1112 Manatee Avenue West
Bradenton, FL 34205
purchasing@mymanatee.org

Solicitation Addendum

Addendum No.:	1
Solicitation No.:	22-TA004115DJ
Solicitation Title:	Lift Stations 1M, 12A, 13A Electrical Rehabilitation
Project No.:	6101380, 6101480, 6101680, 6101580, 6101581
Addendum Date:	June 24, 2022
Procurement Contact:	Dave Janney Senior Procurement Agent

IFBC 22-TA004115DJ is amended as set forth herein. Responses to questions posed by prospective bidders are provided below. This Addendum is hereby incorporated in and made a part of IFBC 22-TA004115DJ.

The deadline to submit all inquiries concerning interpretation, clarification or additional information pertaining to this IFBC was June 17, 2022.

REPLACE:

SECTION B, BID FORMS, APPENDIX K, BID PRICING FORM

Replace Appendix K Bid Pricing Form, with the Revised Appendix K Bid Pricing Form hereby incorporated into the IFBC.

ADD:

APPEDIX K, ELECTRONIC BID PRICING FORM

The attached Appendix K, Electronic Bid Pricing Form, is hereby incorporated into the IFBC.

ADD:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 08120

Add Section 08120 Aluminum Doors and Frames issued with this Addendum 1 and available for download as a separate attachment.

ADD:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 08710

Add Section 08710 Finish Hardware issued with this Addendum 1 and available for download as a separate attachment.

ADD:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 08800

Add Section 08800 Glazing issued with this Addendum 1 and available for download as a separate attachment.

ADD:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 01150 MEASURE AND PAYMENT, 1.07 UNIT PRICE ITEM, LS 12A ELECTRICAL PUMP & VFD REHABILITATION, BID ITEM NO. 3-MECHANICAL IMPROVEMENTS

3BB **Building Painting and Patching** shall include all labor, materials, and equipment necessary for removal of all popcorn finish, patching, priming, and painting the upper floor level of station to match County's painting scheme and approved materials including floors and other ancillary items necessary as called out on the drawings and per the Contract Documents.

Payment for this item shall be lump sum.

CHANGE:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 01150 MEASURE AND PAYMENT, 1.07 UNIT PRICE ITEM, LS 1M ELECTRICAL REHABILITATION, BID ITEM 3-MECHANICAL IMPROVEMENTS

3D Building Painting and Patching shall include all labor, materials, and equipment necessary for removal of all popcorn finish, patching, priming, and painting the upper floor level of station to match County's painting scheme and approved materials including floors and other ancillary items necessary as called out on the drawings and per the Contract Documents.

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CHANGE:

SECTION C, BID ATTACHMENTS, BID ATTACHMENT 2 – TECHNICAL SPECIFICATIONS, SECTION 01150 MEASURE AND PAYMENT, 1.07 UNIT PRICE ITEM, LS 13A ELECTRICAL AND WET WELL REHABILITATION, BID ITEM 3-MECHANICAL IMPROVEMENTS

3D Building Painting and Patching shall include all labor, materials, and equipment necessary for removal of all popcorn finish, patching, priming, and painting the upper floor level of station to match County's painting scheme and approved materials including floors and other ancillary items necessary as called out on the drawings and per the Contract Documents.

Payment for this item shall be lump sum.

QUESTIONS AND RESPONSES:

Q1. On sheet M0.00 for Lift Station 13A, it is observed that there are (3) stop plates & stop plate guides to be replaced. There are no dimensions, section view, or additional information on these. Within the specs, there is a section 15211 bulkheads, but we are unsure if these correlate as they are called different names. Please advise additional information on these.

R1. See attached 13A Record Drawings_for Stop and Stop Guides_nmc. Record drawings show an opening for 36"x 56" stop logs. This must be field verified before ordering. Bid Attachment 2-Technical Specifications, Section 15211 Bulkheads, is the specification for the Stop Logs.

Q2. I am requesting approval for Tnemec/Epoxytec CPP Sprayliner / series Structural Epoxy System as an approved liner to material section 02064 Modifications to Existing Structures for concrete submerged or subject to splashing in all wastewater structures or precast manhole and valve vault structures.

R2. Manatee County requires the spray applied liner systems indicated in Bid Attachment 2 – Technical Specifications, Sections 02064-Part 2-D and 09970-2.02-A. Alternative systems to the products listed are not acceptable.

Q3. In section 09970: Surface Preparation Spray System
Line 2.02.A: We are requesting Epoxytec CPP Sprayliner and CPP Sprayliner MH be approved as an equal product to those listed.
Section 09970 - Line 2.02C: Epoxytec Sprayliner and Sprayliner MH meet section 09970 - 2.02.C for a 100% sbv epoxy and 0 VOC .

Both Epoxytec Sprayliner and Sprayliner MH are structural epoxies and can be applied and are recommended at the film thickness's required in the specification.

The Epoxytec materials are manufactured in Florida and locally represented by Epoxytec and Tnemec Florida Protective Coatings Services, Inc.

R3. See response to Q2.

Q4. Drawing S1.01 for LS 13A says to remove the existing concrete stairs and landings and replace them with FRP components. Please provide the as-built drawings of this stairway to help determine what needs to be demoed.

R4. The attached sketches 1024-0182 SK-S01 to SK-S04 are hereby attached to this Addendum No. 1 and incorporated into this IFBC.

Exposed reinforcing bar dowels from wall/slab assemblies shall be addressed as follows:

- Cut dowels flush to face of existing concrete.
- Rout dowel leg to 1" (min.) depth below the exist. Face of concrete.
- Fill holes w/ non-shrink grout.

Q5. Please provide a structural layout drawing of what is required to be installed for the new FRP stair, landings, and rails.

R5. Regarding the new FRP stairs, landing and rail assemblies, the design intent was for the contractor to install a new complete system, similar in layout to the removed concrete stair and landings. The intent is to provide simple and safe access for operators & maintenance personnel. The new system may revise stair rise / runs to possibly reduce to one intermediate platform / landing. Based upon Bid Attachment 2 – Technical Specifications, Section 06600 – 1.05 – A the contractor shall provide a submittal of the design, which includes calculations & shop drawings, sealed, signed & dated by a professional engineer currently licensed by the state of Florida.

Q6. Are we painting the existing equipment including existing pumps, existing piping, existing cranes, crane rails, and hoists at all 3 lift stations?

R6. See Bid Attachment 2-Technical Specifications, Section 09900 Painting, 3.31 Coating Schedule.

Q7. Do all 3 lift station dry pit areas get painted including the floors, walls, and ceilings?

R7. Refer to Bid Attachment 2 – Technical Specifications, Section 01010, Summary of Work, LS 1M Electrical Rehabilitation, Paragraph A, *Patching and painting of the upper floor interior of the pump station, including floor, is included in this project. Refer to specifications.* This includes preparing the surface for paint by removing or repairing any surfaces impeding the proper application, warrantee, and final appearance of the new paint coating. The "popcorn" ceiling coating is part of this scope.

In Bid Attachment 2 – Technical Specifications, Section 01010, Summary of Work, LS 12 A Electrical Pump & VFD Rehabilitation, Paragraph A, *Patching and painting of the upper and lower floors, including floor of the pump station is included in this project.*

Refer to specifications. This is the only station that requires the lower "drywell" area to be painted.

In Bid Attachment 2 – Technical Specifications, Section 01150 Measurement and Payment Specification, Bid Item 3-Mechanical Improvements, Paragraph D, *Building Painting and Patching shall include all labor, materials, and equipment necessary for patching, priming, and painting the upper floor level of station to match County's painting scheme including floors and other ancillary items necessary as called out on the drawings and per the Contract Documents.* Though not specifically stated, from specification 01010 also implies the lower drywell section of 12A.

Q8. 13A the existing coating is to be removed and recoated including concrete repair. What is the existing coating in the wet well area including the coating thickness?

R8. This information is not available. Utilize criteria for the existing systems required to be installed. For thickness contractor should estimate coating manufacturer's maximum dry film thickness (DFT) for base, intermediate & top coats (as applicable to the system) and plan on conducting DFT tests to confirm.

Q9. The hatches seem to be all different sizes. Please provide a schedule for the hatches to be removed and replace at 1M and 13A.

R9. Bid Attachment 3-Lift Station 1M Electrical Rehabilitation Plans indicate the hatches are 3'-2" square.

Bid Attachment 5-Lift Station 13A Electrical Rehabilitation Plans indicate the following:

- The (2) north hatches are 3'-2" x 3'-8"
- The (2) south hatches are 2'-6" square

Contractor shall field verify all dimensions indicated.

Q10. Do any hatches get replaced at 12A?

R10. Yes, refer to Bid Attachment 4-Lift Station 12A Electrical Pump & VFD Rehabilitation Sheet S1.00.

Q11. Please provide a door and hardware spec.

R11. See attached Sections 08120 Aluminum Doors and Frames, 08710 Finish Hardware, and Section 08800 Glazing are hereby attached to this Addendum No. 1 and incorporated into the IFBC. In addition, review of the information on the drawings indicated Door Type A 2'-10 wide. To accommodate the 3'-4" masonry openings revise the door width dimension to 3'-0".

Q12. Please provide a fence spec.

R12. Refer to Bid Attachment 5 – Lift Station 13A Electrical Rehabilitation Plans, note on sheet C00.0 *Add and move fence 15'-0 South. Match existing*

Q13. With 24/7 bypass watch be required?

R13. A 24/7 ability to monitor must be performed, but can be done using a cellular auto dialer, able to call several numbers in succession, and the Contractor must have a response time of 1-hour or less.

Q14. What is the GPM and TDH for 1M, 12A, and 13A?

R14. The pumping capacities shall be at a minimum 10,179 gpm @ 183' TDH for Lift Station 1M; 9,000 gpm @ 93' TDH for Lift Station 12A, and 9,957 gpm @ 143' TDH for Lift Station 13A. (Flows are based on the assumption that the County can operate all three existing pumps at the same time.)"

Q15. For the new 3 ton split A/C units is ductwork required? If yes please provide a detail as none is shown.

R15. Refer to Bid Attachment 3 – Lift Station 1M Electrical Rehabilitation Plans and Bid Attachment 4 – Lift Station 12A Electrical Pump & VFD Rehabilitation Plan Sheets E1.04, E1.05 and Bid Attachment 5 – Lift Station 13A Electrical Rehabilitation Plan Sheets E1.03, E1.04, coordinate with lighting and Bid Attachment 2 – Technical Specifications, Section 13050 for HVAC

Q16. At all three Lift Station the upper floor level ceilings call for patch, prime and paint. At the walk through the existing cementitious coating seems to be failing at all 3 sites. Are we to remove all existing coatings or patch the existing coatings? If we are to patch please provide a quantity to patch at each site.

R16. See response to Q7.

Q17. For bid item 4J at lift station 13A concrete repairs what is the depth of the concrete repair?

R17. Record drawings reviewed indicated the LS 13A existing concrete walls were constructed 1'-6" thick. Non-destructive concrete testing of the existing concrete walls or obtaining existing core samples were not part of the work scope for the concrete condition assessment. Depth of concrete voids is not currently known. It is not estimated they are full wall thickness since signs of potential groundwater intrusion were not observed. In addition, walls were observed to be plumb and did not appear to exhibit signs of severe cracking from excessive bending or shear stresses. The depth of voids will have to be field verified during construction and Contractor may employ material testing engineering services to determine.

Q18. For LS 1M, 12A, and 13A the existing Flygt MAS 711 Pump Monitor Modules, Operator Keypads and CT are to be salvaged and re-installed in new VFD enclosures. If the existing components cannot be salvaged who pays for the adder the for each lift station for the new Flygt components to be installed?

R18. It is the Engineer's understanding that these are all in working order. New Flygt components will be paid for out of the Contract Contingency.

Q19. We also need to know if the County operates the pump stations as 2 duty + 1 standby or if there are times during peak flows when all three pumps are allowed to run simultaneously.

R19. They are 2 duty and 1 standby typically.

Q20. What is the Engineer/Budget/Project Estimate?

R20. The engineers estimated opinion of costs is $4,014,768.32 and the construction budget is $2,921,000.00.

Q21. C.C. Control Corp. of West Palm Beach Florida respectfully requests to be added as an approved equal Systems Integrator for the Lift Stations 1M, 12A, 13A Electrical Rehabilitation, No. 22-TA004115DJ.

R21. System Integrators are not part of this Scope of Work.

Q22. Is there an estimated value for this project?

R22. See the response to Q20.

Q23. Please provide the mandatory site visit sign in sheet.

R23. The attached Mandatory Site Visit Sign In Sheet is hereby attached to this Addendum No. 1 and incorporated to the IFBC.

Q24. What is the engineer's budget for this project for bid A and for bid B?

R24. See the response to Q20.

Q25. We have talked to a FRP vendor about the new FRP stairway on drawing S1.01 at LS 13A. Please provide elevations views of the FRP stairway landings with dimensions and plan views of each elevation with dimensions. We need each landing size width and length along with the stairway width, rise, and run.

R25. The attached Sketch Sheets 1024-0182-SK-S01-SK-S02-SK-S03, & SK-S04 hereby attached to this Addendum No. 1 and incorporated to the IFBC.

Q26. If building painting and patching is required for lift station 12A there appears to be no bid item for this work. Please clarify.

R26. See Bid Item 3BB in the ADD section above and Revised Appendix K Bid Form.

Q27. If floor hatch modifications are required for lift station 12A there appears to be no bid item for this work. Please clarify.

R27. See Appendix K Bid Form Revised, Tab LS 12A Pump, VFD & Elec Rehab, Bid Item 4K.

NOTE:
Deleted items will be ~~struck through~~, added or modified items will be underlined. All other terms and conditions remain as stated in the IFBC.

INSTRUCTIONS:
Receipt of this Addendum must be acknowledged as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the response being deemed non-responsive.

