REGISTRY N. 35106</p></div>		<div><div><div>KHA PROJECT 148400096</div><div>DATE SEP 2023</div><div>SCALE: AS SHOWN</div><div>DESIGNED BY: MAS</div><div>DRAWN BY: JAK</div><div>CHECKED BY: JWW</div></div></div>		<div><p>LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE</p></div>		<div>LICENSED PROFESSIONAL:  MICHAEL A. SEMAGO, P.E.  FL LICENSE NUMBER 87501</div>		<div>BASIN C DEMOLITION SECTION VIEW</div>		<div>SHEET NUMBER  M-4</div>	
No.	Revisions			Bv	Date										

BIM 360://148400096 LMWTP Lime Sludge Improvements/LMWTP Lime Sludge Improvements.rvt






















BM 360: /148400096 LMWTP Line Sludge Improvements/LMWTP Line Sludge Improvements.rvt

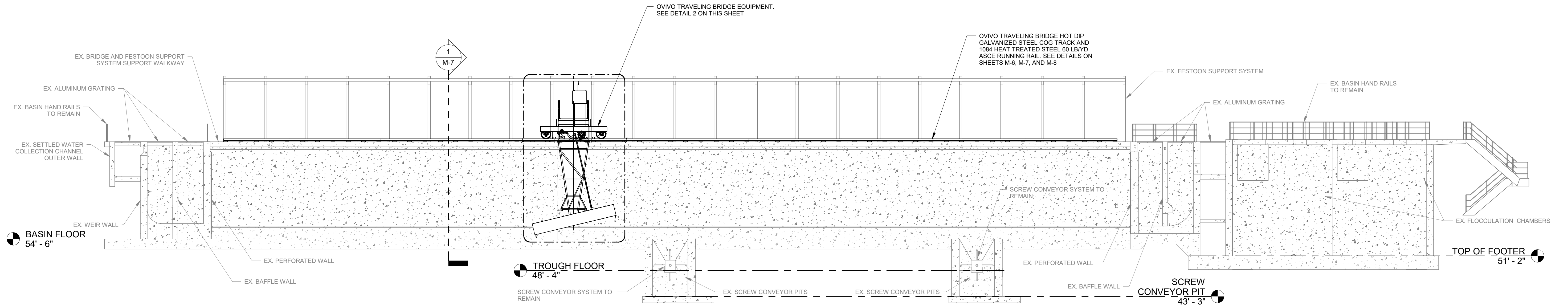


- NOTES:
- EXISTING STRUCTURAL DIMENSIONS AND LAYOUT BASED ON MANATEE COUNTY AS-BUILT DRAWINGS TITLED *THE MANATEE COUNTY WATER TREATMENT FACILITIES PART "A" - WATER TREATMENT PLANT EXPANSION RECORD DRAWINGS*, PREPARED BY CAMP DRESSER & MCKEE INC. DATED JANUARY 1993.
  - CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY PERSONNEL, ENGINEER, AND OVIVO BRIDGE EQUIPMENT SUPPLIER FOR INSTALLATION OF A FULLY FUNCTIONAL AND COMPLETE OVIVO TRAVELING BRIDGE, OVIVO TRAVELING BRIDGE COG TRACK, AND ALL OVIVO TRAVELING BRIDGE EQUIPMENT.
  - DETAILS PRESENTED ON THIS SHEET ARE SPECIFIC TO THE OVIVO TRAVELING BRIDGE AND TRAVELING BRIDGE EQUIPMENT AND THEREFORE HAVE BEEN DESIGNED BY OTHERS.
  - CONTRACTOR SHALL FURNISH ALL OVIVO TRAVELING BRIDGE AND EQUIPMENT PER SPECIFICATIONS SECTION 464314.
  - CONTRACTOR SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR ALL OVIVO TRAVELING BRIDGE AND TRAVELING BRIDGE INSTALLATIONS.
  - THE OVIVO TRAVELING BRIDGE COG TRACK AND RUNNING RAILS SHALL BE INSTALLED IN 6-PLATE INCREMENTS PER THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATION SECTION 464314. CONTRACTOR TO COMPLETE INSTALLATION OF THE 6-PLATE LONG COG TRACK, VERIFY ALIGNMENT, THEN MOVE TO THE NEXT 6-PLATE LONG INSTALLATION.

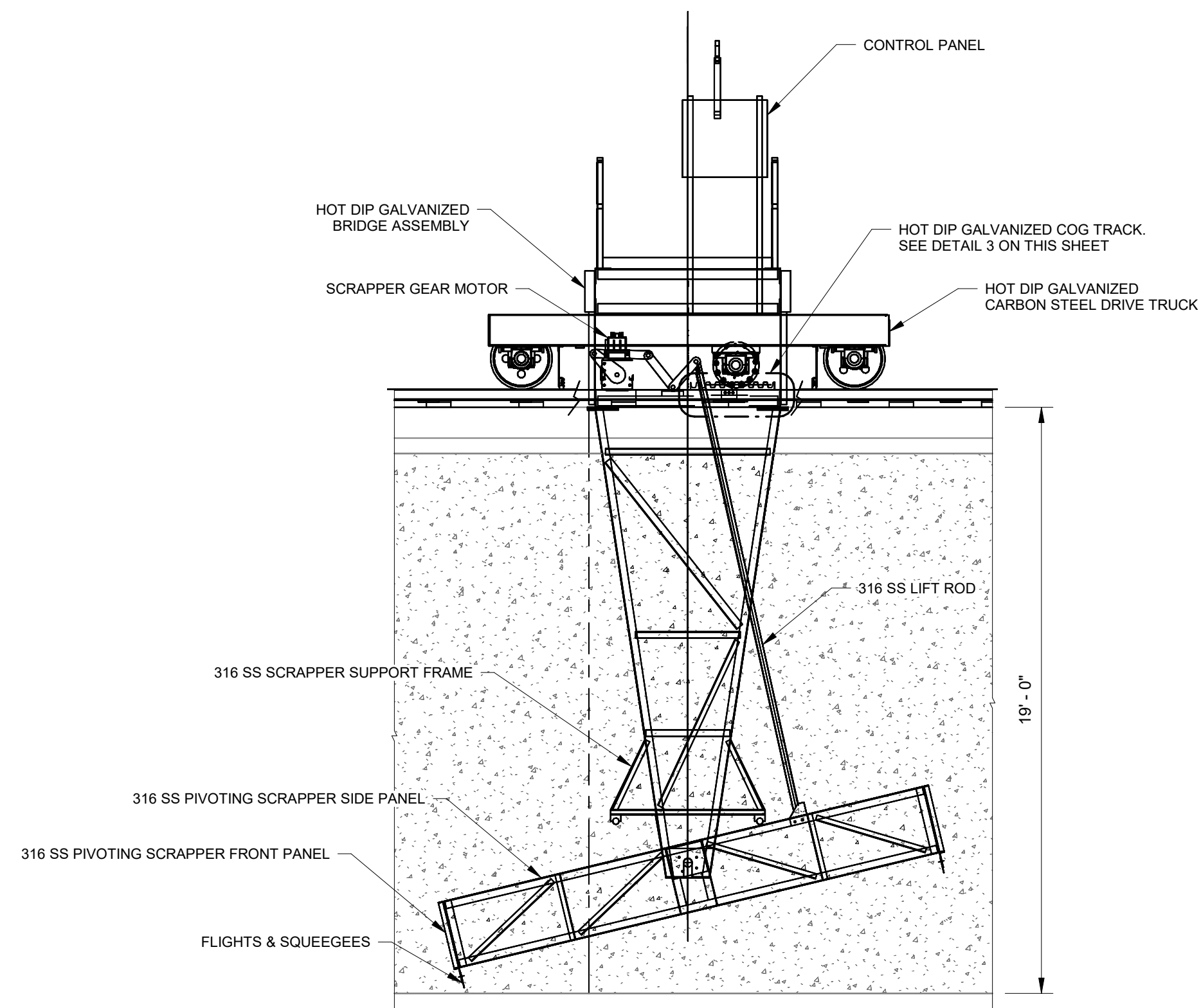
100% DESIGN PLANS

																																																																																																																																																																																																																																																																																																																							
--	--	--	--	--	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	--	--

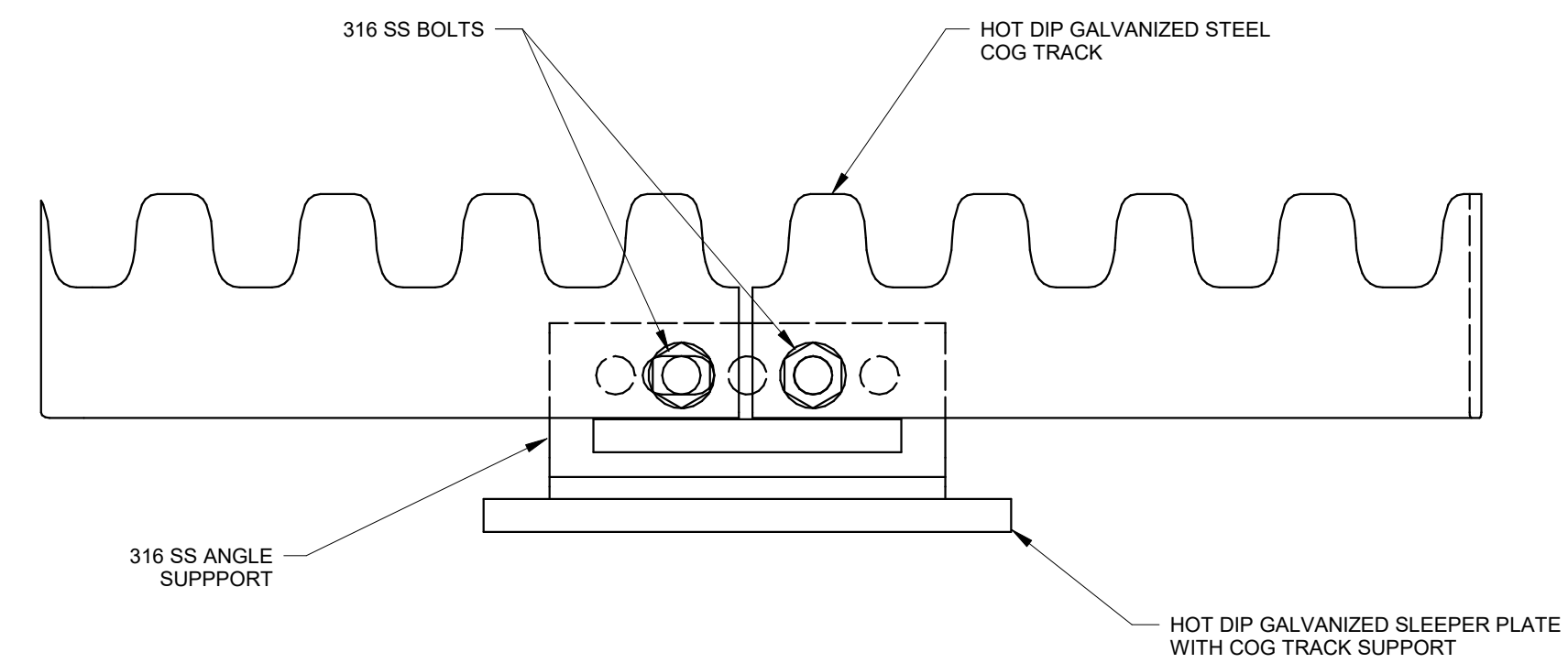




**1**  
BASIN C MECHANICAL SECTION  
M-5 N.T.S.



**2**  
TRAVELING BRIDGE SECTION DETAIL  
M-6 N.T.S.



**3**  
COG TRACK DETAIL  
M-6 N.T.S.

**NOTES:**

- EXISTING STRUCTURAL DIMENSIONS AND LAYOUT BASED ON MANATEE COUNTY AS-BUILT DRAWINGS TITLED *THE MANATEE COUNTY WATER TREATMENT FACILITIES PART "A" - WATER TREATMENT PLANT EXPANSION RECORD DRAWINGS*, PREPARED BY CAMP DRESSER & MCKEE INC. DATED JANUARY 1993.
- CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY PERSONNEL, ENGINEER, AND OVIVO BRIDGE EQUIPMENT SUPPLIER FOR INSTALLATION OF A FULLY FUNCTIONAL AND COMPLETE OVIVO TRAVELING BRIDGE, OVIVO TRAVELING BRIDGE COG TRACK, AND ALL OVIVO TRAVELING BRIDGE EQUIPMENT.
- DETAILS PRESENTED ON THIS SHEET ARE SPECIFIC TO THE OVIVO TRAVELING BRIDGE AND TRAVELING BRIDGE EQUIPMENT AND THEREFORE HAVE BEEN DESIGNED BY OTHERS.
- CONTRACTOR SHALL FURNISH ALL OVIVO TRAVELING BRIDGE AND EQUIPMENT PER SPECIFICATIONS SECTION 464314.
- CONTRACTOR SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR ALL OVIVO TRAVELING BRIDGE AND TRAVELING BRIDGE EQUIPMENT INSTALLATIONS.
- THE OVIVO TRAVELING BRIDGE COG TRACK AND RUNNING RAILS SHALL BE INSTALLED IN 6-PLATE INCREMENTS PER THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATION SECTION 464314. CONTRACTOR TO COMPLETE INSTALLATION OF THE 6-PLATE LONG COG TRACK, VERIFY ALIGNMENT, THEN MOVE TO THE NEXT 6-PLATE LONG INSTALLATION.

100% DESIGN PLANS

BM 360: /148400096 LMWTP Line Sludge Improvements/LMWTP Line Sludge Improvements.rvt

No.	Revisions	By	Date

**Kimley»Horn**  
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVE. SUITE 600  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY N. 35106

KHA PROJECT  
148400096  
DATE  
SEP 2023  
SCALE: AS SHOWN  
DESIGNED BY: MAS  
DRAWN BY: JAK  
CHECKED BY: JWW



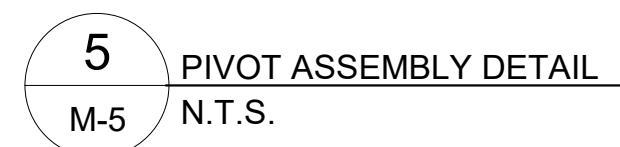
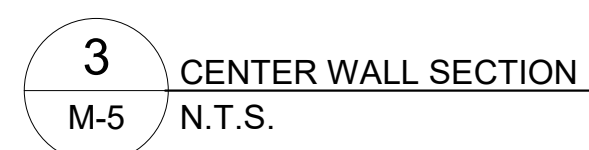
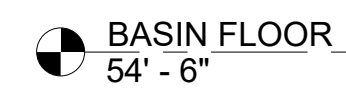
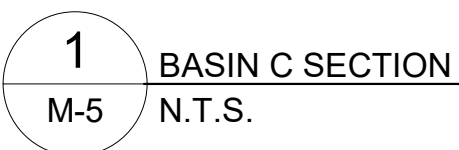
LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

LICENSED PROFESSIONAL:  
  
MICHAEL A. SEMAGO, P.E.  
  
FL. LICENSE NUMBER  
87501

BASIN C PROPOSED  
MECHANICAL SECTION

SHEET NUMBER  
  
M-6

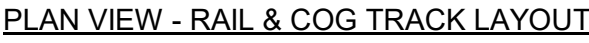




- ## 100% DESIGN PLANS

A-7





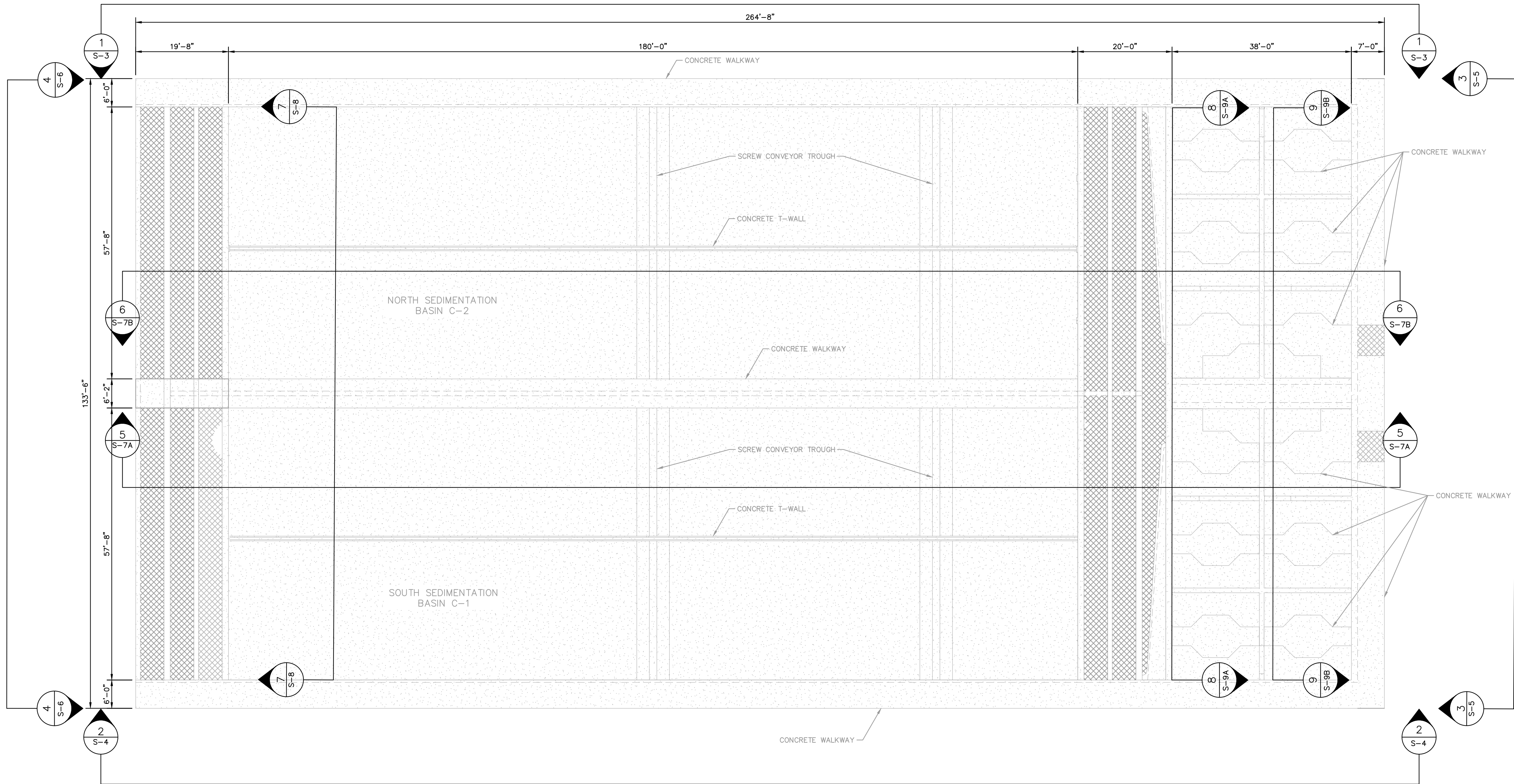
1	RAIL & COG TRACK LAYOUT AND ANCHOR PLAN
M-5	N.T.S.







This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCIES.
2. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF DEMOLISHED MATERIAL. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
3. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING EQUIPMENT, UTILITIES, STRUCTURES, AND PERSONNEL FROM DAMAGE OR INJURY DURING CONSTRUCTION.
4. CONSTRUCTION SEQUENCE SHALL BE COORDINATED TO AVOID OR MINIMIZE ANY PROCESS INTERRUPTION.
5. CONTRACTOR SHALL IDENTIFY LOCATIONS FOR REBAR REPAIR AS WORK PROGRESSES. LOCATIONS TO RECEIVE THIS REPAIR SHALL BE VERIFIED BY THE PROJECT MANAGER.
6. CONTRACTOR TO REMOVE RUST STAINS ON WALKWAYS WITH EXISTING RAILS AND COAT WALKWAYS PRIOR TO INSTALLATION OF NEW RAILS PER SPECIFICATION SECTION 09900
7. CONTRACTOR TO APPLY COATING SYSTEM PAINT PER SPECIFICATION SECTION 09900 (NON-IMMERSION) OR 09960 (IMMERSION-NSF61 RATED) FOR EXTERIOR/INTERIOR REPAIRS COVERING THE REPAIR SURFACE AND 12" PAST THE REPAIR IN ALL DIRECTIONS.

1  
S-2

PLAN AT TOP OF STRUCTURE

SCALE: 1" = 150'

NOTES:

- 1.) DIMENSIONS AND LAYOUT TAKEN FROM SHEET S-8 OF THE MANATEE COUNTY WATER TREATMENT FACILITIES PART "A" - WATER TREATMENT PLANT EXPANSION RECORD DRAWINGS, PREPARED BY CAMP DRESSER & MCKEE INC., DATED JANUARY 1993.
- 2.) RAILING NOT SHOWN FOR CLARITY

No.	REVISIONS	DATE	BY

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	148400096
DATE	SEP 2023
SCALE	AS SHOWN
DESIGNED BY	SES
DRAWN BY	JAK
CHECKED BY	SES



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

FL DATE:

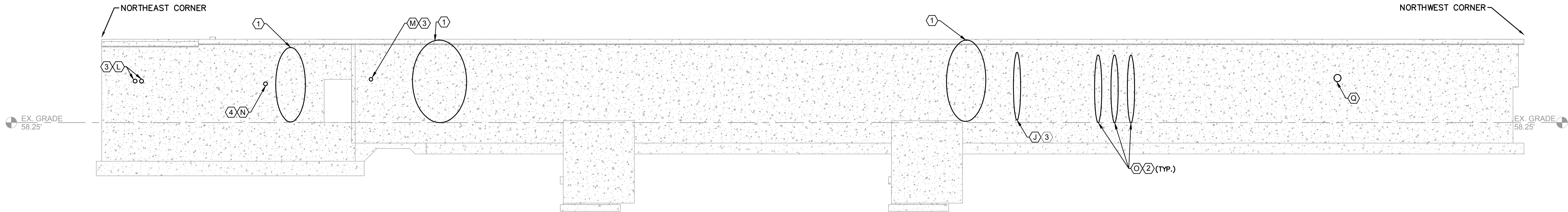
STRUCTURAL SITE PLAN

SHEET NUMBER

S - 2



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1 NORTH ELEVATION  
S - 2 SCALE: 1" = 120'

Photo No. 22

Remarks: 66"x6" area of delaminated concrete (red arrow).

Location: North wall of structure (refer to Mark J This Sheet).

Photo No. 24

Remarks: 6" diameter area of delaminated concrete (red arrow).

Location: North wall of structure (refer to Mark M This Sheet).

Photo No. 25

Remarks: 3" diameter spill with exposed corroded reinforcement (red arrow).

Location: North wall near the eastern end (refer to Mark N This Sheet).

Photo No. 26

Remarks: Close up view of Photograph 25.

Location: North wall near the eastern end (refer to Mark N This Sheet).

Photo No. 27

Remarks: Typical vertical crack in exterior of wall with stains consistent with corrosion.

Location: North wall shown (refer to Mark O This Sheet).

Photo No. 30

Remarks: Typical separated wall coating.

Location: West wall of the structure (refer to Mark Q This Sheet).

REPAIR NOTES

- ① **VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS**
- 1.CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- ② **VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS**
- 1.CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - 4.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ③ **DELAMINATED CONCRETE / FAILED PATCHES**
- 1.CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ④ **SPALLED CONCRETE, INCLUDING INCIPIENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT**
- 1.REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ⑤ **AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS**
- 1.INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - 2.CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- ⑥ **AREAS OF PITTING ON TOP OF WALKWAYS**
- 1.ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - 2.PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- ⑦ **DELAMINATED DECK COATING**
- 1.REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - 2.CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

MARK	SIZE OF HOLLOW SOUNDING CONCRETE
A	4" DIAMETER HOLLOW SOUNDING CONCRETE.
B	28"x3" HOLLOW SOUNDING CONCRETE. ALONG EDGE OF JOINT.
C	18"x5" HOLLOW SOUNDING CONCRETE.
D	32"x2" HOLLOW SOUNDING CONCRETE.
E	24"x36" HOLLOW SOUNDING CONCRETE. 2.5 FEET ABOVE SIDEWALK.
F	24"x36" HOLLOW SOUNDING CONCRETE.
G	18"x24", 8"x10" HOLLOW SOUNDING CONCRETE.
H	12" DIAMETER HOLLOW SOUNDING CONCRETE. STAINS OBSERVED
I	28"x30" HOLLOW SOUNDING CONCRETE.
J	66"x6" HOLLOW SOUNDING CONCRETE.
K	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH
L	12"x7" HOLLOW SOUNDING CONCRETE. TWO PLACES. APPROXIMATELY 22' FROM THE NORTHEAST CORNER OF THE NORTH WALL
M	6" DIAMETER HOLLOW SOUNDING CONCRETE.
N	3" DIAMETER SPALL WITH EXPOSED, CORRODED REINFORCEMENT ON THE NORTH WALL OF THE FLOCCULATOR BASIN NEAR THE SIDEWALK. THERE WAS 3/8" COVER OVER THE REINFORCEMENT (PHOTOGRAPHS 25 AND 26).
O	VERTICAL CRACKS WITH STAINS CONSISTENT WITH CORROSION (PHOTOGRAPH 27).
P	ISOLATED CORROSION STAINS IN WALL (PHOTOGRAPHS 28 AND 29).
Q	SEPARATED WALL COATING (PHOTOGRAPH 30).

