

NO.	BY	CHK	DATE
7/2015	BID ISSUE	REVISIONS AND RECORD OF ISSUE	
		XREF1:	
		XREF2:	
		XREF3:	
		XREF4:	
		XREF5:	

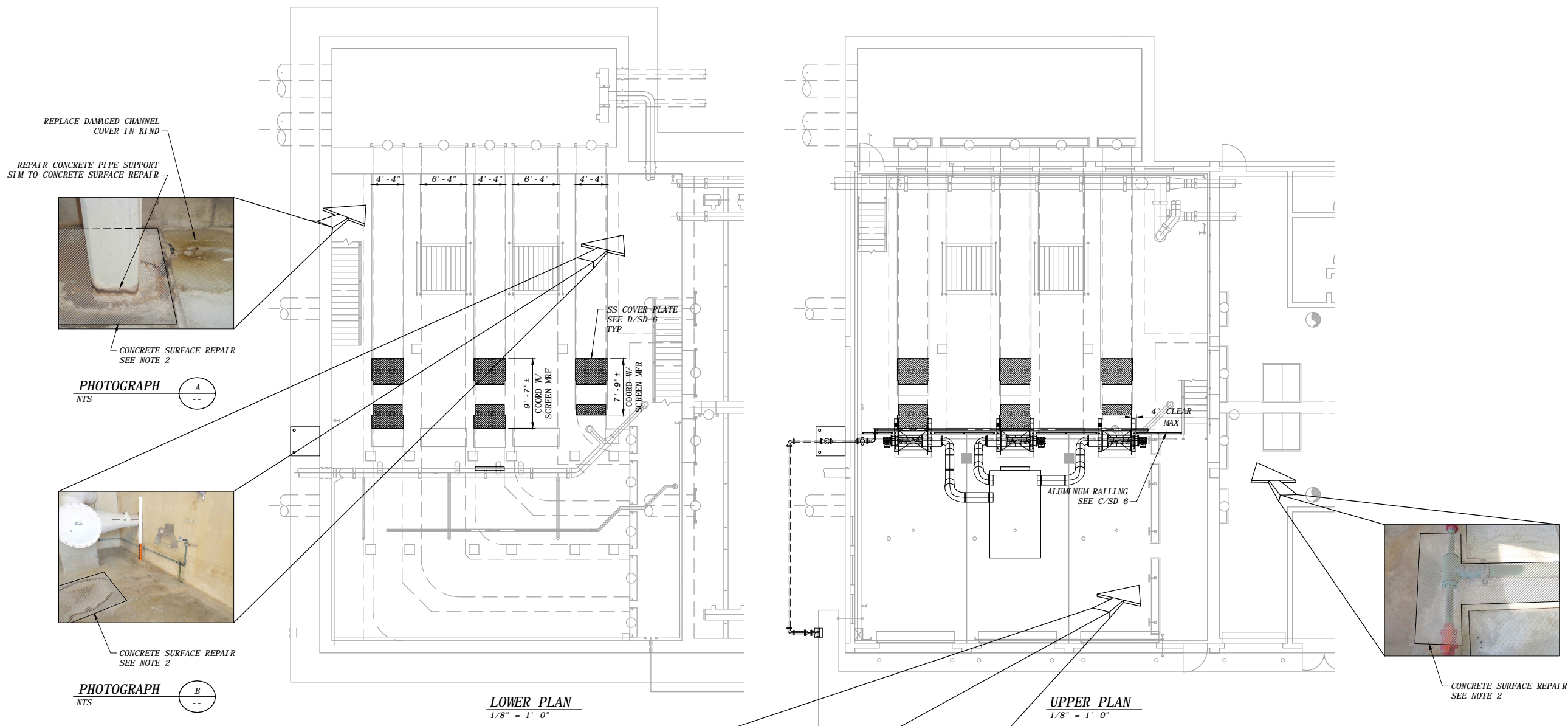
AECOM
 150 N. WINDY HILL AVENUE, SUITE 200
 ORLANDO, FLORIDA 32801
 PHONE: 407.241.2000
 FAX: 407.241.2001
 WWW.AECOM.COM

BLACK & VEATCH
 Building a world of difference?
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 8132

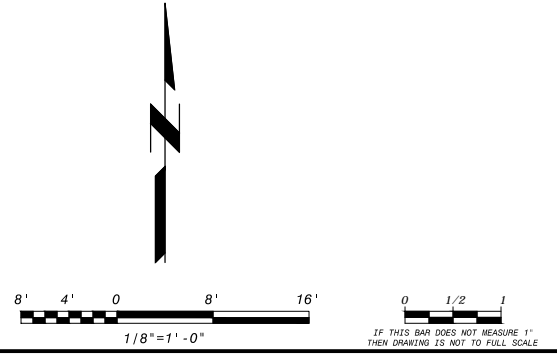
**ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS**

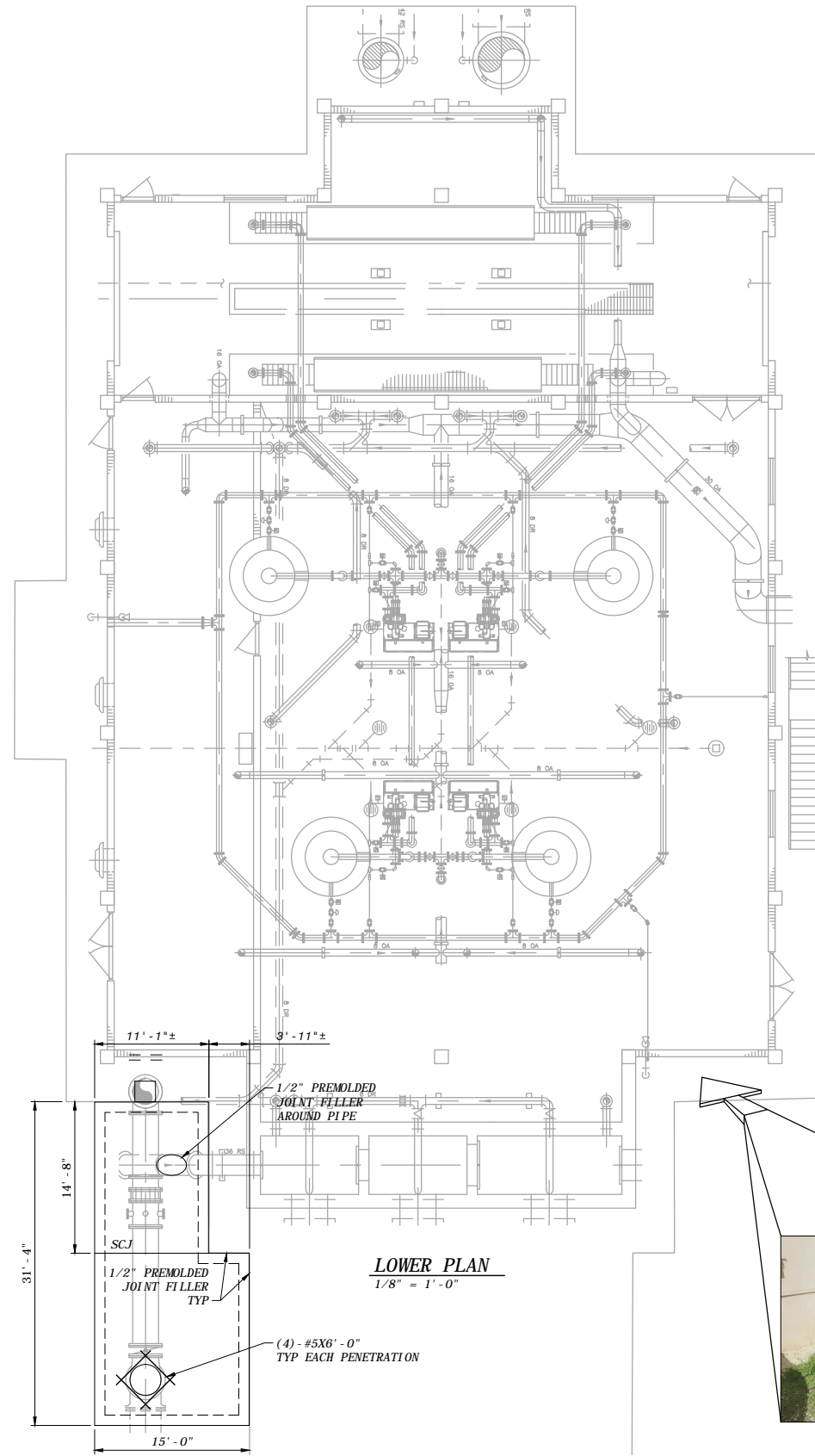
STRUCTURAL
 INFLUENT PUMP STATION
 PLAN

DESIGNED:	JC
DETAILED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633
PROJECT NO.	180761
SHEET	S-2
	112 OF 364

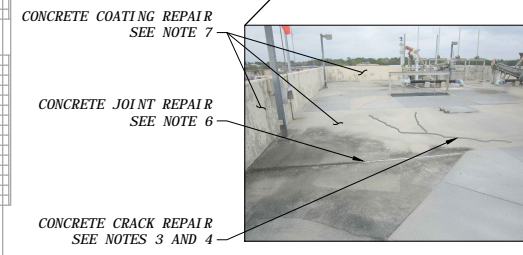


- NOTES**
- THE ARROW HEADS INDICATE THE APPROXIMATE LOCATION AND DIRECTION OF THE PHOTOGRAPH THEY ARE ATTACHED TO.
 - SURFACE REPAIR PROCEDURE:**
 - CUT OR GRIND CONCRETE SURFACE AND REINFORCING BARS PERPENDICULAR TO THE UNDISTURBED SURFACE TO A DEPTH OF 1/2".
 - CLEAN EXPOSED SURFACE BY SANDBLASTING OR POWER WIRE BRUSHING.
 - IMMEDIATELY PRIOR TO APPLYING CEMENTITIOUS REPAIR MATERIAL DAMPEN THE EXPOSED SURFACE AND APPLY AN EPOXY BONDING AGENT.
 - INSTALL NON-SHRINK CEMENTITIOUS REPAIR MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - CONCRETE CRACK REPAIR PROCEDURE FOR RANDOM CRACKING LESS THAN 1/8" WIDE WITH NO "ISLANDS":**
 - CLEAN CRACKS WITH A RIGHT ANGLE GRINDER OR POWER WIRE BRUSH.
 - VACUUM DUST AND DEBRIS FROM CONCRETE CRACK.
 - OVERFILL CRACK WITH 100% SOLIDS, LOW VISCOSITY STRUCTURAL POLYUREA/POLYURETHANE REPAIR MATERIAL. MONITOR MATERIAL AND REFILL IF SEEPAGE OCCURS.
 - CONCRETE CRACK REPAIR PROCEDURE FOR RANDOM CRACKING GREATER THAN OR EQUAL TO 1/8", OR THINNER CRACK WIDTHS WITH "ISLANDS":**
 - ROUT OUT TO CRACKS TO A MINIMUM DEPTH OF 3/4" AND WIDE ENOUGH TO EXPOSE SOUND CONCRETE ALONG CRACK EDGES.
 - VACUUM DUST AND DEBRIS FROM CONCRETE CRACK.
 - APPLY JOINT FILLER TO HALF THE CRACK DEPTH AND ALLOW TO SIT FOR 90 MINUTES. AFTER INITIAL APPLICATION FILL REMAINING CRACK DEPTH TO A CROWNED PROFILE.
 - REPAIR INFLUENT CHANNEL COATING WITH SAUERISEN SEWERGARD NO. 210, OR EQUAL, WHERE COATING IS DAMAGED DUE TO EQUIPMENT INSTALLATION AND IN AREAS OF DELAMINATION OR DEGRADATION.

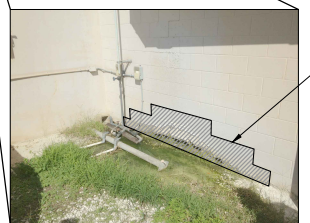




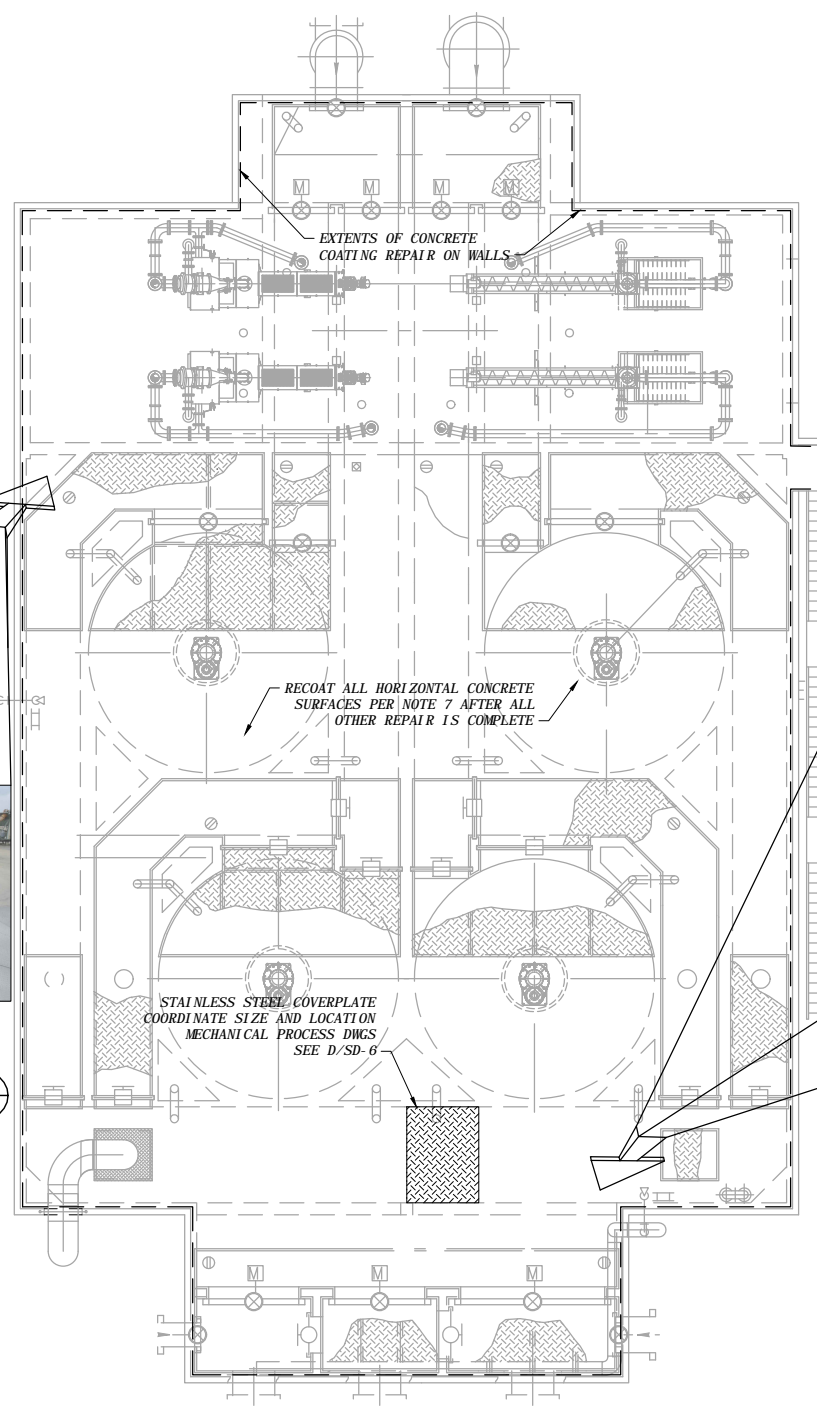
LOWER PLAN
1/8" = 1'-0"



PHOTOGRAPH A
NTS



PHOTOGRAPH B
NTS



UPPER PLAN
1/8" = 1'-0"



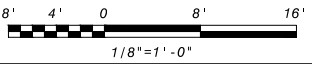
PHOTOGRAPH C
NTS

NOTES

1. THE ARROW HEADS INDICATE THE APPROXIMATE LOCATION AND DIRECTION OF THE PHOTOGRAPH THEY ARE ATTACHED TO.
2. CONCRETE SURFACE REPAIR PROCEDURE:
 - 2.1. CUT OR GRIND CONCRETE SURFACE AND REINFORCING BARS PERPENDICULAR TO THE UNDISTURBED SURFACE TO A DEPTH OF 1/2" OR UNTIL SOUND CONCRETE IS REACHED.
 - 2.2. CLEAN EXPOSED SURFACE BY SANDBLASTING OR POWER WIRE BRUSHING.
 - 2.3. IMMEDIATELY PRIOR TO APPLYING CEMENTITIOUS REPAIR MATERIAL DAMPEN THE EXPOSED SURFACE AND APPLY AN EPOXY BONDING AGENT.
 - 2.4. INSTALL NON-SHRINK CEMENTITIOUS REPAIR MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. CONCRETE CRACK REPAIR PROCEDURE FOR RANDOM CRACKING LESS THAN 1/8" WIDE WITH NO "ISLANDS":
 - 3.1. CLEAN CRACKS WITH A RIGHT ANGLE GRINDER OR POWER WIRE BRUSH.
 - 3.2. VACUUM DUST AND DEBRIS FROM CONCRETE CRACK.
 - 3.3. OVERFILL CRACK WITH 100% SOLIDS, LOW VISCOSITY STRUCTURAL POLYUREA/POLYURETHANE REPAIR MATERIAL. MONITOR MATERIAL AND REFILL IF SEEPAGE OCCURS.
4. CONCRETE CRACK REPAIR PROCEDURE FOR RANDOM CRACKING GREATER THAN OR EQUAL TO 1/8", OR THINNER CRACK WIDTHS WITH "ISLANDS":
 - 4.1. ROUT OUT TO CRACKS TO A MINIMUM DEPTH OF 3/4" AND WIDE ENOUGH TO EXPOSE SOUND CONCRETE ALONG CRACK EDGES.
 - 4.2. VACUUM DUST AND DEBRIS FROM CONCRETE CRACK. APPLY JOINT FILLER TO HALF THE CRACK DEPTH AND ALLOW TO SIT FOR 90 MINUTES. AFTER INITIAL APPLICATION FILL REMAINING CRACK DEPTH TO A CROWNED PROFILE.
 - 4.3.

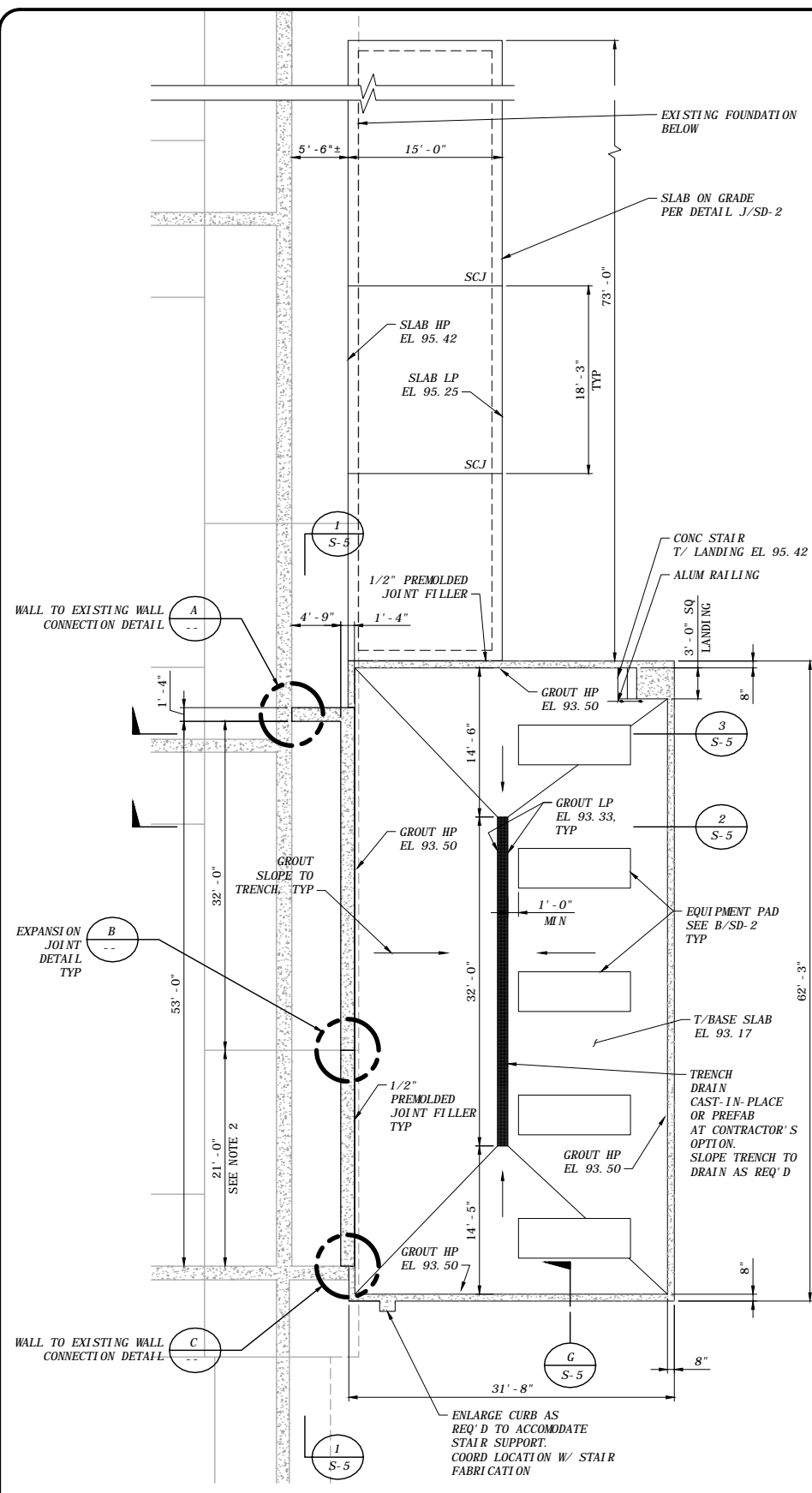
NOTES CONTINUED

5. CMU WALL REPAIR PROCEDURE:
 - 5.1. SAW CUT FACE SHELLS OF DAMAGED CMU IN WIDTHS NOT EXCEEDING 4 FEET WIDE.
 - 5.2. CLEAN EXPOSED INTERIOR CMU SURFACES AND CMU UNITS ADJACENT TO REPAIR AREA BY SANDBLASTING OR POWER WIRE BRUSHING.
 - 5.3. FORM AND POUR CMU UNITS SOLID WITH 2000 PSI MASONRY GROUT.
 - 5.4. AFTER MASONRY GROUT HAS CURED FINISH SURFACE TO MATCH ADJACENT CMU WALL.
6. EXPANSION JOINT REPAIR PROCEDURES:
 - 6.1. REMOVE EXISTING JOINT SEALANT TO BARE CONCRETE BY SANDBLASTING OR POWER WIRE BRUSHING.
 - 6.2. INSTALL BOND BREAKER TAPE PER MANUFACTURER'S RECOMMENDATIONS.
 - 6.3. APPLY MASKING TAPE ALONG EDGES OF EXPOSED JOINTS.
 - 6.4. APPLY JOINT SEALANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - 6.5. TROWEL THE JOINTS SMOOTH, REMOVE MASKING TAPE, CLEAN EXPOSED SURFACE OF THE EXPOSED JOINTS OF SPILLAGE.
7. CONCRETE COATING REPAIR PROCEDURES FOR CONCRETE NOT EXPOSED TO WASTEWATER:
 - 7.1. REMOVE EXISTING COATING BY SANDBLASTING ON VERTICAL SURFACES. PRESSURE WASH HORIZONTAL CONCRETE SURFACES.
 - 7.2. COAT ENTIRE CONCRETE SURFACE AREA WITH POLYURETHANE COATING SYSTEM. ADD NON-SLIP AGGREGATE TO HORIZONTAL SURFACES TO BE COATED.
8. REPAIR PRELIMINARY TREATMENT STRUCTURE CHANNEL COATING WITH SAUERREISEN SEWERGARD NO. 210, OR EQUAL, WHERE COATING IS DAMAGED DUE TO EQUIPMENT INSTALLATION AND IN AREAS OF DELAMINATION OR DEGRADATION.

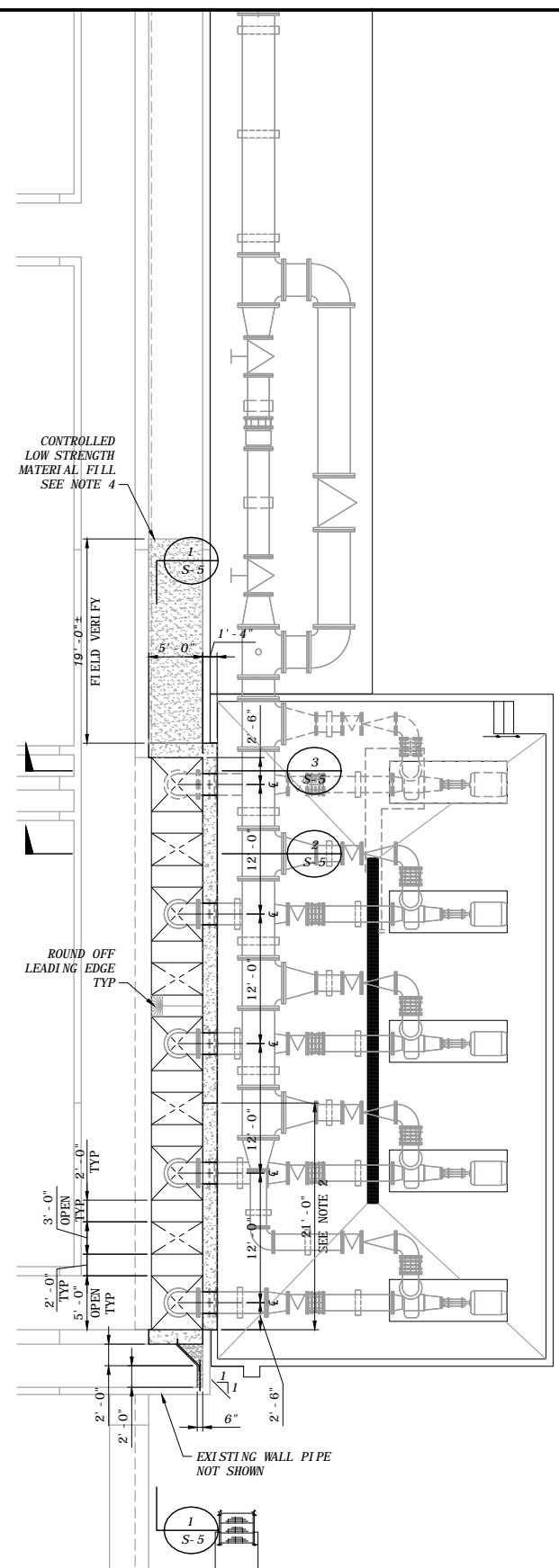


0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

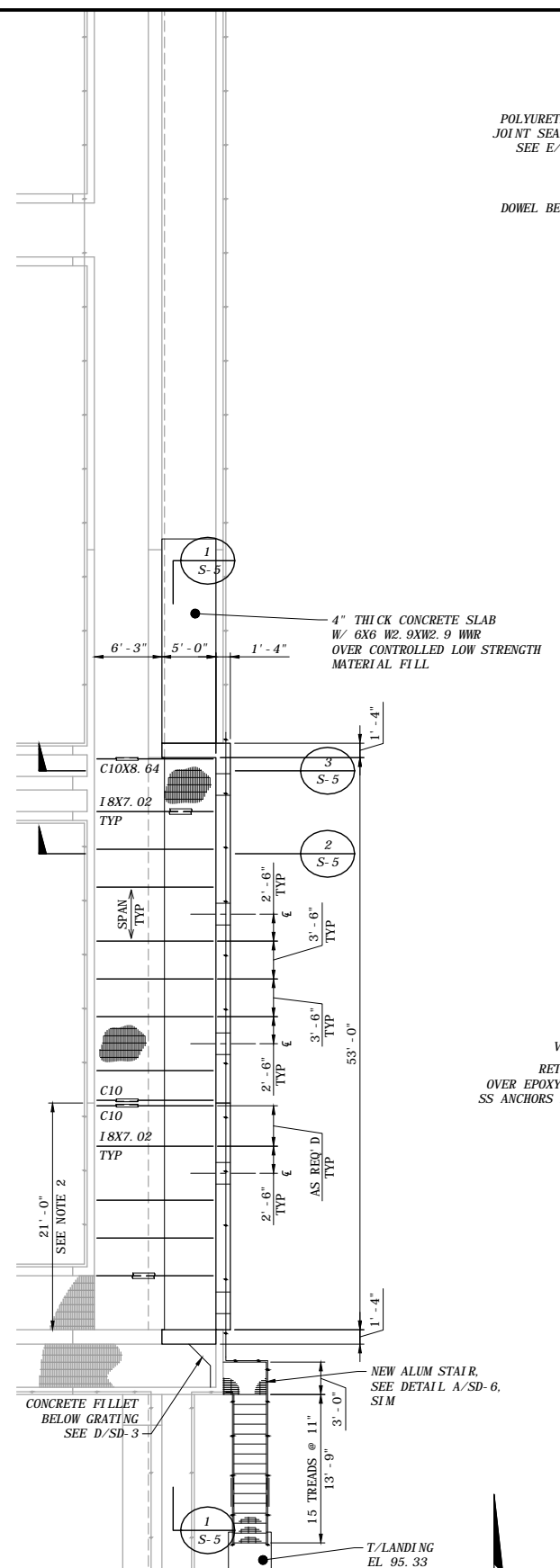
AECOM	BLACK & VEATCH	ORANGE COUNTY UTILITIES			
AECOM TECHNICAL SERVICES, INC. 1000 LANTANA STREET, SUITE 200 BOCA RATON, FLORIDA 33432	Building a world of difference® Black & Veatch Corporation 202 South Orange Avenue, Suite 500 Orlando, Florida 32801	SOUTH WATER RECLAMATION FACILITY			
CONTRACT NO.: FREQ08341 DATE: 7/20/15 PROJECT NO.: 180761	DESIGNER: JC DETAILER: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015	PHASE V IMPROVEMENTS			
DRAWN BY: CK CHECKED BY: CK DATE: 7/20/15	ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	STRUCTURAL TREATMENT FACILITY			
REVISIONS AND RECORD OF ISSUE	PROJECT NO.: 180761	PRELIMINARY TREATMENT FACILITY			
XREF1: XREF2: XREF3: XREF4: XREF5:	SHEET: 113 OF 364	S-3			



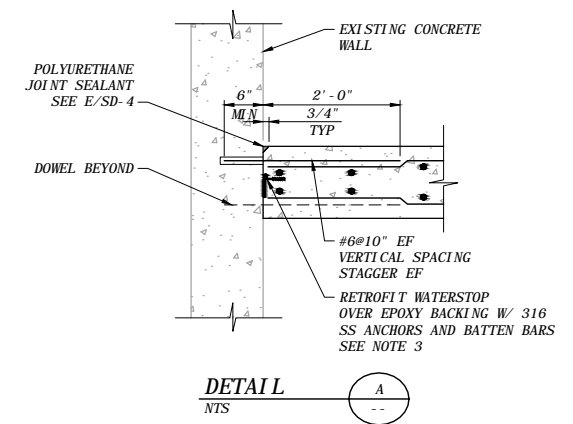
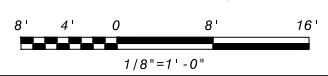
SLAB PLAN
1/8" = 1'-0"



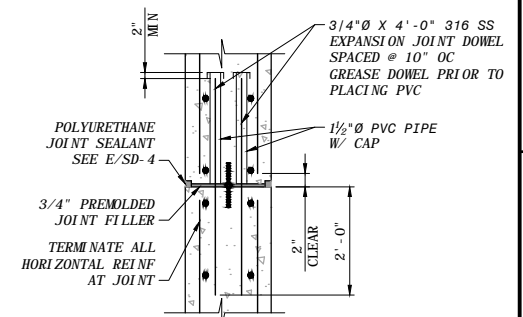
INTERMEDIATE PLAN
1/8" = 1'-0"



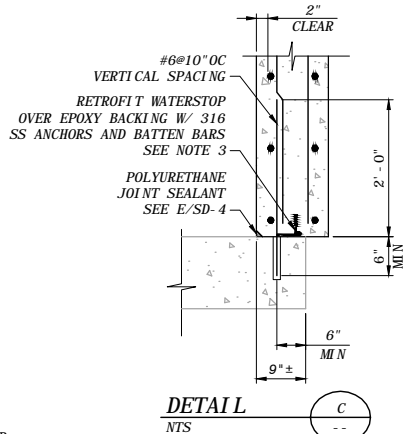
TOP PLAN
1/8" = 1'-0"



DETAIL A
NTS



DETAIL B
NTS



DETAIL C
NTS

NOTES

1. MAXIMUM WATER LEVEL WITHIN TANKS FOR TESTING PURPOSES SHALL NOT EXCEED 9'-0" FOR EXTERIOR WALLS UNTIL ALL REQUIRED BACK FILL IS IN PLACE.
2. ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.
3. USE FACTORY-MADE CROSSES, TEES, AND ELLS. FIELD SPLICING WATERSTOP IN NEW CONSTRUCTION WITH RETROFIT WATERSTOP SHALL BE PERMITTED.
4. FILL EXTERIOR CHANNEL WITH CONTROLLED LOW STRENGTH MATERIAL FROM EXISTING BULKHEAD TO IR PUMP STATION WALL.

NO.	BY	CHK	DATE

CURRENT ID:	7/2015	DATE:	7/2015
BID ISSUE:		REVISIONS AND RECORD OF ISSUE:	
USER:	FRE08341	DATE:	8/15/2013 9:56:25 AM

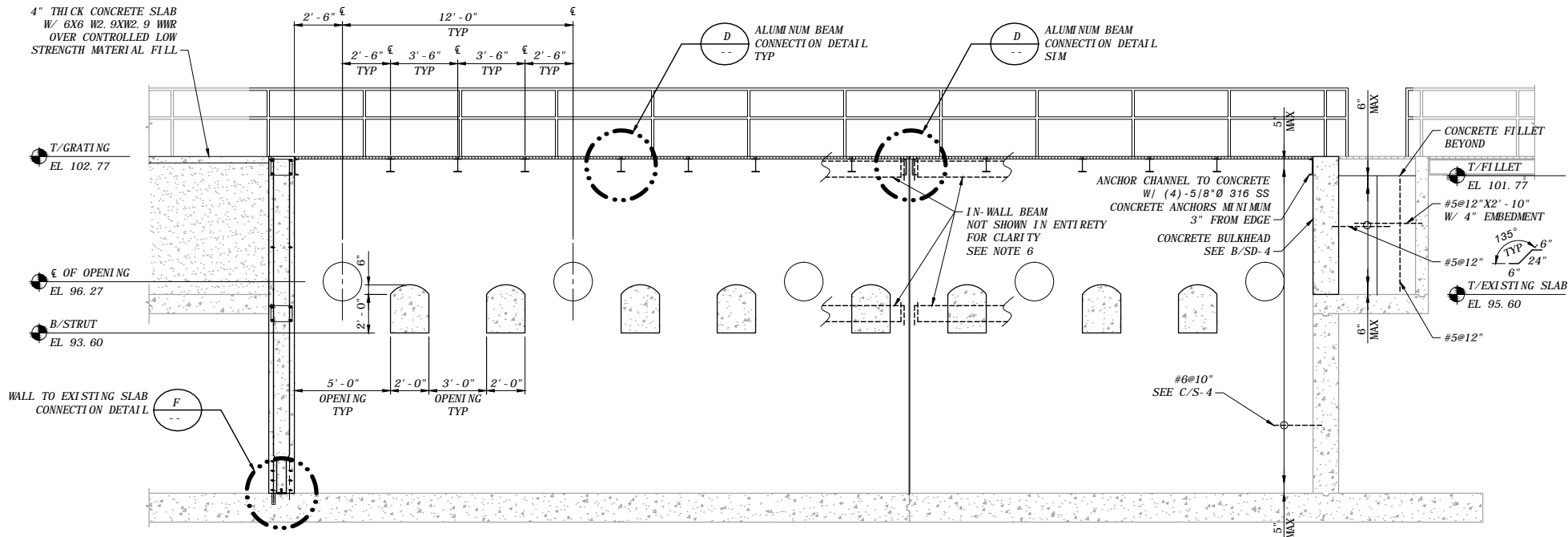
AECOM
150 SOUTH BRADY AVENUE, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.641.2000
FAX: 407.641.2001
CERTIFICATE OF AUTHORIZATION NO. 08-818

BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 8132

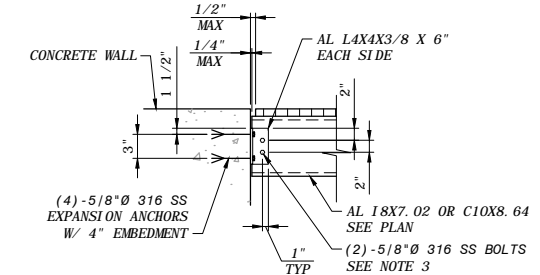
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH PLANT NO. 1 IR PUMPING STATION
FOUNDATION AND TOP PLANS

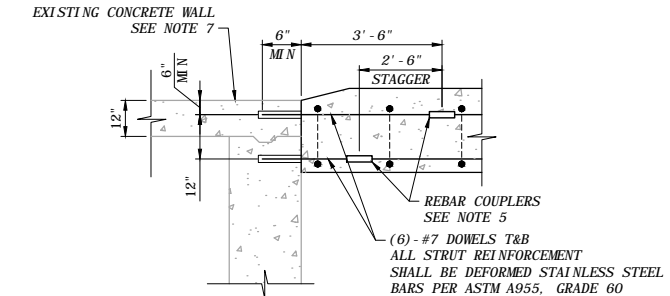
DESIGNED:	JC
DETAILED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633
PROJECT NO.	180761
SHEET	S-4
114 OF 364	



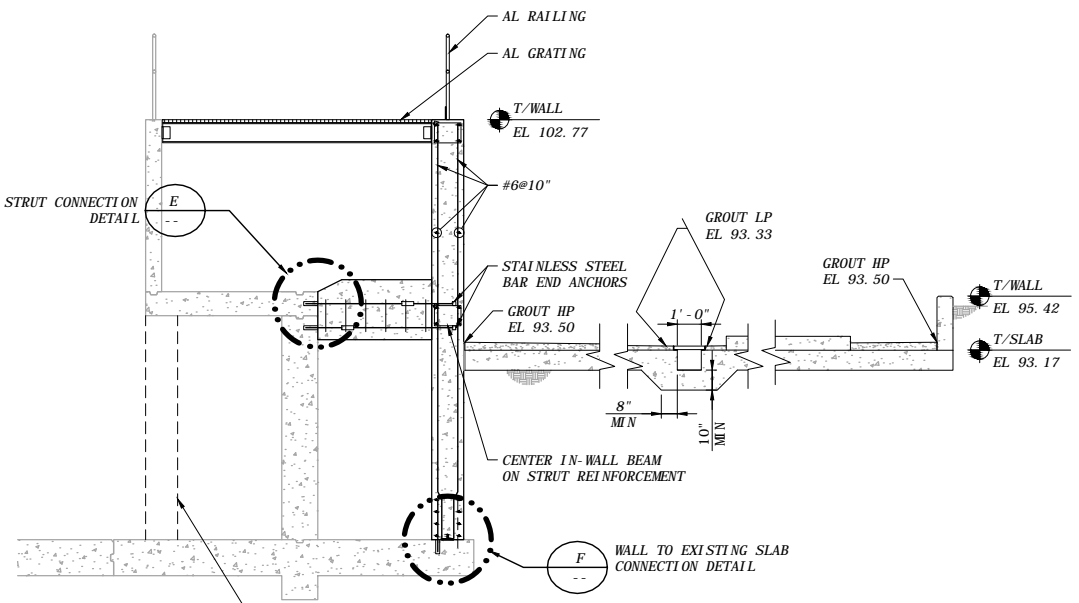
SECTION 1
1/4" = 1'-0"



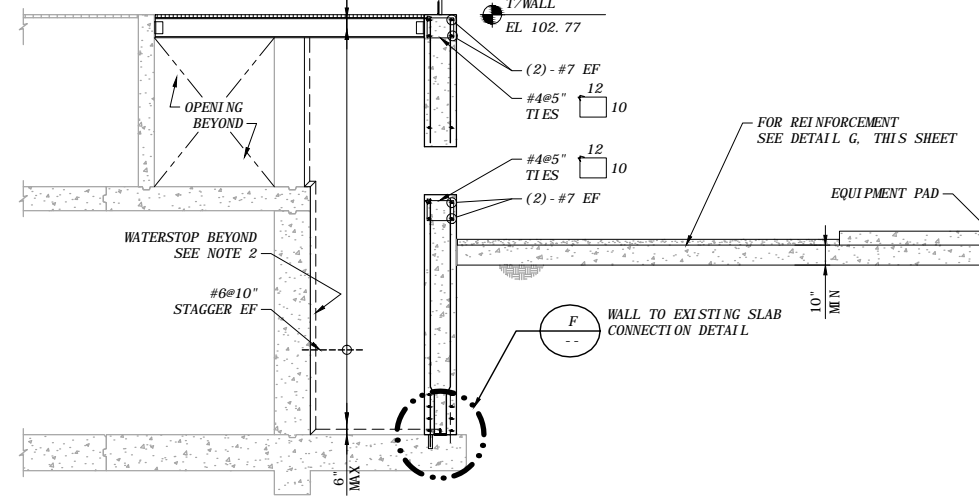
DETAIL D
NTS



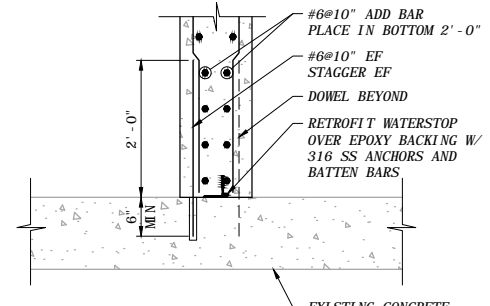
DETAIL E
NTS



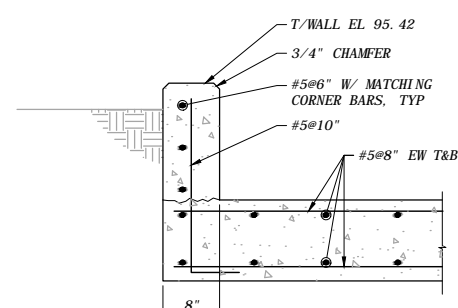
SECTION 2
1/4" = 1'-0"



SECTION 3
1/4" = 1'-0"



DETAIL F
NTS



DETAIL G
NTS

NOTES

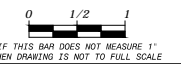
- ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.
- USE FACTORY-MADE CROSSES, TEES, AND ELLS. FIELD SPLICING FLAT RIBBED WATERSTOP IN NEW CONSTRUCTION WITH RETROFIT WATERSTOP SHALL BE PERMITTED.
- ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
- PROVIDE CONCRETE FILLET TO DIRECT FLOW IN RAS CHANNEL. DO NOT FEATHER EDGES. TERMINATE FILLET PER DETAIL D/SD-3.
- PROVIDE STAINLESS STEEL MECHANICAL COUPLERS CAPABLE OF DEVELOPING 125% OF THE SPECIFIED YIELD STRESS OF THE REINFORCING STEEL.
- IN-WALL BEAM REINFORCEMENT SHALL BE HOOKED AT EXPANSION JOINTS. DOWEL REINFORCEMENT INTO EXISTING WALLS PER DETAILS A AND C/S-4. IN-WALL BEAM REINFORCEMENT SHALL HAVE MATCHING CORNER BARS.
- VERIFY EXISTING REINFORCEMENT PRIOR TO CONSTRUCTION OF THE INTERNAL RECYCLE PUMP STATION. SEE D-27 FOR ADDITIONAL INFORMATION. IF EXISTING REINFORCEMENT DOES NOT CONFORM WITH THE AS BUILT DRAWINGS DATED 9-28-79, INTERNAL COLUMN SUPPORTS SHALL BE CONSTRUCTED AT EACH STRUT LOCATION. INTERNAL COLUMN SUPPORTS SHALL BE C.4.1. DRILL AND EPOXY DOWELS INTO EXISTING CONCRETE PER DETAIL H/S-9.

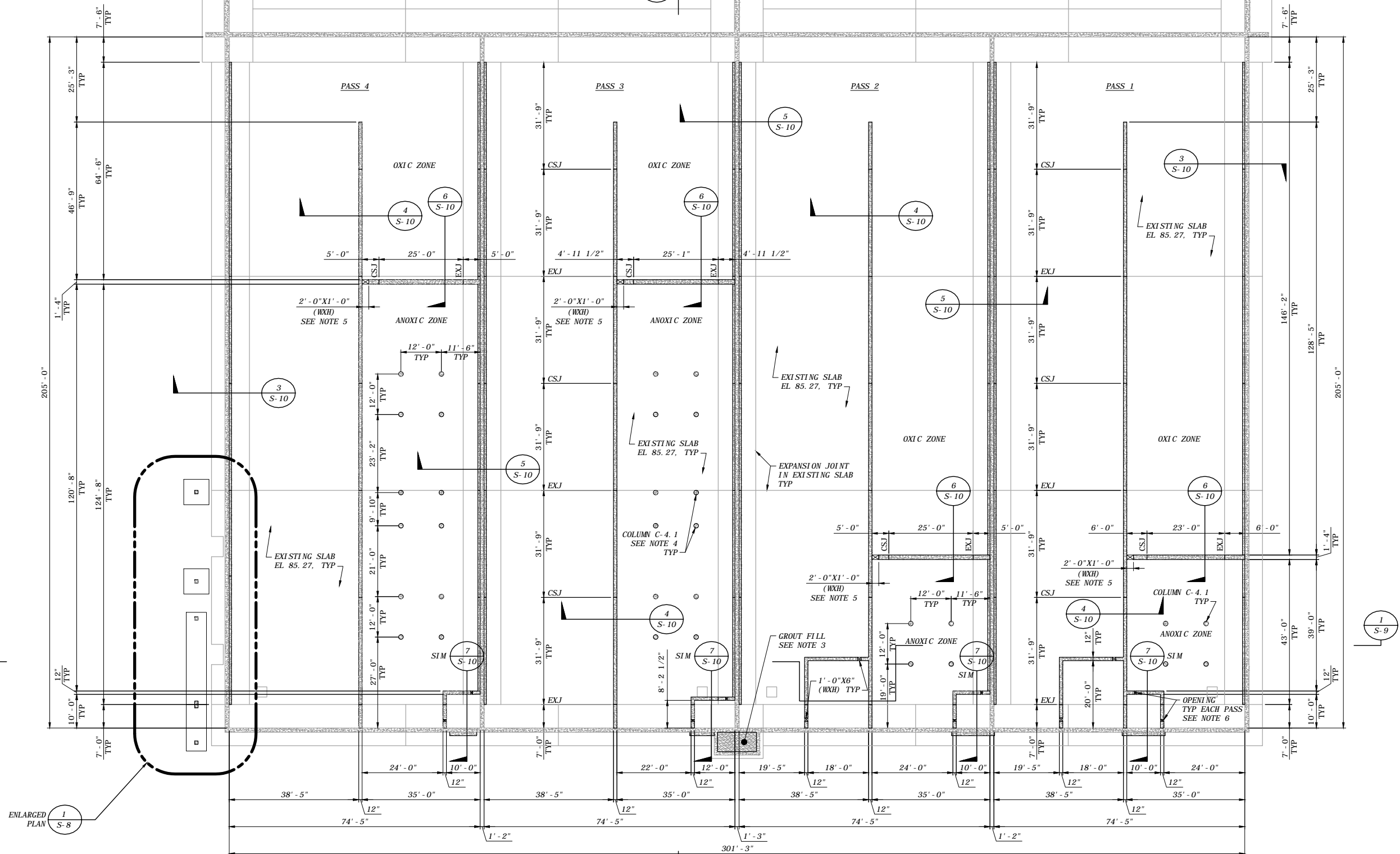
NO.	BY	CHK	DATE
1	JM		7/2015
REVISIONS AND RECORD OF ISSUE			
DATE	BY	CHK	DESCRIPTION
7/2015	JM		BID ISSUE
CURRENT ID:	FRED08341		
DATE:	8/15/2013 9:56:25 AM		
PLOTTED:	FRED08341		
USER:	FRED08341		



ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL
NORTH PLANT NO. 1 IR PUMPING STATION
SECTIONS AND DETAILS

DESIGNED:	JC
DETAILLED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633
PROJECT NO.	180761
SHEET	S-5
OF	115 OF 364



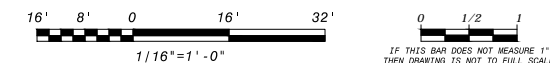


NOTES

1. MAXIMUM WATER LEVEL WITHIN TANKS FOR TESTING PURPOSES SHALL NOT EXCEED 9'-0" FOR EXTERIOR WALLS UNTIL ALL REQUIRED BACK FILL IS IN PLACE.
2. ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.
3. GROUT FILL EXISTING INFLUENT STRUCTURE TO ELEVATION 93.02. POUR 6" THICK CONCRETE SLAB OVER GROUT FILL.
4. MIXER PLATFORM SHALL NOT BRIDGE EXPANSION JOINTS IN EXISTING SLAB.
5. INTERIOR WALLS BETWEEN ANOXIC AND OXIC ZONES SHALL NOT BE SUBJECTED TO MORE THAN 6 FEET OF DIFFERENTIAL FLUID HEIGHT.
6. PROVIDE (2) 6"x6" OPENINGS IN BOTTOM OF NEW WALLS OF MIXING CHIMNEYS.

