

ADVENTURE AQUARIUM

KALEIDOSCOPE COVE

EXHIBIT RENOVATIONS

1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

BACH Associates, PC
 ENGINEERS • ARCHITECTS • PLANNERS

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 NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

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Code Review Data

APPLICABLE BUILDING CODES & GUIDELINES

2021 INTERNATIONAL BUILDING CODE - NEW JERSEY EDITION
 2021 NATIONAL STANDARD PLUMBING CODE
 2020 NATIONAL ELECTRIC CODE (NFPA 70)
 2021 INTERNATIONAL MECHANICAL CODE
 2021 INTERNATIONAL FUEL GAS CODE
 NUJCC SUBCHAPTER 6 - REHABILITATION SUBCODE
 2017 ICC/ANSI A117.1
 ASHRAE 90.1-2019

USE GROUP CLASSIFICATION (303.1)

A-3 ASSEMBLY

TYPE OF CONSTRUCTION (CHAPTER 6)

TYPE - 2A

AREA OF FLOOR PLAN:

A-3 USE - KALEIDOSCOPE COVE EXHIBIT - RENOVATION AREA ONLY: 5,000± SF

Index of Drawings

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- S1.1 STRUCTURAL NOTES AND SCHEDULES
- S2.1 SECOND FLOOR FRAMING PLAN

- EC1 ELECTRICAL COVER SHEET
- E-1.0 ELECTRICAL FLOOR PLANS
- E-1.1 ELECTRICAL FLOOR PLANS
- E-1.2 ELECTRICAL FLOOR PLANS
- E-2.0 ELECTRICAL SCHEDULES
- E-3.0 FIRE ALARM SYSTEM
- E-4.0 ELECTRICAL SPECIFICATIONS
- E-4.1 ELECTRICAL SPECIFICATIONS

- MC MECHANICAL COVER SHEET
- M-1.0 MECHANICAL FLOOR PLAN
- M-2.0 MECHANICAL FLOOR PLAN

- FP-1 FIRE PROTECTION PLAN

Notes

SOME NOTES AND DETAILS WITHIN THIS PLAN SET MAY NOT APPLY, BUT STILL SHOULD BE REVIEWED IN ITS ENTIRETY.

GENERAL CONTRACTOR WILL SUBMIT ALL MATERIAL SAFETY DATA SHEETS (MSDS) TO AQUARIUM VET STAFF FOR APPROVAL BEFORE CONSTRUCTION BEGINS.

GENERAL CONTRACTOR TO PROVIDE MOVABLE CONSTRUCTION PARTITIONS TO CLOSE OFF WORK AREAS IN THE CONSTRUCTION AREA DURING AQUARIUM OPERATING HOURS.

GENERAL CONTRACTOR WILL COORDINATE WITH AQUARIUM REGARDING WORKING HOURS.

GENERAL CONTRACTOR TO SUBMIT SAMPLES OF ALL FINISHES FOR REVIEW AND APPROVAL OF TEXTURES AND COLORS PRIOR TO IMPLEMENTATION.

GENERAL CONTRACTOR SHALL REVIEW THE SHOW PACKAGE DESIGN PLANS (SHEET A-6) FOR THE MANUFACTURERS OF THE DECORATIVE ITEMS.

UPON RECEIPT OF SIGNED AND SEALED PLANS, IT IS THE RESPONSIBILITY OF THE OWNER / CONTRACTOR TO VERIFY THAT ALL DESIGN ISSUES AND REQUIREMENTS HAVE BEEN MET AND ALL PARTIES INVOLVED HAVE REVIEWED THE PLANS AND EXISTING SITE CONDITIONS FULLY. ANY QUESTIONS OR DISCREPANCIES REGARDING THE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE CONSTRUCTION BEGINS. FAILURE TO NOTIFY THE ARCHITECT OF DISCREPANCIES AND/OR UNSATISFACTORY CONDITIONS WILL BE CONSTRUED AS ACCEPTANCE OF THE CONDITIONS TO PROPERLY PERFORM ALL REQUIRED WORK.

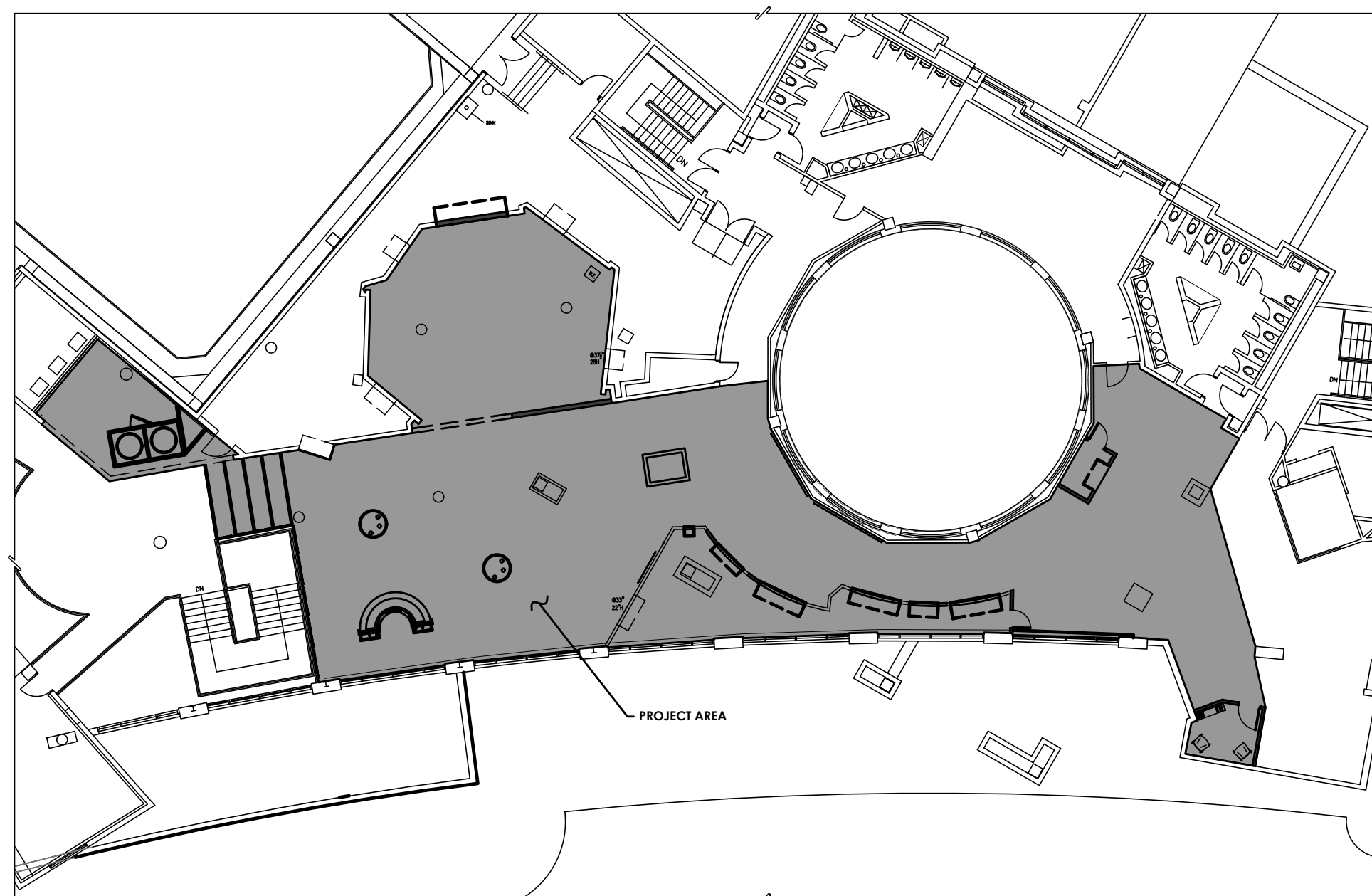
THESE DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF ARCHITECTURE, DESIGN CONCEPT OF THE BUILDING AND ANY MAJOR ARCHITECTURAL ELEMENTS OR MAJOR TYPES OF MEP, FIRE PROTECT AND STRUCTURAL ELEMENTS. THESE DRAWINGS DO NOT NECESSARILY INDICATE OR DESCRIBE ALL WORK FOR FULL PERFORMANCE AND COMPLETION OF THE SCOPE INDICATED, DESCRIBED, OR IMPLIED. THE GENERAL CONTRACTOR SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND TIMELY COMPLETION OF THIS PROJECT.

THE GENERAL CONTRACTOR SHALL DISTRIBUTE FULL SETS OF CONSTRUCTION DOCUMENTS TO ALL SUB-CONTRACTORS. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO DIVIDE AND COORDINATE WORK OF ALL TRADES.

ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND NATIONAL STANDARDS.

WHERE SPRINKLER WORK IS INDICATED AS PART OF THE SCOPE OF WORK, ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST REQUIREMENTS OF NFPA STANDARDS FOR SPRINKLER SYSTEMS AND ALL STATE AND LOCAL CODES. THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATING SPRINKLER SYSTEM DESIGN WITH APPLICABLE CODES AND REGULATIONS, PROVIDING SHOP DRAWINGS AND OBTAINING ALL LOCAL APPROVALS.

Key Map



ALL DOCUMENTS PREPARED BY BACH ASSOCIATES, PC ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNERS OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY BACH ASSOCIATES, PC FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO BACH ASSOCIATES, PC. OWNER SHALL INDEMNIFY AND HOLD HARMLESS BACH ASSOCIATES, PC FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

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COVER SHEET AND INDEX OF DRAWINGS

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C-1

TANKS NOTED AS "RELOCATED" ARE TO BE DISCONNECTED AND REMOVED FROM CURRENT LOCATION BY BIDDER, AND INSTALLED IN NEW LOCATION BY BIDDER. RELOCATION WORK TO INCLUDE SAFE DISCONNECTION OF ALL ELECTRICAL CONNECTIONS. BIDDER NOT RESPONSIBLE FOR ANY PLUMBING WORK.

TANKS NOTED AS "NEW" WILL BE PROVIDED BY OWNER ALONG WITH TANK STAND. BIDDER TO INSTALL TANK AND STAND WITH OWNER SUPERVISION. BIDDER NOT RESPONSIBLE TO SUPPLY LSS EQUIPMENT, LIGHTS, TANKS, OR STANDS. BIDDER RESPONSIBLE TO PROVIDE POWER AS SPECIFIED AND TO INSTALL NEW LIGHTING AS PROVIDED BY OWNER.

TANKS NOTED AS "EXISTING" WILL REQUIRED ONLY INSTALLATION OF NEW LIGHTING, WHERE NOTED BELOW. LIGHTING PROVIDED BY OWNER AND WILL USE EXISTING POWER SUPPLY. BIDDER RESPONSIBLE TO DISCONNECT EXISTING FIXTURES AND RETURN TO OWNER.

TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
1	RELOCATED	ALL EXISTING LSS EQUIPMENT TO BE RELOCATED AND INSTALLED BY OWNER.	OWNER	OWNER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
2	EXISTING	NO WORK	-	-
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
3	EXISTING	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
4	EXISTING	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
5	NEW TANK IN EXISTING LOCATION	ALL NEW LSS EQUIPMENT (EXCEPT LIGHTS) NEW LIGHTS	OWNER OWNER	OWNER BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
6	EXISTING	EXISTING LSS TO BE REUSED.	-	-
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
7	EXISTING	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
8	NEW	LSS EQUIPMENT FLOOR CORES NEW LIGHTING	OWNER BIDDER OWNER	OWNER BIDDER BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
9	NEW	NEW LSS EQUIPMENT NEW POWER SUPPLY NEW LIGHTS	OWNER BIDDER OWNER	OWNER BIDDER BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
10	NEW	NEW LSS EQUIPMENT NEW POWER SUPPLY NEW LIGHTS	OWNER BIDDER OWNER	OWNER BIDDER BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
11	EXISTING	NO WORK	-	-
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
12	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
13	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
14	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
15	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
16	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
17	NEW	NEW LIGHTS	OWNER	BIDDER
TANK	NEW/EXISTING/RELOCATED	FEATURE	PROVIDED BY	INSTALLED BY
18	NEW	NEW LIGHTS	OWNER	BIDDER

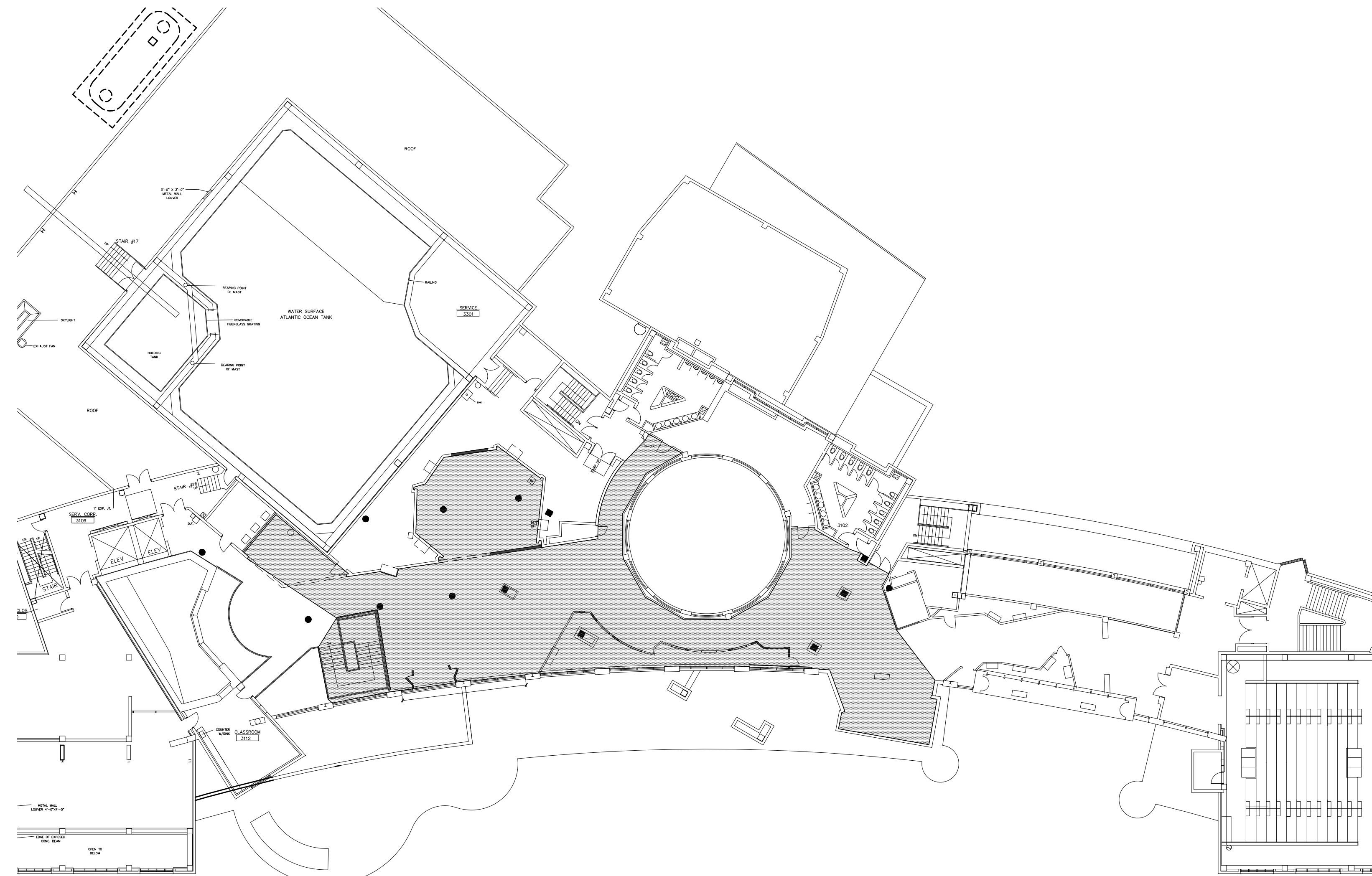
GENERAL NOTES:

ALL LIFE SUPPORT SYSTEMS (LSS) COMPONENTS, INCLUDING LIGHTS, WILL BE PROVIDED BY OWNER. ALL NEW CONCRETE CORES FOR INSTALLATION OF LSS PLUMBING TO BE PERFORMED BY BIDDER. INFILL OF EXISTING CORES EXPOSED BY MOVING EXHIBITS TO BE PERFORMED BY BIDDER. ALL NEW ROUGH ELECTRICAL POWER WILL BE PROVIDED AND INSTALLED BY BIDDER INCLUDING CONDUIT, WIRE (INCLUDING Cat6e DATA) RECEPTACLES, JUNCTIONS, TERMINATIONS AND CONNECTIONS TO OWNER PROVIDED SHOW PIECES. ALL PLUMBING ELEMENTS WILL BE PROVIDED AND INSTALLED BY OWNER. ALL NEW LIGHTING INCLUDING SHOW LIGHTS AND TANK LIGHTS WILL BE PROVIDED BY OWNER AND INSTALLED BY BIDDER. INSTALLATION OF LIGHTING TO INCLUDE ALL SUPPORTING ELEMENTS AND ANCHORS. ALL TANK STANDS WILL BE PROVIDED BY OWNER AND INSTALLED/SECURED BY BIDDER. ALL TANKS WILL BE PROVIDED BY OWNER AND INSTALLED/SECURED BY BIDDER. INSTALLATION OF ALL TANKS, STANDS, LIGHTS, LSS COMPONENTS AND OTHER ACCESSORIES WILL BE SUPERVISED AND DIRECTED BY OWNER TO ENSURE DESIGN INTENT IS MET.

ALL NEW OVERHEAD ELEMENTS INCLUDING LIGHTING, POWER, SUPPORTS, CEILING PANELS, ETC. THAT ARE INSTALLED BY THE BIDDER MUST HAVE A MINIMUM OF THREE (3) SEPARATE POINTS OF CONTACT.

MODULAR SEATING INDICATED ON PLANS AS FOLLOWS. IN THREE LOCATIONS.
SEATING IN EACH LOCATION TO BE:
Shapes Series Vinyl Soft Seating - CommunEDI (Set of Three 12" H)
Manufacturer: School Outfitters / Sprogs
Product #: SPG-1009XX-A-3-PK
Color: Green
Note: Add 6" legs to each piece.
72" L x 65.5" W x 12" (+6" H legs) = 18" H
www.schooloutfitters.com

NEW BACKLIT PANELS INSTALLED AT TANKS 13, 14, 15, 16, 17, AND 18 TO BE PROVIDED BY OWNER AND INSTALLED BY BIDDER. PANELS ARE BY MARIO ROMANO. PANELS WILL INCLUDE LOW VOLTAGE LIGHTING AND WIRING. BIDDER RESPONSIBLE TO PROVIDE POWER TO THE LOW VOLTAGE TRANSFORMERS, CONSTRUCT SUPPORT WALL AT EACH LOCATION, INSTALL PANELS, AND INSTALL LIGHTING.



1 PROJECT AREA PLAN
SCALE: NOT TO SCALE

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C-2

DIGITAL MONITORS

BIDDER RESPONSIBLE TO PROVIDE LOW VOLTAGE CABLE FROM NEAREST NETWORK PATCH PANEL OR SERVER LOCATION TO EACH MONITOR LOCATION INCLUDING MUD RING AND 6' WHIP AT BOTH ENDS. TERMINATION AND CONNECTION BY OWNER.

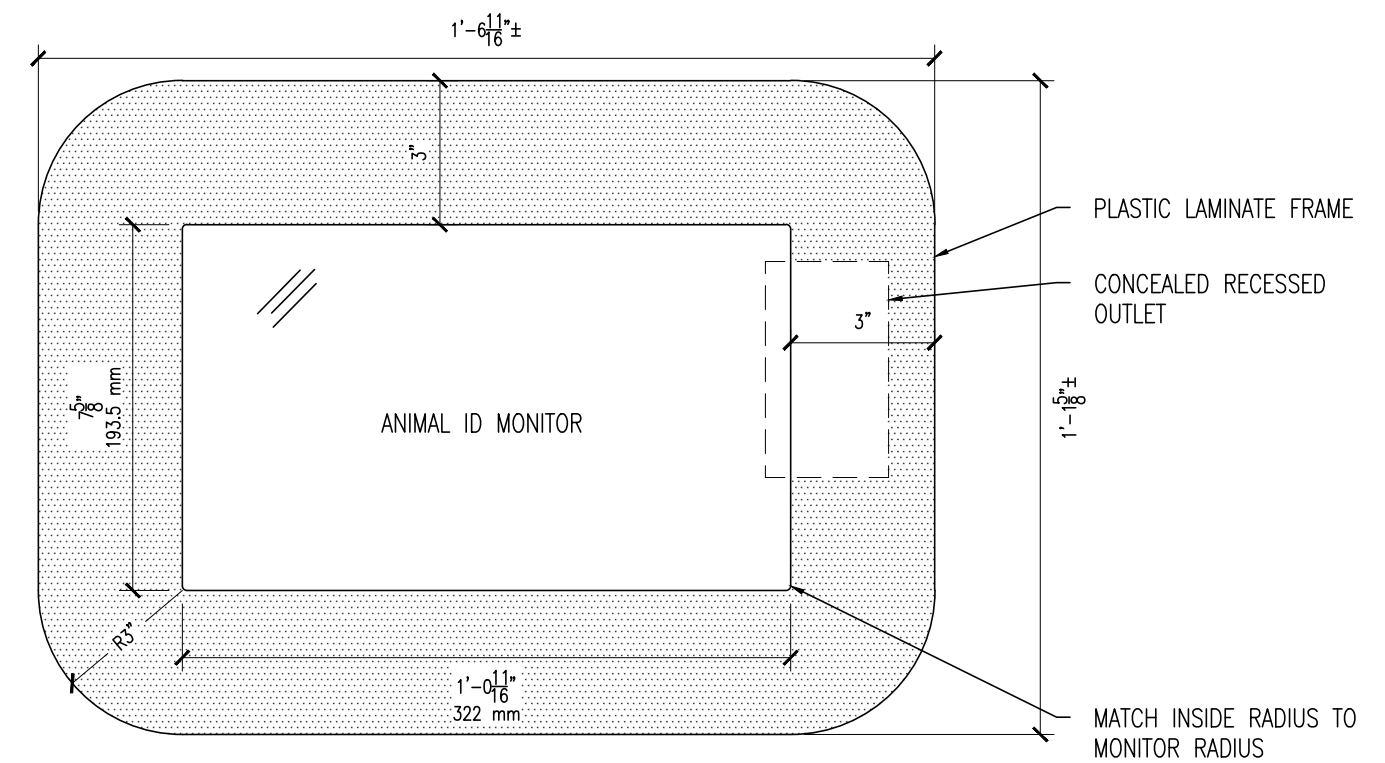
TV MONITORS TO BE PROVIDED BY OWNER AND INSTALLED BY BIDDER. BIDDER TO PROVIDE AND INSTALL WALL MOUNT AND CONCEALED RECESSED OUTLET.

ANIMAL ID MONITOR LOCATED WHERE INDICATED. MONITOR TO HAVE CUSTOM PLASTIC LAMINATE SURROUND AS DETAILED.

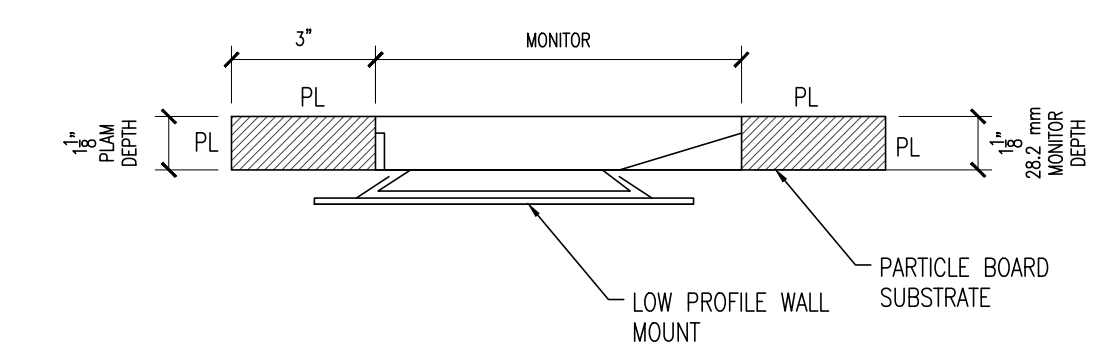
DIGITAL MONITOR TO BE DC PLUG-IN. RECESSED OUTLET TO BE PROVIDED AT EACH LOCATION.

MONITOR TO BE SAMSUNG QBR 13"

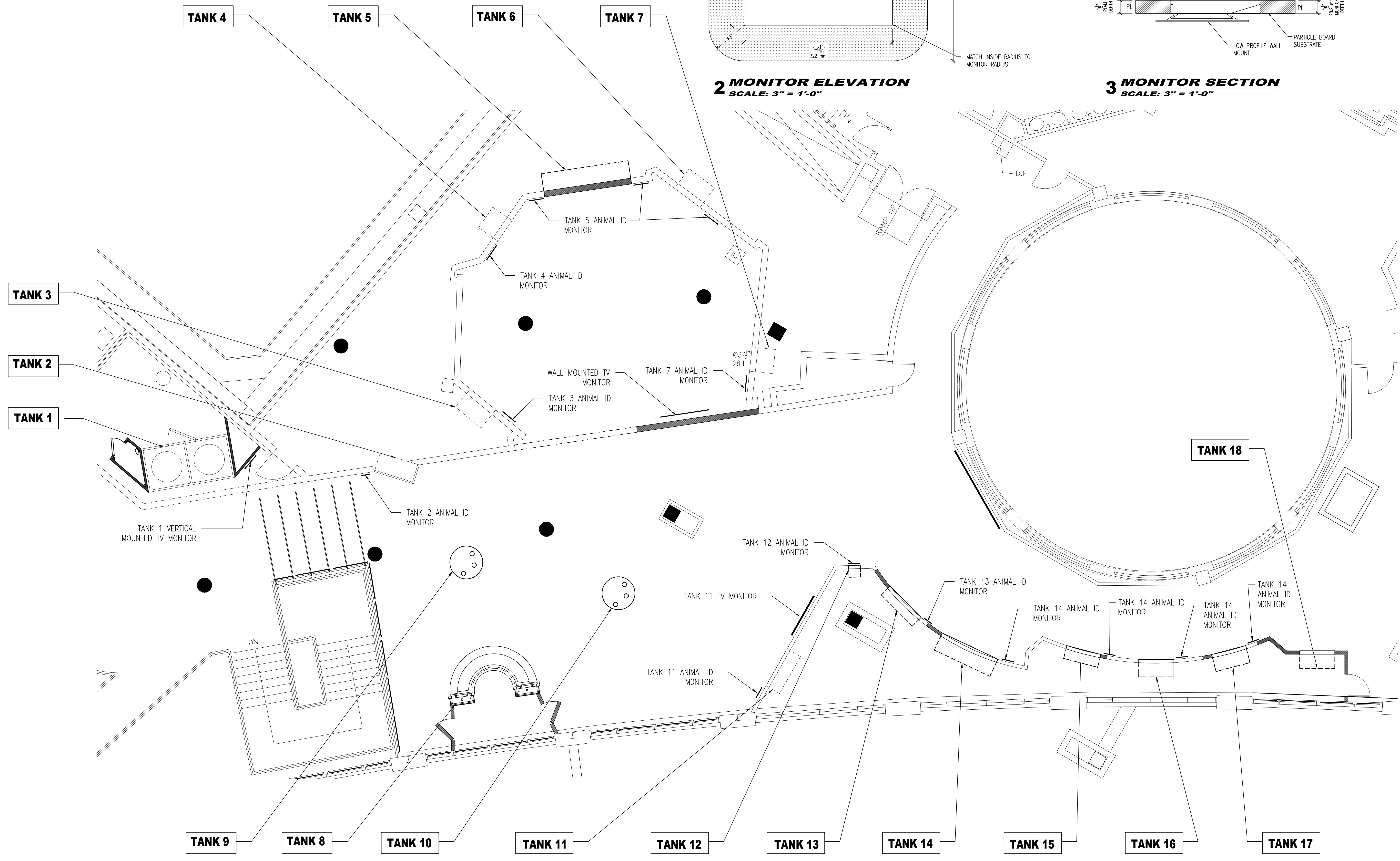
<https://www.samsung.com/levant/business/smart-signage/others/qbr-13-full-hd-small-display-lh13qbrbgcxe/>



2 MONITOR ELEVATION
SCALE: 3" = 1'-0"



3 MONITOR SECTION
SCALE: 3" = 1'-0"



1 TANK AND MONITOR GUIDE
SCALE: 1/8" = 1'-0"

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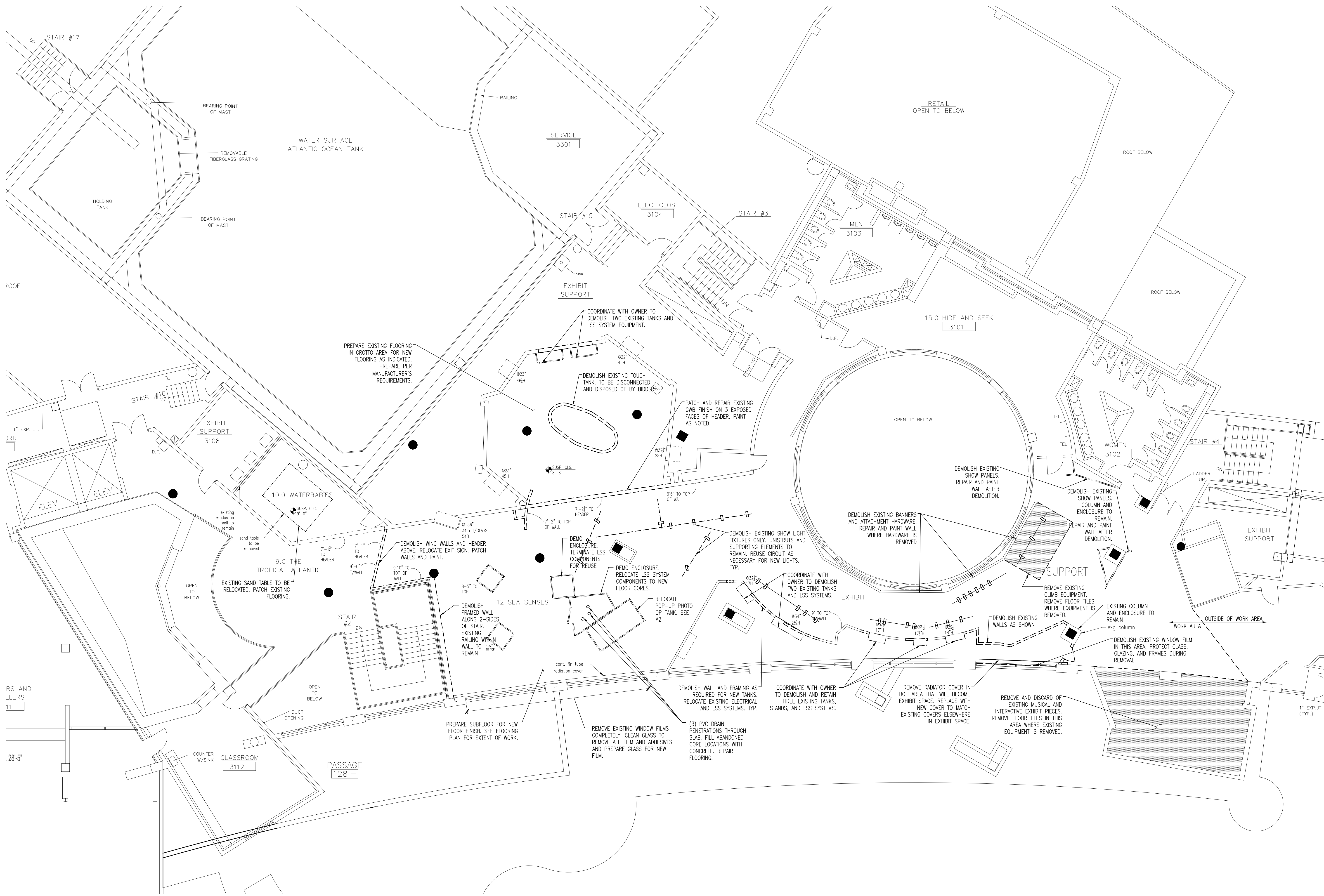
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1 DEMOLITION FLOOR PLAN
 SCALE: 1/8" = 1'-0"

EXISTING LIGHT FIXTURES:
 FOR EXISTING SHOW LIGHTS, SPOT LIGHTS, AND OTHER FIXTURES WITHIN THE PROJECT AREA THAT ARE MOUNTED ON UNISTRUTS, REMOVE AND RETURN TO OWNER INDIVIDUAL FIXTURES. UNISTRUTS AND SUPPORTING CONNECTIONS TO REMAIN, POWER TO REMAIN - TERMINATE IN NEW JUNCTION BOX AT UNISTRUT FOR USE WITH FUTURE LIGHT FIXTURES.

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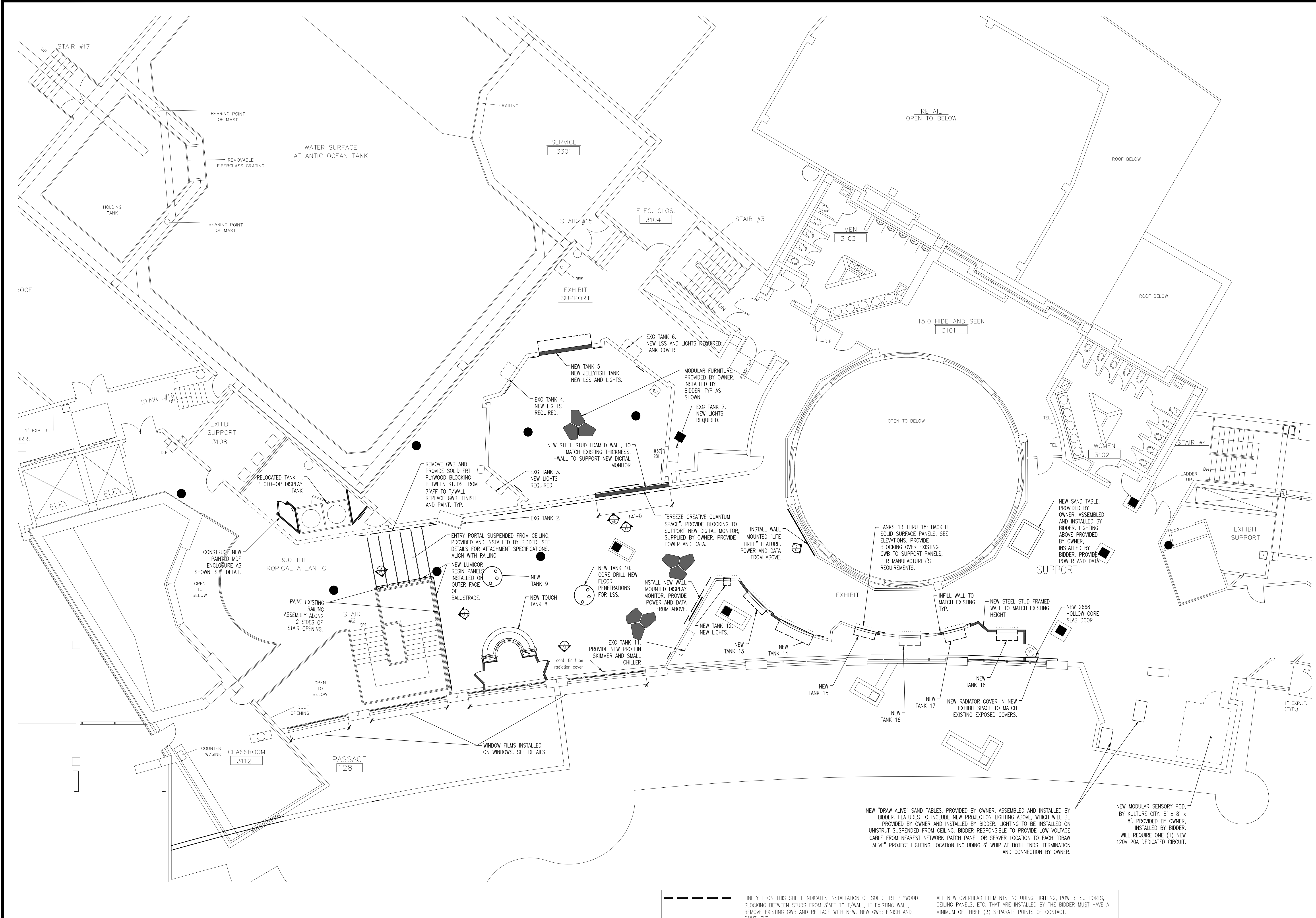
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1 PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"

--- LINETYPE ON THIS SHEET INDICATES INSTALLATION OF SOLID FRP PLYWOOD BLOCKING BETWEEN STUDS FROM 3' AFF TO T/WALL, IF EXISTING WALL, REMOVE EXISTING GWB AND REPLACE WITH NEW. NEW GWB: FINISH AND PAINT. TYP.

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1 PROPOSED CEILING PLAN
SCALE: 1/8" = 1'-0"

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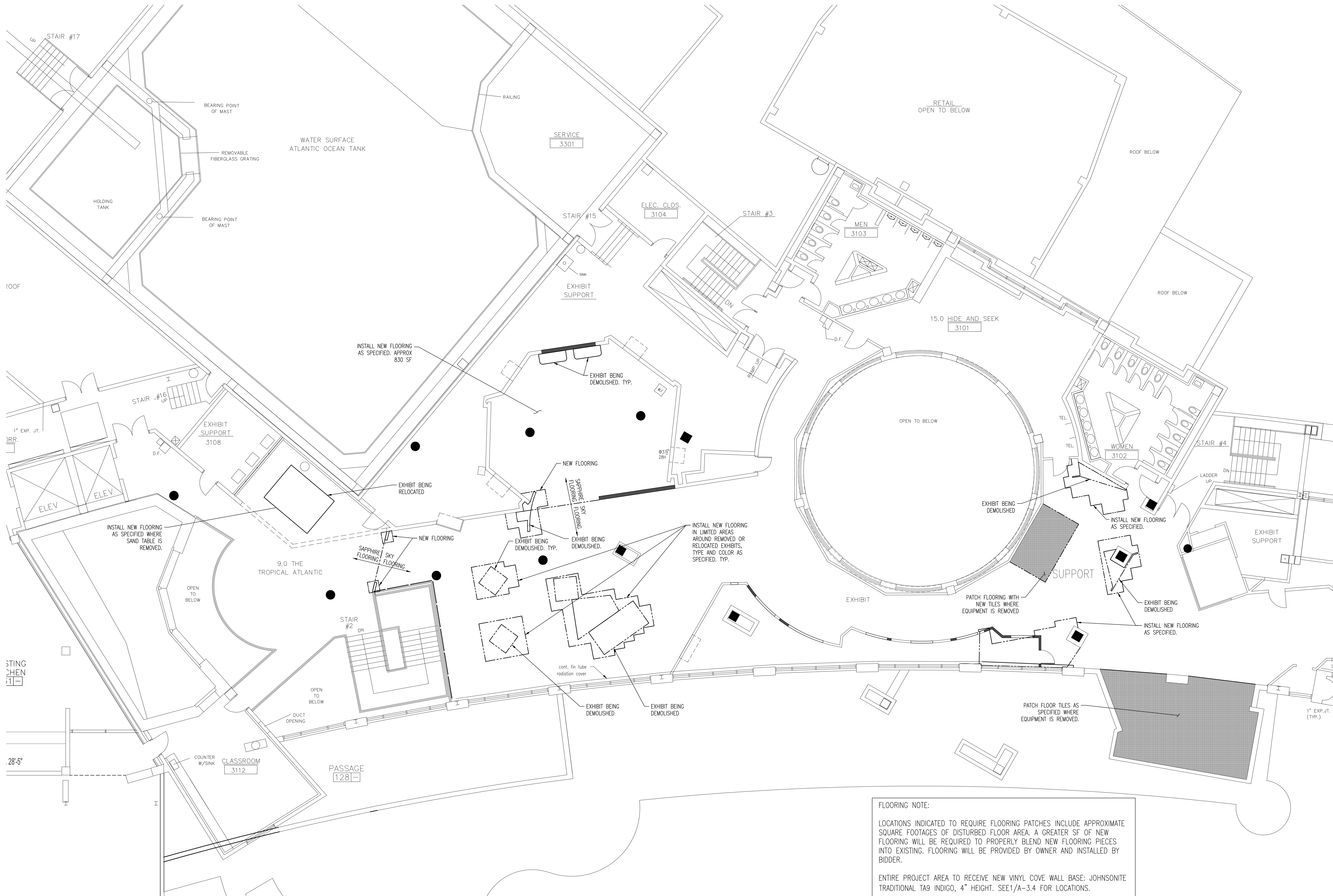
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4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
REFLECTED CEILING PLAN

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

A-3



FLOORING NOTE:

LOCATIONS INDICATED TO REQUIRE FLOORING PATCHES INCLUDE APPROXIMATE SQUARE FOOTAGES OF DISTURBED FLOOR AREA. A GREATER SF OF NEW FLOORING WILL BE REQUIRED TO PROPERLY BLEND NEW FLOORING PIECES INTO EXISTING. FLOORING WILL BE PROVIDED BY OWNER AND INSTALLED BY BIDDER.

ENTIRE PROJECT AREA TO RECEIVE NEW VINYL COVE WALL BASE: JOHNSONITE TRADITIONAL TA9 INDIGO, 4" HEIGHT. SEE 1/A-3.4 FOR LOCATIONS.

1 PROPOSED FLOORING PLAN
SCALE: 1/8" = 1'-0"

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NJ PROFESSIONAL ENGINEER No. GE 41507
NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

ADVENTURE AQUARIUM

KALEIDOSCOPE COVE EXHIBIT RENOVATIONS

1 RIVERSIDE DRIVE
CAMDEN, NEW JERSEY 08103
CAMDEN COUNTY, NEW JERSEY

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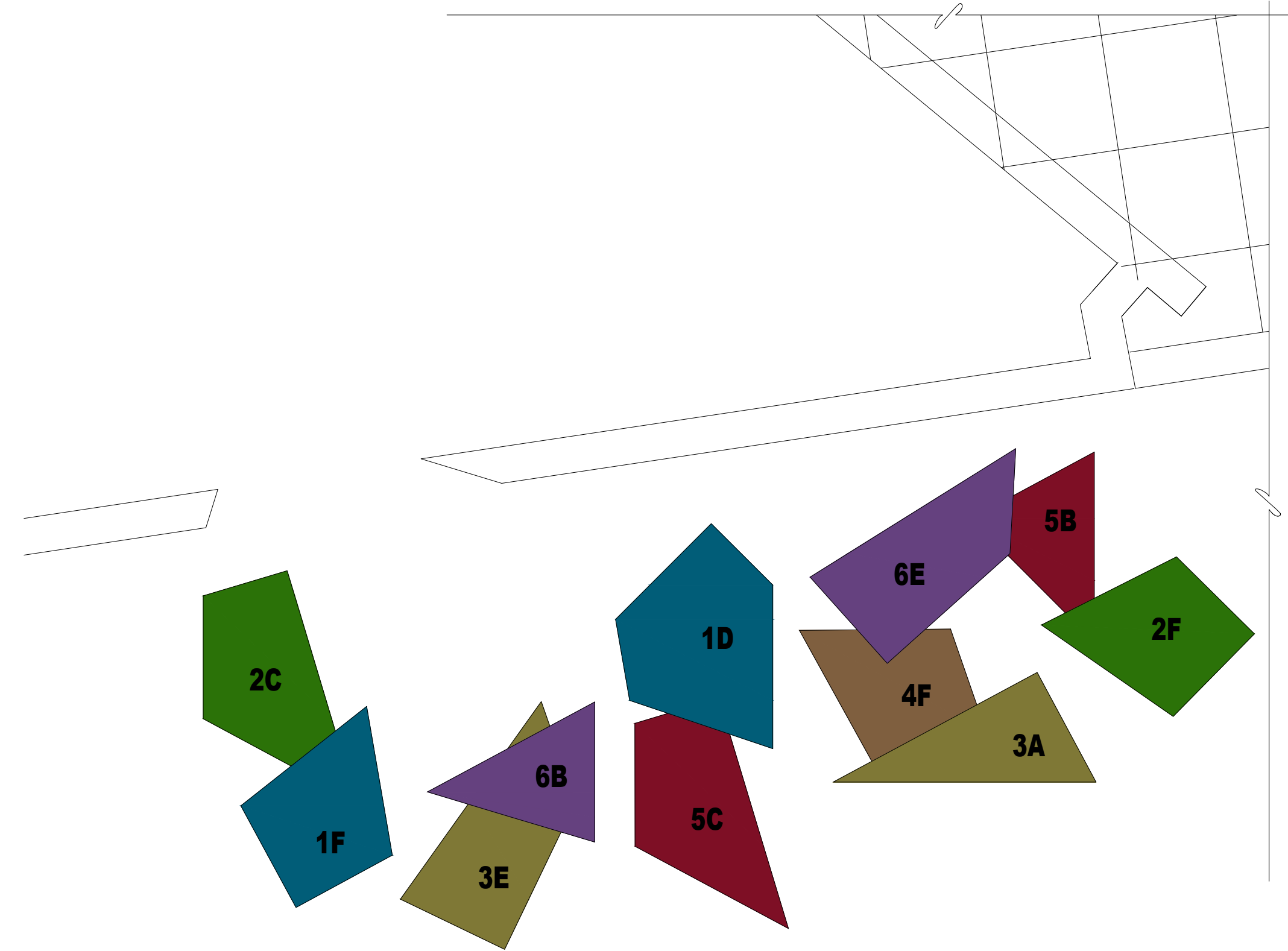
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NO.	DESCRIPTION	DATE
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3	100% DD SUBMISSION	10/1/24
4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

PROPOSED FLOORING PLAN

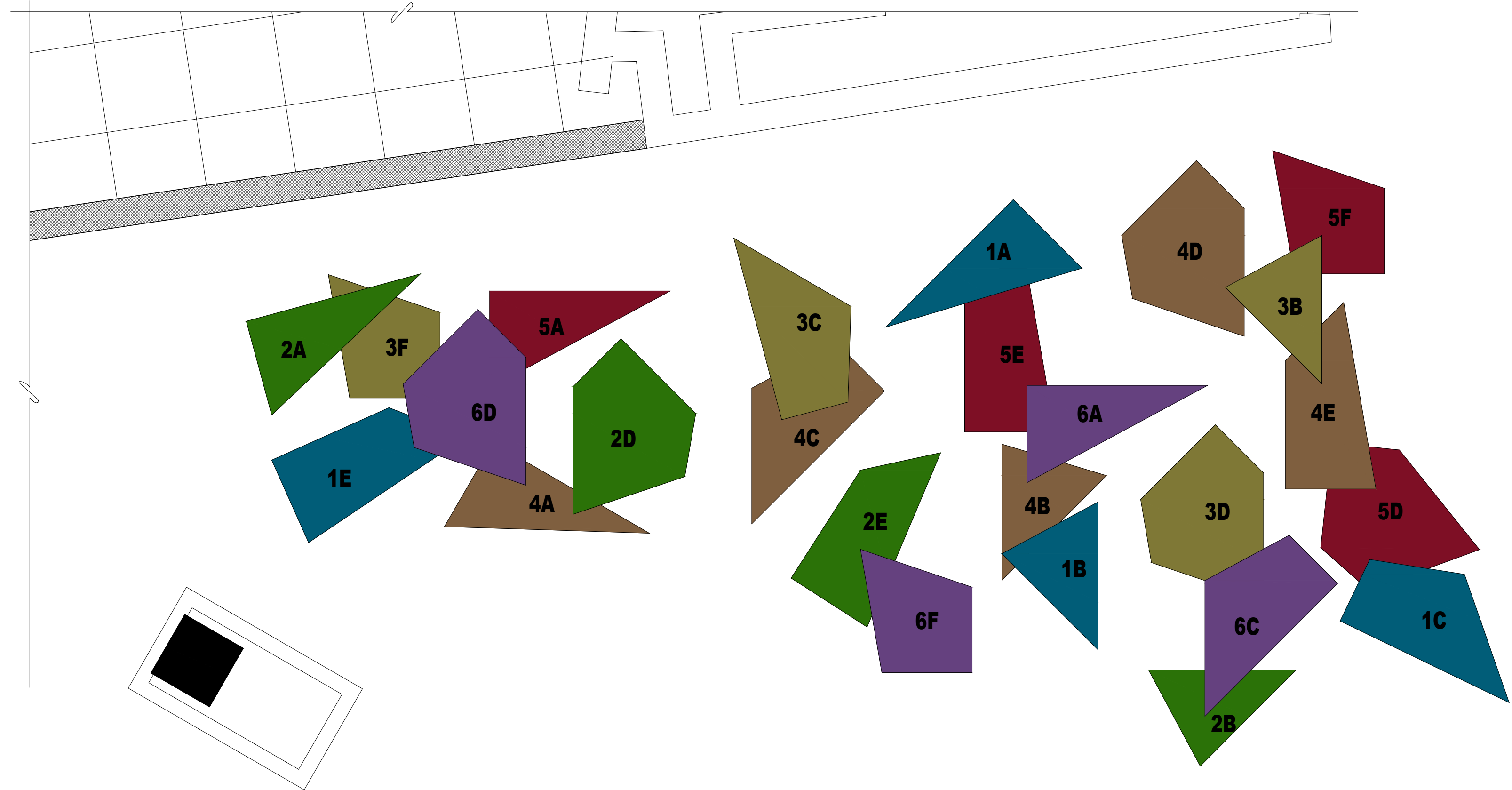
JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

A-3.1

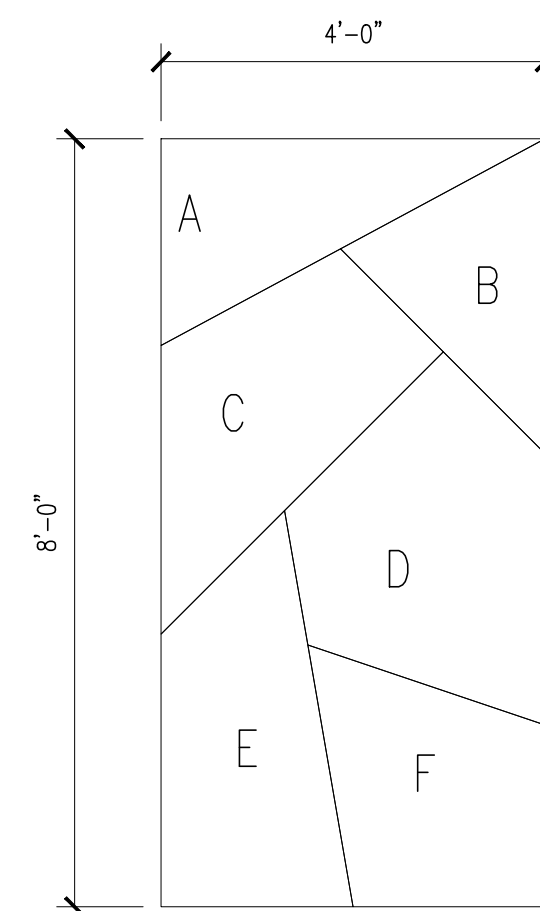


1 PROPOSED CEILING PLAN - LUMICOR CEILING PANELS
SCALE: 1/2" = 1'-0"



2 PROPOSED CEILING PLAN - LUMICOR CEILING PANELS
SCALE: 1/2" = 1'-0"

ALL NEW OVERHEAD ELEMENTS INCLUDING LIGHTING, POWER, SUPPORTS, CEILING PANELS, ETC. THAT ARE INSTALLED BY THE BIDDER MUST HAVE A MINIMUM OF THREE (3) SEPARATE POINTS OF CONTACT.



3 - LUMICOR CEILING PANELS
SCALE: 1/2" = 1'-0"

CEILING PANEL LEGEND	
COLOR DESIGNATION	MANUFACTURER'S COLOR
1	CALYPSO
2	CLOVER
3	SUNFLOWER
4	SUNSET
5	POMEGRANATE
6	AUBURGINE

PERFORMANCE CRITERIA:
UTILIZE ONE (1) 4X8 SHEET IN EACH OF THE SIX (6) LUMICOR COLORS SHOWN (CALYPSO, CLOVER, SUNFLOWER, SUNSET, POMEGRANATE, AND AUBURGINE). CUT EACH SHEET INTO THE SIX (6) SHAPES SHOWN ON THIS SHEET, WHICH WILL RESULT IN THIRTY-SIX (36) TOTAL CEILING PANELS. PREPARE EACH OF THE THIRTY-SIX (36) PANELS WITH HANGING HARDWARE IN AT LEAST THREE (3) POINTS OF CONTACT PER PANEL TO ALLOW FOR EACH TO BE HUNG INDEPENDENTLY AT DIFFERENT ANGLES & HEIGHTS, WITH SOME OVERLAP TO ALLOW FOR LIGHT & COLOR TRANSFERENCE BETWEEN THEM.

NOTE:
GC TO INSTALL UNISTRUT ABOVE THE HANGING PANEL SYSTEM TO PROVIDE STURDY CONNECTION POINTS. NOTE THAT THE LAYOUTS SHOWN ARE PROVIDED FOR DESIGN INTENT WITH THE FINAL LAYOUT TO BE ART-DIRECTED IN THE FIELD IN COORDINATION WITH OWNER. FINAL PANEL INSTALL WILL BE ANGLED, HUNG AT VARIOUS HEIGHTS AND MANEUVERED AS REQUIRED TO AVOID SPRINKLER SYSTEM.