No.	REVISIONS	DATE	BY

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT  
148400096

DATE  
SEP 2023

SCALE AS SHOWN

DESIGNED BY SES

DRAWN BY JAK

CHECKED BY SES



**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**

MANATEE COUNTY

LICENSED PROFESSIONAL

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

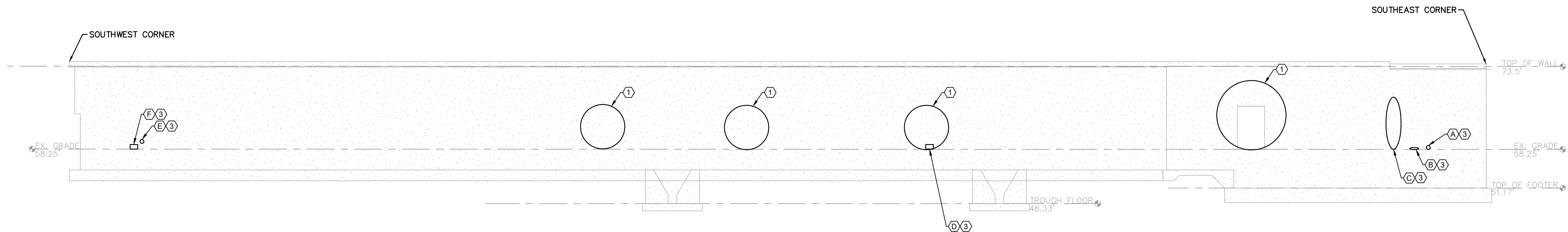
**NORTH EXTERIOR WALL**

SHEET NUMBER

**S-3**



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



2 SOUTH ELEVATION  
S-2 SCALE: 1" = 120'



Remarks: Apparent 4" diameter failed patch (red arrow)

Location: South wall of structure (refer to Mark A This Sheet).



Remarks: 28"x3" area of delaminated concrete along the edge of a joint (red arrow).

Location: South wall of structure (refer to Mark B This Sheet).



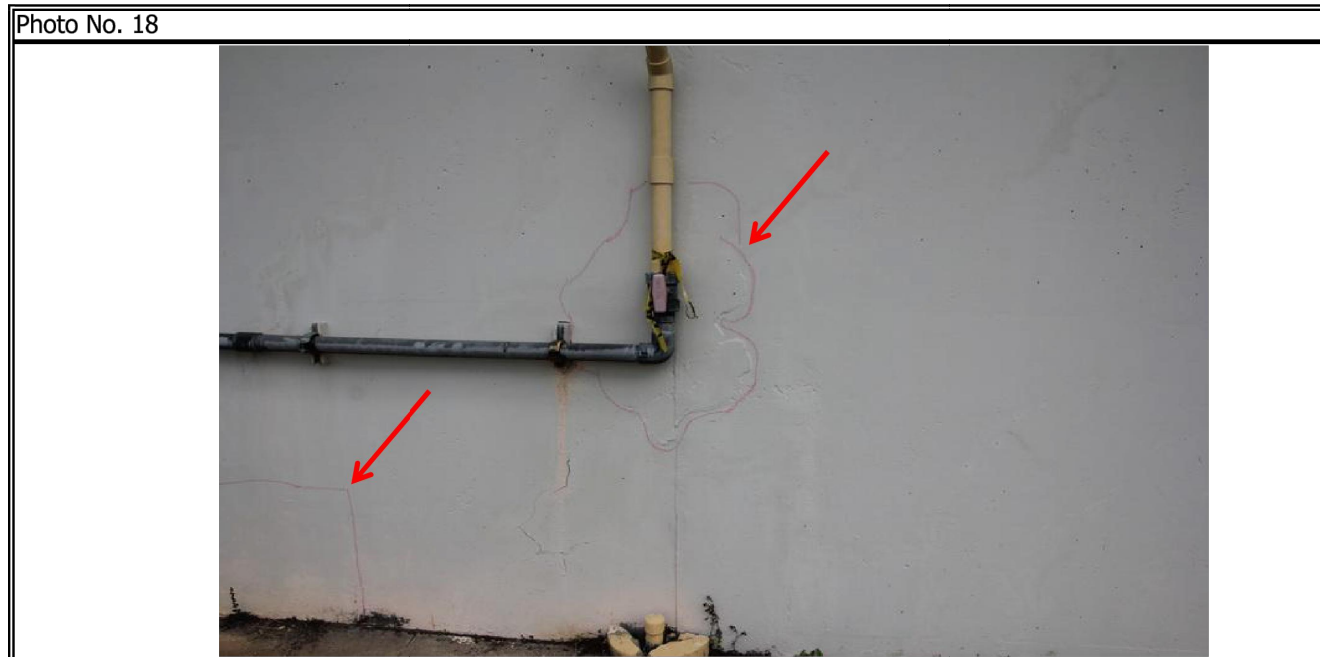
Remarks:	18"x5" area of delaminated concrete (red arrow)
----------	---

Location: South wall of structure (refer to Mark C This Sheet).



Remarks:	32"x2" area of delaminated concrete (red arrow).
----------	--

Location: South wall of structure (refer to Mark D This Sheet).



Remarks: Two 24"x36" areas of delaminated concrete (red arrows).

Location: South wall of structure (refer to Mark E and F This Sheet).

## REPAIR NOTES

- ① **VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
1. CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.

- ② **VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS**
  1. CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  4. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11.
  5. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.

- ③ **DELAMINATED CONCRETE / FAILED PATCHES.**
1. CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11. THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  4. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.

- 4) SPALLED CONCRETE, INCLUDING INCIPIENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT
1. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-111.
  4. REPAIR CRACKS AND DISINTEGRATIONS PER THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  5. FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  6. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09000 AND THE MANUFACTURER'S RECOMMENDATIONS.

5. AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS
1. INJECT ALL CRACKS WITH A REPAIR EPOXY.
  2. CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE FRP COMPOSITE REINFORCEMENT DESIGNER. SURFACE CALCULATIONS SIGN AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.

- ⑥ AREAS OF PITTING ON TOP OF WALKWAYS
1. ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  2. PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.

- 7. DELAMINATED DECK COATING**
1. REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  2. CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

MARK	SIZE OF HOLLOW SOUNDING CONCRETE
A	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH.
B	28"x33" HOLLOW SOUNDING CONCRETE. ALONG EDGE OF JOINT
C	18"x55" HOLLOW SOUNDING CONCRETE.
D	32"x32" HOLLOW SOUNDING CONCRETE.
E	24"x36" HOLLOW SOUNDING CONCRETE. 2.5 FEET ABOVE SIDEWALK
F	24"x36" HOLLOW SOUNDING CONCRETE.
G	18"x24" - 8"x10" HOLLOW SOUNDING CONCRETE.
H	12" DIAMETER HOLLOW SOUNDING CONCRETE. STAINS OBSERVED
I	28"x30" HOLLOW SOUNDING CONCRETE.
J	66"x6" HOLLOW SOUNDING CONCRETE.
K	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH.
L	12"x7" HOLLOW SOUNDING CONCRETE. TWO PLACES, APPROXIMATELY 22' FROM THE NORTHEAST CORNER OF THE NORTH WALL
M	6" DIAMETER HOLLOW SOUNDING CONCRETE.
N	3" DIAMETER SPALL WITH EXPOSED, CORRODED REINFORCEMENT ON THE NORTH WALL OF THE FLOCCULATOR BASIN NEAR THE SIDEWALK. THERE WAS 3/8" COVER OVER THE REINFORCEMENT. (PHOTOGRAPHS 25 AND 26)
O	VERTICAL CRACKS WITH STAINS CONSISTENT WITH CORROSION (PHOTOGRAPH 27)
P	ISOLATED CORROSION STAINS IN WALL (PHOTOGRAPHS 28 AND 29).
Q	SEPARATED WALL COATING (PHOTOGRAPH 30).

No.	REVISIONS	DATE	BY

**Kimley»»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400096	
DATE SEP 2023	
SCALE	AS SHOWN
DESIGNED BY	SES
DRAWN BY	JAK
CHECKED BY	SES

LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE  
MANATEE COUNTY

LICENSED PROFESSIONAL

---

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

FL DATE:

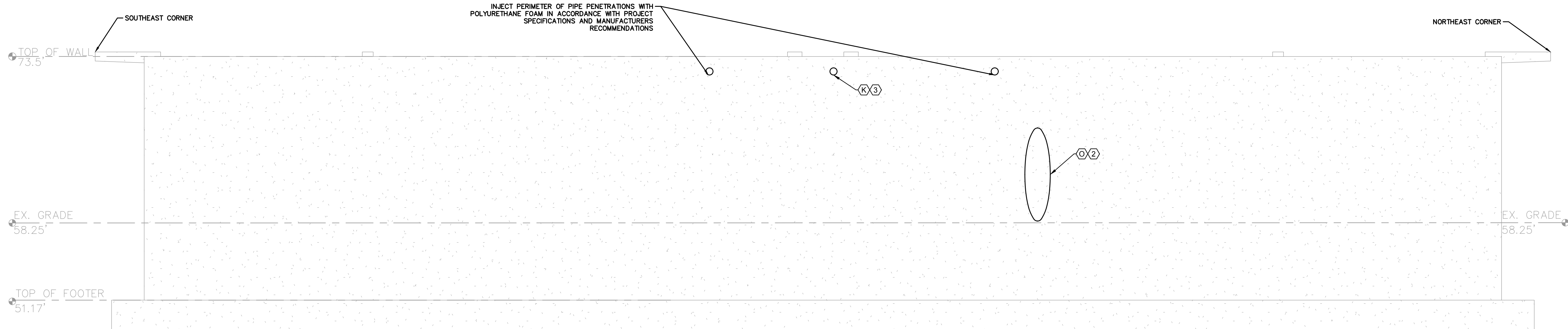
## SOUTH EXTERIOR WALL

SHEET NUMBER

S-4



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



3  
S - 2 EAST ELEVATION  
SCALE: 1" = 60'

Photo No. 23

Remarks: 4" diameter apparent failed patch (red arrow).

Location: East wall of structure (refer to Mark K This Sheet).

Photo No. 27

Remarks: Typical vertical crack in exterior of wall with stains consistent with corrosion.

Location: North wall shown (refer to Mark O This Sheet).

REPAIR NOTES

- ① **VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
- CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- ② **VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS.**
- CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ③ **DELAMINATED CONCRETE / FAILED PATCHES.**
- CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ④ **SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT.**
- REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ⑤ **AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS.**
- INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- ⑥ **AREAS OF PITTING ON TOP OF WALKWAYS.**
- ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- ⑦ **DELAMINATED DECK COATING.**
- REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

MARK	SIZE OF HOLLOW SOUNDING CONCRETE
A	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH
B	28"x33" HOLLOW SOUNDING CONCRETE. ALONG EDGE OF JOINT
C	18"x5" HOLLOW SOUNDING CONCRETE.
D	32"x2" HOLLOW SOUNDING CONCRETE.
E	24"x36" HOLLOW SOUNDING CONCRETE. 2.5 FEET ABOVE SIDEWALK
F	24"x36" HOLLOW SOUNDING CONCRETE.
G	18"x24", 8"x10" HOLLOW SOUNDING CONCRETE.
H	12" DIAMETER HOLLOW SOUNDING CONCRETE. STAINS OBSERVED
I	28"x30" HOLLOW SOUNDING CONCRETE.
J	66"x6" HOLLOW SOUNDING CONCRETE.
K	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH
L	12"x7" HOLLOW SOUNDING CONCRETE. TWO PLACES. APPROXIMATELY 22' FROM THE NORTHEAST CORNER OF THE NORTH WALL
M	6" DIAMETER HOLLOW SOUNDING CONCRETE.
N	3" DIAMETER SPALL WITH EXPOSED, CORRODED REINFORCEMENT ON THE NORTH WALL OF THE FLOCCULATOR BASIN NEAR THE SIDEWALK. THERE WAS 3/8" COVER OVER THE REINFORCEMENT (PHOTOGRAPHS 25 AND 26).
O	VERTICAL CRACKS WITH STAINS CONSISTENT WITH CORROSION (PHOTOGRAPH 27).
P	ISOLATED CORROSION STAINS IN WALL (PHOTOGRAPHS 28 AND 29).
Q	SEPARATED WALL COATING (PHOTOGRAPH 30).

No.	REVISIONS	DATE	BY

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT	148400096
DATE	SEP 2023
SCALE	AS SHOWN
DESIGNED BY	SES
DRAWN BY	JAK
CHECKED BY	SES

LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

FL DATE:

EAST EXTERIOR WALL

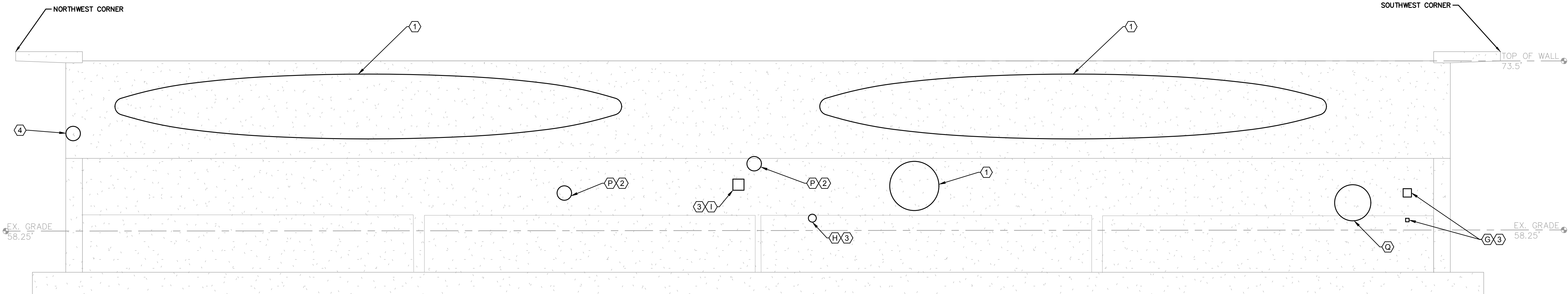
S-5

SHEET NUMBER

S-5



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



4  
S - 2

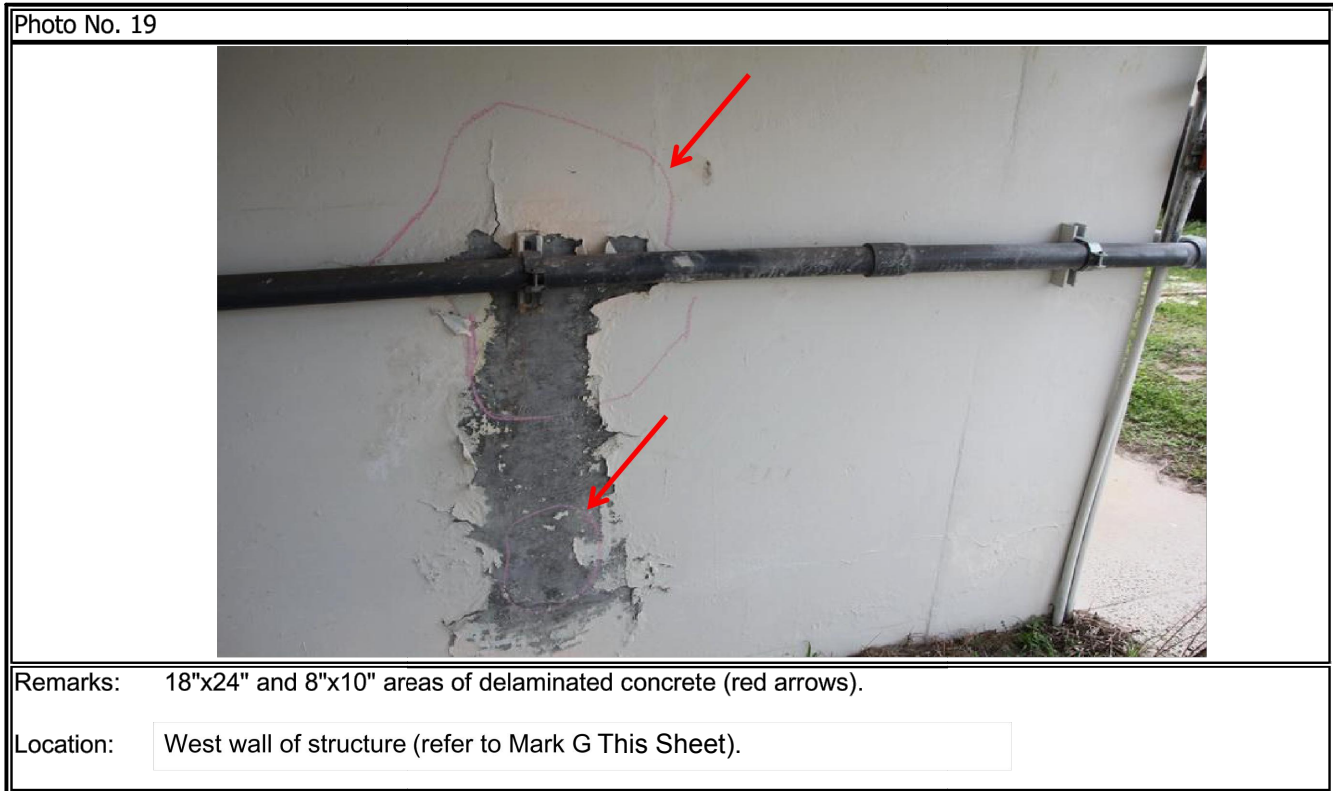
## WEST ELEVATION

SCALE: 1" = 60'

### REPAIR NOTES

- ① VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
- CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- ② VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS.**
- CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ③ DELAMINATED CONCRETE / FAILED PATCHES.**
- CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ④ SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT.**
- REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09900 AND THE MANUFACTURER'S RECOMMENDATIONS.
- ⑤ AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS.**
- INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- ⑥ AREAS OF PITTING ON TOP OF WALKWAYS.**
- ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- ⑦ DELAMINATED DECK COATING.**
- REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

MARK	SIZE OF HOLLOW SOUNDING CONCRETE
A	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH.
B	28"x3" HOLLOW SOUNDING CONCRETE. ALONG EDGE OF JOINT.
C	18"x5" HOLLOW SOUNDING CONCRETE.
D	32"x2" HOLLOW SOUNDING CONCRETE.
E	24"x36" HOLLOW SOUNDING CONCRETE. 2.5 FEET ABOVE SIDEWALK.
F	24"x36" HOLLOW SOUNDING CONCRETE.
G	18"x24", 8"x10" HOLLOW SOUNDING CONCRETE.
H	12" DIAMETER HOLLOW SOUNDING CONCRETE. STAINS OBSERVED.
I	28"x30" HOLLOW SOUNDING CONCRETE.
J	66"x6" HOLLOW SOUNDING CONCRETE.
K	4" DIAMETER HOLLOW SOUNDING CONCRETE. APPARENT FAILED PATCH.
L	12"x7" HOLLOW SOUNDING CONCRETE. TWO PLACES. APPROXIMATELY 22' FROM THE NORTHEAST CORNER OF THE NORTH WALL.
M	6" DIAMETER HOLLOW SOUNDING CONCRETE.
N	3" DIAMETER SPALL WITH EXPOSED, CORRODED REINFORCEMENT ON THE NORTH WALL OF THE FLOCCULATOR BASIN NEAR THE SIDEWALK. THERE WAS 3/8" COVER OVER THE REINFORCEMENT (PHOTOGRAPHS 25 AND 26).
O	VERTICAL CRACKS WITH STAINS CONSISTENT WITH CORROSION (PHOTOGRAPH 27).
P	ISOLATED CORROSION STAINS IN WALL (PHOTOGRAPHS 28 AND 29).
Q	SEPARATED WALL COATING (PHOTOGRAPH 30).



Remarks: 18"x24" and 8"x10" areas of delaminated concrete (red arrows).

Location: West wall of structure (refer to Mark G This Sheet).



Remarks: Isolated corrosion stain in the wall surface.

Location: West wall of the structure (refer to Mark P This Sheet).



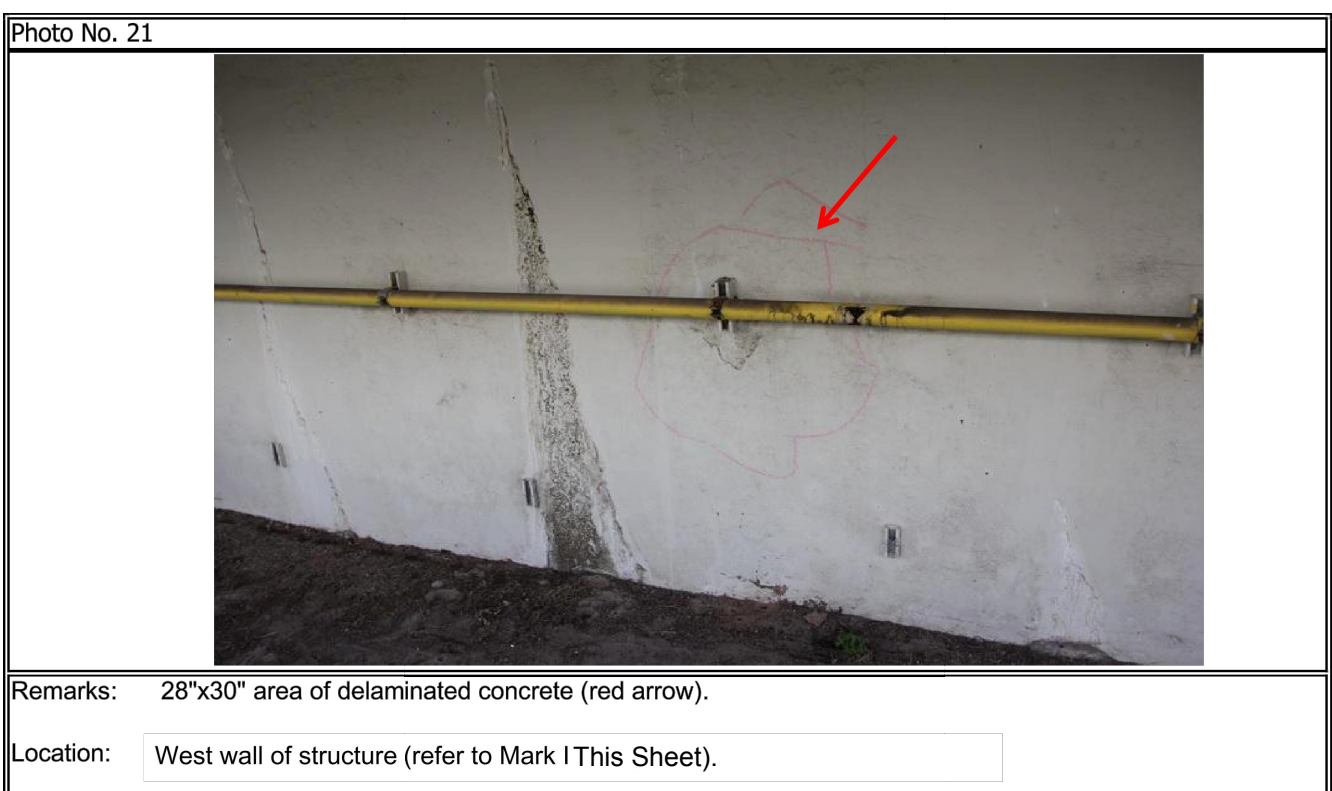
Remarks: 12" diameter area of delaminated concrete with stains (red arrow).

Location: West wall of structure (refer to Mark H This Sheet).



Remarks: Isolated corrosion stain in the wall surface.

Location: West wall of the structure (refer to Mark P This Sheet).



Remarks: 28"x30" area of delaminated concrete (red arrow).

Location: West wall of structure (refer to Mark I This Sheet).



Remarks: Typical separated wall coating.

Location: West wall of the structure (refer to Mark Q This Sheet).