FOUNDATION PLAN

1/16" = 1'-0"



ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
PLANT NO. 2 - BNR BASIN
FOUNDATION PLAN

DESIGNED: JC
 DETAILED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

PROJECT NO.
180761
S-6
SHEET
 116 OF 364

BLACK & VEATCH
 Building a world of difference™
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801

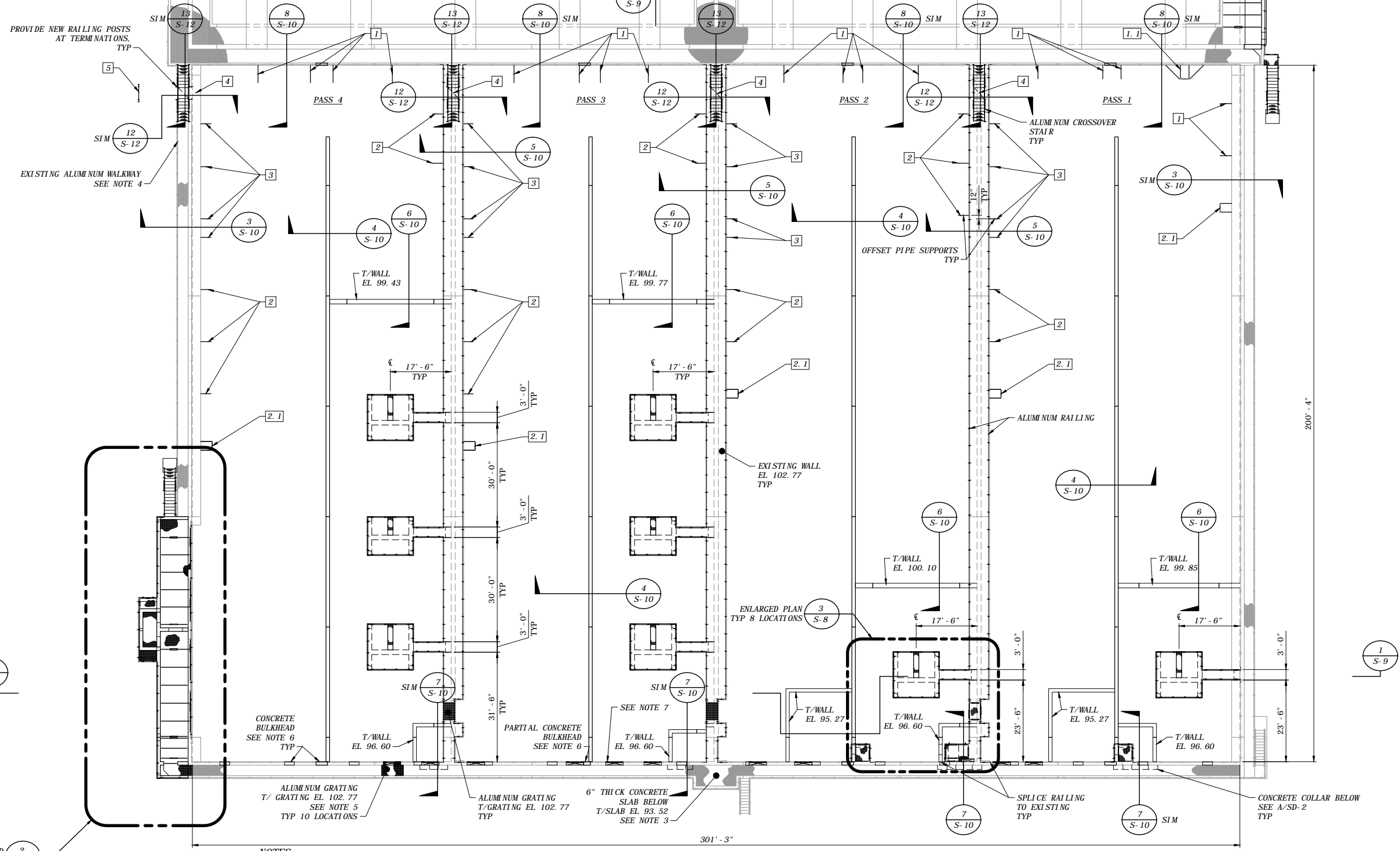
AECOM
 150 SOUTH BRIDGE STREET, SUITE 200
 ORLANDO, FLORIDA 32801
 PHONE: 407.640.2000
 FAX: 407.640.2001

CURRENT ID:	7/2015	BID ISSUE	NO.	BY	APP.
DATE:	7/2015	REVISIONS AND RECORD OF ISSUE			
PROJECT ID:	FRED08341	DATE:	8/15/2013	9:55:25 AM	XREF1:
USER:	FRED08341	DATE:			XREF2:
		DATE:			XREF3:
		DATE:			XREF4:
		DATE:			XREF5:



PROVIDE NEW RAILING POSTS AT TERMINATIONS, TYP

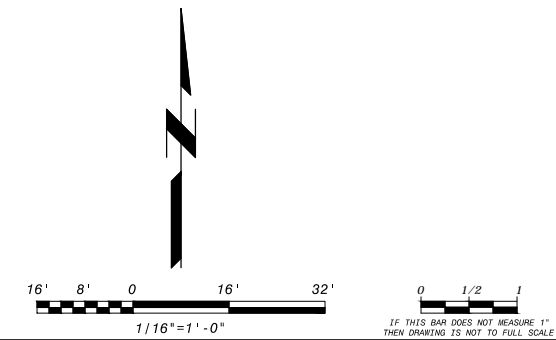
EXISTING ALUMINUM WALKWAY SEE NOTE 4



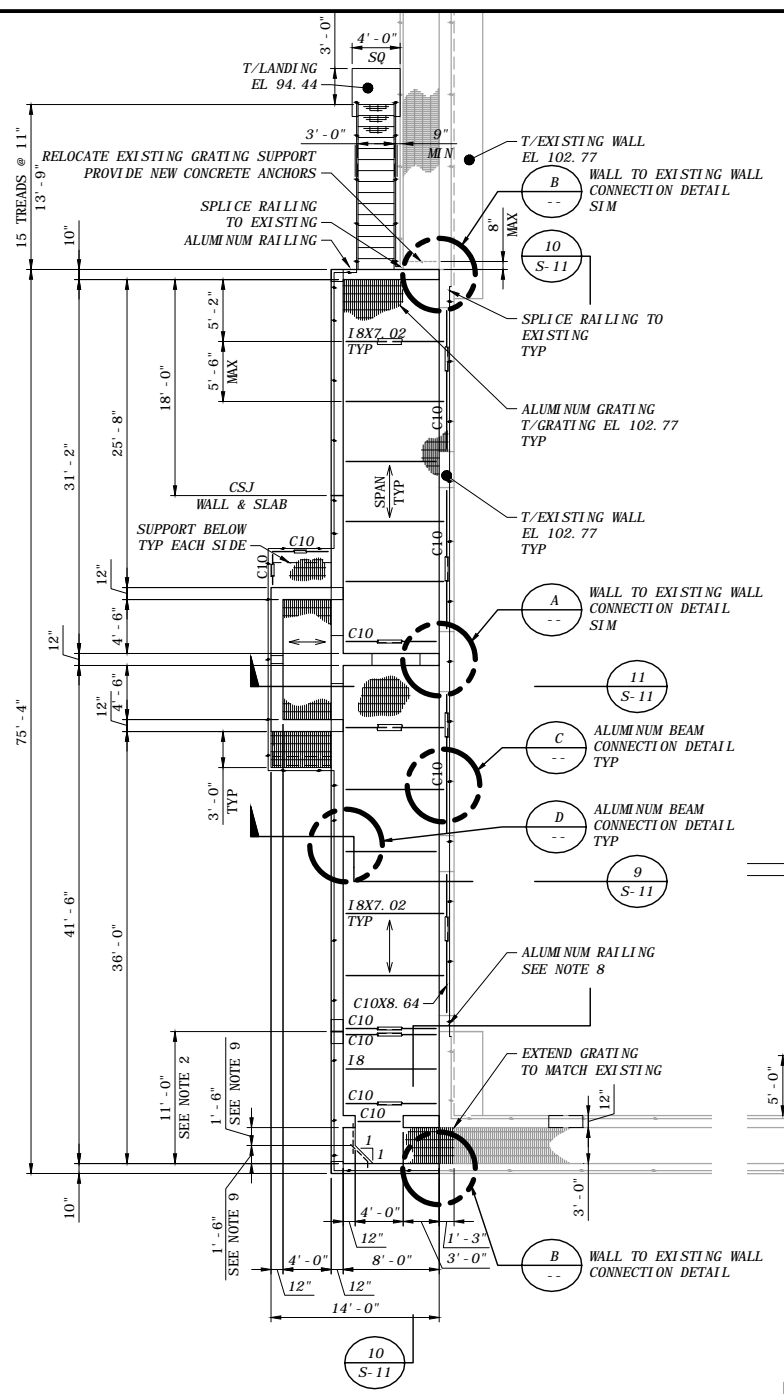
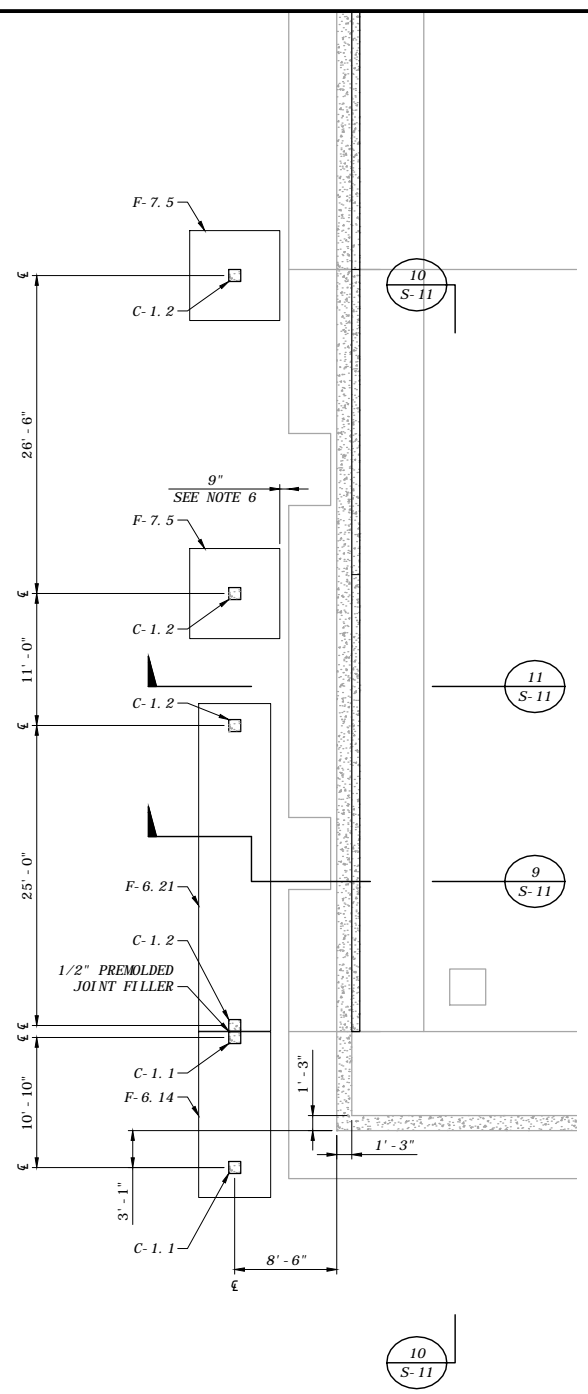
- PIPE SUPPORT KEY NOTES**
- TYPE I PIPE SUPPORT, SEE DETAIL P/S-12.
 - TYPE I FIXED PIPE SUPPORT, SEE DETAIL Q/S-12.
 - TYPE II PIPE SUPPORT, SEE DETAIL R/S-13.
 - TYPE II FIXED PIPE SUPPORT, SEE DETAIL S/S-13.
 - TYPE III PIPE SUPPORT, SEE DETAIL T/S-13.
 - TYPE IV FIXED PIPE SUPPORT, SEE DETAIL X/M-16.
 - TYPE V PIPE SUPPORT, SEE DETAIL U/S-13.

- NOTES**
- MAXIMUM WATER LEVEL WITHIN TANKS FOR TESTING PURPOSES SHALL NOT EXCEED 9'-0" FOR EXTERIOR WALLS UNTIL ALL REQUIRED BACK FILL IS IN PLACE.
 - ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.
 - 6" THICK CONCRETE SLAB W/ #4@8" EW. DOWEL INTO EXISTING CONCRETE WITH #4@16" ALL SIDES.
 - CROSSOVER STAIR SHALL BE INSTALLED ONTO EXISTING FRAMING. EXTEND STRINGER AS REQUIRED. MODIFY RAILING AND GRATING FOR STRINGER CONNECTION AS REQUIRED. SEE DETAIL E/SD-6.
 - PROVIDE ALUMINUM GRATING AT GATE LOCATIONS. DEPTH SHALL MATCH ADJACENT GRATING. FOR GRATING SUPPORT SEE DETAIL D/S-8.
 - CONSTRUCT CONCRETE BULKHEADS IN ACCORDANCE WITH DETAIL B/SD-4. COORDINATE BULKHEAD SIZE AND LOCATION WITH EXISTING OPENINGS AND GATE LOCATIONS.
 - SURFACE MOUNTED RAILING SHALL BE INSTALLED IN FRONT OF ALL GATE FRAMES. WHERE POST SPACING EXCEEDS 5'-0" DESIGN RAILING AND POSTS FOR INCREASED LOADING. MODIFY RAILING AS REQ'D TO AVOID CONFLICT WITH GATE OPERATOR.

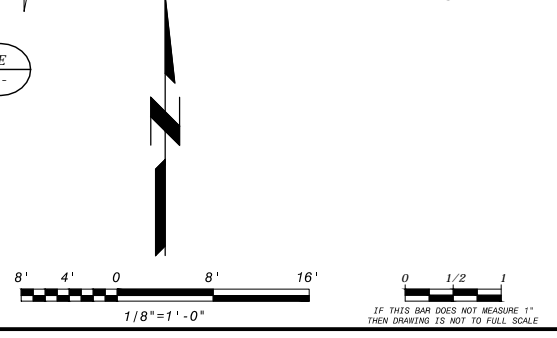
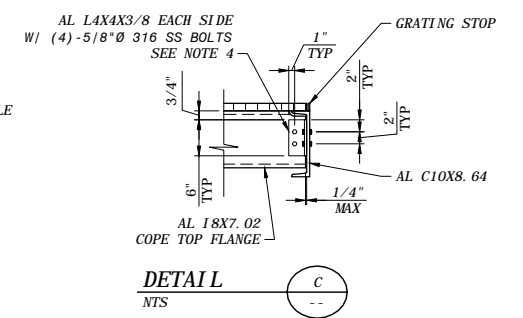
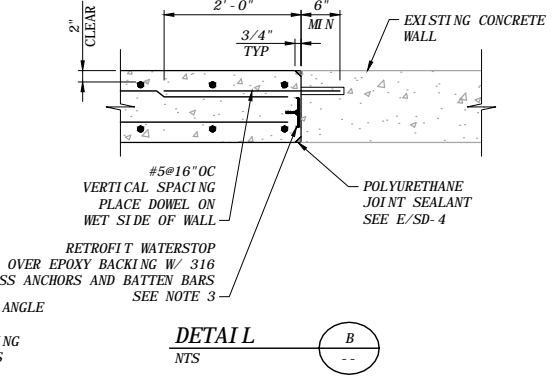
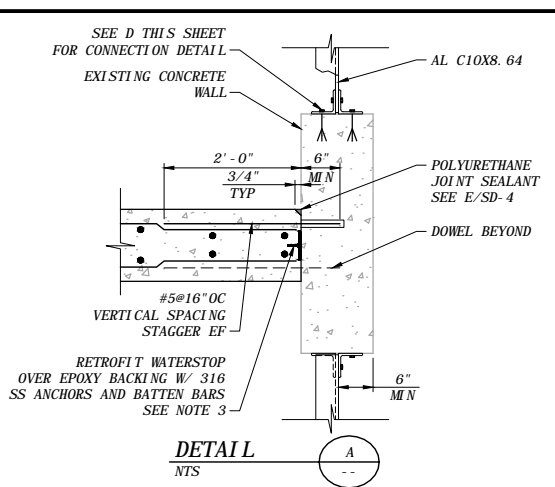
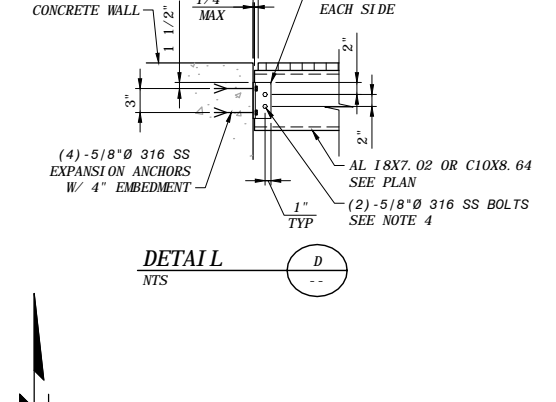
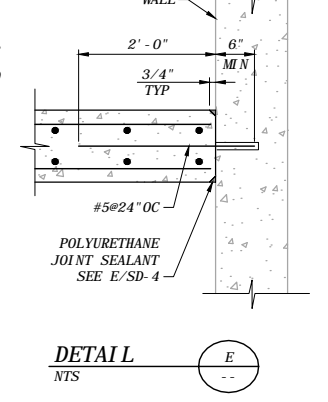
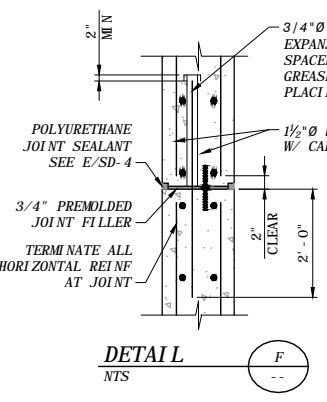
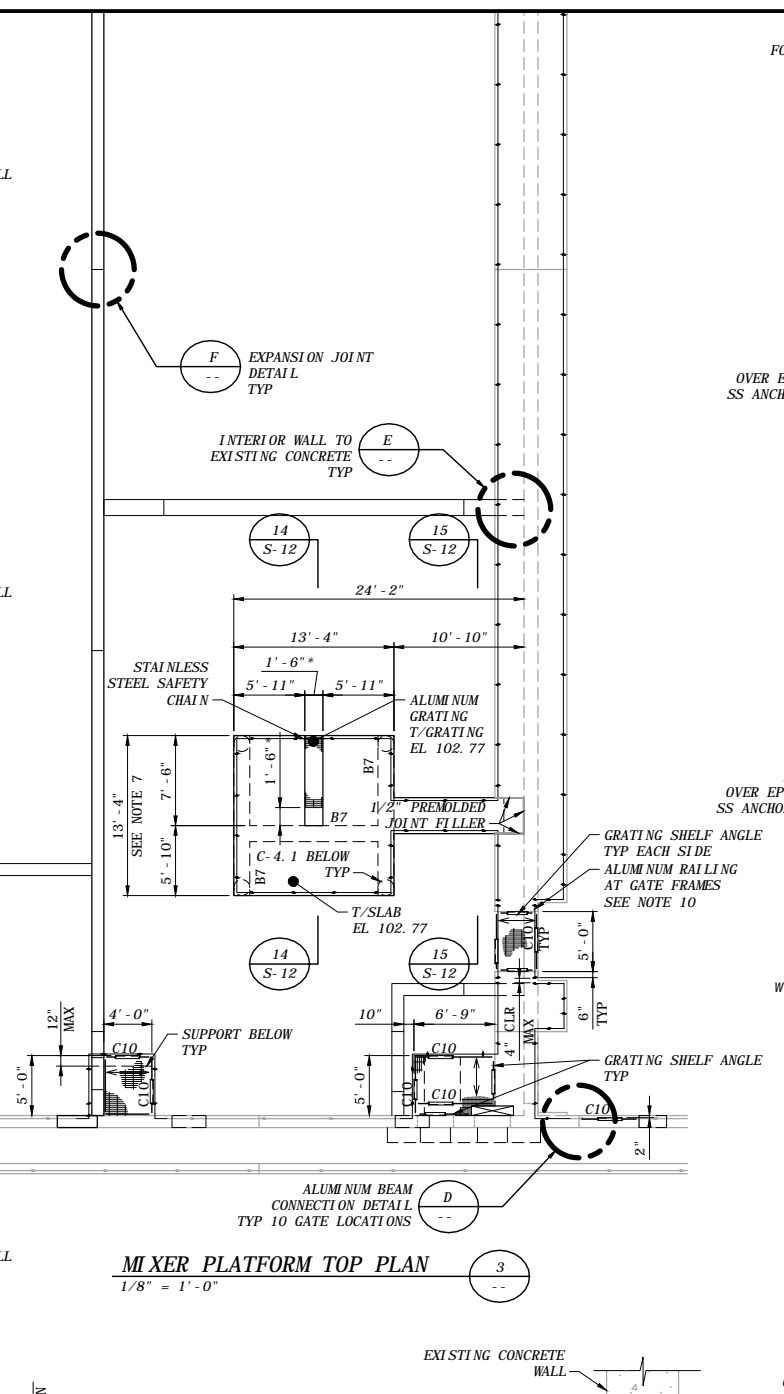
TOP PLAN
1/16" = 1'-0"



ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL NORTH PLANT NO. 2 - BNR BASIN TOP PLAN	
DESIGNED: JC DETAILED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	REVISIONS AND RECORD OF ISSUE NO. BY CR DATE XREF1: XREF2: XREF3: XREF4: XREF5: USER: FRE08941 DMC VER:
PROJECT NO. 180761	SHEET S-7 117 OF 364



- NOTES**
- DIMENSIONS MARKED WITH AN ASTERISK (*) SHALL BE COORDINATED WITH THE MIXER MANUFACTURER.
 - ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.
 - USE FACTORY-MADE CROSSES, TEES, AND ELLS. FIELD SPLICING FLAT RIBBED WATERSTOP IN NEW CONSTRUCTION WITH RETROFIT WATERSTOP SHALL BE PERMITTED.
 - ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
 - SEE SD-8 FOR STRUCTURAL SCHEDULES
 1. F-X-X DENOTES FOOTINGS
 2. C-X-X DENOTES COLUMNS
 - AT CONTRACTOR'S OPTION FOUNDATIONS MAY BE EXTENDED TO BE CAST AGAINST EXISTING CONCRETE FOUNDATION PROVIDED 1/2" PREMOLDED JOINT FILLER IS PLACED BETWEEN STRUCTURAL ELEMENTS.
 - MIXING PLATFORMS SHALL NOT BRIDGE EXPANSION JOINTS IN EXISTING SLAB. SEE S-6 FOR COLUMN SPACING IN PASSES 3 AND 4.
 - INSET ALUMINUM RAILING OVER GATE OPENINGS TO AVOID GATE FRAMES. COORDINATE RAILING POST LOCATIONS WITH ACTUATORS.
 - PROVIDE CONCRETE FILLET TO DIRECT FLOW IN BY-PASS CHANNEL TOWARDS GATE. DO NOT FEATHER EDGES. TERMINATE FILLET PER DETAIL D/SD-3.
 - SURFACE MOUNTED RAILING SHALL BE INSTALLED IN FRONT OF ALL GATE FRAMES. WHERE POST SPACING EXCEEDS 5'-0" DESIGN RAILING AND POSTS FOR INCREASED LOADING.



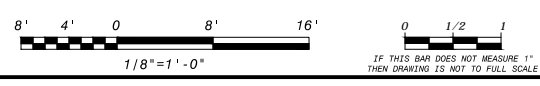
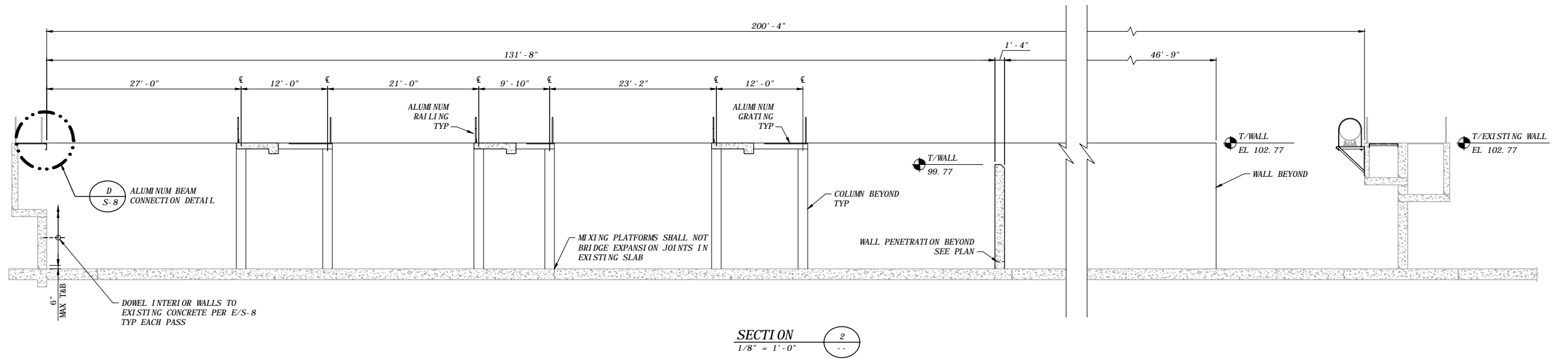
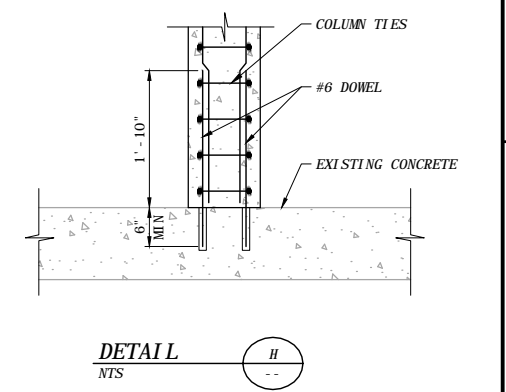
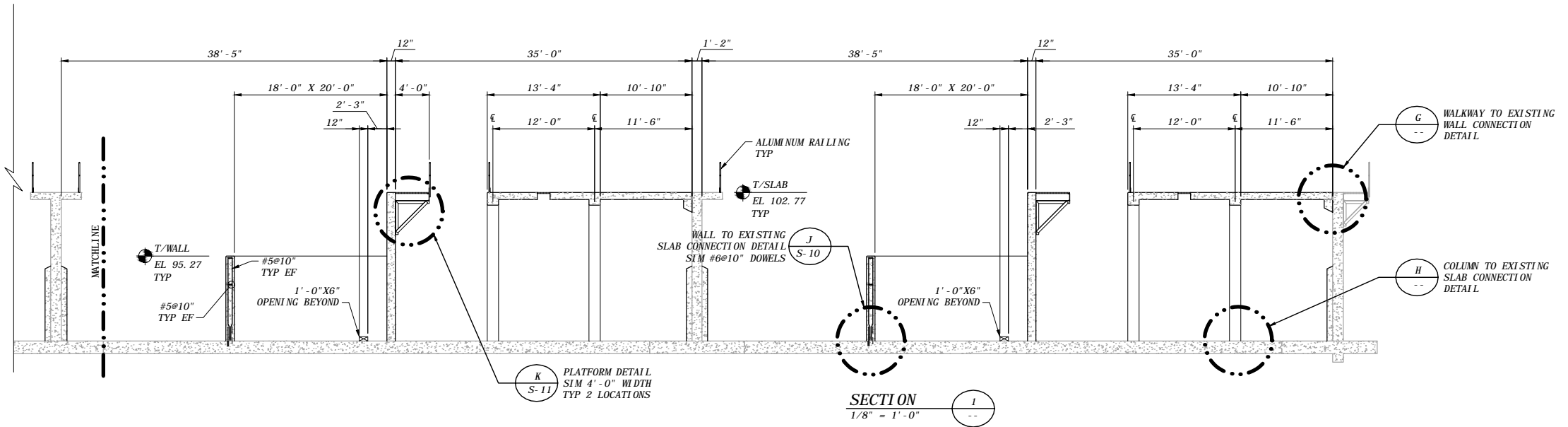
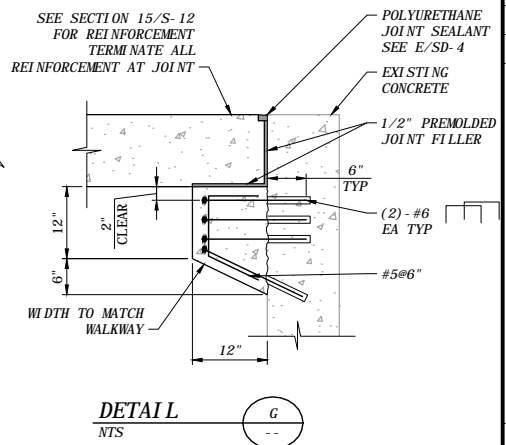
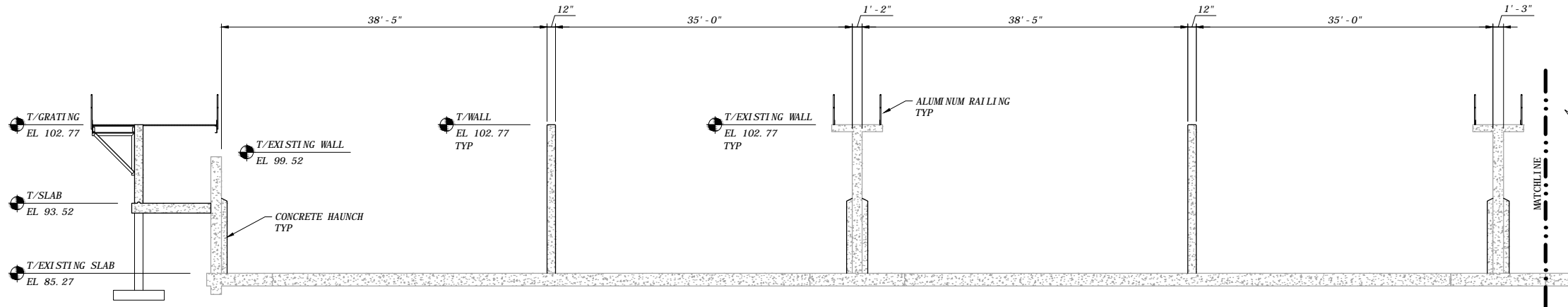
DESIGNED: JC	NO. BY: CK	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
DATE: 7/2015	BID ISSUE	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
CHECKED: KM	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
APPROVED: WDM	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
DATE: JANUARY 2015	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
ENGINEER OF RECORD: KHALID MOTIWALA, PE	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
FLORIDA LICENSE NO.: 50633	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
PROJECT NO. 180761	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
S-8 SHEET	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
118 OF 364	DATE: 7/2015	DATE: 7/2015	REVISIONS AND RECORD OF ISSUE

AECOM
1500 N. WINDY HILL BLVD., SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.353.3000
WWW.AECOM.COM

BLACK & VEATCH
Building a world of difference.
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 8132

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH PLANT NO. 2 - BNR BASIN
ENLARGED PLANS



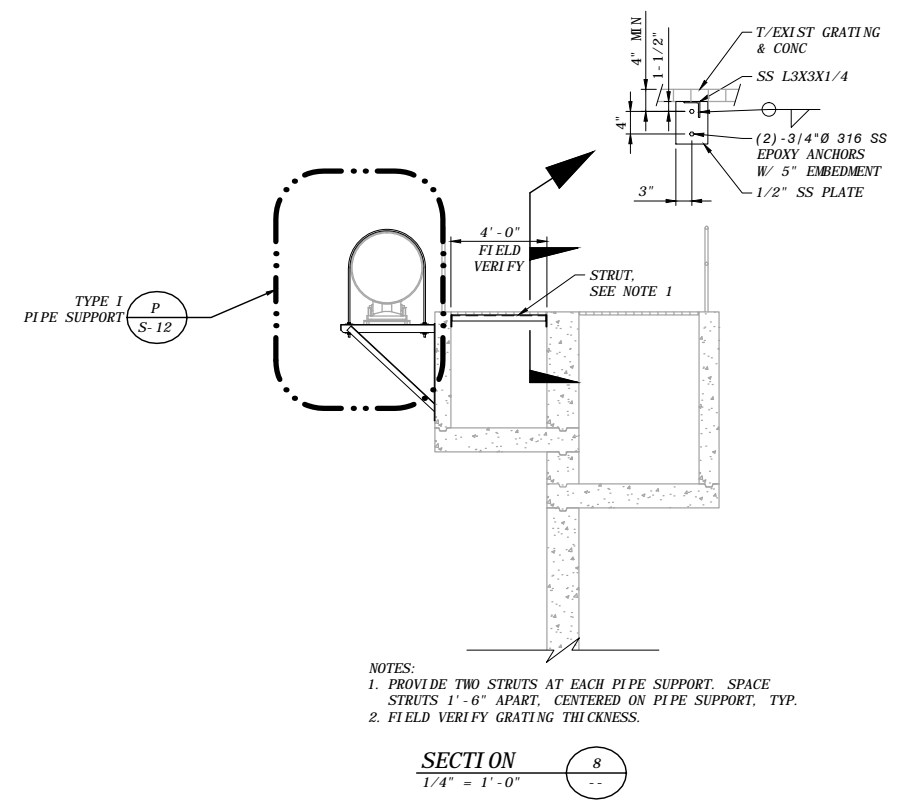
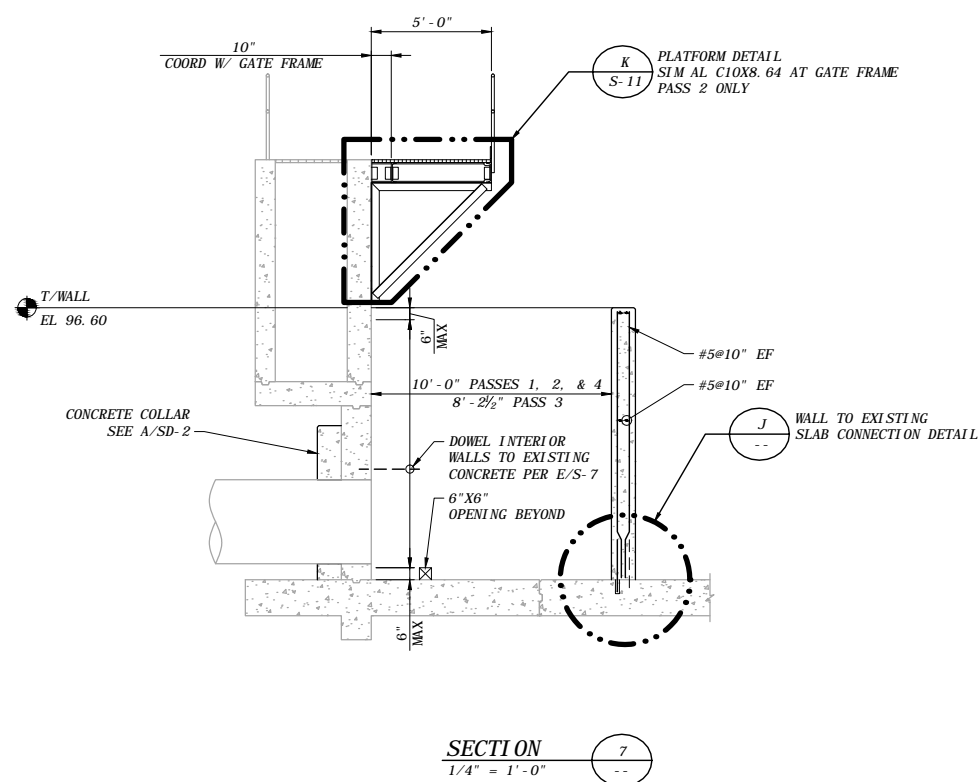
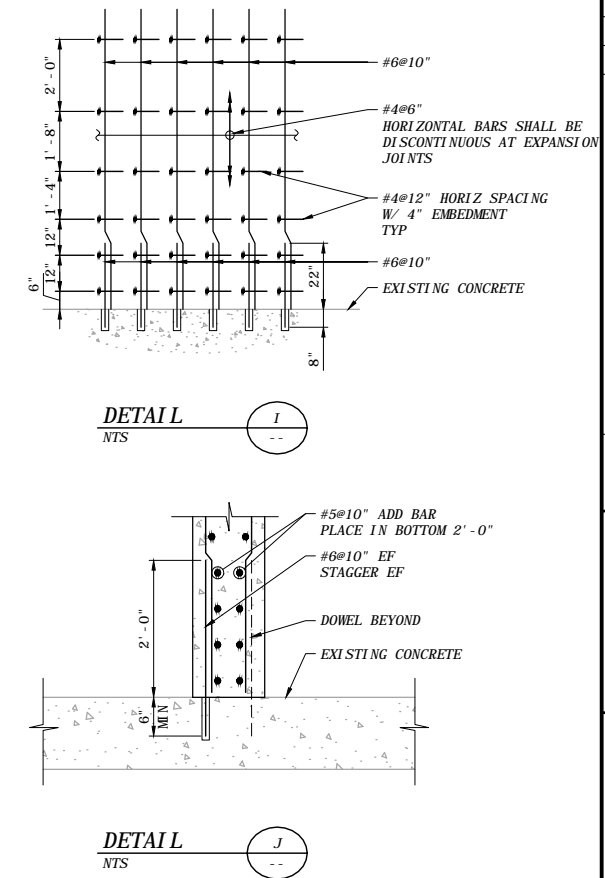
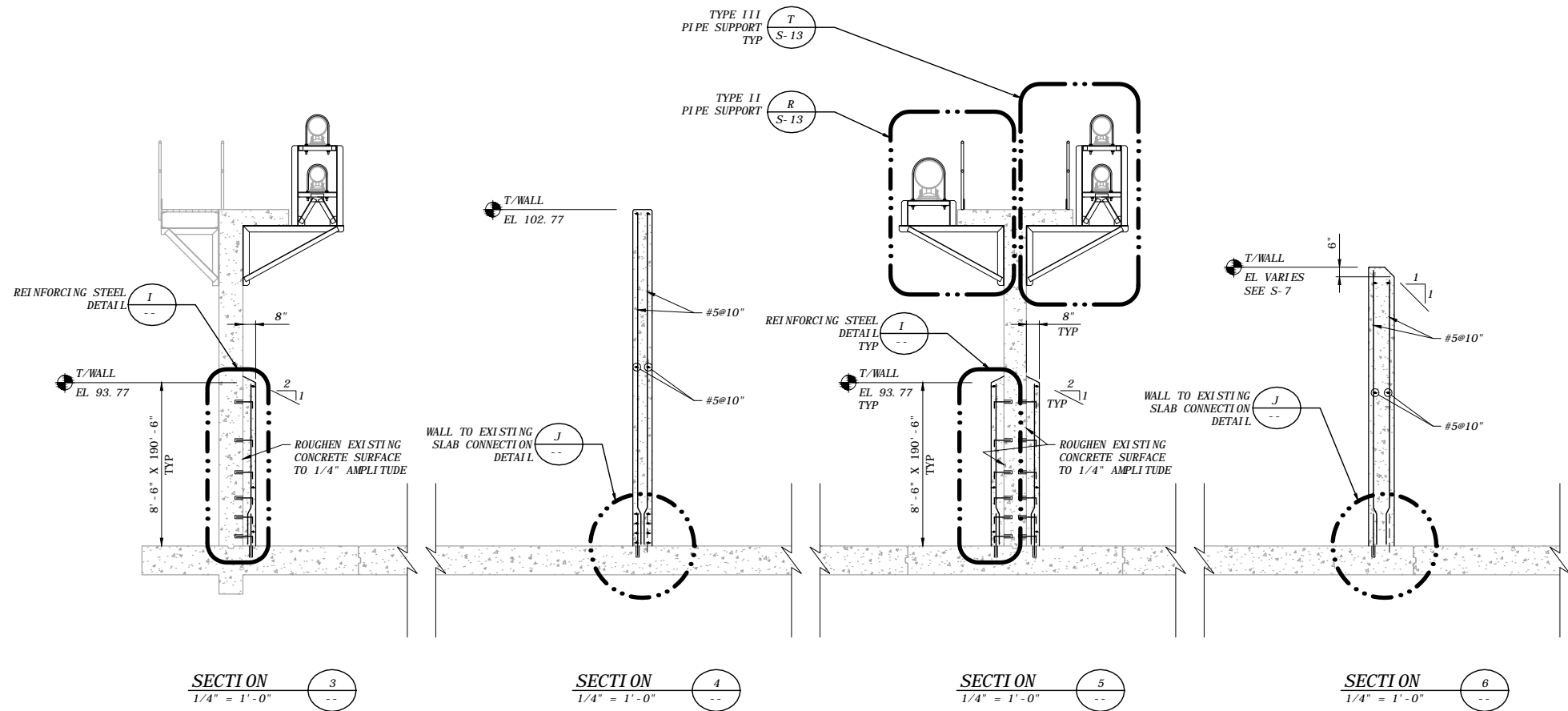
NO.	BY	CHK	APP
7/2015	BID ISSUE	REVISIONS AND RECORD OF ISSUE	XREF1:
DATE			XREF2:
CURRENT ID:			XREF3:
DATE			XREF4:
USER:	FRE08941	DMC VER:	XREF5:

AECOM
100 WATERLOO STREET, SUITE 200
 PALM BEACH, FLORIDA 33480
 PHONE: 561.832.4600
 FAX: 561.832.4601
 CERTIFICATE OF AUTHORIZATION NO. BR-8418

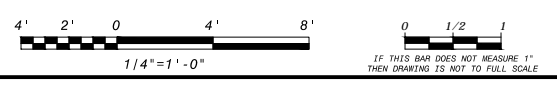
BLACK & VEATCH
Building a world of differences
Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801 Certificate No. 8132

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
 STRUCTURAL
 NORTH PLANT NO. 2 - BNR BASIN
 SECTIONS I

DESIGNED:	JC
DETAILLED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE FLORIDA LICENSE NO. : 50633
PROJECT NO.	180761
SHEET	S-9
	119 OF 364



NOTES:
 1. PROVIDE TWO STRUTS AT EACH PIPE SUPPORT. SPACE STRUTS 1'-6" APART, CENTERED ON PIPE SUPPORT, TYP.
 2. FIELD VERIFY GRATING THICKNESS.



NO.	BY	CHK	DATE

AECOM
 150 SOUTH BRADY AVENUE, SUITE 200
 ORLANDO, FLORIDA 32801
 PHONE: 407.644.2000
 FAX: 407.644.2001
 WWW.AECOM.COM

BLACK & VEATCH
 Building a world of difference?
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 6132

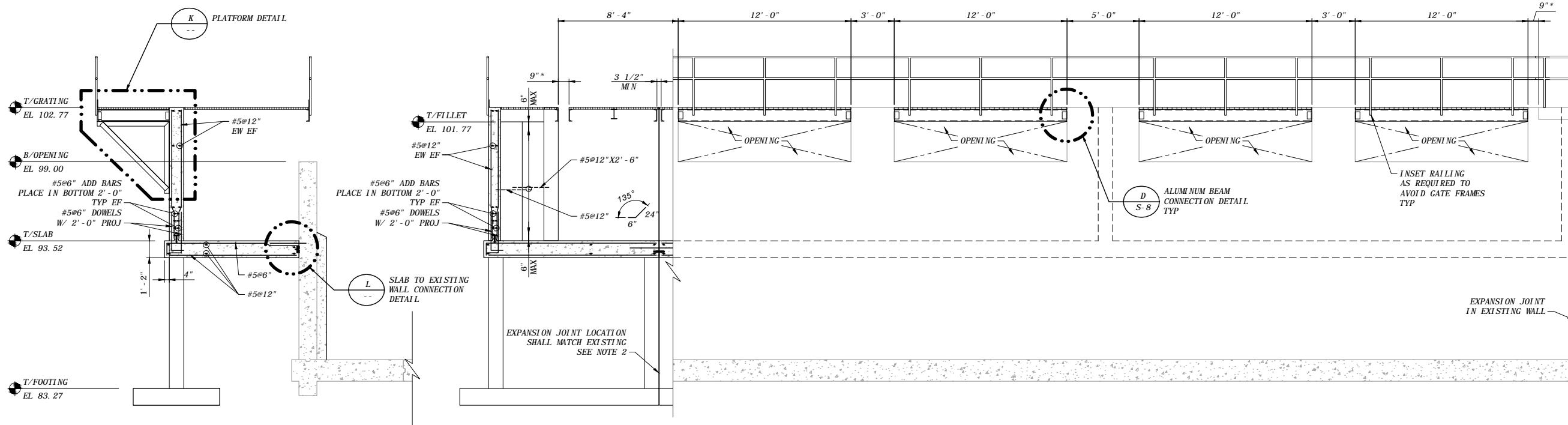
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
 NORTH PLANT NO. 2 - BNR BASIN
 SECTIONS II

DESIGNED: JC
 DETAILLED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

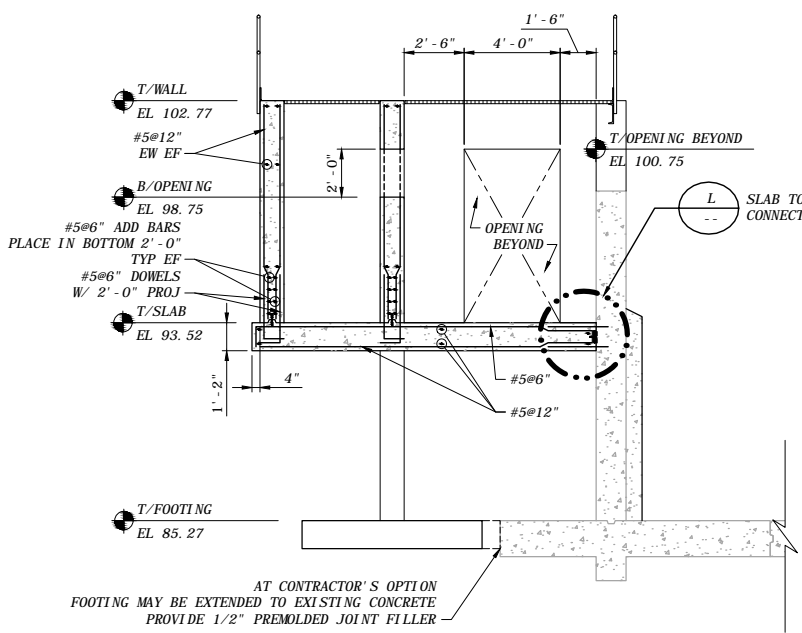
PROJECT NO.
 180761

S-10
 SHEET
 120 OF 364

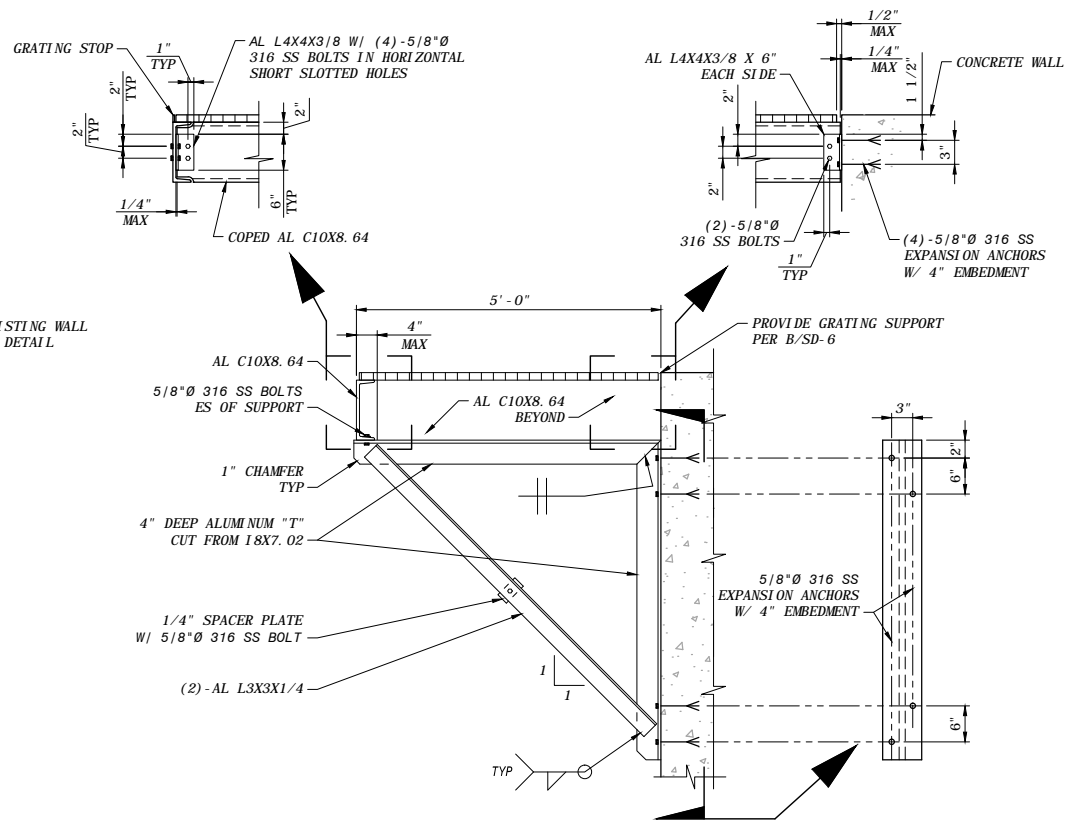


SECTION 9
1/4" = 1'-0"

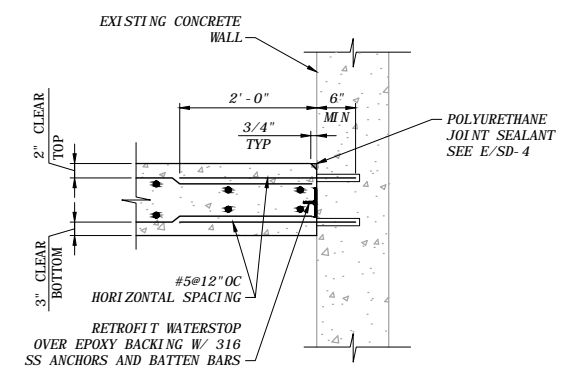
SECTION 10
1/4" = 1'-0"



SECTION 11
1/4" = 1'-0"

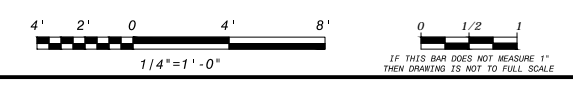


DETAIL K
NTS



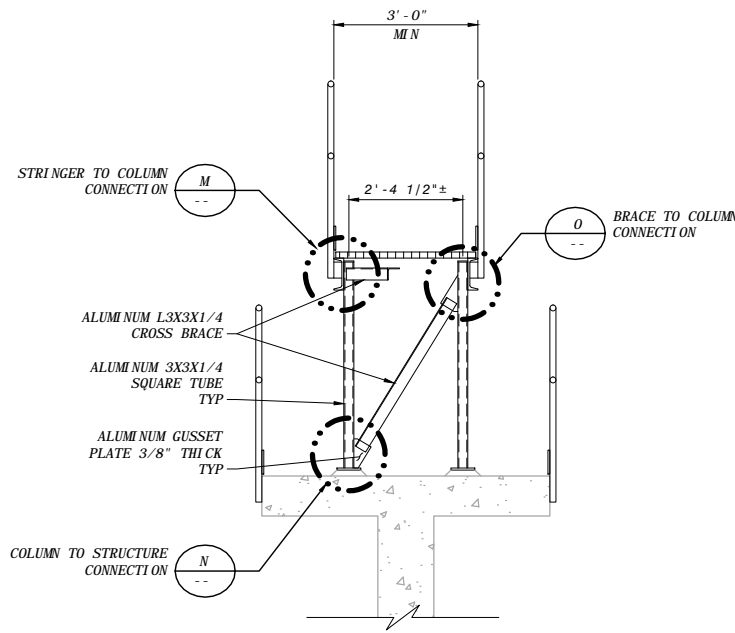
DETAIL L
NTS

- NOTES**
1. DIMENSIONS MARKED WITH AN ASTERISK (*) SHALL BE COORDINATED WITH THE GATE MANUFACTURER.
 2. ALL EXPANSION JOINTS IN EXISTING SLABS AND WALLS SHALL BE CONTINUOUS THROUGH NEW CONSTRUCTION.