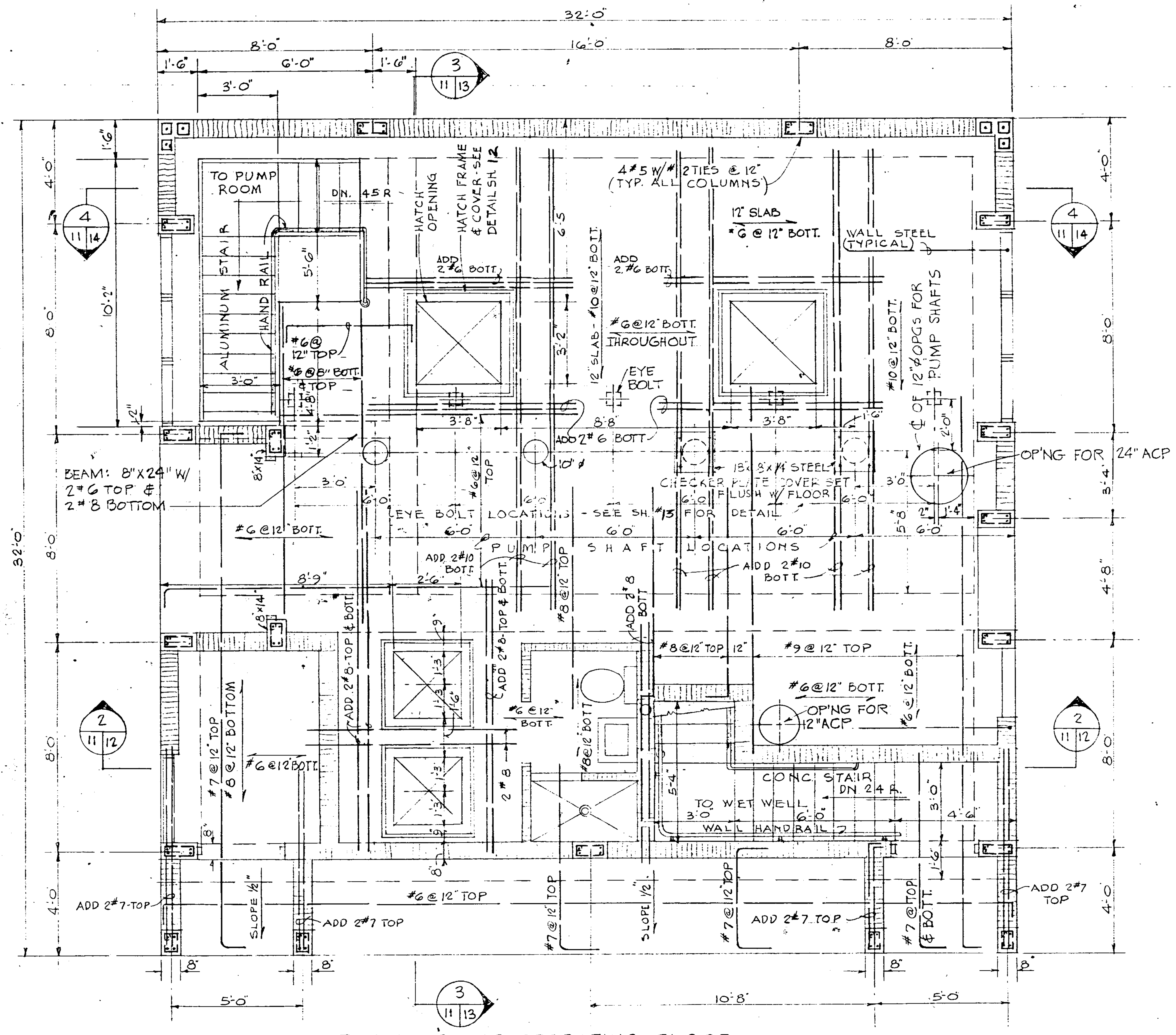
END OF ADDENDUM

AUTHORIZED FOR RELEASE

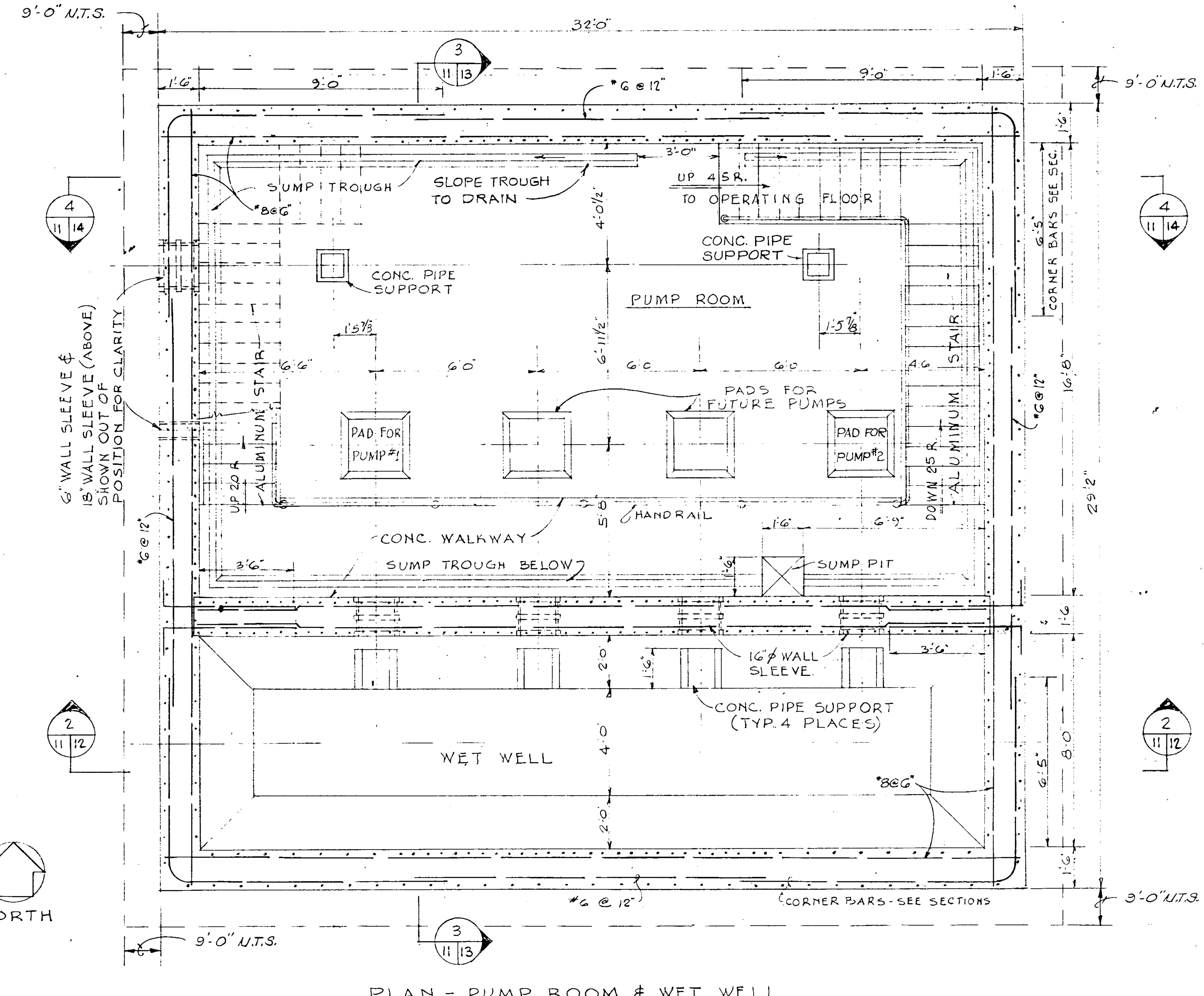
Jacob Erickson, MBA, CPPO, NIGP-CPP

Digitally signed by Jacob Erickson, MBA, CPPO, NIGP-CPP
Date: 2022.06.24 14:53:18 -04'00'

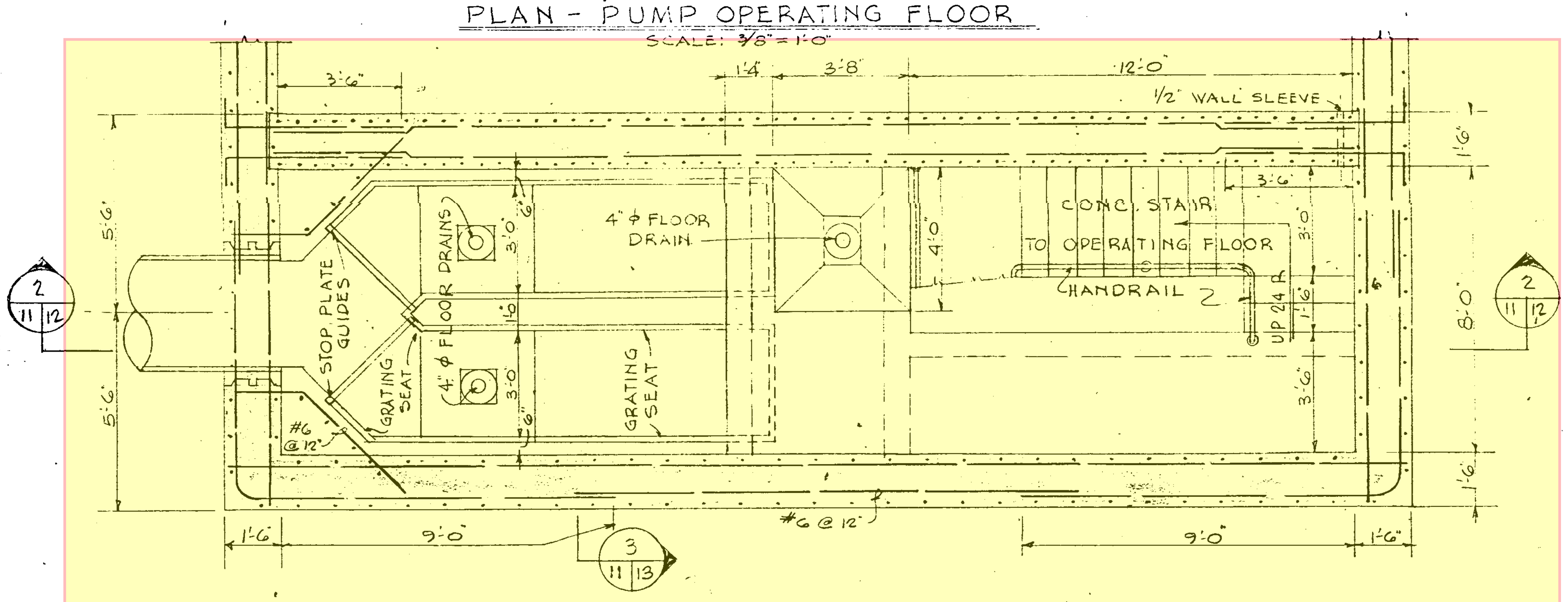
OCE INDUSTRIES INC., PHIL. PA. REORDER 00139



PLAN - PUMP OPERATING FLOOR
SCALE: 3/8" = 1'-0"



PLAN - PUMP ROOM & WET WELL
SCALE: 3/8" = 1'-0"



PLAN - WET WELL
SCALE: 3/8" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 6-78 BY V.M.S.
CHECKED BY:
R & A PCG
M.C.U.S. AM

NO.	DATE	DESCRIPTION	BY	CKD.
	6-78	REVISED TO RECORD DRAWINGS	VMS	PCG

REVISIONS

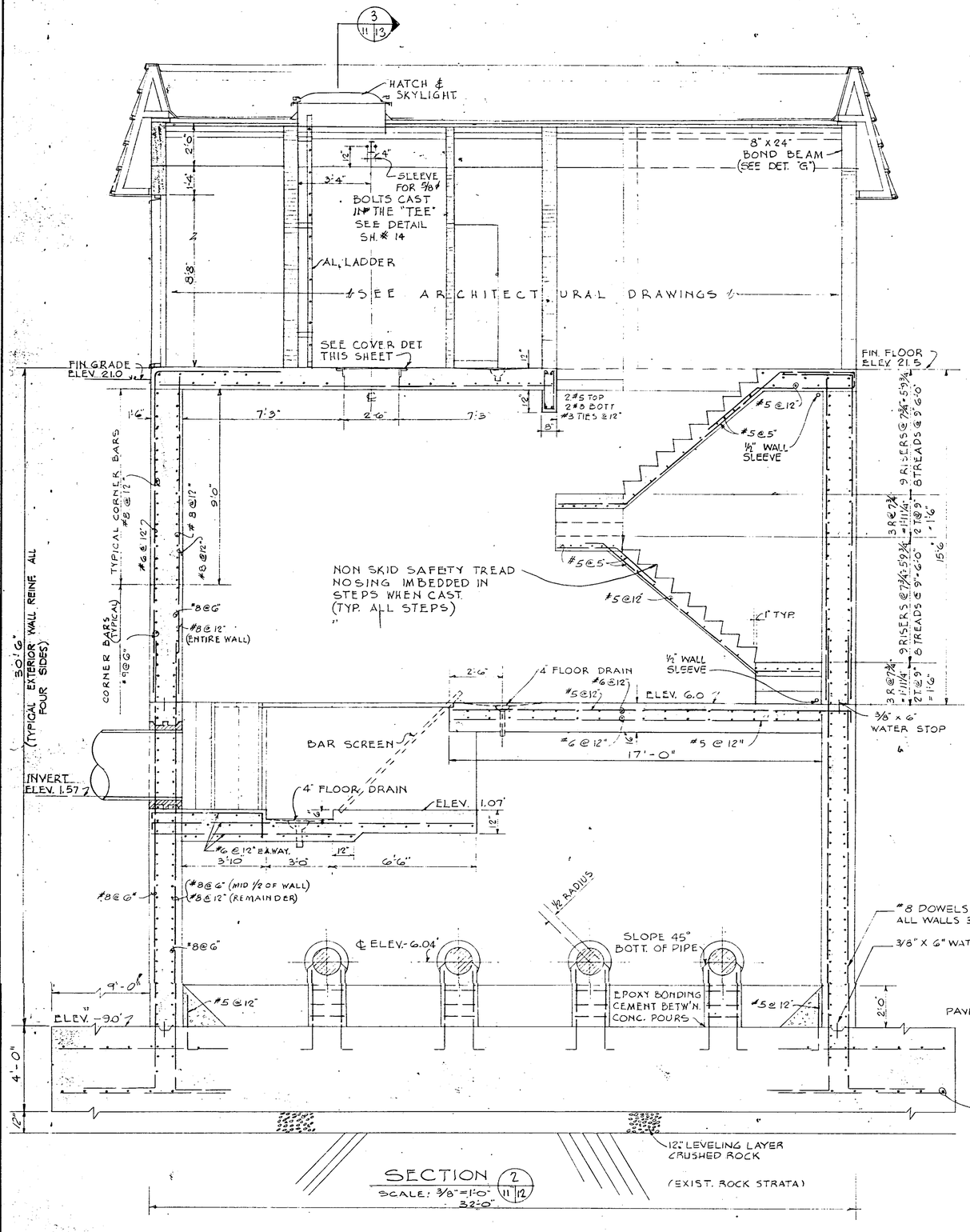
RUSSELL & AXON
Engineers — Planners — Architects

T79

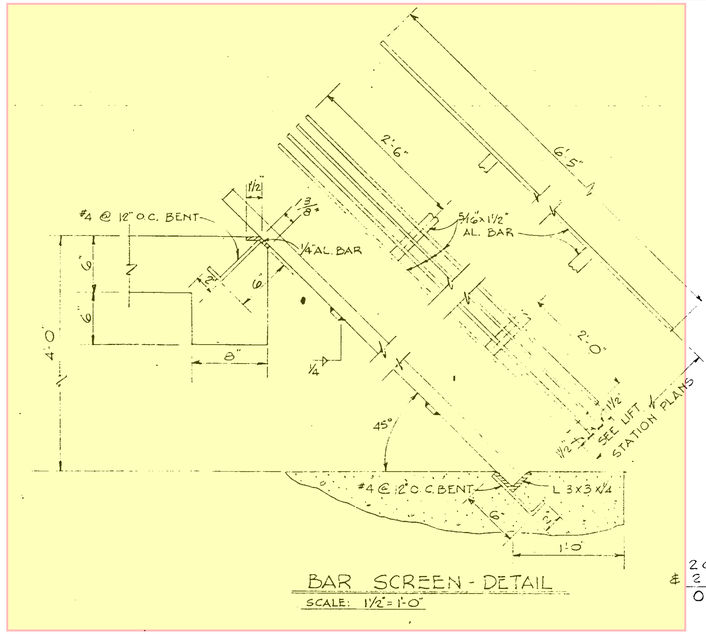
SANITARY SEWERAGE PROJECT
STRUCTURAL PLANS
MANATEE COUNTY FLORIDA

DRAWN BY JM4
SCALE AS SHOWN

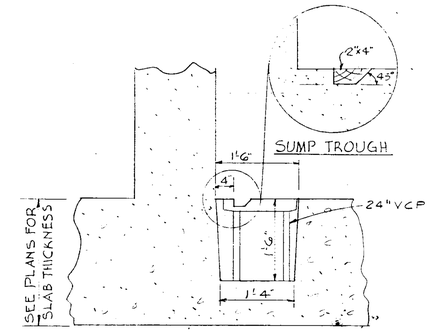
19.03



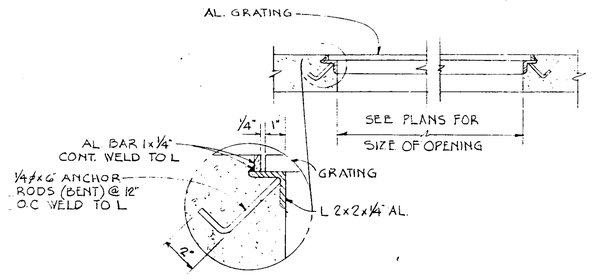
SECTION (2 / 11 / 12)
SCALE: 3/8" = 1'-0"
32'-0"