No.	REVISIONS	DATE	BY

# Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY SES
DRAWN BY JAK
CHECKED BY SES



## LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

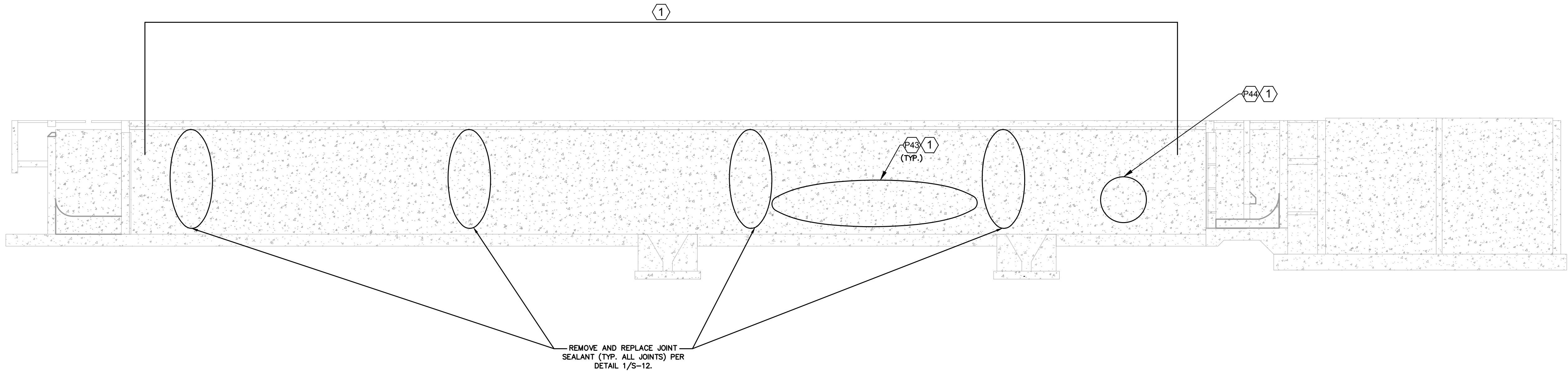
LICENSED PROFESSIONAL
SETH E. SCHMID, P.E.
FL LICENSE NUMBER 54640
FL DATE:

## WEST EXTERIOR WALL

SHEET NUMBER  
  
S-6



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



5  
S - 2

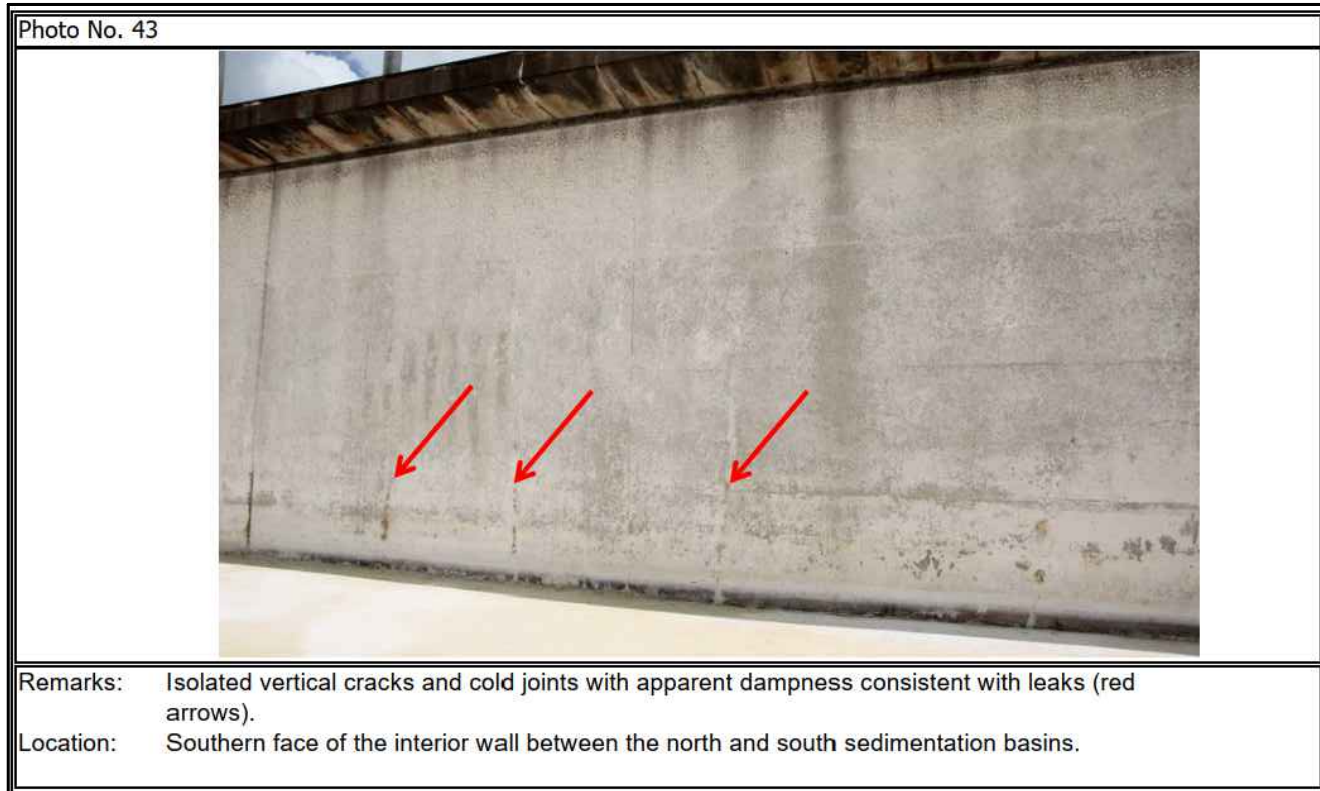
## CENTER WALL (LOOKING NORTH)

SCALE: 1" = 120'

NOTE: CENTER WALL SHOWN. JOINT SEALANT REMOVAL AND REPLACEMENT IS TYPICAL OF JOINTS IN ALL WALLS OF STRUCTURE.

### REPAIR NOTES

- 1. VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS**
  1. CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 2. VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS**
  1. CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  4. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  5. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3. DELAMINATED CONCRETE / FAILED PATCHES**
  1. CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  4. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4. SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT**
  1. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  4. FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  5. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 5. AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS**
  1. INJECT ALL CRACKS WITH A REPAIR EPOXY.
  2. CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- 6. AREAS OF PITTING ON TOP OF WALKWAYS**
  1. ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  2. PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  3. APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- 7. DELAMINATED DECK COATING**
  1. REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  2. CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  3. APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.



No.	REVISIONS	DATE	BY

# Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT	148400096
DATE	SEP 2023
SCALE	AS SHOWN
DESIGNED BY	SES
DRAWN BY	JAK
CHECKED BY	SES



## LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

FL DATE:

CENTER INTERIOR WALL

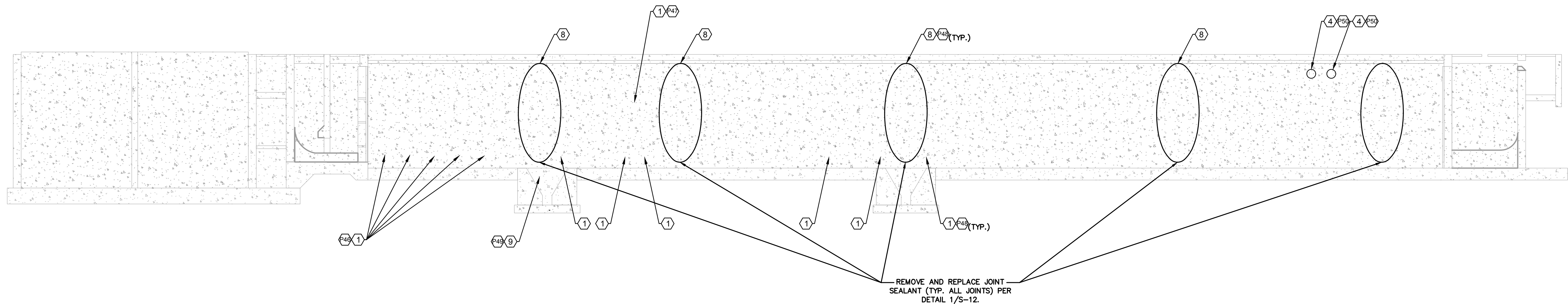
S-7A

SHEET NUMBER

S-7A



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



6  
S - 2

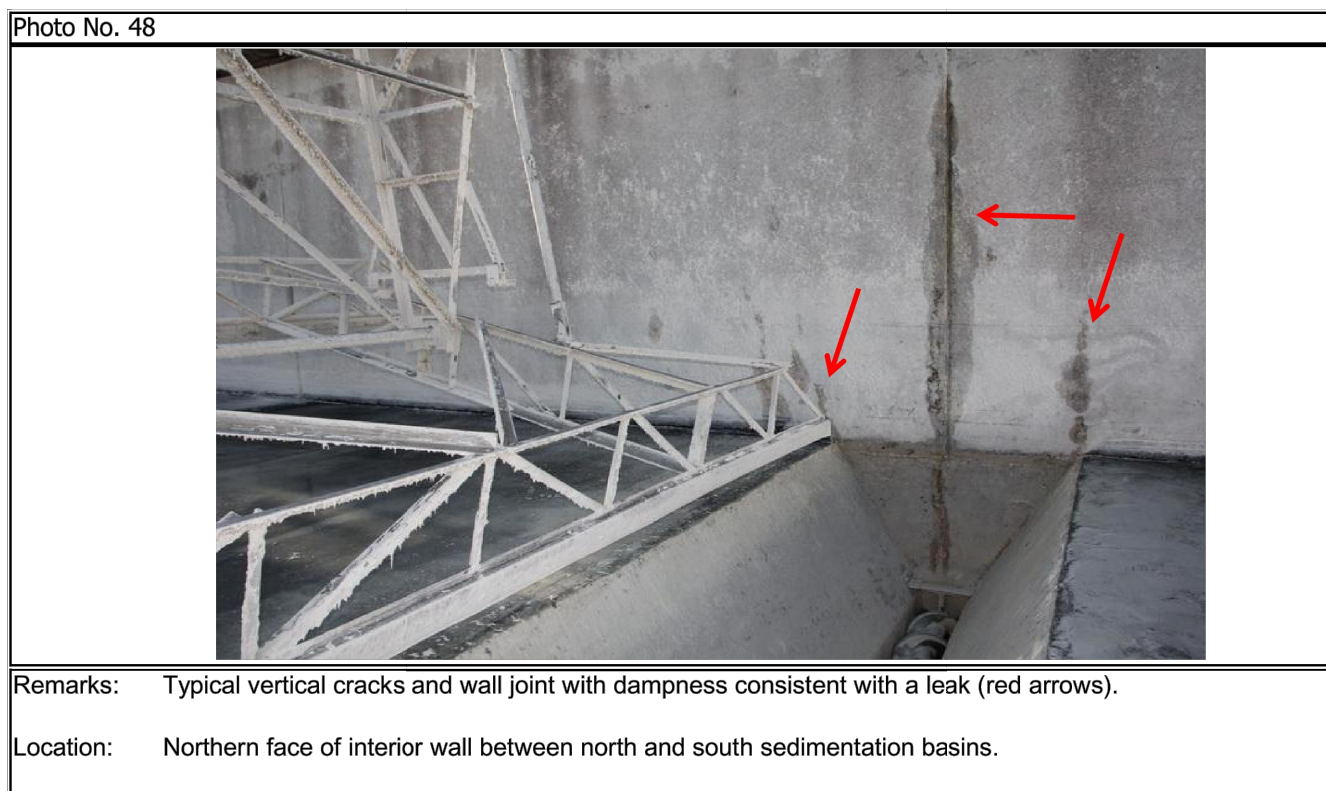
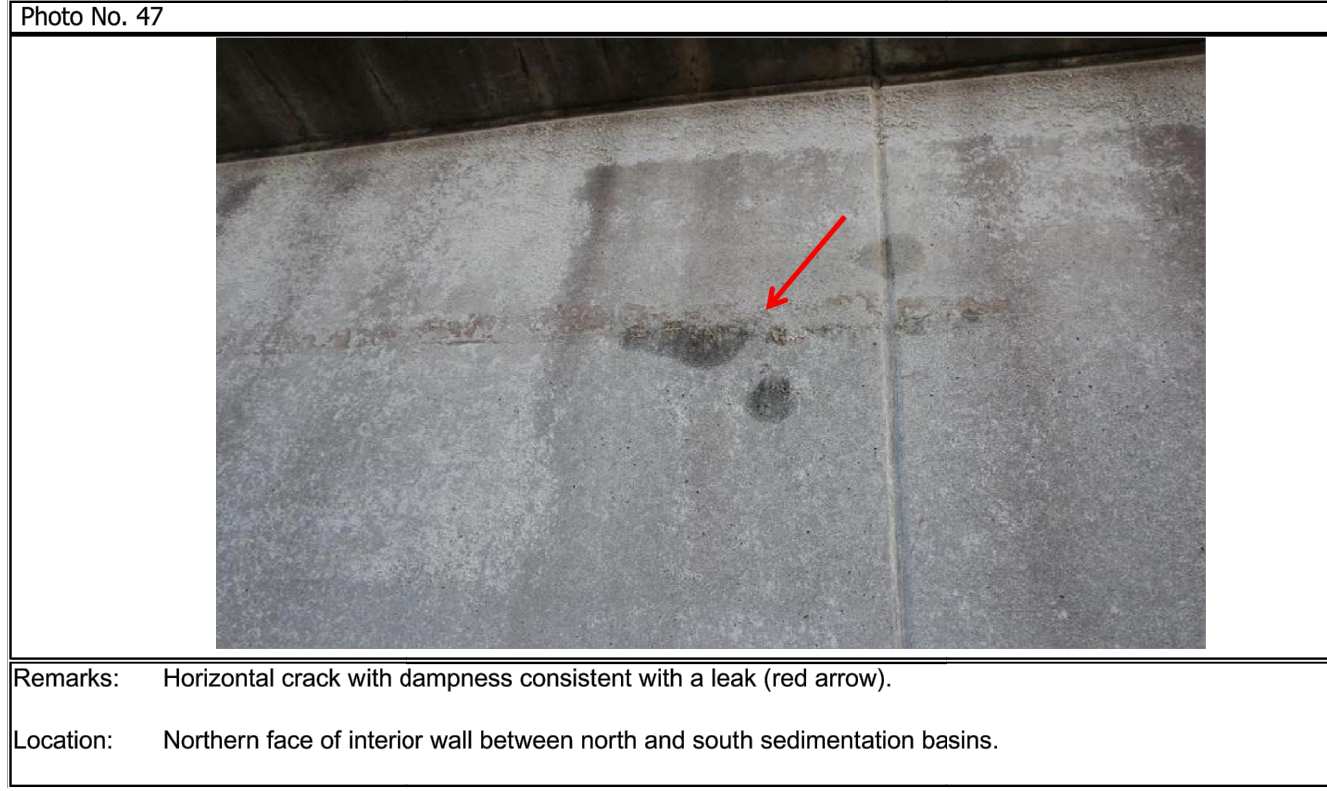
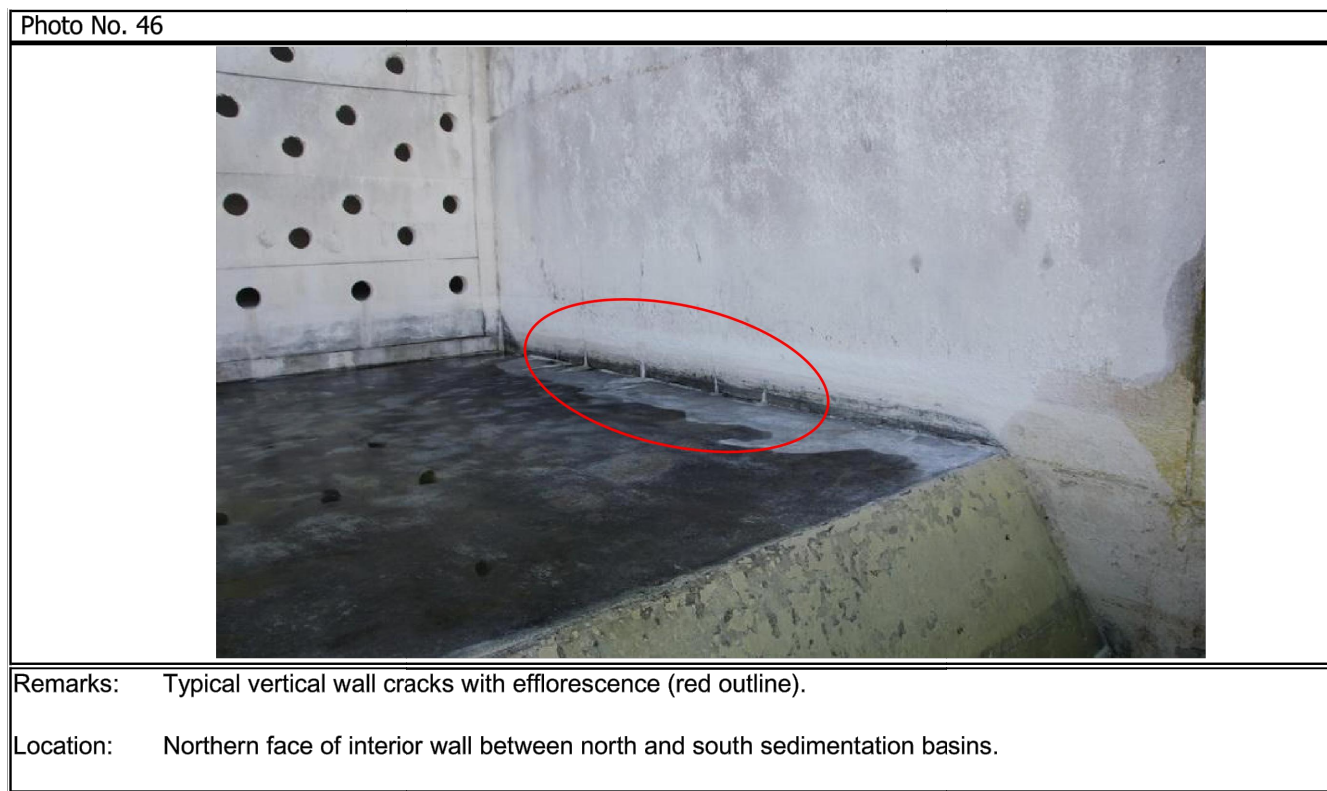
## CENTER WALL (LOOKING SOUTH)

SCALE: 1" = 120'

NOTE: CENTER WALL SHOWN. JOINT SEALANT REMOVAL AND REPLACEMENT IS TYPICAL OF JOINTS IN ALL WALLS OF STRUCTURE.

### REPAIR NOTES

- 1. VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE, DAMPNESS, AND/OR ALGAE STAINS.**
  - 1.CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 2. VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS**
  - 1.CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - 4.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3. DELAMINATED CONCRETE / FAILED PATCHES**
  - 1.CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4. SPALLED CONCRETE, INCLUDING INCIPIENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT.**
  - 1.REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
- 5. AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS**
  - 1.INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - 2.CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- 6. AREAS OF PITTING ON TOP OF WALKWAYS**
  - 1.ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - 2.PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- 8. JOINTS WITH EVIDENCE OF LEAKS**
  - 1.REMOVE EXISTING JOINT SEALANT FROM THE JOINT.
  - 2.INJECT THE JOINT WITH POLYURETHANE FOAM AFTER REMOVING THE DETERIORATED JOINT SEALANT SYSTEM AND PRIOR TO INSTALLING THE NEW JOINT SEALANT SYSTEM.
  - 3.CLEAN THE JOINT TO COMPLETELY REMOVE ALL EXISTING SEALANT AND INSTALL AN APPROPRIATE JOINT SEALANT SYSTEM IN ACCORDANCE WITH DETAIL 1 ON SHEET S-12 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 9. DELAMINATED TRENCH COATING**
  - 1.REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - 2.CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL SURFACE. MATCH THE SURFACE OF THE EXISTING, ADJACENT COATING.



No.	REVISIONS	DATE	BY

# Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT  
148400096

DATE  
SEP 2023

SCALE AS SHOWN

DESIGNED BY SES

DRAWN BY JAK

CHECKED BY SES

## LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

SETH E. SCHMID, P.E.

FL LICENSE NUMBER  
54640

FL DATE:

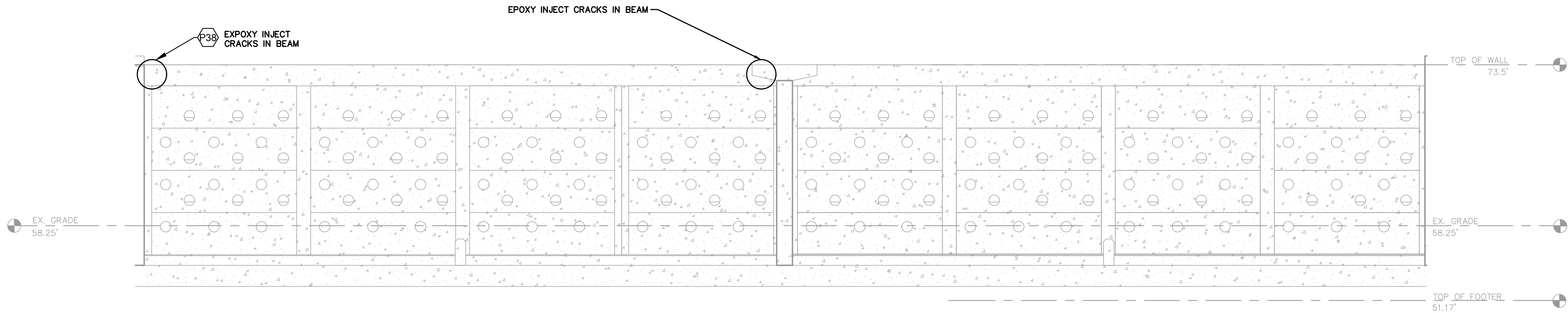
## CENTER INTERIOR WALL

SHEET NUMBER

## S-7B



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



7 WEST INTERIOR WALL  
S - 2 SCALE: 1" = 80'

Photo No. 38

Remarks: Cracks with no stains at the end of the beam over the precast wall panel.

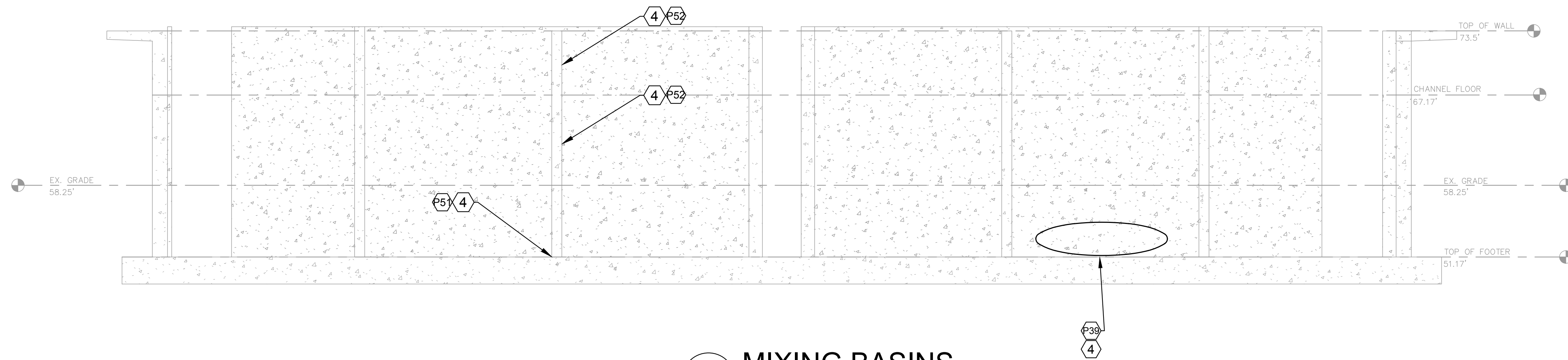
Location: Southern end of the beam at the western end of the southern sedimentation basin.