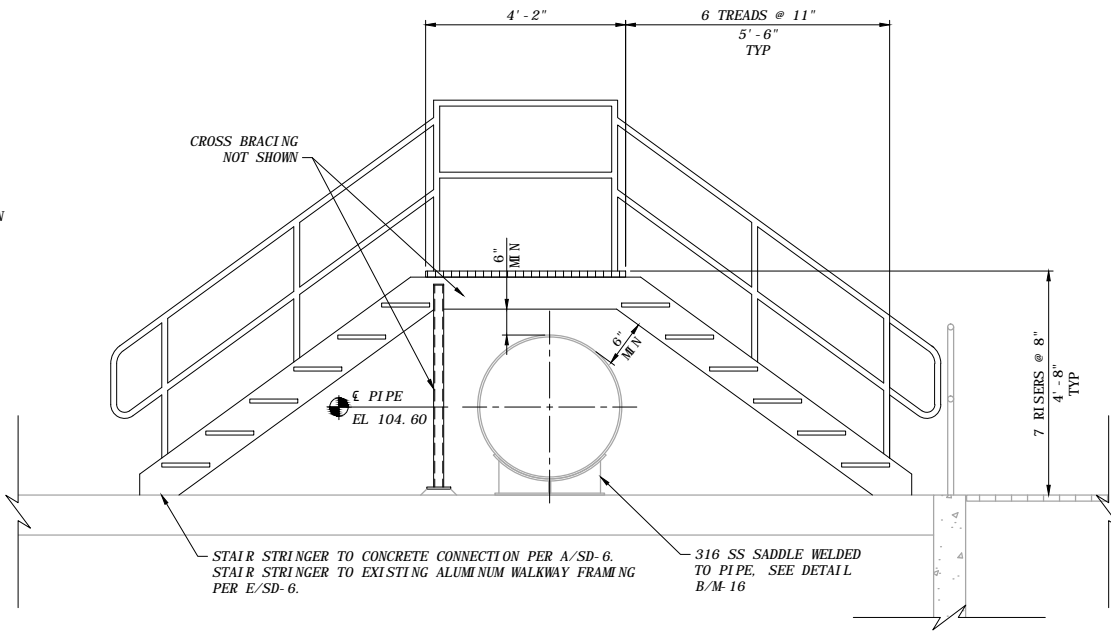


7/2015 DATE 7/2015 BID ISSUE FRED08341, 8/15/2013 9:56:25 AM USER: FRED08341	REVISIONS AND RECORD OF ISSUE NO. BY CR APP XREF1: XREF2: XREF3: XREF4: XREF5:
Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801 Certificate of Authorization No. 04-018	
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL NORTH PLANT NO. 2 - BNR BASIN SECTIONS III	
DESIGNED: JC DETAILED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	
PROJECT NO. 180761 S-11 SHEET 121 OF 364	

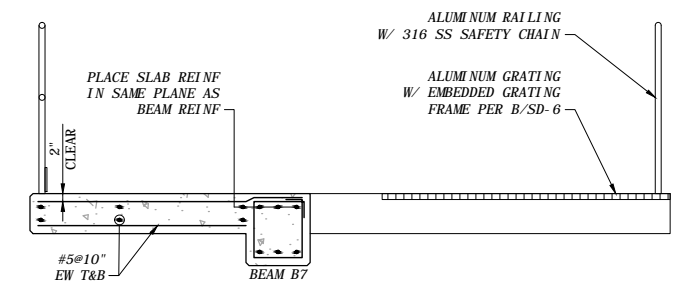
FD180761
D180761



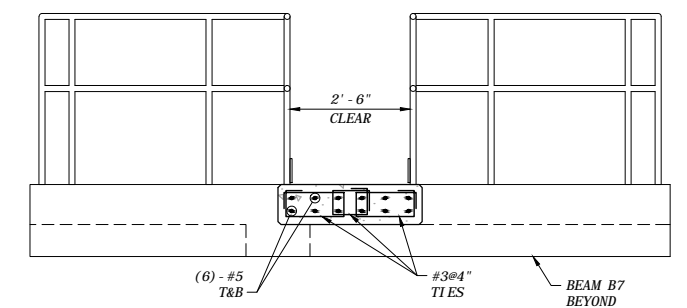
SECTION 12
1/2" = 1'-0"



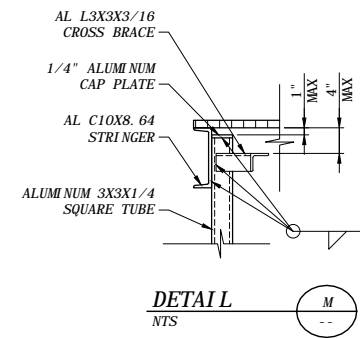
SECTION 13
1/2" = 1'-0"



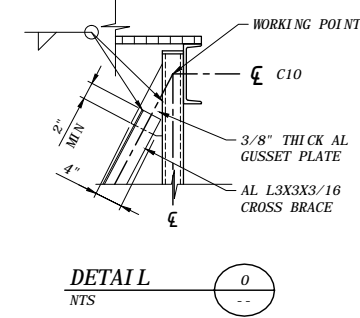
SECTION 14
1/2" = 1'-0"



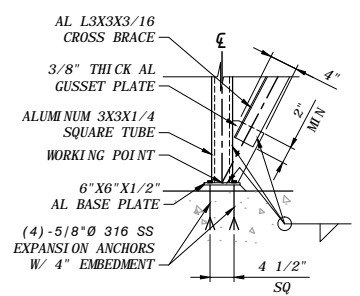
SECTION 15
1/2" = 1'-0"



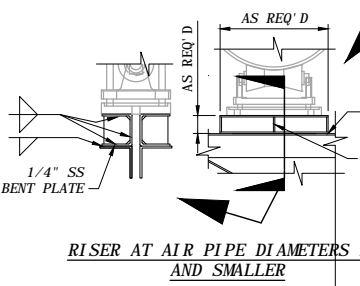
DETAIL M
NTS



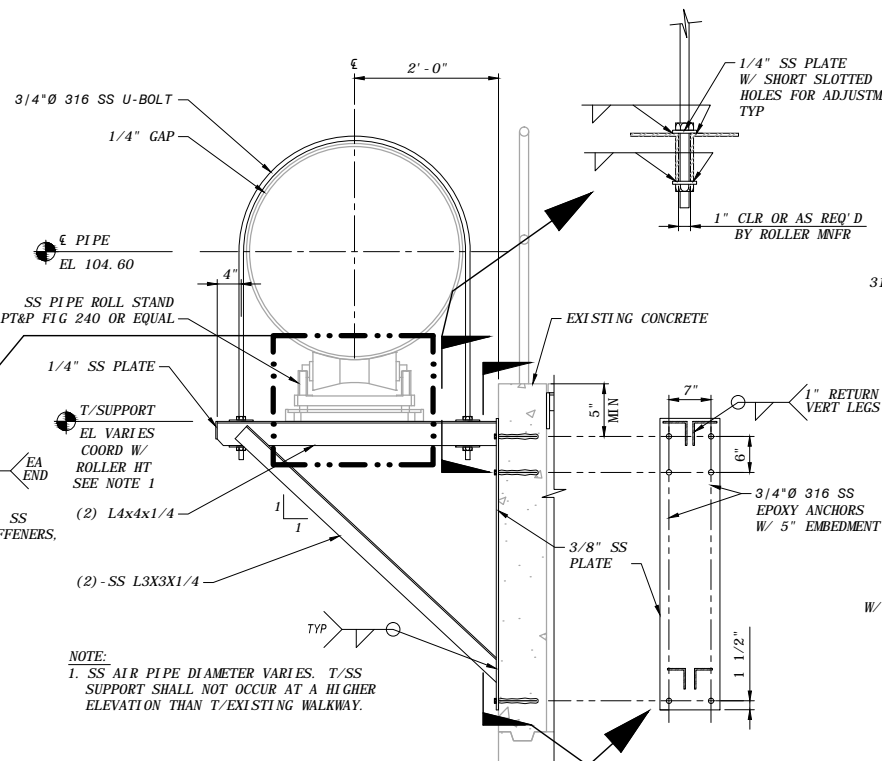
DETAIL O
NTS



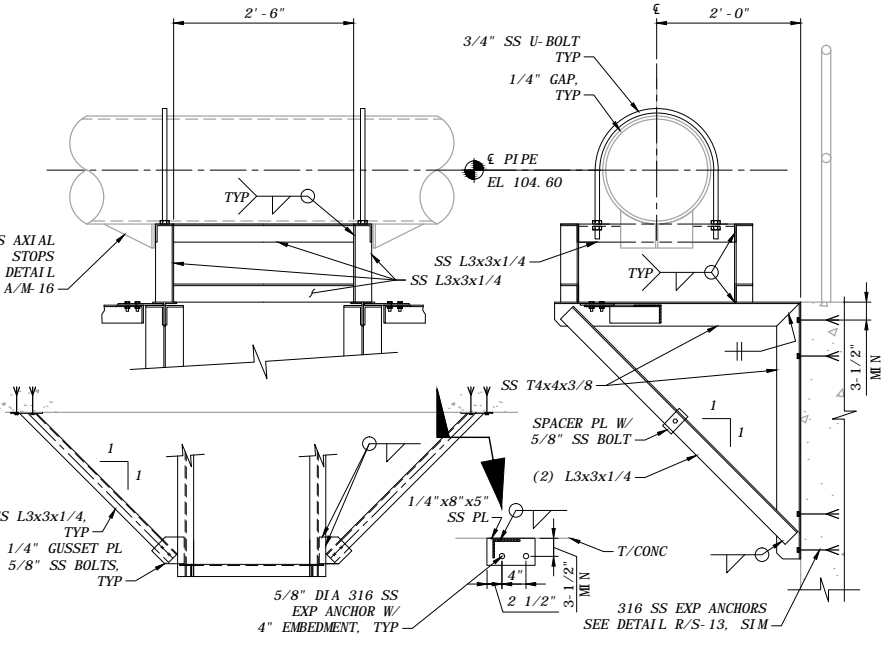
DETAIL N
NTS



DETAIL P
NTS



TYPE I PIPE SUPPORT
DETAIL P
NTS



TYPE I FIXED PIPE SUPPORT
DETAIL Q
NTS



NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
1			7/2015	BID ISSUE
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				

AECOM
 150 SOUTH BRIDGE AVENUE, SUITE 200
 FORT LAUDERDALE, FLORIDA 33301
 PHONE: 352.433.3000
 FAX: 352.433.3001
 CERTIFICATE OF AUTHORIZATION NO. 04-0118

BLACK & VEATCH
 Building a world of difference.
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 0132

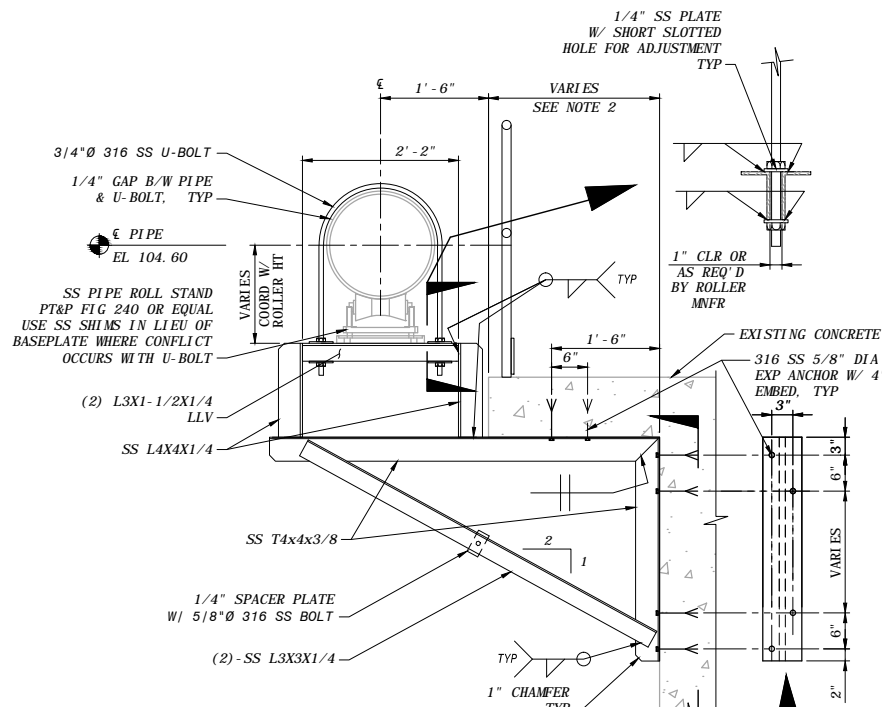
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
 NORTH PLANT NO. 2 - BNR BASIN
 SECTIONS IV

DESIGNED: JC
 DETAILLED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

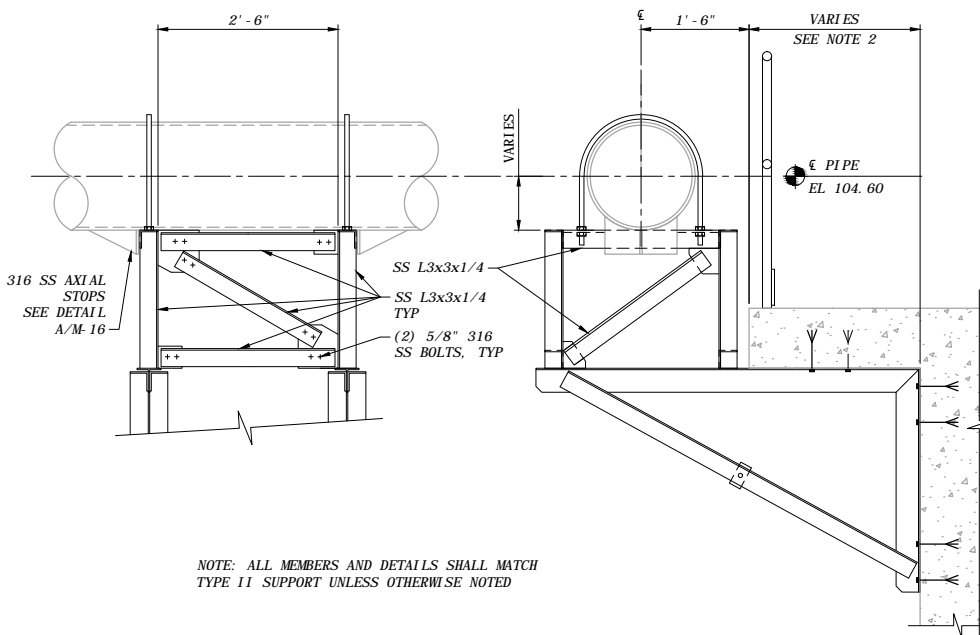
PROJECT NO.
 180761

S-12
 SHEET
 122 OF 364



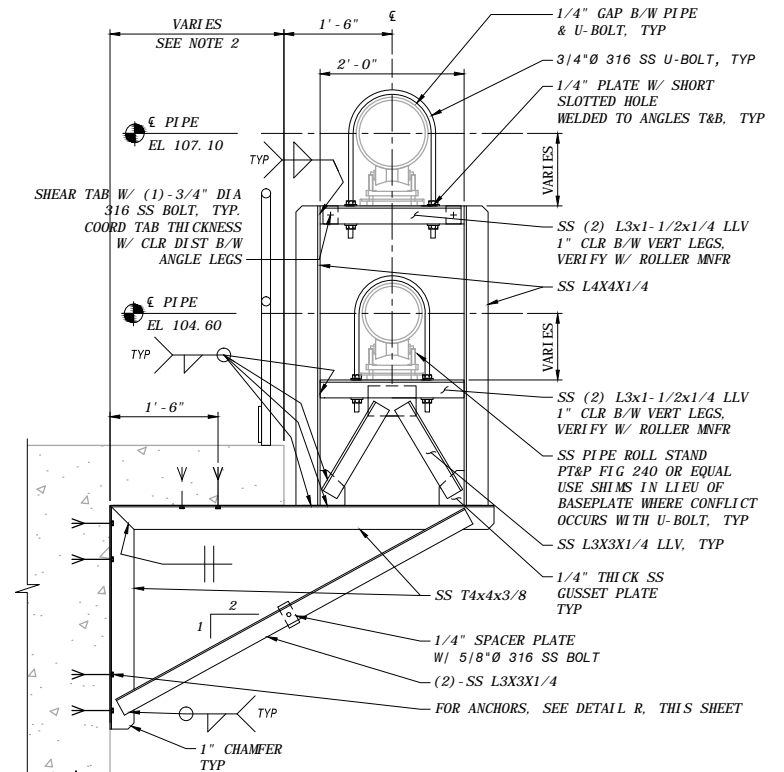
TYPE II PIPE SUPPORT

DETAIL R
NTS



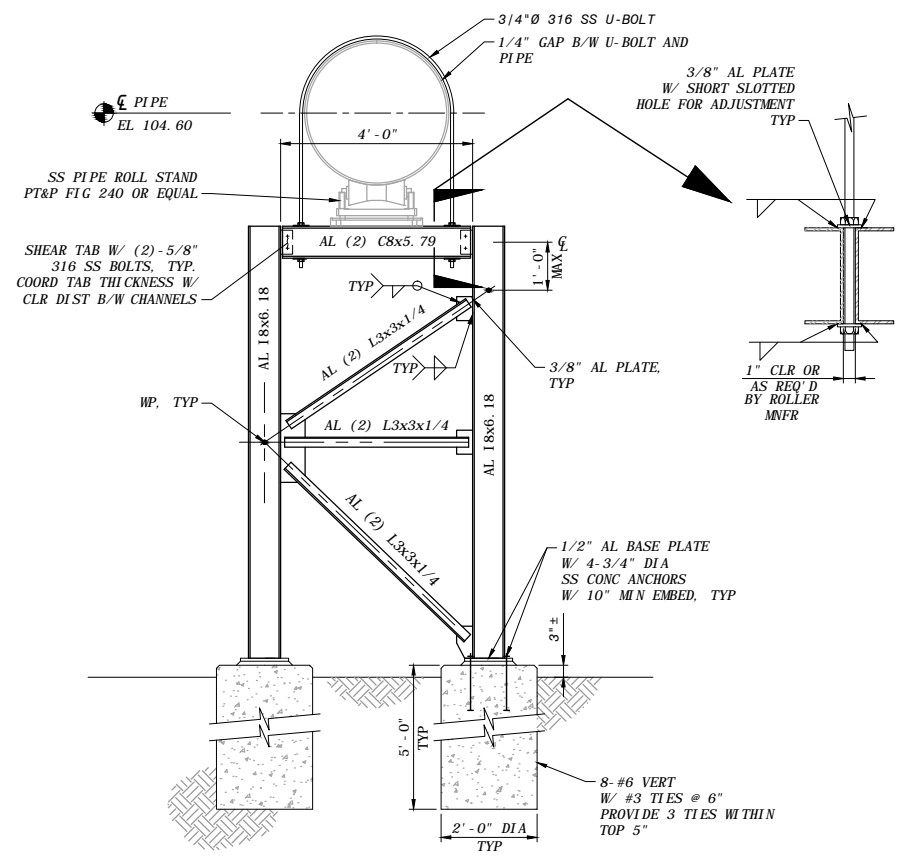
TYPE II FIXED PIPE SUPPORT

DETAIL S
NTS



TYPE III PIPE SUPPORT

DETAIL T
NTS

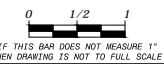


TYPE V PIPE SUPPORT

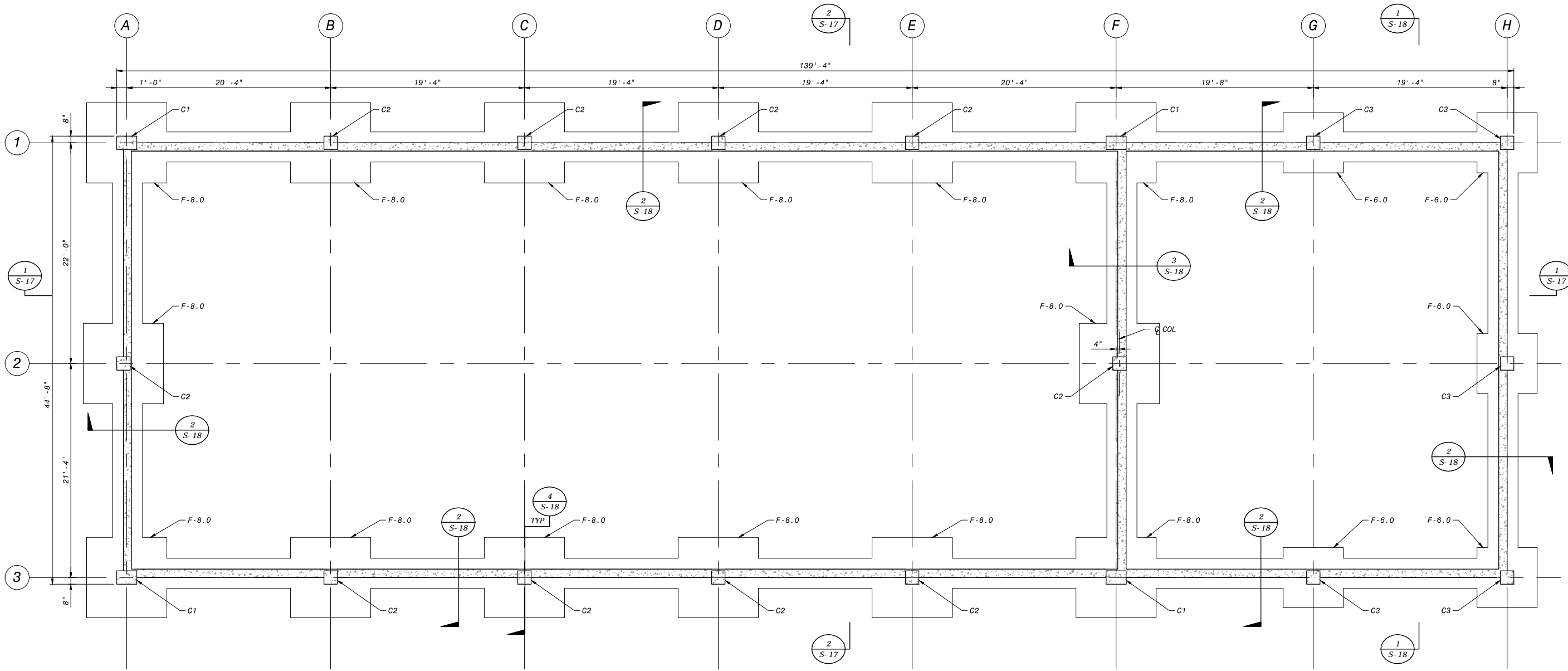
DETAIL U
NTS

NOTE: ALL MEMBERS AND DETAILS SHALL MATCH TYPE II SUPPORT UNLESS OTHERWISE NOTED

- NOTES**
- FOR PIPE SUPPORT LOCATIONS, SEE SHEET M-18 & S-07.
 - FIELD VERIFY WALKWAY OVERHANG EXTERIOR WALLS AND BETWEEN PASSES 2 & 3.
 - 2.2. 2'-5" INTERIOR WALL BETWEEN PASSES 1 & 2 AND PASSES 3 & 4.
 - PIPE ROLLERS AND CONNECTING HARDWARE SHALL BE 316 STAINLESS STEEL

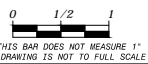


	Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801								
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS									
STRUCTURAL NORTH PLANT NO. 2 - BNR BASIN SECTIONS V									
DESIGNED: JC DETAILER: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015	PROJECT NO. 180761 S-13 SHEET 123 OF 364								
REVISIONS AND RECORD OF ISSUE <table border="1"> <tr> <th>NO.</th> <th>BY</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION						

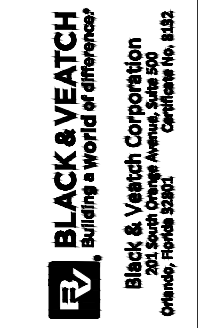
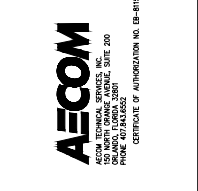


FOUNDATION PLAN
 3/16" = 1'-0"

- NOTES**
- FOR FOOTING SCHEDULE, SEE SHEET SD-8.
 - FOR COLUMN SCHEDULE, SEE SHEET SD-8.
 - OUTLINES OF COLUMNS SHOWN FOR CLARITY. COLUMNS SHALL BE CAST MONOLITHICALLY WITH STEM WALL.



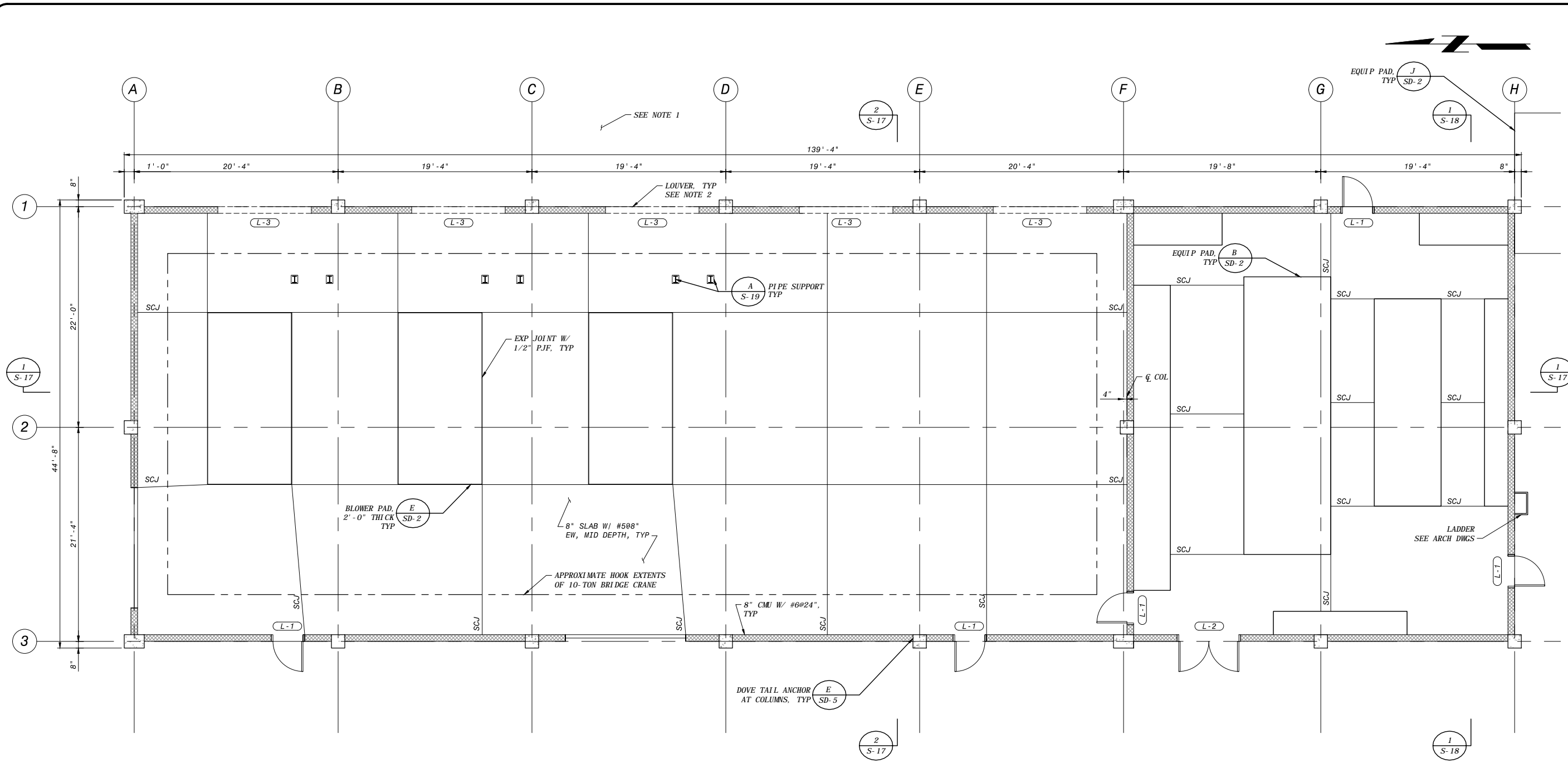
NO.	BY	CHK	DATE
REVISIONS AND RECORD OF ISSUE			
CYCLE#	DATE	BY	CHK
PROJECT INFORMATION			
PROJECT NO.			
DATE			
USER			



ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
SOUTH PLANT BLOWER BUILDING
FOUNDATION PLAN

DESIGNED:	MDW
DETAILED:	MDW
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633
PROJECT NO.	180761
SHEET	S-14
OF	124 OF 364

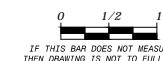


(L-X) DENOTES LINTEL OVER OPENING. SEE DETAIL B/SD-8 FOR ADDITIONAL INFORMATION.

SLAB PLAN
3/16" = 1'-0"

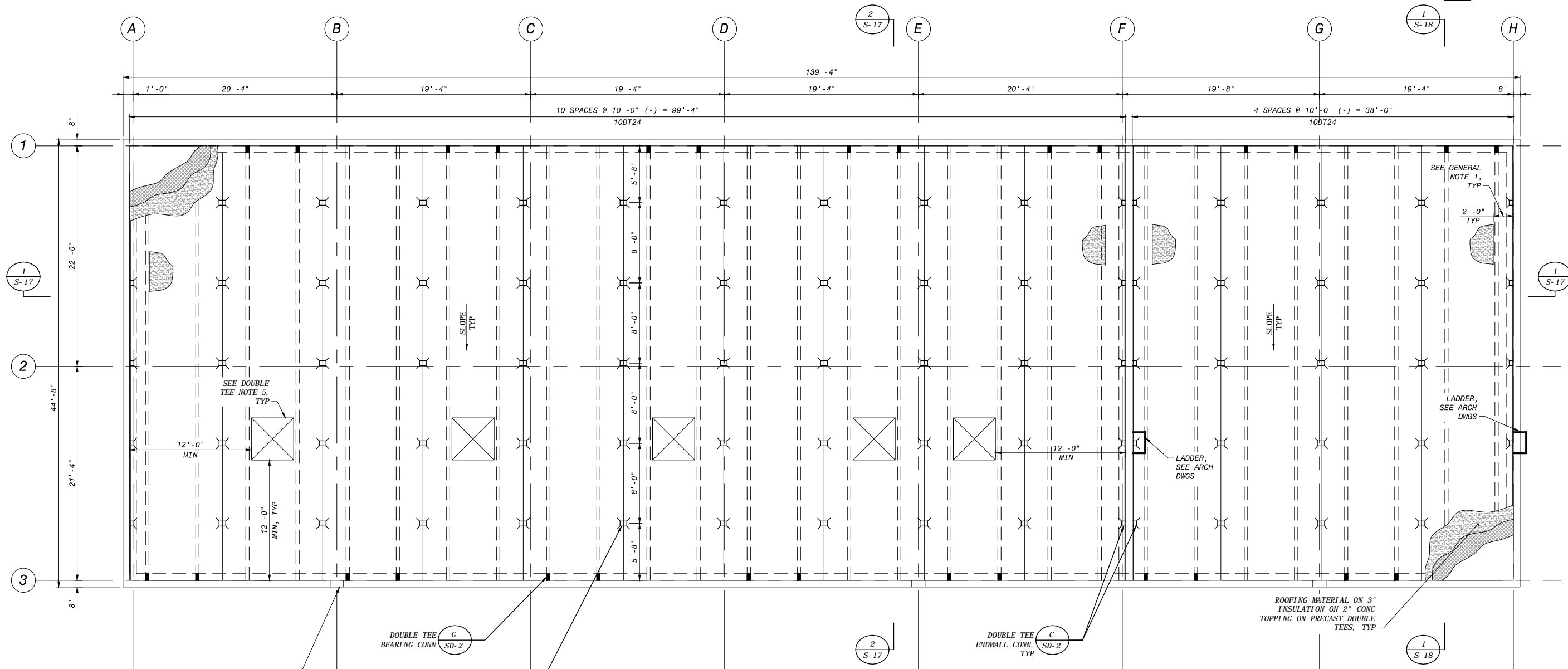
NOTES

1. PIPE SUPPORTS FOR EXTERIOR AIR PIPE NOT SHOWN FOR CLARITY. SEE DETAIL B/S-19 & SHEET M-17.
2. LOUVER MFR SHALL PROVIDE INTEGRAL MULLIONS AS REQUIRED TO WITHSTAND APPLIED WIND LOADS.
3. FOR CMU REINFORCEMENT DETAILING SEE SHEET SD-05.

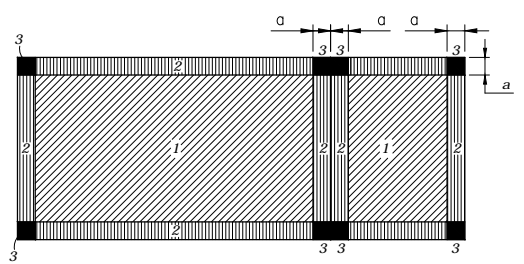


<p>Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801</p>	
<p>ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS</p>	
<p>STRUCTURAL SOUTH PLANT BLOWER BUILDING SLAB PLAN</p>	
DESIGNED: MDW	NO. BY: CK
DATE: 7/2015	REVISIONS AND RECORD OF ISSUE
CHECKED: KM	XREF1:
APPROVED: WDM	XREF2:
DATE: JANUARY 2015	XREF3:
ENGINEER OF RECORD:	XREF4:
KHALID MOTIWALA, PE	XREF5:
FLORIDA LICENSE NO.: 50633	
PROJECT NO. 180761	
S-15 SHEET	
125 OF 364	

FD180761
D180761



ROOF PLAN
3/16" = 1'-0"



WIND DIAGRAM

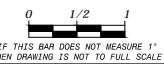
GROSS ULTIMATE WIND PRESSURES FOR COMPONENT AND CLADDING PARTIALLY ENCLOSED BUILDING									
C&C LOCATION (WIND AREA)	a (FT)	VULT (MPH)	RISK CATEGORY	INTERNAL PRESSURE COEFF.	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)
WALL (10 SF)	5	149	III	± 0.55	-	-	-	+71.1 -75.5	+71.1 -88.7
WALL (20 SF)	5	149	III	± 0.55	-	-	-	+68.7 -73.1	+68.7 -84.1
WALL (50 SF)	5	149	III	± 0.55	-	-	-	+65.6 -70.0	+65.6 -77.8
WALL (100 SF)	5	149	III	± 0.55	-	-	-	+63.3 -67.7	+63.3 -73.1
ROOF (10 SF)	5	149	III	± 0.55	+41.7 -76.0	+52.9 -115.2	+52.9 -115.2	-	-
ROOF (20 SF)	5	149	III	± 0.55	+40.2 -74.5	+50.6 -104.9	+50.6 -104.9	-	-
ROOF (50 SF)	5	149	III	± 0.55	+38.2 -72.6	+47.5 -91.2	+47.5 -91.2	-	-
ROOF (100 SF)	5	149	III	± 0.55	+36.8 -71.1	+45.1 -80.9	+45.1 -80.9	-	-
PARAPET (10 SF)	5	149	III	± 0.55	-	-	-	+135.4 -94.8	+135.4 -108.3
PARAPET (20 SF)	5	149	III	± 0.55	-	-	-	+122.4 -90.0	+122.4 -101.1

GENERAL NOTES:

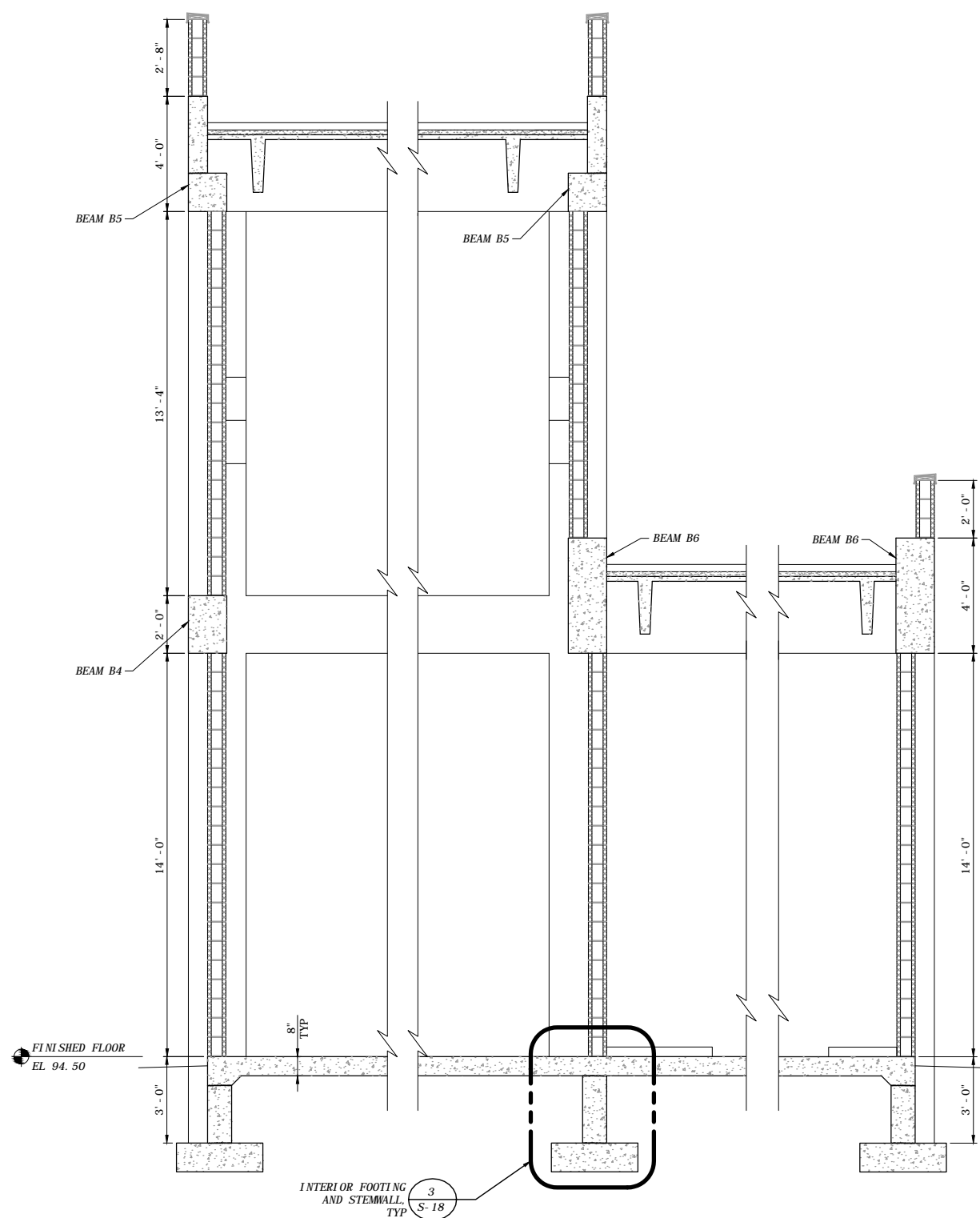
- HOLD CONCRETE TOPPING 2'-0" SHORT OF ENDWALLS PRIOR TO INSTALLATION OF DOUBLE TEE ENDWALL CONNECTIONS, TYP.

DOUBLE TEE NOTES:

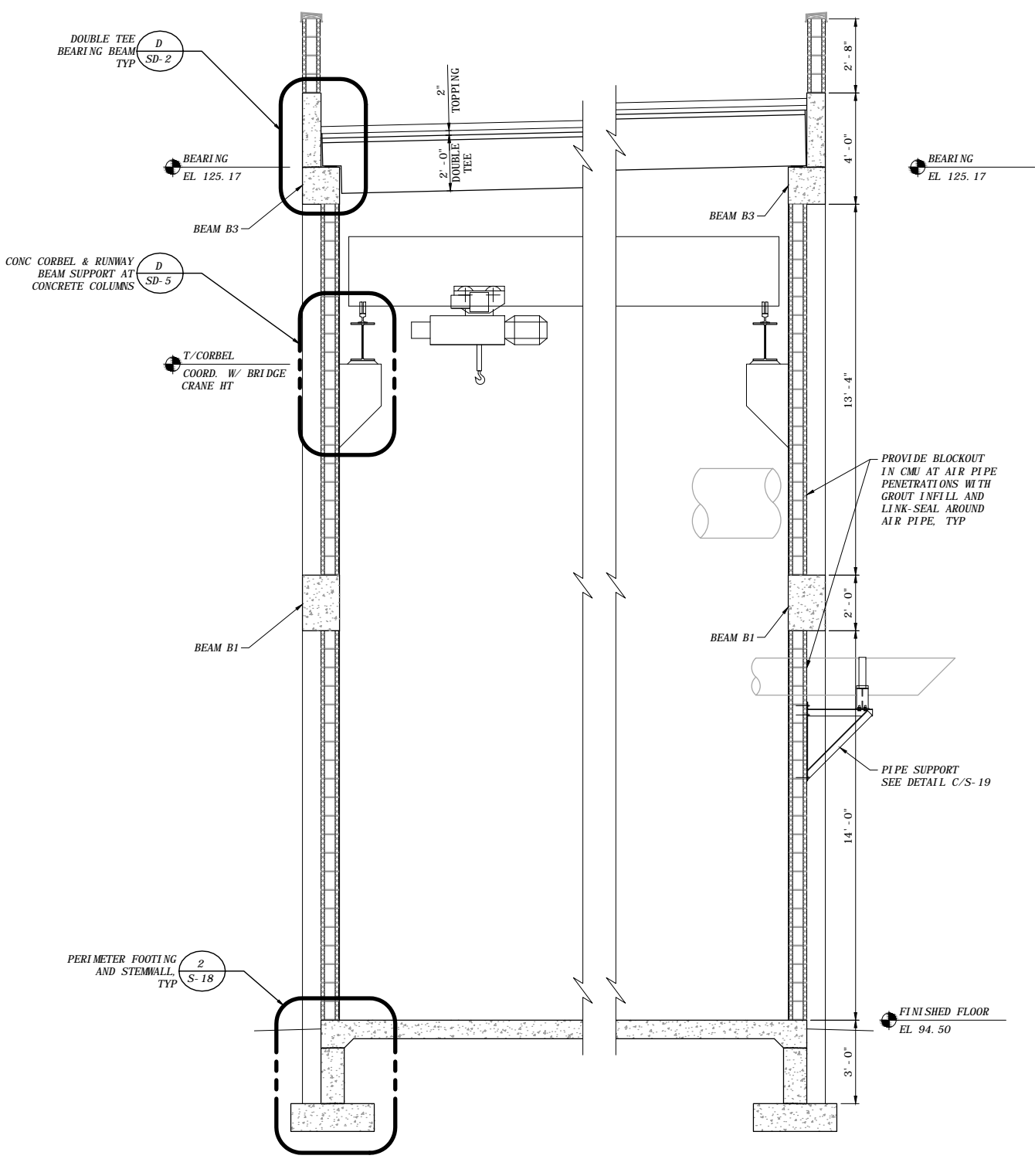
- DOUBLE TEES SHALL BE DESIGNED BY A PRECAST SUPPLIER FOR THE FOLLOWING LOADS:
 - ROOF LIVE LOAD = 20 PSF
 - ROOF DEAD LOAD = 10 PSF + TOPPING
 - ROOF COLLATERAL LOAD = 10 PSF
 - WIND LOAD = SEE WIND LOAD DIAGRAM ON THIS SHEET.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA AND SUBMITTED TO THE ENGINEER FOR REVIEW.
- ALL LOADS FROM EQUIPMENT, PIPING, AND MISC. ITEMS LOCATED ON THE ROOF, OR SUSPENDED FROM THE ROOF, ARE TO BE VERIFIED BY THE PRECAST SUPPLIER WITH EACH INDIVIDUAL EQUIPMENT SUPPLIER. LETTERS STATING THESE LOADS SHALL BE SUBMITTED WITH SIGNED AND SEALED CALCULATIONS.
- REQUIRED LENGTH OF ROOF IS NOT DIVISIBLE BY 10'-0". SOME PRECAST TEES WILL NEED TO BE PARTIAL WIDTH. ADJUST WIDTH OF SUPPLIED TEES AS REQUIRED.
- PROVIDE OPENINGS IN DOUBLE TEE PANELS FOR EXHAUST FANS. SIZE AND LOCATIONS TO BE COORDINATED WITH HVAC DRAWINGS AND WITH EQUIPMENT SUPPLIER.



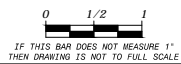
		NO. BY CK JRP REVISIONS AND RECORD OF ISSUE 7/2015 BID ISSUE DATE CYCLET ID: XREF1: XREF2: XREF3: XREF4: XREF5: USER: FRE08341 DMC VER:
		PROJECT NO. 180761 SHEET S-16 126 OF 364
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS		STRUCTURAL SOUTH PLANT BLOWER BUILDING ROOF PLAN
DEST GND: MDW DETAIL ED: MDW CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633		PROJECT NO. 180761 SHEET S-16 126 OF 364



SECTION 1
3/8" = 1'-0"

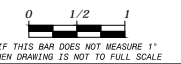
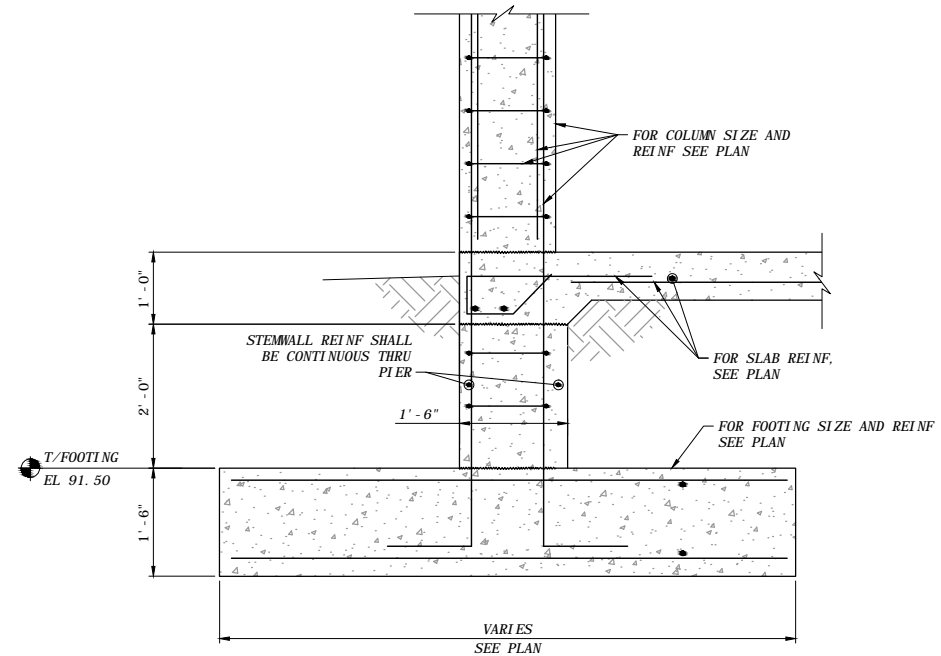
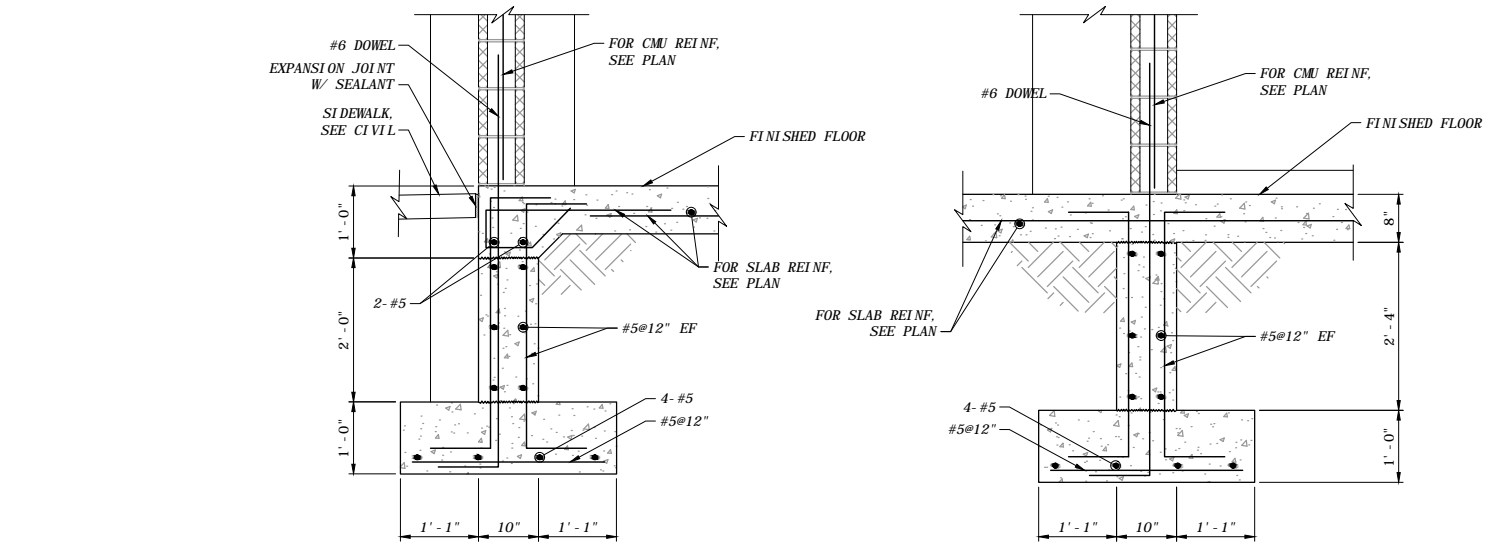
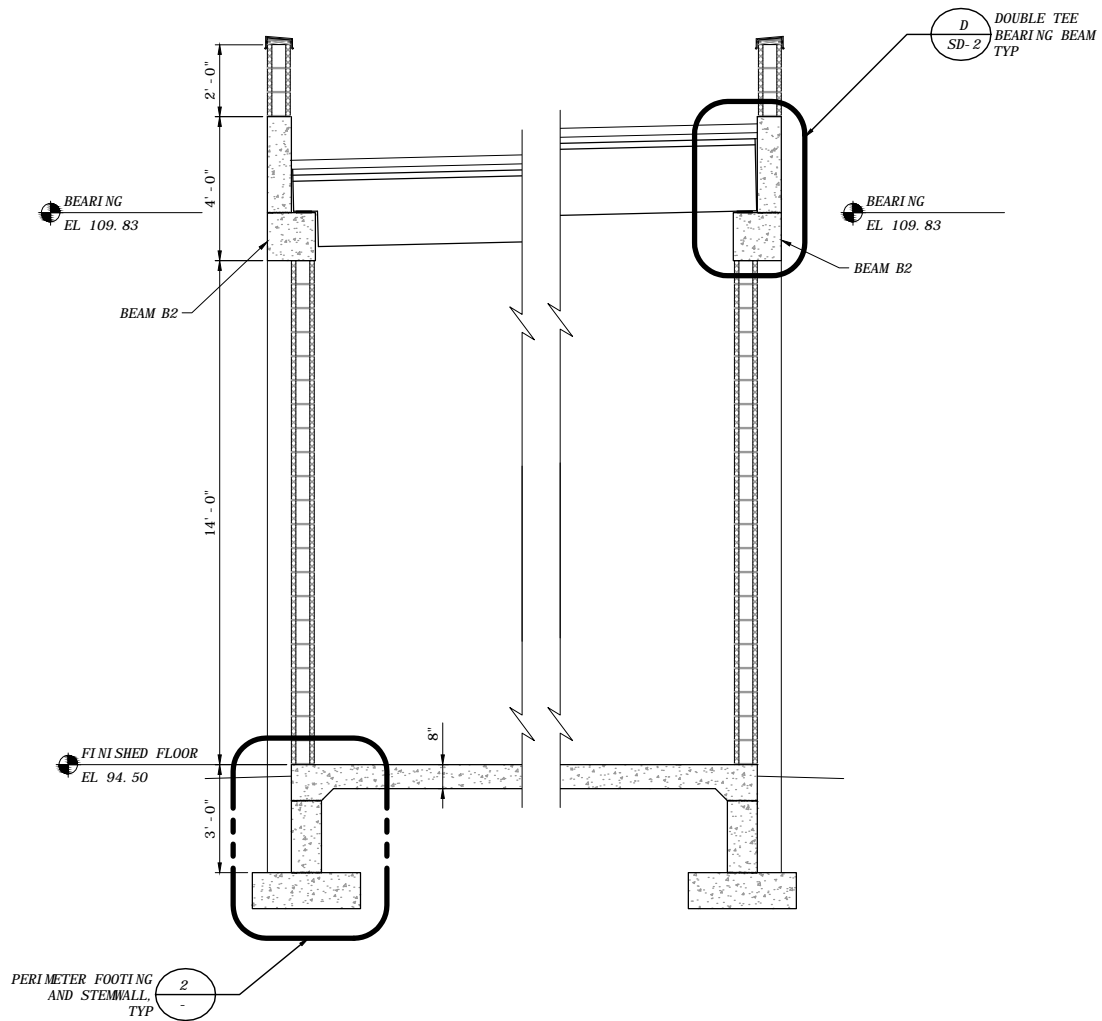


SECTION 2
1/2" = 1'-0"



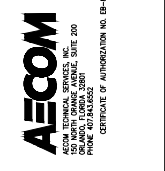
FD180761
D180761

ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS		STRUCTURAL SOUTH PLANT BLOWER BUILDING SECTIONS 1									
BLACK & VEATCH Building a world of difference?		Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801 Certificate No. B132									
PROJECT NO. 180761											
SHEET S-17											
127 OF 364											
DESIGNED: MDW	DATE: JANUARY 2015	CHECKED: KM	NO. BY CK APP								
DETAILED: MDW	ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	APPROVED: WDM	REVISIONS AND RECORD OF ISSUE								
PERMETER FOOTING AND STEMWALL TYP 2 S-18		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
INTERIOR FOOTING AND STEMWALL TYP 3 S-18		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
FINISHED FLOOR EL. 94.50		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
BEARING EL. 125.17		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
DOUBLE TEE BEARING BEAM TYP D SD-2 CONC CORBEL & RUNWAY BEAM SUPPORT AT CONCRETE COLUMNS D SD-5 T CORBEL COORD. W/ BRIDGE CRANE HT		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
PERMETER FOOTING AND STEMWALL TYP 2 S-18 FINISHED FLOOR EL. 94.50 BEARING EL. 125.17		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
DOUBLE TEE BEARING BEAM TYP D SD-2 CONC CORBEL & RUNWAY BEAM SUPPORT AT CONCRETE COLUMNS D SD-5 T CORBEL COORD. W/ BRIDGE CRANE HT		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
PERMETER FOOTING AND STEMWALL TYP 2 S-18 FINISHED FLOOR EL. 94.50 BEARING EL. 125.17		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
DOUBLE TEE BEARING BEAM TYP D SD-2 CONC CORBEL & RUNWAY BEAM SUPPORT AT CONCRETE COLUMNS D SD-5 T CORBEL COORD. W/ BRIDGE CRANE HT		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								
PERMETER FOOTING AND STEMWALL TYP 2 S-18 FINISHED FLOOR EL. 94.50 BEARING EL. 125.17		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">DATE</th> <th style="width: 65%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	BY	DATE	DESCRIPTION				
NO.	BY	DATE	DESCRIPTION								



FD180761
D180761

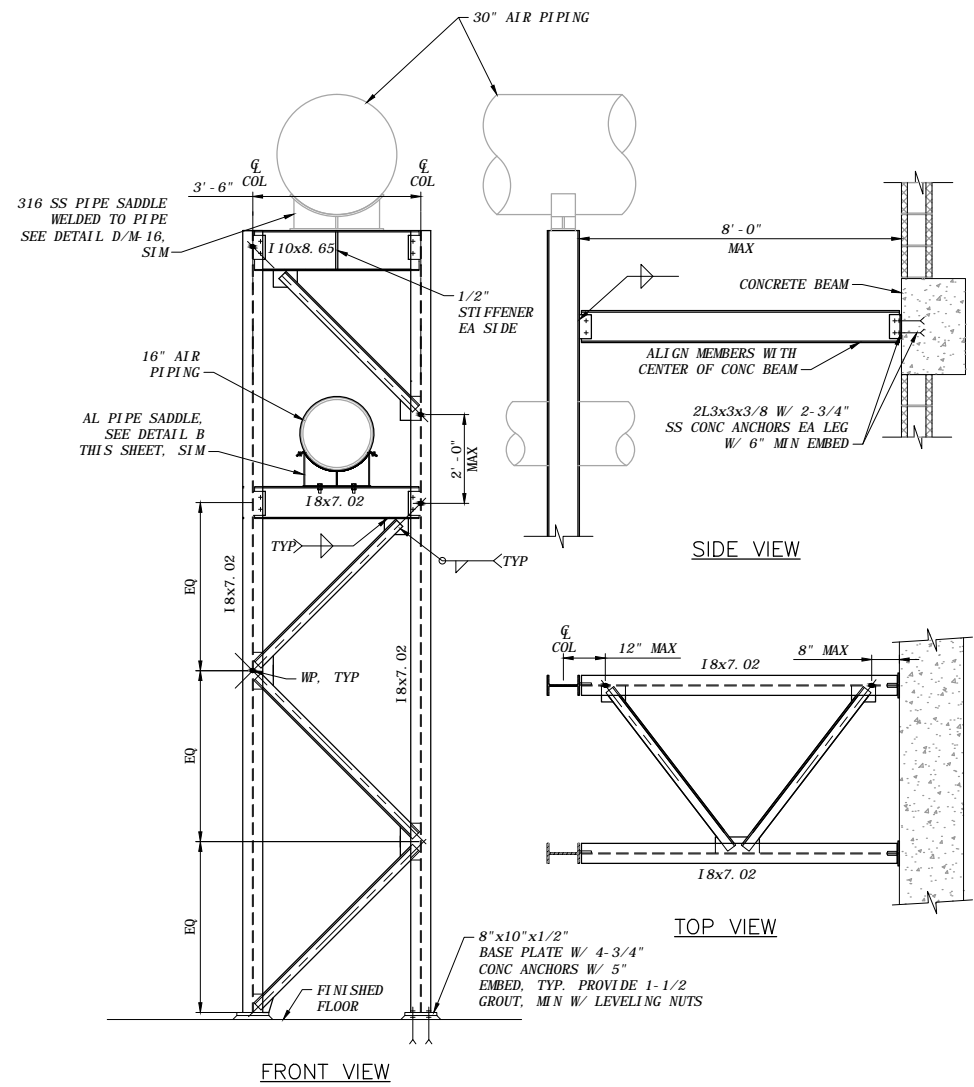
NO.	BY	CHK	APP
7/2015	BID ISSUE	REVISIONS AND RECORD OF ISSUE	XREF1:
			XREF2:
			XREF3:
			XREF4:
			XREF5:
CYCLET ID:		DATE:	USER:
W/:		SAVED:	DATE:
PLOTTED:		TIME:	DATE:
USER:		DATE:	TIME:



BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801

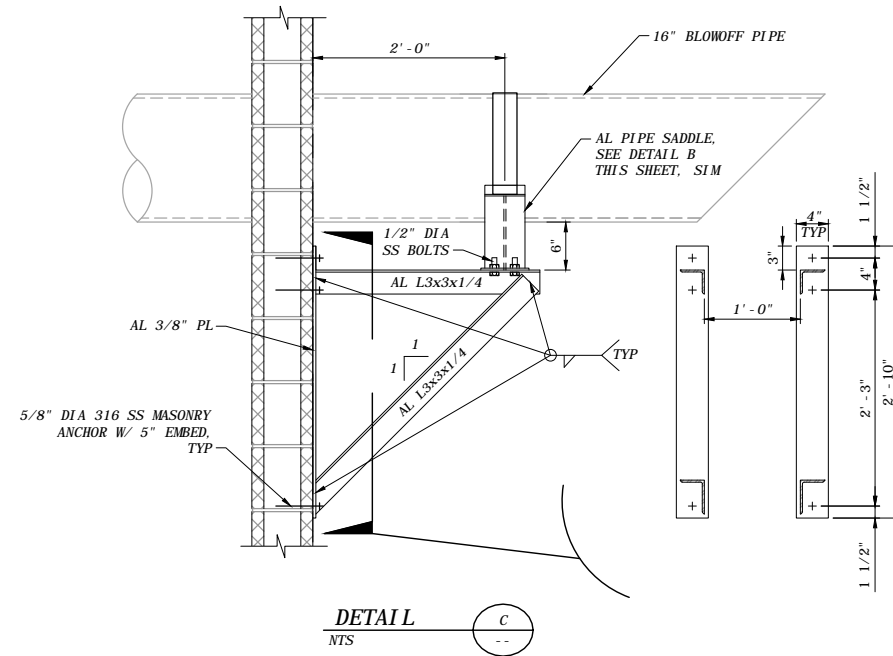
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL
SOUTH PLANT BLOWER BUILDING
SECTIONS II

DESIGNED: MDW
 DETAILED: MDW
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633
 PROJECT NO.
 180761
S-18
 SHEET
 128 OF 364

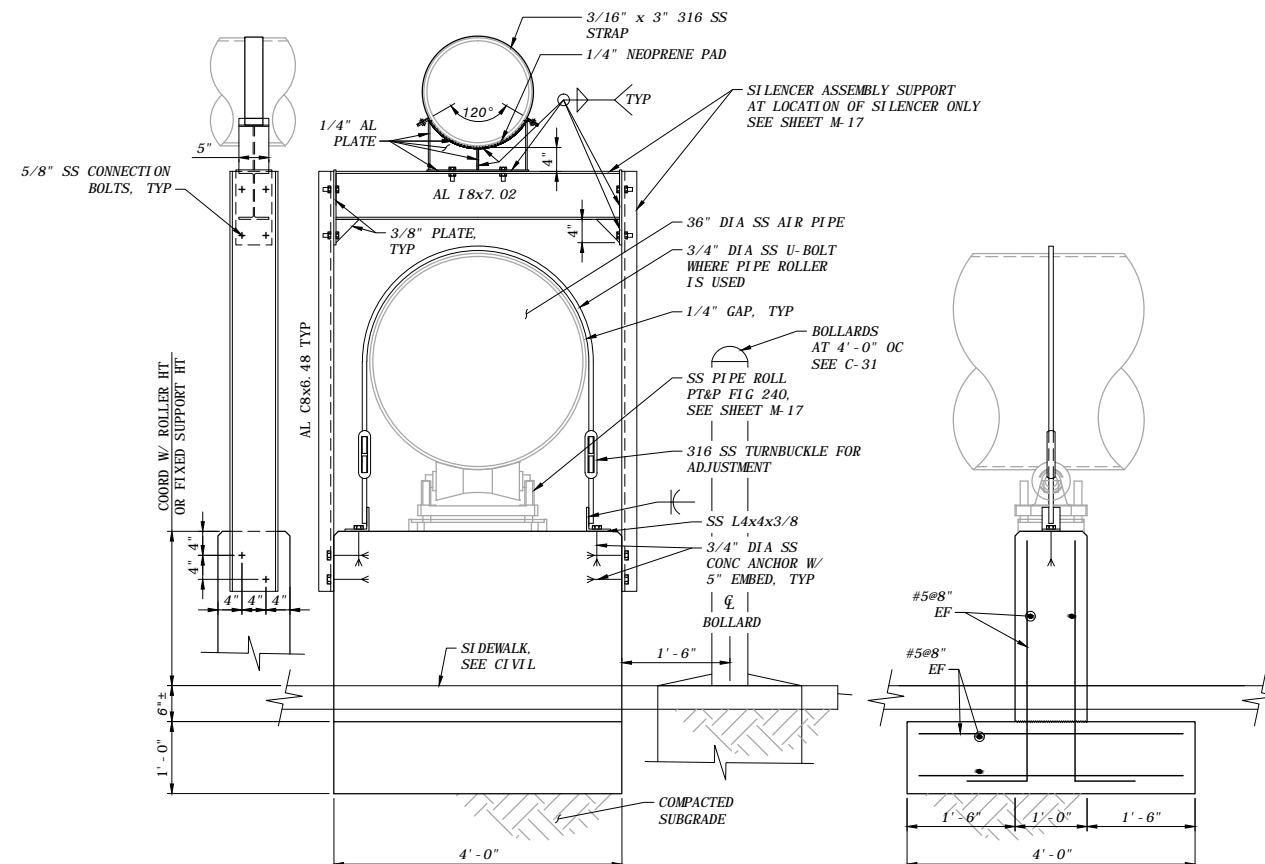


- NOTES:**
1. VERIFY AND COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH FINAL EQUIPMENT AND PIPING SELECTION.
 2. ALL MEMBERS AND PLATES SHALL BE ALUMINUM UNLESS OTHERWISE NOTED.
 3. ALL CONNECTION BOLTS SHALL BE 5/8\" DIA STAINLESS STEEL UNLESS OTHERWISE NOTED.
 4. ALL DIAGONAL BRACING SHALL BE 2L3x3x3/8 UNLESS OTHERWISE NOTED.
 5. GUSSET PLATE THICKNESS SHALL BE 3/8\" UNLESS OTHERWISE NOTED.