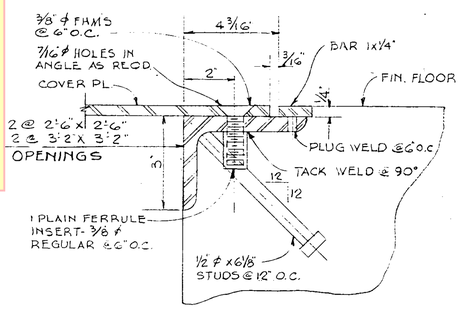
BAR SCREEN - DETAIL
SCALE: 1 1/2" = 1'-0"



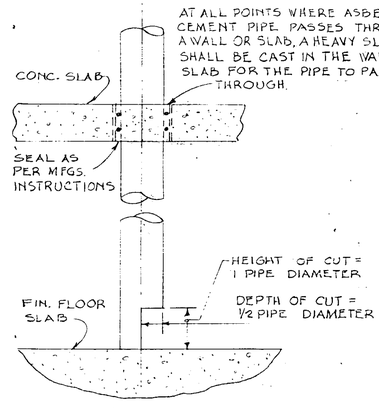
SUMP PIT DETAIL
SCALE: 3/4" = 1'-0"



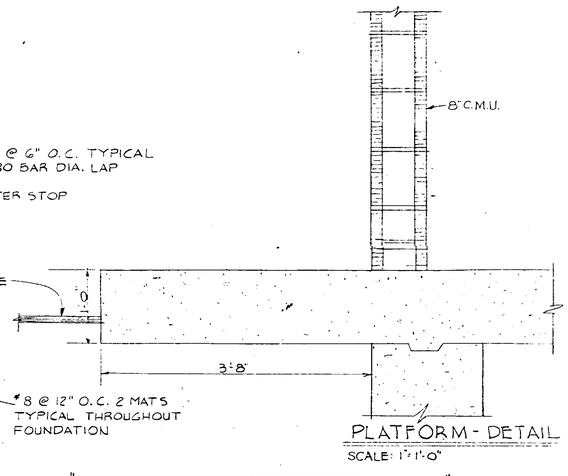
GRATING SEAT DETAIL
NOT TO SCALE



HATCH COVER & FRAME DETAIL
NOT TO SCALE



VENTILATION PIPE DETAIL
SCALE: 1/2" = 1'-0"



PLATFORM - DETAIL
SCALE: 1" = 1'-0"

MAX. ALLOWABLE GROUND WATER LEVELS	
CONDITION	ELEVATION
EXTERIOR WALLS & TREMIE SEAL IN PLACE READY FOR DEWATERING	EL. 15.30
18" PIT SLAB IN PLACE	EL. 18.20
18" INTERIOR WALL IN PLACE	EL. 21.00

NOTE: FOR BIDDING PURPOSES ASSUME GROUND WATER AT GRADE.

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 6-79 BY W.T.

CHECKED BY

BY TCG

M.C.U.S. AM

19-03

NO.	DATE	DESCRIPTION	BY	CKD.
	6-78	REVISED TO RECORD DRAWINGS	W.T.	TCG

REVISIONS

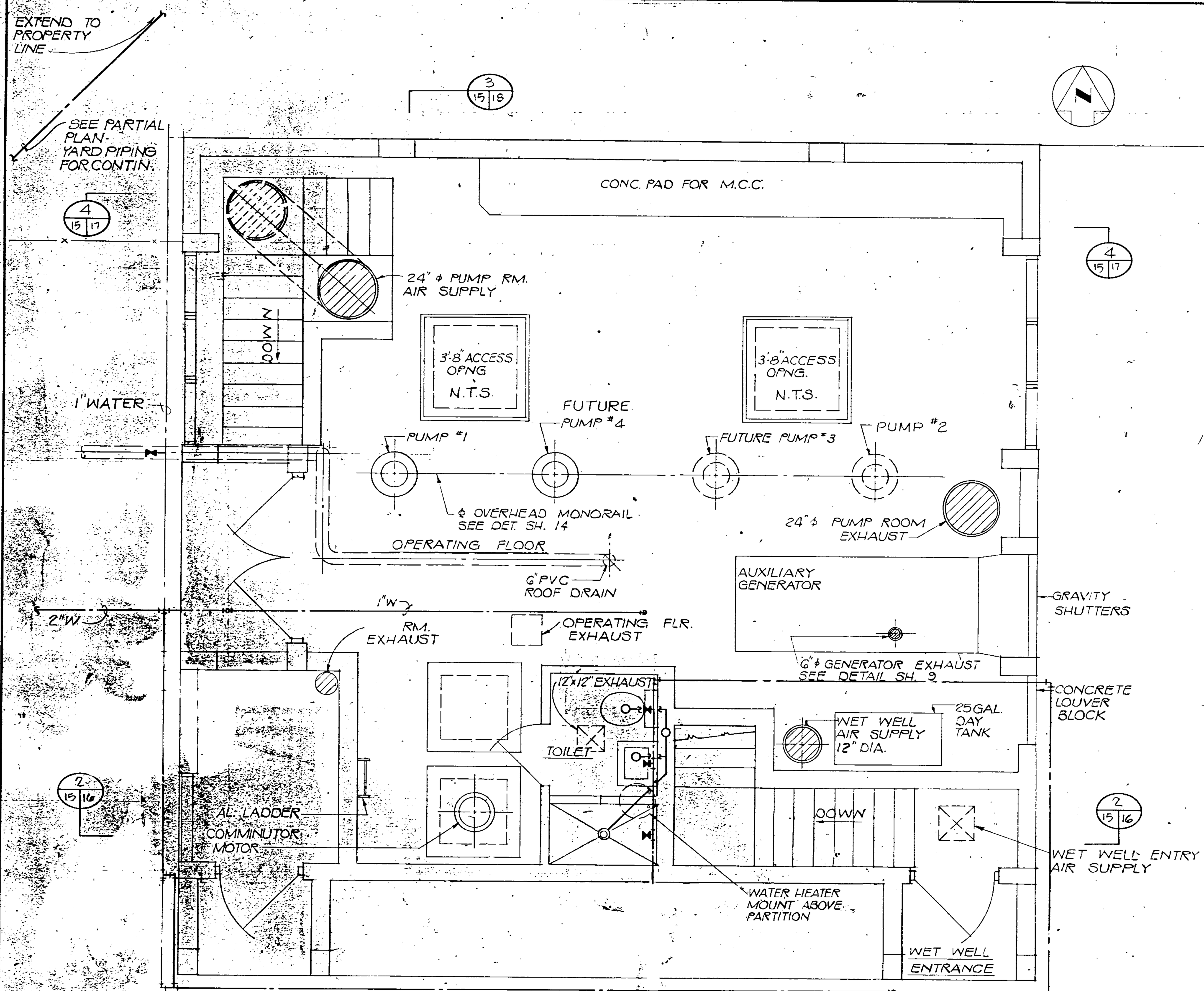
RUSSELL & AXON
Engineers — Planners — Architects

T79

SANITARY SEWERAGE PROJECT
PART II SECTION 201
STRUCTURAL SECTION & DETAILS
MANATEE COUNTY FLORIDA

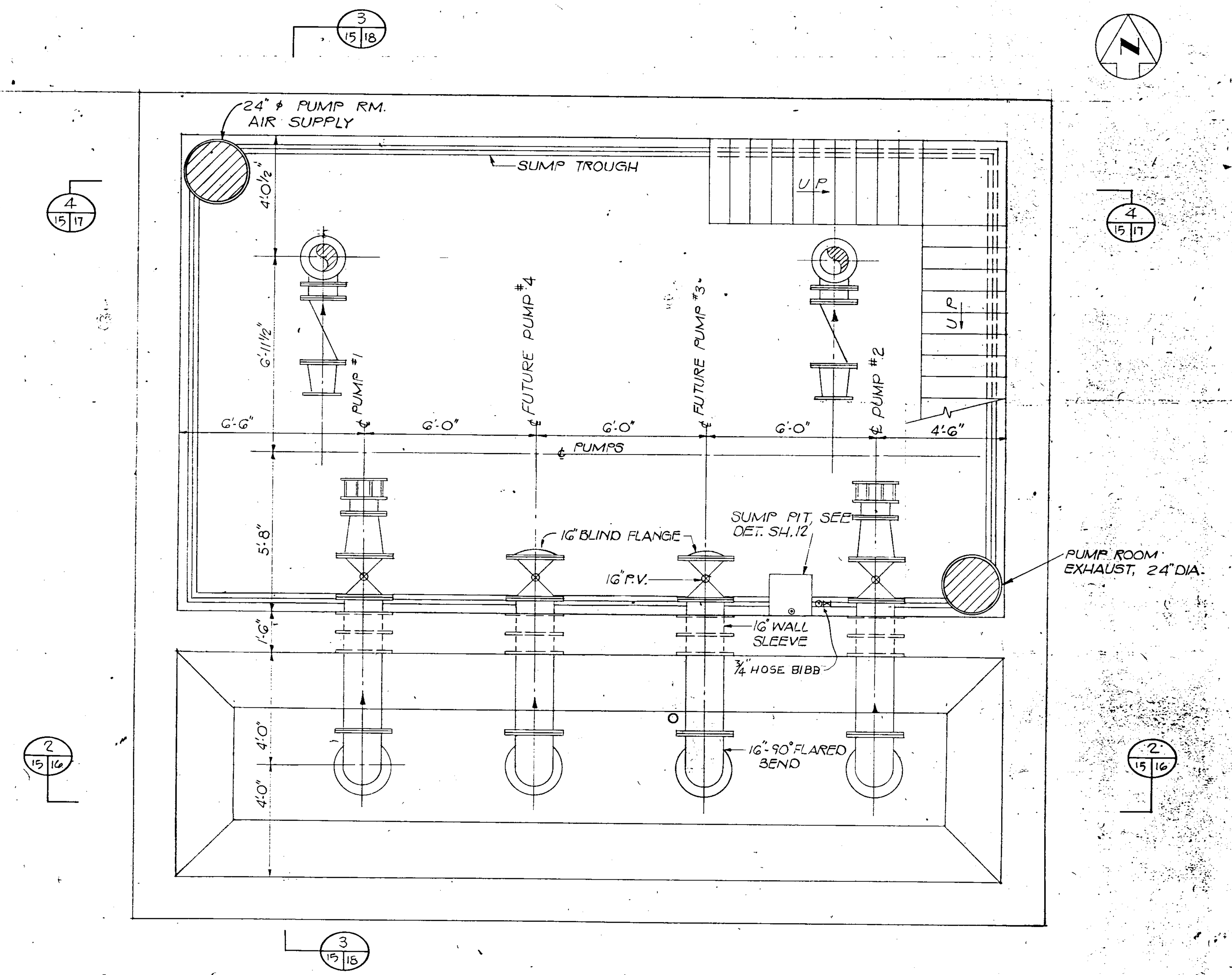
DESIGNED BY GMA	FILE NO. 6681.6	SEAL
DRAWN BY JMS	SHEET NO. 12 OF 20 SHEETS	
CHECKED BY TCG		
DATE MARCH 1978	SCALE AS SHOWN	

OCE INDUSTRIES INC., PGH., PA. REORDER 00139
HATCH & SKYLIGHT
MONORAIL SUPPORT SEE DET. SH.# 14
G B 12.5 STEEL BM SEE DET. SH.# 14
SEE ARCHITECTURAL DRAWINGS
℄ PUMP MOTOR
FIN. GRADE ELEV. 21.0'
FIN. FLOOR ELEV. 21.5'
EYE BOLT HANGER SEE DET. THIS SH.
SLEEVE
HAUNCH UNDER 2 INSIDE WALLS. 12"x24" W/ 2 #7 IN TOP
TOP OF ALUM. ℄ ELEV. 16.19'
SEE DETAILS THIS SHEET
2 W8x6.35(AL)
℄ ELEV. 13.5'
18" WALL SLEEVE (IN WEST WALL)
END OF 2 CENTER SUPPORTS
TOP OF WALKWAY ELEV. 8.61'
TOP OF ALUM. ℄ ELEV. 7.86'
3/8"x6" WATER STOP
SEE DET. THIS SH.
8 ℄ x 3.62 (AL)
W8x6.35(AL)
ALUMINUM STAIRS SEE DETAILS SH.# 14
GRATING SEAT SEE DET. SH.# 12
ELEV. 6.0'
3/8"x6" WATER STOP
℄ PUMP SHAFT
#7 DOWELS @12"
#7 @12" E.W. (TOP & BOTTOM)
℄ PUMP
NOTE: SEE SECTION 'A' FOR TYPICAL EXTERIOR WALL REINF.
#8 DOWELS @ 6" O.C. TYPICAL ALL WALLS 30 BAR DIA. LAP
TOP OF SUPPORT
TOP OF PUMP BASE
℄ OF WALL SLEEVE ELEV. -6.04'
16" WALL SLEEVE
4 #5 VERT. 8 #3 TIES
4 #5 VERT. 5 #5 TIES
4 #5 VERT. 3 #5 TIES
3/8"x6" WATER STOP
ELEV. -9.0'
#8 @ 12" O.C. 2 MATS TYPICAL THROUGHOUT FOUNDATION
SECTION 3 / 11 13
SCALE: 3/8" = 1'-0"
29'-2"
W10x21
6"x6"x1/2" ∠, ANCHOR TO WALL W/ EXP. BOLTS. WELD OR BOLT TO I.
1 1/2" ϕ PIPE HANDRAIL
WALL LINE
FLOOR SLAB
SOCKET SET IN SLAB
6'-0" MAX. SPACING.
ALL SPACING IN ANY ONE RUN TO BE EQUAL
HANDRAIL DETAIL
NOT TO SCALE
TOP LEVEL OF REINF. RODS
PL 1/2x6x6
BOTTOM OF SLAB
FULL WELD
3/4" STEEL ROD
3" INSIDE DIM.
EYE BOLT HANGER DETAIL
NOT TO SCALE
AL. SLIDE GATE
SLIDE GATE GUIDE DETAIL
NOT TO SCALE
OPERATING HANDWHEEL
AL. SLIDE GATE
NOTE SEE STRUCTURAL DWGS. FOR TROUGH DIMENSIONS
SLIDE GATE DETAIL
NOT TO SCALE
1" WATTS REDUCED PRESSURE BACKFLOW PREVENTER
1" W N.T.S.
FIN. GRADE
#4 DOWELS
#4 @ 12" E.W.
SECTION A-A
CONC. PIPE SUPPORTS W/ 2 #4 DOWELS
4'-0" N.T.S.
PLAN VIEW
BACKFLOW PREVENTER SLAB DETAIL
SCALE: 3/4" = 1'-0"
PUMP SHAFT & BEARING SUPPORT
W8x6.35(AL)
1/2"ϕx12" A.B. (S.S.)
PL 1/2x4x10 LG. W/ 1/2" ϕ BOLTS
C8x3.62(AL)
L 4x4x1/4x10 LG. W/ 1/2" ϕ BOLTS
PLAN
END 2 CENTER SUPPORTS AT THIS POINT (PUMP #2 & ONE FUTURE)
BEARING SUPPORT 4 1/2" ϕ BOLTS
℄ PUMP SHAFT & BEARING SUPPORT
C8x5.62(AL)
L 4x4x1/4x10 LG W/ 1/2" ϕ BOLTS
PL 1/2x4x10 LG. W/ 1/2" ϕ BOLTS
W8x6.35(AL) W/ 1/2" ϕ BOLTS
L 4x4x1/4x5 LG. W/ 1/2" ϕ BOLTS (2 REQD)
ELEVATION
DETAIL OF PUMP SHAFT & BEARING SUPPORT
SCALE: 1" = 1'-0"
NOTE: ALL BOLTS TO BE STAINLESS STEEL
RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE 6-78 BY V.M.S.
CHECKED BY:
R&A PCG
M.C.U.S. A.M.
6-78 REVISED TO RECORD DRAWINGS V.M.S. PCG
NO. DATE DESCRIPTION BY CKD.
REVISIONS
RUSSELL & AXON
Engineers — Planners — Architects
780
SANITARY SEWERAGE PROJECT
STRUCTURAL SECTION & DETAILS
MANATEE COUNTY FLORIDA
6681-6
13
AS SHOWN
SEAL
FLORIDA
REGISTERED ENGINEER
19.03



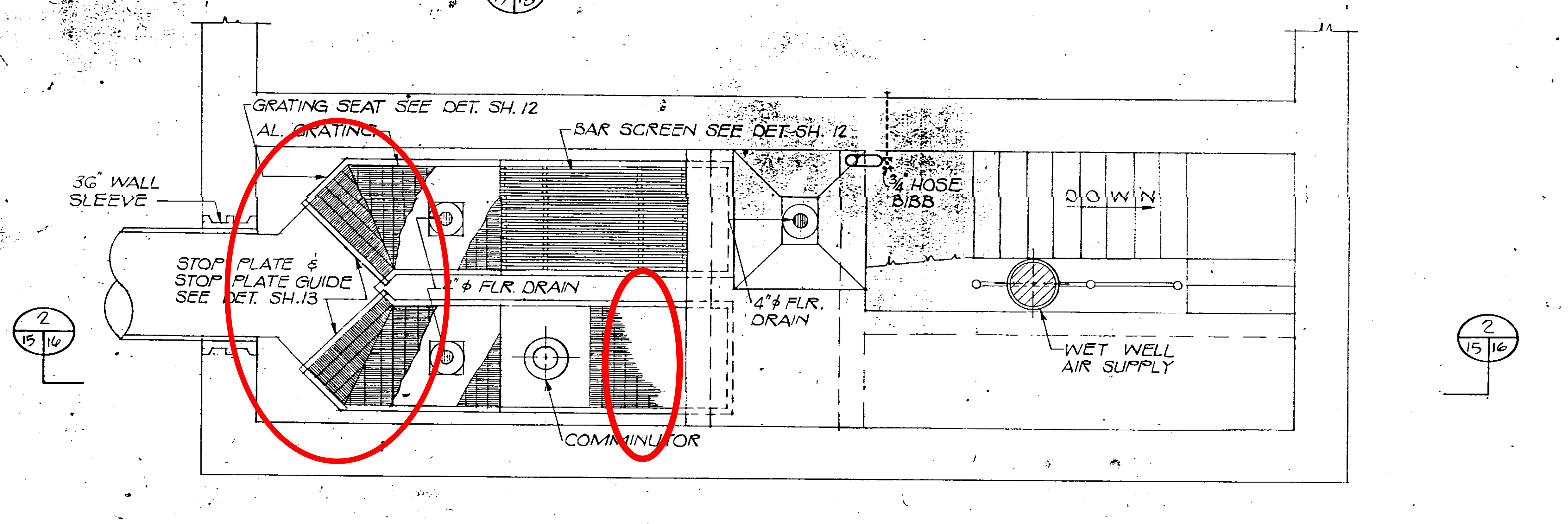
PLAN - OPERATING FLOOR

SCALE: 3/8" = 1'-0"



PLAN - PUMP ROOM & WET WELL

SCALE: 3/8" = 1'-0"



PLAN - WET WELL - INTERMEDIATE LEVEL

SCALE: 3/8" = 1'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 6-78 BY VMS

CHECKED BY:

R&A PCS

M.C.U.S. A.M.

19-03

NO.	DATE	DESCRIPTION	BY	CKD.
	6-78	REVISED TO RECORD DRAWINGS	VMS	PCS

REVISIONS

RUSSELL & AXON
Engineers — Planners — Architects

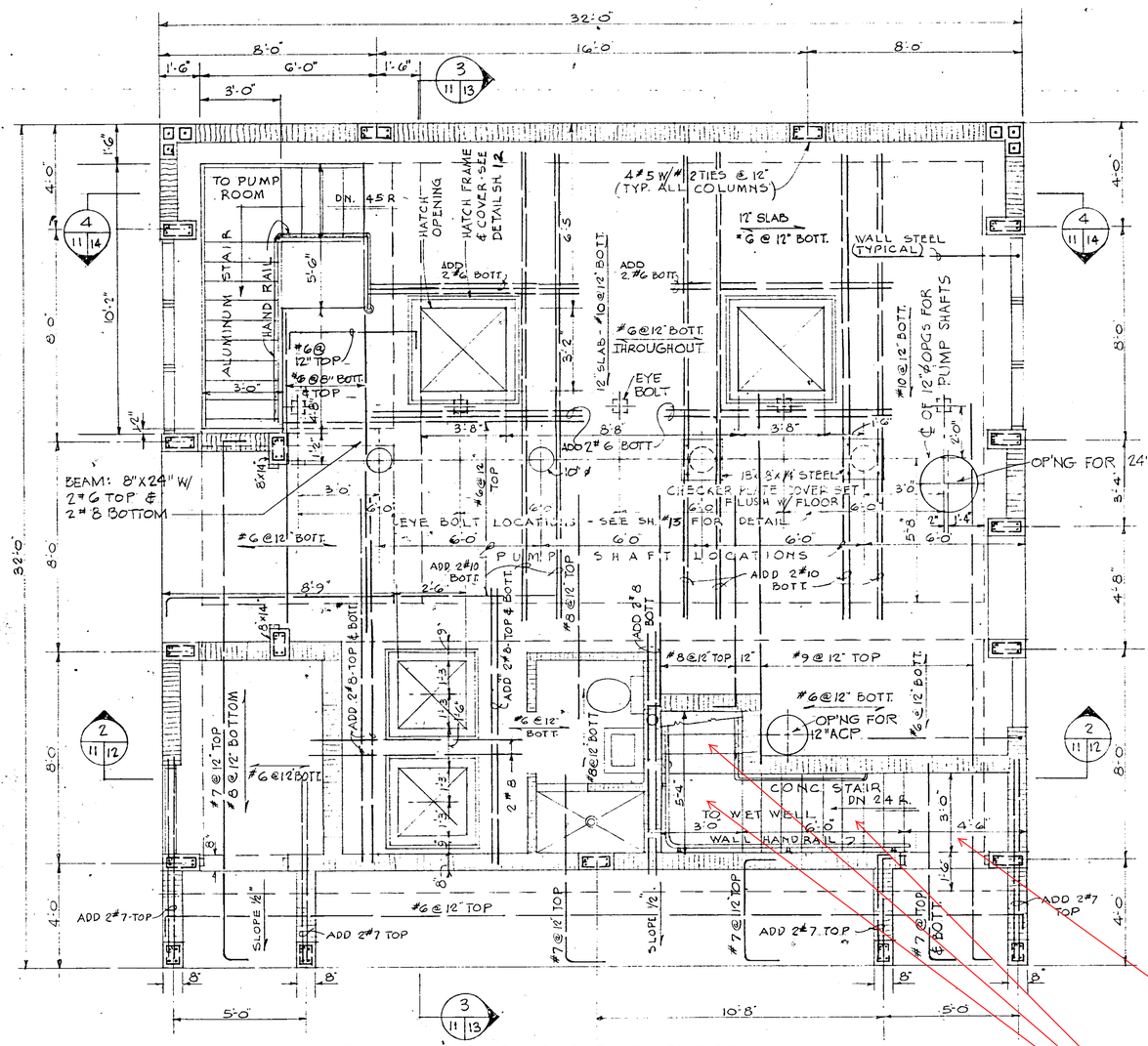
T82

SANITARY SEWERAGE ... MECHANICAL PLANS
MANATEE COUNTY FLORIDA

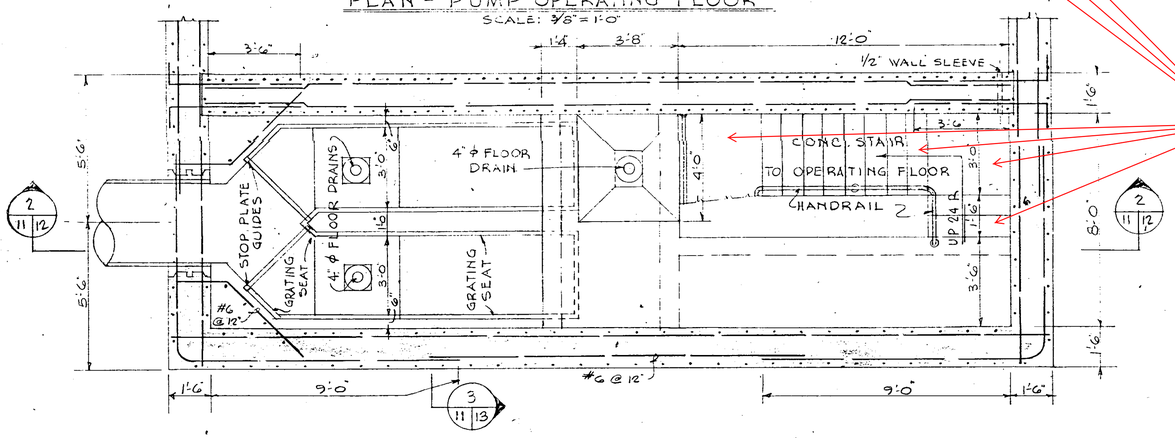
DESIGNED BY: CTD
DRAWN BY: RLB
FILE NO. 6681-36
SHEET NO. 15 OF 26
DATE MARCH 1976
SCALE AS SHOWN

SEAL


AIR SUPPLY FAN TO WET WELL, SEE SPECS.
4" VENT THRU ROOF
TOILET WATER HEATER
LADDER TO ROOF
COMMINUTOR MOTOR
FIN. GRADE ELEV. 21.0
FIN. FLOOR ELEV. 21.5
SEE DETAIL SH. 12
TRAP
WET WELL AIR SUPPLY
1/2" WALL SLEEVE
ELEV. 6.0
GRATING
COMMINUTOR
4" FLOOR DRAIN
36" WALL SLEEVE
2'-6"
17'-0"
ADJUSTABLE WEIR, SEE DET. SH. 16
INVERT ELEV. 1.57
4" FLOOR DRAIN
4" DRAIN FROM TOILET
EL. (6.04)
9'-0"
ELEV. -9.0
2'-0"
12"
4'-0"
SECTION 2
SCALE: 3/8"=1'-0"
AL. WEIR PLATE
HOLES @ 9" O.C.
3"
3/8" DIA. AL. BAR ANCHOR @ 8" O.C.
5/8" x 1 5/8" LONG SLOTTED HOLE - TYPICAL
5/8" TYP.
5/16" RAD. TYP.
6"
2'-6"
3'-6"
AL. L 4" x 3" x 3/8" x 2'-6" LG.
1/2" DIA. HEX. HEAD BOLT WITH NUT & WASHER
ANCHOR
PLATE
ADJUSTABLE WEIR, ANCHOR & PLATE DETAIL
GRADE
BLIND FLANGE
6" C.I.P.
VALVE BOX
6" 90° BEND
6" C.I.P.
6" PLUG VALVE & VALVE BOX
24" FORCE MAIN
DETAIL 'A'
NOT TO SCALE
1 1/2" PVC SUMP PUMP DISCHARGE
1 1/2" PVC G.V.
1 1/2" PVC C.V.
1 1/2" PVC UNION
SUMP PUMP
SEE STRUC. DRAWINGS FOR WALL & FLOOR THICKNESS
SUMP PIT SEE DET. SH.
SUMP PUMP DETAIL
SCALE: 3/4"-1'-0"
GRADE
MANHOLE FRAME & COVER W/ WORDS "SANITARY SEWER" CAST IN COVER
1'-10" MIN OPNG.
BRICK
2'-1"
PRECAST CONC. PIPE CLASS III WALL "B" CONFORMING TO ASTM C-76 OR C-478, EXCEPT WALL THICKNESS AS SHOWN
HOLES 2" LARGER THAN PIPE O.D. PACK WITH NON-SHRINK GROUT
36" D.I.P.
5'-0"
36" D.I.P.
6"
#5 BARS @ 12" E.W. (TYP.)
10"
7'-0" SQ.
MANHOLE DETAIL
SCALE: 3/4"-1'-0"
RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR
DATE 6-21-78 BY RSG
6-21-78 REVISED AS RECORD DRAWINGS RSG
10-6-76 REV. AS PEP ADDENDUM NO. III RKG PJM
NO. DATE DESCRIPTION BY CKD.
REVISIONS
RUSSELL & AXON
Engineers — Planners — Architects
T83
SANITARY SEWERAGE PROJECT
MECHANICAL SECTION & DETAILS
MANATEE COUNTY FLORIDA
668
16
26
MARCH 1976
AS SHOWN
PROFESSIONAL ENGINEER
19-03

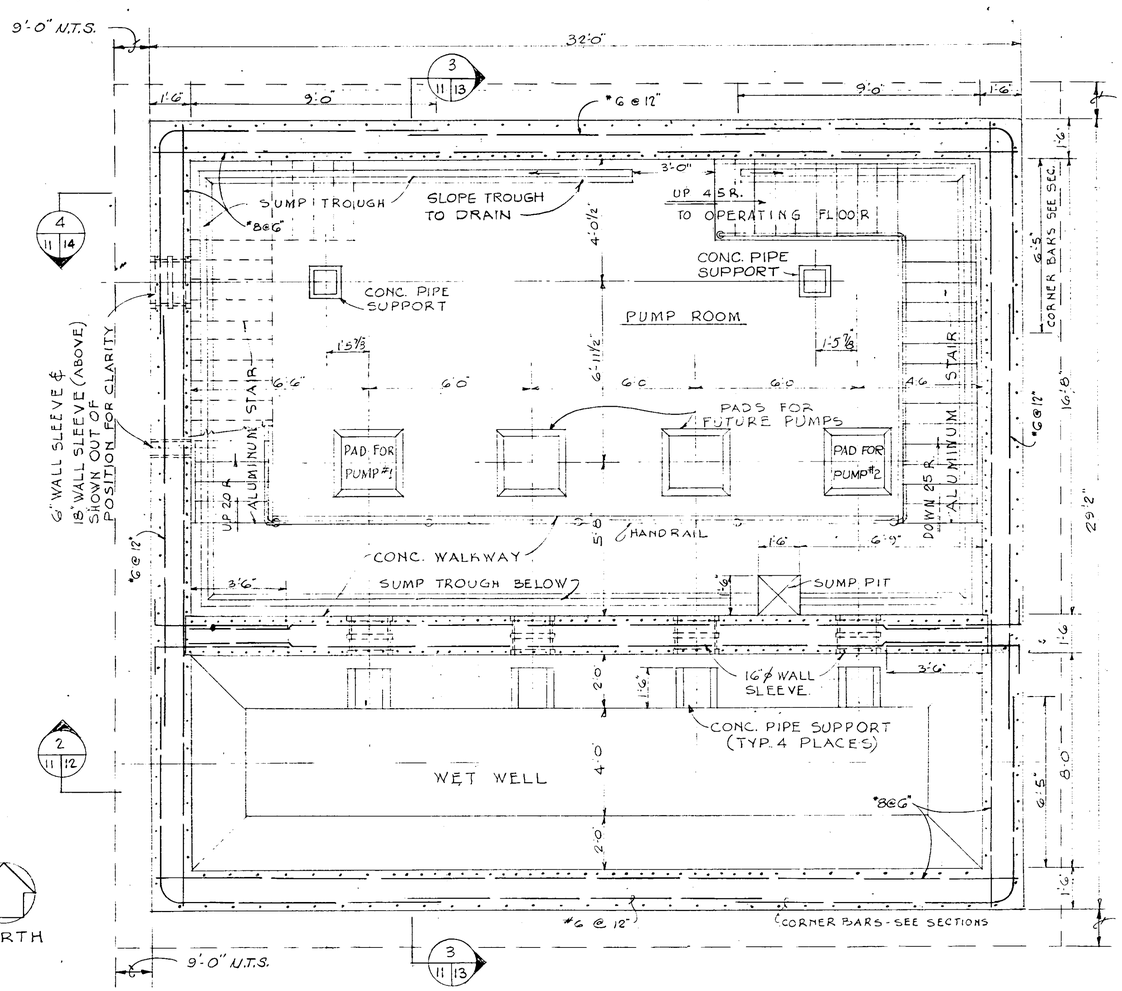


PLAN - PUMP OPERATING FLOOR
SCALE: 3/8" = 1'-0"



PLAN - WET WELL
SCALE: 3/8" = 1'-0"

NORTH



PLAN - PUMP ROOM & WET WELL
SCALE: 3/8" = 1'-0"

Exist. Conc. "Hi" Landing to Remain

Exist. Conc. "Hi", "Intermediate", "Lo" & "Base" Stairs and "Intermediate" & "Lo" Landings to be Removed

RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE 6-78 BY V.M.S
CHECKED BY:
R.K.A. PCG
M.C.U.S. AM

NO.	DATE	DESCRIPTION	BY	CKD.
	6-'78	REVISED TO RECORD DRAWINGS	V.M.S.	PCG

REVISIONS

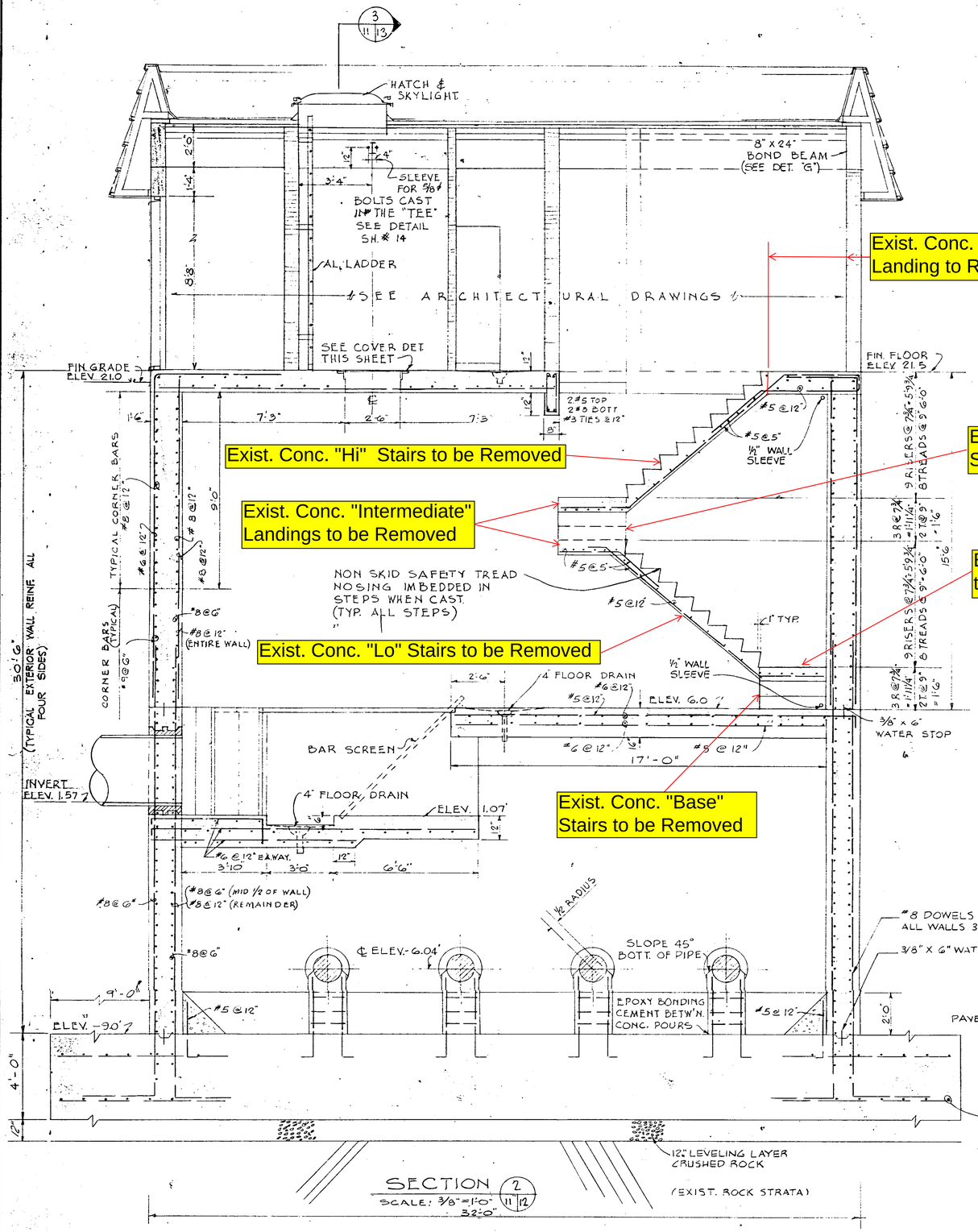
RUSSELL & AXON
Engineers — Planners — Architects
T79

SANITARY SEWERAGE PROJECT
PART F - SECTION II
STRUCTURAL PLANS
MANATEE COUNTY FLORIDA

DESIGNED BY: R.K.A.
DRAWN BY: J.W.
CHECKED BY: J.T.S.
DATE: JUNE 1978
SCALE: AS SHOWN
FILE NO. 668-F-8
SHEET NO. 10 OF 26 SHEETS
NO. 4732
STATE OF FLORIDA
REGISTERED ENGINEER

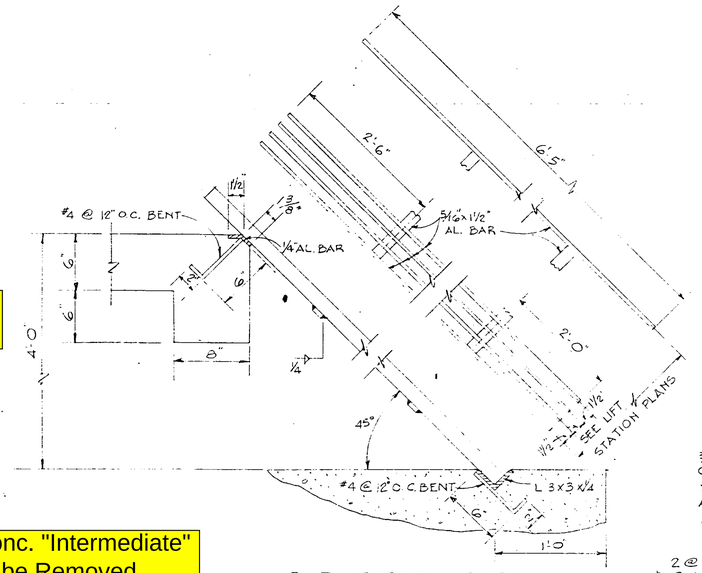
Sketch 1024-0182 SK-S01

19.03

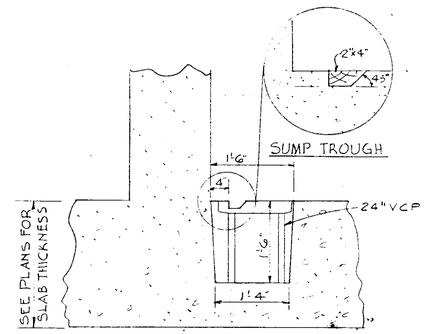


SECTION (2 / 11 12)
SCALE: 3/8"=1'-0"

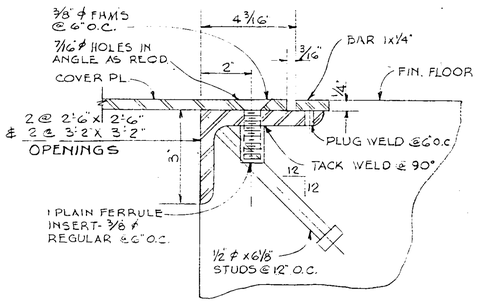
Sketch 1024-0182 SK-S02



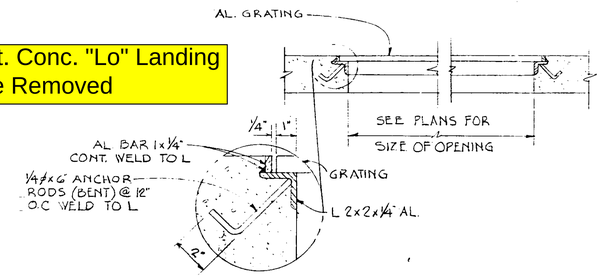
BAR SCREEN - DETAIL
SCALE: 1 1/2" = 1'-0"



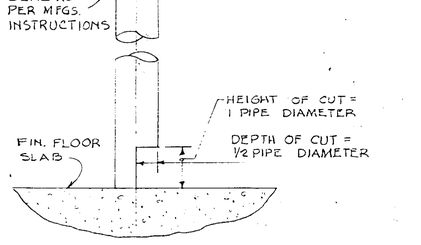
SUMP PIT DETAIL
SCALE: 3/4" = 1'-0"



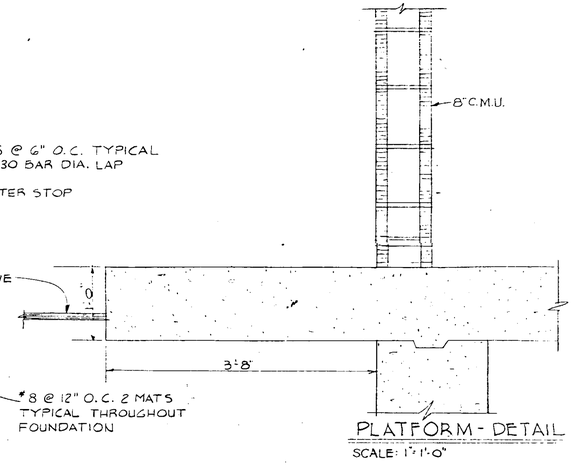
HATCH COVER & FRAME DETAIL
NOT TO SCALE



GRATING SEAT DETAIL
NOT TO SCALE



VENTILATION PIPE DETAIL
SCALE: 1/2" = 1'-0"



PLATFORM - DETAIL
SCALE: 1"=1'-0"

MAX. ALLOWABLE GROUND WATER LEVELS	
CONDITION	ELEVATION
EXTERIOR WALLS & TREMIE SEAL IN PLACE READY FOR DEWATERING	EL. 15.30
18" PIT SLAB IN PLACE	EL. 18.20
18" INTERIOR WALL IN PLACE	EL. 21.00

NOTE: FOR BIDDING PURPOSES ASSUME GROUND WATER AT GRADE.

RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE 6-78 BY W.T.
CHECKED BY TCG
M.C.U.S. AM 19-03

NO.	DATE	DESCRIPTION	BY	CKD.
	6-78	REVISED TO RECORD DRAWINGS	W.T.	TCG

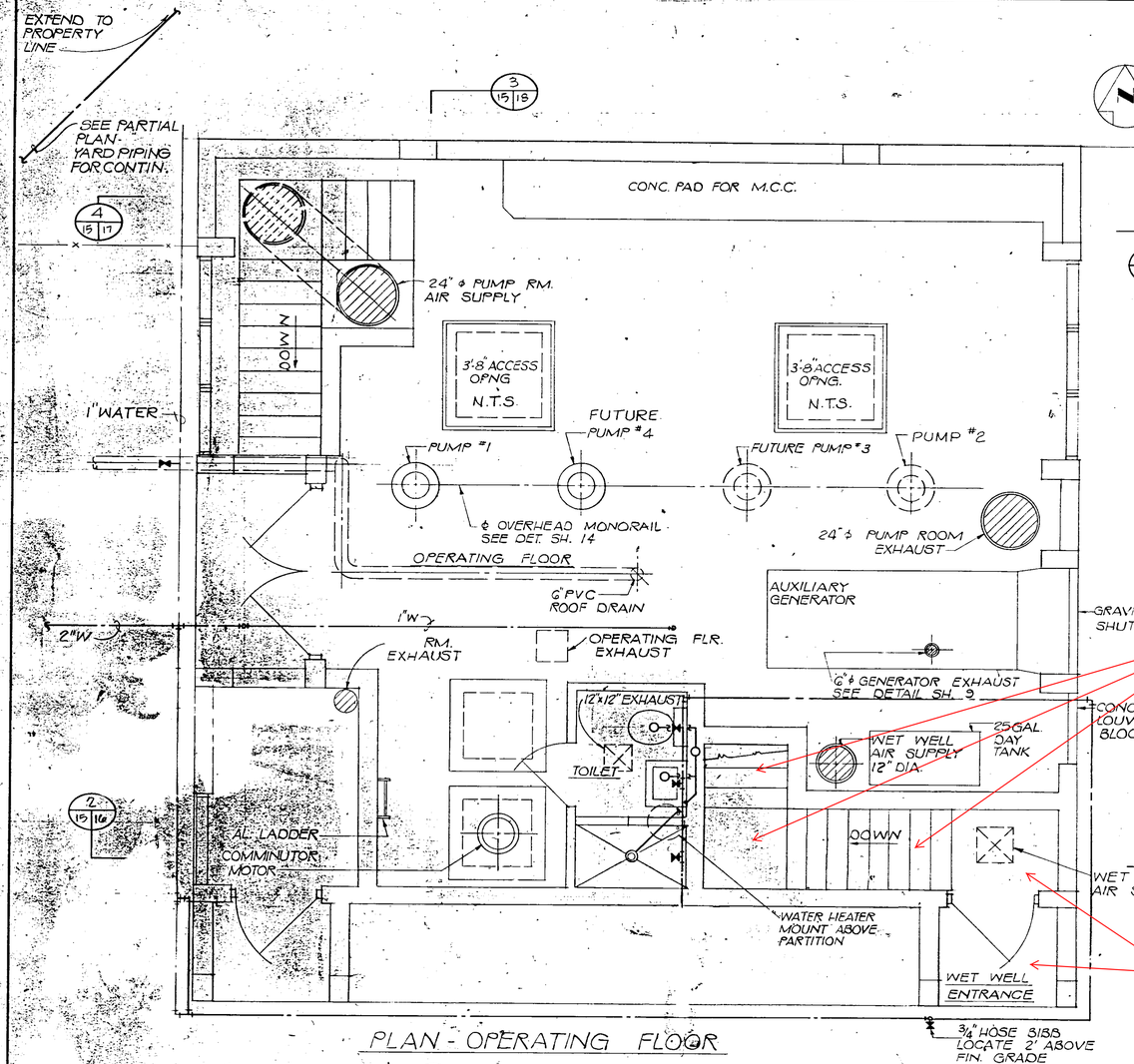
REVISIONS

RUSSELL & AXON
Engineers — Planners — Architects
T79

SANITARY SEWERAGE PROJECT
PART II SECTION III
STRUCTURES SECTION & DETAILS
MANATEE COUNTY FLORIDA

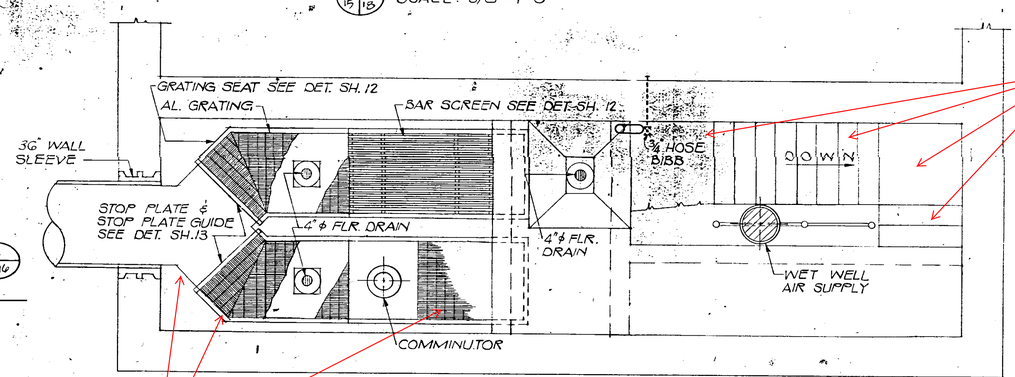
DESIGNED BY: TCG	FILE NO: 1668.6	SEAL
DRAWN BY: JMC	SHEET NO: 12 OF 26 SHEETS	
CHECKED BY: TCG		
DATE: SEPTEMBER 1978	SCALE: AS SHOWN	

Sketch 1024-0182 SK-S03



PLAN - OPERATING FLOOR

SCALE: 3/8" = 1'-0"



PLAN - WET WELL - INTERMEDIATE LEVEL

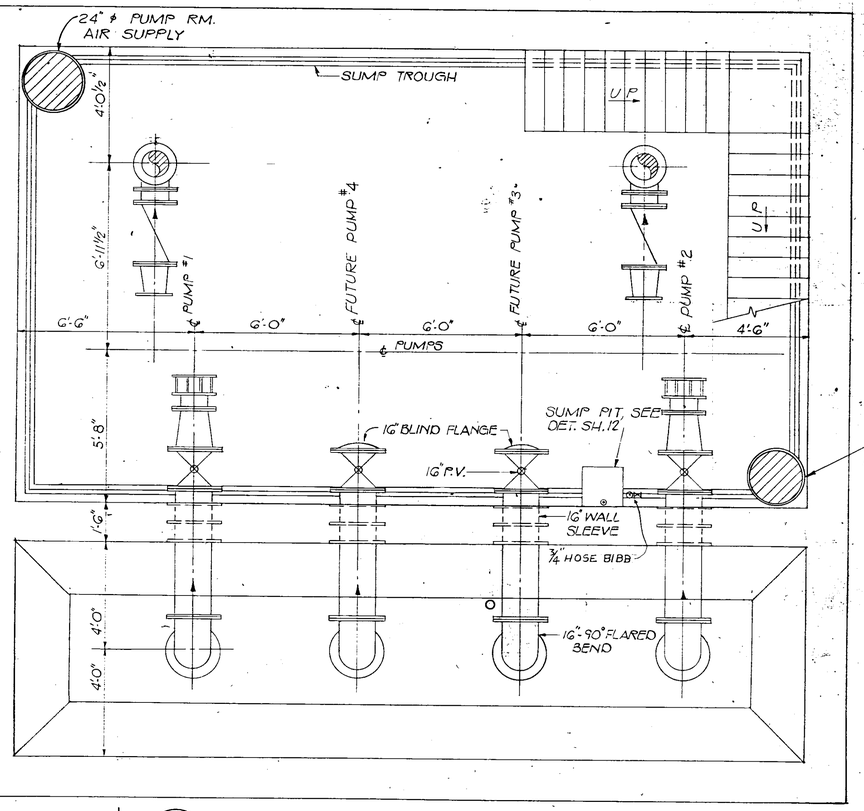
SCALE: 3/8" = 1'-0"

Exist. Conc. "Hi" & "Intermediate" Stairs and "Intermediate" Landings to be Removed

Exist. Conc. "Hi" Landing to Remain

Exist. Conc. "Lo" & "Base" Stairs and "Intermediate" & "Lo" Landings to be Removed

Exist. Grating to be Removed & Install New FRP Grating (Typ. Ea. Channel)



PLAN - PUMP ROOM & WET WELL

SCALE: 3/8" = 1'-0"

Sketch 1024-0182 SK-S04

RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE 6-79 BY VMS
CHECKED BY:
R & A PCG
M.C.U.S. A.M.

19-03

NO.	DATE	DESCRIPTION	BY	CKD.
	6-79	REVISED TO RECORD DRAWINGS	VMS	PCG

REVISIONS

RUSSELL & AXON
Engineers — Planners — Architects

T92

SANITARY SEWERAGE PROJECT
PARTIAL SUPPLEMENTATION
MECHANICAL PLANS
MANATEE COUNTY, FLORIDA

DESIGNED BY: CTD	FILE NO. 6681-6	SEAL
DRAWN BY: RLB	SHEET NO. 15	
CHECKED BY:	OF 26 SHEETS	
DATE: MARCH 1976	SCALE: AS SHOWN	

SECTION 08120 – ALUMINUM DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush aluminum doors.

B. Aluminum panels.

C. Aluminum door frames.

1.02 RELATED SECTIONS

A. Section 07920 – Sealants and Caulking.

B. Section 08710 - Finish Hardware.

C. Section 08800 - Glazing.

1.03 REFERENCES

A. Aluminum Association, Inc. (AA).

1. AA 5005-H14 - Sheet Architectural.
2. AA 6061-T6 - Heavy Duty Structures.
3. AA 6063-T5 - Extrusions, Pipe, Architectural.
4. AA DAF-45 - Designation System for Aluminum Finishes.

B. American Architectural Manufacturers Association (AAMA).

1. AAMA 2603 - Pigmented Organic Coatings (Polycron).
2. AAMA 2605 - Superior Performing Organic Coatings (Kynar).
3. AAMA 609 - Anodized Architectural Finishes Cleaning and Maintenance.
4. AAMA 610 - Painted Architectural Products Cleaning and Maintenance.
5. AAMA 611 - Anodized Architectural Standards.
6. AAMA 701 - Pile Weatherstrip.

C. American Society for Testing Materials (ASTM).

1. A 123 - Zinc (Hot-Dip Galvanized) Coatings.
2. C 591 - Unfaced Preformed Rigid Cellular Polyisocyanurate.
3. C 728 - Insulation Board, Mineral Aggregate.
4. E 330 - Structural Performance of Exterior Doors.

1.04 TESTING AND PERFORMANCE REQUIREMENTS

A. Structural Test Unit: Minimum size of 3-feet (91.44 cm) by 7-feet (213.36 cm) with 24-inch (60.96 cm) by 34-inch (86.36 cm) vision light shall be evaluated compliant with ASTM E 330 testing method.

B. Test Procedures and Performances:

1. With door closed and locked, test unit in accordance with ASTM E 330 at static air pressure difference of 80.0 pounds per square foot (3.83 kPa) positive pressure and 80.0 pounds per square foot negative pressure with 155 miles (249.5 km) per hour wind load.

2. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanism, nor any other damage that would cause the door to be inoperable.

1.05 SUBMITTALS

A. Submit under provisions of Section 01340.

B. Florida Product Approval and Installation Certificates indicating compliance with required wind loading.

C. Product Data: Manufacturer's descriptive literature for each type door and frame. Include the following information:

1. Fabrication methods.

2. Finishing.

3. Hardware preparation.

4. Accessories.

D. Shop Drawings: Indicate the following:

1. Elevations and details of each door and frame type.

2. Schedule of doors and frames.

3. Conditions at openings with various wall thicknesses and materials.

4. Location and installation requirements for hardware.

5. Thicknesses of materials, joints.

6. Connections and trim.

E. Samples: Two sets of color chips representing specified colors and finishes.

F. Verification Samples:

1. Submit samples of each type, consisting of aluminum door corner construction, minimum 6-inch by 6-inch (150 mm) legs.

2. Where color or texture variations are anticipated, such as anodized finishes, include two or more units in each set of samples indicating extreme limits of variations.

G. Hardware Templates: Provide finish hardware mounting details.

H. Manufacturer's Installation Instructions: Printed installation instructions for each product, including product storage requirements.

I. Operations and Maintenance Data: Printed instructions for each product.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing aluminum door and frame systems of the type required for this project, with minimum ten continuous years documented experience.

B. Product Qualifications: Wind-load test certification conforming to ASTM E 330 on samples of previous products shall be provided for the type of door to be used.

C. Installer's Qualifications: Workers skilled in handling aluminum door and frame systems of the type required for this project.

D. Instruction: The manufacturer or his representative will be available for consultation to all parties engaged in the project, including instruction to installation personnel.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver doors and frames palleted, or individually crated. Doors shall be side protected with surrounding grooved 2-inch (50.8 mm) by 4-inch (101.6 mm) wood frame and covered with 275-pound (124.74 kg) test corrugated cardboard.

B. Inspect delivered doors and frames for damage; unload and store with minimum handling. Repair minor damage if refinished items are equal in all respects to new work; otherwise, remove damaged items and replace with new.

C. Store products of this section under cover in manufacturer's unopened packaging until installation.

1. Place units on minimum 4-inch (101.6 mm) wood blocking.

2. Avoid non-vented plastic or canvas covers.

3. Remove packaging immediately if packaging becomes wet.

4. Provide 0.25-inch (6.35 mm) air spaces between stacked doors.

1.08 PROJECT CONDITIONS

A. Field Measurements: Take field measurements of areas to receive aluminum frames; note discrepancies on submitted shop drawings.

1.09 SCHEDULING

A. Ensure that all approvals and/or shop drawings are supplied or returned to the manufacturer in time for fabrication without affecting construction progress schedule.

B. Ensure that actual hardware requested by manufacturer is available in time for fabrication without affecting construction progress schedule.

1.10 WARRANTY

A. Manufacturer: Ten-year warranty against defects in workmanship and materials, including warping, rotting, decaying or bowing.

B. Installer: Warrant installation procedures and performance for five years against defects due to workmanship and materials handling.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Model: Series 100BE Cline Aluminum Doors, Inc., 112 32nd Avenue West, Bradenton, FL 34205-8907; Phone: (941) 746-4104, Fax: (941) 746-5153 Toll-free: (800) 648-6736; www.ClineDoors.com, Email: inquire@clinedoors.com

B. Requests for substitution will be considered in accordance with provisions of Section 01600.

2.02 COMPONENTS

A. Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish.

B. Flush Aluminum Door Composite Components: Minimum 5-ply composite laminated construction to include:

1. Facing: One-piece 0.040-inch (1.02 mm) smooth 5005-H14 stretcher-leveled aluminum alloy.

2. Substrate: One-piece 0.085-inch (2.16 mm) oil-tempered hardboard; neither pegboard nor non-tempered hardboard shall be accepted.

3. Core: Pre-stabilized, five pound minimum, EPS foam. No injected foams or poured-in-place foams acceptable to avoid air pockets and destabilization.

4. Hardware Backup: Provide continuous, nonspecific hardware reinforcement with full internal perimeter aluminum tube, 4.25-inches (108 mm) in width, 0.125-inch (3.18 mm) minimum wall thickness.

5. Bonding Agent: Shall be a commercial bonding adhesive with a strength buildup of 350 pounds per square inch (24.6 kg/cm2).

6. Extrusion Wall: Thickness of 0.125-inch (3.18 mm) minimum, except beads and trim.

7. Beads and Trim: Wall Thickness of 0.050-inch (1.25 mm) minimum. Replaceable lock stile door edge of 6063-T5 extruded aluminum alloy with special beveled edge cap design shall be provided with integral weatherstripping. Hinge lock style to a clip mortise square edge design to accommodate standard weight and heavy weight butt hinges. Use of integral door edging not acceptable.

8. Weatherstripping: Replaceable wool pile with nylon fabric, polypropylene backing meeting AAMA 701 standards.

9. Materials: Only nonferrous, non-rusting members shall be acceptable, including tie rods, screws and reinforcement plates.

10. Regulations: All components and agents to meet EPA standards.

C. Glazing:

1. Glass shall be 1-inch (25 mm) insulating, with 0.5625-inch (14.29 mm) laminated glass as scheduled. Refer to Section 08800.

2. Stops shall be snap-in, non-removable type, 6063-T5 extruded aluminum alloy and 0.050-inch (1.25 mm) thickness.

3. Seals shall be vinyl inserts.

4. No fasteners shall be exposed.

D. Door Louvers:

1. Blades and Frames: 6063-T5 extruded aluminum alloy, 0.062-inch (1.57 mm) minimum thickness. Louver blades shall be inverted “Y” type.

2. Insect Screens: 14-18 mesh, 0.011-inch (0.28 mm) diameter Alclad aluminum, set in 6063-T5 extruded aluminum alloy frame, 0.050-inch (1.25 mm) minimum thickness.

3. Louver shall have a minimum of 50-percent free airflow.

E. Aluminum Frames:

1. Frame Components: Extruded channel (tubular) 6063-T5 aluminum alloy, minimum wall thickness 0.125-inch (3.18 mm); cut corners square and joinery shall be mechanical with no exposed fasteners.

2. Profile: Open Back with Applied Stop (OBS), 1.75-inches by 5-inches (44 x 127 mm).

3. Hinge and Strike Mounting Plates: Extruded aluminum alloy bar stock, 0.1875-inch (4.75 mm) thick mounted in a concealed integral channel with no exposed fasteners.

4. Replaceable Weatherstripping: AAMA 701, wool pile with nylon fabric, polypropylene backing, at head and jambs.

5. Door Stop: No screw-on stops acceptable.

6. Frame Finish: Shall match door finish.

2.03 FINISH

A. Finish: High Performance Organic Coating: Kynar/Polyvinylidene Fluoride (PVDF) (AAMA 605.2).

1. Color: Selected by Owner from manufacturer's standard colors and to match existing.

2.04 FABRICATION

A. General: Receive hardware if required by manufacturer.

B. Aluminum Flush Door Construction: Of type, size and design indicated:

1. Minimum Thickness: 1.75-inches (44 mm), 5-ply composite laminate system. No 3-ply doors accepted for commercial application.

2. Door Size: Sizes shown are nominal; provide standard clearances as follows:

a. Hinge and Lock Stiles: 0.125-inch (3.18 mm).

b. Between Meeting Stiles: 0.25-inch (6.35 mm).

c. At Top Rails: 0.125-inch (3.18 mm).

d. Between Door Bottom and Threshold: 0.125-inch (3.18 mm).

3. Face Panels: Exterior and interior aluminum panels shall be one-piece stretcher-leveled aluminum alloy, each laminated edge-to-edge to one-piece oil-tempered hardboard substrate.

4. Substrate: Oil-tempered hardboard substrates shall have 100-percent bilateral lamination to a pre-stabilized, five pound minimum, EPS foam core and internal hardware backup tube.

5. Reinforcement: Internal tube shall reinforce the full internal door perimeter to allow for all specified and non-specified hardware.

6. Core: Pre-stabilized, five pound minimum, EPS foam core shall have 100-percent bilateral lamination to facing substrate and to internal reinforcement system.

7. Door Edge: Door perimeter shall be trimmed with a field replaceable 6063-T5 extruded aluminum alloy, with a beveled edge on the lock stile and a clip mortise squares edged on the hinge stile, to protect door edges.

8. Weatherstripping: Lock stile of door shall have wool pile weatherstripping applied.

C. Aluminum Frames: Of shapes and contours indicted.

1. Corners shall be cut square.

2. Reinforce and secure mechanically.

2.05 ACCESSORIES

A. Fasteners: Aluminum, non-magnetic stainless steel, or other material warranted by manufacturer as non-corrosive and compatible with aluminum components.

1. Do not use exposed fasteners.

B. Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible, otherwise, nonferrous stainless steel.

C. Bituminous Coating: Cold-applied asphaltic mastic, compounded for 30-mil (0.76 mm) thickness per coat.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall surfaces and openings are ready to receive frames and are within tolerances specified in manufacturer's instructions.

B. Verify that frames installed by other trades for installation of doors of this section are in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.

3.02 PREPARATION

A. Perform cutting, fitting, forming, drilling, and grinding of frames as required for project conditions; do not damage sight-exposed finishes.

B. Separate dissimilar metals to prevent electrolytic action between metals.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and approved shop drawings; set frames plumb, square, level, and aligned to receive doors.

B. Anchor frames to adjacent construction in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.

1. Seal metal-to-metal joints between framing members using good quality elastomeric sealant.

C. Where aluminum surfaces contact with metals other than stainless steel, zinc or small areas of white bronze, protect from direct contact by one or more of the following methods.

1. Paint dissimilar metal with one coat of heavy-bodied bituminous paint.
2. Apply good quality elastomeric sealant between aluminum and dissimilar metal.
3. Paint dissimilar metal with one coat of primer and one coat of paint recommended for aluminum surface applications.
4. Use non-absorptive tape or gasket in permanently dry locations.

D. Hang doors with required clearances as follows:

1. Hinge and Lock Stiles: 0.125-inch (3.18 mm).
2. Between Meeting Stiles: 0.250-inch (6.35 m).
3. At Top Rails: 0.125-inch (3.18 mm).
4. Between Door Bottom and Threshold: 0.125-inch (3.18 mm).

E. Adjust doors and hardware to operate properly.

F. Install glazing in glazing frames.

G. Install hardware for doors of this section.

H. Installation of door hardware is specified in Section 08710.

I. Installation of glass is specified in Section 08800.

3.04 CLEANING

A. Upon completion of installation, thoroughly clean door and frame surfaces in accordance with AAMA 609.

B. Do not use abrasive, caustic or acid cleaning agents.

3.05 PROTECTION

A. Protect products of this section from damage caused by subsequent construction until substantial completion.

B. Repair damaged or defective products to original specified condition in accordance with manufacturer's recommendations.

C. Replace damaged or defective products that cannot be repaired to Owner's acceptance.

END OF SECTION

SECTION 08710 - FINISH HARDWARE

PART 1 GENERAL

1.01 QUALITY ASSURANCE

A. Acceptable Designs: Specified products and their manufacturers establish acceptable design, material, type, grade, size, function and finish of hardware items required. Do not substitute other products, except with Engineer's acceptance.

B. Manufacturer: Obtain each kind of hardware latch and locksets, hinges, closers from only one (1) manufacturer, although several may be indicated as offering products complying with the manufacturer's requirements.

C. Supplier: The hardware supplier shall be a full member of the Society of Architectural Hardware Consultants and shall be available during normal working hours during the course of the project for hardware consultation to the Owner, Engineer, and Contractor.

1.02 SUBMITTALS

A. Product Data: Submit in accordance with the requirements of Section 01340. Include installation and maintenance instructions for operating parts and finish. Transmit copy of applicable data to Installer.

B. Certificates: Any hardware that is furnished other than that called out on the drawings shall have manufacturer's certificates certifying that the hardware meets this specification submitting the hardware shop drawings.

C. Hardware Submittal: Submit final hardware submittal in the manner and format indicated below. Hardware submittals are intended for coordination of work.

1. Organize hardware submittal into "hardware sets" indicating complete designations of every item required for each door or opening, including:

   a) Type, style, function, size and finish of each hardware item.

   b) Name and manufacturer of each item.

   c) Fastenings and other pertinent information.

   d) Location of hard set cross-referenced to indications on Drawings both on floor plans and in door and frame submittal.

   e) Explanation of all abbreviations, symbols, code, etc. contained in submittal.

   f) Mounting locations for hardware.

   g) Door and frame sizes and materials.

2. Submit submittal at earliest possible date particularly where acceptance of hardware submittal must precede fabrication of other work, e.g. hollow metal frames, which is critical in the project construction schedule.

3. Include product data, samples, shop drawings of other work affected by builder’s hardware, and other information essential to the coordinated review of hardware submittal.

4. Templates: Furnish for the installation of all hardware and to the manufacturer of related equipment for his preparation of that equipment for all hardware that must be attached thereto. Templates shall also be furnished to the manufacturer of wood doors for use on all wood doors that are factory fitting and factory machined for hardware.

D. Keying Submittal: Submit separate detail submittal indicating clearly how the Owner's final instruction on keying of locks has been fulfilled. Prior to submittal blank key schedule to be completed by maintenance personnel.

E. Samples: Prior to submittal of the final hardware, and prior to final ordering of builders hardware, submit one (1) sample of each type of exposed hardware unit, finished as required, and tagged with full.

1.03 JOB CONDITIONS

A. Coordinate hardware with other work. Tag each item or package separately with identification related to the final hardware submittal. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated as necessary for proper installation and function. Deliver individually packaged hardware items at the proper times to the proper location shop or project site for installation.

B. Packing and Marking: Package each item of hardware separately in individual containers, complete with necessary screws, keys, instructions and installation templates for spotting mortising tools. Mark each container with item's number corresponding to number shown on hardware supplier's submittal and properly tag each cylinder's key.

C. Provide secure lock-up for hardware delivered to the project but not the installed. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses, both before and after installation.

D. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Upon request, check the shop drawings of such other work to confirm that adequate provisions are made for the proper installation of hardware.

E. Inspection of Hardware and Installation: The hardware supplier shall visit the project when the hardware is delivered and check it before it is installed. He shall visit the project again after all the hardware has been installed and shall notify the Engineer if there is any hardware that has not been installed correctly. Contractor and supplier shall furnish Engineer with written certification to this effect. After the hardware is installed, the hardware supplier shall meet with the Owner or his representative and explain the functions, uses, and maintenance of all types of hardware installed. The Contractor shall turn over to the Owner, after completion

of the work, all tools, wrenches and templates that come packaged with the hardware for the Owner's use in servicing the hardware. The hardware supplier shall adjust the door closers for proper operation with particular attention being given to final operation of the air conditioning, heating and ventilating system.

PART 2 PRODUCTS

2.01 PRODUCTS

A. Acceptable Manufacturers:

1. Hinges: Hager, McKinney, Stanley
2. Continuous Gear Hinges: McKinney, Zero, Select
3. Cylinders: Best, Corbin Russwin, Sargent
4. Door Closers: RYOBI, LCN, Sargent
5. Locks, Latches: Best, Corbin Russwin, Sargent
6. Silencers, Stops & Flush Bolts: Baldwin, Ives, Rockwood
7. Kick Plates, & Misc.: Baldwin, Ives, Rockwood
8. Exit Devices: Precision, Sargent, Von Duprin
9. Thresholds: National Guard, Pemko, Zero
10. Overhead Stops/Holders: ABH, Glynn-Johnson, Rixson

2.02 MATERIALS, FABRICATION AND FINISHES

A. General:

1. Manufacturer's Name Plate: Do not use products which have manufacturer's name or trade name displayed in a visible location except in conjunction with required UL labels.
2. Unless otherwise noted, exposed hardware items shall receive satin stainless steel finish.
3. Furnish screws of type as required for substrates indicated with each hardware item. Finish exposed screws to match the hardware finish or, if exposed in surfaces of other work, to match the finishes of such other work as closely as possible.
4. Unless otherwise noted, provide concealed fasteners for hardware units that are exposed when door is closed. Where fasteners must remain exposed when door is closed, provide vandal resistant fasteners.
5. Finish shall be: Dull Chrome [US26D], Dull Stainless Steel [US32D] Aluminum Lacquer [AL], Extruded Aluminum [Alum] and Prime Coat [USP] as listed on the Hardware Notes on the Structural Drawings.

6. Tools for maintenance: Furnish a complete set of specialized tools as needed for Owner's continued adjustment, maintenance and removal and replacement of builder’s hardware.

7. Hardware Operation: Force required to activate door hardware shall be not greater than 5 lbf.

8. Door Opening Force: Maximum force for pushing or pulling open a door shall comply with this paragraph. For hinged doors, the force shall be applied perpendicular to the door at the door opener or 30 inches from the hinged side whichever is farther from the hinge.

    a) Exterior hinged doors shall not exceed 8.5 lbf. Slight increases in opening force shall be allowed where 8.5 lbf. is insufficient to compensate for air pressure differentials.

    b) Interior hinged doors shall not exceed 5.0 lbf.

B. Hinges:

1. Provide template-produced hinges complying with ANSI A156.1.

2. Provide stainless steel pins, non-removable type for exterior doors and non-rising types for interior doors. Pins shall have flat button ends finished to match hinge leaves.

3. Hinges shall be full-mortised, 4½” x 4½” unless otherwise noted; five knuckle ball bearing type, heavy duty rated.

C. Lock Cylinders and Keying:

1. Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.

2. Equip locks with manufacturer's construction master key feature that permits voiding of construction keys without cylinder removal.

3. Comply with the Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.

4. Key Material: Provide keys of nickel silver only.

5. Permanently inscribe each key with number or lock that identifies cylinder manufacturer’s key symbol.

6. Keying: Establish a new Masterkey System as directed by the Owner. Furnish four (4) Masterkeys, three (3) keys per lock.

D. Locks and Latches:

1. Strikes: Except as otherwise indicated or specified, provide manufacturer’s standard wrought box strike for each latch or lock bolt with curved lip extended to protect frame, finished to match hardware set.

2. Handles and knobs: Provide manufacturer's lever handle set complete with stem, roses and trim unless otherwise noted.

3. Lock throw: Provide 1/2" minimum throw on doors.

E. Exit Devices: Exit devices shall be as called out with no substitutes accepted. Exit devices shall comply with ANSI Standard 156.3 Grade 1 modified as follows:

1. The devices shall be “touchpad” type with touchpad that shall extend a minimum of ½ of the door width.

2. Devices should have a ¼” gap between the face of the door and the touchbar unit, eliminating the need for shims or cutting away the glass moulding.

3. Lock stile chassis shall be cast bronze. Stamped steel units will not be accepted. All device latchbolts shall be extruded bronze and, where used in vertical rod devices, shall be deadlocking type.

4. Device strikes shall be investment cast stainless steel.

5. Device end cap shall be all metal and secured with a bracket that completely inserts into device housing.

6. All outside device trim shall be cast or forged brass full escutcheon. Lever trim shall be “vandal resistant” with substantial resistance to rotation when locked.

7. All vertical rod devices shall be concealed and have “latch retraction” hold back.

8. Devices must be convertible from one function to another simply by exchanging back plate assembly in lock stile case and selecting proper outside trim.

9. Device shall be secured to the door with sex bolts and through bolting at both ends.

10. All devices shall be UL approved for all types and functions indicated in the Hardware notes.

11. Devices shall have published three (3) year warranty.

12. All exit devices shall be by the same manufacturer.

13. Mullions shall be “keyed removable” type with only a key required for take down. No key or tools shall be required to reinstall. Mullions shall be by the same manufacturer as the exit devices.

F. Closers: Shall be:

1. Closer shall be non-handed and adjustable.

2. Closer shall have R14 high silicone aluminum alloy cylinder body with 1 ½” steel piston.

3. Closer shall have ten (10) year warranty.

4. Closer shall have all season fluid to eliminate seasonal adjustment.

5. All closers mounted parallel arm shall have EDA arm.

G. Overhead Stops/Holders: Shall be - No Sub.

1. Units shall have metal/plated end plugs.

2. Units mounting screws shall be designed so that they go through housing and end plug.

3. Units shall have metal slide.

4. All stops shall be by same manufacturer.

H. Silencers, Stops & Flush Bolts: Shall be:

1. Silencers: Provide plug-type silencers in all metal door. Provide three (3) silencer units in door frames.

2. All Stops, wall and floor shall be by the same manufacturer.

3. Flush bolts shall have 3/4" throw with 2" vertical adjustment. Shall have override feature and stainless steel cams and rub plates. All flush bolts shall be by the same manufacturer.

I. Thresholds: Extruded aluminum, smooth commercial mill finish, grooved tread, 4" minimum tread by full door width. Thickness of threshold shall be 0.5" at primary tread surfaces, 0.1875" for secondary tread surfaces, and 0.125" for concealed flanges and legs.

J. Kick Plates, Mop Plates and Armor Plates: .050 material sized as follows:

1. Kick Plates: 8 x 2 LDW

2. Mop Plates: 4 x 2 LDW

3. Armor Plates: 16 x 2 LDW

2.03 SCHEDULE OF HARDWARE

A. See Notes in Structural Drawings

PART 3 EXECUTION

3.01 INSTALLATION

A. General: Properly tag, index and file all keys until turned over to the Owner. Apply hardware in accordance with templates and manufacturer's instructions; mortise and fit accurately; apply securely and adjust carefully.

1. Mount hardware units at heights recommended in "Recommended Locations for Builders Hardware" by DHI, except where shown otherwise on drawings.

2. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate.

3. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

4. Exercise care not to injure work when applying hardware. Review shop drawings and Contract Drawings for proper location. Cover door hardware with a heavy cloth until painting is completed. At completion of the work, examine doors and hardware, adjust as required and leave hardware in proper working order, free from defects.

5. At all times be responsible for the distribution of keys for hardware installed during construction, and cause all keys to be returned prior to final completion of the building

B. Preparation:

1. Do not install finish hardware until the wet trades have been fully completed.

2. Supplier shall mark each item of hardware for location. Protect markings until each item is installed. If any item of hardware is delivered to the Project not properly marked, return it to the supplier for marking before attempting to install it.

3. Install and make necessary adjustments for proper working order. Hardware damaged by improper adjustments or abuse will be rejected.

4. Provide clean, properly sized, and accurately placed mortises and drilled holes for all mortise and surface mounted finish hardware. Use appropriate jigs, templates and power mortising equipment for the installation of all mortised hardware items.

5. Metal frames to receive hardware items shall be drilled and tapped accurately.

6. Removal for Painting:

a) Before painters finish is applied, remove all finish hardware except prime-coated items.

b) After final paint and finish coats are dry, permanently replace and adjust finish hardware for proper operation.

C. Thresholds:

1. Cut and fit threshold to profile door frames, with mitered corners and hairline joints. Screw thresholds to substrate with No. 10 or larger bronze or stainless steel screws.

2. Set thresholds in a bed of either butyl/rubber sealant or polyisobutylene mastic sealant to completely fill concealed voids and exclude moisture from every source. Do not plug drainage holes or block weeps. Remove excess sealant.

D. Mounting Heights: Shall be as follows, measured from finished floor except for top hinge which is measured from door top:

1. Bottom hinge: 10-3/8" hinge center.

2. Top hinge: 9-3/4" hinge center.

3. Intermediate hinges: Equally spaced between top and bottom hinges.

4. Locks and latches: 38" operating spindle.

3.02 ADJUST AND CLEAN

A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Lubricate moving parts with type lubricant recommended by manufacturer and graphite-type if no other recommended]. Replace units that cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.

B. Upon completion of the work and before final acceptance, demonstrate that all hardware is in satisfactory working order, that all keys fit in their respective locks and upon acceptance of the work, tag and deliver all keys to the Owner.

C. Final Adjustment: Wherever hardware installation is made more than one (1) month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy to make a final check and adjustment of all hardware items in such space or area. Clean and re-lubricate operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct Owner’s personnel in proper adjustment and maintenance of hardware and hardware finish during the final adjustment of hardware.

END OF SECTION

SECTION 08800 - GLAZING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

1. Doors.

1.03 DEFINITIONS

A. Manufacturer: A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.

B. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.

C. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, de-lamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

D. Deterioration of Insulating Glass: Failure of the hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1.04 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:

1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:

    a. Specified Design Wind Loads and impact resistance: As required by the Florida Building Code for all glazing not protected by exterior window shutters. For glazing protected by exterior window shutters, as indicated on the drawings, comply with the Florida Building Code requirements for wind loading (not impact resistance).

    b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.

        1) Load Duration: 60 seconds or less.

    c. Probability of Breakage for Sloped Glazing: 1 lite per 1000 for lites set more than 15 degrees off vertical and under wind action.

        1) Load Duration: 30 days.

    d. Maximum Lateral Deflection: For the following types of glass supported on all four edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch (25 mm), whichever is less.

        1) For monolithic-glass lites heat-treated to resist wind loads.

        2) For insulating glass.

        3) For laminated-glass lites.

    e. Minimum Glass Thickness for Exterior Lites: Not less than 6 mm.

    f. Thickness of Tinted and Heat-Absorbing Glass: Provide the same thickness for each tint color indicated throughout Project.

C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

    1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:

    1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.

2. For laminated-glass lites, properties are based on products of construction indicated.

3. For insulating-glass units, properties are based on units with lites 6 mm thick and a nominal 1/2-inch- (13-mm-) wide interspace.

4. Center-of-Glass U-Values: NFRC 100 methodology using LBL-35298 WINDOW 4.1 computer program, expressed as Btu/ sq. ft. x h x deg F (W/sq. m x K).

5. Center-of-Glass Solar Heat Gain Coefficient: NFRC 200 methodology using LBL-35298 WINDOW 4.1 computer program.

6. Solar Optical Properties: NFRC 300.

1.05 SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Samples: For the following products, in the form of 12-inch- (300-mm-) square Samples for glass and of 12-inch- (300-mm-) long Samples for sealants. Install sealant Samples between two strips of material representative in color of the adjoining framing system.

C. Samples: For the following products, in the form of 12-inch- (300-mm-) square Samples for glass.

1. Each color of tinted float glass.

2. Insulating glass for each designation indicated.

3. For each color (except black) of exposed glazing sealant indicated.

D. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.

E. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.

F. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

G. Preconstruction Adhesion and Compatibility Test Report: From glazing sealant manufacturer indicating glazing sealants were tested for adhesion to glass and glazing channel substrates and for compatibility with glass and other glazing materials.

H. Product Test Reports: From a qualified testing agency indicating the following products comply with requirements, based on comprehensive testing of current products:

1. Tinted float glass.

2. Insulating glass.

3. Glazing sealants.

4. Glazing gaskets.

I. SWRI Validation Certificate: For each elastomeric glazing sealant specified to be validated by SWRI's Sealant Validation Program.

J. Warranties: Special warranties specified in this Section.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.

B. Source Limitations for Clear Glass: Obtain clear float glass from one primary-glass manufacturer.

C. Source Limitations for Tinted Glass: Obtain tinted, heat absorbing, and light-reducing float glass from one primary-glass manufacturer for each tint color indicated.

D. Source Limitations for Insulating Glass: Obtain insulating-glass units from one manufacturer using the same type of glass and other components for each type of unit indicated.

E. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.

F. Glass Product Testing: Obtain glass test results for product test reports in "Submittals" Article from a qualified testing agency based on testing glass products.

1. Glass Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

G. Elastomeric Glazing Sealant Product Testing: Obtain sealant test results for product test reports in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period.

1. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.

2. Test elastomeric glazing sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.

H. Preconstruction Adhesion and Compatibility Testing: Submit to elastomeric glazing sealant manufacturers, for testing indicated below, samples of each glass

type, tape sealant, gasket, glazing accessory, and glass-framing member that will contact or affect elastomeric glazing sealants.

1. Use manufacturer's standard test methods to determine whether priming and other specific preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.

    a. Perform tests under normal environmental conditions replicating those that will exist during installation.

2. Submit not fewer than nine pieces of each type and finish of glass-framing members and each type, class, kind, condition, and form of glass (monolithic, laminated, and insulating units) as well as one sample of each glazing accessory (gaskets, tape sealants, setting blocks, and spacers).

3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

4. For materials failing tests, obtain sealant manufacturer's written instructions for corrective measures, including the use of specially formulated primers.

5. Testing will not be required if elastomeric glazing sealant manufacturers submit data based on previous testing of current sealant products for adhesion to, and compatibility with, glazing materials matching those submitted.

I. Fire-Rated Window Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257.

J. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.

1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.

2. Comply with Florida Statutes-Chapter 553, Part III, Safety Performance Specifications and Methods of Test for Safety Glazing Used in Buildings.

K. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA'S "Glazing Manual" and "Laminated Glass Design Guide."

2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR-A7, "Sloped Glazing Guidelines."

3. SIGMA Publications: SIGMA TM-3000, "Vertical Glazing Guidelines," and SIGMA TB-3001, "Sloped Glazing Guidelines."

L. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following inspecting and testing agency:

1. Insulating Glass Certification Council.

2. Associated Laboratories, Inc.

3. National Accreditation and Management Institute.

M. Mockups: Before glazing, build mockups for each glass product indicated below to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups with the following kinds of glass to match glazing systems required for Project, including typical lite size, framing systems, and glazing methods:

a. Heat-strengthened glass.

b. Fully tempered glass.

c. Laminated glass.

d. Insulating glass.

2. Notify Architect seven days in advance of dates and times when mockups will be constructed.

3. Obtain Architect's approval of mockups before starting fabrication.

4. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

5. Demolish and remove mockups when directed.

6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

N. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. For insulating-glass units that will be exposed to substantial altitude changes, comply with insulating-glass manufacturers written recommendations for venting and sealing to avoid hermetic seal ruptures.

1.08 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40 deg F (4.4 deg C).

1.09 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Manufacturer's Special Warranty on Laminated Glass: Written warranty, made out to Owner and signed by laminated-glass manufacturer agreeing to furnish replacements for laminated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: Five years from date of Substantial Completion.

C. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PRODUCTS AND MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products indicated in schedules at the end of Part 3.

2.02 PRIMARY FLOAT GLASS

A. Float Glass: ASTM C 1036, Type I (transparent glass, flat), Quality q3 (glazing select); class as indicated in schedules at the end of Part 3.

2.03 HEAT-TREATED FLOAT GLASS

A. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.

B. Heat-Treated Float Glass: ASTM C 1048; Type I (transparent glass, flat); Quality q3 (glazing select); class, kind, and condition as indicated in schedules at the end of Part 3.

2.04 WIRED GLASS

A. Wired Glass: ASTM C 1036, Type II (patterned and wired glass, flat), Class 1 (clear), Quality q8 (glazing); 6.4 mm thick; of form and mesh pattern indicated below:

1. Polished Wired Glass: Form 1 (wired, polished both sides), and as follows:

a. Mesh m1 (diamond).

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Polished Wired Glass:

a. Ashai Glass Co./Ama Glass Corp.

b. Central Glass Co., Ltd.

c. Nippon Sheet Glass Co., Ltd.

d. Pilkington Glass Ltd.

2.05 LAMINATED GLASS

A. Laminated Glass: Comply with ASTM C 1172 for kinds of laminated glass indicated and other requirements specified, including those in the Laminated-Glass Schedule at the end of Part 3.

B. Interlayer: Interlayer material as indicated below, clear, and of thickness indicated with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.

1. Interlayer Material: Polyvinyl butyral sheets.

C. Laminating Process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets as follows:

1. Laminate lites with polyvinyl butyral interlayer in autoclave with heat plus pressure.

2.06 INSULATING GLASS

A. Insulating-Glass Units: Preassembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class

CBA units and with requirements specified in this Article and in the Insulating-Glass Schedule at the end of Part 3.

B. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated in the Insulating-Glass Schedule at the end of Part 3 are nominal and the overall thicknesses of units are measured perpendicularly from outer surfaces of glass lites at unit's edge.

C. Sealing System: Dual seal, with primary and secondary sealants as follows:

1. Manufacturer's standard sealants.

D. Spacer Specifications: Manufacturer's standard spacer material and construction.

2.07 ELASTOMERIC GLAZING SEALANTS

A. General: Provide products, complying with the following requirements:

1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.

3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range for this characteristic.

B. Elastomeric Glazing Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied, chemically curing sealant.

1. Additional Movement Capability: Where additional movement capability is necessary, provide products with the capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the specified percentage change in the joint width existing at time of installation and remain in compliance with other requirements in ASTM C 920 for uses indicated.

C. Glazing Sealant for Fire-Resistive Glazing Products: Identical to product used in test assembly to obtain fire-protection rating.

2.08 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape.

2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tape: Closed-cell, PVC foam tape; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:

1. Type 1, for glazing applications in which tape acts as the primary sealant.

2. Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.09 GLAZING GASKETS

A. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542, black.

B. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

1. Neoprene, ASTM C 864.

2. EPDM, ASTM C 864.

3. Silicone, ASTM C 1115.

4. Thermoplastic polyolefin rubber, ASTM C 1115.

5. Any material indicated above.

C. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:

1. Neoprene.

2. EPDM.

3. Silicone.

4. Thermoplastic polyolefin rubber.

5. Any material indicated above.

2.10 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other

glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

G. Perimeter Insulation for Fire-Resistive Glazing: Identical to product used in test assembly to obtain fire-resistance rating.

2.11 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites in a manner that produces square edges with slight kerfs at junctions with indoor and outdoor faces.

C. Grind smooth and polish exposed glass edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine framing glazing, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.

2. Presence and functioning of weep system.

3. Minimum required face or edge clearances.

4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

3.03 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Glazing channel dimensions, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where the length plus width is larger than 50 inches (1270 mm) as follows:

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.

2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.04 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until just before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.05 GASKET GLAZING (DRY)

A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with stretch allowance during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Install gaskets so they protrude past face of glazing stops.

3.06 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to

prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.07 LOCK-STRIP GASKET GLAZING

A. Comply with ASTM C 716 and gasket manufacturer's written instructions. Provide supplementary wet seal and weep system, unless otherwise indicated.

3.08 PROTECTION AND CLEANING

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

3.09 MONOLITHIC FLOAT-GLASS SCHEDULE

A. Uncoated Clear Float Glass: Where glass as designated below is indicated, provide Type I (transparent glass, flat), Class 1 (clear) glass lites complying with the following:

1. Uncoated Clear Heat-Strengthened Float Glass FG-2: Kind HS (heat strengthened).

2. Uncoated Clear Fully Tempered Float Glass FG-1: Kind FT (fully tempered).

3. Visible Light Transmittance: 88%

4. Winter Nighttime U-Valve: 1.09

5. Solar Heat Gain Coefficient: .94

6. Outdoor Visible reflectance: 9%

3.10 LAMINATED-GLASS SCHEDULE

A. Laminated Glass LG-1: Where glass of this designation is indicated, provide glass lites complying with the following:

1. Inner Lite: Type I (transparent glass, flat) float glass.

   a. Kind HS Heat-Strengthened

   b. Class 1 (clear).

   c. Thickness: 6 mm.

2. Outer Lite: Type I (transparent glass, flat) float glass.

   a. Kind HS Heat-Strengthened

   b. Class 2 (tinted, heat absorbing, and light reducing).

      1) Tint Color: Bronze.

   c. Thickness: 6 mm.

3. Plastic Interlayer: 0.060 inch (1.52 mm) thick or as required.

   a. Interlayer Color: Clear. If a color is selected, insert light-transmittance value below.

   b. Visible Light Transmittance of Interlayer: 80 to 90%

4. Visible Light Transmittance: 46%

5. Winter Nighttime U-Value: .48

6. Solar Heat Gain Coefficient: .56

7. Outdoor Visible Reflectance: 9%

3.11 INSULATING-GLASS SCHEDULE

A. Insulating Glass IG-1: Where glass of this designation is indicated, provide uncoated insulating-glass units complying with the following:

1. Overall Unit Thickness and Thickness of Each Lite: 25 and 6 mm.

2. Interspace Content: Air.

3. Outdoor Lite: Type I (transparent glass, flat), Class 1 (clear) float glass.

   a. Kind FT (fully tempered), Condition A (uncoated surfaces).

4. Indoor Lite: LG-1.

B. Insulating Glass IG-2: Where glass of this designation is indicated, provide uncoated insulating-glass units complying with the following:

1. Overall Unit Thickness and Thickness of each Lite: 25 and 6 mm.
2. Interspace Content: Air.
3. Indoor Lite: Type I (transparent glass, flat) Class I (clear) float glass.
   a. Kind FT (fully tempered)
4. Outdoor Lite: Type I (transparent glass, flat) Class I (clear) float glass.
   a. Kind FT (fully tempered)

END OF SECTION

Procurement Division
IFBC No. IFBC 22-TA004115DJ Lift Station 1M, 12A, and 13A, Electrical Rehab
Manadatory Site Visit
June 3, 2022 @ 9:00 AM
13A--112 63rd Ave, W. Bradenton, 34203
12A--2007 Bay Drive, Bradenton, FL 34207
1M--8720 44th Ave West, Bradenton, FL 34210

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