REPAIR NOTES

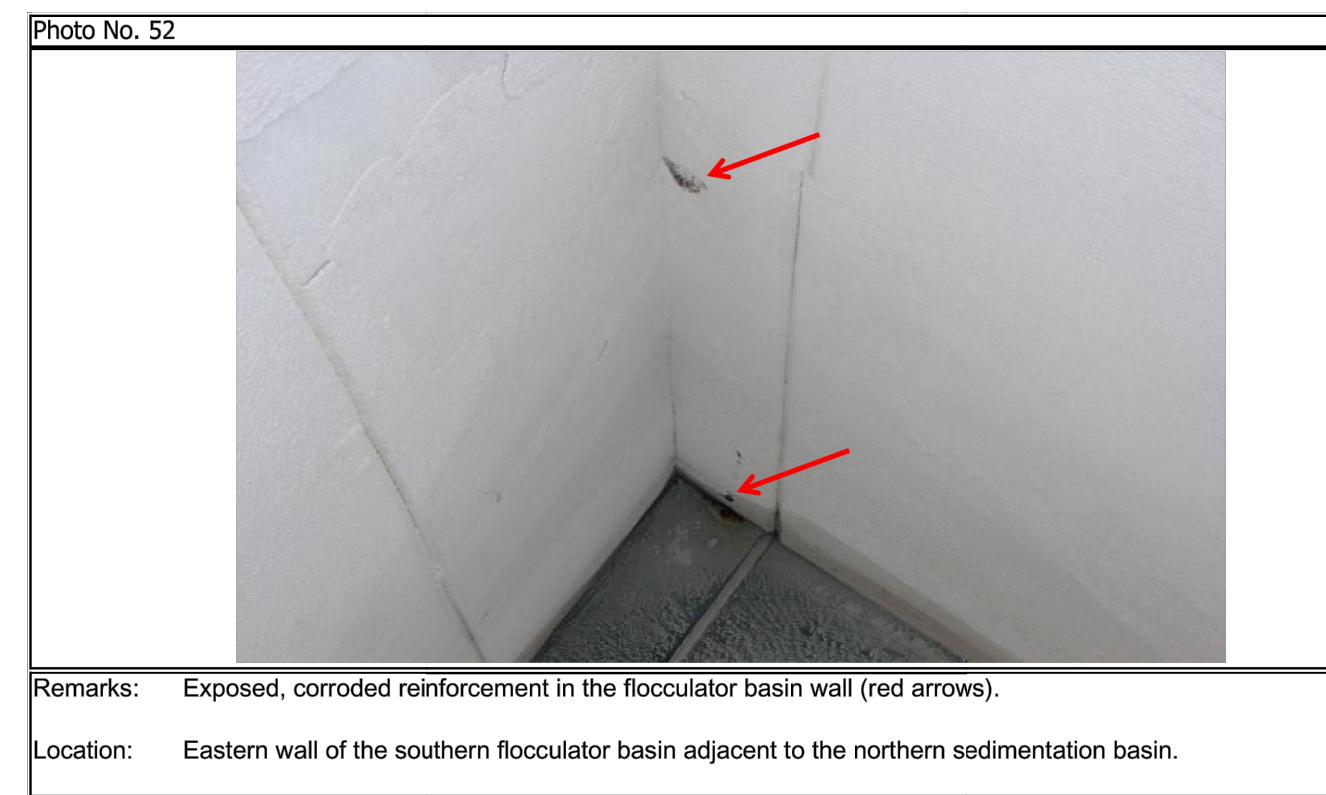
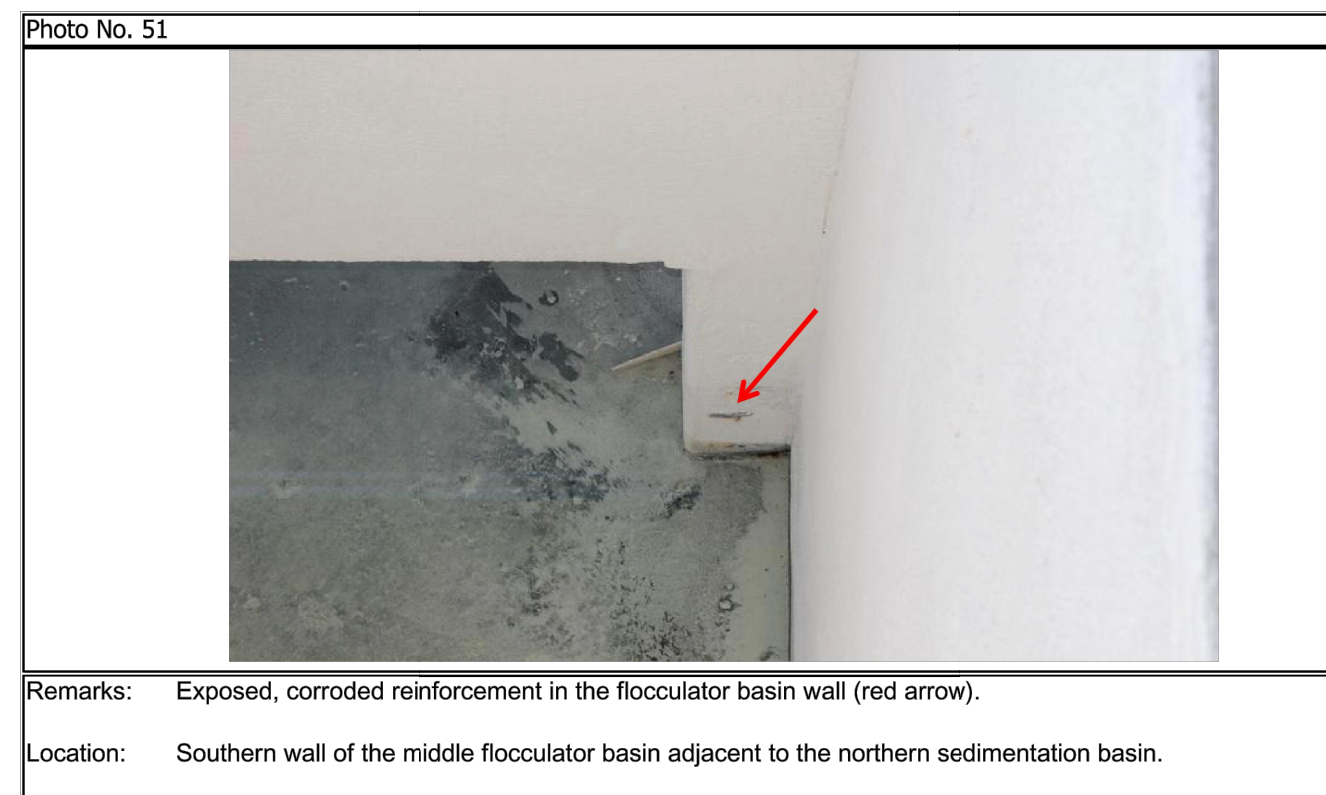
- 1) VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
  - 1.CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 2) VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS**
  - 1.CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - 4.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3) DELAMINATED CONCRETE / FAILED PATCHES**
  - 1.CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4) SPALLED CONCRETE, INCLUDING INCIPIENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT**
  - 1.REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 4.FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 5) AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS**
  - 1.INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - 2.CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- 6) AREAS OF PITTING ON TOP OF WALKWAYS**
  - 1.ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - 2.PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- 7) DELAMINATED DECK COATING**
  - 1.REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - 2.CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3.APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

				<div>Kimley»Horn</div> <div>© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701 PHONE: 727-547-3999 WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106</div>	<div>KHA PROJECT 148400096</div> <div>DATE SEP 2023</div> <div>SCALE: AS SHOWN</div> <div>DESIGNED BY    SES</div> <div>DRAWN BY    JAK</div> <div>CHECKED BY    SES</div>	<div></div> <div>LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE</div> <div>MANATEE COUNTY</div>	<div>LICENSED PROFESSIONAL</div> <div>SETH E. SCHMID, P.E.</div> <div>FL LICENSE NUMBER 54640</div> <div>FL DATE:</div>	WEST INTERIOR WALL	SHEET NUMBER  S-8
No.	REVISIONS	DATE	BY						





8 MIXING BASINS  
S - 2 SCALE: 1" = 80'



- # REPAIR NOTES
- ① VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS
    1. CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
    2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - ② VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS
    1. CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
    2. INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    3. REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
    4. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    5. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
  - ③ DELAMINATED CONCRETE / FAILED PATCHES
    1. CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
    2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    4. APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
  - ④ SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT
    1. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
    2. CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    3. REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    4. FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - ⑤ AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS
    1. INJECT ALL CRACKS WITH A REPAIR EPOXY.
    2. CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
  - ⑥ AREAS OF PITTING ON TOP OF WALKWAYS
    1. ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
    2. PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    3. APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
  - ⑦ DELAMINATED DECK COATING
    1. REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
    2. CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    3. APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

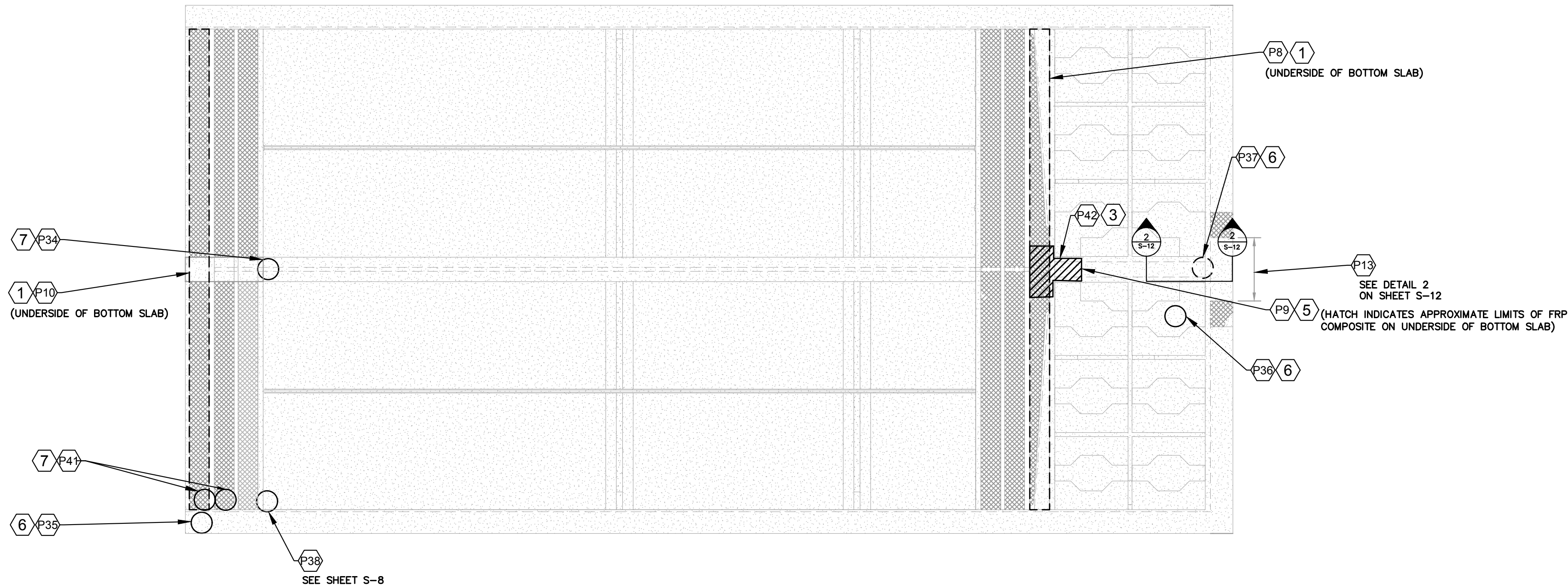
[illegible]







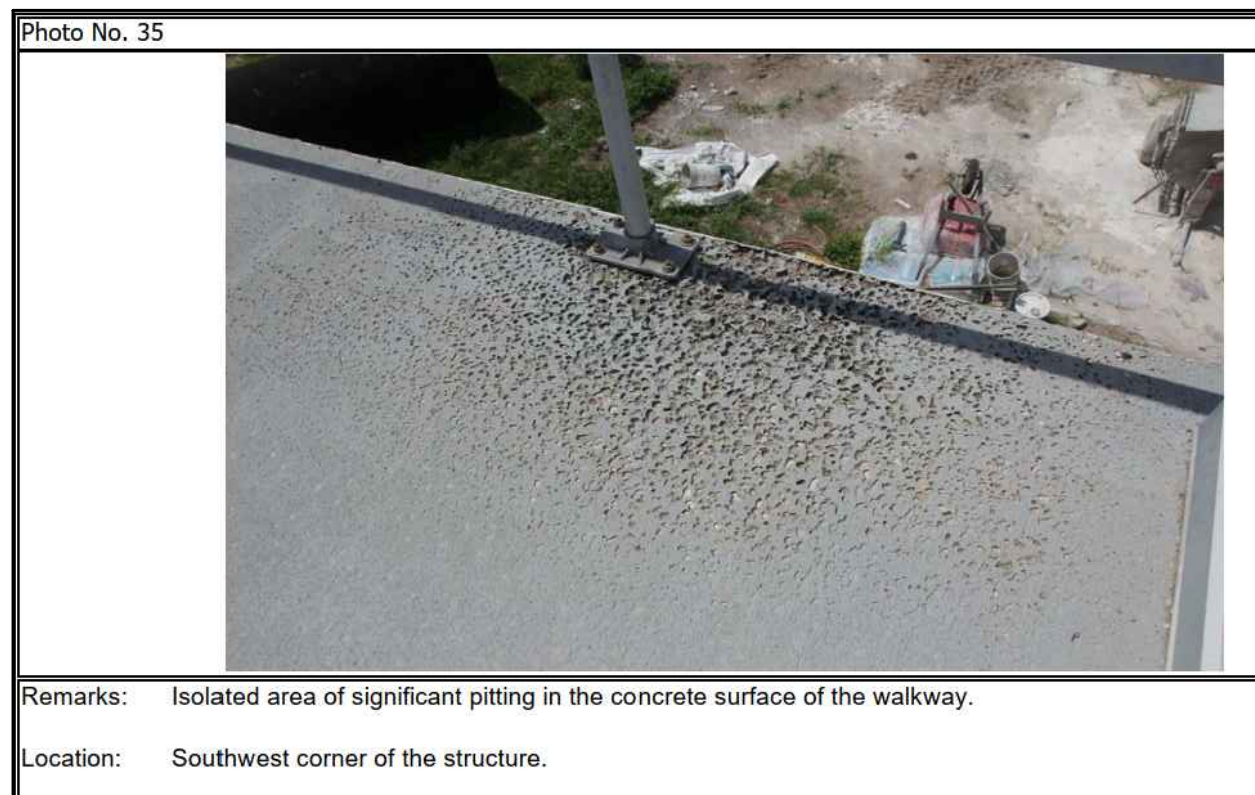
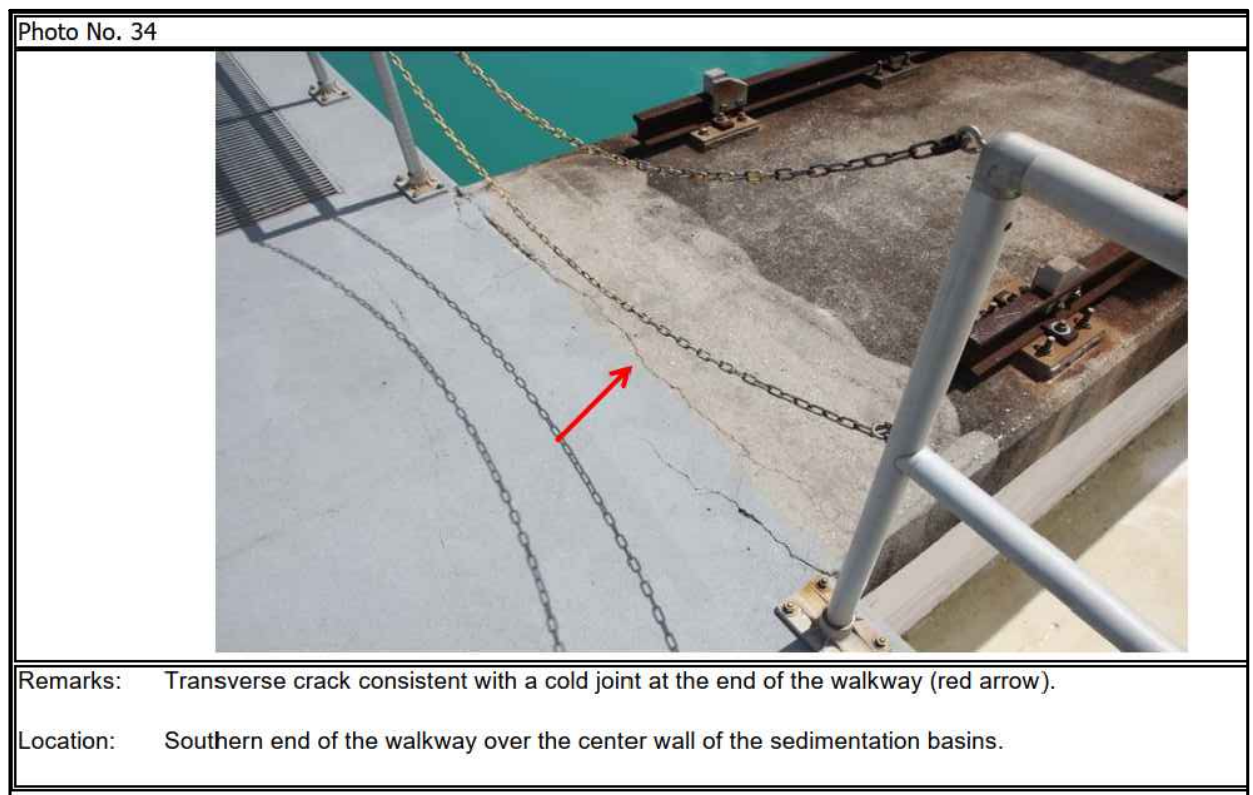
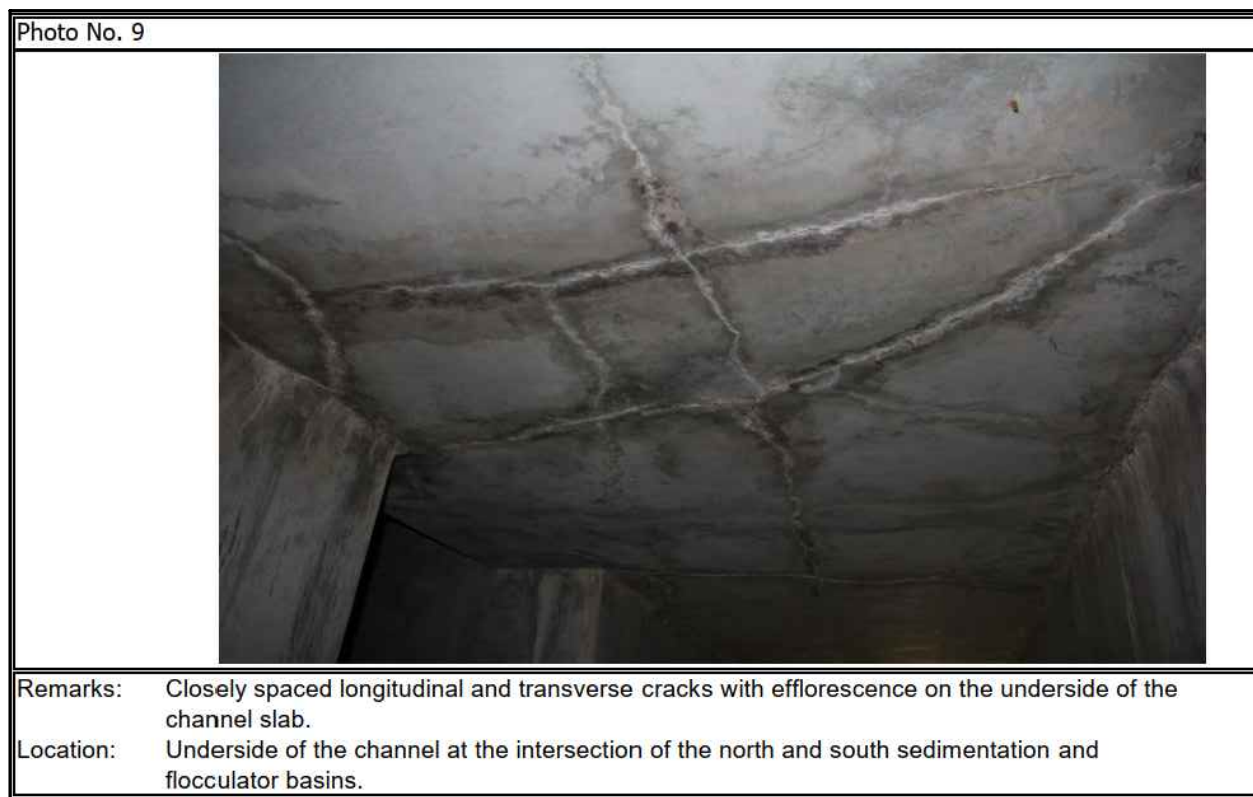
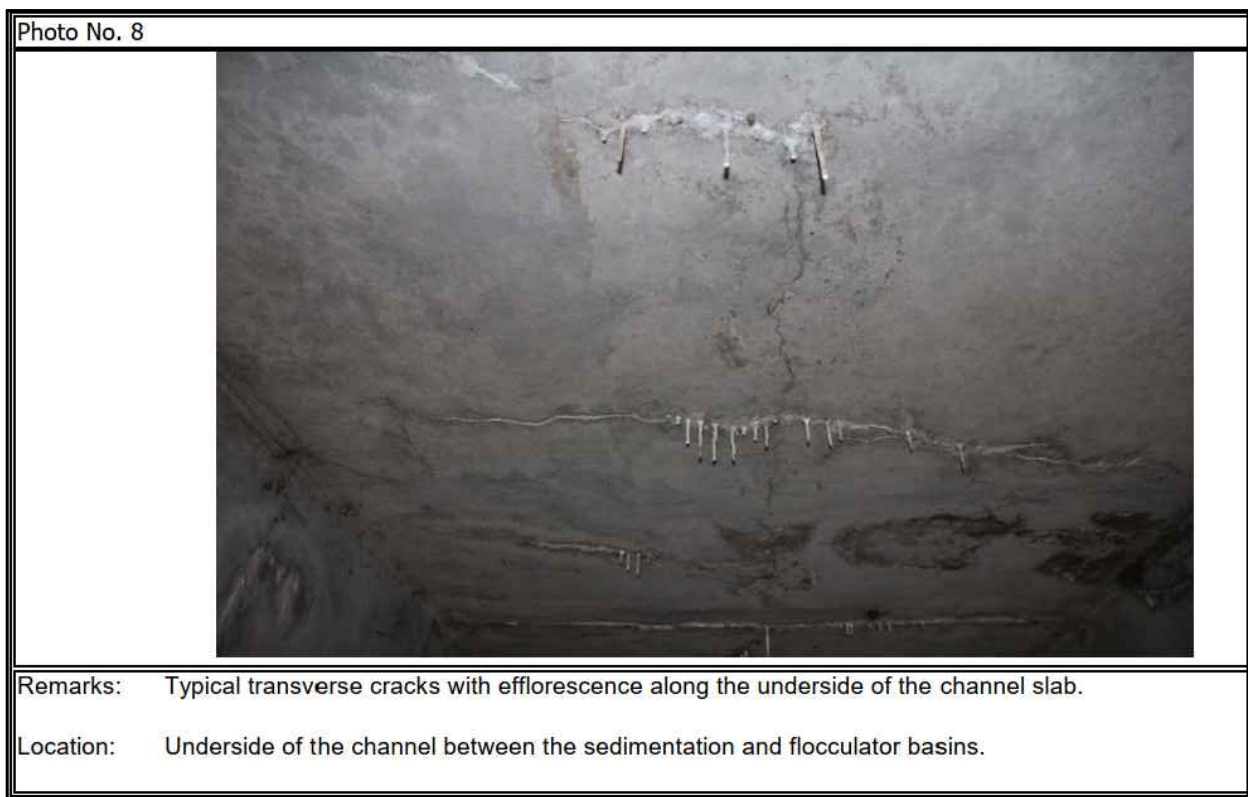
This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1  
S - 10

## INTERIOR REPAIRS TOP VIEW

SCALE: 1" = 250'



### REPAIR NOTES

- 1. VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
  - CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 2. VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS.**
  - CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
  - INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3. DELAMINATED CONCRETE / FAILED PATCHES.**
  - CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4. SPALLLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT.**
  - REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
  - CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
  - APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 5. AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS.**
  - INJECT ALL CRACKS WITH A REPAIR EPOXY.
  - CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- 6. AREAS OF PITTING ON TOP OF WALKWAYS.**
  - ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
  - PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
  - APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- 7. DELAMINATED DECK COATING.**
  - REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
  - CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
  - APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

No.	REVISIONS	DATE	BY

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT  
148400096  
DATE  
SEP 2023  
SCALE AS SHOWN  
DESIGNED BY SES  
DRAWN BY JAK  
CHECKED BY SES

  
**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**  
MANATEE COUNTY

LICENSED PROFESSIONAL  
  
SETH E. SCHMID, P.E.  
  
FL LICENSE NUMBER  
54640  
FL DATE:

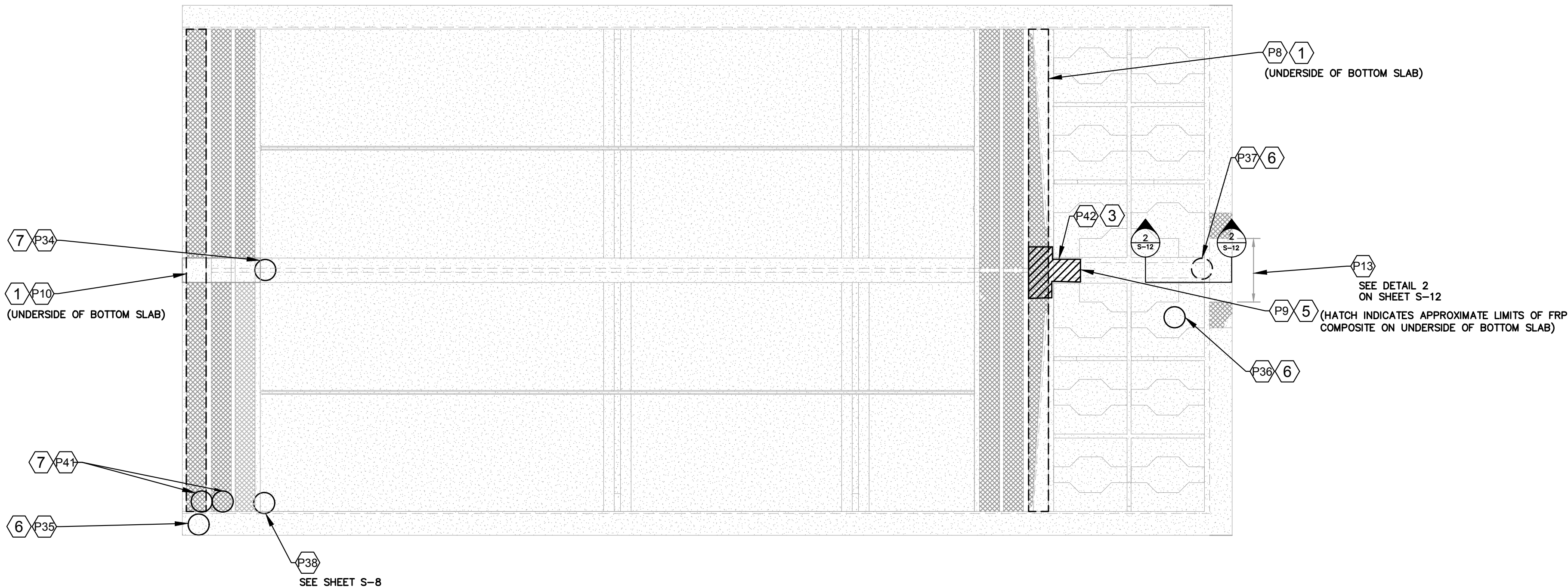
## INTERIOR WALLS TOP VIEW

SHEET NUMBER

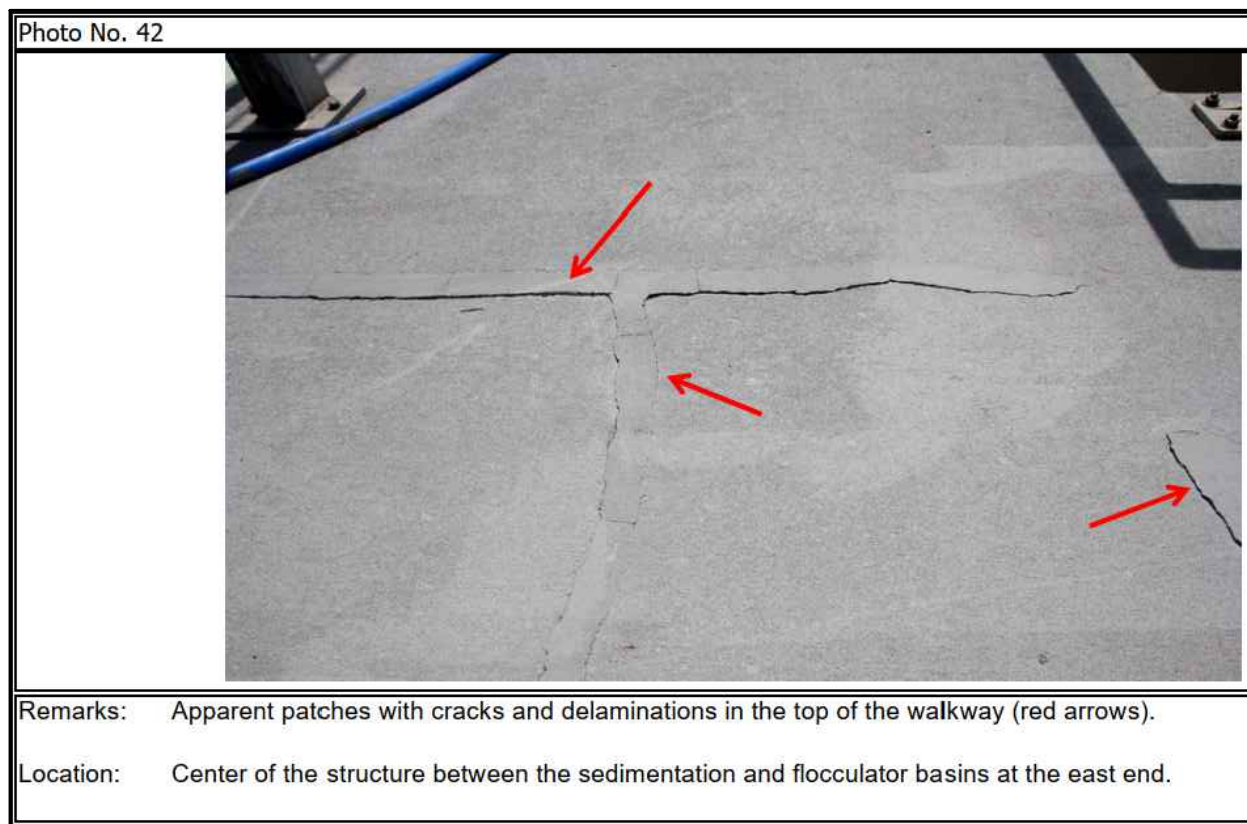
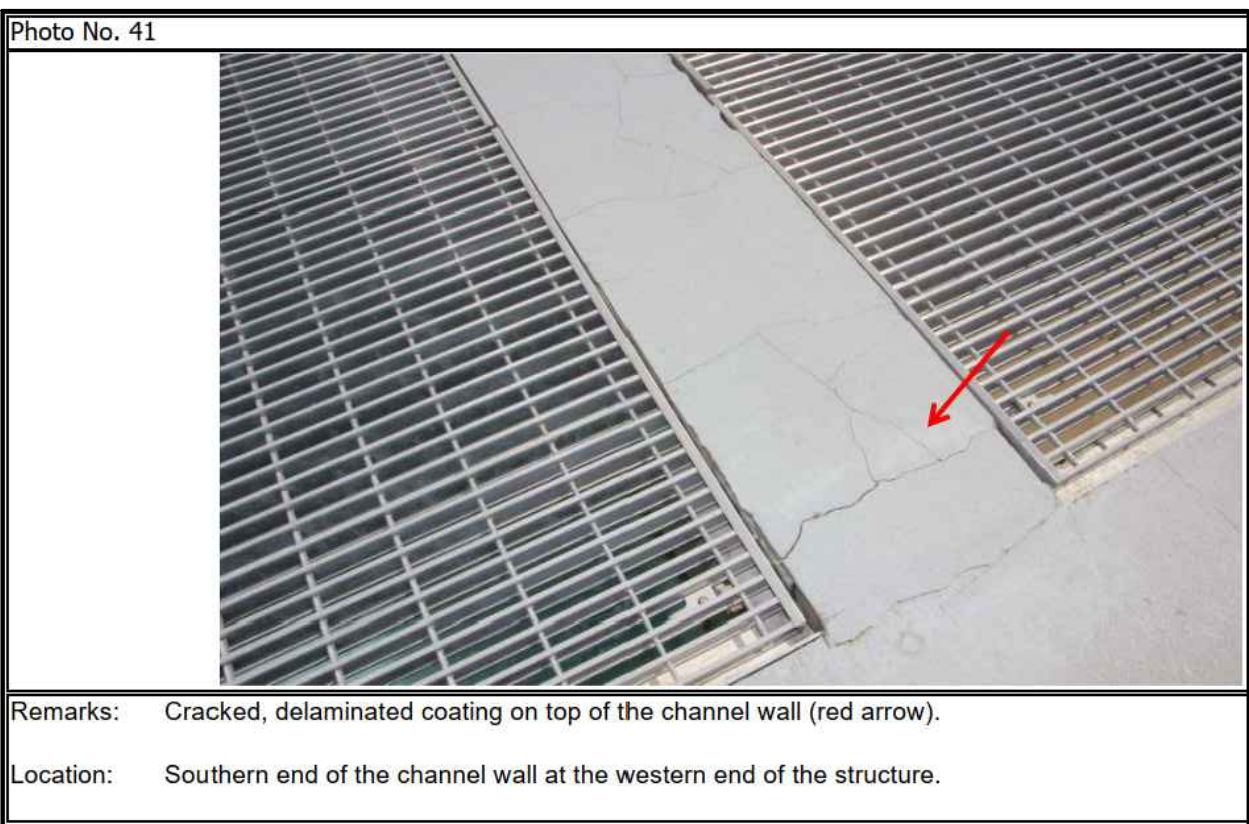
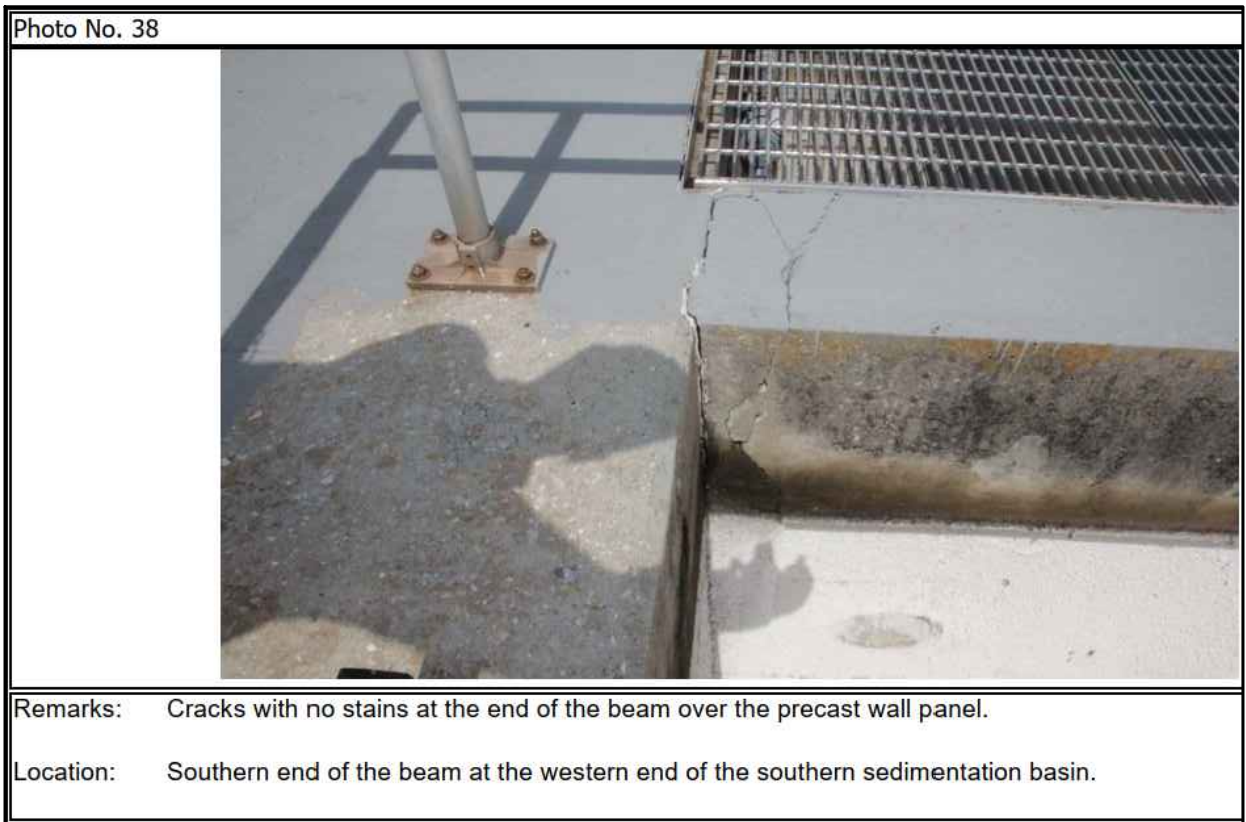
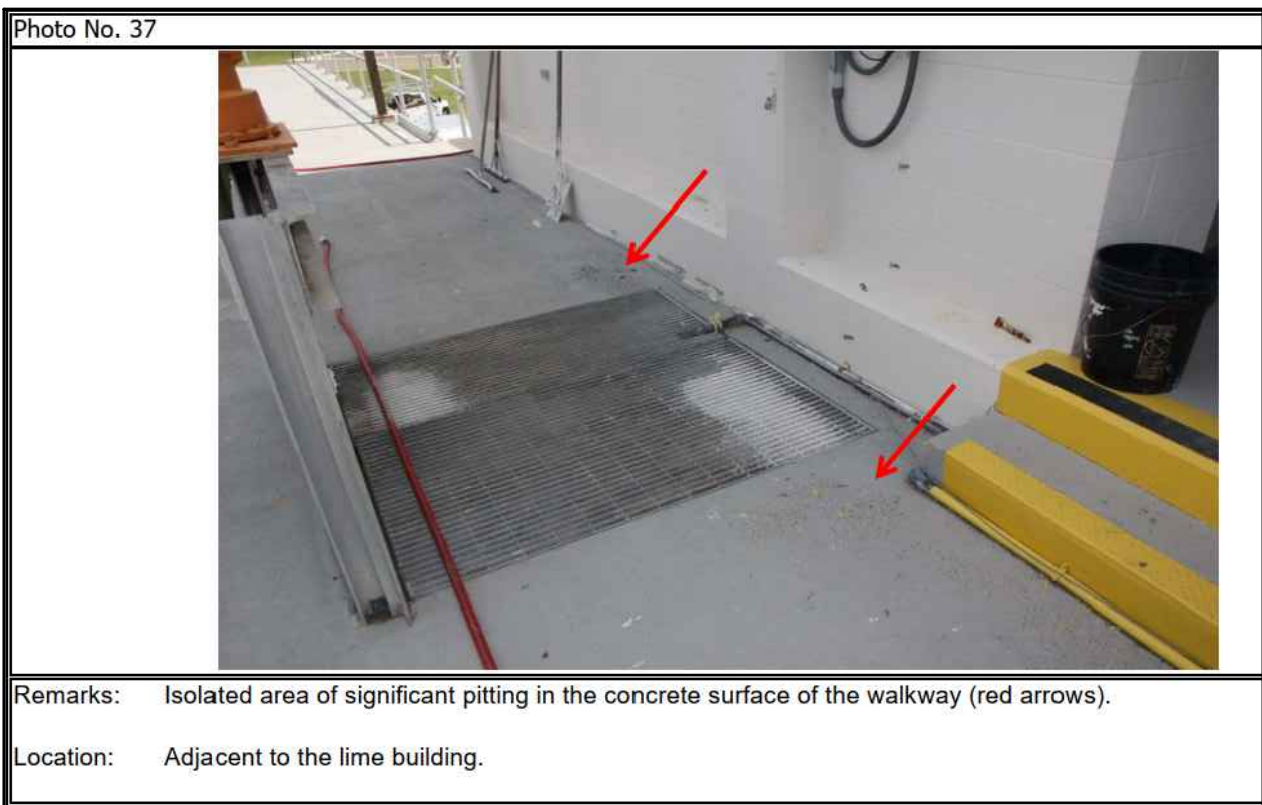
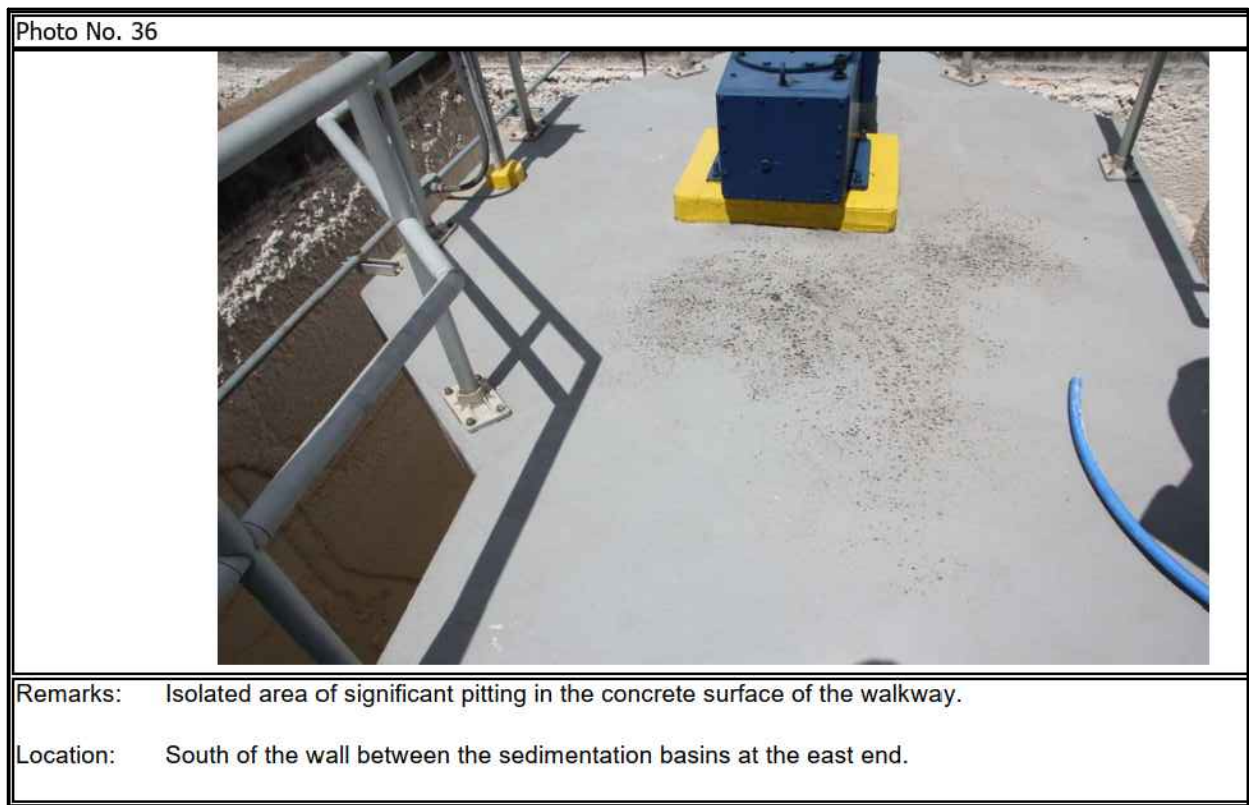
S-10A



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1  
S - 10  
INTERIOR REPAIRS TOP VIEW  
SCALE: 1" = 250'



- REPAIR NOTES
- 1. VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS.**
    - 1.CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
    - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
  - 2. VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS.**
    - 1.CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
    - 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
    - 4.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 3. DELAMINATED CONCRETE / FAILED PATCHES.**
    - 1.CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
    - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 4.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 4. SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT.**
    - 1.REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
    - 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    - 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 4.FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
    - 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
  - 5. AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS.**
    - 1.INJECT ALL CRACKS WITH A REPAIR EPOXY.
    - 2.CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
  - 6. AREAS OF PITTING ON TOP OF WALKWAYS.**
    - 1.ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE.
    - 2.PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
    - 3.APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
  - 7. DELAMINATED DECK COATING.**
    - 1.REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
    - 2.CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
    - 3.APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.

No.	REVISIONS	DATE	BY

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	148400096
DATE	SEP 2023
SCALE	AS SHOWN
DESIGNED BY	SES
DRAWN BY	JAK
CHECKED BY	SES

  
**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**  
MANATEE COUNTY

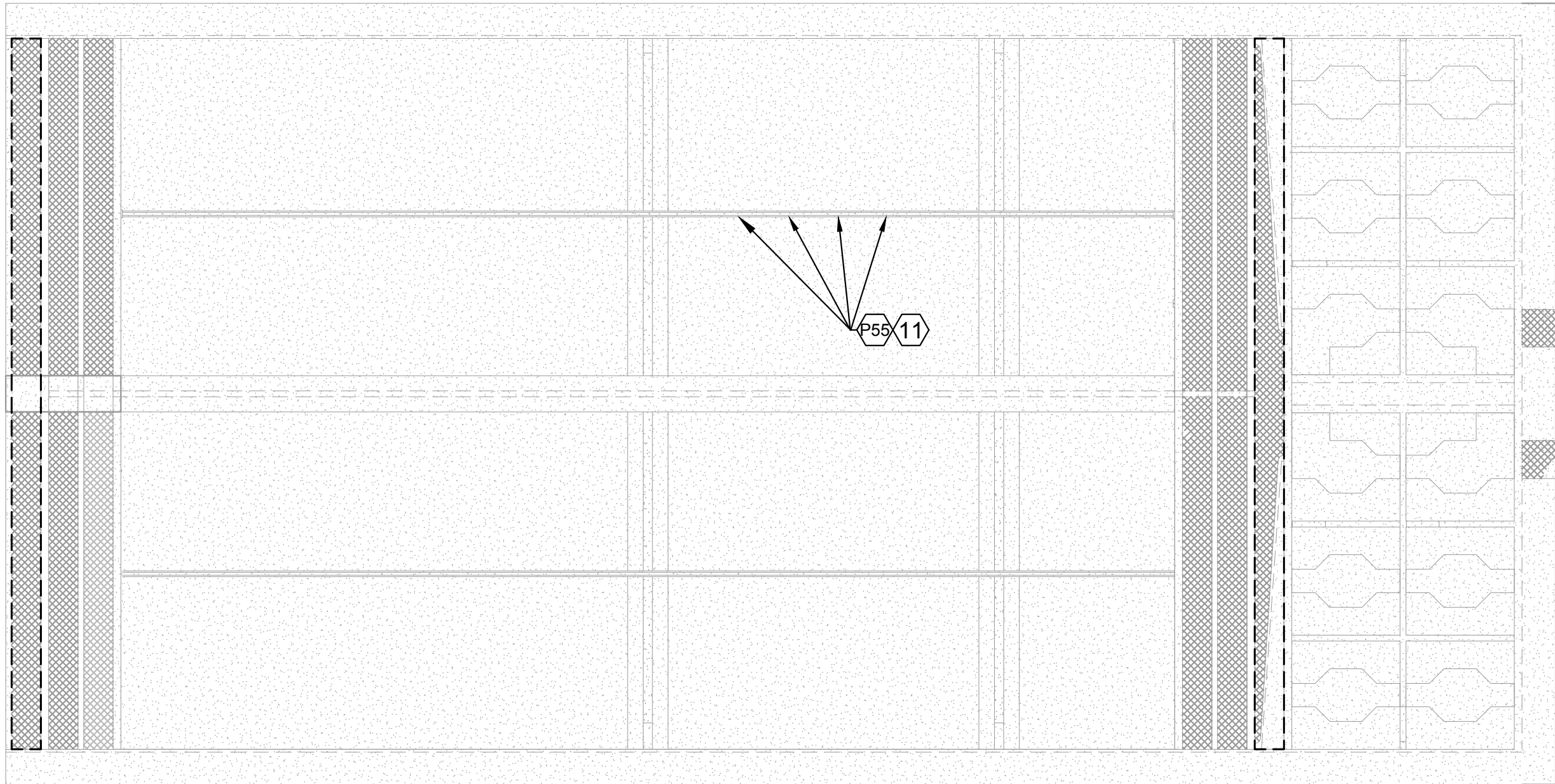
LICENSED PROFESSIONAL
SETH E. SCHMID, P.E.
FL LICENSE NUMBER 54640
FL DATE:

INTERIOR WALLS TOP VIEW

SHEET NUMBER  
S-10B



This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1

S - 10

INTERIOR REPAIRS TOP VIEW

SCALE:1" = 250'

Photo No. 55

Remarks: Exposed, corroded steel anchors (red outline).

Location: Low wall in North Sedimentation Basin C-1.

REPAIR NOTES

- 1
- VERTICAL AND HORIZONTAL CRACKS WITH EFFLORESCENCE AND/OR ALGAE STAINS
- 1.CLEAN CONCRETE SURFACE TO COMPLETELY REMOVE EFFLORESCENCE AND ALGAE STAINS.
- 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 2
- VERTICAL AND HORIZONTAL CRACKS WITH CORROSION STAINS
- 1.CHIP OUT CRACK AT CORROSION STAIN TO EXPOSE UNDERLYING REINFORCEMENT.
- 2.INJECT ENTIRE LENGTH OF CRACK WITH POLYURETHANE FOAM GROUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 3.REMOVE RESIDUAL RESIN ON THE SURFACE OF THE CONCRETE THAT HAS FOAMED FROM THE CRACK.
- 4.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3
- DELAMINATED CONCRETE / FAILED PATCHES
- 1.CHIP OUT DELAMINATED CONCRETE AND/OR EXISTING PATCH MATERIAL. REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
- 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 4.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4
- SPALLED CONCRETE, INCLUDING INCIPENT SPALLS, WITH OR WITHOUT EXPOSED, CORRODED REINFORCEMENT
- 1.REMOVE ALL CRACKED, LOOSE AND DAMAGED CONCRETE TO SOUND MATERIAL.
- 2.CLEAN AND PREPARE SURFACE FOR REPAIR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3.REPAIR CONCRETE AND ANY EXPOSED, CORRODED REINFORCEMENT PER THE DETAILS ON SHEET S-11, THE PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 4.FOR APPLICATIONS GREATER THAN THE MAXIMUM LIFT THICKNESS RECOMMENDED BY THE MANUFACTURER, APPLY MORTAR IN LIFTS. SCOUR TOP SURFACE OF EACH INTERMEDIATE LIFT.
- 5.APPLY A COATING SYSTEM PAINT PER THE PROJECT SPECIFICATIONS SECTION 09960 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 5
- AREA BELOW THE SEDIMENTATION AND FLOCCULATION BASINS
- 1.INJECT ALL CRACKS WITH A REPAIR EPOXY.
- 2.CLEAN BOTTOM SURFACE OF CONCRETE SLAB AND REINFORCE WITHIN LIMITS SHOWN WITH FRP COMPOSITE. FRP COMPOSITE TO BE DESIGNED BY DELEGATE ENGINEER. SUBMIT CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
- 6
- AREAS OF PITTING ON TOP OF WALKWAYS
- 1.ABRASIVELY BLAST CLEAN PITTED SURFACES OF EXISTING CONCRETE DECK. PROTECT EXISTING EQUIPMENT AND ATTACHMENTS ON DECK FROM DAMAGE
- 2.PREPARE AND PRIME SURFACE FOR REPAIR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 3.APPLY SURFACE REPAIR MORTAR PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A LEVEL DECK SURFACE. PROVIDE A BROOM FINISH ON REPAIR.
- 7
- DELAMINATED DECK COATING
- 1.REMOVE DELAMINATED COATING TO THE WELL-BONDED EXISTING COATING.
- 2.CLEAN AND PREPARE THE SURFACE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3.APPLY DECK COATING PER PROJECT SPECIFICATIONS SECTION 09900 AND MANUFACTURER'S RECOMMENDATIONS TO PRODUCE A SMOOTH, LEVEL DECK SURFACE. MATCH THE ELEVATION OF THE EXISTING, ADJACENT DECK COATING. PROVIDE A BROOM FINISH ON REPAIR.
- 11
- EXPOSED STEEL ANCHORS
- 1.REMOVE CONCRETE IN THE VICINITY OF THE EMBEDDED STEEL ANCHOR TO A DEPTH OF 2 INCHES.
- 2.CUT OFF THE STEEL ANCHOR FLUSH WITH THE BOTTOM OF THE CHIPPED CONCRETE.
- 3.COAT THE AREA TO BE REPAIRED WITH A BONDING AGENT CONTAINING A CORROSION INHIBITOR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
- 4.REPAIR THE AREA FLUSH WITH THE WALL USING AN APPROPRIATE REPAIR MORTAR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.

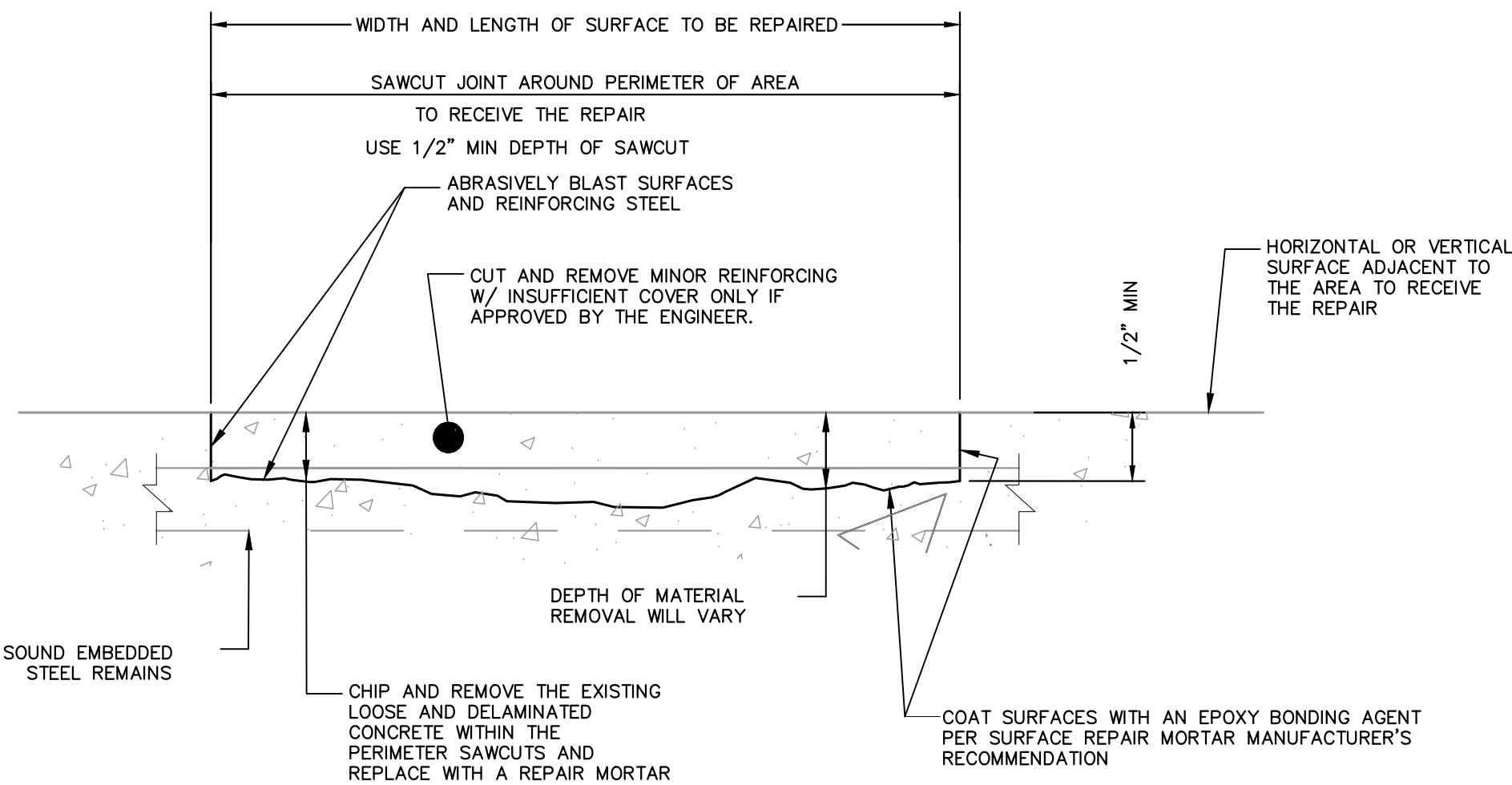
				<div><div><div>Kimley»Horn</div><div>© 2023 KIMLEY–HORN AND ASSOCIATES, INC.</div><div>200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701</div><div>PHONE: 727–547–3999</div><div>WWW.KIMLEY–HORN.COM    REGISTRY NO. 35106</div></div></div>	<div><div>KHA PROJECT</div><div>148400096</div><div>DATE</div><div>SEP 2023</div><div>SCALE AS SHOWN</div><div>DESIGNED BY SES</div><div>DRAWN BY JAK</div><div>CHECKED BY SES</div></div>	<div><div><div><div><div></div><div>Manatee</div><div>County</div><div>FLORIDA</div></div></div><div>LMWTP SEDIMENTATION BASIN C</div><div>SLUDGE COLLECTION UPGRADE</div><div>MANATEE COUNTY</div></div></div>	<div><div>LICENSED PROFESSIONAL</div><div>SETH E. SCHMID, P.E.</div><div>FL LICENSE NUMBER</div><div>54640</div></div>	INTERIOR WALLS TOP VIEW	SHEET NUMBER	S-10C
No.	REVISIONS			DATE	BY		FL DATE:			



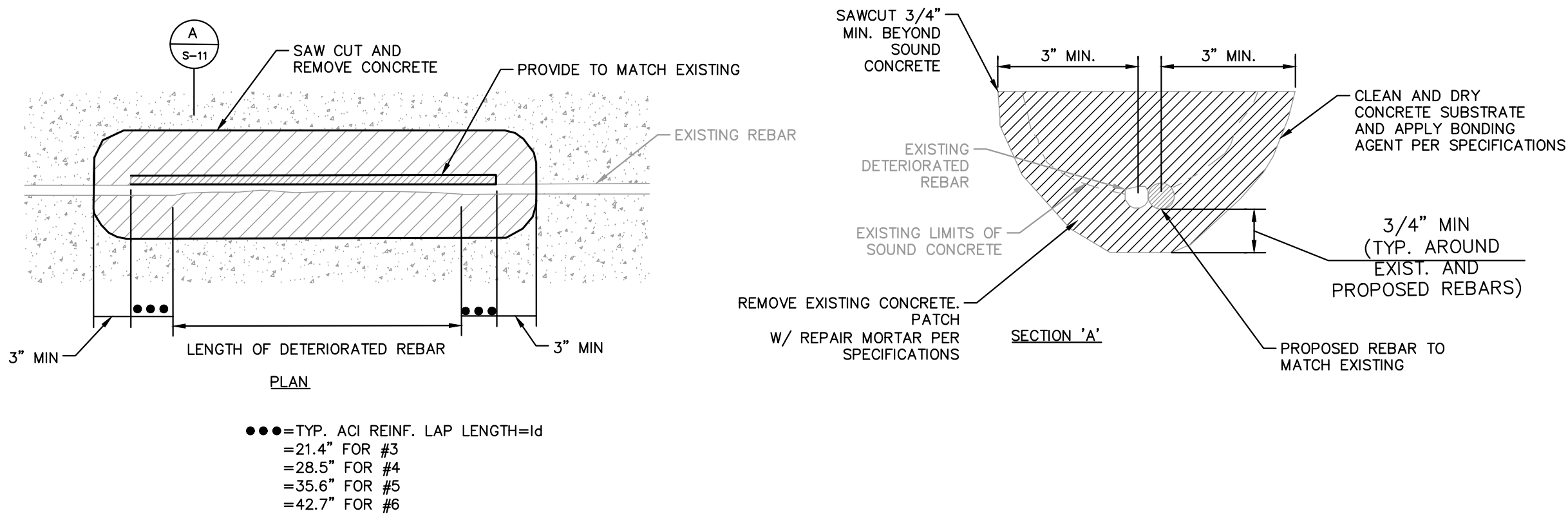
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NOTES:

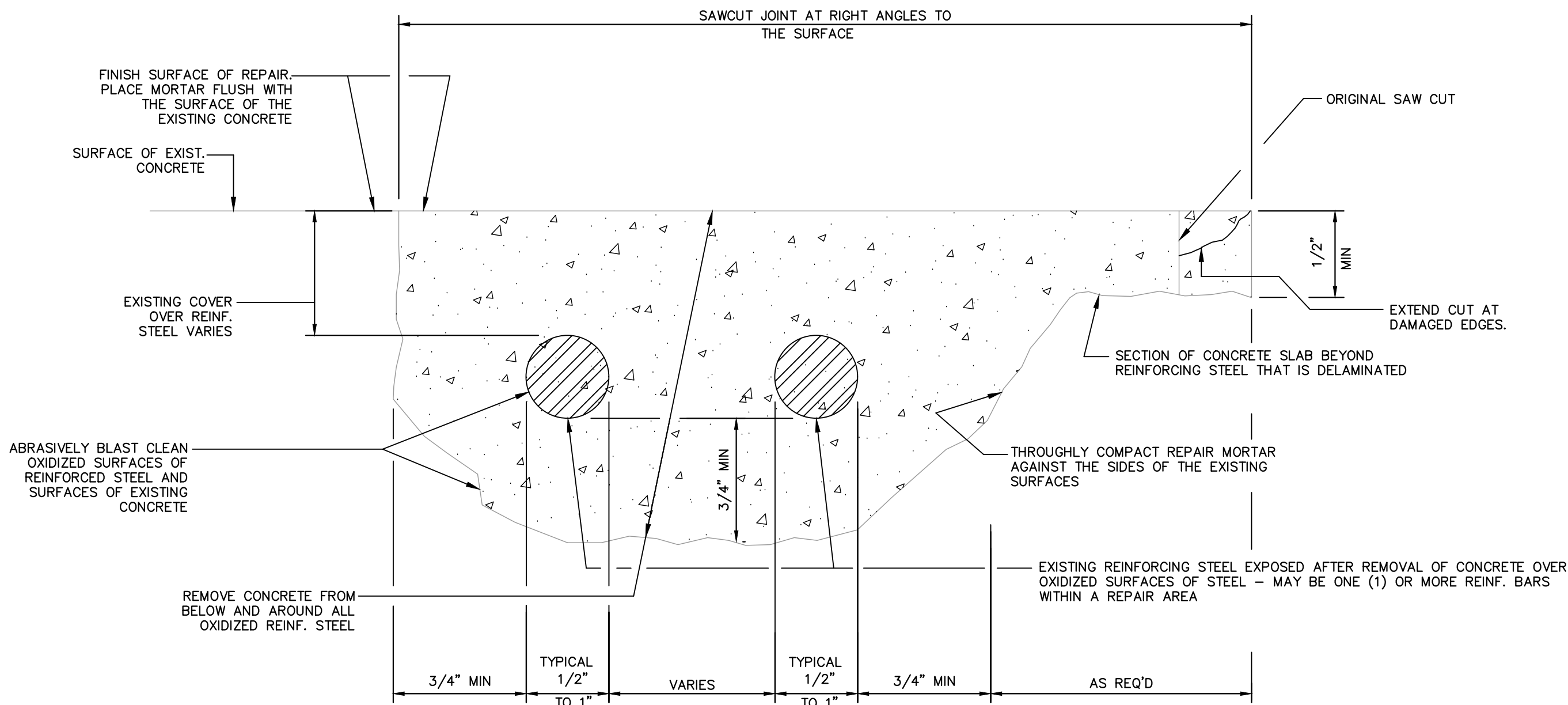
1. THE PURPOSE OF THIS REPAIR IS TO MAKE SURFACE REPAIRS AT ALL LOOSE, DELAMINATED OR OTHER UNSOUND CONCRETE.
2. THE CONTRACTOR SHALL IDENTIFY ADDITIONAL LOCATIONS FOR THIS REPAIR AS REPAIR WORK PROGRESSES. LOCATIONS TO RECEIVE THIS REPAIR SHALL BE VERIFIED BY THE PROJECT ENGINEER.
3. THIS REPAIR MAY BE USED ON SLABS, CURBS, WALLS, COLUMNS, OR OTHER SPALLS THAT HAVE MINOR EXPOSED REINFORCEMENT AND CORROSION IS NOT SIGNIFICANT.
4. THIS REPAIR MAY BE USED FOR HORIZONTAL, VERTICAL, OR OVERHEAD REPAIRS. WHERE NECESSARY USE NON-SAG REPAIR MORTAR OR FORM AND CAST A FLOWABLE REPAIR MORTAR PER SPECIFICATIONS.
5. WHERE THERE IS A CRACK OR CONTROL JOINT THRU AN AREA TO BE REPAIRED, ROUT THE CRACK OR CONTROL JOINT SUFFICIENTLY TO INSERT A PLASTIC STRIP THAT WILL MARK THE PATH. REPAIR AND TROWEL EACH SIDE OF THE JOINT SEPARATELY. AFTER THE REPAIR MORTAR HAS CURED, ROUT AND SEAL IN ACCORDANCE WITH CORRESPONDING REPAIR TYPE.
6. IN MANY CASES THERE MAY BE NO REINFORCING STEEL VISIBLE.



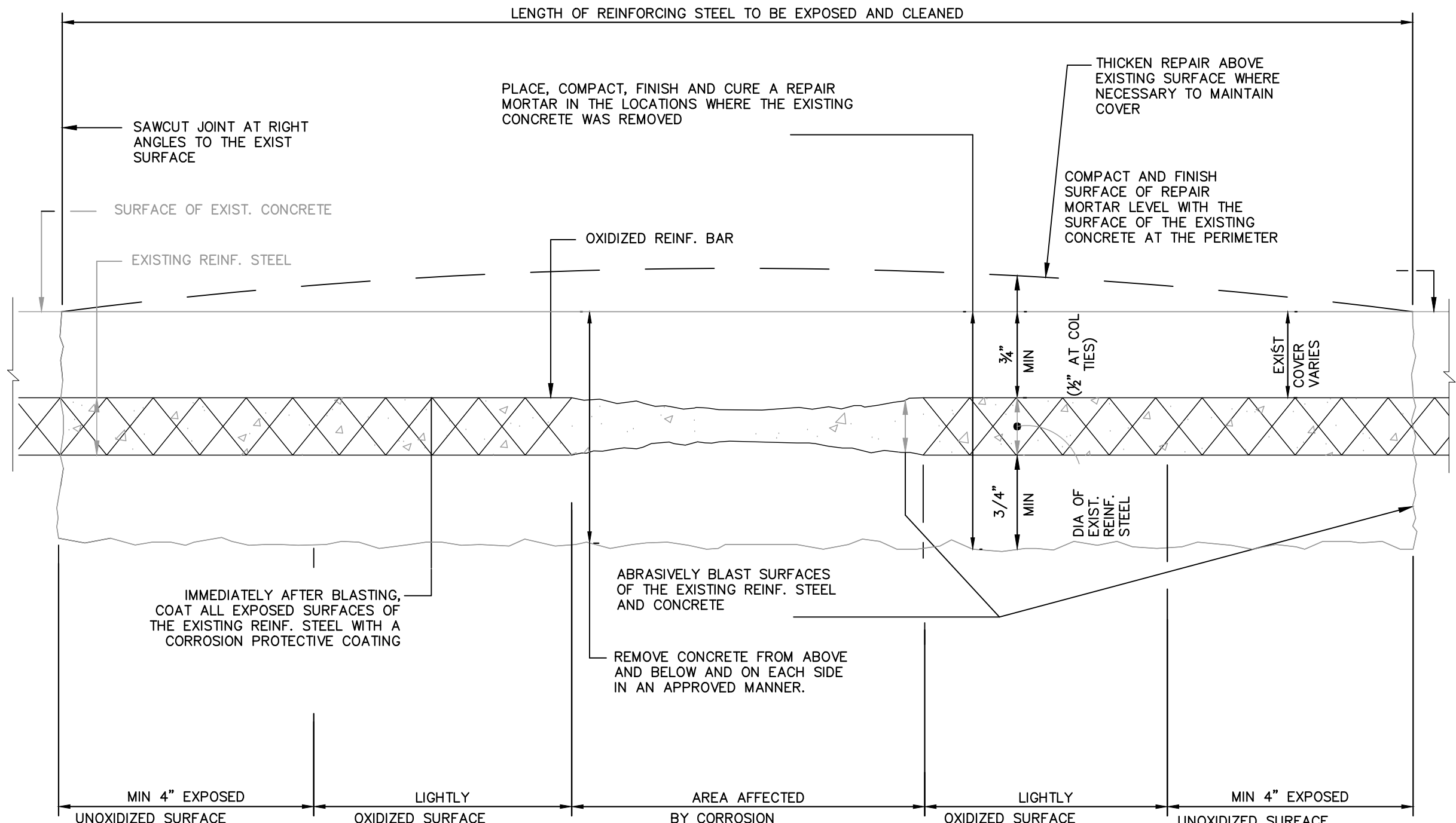
1 SHALLOW SPALL REPAIR  
S-11 SCALENTS



2 EXPOSED REBAR REPAIR  
S-11 SCALENTS



3 CONCRETE CROSS-SECTION THROUGH CORRODED REINFORCEMENT  
S-11 SCALENTS



4 CONCRETE CROSS-SECTION ALONG CORRODED REINFORCEMENT  
S-11 SCALENTS

No.	REVISIONS	DATE	BY

**Kimley»Horn**  
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT  
148400096  
DATE  
SEP 2023  
SCALE AS SHOWN  
DESIGNED BY SES  
DRAWN BY JAK  
CHECKED BY SES

  
**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**  
MANATEE COUNTY

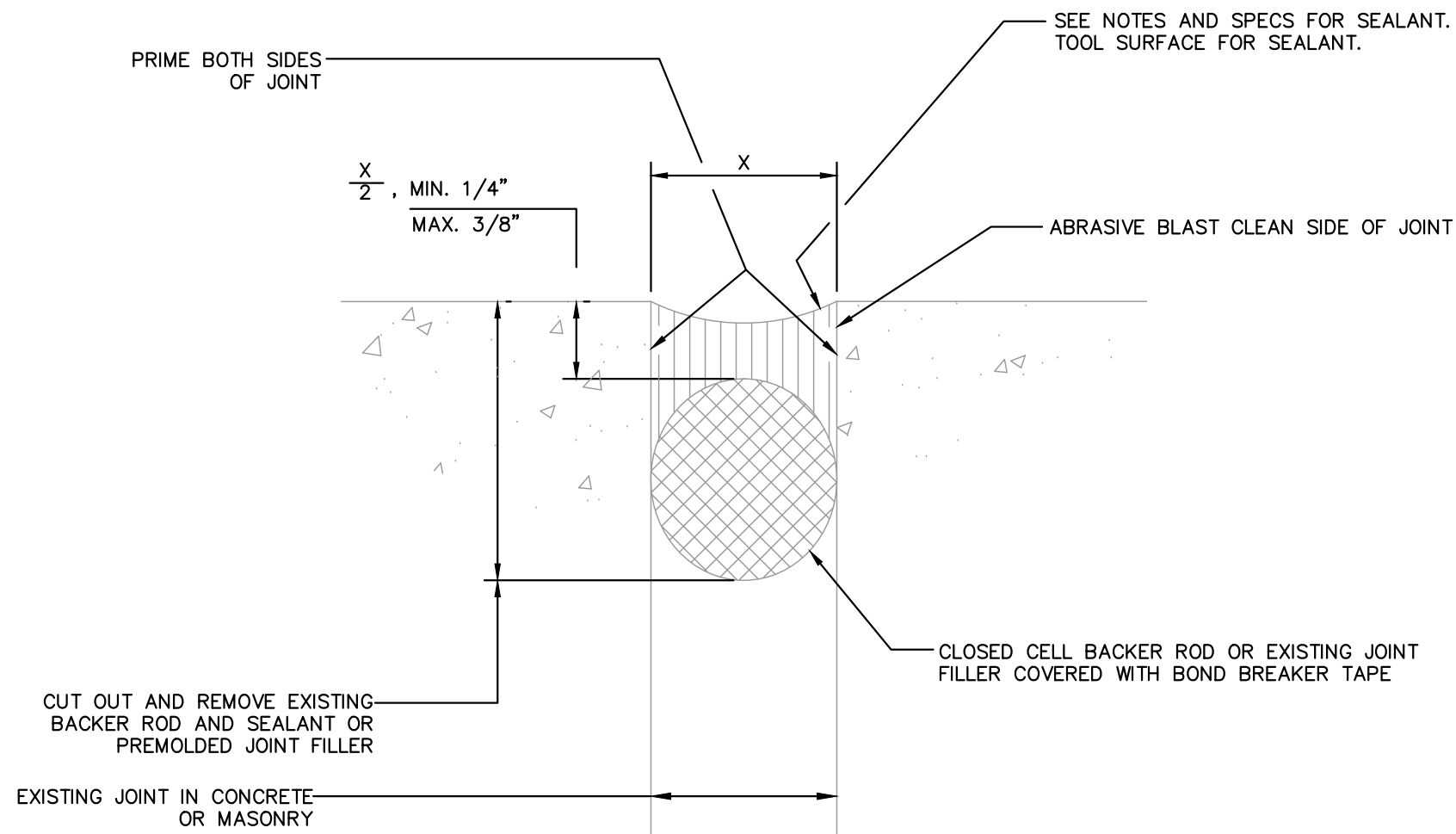
LICENSED PROFESSIONAL  
SETH E. SCHMID, P.E.  
FL LICENSE NUMBER  
54640  
FL DATE:

STRUCTURAL DETAILS

SHEET NUMBER  
**S-11**



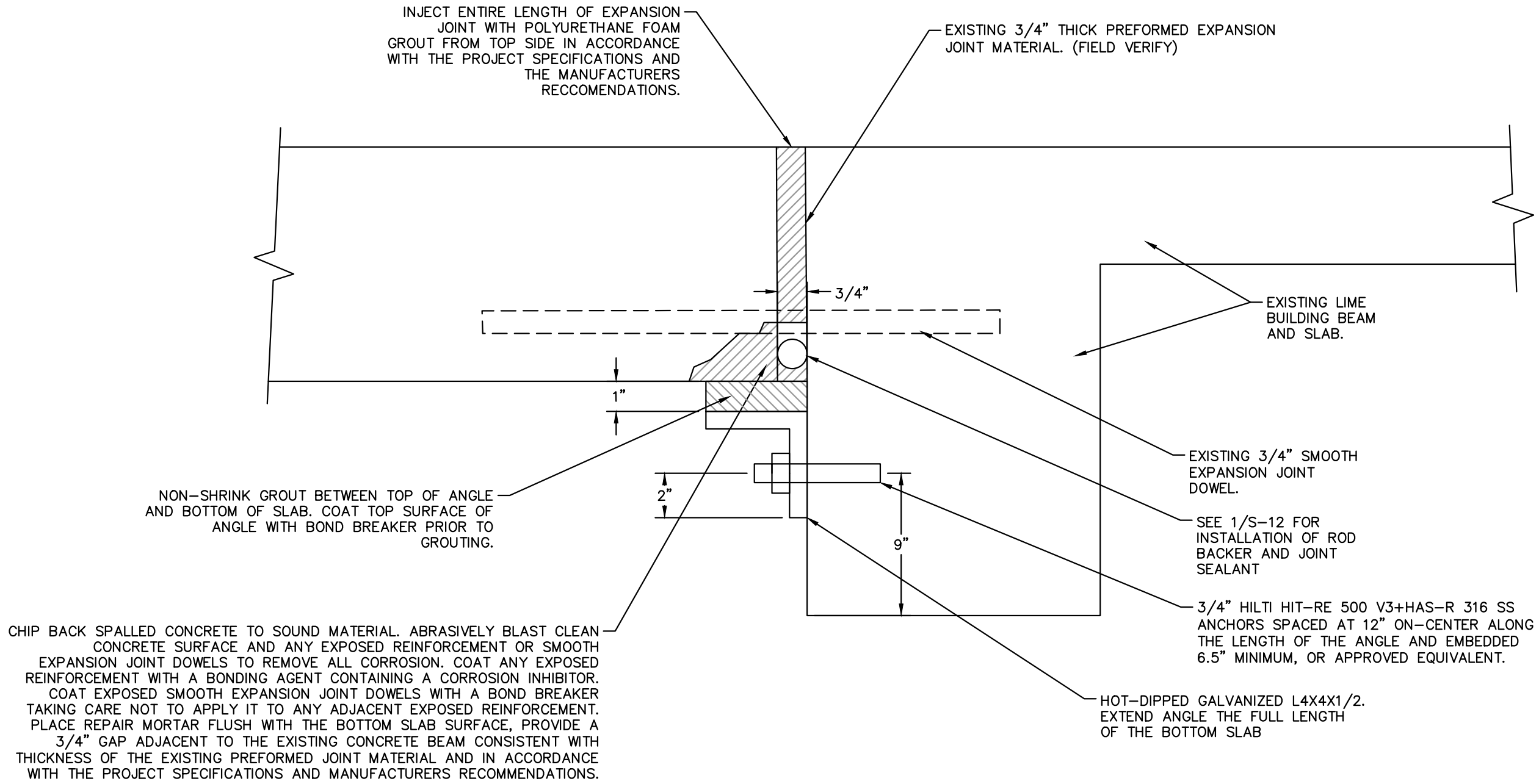
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1  
S-12  
REPLACE SEALANT IN OPEN JOINT  
SCALE: N.T.S.

NOTES:

1. THE PURPOSE OF THIS REPAIR IS TO REMOVE AND REPLACE THE EXISTING SEALANT IN OPEN CONSTRUCTION JOINTS AND CONTROL JOINTS.
2. THE CONTRACTOR SHALL IDENTIFY JOINTS TO RECEIVE THIS REPAIR. THE CONTRACTOR SHALL HAVE THE ENGINEER VERIFY THE JOINTS IDENTIFIED.
3. CONTINUOUS FOAM BACKER RODS SHALL BE INSTALLED PRIOR TO INSTALLATION OF JOINT SEALANT.
4. NON-SAG SEALANT SHALL BE USED IN JOINTS THAT ARE SLOPED. SELF-LEVELING SEALANT SHALL BE USED IN JOINTS THAT ARE FLAT. SUBMIT SEALANT SPECIFICATIONS TO ENGINEER FOR APPROVAL.
5. THE SURFACE OF SEALANT AT THE EDGE OF THE EXISTING CONCRETE ON EITHER SIDE OF THE JOINT SHALL BE BETWEEN 1/16 AND 1/8 INCH BELOW THE TOP OF CONCRETE SLAB. SEALANT THAT EXTENDS ABOVE THE SLAB SHALL BE CUT DOWN FLUSH WITH TOP OF SLAB.
6. TYPICAL SEALANT WIDTH TO DEPTH RATIO SHALL BE 2:1, BUT DEPTH SHALL BE NO LESS THAN 1/4" AND NO MORE THAN 3/8"



2  
S-12  
LIME SLUDGE BUILDING EXPANSION AND DOWEL REPAIR  
SCALE: N.T.S.

No.	REVISIONS	DATE	BY

<div><b>Kimley»Horn</b></div> <div>© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701 PHONE: 727-547-3999 WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106</div>	KHA PROJECT 148400096
	DATE SEP 2023
	SCALE: AS SHOWN
	DESIGNED BY    SES
	DRAWN BY       JAK
	CHECKED BY    SES

<div> <b>LMWTP SEDIMENTATION BASIN C SLUDGE COLLECTION UPGRADE</b></div>	MANATEE COUNTY
	FL DATE:

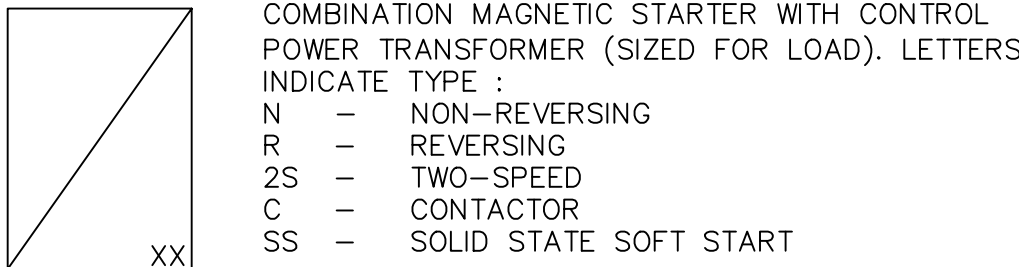
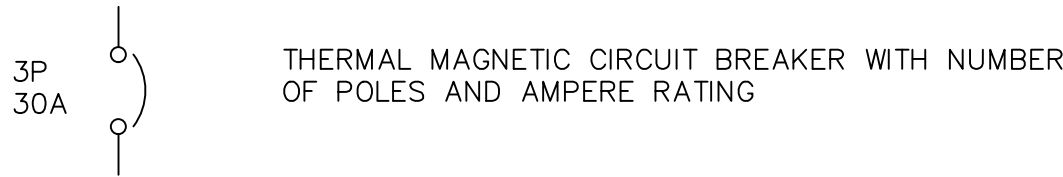
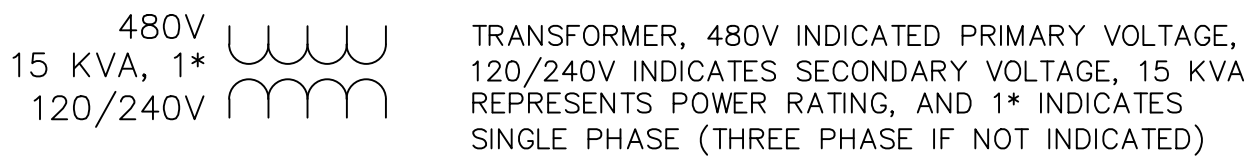
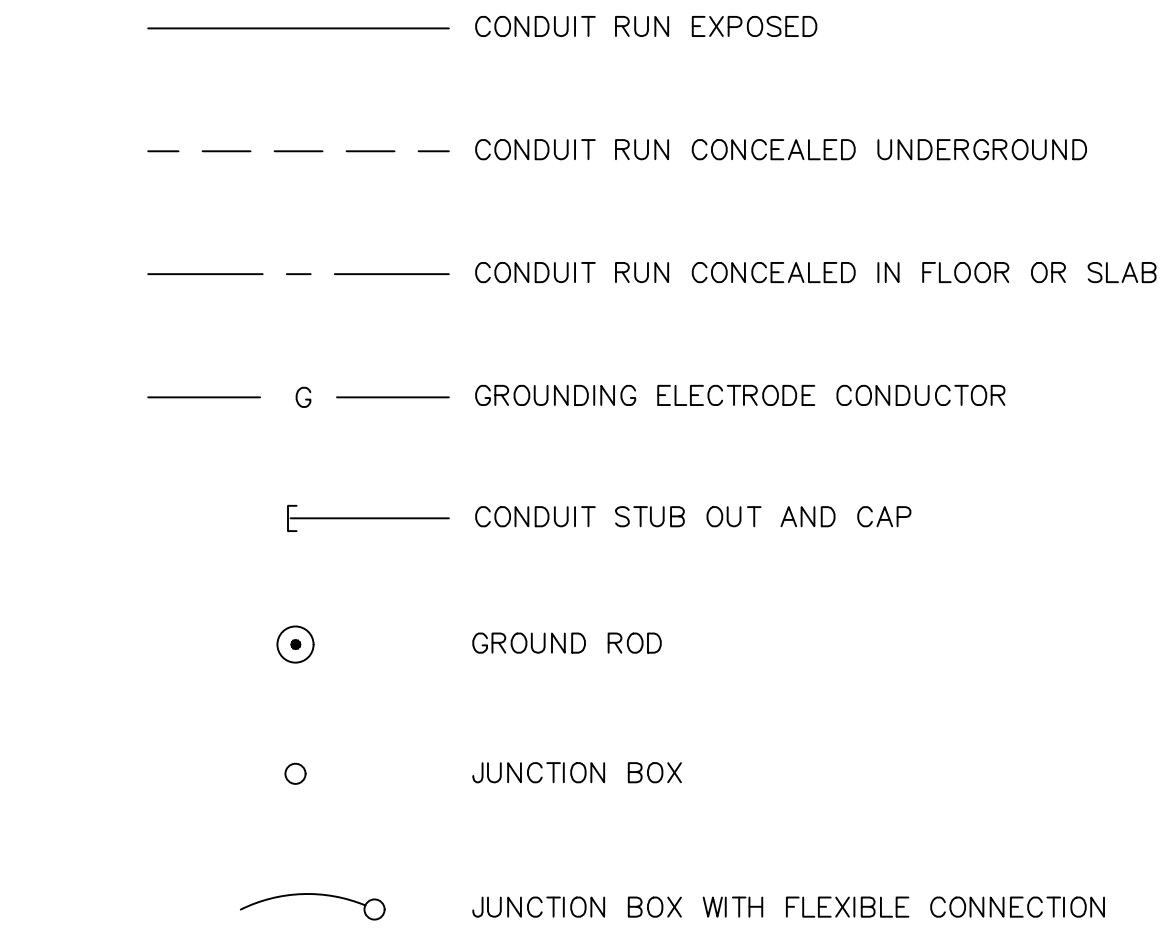
LICENSED PROFESSIONAL
SETH E. SCHMID, P.E.
FL LICENSE NUMBER 54640

STRUCTURAL DETAILS
--------------------

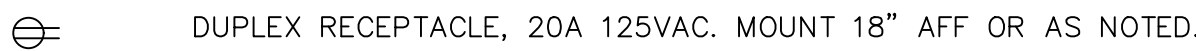
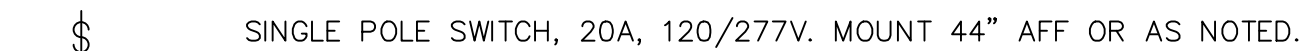
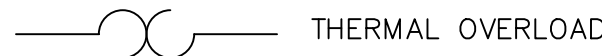
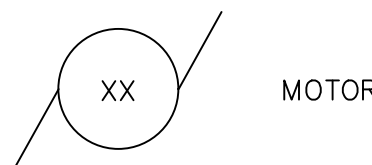
SHEET NUMBER
S-12



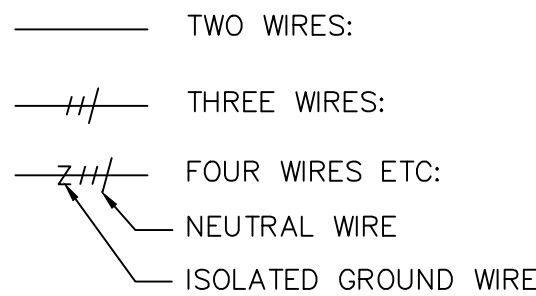
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



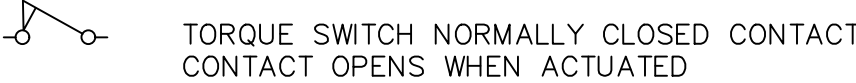
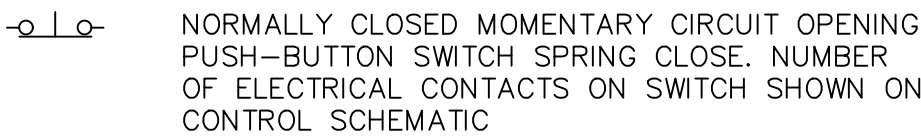
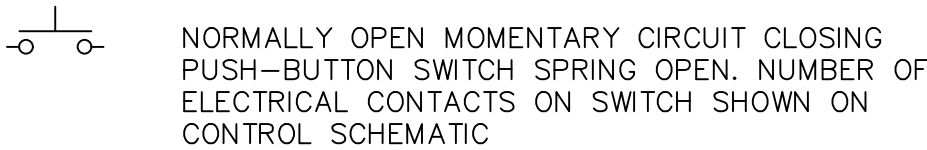
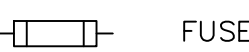
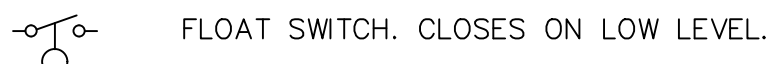
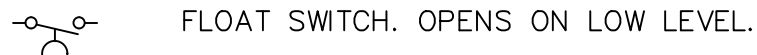
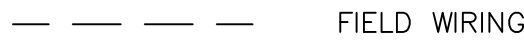
XXX	XXX_DEVICE	DESCRIPTION
HLS	HLS	HIGH LEVEL SWITCH
HOA	HOA	HAND-OFF-AUTO
LD	LD	LEAK DETECTION
LLS	LLS	LOW LEVEL SWITCH
LOR	LOR	LOCAL-OFF-REMOTE
PB	PB	PUSH BUTTON
RTU	RTU	REMOTE TERMINAL UNIT
SS	SS	SOFT STARTER
SS/B	SS/B	SOFT START OR BYPASS
TS	TS	TEMPERATURE SWITCH
TVSS	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ZS	ZS	POSITION SENSOR (LIMIT SWITCH)



WIRES INDICATED AS FOLLOWS :



OVIDE 2-#12 THWN CU IN 1/2" C. UNLESS OTHERWISE NOTED, AND GROUND WIRE (NOT INDICATED) IN ALL POWER AND LIGHTING RACEWAYS.



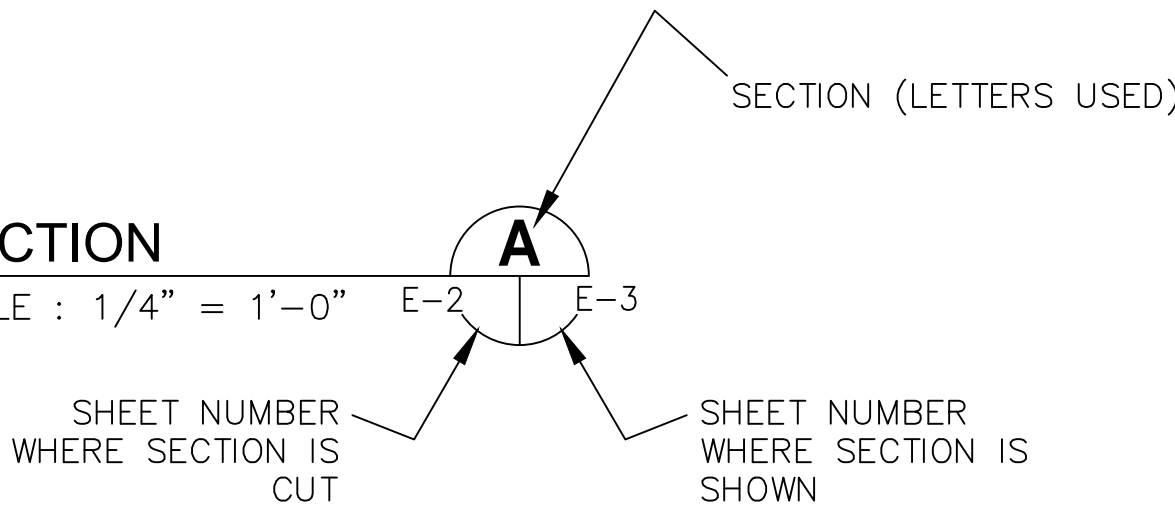
#### ABBREVIATIONS:

A	AMPS
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
EXIST	EXISTING
ELEC	ELECTRICAL
GFI	GROUND FAULT INTERRUPTER
GND	GROUNDING CONDUCTOR
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
KVA	KILOVOLT AMPERES
KW	KILOWATTS
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT APPLICABLE
PH	PHASE
RECP	RECEPTACLE
RPM	REVOLUTIONS PER MINUTE
RTU	REMOTE TERMINAL UNIT
TYP	TYPICAL
V	VOLTS
WP	WEATHERPROOF

#### EXAMPLE OF SECTION CUT AND DETAIL

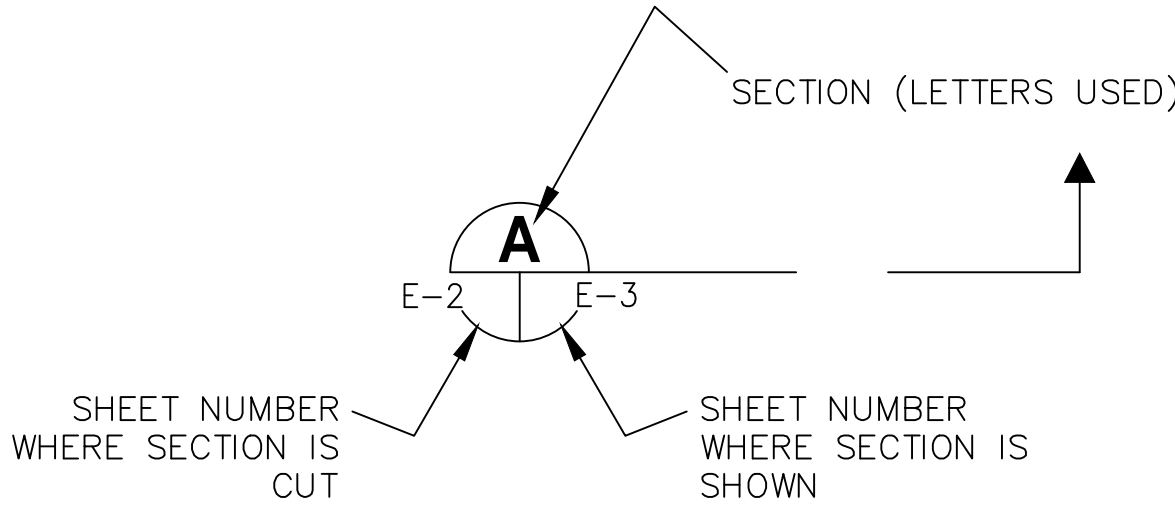
##### SECTION

SCALE : 1/4" = 1'-0"



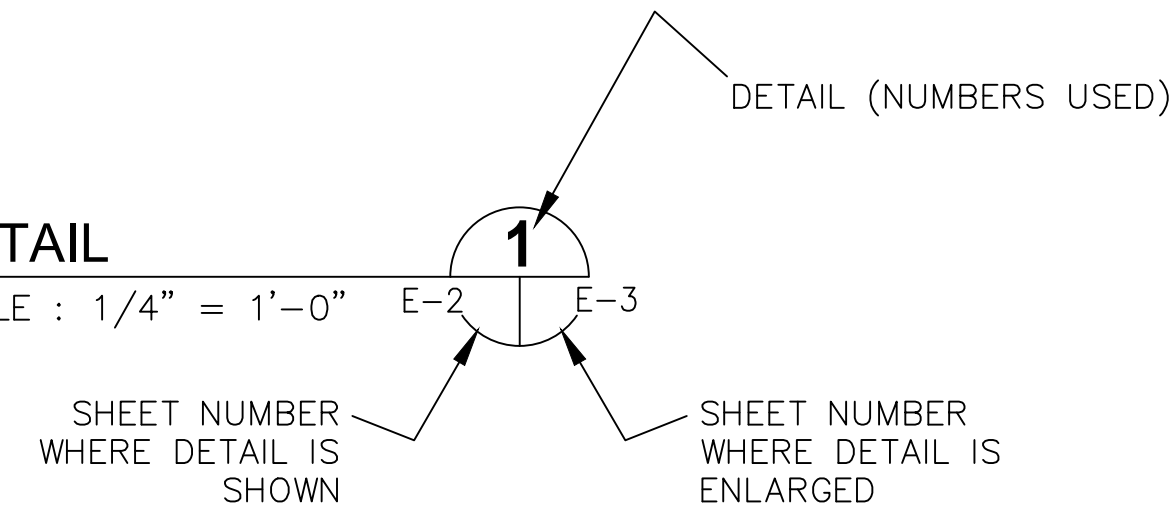
##### DETAIL

SCALE : 1/4" = 1'-0"



##### DETAIL

SCALE : 1/4" = 1'-0"



**THOMAS  
ENGINEERING**

777 S. Harbour Island Blvd. STE. 350, TAMPA, FL 33602  
813.227.9190  
Certificate of Authorization No. 00031028

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY TDT
DRAWN BY JLT
CHECKED BY GLW

**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**

MANATEE COUNTY

LICENSED PROFESSIONAL

TIMOTHY THOMAS, P.E.

FL LICENSE NUMBER  
47079

FL DATE:

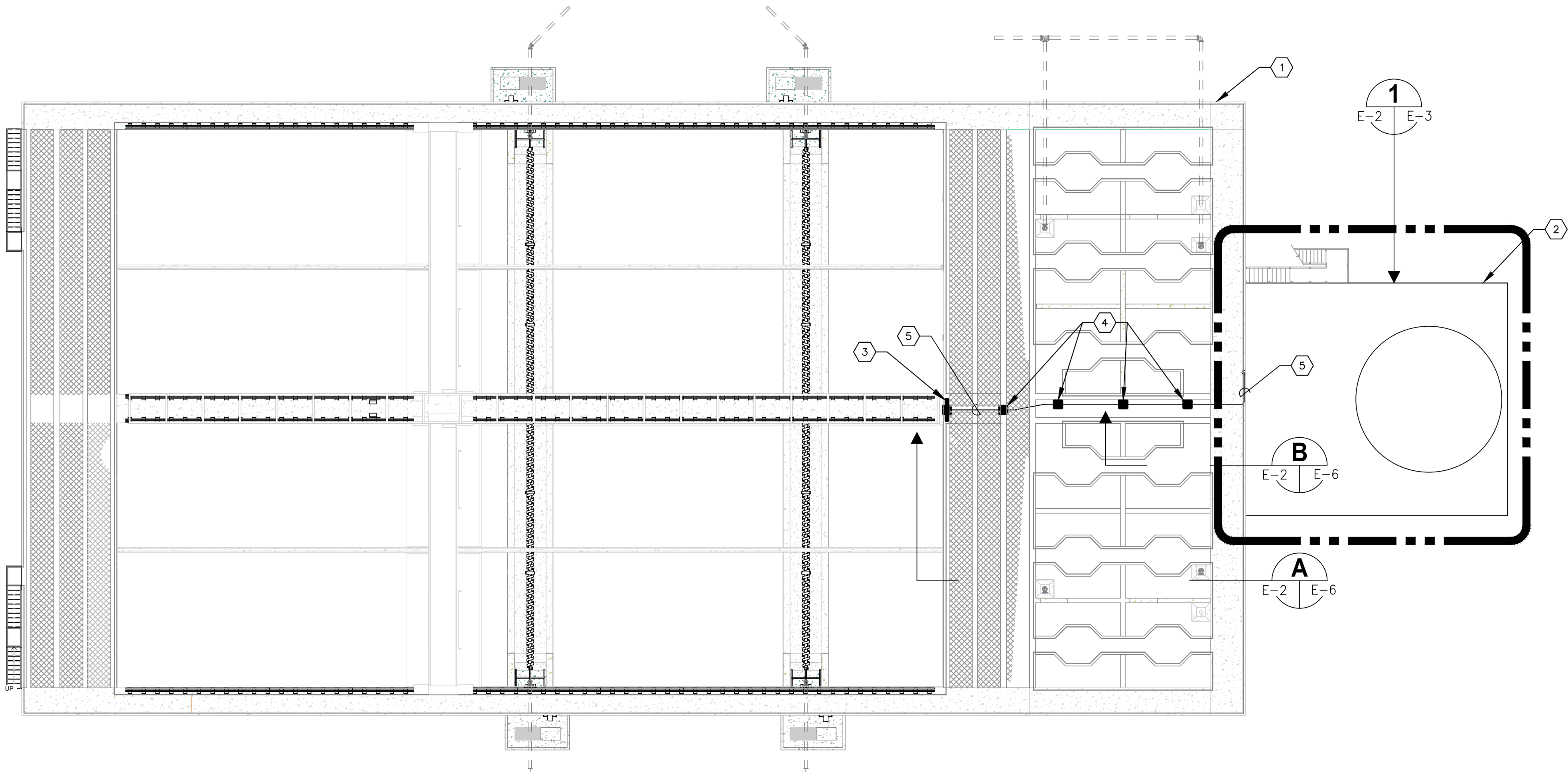
**ELECTRICAL LEGEND  
AND ABBREVIATIONS**

SHEET NUMBER

**E-1**



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



**BASIN C ELECTRICAL SITE PLAN**  
SCALE: NOT TO SCALE

**KEYED NOTES:**

- 1 SEDIMENTATION BASIN C. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION AND NEW TRAVELING BRIDGE INSTALLATION PLANS AND DETAILS.
- 2 EXISTING LIME BUILDING. REFER TO SHEET E-3 FOR LIME BUILDING ELECTRICAL ROOM DETAILS.
- 3 EXISTING FESTOON SUPPORT TO REMAIN. KEYED NOTE IDENTIFIES THE MOST EASTERN SUPPORT. CONTRACTOR SHALL REMOVE THE EXISTING DISCONNECTS AND INSTALL TWO (ONE FOR SOUTH TRAVELING BRIDGE, ONE FOR NORTH TRAVELING BRIDGE) NEW 600V, 60A, 3-POLE, NON-FUSED DISCONNECTS IN NEMA 4X 316 STAINLESS STEEL ENCLOSURES. COORDINATE LOCATION AND CONNECTION OF FESTOON POWER WITH OVIVO. MOUNT DISCONNECTS ON FESTOON SUPPORT WITH 1-5/8" X 1-5/8" 316 STAINLESS STEEL STRUT USING 316 STAINLESS STEEL HARDWARE. REFER TO ELEVATION A ON SHEET E-6. CONTRACTOR SHALL ALSO COORDINATE WITH SYSTEMS INTEGRATOR REGARDING ANY PULL BOXES OR JUNCTION BOXES TO BE INSTALLED FOR INSTALLATION OF THE NEW FIBER OPTIC CABLES. PULL BOXES OR JUNCTION BOXES SHALL BE NEMA 4X STAINLESS STEEL. SIZE TO BE DETERMINED BY THE MINIMUM LONG TERM BENDING RADIUS OF THE FIBER OPTIC CABLE SELECTED FOR INSTALLATION.
- 4 TYPICAL CONDUIT SUPPORT STANCHION LOCATED ON DECK OF BASIN C. ALL CONDUIT SUPPORTS STANCHIONS SHALL BE REUSED. PROVIDE NEW 1-5/8" X 1-5/8" 316 STAINLESS STEEL STRUT AND NEW 316 STAINLESS STEEL HARDWARE TO SUPPORT NEW CONDUITS. LENGTH AS REQUIRED. REFER ALSO TO ELEVATION B ON SHEET E-6.
- 5 PROVIDE THE FOLLOWING: 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-3 TO NORTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT; 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-4 TO SOUTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT; 6/C FIBER OPTIC CABLE IN 1" CONDUIT FROM SCADA CABINET TO NORTH TRAVELING BRIDGE CONTROL PANEL; 6/C FIBER OPTIC CABLE IN 1" CONDUIT FROM SCADA CABINET TO SOUTH TRAVELING BRIDGE CONTROL PANEL.

**GENERAL NOTES:**

- 1. ALL NEW CONDUIT FOR TRAVELING BRIDGE POWER OR FIBER OPTIC COMMUNICATIONS SHALL BE FIELD ROUTED BASED ON EXISTING CONDITIONS. CONTRACTOR MAY REUSE EXISTING WALL PENETRATIONS OR EXISTING PATHS WITH ENGINEER'S APPROVAL.



No.	REVISIONS	DATE	BY



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY TDT
DRAWN BY JLT
CHECKED BY GLW



**LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE**

MANATEE COUNTY

LICENSED PROFESSIONAL

TIMOTHY THOMAS, P.E.