DETAIL A
NTS



DETAIL C
NTS



DETAIL B
NTS

NOTE:
1. SEE SHEET M-17 FOR QUANTITY AND LOCATIONS OF PIPE SUPPORT.

NO.	BY	CHK	APP



BLACK & VEATCH
Building a world of difference!
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801

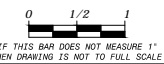
**ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS**

**STRUCTURAL
SOUTH PLANT BLOWER BUILDING
SECTIONS III**

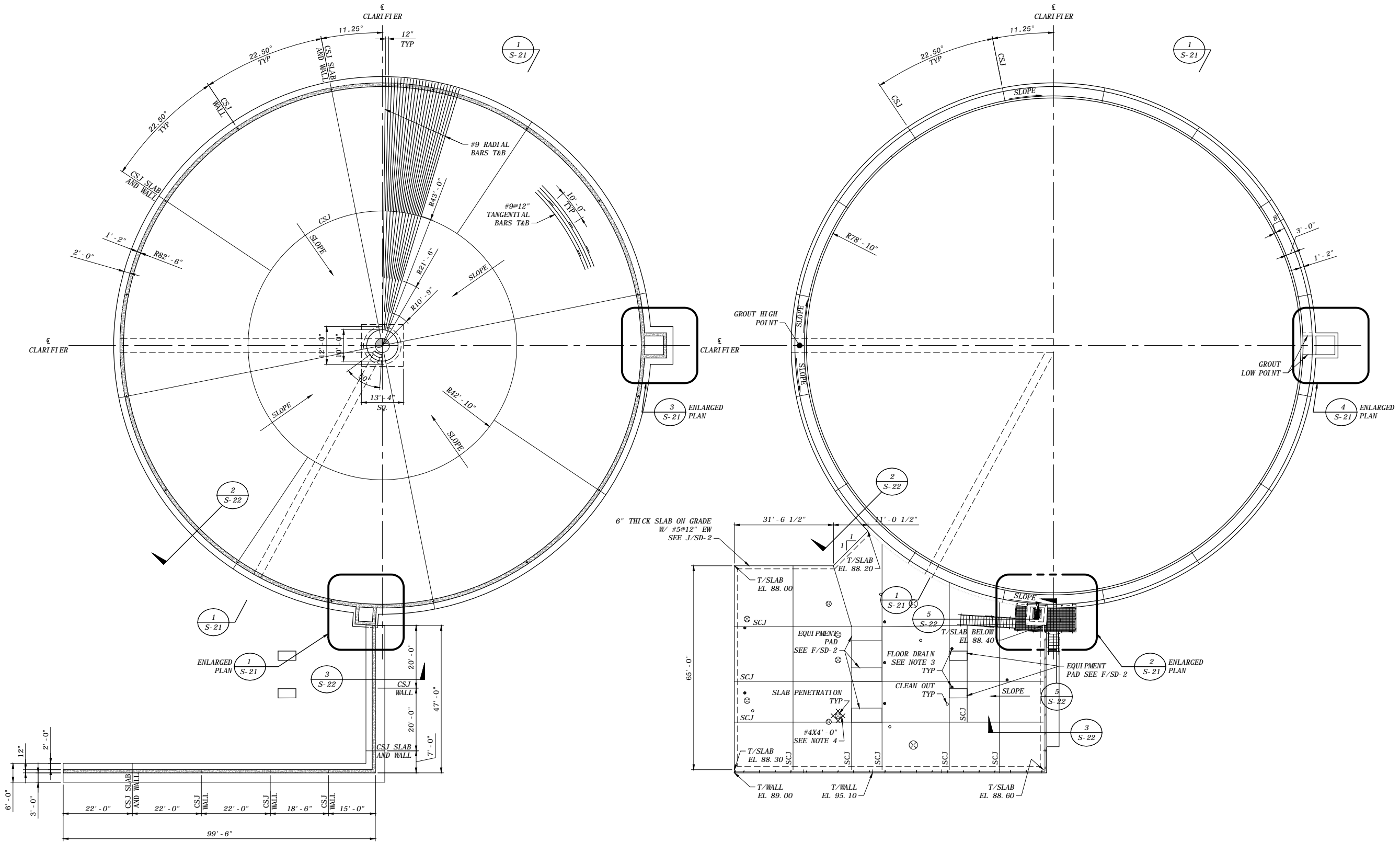
DESIGNED: MDM
 DETAILED: MDM
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

PROJECT NO.
180761

S-19
SHEET
129 OF 364



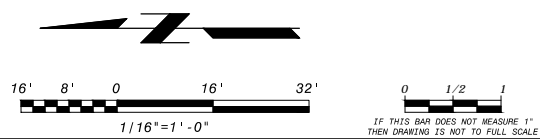
IF THIS BAR DOES NOT MEASURE 1\"/>



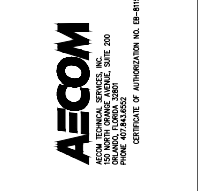
FOUNDATION PLAN
1/16" = 1'-0"

TOP PLAN
1/16" = 1'-0"

- NOTES**
- CONSTRUCTION JOINTS SHALL BE CONTINUOUS THROUGH CLARIFIER LAUNDER.
 - CONCRETE ENCASE ALL PIPES BELOW THE CLARIFIER AND THE PUMP STATION.
 - DEPRESS FLOOR DRAINS 1/2" LOWER THAN ADJACENT CONCRETE. SLOPE CONCRETE 1/4" PER FOOT TO DRAIN.
 - PROVIDE DIAGONAL BARS ABOVE SLAB REINFORCING AT ALL SLAB PENETRATIONS GREATER THAN OR EQUAL TO 12 INCHES.



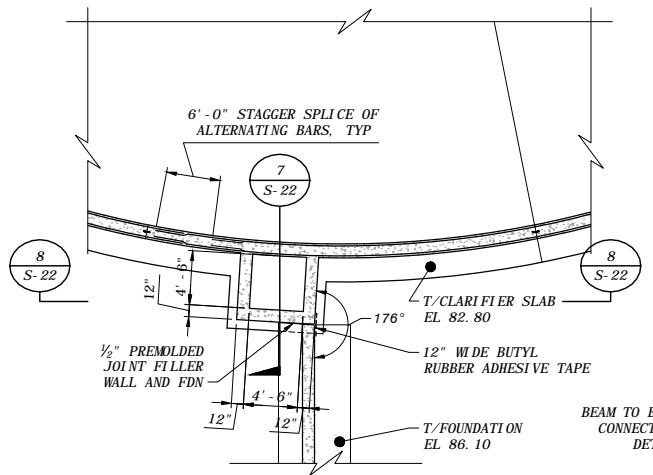
NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
1			7/2015	BID ISSUE
2				
3				
4				
5				



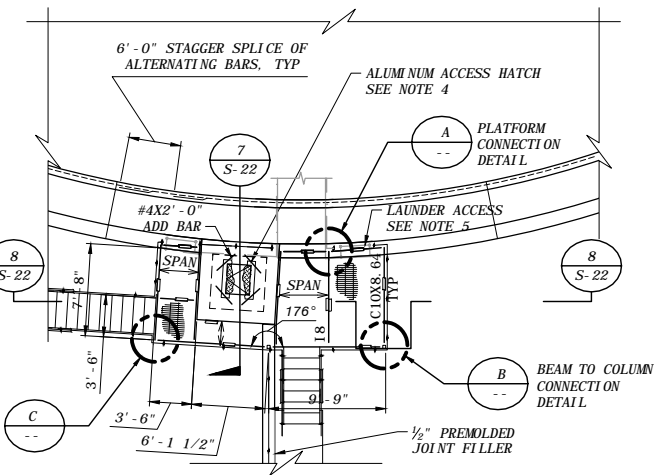
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH CLARIFIER NO. 3
FOUNDATION PLAN AND TOP PLAN

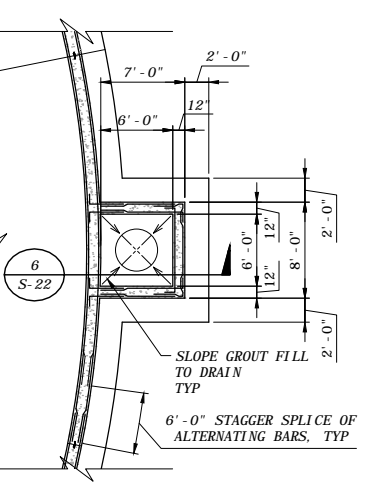
DESIGNED:	JC
DETAILLED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633
PROJECT NO.	180761
SHEET	S-20
130 OF 364	



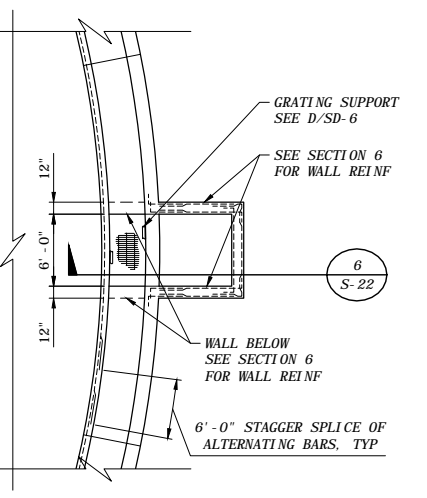
ENLARGED PLAN 1
1/8" = 1'-0"



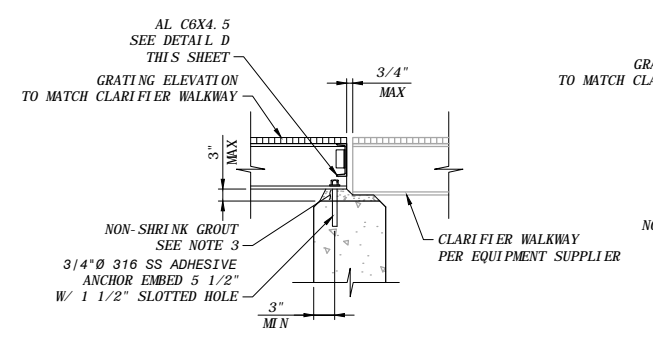
ENLARGED PLAN 2
1/8" = 1'-0"



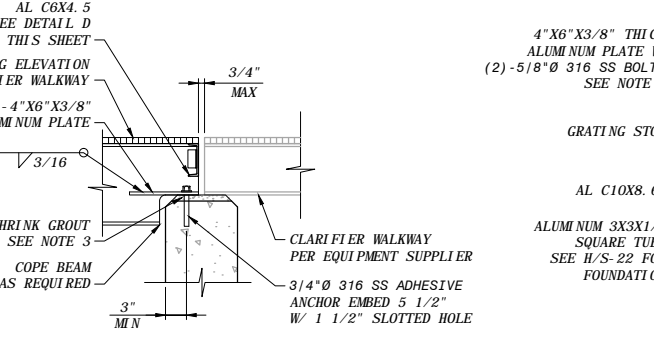
ENLARGED PLAN 3
1/8" = 1'-0"



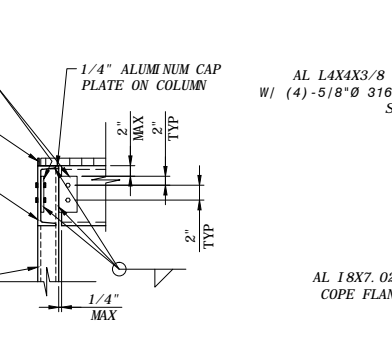
ENLARGED PLAN 4
1/8" = 1'-0"



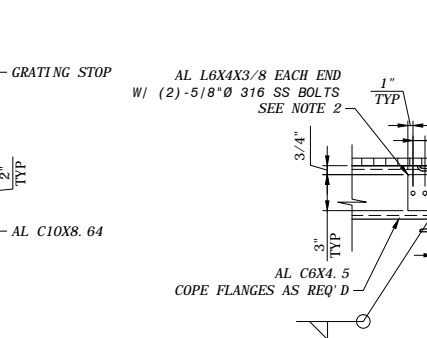
PLATFORM CONNECTION DETAIL A
NTS



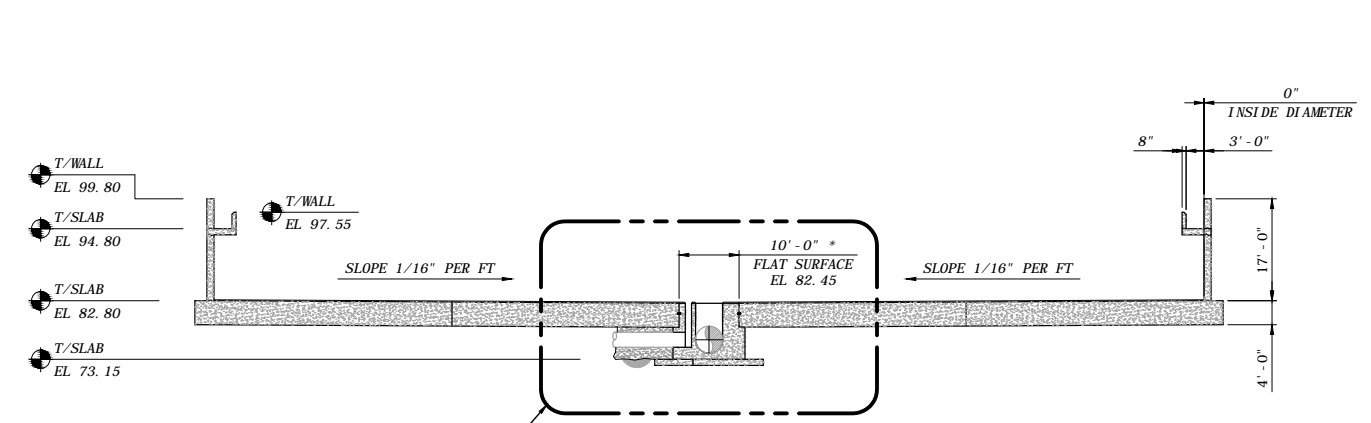
PLATFORM CONNECTION DETAIL B
NTS



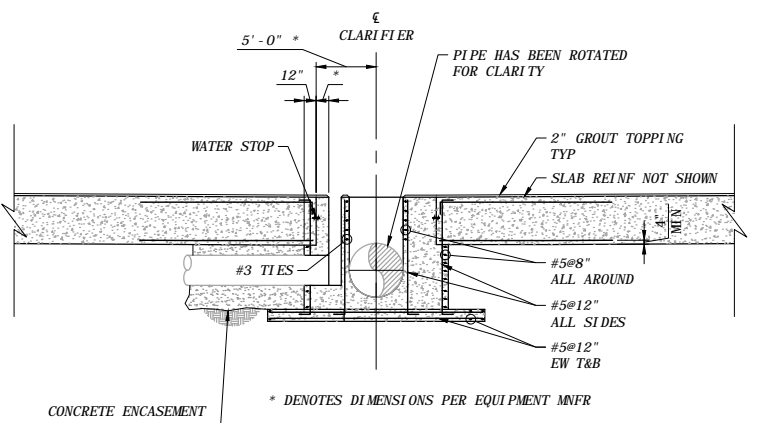
DETAIL C
NTS



DETAIL D
NTS



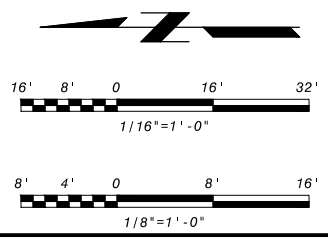
SECTION 1
1/16" = 1'-0"



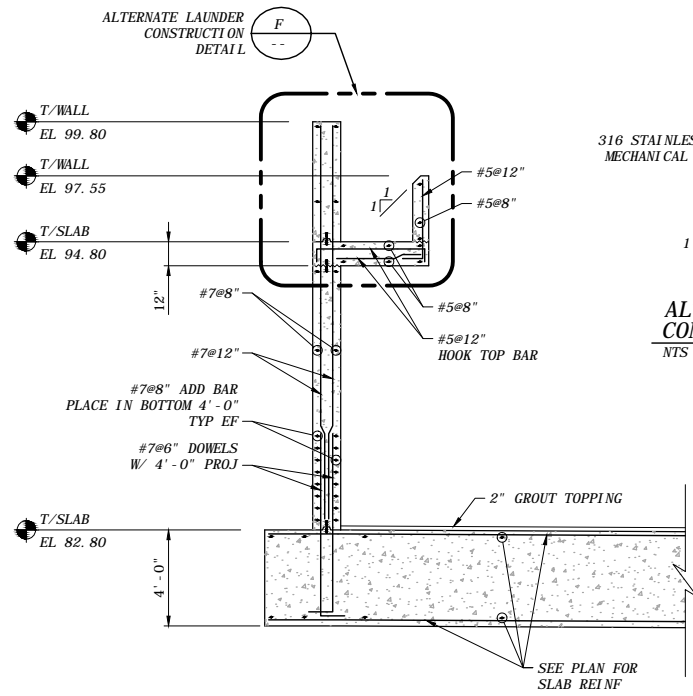
HOPPER DETAIL E
1/8" = 1'-0"

NOTES

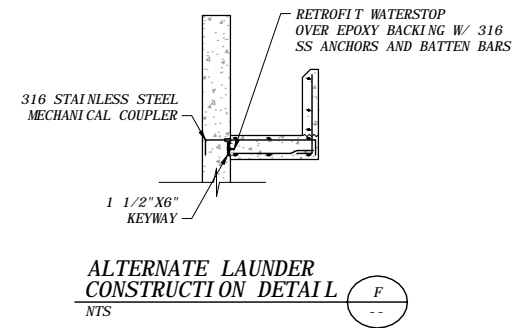
1. CONCRETE ENCASE ALL PIPES BELOW THE CLARIFIER AND THE PUMP STATION SLAB PER DETAIL C/D-7.
2. ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
3. COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR NON-SHRINK GROUT.
4. 2'-0" X 2'-6" ACCESS HATCH. FINAL SIZE AND LOCATION SHALL BE COORDINATED WITH PUMP SUPPLIER.
5. COORDINATE EXTENTS OF RAILING WITH LAUNDER ACCESS LADDERS. TYPICAL 2 LOCATIONS. DISTANCE BETWEEN RAILING POSTS AND LADDER OR EQUIPMENT BRIDGE SHALL NOT EXCEED 4 1/2'.



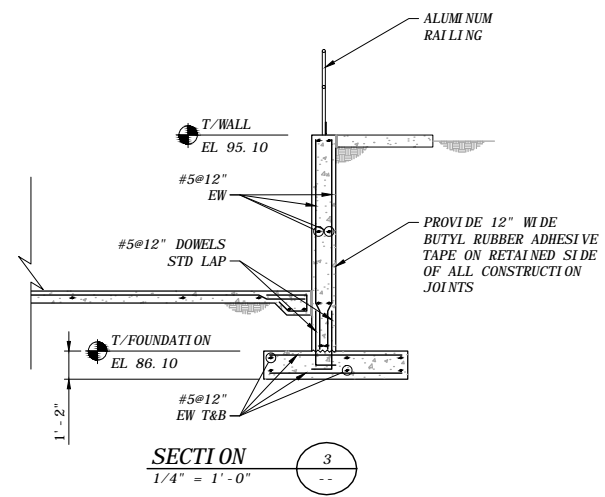
7/2015 DATE 7/2015 REVISED AND RECORD OF ISSUE 7/2015 NO. BY CK RPE	7/2015 DATE 7/2015 REVISED AND RECORD OF ISSUE 7/2015 NO. BY CK RPE
Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801	
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL NORTH CLARIFIER NO. 3 ENLARGED PLANS, SECTIONS AND DETAILS	
DESIGNED: JC DETAILLED: JC CHECKED: HMM APPROVED: HMM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	
PROJECT NO. 180761 S-21 SHEET 131 OF 364	



SECTION 2
1/4" = 1'-0"

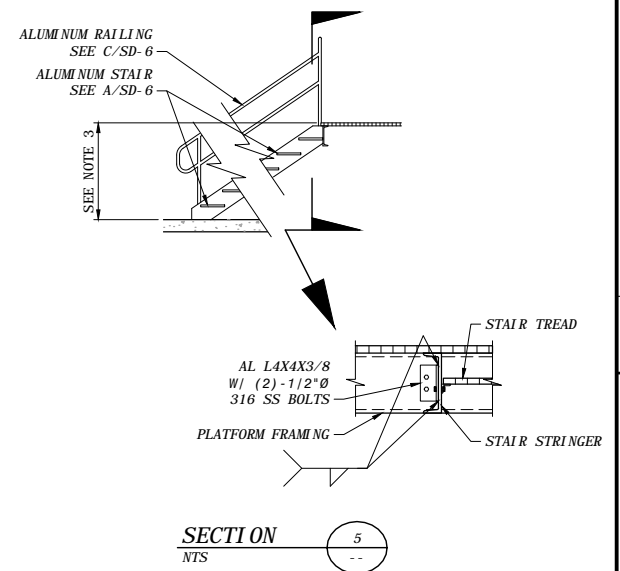


ALTERNATE LAUNDRY CONSTRUCTION DETAIL
NTS

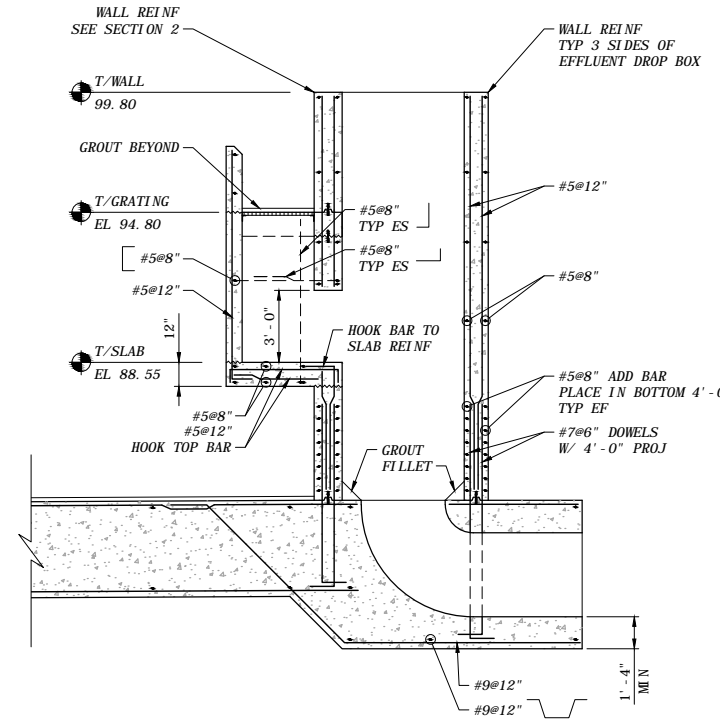


SECTION 3
1/4" = 1'-0"

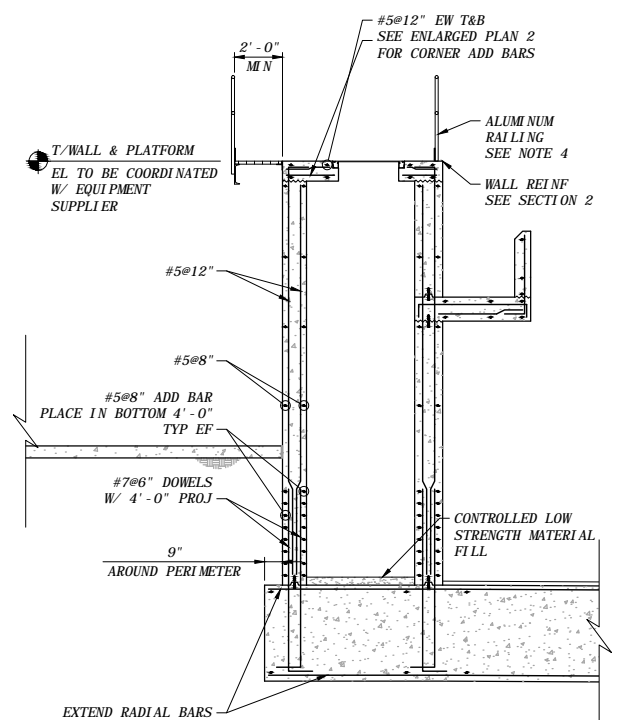
NOT USED
SECTION 4
1/4" = 1'-0"



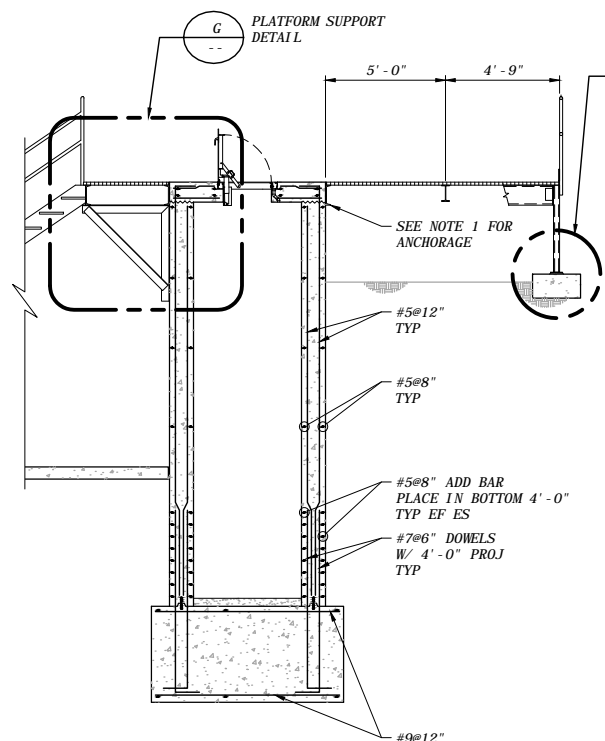
SECTION 5
NTS



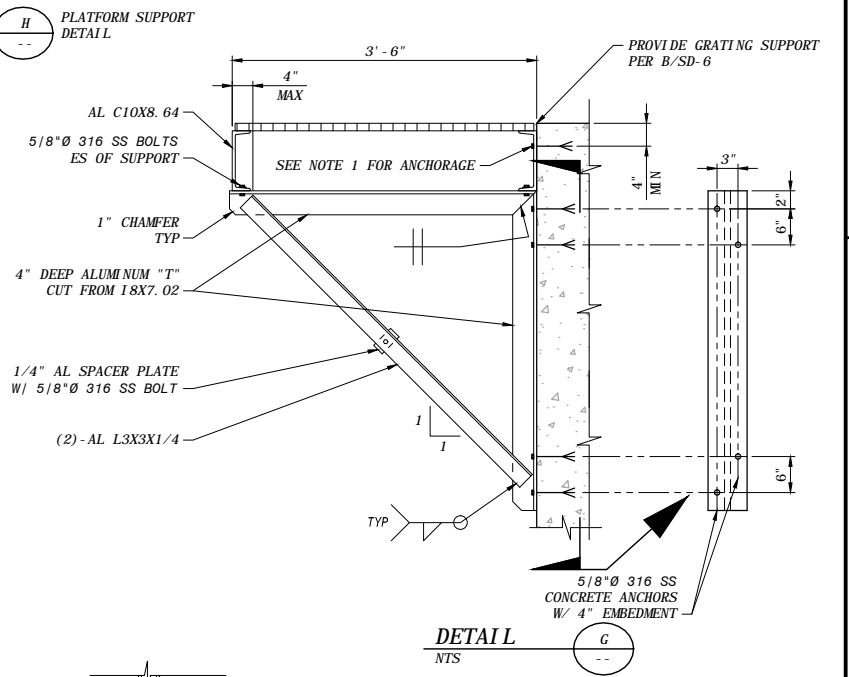
SECTION 6
1/4" = 1'-0"



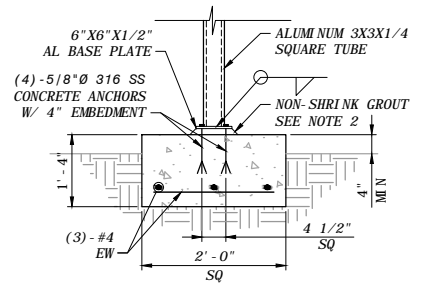
SECTION 7
1/4" = 1'-0"



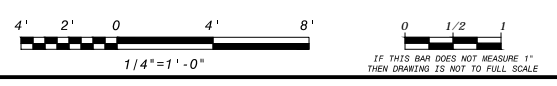
SECTION 8
1/4" = 1'-0"



DETAIL G
NTS

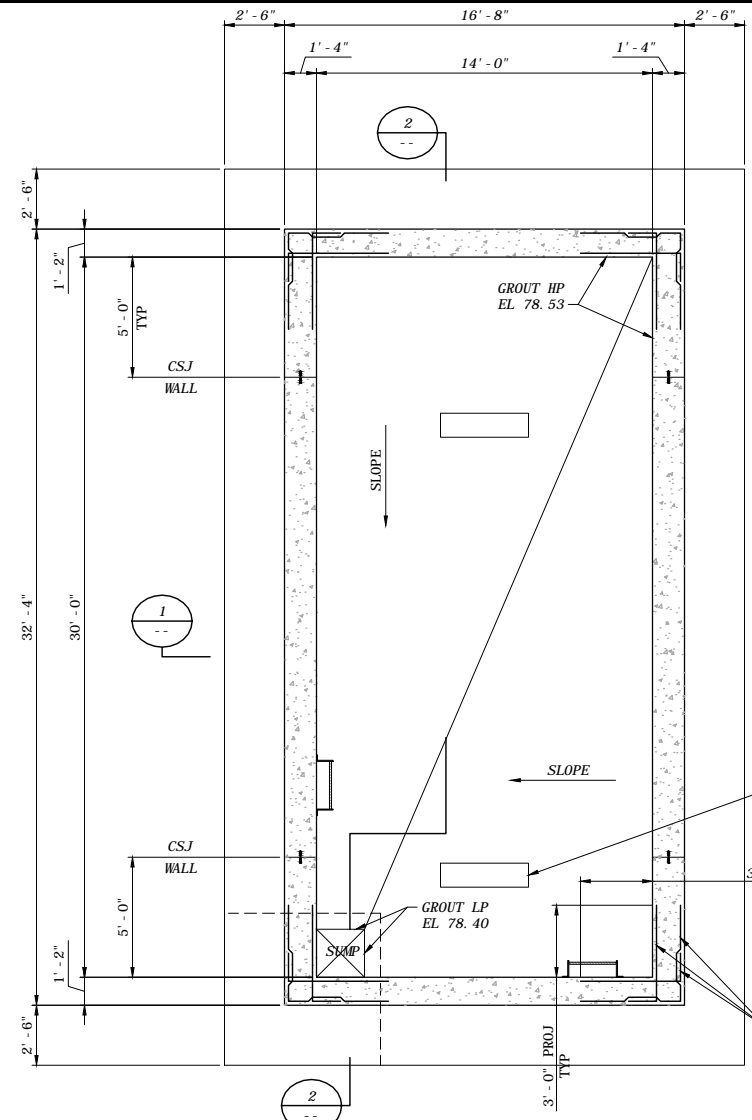


DETAIL H
NTS

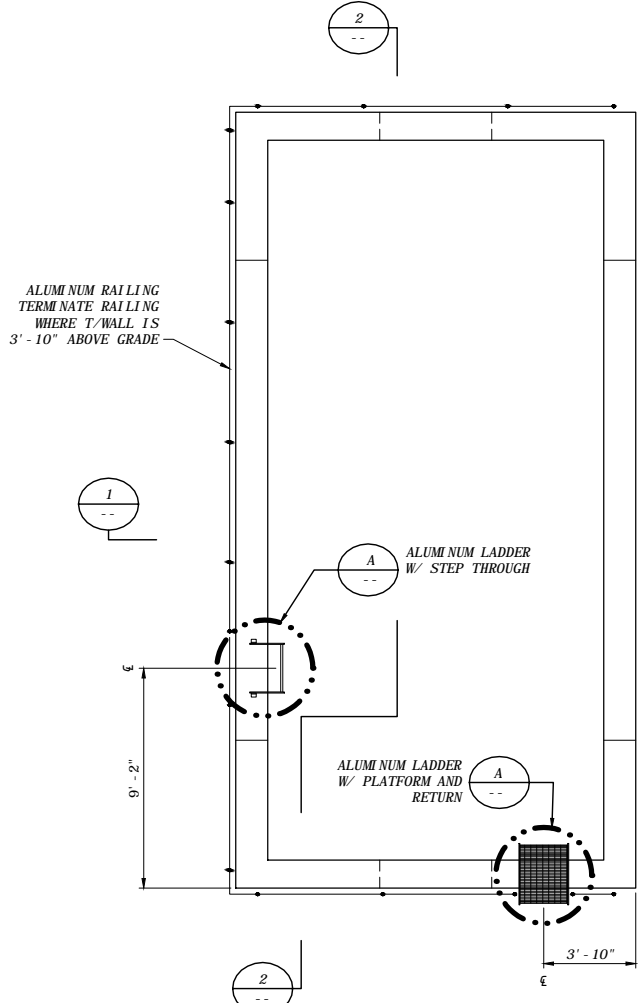


- NOTES**
- ANCHOR ALUMINUM CHANNEL TO CONCRETE WALL W/ 5/8" 316 SS CONCRETE ANCHORS W/ 4" EMBEDMENT AT 12" OC. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE.
 - COAT ALUMINUM SURFACES IN CONTACT WITH NON SHRINK GROUT. USE LEVELING NUTS TO ADJUST PLATFORM AS REQUIRED. FILL SPACE UNDER THE BASE PLATE W/ NON SHRINK GROUT TO A MAXIMUM LIFT THICKNESS OF 1 1/2".
 - TOP OF STAIR AND PLATFORM ELEVATION SHALL BE COORDINATED WITH CLARIFIER SUPPLIER. MAXIMUM VERTICAL HEIGHT ALLOWED W/OUT LANDING IS 12'-0".
 - COORDINATE RAILING W/ LAUNDRY ACCESS LADDERS. TYPICAL 2 LOCATIONS.

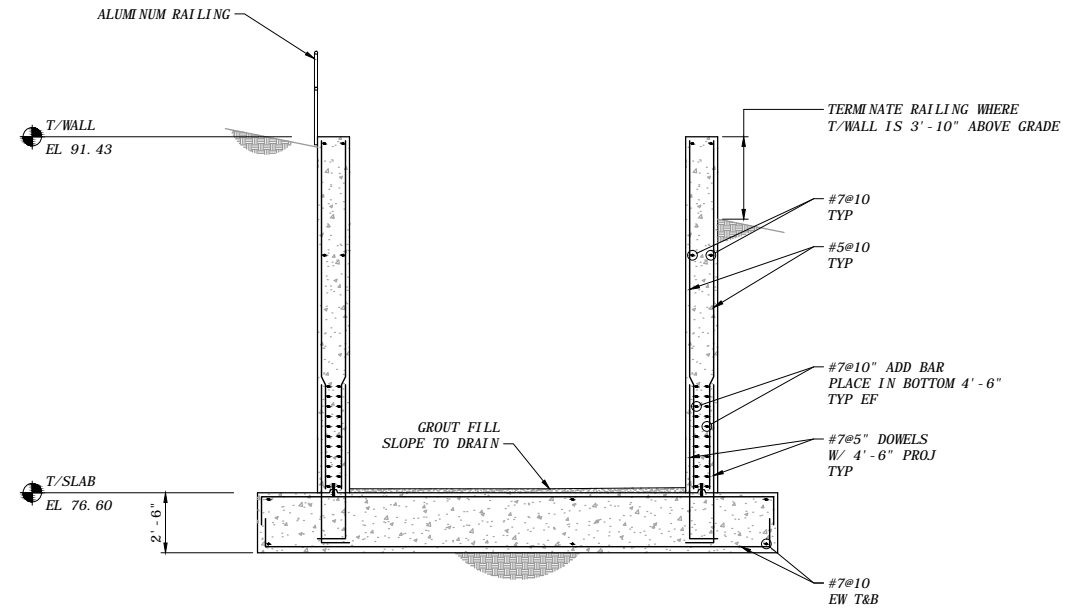
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL CLARIFIER NO. 3 NORTH CLARIFIER SECTIONS	
BEST GNEB: JC DETAIL LED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015	REVISIONS AND RECORD OF ISSUE NO. BY CR DATE XREF1: XREF2: XREF3: XREF4: XREF5:
PROJECT NO. 180761 S-22 SHEET 132 OF 364	



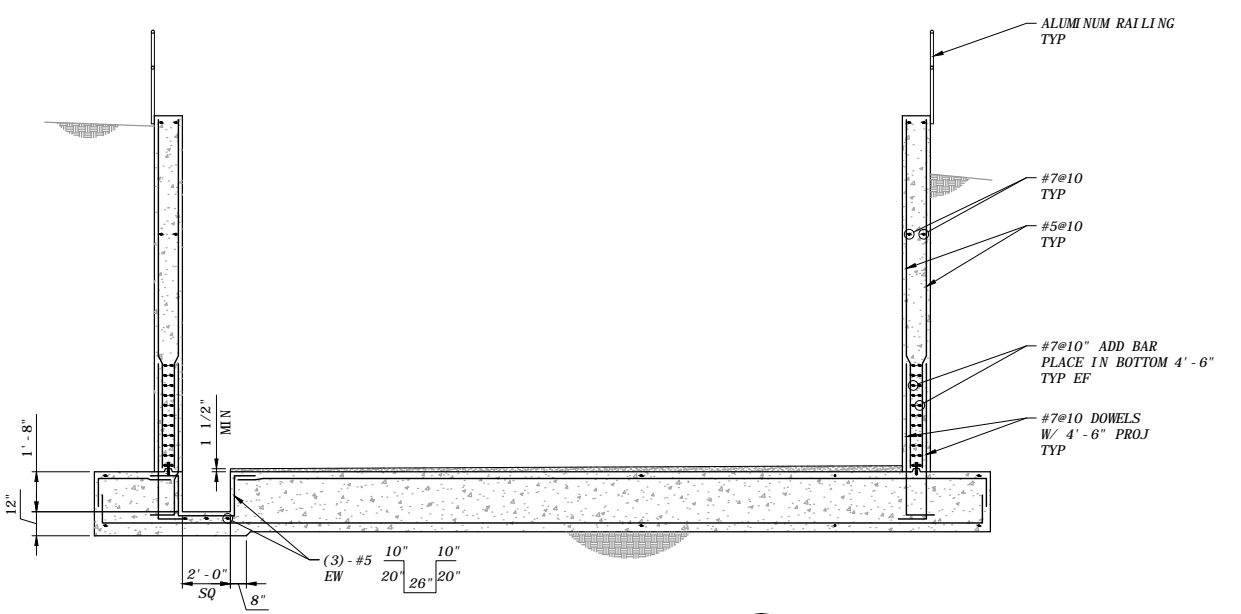
FOUNDATION PLAN
1/4" = 1'-0"



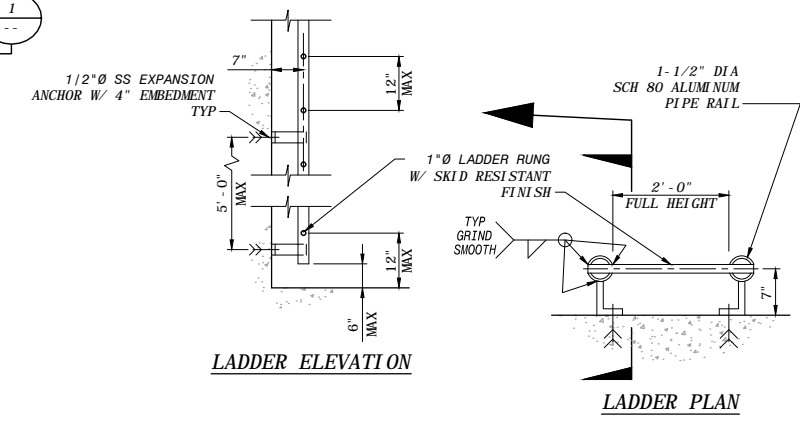
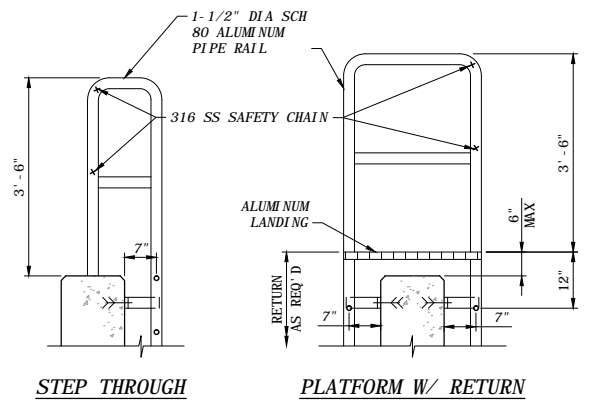
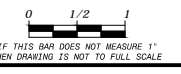
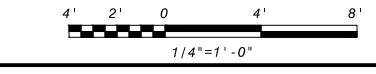
TOP PLAN
1/4" = 1'-0"



SECTION 1
1/4" = 1'-0"



SECTION 2
1/4" = 1'-0"



DETAIL A
NTS

NO.	BY	CHK	DATE

AECOM
155 WEST WASHINGTON STREET, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.841.2000
FAX: 407.841.2001

BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 8132

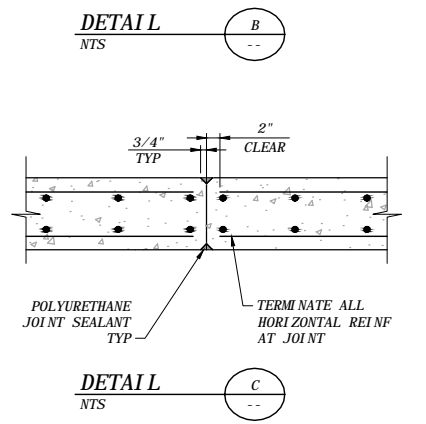
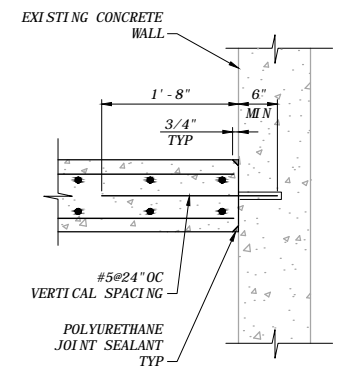
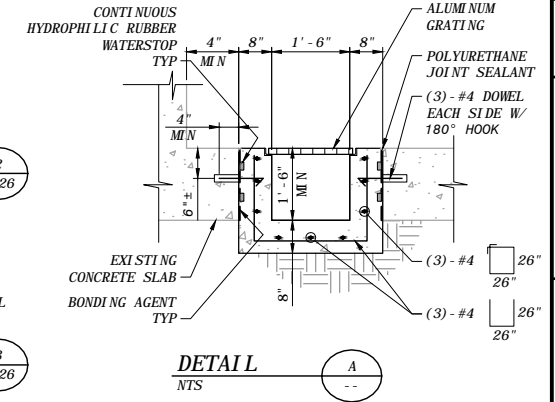
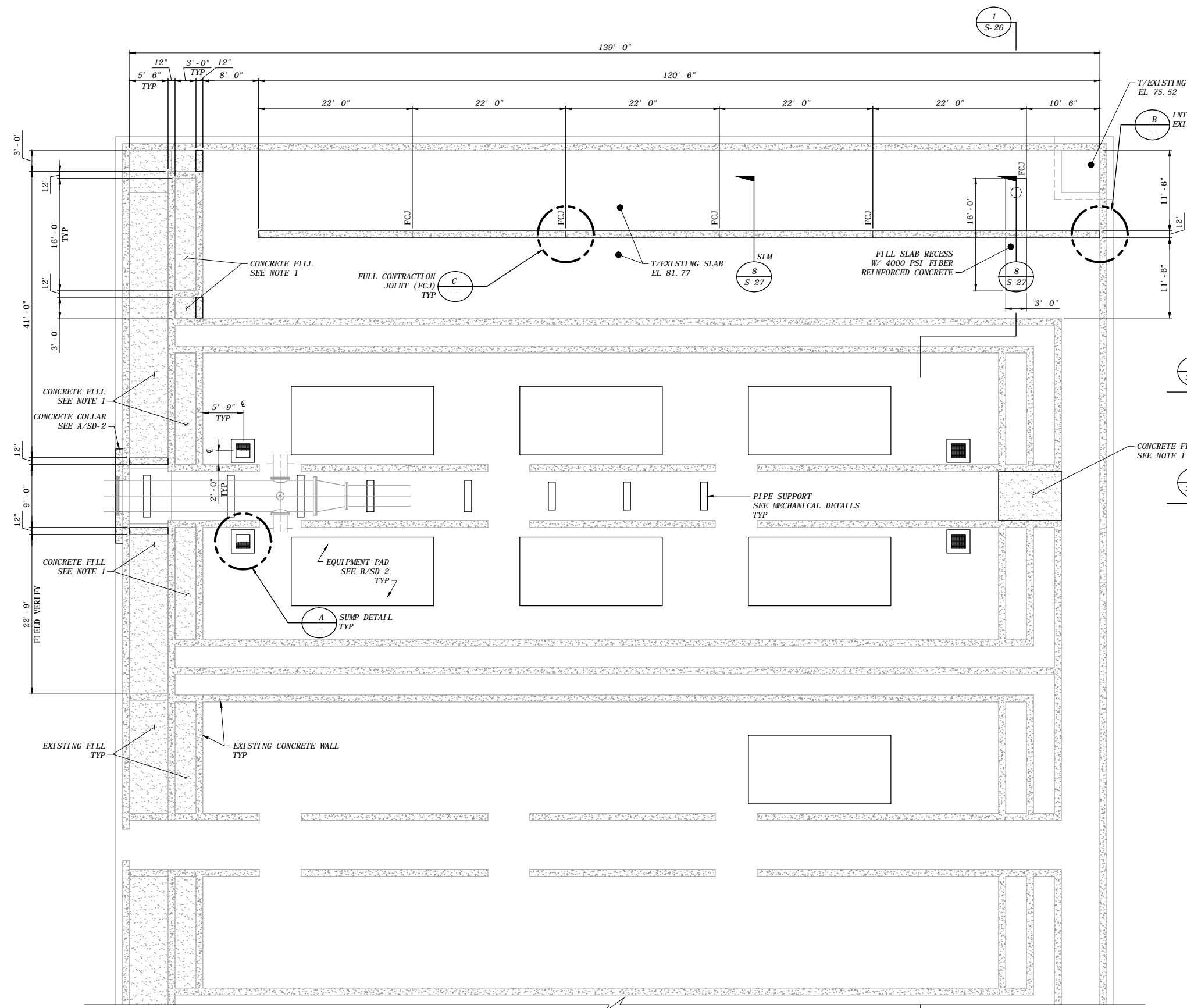
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH CLARIFIER NO. 3 RATE OF FLOW CONTROLLER
PLANS AND SECTIONS

DESIGNED: JC
 DETAILED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

PROJECT NO.
180761
S-23
 SHEET
 133 OF 364

FD180761
 D180761



NO.	BY	CHK	DATE

REVISIONS AND RECORD OF ISSUE	DATE	BY	CHK

CURRENT ID:	7/2015	BID ISSUE
USER:	FRE08341	DMC VER:
DATE:	7/2015	DATE:
SAVED:	FRE08341_8/15/2013 9:56:25 AM	
PLOTTED:		

AECOM
 150 SOUTH BRADY AVENUE, SUITE 200
 ORLANDO, FLORIDA 32801
 CERTIFICATE OF AUTHORIZATION NO. EB-8418

BLACK & VEATCH
Building a world of difference.
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 6132

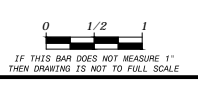
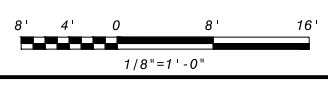
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH PLANT FILTERS AND CHLORINE
CONTACT BASIN FOUNDATION PLAN

DESIGNED:	JC
DETAILLED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633
PROJECT NO.	180761
SHEET	S-24
134 OF 364	

NOTES
 1. CONCRETE FILL SHALL BE CONTROLLED LOW STRENGTH MATERIAL PER SPECIFICATION 03320.