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NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE EXHIBIT RENOVATIONS
1 RIVERSIDE DRIVE
CAMDEN, NEW JERSEY 08103
CAMDEN COUNTY, NEW JERSEY

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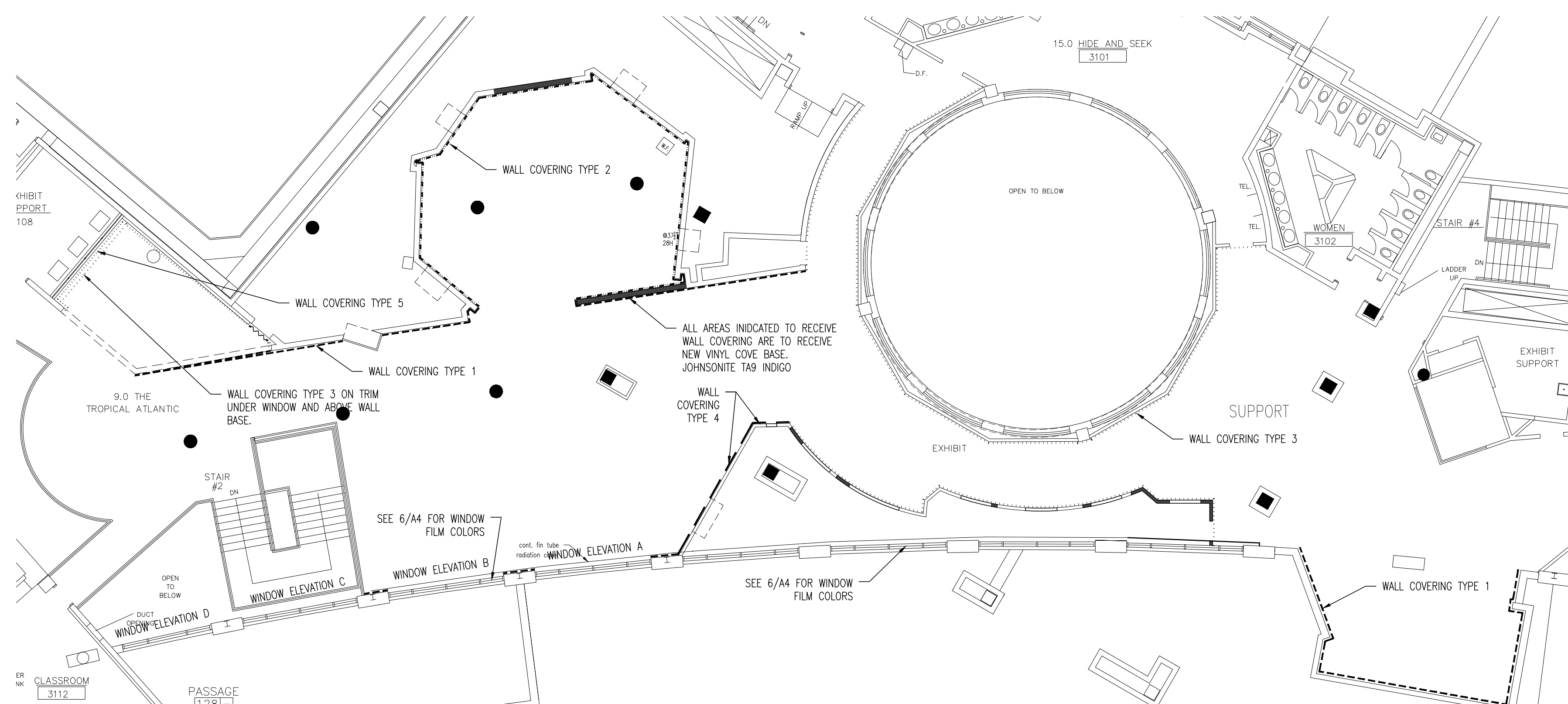
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NO.	DESCRIPTION	DATE
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3	100% DD SUBMISSION	10/1/24
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5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
REFLECTED CEILING PLAN - LUMICOR PANELS

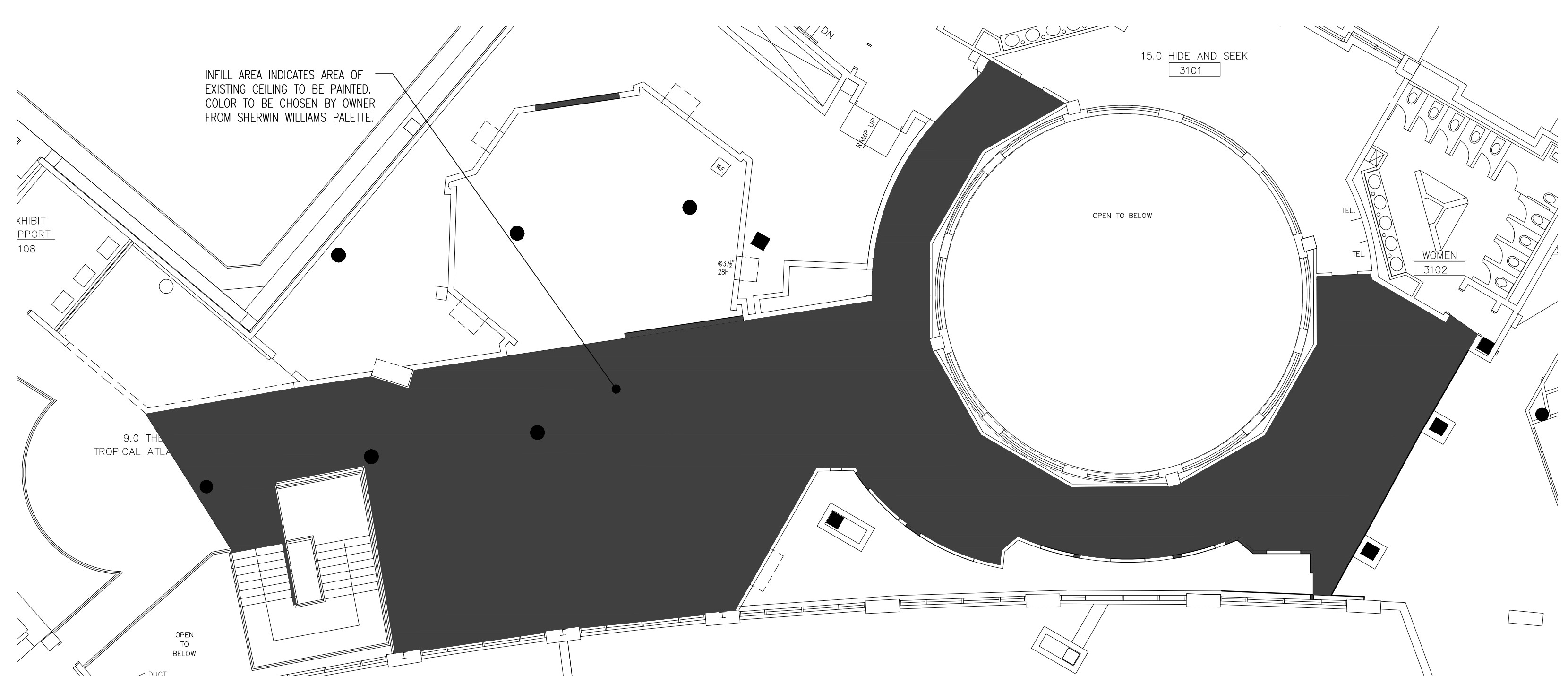
JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

A-3.3



1 PLAN - WALL PAINT
SCALE: 1/8" = 1'-0"

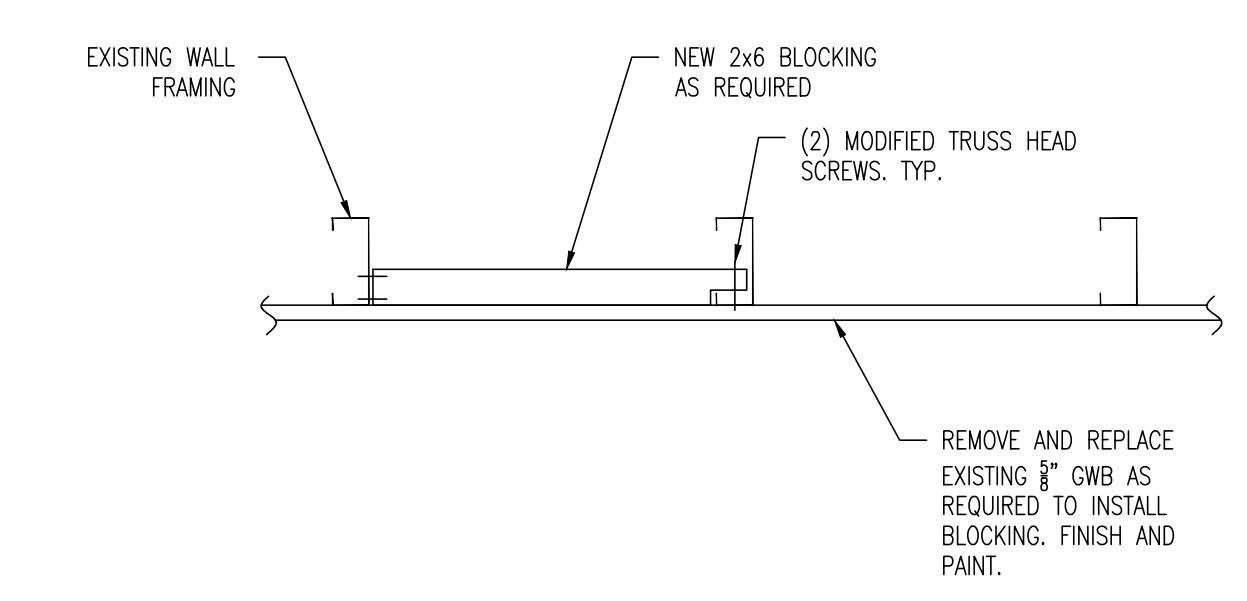


2 PLAN - CEILING PAINT
SCALE: 1/8" = 1'-0"

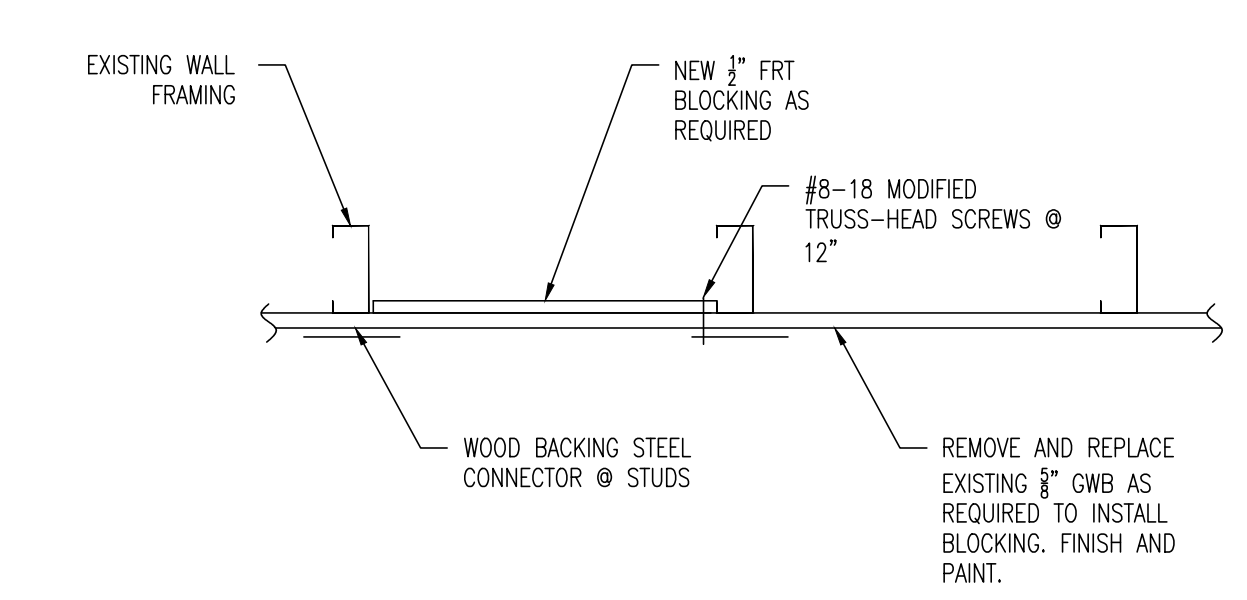
WALL COVERING SCHEDULE		
TYPE	DESIGNATION	WALL COVERING
1	---	PAINT: SHERWIN WILLIAMS SW 7005 Pure White
2	---	PAINT: SHERWIN WILLIAMS SW 6839 Kimono Violet
3	PAINT: SHERWIN WILLIAMS SW 7083 Darkroom
4	---	WALL COVERING: CARNEGIE XOREL FORGE COUTURE 6099W 608
5	WALL COVERING: SHERWIN WILLIAMS SW 6782 Cruising
6	~~~~~	DOOR PAINT: SHERWIN WILLIAMS SW 6902 Decisive Yellow

NOTES:
 PAINT AND WALL COVERINGS TO EXTENT FROM FLOOR TO TOP OF WALL, OR TO 12' AFF IF SURFACE EXTENDS BEYOND 12'.
 WALL PAINT FINISH: EGGSHELL
 TRIM PAINT FINISH: SEMI-GLOSS.
 PAINTED DOORS AND TRIM TO MATCH ADJACENT WALL UNLESS NOTED OTHERWISE.
 PAINT AND WALL COVERINGS TO CONTINUE ABOVE AND BELOW GLAZING SYSTEMS.

CEILING PAINTING NOTE:
 WITHIN SHADED AREA, DO NOT PAINT EXISTING SUSPENDED CEILING GRID OR TILES. PAINT EXPOSED DUCT WORK, CONDUIT, PLUMBING PIPING, CONCRETE FLOOR/CEILING STRUCTURE, GWB CEILING SOFFITS.



3 DETAIL - 2x BLOCKING
SCALE: 1 1/2" = 1'-0"



4 DETAIL - PLYWOOD BLOCKING
SCALE: 1 1/2" = 1'-0"

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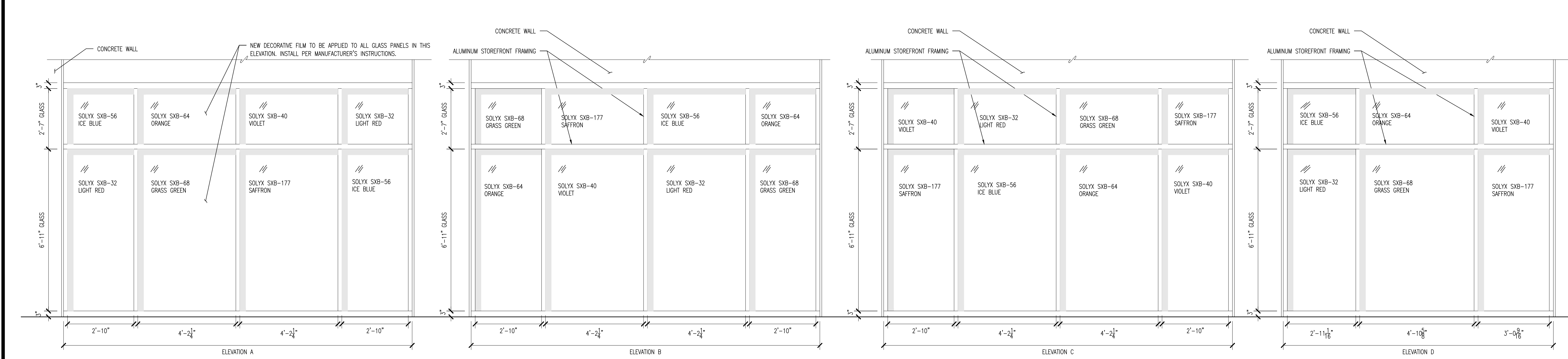
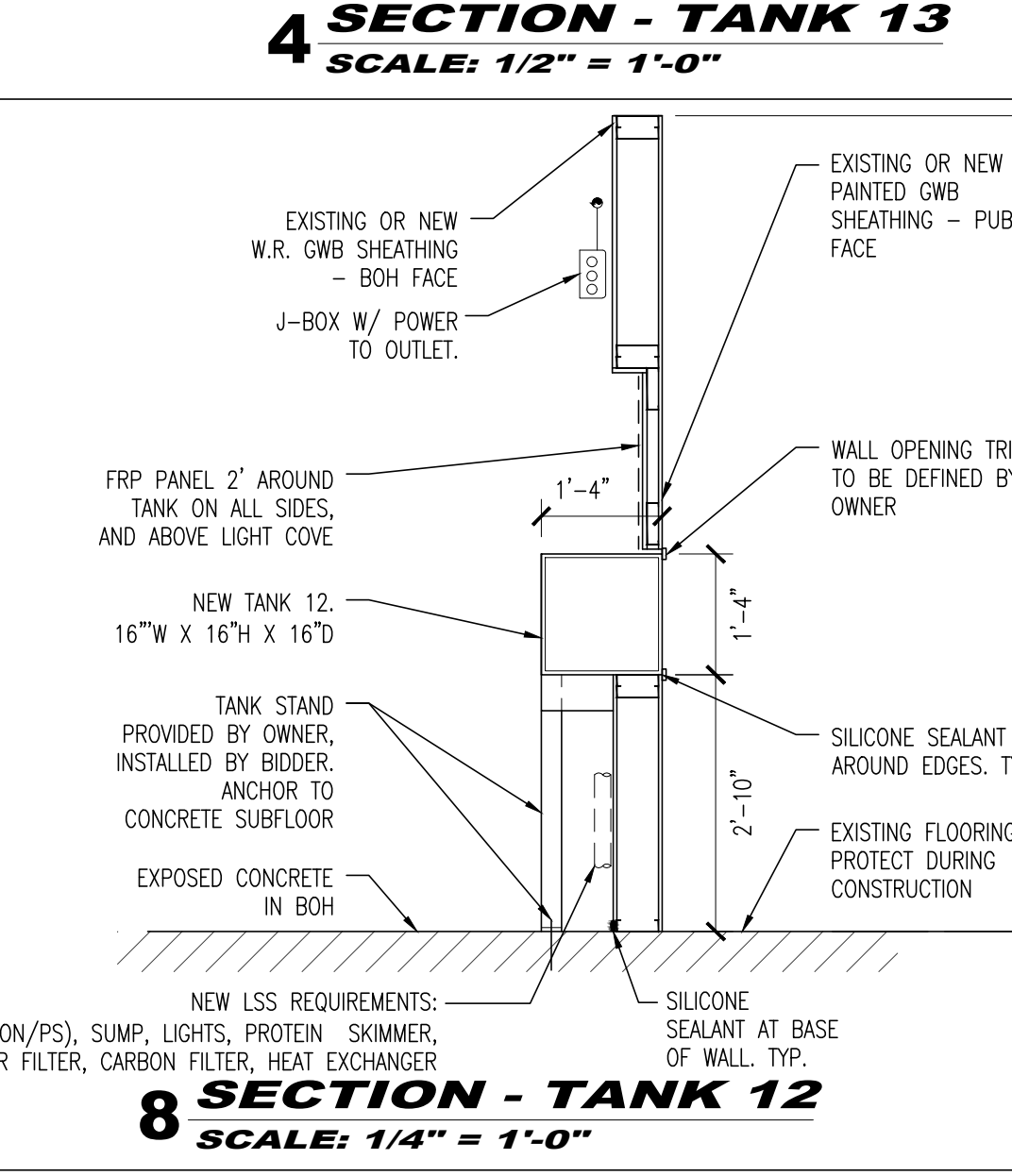
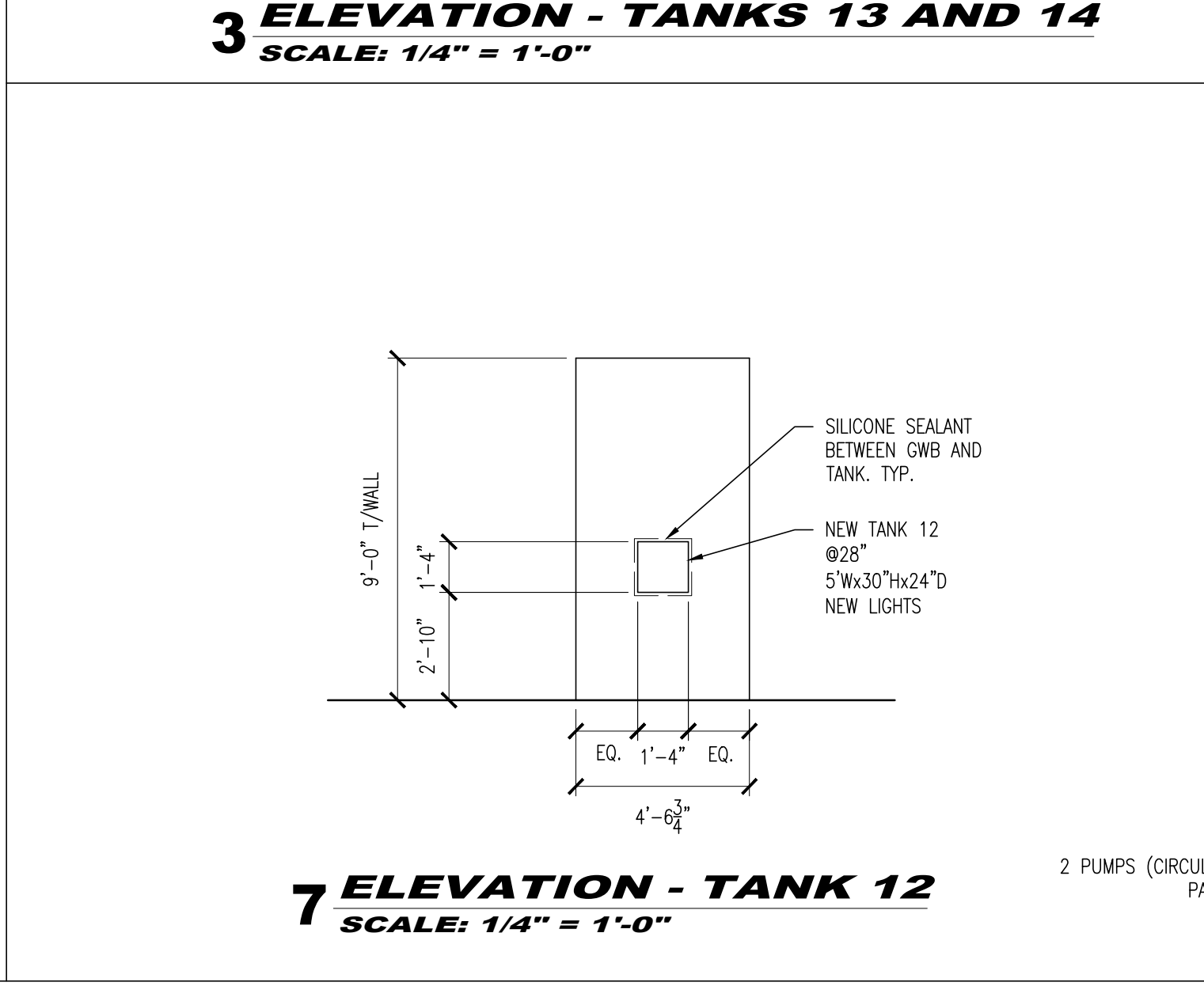
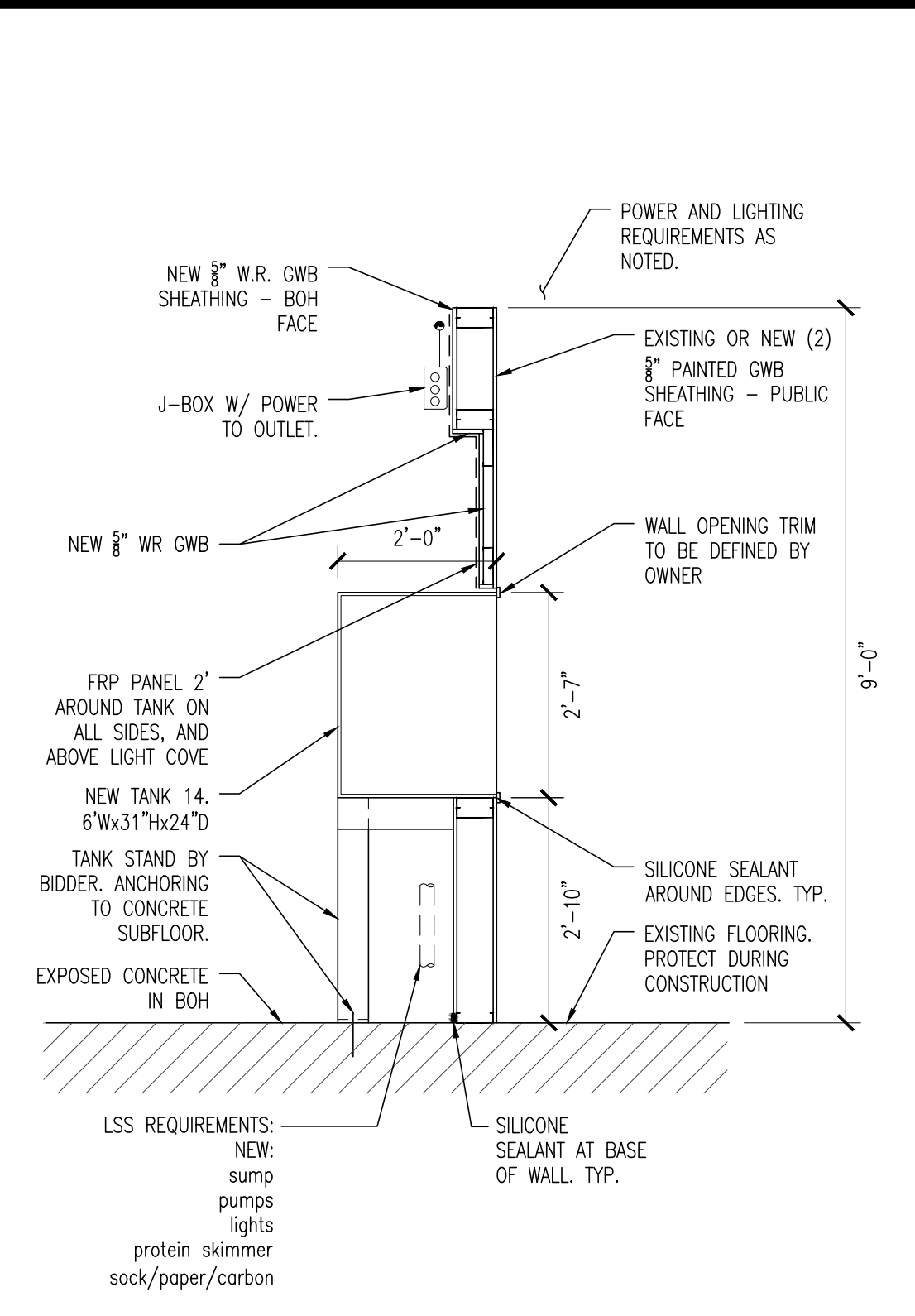
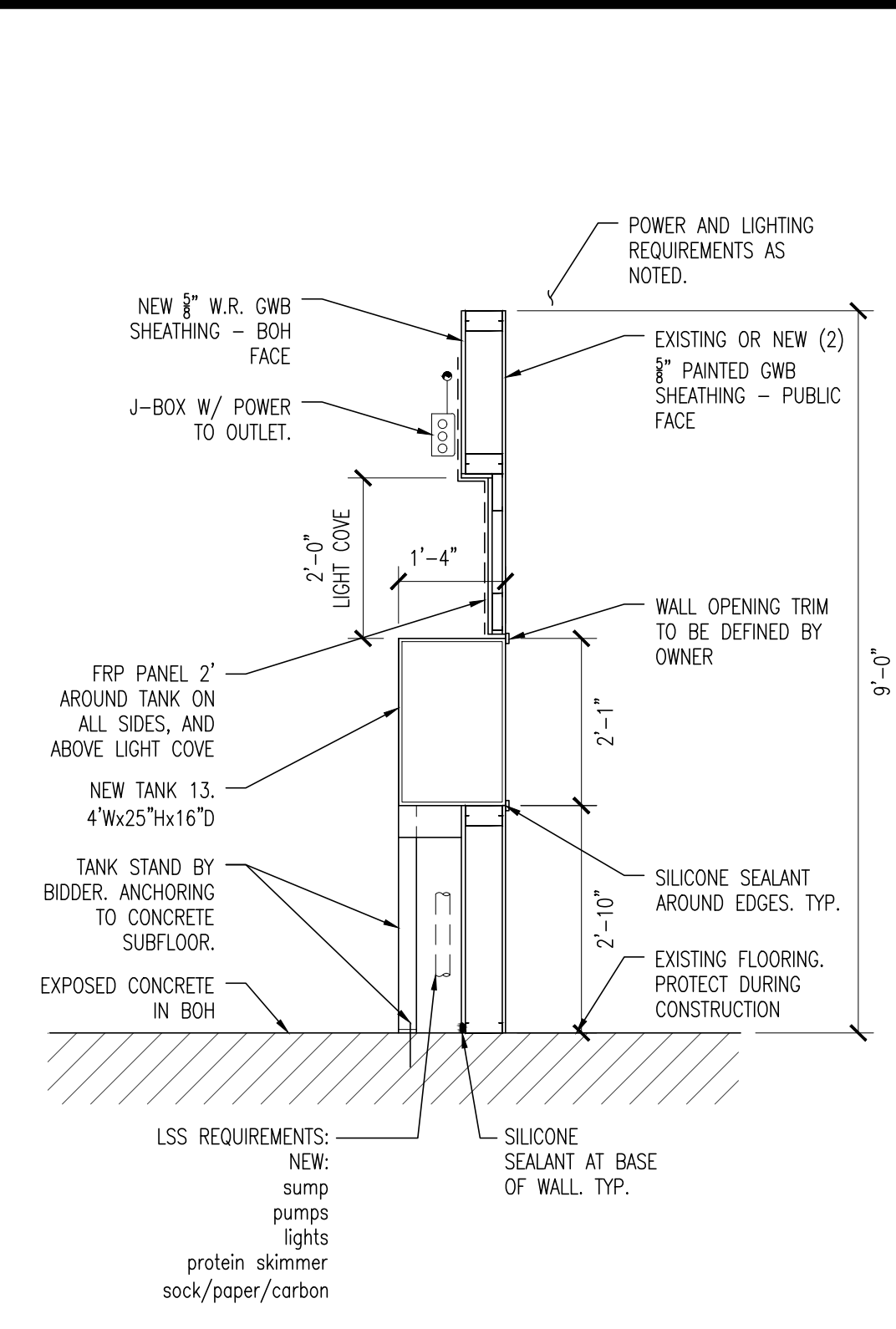
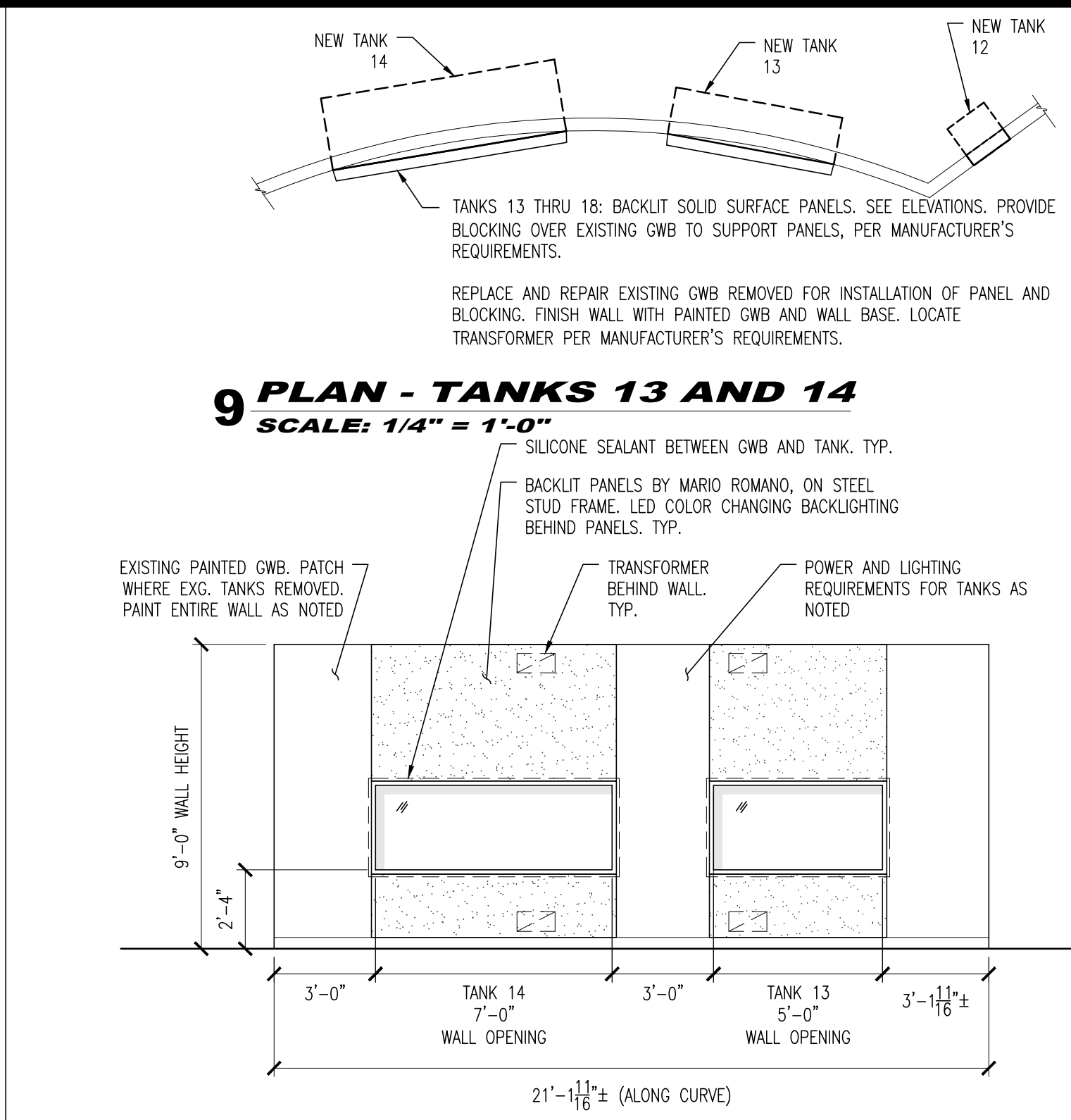
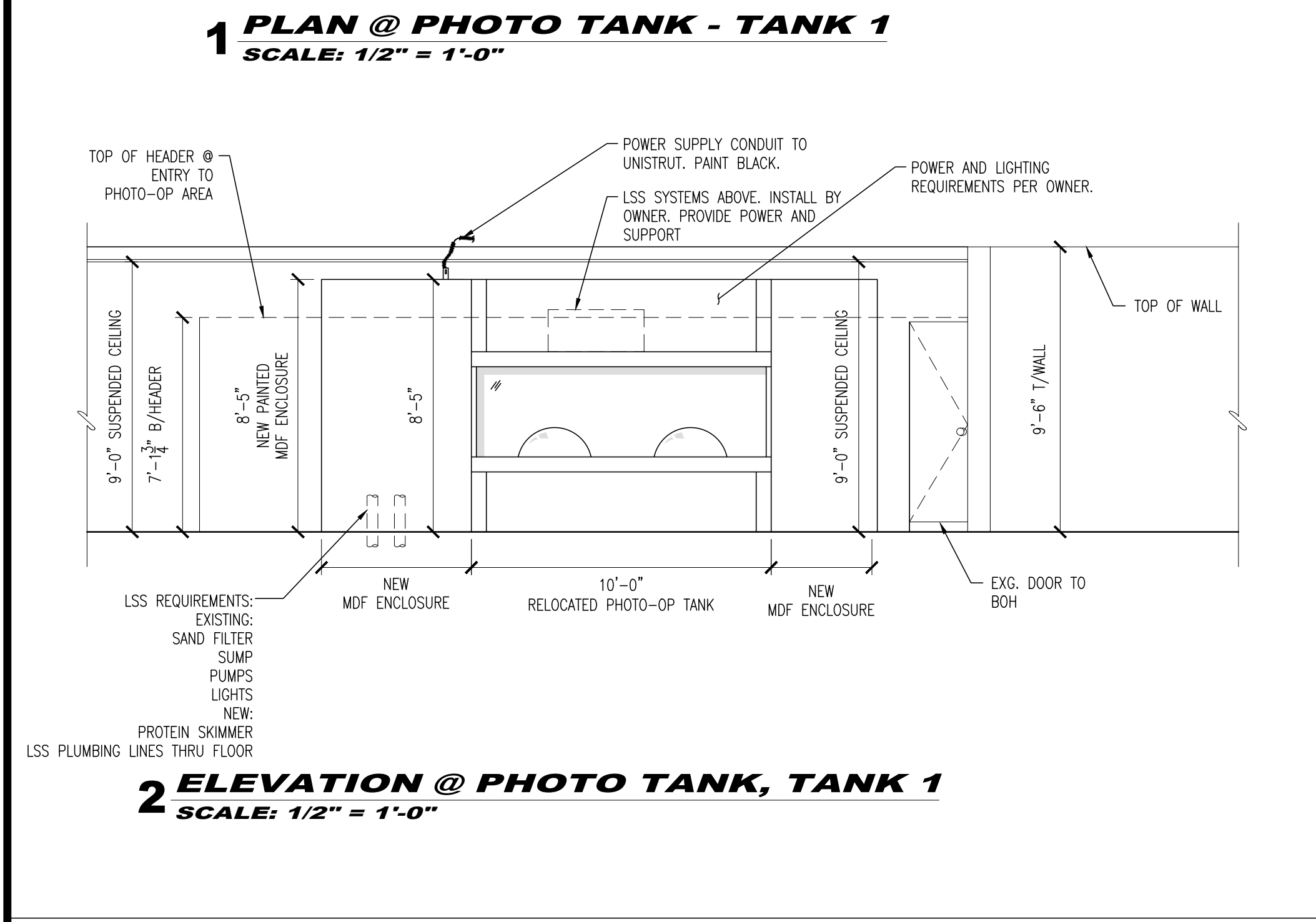
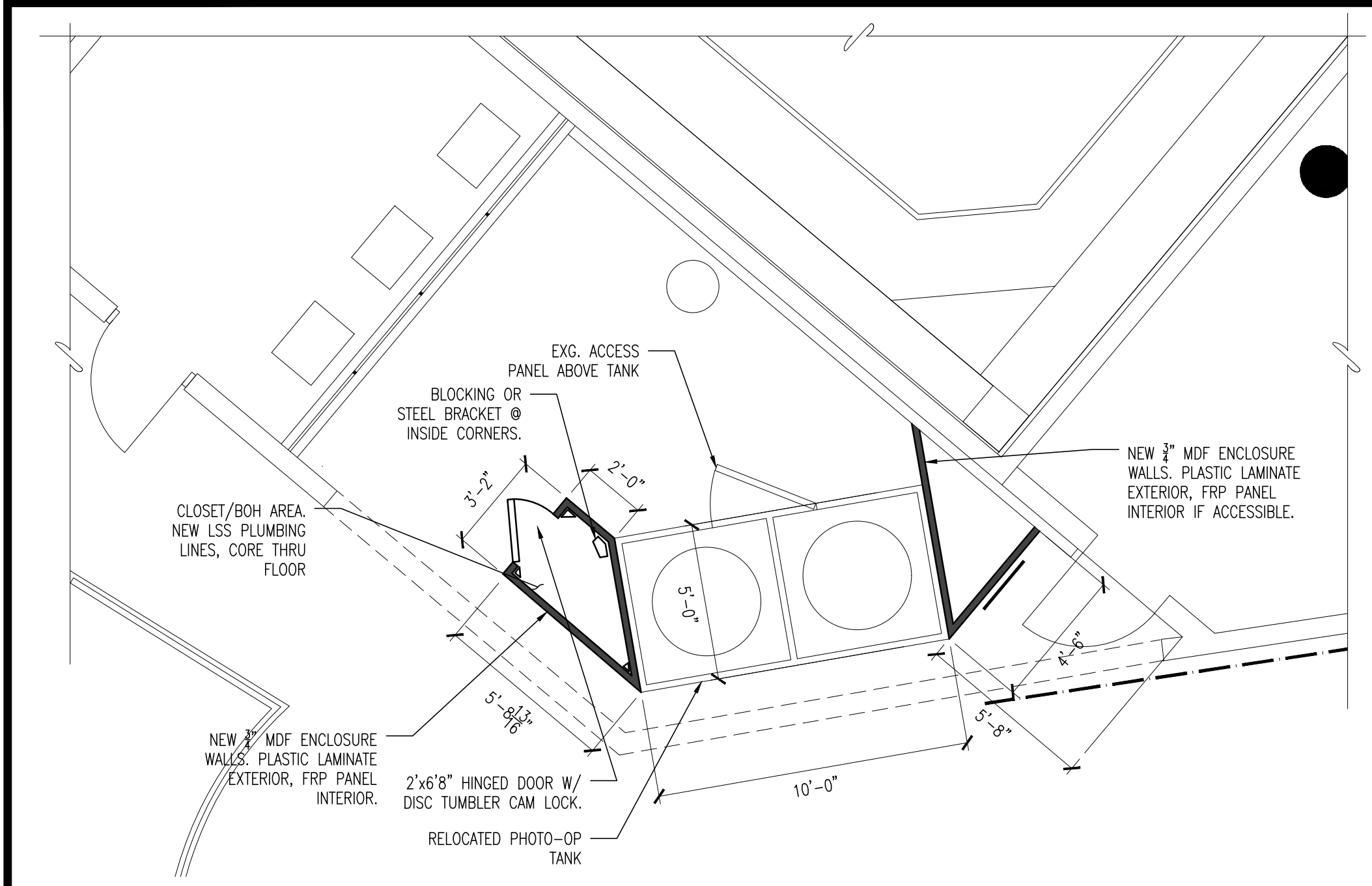
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4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
WALL AND CEILING PAINT PLANS

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:
A-3.4



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ADVENTURE AQUARIUM

**KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS**

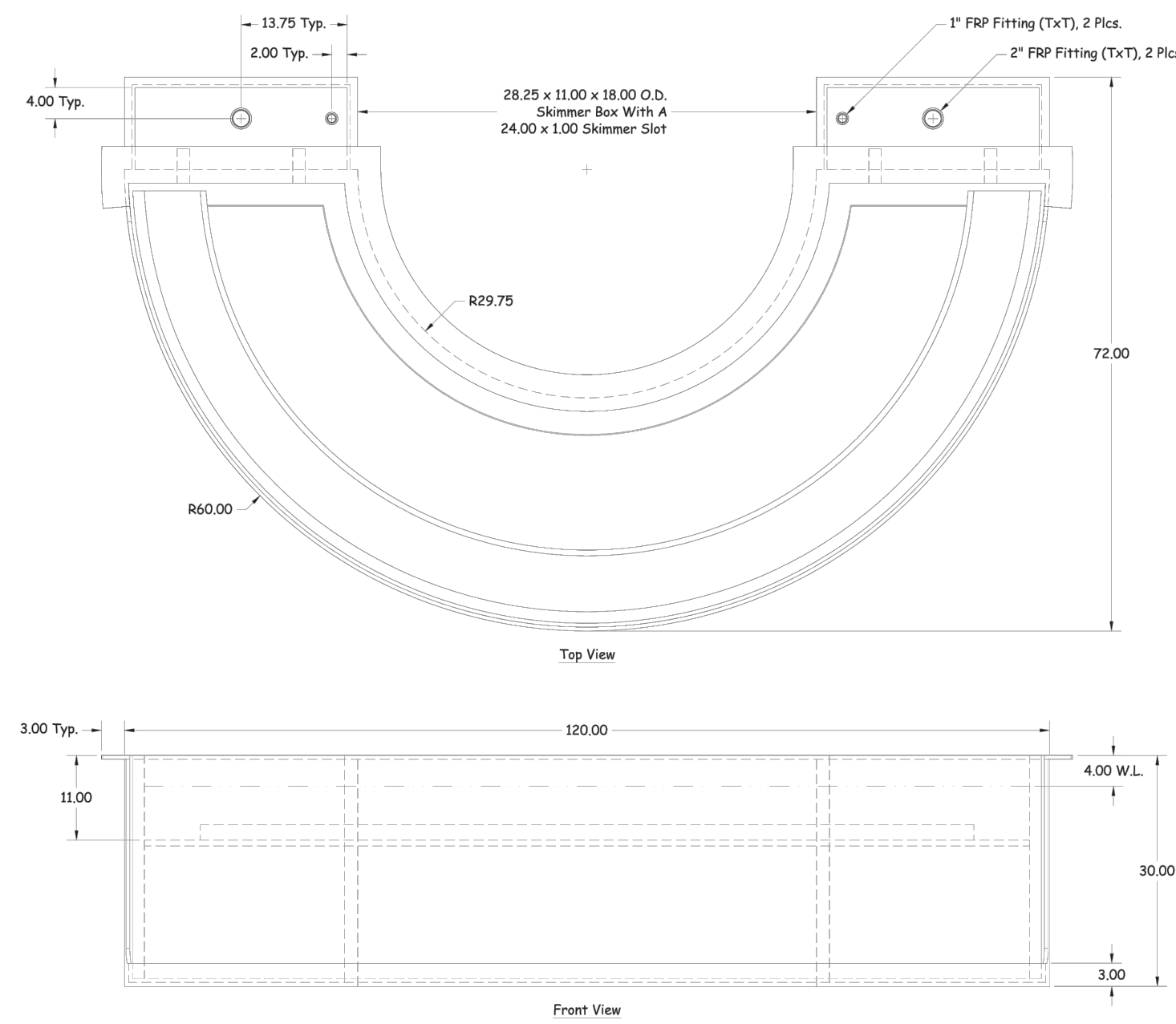
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CAMDEN COUNTY, NEW JERSEY

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6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
EXHIBIT DETAILS

JOB NO: 2856-03
DESIGNED BY: AAW
DATE: -
DRAWN BY: AAW
SCALE: AS NOTED
CHECKED BY: SMB / BMG / RH
DRAWING NUMBER:



waterdog
 1148 Pioneer Way
 El Cajon, California 92020
 Phone: (619) 441-9488
 Fax: (619) 441-1923
 Email: info@waterdogproducts.com
 Web: www.waterdogproducts.com

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 (insert date into block)

Drawing Status
For Approval

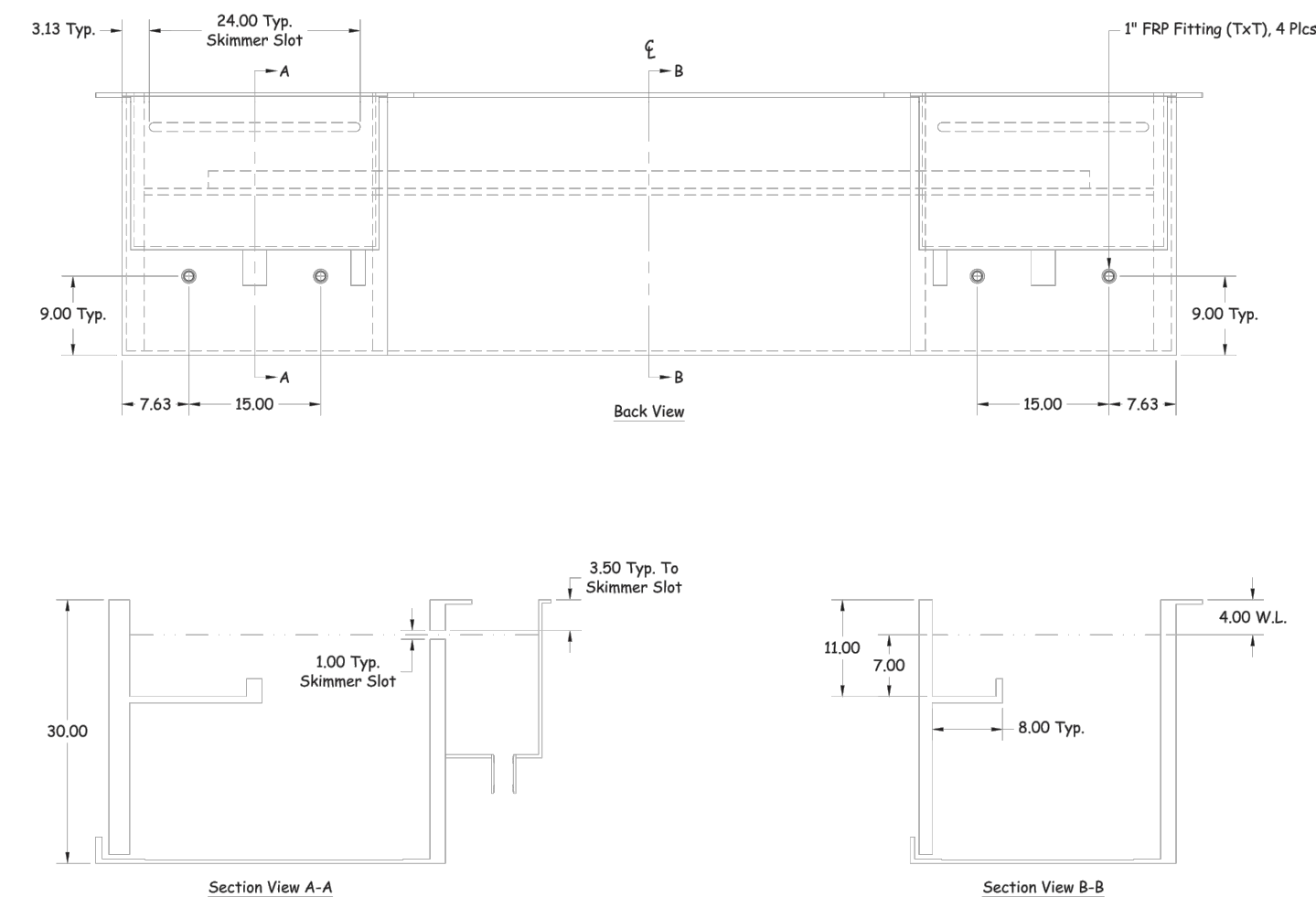
Client/Project/Location
**Adventure Aquarium
 Camden, New Jersey**

Project Number 1586
 Date 09-25-2024
 Scale 1:10
 Drawn K.K.
 Checked
 Approved

Drawing Name
Touch Tank Overview

Drawing Number 5846-01

5. Fillets and rounds on all corners determined by FRP manufacturer
 4. Gel coat color: Interior - Black, Exterior - White
 3. Unless otherwise specified all exterior tolerances are ±0.25 per side
 2. Tanks/skimmers are constructed from molds based on the interior dimensions
 1. Approximate volume - 445 Gallons; Approximate weight (w/water) - 4,470 Pounds; Approximate weight (w/o water) - 650 Pounds
- Notes:



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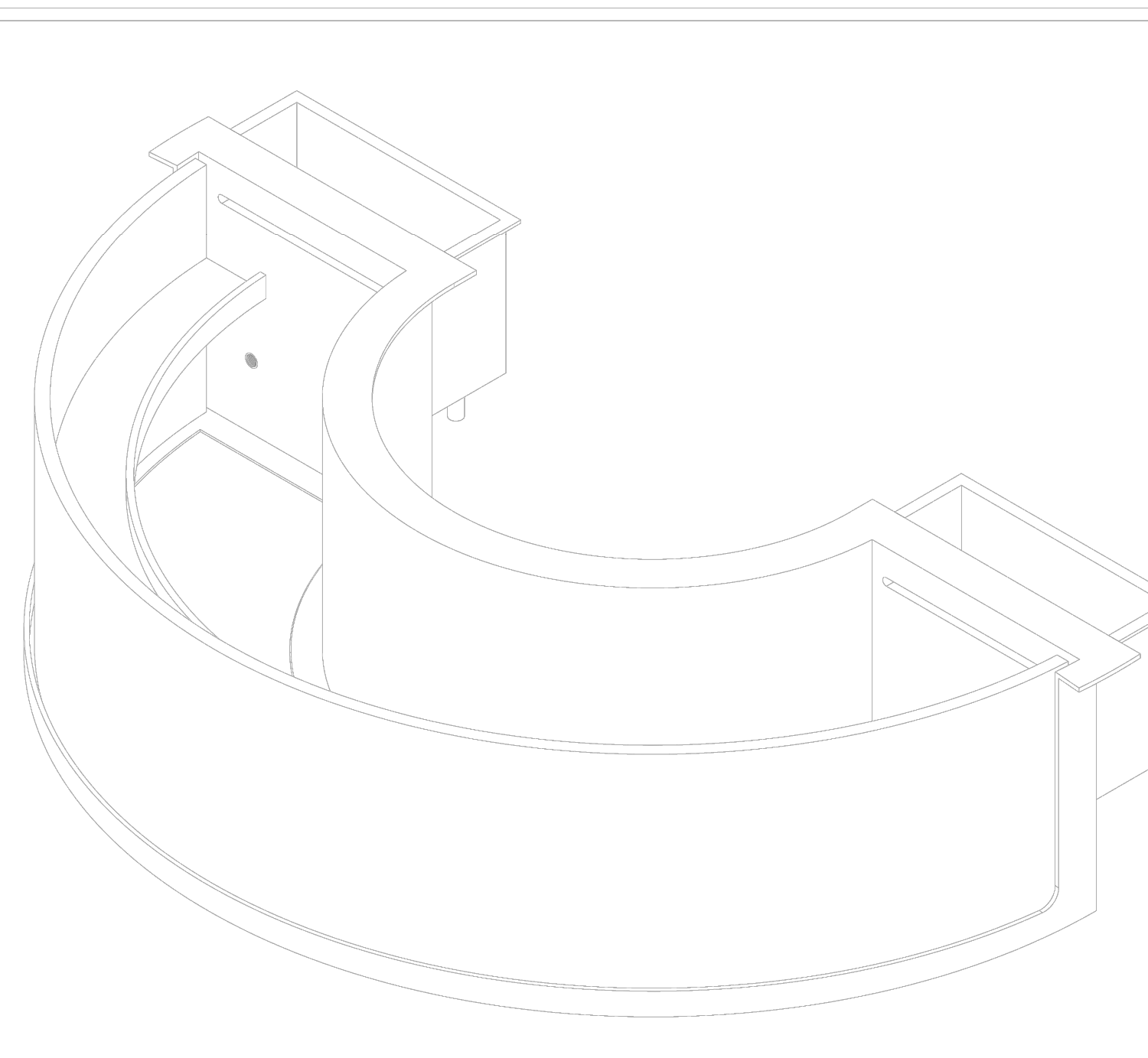
Client/Project/Location
**Adventure Aquarium
 Camden, New Jersey**

Project Number 1586
 Date 09-25-2024
 Scale 1:10
 Drawn K.K.
 Checked
 Approved

Drawing Name
Touch Tank Back & Section Views

Drawing Number 5846-02

5. Fillets and rounds on all corners determined by FRP manufacturer
 4. Gel coat color: Interior - Black, Exterior - White
 3. Unless otherwise specified all exterior tolerances are ±0.25 per side
 2. Tanks/skimmers are constructed from molds based on the interior dimensions
 1. Approximate volume - 445 Gallons; Approximate weight (w/water) - 4,470 Pounds; Approximate weight (w/o water) - 650 Pounds
- Notes:



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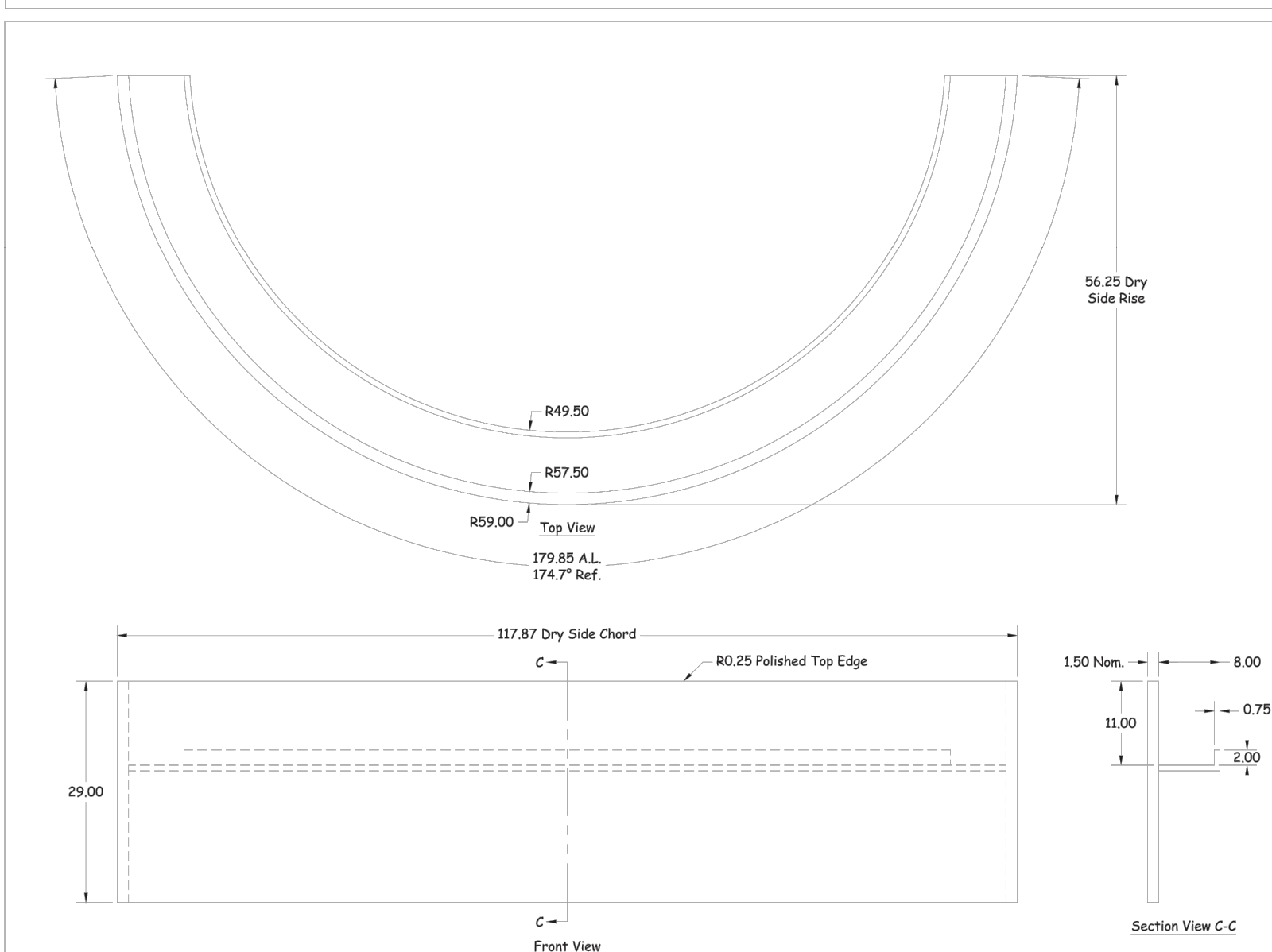
Drawing Status
For Approval

Client/Project/Location
**Adventure Aquarium
 Camden, New Jersey**

Project Number 1586
 Date 09-25-2024
 Scale None
 Drawn K.K.
 Checked
 Approved

Drawing Name
Touch Tank Isometric

Drawing Number 5846-03



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 El Cajon, California 92020
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Drawing Status
For Approval

Client/Project/Location
**Adventure Aquarium
 Camden, New Jersey**

Project Number 1586
 Date 09-25-2024
 Scale 1:10
 Drawn K.K.
 Checked
 Approved

Drawing Name
Touch Tank Acrylic Window

Drawing Number 5846-04

9. Owner to be responsible to provide complete access to silicone seal between structural FRP and acrylic panel if leak develops during warranty period. Owner to be responsible for removal and replacement of additional surface finishes and cosmetic seal if warranty work is required. Waterdog uses Dow Corning 795 Silicone (black) for all seals
 8. Setting blocks - 0.50; Nagspore - 0.50
 7. Unless otherwise specified all tolerances are ±0.25
 6. Horizontal view - 175.85 A.L.; Vertical view - 27.00
 5. Water depth above top of dry side sill - 23.00
 4. Sand all non-bonded edges and chamfers with 80 grit sand paper
 3. Recommended bearing surface - 2.00
 2. Nominal panel weight - 375 Pounds
 1. Break all non-bonded edges with a 0.25 chamfer, except for a R0.25 polished top edge
- Notes:

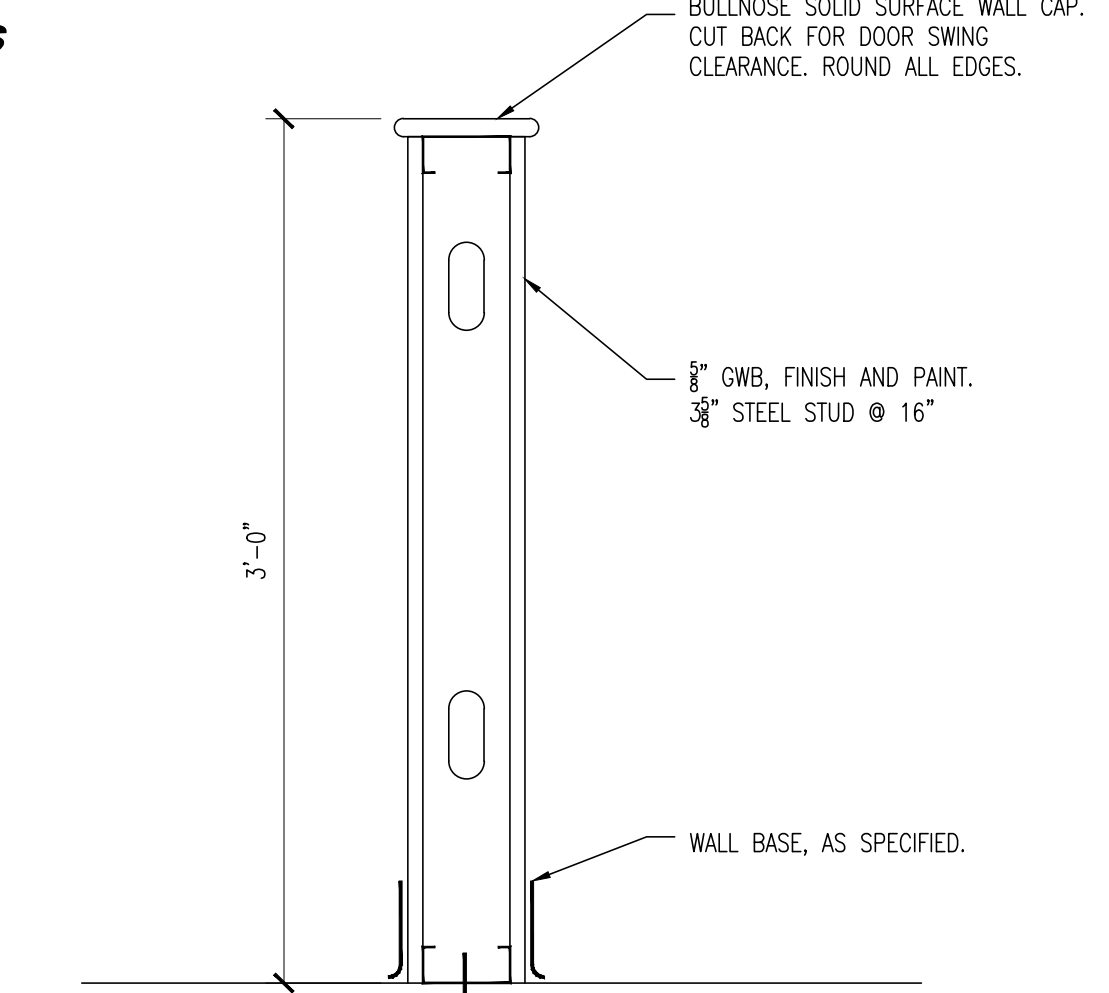
1 TOUCH TANK - PLANS AND DETAILS
 SCALE: NTS

NOTE: TOUCH TANK SCHEMATIC DRAWINGS 5846-01, 5846-02, 5846-03, AND 5846-04 ON THIS PAGE HAVE BEEN PREPARED BY OTHERS AND PROVIDED BY THE OWNER. OWNER WILL PROVIDE TANK AND ACCESSORIES AS NOTED IN THESE DETAILS. BIDDER RESPONSIBLE FOR INSTALLATION AND ALL CONNECTIONS INCLUDING ELECTRICAL AND PLUMBING. BIDDER RESPONSIBLE FOR CONFIRMING ALL INSTALLATION DETAILS WITH MANUFACTURER PRIOR TO INSTALLATION.

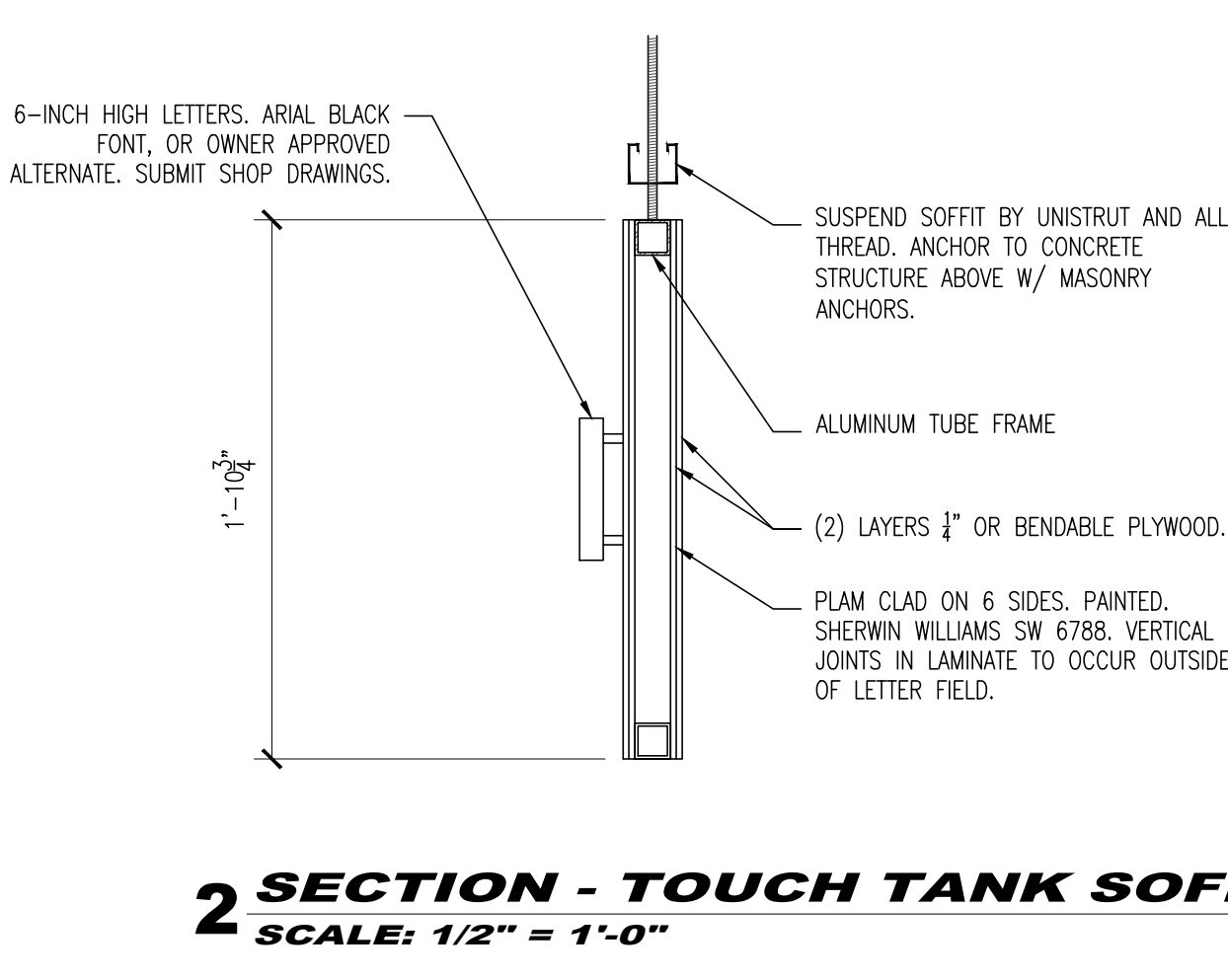
EXISTING LSS TO BE RELOCATED AND INSTALLED BY BIDDER:
 Coral Clusters filtration;
 sump;
 heat exchanger;
 pumps;
 protein skimmer;
 paper/carbon cartridge.

NEW LSS TO BE INSTALLED BY BIDDER:
 UV;
 lights;
 circulation pumps;
 wave makers.

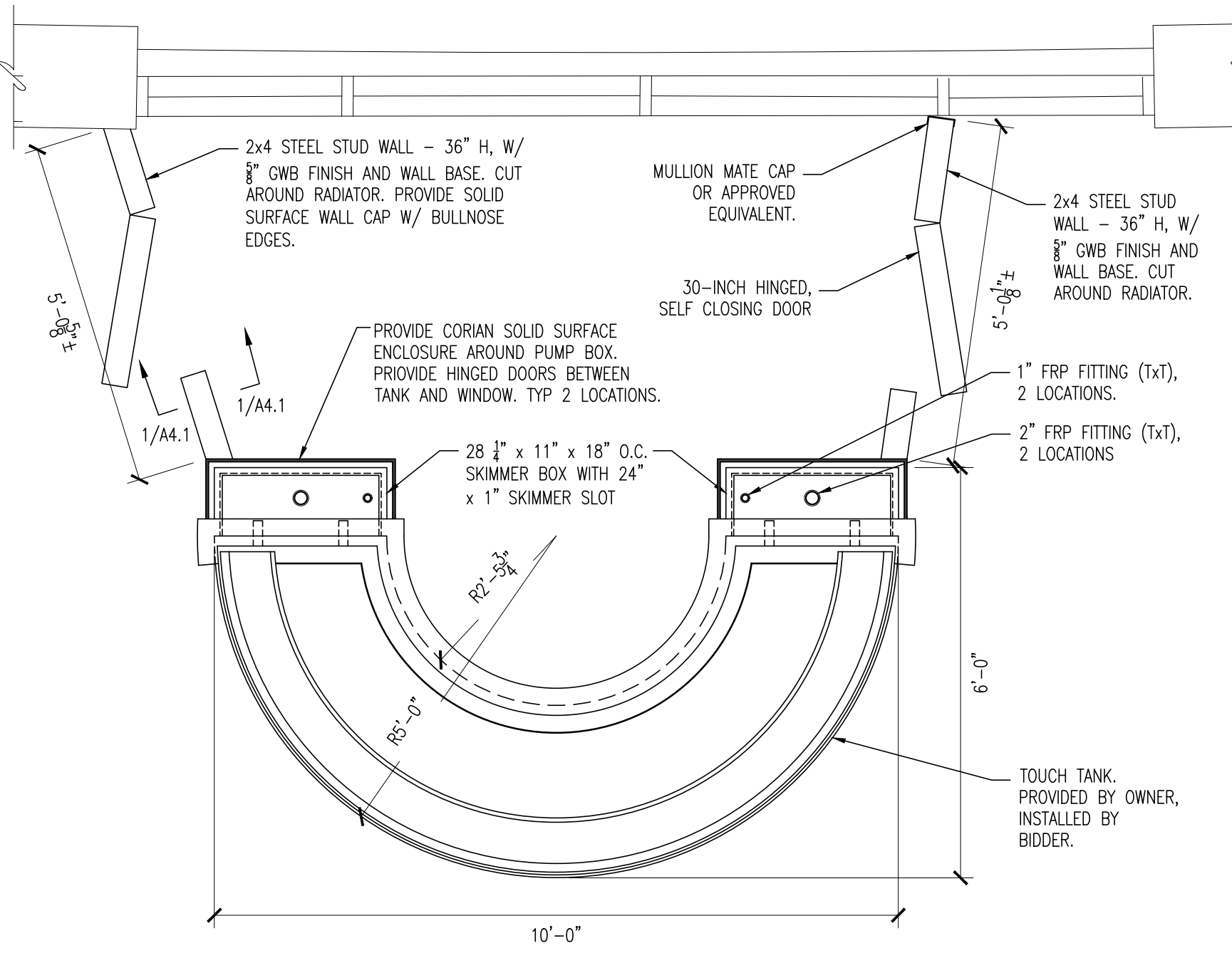
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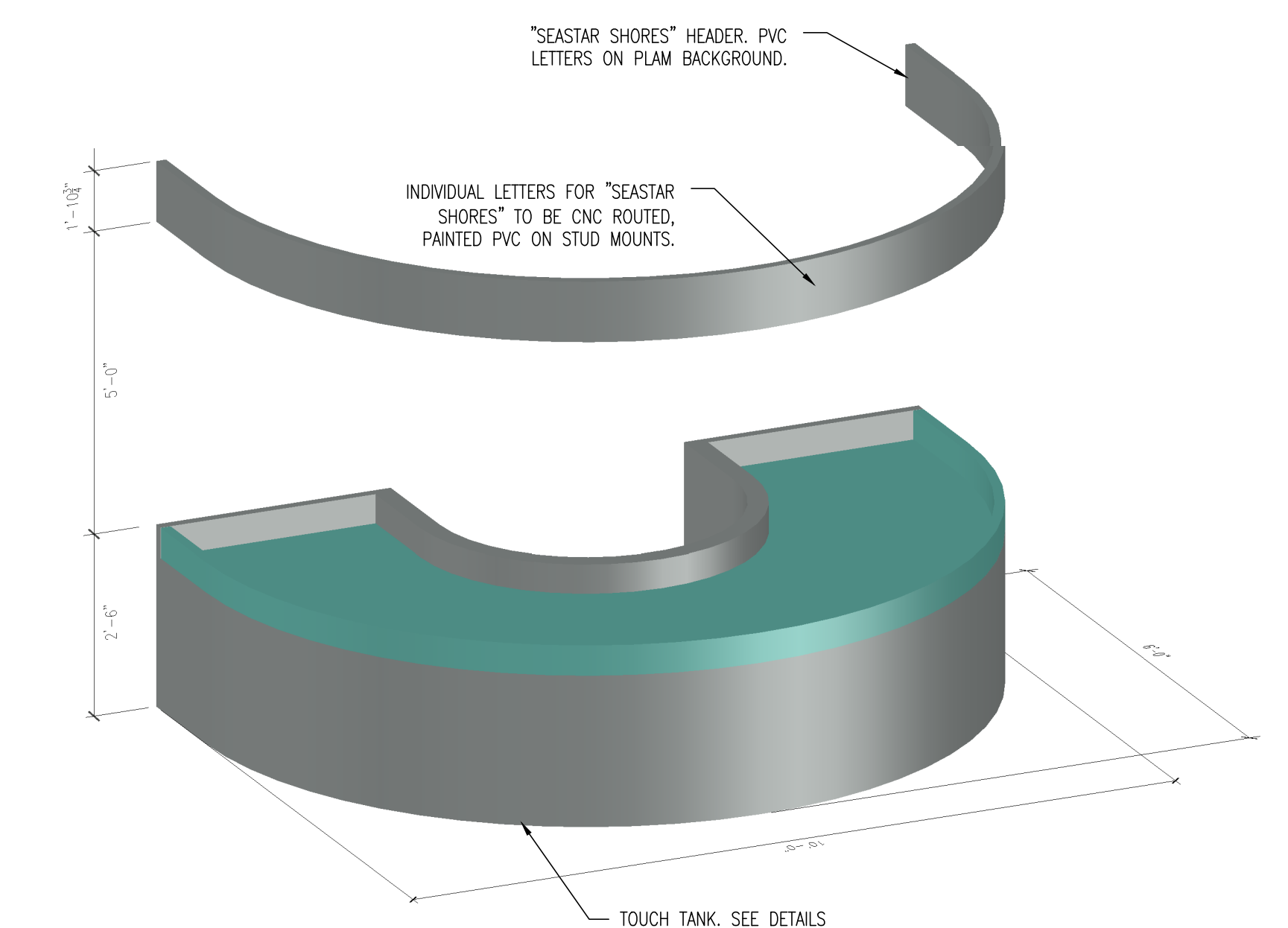
6 SECTION - HALF-HEIGHT WALL
 SCALE: 1/2" = 1'-0"



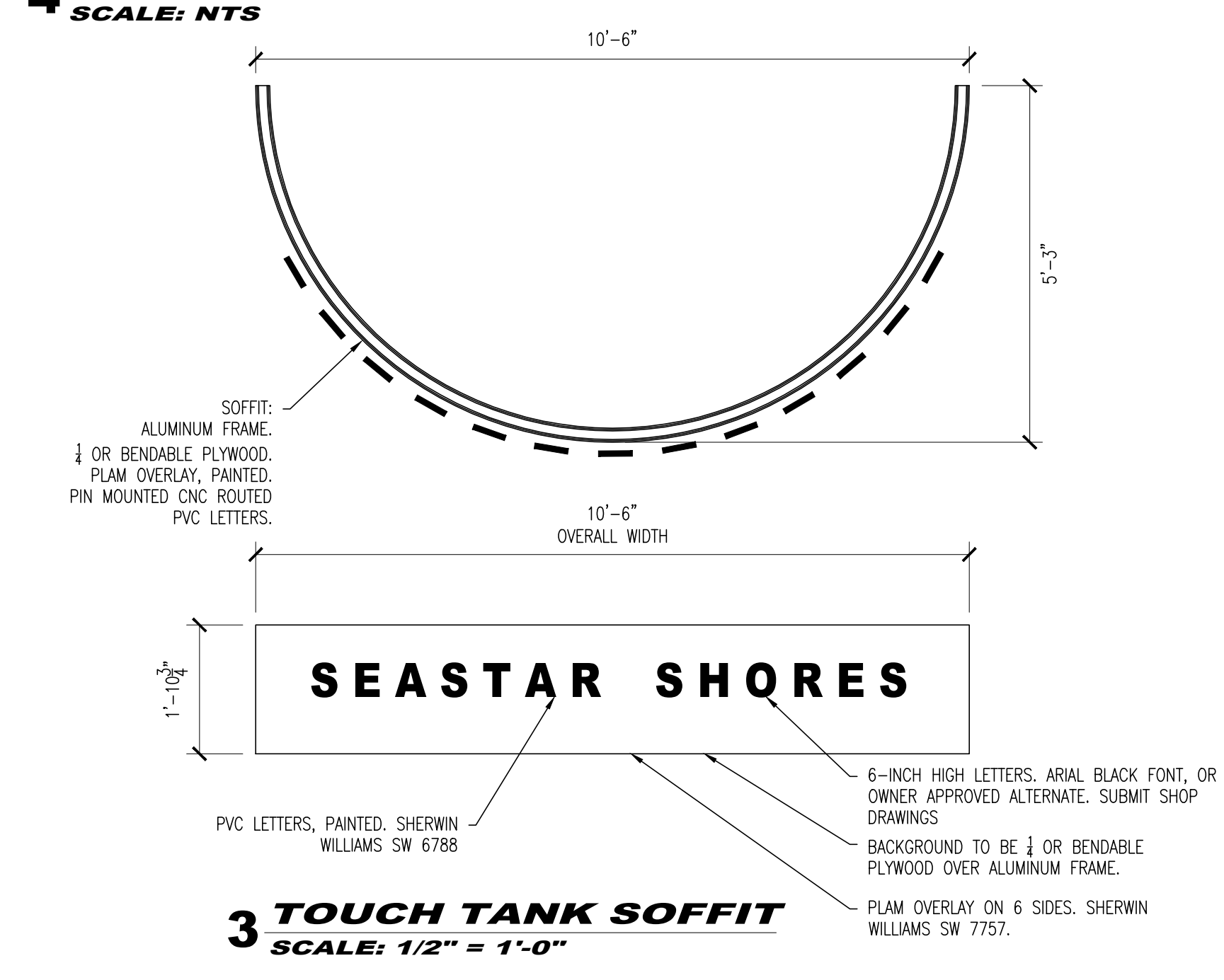
2 SECTION - TOUCH TANK SOFFIT
 SCALE: 1/2" = 1'-0"



5 TOUCH TANK PLAN
 SCALE: 1/2" = 1'-0"



4 TOUCH TANK - HEADER LOCATION AND NOTES
 SCALE: NTS



3 TOUCH TANK SOFFIT
 SCALE: 1/2" = 1'-0"

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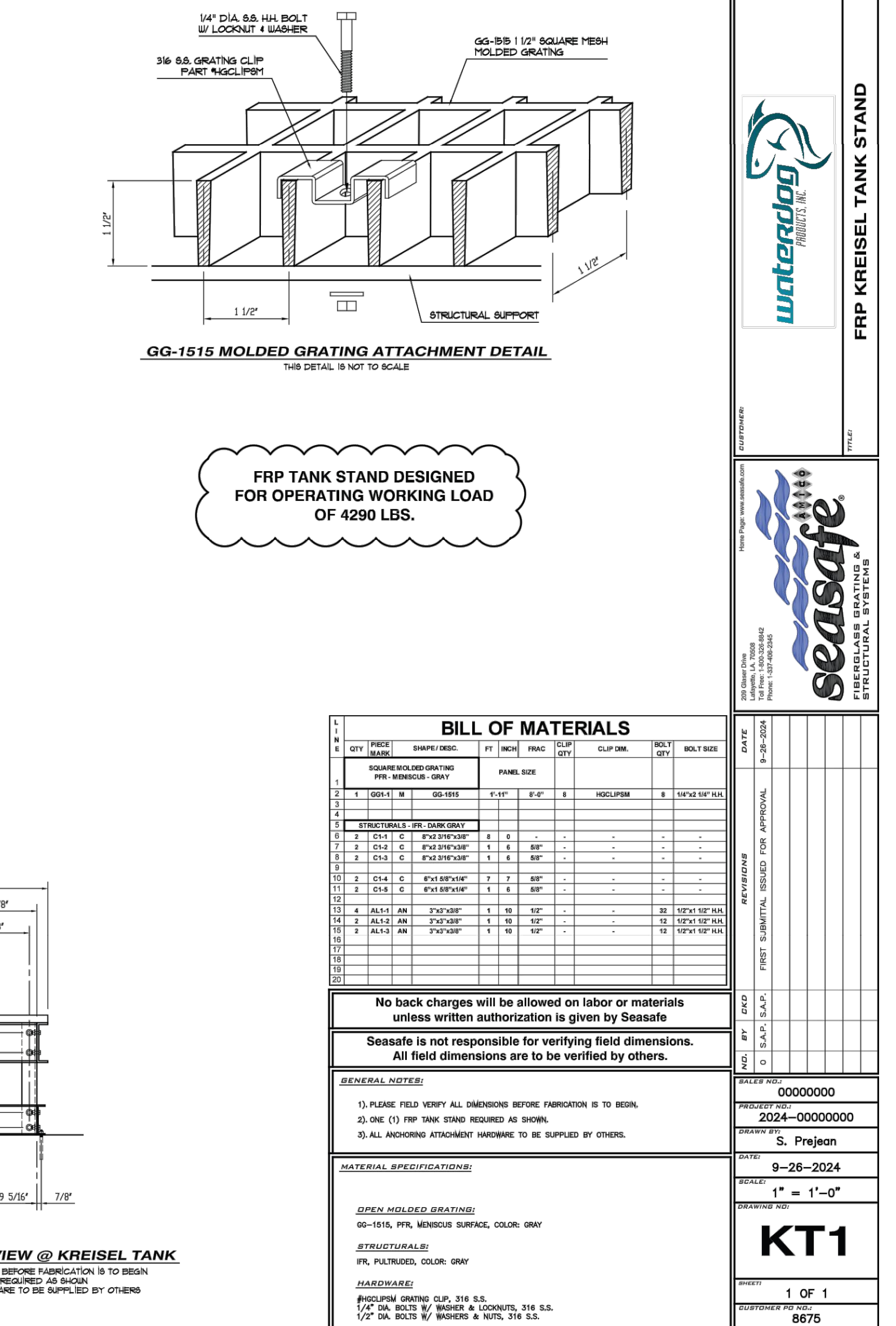
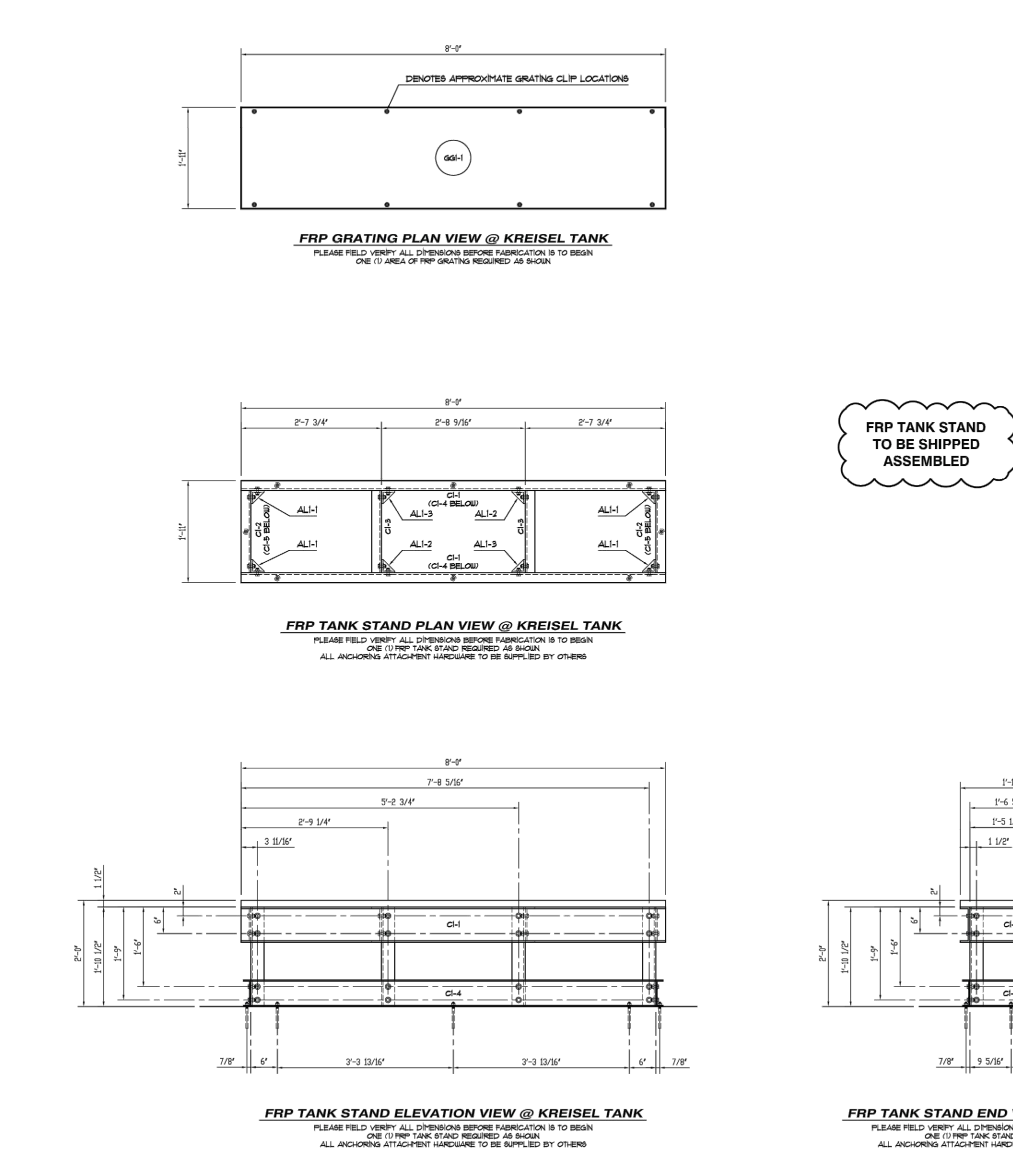
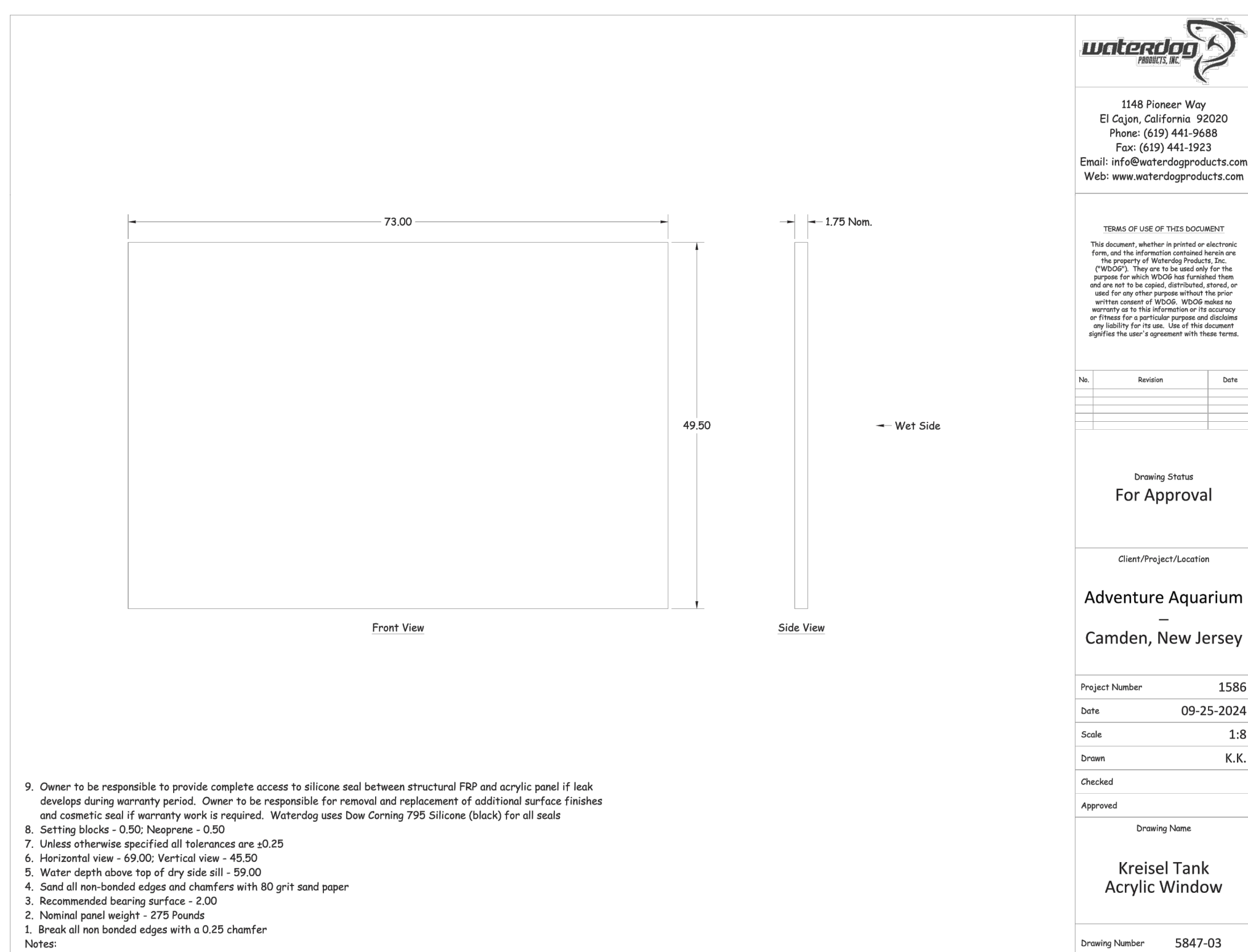
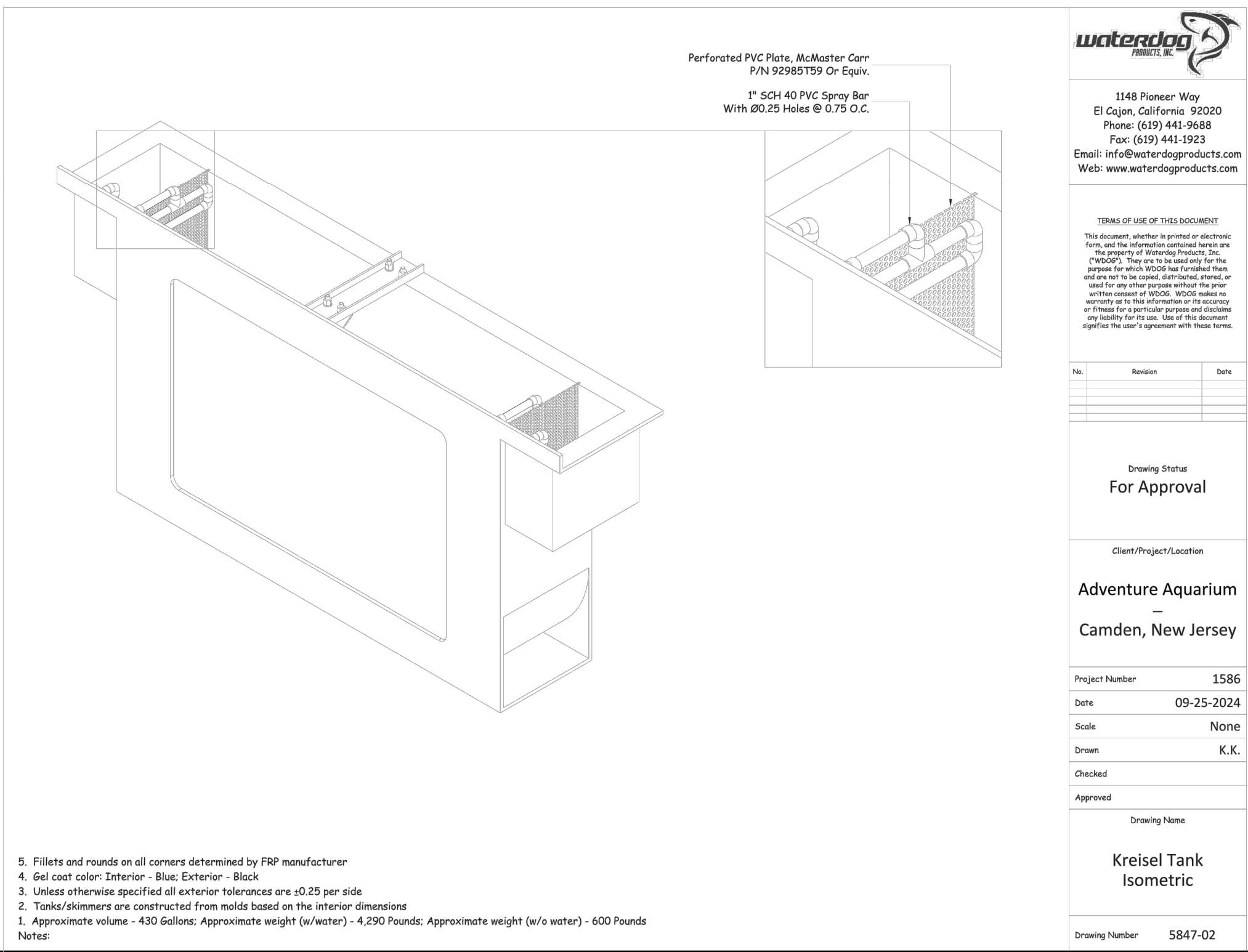
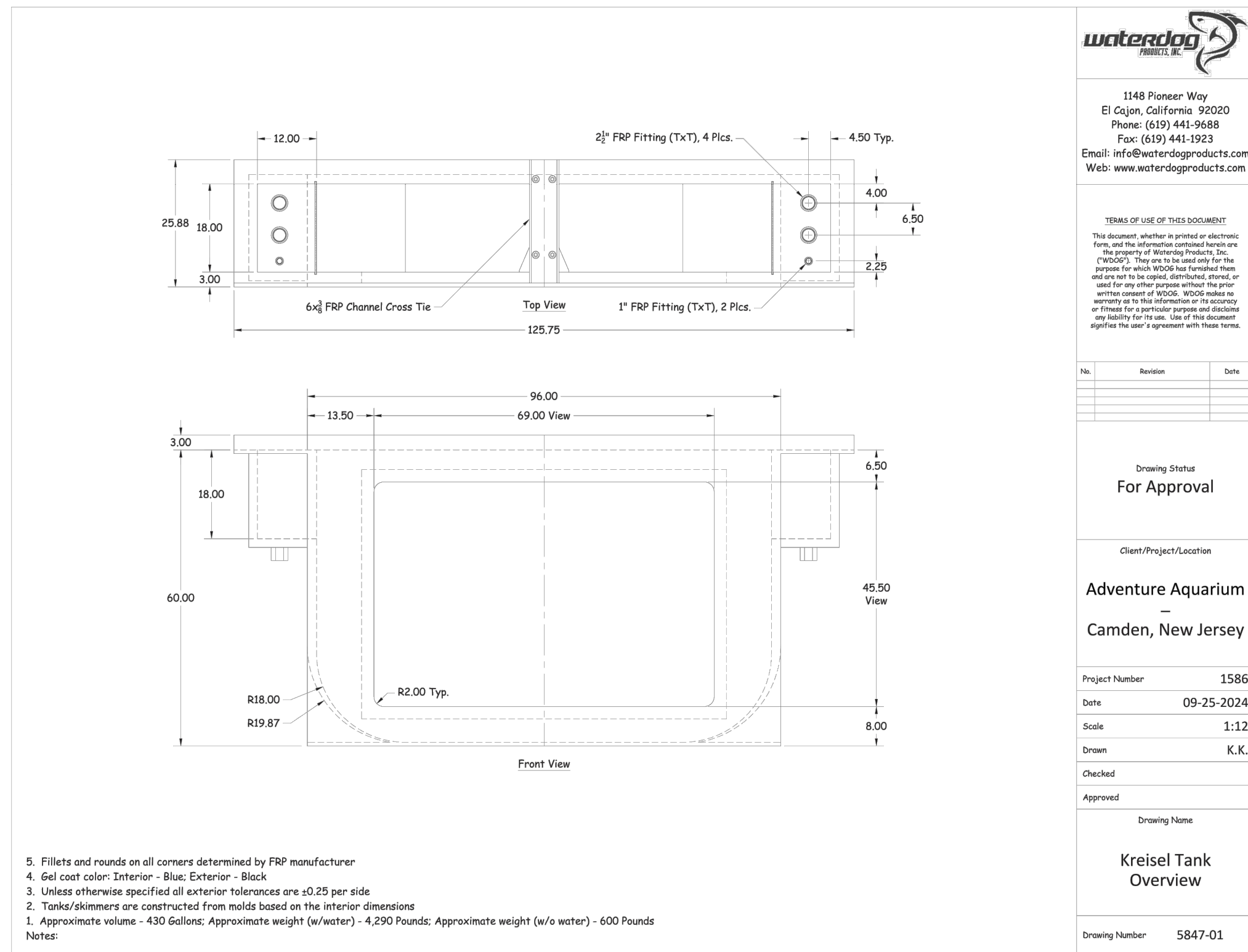
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5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
TOUCH TANK DETAILS

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMC / RH
DRAWING NUMBER:	

A-4.1



TANK 5 - PLANS AND DETAILS
SCALE: 1/2" = 1'-0"

NOTE: KREISEL TANK SCHEMATIC DRAWINGS 5847-01, 5847-02, 5847-03, AND KT1 ON THIS PAGE HAVE BEEN PREPARED BY OTHERS AND PROVIDED BY THE OWNER. OWNER WILL PROVIDE TANK, STAND, AND ACCESSORIES AS NOTED IN THESE DETAILS. BIDDER RESPONSIBLE FOR INSTALLATION AND ALL CONNECTIONS INCLUDING ELECTRICAL AND PLUMBING. BIDDER RESPONSIBLE FOR CONFIRMING ALL INSTALLATION DETAILS WITH MANUFACTURER PRIOR TO INSTALLATION.

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SEALS:

STEVEN M. BACH, PE, RA, PP, CME
 NJ PROFESSIONAL ENGINEER No. GE 41507
 NJ REGISTERED ARCHITECT No. AI 14872
 NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS

1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

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5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE: **TANK 5 DETAILS**

JOB NO: 2856-03
 DESIGNED BY: DAW
 DATE: _____
 DRAWN BY: AAW
 AS NOTED
 CHECKED BY: SMB / BMC / RH
 DRAWING NUMBER: _____



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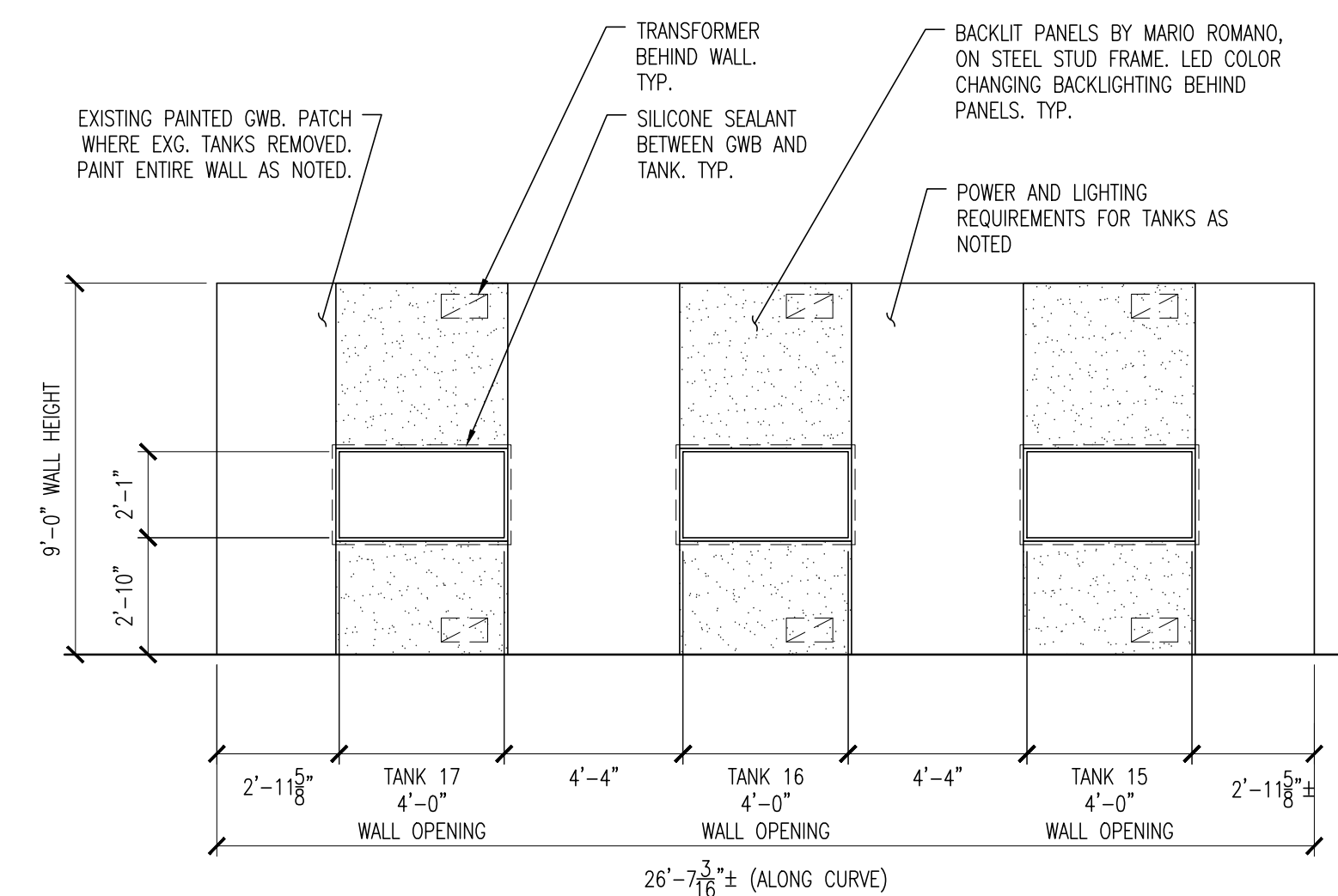
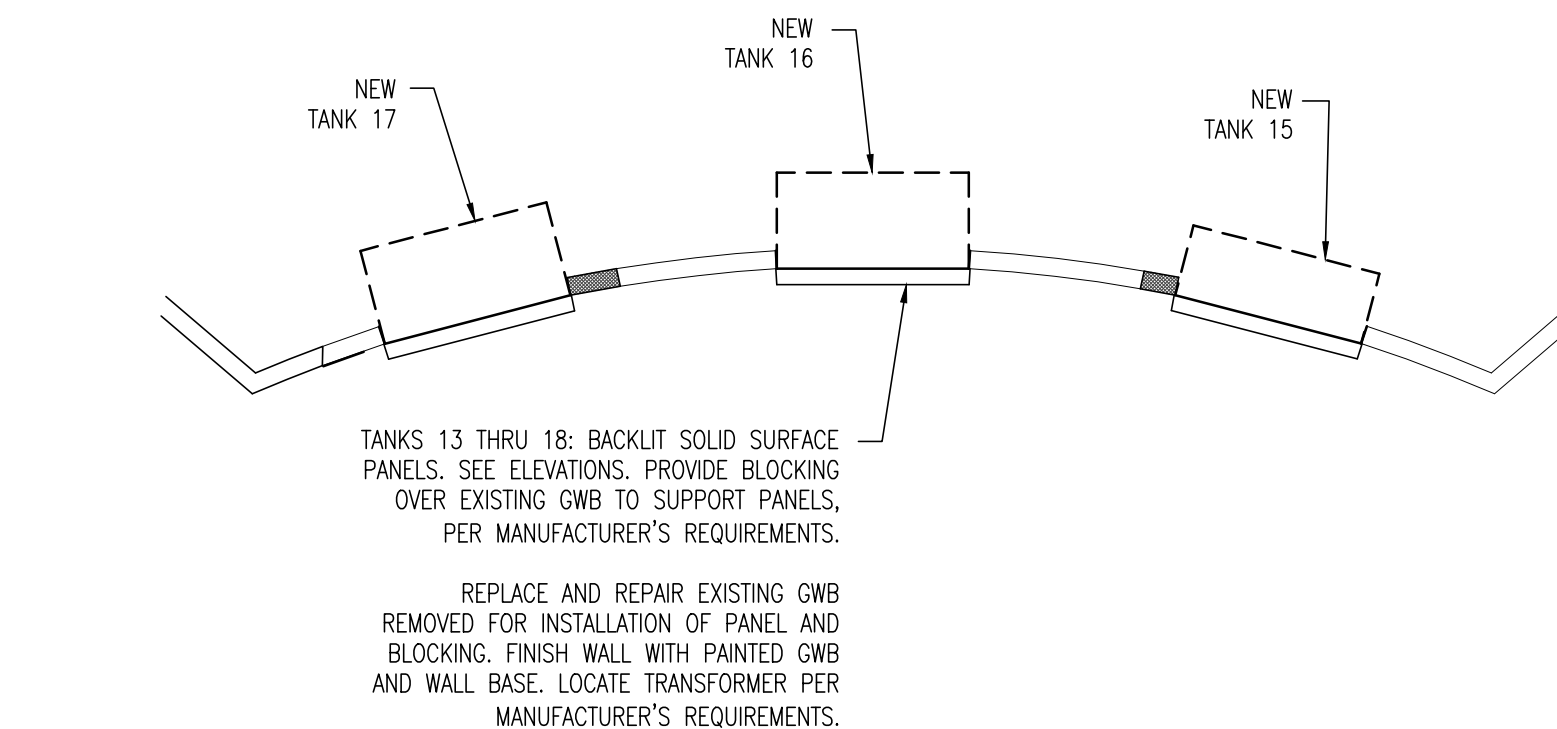
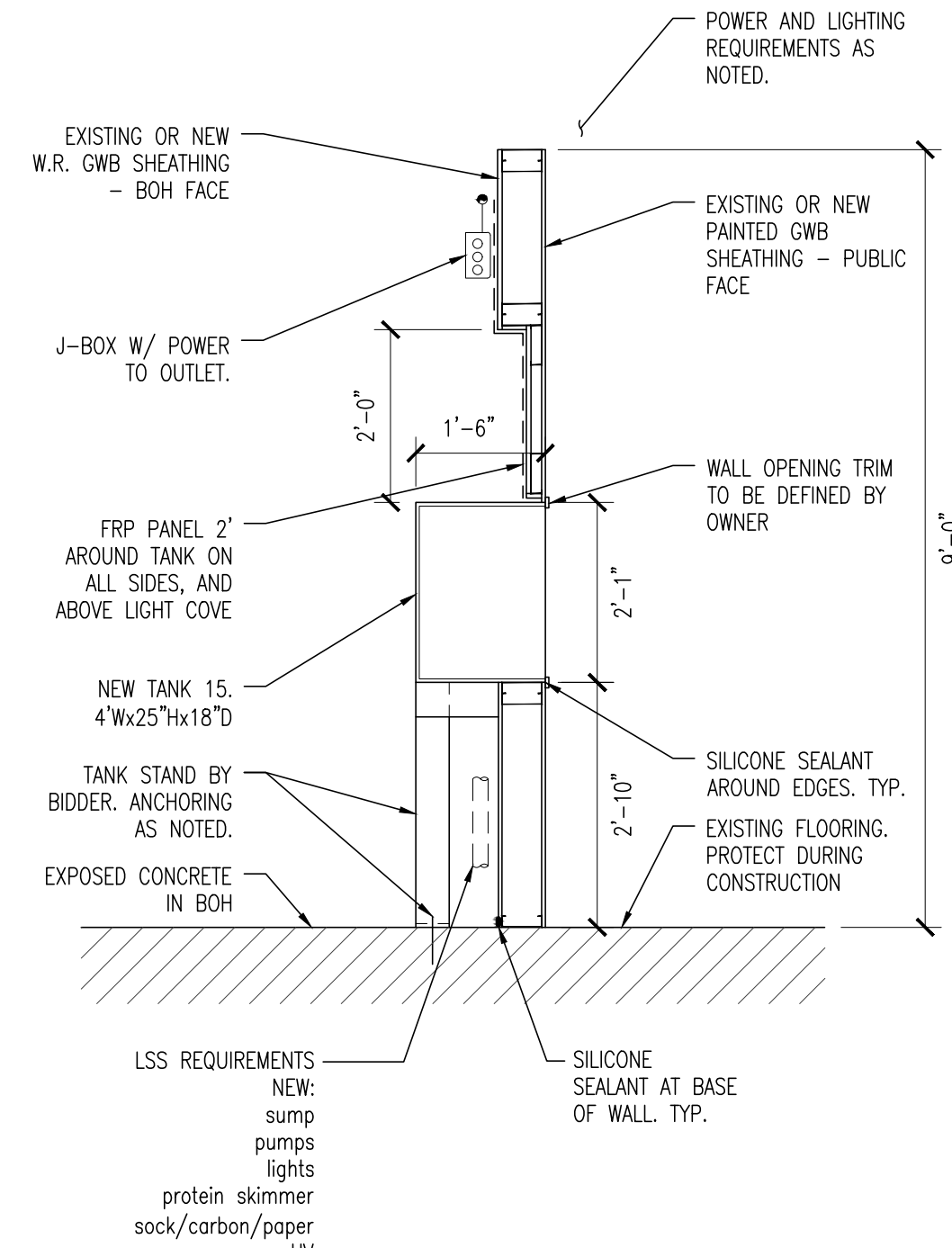
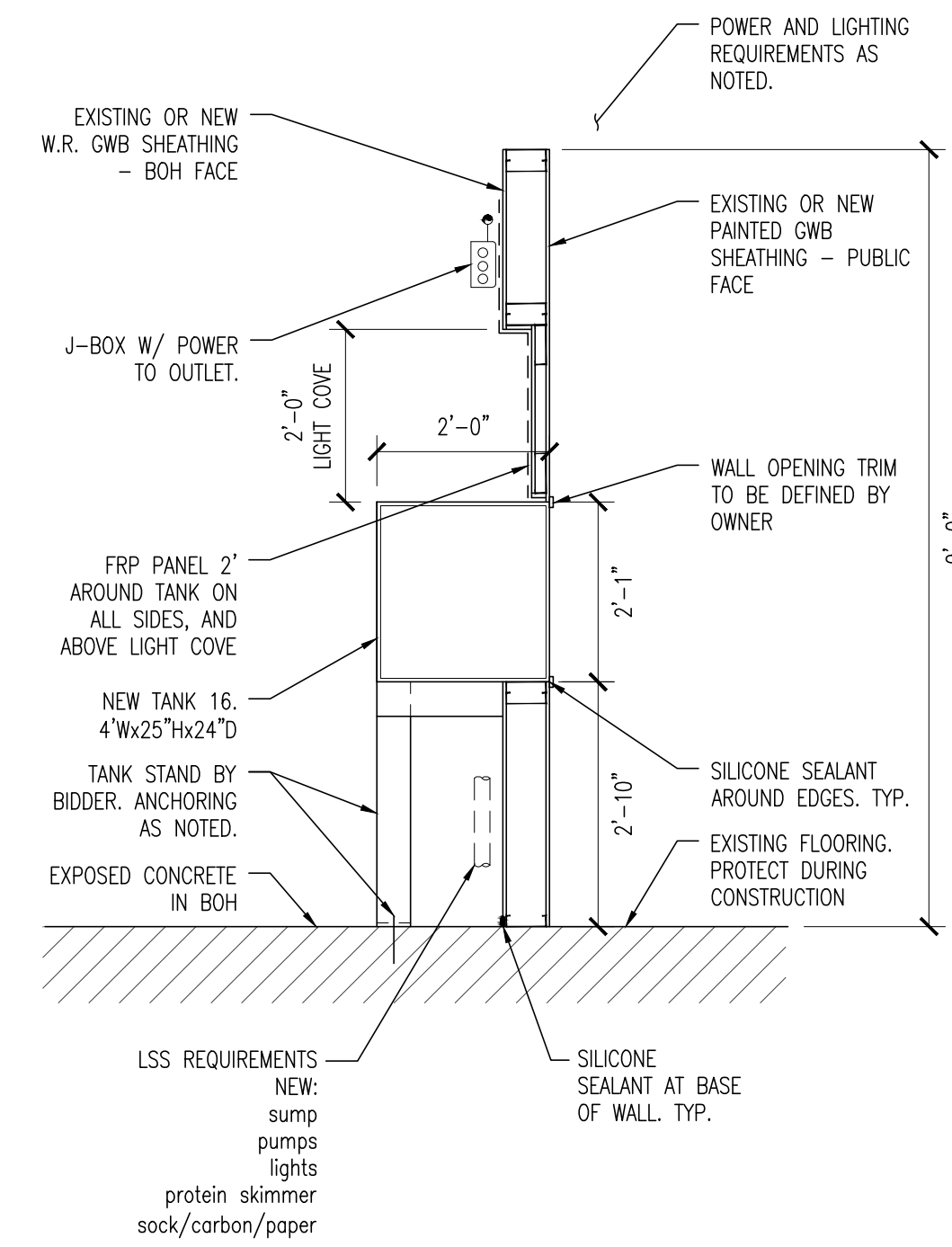
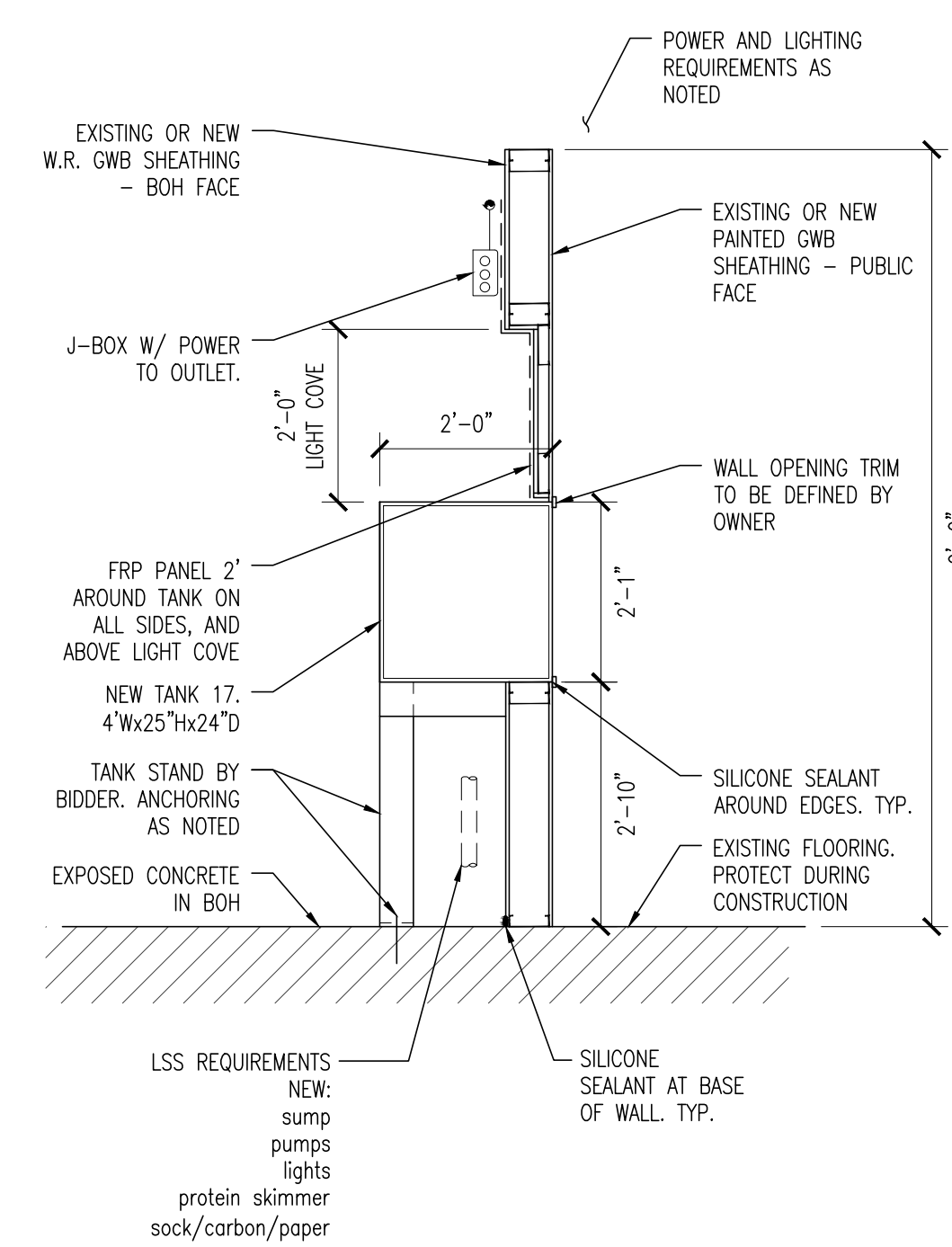
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6	100% CD SUBMISSION	12-16-24

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A-5

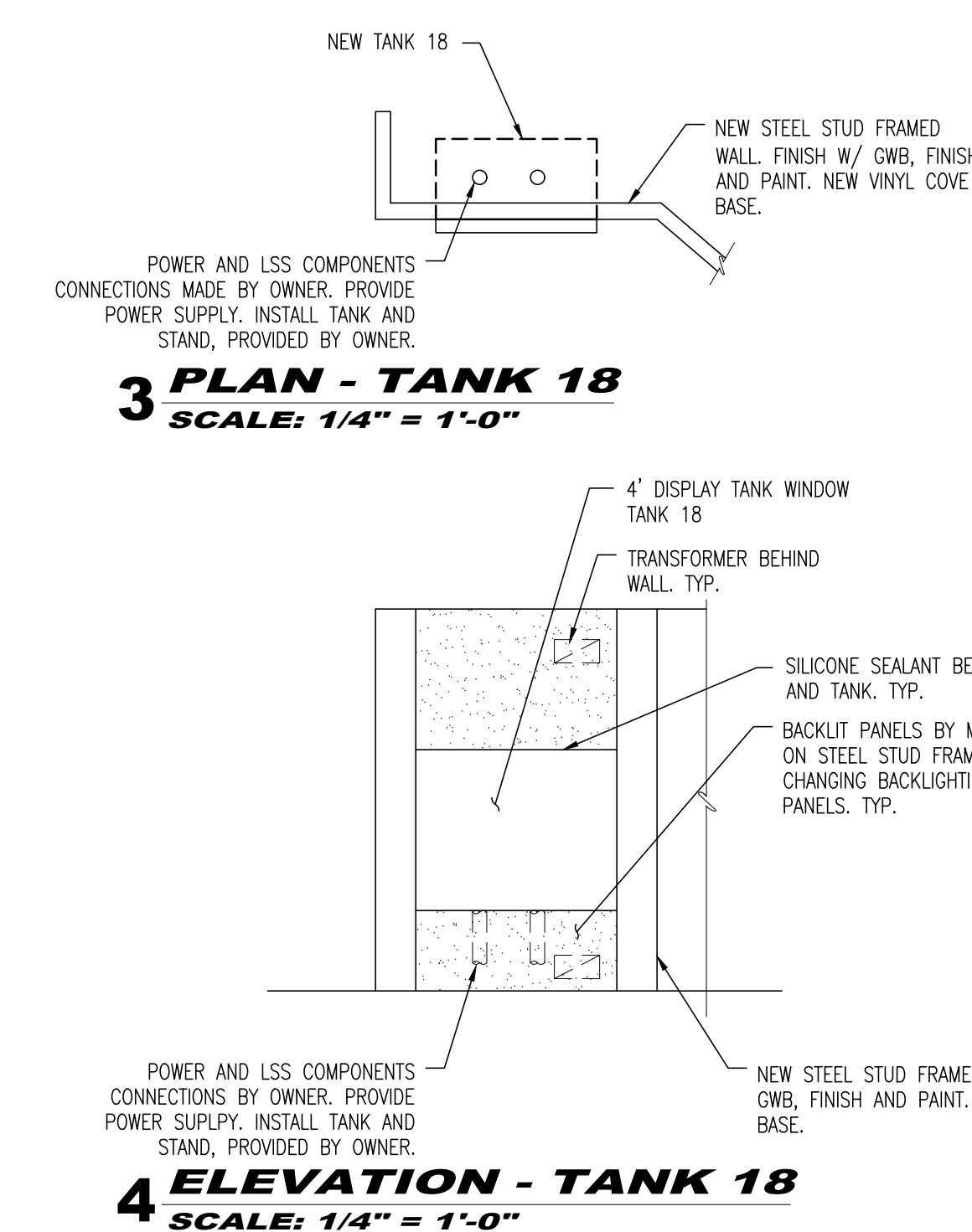
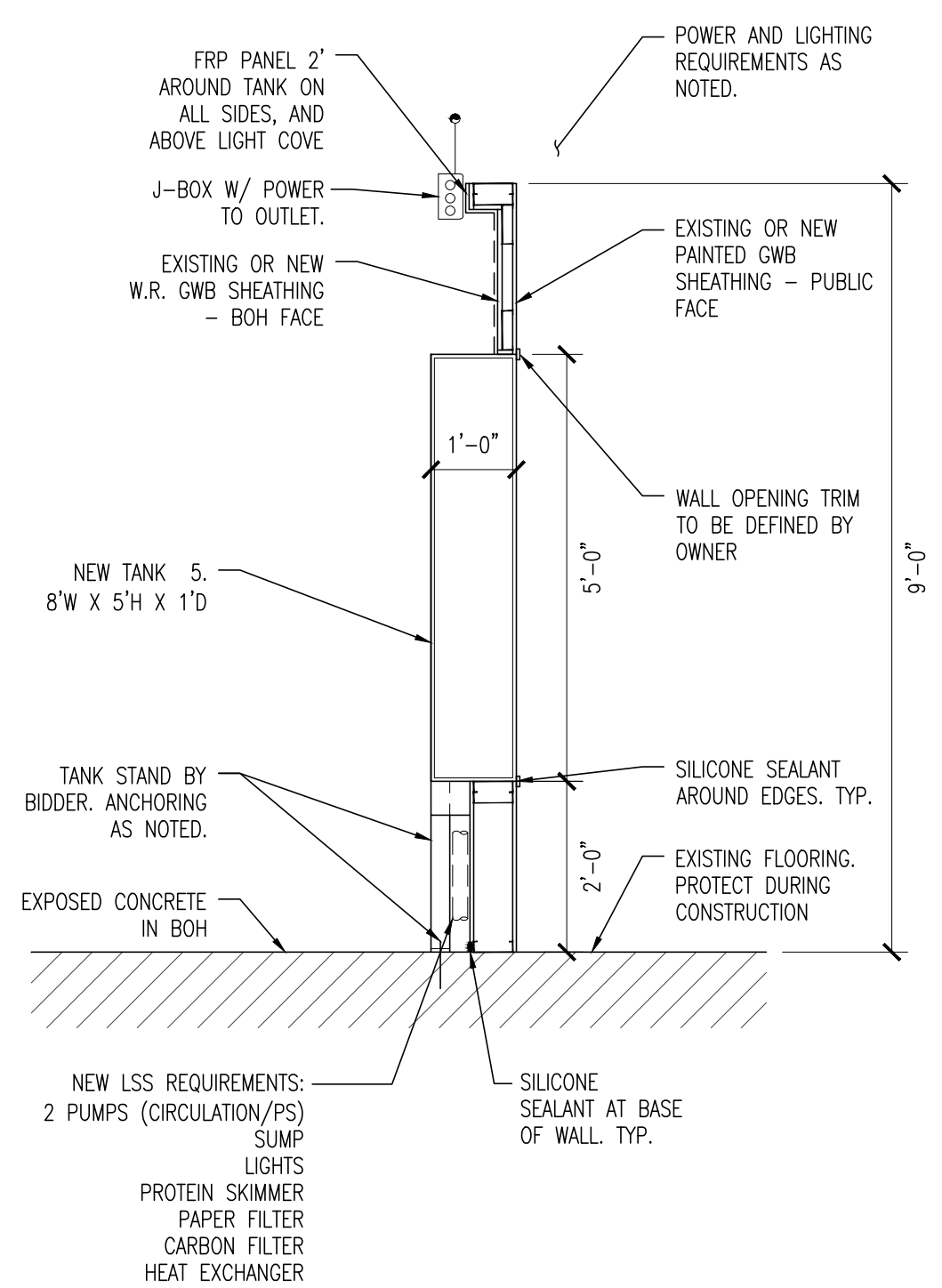
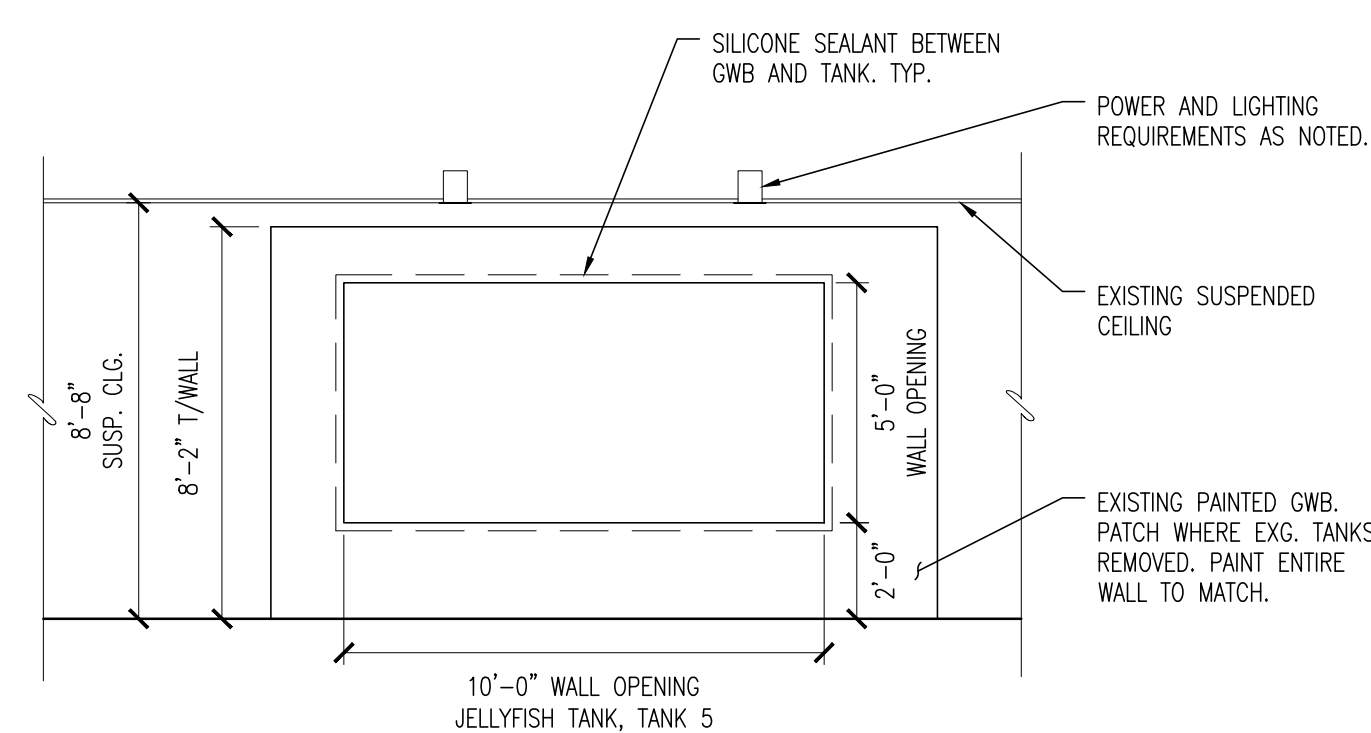


7 SECTION - TANK 17
SCALE: 1/2" = 1'-0"

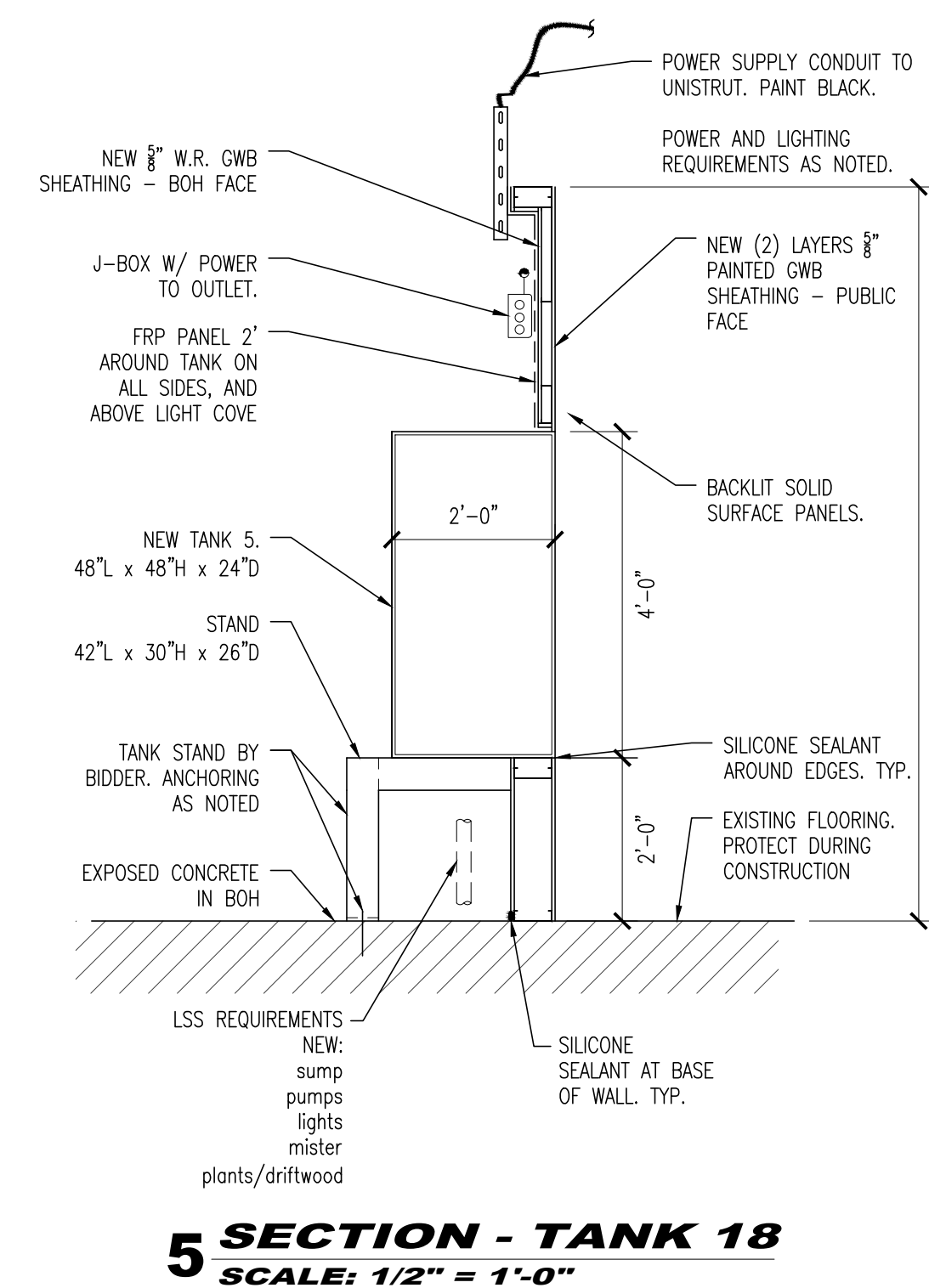
8 SECTION - TANK 16
SCALE: 1/2" = 1'-0"

9 SECTION - TANK 15
SCALE: 1/2" = 1'-0"

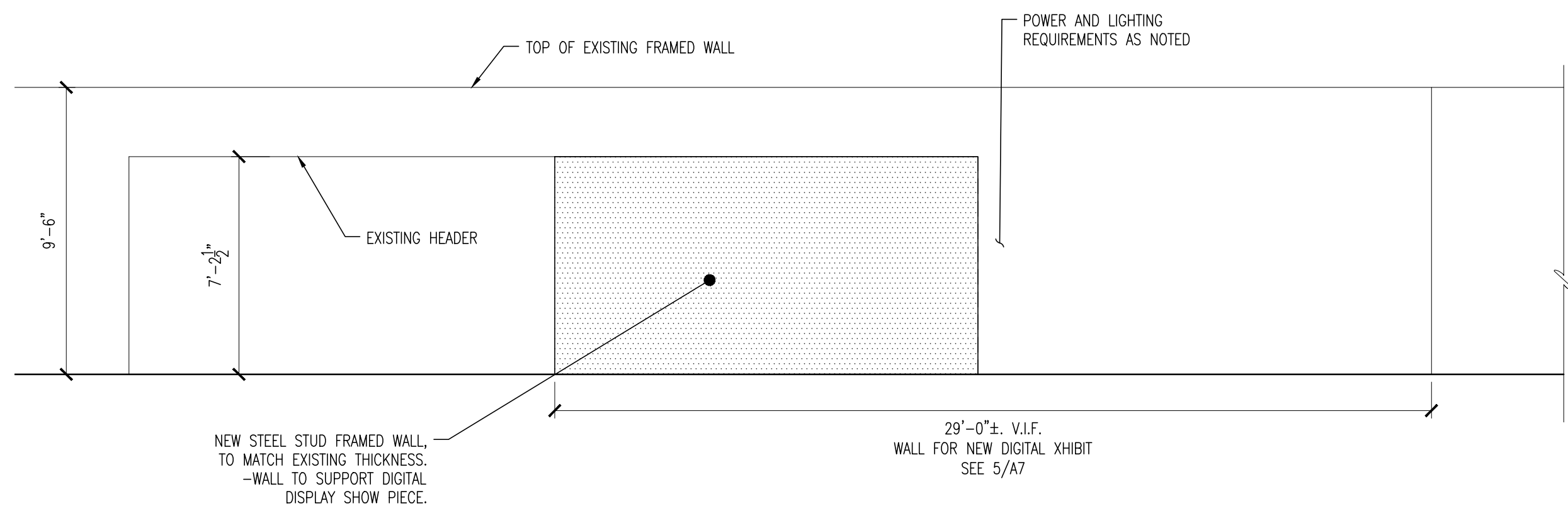
6 ELEVATION - TANKS 15, 16 AND 17
SCALE: 1/4" = 1'-0"



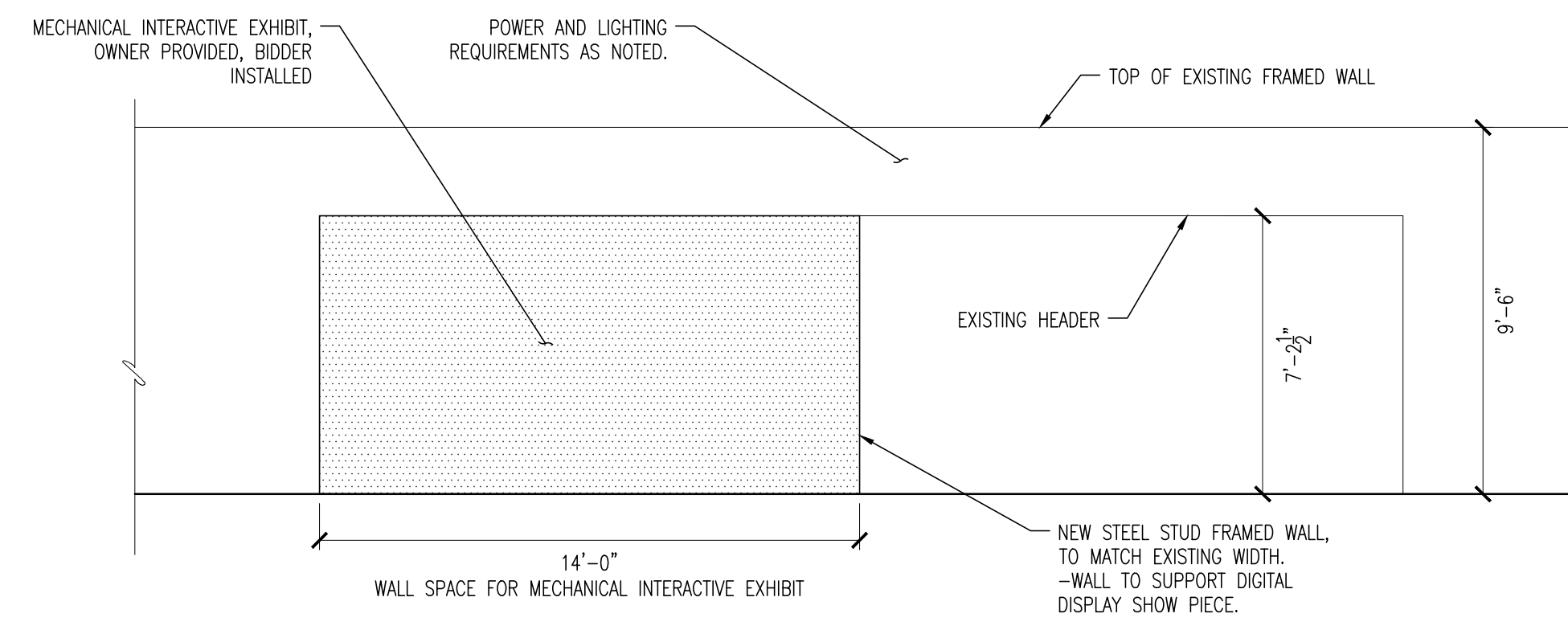
4 ELEVATION - TANK 18
SCALE: 1/4" = 1'-0"



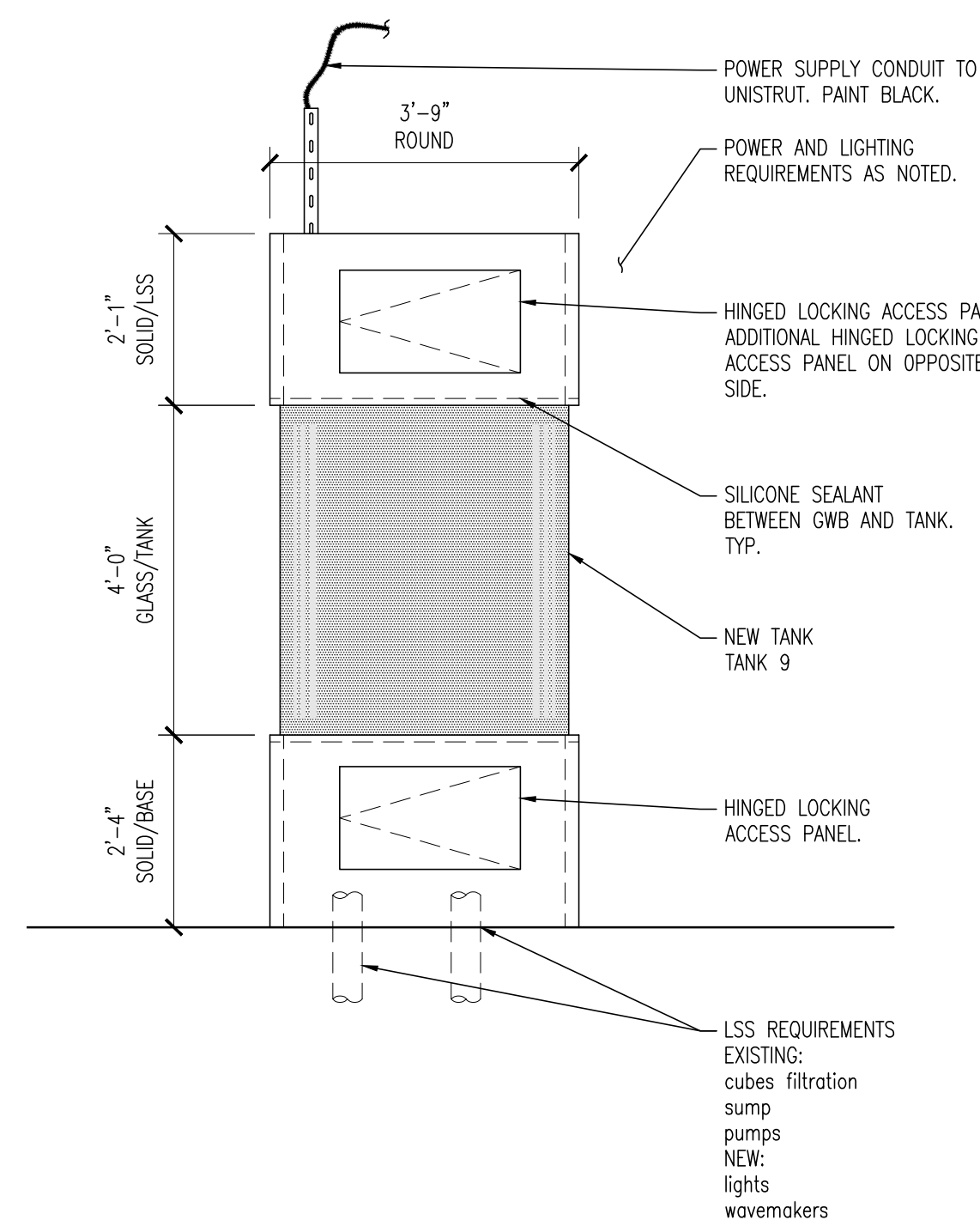
5 SECTION - TANK 18
SCALE: 1/2" = 1'-0"



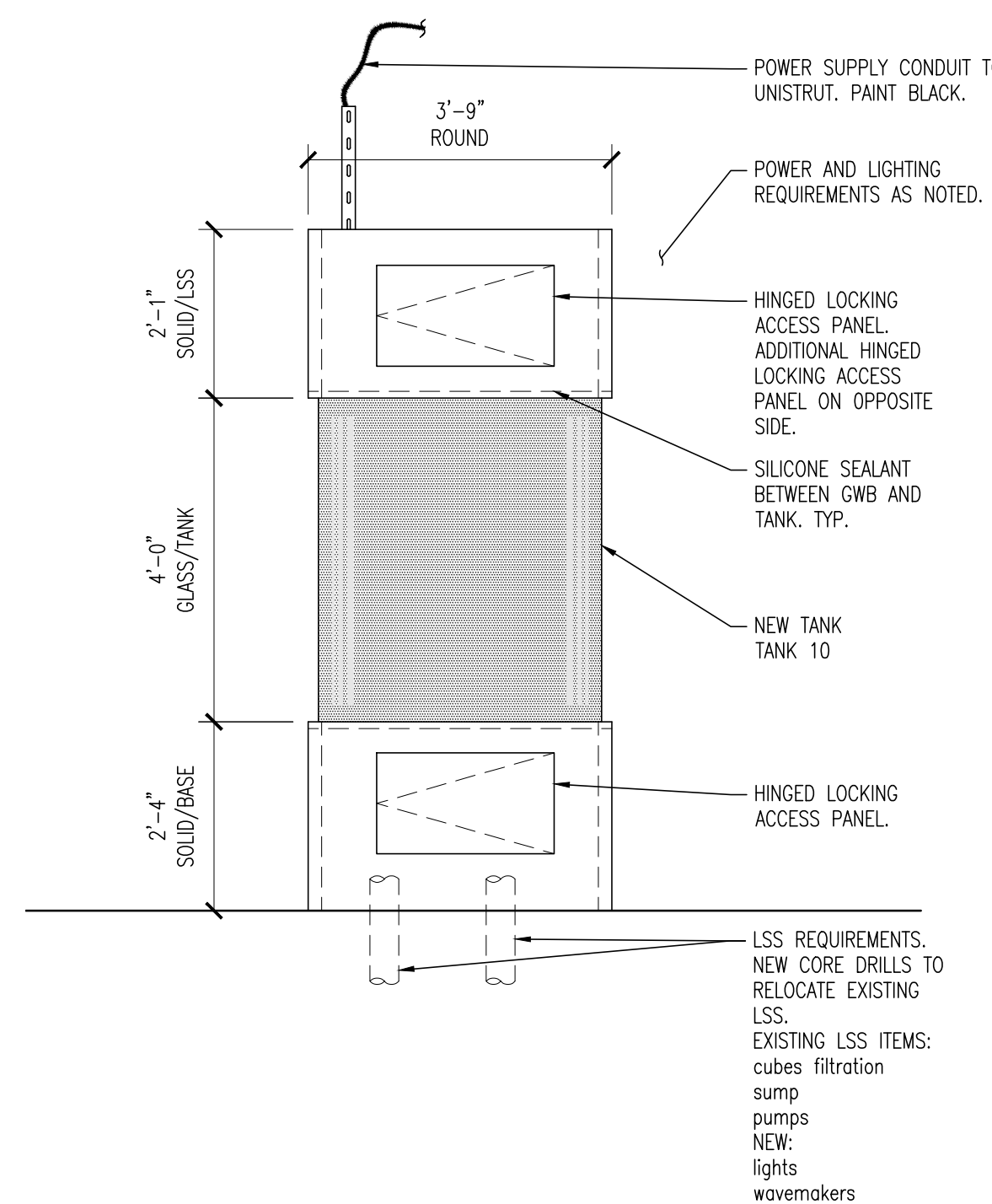
1 ELEVATION - NEW FRAMED WALL
SCALE: 1/4" = 1'-0"



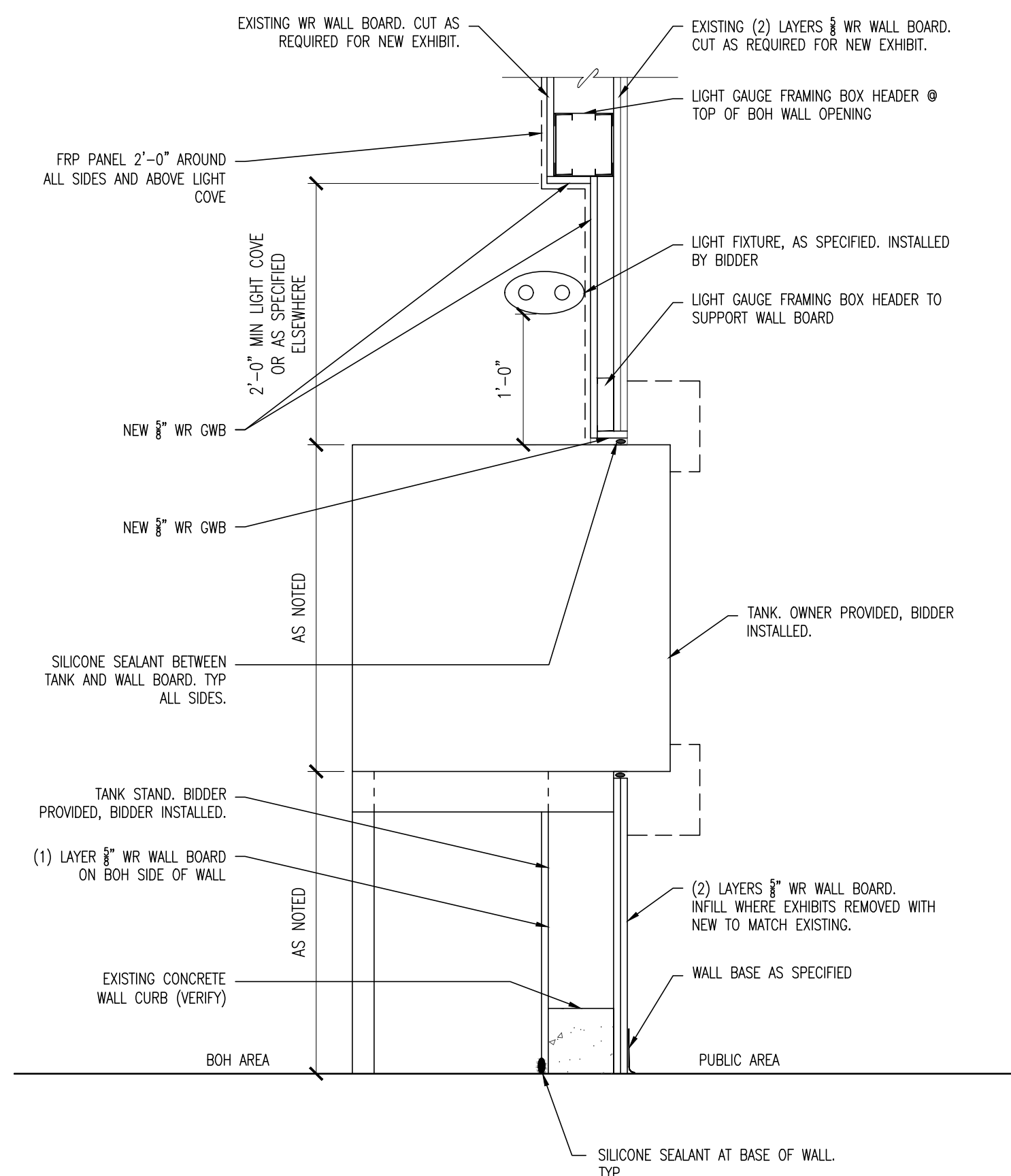
2 ELEVATION - MECHANICAL INTERACTIVE EXHIBIT
SCALE: 1/4" = 1'-0"



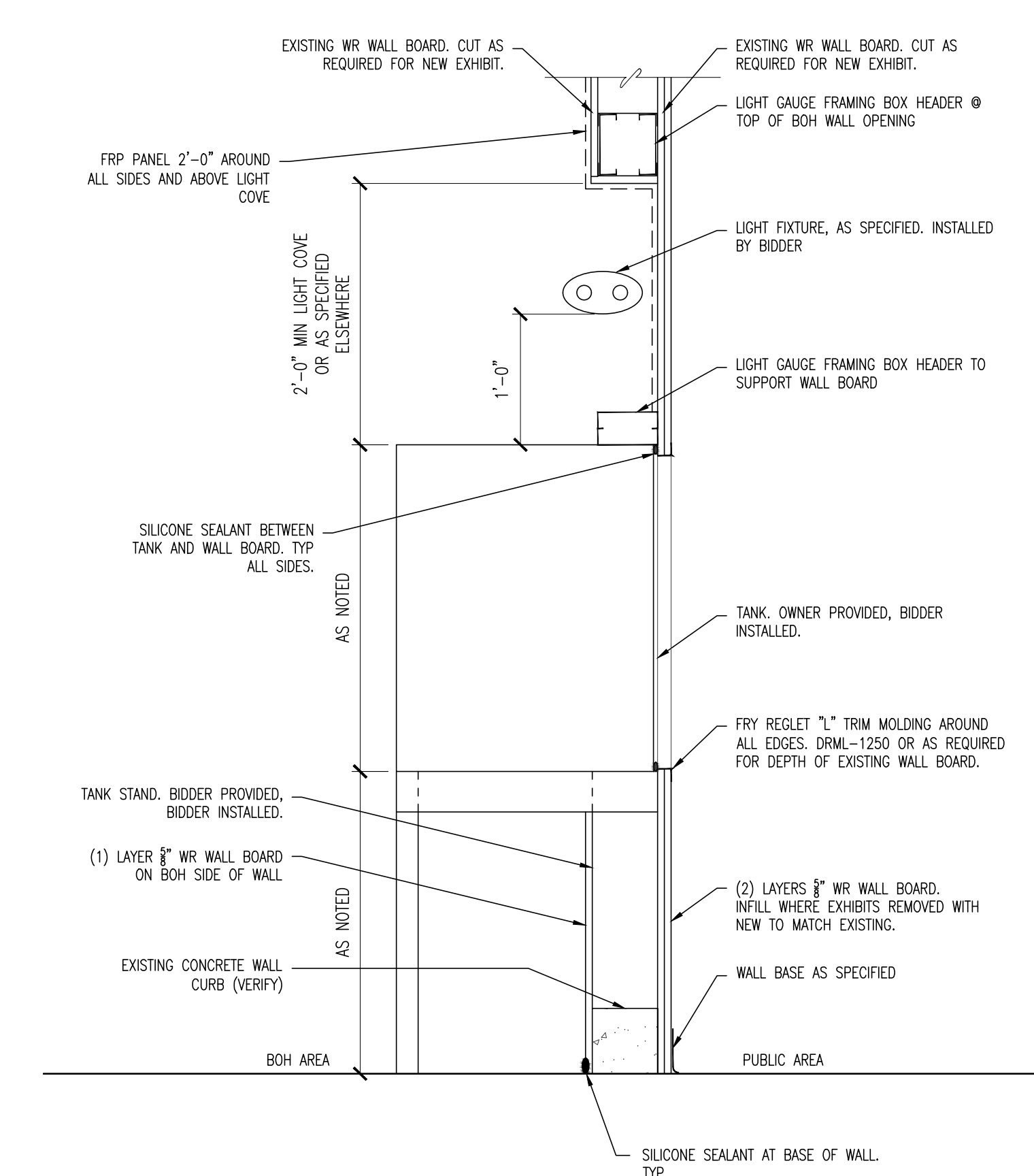
3 ELEVATION - TANK 9
SCALE: 1/2" = 1'-0"



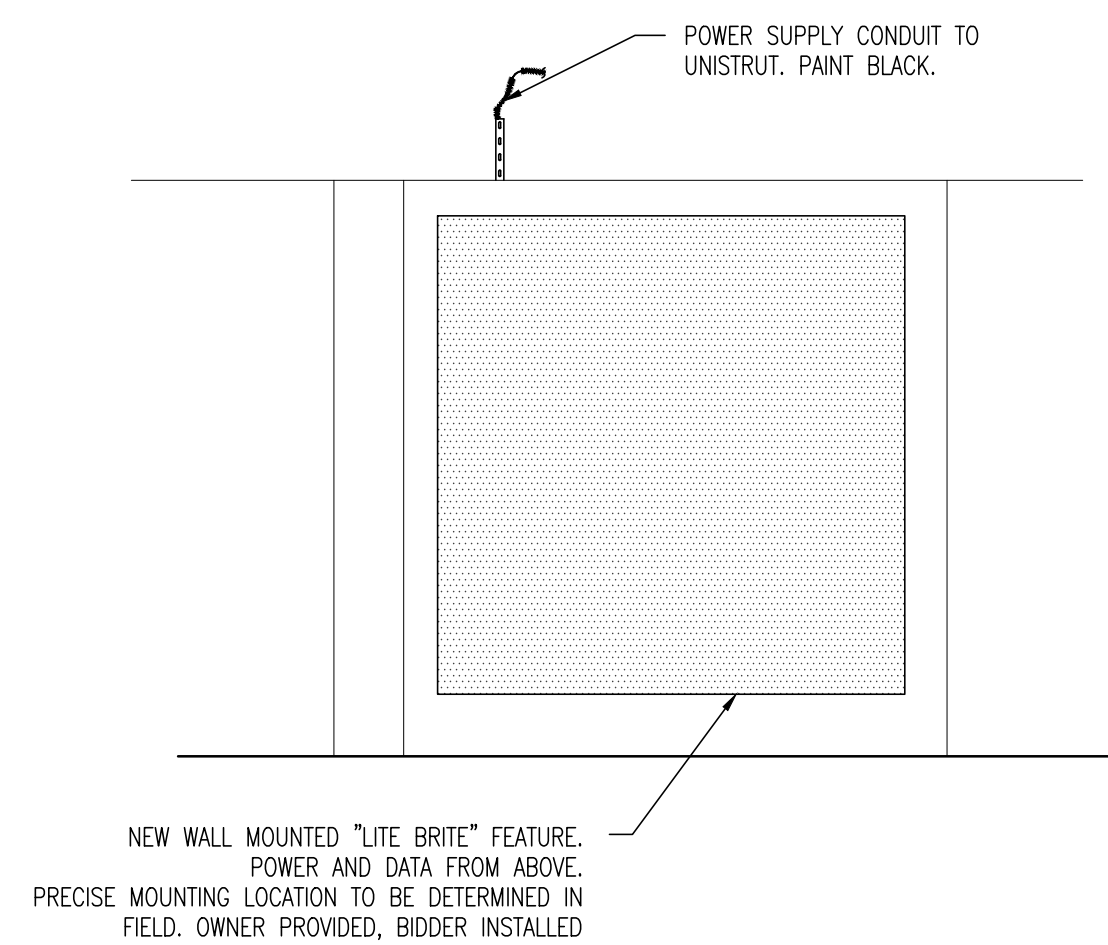
4 ELEVATION - TANK 10
SCALE: 1/2" = 1'-0"



7 TYP WALL SECTION
SCALE: 1/2" = 1'-0"



8 TYPICAL WALL SECTION
SCALE: 1/2" = 1'-0"



5 ELEVATION - PROJECTION GRAPHIC
SCALE: 1/2" = 1'-0"

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NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

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KALEIDOSCOPE COVE EXHIBIT RENOVATIONS
1 RIVERSIDE DRIVE
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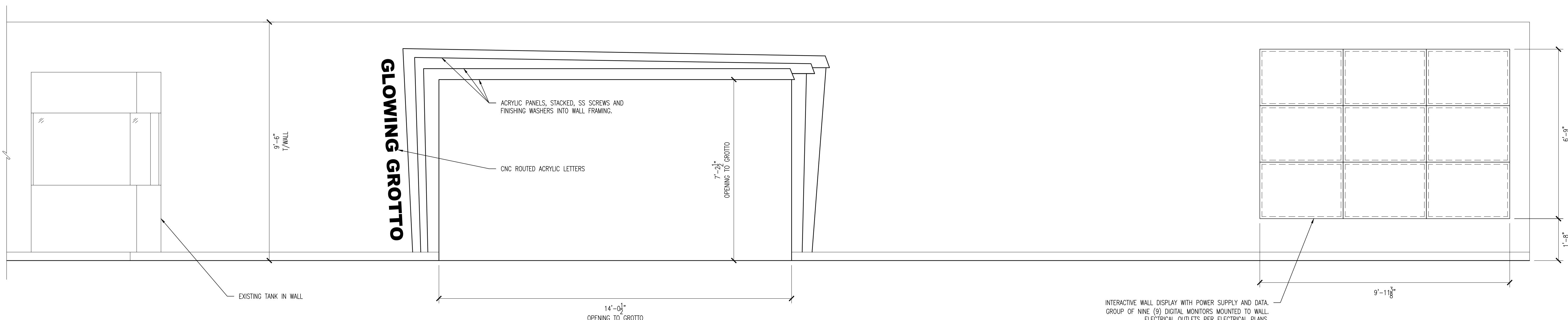
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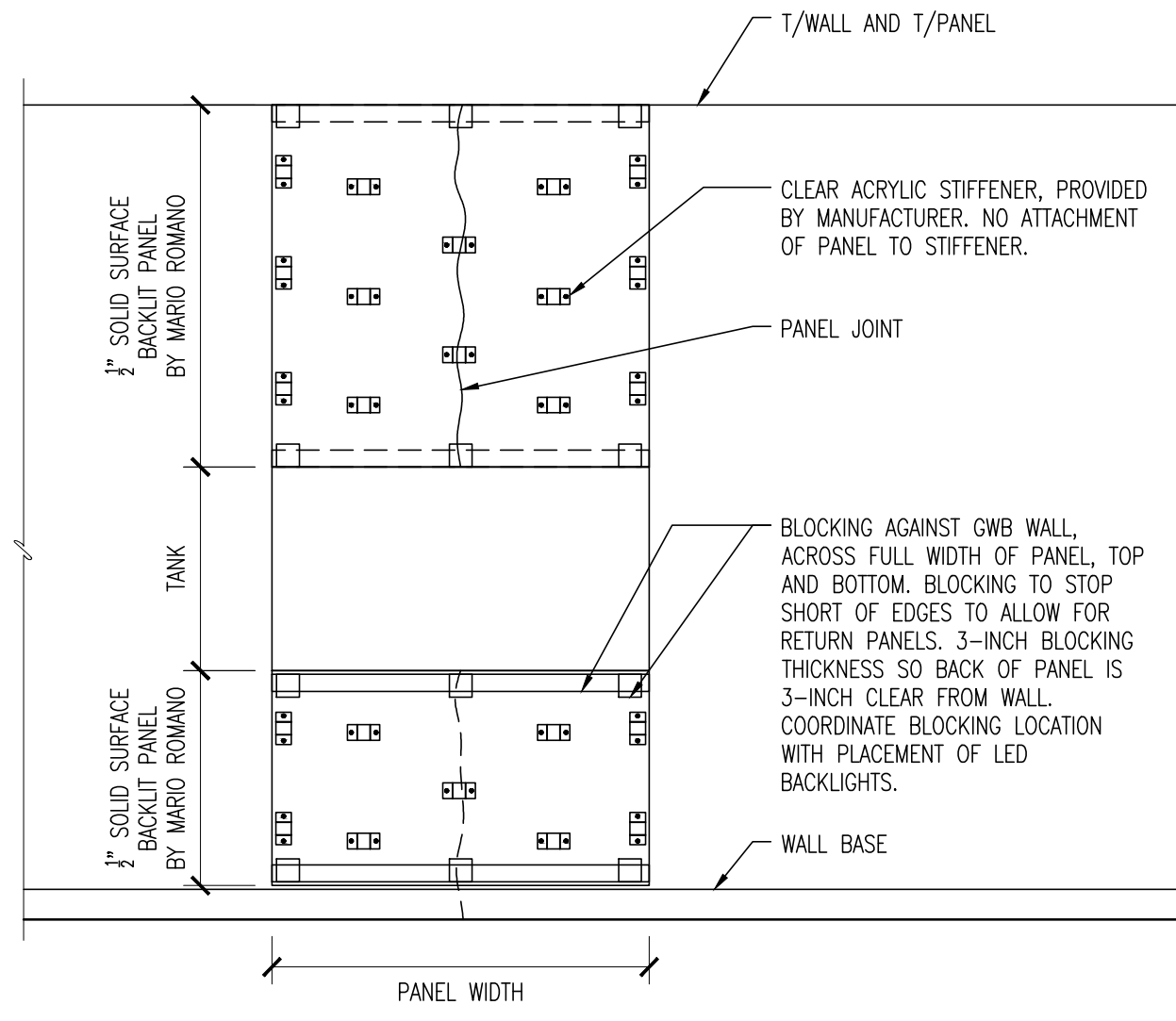
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1 ELEVATION - GROTTTO ENTRY PORTAL
SCALE: 1/2" = 1'-0"



CONSULT MANUFACTURER'S INSTALLATION REQUIREMENTS FOR LOCATION OF BLOCKING AND INSTALLATION OF LIGHTING.

ALL 4 SIDES OF EACH PANEL ASSEMBLY TO HAVE A 3-INCH SOLID SURFACE RETURN PANEL TO MATCH MAIN PANEL. RETURN PANELS TO BE SET BEHIND MAIN PANEL, NOT TO THE OUTSIDE.

ALL MOUNTING HOLES TO BE FILLED WITH SOLID SURFACE PLUGS. BIDDER TO COORDINATE ALL PANEL ACCESSORIES DURING PROCUREMENT.

2 ELEVATIONS - BACKLIT SOLID SURFACE PANEL
SCALE: 1/2" = 1'-0"

NOTE: SOLID SURFACE PANEL DETAILS ON THIS PAGE HAVE BEEN PREPARED BASED ON DETAILS PROVIDED BY THE MANUFACTURER, MARIO ROMANO. THE MANUFACTURER AND THE DETAILS ON THIS SHEET REPRESENT THE DESIGN INTENT OF THE OWNER. MANUFACTURER TO PROVIDE COMPLETE AND READY TO INSTALL SYSTEM WITH NO FIELD MODIFICATIONS REQUIRED. BIDDER SHALL NOT SUBMIT ALTERNATIVE PRODUCT WITHOUT PRIOR AUTHORIZATION. PANELS ARE TO BE PURCHASED AND INSTALLED AS NOTED INCLUDING COLOR, MOUNTING, SURFACE PATTERNS, AND BACKLIGHTING. BIDDER RESPONSIBLE FOR INSTALLATION, BLOCKING, PATCHING, AND ALL CONNECTIONS INCLUDING ELECTRICAL. BIDDER RESPONSIBLE FOR CONFIRMING ALL INSTALLATION DETAILS WITH MANUFACTURER PRIOR TO INSTALLATION. SUBMIT SHOP DRAWINGS FOR APPROVAL.

PANEL COLOR: GLACIER WHITE
DESIGN: ORICAMII - MODIFIED
DIMENSIONS: AT EACH LOCATION - TO MATCH WIDTH OF TANK AND TO SPAN FULL HEIGHT OF WALL ABOVE AND BELOW TANK.
SIDES: INCLUDE SIDE, TOP, AND BOTTOM RETURN PIECES BY MANUFACTURER.
LED ACCESS: REMOVABLE PANEL SECTIONS COORDINATED MANUFACTURER.
POWER REQUIREMENTS: PER ELECTRICAL DRAWINGS, CONSULT MANUFACTURER FOR MAXIMUM LENGTH BETWEEN POWER SUPPLY AND TRANSFORMER.