FL LICENSE NUMBER  
47079

FL DATE:

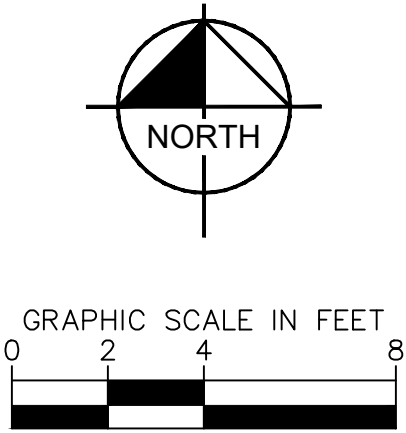
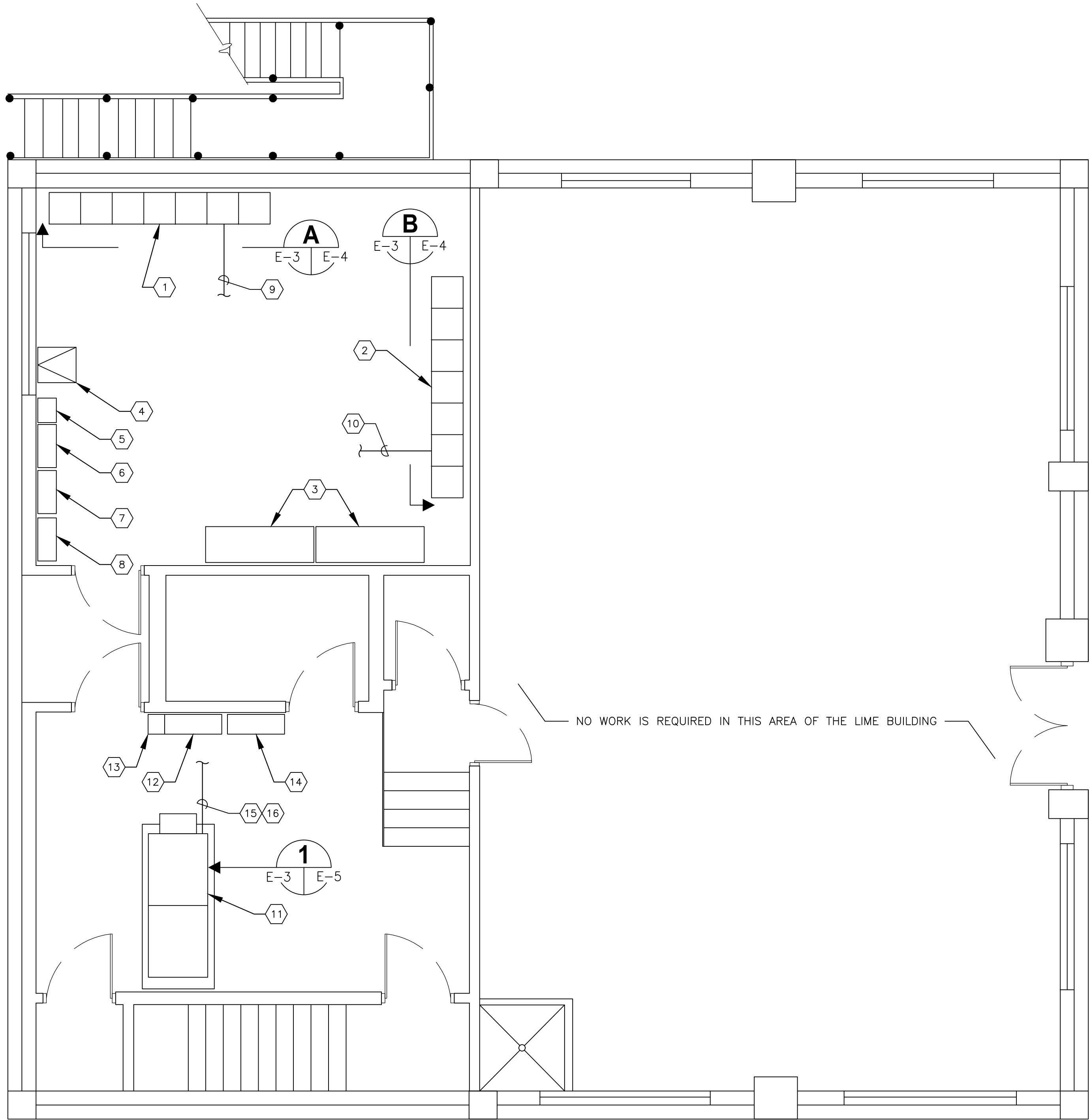
**SEDIMENTATION BASIN C  
ELECTRICAL SITE PLAN**

SHEET NUMBER

**E-2**



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



KEYED NOTES:

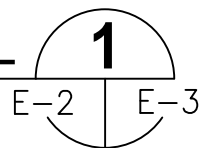
- EXISTING MOTOR CONTROL CENTER DESIGNATED AS 'MCC-3'. REFER TO ELEVATION ON SHEET E-4 FOR REQUIRED MODIFICATIONS.
- EXISTING MOTOR CONTROL CENTER DESIGNATED AS 'MCC-4'. REFER TO ELEVATION ON SHEET E-4 FOR REQUIRED MODIFICATIONS.
- EXISTING FLOCCULATOR CONTROL PANEL. NO WORK REQUIRED.
- EXISTING 75KVA, 480V-120/208V TRANSFORMER. NO WORK REQUIRED.
- EXISTING 225A, 3-POLE CIRCUIT BREAKER FOR PANELBOARDS 'L2A' AND 'L2B'. NO WORK REQUIRED.
- EXISTING PANELBOARD DESIGNATED 'L2B'. 120/208V, 3Ø, 4-WIRE, 100A WITH 60A M.C.B. NO WORK REQUIRED.
- EXISTING PANELBOARD DESIGNATED 'L2A'. 120/208V, 3Ø, 4-WIRE, 100A WITH 100A M.C.B. NO WORK REQUIRED.
- EXISTING PANELBOARD DESIGNATED 'PC-2'. 120/208V, 3Ø, 4-WIRE, 100A WITH 60A M.C.B. NO WORK REQUIRED.
- PROVIDE AND INSTALL 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-3 TO NORTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT. REFER TO SHEET E-2 FOR CONTINUATION.
- PROVIDE AND INSTALL 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-4 TO SOUTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT. REFER TO SHEET E-2 FOR CONTINUATION.
- EXISTING SCADA CABINET. REFER TO SHEET E-5 FOR WORK REQUIRED.
- EXISTING DIGITAL TERMINATION PANEL DESIGNATED 'DCU-1-1'.
- EXISTING DIGITAL TERMINATION PANEL DESIGNATED 'DCU-1-2' (TERMINATION PANEL IS LOCATED BELOW TERMINATION PANEL 'DCU-1-1').
- EXISTING ANALOG TERMINATION PANEL DESIGNATED 'DCU-1-3'. NO WORK REQUIRED.
- PROVIDE AND INSTALL 6/C FIBER OPTIC CABLE IN 1" CONDUIT FROM SCADA CABINET TO NORTH TRAVELING BRIDGE CONTROL PANEL. REFER TO SHEET E-2 FOR CONTINUATION.
- PROVIDE AND INSTALL 6/C FIBER OPTIC CABLE IN 1" CONDUIT FROM SCADA CABINET TO SOUTH TRAVELING BRIDGE CONTROL PANEL. REFER TO SHEET E-2 FOR CONTINUATION.

GENERAL NOTES:

- ALL NEW CONDUIT FOR TRAVELING BRIDGE POWER OR FIBER OPTIC COMMUNICATIONS SHALL BE FIELD ROUTED BASED ON EXISTING CONDITIONS. CONTRACTOR MAY REUSE EXISTING WALL PENETRATIONS OR EXISTING PATHS WITH ENGINEER'S APPROVAL.

LIME BUILDING ELECTRICAL ROOM DETAIL

SCALE: 1/4" = 1'-0"



No.	REVISIONS	DATE	BY



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE: AS SHOWN
DESIGNED BY: TDT
DRAWN BY: JLT
CHECKED BY: GLW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

TIMOTHY THOMAS, P.E.

FL LICENSE NUMBER  
47079

FL DATE:

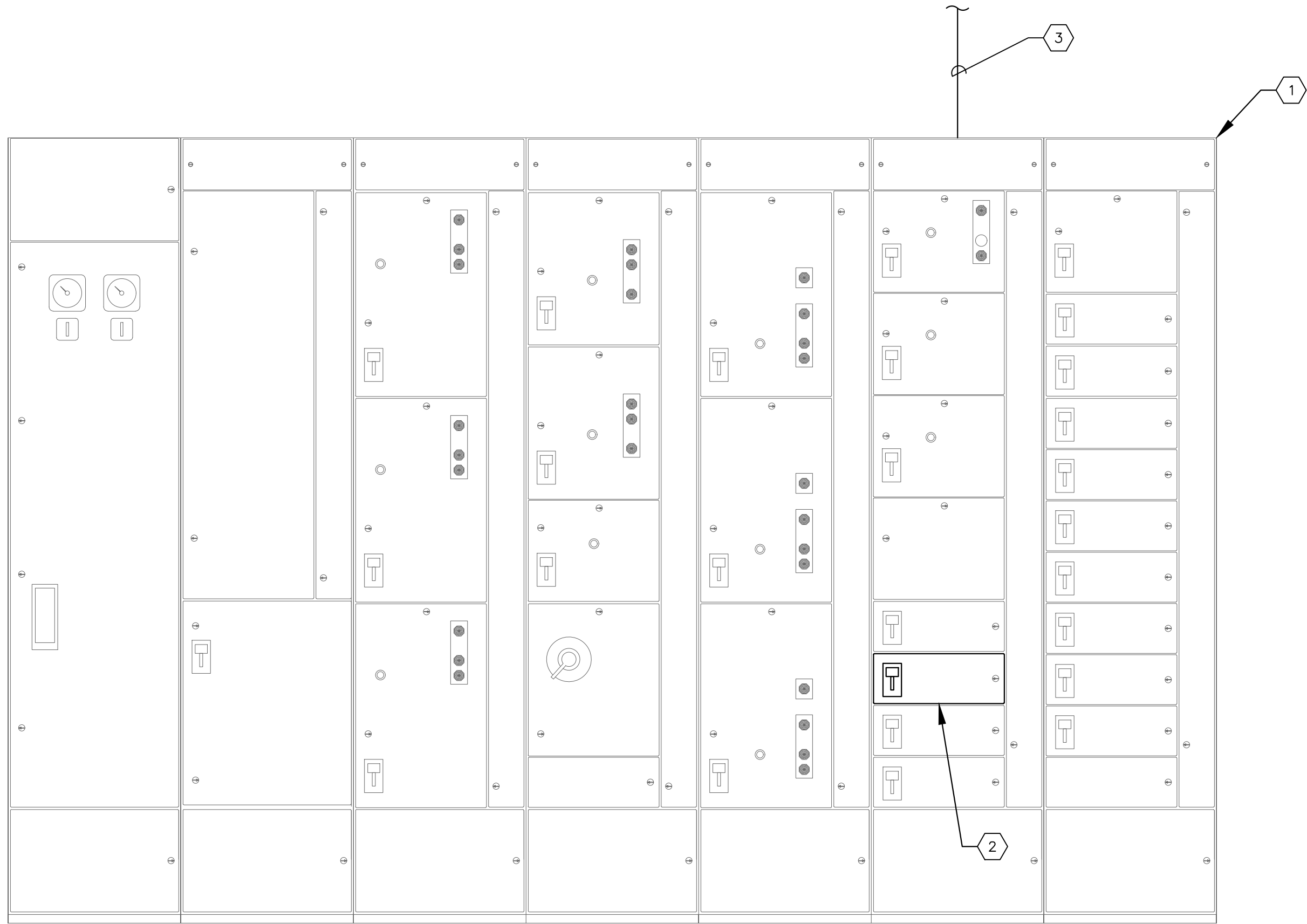
LIME BUILDING  
ELECTRICAL ROOM

SHEET NUMBER

E-3

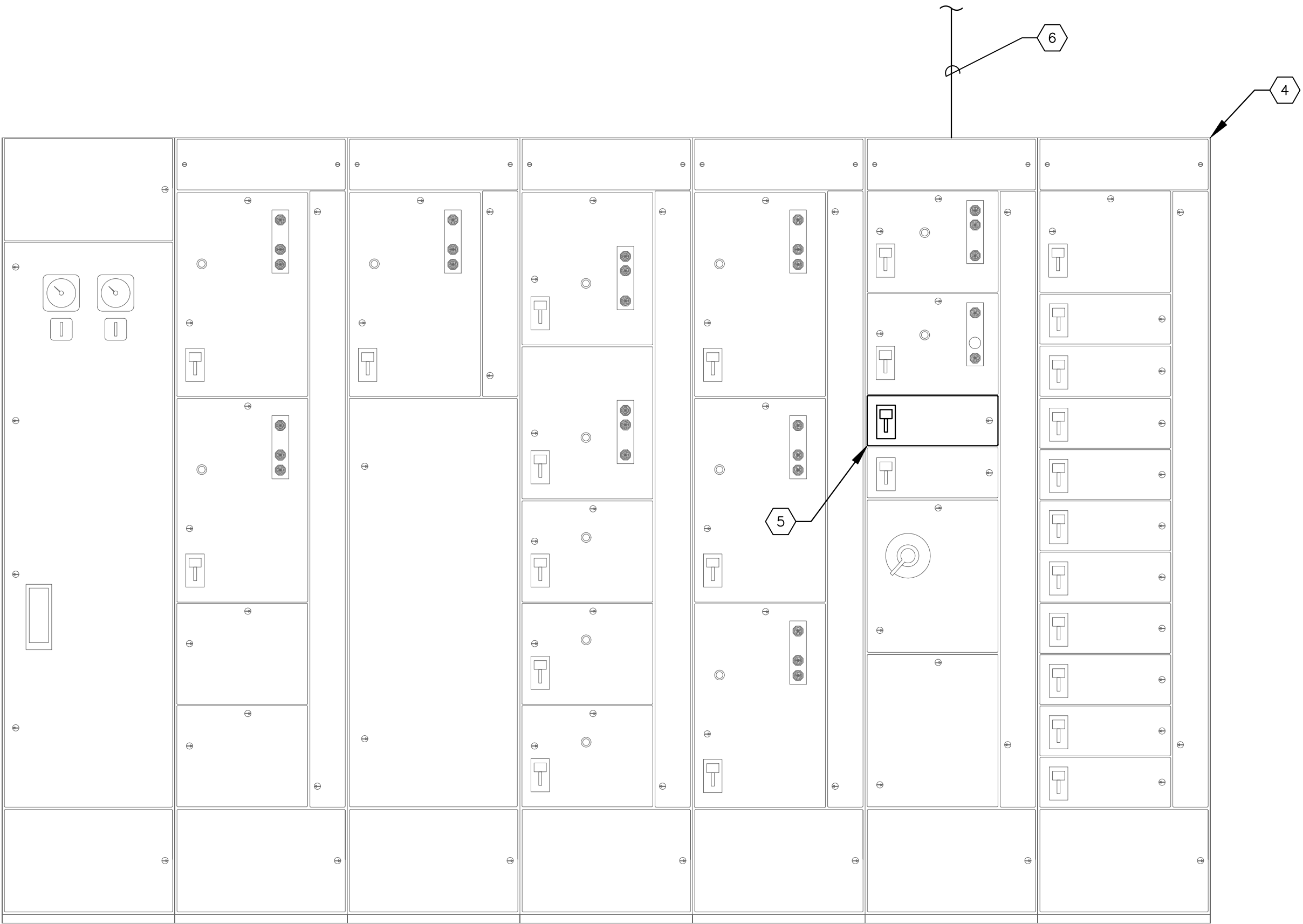


This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



MOTOR CONTROL CENTER 'MCC-3' ELEVATION  
SCALE: NOT TO SCALE

A  
E-3 | E-4



MOTOR CONTROL CENTER 'MCC-4' ELEVATION  
SCALE: NOT TO SCALE

B  
E-3 | E-4

KEYED NOTES:

- 1 EXISTING MOTOR CONTROL CENTER DESIGNATED AS 'MCC-3'.
- 2 EXISTING 600V, 60A, 3-POLE CIRCUIT BREAKER TO BE REUSED TO FEED THE NEW NORTH TRAVELING BRIDGE CONTROL PANEL.
- 3 PROVIDE AND INSTALL 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-3 TO NORTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT. REFER TO SHEET E-3 FOR CONTINUATION.
- 4 EXISTING MOTOR CONTROL CENTER DESIGNATED AS 'MCC-4'.
- 5 EXISTING 600V, 60A, 3-POLE CIRCUIT BREAKER TO BE REUSED TO FEED THE NEW SOUTH TRAVELING BRIDGE CONTROL PANEL.
- 6 PROVIDE AND INSTALL 3-#6 + 1-#8 GND IN 1" CONDUIT FROM MCC-3 TO SOUTH TRAVELING BRIDGE CONTROL PANEL DISCONNECT. REFER TO SHEET E-3 FOR CONTINUATION.

THOMAS  
ENGINEERING

777 S. Harbour Island Blvd. STE. 350, TAMPA, FL 33602  
813.227.9190  
Certificate of Authorization No. 00031028

No.	REVISIONS	DATE	BY



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM    REGISTRY NO. 35106

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY TDT
DRAWN BY JLT
CHECKED BY GLW

LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL
TIMOTHY THOMAS, P.E.
FL LICENSE NUMBER 47079
FL DATE:

MOTOR CONTROL CENTER  
ELEVATIONS

SHEET NUMBER  
  
E-4

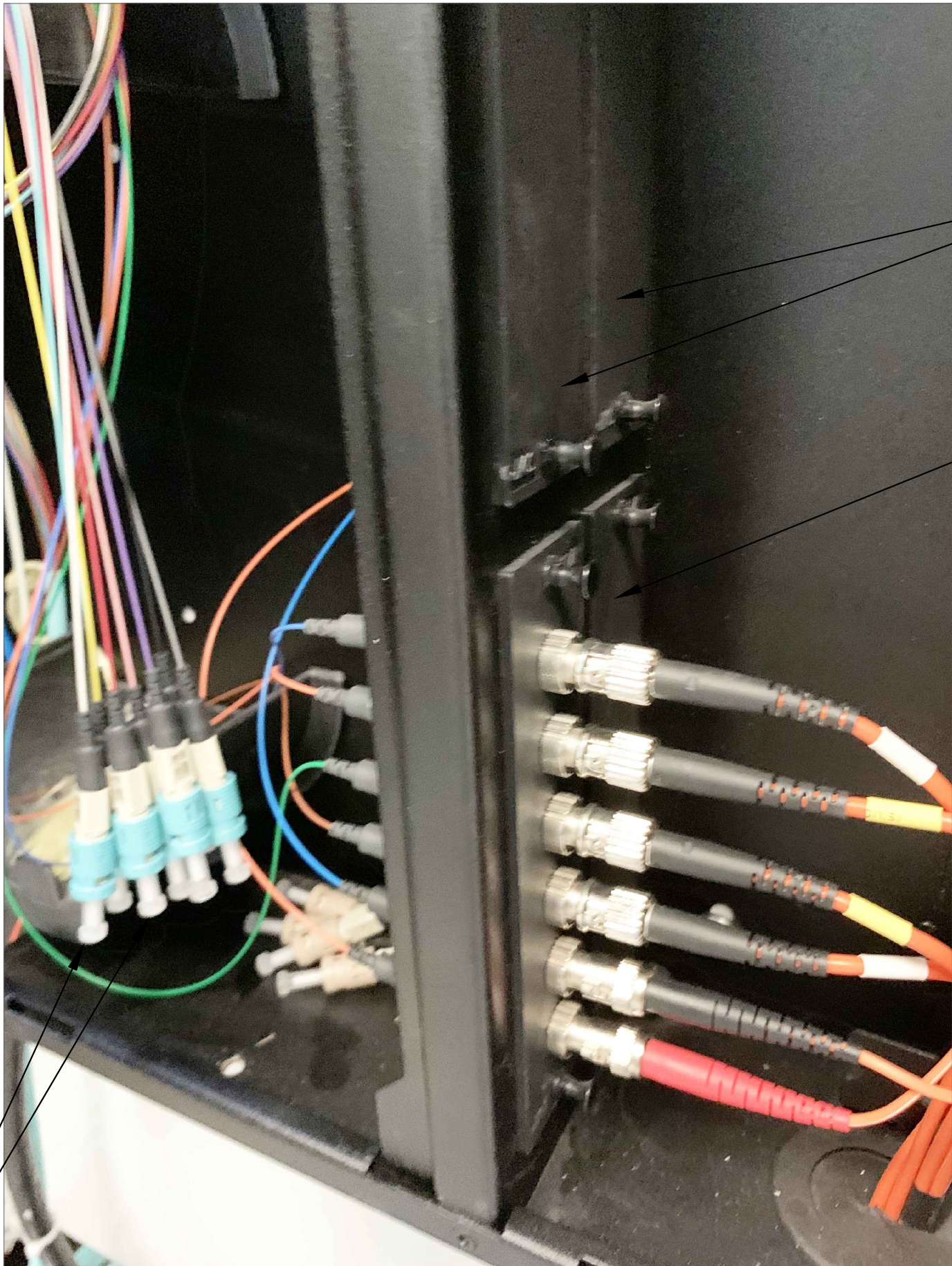
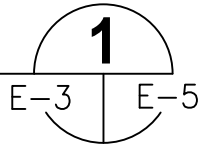


This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



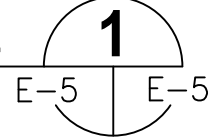
EXISTING SCADA CABINET DETAIL

SCALE: NOT TO SCALE



PATCH PANEL DETAIL

SCALE: NOT TO SCALE



KEYED NOTES:

- 1
- EXISTING SCADA CABINET.
- 2
- EXISTING FIBER OPTIC PATCH PANEL. REFER TO DETAIL ON THIS SHEET FOR WORK REQUIRED.
- 3
- PROVIDE AND INSTALL TWO (2) NEW 6-PORT HOUSING CONNECTOR PANELS FOR NEW TRAVELING BRIDGE FIBER OPTIC CABLE CONNECTIONS (ONE FOR NORTH, ONE FOR SOUTH TRAVELING BRIDGE).
- 4
- EXISTING FIBER OPTIC CABLE TO BE UTILIZED FOR TRAVELING BRIDGE FIBER OPTIC COMMUNICATIONS. A TOTAL OF FOUR (4) FIBERS SHALL BE REQUIRED (TWO FOR NORTH, TWO FOR SOUTH TRAVELING BRIDGE COMMUNICATIONS).
- 5
- PROVIDE AND INSTALL ONE (1) NEW 6-PORT HOUSING CONNECTOR PANEL TO TERMINATE EXISTING FIBERS SHOWN IN NOTE #4 ABOVE. PROVIDE FIBER PATCH CABLE AS REQUIRED TO TIE TRAVELING BRIDGE FIBERS TO THE COUNTY'S EXISTING SPARE FIBERS.

No.	REVISIONS	DATE	BY

KHA PROJECT 148400096
DATE SEP 2023
SCALE AS SHOWN
DESIGNED BY TDT
DRAWN BY JLT
CHECKED BY GLW

Manatee  
County  
FLORIDA

LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL
TIMOTHY THOMAS, P.E.
FL LICENSE NUMBER 47079
FL DATE:

SCADA CABINET DETAILS

SHEET NUMBER

E-5



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



FESTOON AND EXISTING CONDUIT SUPPORT ELEVATION

SCALE: NOT TO SCALE

A  
E-2 | E-6



EXISTING CONDUIT SUPPORT ELEVATION

SCALE: NOT TO SCALE

B  
E-2 | E-6

KEYED NOTES:

- 1 EXISTING FESTOON SUPPORT TO REMAIN. KEYED NOTE IDENTIFIES THE MOST EASTERN SUPPORT.
- 2 CONTRACTOR SHALL REMOVE THE EXISTING DISCONNECTS AND JUNCTION BOXES, THEN INSTALL TWO (ONE FOR SOUTH TRAVELING BRIDGE, ONE FOR NORTH TRAVELING BRIDGE) NEW 600V, 60A, 3-POLE, NON-FUSED DISCONNECTS IN NEMA 4X 316 STAINLESS STEEL ENCLOSURES. COORDINATE LOCATION AND CONNECTION OF FESTOON POWER WITH OVIVO. MOUNT DISCONNECTS ON FESTOON SUPPORT WITH 1-5/8" X 1-5/8" 316 STAINLESS STEEL STRUT USING 316 STAINLESS STEEL HARDWARE. CONTRACTOR SHALL ALSO COORDINATE WITH SYSTEMS INTEGRATOR REGARDING ANY PULL BOXES OR JUNCTION BOXES TO BE INSTALLED FOR INSTALLATION OF THE NEW FIBER OPTIC CABLES. PULL BOXES OR JUNCTION BOXES SHALL BE NEMA 4X STAINLESS STEEL. SIZE TO BE DETERMINED BY THE MINIMUM LONG TERM BENDING RADIUS OF THE FIBER OPTIC CABLE SELECTED FOR INSTALLATION.
- 3 TYPICAL CONDUIT SUPPORT STANCHION LOCATED ON DECK OF BASIN C. ALL CONDUIT SUPPORTS STANCHIONS SHALL BE REUSED. PROVIDE NEW 1-5/8" X 1-5/8" 316 STAINLESS STEEL STRUT AND NEW 316 STAINLESS STEEL HARDWARE TO SUPPORT NEW CONDUITS. STRUT LENGTH AS REQUIRED.
- 4 CONTRACTOR SHALL PENETRATE EXISTING WALL WITH NEW CONDUITS AND GROUT AS REQUIRED TO PROVIDE WEATHERPROOF SEAL.
- 5 EXISTING FESTOON CABLE TROLLEYS. COORDINATE WITH OVIVO FOR TROLLEYS TO BE REUSED OR **REPLACED** TO ACCOMMODATE TRAVELING BRIDGE POWER AND FIBER OPTIC CABLES.

THOMAS  
ENGINEERING

777 S. Harbour Island Blvd. STE. 350, TAMPA, FL 33602  
813.227.9190  
Certificate of Authorization No. 00031028

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT  
148400096  
DATE  
SEP 2023  
SCALE AS SHOWN  
DESIGNED BY TDT  
DRAWN BY JLT  
CHECKED BY GLW



LMWTP SEDIMENTATION BASIN C  
SLUDGE COLLECTION UPGRADE

MANATEE COUNTY

LICENSED PROFESSIONAL

TIMOTHY THOMAS, P.E.

FL LICENSE NUMBER  
47079

FL DATE:

SHEET NUMBER

E-6

ELECTRICAL DETAILS