FOUNDATION PLAN
 1/8" = 1'-0"

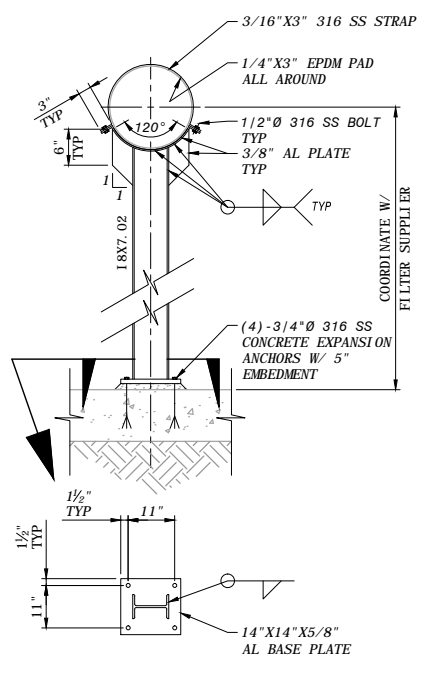
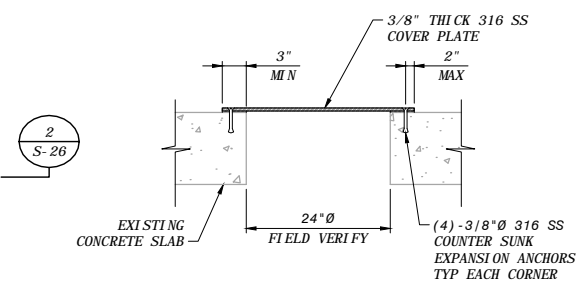
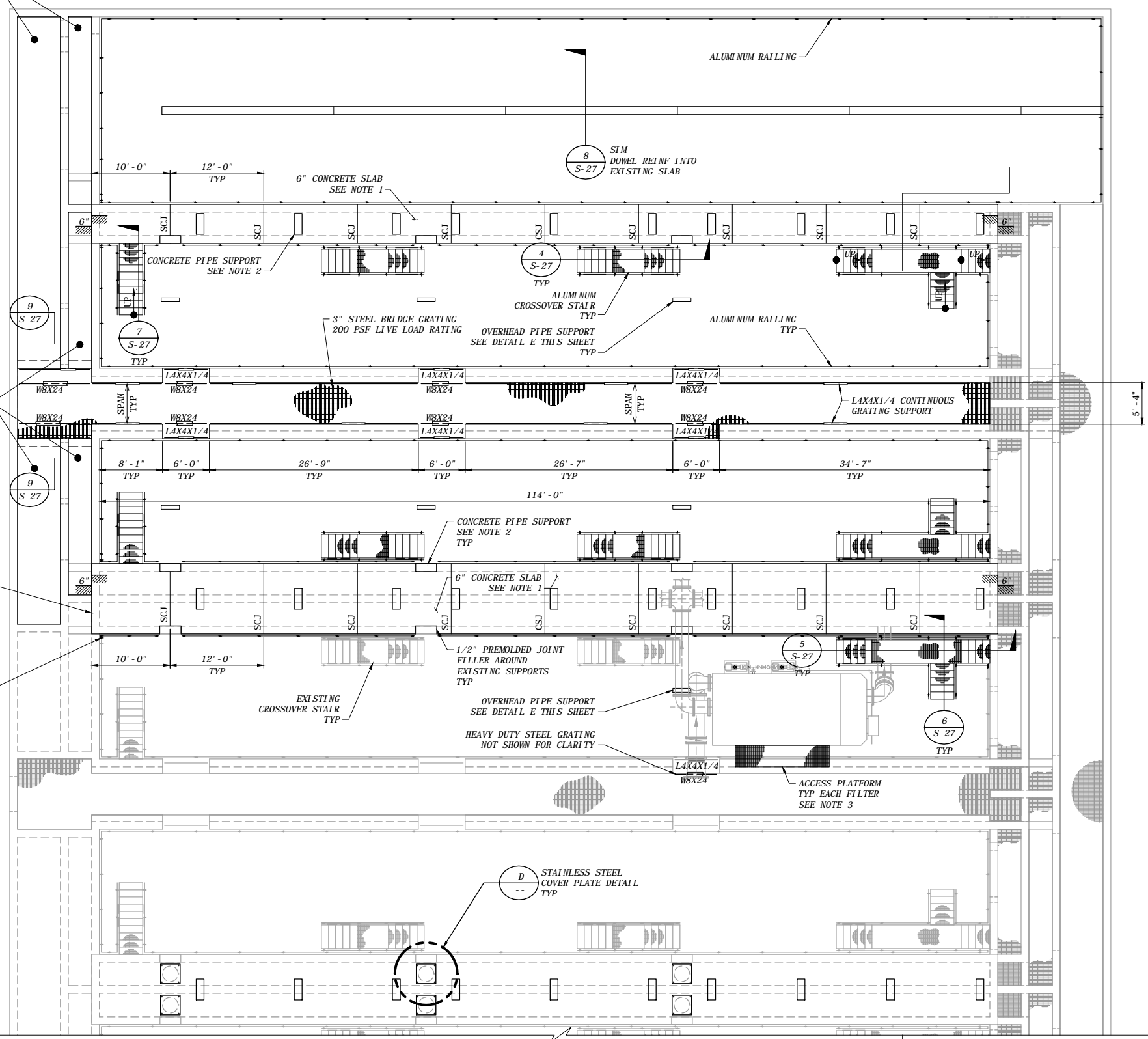


4" CONCRETE SLAB
OVER CONCRETE FILL
T/SLAB EL. 89.10

4" CONCRETE SLAB
OVER CONCRETE FILL
T/SLAB EL. 89.10

PAINT CONCRETE STEP
SAFETY YELLOW
TYP EACH END

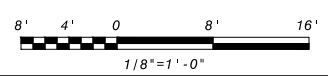
PROVIDE NEW RAILING
POST AT TERMINATIONS



NOTES

- ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE PRIOR TO PLACING CONCRETE. AT CONTRACTOR'S OPTION 1.5 INCH DEEP 22 GAGE GALVANIZED FORM DECK W/ A TOTAL SLAB THICKNESS OF 6 INCHES MAY BE USED IN LIEU OF REMOVABLE FORMWORK.
- FORM DECK AND ACCESSORIES SHALL CONFORM TO ASTM A653 WITH A MINIMUM YIELD STRESS OF 33 KSI.
- PROVIDE A MINIMUM OF 3 INCHES OF BEARING.
- ANCHOR FORM DECK WITH POWDER ACTUATED FASTENERS @ 8" OC.
- DOWEL REINFORCEMENT FOR PIPE SUPPORTS INTO EXISTING WALL OR PROVIDE STANDARD HOOK INTO NEW SLAB.
- ACCESS PLATFORM SIZE AND TOP OF GRATING ELEVATION SHALL BE COORDINATED WITH FILTER MANUFACTURER. CONTRACTOR TO SUBMIT SIGNED AND SEALED DESIGN CALCULATIONS AND DRAWINGS TO THE ENGINEER FOR REVIEW.

TOP PLAN
1/8" = 1'-0"



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

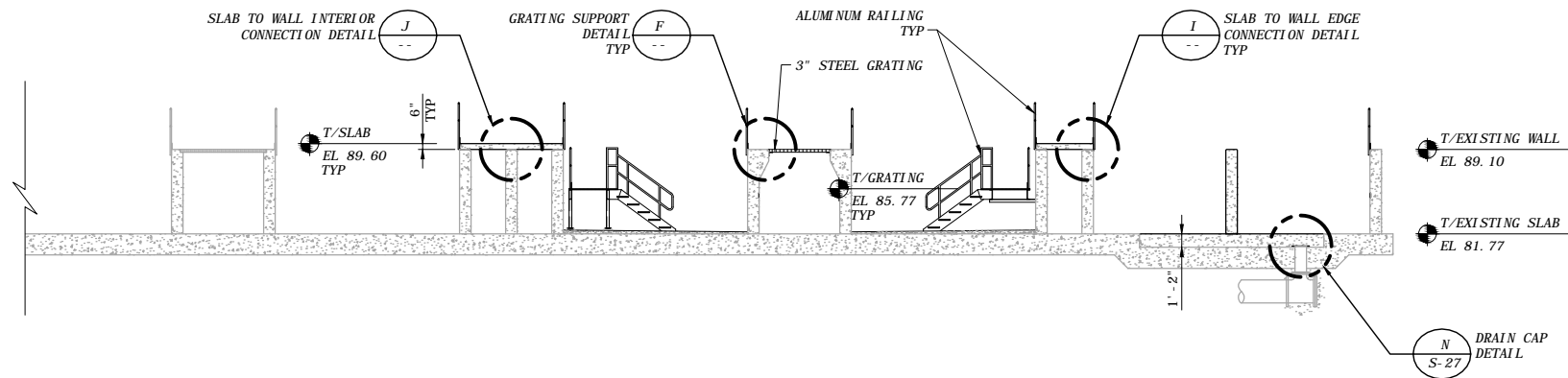
AECOM
1500 N. W. 34th Ave., Suite 200
Fort Lauderdale, FL 33309
PHONE: (561) 425-4000
FAX: (561) 425-4001

BLACK & VEATCH
Building a world of difference.
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 0132

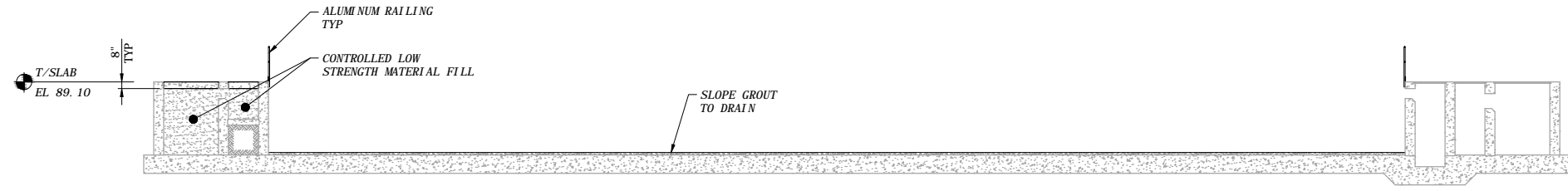
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL
NORTH PLANT FILTERS AND CHLORINE
CONTACT BASIN TOP PLAN

DESIGNED: JC
DRAWN: JC
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD:
KHALID MOTIWALA, PE
FLORIDA LICENSE NO.: 50633

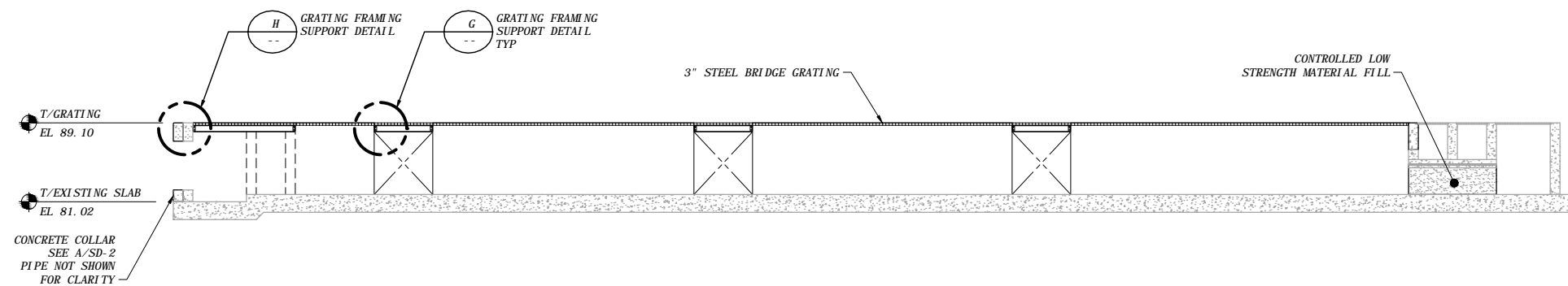
PROJECT NO.
180761
S-25
SHEET
135 OF 364



SECTION 1
1/8" = 1'-0"



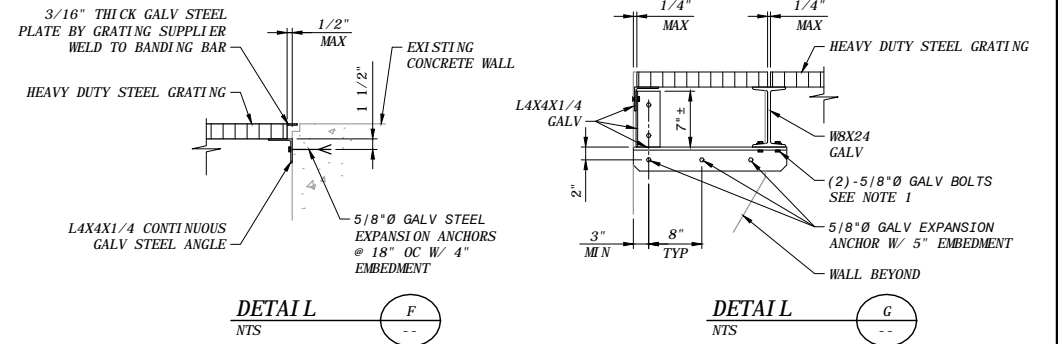
SECTION 2
1/8" = 1'-0"



SECTION 3
1/8" = 1'-0"

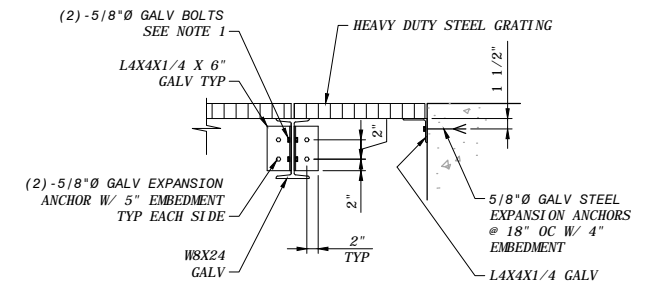
NOTES

1. ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
2. AT CONTRACTOR'S OPTION 1.5 INCH DEEP 22 GAGE GALVANIZED FORM DECK W/ A TOTAL SLAB DEPTH OF 6 INCHES MAY BE USED IN LIEU OF REMOVABLE FORMWORK.
- 2.1. FORM DECK AND ACCESSORIES SHALL CONFORM TO ASTM A653 WITH A MINIMUM YIELD STRESS OF 33 KSI.
- 2.2. PROVIDE A MINIMUM OF 3 INCHES OF BEARING.
- 2.3. ANCHOR FORM DECK WITH POWDER ACTUATED FASTENERS @ 8" OC.

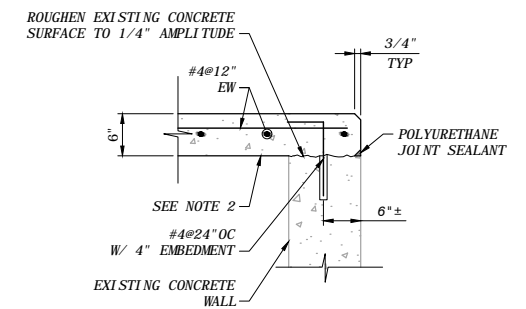


DETAIL F
NTS

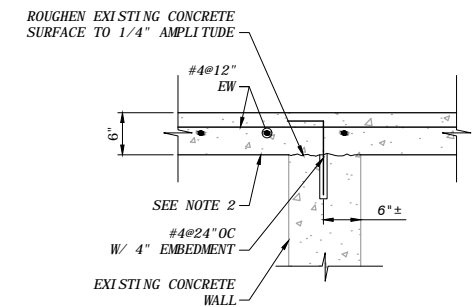
DETAIL G
NTS



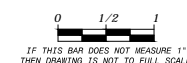
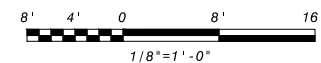
DETAIL H
NTS



DETAIL I
NTS



DETAIL J
NTS



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

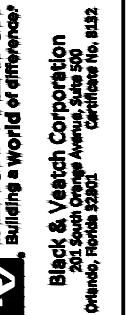
NO.	BY	CHK	DATE

REVISIONS AND RECORD OF ISSUE

CURRENT ID: 7/2015
DATE: 7/2015
REVISED: 7/2015
BY: JWC
CHK: JWC

PROJECT ID: FRED08341
DATE: 8/15/2013 9:56:25 AM
BY: JWC
CHK: JWC

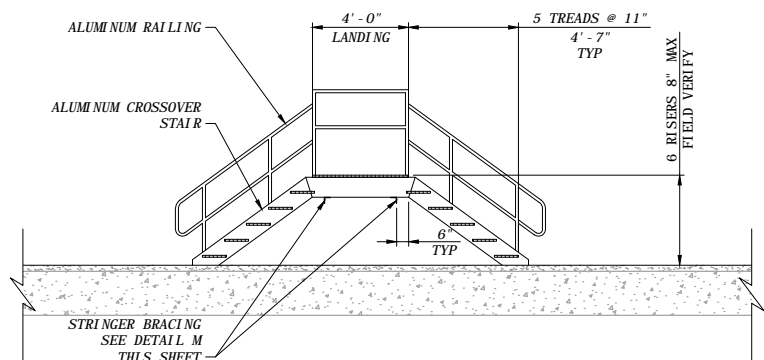
USER: FRED08341
DWG. VER:



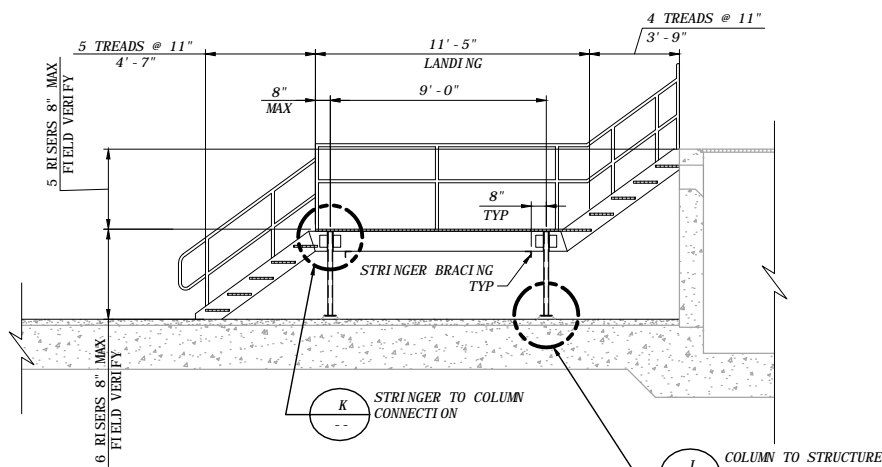
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
NORTH PLANT FILTERS AND CHLORINE
CONTACT BASIN SECTIONS I

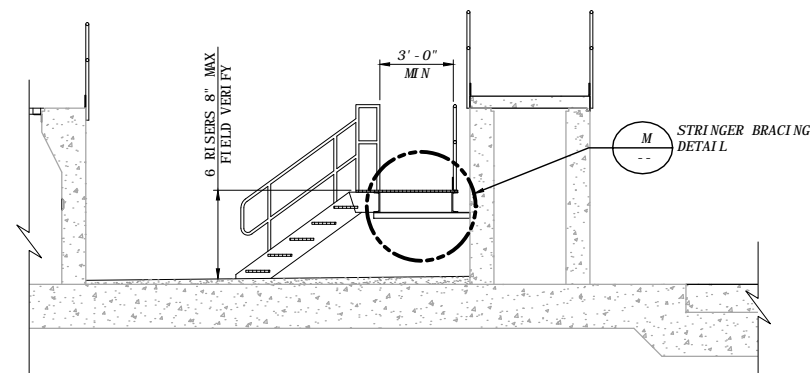
DESIGNED: JWC
DETAILLED: JWC
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633
PROJECT NO. 180761
S-26 SHEET 136 OF 364



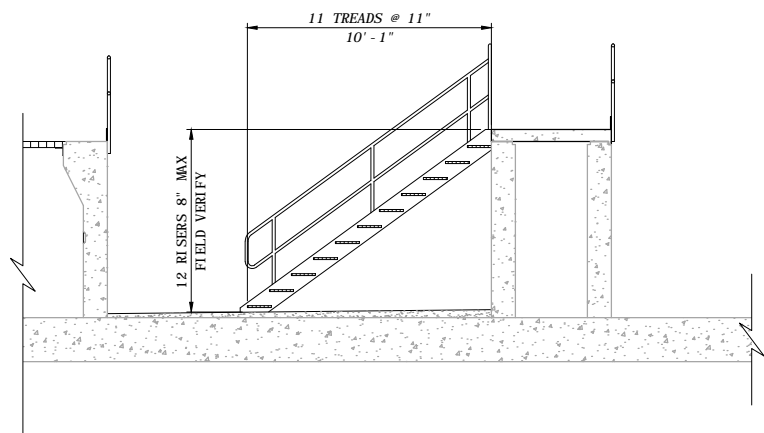
SECTION 4
1/4" = 1'-0"



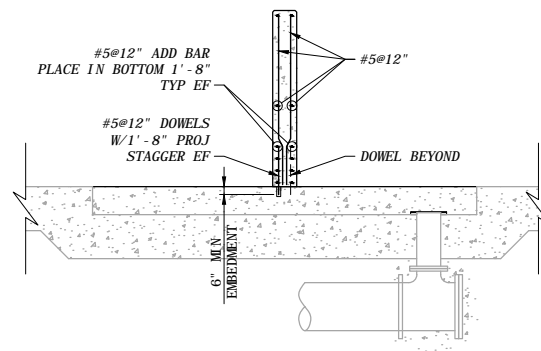
SECTION 5
1/4" = 1'-0"



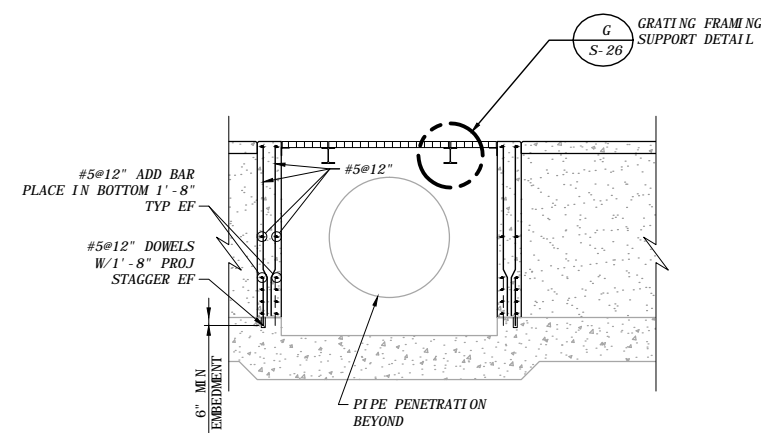
SECTION 6
1/4" = 1'-0"



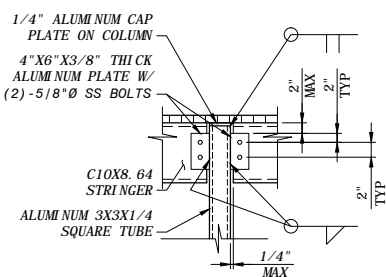
SECTION 7
1/4" = 1'-0"



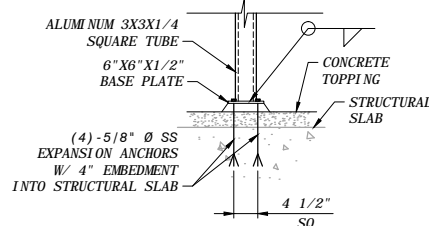
SECTION 8
1/4" = 1'-0"



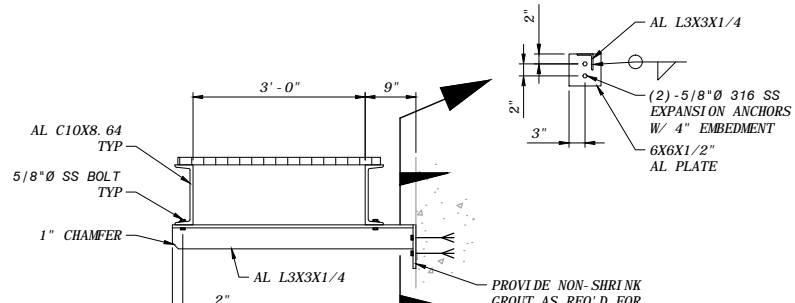
SECTION 9
1/4" = 1'-0"



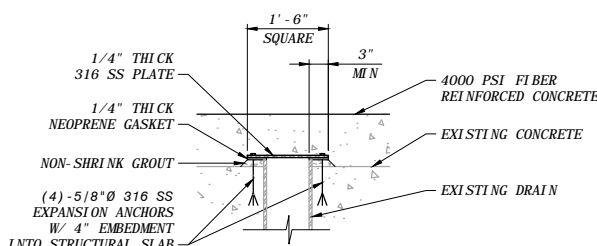
DETAIL K
NTS



DETAIL L
NTS



DETAIL M
NTS



DETAIL N
NTS



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

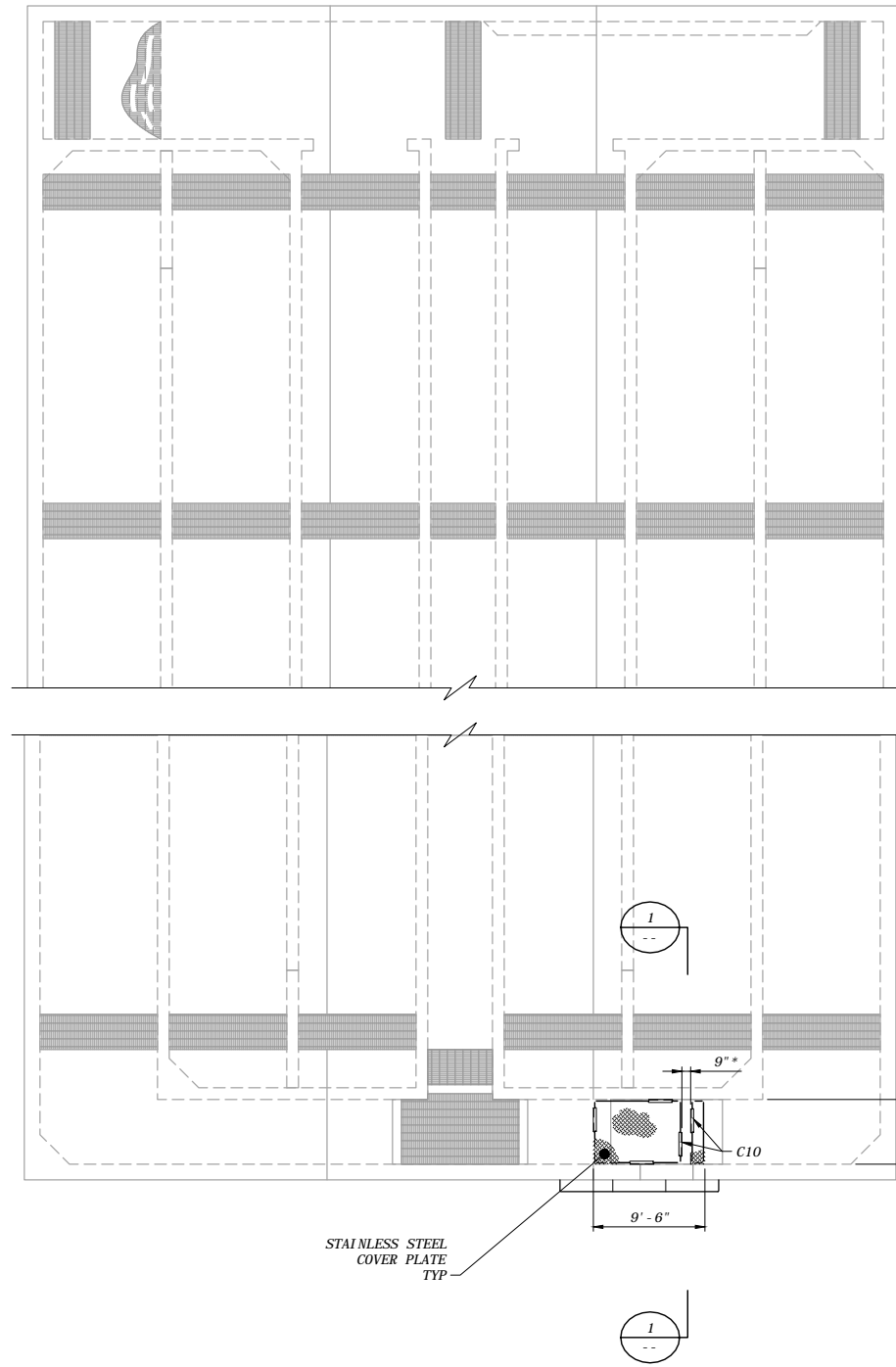
NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
			7/2015	BID ISSUE
				REVISION 1
				REVISION 2
				REVISION 3
				REVISION 4
				REVISION 5



ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL
NORTH PLANT FILTERS AND CHLORINE
CONTACT BASIN SECTIONS II

DESIGNED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633

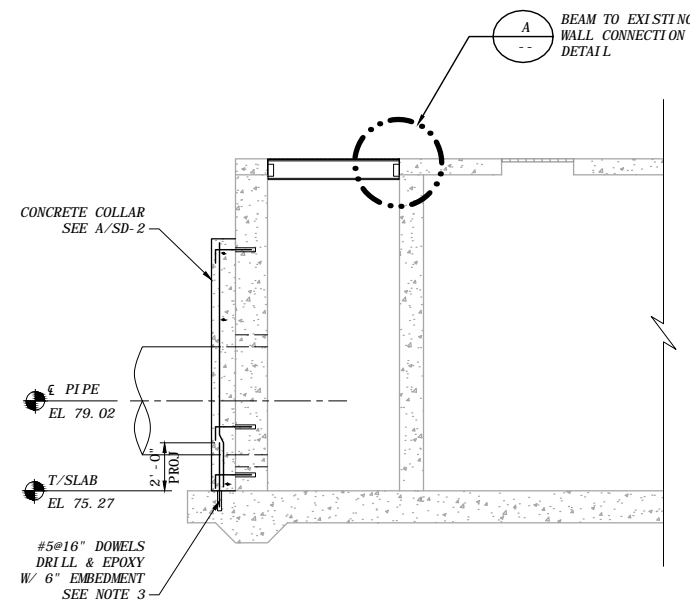
PROJECT NO.
180761
S-27
SHEET
137 OF 364



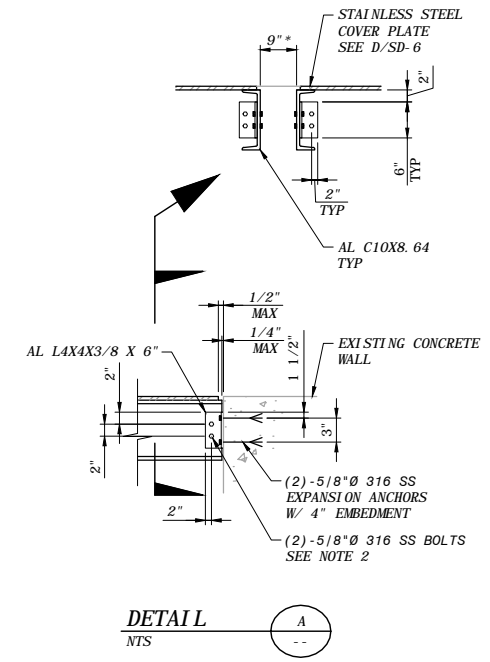
TOP PLAN
1/8" = 1'-0"

NOTES

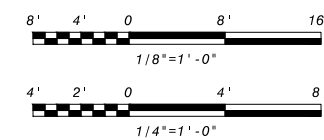
1. DIMENSIONS MARKED WITH AN ASTERISK (*) SHALL BE COORDINATED WITH THE GATE MANUFACTURER.
2. ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
3. DRILL AND EPOXY DOWELS BELOW PIPE AND CUT TO LENGTH PRIOR TO INSTALLATION OF THE PIPE. DOWELS SHALL BE 2" CLEAR OF PIPE AND SEEP RING.



SECTION
1/4" = 1'-0"



DETAIL
NTS



0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL CONTACT BASIN
NORTH PLANT CHLORINE

DESIGNED: JC
 DETAILED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

PROJECT NO.
180761

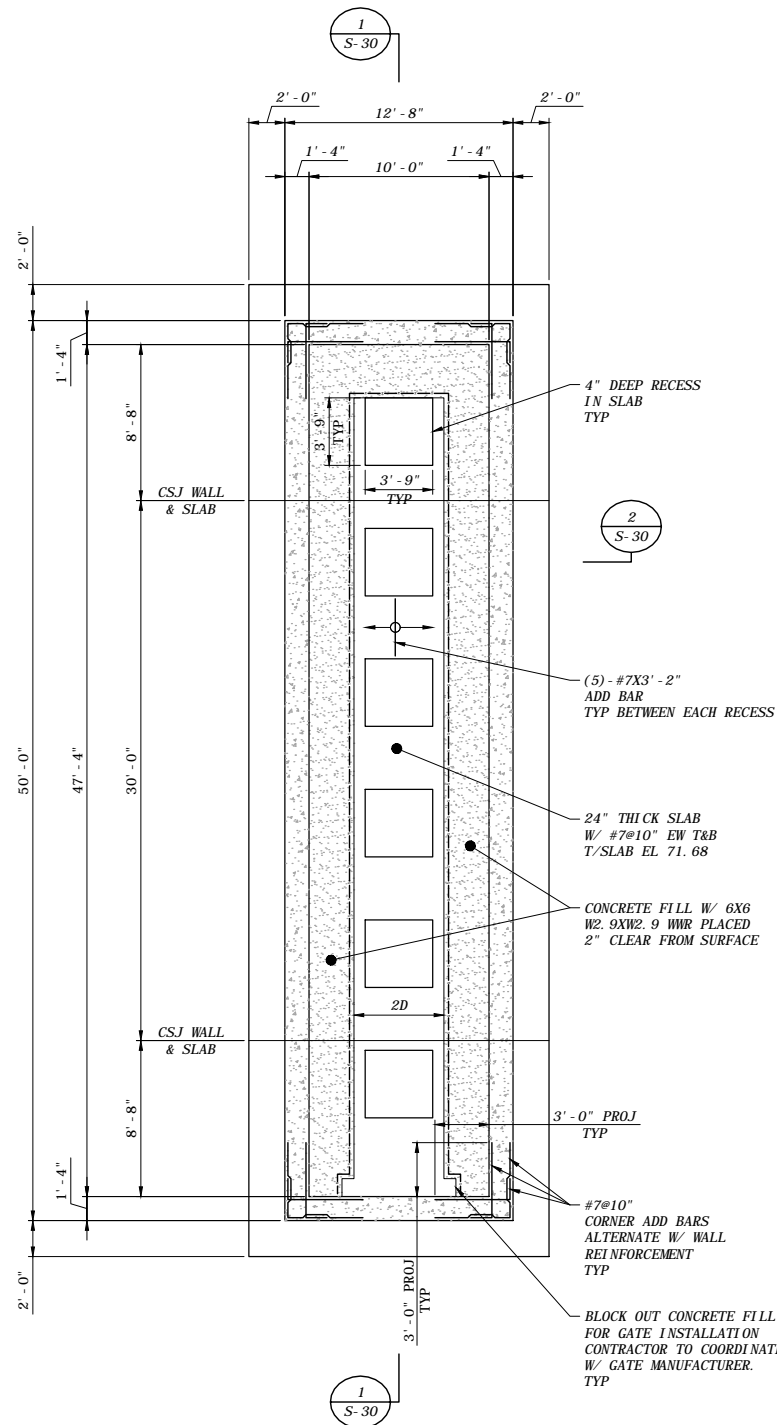
S-28
SHEET
138 OF 364

BLACK & VEATCH
Building a world of difference®
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. B132

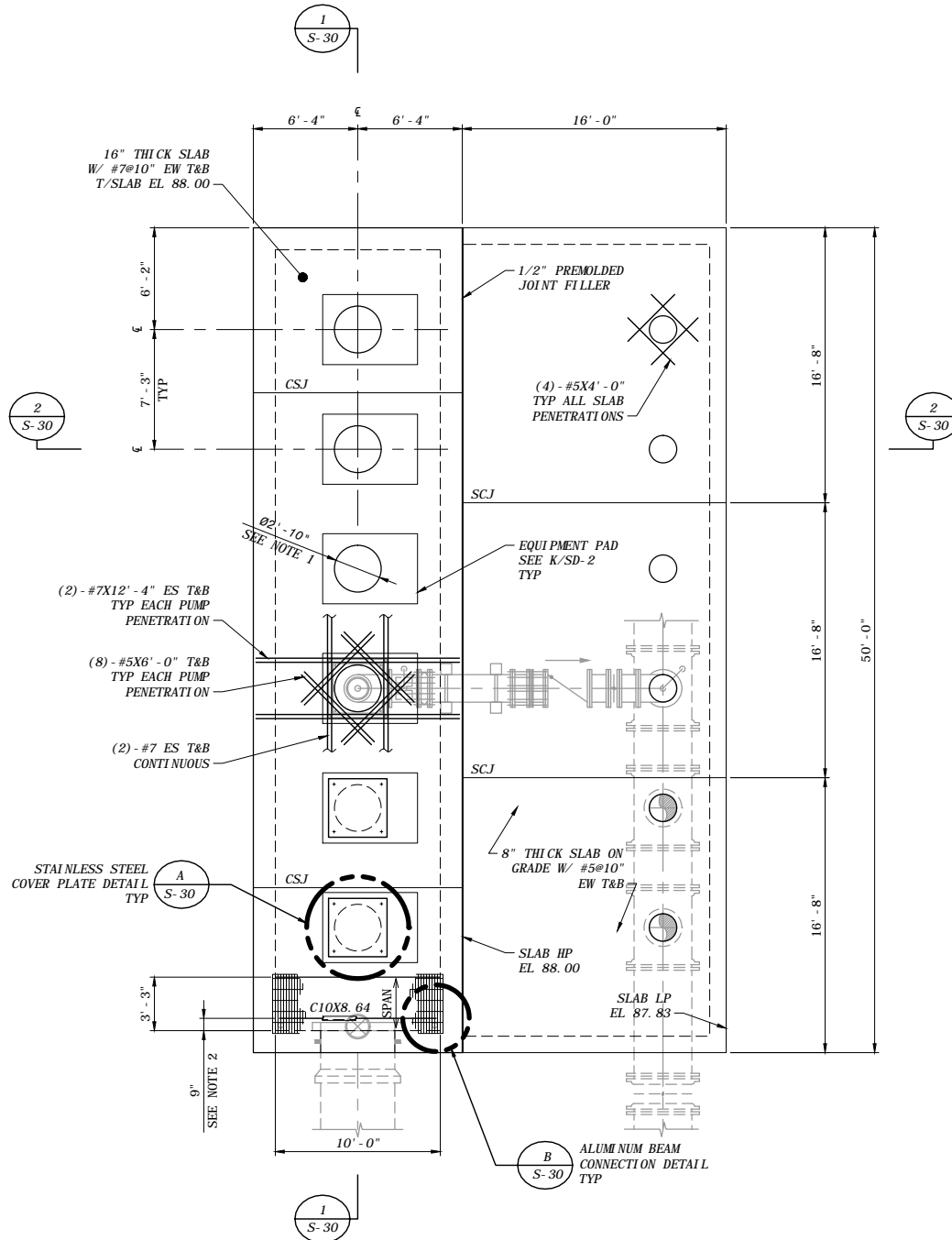
AECOM
 150 SOUTH BRIDGE AVENUE, SUITE 200
 FORT LAUDERDALE, FLORIDA 33301
 PHONE: 754.440.8600
 FAX: 754.440.8601
 WWW.AECOM.COM

NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
1			7/2015	BID ISSUE
2				REVISIONS AND RECORD OF ISSUE
3				REVISIONS AND RECORD OF ISSUE
4				REVISIONS AND RECORD OF ISSUE
5				REVISIONS AND RECORD OF ISSUE
6				REVISIONS AND RECORD OF ISSUE
7				REVISIONS AND RECORD OF ISSUE
8				REVISIONS AND RECORD OF ISSUE
9				REVISIONS AND RECORD OF ISSUE
10				REVISIONS AND RECORD OF ISSUE

CYBERNET ID: _____
 DATE: _____
 USER: FRED08341, 8/15/2013 9:55:25 AM
 PLOTTED: _____
 USER: FRED08341 DMC VER: _____



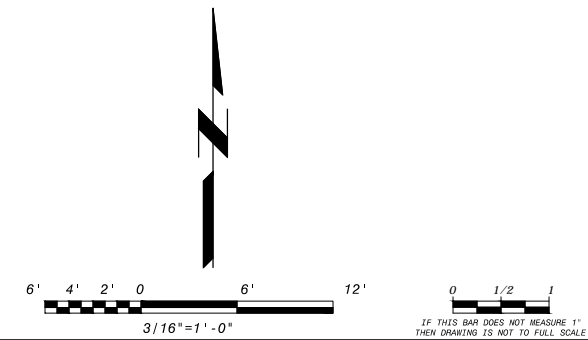
FOUNDATION PLAN
3/16" = 1'-0"



TOP PLAN
3/16" = 1'-0"

NOTES

1. COORDINATE SLAB PENETRATION SIZE WITH PUMP MANUFACTURER.
2. COORDINATE FRAMING SET BACK WITH GATE MANUFACTURER.
3. STRUCTURE SHALL NOT BE LEAK TESTED BEFORE TOP SLAB HAS BEEN CONSTRUCTED AND HAS REACHED ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
4. THE DIMENSION "D" REFERS TO THE BELL DIAMETER OF THE PUMP. PUMP STATION DIMENSIONS ARE BASED ON THIS VALUE. COORDINATE PUMP STATION DESIGN ELEMENTS WITH PUMP MANUFACTURER. SEE M-33 AND M-34 FOR ADDITIONAL INFORMATION.



NO.	BY	CHK	DATE	REVISIONS AND RECORD OF ISSUE
1			7/2015	BID ISSUE
2				
3				
4				
5				

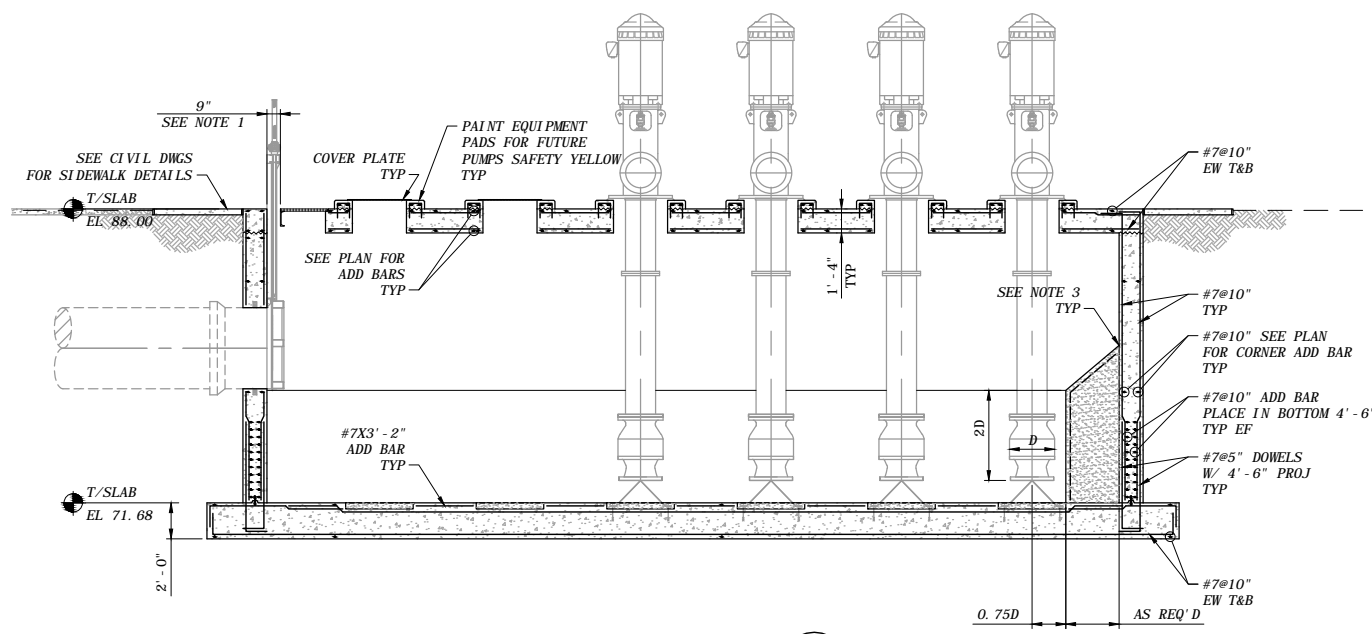
AECOM
150 SOUTH BRADY AVENUE, SUITE 200
 ORLANDO, FLORIDA 32801
 PHONE: 407.641.2000
 FAX: 407.641.2001
 WWW.AECOM.COM

BLACK & VEATCH
 Building a world of difference?
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 8132

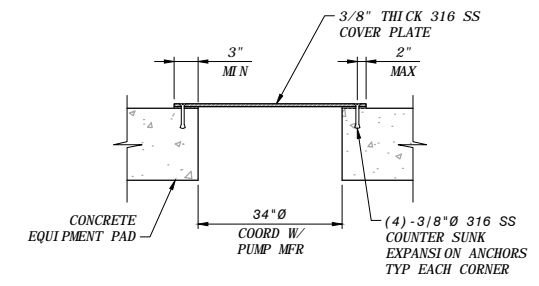
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS
STRUCTURAL
NORTH PLANT TRANSFER PUMPING STATION
 FOUNDATION AND TOP PLANS

DESIGNED: JC
 DETAILED: JC
 CHECKED: KM
 APPROVED: WDM
 DATE: JANUARY 2015
 ENGINEER OF RECORD:
 KHALID MOTIWALA, PE
 FLORIDA LICENSE NO.:
 50633

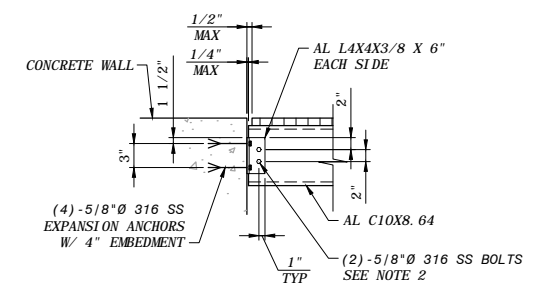
PROJECT NO.
180761
S-29
 SHEET
 139 OF 364



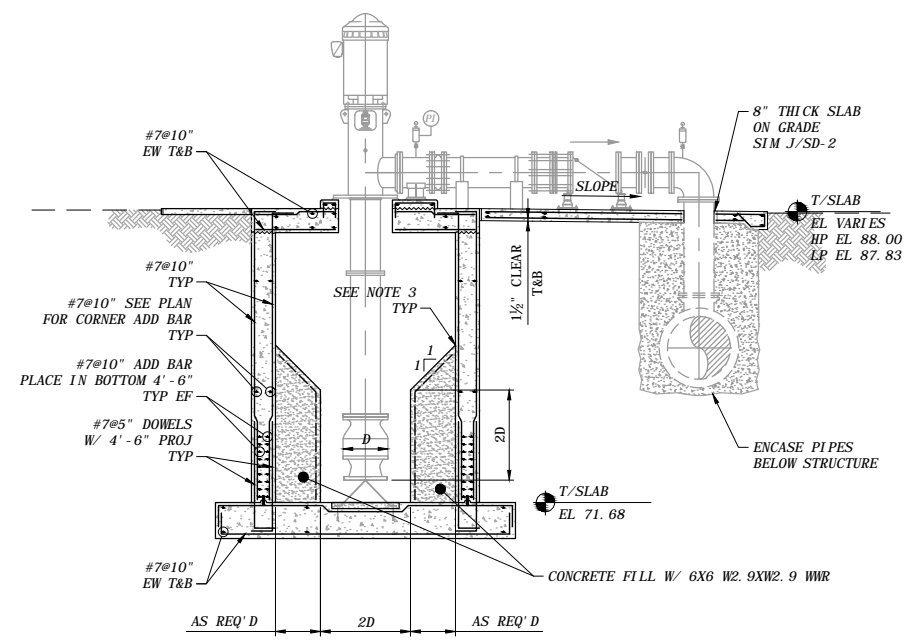
SECTION 1
3/16" = 1'-0"



DETAIL A
NTS

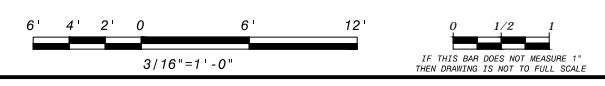


DETAIL B
NTS

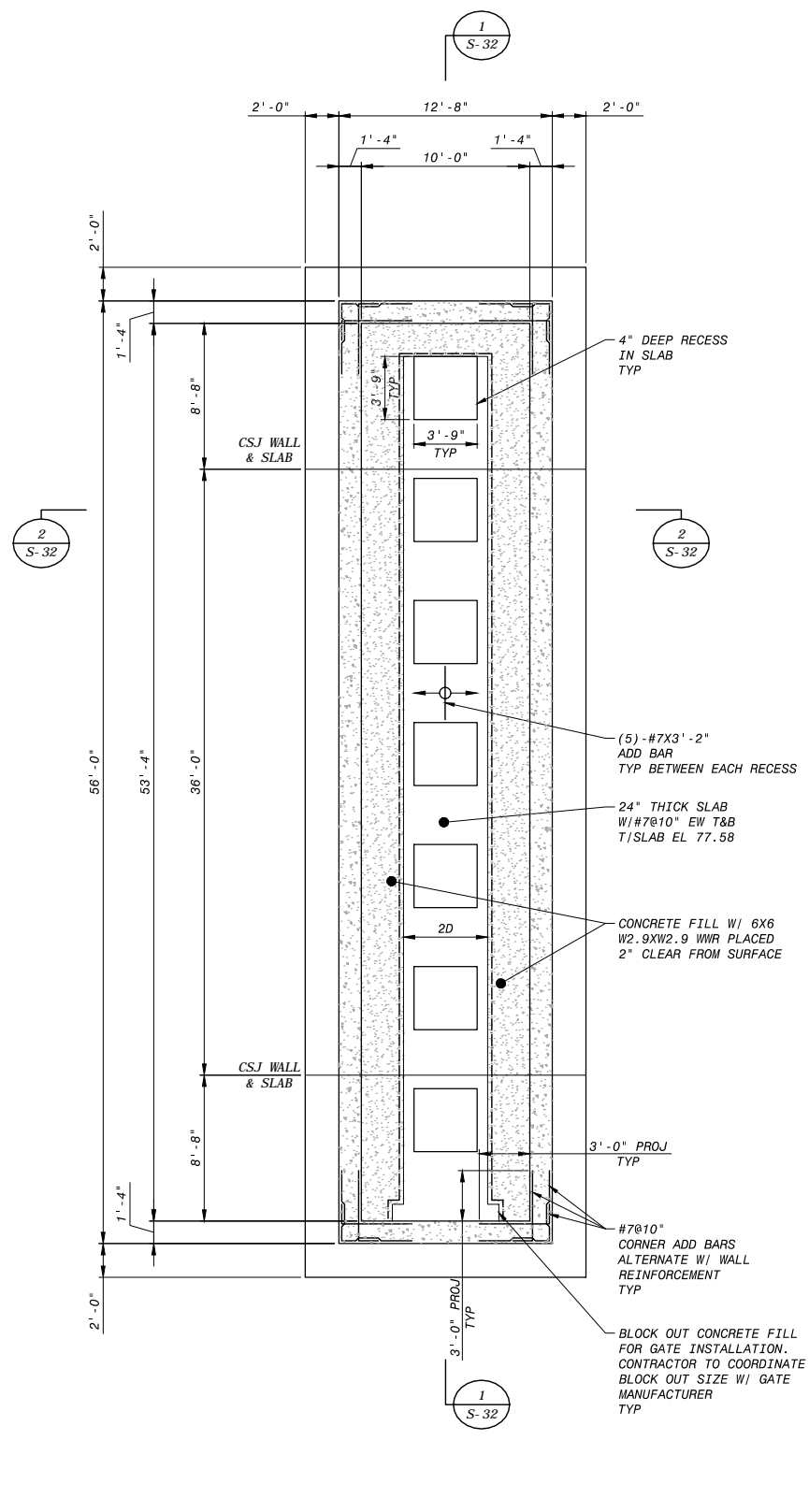


SECTION 2
3/16" = 1'-0"

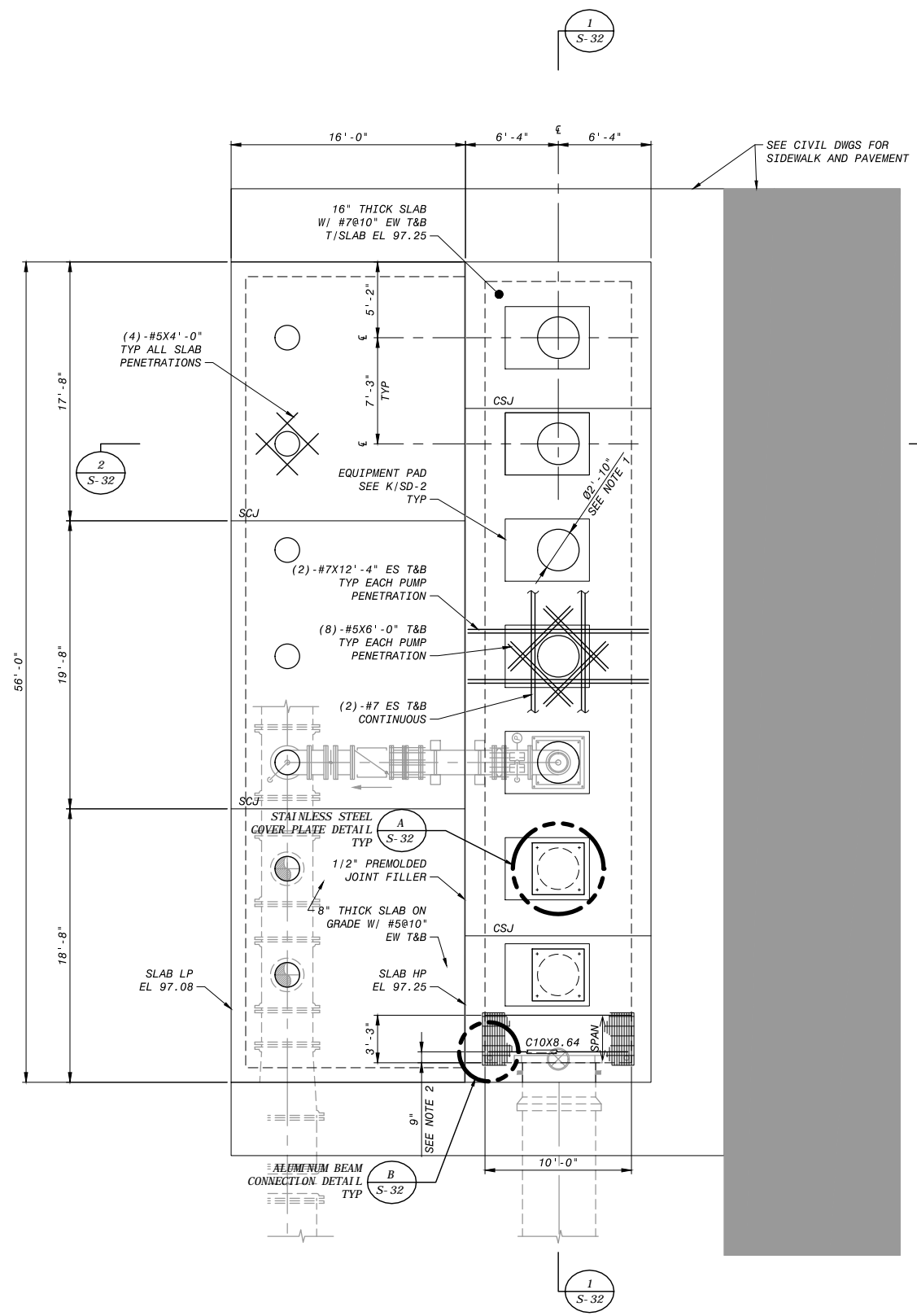
- NOTES**
- COORDINATE FRAMING SET BACK WITH GATE MANUFACTURER.
 - ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
 - TERMINATE FILLET PER DETAIL D/SD-3. DO NOT FEATHER EDGES.
 - STRUCTURE SHALL NOT BE LEAK TESTED BEFORE TOP SLAB HAS BEEN CONSTRUCTED AND HAS REACHED ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
 - THE DIMENSION "D" REFERS TO THE BELL DIAMETER OF THE PUMP. PUMP STATION DIMENSIONS ARE BASED ON THIS VALUE. COORDINATE PUMP STATION DESIGN ELEMENTS WITH PUMP MANUFACTURER. SEE M-33 AND M-34 FOR ADDITIONAL INFORMATION.



ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL NORTH PLANT TRANSFER PUMPING STATION SECTIONS AND DETAILS	
DESIGNED: JC DETAILED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	REVISIONS AND RECORD OF ISSUE NO. BY CR DATE XREF1: XREF2: XREF3: XREF4: XREF5: DIM. VER.
PROJECT NO. 180761	
S-30 SHEET 140 OF 364	

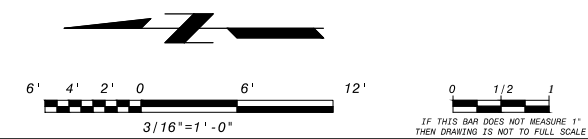


FOUNDATION PLAN
3/16" = 1'-0"



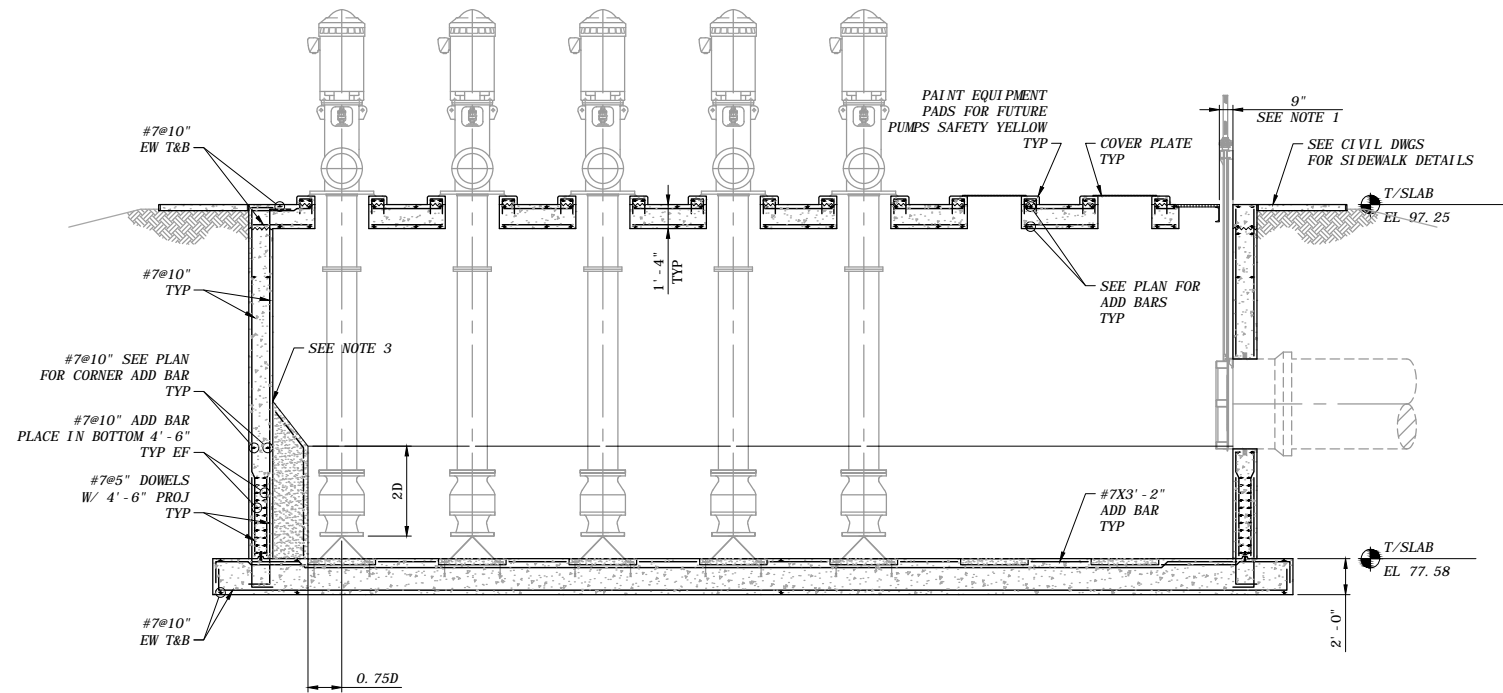
TOP PLAN
3/16" = 1'-0"

- NOTES**
- COORDINATE SLAB PENETRATION SIZE WITH PUMP SUPPLIER.
 - COORDINATE FRAMING SET BACK WITH GATE SUPPLIER.
 - STRUCTURE SHALL NOT BE LEAK TESTED BEFORE TOP SLAB HAS BEEN CONSTRUCTED AND HAS REACHED ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
 - THE DIMENSION "D" REFERS TO THE BELL DIAMETER OF THE PUMP. PUMP STATION DIMENSIONS ARE BASED ON THIS VALUE. COORDINATE PUMP STATION DESIGN ELEMENTS WITH PUMP MANUFACTURER. SEE M-44 AND M-45 FOR ADDITIONAL INFORMATION.

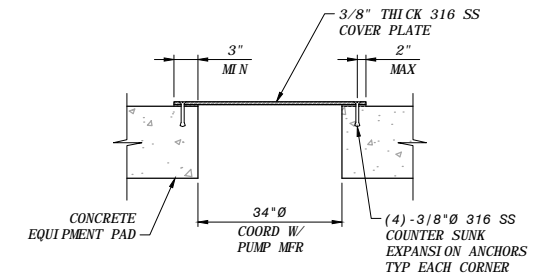


ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL EQUALIZATION PUMP STATION FOUNDATION AND TOP PLAN	
DESIGNED: JC DETAILED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	NO. BY CK / APP REVISIONS AND RECORD OF ISSUE DATE 7/2015 BID ISSUE CYCNET ID: W/F: USER: FRE08341 DWG VER: XREF1: XREF2: XREF3: XREF4: XREF5:
PROJECT NO. 180761 S-31 SHEET 141 OF 364	

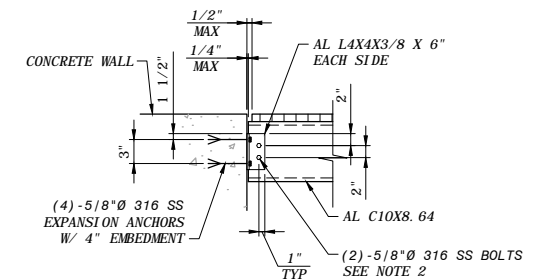
FD180761
D180761



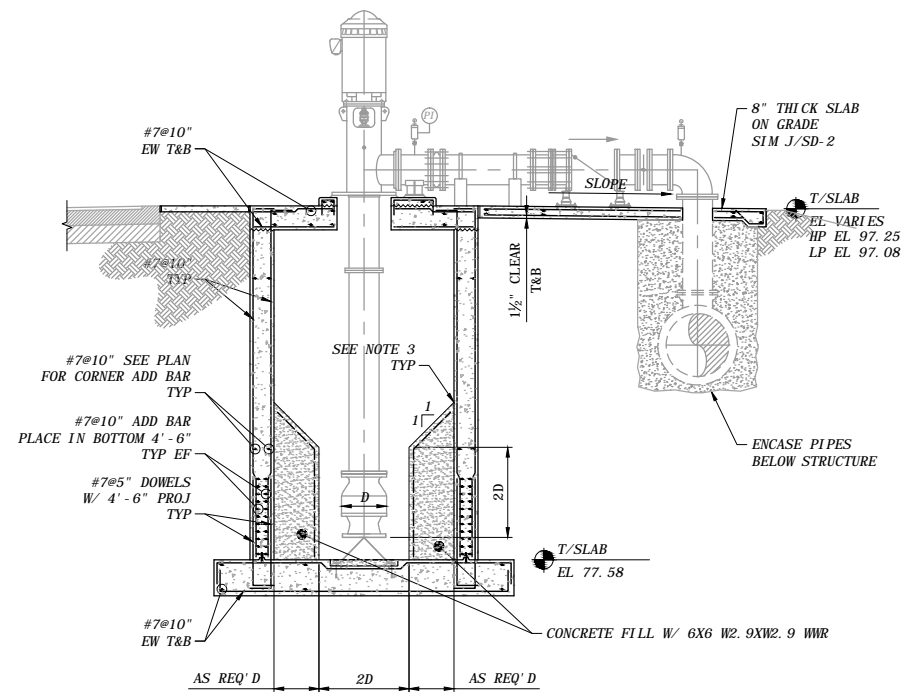
SECTION 1
3/16" = 1'-0"



DETAIL A
NTS



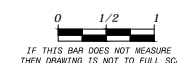
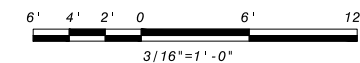
DETAIL B
NTS



SECTION 2
3/16" = 1'-0"

NOTES

- COORDINATE FRAMING SET BACK WITH GATE MANUFACTURER.
- ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
- TERMINATE FILLET PER DETAIL D/SD-3. DO NOT FEATHER EDGES.
- STRUCTURE SHALL NOT BE LEAK TESTED BEFORE TOP SLAB HAS BEEN CONSTRUCTED AND HAS REACHED ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
- THE DIMENSION "D" REFERS TO THE BELL DIAMETER OF THE PUMP. PUMP STATION DIMENSIONS ARE BASED ON THIS VALUE. COORDINATE PUMP STATION DESIGN ELEMENTS WITH PUMP MANUFACTURER. SEE M-44 AND M-45 FOR ADDITIONAL INFORMATION.



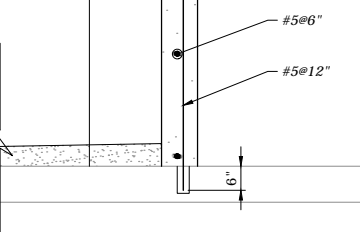
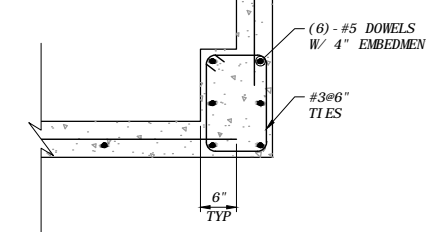
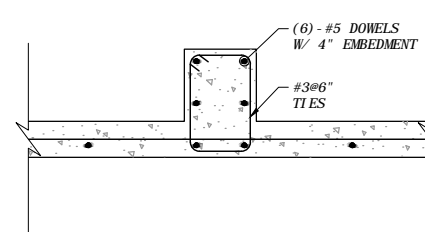
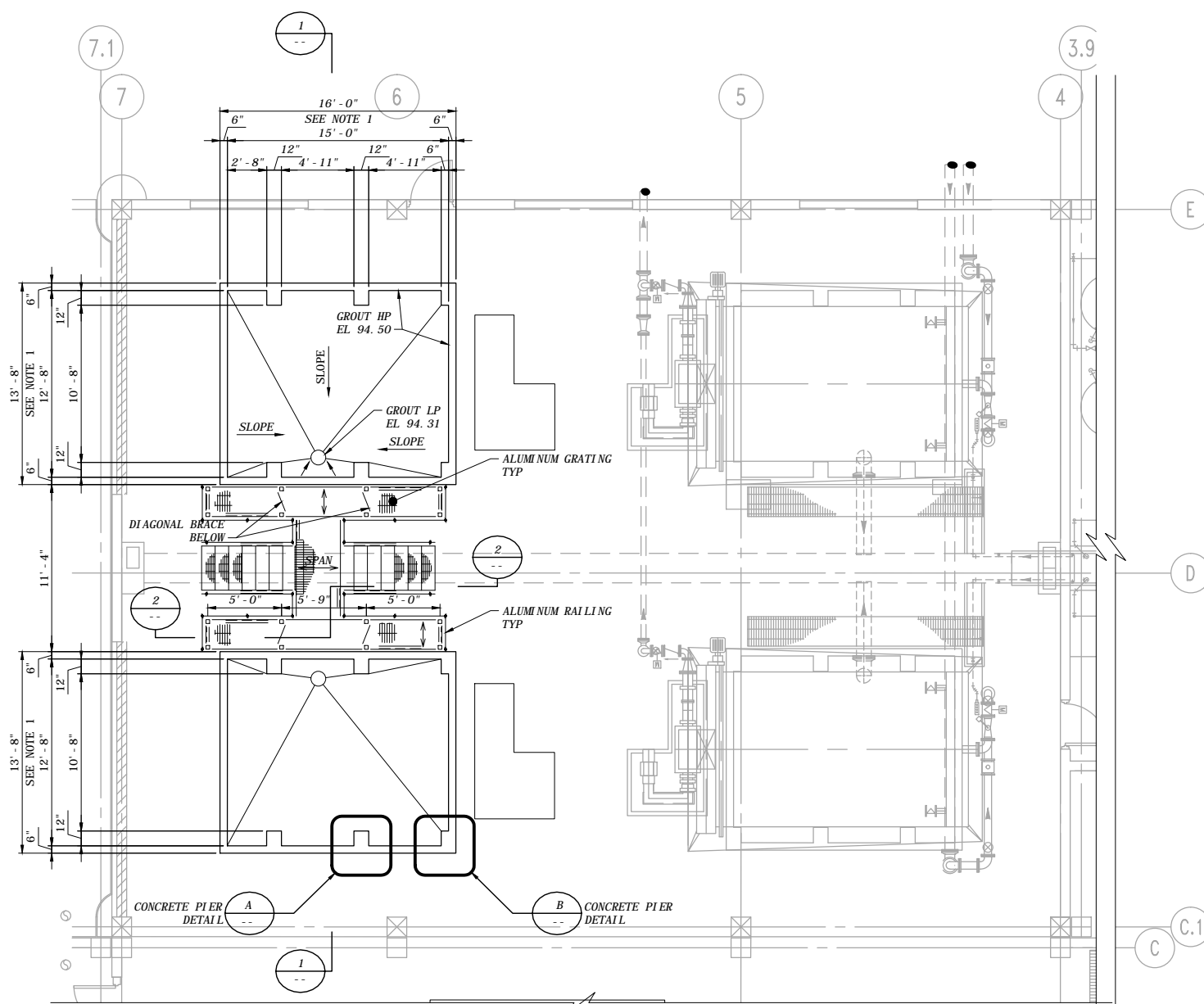
NO.	BY	CHK	DATE
REVISIONS AND RECORD OF ISSUE			XREF1:
DATE	BID ISSUE		XREF2:
7/2015			XREF3:
CURRENT ID:			XREF4:
			XREF5:

AECOM
150 W. GARDNER AVENUE, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.388.2200
FAX: 407.388.2202
CERTIFICATE OF AUTHORIZATION NO. 04-8118

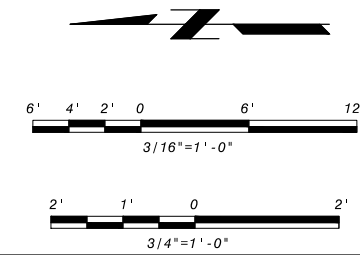
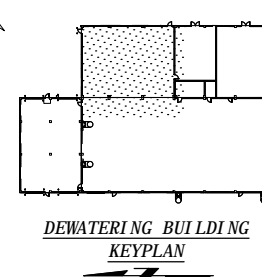
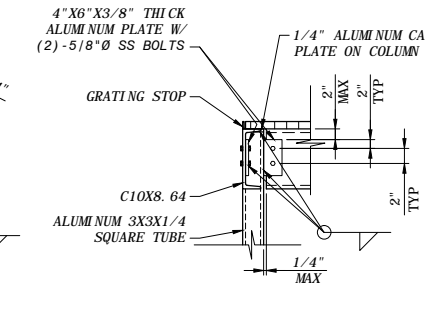
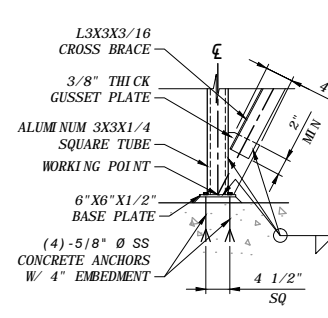
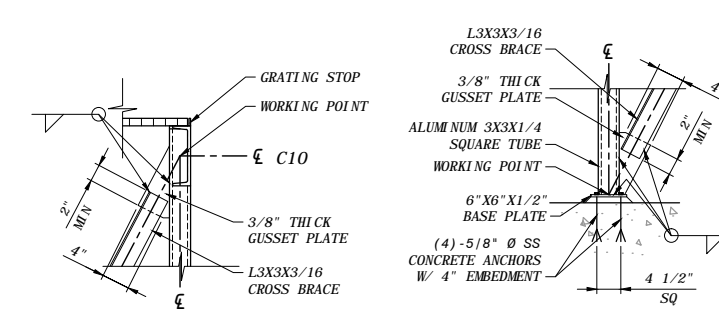
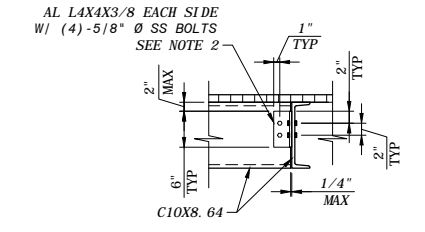
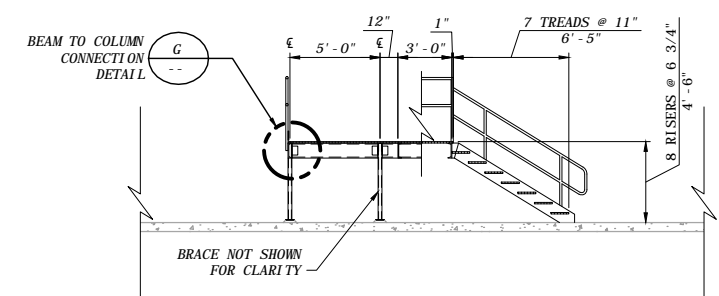
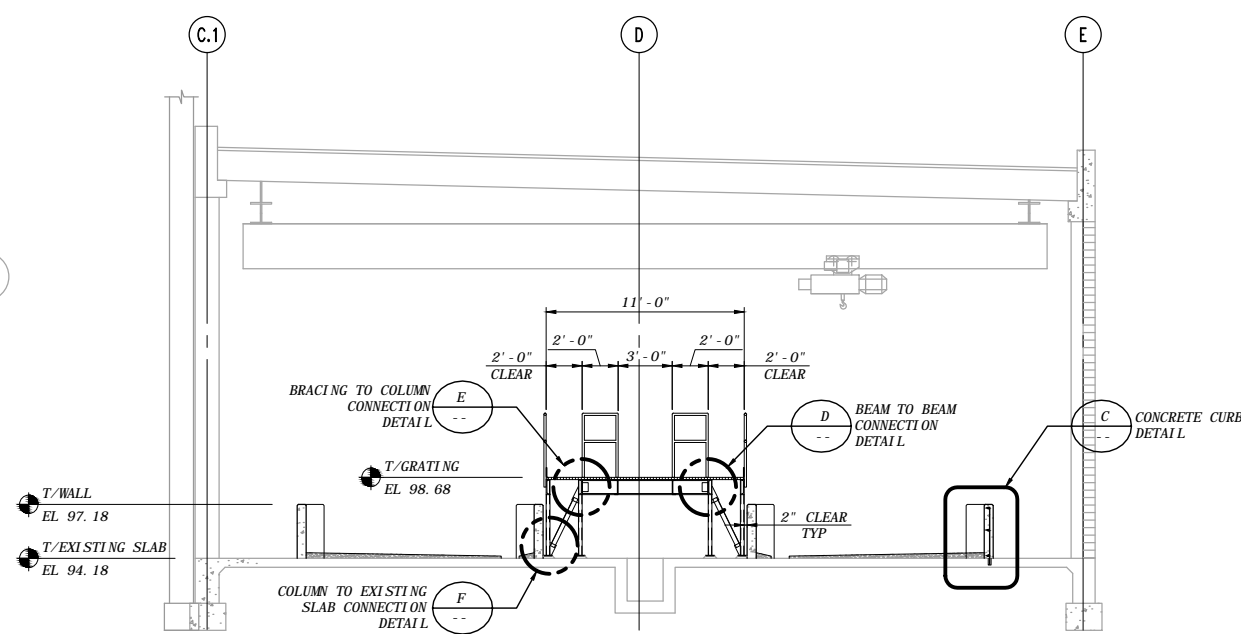
BLACK & VEATCH
Building a world of difference®
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 0132

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL
EQUALIZATION PUMPING STATION
SECTIONS AND DETAILS

DESIGNED:	JC
DETAILED:	JC
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633
PROJECT NO.	180761
SHEET	S-32
	142 OF 364

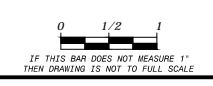
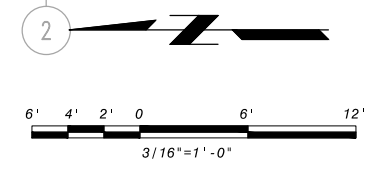
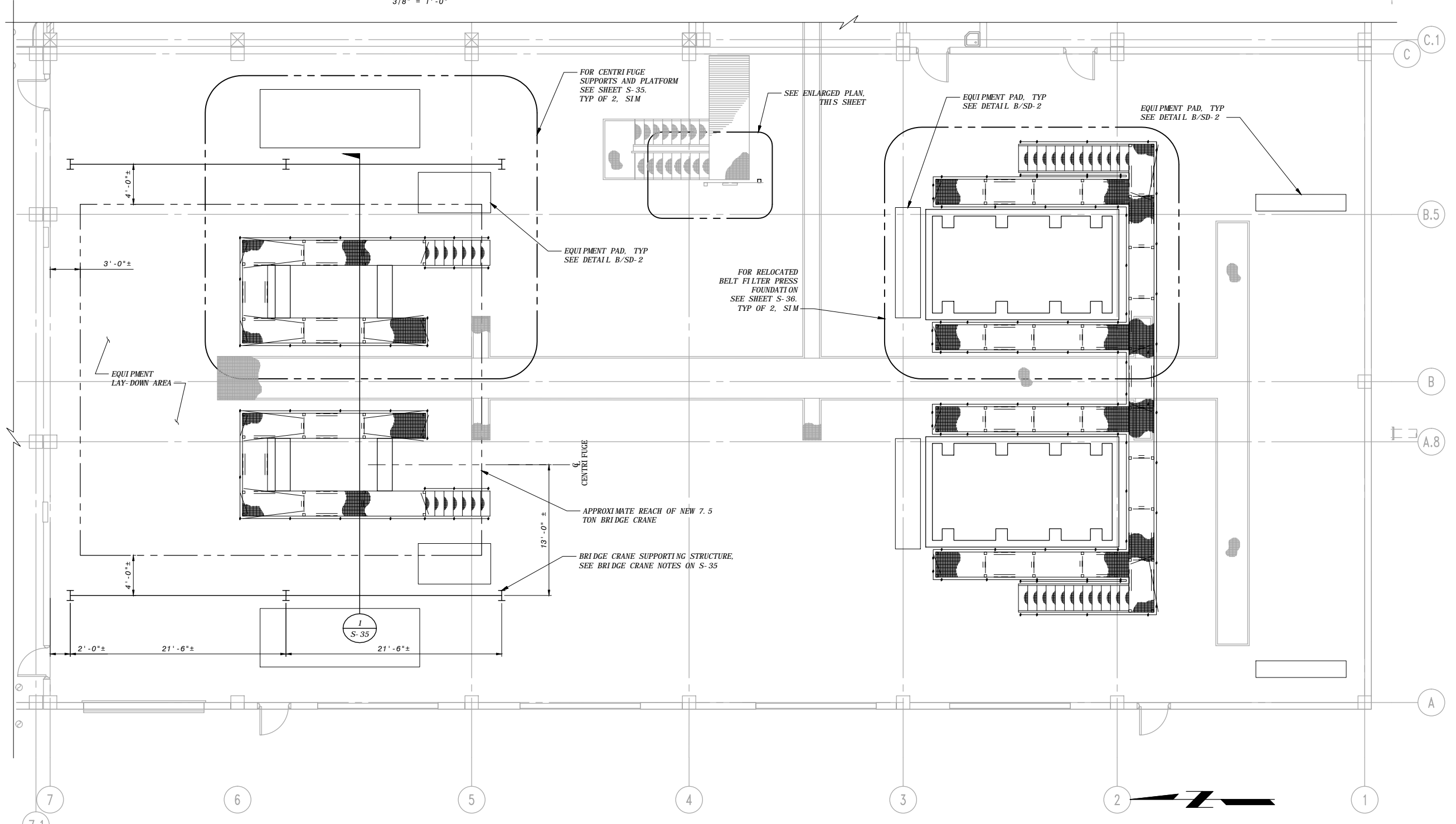
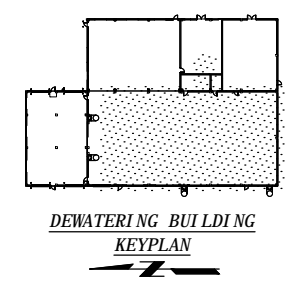
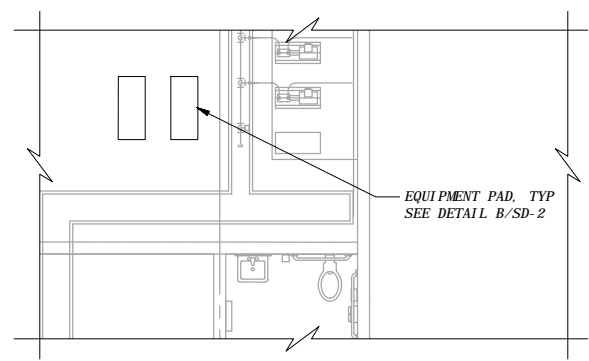
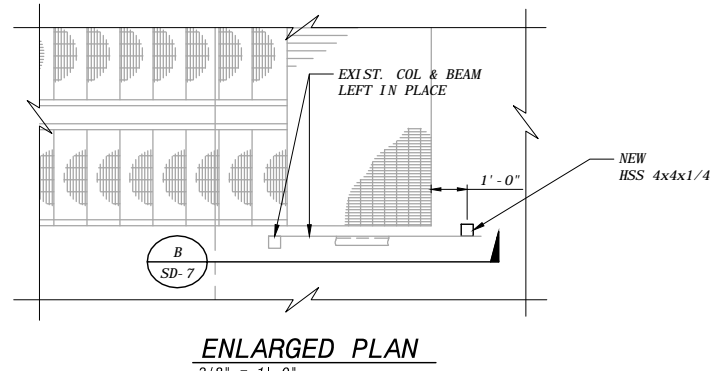


- NOTES**
- GRAVITY BELT THICKENER SUMP GEOMETRY TO BE VERIFIED WITH MECHANICAL DRAWINGS AND EQUIPMENT MANUFACTURER.
 - ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.

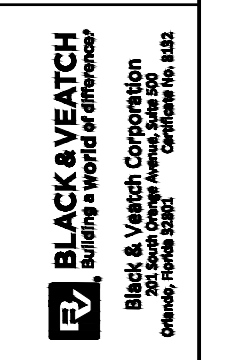
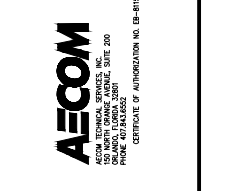


	Black & Veatch Corporation 201 South Orange Avenue, Suite 500 Orlando, Florida 32801
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	
STRUCTURAL GRAVITY BELT THICKENER AND POLYMER ROOM PLAN	
DESIGNED: JC DETAILLED: JC CHECKED: KM APPROVED: WDM DATE: JANUARY 2015	PROJECT NO. 180761 S-33 SHEET 143 OF 364
ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	REVISIONS AND RECORD OF ISSUE NO. BY CR DATE 7/2015 BID ISSUE CYCLET ID: XREF1: XREF2: XREF3: XREF4: XREF5: USER: FRE08341 DIM. VER.:

FD180761
D180761



NO. 1	BY	CR	APP
7/2015	BID ISSUE	REVISIONS AND RECORD OF ISSUE	
CYCLIST ID:	DATE	DATE	DATE
WF:	SAVED: FREQ0341_8/15/2013 9:55:25 AM	XREF1:	XREF2:
PLOTTED:	USER: FREQ0341	XREF3:	XREF4:
		XREF5:	



ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

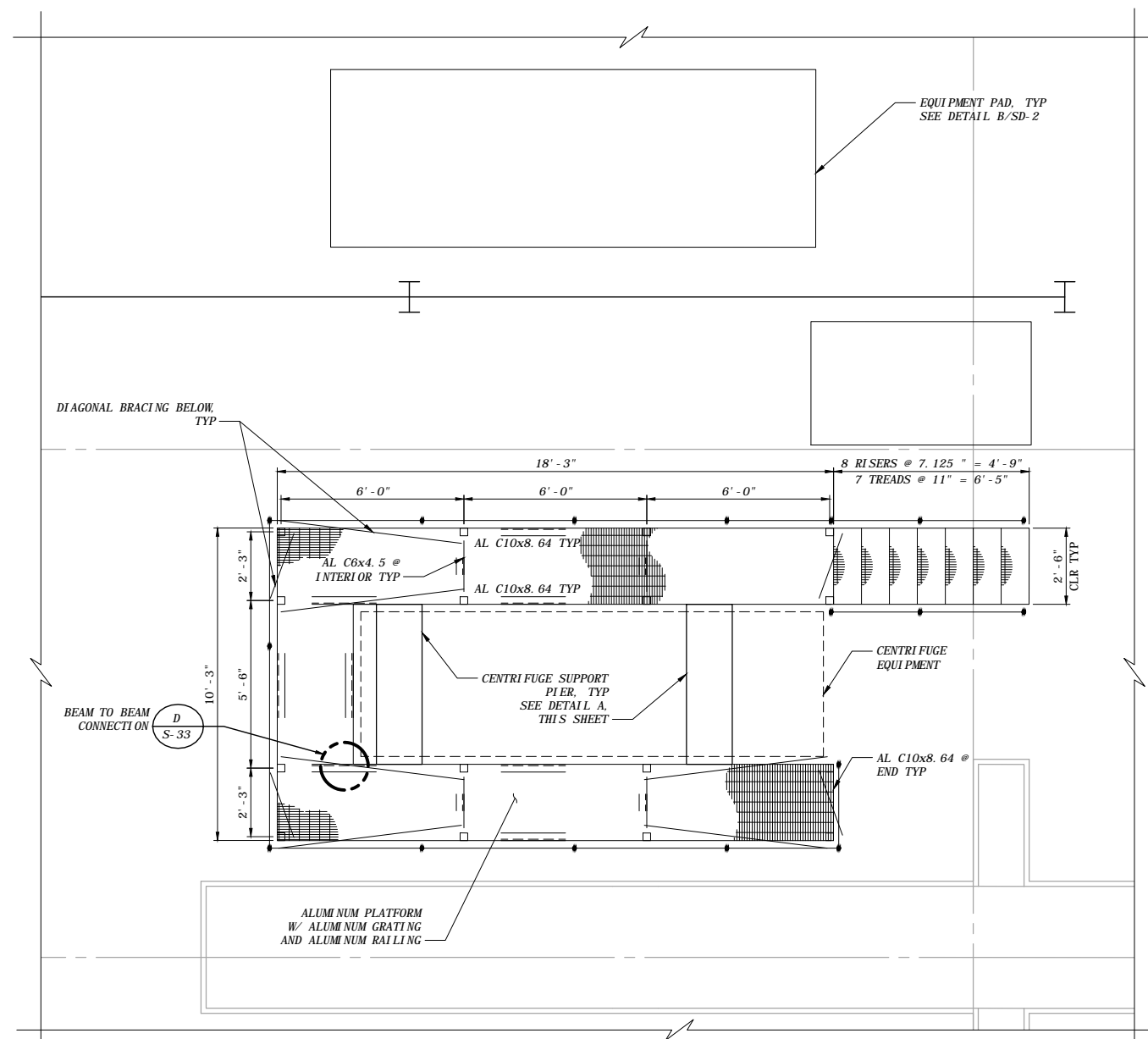
STRUCTURAL
CENTRIFUGE AND BELT FILTER PRESS
PLAN

DESIGNED: MW
DETAILED: MW
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633

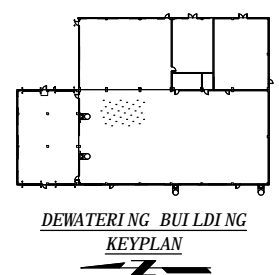
PROJECT NO.
180761

S-34
SHEET
144 OF 364

FD180761
D180761

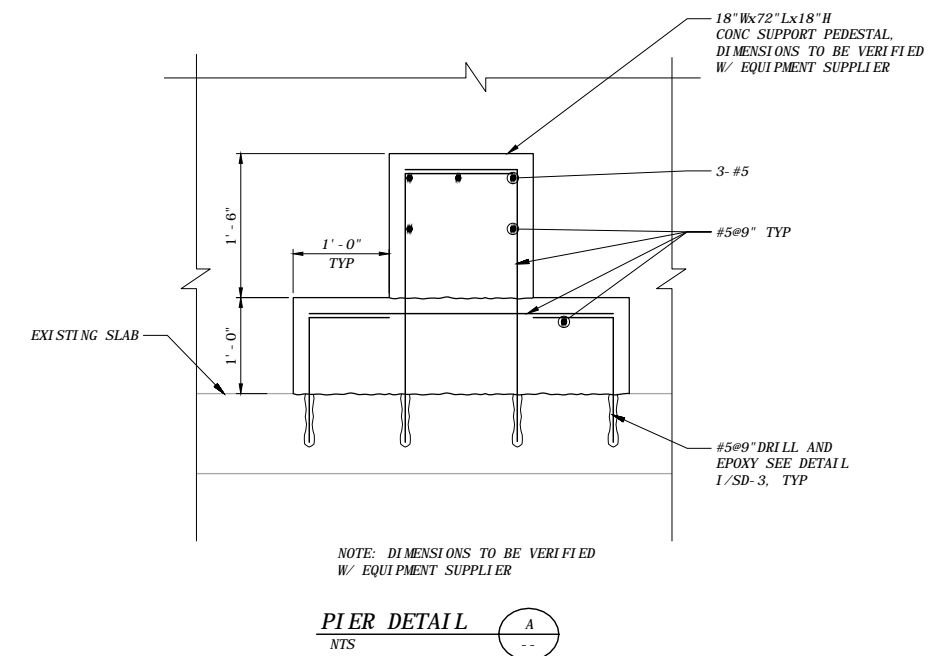
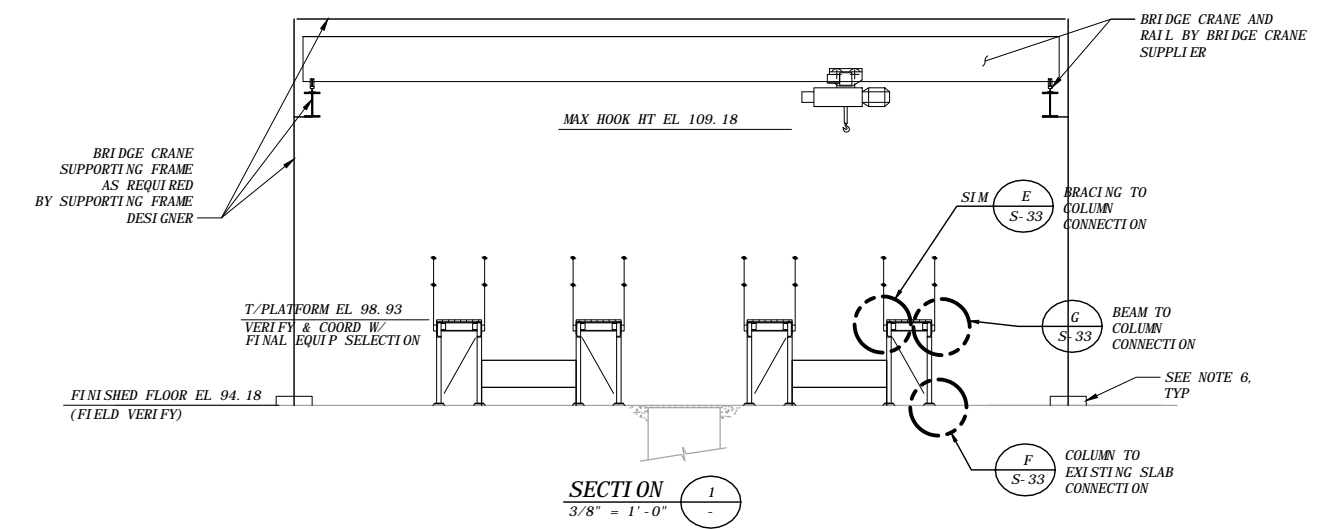


CENTRIFUGE SUPPORTS AND PLATFORM - ENLARGED PLAN
 3/8" = 1'-0"



GENERAL NOTE

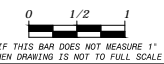
- CENTRIFUGE ACCESS PLATFORM HEIGHT AND LAYOUT TO BE VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIER.



BRIDGE CRANE NOTES

- CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA TO DESIGN THE BRIDGE CRANE SUPPORTING STRUCTURE.
- BRIDGE CRANE SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 14630.
- BRIDGE CRANE SUPPLIER SHALL DESIGN AND PROVIDE ASCE RAIL, ATTACHMENT OF RAIL TO RUNWAY BEAMS, AND RAIL SPLICE.
- BRIDGE CRANE SUPPORTING STRUCTURE SHOWN IS SCHEMATIC. REQUIRED LAYOUT OF SUPPORTING STRUCTURE SHALL BE VERIFIED AND COORDINATED WITH THE FINAL SELECTION OF CENTRIFUGE RELATED EQUIPMENT.
- SUPPORTING STRUCTURE DESIGN CRITERIA:

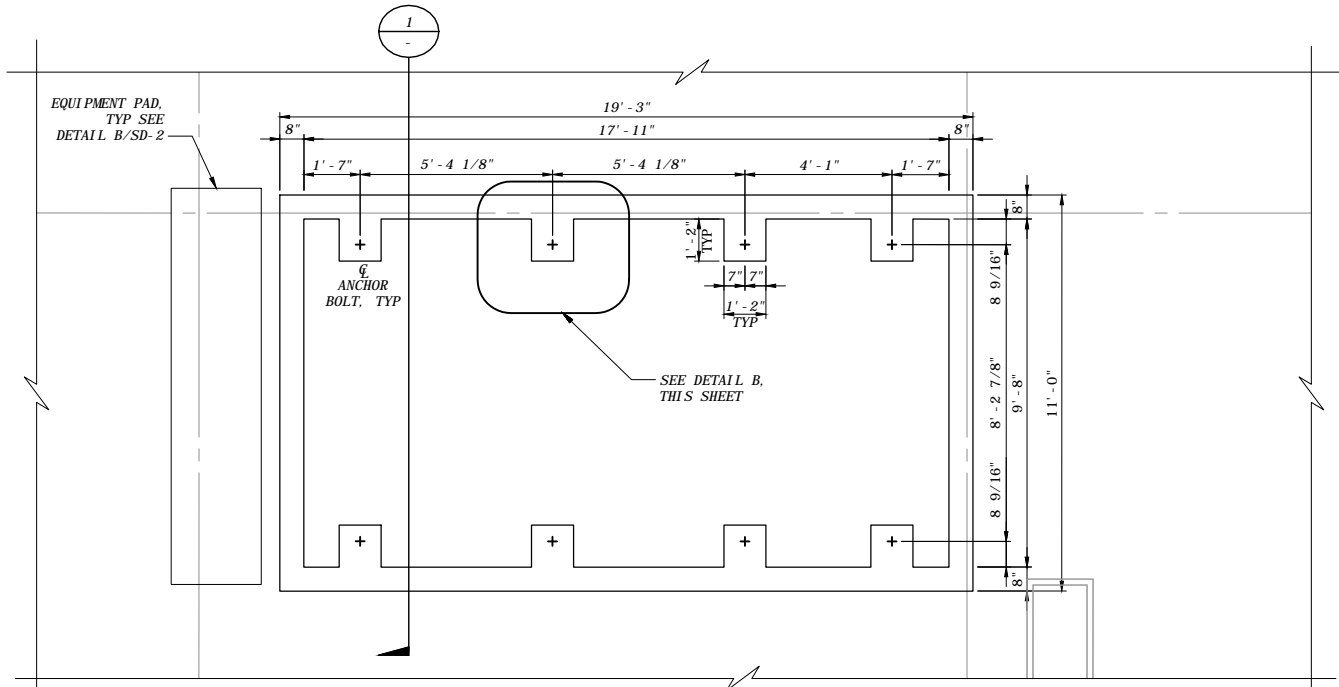
5.1. MATERIAL:	STEEL W/ EPOXY COATING
5.2. LOADING:	
5.2.1. BRIDGE CRANE RATED CAPACITY:	7.5 TONS
5.2.2. IMPACT LOADING PER ASCE 7-10	
5.2.3. ADDITIONAL LOADING DUE TO TESTING:	125% RATED CAPACITY
5.3. DEFLECTION:	
5.3.1. PROVIDE BRACING AS REQUIRED. VERTICAL SUPPORTS SHALL BE DESIGNED SO THAT NO MOMENT IS TRANSFERRED TO THE FOUNDATION.	
5.3.2. RUNWAY BEAM VERTICAL:	L/600 (MAX)
5.3.3. RUNWAY BEAM LATERAL:	L/400 (MAX)
5.3.4. VERTICAL SUPPORTS @ RUNWAY BEAM ELEVATION:	L/240 (MAX)
5.4. SUBMITTALS	
5.4.1. SUBMIT CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN FLORIDA SHOWING CONFORMANCE TO THE REQUIRED DESIGN CRITERIA.	
5.4.2. SUBMIT DRAWINGS SHALL SHOW FIELD VERIFIED DIMENSIONS OF NEARBY EQUIPMENT, STRUCTURAL JOINTS, EXISTING STRUCTURE, ETC. AS BACKGROUND.	
6. EXISTING SLAB STRENGTHENING IF REQUIRED BASED ON FRAME COLUMN REACTIONS PROVIDED BY BRIDGE CRANE SUPPORT FRAMING DESIGNER. CONTRACTOR RETAINED BRIDGE CRANE SUPPORT FRAMING DESIGNER SHALL SUBMIT FRAME COLUMN REACTIONS TO ENGINEER OF RECORD FOR ACCEPTANCE PRIOR TO FABRICATION. SLAB STRENGTHENING DESIGN SHALL BE PERFORMED BY ENGINEER OF RECORD, IF REQUIRED.	



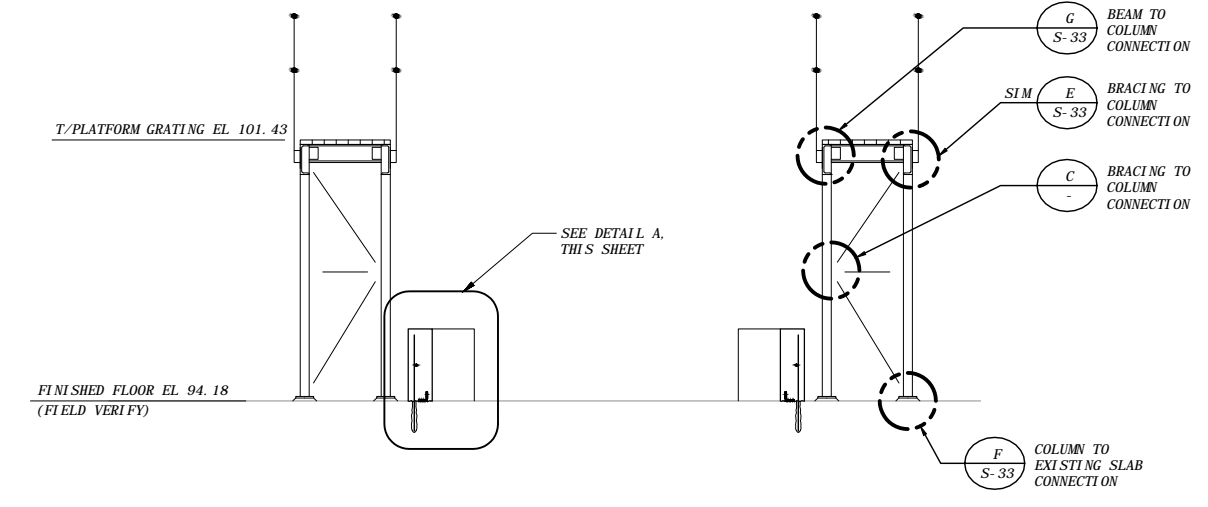
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS	STRUCTURAL CENTRIFUGE ENLARGED PLAN, SECTION, AND DETAILS	DESIGNED: MW DETAILED: MW CHECKED: KM APPROVED: WDM DATE: JANUARY 2015 ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	PROJECT NO. 180761 S-35 SHEET 145 OF 364
AECOM <small>150 SOUTH BRIDGE AVENUE, SUITE 200 ORLANDO, FLORIDA 32801 PHONE: 407.241.2000 FAX: 407.241.2001</small>		Black & Veatch Corporation <small>2021 South Orange Avenue, Suite 500 Orlando, Florida 32801 Certificate No. 0132</small>	
CYCLET ID: DATE: 7/2015 BID ISSUE	REVISIONS AND RECORD OF ISSUE XREF1: XREF2: XREF3: XREF4: XREF5:	USER: FRE08941 DIM. VER:	NO. BY CR APP

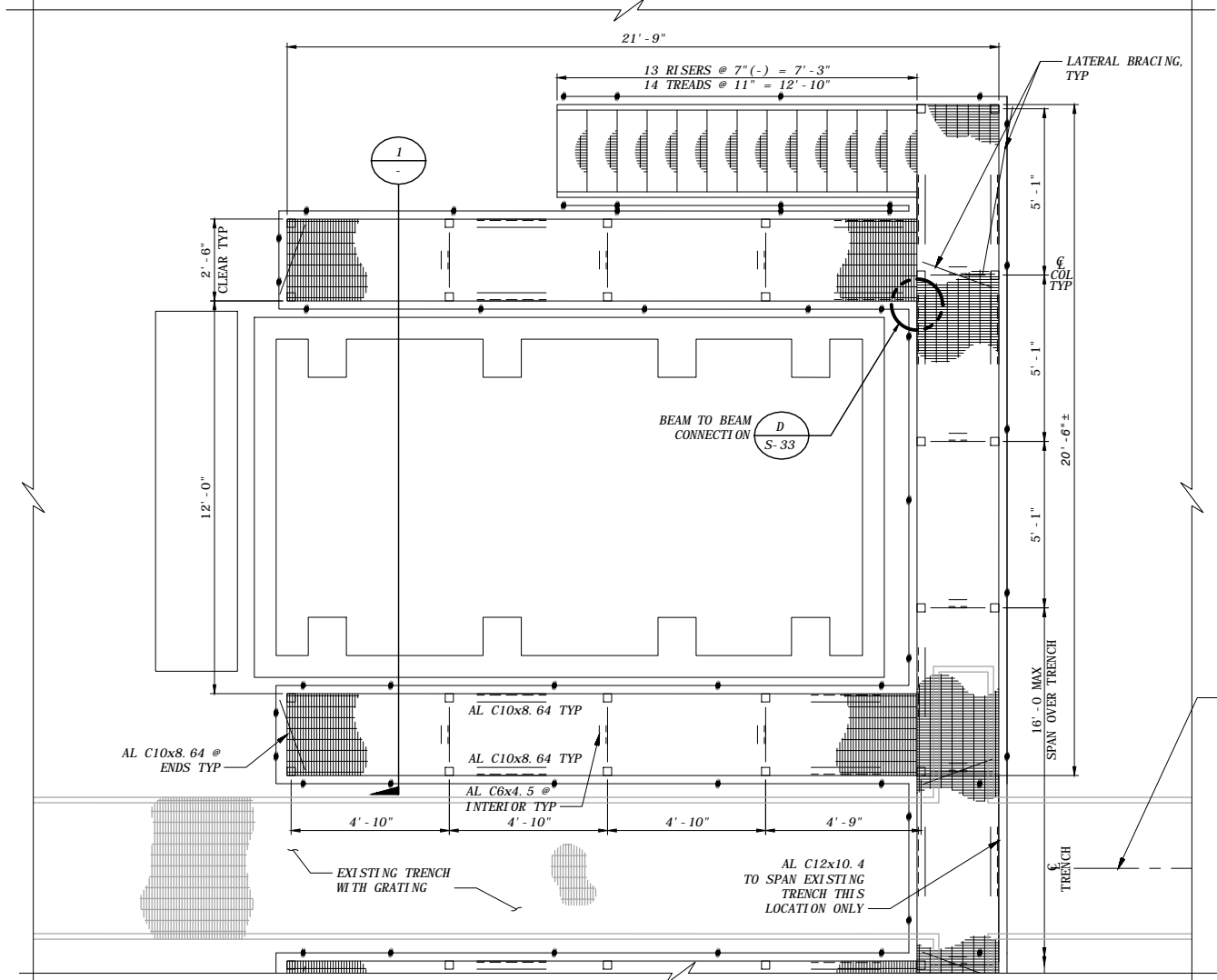
FD180761
D180761



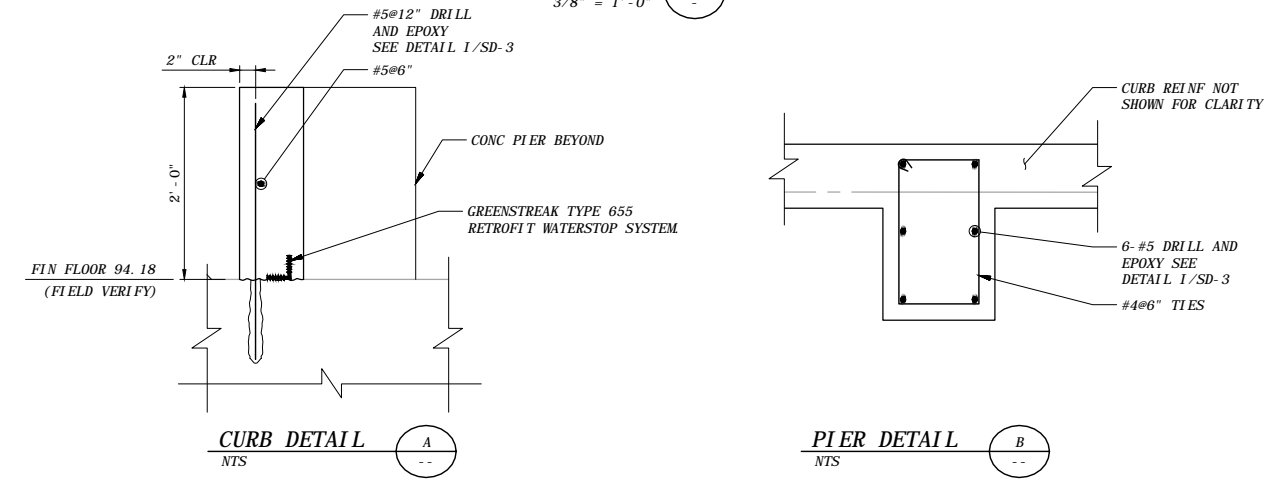
RELOCATED BELT FILTER PRESS FOUNDATION - ENLARGED PLAN
3/8" = 1'-0"



SECTION 1-1
3/8" = 1'-0"