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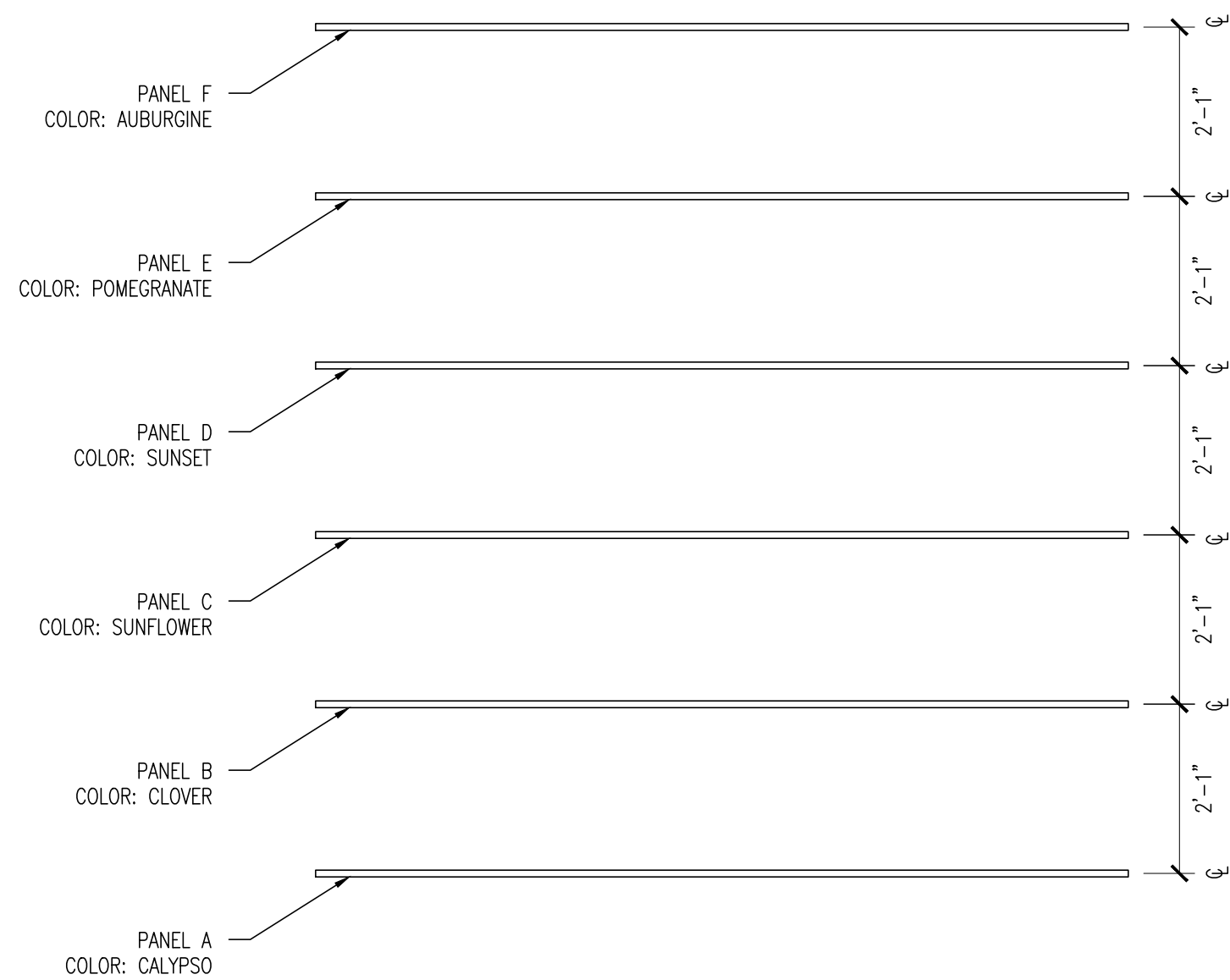
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DRAWING TITLE:
INTERIOR ELEVATIONS AND DETAILS

JOB NO: 2856-03
DATE: -
SCALE: AS NOTED

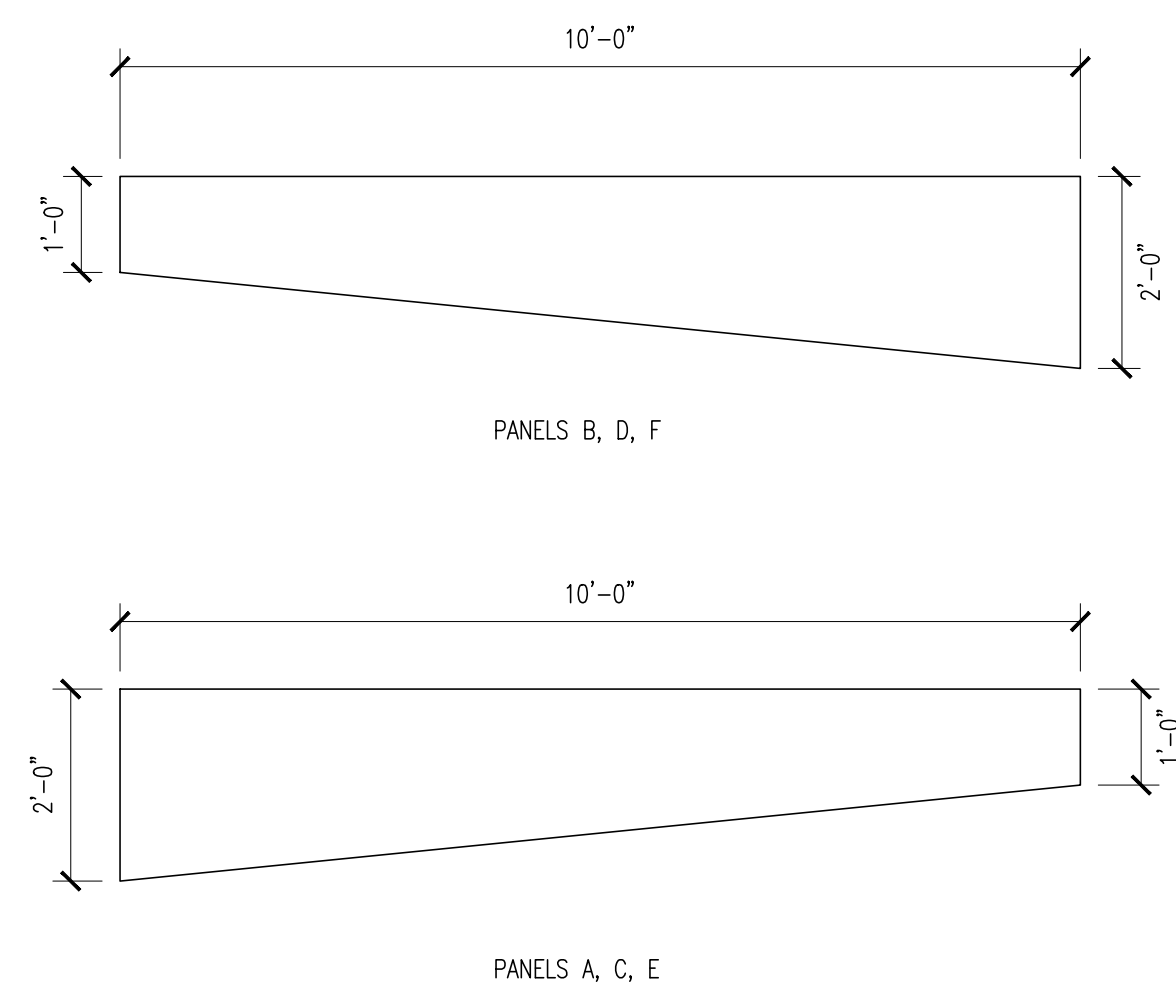
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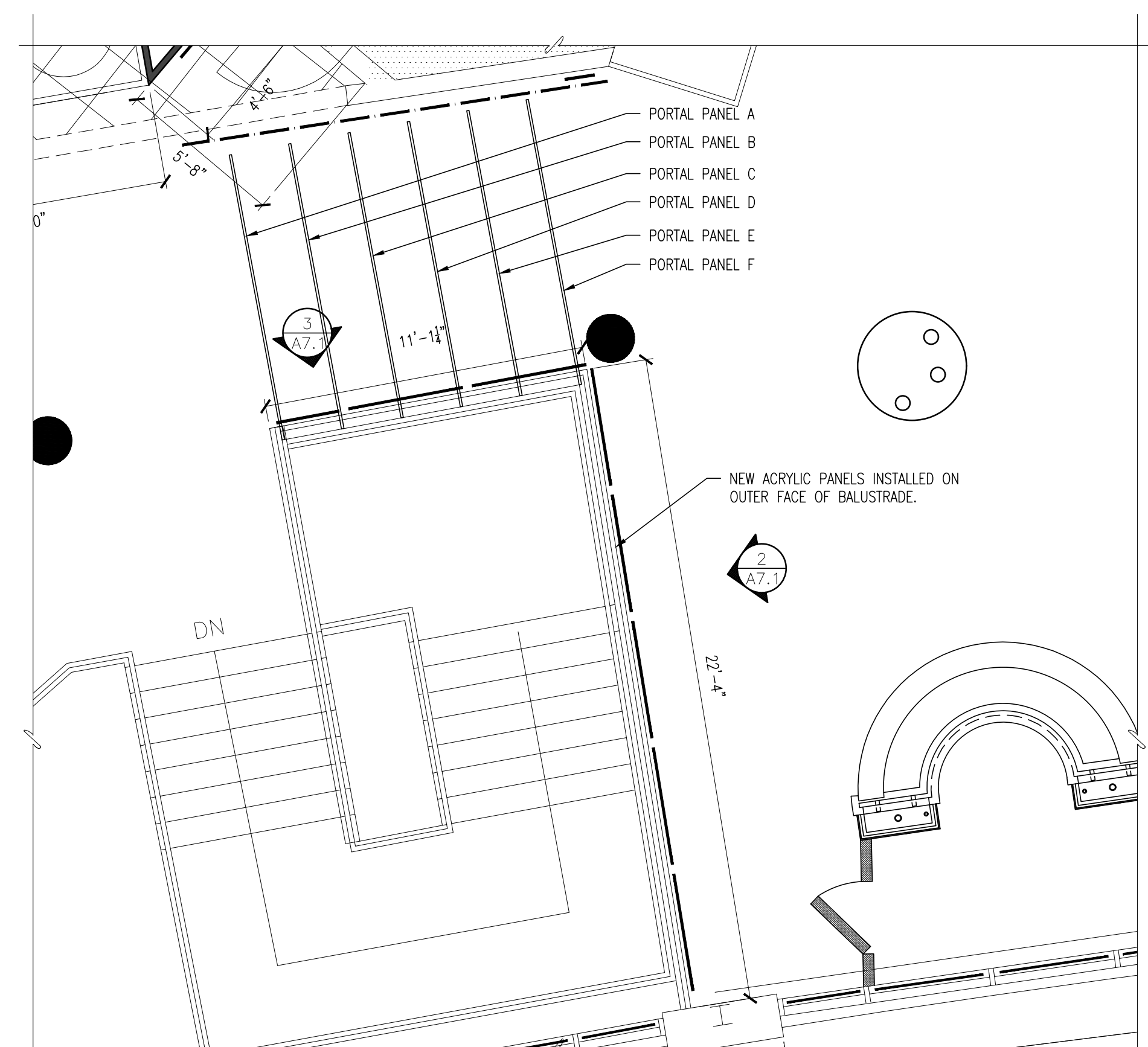


PANELS AS MANUFACTURED BY LUMICOR IN COLORS AS INDICATED.

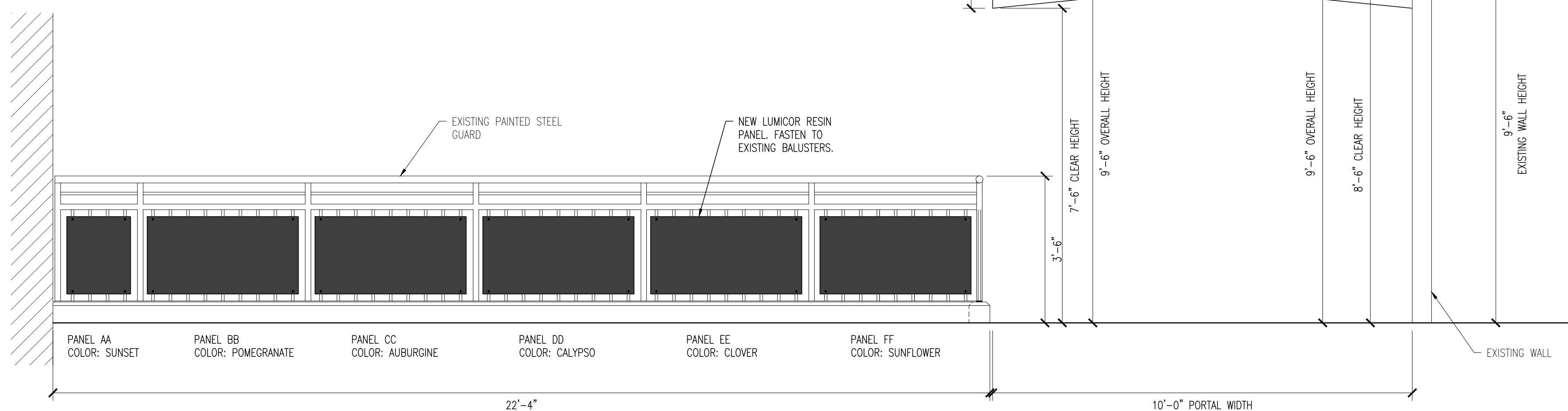
6 PLAN - ENTRY PORTAL
SCALE: 1/2" = 1'-0"



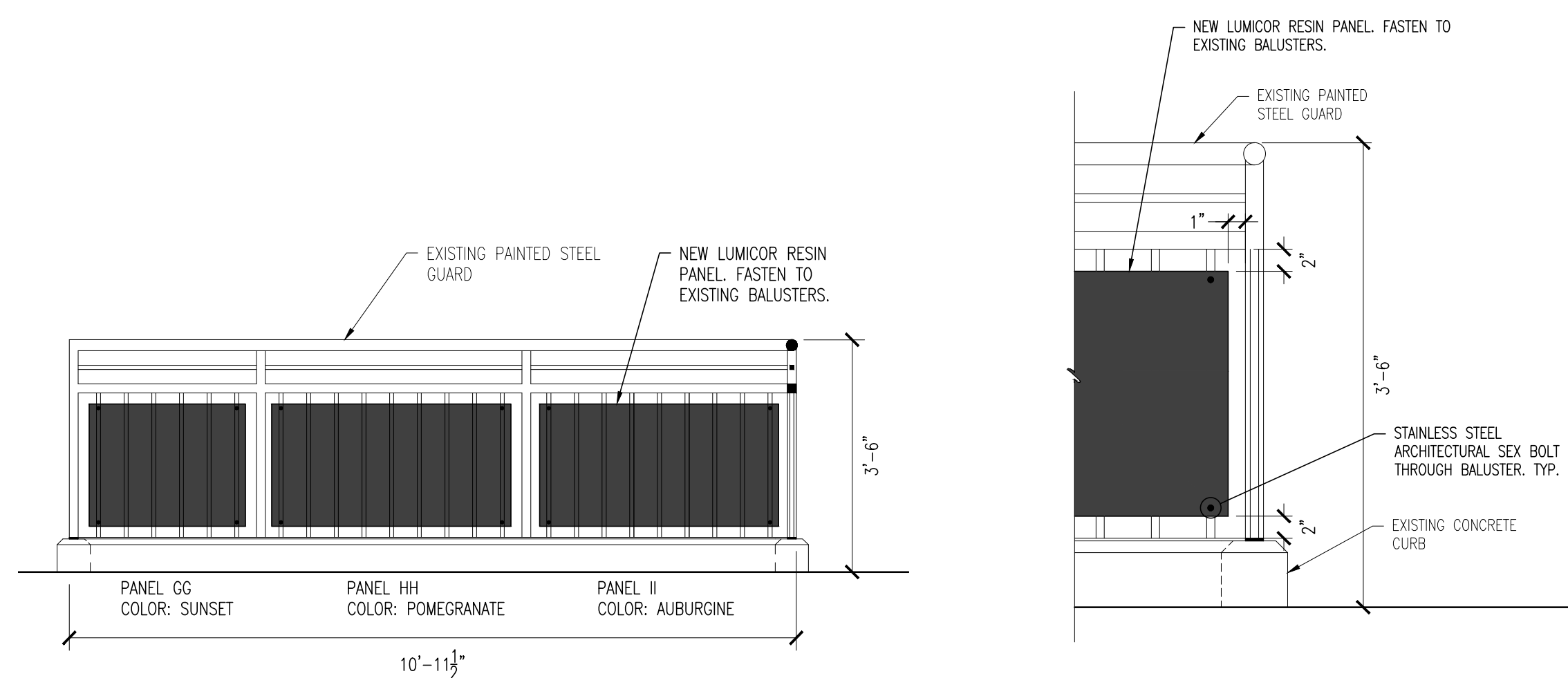
7 ELEVATION - ENTRY PORTAL
SCALE: 1/2" = 1'-0"



1 PARTIAL PLAN - STAIR RAILING PANELS
SCALE: 1/4" = 1'-0"

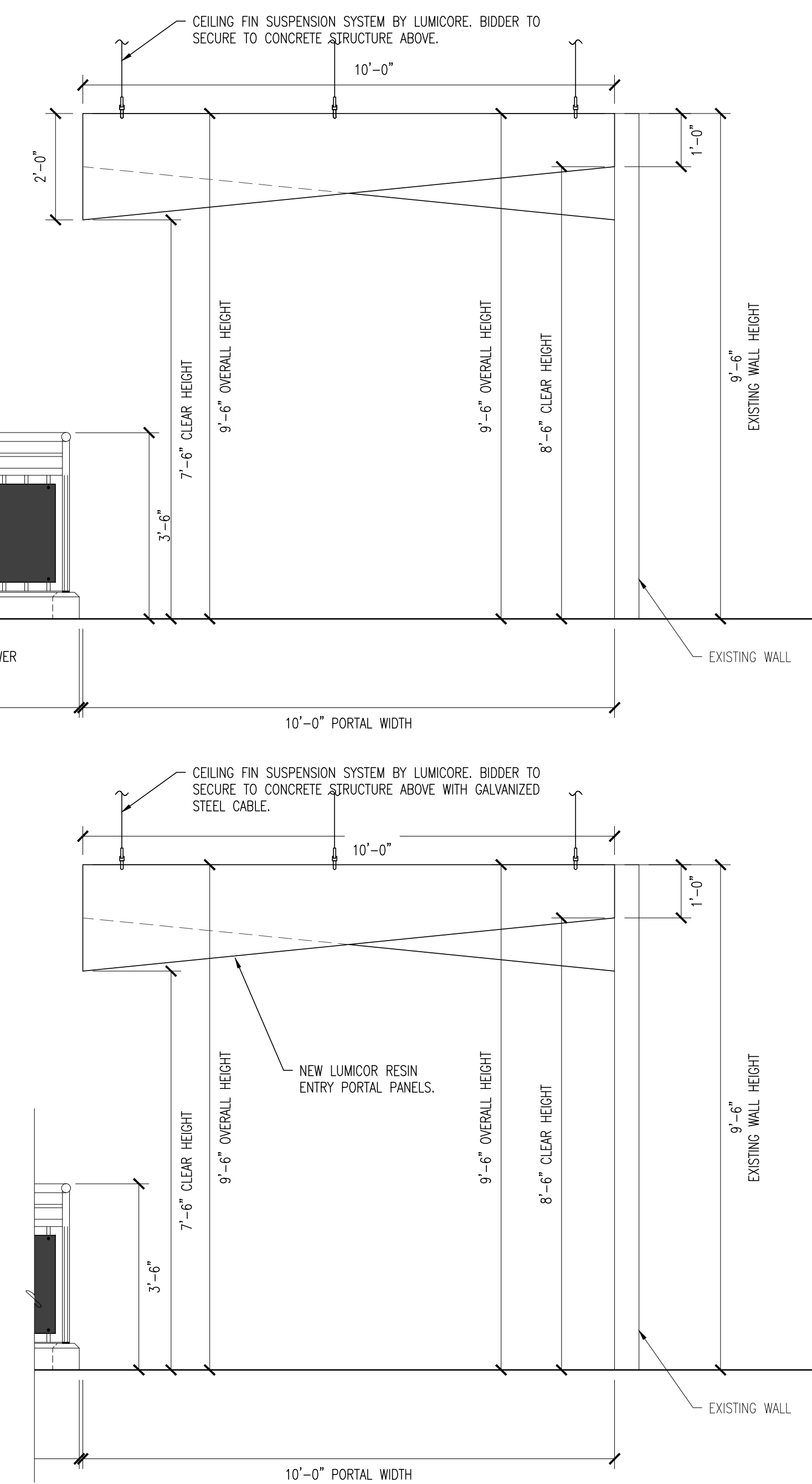


2 ELEVATION - STAIR RAILING PANELS AND PORTALS
SCALE: 1/2" = 1'-0"



3 ELEVATION - STAIR RAILING PANELS
SCALE: 1/2" = 1'-0"

4 DETAIL - ACRYLIC PANEL CONNECTION
SCALE: 1" = 1'-0"



5 ELEVATION - PORTALS
SCALE: 1/2" = 1'-0"

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5	90% CD SUBMISSION	11-13-24
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DRAWING TITLE:
RAILING PANEL AND ENTRY PORTAL DETAILS

JOB NO: 2856-03	DESIGNED BY: AAW
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GENERAL

- STRUCTURAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. FOR INCONSISTENCIES BETWEEN STRUCTURAL DRAWINGS, THE SPECIFICATIONS, AND ANY CODE OF STANDARD PRACTICE, THE STRICTER REQUIREMENT SHALL APPLY, AND THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
- STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE USED WITH OTHER CONSTRUCTION DOCUMENTS, INCLUDING ARCHITECTURAL AND M/E/P DOCUMENTS. COORDINATE WITH THESE DOCUMENTS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHANGES, INSERTS, REGS ETC. SLEEVES, DEPRESSIONS, ETC., NOT INDICATED ON THE STRUCTURAL DOCUMENTS.
- SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS THAT DO NOT HAVE A SPECIFIC SECTION INDICATED, AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OSHA.
- THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. CONSTRUCTION LOADS SHALL NOT EXCEED THE SPECIFIED DESIGN LIVE LOADS.
- IN THE ABSENCE OF SPECIFIC INSTRUCTIONS TO THE CONTRARY IN THE CONTRACT DOCUMENTS, THE TRADE PRACTICES THAT ARE DEFINED IN ANY CODE OF STANDARD PRACTICE SHALL GOVERN.

EXISTING CONSTRUCTION

- BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING STRUCTURAL AND OTHER CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION, AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.
- THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND CONDITIONS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- INFORMATION USED IN PREPARING THESE DRAWINGS WAS TAKEN FROM DRAWINGS PREPARED BY THE HILLIER GROUP AND PAULUS, SOKOLONSKI, AND SARTOR, DATED JULY 6, 1984.

STRUCTURAL DESIGN CRITERIA

- DESIGN LOADS ARE IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE, NEW JERSEY EDITION, ASCE 7-16 AND LOCAL CODE.
DESIGN LIVE LOADS ARE AS FOLLOWS:
EXHIBITS 150 PSF
PUBLIC AREAS 100 PSF
BACK OF HOUSE 60 PSF
EXHIBIT SUPPORT 150 PSF
- OCCUPANCY GROUP = A
RISK CATEGORY = III
- SEISMIC LOADING IS BASED ON THE FOLLOWING:
SEISMIC IMPORTANCE FACTOR 1.25
SPECTRAL RESPONSE ACCEL. (Ss) 0.174g
SPECTRAL RESPONSE ACCEL. (S1) 0.047g
SITE CLASS D
SPECTRAL RESPONSE COEFF. (Sds) 0.142g
SPECTRAL RESPONSE COEFF. (Sd1) 0.075g
SEISMIC DESIGN CATEGORY B
SEISMIC ANCHORAGE NOT REQUIRED DUE TO SEISMIC DESIGN CATEGORY B AND COMPONENT IMPORTANCE FACTOR = 1.0
- DESIGN REACTIONS AND SUPPORT DETAILS FOR TANKS EQUIPMENT IS BASED UPON AVAILABLE MANUFACTURER INFORMATION. SUPPORT CONDITIONS MAY NEED TO BE REVISED BASED UPON ACTUAL SUPPLIED EQUIPMENT AND SUPPORT DETAILS.

REINFORCED CONCRETE

- REINFORCED CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14.
- CONCRETE REINFORCING SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
DEFORMED BARS ASTM A615, GRADE 60
WELDED WIRE FABRIC ASTM A1064
- LAP DEFORMED BARS 40 DIA., UNO. PROVIDE CORNER AND L BARS AT CORNERS AND INTERSECTIONS. REINFORCING INDICATED AS CONTINUOUS SHALL BE LAPPED. HOOKS SHALL BE STANDARD HOOKS, UNO. LAP WELDED WIRE FABRIC SUCH THAT THE OVERLAP OF THE OUTERMOST CROSS-WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS-WIRES PLUS TWO IN., UNO.
- CONCRETE PROTECTION FOR REINFORCEMENT:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
NO. 6 THROUGH NO. 10 BARS: 2 IN.
NO. 5 BAR AND SMALLER: 1-1/2 IN.
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLABS, WALLS, JOISTS:
NO. 14 AND NO. 10 BARS: 1-1/2 IN.
NO. 11 BAR AND SMALLER: 3/4 IN.
BEAMS, COLUMNS, PIERS: 1-1/2 IN.
- REINFORCING FOR SLABS ON GRADE, WHERE NOT OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
REINFORCING BARS: SEE FOUNDATION AND TYPICAL DETAILS. AT SLAB BLOCKOUT AND RE-ENTRANT CORNERS, PROVIDE 2#5 X 4'-0" DIAGONALS.
WIRE MESH: 6x6-W2.9 X W2.9 W/W. REINFORCING SHALL BE SUPPORTED AT MID-DEPTH OF SLAB.
- REINFORCING FOR CONCRETE TOPPING, WHERE NOT OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
REINFORCING BARS: SEE FRAMING AND TYPICAL DETAILS. AT SLAB OPENINGS AND RE-ENTRANT CORNERS, PROVIDE 3/8 X 4'-0" DIAGONALS.
WIRE MESH: 6x6-W2.9 X W2.9 W/W. REINFORCING SHALL BE SUPPORTED 1 IN. BELOW TOP OF SLAB.
- WELDING, WELDING ELECTRODES AND FLUXES SHALL CONFORM TO AWS D1.4-18, "STRUCTURAL WELDING CODE - REINFORCED STEEL". ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI. ASTM A706 BARS OR DBA'S SHALL BE USED IN ALL WELDED APPLICATIONS.
- DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-66, AND WITH ACI 315, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.

DRILLED ANCHORS

- EXPANSION ANCHORS SHALL BE 3/4" MIN DIA., UNO. LENGTH OF ANCHOR SHALL PROVIDE 5" MIN EMBEDMENT, UNO.
- ADHESIVE ANCHORS SHALL BE 3/4" MIN DIA., UNO. LENGTH OF ANCHOR SHALL PROVIDE 6 5/8" MIN. EMBEDMENT, UNO.
- EXPANSION ANCHORS SHALL BE 'HILTI KNIX BOLT III' OR EQUIVALENT. ADHESIVE ANCHORS SHALL BE 'HILTI HIT SYSTEM' OR EQUIVALENT.

TYPICAL DETAILS

- TYPICAL DETAILS APPLY AT ALL APPROPRIATE LOCATIONS.
- TYPICAL DETAILS ARE GENERALLY NOT CUT ON THE PLANS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL TYPICAL DETAIL APPLICATIONS.

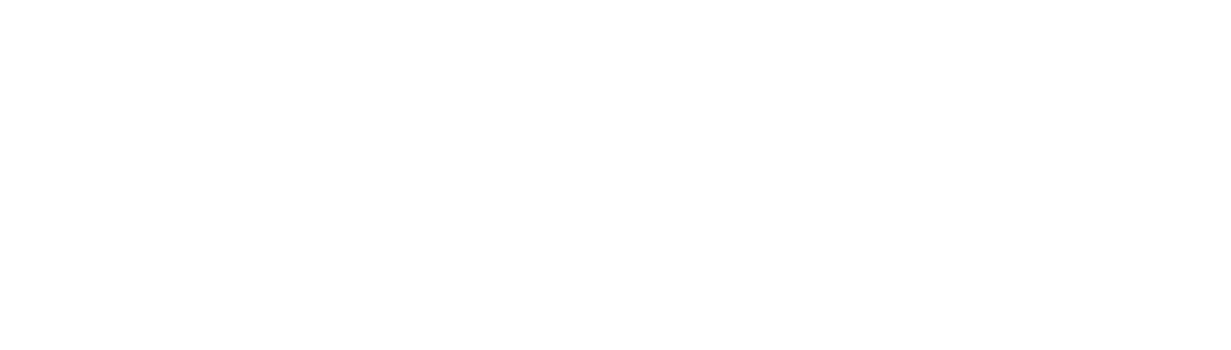
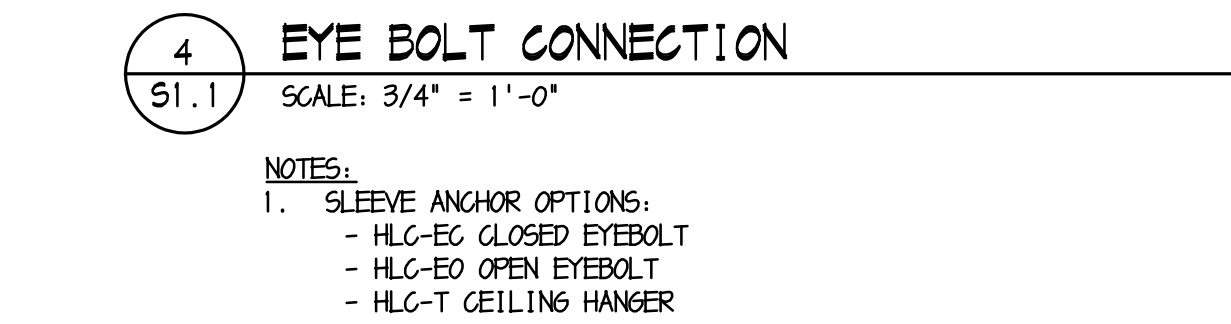
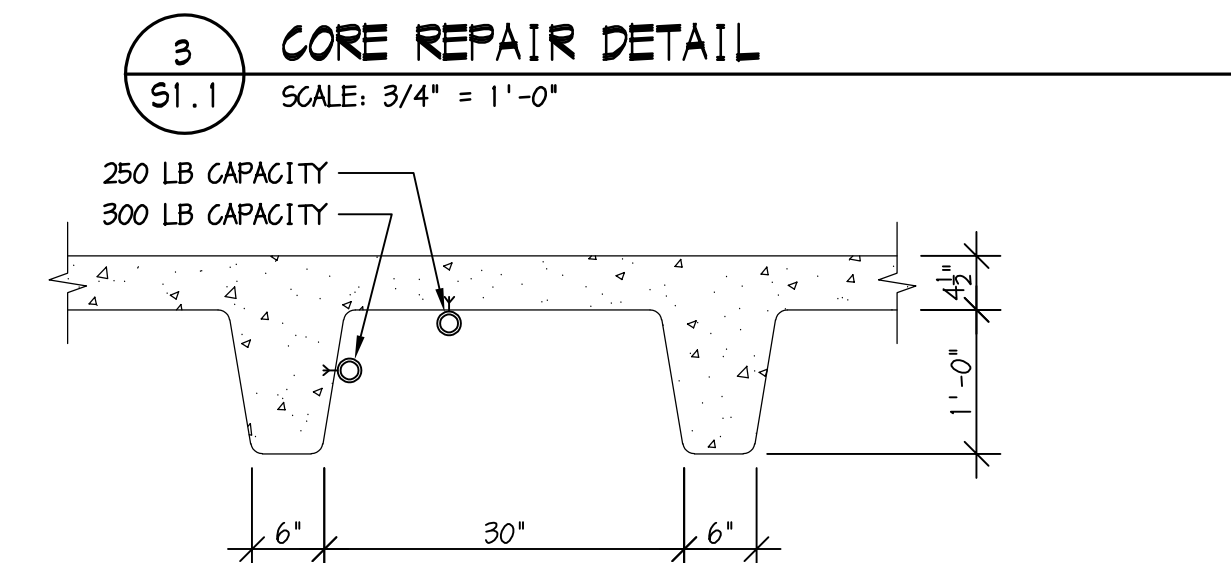
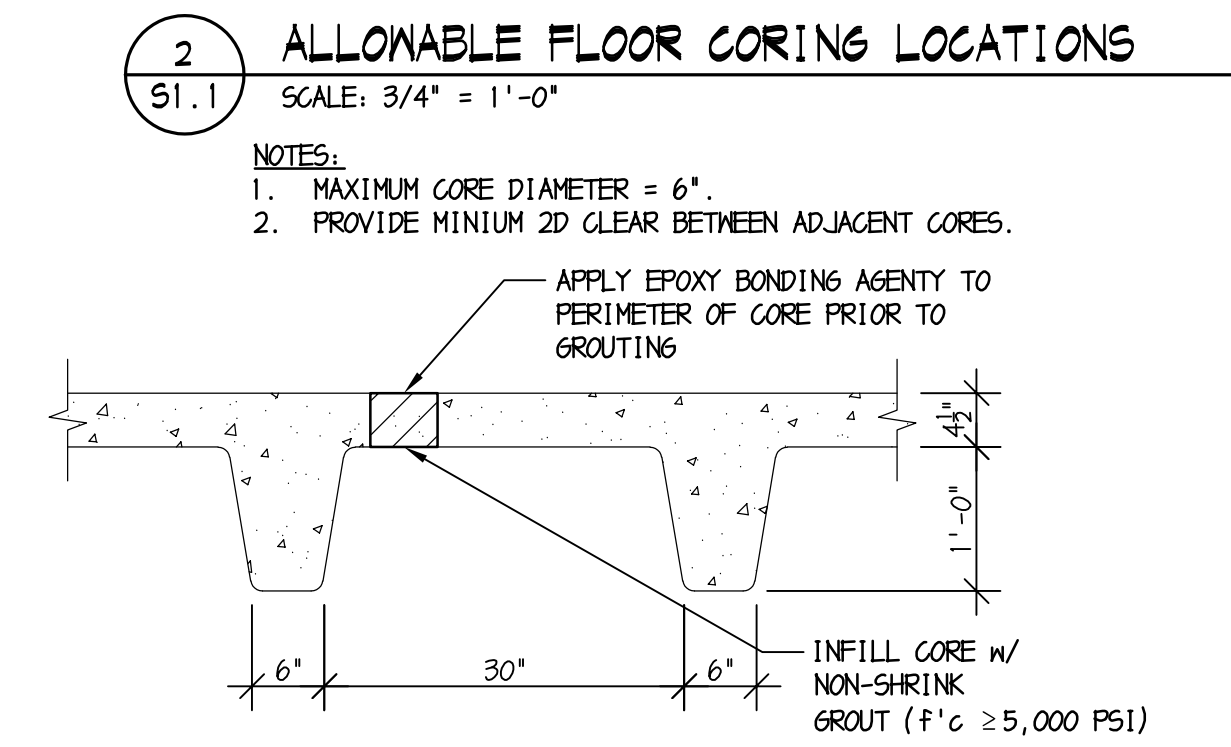
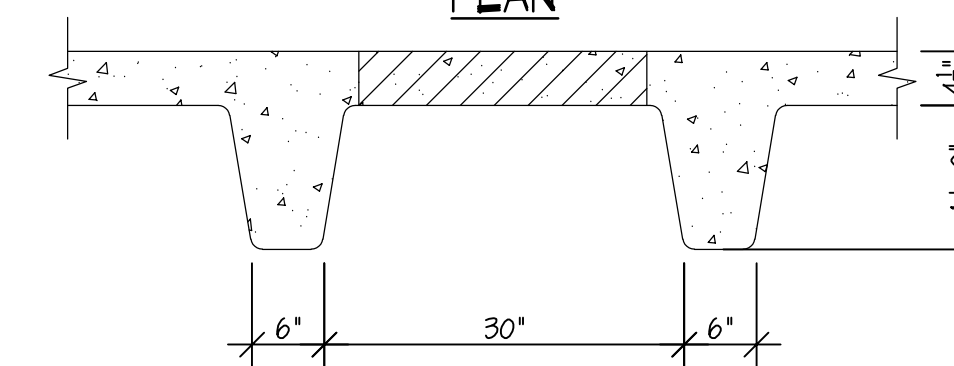
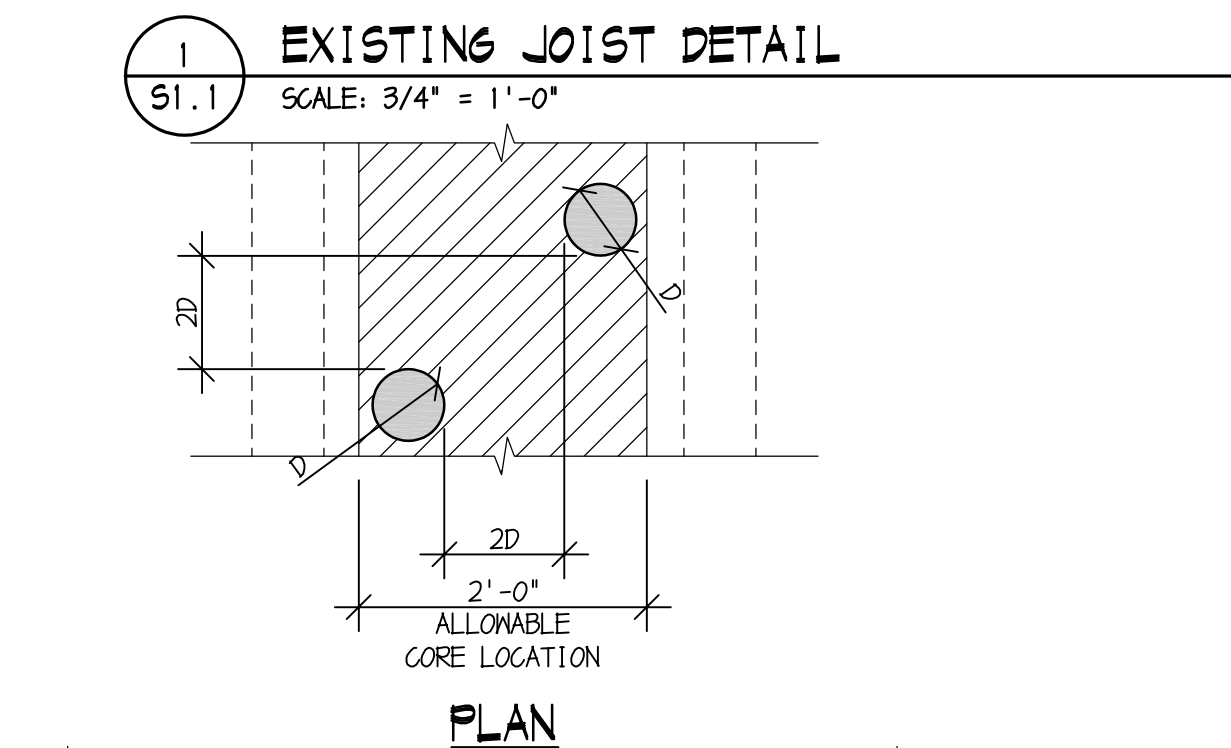
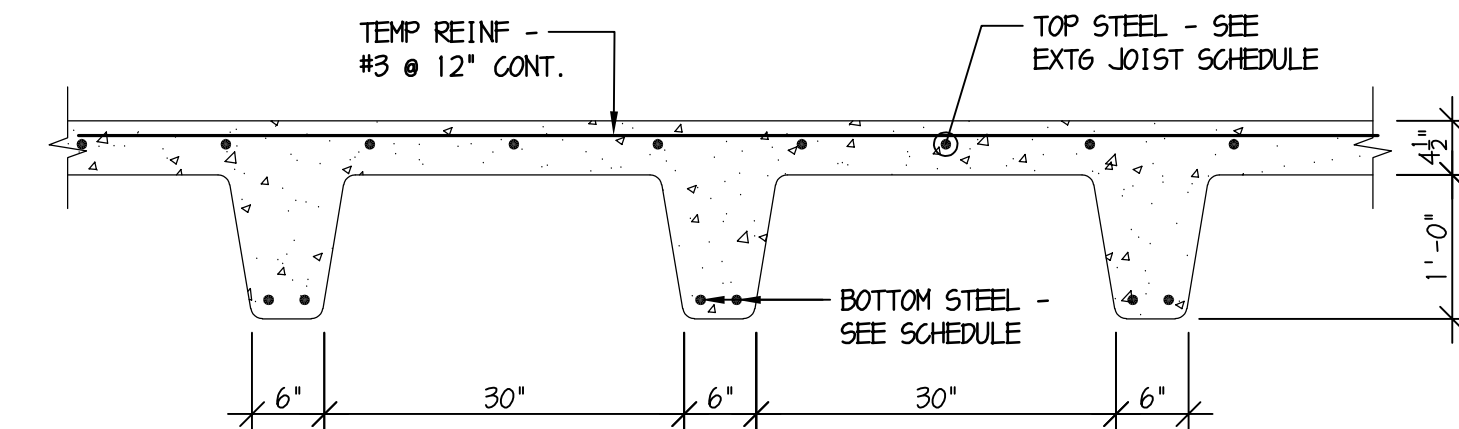
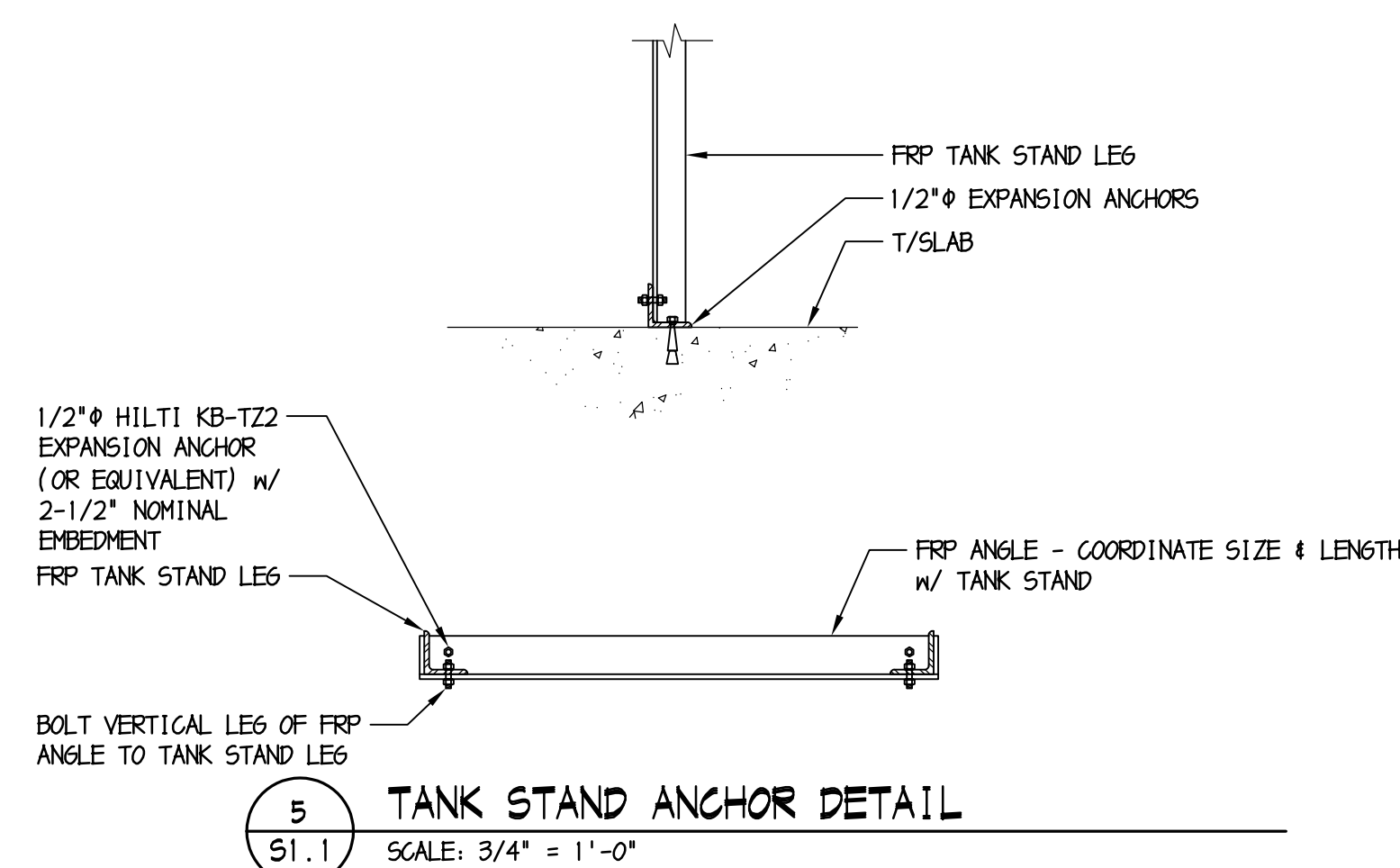
SUBMITTALS

- THE APPLICABLE CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR APPROVAL:
CONCRETE MIX DESIGNS FOR STRENGTHS INDICATED
CONCRETE REINFORCING SHOP DRAWINGS
CONCRETE DATA & MILL TEST FOR EACH TYPE OF PRODUCT SPECIFIED AS APPLICABLE

EXISTING CONCRETE JOIST SCHEDULE						
MARK	SIZE		REINFORCING			
	WIDTH	DEPTH	BOTTOM	LEFT TOP	RIGHT TOP	STIRRUPS
(E)-J4	6"	12"	2-#5	#4 @ 10"	#4 @ 10"	N/A
(E)-J5	6"	12"	2-#5	ADJ	#4 @ 10"	N/A
(E)-J16	6"	12"	2#6	#4 @ 10"	#5 @ 10"	8-#3 @ 6" (R.E.)

TANK SCHEDULE				
NO.	CONDITION	SIZE (LxWxH)	WEIGHT (LBS)	REMARKS
1	RELOCATED	10'-0" x 5'-0" x 3'-0"	14,100	TANK & STAND HEIGHTS ESTIMATED
2	EXISTING	4'-6" x 2'-0" x 4'-6"	---	TANK REMAINING AS IS
3	EXISTING	3'-9" x 2'-0" x 3'-10"	---	TANK REMAINING AS IS
4	EXISTING	2'-10" x 2'-0" x 3'-10"	---	TANK REMAINING AS IS
5	NEW	8'-0" x 1'-0" x 5'-0"	4,670	STAND HEIGHT ESTIMATED
6	EXISTING	3'-8" x 2'-6" x 3'-10"	---	TANK REMAINING AS IS
7	EXISTING	2'-6" x 2'-8" x 2'-4"	---	TANK REMAINING AS IS
8	NEW	10'-0" x 6'-0" x 2'-6"	4,670	STAND HEIGHT ESTIMATED
9	RELOCATED	3'-10" x 3'-10"	3,235	TANK & STAND HEIGHTS ESTIMATED
10	RELOCATED	3'-10" x 3'-10"	3,235	TANK & STAND HEIGHTS ESTIMATED
11	EXISTING	4'-10" x 1'-8" x 1'-10"	---	TANK REMAINING AS IS
12	RELOCATED	1'-4" x 1'-4" x 1'-4"	260	TANK & STAND HEIGHTS ESTIMATED
13	NEW	4'-0" x 1'-6" x 2'-1"	1,720	STAND HEIGHT ESTIMATED
14	NEW	6'-0" x 2'-0" x 2'-7"	2,660	STAND HEIGHT ESTIMATED
15	NEW	4'-0" x 1'-6" x 2'-0"	1,720	STAND HEIGHT ESTIMATED
16	NEW	4'-0" x 2'-0" x 2'-1"	2,380	STAND HEIGHT ESTIMATED
17	NEW	4'-0" x 2'-0" x 2'-1"	2,380	STAND HEIGHT ESTIMATED
18	NEW	5'-0" x 2'-0" x 3'-0"	670	LIMIT OF 20 GALLONS

- NOTES:
- TANK WEIGHT INCLUDES EMPTY TANK, WATER, AND STAND OR SUPPORT FRAMING.
 - IF EMPTY TANK WEIGHTS ARE UNKNOWN, AN ALLOWANCE OF APPROXIMATELY 15% OF WATER WEIGHT WAS USED.
 - IF STAND HEIGHT IS UNKNOWN, AN ALLOWANCE OF APPROXIMATELY 10% OF WATER WEIGHT WAS USED.
 - TANK WEIGHTS AND DIMENSIONS ARE BASED UPON AQUON PRODUCTS LITERATURE, WHERE APPLICABLE.



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NJ CERT. OF AUTHORIZATION #24GA28010400

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ADVENTURE AQUARIUM
KALEIDOSCOPE COVE EXHIBIT RENOVATIONS
1 RIVERSIDE DRIVE
CAMDEN, NEW JERSEY 08103
CAMDEN COUNTY, NEW JERSEY

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NO.	DESCRIPTION	DATE
1	50% DD REVIEW SET	07/24/24
2	90% DD SUBMISSION	08/21/24
3	100% DD SUBMISSION	10/1/24
4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11/13/24
6	100% CD SUBMISSION	12/16/24

DRAWING TITLE:
STRUCTURAL NOTES & SCHEDULES

JOB NO: H15833-24	DESIGNED BY: BDM
DATE: 12/16/24	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM

DRAWING NUMBER:
S1.1



1 SECOND FLOOR FRAMING PLAN
 S2.1 SCALE: 1/8" = 1'-0"

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SEALS:
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 PROJECT:

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REVISIONS		
NO.	DESCRIPTION	DATE
1	50% DD REVIEW SET	07/24/24
2	90% DD SUBMISSION	08/21/24
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4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11/13/24
6	100% CD SUBMISSION	12/18/24

DRAWING TITLE:
SECOND FLOOR FRAMING PLAN

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Brian D. McClade, PE
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JOB NO: H15833-24	DESIGNED BY: BDM
DATE: 12/18/24	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM
DRAWING NUMBER:	

S2.1

ELECTRICAL SYMBOLS SCHEDULE

THIS IS A COMPLETE LIST OF ELECTRICAL SYMBOLS FOR REFERENCE ONLY. SYMBOLS SHOWN HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

GENERAL SYMBOLS

- KEY NOTE INDICATOR
- EQUIPMENT INDICATOR
- SCHEDULED ITEM INDICATOR
- DRAWING REVISION INDICATOR

CONDUIT AND WIRING

- BRANCH CIRCUIT RUN CONCEALED
- BRANCH CIRCUIT RUN UNDER FLOOR
- BRANCH CIRCUIT UP OR DOWN
- HOME RUN TO PANEL 2A CKTS 1, 3, & 5
- EMERGENCY ONLY BRANCH CIRCUIT
- NIGHT LIGHT BRANCH CIRCUIT
- LOW VOLTAGE CIRCUIT
- SURFACE METAL RACEWAY SIZED FOR NO. OF CONDUCTORS TO BE INSTALLED
- CABLE TRAY
- INDICATES CONNECTION TO EXISTING
- PLUGMOLD - SEE PLAN FOR LENGTH

SOUND SYSTEM

- SPEAKER - CEILING MTD FLUSH
- SPEAKER - CEILING MTD SURFACE

AUTOMATIC DOOR

- MOTION DETECTOR H-HEAD MTD C-CEILING MTD
- PUSH PLATE
- KEY SWITCH
- POWER RESET
- DOOR MOUNTED SAFETY INTERLOCK
- ELECTRIC STRIKE
- PUSH BUTTON

SECURITY SYSTEM

- CARD ACCESS STATION
- DOOR ALARM SWITCH W/ ELEC HINGE
- SECURITY CHIME
- KEY BY-PASS SW. FOR DOOR POSITION SW.
- SECURITY SYSTEM MOTION DETECTOR
- SECURITY TV CAMERA
- SECURITY SYSTEM CONSOLE
- ELECTROMAGNETIC LOCK
- REMOTE RELEASE
- ELECTRIC HINGE
- ELECTRIC STRIKE
- KEY SWITCH

POWER DISTRIB.

- SURFACE MTD PANELBOARD
- FLUSH MTD PANELBOARD
- 277/480V PANEL
- 120/208V PANEL
- MOTOR CONNECTION
- DISCONNECT SWITCH
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- POWER COMPANY METER
- C. T. CABINET
- JUNCTION BOX - CEILING MOUNTED
- JUNCTION BOX - FLOOR MOUNTED

POWER SYSTEMS

- TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- EMERGENCY GENERATOR
- POWER DISTRIBUTION UNIT
- UNINTERRUPTIBLE POWER SOURCE
- TRANSIENT VOLTAGE SURGE SUPPRESSOR
- AUTOMATIC TEMPERATURE CONTROL

GROUNDING AND LIGHTNING PROTECTION

- GROUND CONDUCTOR RUN CONCEALED
- GROUND CONDUCTOR RUN UNDER FLOOR
- THERMITE WELD TO BLDG OR EQUIP
- THERMITE WELD OF GROUND CONDUCTORS
- BONDING PLATE OR CLAMP CONNECTION TO PIPING OR EQUIP
- CONNECTION TO AIR TERMINAL FOR LIGHTNING PROTECTION
- THERMITE WELD TO GROUND ROD
- GROUND ROD TRIODE

LIGHTING

- FIXTURE DESIG.-'A' FIXTURE TYPE 2 SWITCH NO. '2A-2' PANEL 2A CKT no.2
- 2X4 FIXTURE
- 2X2 FIXTURE
- 1X4 FIXTURE
- FLUORESCENT STRIPLIGHT
- PENDANT TUBE FIXTURE
- RECESSED DOWNLIGHT
- WALL WASHER
- WALL MTD FIXTURE
- POLE MTD FIXTURE
- CEILING MTD EXIT SIGN W/ ARROWS AS INDICATED
- WALL MTD EXIT SIGN W/ ARROWS AS INDICATED
- LIGHTING TRACK - LENGTH OF TRACK AND NO. OF FIXTURES AS INDICATED ON PLAN.
- INDICATES NIGHT LIGHT
- EMERGENCY BATTERY PACK W/ NUMBER OF HEADS AS INDICATED.
- EMERGENCY LIGHTING REMOTE HEADS
- EMERGENCY BATTERY PACK

COMMUNICATIONS

- TELEPHONE OUTLET
- WALL MTD TELE OUTLET
- DATA OUTLET
- COMBINATION TELE/DATA OUTLET
- COMBINATION TELE/DATA OUTLET AT MOVABLE PARTITION
- TELE/DATA OUTLET FLUSH FLOOR MOUNTED
- COMBINATION POWER & TELE/DATA OUTLET FLUSH FLOOR MOUNTED
- TELE/DATA CONDUIT STUB-UP

FIRE ALARM SYSTEM

- MANUAL PULL STATION
- HORN AND FLASHING LIGHT
- CHIME AND FLASHING LIGHT
- FIRE ALARM BELL
- FIRE ALARM SPEAKER - CEILING MTD
- FIRE ALARM SPEAKER - WALL MTD
- COMBINATION SPEAKER/FLASHING LIGHT
- IONIZATION TYPE SMOKE DETECTOR
- PHOTOELECTRIC TYPE SMOKE DETECTOR
- THERMAL TYPE DETECTOR
- IONIZATION TYPE MTD TO DUCT
- IONIZATION TYPE MTD IN PLENUM
- THERMAL TYPE MTD TO DUCT
- REMOTE TEST SWITCH
- PHOTOELECTRIC TYPE W/ RELAY
- FLOW SWITCH
- TAMPER SWITCH
- PRESSURE SWITCH FOR DRY TYPE SYSTEM
- REMOTE TROUBLE BELL
- ELECTROMAGNETIC SHUTTER HOLDER
- ELECTROMAGNETIC DOOR HOLDER
- FIRE ALARM SYSTEM ACTIVATED DOOR CLOSER
- FIREMANS TELEPHONE JACK
- CONTROL ZAM
- MONITOR ZAM
- FIRE ALARM CONTROL PANEL
- FIRE ALARM COMMAND CENTER
- FIRE ALARM ANNUNCIATOR
- FIRE ALARM PUNCH TAPE RECORDER
- FIRE ALARM DATA GATHERING PANEL
- FIRE SUPPRESSION CONTROL PANEL
- FIRE, SMOKE OR FIRE/SMOKE DAMPER

ELECTRICAL DEVICES

- SINGLE-POLE DOUBLE-POLE 3-WAY AND 4-WAY SWITCHES
- SINGLE POLE SWITCH - WEATHERPROOF
- DUAL LEVEL SWITCHING INSIDE/OUTSIDE LAMP CONTROL
- KEY-LOCK SWITCH
- LIGHTED-HANDLE SWITCH
- CENTER-OFF DOUBLE-POLE SWITCH
- EXPLOSION-PROOF SWITCH
- LOCAL WALL DIMMER SWITCH
- LOW-VOLTAGE SWITCH
- MANUAL TOGGLE SWITCH WITH THERMAL OVERLOAD
- EMERGENCY POWER-OFF SWITCH
- TIMECLOCK
- PHOTOCCELL
- RELAY W/ NUMBER AND TYPE OF POLES AS INDICATED
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE MTD FROM CEILING ON UNSURST
- DUPLEX SPLIT WIRED WITH BOTTOM OUTLET ON WALL SWITCH
- SAFETY TYPE DUPLEX RECEPTACLE
- ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- ISOLATED GROUND TYPE WITH SURGE SUPPRESSION
- DUPLEX FOR ELECTRIC WATER COOLER COORDINATE LOCATION WITH SUPPLIER
- GFI DUPLEX RECEPTACLE
- RECEPTACLE WITH WEATHERPROOF COVER
- EXPLOSION-PROOF RECEPTACLE
- FLUSH-FLOOR MTD RECEPTACLE
- PEDESTAL-FLOOR MTD RECEPTACLE
- PEDESTAL-COUNTER MTD RECEPTACLE
- CEILING MTD RECEPTACLE
- CLOCK RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE - SIZE & TYPE AS INDICATED OR SCHEDULED
- DROP CORD
- POWER FEED AT MOVABLE PARTITION
- INDICATES OUTLET TO BE MOUNTED 8" ABOVE COUNTER HEIGHT. TYPICAL UNLESS NOTED OTHERWISE
- OCCUPANCY SENSOR
- OCCUPANCY SENSOR-CEILING MOUNTED

TELEVISION / VIDEO SYSTEM

- TELEVISION OUTLET
- TELEVISION OUTLET W/ RECEPTACLE
- TV CAMERA OUTLET W/ RECEPTACLE

ELECTRICAL ABBREVIATIONS

THIS LIST OF ABBREVIATIONS IS PROVIDED FOR CONVENIENCE ONLY. ITEMS LISTED HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

1/C	SINGLE CONDUCTOR	INCL	INCLUDE INSTANTANEOUS INSULATION
A/C	AIR CONDITIONER	INSUL	JUNCTION BOX
A	AIR HANDLING UNIT	JB	JANITOR'S CLOSET
ABV	ABOVE	JT	JOINT
AC	ALTERNATING CURRENT	KVA	KILOVOLT AMPERE
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AFG	ABOVE FINISHED GRADE		
AHU	AIR HANDLING UNIT		
ATS	AUTOMATIC TRANSFER SWITCH	LTG	LIGHTING
ALT	ALTERNATE	LV	LOW VOLTAGE
ARCH	ARCHITECTURAL	LVR	LOUVER
AUTO	AUTOMATIC		
AVG	AVERAGE		
BKR	BREAKER	MAX	MAXIMUM
BLDG	BUILDING	MCB	MECHANICAL CONTRACTOR
BLW	BELOW	MCC	MAIN CIRCUIT BREAKER
BTM	BOTTOM	MCC	MOTOR CONTROL CENTER
		MECH	MECHANICAL
		MFR	MANUFACTURER
		MH	MANHOLE
		MIN	MINIMUM
		MISC	MISCELLANEOUS
		MLO	MAIN LUGS ONLY
		MTD	MOUNTED
		MTG	MOUNTING
		NIC	NOT IN CONTRACT
		NO	NUMBER
		NTS	NOT TO SCALE
		OC	ON CENTER
		OPNG	OVERHEAD OPENING
DED	DEDICATED	PC	PLUMBING CONTRACTOR
DET	DETAIL	PEND	PENDANT
DIAM	DIAMETER	PLBG	PLUMBING
DIM	DIMENSION	PNL	PANEL
DISC	DISCONNECT	PRESS SW	PRESSURE SWITCH
DIV	DIVISION	PS	PULL SWITCH
DN	DOWN	PT	POTENTIAL TRANSFORMER
DPR	DAMPEN		
DWG	DRAWING	REC	RECESSED
		REC'S	RECEPTACLES
		RECEPT	RECEPTACLE
		REQD	REQUIRED
		RM	ROOM
EA	EACH	SECT	SECTION
EC	ELECTRICAL CONTRACTOR	SIM	SIMILAR
ELEC	ELECTRICAL	SO FT	SQUARE FEET
ELEV	ELEVATOR	STD	STANDARD
EM	EMERGENCY ONLY	STL	STEEL
EM GEN	EMERGENCY GENERATOR	STOR	STORAGE
ENCL	ENCLOSURE	STRUCT	STRUCTURAL
EQUIP	EQUIPMENT	SURF	SURFACE
EWC	ELECTRIC WATER COOLER	SUSP	SUSPENDED
EXH	EXHAUST	SW	SWITCH
EXIST	EXISTING		
EXT	EXTERIOR	TELE	TELEPHONE
		TEMP	TEMPERATURE
F & I	FURNISHED & INSTALLED	TERM	TERMINAL
FACP	FIRE ALARM CONTROL PANEL	T-STAT	THERMOSTAT
FBO	FURNISHED BY OTHERS	TV	TELEVISION
FP	FIRE PROTECTION	TYP	TYPICAL
FPC	FIRE PROTECTION CONTRACTOR		
FIN	FINISH	UG	UNDERGROUND
FIXT	FIXTURE	UH	UNIT HEATER
FLR	FLOOR	UV	UNIT VENTILATOR
FLUOR	FLUORESCENT	VDT	VISUAL DISPLAY TERMINAL
FU	FUSE	VERT	VERTICAL
		VOL	VOLUME
GA	GAUGE		
GFCI	GENERAL CONTRACTOR	W/	WITH
GRD	GROUND FAULT INTERRUPTER	WF	WEATHERPROOF
		WT	WEIGHT
HORIZ	HORIZONTAL		
HP	HORSEPOWER	XFMR	TRANSFORMER
HT	HEIGHT		
HTG	HEATING		
HV	HIGH VOLTAGE		
HWH	HOT WATER		
HZ	HERTZ		

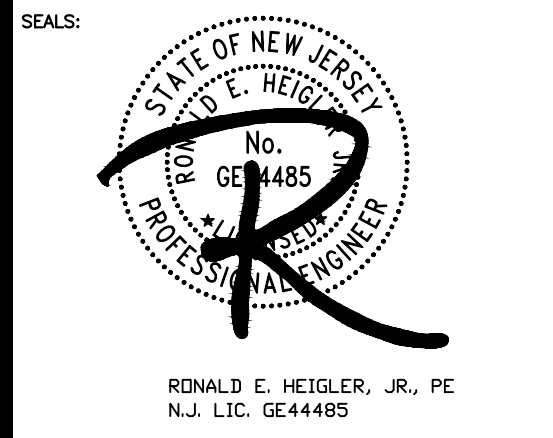
MOUNTING HEIGHTS ELEVATION

6" ABOVE FIRE HOSE CABINET	RED SIGNAL LIGHT
10'-0"	BATTERY LIGHTING UNITS & REMOTE WALL MOUNTED LIGHT HEADS (OR 1'-0" BELOW FINISHED CEILING TO TOP OF UNIT)
8'-6"	PENDANT HUNG & INDUSTRIAL STRIP FIXTURES
CENTERED ABV. WINDOW OR DOOR	WARNING & SIGNALING FIXTURES.
6'-8"	OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, FIRE ALARM SIGNAL DEVICES & ILLUMINATED FIRE SIGNALS.
6'-6"	TOP OF FLUSH & SURFACE MOUNTED ELECTRICAL LIGHTING OR POWER PANELBOARDS & TELEPHONE CABINETS.
6'-3"	TOP OF BACK-MOUNTED WALL EXIT FIXTURES. (NOT MOUNTED ABV. DOORS)
6'-0"	TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, & CONTACTORS.
4'-6"	WALL MOUNTED INTERCOM, NURSE CALL STATIONS, CLOCK CONTROL PANEL, WALL MOUNTED TELEPHONE & PAY STATIONS. (3'-6" AT HANDICAP LOCATIONS-VERIFY EXACT HEIGHT PRIOR TO ROUGH-IN)
4'-0"	WALL MOUNTED WIREMOLD, LIGHTING SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, FIRE ALARM PULL STATIONS & G.F.I. RECEPTACLES IN TOILET ROOMS OR FOR SEPARATE SINKS NOT IN CASEWORK.
3'-6"	MANUAL FIRE ALARMS
2'-0"	ELECTRICAL RECEPTACLES WITHIN MECHANICAL SPACES, ELECTRICAL & ELEVATOR ROOMS.
18"	ELECTRICAL RECEPTACLES, TELEPHONE OUTLETS, COMPUTER OUTLETS, INTERCOM OUTLETS FOR DESKS
0'-0"	FINISHED FLOOR

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PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

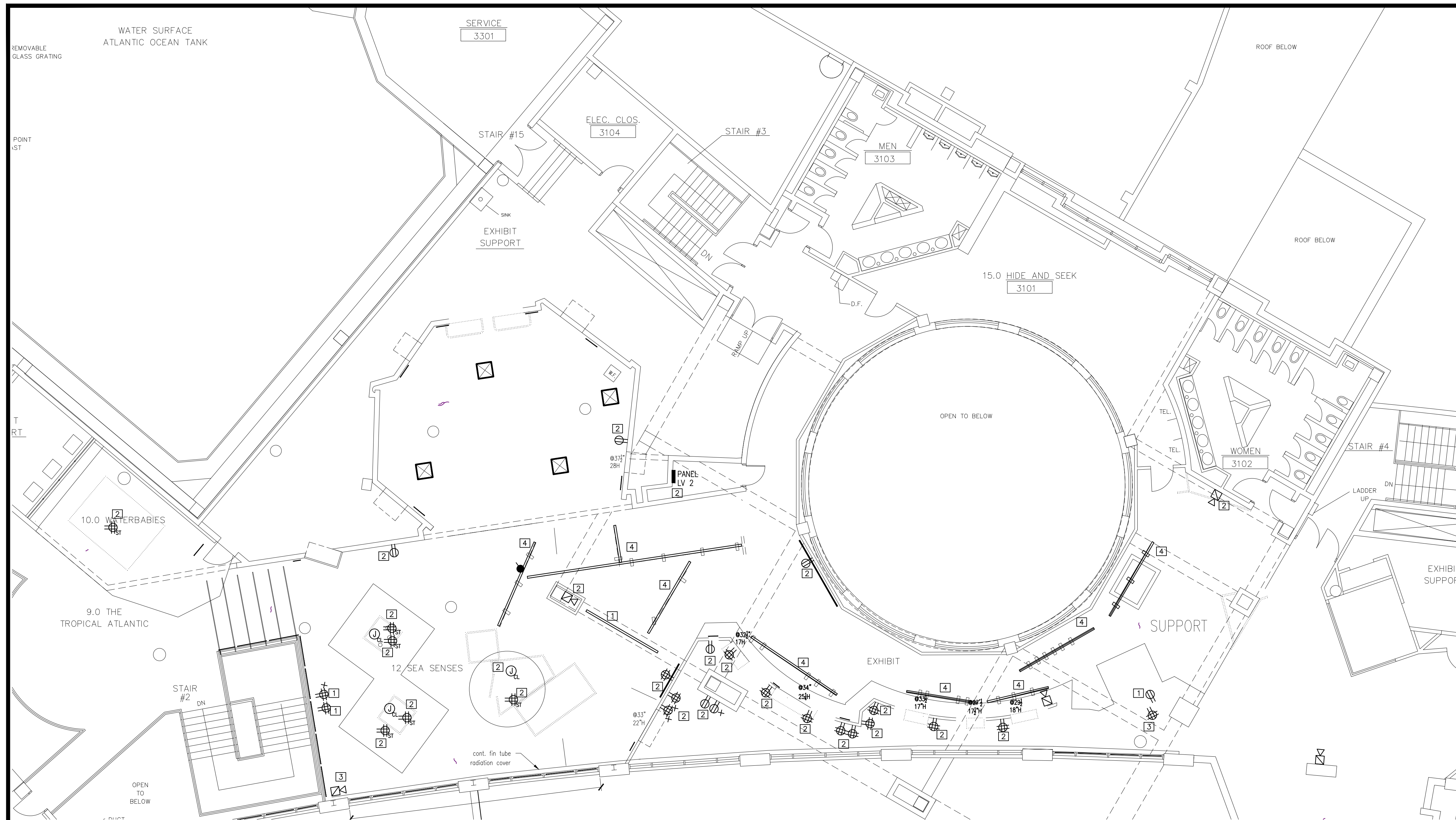
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5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
ELECTRICAL COVER SHEET

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:
EC1



1 ELECTRICAL DEMO PLAN
 E-1.0 SCALE: 1/4" = 1'-0"

SHEET NOTES

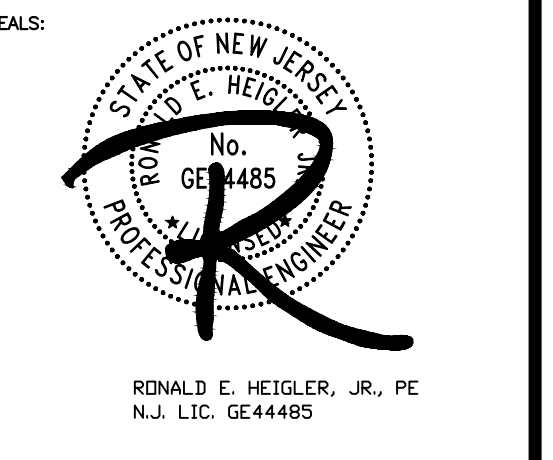
- 1 REMOVE DEVICE AND WIRING. CAP OFF/TERMINATE IN WALL AND/OR CEILING
- 2 DEVICE TO REMAIN
- 3 EXISTING DEVICE TO BE RELOCATED
- 4 REMOVE FIXTURE. CIRCUIT AND BRACING TO REMAIN
- 5 (NOT USED)
- 6 (NOT USED)
- 7 (NOT USED)
- 8 (NOT USED)

GENERAL REQUIREMENTS FOR ELECTRICAL WORK

1. CONTRACTOR SHALL PROVIDE LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL WORK AS INDICATED ON THE DRAWINGS AND AS SPECIFIED.
2. LABOR, MATERIAL, EQUIPMENT AND SERVICE OBVIOUSLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF ELECTRICAL SYSTEMS, ALTHOUGH NOT SPECIFICALLY MENTIONED OR SHOWN, SHALL BE PROVIDED.
3. ELECTRICAL WORK SHALL CONFORM WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND APPLICABLE LAWS, CODES AND REGULATIONS OF MUNICIPAL, COUNTY, STATE, FEDERAL AUTHORITIES, UTILITY COMPANIES, INSURANCE AGENCIES AND OTHER AUTHORITY HAVING JURISDICTION OVER THE WORK.
4. OBTAIN, PAY FOR AND DELIVER PERMITS AND CERTIFICATES OF INSPECTION AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK. AN ELECTRICAL INSPECTION CERTIFICATE, FOR EACH CLASS OF WORK REQUIRING INSPECTION, MUST BE SUBMITTED PRIOR TO OR WITH THE FINAL PAYMENT INVOICE. CONTRACTOR MUST MAKE APPLICATION FOR THE INSPECTION, COORDINATE SAME, AND PAY THE REQUIRED INSPECTION FEE.
5. BEFORE SUBMITTING HIS BID, TRADE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD. FAILURE TO DO SO SHALL NOT RELIEVE TRADE CONTRACTOR OF HIS OBLIGATION TO PAY FOR COSTS THAT MAY BE INCURRED DUE TO CONDITIONS THAT MAY AFFECT THE COST OF INSTALLING HIS WORK.
6. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED, HOWEVER, CERTAIN RACEWAYS, FITTINGS, BOXES, SYSTEM COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES ARE NOT SHOWN, BUT SHALL BE PROVIDED TO INSURE A COMPLETE INSTALLATION.
7. CONSULT THE DRAWINGS FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE SAME ARE NOT DEFINITELY LOCATED, OBTAIN THIS INFORMATION FROM THE ARCHITECT/ENGINEER.
8. INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED OR SHOWN, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK, AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN REVIEW.
9. NO CONSIDERATION OR ALLOWANCE SHALL BE GRANTED FOR ALLEGED MISUNDERSTANDING OF MATERIALS AND EQUIPMENT TO BE FURNISHED FOR WORK TO BE ACCOMPLISHED.
10. WORK FURNISHED UNDER THE CONTRACT SHALL BE WARRANTED AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR, OR AS OTHERWISE SPECIFIED, FROM THE DATE OF FINAL.
11. MATERIAL AND EQUIPMENT IN THE WORK SHALL BE NEW, FIRST GRADE, THE BEST OF THEIR RESPECTIVE KINDS, AND APPROPRIATE FOR THE APPLICATION AND ENVIRONMENT.
12. EQUIPMENT OR APPARATUS FOR ANY ONE SYSTEM SHALL BE THE PRODUCT OF ONE MANUFACTURER. THE TERM "MANUFACTURER" SHALL BE UNDERSTOOD AS APPLYING TO A COMPANY OF ESTABLISHED REPUTATION IN THE MANUFACTURE OF A PARTICULAR PIECE OF EQUIPMENT OR APPARATUS FROM PRODUCTS OF HIS OWN MAKE OR OTHERS, AND WHO ASSUMES FULL RESPONSIBILITY FOR PRODUCTS USED IN SUCH EQUIPMENT OR APPARATUS. THE MANUFACTURER MUST SUBMIT EVIDENCE OF FIVE (5) YEARS OR MORE MANUFACTURING EXPERIENCE IN THE PRODUCTION OF THESE PRODUCTS.
13. MATERIAL OR EQUIPMENT SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE, OR CATALOG NUMBER ARE DESIGNED TO ESTABLISH STANDARDS OF DESIRED QUALITY, STYLE, PERFORMANCE, ELECTRICAL, MECHANICAL AND PHYSICAL CHARACTERISTICS, AND DIMENSIONS.
14. WHERE CABLE PASSES THROUGH FIRE RATED STRUCTURES PROVIDE FIREPROOF FITTINGS.
15. RACEWAYS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT AS OTHERWISE SPECIFIED OR SHOWN.
16. WHERE CONDUIT TERMINATES IN A CABINET, BOX OR AUXILIARY GUTTER, THE CONDUCTORS SHALL BE PROTECTED BY AN INSULATING BUSHING. LOCKNUTS SHALL BE PROVIDED BOTH INSIDE AND OUTSIDE THE ENCLOSURE.
17. A PULL WIRE SHALL BE INSTALLED IN EMPTY RACEWAYS. PULL WIRE SHALL BE 200 POUND TEST NYLON. BOTH ENDS SHALL BE IDENTIFIED BY MEANS OF LABELS OR TAGS, READING "PULL WIRE" AND GIVING THE ORIGINATION AND TERMINATION POINTS.
18. GENERALLY, WIRING SHALL BE DONE WITH INSULATED CONDUCTORS IN CONTINUOUSLY GROUNDED PVC RACEWAYS. RACEWAYS SHALL BE INSTALLED CONCEALED IN THE CONSTRUCTION EXCEPT IN MECHANICAL OR ELECTRICAL SPACES, OPEN CONSTRUCTION AREAS OR WHERE SHOWN ON THE DRAWINGS.
19. ELECTRICAL PVC TUBING MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING ABOVE SUSPENDED CEILING AND INSIDE INTERIOR HOLLOW WALLS AND PARTITIONS.
20. RACEWAYS SHALL BE SUPPORTED TO COMPLY WITH NEC.
21. WHERE TELEDATA OUTLETS ARE SHOWN, PROVIDE A SINGLE GANG BOX WITH BLANK PLATE AND ELECTRICAL PVC TUBING UP TO CEILING SPACE WITH CAT 6E CABLING TO NEAREST IDF.
22. NO "THROUGH-WALL" BOXES SHALL BE PERMITTED. WHERE DRAWINGS INDICATE BOXES BACK-TO-BACK, OR SIMILAR LOCATIONS, SUCH BOXES SHALL BE INSTALLED SEPARATELY, SPACED MINIMUM SIX INCHES APART HORIZONTALLY, AND CONNECTED.
23. WHERE CONDUITS, CABLES, OUTLETS, PANELBOARDS OR LIGHTING BOXES PENETRATE FIRE RATED WALLS, FLOORS, PARTITIONS, CEILING OR SLABS, FILL AND SEAL SPACES BETWEEN THE CONDUITS OR CABLES AND THE SLEEVE WITH 2-PART INTUMESCENT FOAM SEALANT OR A FIRE RATED ENCLOSURE/HOUSING/HOOD CREATING A FIRE STOP EQUAL TO OR EXCEEDING FIRE RATING OF CONSTRUCTION MATERIAL BEING PENETRATED. FIRE SEALANT SHALL PREVENT SPREAD OF FLAME, SMOKE, AIR AND WATER THROUGH THE SLEEVE AND SHALL PASS 3 HOUR TEST PER ASTM E814 AND UL 1479. FIRE SEALANT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

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PROJECT:
**KALEIDOSCOPE COVE
 EXHIBIT RENOVATIONS**

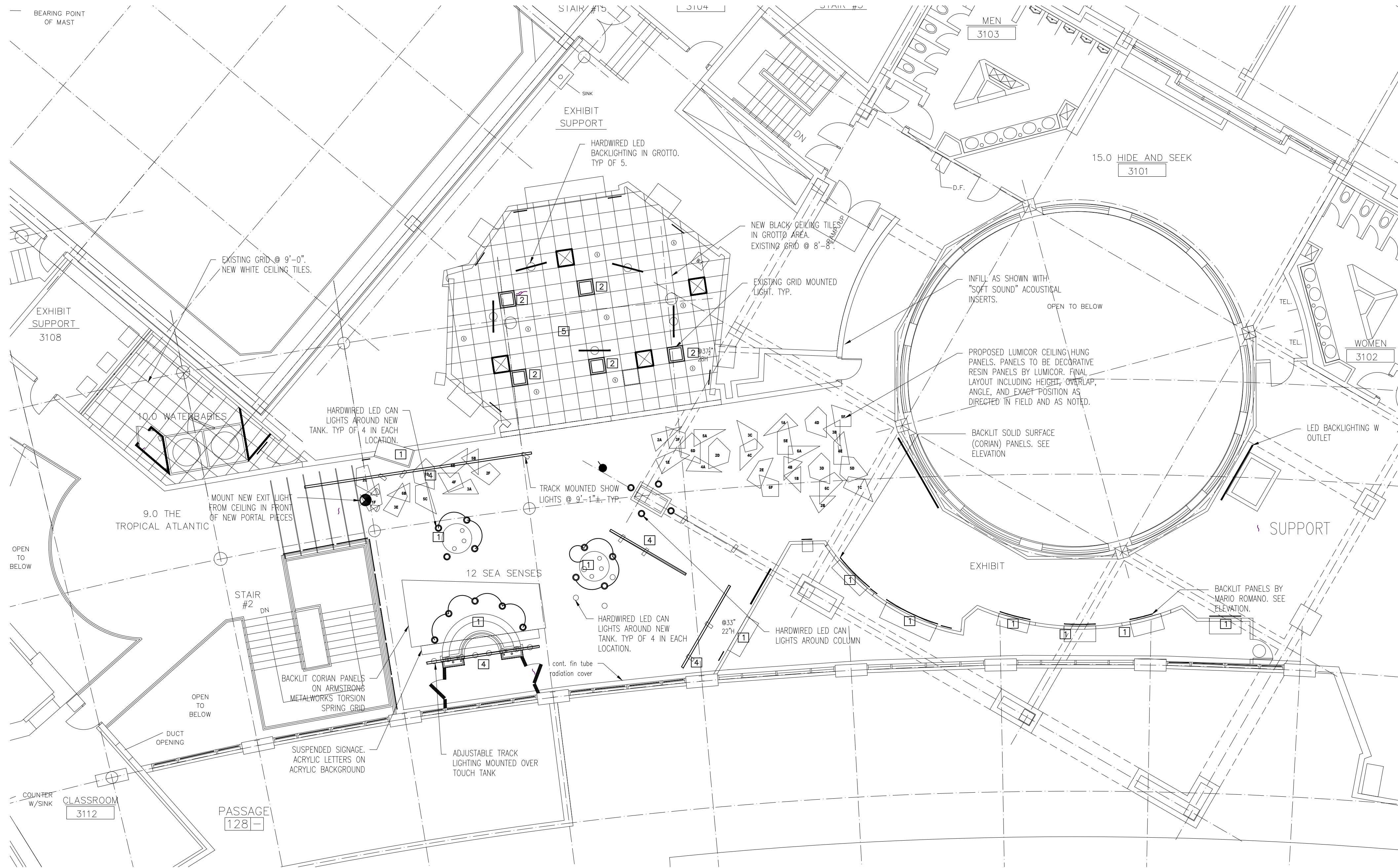
ADVENTURE AQUARIUM
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

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6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
ELECTRICAL FLOOR PLANS

JOB NO: 2856-03
 DATE: -
 SCALE: AS NOTED
 DESIGNED BY: AAW
 DRAWN BY: AAW
 CHECKED BY: SMB / BMG / RH



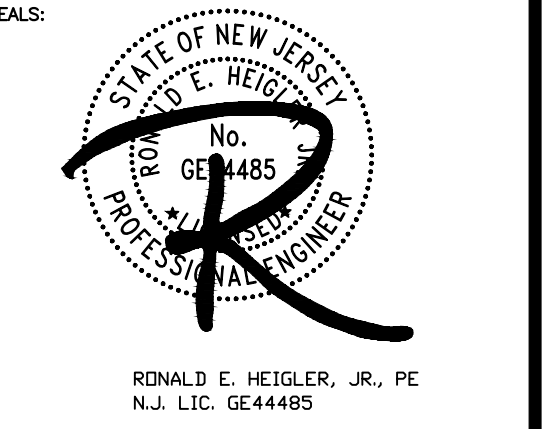
SHEET NOTES

- 1 CONNECT NEW LIGHTING TO EXISTING LIGHTING CONTACTOR CIRCUIT ON TIMER
- 2 EXISTING DEVICE
- 3 RELOCATED EXISTING DEVICE
- 4 CONNECT NEW LIGHTING TO EXISTING LIGHTING CIRCUIT
- 5 SEE POWER PLANS FOR BLACKLIGHT RECEPTACLE LOCATIONS
- 6 (NOT USED)
- 7 (NOT USED)
- 8 (NOT USED)

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KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
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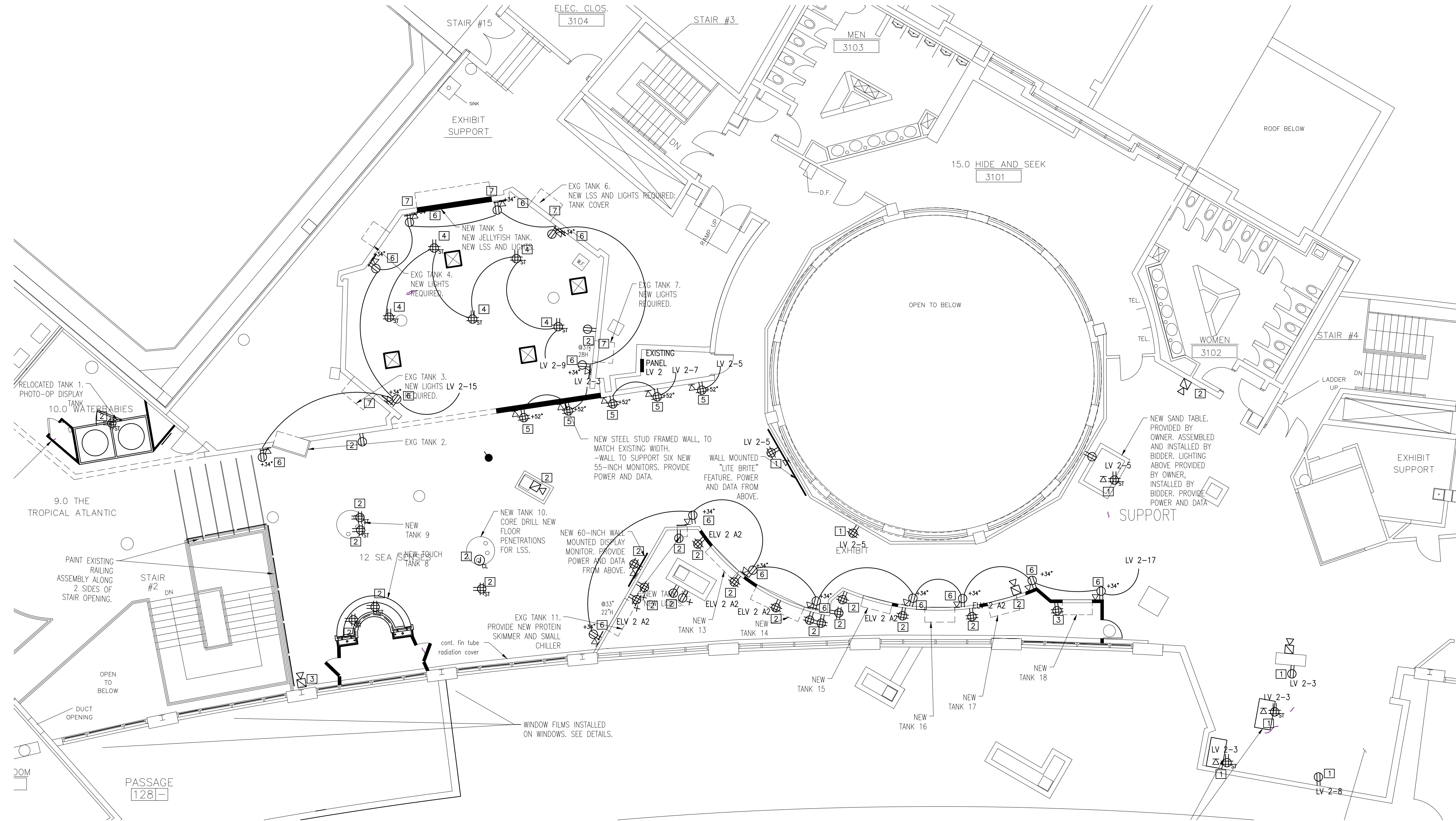
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JOB NO: 2856-03
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DRAWING NUMBER:

E-1.1

1 ELECTRICAL LIGHTING PLAN
 E-1.1 SCALE: 1/8" = 1'-0"

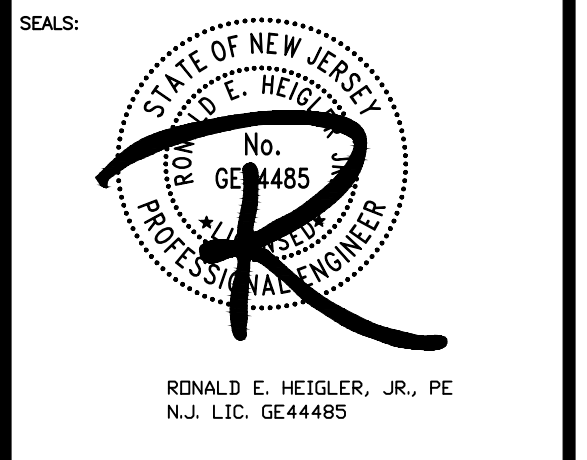


SHEET NOTES

- 1 NEW DEVICE FED FROM PANEL LV 2. PROVIDE CAT 6E CABLING TO NEAREST IDF CLOSET WHERE DATA IS SHOWN
- 2 EXISTING DEVICE ON EMERGENCY PANEL ELV 1
- 3 RELOCATED EXISTING DEVICE
- 4 BLACKLIGHT RECEPTACLE
- 5 MONITOR RECEPTACLE
- 6 TANK ID MONITOR RECEPTACLES AND DATA. PROVIDE CAT 6E CABLING TO NEAREST IDF CLOSET
- 7 EXISTING RECEPTACLE FEED FROM EM PANEL
- 8 (NOT USED)

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PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

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DRAWING TITLE:
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JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

1 ELECTRICAL POWER PLAN
 E-1.2 SCALE: 1/8" = 1'-0"

PANEL NO. LV1(EXISTING)		NEUTRAL BUS: 100% GROUND BUS: YES		VOLTAGE: 200Y/120V, 3PH, 4W & G						
ISOLATED GROUND BUS: NO		MOUNTING: FLUSH		MAINS: 100A						
MOUNTING: FLUSH		AIC RATING:		MAIN CIR. BRK.: 100A / 3P						
CIR. NO.	DESCRIPTION	WIRE SIZE	BREAKER AMPS	POLES	A (VA) B (VA) C (VA)	POLES	BREAKER AMPS	WIRE SIZE	DESCRIPTION	CIR. NO.
1	LUTRON POWER(E)	#12	20	1	1000		1	20	#12	2
3		#12	20	1	1000		1	20	#12	4
5		#12	20	1	1000		1	20	#12	6
7	LIGHTING(E)	#12	20	1	1000		1	20	#12	8
9		#12	20	1	1000		1	20	#12	10
11		#12	20	1	1000		1	20	#12	12
13		#12	20	1	1200		1	20	#12	14
15		#12	20	1	1200		1	20	#6	16
17		#12	20	1	1200		1	20	#6	18
19		#12	20	1	0		1	20	#12	20
21		#12	20	1	0		1	20	#12	22
23		#12	20	1	0		1	20	#12	24
25		#12	20	1	0		1	20	#12	26
27		#12	20	1	0		1	20	#12	28
29		#12	20	1	0		1	20	#12	30
31	(NOT USED)	#12	20	1	0					32
33	(NOT USED)	#12	20	1	0					34
35	(NOT USED)				0					36
37	(NOT USED)				0					38
39	(NOT USED)				0					40
41	(NOT USED)				0					42
SUB TOTAL					4200	3200	1200			
LEGEND: ** 6mA GROUND FAULT CIRCUIT BREAKER		CONNECTED LOAD		8.6 KVA		REMARKS:		SUB TOTAL		
* 30mA GROUND FAULT CIRCUIT BREAKER		DEMAND LOAD		10.8 KVA						
# LOCK-ON CIRCUIT BREAKER HANDLE		MIN AMPS		36 AMPS 3 PH.						

PANEL NO. LV2(EXISTING)		NEUTRAL BUS: 100% GROUND BUS: YES		VOLTAGE: 200Y/120V, 3PH, 4W & G						
ISOLATED GROUND BUS: NO		MOUNTING: FLUSH		MAINS: 125A						
MOUNTING: FLUSH		AIC RATING:		MAIN CIR. BRK.: 125A / 3P						
CIR. NO.	DESCRIPTION	WIRE SIZE	BREAKER AMPS	POLES	A (VA) B (VA) C (VA)	POLES	BREAKER AMPS	WIRE SIZE	DESCRIPTION	CIR. NO.
1	RECEPTACLES(E)	#12	20	1	1000		1	20	#12	2
3	MONITOR RECEPTACLES	#12	20	1	1000		1	20	#12	4
5	MONITOR RECEPTACLES	#12	20	1	1000		1	20	#12	6
7	MONITOR RECEPTACLES	#12	20	1	1000		1	20	#12	8
9	WP GFCE RECP(E)	#12	20	1	1000		1	20	#12	10
11	WP GFCE RECP(E)	#12	20	1	1000		1	20	#12	12
13	RECEPTACLES(E)	#12	20	1	1000		2	20	#12	14
15	ID RECEPTACLES	#12	20	1	500		1	20	#6	16
17	ID RECEPTACLES	#12	20	1	966		1	20	#4	18
19	RECEPTACLES(E)	#12	20	1	500		1	20	#4	20
21	WP GFCE RECP(E)	#12	20	1	1000		1	20	#12	22
23		#12	20	1	0		1	20	#12	24
25		#12	20	1	0		1	20	#4	26
27		#12	20	1	0		1	20	#4	28
29		#4	20	1	0		1	20	#4	30
31	(NOT USED)	#12	20	1	0					32
33	(NOT USED)	#12	20	1	0					34
35	(NOT USED)				0					36
37	(NOT USED)				0					38
39	(NOT USED)				0					40
41	(NOT USED)				0					42
SUB TOTAL					7220	5706	5360			
LEGEND: ** 6mA GROUND FAULT CIRCUIT BREAKER		CONNECTED LOAD		18.286 KVA		REMARKS:		SUB TOTAL		
* 30mA GROUND FAULT CIRCUIT BREAKER		DEMAND LOAD		17.7 KVA						

ENTRANCE TO AND EGRESS FROM WORKING SPACE:

- PER N.E.C. 110.26 (C)(1) & (2):
- MINIMUM REQUIRED: AT LEAST ONE ENTRANCE OF SUFFICIENT AREA SHALL BE PROVIDED TO GIVE ACCESS TO AND EGRESS FROM WORKING SPACE ABOUT ELECTRICAL EQUIPMENT.
 - LARGE EQUIPMENT: FOR EQUIPMENT RATED AT 1200 AMPERES OR MORE OVER 1.8m (6'-0") WIDE THAT CONTAINS OVERCURRENT DEVICES, SWITCHING DEVICES OR CONTROL DEVICES, THERE SHALL BE ONE ENTRANCE TO AND EGRESS FROM THE REQUIRED WORKING SPACE NOT LESS THAN 610mm (24") WIDE AND 2.0m (6'-6") HIGH AT EACH END OF THE WORKING SPACE. A SINGLE ENTRANCE TO AND EGRESS FROM THE REQUIRED WORKING SPACE SHALL BE PERMITTED WHERE EITHER OF THE FOLLOWING CONDITIONS ARE MET:
 - WHERE THE LOCATION PERMITS A CONTINUOUS AND UNOBSTRUCTED WAY OF EGRESS TRAVEL, A SINGLE ENTRANCE TO THE WORKING SPACE SHALL BE PERMITTED.
 - EXTRA WORKING SPACE, WHERE THE DEPTH OF THE WORKING SPACE IS TWICE THAT REQUIRED, A SINGLE ENTRANCE SHALL BE PERMITTED.

GENERAL ELECTRICAL NOTES:

- ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR THIS PROJECT SHALL BE NEW AND APPROVED BY UNDERWRITERS LABORATORY (UL) OR ANY OTHER NATIONALLY RECOGNIZED TESTING AGENCY.
- UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPENS, OVERLOADS, AND IMPROPER VOLTAGE.
- LIGHTING AND POWER BRANCH CIRCUIT PANEL BOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE EQUIPPED WITH QUICK-MAKE, QUICK-BREAK, TRIP INDICATING, MOLDED CASE, THERMAL MAGNETIC CIRCUIT BREAKERS.
- TWO OR THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP TYPE. SINGLE POLE BREAKER WITH YOKED HANDLE WILL NOT BE PERMITTED.
- ALL LIGHTING AND POWER PANELS SHALL HAVE THEIR TOP AT 6'-6" ABOVE FINISHED FLOOR.
- PANEL BOARDS SHALL BE SUITABLE FOR FLUSH MOUNTING OR SURFACE MOUNTED INSTALLATION AS REQUIRED.
- PANEL BOARDS SHALL BE DEAD-FRONT, SAFETY-TYPE AND SHALL CONTAIN MAIN CIRCUIT BREAKERS, MAIN LUGS RATINGS, BRANCH CIRCUIT BREAKERS, SPACE AND BUSES AS INDICATED ON DRAWINGS.
- THE FOLLOWING CONVENTION SHALL BE USED:

4	FEEDER TYPE
200	FEEDER SIZE
- WHERE SHORT CIRCUIT RATINGS ARE NOT INDICATED, PROVIDE 65 KAIC MINIMUM. AS ACTUAL FEEDER ROUTING MAY VARY, THE SHORT CIRCUIT RATING OF ANY LOAD CENTER MAY BE REDUCED TO 10 KAIC IF THE FEEDER LENGTH FROM THE UTILITY TRANSFORMER TO THE LOAD CENTER EXCEEDS 70 FEET.

WORKING SPACE CLEARANCES AROUND ELECTRICAL EQUIPMENT

NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE		
	CONDITION 1	CONDITION 2	CONDITION 3
0-150 VOLTS	914mm (3'-0")	914mm (3'-0")	914mm (3'-0")
151-600 VOLTS	914mm (3'-0")	1.07m (3'-6")	1.22m (4'-0")
601-2500 VOLTS	914mm (3'-0")	1.2m (4'-0")	1.5m (5'-0")
2501-9000 VOLTS	1.2m (4'-0")	1.5m (5'-0")	1.8m (6'-0")
9000-25000 VOLTS	1.5m (5'-0")	1.8m (6'-0")	2.8m (9'-0")

WHERE THE FOLLOWING CONDITIONS ARE AS FOLLOWS:

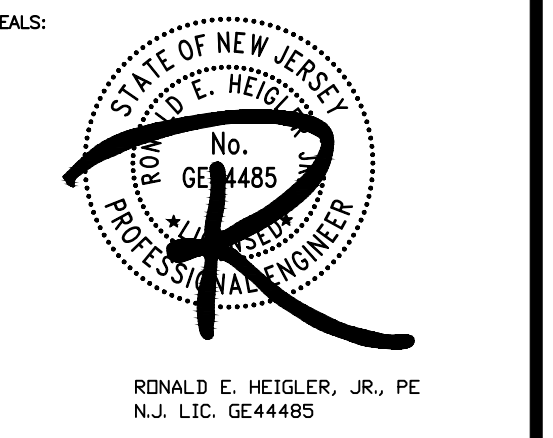
CONDITION 1 : EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 2 : EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.

CONDITION 3 : EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.

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PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

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REVISIONS		
NO.	DESCRIPTION	DATE
1	50% DD REVIEW SET	07/24/24
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4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
ELECTRICAL SCHEDULES

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

E-2.0

SYMBOLS

- ☑ FIRE ALARM MANUAL PULL STATION WITH PROTECTION COVER AND COVER WITH WARNING HORN
- ☐_D DUCT SMOKE DETECTOR
- ☐_{15cd} STROBE WITH 15 CANDELA OUTPUT RATING (CANDELA OUTPUT RATING IS NOT INDICATED)
- ☐_{30cd} STROBE WITH 30 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- ☐_{110cd} STROBE WITH 110 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- ☑_{30cd} HORN AND STROBE COMBINATION UNIT STROBE WITH 30 CANDELA OUTPUT RATING INDICATES CANDELA OUTPUT RATING OF STROBE.
- ☑_{110cd} HORN AND STROBE COMBINATION UNIT STROBE WITH 110 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- ☑_{110cd} FIRE ALARM MANUAL PULL STATION AND HORN AND STROBE COMBINATION UNIT ABOVE.
- ☐_{TL} THERMAL DETECTOR
- ☐_{EL} END OF LINE RESISTOR

- ☑_H HORN
- ☐_R REMOTE ALARM INDICATOR W/KEY TEST SWITCH
- ☐_C CONTROL MODULE
- ☐_I I.A.M. MODULE
- ☐_{FACP} FIRE ALARM CONTROL PANEL
- ☐_{NAC} NOTIFICATION EXTENDER PANEL
- ☐_{FAA} REMOTE ANNUNCIATOR
- ☐_{EL} END OF LINE RESISTOR
- ☐_{WG} DEVICE WITH WIRE GUARD
- ☐_{WP} WEATHER PROOF DEVICE
- SUPPLY AIR DUCT
- ← RETURN AIR DUCT
- ☐_M EXISTING MOTOR STARTER
- ☒ EXISTING CONTROL EQUIPMENT OF FIRE EXTINGUISHING SYSTEM
- ☉ EXISTING SMOKE DETECTOR W/ 9V BATT BACK UP
- ☐_{KA} CONNECTION TO KITCHEN ANSUL SYSTEM

FIRE ALARM SYSTEM NOTES:

1. FURNISH AND INSTALL DEVICES TO THE FIRE ALARM SYSTEM AS COVERED BY THESE SPECIFICATIONS AND DRAWINGS. WIRE AND CONNECT AND LEAVE IN A FIRST-CLASS OPERATING CONDITION. ALL EQUIPMENT SHALL BE APPROVED AND INSTALLED IN ACCORDANCE WITH THE UNDERWRITERS' LABORATORIES, THE DEPARTMENT OF LABOR AND INDUSTRY, COMPLY WITH PHILADELPHIA BUILDING AND ELECTRICAL CODE, AND NFPA 72.
2. FINAL CONNECTIONS BETWEEN EQUIPMENT AND THE WIRING SYSTEM SHALL BE MADE UNDER DIRECT SUPERVISION OF A REPRESENTATIVE OF THE MANUFACTURER.
3. THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND WIRING FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.
4. THE CONTRACTOR IN ADDITION SHALL PROVIDE ALL NECESSARY CONTROL MODULES, RELAYS, AND DEVICES TO FULLY COMPLETE THE DEFINED FUNCTIONING SYSTEM.

NOTES

1. ALL CIRCUITS IN DWELLING UNIT TO BE FED FROM THE PANEL IN THAT UNIT.
2. ALL CIRCUITS NOT IN DWELLING UNIT TO BE FED FROM HOUSE PANEL UNLESS OTHERWISE SPECIFIED.
3. ALL SMOKE DETECTORS IN DWELLING UNIT SHALL BE 120VAC TYPE WITH 9VDC BATTERY BACKUP. CONNECT TO CLOSEST AVAILABLE LIGHTING CIRCUIT.
4. ALL SMOKE DETECTORS SHALL BE INTERCONNECTED WITHIN A SINGLE UPLINK.

FIRE ALARM SYSTEM NOTES:

1. THE BUILDING FIRE ALARM SYSTEM IS EXISTING. CONTRACTOR TO PROVIDE NEW FIRE ALARM DEVICES AND TIE INTO EXISTING BUILDING FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED POWER EXTENDER PANELS (NAC), PULL STATIONS, SPEAKERS, STROBES, SPEAKER/STROBE COMBINATION UNITS, DUCT DETECTORS, CONTROL MODULES, REMOTE ANNUNCIATOR PANELS, CONDUIT, WIRING, HARDWARE, MOUNTINGS, BACK BOXES AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE AND PROFESSIONAL INSTALLATION, AS SHOWN ON PLANS OR AS REQUIRED BY CODE.
 - CONTRACTOR SHALL COORDINATE ALL DEVICE SELECTIONS, THE INS. INSTALLATION REQUIREMENTS AND ALL REQUIRED LOAD AND VOLTAGE CALCULATIONS WITH OWNERS FIRE ALARM SYSTEM VENDOR AS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF CONSTRUCTION.
 - WIRE ALL DEVICES TO THE EXISTING BUILDING FIRE ALARM SYSTEM. PROVIDE NEW POWER EXTENDER PANEL IF REQUIRED. PROVIDE NEW WIRING FOR ALL NEW AND RELOCATED DEVICES.
 2. PROVIDE A GREEN EQUIPMENT GROUNDING CONDUCTOR ALONG WITH ALL CIRCUIT POWER CONDUCTORS AND GROUND ALL RACEWAYS, BOXES, FIRE ALARM PANEL, SWITCHES, ETC.
 3. REFER TO SPECIFICATIONS FOR MATERIALS TO BE USED AND METHODS OF INSTALLATIONS.
 4. PROVIDE A COMPLETE RACEWAY SYSTEM (SEPARATE FROM ALL OTHER SYSTEMS) FOR THE MODIFIED FIRE ALARM SYSTEM AND INSTALL ALL WIRING IN METAL CONDUIT. RACEWAY SYSTEM SHALL BE INSTALLED CONCEALED. IF IT IS NOT PRACTICABLE TO CONCEAL CONDUIT THEN INSTALL EXPOSED.
 5. THE STROBE LOCATIONS SHALL BE AS REQUIRED PER NFPA 72, SECTION 6-4.4.2. THE STROBES IN CORRIDORS SHALL BE LOCATED NO MORE THAN 15 FEET FROM THE END OF THE CORRIDORS WITH A SEPARATION BETWEEN STROBES AS INDICATED ON DRAWINGS. VERIFY EXACT LOCATIONS OF STROBES AT SITE.
 6. FOR THE FIRE ALARM SYSTEM, ALL WIRE SIZES, TYPES AND QUANTITIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 7. PROVIDE TAGS, SIGNS AND IDENTIFICATION FOR THE FIRE PROTECTION SYSTEM AS PER NFPA AND LOCAL FIRE MARSHALL.
 8. THE CONTRACTOR SHALL REFER TO THE FLOOR PLANS FOR THE ACTUAL QUANTITIES AND LOCATIONS FOR THE ALL FIRE ALARM DEVICES REQUIRED FOR THIS PROJECT. THE MAXIMUM NUMBER OF STROBES AND HORN/STROBE UNITS PER CIRCUIT SHALL BE AS RECOMMENDED BY THE MANUFACTURER. THE WIRE SIZES AND QUANTITIES SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
 9. MOUNTING HEIGHTS OF FIRE ALARM DEVICES SHALL COMPLY WITH ADA REQUIREMENTS. THE FIRE ALARM PULL STATIONS SHALL BE MOUNTED MAXIMUM AT 48" AND MINIMUM AT 42" ABOVE FINISHED FLOOR. THE STROBE UNITS AND HORN AND STROBE COMBINATION UNITS SHALL BE MOUNTED WITH LENS AT 80" ABOVE FINISHED FLOOR. SEE MOUNTING HEIGHT DETAIL. ALL HEIGHTS ARE TO THE OPERABLE PART OF THE DEVICE BEING INSTALLED.
 10. FURNISH AND INSTALL DEVICES TO THE FIRE ALARM SYSTEM AS COVERED BY THESE SPECIFICATIONS AND DRAWINGS. WIRE AND CONNECT AND LEAVE IN A FIRST-CLASS OPERATING CONDITION. ALL EQUIPMENT SHALL BE APPROVED AND INSTALLED IN ACCORDANCE WITH THE UNDERWRITERS' LABORATORIES, THE DEPARTMENT OF LABOR AND INDUSTRY, COMPLY WITH LOCAL BUILDING AND ELECTRICAL CODE, AND NFPA 72.
 11. FINAL CONNECTIONS BETWEEN EQUIPMENT AND THE WIRING SYSTEM SHALL BE MADE UNDER DIRECT SUPERVISION OF A REPRESENTATIVE OF THE MANUFACTURER.
 12. THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND WIRING FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.
 13. THE CONTRACTOR IN ADDITION SHALL PROVIDE ALL NECESSARY CONTROL MODULES, RELAYS, AND DEVICES TO FULLY COMPLETE THE DEFINED FUNCTIONING SYSTEM.
 14. IF REQUIRED, CONTRACTOR SHALL SUPPLY AND INSTALL AUXILIARY CONTACTS AS REQUIRED TO ALL SECURE ELECTRONIC DOOR RELEASE SYSTEMS TO UNLOCK DOORS UPON FIRE ALARM SYSTEM ACTIVATION. PROVIDE ALL MODULES, RELAYS, WIRING, RACEWAYS, HARDWARE, ETC... AS REQUIRED.
 15. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL HAVE THE FIRE ALARM INSTALLATION INSPECTED, TESTED AND CERTIFIED AS REQUIRED BY CODE OR LOCAL JURISDICTIONS HAVING AUTHORITY. A REPRESENTATIVE OF THE FIRE MARSHALL'S OFFICE WILL CONDUCT A FUNCTIONALITY TEST OF THE SYSTEM. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING OF TESTING AND COORDINATING AS NECESSARY WITH MONITORING COMPANIES, OWNER AND TRADES.
- CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLETION AS REQUIRED BY NFPA 72 FOR THE SYSTEM AFTER TESTING. CONTRACTOR SHALL ALSO PROVIDE DOCUMENTATION OF ALL DEVICE TESTING AND RECEIPT OF ALL SIGNALS AT THE MONITORING COMPANY.

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PROJECT:

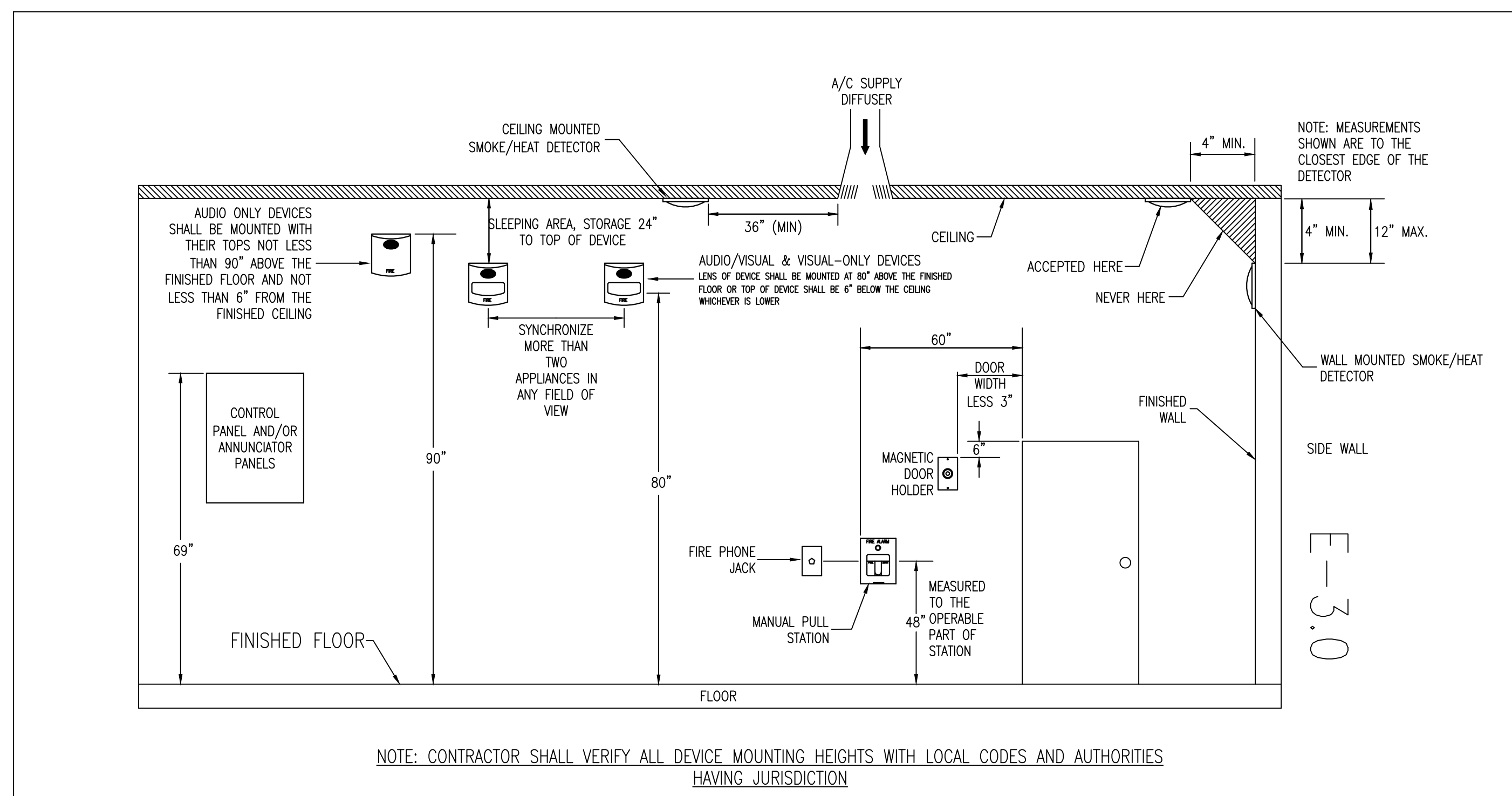
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DRAWING TITLE:
FIRE ALARM SYSTEM

JOB NO: 2856-03	DESIGNED BY: AAW
DATE: -	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH
DRAWING NUMBER:	



2
 E-3.0
FIRE ALARM SYSTEM TYPICAL DEVICE MOUNTING HEIGHTS
 SCALE
 NONE

GENERAL

THE INSTRUCTIONS TO BIDDERS, SUPPLEMENTARY GENERAL CONDITIONS AND ALL CONTRACT REQUIREMENTS SHALL APPLY WITH EQUAL FORCE TO ALL PORTIONS OF THE ELECTRICAL CONSTRUCTION AND BECOME A PART OF THIS CONTRACT.

NO CLAIM OR ADDITIONAL COMPENSATION WILL BE ENTERTAINED ON BEHALF OF OR PAID TO THIS CONTRACTOR ON ACCOUNT OF HIS FAILURE TO BE INFORMED OF THE ABOVE CONDITIONS AND REQUIREMENTS.

SHOULD A BIDDER FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS OR SPECIFICATIONS, OR SHOULD HE BE IN DOUBT AS TO THEIR MEANING, HE SHOULD AT ONCE NOTIFY THE ARCHITECT WHO WILL SEND WRITTEN INSTRUCTIONS TO ALL BIDDERS. IF THESE ARE IGNORED BY THE CONTRACTOR, HE WILL BE RESPONSIBLE FOR FURNISHING THE PROPER OR WORKABLE EQUIPMENT AS NECESSARY.

BEFORE SUBMITTING A BID, BIDDERS WILL BE HELD RESPONSIBLE TO HAVE VISITED THE SITE OF THE WORK AND FULLY INFORM THEMSELVES AS TO ALL EXISTING CONDITIONS AND LIMITATIONS, INCLUDING RULES, RATES AND FRINGE BENEFITS, TRAVEL PAY, AFFILIATION FEES AND TRANSPORTATION EXPENSE PREVAILING IN THE LOCAL LABOR MARKET, AND NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON BEHALF OF THE BIDDER BY REASON OF ANY ERROR ON HIS PART.

ADDENDA

ANY INTERPRETATION, CORRECTIONS OR CHANGES OF THE DRAWINGS AND SPECIFICATIONS WILL BE MADE ONLY BY AN ADDENDUM DULY ISSUED BY THE ARCHITECT AND A COPY OF SUCH ADDENDUM WILL BE MAILED OR DELIVERED TO EACH PERSON OR FIRM.

SCOPE OF CONSTRUCTION

THE CONTRACT UNDER THESE SPECIFICATIONS INCLUDES ALL LABOR, MATERIAL, EQUIPMENT AND SERVICE NECESSARY AND INCIDENTAL TO PROVIDE AND INSTALL IN PLACE, FINISHED COMPLETE, UNLESS OTHERWISE NOTED, ALL ELECTRICAL CONSTRUCTION INCLUDING REWIRING, PLACING THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS, SUBJECT TO AND IN ACCORDANCE WITH ALL RULES AND REGULATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, STATE AND MUNICIPAL CODES AND LOCAL POWER COMPANY, GENERALLY AS FOLLOWS:

- POWER PANELS
LIGHTING PANELS
BRANCH WRING
LIGHTING FIXTURES AND LAMPS
TELEPHONE SYSTEM
WRING OF EQUIPMENT FURNISHED BY OTHERS AND FINAL CONNECTIONS TO SAME
EMERGENCY SYSTEM
FIRE ALARM SYSTEM
TELEVISION CONDUIT SYSTEM PROGRAM SYSTEM
PUBLIC ADDRESS SYSTEM
TEMPORARY SERVICE
DEMOLITION

CONSTRUCTION INCLUDED

IN ADDITION TO THE GENERAL ITEMS, AS COVERED UNDER "SCOPE", THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER OPERATION OF ALL ELECTRICAL EQUIPMENT WHEN THE ELECTRICAL CONSTRUCTION IS COMPLETE, INSTALLED, CONNECTED AND ACCEPTED BY THE ARCHITECT AND OWNER. ELECTRICAL CONTRACTOR SHALL DO ALL WRING TO AND MAKE FINAL CONNECTIONS TO ALL ELECTRICAL EQUIPMENT.

ALL ITEMS OF LABOR, MATERIAL AND EQUIPMENT NOT SPECIFIED IN DETAIL OR SHOWN ON DRAWINGS BUT INCIDENTAL TO OR NECESSARY FOR THE COMPLETE INSTALLATION AND PROPER OPERATION OF THE SEVERAL BRANCHES OF WORK AND DESCRIBED HEREIN, OR REASONABLY IMPLIED IN CONNECTION HEREWITH, SHALL BE FURNISHED AS IF CALLED FOR IN DETAIL BY THE SPECIFICATIONS OR DRAWINGS.

ALL ELECTRICAL CONDUCTORS, AFTER INSTALLATION OF WRING AND APPARATUS HAS BEEN COMPLETED, SHALL BE TESTED BY THIS CONTRACTOR TO ENSURE CONTINUITY, PROPER SPLICING, FREEDOM FROM GROUNDS, (EXCEPT "MADE GROUNDS" AND THOSE REQUIRED FOR PROTECTION), INSULATION RESISTANCE TO BE IN ACCORDANCE WITH U.L. REQUIREMENTS. CONTRACTOR SHALL FURNISH AND EMPLOY SUITABLE INSTRUMENTS, SUCH AS AMMETERS, VOLTMETERS, "MEGGERS," ETC., PRELIMINARY TESTING WITH MEGGERS WILL BE PERMITTED BUT WILL NOT BE ACCEPTED AS FINAL OR CONCLUSIVE TESTS.

CONSTRUCTION NOT INCLUDED

THE FOLLOWING ITEMS OF ELECTRICAL CONSTRUCTION ARE NOT INCLUDED IN THIS CONTRACT:

CERTAIN LOW-VOLTAGE WRING OF HEATING AND PLUMBING EQUIPMENT WILL BE DONE BY THE RESPECTIVE MECHANICAL CONTRACTOR; HOWEVER, REFERENCE IS MADE TO WRING DIAGRAMS ON ATTACHED MECHANICAL DRAWINGS. ALL LINE VOLTAGE WRING INCLUDING SETTING OF SWITCHES, STARTERS AND RELATED ELECTRICAL EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR.

TELEPHONE WIRES WILL BE INSTALLED BY OTHERS. THIS CONTRACTOR SHALL PROVIDE MUDDING AND PULLSTRINGS AS HEREINAFTER SPECIFIED.

CERTAIN MOTORS AND EQUIPMENT, SUCH AS PUMPS, FANS, ETC., WILL BE PROVIDED BY OTHERS, COMPLETE WITH MOTOR AND BUILT-IN OR SEPARATE CONTROLLERS AS COVERED BY SUCH CONTRACTS. THE EXTENT OF WORK REQUIRED BY THIS CONTRACTOR, IN CONNECTION WITH THE PROVISIONS OF THIS EQUIPMENT IS DESCRIBED HEREINAFTER UNDER "MOTOR CONNECTIONS" AND "EQUIPMENT HOOR-UP."

MOTORS CONNECTED TO DRIVEN EQUIPMENT WILL BE SET BY RESPECTIVE CONTRACTOR FURNISHING SAME.

HEATING, VENTILATING AND PLUMBING CONTROL DEVICES, SWITCHES, STARTERS, ETC., BOTH LINE AND LOW VOLTAGE, WILL BE FURNISHED BY THE HEATING AND PLUMBING CONTRACTORS.

EXAMINATION OF SITE

BIDDERS SHALL CAREFULLY EXAMINE THE ENTIRE SITE OF THE ELECTRICAL CONSTRUCTION. THEY SHALL MAKE ALL INVESTIGATIONS NECESSARY TO INFORM THEMSELVES THOROUGHLY AS TO FACILITIES FOR DELIVERING, PLACING AND USING THE NECESSARY EQUIPMENT AND MATERIALS AND AS TO ALL THE DIFFICULTIES INVOLVED IN COMPLETION OF ALL THE ELECTRICAL CONSTRUCTION IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS AND DRAWINGS.

COORDINATION

THE EXACT FIELD LOCATION OF WALLS, FLOORS, PARTITIONS, DOORS AND WINDOWS MAY VARY FROM THE LOCATIONS SHOWN ON THE GENERAL, MECHANICAL AND ELECTRICAL DRAWINGS. PRIOR TO LOCATION OF SLEEVES, BOXES AND CHASES, FOR ROUGHING OF PIPING, CONDUIT AND EQUIPMENT, THE CONTRACTOR SHALL CHECK PERSONALLY WITH THE GENERAL CONTRACTOR OR HIS REPRESENTATIVE, TO DETERMINE THE EXACT FIELD LOCATION OF THE WALLS, FLOORS, DOORS, WINDOWS AND PARTITIONS. IN ADDITION, THE CONTRACTOR SHALL DETERMINE THE EXACT DIRECTION OF DOOR SWING SO THAT LOCAL SWITCHES AND THERMOSTATS CAN BE INSTALLED AT THE LOCKSIDE OF DOORS, UNLESS SPECIFIED OTHERWISE.

IT WILL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROPERLY ROUGH FOR THE ELECTRICAL CONDUIT AND EQUIPMENT UNDER HIS CONTRACT AND ANY COST INVOLVED IN THE RELOCATION OF THE ABOVE WILL BE THE ENTIRE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COST WILL BE PAID FOR ANY RELOCATION OF ROUGHING.

PRIORITY OF WORK IT WILL BE THE FULL RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COOPERATE WITH THE GENERAL, HEATING AND PLUMBING CONTRACTORS IN THE PLANNING AND PROGRESS OF CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR IMPEDE THE WORK PROGRESS BY THE LACK OF TOOLS, EQUIPMENT OR MANPOWER.

TEMPORARY AND RELATED CONDITIONS

THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE WITHIN THE SCOPE OF THESE SPECIFICATIONS AND COVERING THE AREAS SHOWN ON THE DRAWINGS. HOWEVER, IN ALL CASES, EVERY EFFORT SHALL BE MADE BY THE GENERAL CONTRACTOR AND THE ELECTRICAL CONTRACTOR TO ASSURE EARLY INSTALLATION OF PERMANENT WRING SYSTEM. THIS SYSTEM, ALTHOUGH PERMANENT IN NATURE, IS CONSIDERED TEMPORARY DURING THE CONSTRUCTION PHASE AND ANY DAMAGE SHALL BE REPLACED AT NO COST TO THE OWNER.

THE ENERGY COSTS SHALL BE PAID BY THE TENANT. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF TE-IN WITH BUILDING OWNER. ANY ADDITIONAL WRING NEEDED BEYOND THE SCOPE OUTLINED IN THIS SPECIFICATION SHALL BE PAID FOR BY THE INDIVIDUAL CONTRACTOR REQUIRING THIS ADDITIONAL WORK.

THE ELECTRICAL CONTRACTOR SHALL PICK UP A SOURCE OF TEMPORARY POWER FROM THE EXISTING BUILDING PANELS. ARRANGE WITH THE OWNER FOR A SUITABLE PLACE TO PICK UP TEMPORARY POWER. PROVIDE WITH ADEQUATE GENERAL LIGHTING AND POWER OUTLETS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF OSHA.

THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL THE TEMPORARY FACILITIES AT THE DISCRETION OF THE GENERAL CONTRACTOR AT THE END OF THE PROJECT, AND ALL EQUIPMENT USED FOR TEMPORARY FACILITIES BECOMES THE PROPERTY OF THE ELECTRICAL CONTRACTOR.

ORDERING EQUIPMENT

THE CONTRACTOR SHALL, UPON APPROVAL BY THE ARCHITECT AND THE OWNER, IMMEDIATELY PLACE ORDERS FOR ALL MAJOR ITEMS OF EQUIPMENT COMPLETE WITH CONTROLS AND APPURTENANCES. THE CONTRACTOR IS REMINDED THAT ANY DELAY IN ORDERING EQUIPMENT WILL DELAY OPERATION OF THE WORK. ALL WORK ASSOCIATED WITH THE MAJOR ITEMS OF EQUIPMENT, SUCH AS STRUCTURAL SYSTEMS, CONCRETE WORK, PIPING, SERVICE PROVIDED BY THE CONTRACTOR SHALL BE NORMALLY RECOMMENDED AND FURNISHED BY THE VARIOUS EQUIPMENT MANUFACTURERS.

SPECIAL ATTENTION IS CALLED TO THE FACT THAT WITHIN THIRTY (30) DAYS AFTER ACCEPTANCE OF BIDS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL, A COMPLETE LIST OF EQUIPMENT AND MATERIALS TO BE FURNISHED UNDER THIS CONTRACT, GIVING NAMES AND ADDRESSES OF MANUFACTURERS AND MATERIAL THEY INTEND TO FURNISH. THIS SOURCE OF SUPPLY WILL NOT BE LISTED ON FORMS AVAILABLE FROM THE ARCHITECT AND SHALL BE SUBMITTED IN TRIPLICATE.

DUST, DIRT AND NOISE

THE CONTRACTOR SHALL CARRY OUT ALL NEW WORK AND SHALL MAKE ALL CHANGES, RELOCATIONS AND INSTALLATIONS WITH A MINIMUM OF NOISE. ALL SITE AREAS AND NEW EQUIPMENT, FLOORS AND WALLS, SHALL BE ADEQUATELY PROTECTED FROM DUST AND DIRT CAUSED BY THE WORK. PROTECTION SHALL INCLUDE SUITABLE TEMPORARY BARRIERS OR COVERINGS. THE EXTERIOR AND INTERIOR PREMISES OF EACH BUILDING SHALL BE KEPT AS CLEAN AS POSSIBLE DURING CONSTRUCTION.

PROCEDURE

THE ACTUAL RUNS AND LOCATIONS OF ALL CONDUIT LINES AND EQUIPMENT SHALL BE DETERMINED ON THE SITE AND SHALL BE INSTALLED TO MEET THE VARIOUS CONDITIONS AT THE BUILDING. ANY CHANGES NECESSARY TO CONCEAL CONDUIT OR CLEAR EXISTING PIPES, EQUIPMENT OR CONSTRUCTION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL MAKE FINAL CONNECTIONS BETWEEN ALL EQUIPMENT UNDER HIS CONTRACT AND PROVIDE SERVICES AND MAKE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT, EXCEPT AS SPECIFIED HEREIN. THE ELECTRICAL CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT ALL POWER WRING OF CABLES TO ALL EQUIPMENT REQUIRING SAME UNLESS SPECIFIED OTHERWISE IN THESE SPECIFICATIONS. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL WRING TO BE INCLUDED UNDER THIS CONTRACT. ALL WRING SHALL BE COMPLETE ACCORDING TO THE SHOP DRAWINGS SUBMITTED FOR THE RESPECTIVE PIECES OF EQUIPMENT.

ALL WORK SHALL BE EXECUTED AND ALL EQUIPMENT CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF LABOR AND INDUSTRY, THE NATIONAL ELECTRICAL CODE AS AMENDED TO DATE, NATIONAL SAFETY CODE AS AMENDED AND ALL LOCAL ORDINANCES AND REGULATIONS. NOTHING CONTAINED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSTRUED TO SUPERSEDE OR CONFLICT WITH THE AFORESAID CODES, ORDINANCES OR REGULATIONS. CERTIFICATES OF APPROVAL SHALL BE OBTAINED FROM ANY DEPARTMENT ISSUING SAME, AND SHALL BE TURNED OVER TO THE OWNER AT THE COMPLETION OF THE WORK.

THE ELECTRICAL CONTRACTOR SHALL FURNISH INFORMATION TO THE GENERAL CONTRACTOR FOR ANY CHASES OR OPENINGS REQUIRED UNDER THIS CONTRACT. NO CUTTING SHALL BE DONE WHICH MAY AFFECT THE BUILDING STRUCTURALLY OR ARCHITECTURALLY WITHOUT PRIOR APPROVAL BY THE ARCHITECT. ALL DAMAGED CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AND FINISHED TO MATCH THE SURROUNDING WORK.

HEREINAFTER WHERE THE PHRASE "OR APPROVED EQUAL" APPEARS IT SHALL BE UNDERSTOOD THAT SUCH EQUIPMENT BE OBTAINED FROM THE ARCHITECT AND THE OWNER. WHERE APPLICABLE, ALL MATERIALS AND EQUIPMENT SHALL BEAR THE U.L. LABEL OF APPROVAL.

ELEVATIONS AND DIMENSIONS SHOWN ON THE DRAWINGS ARE APPROXIMATELY CORRECT; HOWEVER, THE CONTRACTOR SHALL FIELD CHECK AND OTHERWISE VERIFY ALL SUCH DATA AT THE SITE BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL MAKE NECESSARY SURVEY EQUIPMENT AVAILABLE AT ALL TIMES AND SHALL MAKE USE OF SUCH EQUIPMENT WHEREVER NECESSARY TO PROPERLY INSTALL HIS EQUIPMENT.

WHERE THE CONTRACTOR ELECTS TO SUBSTITUTE APPROVED MATERIALS OR EQUIPMENT FOR MATERIALS OR EQUIPMENT SPECIFIED IN THESE SPECIFICATIONS OR THE MEPA, AND REGULATIONS OF THE NATIONAL SAFETY CODE WITH ALL REVISIONS AND AMENDMENTS TO DATE, ANY WORK SHALL ALSO CONFORM TO ALL GOVERNING LOCAL AND STATE CODES AND TO THE RULES AND REGULATIONS OF THE LOCAL POWER COMPANY.

LOCATIONS OF EXISTING SEWERS, SOIL, WASTE, VENT, STEAM AND WATER LINES AND PRESENT ELECTRIC CONDUIT, WRING AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROVED. THE CONTRACTOR SHALL CHECK ALL SUCH INFORMATION ON THE SITE BEFORE PROCEEDING WITH THE WORK.

THE CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY ACQUAINT HIMSELF WITH CONDITIONS EXISTING AT THE LOCATIONS AND BUILDINGS BEFORE SUBMITTING HIS PROPOSAL AS HE WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE WORK COMPLETELY TO EVERY DETAIL.

THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR ALL APPARATUS, EQUIPMENT AND APPURTENANCES FURNISHED BY HIM OR HIS SUBCONTRACTORS IN CONNECTION WITH THE WORK AND SPECIAL CARE SHALL BE TAKEN TO PROTECT ALL PARTS THEREOF IN SUCH MANNER AS MAY BE NECESSARY OR AS MAY BE DIRECTED. PROTECTION SHALL INCLUDE COVERS, CRATING, SHEDS OR OTHER MEANS TO PREVENT DIRT, GRIT, PLASTER OR OTHER FOREIGN SUBSTANCES FROM ENTERING THE WORKING AREAS. SPECIAL CARE SHALL BE TAKEN TO KEEP ALL OPEN ENDS OF PIPES CLOSED WHILE IN STORAGE AND DURING INSTALLATION. WHERE EQUIPMENT MUST BE STORED OUTSIDE THE BUILDING, IT SHALL BE TOTALLY COVERED AND SECURED WITH HEAVY WEATHERPROOF TARPS AND KEPT DRY AT ALL TIMES. WHERE EQUIPMENT HAS BEEN SUBJECTED TO MOISTURE, IT SHALL BE REMOVED FROM THE SITE AND REPLACED WITH NEW EQUIPMENT. PROTECT ALL OPEN EXHAUSTING UNTIL COVERED OVER.

DUE TO THE SCHEMATIC NATURE AND SMALL SCALE OF THE ELECTRICAL DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL EXACT LOCATIONS, OFFSETS, FITTINGS, ACCESS PANELS, PULL BOXES AND MISCELLANEOUS PARTS WHICH MAY BE REQUIRED TO FORM A COMPLETE SYSTEM. THE DRAWINGS ARE GENERALLY INDICATIVE OF THE WORK TO BE INSTALLED. THIS CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND ARRANGE ALL WORK ACCORDINGLY, FURNISHING NECESSARY PARTS AND EQUIPMENT AS MAY BE REQUIRED TO MEET THE VARIOUS CONDITIONS.

THE CONTRACTOR SHALL FURNISH THE SERVICE OF MANUFACTURER'S REPRESENTATIVE FOR ALL EQUIPMENT FURNISHED UNDER THESE CONTRACT DOCUMENTS. THE AMOUNT OF FACTORY SERVICE PROVIDED BY THE CONTRACTOR SHALL BE NORMALLY RECOMMENDED AND FURNISHED BY THE VARIOUS EQUIPMENT MANUFACTURERS.

SPECIAL ATTENTION IS CALLED TO THE FACT THAT WITHIN THIRTY (30) DAYS AFTER ACCEPTANCE OF BIDS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL, A COMPLETE LIST OF EQUIPMENT AND MATERIALS TO BE FURNISHED UNDER THIS CONTRACT, GIVING NAMES AND ADDRESSES OF MANUFACTURERS AND MATERIAL THEY INTEND TO FURNISH. THIS SOURCE OF SUPPLY WILL NOT BE LISTED ON FORMS AVAILABLE FROM THE ARCHITECT AND SHALL BE SUBMITTED IN TRIPLICATE.

ALL MATERIALS AND EQUIPMENT INSTALLED BY THE CONTRACTOR SHALL BE FIRMLY SUPPORTED AND SECURED TO THE CONSTRUCTION WHERE REQUIRED, WITH SUITABLE HANGERS AND ANCHORS OF THE BEST QUALITY SPECIFICALLY DESIGNED FOR THE SERVICE REQUIRED.

FINISHED OR UNFINISHED AREA - GENERAL DEFINITION

FINISHED AREA: SHALL BE DEFINED AS ANY SPACE WITH THE WALLS EITHER TILED, PLASTERED, COVERED OR PAINTED, EXCEPT CERTAIN CONCRETE OR CONCRETE BLOCK FOUNDATION WALLS BELOW GRADE IN WHICH SUCH PHASES FUTURE LARGER VERTICAL PIPING WILL NOT BE PERMITTED. WHERE THERE ARE CEILINGS IN FINISHED AREAS, ALL BOXES AND CONDUIT SHALL BE CONCEALED ABOVE THE CEILINGS UNLESS INDICATED "AT CEILING" IN WHICH CASE, BOXES AND CONDUIT SHALL BE EXPOSED BELOW CEILINGS. AREAS WHERE BOTTOM OF FLOOR OR ROOF SLABS SERVE AS FINISHED CEILINGS SHALL BE CONSIDERED FINISHED AREAS.

UNFINISHED AREAS: SHALL BE DEFINED AS ANY SPACE WITHOUT A WALL FINISH (WITH OR WITHOUT CEILINGS).

WHEN IN DOUBT AS TO THE CLASSIFICATION OF A SPECIFIC SPACE, THE CONTRACTOR SHALL CHECK WITH THE ARCHITECT BEFORE ROUGH-IN.

STANDARDIZATION OF EQUIPMENT

WHERE THERE IS MORE THAN ONE ITEM OF EQUIPMENT REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR SHALL FURNISH EQUIPMENT OF THE SAME TYPE AND LOCAL MANUFACTURE UNTIL FINAL APPROVAL FROM DIFFERENT MANUFACTURERS.

EQUIPMENT BASES AND GUARDS

BASES UNDER EQUIPMENT SHALL BE 4" HIGH UNLESS NOTED OTHERWISE. BASES SHALL BE REINFORCED WITH 6 X 6 X TO GAUGE WIRE MESH AND ANCHORED THROUGH FLOOR CONSTRUCTION WITH 3/4" DIAMETER BOLTS OR RODS. ANCHOR BOLTS FOR EQUIPMENT SHALL BE PLACED IN BASES BEFORE EQUIPMENT IS SET. BASES SHALL BE POLISHED BY THE ELECTRICAL CONTRACTOR AND ANCHORING BOLTS SHALL BE FURNISHED AND SET BY THE ELECTRICAL CONTRACTOR.

PROTECTION OF SERVICES

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR, REPLACE AND MAINTAIN IN SERVICE, ANY UTILITIES, FACILITIES OR SERVICES (UNDERGROUND, OVERGROUND, INTERIOR OR EXTERIOR) DAMAGED, BROKEN OR OTHERWISE RENDERED INOPERATIVE DURING THE COURSE OF CONSTRUCTION. THE METHOD USED BY THE CONTRACTOR IN REPAIRING, REPLACING OR MAINTAINING THE SERVICES SHALL BE APPROVED BY THE ARCHITECT AND THE OWNER.

ELECTRICAL REGULATIONS, PERMITS, CODES AND UNDERWRITERS

THE ELECTRICAL INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH, AND SHALL CONFORM TO, THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE OF THE NEPA, AND REGULATIONS OF THE NATIONAL SAFETY CODE WITH ALL REVISIONS AND AMENDMENTS TO DATE. ANY WORK SHALL ALSO CONFORM TO ALL GOVERNING LOCAL AND STATE CODES AND TO THE RULES AND REGULATIONS OF THE LOCAL POWER COMPANY.

ALL REGULATIONS OF THE DEPARTMENT OF LABOR AND INDUSTRY WHICH ARE APPLICABLE SHALL BE CONSIDERED A PART OF THIS CONTRACT. ALL MATERIALS SHALL HAVE THE APPROVAL OF THE U.L. AND SHALL BE AS LISTED AND/OR LABELED.

THE ELECTRICAL CONTRACTOR SHALL PAY FOR ALL INSPECTIONS AND PERMITS REQUIRED FOR THIS WORK. BEFORE FINAL PAYMENT WILL BE MADE, THIS CONTRACTOR SHALL DELIVER, TO THE ARCHITECT, CERTIFICATES OF APPROVAL COVERING THE WRING AND FIXTURE INSTALLATION FROM THE INSPECTION DEPARTMENT OF THE MIDDLE DEPARTMENT ASSOCIATION OF FIRE UNDERWRITERS. CERTIFICATES SHALL BE IN DUPLICATE WITH ONE (1) COPY TO THE ARCHITECT AND ONE (1) COPY TO THE OWNER.

CUTTING AND PATCHING

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CUTTING AND PATCHING. FINISH PAINTING WILL BE DONE BY THE GENERAL CONTRACTOR.

MISCELLANEOUS METAL

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR THE INSTALLATION OF ALL MISCELLANEOUS METAL WORK REQUIRED TO COMPLETE THIS CONTRACT.

ALL SUPPORTS, BRACKETS, CLAMPS AND OTHER ITEMS SPECIFIED HEREIN SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE AND RECOGNIZED CODE.

MATERIALS: STRUCTURAL STEEL MEMBERS REQUIRED UNDER THIS PART SHALL CONFORM TO ASTM STANDARD SPECIFICATION A-7. OTHER MATERIALS SHALL BE AS SPECIFIED HEREINAFTER.

PRIMING: ALL STEEL AND IRON WORK SHALL BE PRIMED WITH RUST-OLEUM 769 OR APPROVED EQUAL. BEFORE PRIMING, ALL METAL SHALL BE THOROUGHLY CLEANED FREE FROM SCALE, RUST AND DIRT.

ANCHORS: THE CONTRACTOR SHALL PROVIDE ALL ANCHORS, BOLTS, SCREWS, DOWELS AND CONNECTING MEMBERS AND DO ALL CUTTING AND FITTING NECESSARY TO SECURE THE WORK TO ADJOINING CONSTRUCTION, BUILD IN CONNECTING MEMBERS TO MASONRY, CONCRETE AND STRUCTURAL STEEL AS THE WORK PROGRESSES.

SUPPORTS AND BRACKETS: SHALL BE NEATLY CONSTRUCTED OF STRUCTURAL SHAPES TO ADEQUATELY SUPPORT THE EQUIPMENT INTENDED. ALL SUPPORTS MUST BE APPROVED PRIOR TO INSTALLATION. ATTENTION IS DIRECTED TO THE PROPER RIGID SUPPORT REQUIRED FOR CONDUIT. FIELD CONDITIONS WILL REGULATE THE TYPE OF SUPPORT REQUIRED.

STRUCTURAL STEEL

THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS AND WHATEVER ELSE NECESSARY TO PLACE ALL STRUCTURAL STEEL SHOWN ON THE DRAWINGS OR AS REQUIRED FOR PROPER SUPPORT OF EQUIPMENT. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL STEEL REQUIRED UNDER THIS CONTRACT.

ALL STRUCTURAL STEEL SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. STRUCTURAL STEEL SHALL BE OF STANDARD SECTIONS, AS GIVEN IN THE STRUCTURAL STEEL MANUFACTURER'S HANDBOOKS AND OF SIZES AS INDICATED ON THE DRAWINGS. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARD SPECIFICATION A-7 AS AMENDED TO DATE.

RIGID CONDUIT: CONDUIT FURNISHED IN ACCORDANCE WITH THESE REGULATIONS SHALL BE OF MILD STEEL PIPING CONFORMING TO THE REQUIREMENTS OF FEDERAL SPECIFICATIONS MW-C501B, AND SHALL BE ZINC-COATED GALVANIZED, SHERARDIZED, OR APPROVED EQUAL FINISH, INSIDE AND OUTSIDE. FACTORY THREADED CONDUIT SHALL BE FURNISHED WITH PROTECTIVE COATED THREADS.

IN ADDITION, TO PREVENT CORROSION, THE INSIDE AND OUTSIDE OF CONDUIT SHALL BE COVERED BY A COATING OF CLEAR ENAMEL.

ELECTRICAL METALLIC TUBING (EMT): THE CONTRACTOR MAY FURNISH AND INSTALL NEMA SPECIFICATION NO. 112-1955 .

SHOP DRAWINGS

THIS CONTRACTOR SHALL FURNISH SHOP DRAWINGS, CATALOG CUTS, DATA SHEETS, ETC., TO COVER SPECIFIED INFORMATION FOR ALL ITEMS IN ANY WAY DESIGNED FOR THIS JOB. NONE OF THE FOLLOWING ITEMS SHALL BE INSTALLED IN THE CONSTRUCTION UNTIL FINAL APPROVAL HAS BEEN GIVEN BY THE ARCHITECT AND THE OWNER. THIS CONTRACTOR SHALL CHECK SHOP DRAWINGS OF OTHER CONTRACTORS' EQUIPMENT TO ASCERTAIN PROPER LOCATION OF ALL EQUIPMENT AND CONNECTIONS. SUBMIT SHOP DRAWINGS, CATALOG CUTS, ETC., FOR THE FOLLOWING ITEMS:

- LIGHTING AND POWER PANELS AND CABINETS SWITCHES
LIGHTING FIXTURES
WRING DEVICES

ELECTRICAL SYSTEM GROUNDS

FURNISH AND INSTALL ALL ELECTRICAL SYSTEM GROUNDS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE, THE DEPARTMENT OF LABOR AND INDUSTRY, AND THE LOCAL UTILITY COMPANY, LATEST PUBLICATIONS OF THE IEEE AND NEC SHALL BE CONSULTED FOR LATEST ACCEPTED PRACTICE. GROUND EQUIPMENT SHALL BE COMPLETE IN EVERY DETAIL INCLUDING FLEXIBLE LEADS, MOUNDINGS, CONNECTORS, CLAMPS, RODS AND CONDUIT AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE ABOVE-MENTIONED CODES. GROUNDING SYSTEM SHALL BE A UNIFIED GROUNDING SYSTEM THOUGHOUT.

ACCESS PANELS

THE GEN. CONTRACTOR SHALL FURNISH AND INSTALL AN ACCESS PANEL WHERE JUNCTION BOXES AND SO FORTH ARE INSTALLED ABOVE PLASTER, TILE, OR SIMILAR TYPE NON-REMOVABLE CEILINGS. PANELS SHALL BE OF SUITABLE SIZE AND SHAPE FOR EACH PARTICULAR LOCATION AND SHALL BE PROVIDED WITH A FRAME 2" DEEP PROPERLY ANCHORED TO CEILING CONSTRUCTION. THE PANEL FRAME AND DOOR SHALL BE OF GUGE GAUGE FURNITURE STEEL THOROUGHLY CLEANED, POLISHED AND FACTORY PRIMED WITH 2 COATS OF PRIMER.

CONDUIT INSTALLATION

GENERAL: WRING SHALL BE RUN IN RIGID STEEL CONDUIT AND/OR ELECTRICAL METALLIC TUBING WHERE SPECIFIED. WHERE SINGLE POLE WORK IS USED ON BRANCH CIRCUITS, CIRCUIT WRING MAY BE GROUPED IN ACCORDANCE WITH THE NEC. THE DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC AND INDICATE THE GENERAL METHOD OF INSTALLING ALL CIRCUIT WRING AND THE OUTLETS. THE CONTRACTOR WILL BE PERMITTED TO GROUP SINGLE POLE CIRCUIT WRING IN ACCORDANCE WITH THE NEC AND CONNECT TO CIRCUIT BOXES AT ANY CONVENIENT POINT AS REQUIRED BY THE NEC. RUN A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. DO NOT GANG NEUTRALS.

NO CONDUIT SMALLER THAN 3/4" TRADE SIZE MAY BE USED.

IN THE CASE OF FLEXIBLE CONDUIT, NO SIZE SMALLER THAN 3/8" (1/2" O.D.) MAY BE USED AT LIGHTING FIXTURES, FANS AND VARIOUS EQUIPMENT, AGAIN SIZED IN ACCORDANCE WITH NEC.

LIGHTING AND CONVENIENCE OUTLET HOME RUNS ARE INDICATED ON THE DRAWINGS SEPARATELY AS SINGLE POLE WORK FOR CLARITY AND THEIR TERMINAL POINT AT THE CIRCUIT IS SHOWN SCHEMATICALLY; HOWEVER, THE CONTRACTOR WILL BE PERMITTED TO COMPLETE THE HOME RUN CIRCUITS IN ACCORDANCE WITH THE NEC AND CONNECT TO CIRCUIT BOXES AT ANY CONVENIENT POINT AS REQUIRED BY THE NEC. RUN A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. DO NOT GANG NEUTRALS.

METAL CLAD CONDUCTOR CABLE

CONDUCTORS CONNECTING RECEPTACLE AND SWITCH CIRCUITS IN PARTITIONS TO LIGHTING AND POWER GRID BOXES IN FINISHED AREAS ONLY, IN ACCORDANCE WITH THE NEC, SHALL BE: - 4-, OR 5-WIRE METAL CLAD (MC) CONSISTING OF #12 AWG COPPER THW (OR TW) INSULATED PHASE CONDUCTORS AND ONE #12 AWG BARE BONDING CONDUCTOR, WHERE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. GROUND CONDUCTOR SHALL BE TERMINATED TO GROUNDING SYSTEM AS REQUIRED BY NEC AND AUTHORITY HAVING JURISDICTION. ALL CONDUCTORS SHALL BE ENCLOSED IN THE FLEXIBLE STEEL ARMORED COVER.

MANUFACTURERS: TYPE MC CONDUCTOR CABLES SHALL BE AS MANUFACTURED BY AMERICAN FLEXIBLE CONDUIT, BRAND-REX, ROME CABLE, OR CABLEC, IF THEY COMPLY WITH THESE SPECIFICATIONS.

PLENUM CONDUCTOR CABLE PLENUM CONDUCTOR CABLE MAY BE USED FOR NEC CLASS 2 OR 3 WRING IF CONDUCTOR CABLE IS UL LISTED IN ACCORDANCE WITH UL 910 AND UL 1820 AND IS INSTALLED IN ACCORDANCE WITH THE NEC AND IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. INSULATION TYPES, UL LISTING, AND WRITEN ACCEPTANCE BY THE LOCAL AUTHORITY SHALL BE SUBMITTED FOR REVIEW.

RIGID CONDUIT: CONDUIT FURNISHED IN ACCORDANCE WITH THESE REGULATIONS SHALL BE OF MILD STEEL PIPING CONFORMING TO THE REQUIREMENTS OF FEDERAL SPECIFICATIONS MW-C501B, AND SHALL BE ZINC-COATED GALVANIZED, SHERARDIZED, OR APPROVED EQUAL FINISH, INSIDE AND OUTSIDE. FACTORY THREADED CONDUIT SHALL BE FURNISHED WITH PROTECTIVE COATED THREADS.

IN ADDITION, TO PREVENT CORROSION, THE INSIDE AND OUTSIDE OF CONDUIT SHALL BE COVERED BY A COATING OF CLEAR ENAMEL.

ELECTRICAL METALLIC TUBING (EMT): THE CONTRACTOR MAY FURNISH AND INSTALL NEMA SPECIFICATION NO. 112-1955 .

RIGID CONDUIT SHALL BE INSTALLED IN ALL AREAS AND LOCATIONS WHERE EMT IS NOT PERMITTED AND APPLICABLE PORTIONS OF THE SPECIFICATION ON RIGID CONDUIT AND ITS INSTALLATION SHALL APPLY IN ITS ENTIRETY. EMT SHALL BE GALVANIZED OR SHERARDIZED AND END CONNECTIONS AND JUNCTIONS SHALL BE MADE IN ABOVE GRADE LOCATIONS, EMT WILL BE PERMITTED TO BE INSTALLED THROUGH WALL AND FLOOR CONSTRUCTION IN CHASES, THROUGH JOISTS, AND IN ALL OTHER LOCATIONS, EXCEPT AS SPECIFIED ABOVE. WHERE RIGID CONDUIT IS INSTALLED, THE CONDUIT MUST TERMINATE IN AN OUTLET BOX OR JUNCTION BOX WHERE THE TRANSITION TO EMT (AND VISE VERSA) MUST BE MADE. WHERE BOXES ARE USED ONLY FOR THE TRANSITION FROM TUBING TO CONDUIT (OR CONDUIT TO TUBING), THE CONTRACTOR SHALL INSTALL A SUITABLE PLASTER RING AND A STAINLESS STEEL COVER PLATE.

FLEXIBLE CONDUIT (METALLIC AND NON-METALLIC): ALL CONNECTIONS BETWEEN MOTOR JUNCTION BOXES AND CONDUIT OR JUNCTION BOXES SHALL BE MADE WITH G.E. SINGLE STRIP (GREENFIELD) OR APPROVED EQUAL GALVANIZED FLEXIBLE STEEL CONDUIT (FEDERAL SPECIFICATIONS EHW-C-566) IN LENGTHS NOT TO EXCEED THE NEC REQUIREMENTS AND OF THE SAME SIZE AS THE MOTOR FEEDER CONDUIT. FLEXIBLE CONNECTIONS BETWEEN RECESSED LIGHTING FIXTURES AND EXHAUST FANS AND JUNCTION BOXES SHALL BE MADE WITH 3/8" O.E. SINGLE STRIP (GREENFIELD) OR APPROVED EQUAL FLEXIBLE STEEL CONDUIT. ALL OTHER REQUIREMENTS OF THE NEC RELATIVE TO THE USE OF FLEXIBLE CONDUIT SHALL BE CONSIDERED A PART OF THIS SPECIFICATION. GALVANIZED FLEXIBLE STEEL CONDUIT SHALL BE OF THE "SQUEEZE TYPE" AND SHALL BE COMPLETE WITH NEMA APPROVED CONNECTORS.

CONDUIT INSTALLATION: ALL CONDUIT ENDS SHALL BE SQUARE CUT AND REAMED TO REMOVE BURRS. CONDUIT SHALL NOT BE INSTALLED UNDER ANY CHAIR CARRIERS. EACH END WILL BE HELD RESPONSIBLE FOR TERMINATING IN PRESSED STEEL BOX OF ANY KIND SHALL BE PROVIDED WITH A GALVANIZED OR SHERARDIZED LOCK NUT INSIDE AND OUTSIDE OF THE BOX AND WITH AN APPROVED BUSHING. ALL CONDUIT SHALL BE RUN CONCEALED IN FLOORS, ON TOP OF FLOOR FILLS, IN WALLS, IN ALL FINISHED AREAS AND MAY BE EXPOSED IN CERTAIN SHOPS AND BOILER ROOM. EXPOSED CONDUIT MUST, IN GENERAL, FOLLOW BUILDING OR HORIZONTAL RUNS OF CONDUIT SHALL BE MADE IN WALLS. CONDUIT SHALL NOT BE INSTALLED IN CINDER FILLS OR EARTH UNLESS ENCASED IN A CONCRETE ENVELOPE. EXPANSION FITTINGS SHALL BE EQUAL TO O.Z. EXPANSION FITTINGS. TYPE XX WITH TYPE AJ BONDING JUMPER AS MANUFACTURED BY APPLETON ELECTRIC COMPANY OR EQUAL.

ANCHORS AND INSERTS: HORIZONTAL RUNS OF CONDUIT SHALL BE SECURELY FASTENED IN PLACE IN ACCORDANCE WITH THE NEC. WOODEN PLUGS OR WOOD SCREWS WILL NOT BE PERMITTED. ALL ANCHORS SHALL BE NON-HYGROSCOPIC AND SHALL BE INSERTED IN HOLES DRILLED IN THE CONSTRUCTION IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND SHALL BE METALLIC SHELD TYPE AS MANUFACTURED BY RAWL, PHILIPS, JACKEMAN, JOHNSON OR APPROVED EQUAL. AN INSERT "SHOT" INTO CONCRETE CONSTRUCTION WILL NOT BE PERMITTED. KINDORF OR APPROVED EQUAL TRAPEZE TYPE HANGERS SHALL BE INSTALLED WHERE PERMITTED HEREIN. IT IS PARALLEL, IN LONG RUNS. PERFORATED STRAP-IRON HANGERS WILL NOT BE PERMITTED.

WHERE HANGERS OR SUPPORTS MUST BE ATTACHED TO PRECAST CONCRETE, HOLES MUST BE DRILLED WITH SPECIAL DIAMOND DRILL BITS.

CONDUIT FITTINGS: CONDUIT FITTINGS FOR USE OF CONDUIT WHEN FABRICATED FROM STEEL TUBING SUCH AS ELBOWS AND COUPLINGS SHALL CONFORM IN ALL RESPECTS TO THE SPECIFICATIONS FOR FERROUS. CAST FITTINGS SHALL BE MADE OF RUST RESISTING FERROUS OR NON-FERROUS MATERIALS, SHALL BE PROVIDED WITH HEAVY THREADED HUBS, AND SHALL BE THOROUGHLY COATED WITH METALLIC ZINC OR CADMIUM INSIDE AND OUTSIDE AFTER THE FINISHING WORK IS COMPLETE. FITTINGS WITH SET SCREWS ARE PROHIBITED. CAST CONDUIT FITTINGS SHALL BE USED ON ALL EXPOSED CONDUIT INSTALLATIONS.

WRING

WHERE SWITCH BOXES ARE USED AS THE TERMINATION OF THE "HOME RUN" IN ADDITION TO THE SWITCH LEGS, NOT LESS THAN A TWO-GANG BOX SHALL BE USED IN ORDER TO PROVIDE AMPLE ROOM FOR WRING.

THE MINIMUM SIZES OF WIRE ON AN INSTALLATION SHALL BE AS FOLLOWS:

- LIGHTING, FIRE ALARM AND POWER CIRCUITS NO. 12 AWG
SIGNAL CIRCUITS WITH COMMON OR INDIVIDUAL LEADS: NO. 14 AWG
REMOTE CONTROL LEADS: NO. 14 AWG
PUBLIC ADDRESS SYSTEMS, TWISTED PAIR, SHIELDED AS SPECIFIED
FIXTURES, NO. 14 AWG MINIMUM AND AS REQUIRED BY U.L.

NO. 10 AWG CONDUCTORS SHALL BE INSTALLED FOR ALL CIRCUITS GREATER THAN 100'-0" ONE WAY FROM PANELBOARD TO LAST OUTLET; OVER 150 FEET IN LENGTH SHALL BE NO. 8. WRING SHALL BE INCREASED TYPE SIZE SO DEMANDED BY WATTAGE OF LOAD. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID, AND CONDUCTORS NO. 8 AWG AND LARGER SHALL BE STRANDED.

GREAT CARE SHALL BE EXERCISED IN PULLING WIRES INTO THE CONDUITS SO AS NOT TO INJURE THE INSULATION. INSULATION APPROVED BY THE ARCHITECT SHALL BE USED TO ASSIST IN THE PULLING IN OF WIRES WITH AN OUTER COVERING OF BRAD.

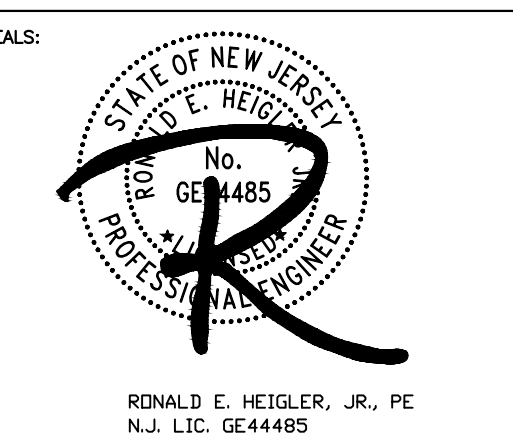
ALL INSULATED LIGHTING AND POWER SECONDARY CONDUCTORS, EXCEPT FIXTURE WIRE, WHICH SHALL BE AS SPECIFIED HEREINAFTER, SHALL BE COPPER, FIRST QUALITY, NEUT AND SOUND WITH 600-VOLT INSULATION, 75 33 33/64 O MOISTURE AND HEAT RESISTANT TYPE SHW, B-3 AND B-8. THE CONDUIT SYSTEM SHALL BE FREE OF STRANDED.

(CONTINUED)

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PROJECT:

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ALL DOCUMENTS PREPARED BY BACH ASSOCIATES, PC ARE INSTRUMENTS OF SERVICE. IN RESPECT OF THE PROJECT, THEY ARE NOT WITHDRAWN OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS IN ANY OTHER PROJECT OR IN ANY MANNER WITHOUT THE WRITTEN VERIFICATION AND PERMISSION OF BACH ASSOCIATES,

ELECTRICAL SPECIFICATIONS (CONTINUED)

ALL BURRS, SHARP EDGES AND DEFECTS BEFORE WIRE IS PULLED. FIXTURE CONDUCTORS SHALL BE TYPE THIN FROM THE ADJACENT JUNCTION BOX.

ALL WIRE AND CABLE SHALL BE MARKED WITH IDENTIFICATION IN ACCORDANCE WITH THE REGULATIONS OF THE U.L.

COMMUNICATION, SOUND AND OTHER LOW-VOLTAGE WIRING SHALL BE OF SIZE AND INSULATION RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT BEING SERVED.

THE CONTRACTOR SHALL REFER TO THE GENERAL HEATING-VENTILATING AND PLUMBING SPECIFICATIONS AND INCORPORATE ALL ELECTRICAL WORK REQUIRED BY THESE CONTRACTS INTO THIS CONTRACT. THE CONTRACTOR SHALL ROUGH FOR ALL FIXTURES AND DEVICES AND AFTER SET BY OTHER CONTRACTORS, SHALL WIRE THROUGH THE EQUIPMENT TO THE DEVICES FURNISHED AND INSTALLED WITH THE EQUIPMENT. WIRE ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AS FURNISHED WITH THE RESPECTIVE EQUIPMENT. ALL ELECTRICAL POWER TO EQUIPMENT FURNISHED UNDER OTHER CONTRACTS SHALL BE INSTALLED AND WREDED COMPLETELY BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.

FISH LINE

THE CONTRACTOR SHALL INSTALL IN EACH EMPTY UNDERGROUND AND INTERIOR CONDUIT ONE (1) NYLON FISH LINE FOR THE FUTURE INSTALLATION OF WIRE AND CABLE.

SPLICES – SECONDARY

ALL SPLICES SHALL BE DONE IN OUTLET BOXES. JUNCTION BOXES AND SPLICES IN THE CONDUIT SPLICES MAY BE MADE WITH SOLDERLESS CONNECTORS, PRESSURE CONNECTORS, BUGS AND THEN INSULATED WITH TAPE. THE CONTRACTOR SHALL USE SCOTCH ELECTRICAL TYPE NO. 22 OR 33 SCOTCHGLASS SPRING CONNECTORS WITH VINYL COVER, SCOTCH CAST RESIN NO. 4 AND SPLONG KIT OR PRESSURE SPLICE KIT, ALL AS APPROVED EQUAL AS RECOMMENDED BY THE MANUFACTURER OF THE SPLONG MATERIALS AND THE WIRE MANUFACTURER. CONNECTORS WHICH LEAVE CUT ENDS OF WIRE EXPOSED TO FLEXIBLE OR SOFT CONNECTOR INSULATOR WILL NOT BE PERMITTED. PROPER SIZE CONNECTORS SHALL BE USED AT ALL SPLICE LOCATIONS. SOLDERED CONNECTIONS INSULATED WITH ELECTRICAL PLASTIC TAPE WILL BE PERMITTED. PROVIDE PULL BOXES AS REQUIRED. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS ENTERING THEM WITH RODS, HANGERS, BRACKETS OR OTHER SUITABLE MEANS.

RACEWAY ACCESSORIES

ALL OUTLET BOXES SHALL BE OF GALVANIZED STEEL, AT LEAST 1-1/2" DEEP AND CAREFULLY SIZED AS TO THE NUMBER OF CONDUCTORS AND DEVICES AND ACCORDING TO APPROPRIATE SECTIONS OF THE NEC. BOXES SHALL HAVE KNOCK-OUTS FOR CONDUIT TERMINATIONS AND MOUNTING LUGS AND EARS FOR COVERS.

OUTLET BOXES FOR WIRING DEVICES IN FINISHED WALLS SHALL BE ONE PIECE STANDARD GANG TYPE OF SIZE TO ACCOMMODATE NUMBER OF DEVICES NOTED. BOXES SHALL HAVE PLASTER COVERS TO BRING THEM WITH OPENINGS FLUSH WITH FINISHED WALL AND NOT MORE THAN 1/4" BACK OF SAME.

BOXES FOR FLOOR OUTLETS SHALL BE CAST-METAL, THREADED CONDUIT-ENTRANCE, WATERPROOF TYPE WITH MEANS FOR ADJUSTING COVERPLATE TO FINISH FLOOR LEVEL. BOXES SHALL BE APPROXIMATELY 4" IN DIAMETER AND 3-1/2" DEEP WITH AN APPROVED GASKET OR SEAL BETWEEN ADJUSTING RING AND BOX.

DIMENSIONS FOR OUTLET BOXES SHOWN IN A GENERAL MANNER, GIVEN THE SCHEDULE, WILL BE PERMITTED SLIGHT ADJUSTMENT TO SATISFY BLOCK CONSTRUCTION ON THE PROJECT. THOSE DIMENSIONS ON THE DRAWING, HOWEVER, SHALL BE INSTALLED AS SHOWN.

OUTLET AND FLOOR BOXES SHALL AS MANUFACTURED BY RACO OR APPROVED EQUAL.

JUNCTION AND PULL BOXES NOT OVER 100 CUBIC INCH SHALL BE STANDARD OUTLET BOXES. JUNCTION OR PULL BOXES OVER 150 CUBIC INCH SHALL BE CONSTRUCTED SAME WITH COVERS SAME GAUGE METAL AS BOXES AND SECURED WITH SCREWS AND BOLTS. ALL BOXES SHALL BE COATED INSIDE AND OUTSIDE TO PREVENT CORROSION.

JUNCTION BOXES SHALL NOT BE LESS THAN 1-1/2" BY 4" SQUARE. REMOVABLE COVERS SHALL BE ACCESSIBLE AT ALL TIMES.

BOXES SHALL BE ACCESSIBLE, HOWEVER, IF ON CONCEALED CONDUITS, THEY SHALL BE SET WITH COVERS FLUSH WITH FINISH PLASTER LINE. JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSION, AS OUTLINED BY THE NEC FOR CONDUITS AND CONDUCTORS NOTED, SHALL BE INSTALLED WHERE SHOWN AND WHERE NECESSARY TO FACILITATE CONDUCTOR INSTALLATION.

SWITCHES

ALL SWITCHES MOUNTED VERTICALLY SHALL HAVE THE "ON" POSITION AT THE TOP AND ALL HORIZONTAL MOUNTED SWITCHES SHALL HAVE THE "ON" POSITION AT THE LEFT.

TUMBLER SWITCHES SHALL BE THE A.C. HEAVY DUTY, 120/277 VOLTS, FLUSH TOGGLE-TYPE SWITCH RATED AT 20 AMPERES AND U.L. APPROVED. THE OPERATING MECHANISM SHALL BE TOTALLY ENCLOSED IN A HIGH HEAT, NON-INFLAMMABLE, NON-HYGROSCOPIC MOULDED COMPOUND CASE, WITH TERMINAL SCREWS LOCATED ON THE SIDE OF THE SWITCH. OPERATING HANDLES SHALL BE MADE OF HIGH HEAT PHENOLIC COMPOUND. ALL SWITCHES SHALL HAVE WIDE PLASTER EARS, AND SHALL BE SINGLE POLE, DOUBLE POLE, 3-WAY AND 4-WAY AS REQUIRED AND SHALL BE EQUAL UNLESS SPECIFIED OTHERWISE TO HUBBELL 1221-1, 1223-1 AND 1224-1 COVERPLATES. KEY-OVERHEAD SWITCHES SHALL BE EQUAL TO HUBBELL 1221-L, 1203-L-1, AND 1204-L COMPLETE WITH 1209 KEY.

CONVENIENCE OUTLETS

RECEPTACLES FOR CONVENIENCE OUTLETS SHALL MATCH EXISTING IN TYPE, MANUFACTURER AND COLOR.

AT EACH SPECIAL PURPOSE OUTLET SHOWN, FURNISH AND INSTALL A SUITABLE RECEPTACLE WITH A STAINLESS STEEL PLATE. OUTLETS RATED FROM 1,600 TO 3,000 WATTS SHALL BE PROVIDED WITH 30 AMPERE RECEPTACLES. OUTLETS RATED FROM 3,100 TO 10,000 WATTS SHALL BE PROVIDED WITH 50 AMPERE. ALL DEVICES SHALL BE HOSPITAL GRADE.

RECEPTACLES, OUTLETS FOR EQUIPMENT RATED OVER 10,000 WATTS SHALL BE CONNECTED THROUGH FUSED SAFETY SWITCHES WITHOUT RECEPTACLES. THIRTY (30) AMPERE RECEPTACLES SHALL BE 3-WIRE FLUSH MOUNTING TYPE SIMILAR TO HUBBELL 9350 OR 9350W WITH 9337 OR 9338 ARMORED CORD GRIP CAP AND WITH STAINLESS STEEL PLATE OR APPROVED EQUAL. TWENTY AMPERE, 4-WIRE RECEPTACLES SHALL BE HUBBELL 7250 WITH 9451 ARMORED CAP AND ALL OTHER 4-WIRE RECEPTACLES SHALL BE 60 AMPERE SIMILAR TO HUBBELL 7301 WITH 7303 CORD GRIP CAP. THE CONTRACTOR SHALL CHANGE CAPS ON ANY PIECE OF EQUIPMENT FURNISHED BY HIM OR OTHERS THAT DO NOT CONFORM TO THE ABOVE.

WALL PLATES

SWITCH, RECEPTACLES, PUSH BUTTONS, BLANK TELEPHONE AND OTHER OUTLET PLATES SHALL MATCH EXISTING IN TYPE, MANUFACTURER AND COLOR. WHERE MORE THAN ONE (1) SWITCH OCCURS AT ONE POINT, GANG PLATES SHALL BE USED.

ZINC-COATED PLATES MAY BE USED IN ALL UNFINISHED SPACES.

ALL PLATES SHALL BE SET TRUE AND PLUMB AND SHALL FIT TIGHT AGAINST FINISHED WALL SURFACES AND OUTLET BOXES.

OUTLET AND SWITCH BOXES

OUTLET AND SWITCH BOXES SHALL BE OF PROPER TYPE AND SIZE AS REQUIRED BY THE SCHEDULE AND SHALL BE SECURED FIRMLY IN PLACE AND SET TRUE AND SQUARE AND FLUSH WITH THE FINISHED SURFACE, INCLUDING THOSE SET IN BOTTOM OF PLANK FLOOR SLABS.

CONCEALED BOXES SHALL BE OF PRESSED STEEL NOT LESS THAN 4" OCTAGON OR SQUARE, ZINC COATED AND PROVIDED WITH THE PROPER SIZE KNOCKOUTS. CAST BOXES SHALL BE USED ONLY AS CALLED FOR HEREIN OR AS SPECIFICALLY REQUIRED BY NEC. REFER TO "WEATHERPROOF LOCATIONS."

WHEN OUTLETS ARE REQUIRED IN THE CONSTRUCTION, RECTANGULAR BOXES MADE FOR THE PURPOSE SHALL BE PERMITTED IN TILE CONSTRUCTION. BOXES SHALL BE OF UNIT CONSTRUCTION, OF A SIZE REQUIRED FOR THE NUMBER OF SWITCHES OR OTHER OUTLETS SHOWN. THE SHAPE OF THE BOX SHALL BE SUCH AS TO PERMIT TILE TO BE CUT IN STRAIGHT LINES AND TO FIT CLOSELY AROUND THE BOX AND SO PLACED THAT THE COVERPLATE WILL BE FLUSH WITH FINISHED WALL SURFACES. NO PLASTER COVERS WILL BE REQUIRED FOR THESE OUTLETS IN TILE CONSTRUCTION.

ALL BOXES FOR LIGHT OUTLETS SHALL BE PROVIDED WITH FIXTURE STUDS OF A SIZE SUITABLE FOR THE WEIGHT OF THE FIXTURE TO BE SUPPORTED, BUT IN NO CASE LESS THAN 3/8".

LOCATION OF OUTLETS

THE APPROXIMATE SCHEMATIC LOCATION OF CEILING, SWITCH AND OTHER OUTLETS IS GIVEN ON THE DRAWINGS. THE EXACT LOCATION SHALL BE DETERMINED AT THE BUILDING AS THE WORK PROGRESSES. REFER TO ARCHITECTURAL PLANS FOR SPECIAL DETAILS.

UNLESS OTHERWISE INDICATED, OR OTHERWISE DECIDED AT THE SITE, OUTLET BOXES IN WALL SHALL BE LOCATED WITH CENTERLINE AT REVISION ABOVE THE FINISHED FLOOR AS SHOWN ON TABLE BELOW. IN CERTAIN PUBLIC AND WORK AREAS OF THE BUILDING, SWITCHES AND CONTROLS OF FREQUENT OR ESSENTIAL USE SHALL BE LOCATED 3'-4" ABOVE THE FLOOR. THIS IS IN ACCORDANCE WITH ACT 235 OF THE DEPARTMENT OF LABOR AND INDUSTRY. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INFORMATION ON AND COMPLYING WITH PROVISIONS OF ACT 235. RELOCATION OF ANY DEVICES NOT COMPLYING WITH ACT 235 SHALL BE AT CONTRACTOR'S EXPENSE.

THE ARCHITECT AND THE OWNER RESERVE THE RIGHT TO CHANGE THE LOCATION OF ANY OUTLET BEFORE IT HAS BEEN INSTALLED, WITHOUT ADDITIONAL COST TO THE OWNER.

TELEPHONE, TELEVISION AND MISCELLANEOUS EMPTY CONDUIT SYSTEMS

THE CONTRACTOR SHALL FURNISH WIRING AND PULLSTRUNG AT EACH TELEPHONE/DATA OUTLET SHOWN ON PLAN PROVIDED A 3/4" DIA. AT EACH LOCATION TO BE RUN TO ACCESSIBLE SPACE ABOVE THE FINISHED CEILING.

EACH CONNECTIONS

EACH CONTRACTOR WILL PROVIDE NECESSARY STARTERS AS REQUIRED FOR OPERATION OF THE MOTORS PROVIDED UNDER THEIR CONTRACT. THE ELECTRICAL CONTRACTOR SHALL SET THE STARTER AND LINE VOLTAGE CONTROLS AND MAKE ALL FINAL CONNECTIONS.

THIS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DIRECTION OF ROTATION OF ALL MOTORS AND SHALL CHANGE CONNECTIONS AS REQUIRED TO PROVIDE FOR PROPER ROTATION.

WHERE MOTORS ARE ARRANGED ON RAILS, OR ARE OTHERWISE ADJUSTABLE FOR PROPERLY TENSIONING BELT DRIVES, A PIECE OF FLEXIBLE GALVANIZED OR SHERARDIZED CONDUIT WITH SUITABLE FITTINGS AND NOT OVER 16" LONG WILL BE PERMITTED BETWEEN THE END OF THE RIGID CONDUIT OR "EMT" AND THE MOTOR TERMINAL BOX. IN ALL OTHER CASES, RIGID CONDUIT OR "EMT" SHALL BE EXTENDED DIRECT TO THE MOTOR TERMINAL BOX. MOTOR GROUNDING LEADS SHALL BE PROVIDED AS REQUIRED. NO BOX WILL BE PERMITTED IN LEV OF FLEXIBLE CONDUIT.

LIGHTING FIXTURES

FIXTURE NUMBERS, AS SPECIFIED, HAVE BEEN TAKEN FROM THE CATALOGS OF FIXTURE MANUFACTURERS. FIXTURE NUMBERS AND DESCRIPTIONS ARE INTENDED TO DENOTE A STANDARD OF QUALITY AND TYPE. FIXTURES OF OTHER MANUFACTURERS MAY BE USED PROVIDED A COMPLETE COMPARABLE SCHEDULE IS SUBMITTED TO THE ARCHITECT AND THE OWNER FOR APPROVAL BEFORE PROCEEDING WITH THE ORDER. SPECIAL PRECAUTION SHALL BE TAKEN ON FINISHES.

A FIXTURE SHALL BE PROVIDED FOR EACH AND EVERY OUTLET INDICATED WHETHER A TYPE HAS BEEN GIVEN OR OMITTED, AND THE FIXTURE MUST BE COMPATIBLE. INCANDESCENT FIXTURES SHALL BE FITTED WITH 130 WATT LAMPS OF PROPER TYPE AND CAPACITY. ALL LAMPS SHALL BE FIRST QUALITY AND SHALL BE MANUFACTURED BY GENERAL ELECTRIC, OSRAM OR PHILIPS. WHERE FLUORESCENT FIXTURES ARE SPECIFIED, THEY SHALL BE COMPLETE WITH HIGH POWER FACTOR BALLASTS, U.L. LISTED, C.B.M. CERTIFIED, AND E.T.L. APPROVED. LOW POWER FACTOR BALLASTS WILL NOT BE ACCEPTABLE UNDER ANY CIRCUMSTANCES. BALLASTS SHALL HAVE AN "A" SOUND RATING. BALLASTS SHALL BE AS MANUFACTURED BY JEFFERSON ELECTRIC COMPANY, GENERAL ELECTRIC COMPANY, OR ADVANCE TRANSFORMER COMPANY. BUT FIXTURES WHICH ARE NOISY OR DEFECTIVE SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR WITHOUT ADDITIONAL CHARGES TO THE OWNER. EIGHT FOOT FLUORESCENT FIXTURES SHALL HAVE 4 LAMPS INDOOR OR NEMA 3R ENCLOSURE FOR EXTERIOR USE. SWITCHES SHALL BE EQUAL TO WESTINGHOUSE HEAVY-DUTY TYPE. FURNISH COMPLETE SET OF FUSES FOR FUSED DISCONNECT. WHERE MOTOR FEEDS EXCEED 50' OR LOCATED OUTSIDE AREA THAT PROTECTIVE DEVICES ARE LOCATED, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL NON-FUSED DISCONNECT SWITCHES.

SUITABLE PLASTER RINGS OR FRAMES SHALL BE PROVIDED FOR ALL RECESSED FIXTURES. WHERE FIXTURES OR BOXES ARE INCESED IN METAL DECKS, THE CONTRACTOR SHALL DO ALL CUTTING REQUIRED AT EACH LOCATION. THE CONTRACTOR SHALL REINFORCE OPENINGS IN METAL DECKS WITH SUITABLE STRUCTURAL MEMBERS AS REQUIRED BY THE ARCHITECT.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE GENERAL CONTRACTOR OF EXACT LOCATIONS WHERE RECESSED FIXTURES AND BOXES WILL BE INSTALLED. IT WILL BE NECESSARY TO COORDINATE THE EXACT LOCATIONS OF STEEL JOISTS AND OTHER STRUCTURAL MEMBERS TO PROVIDE CLEARANCE FOR RECESSED ELECTRICAL EQUIPMENT.

ALL LIGHTING FIXTURES REMOVED AND NOT RE-USED SHALL BE TURNED OVER TO BUILDING MANAGEMENT.

INSTALLATION

THE CONTRACTOR SHALL PROVIDE AND INSTALL SUSPENSION STUD, "SCISSOR CLIPS" ON THE "T" BAR CONSTRUCTION FOR INSTALLATION OF SURFACE-MOUNTED FLUORESCENT FIXTURES. ADDITIONAL WIRE TIES SHALL BE PROVIDED TO CEILING SYSTEM TO PREVENT SAG. ALL ACCESSORIES SUCH AS COUPLING PLATES SHALL BE PROVIDED TO JOIN FIXTURES. ADDITIONAL WIRES SHALL BE PROVIDED SO THAT SUPPORTS WILL NOT DEFLECT MORE THAN 1/360 OF THE SPAN WITH TWICE THE FIXTURE WEIGHT.

FLUORESCENT FIXTURES USED FOR LAY IN CEILINGS SHALL HAVE ADDITIONAL SUPPORT AS REQUIRED AND SHALL HAVE ALL CLIPS INSTALLED TO ENSURE RIGID. ALL INSTALLATION, EACH FIXTURE SHALL BE ADJUSTED TO ACCOMPLISH A SYMMETRICAL PLACEMENT IN THE CEILING SPACE AND EASY REMOVAL OF THE LENS.

SURFACE-MOUNTED INCANDESCENT FIXTURES SHALL HAVE THE BASE SLOTTED TO RECEIVE THE "T" BAR TILE AND FIT SNUG AGAINST THE CEILING.

RECESSED DOWNLIGHT FIXTURE HOUSINGS SHALL BE FREELY SUPPORTED THROUGH THE USE OF CHANNELS AND ADJUSTED TO PUT FRAME FLUSH WITH FINISHED CEILING. LIGHT LEAKS WILL NOT BE TOLERATED AND GASKETS SHALL BE USED TO PREVENT THEM. ALL LENS SHALL HAVE A MINIMUM TOLERANCE AND SHALL FIT SNUG IN THEIR FRAMES.

FIXTURES INSTALLED IN OPEN STEEL AREAS SHALL BE INSTALLED ON "KINDORF" SYSTEM AS MANUFACTURED BY STEEL CITY COMPANY, OR APPROVED EQUAL. THIS SYSTEM SHALL BE SUSPENDED FROM THE STRUCTURAL STEEL MEMBERS AND SHALL HAVE VIBRATION RESISTANT ASSEMBLY CONNECTIONS. ALL RODS USED FOR SUSPENSION SHALL BE GALVANIZED AND SURFACE RACEWAY SUSPENSION SHALL HAVE CORROSION RESISTANT PAINT.

OTHER FIXTURES SHALL BE RIGIDLY SUPPORTED FROM MAIN BUILDING STRUCTURE WITH APPROVED SUPPORTING DEVICES.

THE ELECTRICAL CONTRACTOR SHALL SPACE ALL LIGHTING FIXTURES EVENLY ON CENTERS OR JOINTS OF FINISHED TILES OR OTHER CONSTRUCTION. FIXTURES SHALL BE LOCATED AT CENTER OF CEILING TILES WHERE POSSIBLE. ALL MEASUREMENTS FOR SPACING FIXTURES EVENLY ON ROOM DIMENSIONS SHALL BE TAKEN FROM CENTERLINE OF STEEL COLUMNS AND BEAMS IN ALL CASES.

EACH SOCKET IN MULTIPLE SOCKET FIXTURES SHALL BE PROVIDED WITH A LAMP OF PROPER TYPE AND WATTAGE TO CONFORM AS NEAR AS POSSIBLE WITH THE TOTAL WATTAGE LISTED ON THE DRAWINGS. WATTAGES SHOWN ON THE DRAWINGS ARE MINIMUM.

FIXTURES SHALL BE DESIGNED, ARRANGED, FURNISHED AND INSTALLED COMPLETE WITH ALL ACCESSORIES FOR MOUNTING TO THE CEILING CONSTRUCTION FOR WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL CHECK CAREFULLY WITH FINAL CEILING FINISH SCHEDULE OF ROOMS BEFORE ORDERING FIXTURES FOR HE SHALL BE HELD RESPONSIBLE FOR THE INSTALLATION COMPLETE IN EVERY DETAIL.

INTEGRAL OUTLET BOXES FACTORY MOUNTED ON RECESSED FIXTURES ARE PREFERRED, BUT NOT SPECIFICALLY REQUIRED.

ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH SUITABLE PENDANTS, CANOPIES, COVER, CEILING ROUNDELS, OPENING FLANGES, HANGERS, PLASTER RINGS OR FRAMES IF RECESSED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZE OPENINGS FOR RECESSED FIXTURES AND SHALL FURNISH AND INSTALL ALL WOOD OR METAL FRAMES PROPERLY SET IN PLACE AND ANCHORED.

METAL GAUGE OF FIXTURES SHALL BE HEAVY GAUGE AND FIXTURES MANUFACTURED OF LIGHT GAUGE METAL WITH EXCESSIVE FLEXIBILITY WILL NOT BE ACCEPTABLE.

FINISH: ALL METAL PARTS OF FIXTURES SHALL BE PAINTED. INTERIOR REFLECTIVE SURFACES SHALL BE OF BAKED-ON WHITE ENAMEL, UNLESS FIXTURE SPECIFIED IS NORMALLY FURNISHED WITH POLISHED SPECIFIED METAL SURFACES. EXTERIOR SURFACES SHALL BE FINISHED WITH ENAMEL. FIXTURES LOCATED IN HAZARDOUS AREAS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROPRIATE SECTIONS OF THE NEC, INCLUDING ALL WIRING AND FITTINGS CONTROLLING THESE LIGHTS.

ALL PLASTIC DIFFUSERS SHALL BE 100% VIRGIN ACRYLIC. FURNISH CERTIFICATE FROM THE LIGHT MANUFACTURER CERTIFYING SAME.

DISCONNECT SWITCHES

FUSED AND NO-FUSED DISCONNECT SWITCHES SHALL BE FURNISHED AT LOCATIONS SHOWN ON PLAN OR FOR EQUIPMENT MOUNTED IN REMOTE AREAS AS REQUIRED BY CODE. SWITCHES INDOOR OR NEMA 3R ENCLOSURE FOR EXTERIOR USE. SWITCHES SHALL BE EQUAL TO WESTINGHOUSE HEAVY-DUTY TYPE. FURNISH COMPLETE SET OF FUSES FOR FUSED DISCONNECT. WHERE MOTOR FEEDS EXCEED 50' OR LOCATED OUTSIDE AREA THAT PROTECTIVE DEVICES ARE LOCATED, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL NON-FUSED DISCONNECT SWITCHES.

HEATING AND PLUMBING EQUIPMENT

ELECTRICAL CONTRACTOR SHALL DO ALL POWER WIRING, LINE VOLTAGE WIRING AND CONTROL WIRING HEREAFTER DESCRIBED AND COVERED UNDER THE HEATING AND PLUMBING DRAWINGS AND SPECIFICATIONS.

ELECTRICAL CONTRACTOR SHALL REFER TO WIRING SCHEMATICS ON HEATING AND PLUMBING DRAWINGS FOR ADDITIONAL WIRING THAT IS TO BE DONE UNDER THIS CONTRACT.

ELECTRICAL CONTRACTOR SHALL REFER TO THE HEATING AND PLUMBING SPECIFICATION FOR A MORE DETAILED DESCRIPTION OF THE EXTENT OF ELECTRICAL WORK TO BE DONE UNDER THE ELECTRICAL CONTRACT AND SHALL BECOME A PART THEREOF. THESE SPECIFICATIONS ARE AVAILABLE IN THE ARCHITECT'S OFFICE.

LABELING PANELS, SWITCHES, ETC.

ALL ELECTRIC PANELS AND PULL BOXES FOR SOUND, TV, AND TELEPHONE SHALL BE LABELED INSIDE OF THEIR COVERS AS TO THEIR USE AND FUNCTION. LABELING SHALL BE DONE BY STENCILING IN BLACK PRINT OR OTHER SUITABLE MEMO ACCEPTABLE TO THE ARCHITECT.

ALL DISCONNECT SWITCHES SHALL BE LABELED WITH VINYL ADHESIVE LETTERING AS TO ITS FUNCTION. ALL SWITCHES AND DEVICES LOCATED REMOTELY FROM THE EQUIPMENT IT SERVES SHALL BE SO LABELED AS TO IDENTIFICATION AND USE. ALL DEVICES THAT ARE NORMALLY SUPPLIED WITH DIRECTORIES SHALL BE FILLED IN COMPLETELY WITH TYPED LETTERING.

EQUIPMENT HOOK UP

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR AND MATERIAL REQUIRED FOR THE FINAL CONNECTION, COMPLETE HOOK UP AND WIRING OF ALL EQUIPMENT FURNISHED UNDER OTHER CONTRACTORS. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE VARIOUS SCHEDULES AND DRAWINGS TO ESTABLISH THE SCOPE TO BE COVERED UNDER THIS CONTRACT. MOUNT AND WIRE TO CONTROLLERS AND DISCONNECTS SERVING THE VARIOUS PIECES OF EQUIPMENT.

THE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE IN NATURE ONLY, AND ARE TO BE USED FOR BIDDING PURPOSES. THE ACTUAL INSTALLATION DRAWINGS, CONCERNING EXACT LOCATIONS AND METHOD OF CONNECTION, WILL BE DEVELOPED BY THE VARIOUS CONTRACTORS WHICH ARE TO BE USED FOR CONSTRUCTION PURPOSES.

THE LOCATIONS SHOWN ON THE WORKING DRAWINGS ARE APPROXIMATE AND THE ELECTRICAL CONTRACTOR SHALL USE MANUFACTURER'S SHOP DRAWINGS FOR ROUGHING IN ACTUAL CONSTRUCTION.

GENERALLY, EQUIPMENT FURNISHED BY OTHERS SHALL BE ROUGHED IN AND WREDED COMPLETE ACCORDING TO THE MANUFACTURER'S SHOP DRAWINGS OF THE EQUIPMENT, INCLUDING ROUGHING IN AND FINAL CONNECTIONS. WIRE TO ALL LINE VOLTAGE CONTROLS AND CONTROLLERS.

SUPERVISION OF SYSTEMS INSTALLATION

ALL WORK ON MAJOR SYSTEMS SUCH AS THE SOUND, CLOCK, EMERGENCY GENERATOR AND FIRE ALARM SYSTEM SHALL BE PERFORMED UNDER THE SUPERVISION OF FACTORY ACCREDITED ENGINEERS. IT SHALL BE THE RESPONSIBILITY OF THIS ENGINEER TO CHECK AND INSPECT THE INSTALLATION OF THE SYSTEMS. HE SHALL ALSO TRAIN THE AUTHORIZED PERSONNEL ON THE PROPER USE AND MAINTENANCE OF THE EQUIPMENT. ALL WORK IN CONJUNCTION WITH THIS INSTALLATION SHALL BE IN ACCORDANCE WITH ALL LOCAL ELECTRICAL CODES.

INSTRUCTION

AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL INSTRUCT THE PERSONNEL WHO WILL HAVE CHARGE OF THE EQUIPMENT IN THE CARED, ADJUSTMENT AND OPERATION OF ALL PARTS OF ELECTRICAL SYSTEM. PROVIDE OWNER WITH COPIES OF ALL MANUALS, INSTRUCTIONS, MANUALS AND BOOKLETS FOR EACH SYSTEM AND PIECE OF EQUIPMENT INSTALLED.

PROJECT COMPLETION

AT THE COMPLETION OF ALL PARTS OF THE ELECTRICAL SYSTEM SHALL BE TESTED FOR OVERLOADS AND OTHER DEFECTS AND ALL PARTS SHALL BE PROPERLY ADJUSTED AND LEFT IN PROPER OPERATING CONDITION.

ALL OVERLOAD DEVICES INCLUDING THE OVERLOAD TRIP COILS OF THE STARTERS AND AUXILIARIES SHALL BE ADJUSTED FOR THE LOAD CONTROLLED AND NOT THE MOTOR SIZE.

SWITCHES, CONTROLLERS AND OTHER OPERATING DEVICES, WHERE LOCATED SOME DISTANCE FROM THE EQUIPMENT OPERATED, OR WHERE THERE ARE SEVERAL OR A GROUP OF DEVICES FOR CONTROL OF NEARBY OR ADJACENT EQUIPMENT, SHALL BE IDENTIFIED BY LETTERING OF A LEGIBLE SIZE ON THE SWITCH, CONTROLLER OR OPERATING DEVICE OF THE EQUIPMENT OPERATED BY SAME. USE A VINYL STICK-ON LETTERING TAPE. THIS SHALL BE DONE FOR ALL SUCH EQUIPMENT WHETHER FURNISHED UNDER THIS CONTROL OR NOT.

GUARANTEE

THIS CONTRACTOR SHALL GUARANTEE ALL MATERIAL, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY THE ARCHITECT AND OWNER. HE SHALL REPLACE ALL DEFECTIVE MATERIAL AND WORKMANSHIP FURNISHED AND INSTALLED BY HIM AND ALL OTHER WORK AND EQUIPMENT DAMAGED THEREBY WITHOUT COST TO THE OWNER.

IN ADDITION TO THE ONE YEAR GUARANTEE, THE CONTRACTOR SHALL FURNISH ANY WARRANTIES OR GUARANTEES THAT NORMALLY COME WITH SPECIFIC PIECES OF EQUIPMENT THAT EXCEEDS THE ONE-YEAR GUARANTEE. THESE ADDITIONAL WARRANTIES SHALL BE GIVEN TO THE OWNER FOR THE TIME PERIOD SPECIFIED.

BIDDING PROCEDURE

ALL BIDDERS MUST SUBMIT FOR THE ELECTRICAL CONSTRUCTION OF THIS PROJECT AS OUTLINED IN THE FOLLOWING PARAGRAPHS.

THESE BIDS SHALL BE ENTERED IN THE PROPER SPACES OF THE "PROPOSAL FORM."

BASE BID SHALL BE FOR ALL CONSTRUCTION AS SPECIFIED AND SHOWN ON WORKING DRAWINGS.

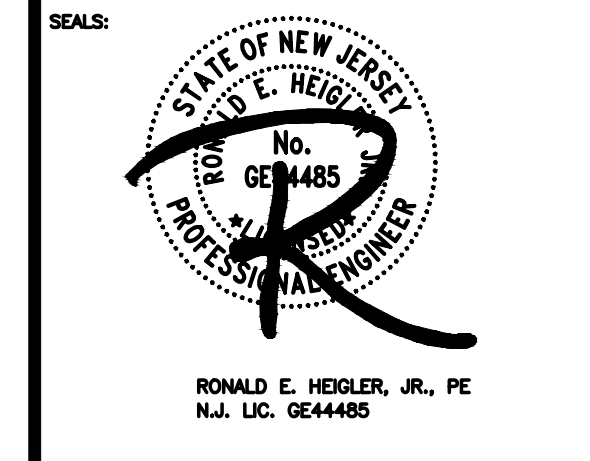
ALTERNATE BIDS SHALL BE "ADD" AMOUNTS AND/OR "DEDUCT" AMOUNTS FROM THE BASE BID FOR ALL LABOR AND MATERIAL IN THE ITEMS LISTED HEREAFTER.

AS-BUILT DRAWING

UPON COMPLETION PRIOR TO TURN OVER CONTRACTOR SHALL PROVIDE CAD DRAWING SHOWING ANY DEVIATIONS FROM CONTRACT AND ALL CIRCUITING IN AN AS-BUILT CONDITION. A HARD COPY AND ELECTRONIC COPY ON DISK SHALL BE GIVEN TO THE OWNER AND ARCHITECT PRIOR TO FINAL PAYMENT.

END OF SPECIFICATION

FEEDER SCHEDULE				
4	TYPE			
	1	2	3	4
225	1PH, 2W, +G	1PH, 3W, +G	3PH, 3W, +G	3PH, 4W, +G
10	(2) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(4) #12 & (1) #100 - 3/4" C
15	(2) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(4) #12 & (1) #100 - 3/4" C
20	(2) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(3) #12 & (1) #100 - 3/4" C	(4) #12 & (1) #100 - 3/4" C
25	(2) #10 & (1) #100 - 3/4" C	(3) #10 & (1) #100 - 3/4" C	(3) #10 & (1) #100 - 3/4" C	(4) #10 & (1) #100 - 3/4" C
30	(2) #10 & (1) #100 - 3/4" C	(3) #10 & (1) #100 - 3/4" C	(3) #10 & (1) #100 - 3/4" C	(4) #10 & (1) #100 - 3/4" C
35	(2) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(4) #8 & (1) #100 - 3/4" C
40	(2) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(4) #8 & (1) #100 - 3/4" C
45	(2) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(4) #8 & (1) #100 - 3/4" C
50	(2) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(3) #8 & (1) #100 - 3/4" C	(4) #8 & (1) #100 - 3/4" C
60	(2) #4 & (1) #100 - 1" C	(3) #4 & (1) #100 - 1" C	(3) #4 & (1) #100 - 1" C	(4) #4 & (1) #100 - 1" C
70	(2) #4 & (1) #80 - 1" C	(3) #4 & (1) #80 - 1" C	(3) #4 & (1) #80 - 1" C	(4) #4 & (1) #80 - 1" C
80	(2) #3 & (1) #80 - 1" C	(3) #3 & (1) #80 - 1" C	(3) #3 & (1) #80 - 1" C	(4) #3 & (1) #80 - 1" C
90	(2) #2 & (1) #80 - 1" C	(3) #2 & (1) #80 - 1" C	(3) #2 & (1) #80 - 1" C	(4) #2 & (1) #80 - 1" C
100	(2) #1 & (1) #80 - 1 1/4" C	(3) #1 & (1) #80 - 1 1/2" C	(3) #1 & (1) #80 - 1 1/2" C	(4) #1 & (1) #80 - 1 1/2" C
125	(2) #1 & (1) #80 - 1 1/4" C	(3) #1 & (1) #80 - 1 1/2" C	(3) #1 & (1) #80 - 1 1/2" C	(4) #1 & (1) #80 - 1 1/2" C
150	(2) #1/0 & (1) #80 - 1 1/4" C	(3) #1/0 & (1) #80 - 1 1/2" C	(3) #1/0 & (1) #80 - 1 1/2" C	(4) #1/0 & (1) #80 - 2" C
175	(2) #1/0 & (1) #80 - 1 1/2" C	(3) #1/0 & (1) #80 - 2" C	(3) #1/0 & (1) #80 - 2" C	(4) #1/0 & (1) #80 - 2 1/2" C
200	(2) #1/0 & (1) #80 - 1 1/2" C	(3) #1/0 & (1) #80 - 2" C	(3) #1/0 & (1) #80 - 2" C	(4) #1/0 & (1) #80 - 2" C
225	(2) #1/0 & (1) #80 - 2" C	(3) #1/0 & (1) #80 - 2" C	(3) #1/0 & (1) #80 - 2" C	(4) #1/0 & (1) #80 - 2 1/2" C
250	(2) 250 kcmil & (1) #10 - 2" C	(3) 250 kcmil & (1) #10 - 2 1/2" C	(3) 250 kcmil & (1) #10 - 2 1/2" C	(4) 250 kcmil & (1) #10 - 3" C
300	(2) 350 kcmil & (1) #10 - 2" C	(3) 350 kcmil & (1) #10 - 2 1/2" C	(3) 350 kcmil & (1) #10 - 2 1/2" C	(4) 350 kcmil & (1) #10 - 3 1/2" C
350	(2) 500 kcmil & (1) #10 - 2 1/2" C	(3) 500 kcmil & (1) #10 - 3" C	(3) 500 kcmil & (1) #10 - 3" C	(4) 500



PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

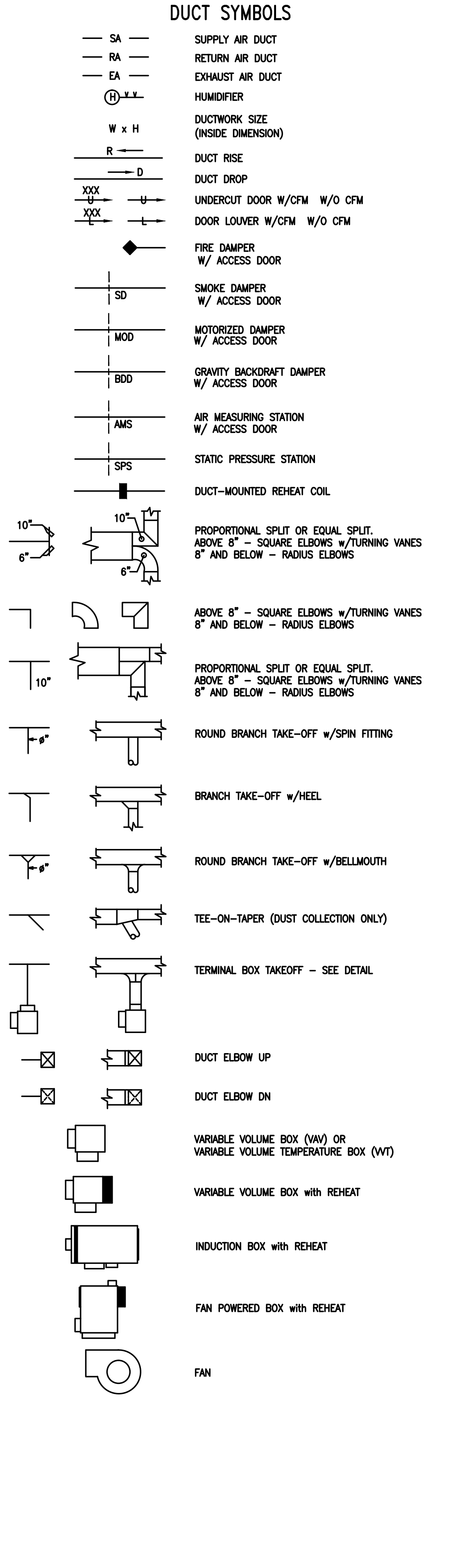
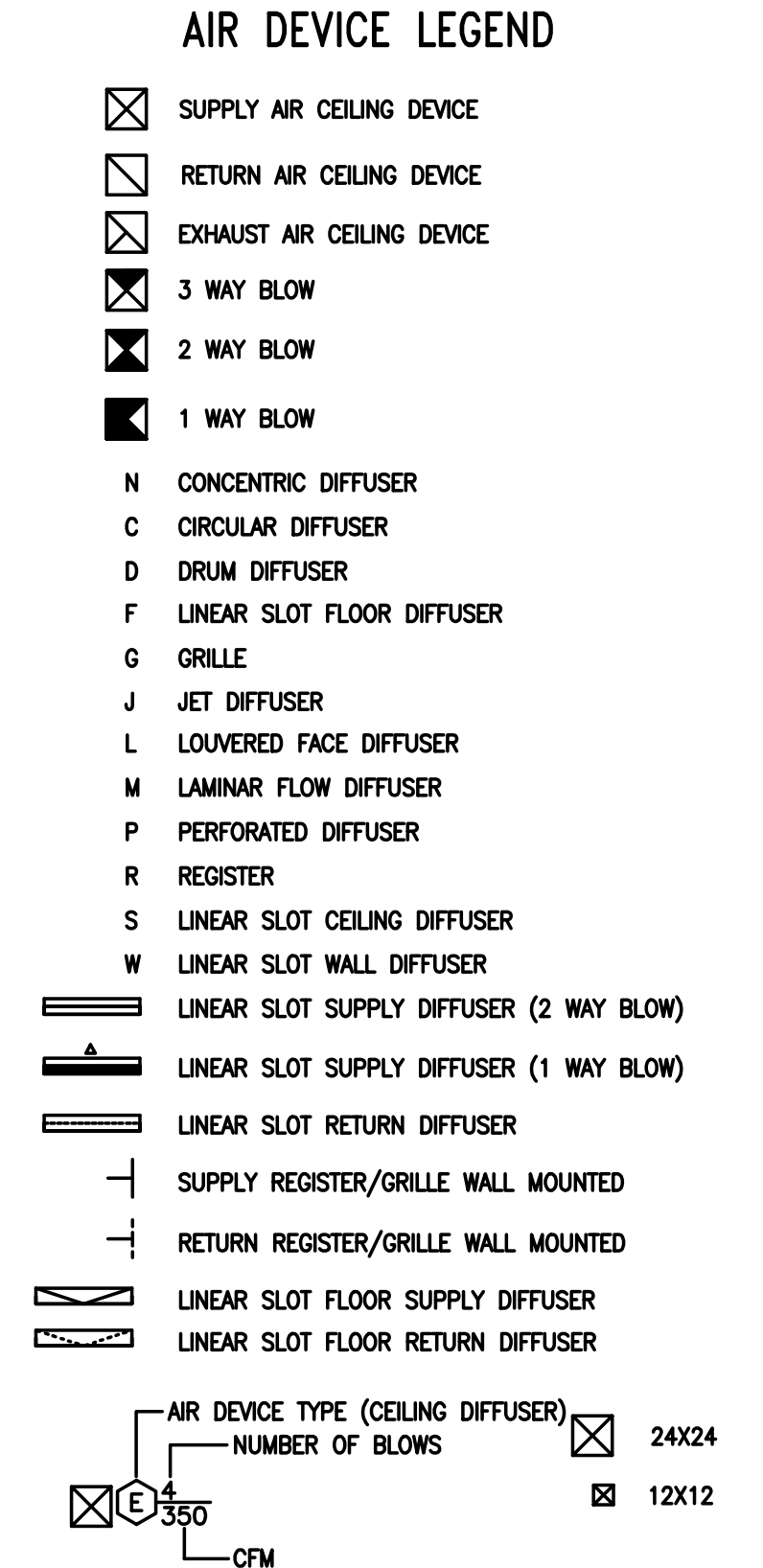
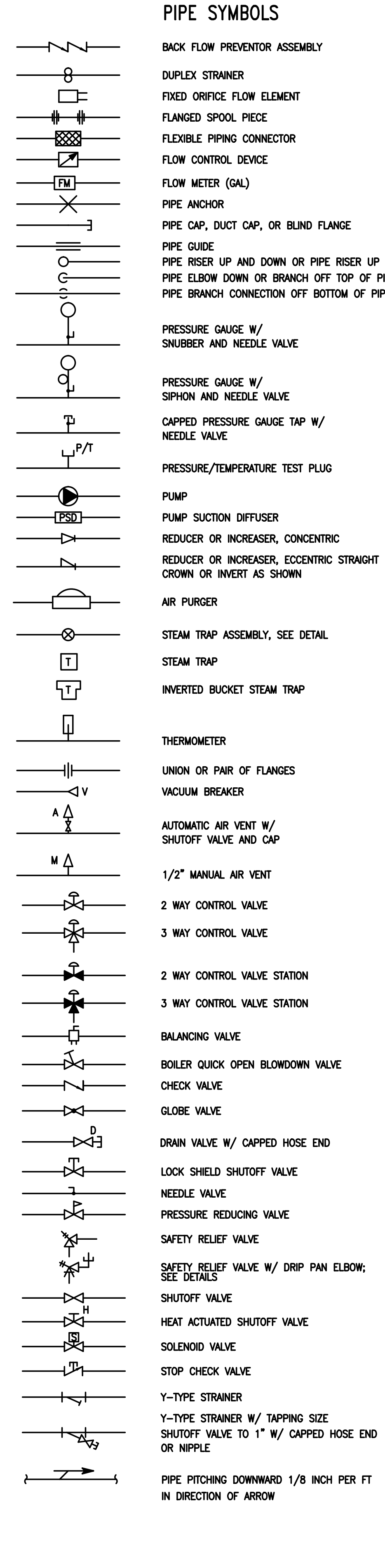
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4	50% CD SUBMISSION	10/23/24
5	90% CD SUBMISSION	11-13-24
6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
 Y-TYPE STRAINER W/ TAPPING SIZE SHUTOFF VALVE TO 1" W/ CAPPED HOSE END OR NIPPLE
 PIPE PITCHING DOWNWARD 1/8 INCH PER FT IN DIRECTION OF ARROW

JOB NO: 2856-03	DESIGNED BY: AMW
DATE: -	DRAWN BY: AMW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:

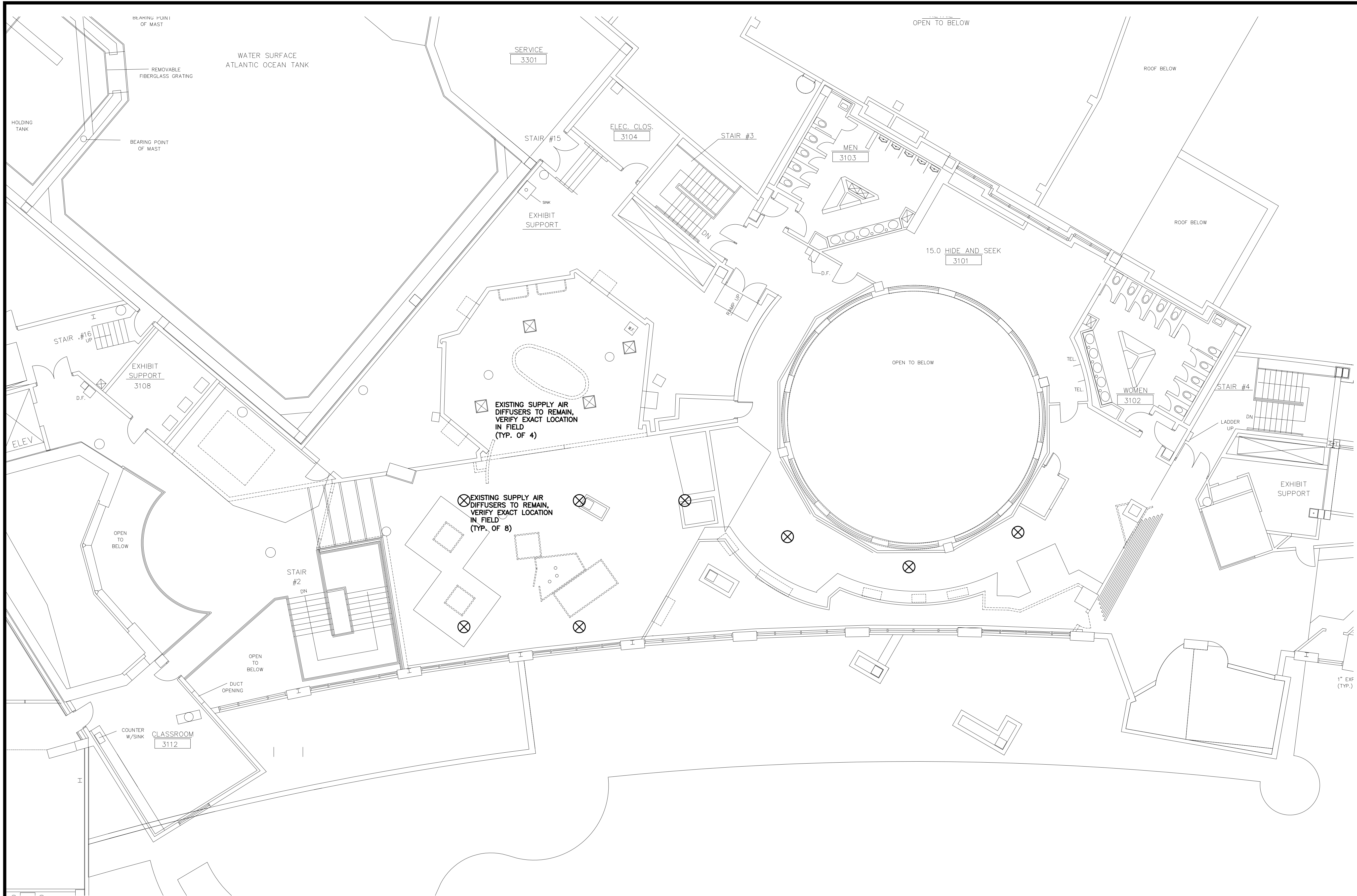


ABBREVIATIONS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.

ER	ENTERING REGISTER	OAH	OUTSIDE AIR ENTHALPY
ERA	ELECTRIC RADIATION	OAI	OUTSIDE AIR INTAKE
ERC	EXHAUST ENERGY RECOVERY COIL	OAT	OUTSIDE AIR TEMPERATURE
ERU	ENERGY RECOVERY UNIT	OBD	OPPOSED BLADE DAMPER
ESP	EXTERNAL STATIC PRESSURE	OC	ON CENTER
ET	EXPANSION TANK	OED	OPEN ENDED DUCT
EVC	EVAPORATIVE COOLER	OEM	ORIGINAL EQUIPMENT MANUFACTURER
EWB	ENTERING WET BULB TEMPERATURE	OPER	OPERATING
EWH	ELECTRIC WATER HEATER	OPNG	OPENING
EWT	ENTERING WATER TEMPERATURE	P	PUMP
EXH	EXHAUST	PBD	PARALLEL BLADE DAMPER
EXIST	EXISTING	PC	PUMPED CONDENSATE
EXT	EXTERNAL	PD	PRESSURE DROP
F	FILTER	PFHX	PLATE & FRAME HEAT EXCHANGER
F&T	FLOAT AND THERMOSTATIC STEAM TRAP	PHC	PREHEAT COIL
FA	FACE AREA	PLN	PLENUM
FA	FROM ABOVE	POS	POSITION
FAS	FIRE ALARM SYSTEM	PRESS	PRESSURE
FB	FROM BELOW	PRV	PRESSURE REDUCING VALVE
FC	FLEXIBLE CONNECTION	PSI	POUNDS PER SQUARE INCH
FCU	FAN COIL UNIT	PSIA	POUNDS PER SQUARE INCH- ABSOLUTE
FD	FIRE DAMPER OR FLOOR DRAIN	PSIG	POUNDS PER SQUARE INCH- GAUGE
FIN	FINAL	QUAN	QUANTITY
FLA	FULL LOAD AMPS	R	RISE
FLEX	FLEXIBLE	RA	RETURN OR RELIEF AIR
FLR	FLOOR	RAH	RETURN AIR ENTHALPY
FLTR	FILTER	RAT	RETURN AIR TEMPERATURE
FM	FLOW METERING DEVICE	RCP	RADIANT CEILING PANEL
FO	FUEL OIL	REQ	REQUIRED
FOB	FLAT ON BOTTOM	RET	RETURN
FOF	FUEL OIL FILL	REV	REVISION
FOO	FUEL OIL OVERFLOW	RF	RETURN FAN
FOP	FUEL OIL PUMP	RG	RETURN GRILLE
FOS	FUEL OIL SUPPLY	RH	RELIEF HOOD OR RELATIVE HUMIDITY
FOT	FLAT ON TOP	RHC	REHEAT COIL
FPB	FAN POWERED BOX	RHW	ROTARY HEAT WHEEL
FPM	FEET PER MINUTE	RLA	RUN LOAD AMPS
FPS	FEET PER SECOND	RM	ROOM
FT	FLASH TANK OR FOOT OR FEET	RP	RECIRCULATION PUMP
FTR	FINNED TUBE RADIATION	RPM	REVOLUTIONS PER MINUTE
FUT	FUTURE	RR	RETURN REGISTER
GPH	GALLONS PER HOUR	RTU	ROOFTOP UNIT
GPM	GALLONS PER MINUTE	RV	RELIEF VALVE
GR	GRILLE	SA	SUPPLY AIR
GRV	GRAVITY ROOF VENT	SB	STRUCTURAL BASE
GV	GRAVITY VENT	SCU	SELF CONTAINED UNIT
H	HUMIDIFIER	SD	SMOKE DAMPER OR DETECTOR
HAV	HEAT ACTUATED SHUTOFF VALVE	SEC	SECOND
HC	HEATING COIL	SEER	EFFICIENCY RATING
HG	MERCURY	SENS	SENSIBLE
HO	HUB OUTLET	SF	SUPPLY FAN
HP	HORSEPOWER	SG	SUPPLY GRILLE
HTG	HEATING	SI	SPRING HANGER
HV	HEATING & VENTILATING UNIT	SO	SCREENED OPENING
HWG	HOT WATER GENERATOR	SP	STATIC PRESSURE IN WG
HX	HEAT EXCHANGER	SPD	STEAM PRESSURE DROP
ID	INSIDE DIAMETER	SR	SUPPLY REGISTER
IN	INCHES	SRV	SUPPLY ENERGY RECOVERY COIL
INT	INITIAL	SRV	SAFETY RELIEF VALVE
KW	KILOWATT	SSF	SAFETY RELIEF VALVE
LAT	LEAVING AIR TEMPERATURE	ST	SOUND ATTENUATOR
LB	POUND	STBY	STANDBY
LD	LINEAR DIFFUSER	STM	STEAM
LDB	LEAVING DRY BULB TEMPERATURE	SUP	SUPPLY
LF	LINEAR FOOT	SUT	SURGE TANK
LG	LINEAR GRILLE	TEC	TERMINAL EQUIPMENT CONTROLLER
LOC	LOCATION	TG	TRANSFER GRILLE
LP	PROPANE	TOD	TOP OF DUCT
LRA	LOCKED ROTOR AMPS	TOP	TOP OF PIPE
LVG	LEAVING	TOT	TOTAL
LWB	LEAVING WET BULB TEMPERATURE	TP	TRANSFER PUMP
LWT	LEAVING WATER TEMPERATURE	TSP	TOTAL STATIC PRESSURE
MAX	MAXIMUM	TTS	TIGHT TO STRUCTURE
MBC	MODULAR BUILDING CONTROLLER	TYH	TYPICAL
MBH	1000 BTU PER HOUR	UH	UNIT HEATER
MC	MECHANICAL CONTRACTOR	UNO	UNLESS NOTED OTHERWISE
MCC	MOTOR CONTROL CENTER	VAV	VARIABLE AIR VOLUME
MECH	MECHANICAL	VD	VOLUME DAMPER
MER	MECHANICAL EQUIPMENT ROOM	VEL	VELOCITY
MFR	MANUFACTURER	VFD	VARIABLE FREQUENCY DRIVE
MH	MANHOLE	VIB	VIBRATION
MIN	MINIMUM OR MINUTE	VIV	VARIABLE INLET VALVES
MOC	MAXIMUM OVER-CURRENT PROTECTION	VTR	VENT THROUGH ROOF
MOD	MOTOR OPERATED DAMPER	W	WITH
MODU	MODULATING	W/O	WITHOUT
MXB	MIXING BOX	WB	WET BULB
N	NEW	WCU	WATER COOLED CONDENSING UNIT
NC	NORMALLY CLOSED	WG	WATER GAUGE
NG	NATURAL GAS	WHP	WATER SOURCE HEAT PUMP
NIC	NOT IN CONTRACT	WMS	WIRE MESH SCREEN
NO	NORMALLY OPEN OR NUMBER	WPD	WATER PRESSURE DROP
NTS	NOT TO SCALE		
OA	OUTSIDE AIR		

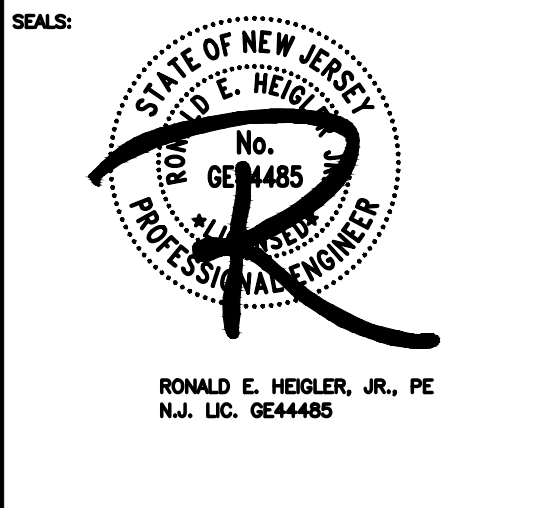
(D)	DEMOLISH
(E)	EXISTING
(F)	REFURBISH
(N)	NEW
(R)	RELOCATE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACFM	ACTUAL CUBIC FEET PER MINUTE
AD	ACCESS DOOR
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AL	ACOUSTICAL LINING
AMB	AMBIENT
AMS	AIR FLOW MEASURING STATION
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARCH	ARCHITECTURAL
AS	AIR SEPARATOR
ASC	APPLICATION SPECIFIC CONTROLLER
ATC	AUTOMATIC TEMPERATURE CONTROL
AVG	AVERAGE
AWT	AVERAGE WATER TEMPERATURE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACKDRAFT DAMPER
BDS	BLOWDOWN SEPARATOR
BFP	BACK FLOW PREVENTOR OR BOILER FEED PUMP
BFU	BOILER FEED UNIT
BHP	BRAKE HORSEPOWER OR BOILER HORSEPOWER
BI	BACKWARD INCLINED
BI	BINARY INPUT
BLD	BUILDING
BO	BINARY OUTPUT
BOD	BOTTOM OF DUCT OR BASIS OF DESIGN
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BT	BLOWDOWN TANK
BTJ	BETWEEN JOIST
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
C	CONVECTOR
CAP	CAPACITY
CB	CONCRETE BASE
CC	COOLING COIL
CCO	CAPPED CURB OPENING
CD	CEILING DIFFUSER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CL	COOLING
CLG	CEILING
CMPR	COMPRESSOR
CO	CLEAN OUT
COL	COLUMN
CONC	CONCENTRATION OR CONCRETE
COND	CONDENSATE (STEAM OR COOLING COIL)
CONN	CONNECTION
CONT	CONTINUATION
CP	CONDENSATE PUMP
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CVH	CABINET UNIT HEATER
CO	COEFFICIENT OF CAPACITY
D	DROP
DA	DEAERATOR
DB	DRY BULB
DC	DRY COOLER
DDC	DIRECT DIGITAL CONTROL
DEFL	DEFLECTION
DET	DETAIL
DIA	DIAMETER
DISC	DISCONNECT
DISCH	DISCHARGE
DI	DIGITAL INPUT
DN	DOWN
DO	DIGITAL OUTPUT
DR	DRAIN
DS	DISCONNECT SWITCH
DWG	DRAWING
EA	EXHAUST AIR OR EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECH	ELECTRIC CEILING HEATER
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION
EM	EQUIPMENT MANUFACTURER
EMER	EMERGENCY



1 DEMO MECHANICAL FLOOR PLAN
 M-1.0 SCALE: 1/8" = 1'-0"

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 304 White Horse Pike
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PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE EXHIBIT RENOVATIONS
 1 RIVERSIDE DRIVE
 CAMDEN, NEW JERSEY 08103
 CAMDEN COUNTY, NEW JERSEY

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6	100% CD SUBMISSION	12-16-24

DRAWING TITLE:
MECHANICAL FLOOR PLAN

JOB NO: 2856-03	DESIGNED BY: ANW
DATE: -	DRAWN BY: ANW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH

DRAWING NUMBER:
M-1.0

CONSTRUCTION TYPE	LIGHT HAZARD		ORDINARY HAZARD		EXTRA HAZARD		HIGH-PILED HAZARD	
	COVERAGE AREA (SQ. FT.)	SPACING (MAX.) (FT.)	COVERAGE AREA (SQ. FT.)	SPACING (MAX.) (FT.)	COVERAGE AREA (SQ. FT.)	SPACING (MAX.) (FT.)	COVERAGE AREA (SQ. FT.)	SPACING (MAX.) (FT.)
NONCOMBUSTIBLE UNOBSTRUCTED AND UNOBSTRUCTED	225	15	130	15	100	12	100	12
COMBUSTIBLE UNOBSTRUCTED	180	15	130	15	100	12	100	12

NOTE: FOR HYDRAULICALLY CALCULATED SYSTEMS ONLY

GENERAL NOTES:

- THIS SYSTEM IS DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13 2019 EDITION & IBC NJ EDITION 2021
- INDEPENDENCE FIRE SPRINKLER CONTRACT IS WITH BACH ASSOCIATES
- IF REQUIRED, ALL ELECTRICAL WIRING IS BY OTHERS
- IF REQUIRED, ALL PAINTING IS BY OTHERS
- IF REQUIRED, CONCRETE PADS ARE BY OTHERS
- IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT THROUGHOUT THE WET PIPE SPRINKLER SYSTEM AREAS AND IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. OWNER IS RESPONSIBLE FOR MAINTAINING THE FIRE PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 25 INSPECTION, TESTING AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS.

MATERIAL SPECIFICATIONS:

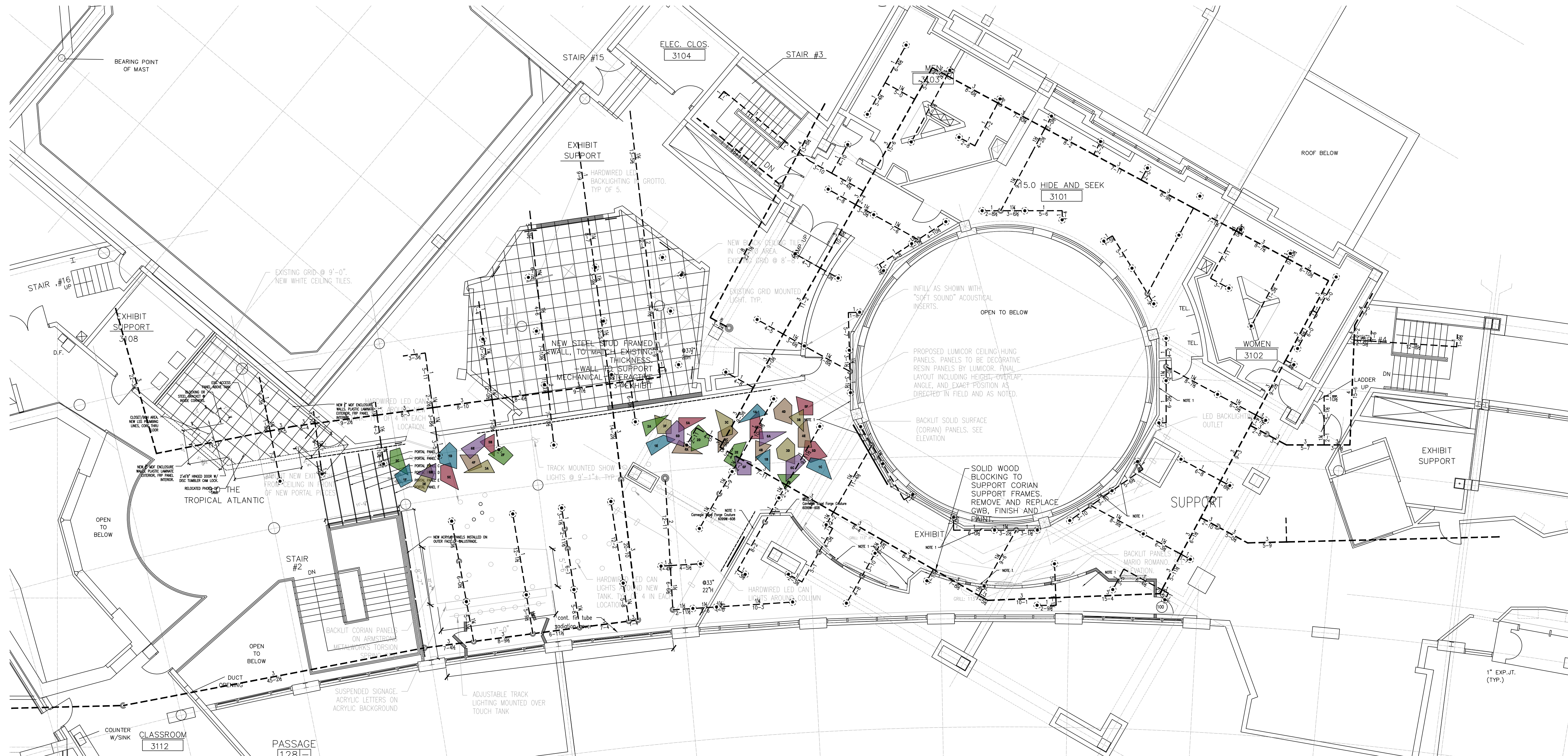
- STEEL PIPING TO MEET OR EXCEED ASTM F-135 REQUIREMENTS
- SCREWED FITTINGS TO MEET OR EXCEED ANSI B16.3 AND ANSI B16.4 REQUIREMENTS
- GROOVED FITTINGS TO MEET OR EXCEED ASTM A-536 REQUIREMENTS
- CPVC PIPE TO MEET OR EXCEED THE REQUIREMENTS OF ASTM F-441
- CPVC FITTINGS TO MEET OR EXCEED THE REQUIREMENTS OF ASTM F-437, F-438, F-439, OR F-1970 AS APPLICABLE
- ALL HANGERS TO MEET OR EXCEED NFPA REQUIREMENTS.

WET PIPE NOTES:

- ALL 2" PIPING & SMALLER TO BE SCHEDULE 40 BLACK STEEL
- ALL 2 1/2" PIPING & LARGER TO BE SCHEDULE 10 BLACK STEEL
- ALL THREADED FITTINGS TO BE CAST IRON / MALLEABLE IRON
- MEETING / EXCEEDING ANSI B16.4 & ANSI B16.3
- ALL GROOVED FITTINGS TO BE DUCTILE IRON
- MEETING / EXCEEDING ASTM A-536
- MAX CUT OF 10'-6"

SCOPE OF WORK:

- THE BUILDING/SPACE IS FULLY SPRINKLERED. MODIFY THE EXISTING SYSTEM TO CONFORM WITH NEW BUILDING/ARCHITECTURAL LAYOUT



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SEALS:



STEVEN M. BACH, PE, RA, PP, CME

NJ PROFESSIONAL ENGINEER No. GE 41507
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NJ PROFESSIONAL PLANNER No. LI 05557

PROJECT:

ADVENTURE AQUARIUM
KALEIDOSCOPE COVE
EXHIBIT RENOVATIONS
1 RIVERSIDE DRIVE
CAMDEN, NEW JERSEY 08103
CAMDEN COUNTY, NEW JERSEY

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DRAWING TITLE:

SPRINKLER DRAWING

JOB NO: 2856-03	DESIGNED BY: AW
DATE: -	DRAWN BY: AW
SCALE: AS NOTED	CHECKED BY: SMB / BMG / RH
DRAWING NUMBER:	

FP-1

1 FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"

NOMINAL PIPE DIAMETER (IN.)	MAXIMUM DISTANCE BETWEEN HANGERS										
	3"	1"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
COPPER TUBE	8-0	8-0	10-0	10-0	12-0	12-0	12-0	12-0	12-0	12-0	12-0
CPVC	6-6	6-0	6-6	7-0	8-0	8-0	10-0	N/A	N/A	N/A	N/A

SYMBOL LEGEND	
	RECONNECT TO EXISTING OUTLET
	SPRINKLER RISER LOCATION
	EXISTING SPRINKLER PIPING TO REMAIN
	NEW SPRINKLER PIPING
	EXTENTS OF HYD. CALCULATED AREA
	HYDRAULIC REFERENCE POINT
	HANGER LOCATION

FLOW TEST INFORMATION			
HYDRANT FLOW DATA		PUMP FLOW DATA	
DATE:	N/A	DATE:	N/A
STATIC PRESSURE (PSI):	N/A	CHURN PRESSURE (PSI):	N/A
RESIDUAL PRESSURE (PSI):	N/A	100% FLOW PRESSURE (PSI):	N/A
FLOW (GPM):	N/A	100% FLOW (GPM):	N/A
SOURCE OF INFO:	N/A	SOURCE OF INFO:	N/A
LOCATION: N/A		LOCATION: N/A	
N/A		N/A	
PRESSURE REDUCING VALVE INFORMATION			
SETTING (PSI):	N/A	LOCATION:	N/A

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
		1/2"	5.6	EXISTING SPRINKLER	ON DROP
### = Total Number of Heads This Floor					

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