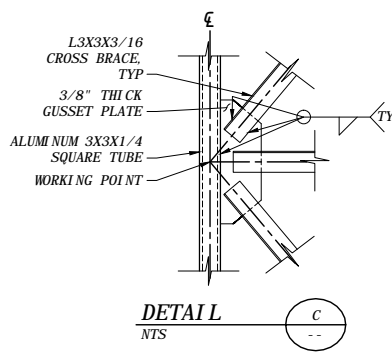


RELOCATED BELT FILTER PRESS PLATFORM - ENLARGED PLAN
3/8" = 1'-0"

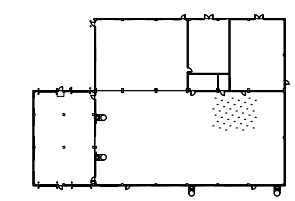


CURB DETAIL A
NTS

PIER DETAIL B
NTS

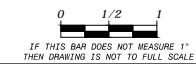


DETAIL C
NTS

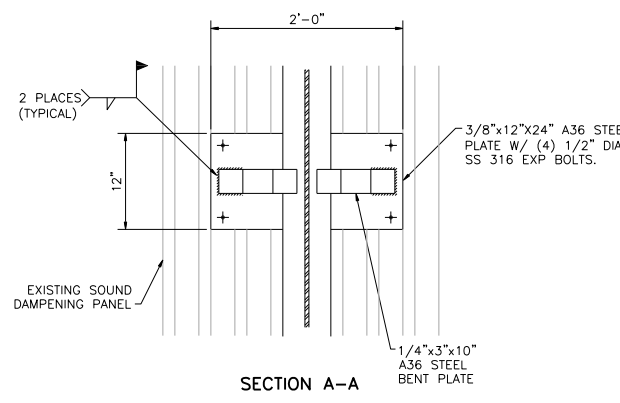
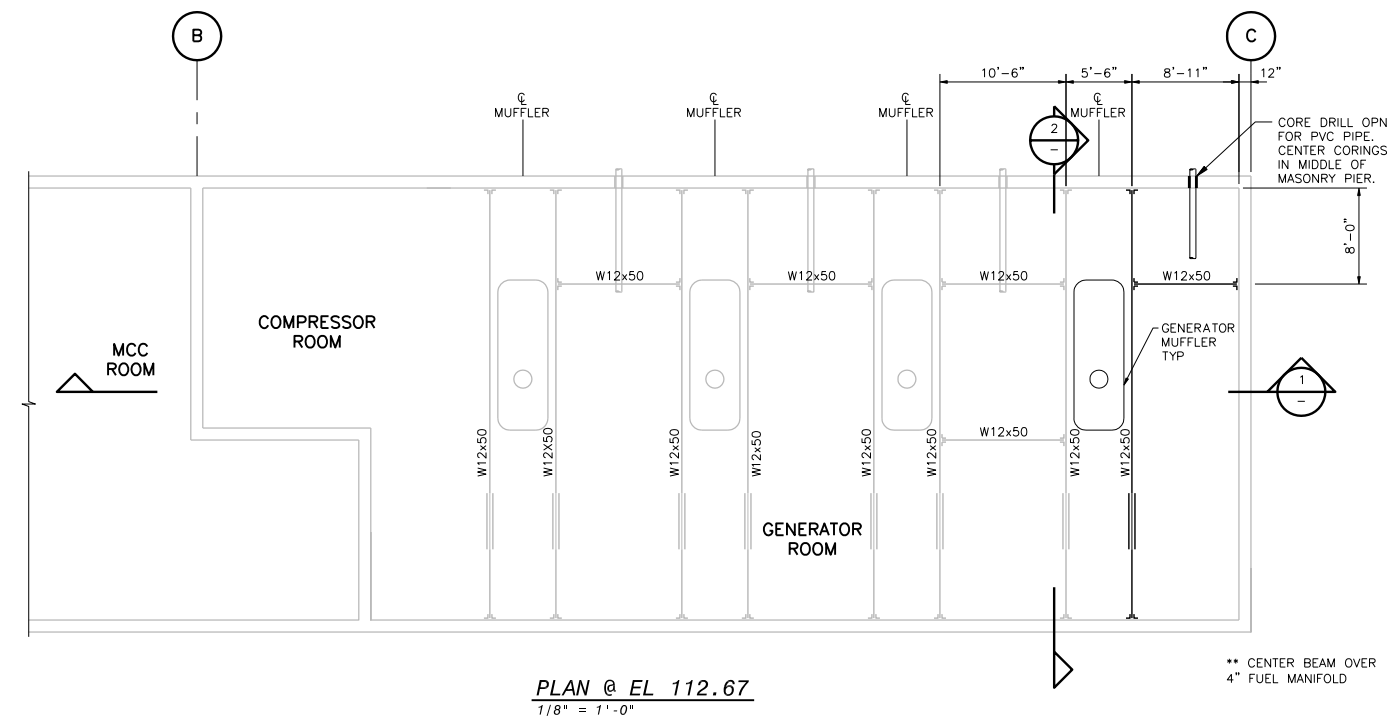
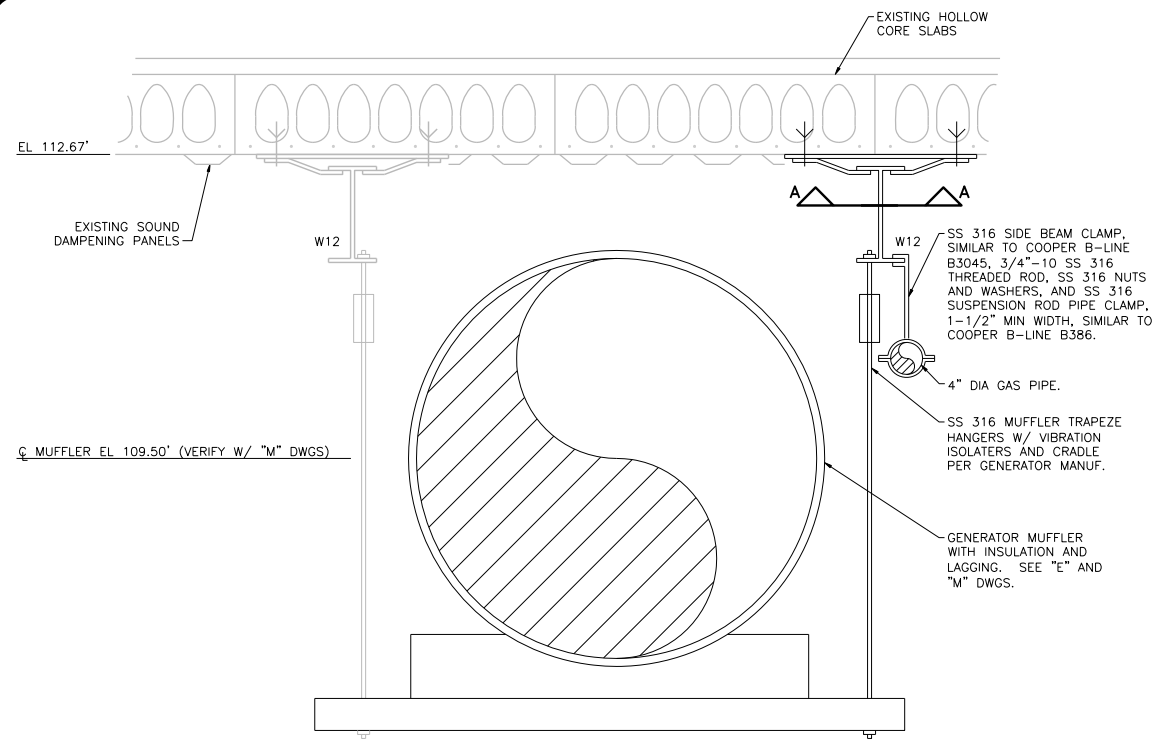


DEWATERING BUILDING KEYPLAN

- GENERAL NOTES:**
- EQUIPMENT ANCHOR BOLT LOCATIONS TO BE FIELD VERIFIED WITH BELT FILTER BEING RELOCATED
 - ALUMINUM WALKWAY PLATFORM OVERALL DIMENSIONS AND CLEARANCES SHALL BE COORDINATED WITH RELOCATED BELT FILTER PRESS. CONTRACTOR TO VERIFY AND COORDINATE LOCATIONS OF COLUMNS AND BRACING TO AVOID INTERFERENCE W/ OPERATION AND MAINTENANCE OF BELT FILTER PRESS.

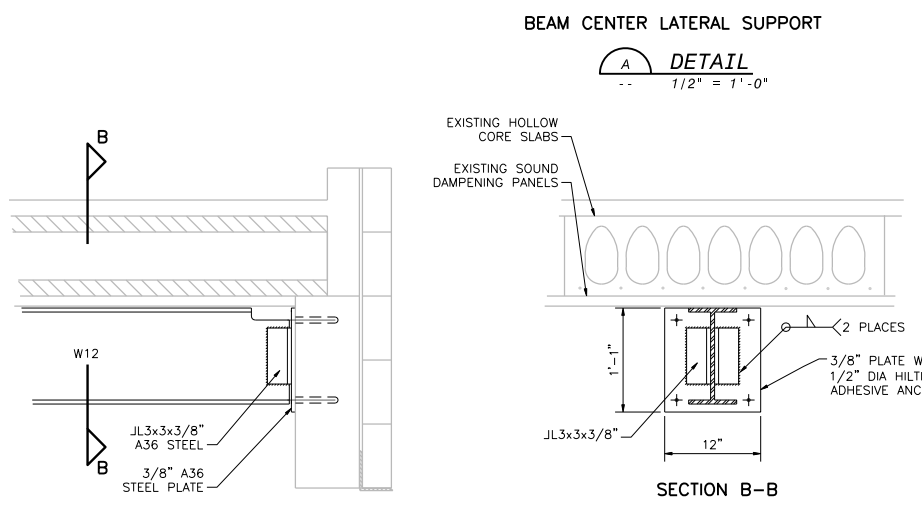
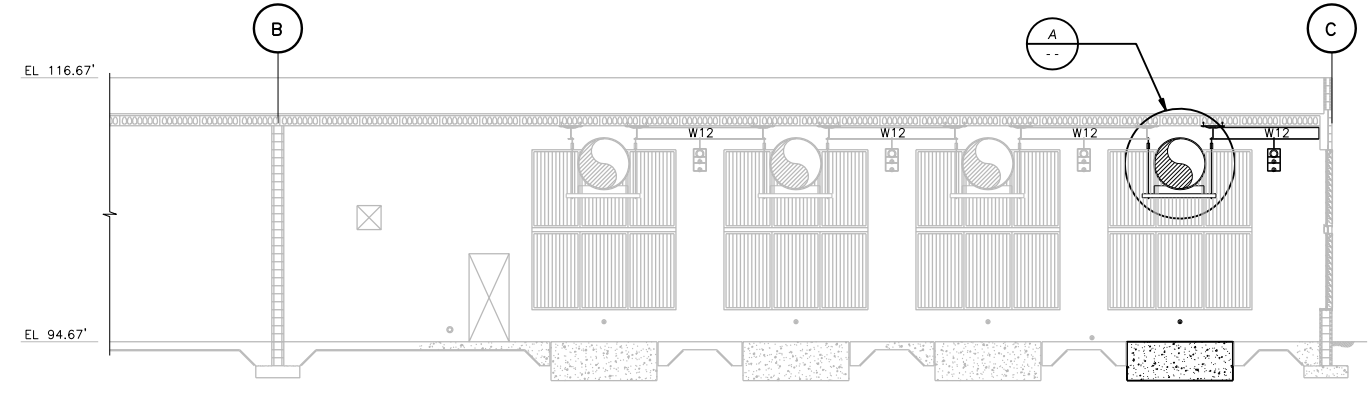


NO. BY CK DATE 7/2015 CYCLET ID: FREQ08341 USER: FREQ08341	REVISIONS AND RECORD OF ISSUE XREF1: XREF2: XREF3: XREF4: XREF5:	PROJECT NO. 180761 SHEET S-36 146 OF 364	
ORANGE COUNTY UTILITIES SOUTH WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS		STRUCTURAL BELT FILTER PRESS ENLARGED PLAN AND SECTION	
DESIGNED: MW DETAILLED: MW CHECKED: KM APPROVED: WDM DATE: JANUARY 2015		ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50633	



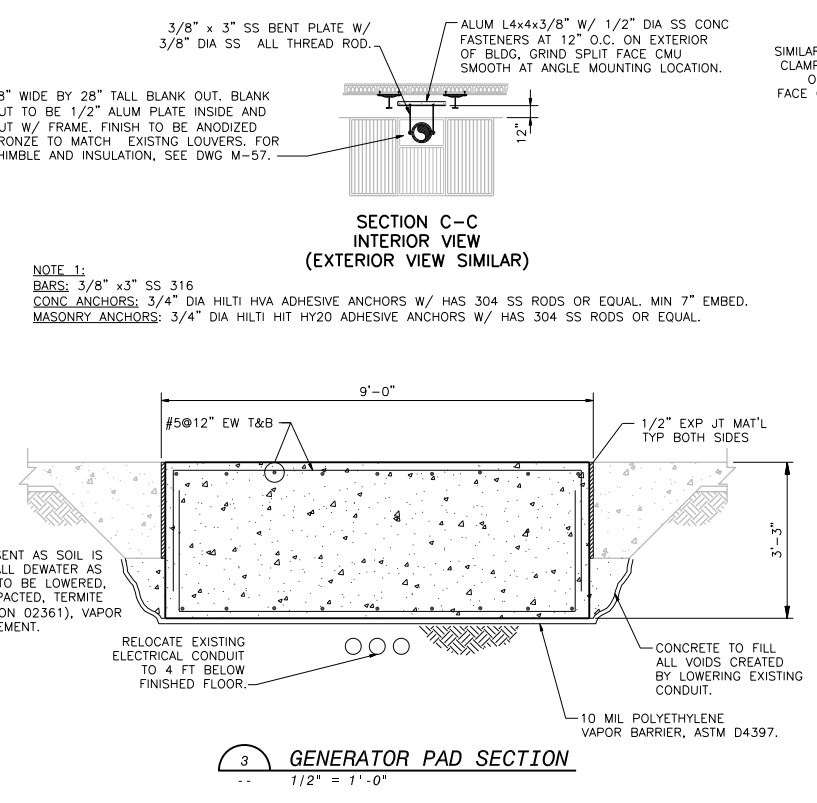
INSTALLATION PROCEDURE:

- REMOVE AND SALVAGE SOUND DAMPENING PANELS AT MIDSPAN WHERE EACH BEAM IS TO BE LOCATED.
- USING A MAGNETIC REBAR LOCATOR, IDENTIFY LOCATION OF PRE-STRESSING STRANDS.
- ATTACH 3/8"x12"x24" A36 STEEL PLATE TO UNDERSIDE OF HOLLOW CORE SLAB WITH (4) 1/2" DIA SS EXPANSION BOLTS BEING SURE TO PENETRATE A HOLLOW AND NOT TO INTERSECT THE PRE-STRESSING STRANDS.
- REMOVE A 2 FT BY 1 FT SECTION OF THE SOUND DAMPENING PANELS. COORDINATE LOCATION WITH MOUNTED 3/8"x12"x24" A36 STEEL PLATE. MODIFY HAT CHANNELS IF NEEDED TO SECURE SOUND DAMPENING PANELS TO HOLLOW CORE. FINISH CUT EDGES WITH TRIM TO MATCH SOUND PANELS. REPLACE SOUND DAMPENINGPANELS.
- SHOP WELD 1/4"x3"x10" A36 STEEL BENT PLATE TO UNDERSIDE OF W12 TOP FLANGE.
- FIELD WELD ASSEMBLY TO 3/8"x12"x24" A36 STEEL PLATE.

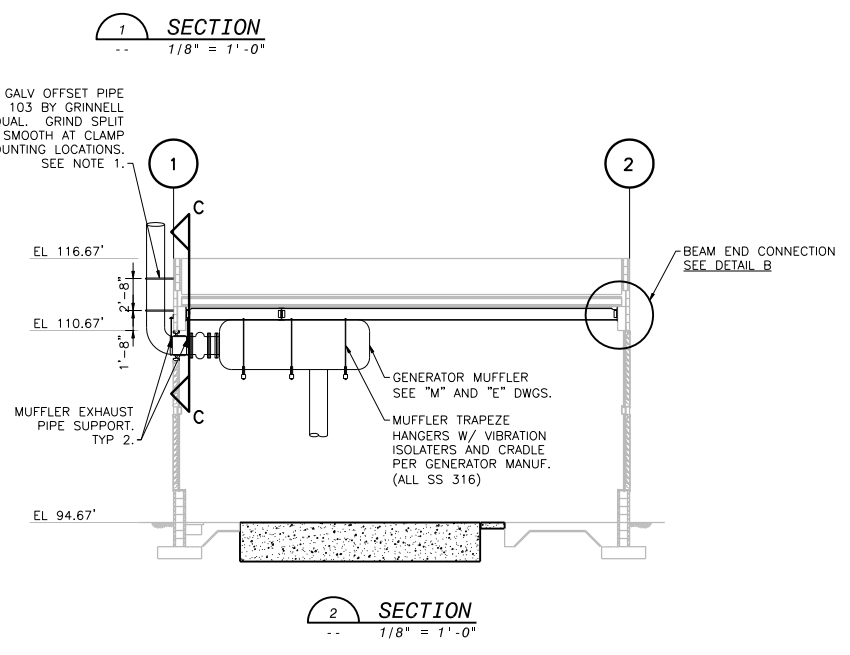


INSTALLATION PROCEDURE:

- SHOP WELD JL3x3x3/8" TO PLATE.
- ATTACH 3/8"x12"x1"-1" PLATE TO CONCRETE BEAM W/ 4 1/2" DIA HILTI HIT HY150 ADHESIVE ANCHORING SYSTEM W/ SS HAS THREADED ROD OR EQUAL. MIN 5" EMBED.
- COPE EACH END OF BEAM.
- SLIDE BEAM INTO PLACE AND FIELD WELD ASSEMBLY TO BEAM.



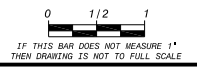
NOTE 1:
 BARS: 3/8" x3" SS 316
 CONC ANCHORS: 3/4" DIA HILTI HVA ADHESIVE ANCHORS W/ HAS 304 SS RODS OR EQUAL. MIN 7" EMBED.
 MASONRY ANCHORS: 3/4" DIA HILTI HIT HY20 ADHESIVE ANCHORS W/ HAS 304 SS RODS OR EQUAL.



SECTION 1
 1/8" = 1'-0"

SECTION 2
 1/8" = 1'-0"

SECTION 3
 1/2" = 1'-0"



NO.	BY	CHK	APP

BLACK & VEATCH
 Building a world of difference.
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801
 Certificate No. 8132

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS

STRUCTURAL
 STANDBY ELECTRICAL GENERATORS - MISCELLANEOUS
 PLANS, SECTIONS AND DETAILS

DESIGNED: BWV
 DETAILED: VVV
 CHECKED: FGG
 APPROVED: KMB

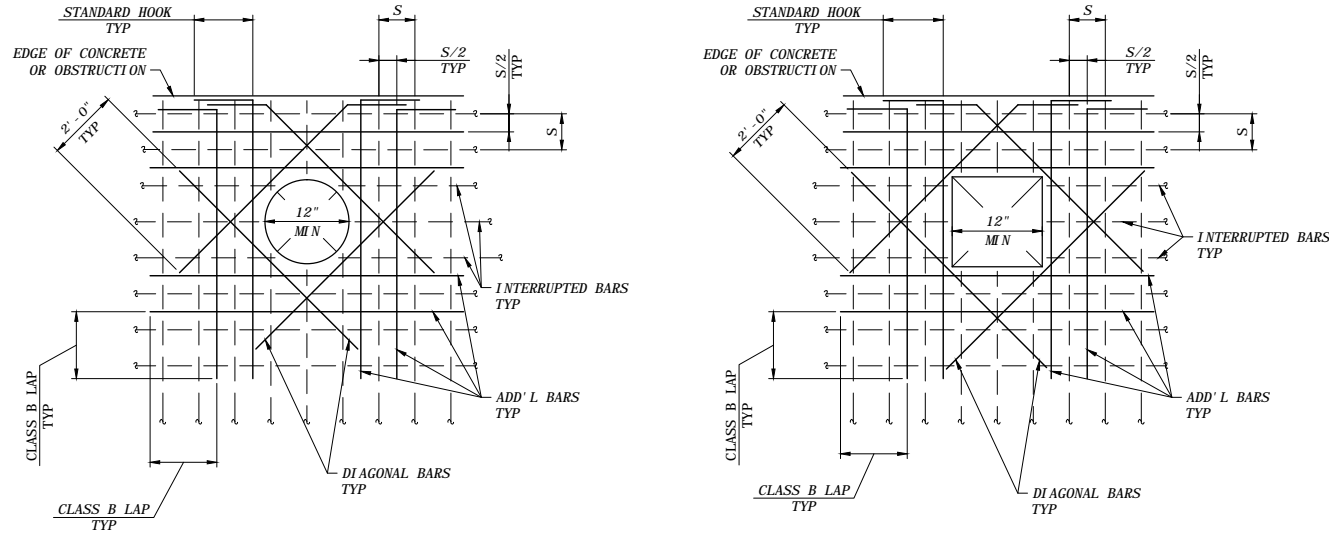
DATE: JANUARY 2015
 ENGINEER OF RECORD:
 BRAD W VANLANDINGHAM
 FLORIDA LICENSE NO.: 44795

PROJECT NO.
 180761

S-37
 SHEET
 147 OF 364

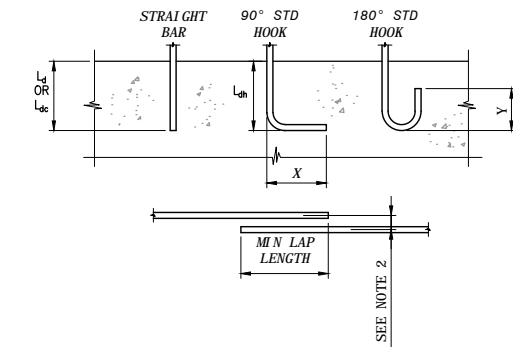
BAR SIZE	BAR DIAMETER (d_b)	DEFORMED BARS IN TENSION					
		DEVELOPMENT LENGTH (L_d)		CLASS B LAP SPLICE		90° STD HOOK	180° STD HOOK
		TOP BARS	OTHER	TOP BARS	OTHER	HOOK X	L_{dh}
#3	0.375	12	12	16	16	6	6
#4	0.5	16	12	20	16	8	7
#5	0.625	20	16	24	20	10	9
#6	0.75	22	18	30	22	12	11
#7	0.875	34	26	42	34	14	13
#8	1.0	38	30	48	38	15	15
#9	1.128	46	36	60	46	18	18

BAR SIZE	BAR DIAMETER (d_b)	DEFORMED BARS IN COMPRESSION		HOOKED BARS SHALL NOT BE USED IN COMPRESSION
		DEVELOPMENT LENGTH (L_{dc})	COMPRESSION LAP SPLICE	
#5	0.625	12	20	
#6	0.75	16	24	
#7	0.875	18	28	
#8	1.0	20	30	
#9	1.128	22	34	



NOTES:

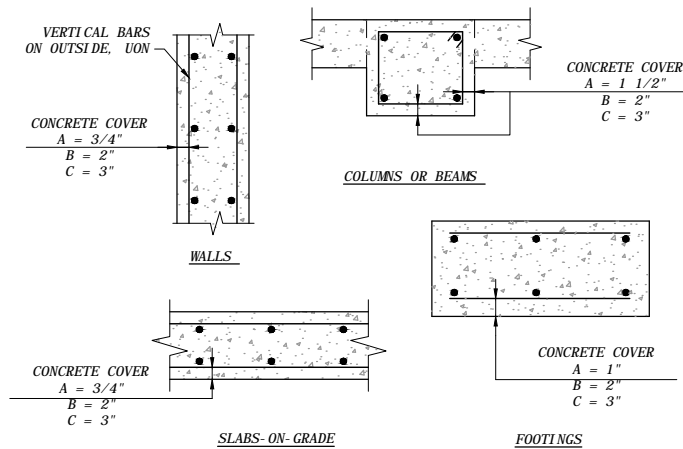
- NUMBER OF ADD'L REINF BARS AT EACH SIDE OF OPENING SHALL EQUAL HALF THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINF.
- BAR DIAMETER OF ADD'L REINF BARS SHALL EQUAL THE DIAMETER OF INTERRUPTED REINF.
- PROVIDE STANDARD HOOKS FOR ADD'L BARS WHERE LAP LENGTH EXTENSION CANNOT BE OBTAINED DUE TO POUR STOPS, JOINTS, OR OTHER OBSTRUCTIONS. PLACE ADDITIONAL BARS IN SAME PLANES AS INTERRUPTED REINF.
- DIAGONAL BARS SHALL BE #4 BARS, UNLESS OTHERWISE NOTED. PLACE DIAGONAL BARS INSIDE IN EACH LAYER OF REINF.
- ALL REINF BARS SHALL BE PLACED A MINIMUM OF 2 INCHES CLEAR FROM OPENING.
- WHERE OPENINGS OCCUR WITHIN 4'-0" OF ADJACENT SUPPORT (SLAB, WALL, BEAM, ETC.) OR CONSTRUCTION JOINTS ADD DOWELS W/ DEVELOPMENT LENGTH OR HOOK THROUGH THE PLANE OF THE JOINT.



NOTES:

- TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED IN SLABS GREATER THAN 15" OR WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR LAP SPLICE.
- BARS BEING DEVELOPED OR SPLICED SHALL MEET THE FOLLOWING:
 - CLEAR SPACING NOT GREATER THAN 6 INCHES OR 1/5 MIN LAP LENGTH.
 - CLEAR COVER NOT LESS THAN $2d_b$, UNLESS OTHERWISE NOTED.
- FOR SPECIAL SPLICE REQUIREMENTS FOR COLUMNS AND END BEARING SPLICES IN COMPRESSION SEE ACI 318 CHAPTER 12.
- THE TABLE ABOVE IS BASED ON 4000 PSI COMPRESSIVE STRENGTH CONCRETE.

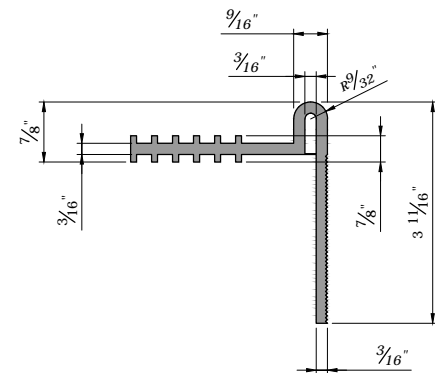
A DEVELOPMENT AND SPLICES OF REINFORCEMENT
SCALE: NTS



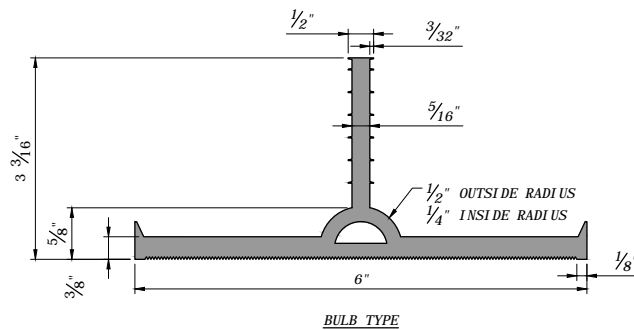
- A = NO EXPOSURE TO GROUND, WEATHER OR WATER AFTER FORM REMOVAL.
 B = EXPOSURE TO GROUND, WEATHER OR WATER AFTER FORM REMOVAL.
 C = CONCRETE PLACED AGAINST GROUND.

C CONCRETE PROTECTION FOR REINFORCEMENT
SCALE: NTS

B REINFORCEMENT AT OPENINGS
SCALE: NTS



TEAR WEB TYPE

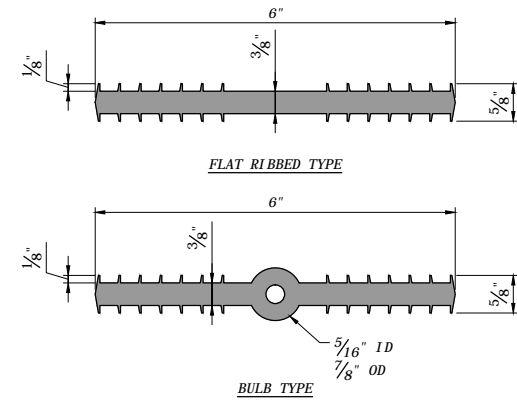


BULB TYPE

NOTES:

- PVC WATERSTOPS SHALL BE EXTRUDED FROM VIRGIN ELASTOMERIC COMPOUND.
- WATERSTOPS SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C-572.

D RETROFIT WATERSTOP PROFILES
SCALE: NTS



NOTES:

- PVC WATERSTOPS SHALL BE EXTRUDED FROM VIRGIN ELASTOMERIC COMPOUND.
- WATERSTOPS SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C-572.

E PVC WATERSTOP PROFILES
SCALE: NTS

NO. BY	CK	APP
7/2015	BID ISSUE	REVISIONS AND RECORD OF ISSUE
CURRENT ID:	DATE:	XREF1:
WF:	SAVED: FREQ0341, 8/15/2013 9:56:25 AM	XREF2:
PLOTTED:	USER: FREQ0341	XREF3:
		XREF4:
		XREF5:



BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801

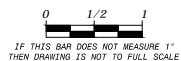
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

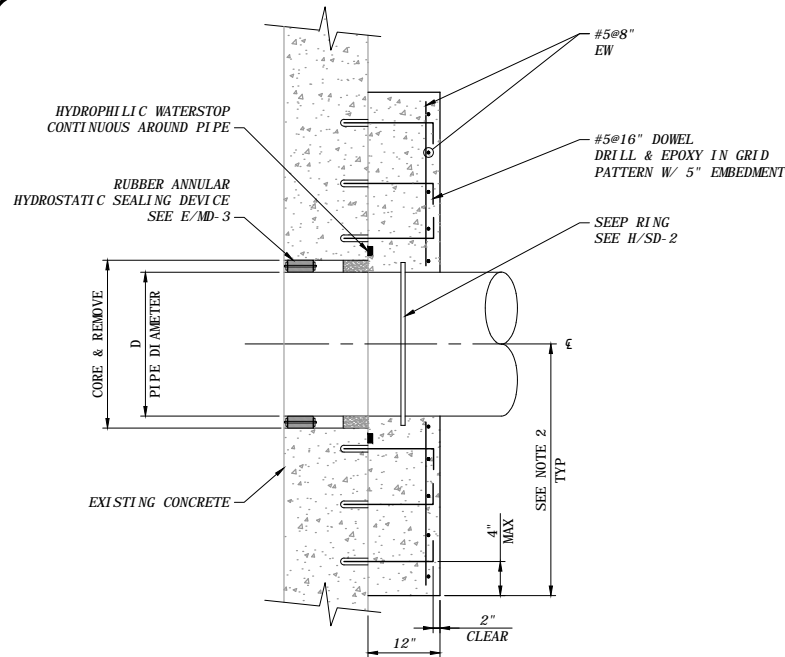
STRUCTURAL
STANDARD DETAILS I

DESIGNED:	JG
DETAILLED:	JG
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633

PROJECT NO.
180761

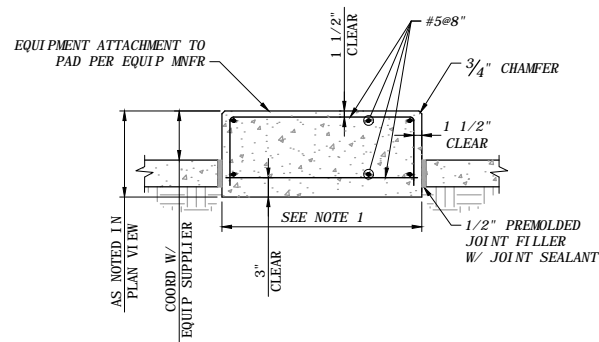
SD-1
SHEET
148 OF 364





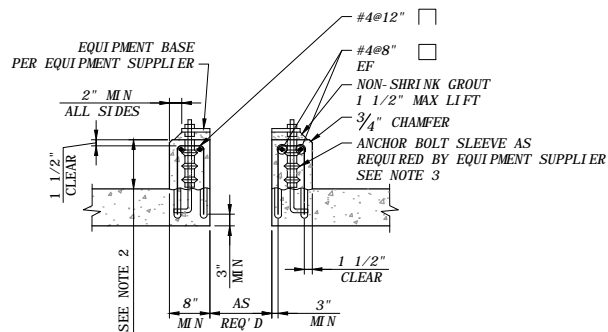
- NOTES:**
- CONTRACTOR TO VERIFY CORE DIAMETER WITH MANUFACTURER OF RUBBER ANNULAR HYDROSTATIC SEALING DEVICE.
 - MINIMUM CONCRETE COLLAR VERTICAL AND HORIZONTAL WIDTH SHALL AS FOLLOWS, UON.
 - 4'-0" FOR PIPE DIAMETERS LESS THAN OR EQUAL TO 32 INCHES
 - 1.5D FOR ALL PIPES LARGER THAN 32 INCHES
 - EXTEND CONCRETE COLLAR TO MAXIMUM EXTENT POSSIBLE WHERE THE DIMENSIONS NOTED ABOVE CANNOT BE ACHIEVED.

A CONCRETE COLLAR DETAIL
SCALE: NTS



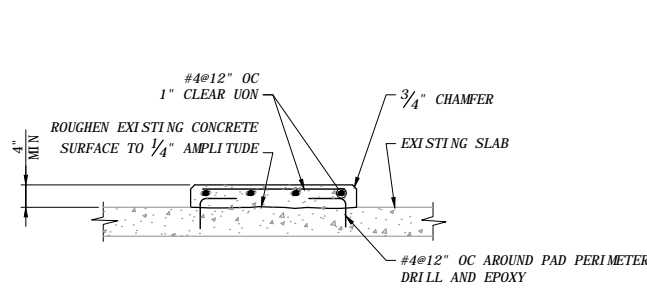
- NOTES:**
- PLAN DIMENSIONS SHALL BE VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIER.

E EQUIPMENT PAD
SCALE: NTS

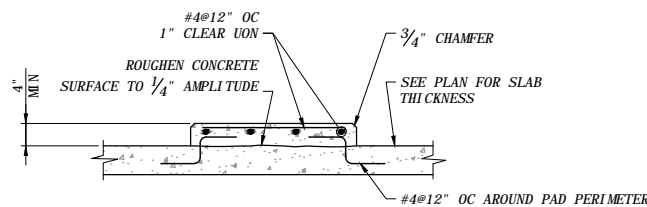


- NOTES:**
- FOR ADDITIONAL INFORMATION SEE 1/SD-2 FOR EQUIPMENT PAD NOTES.
 - COORDINATE PAD ELEVATION WITH EQUIPMENT SUPPLIER AND FIELD CONDITIONS.
 - AT CONTRACTOR'S OPTION EQUIPMENT ANCHORS MAY BE POST INSTALLED.

K EQUIPMENT PAD
SCALE: NTS

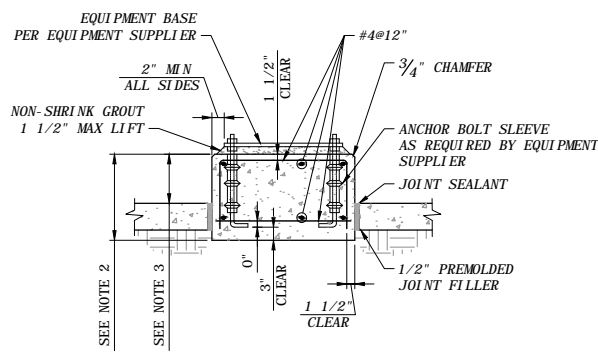


B EQUIPMENT PAD
SCALE: NTS



C EQUIPMENT PAD
SCALE: NTS

- NOTES:**
- FOR ADDITIONAL INFORMATION SEE 1/SD-2 FOR EQUIPMENT PAD NOTES.

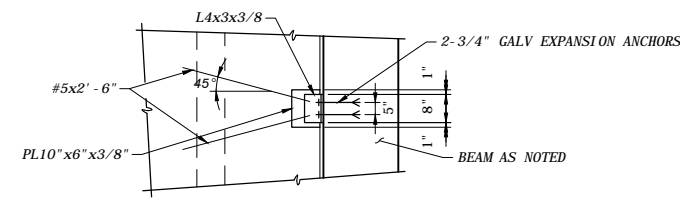


- NOTES:**
- FOR ADDITIONAL INFORMATION SEE 1/SD-2 FOR EQUIPMENT PAD NOTES.
 - MINIMUM PAD THICKNESS SHALL NOT BE LESS THAN THE SLAB THICKNESS OR AS REQUIRED FOR ANCHOR BOLT EMBEDMENT AND CLEARANCE.
 - COORDINATE PAD ELEVATION WITH EQUIPMENT SUPPLIER AND FIELD CONDITIONS.

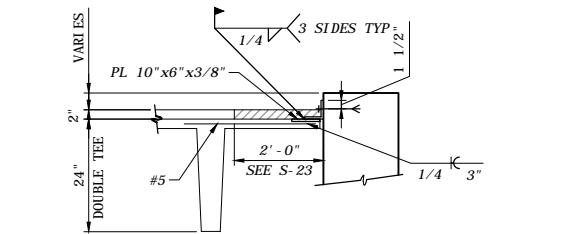
F EQUIPMENT PAD
SCALE: NTS

- NOTES:**
- THE MINIMUM PAD SIZE SHALL BE AS INDICATED OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER.
 - THE SIZE, NUMBER, TYPE, LOCATION AND THE THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER. HOLD CONCRETE ANCHOR BOLTS IN POSITION WITH A TEMPLATE WHILE PAD IS BEING PLACED.
 - EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS NOTED OTHERWISE ON THE PLANS.
 - PROVIDE WEDGES OR SHIMS TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. THE WEDGES OR SHIMS THAT REMAIN IN PLACE SHALL NOT BE EXPOSED TO VIEW.

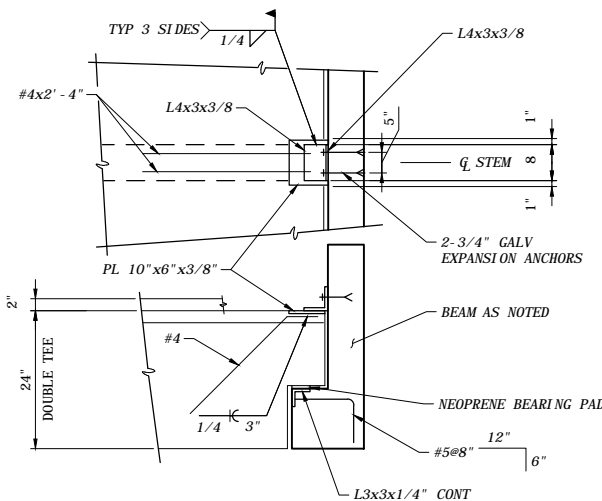
I EQUIPMENT PAD NOTES
SCALE: NTS



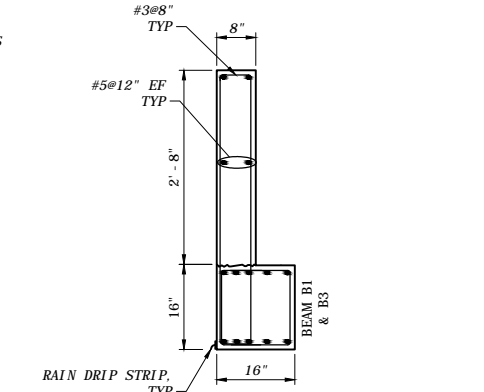
D DOUBLE TEE SUPPORT BEAM
SCALE: NTS



C DOUBLE TEE SIDE CONNECTION
SCALE: NTS

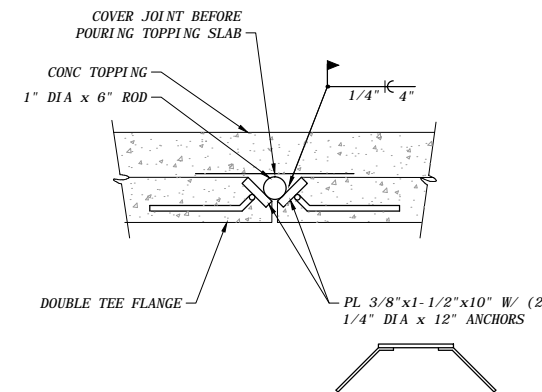


G DOUBLE TEE END CONNECTION
SCALE: NTS

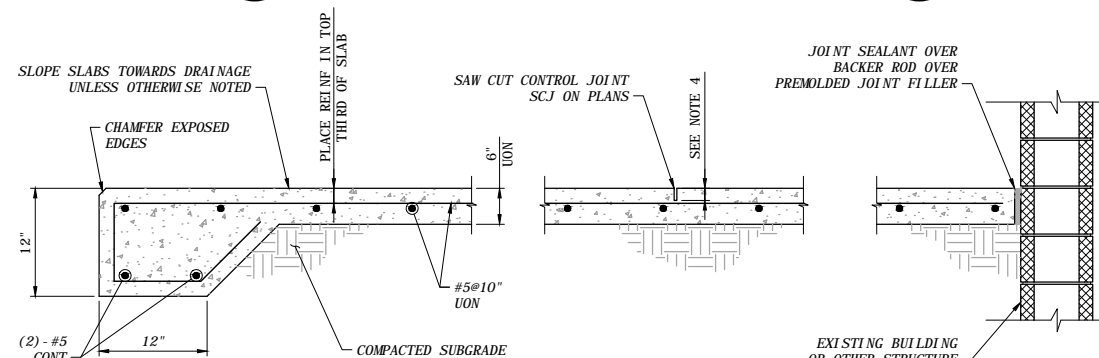


- NOTES:**
- FOR BEAM REINFORCING, SEE BEAM SCHEDULE ON S-33.
 - FOR STEEL EMBEDS, SEE DOUBLE TEE END CONNECTION DETAIL X/S-29.

D DOUBLE TEE SUPPORT BEAM
SCALE: NTS

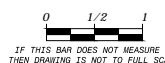


H SHEAR CONNECTION
SCALE: NTS



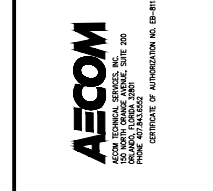
- NOTES:**
- JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON.
 - BACKER ROD SHALL BE 1/8" LARGER THAN JOINT, UON.
 - JOINT FILLER SHALL BE CLOSED-CELL NEOPRENE OR BITUMINOUS PREFORMED JOINT FILLER.
 - SAW CUT CONTROL JOINTS SHALL BE 1/4 OF THE SLAB THICKNESS DEEP BUT NOT DEEPER THAN 1-1/2".
 - SAW CUT CONTROL JOINTS SHALL BE LAID OUT SUCH THAT THE ASPECT RATIO OF THE RESULTING PANELS DOES NOT EXCEED 2 TO 1, UNLESS OTHERWISE SHOWN ON PLANS. MAXIMUM SPACING BETWEEN JOINTS SHALL NOT EXCEED 36 TIMES THE SLAB THICKNESS.
 - FILL SAW CUT CONTROL JOINTS EXPOSED TO TRAFFIC WITH EPOXY JOINT FILLER. ALL OTHER JOINTS SHALL BE SEALED WITH ELASTOMERIC JOINT SEALANT.

J SLAB ON GRADE
SCALE: NTS



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

NO.	BY	CHK	DATE
7/2015			
DATE	BID ISSUE	REVISIONS AND RECORD OF ISSUE	DATE
CYCLE#	DATE	BY	DESCRIPTION
USER:	FRE08941	DATE:	8/15/2013 9:56:25 AM
PROJECT:		DATE:	
FILE:		DATE:	
PLOTTED:		DATE:	
PRINTED:		DATE:	



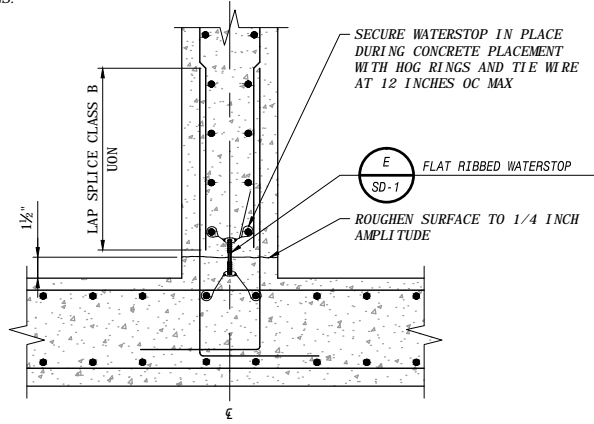
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS II

DESIGNED:	JG
DETAILED:	JG
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50833
PROJECT NO.:	180761
SHEET:	SD-2
	149 OF 364

NOTES:

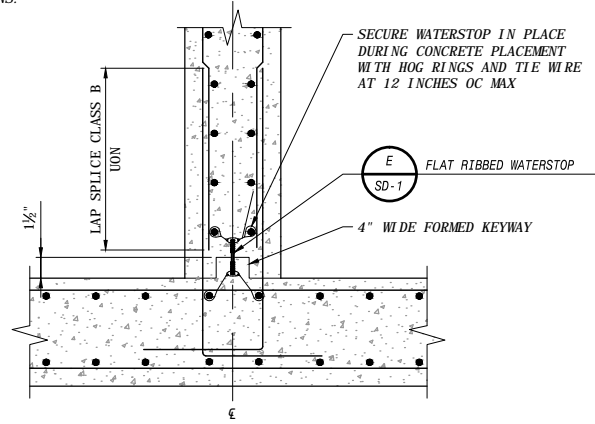
- THIS DETAIL SHALL APPLY TO ALL WALLS LESS THAN OR EQUAL TO 12 INCHES THICK WITH TWO MATS OF REINFORCEMENT.
- HORIZONTAL REINFORCEMENT SHALL BE SPACED AT 6 INCHES ON CENTER THROUGHOUT DOWEL PROJECTION LENGTH REGARDLESS OF SPACING INDICATED ON PLANS.



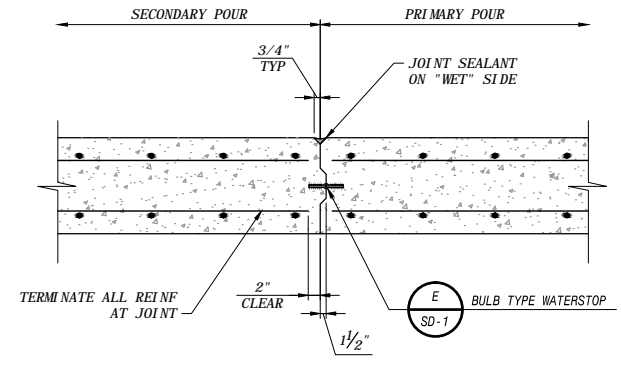
A CONSTRUCTION JOINT - WALL TO SLAB
SCALE: NTS

NOTES:

- THIS DETAIL SHALL APPLY TO ALL WALLS GREATER THAN 12 INCHES THICK WITH TWO MATS OF REINFORCEMENT.
- HORIZONTAL REINFORCEMENT SHALL BE SPACED AT 6 INCHES ON CENTER THROUGHOUT DOWEL PROJECTION LENGTH REGARDLESS OF SPACING INDICATED ON PLANS.

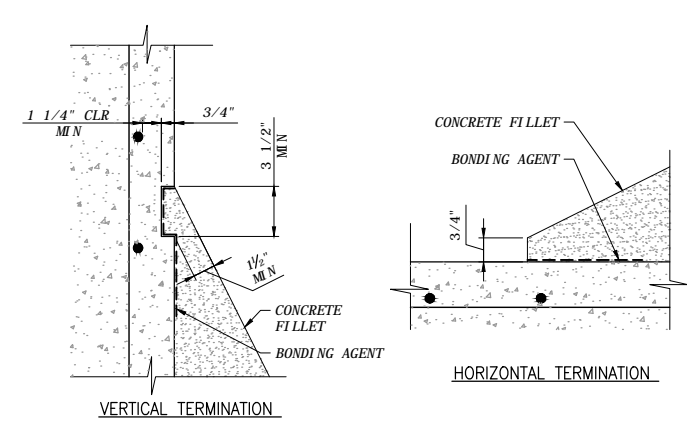


B CONSTRUCTION JOINT - WALL TO SLAB
SCALE: NTS

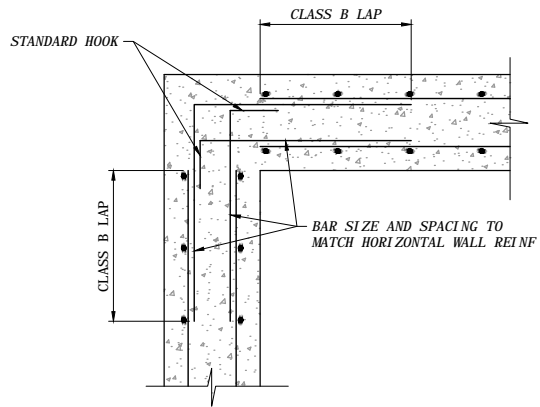


- NOTES:
- EXPANSION JOINTS NOTED AS EXJ ON PLANS.
 - JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON.
 - SECURE WATERSTOP IN PLACE DURING CONCRETE PLACEMENT WITH HOG RINGS AND TIE WIRE AT 12 INCHES OC MAX.

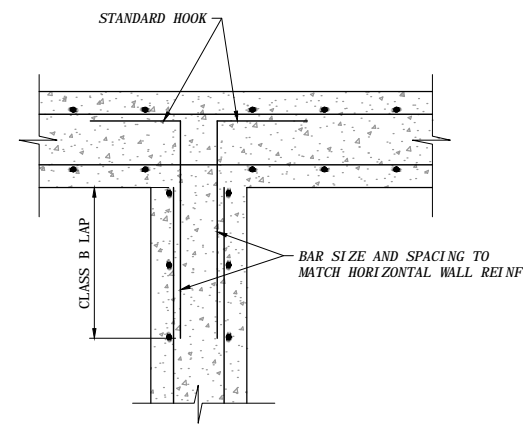
C EXPANSION JOINT
SCALE: NTS



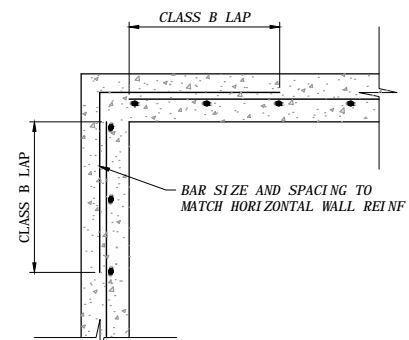
D FILLET TERMINATION
SCALE: NTS



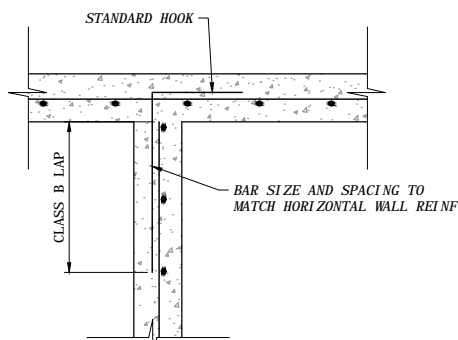
WALLS GREATER THAN OR EQUAL TO 10 INCHES THICK



WALLS GREATER THAN OR EQUAL TO 10 INCHES THICK



WALLS LESS THAN 10 INCHES THICK



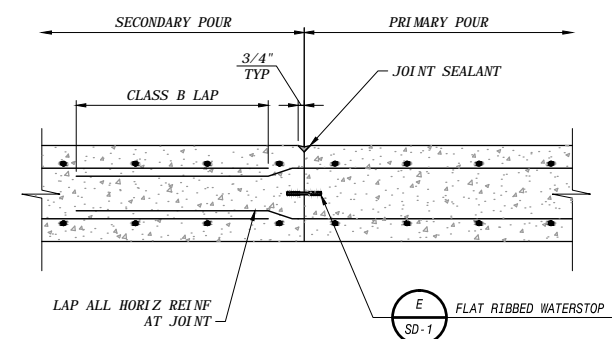
WALLS LESS THAN 10 INCHES THICK

- NOTES:
- IN LIEU OF SEPARATE HOOKED CORNER BARS THE CONTRACTOR MAY PROVIDE HORIZONTAL REINFORCEMENT WITH STANDARD HOOKS AT EACH END.
 - CORNER BARS SHALL BE PLACED IN THE SAME PLANE AS HORIZONTAL WALL REINFORCEMENT.

E WALL CORNER REINFORCING
SCALE: NTS

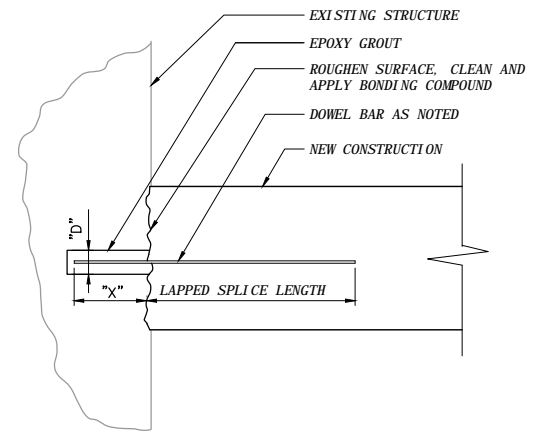
- NOTES:
- IN LIEU OF SEPARATE HOOKED CORNER BARS THE CONTRACTOR MAY PROVIDE HORIZONTAL REINFORCEMENT WITH STANDARD HOOKS AT EACH END.
 - INTERSECTION BARS SHALL BE PLACED IN THE SAME PLANE AS HORIZONTAL WALL REINFORCEMENT.

F WALL INTERSECTION REINFORCING
SCALE: NTS



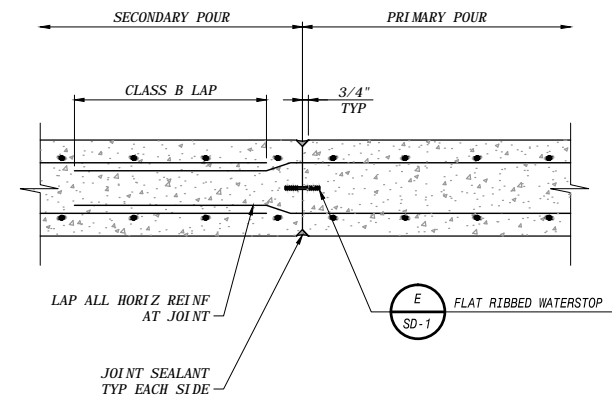
- NOTES:
- SLAB CONSTRUCTION JOINTS NOTED AS CSJ ON PLANS.
 - JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON.
 - SECURE WATERSTOP IN PLACE DURING CONCRETE PLACEMENT WITH HOG RINGS AND TIE WIRE AT 12 INCHES OC MAX.

G HORIZONTAL CONSTRUCTION JOINT
SCALE: NTS



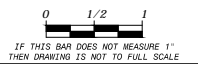
- NOTES:
- EMBEDMENT "X" = 16 BAR DIAMETERS MIN.
 - HOLE DIAMETER "D" = AS RECOMMENDED BY EPOXY GROUT MFR.

I DRILLED IN DOWEL DETAIL
SCALE: NTS



- NOTES:
- WALL CONSTRUCTION JOINTS NOTED AS CSJ ON PLANS.
 - JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON.
 - SECURE WATERSTOP IN PLACE DURING CONCRETE PLACEMENT WITH HOG RINGS AND TIE WIRE AT 12 INCHES OC MAX.

H VERTICAL CONSTRUCTION JOINT
SCALE: NTS



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

NO.	BY	CHK	DATE

REVISIONS AND RECORD OF ISSUE

AECOM
155 N. WILSON ROAD, SUITE 200
ORLANDO, FLORIDA 32835
PHONE: 407.644.4000
FAX: 407.644.4001
WWW.AECOM.COM

BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801

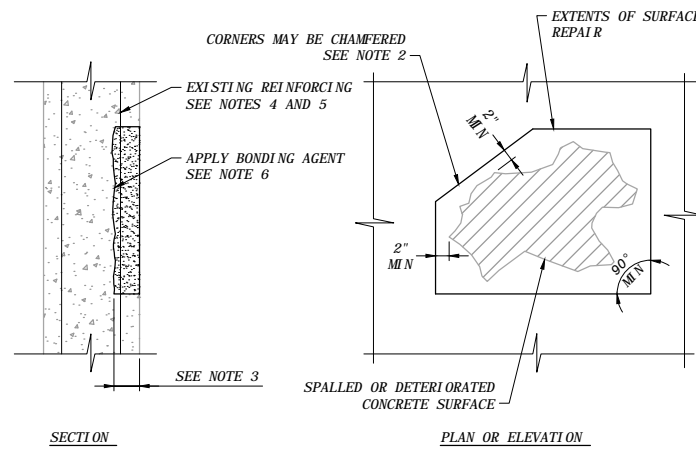
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS III

DESIGNED: JG
DETAILED: JG
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD:
KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:
50633

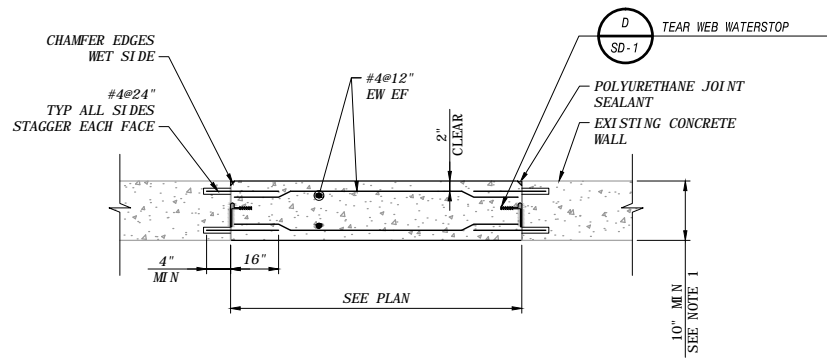
PROJECT NO.
180761

SD-3
SHEET
150 OF 364

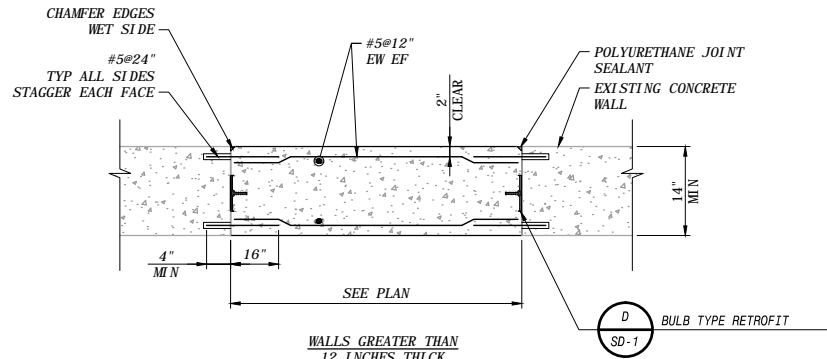


- NOTES:**
1. REMOVE CONCRETE AROUND THE AREA TO BE REPAIRED A MINIMUM OF 2 INCHES BEYOND THE SPALLED OR DETERIORATED CONCRETE OR UNTIL SOUND CONCRETE IS ENCOUNTERED.
 2. PROVIDE STRAIGHT LINE BOUNDARIES AROUND THE REPAIR AREA. RE-ENTRANT CORNERS SHALL NOT BE PERMITTED. ALL CORNERS SHALL FORM ANGLES BETWEEN 90 AND 180 DEGREES.
 3. DEPTH OF CONCRETE REMOVAL SHALL BE 1 INCH MINIMUM OR UNTIL SOUND CONCRETE IS ENCOUNTERED. LEAVE EXPOSED CONCRETE SURFACE ROUGH OR INTENTIONALLY ROUGHEN SURFACE TO 1/4 INCH AMPLITUDE.
 4. CONCRETE REMOVAL SHALL NOT DAMAGE THE EXISTING REINFORCING. REINFORCING EXPOSED DUE TO SPALLED OR DETERIORATED CONCRETE SHALL BE MECHANICALLY CLEANED TO REMOVE RUST.
 5. COAT ALL EXPOSED REINFORCING SHALL BE COATED WITH A BONDING AGENT AND ANTI-CORROSION MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 6. APPLY BONDING AGENT TO EXPOSED SOUND CONCRETE SURFACES AND APPLY REPAIR MORTAR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 7. VERTICAL AND OVERHEAD REPAIRS MAY REQUIRE ADDITIONAL PREPARATION OR MULTIPLE LIFTS OF REPAIR MORTAR. SUBMIT MANUFACTURER'S RECOMMENDATIONS PRIOR TO PERFORMING SURFACE REPAIRS.

A CONCRETE SPALL REPAIR
SCALE: NTS



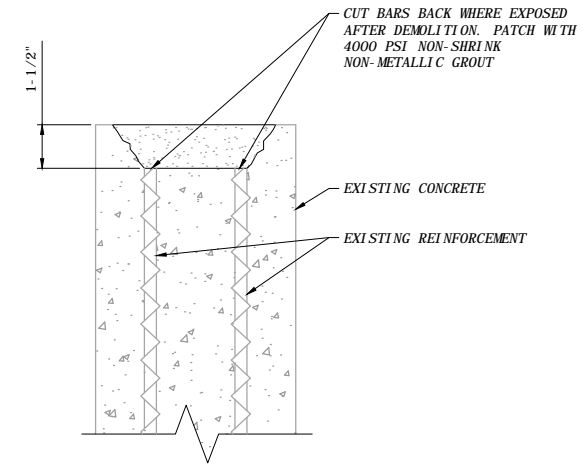
WALLS LESS THAN OR EQUAL TO 12 INCHES THICK



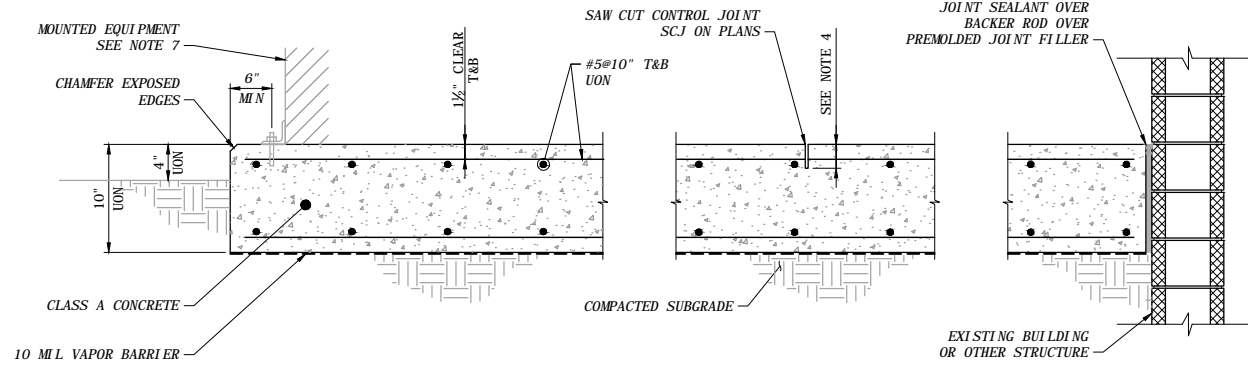
WALLS GREATER THAN 12 INCHES THICK

- NOTES:**
1. TRIM WATERSTOP AS REQUIRED TO INSTALL DOWELS WITH MINIMUM COVER. MINIMUM WATERSTOP LEG LENGTH SHALL NOT BE LESS THAN 2 1/2\".
 2. INSTALL WATERSTOP WITH EPOXY GEL, STAINLESS STEEL BATTEN BARS, AND EXPANSION ANCHORS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

B CONCRETE BULKHEAD
SCALE: NTS

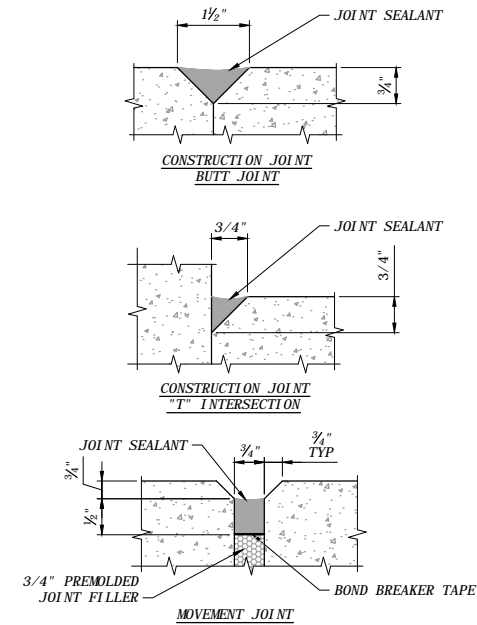


C CONCRETE REINFORCING REPAIR
SCALE: NTS



- NOTES:**
1. JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON.
 2. BACKER ROD SHALL BE 1/8\"
 3. JOINT FILLER SHALL BE CLOSED-CELL NEOPRENE OR BITUMINOUS PREFORMED JOINT FILLER.
 4. SAW CUT CONTROL JOINTS SHALL BE DEEP ENOUGH TO CUT THE TOP MAT OF STEEL.
 5. SAW CUT CONTROL JOINTS SHALL BE LAID OUT SUCH THAT THE ASPECT RATIO OF THE RESULTING PANELS DOES NOT EXCEED 2 TO 1, UNLESS OTHERWISE SHOWN ON PLANS. MAXIMUM SPACING BETWEEN JOINTS SHALL NOT EXCEED 36 TIMES THE SLAB THICKNESS.
 6. FILL SAW CUT CONTROL JOINTS EXPOSED TO TRAFFIC WITH EPOXY JOINT FILLER. ALL OTHER JOINTS SHALL BE SEALED WITH ELASTOMERIC JOINT SEALANT.
 7. EQUIPMENT ANCHORAGE SHALL BE SPECIFIED BY THE EQUIPMENT SUPPLIER. EXTERIOR EQUIPMENT PADS SHALL EXTEND BEYOND THE CENTERLINE OF THE ANCHORAGE A MINIMUM OF 4 INCHES UNLESS PAD DIMENSIONS ARE NOTED ON DRAWINGS. UNLESS OTHERWISE INDICATED ON DRAWINGS PROVIDE SIDEWALKS TO ACCESS PANELS AND SERVICE POINTS AROUND EXTERIOR EQUIPMENT PADS.

D EXTERIOR EQUIPMENT PAD
SCALE: NTS



- NOTES:**
1. JOINT SEALANT SHALL BE POLYURETHANE, COLOR GRAY, UON. ALL EXPANSION JOINTS SHALL RECEIVE SEALANT.
 2. PREPARE AND PRIME SURFACE OF GROOVE IN ACCORDANCE WITH JOINT SEALANT MANUFACTURER'S RECOMMENDATIONS.
 3. MOVEMENT JOINTS SHALL INCLUDE ALL JOINTS IN WHICH ALL REINFORCEMENT IS TERMINATED AT THE JOINT.
 4. ALL EXPANSION JOINTS SHALL RECEIVE SEALANT.

E JOINT SEALANT
SCALE: NTS

NO.	BY	CHK	APP

DATE	BID ISSUE	REVISIONS AND RECORD OF ISSUE	XREF1:	XREF2:	XREF3:	XREF4:	XREF5:
7/2015							
CURRENT ID:							
W:							
SAVED:	FRE08341_8/15/2013 9:56:25 AM						
PLOTTED:							
USER:	FRE08341						

AECOM
150 SOUTH BRIDGE AVENUE, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.328.6000
WWW.AECOM.COM

BLACK & VEATCH
Building a world of difference?
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 0132

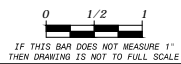
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

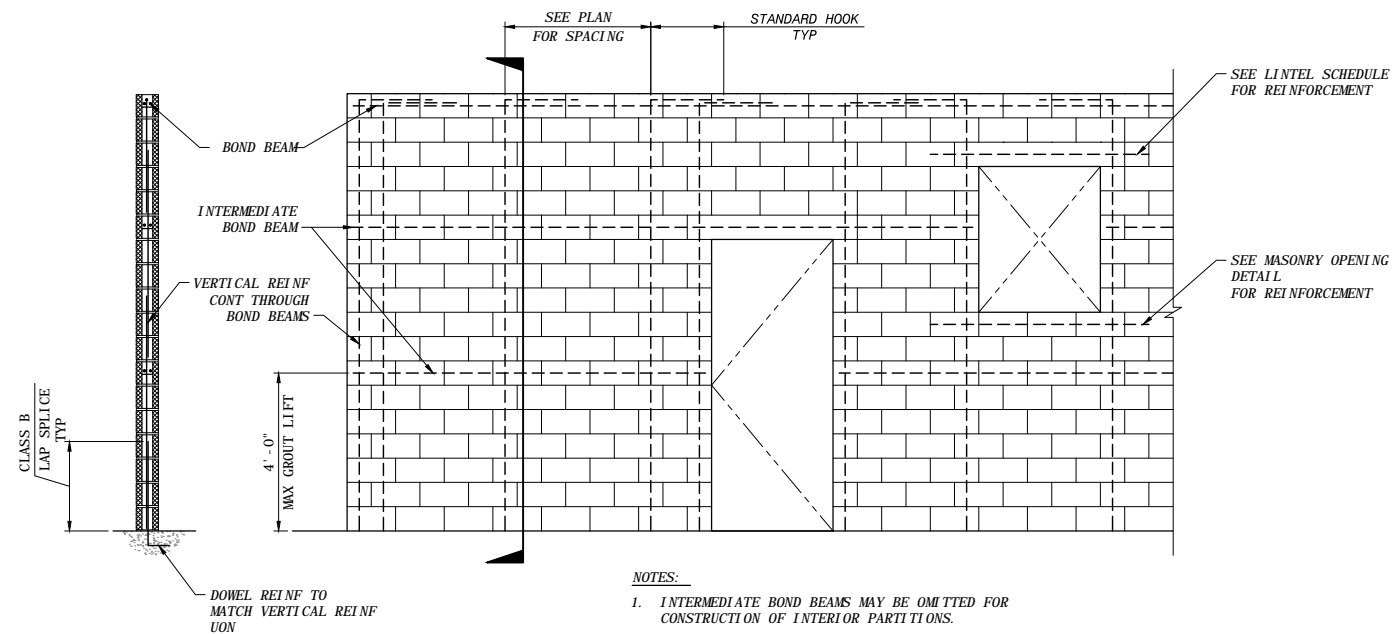
STRUCTURAL
STANDARD DETAILS IV

DESIGNED:	JG
DETAIL LAYOUT:	JG
CHECKED:	KM
APPROVED:	WDM
DATE:	JANUARY 2015
ENGINEER OF RECORD:	KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:	50633

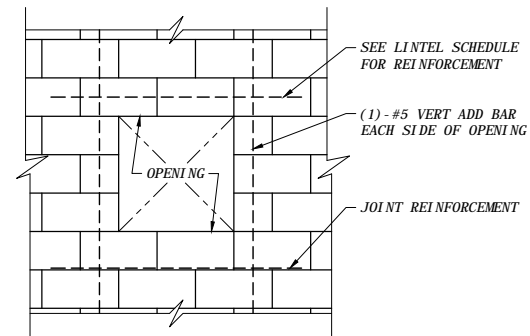
PROJECT NO.
180761

SD-4
SHEET
151 OF 364

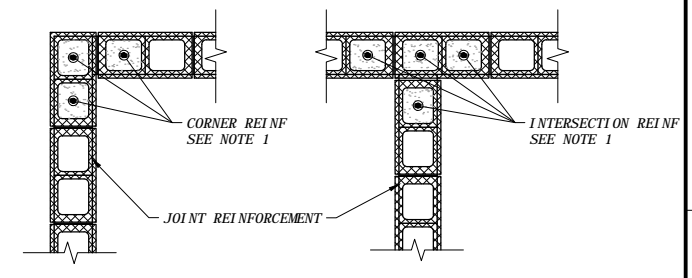




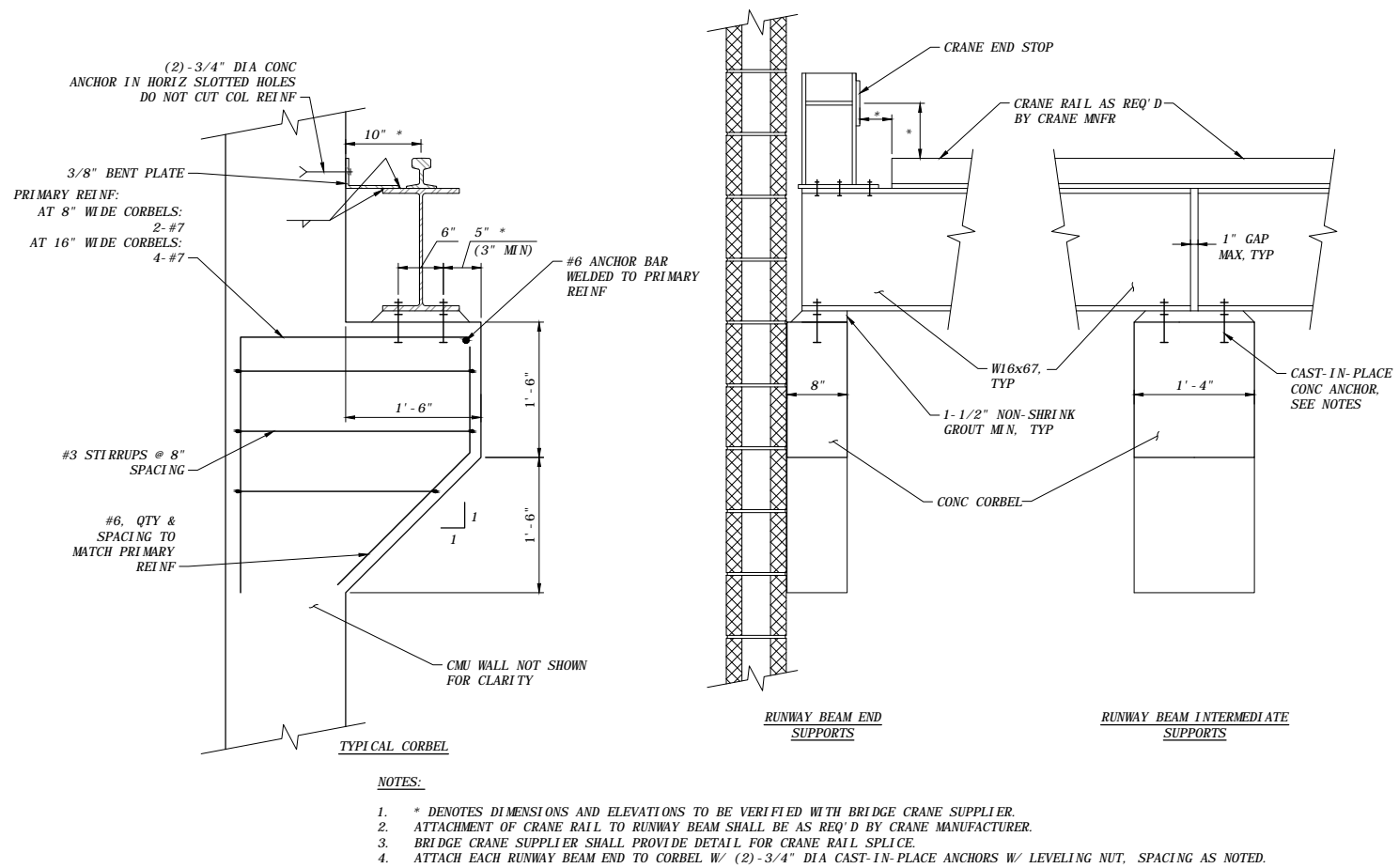
A MASONRY REINFORCEMENT DETAIL
SCALE: NTS



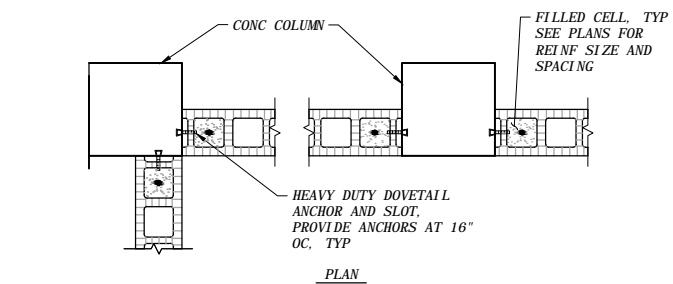
B MASONRY WALL OPENING
SCALE: NTS



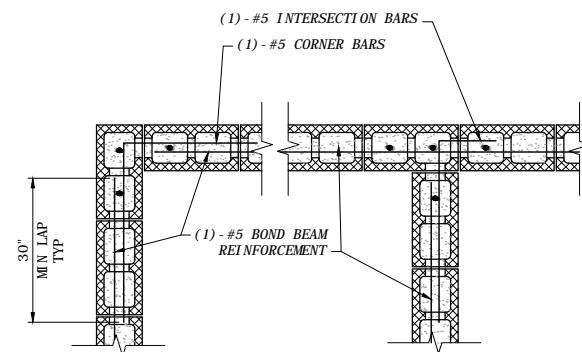
C 8" MASONRY CORNER AND INTERSECTION DETAIL
SCALE: NTS



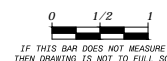
D BRIDGE CRANE RUNWAY BEAM DETAILS
SCALE: NTS



E MASONRY ANCHORS AND REINF AT COLUMN
SCALE: NTS



F 8" MASONRY BOND BEAM DETAIL
SCALE: NTS



NO.	BY	CHK	DATE

DATE: 7/2015
DATE: 7/2015
DATE: 7/2015
DATE: 7/2015

AECOM
1500 W. PALM BLVD., SUITE 200
 FT. PALM BEACH, FL 33411
 PHONE: 561.833.2200
 FAX: 561.833.2201
 WWW.AECOM.COM

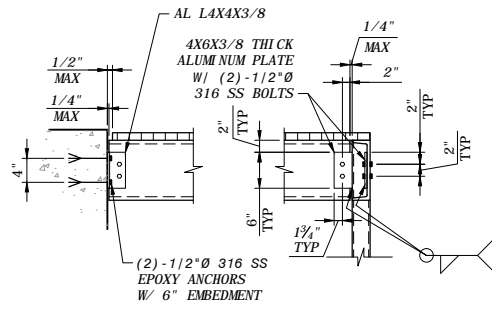
CERTIFICATE OF AUTHORIZATION NO. 04-41815
 DATE: 12/15/2013
 USER: FRE08941
 DWG. VER:

BLACK & VEATCH
 Building a world of difference.
 Black & Veatch Corporation
 201 South Orange Avenue, Suite 500
 Orlando, Florida 32801

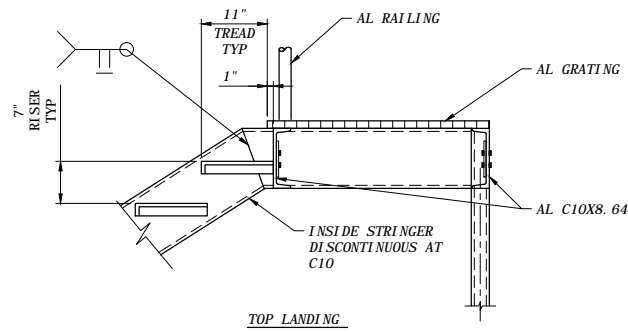
ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS

STRUCTURAL
 STANDARD DETAILS V

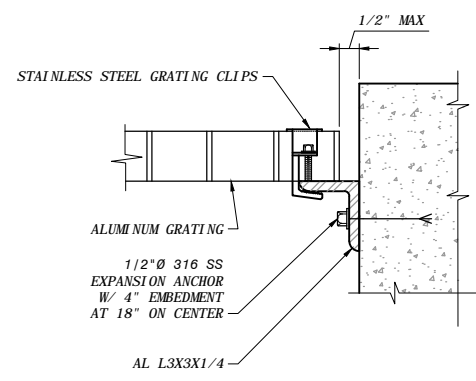
DESIGNED: JC
DETAILED: JC
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD: KHALID MOTIWALA, PE FLORIDA LICENSE NO.: 50833
PROJECT NO. 180761
SD-5 SHEET 152 OF 364



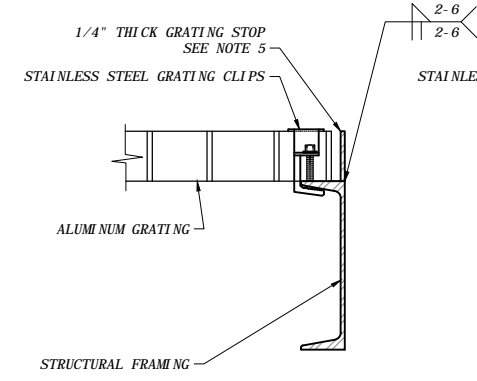
LANDING CONNECTIONS



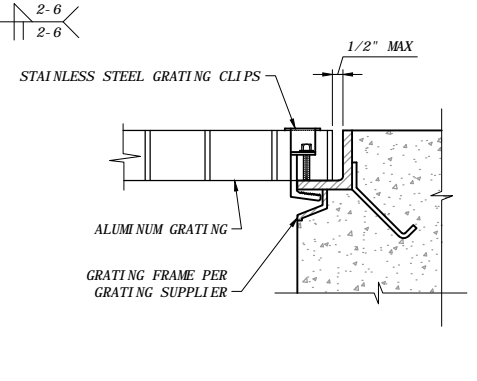
TOP LANDING



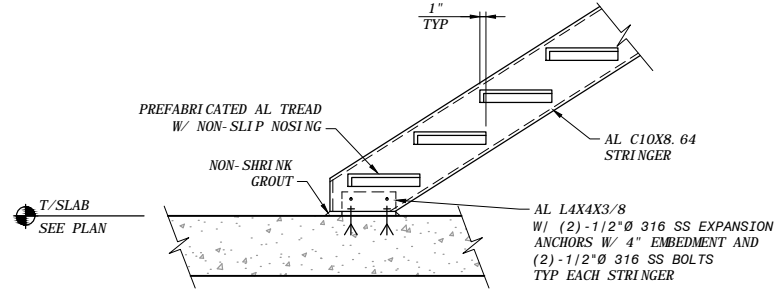
SURFACE MOUNTED GRATING



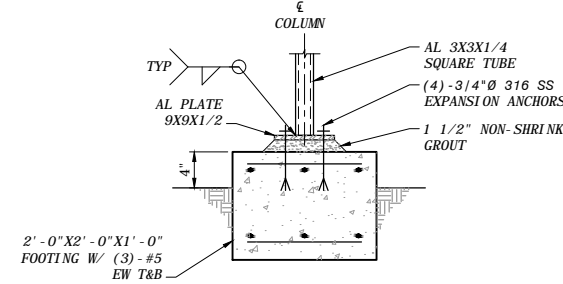
STRUCTURAL FRAMING MOUNTED GRATING



EMBEDDED GRATING FRAME



FOOT OF STAIR AT CONCRETE SLAB OR LANDING PAD



EXTERIOR COLUMN FOOTING

MAXIMUM SPAN	DEPTH	BEARING BAR	
		THICKNESS	SPACING
3'-0"	1"	3/16"	1 3/16"
4'-0"	1 1/4"	3/16"	1 3/16"
5'-0"	1 3/4"	3/16"	1 3/16"
6'-0"	2"	3/16"	1 3/16"
7'-0"	2 1/2"	3/16"	1 3/16"

GRATING NOTES

- ALL DIMENSIONS SHALL BE FIELD MEASURED AND COORDINATED WITH GRATING SUPPLIER.
- ALL PANELS SHALL BE SECURED WITH A MINIMUM OF 4 GRATING CLIPS, 2 EACH END, REGARDLESS OF PANEL WIDTH.
- FABRICATE GRATING IN STANDARD SIZE SECTIONS WHERE POSSIBLE WITH A MAXIMUM PANEL WEIGHT OF 80 POUNDS.
- COAT ALL ALUMINUM IN CONTACT WITH CONCRETE OR STEEL PER SPECIFICATION SECTION 09940.
- GRATING STOP SHALL BE THE SAME MATERIAL AS THE STRUCTURAL FRAMING IT IS WELDED TO. HEIGHT OF GRATING STOP TO MATCH DEPTH OF GRATING.

B ALUMINUM GRATING SUPPORT

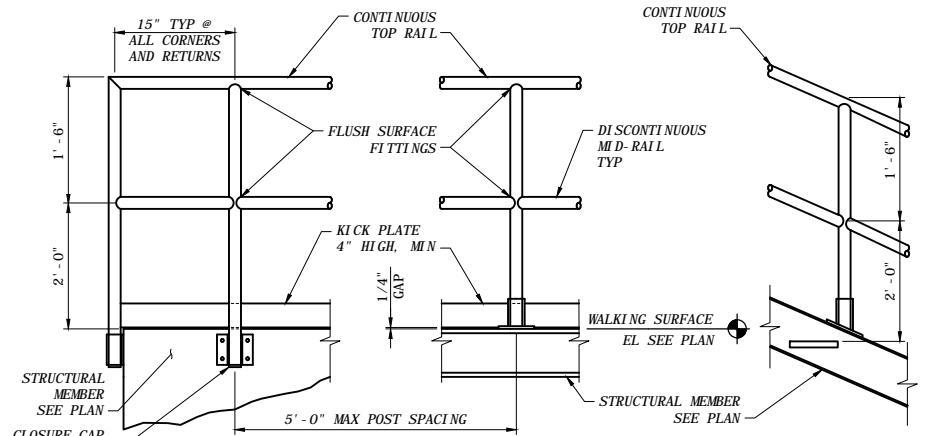
SCALE: NTS

NOTES:

- ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.2.
- ALL BEAMS SHALL BE PROVIDED WITH HORIZONTAL SLOTTED HOLES AT ONE CONNECTION.
- EXTEND STAIR LANDING TO ADJACENT STRUCTURE IF ADJACENT STRUCTURE IS WITHIN 4'-0" OF LANDING.

A ALUMINUM STAIR

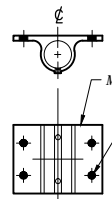
SCALE: NTS



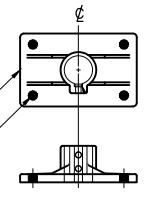
SIDE MOUNTED

SURFACE MOUNTED

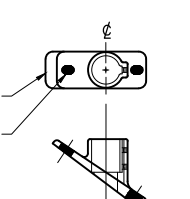
STAIR STRINGER MOUNTED



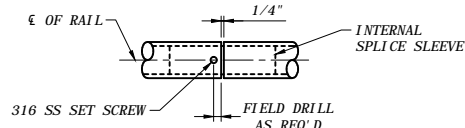
SIDE MOUNTED



SURFACE MOUNTED



STAIR STRINGER MOUNTED



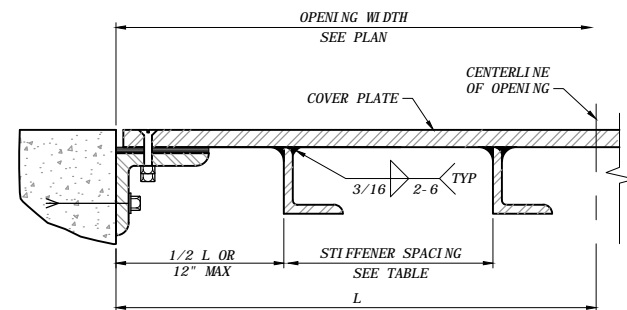
RAIL SPLICE DETAIL

RAILING NOTES

- ALL RAILINGS, KICKPLATES, AND ACCESSORIES SHALL BE ALUMINUM.
- ALL RAILS AND POSTS MUST BE SIZED AND SPACED TO SATISFY OSHA REQUIREMENTS AND THE FLORIDA BUILDING CODE.
- COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR STEEL PER SPECIFICATION SECTION 09940.
- MAXIMUM RAIL SPLICE LENGTH SHALL NOT EXCEED 24 FEET.

C RAILING DETAIL

SCALE: NTS



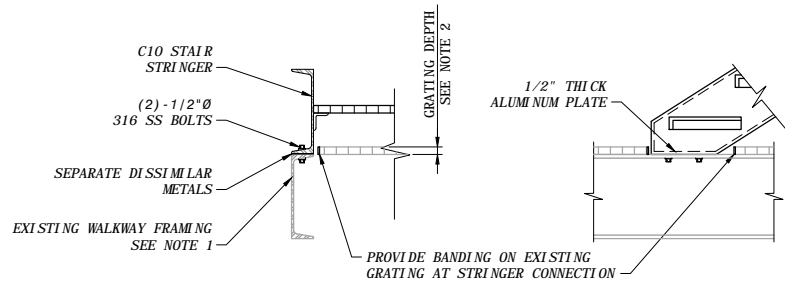
SHORT SPANS	STIFFENER SIZES	MAXIMUM SPACING
4'-0"	L2x1x1/4	1'-6"
5'-0"	L2x1x1/4	1'-0"
6'-0"	L3x1 1/2x1/4	1'-3"

NOTES:

- COVER PLATE AND STIFFENERS SHALL BE TYPE 316 SS PLATES AND ANGLES.
- STIFFENERS SHALL BE PLACED LONG LEG VERTICAL.
- STIFFENERS SHALL BE PARALLEL TO THE SHORT EDGE OF OPENINGS.

D STEEL COVER PLATE

SCALE: NTS

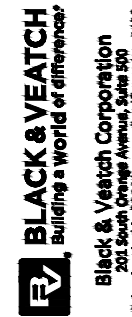
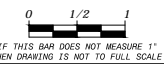


NOTES:

- MODIFY EXISTING WALKWAY RAILING AND KICK PLATE AS REQUIRED FOR STRINGER CONNECTION.
- FIELD VERIFY GRATING THICKNESS. EXTEND STRINGER AS REQUIRED FOR STRINGER CONNECTION.

E STAIR STRINGER CONNECTION

SCALE: NTS



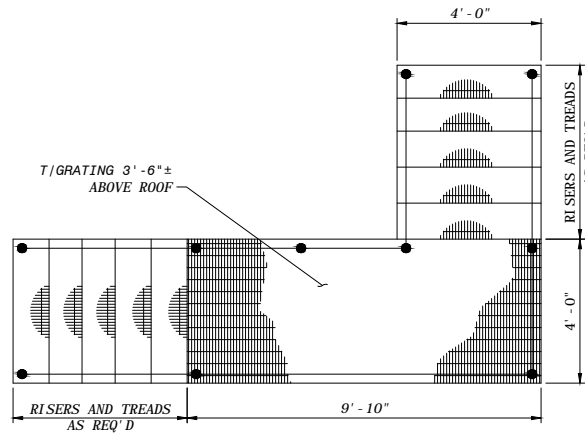
ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS VI

DESIGNED: JG
DETAILED: JG
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD:
KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:
50833

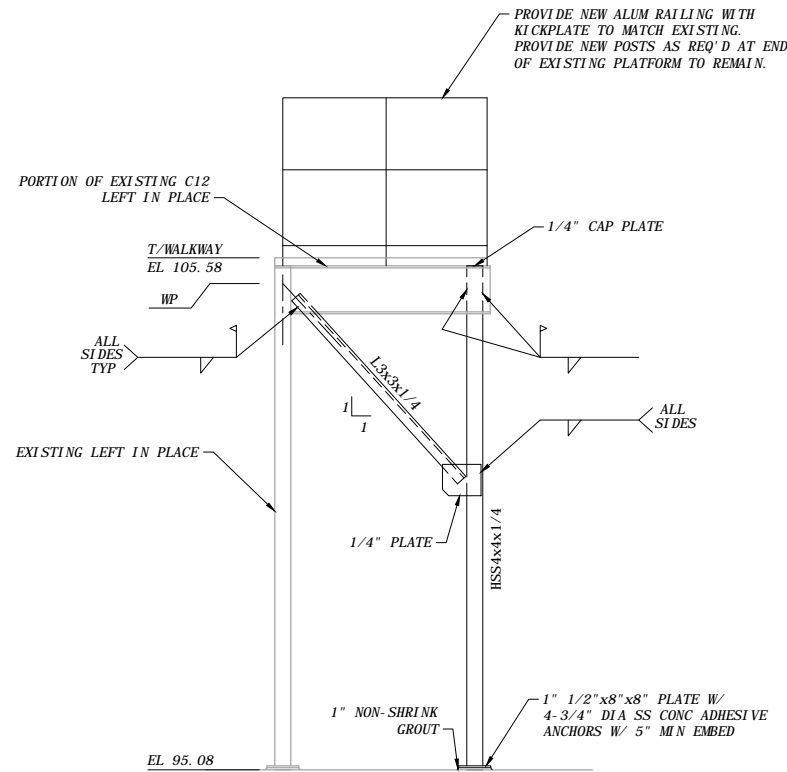
PROJECT NO.
180761

SD-6
SHEET
153 OF 364



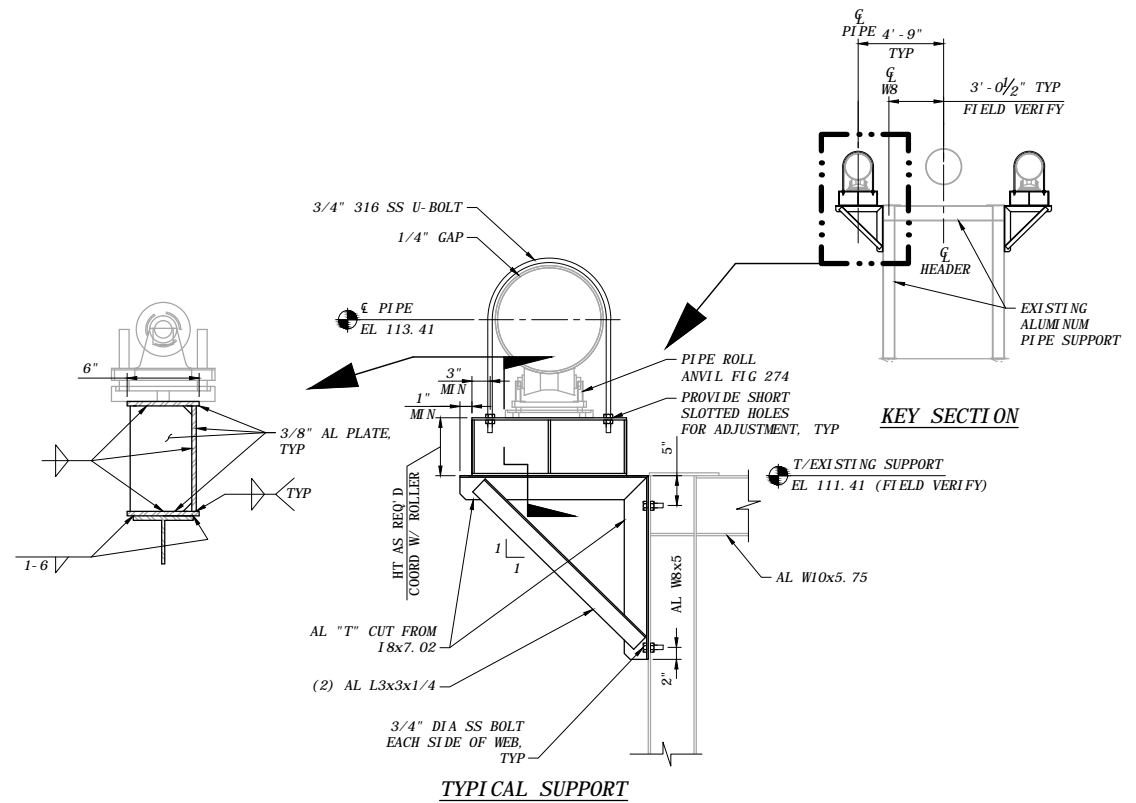
NOTES:
1. OVERALL DIMENSIONS AND HEIGHT OF CROSS-OVER TO BE FIELD VERIFIED FOR CLEARANCES WITH PIPING LOCATED BELOW CROSS-OVER

A ALUMINUM CROSS-OVER DETAIL
SCALE: NTS



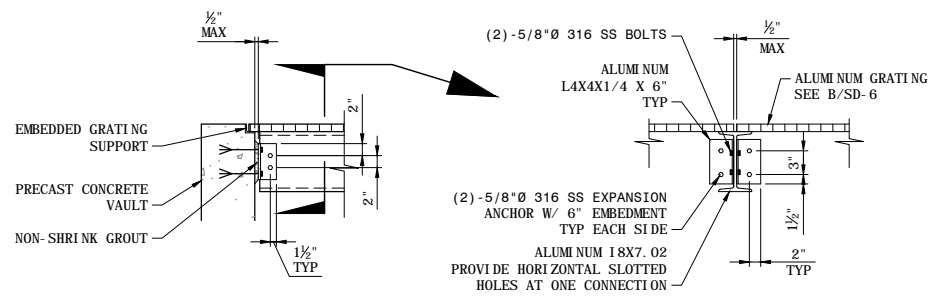
NOTES:
1. HOT-DIP GALVANIZE AFTER FABRICATION.
2. FIELD VERIFY EXISTING ELEVATIONS.
3. TOUCH UP FIELD WELDS WITH ZINC RICH COATING SYSTEM

B EXISTING WALKWAY SUPPORT DETAIL
SCALE: NTS



NOTES:
1. COORDINATE DIMENSIONS AND ELEVATIONS OF PIPE SUPPORT WITH EXISTING CONDITIONS AND WITH AIR PIPING. SEE SHEET M-16 FOR ADDITIONAL INFORMATION.
2. MEMBERS AND PLATES SHALL ALUMINUM UNLESS OTHERWISE NOTED.

C N1 BNR BASIN AIR PIPE SUPPORT
SCALE: NTS



D FRAMING TO PRECAST CONCRETE CONNECTION DETAIL
SCALE: NTS

NO.	BY	CHK	DATE

AECOM
150 SOUTH BRIDGE AVENUE, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.241.2000
FAX: 407.241.2001
WWW.AECOM.COM

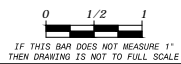
BLACK & VEATCH
Building a world of difference
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 8132

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS VII

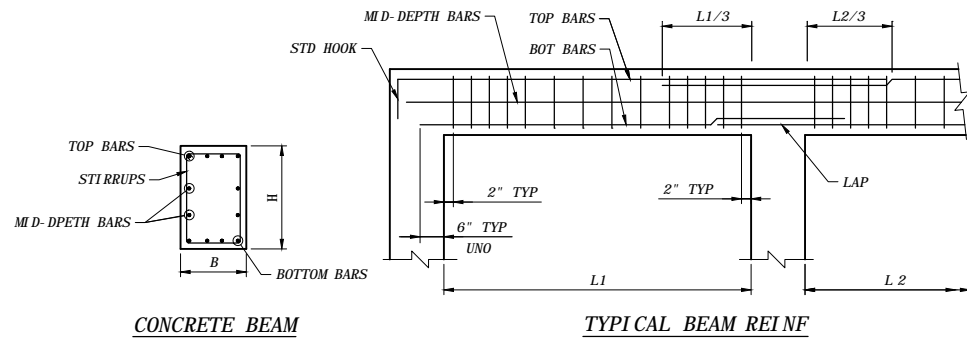
DESIGNED: JG
DETAILED: JG
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD:
KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:
50833

PROJECT NO.
180761
SD-7
SHEET
154 OF 364



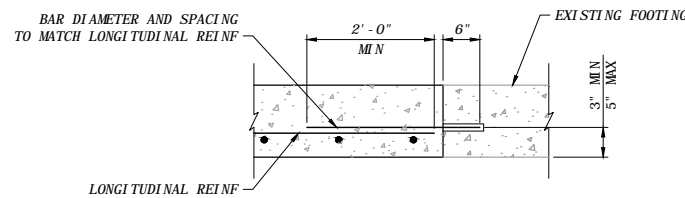
BEAM SCHEDULE																			
MARK	T/BEAM ELEV	SIZE 'B' X 'H'	BOTTOM BARS	TOP BARS	MID-DEPTH BARS	ADDITIONAL BARS	STIRRUPS			SKETCH							REMARKS		
							SIZE	TYPE	SPACING	CL SUPPORT	CL SUPPORT	CL SUPPORT	CL SUPPORT	CL SUPPORT	CL SUPPORT	CL SUPPORT		CL SUPPORT	
B1	110.50	16"x24"	5-#8	5-#8	2-#6 EA SIDE	---	#4	□	6"										---
B2	109.83	16"x16"	5-#8	5-#8	1-#8 EA SIDE	---	#4	□	6"										SEE DETAIL D/SD-2
B3	125.17	16"x16"	5-#8	5-#8	1-#8 EA SIDE	---	#4	□	6"										SEE DETAIL D/SD-2
B4	110.50	16"x24"	5-#8	5-#8	2-#6 EA SIDE	---	#4	□	6"										
B5	125.17	16"x16"	5-#8	5-#8	2-#6 EA SIDE	---	#4	□	6"										
B6	112.50	16"x48"	5-#8	5-#8	4-#6 EA SIDE	---	#4	□	6"										
B7	102.77	12"x18"	(3)-#5	(2)-#5	---	---	#3	□	6"										

PROVIDE RAIN DRIP STRIP ON ALL CONCRETE BEAMS. SEE DETAIL D ON SHEET SD-2



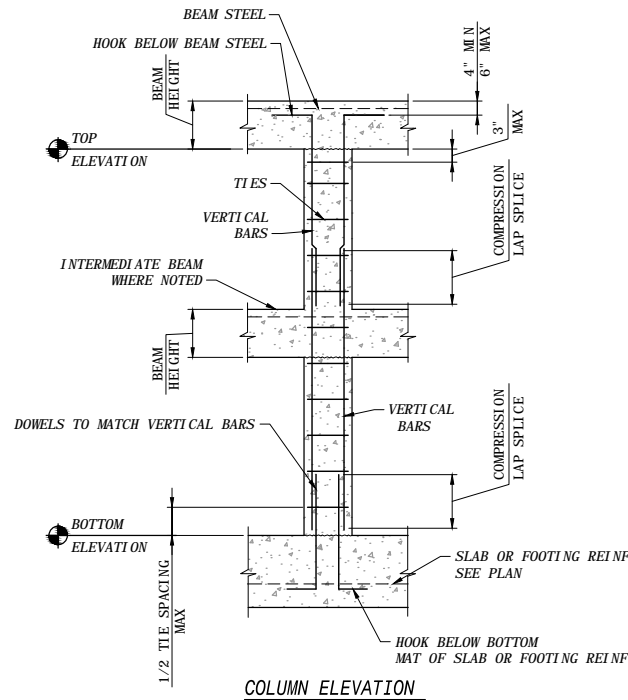
A CONCRETE BEAM SCHEDULE
SCALE: NTS

MARK	SIZE WIDTH x LENGTH x DEPTH	REINFORCING		ELEVATION (TOP OF FND)	REMARKS
		LONGITUDINAL	TRANSVERSE		
WF-1.3	1'-4" x CONT x 24"	(2)-#5 TOP (3)-#5 BOT	#3@12"	71.50	TRANSVERSE STEEL SHALL BE OPEN STIRRUPS
F-6.0	6'-0"x6'-0"x1'-6"	(8)#6 T&B	(8)#6 T&B	91.50	-
F-8.0	8'-0"x8'-0"x1'-6"	(11)#6 T&B	(11)#6 T&B	91.50	-
F-6.14	6'-0"x14'-0"x1'-2"	(7)#6 T&B	#6@18" T&B	85.27	-
F-6.21	6'-0"x21'-0"x1'-6"	(18)-#8 TOP (7)-#6 BOT	#6@18" T&B	83.27	-
F-7.5	7'-6"x7'-6"x1'-2"	(9)-#6 BOT	(9)-#6 BOT	85.27	-

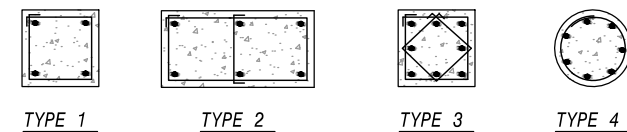


WF CONNECTION TO EXISTING FOOTING DETAIL

C FOOTING SCHEDULE
SCALE: NTS

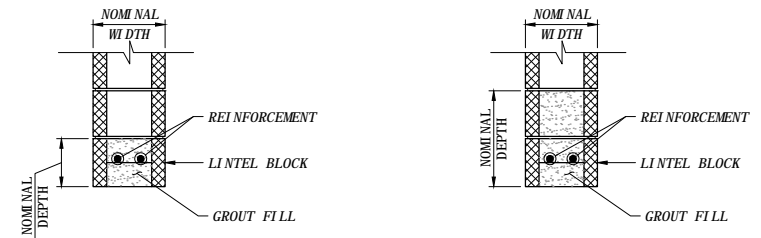


MARK	TYPE	SIZE	TOP ELEVATION	BOTTOM ELEVATION	VERTICAL BARS	TIES	REMARKS
C-1	2	16"x24"	123.84	91.50	(16)-#8	#4@6"	SEE SECTION 4/S-18
C-2	3	16"x16"	123.84	91.50	(12)-#8	#4@6"	SEE SECTION 4/S-18
C-3	3	16"x16"	108.50	91.50	(12)-#8	#4@6"	SEE SECTION 4/S-18
C-1.1	1	12"x12"	92.35	83.27	(4)-#6	#3@12"	-
C-1.2	1	12"x12"	92.35	85.27	(4)-#6	#3@12"	-
C-4.1	4	16"Ø	101.27	85.27	(6)-#6	#3@12"	-



D COLUMN SCHEDULE
SCALE: NTS

MARK	TYPE	NOMINAL DEPTH	NOMINAL WIDTH	BOTTOM REINF	TOP REINF	STIRRUPS	REMARKS
L-1	1	8"	8"	(2)-#5	-	-	OVER MAN DOORS
L-2	1	8"	8"	(2)-#5	-	-	OVER DOUBLE DOOR
L-3	2	16"	8"	(2)-#5	-	-	OVER LOUVERS



TYPE 1 TYPE 2

- NOTES:
- REFER TO APPROPRIATE ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR OPENING SIZES AND LOCATIONS.
 - LINTEL REINFORCEMENT SHALL EXTEND 40 BAR DIAMETERS AND NOT LESS THAN 24" BEYOND THE EDGE OF OPENINGS. IF MINIMUM LENGTHS CANNOT BE ACHIEVED PROVIDE A 24" HOOK TO VERTICAL REINFORCEMENT.
 - PRECAST LINTELS MAY BE SUBSTITUTED FOR MASONRY LINTELS. IF PRECAST LINTELS ARE USED REINFORCING STEEL AND LINTEL DEPTH MAY BE REQUIRED TO BE REVISED.

B MASONRY LINTEL SCHEDULE
SCALE: NTS

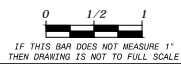
NO.	BY	CR	DATE

AECOM
150 SOUTH BRADY AVENUE, SUITE 200
ORLANDO, FLORIDA 32801
PHONE: 407.622.2000
FAX: 407.622.2001
WWW.AECOM.COM

BLACK & VEATCH
Building a world of difference!
Black & Veatch Corporation
201 South Orange Avenue, Suite 500
Orlando, Florida 32801
Certificate No. 8132

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
STRUCTURAL SCHEDULES

DESIGNED: JG
DETAILED: JG
CHECKED: KM
APPROVED: WDM
DATE: JANUARY 2015
ENGINEER OF RECORD:
KHALID MOTIWALA, PE
FLORIDA LICENSE NO.:
50833
PROJECT NO.
180761
SD-8
SHEET
155 OF 364



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE