



Town of Surfside

RFQ 2022-04

Construction of Town of Surfside 96th Street Park

Addendum No. 3

Date Issued: July 8, 2022

To All Proposers:

Proposers for the above-referenced RFP shall take note of the following changes, additions, deletions or clarifications to RFP No. 2022-04, which in accordance with the RFQ Documents shall become a part of and have precedence over anything shown or described otherwise in the RFP.

THE FOLLOWING CHANGES ARE MADE TO THE RFP:

- 1. Please provide single line diagrams for solar panels.**

Solar panel design, permitting and installation under separate contract.

- 2. Floor finish information has not been provided for stairs and ADA access ramp. Are these areas to be included as terrazzo to match covered deck area?**

Cement terrazzo

- 3. Please confirm the intended floor finish at restroom entrance. Sheet A1.0 shows terrazzo and A4.0/4.1 shows epoxy.**

Cement terrazzo

- 4. What is the matrix (binder) material for the interior terrazzo? Epoxy or cement?**

Cement terrazzo

- 5. Please provide finish schedule and material information.**

See updated sheet A-6.0 with finish schedule

6. Please provide elevator floor finish selection.

Cement terrazzo

7. Please provide interior wall base information including material, finish, and height. For example, terrazzo cove base 6".

Cement terrazzo - 6" cove base

8. Please provide information about the type of roofing system to be installed.

Firestone Ultraply TPO - 20 year warranty

9. Please advise about Basis of Design & acceptable manufacturers for the storefront system.

ES Windows

10. Please advise about Basis of Design & acceptable manufacturers for windows.

ES Windows

11. Sheet LH-02/Detail 3 provides details for PIP Safety Surfacing. Please identify PIP impact layer material and thickness.

The Vitriturf base mat thickness is determined by playground equipment manufacturer (Berliner) per fall heights.

12. Would alternate manufacturers be considered for the Duraflex products?

Sikafloor DecoDur

13. Is the exterior terrazzo to be included as cementitious terrazzo or terrazzo tile?

Cement terrazzo

14. Please identify the difference between TR-01 and TR-02 finishes.

Both cement terrazzo.

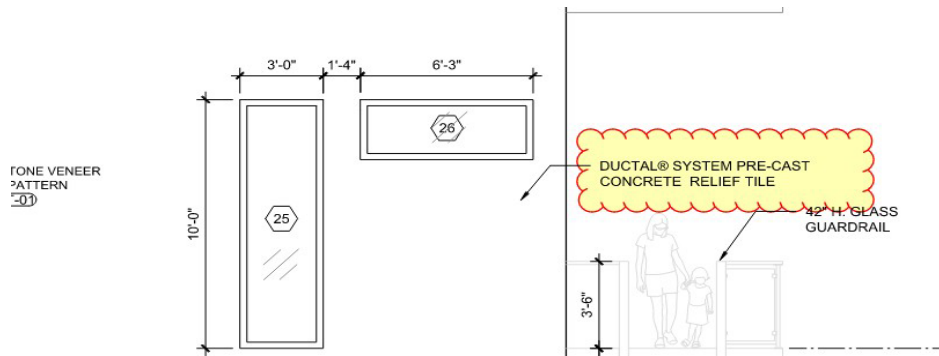
15. Please provide specifications and details for solar panels.

Solar panel design, permitting and installation under separate contract.

16. Please provide Division 10 Specifications.

On documents - see schedules and drawings

17. Sheet A-2.1 North Elevation has a call-out for Ductal System Precast Concrete Relief Tile, but nothing is shown in this area. Should this area be included as stucco?



Note removed - see updated sheet A-2.1

18. Please provide enlarged restroom plan for second floor restroom.

See 5/A-4.1

19. Please provide specifications for glass railings.

Glassfit SV1401 Top Mount Railing System

20. Please provide interior partition types.

See 1/A-6.0

21. Please provide specifications for fire alarm.

See Specification Section 284621.11

22. Is lightning protection required? If so, please provide specifications.

Yes, see revised plans E-304 and E-000 as well as added Specification 264113 – Lightning Protection for Structures.

23. Can Gator Dock be considered as an approved equal for the kayak launch?

Gator Dock may be considered as an approved equal if the following conditions can be met:

- *Entire structure must remain under 500 square feet per permitting requirements.*
- *Manufacturer can install the Kayak Launch in it's entirety, including piles, overwater & overland decking, ramps and floating dock.*
- *Composite decking material used, preferably with recycled content.*

- Dock does not attach to seawall.
- Dock is ADA accessible.

24. Revised Specifications:

See revised technical specification section 265668 - Exterior Athletic Lighting Performance Specifications.

Revised plans and specifications have been included as a link under the RFP in the Town Clerk section of website.

[UPDATE LINK?] <https://www.townofsursidefl.gov/departments-services/finance/bids-and-rfps>

PROPOSER:

NAME: _____

TITLE: _____

DATE: _____

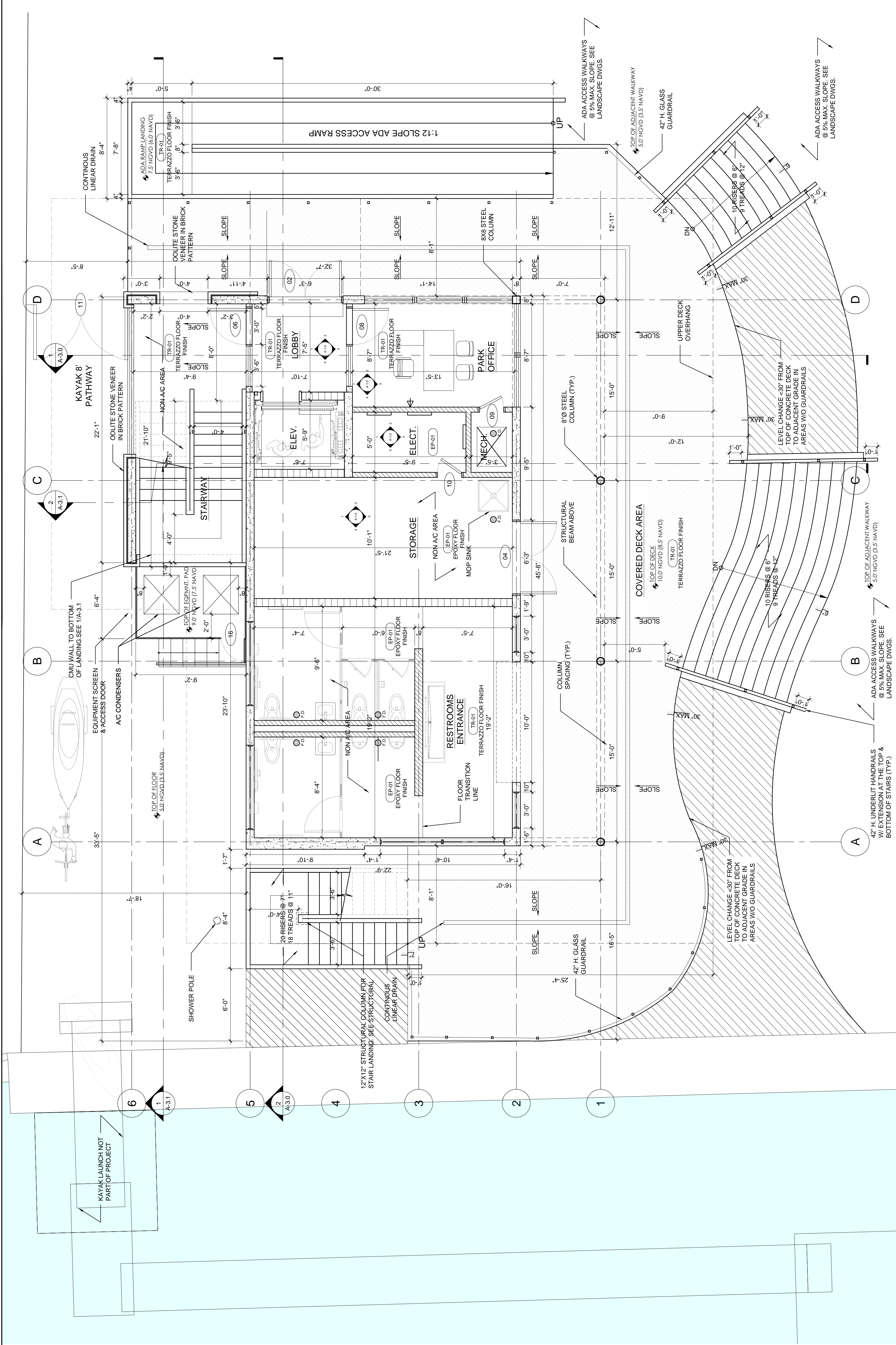
SURFSIDE 96TH ST PARK
 TOWN OF SURFSIDE
 9880 BAY DRIVE
 SURFSIDE, FL 33154

DATE: 06.24.2022
 SCALE: 1/4" = 1'-0"
 SHEET TITLE: FLOOR PLAN

PERMIT SET

| REVISIONS | REV. | DATE | DESCRIPTION |
|-----------|----------------|------------|-------------|
| XXXLXXX | | 2022/07/01 | |
| ▲ | BID ADDENDUM 1 | | |

SUMMARY: YYY YMLDLD
 SEAL:



FLOODPLAIN MANAGEMENT INFORMATION PER 2020 FBC BUILDING 7TH EDITION SECTION 107.2.5

GENERAL ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD)

| FLOOD ZONE | AE |
|---|---------------------------|
| BASE FLOOD ELEVATION (BFE) | +8'-0" NGVD (+8.55 NAVD) |
| DESIGN FLOOD ELEVATION (DFE) | +10'-0" NGVD (+8.55 NAVD) |
| LOWEST TOS ELEVATION | +10'-0" NGVD (+8.55 NAVD) |
| NEXT HIGHER FLOOR ELEVATION | N/A |
| LOWEST GRADE ELEV. ADJACENT TO THE BLDG. | +5'-00" NGVD (+3.55 NAVD) |
| HIGHEST GRADE ELEV. ADJACENT TO THE BLDG. | +9.5' NGVD (+8.00 NAVD) |
| LOWEST ELEV. OF EQUIPMENT SERVICING THE BLDG. | +9.0' NGVD (+7.55 NAVD) |
| CROWN OF ROAD ELEVATION | NA |
| ADJUSTED GRADE ELEVATION | NA |
| FIRM MAP NUMBER | NA |

PROJECT INFORMATION

LOCATION: 9572 BAY DR. SURFSIDE, FL 33154

OWNER: TOWN OF SURFSIDE

SCOPE OF WORK: PROJECT INVOLVES A NEW COMMUNITY PARK, THE COMMUNITY BUILDING CONTAINS MULTI-USE SPACE, AN OFFICE, A GENERAL STORAGE ROOM, JANITOR'S CLOSET AND RESTROOMS.

BUILDING AREA = 1,242 SF

APPLICABLE BUILDING CODE: FLORIDA BUILDING CODE 2020, 7TH EDITION, FLORIDA BUILDING CODE ACCESSIBILITY 2020, 7TH EDITION, FLORIDA FIRE PREVENTION CODE 2020, 7TH EDITION

FIRE SUPPRESSION: FIRE PROTECTION SYSTEMS: SPRINKLERS AND STAND PIPE NOT REQUIRED. FIRE EXTINGUISHERS INCLUDED. SMOKE DETECTORS ARE NOT REQUIRED.

TERMINITE PROTECTION SHALL BE PROVIDED BY FLORIDA REGISTERED TERMINITIDES OR EQUIVALENT PRODUCT WHICH IS APPROVED AND LABELED FOR USE AS A PREVENTATIVE TREATMENT TO NEW CONSTRUCTION.

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

LEGEND

- 5" METAL FRAME STUD WALL
- 8" CMU BLOCK
- FORMED CAST-IN-PLACE CONCRETE

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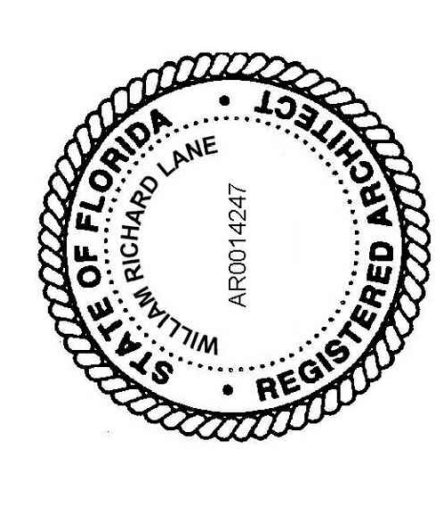
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DATE
06.24.2022
SCALE
1/4" = 1'-0"
SHEET TITLE

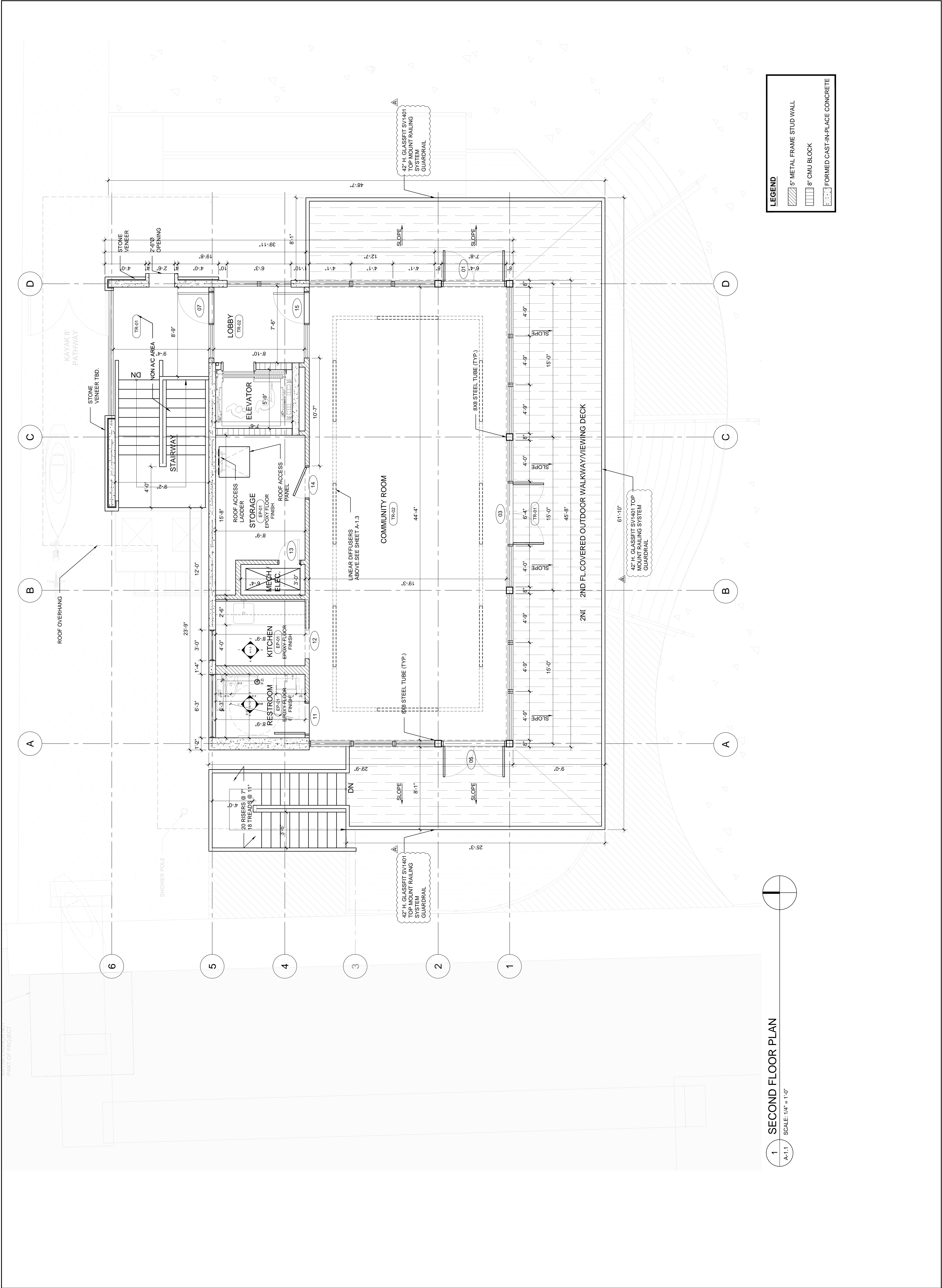
SECOND FLOOR PLAN

PERMIT SET

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| SUMMARY | YYYYMMDD |
| SEAL | |



SHEET
A-1.1



LEGEND

| | |
|--|-------------------------------|
| | 5' METAL FRAME STUD WALL |
| | 8' CMU BLOCK |
| | FORMED CAST-IN-PLACE CONCRETE |

1 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

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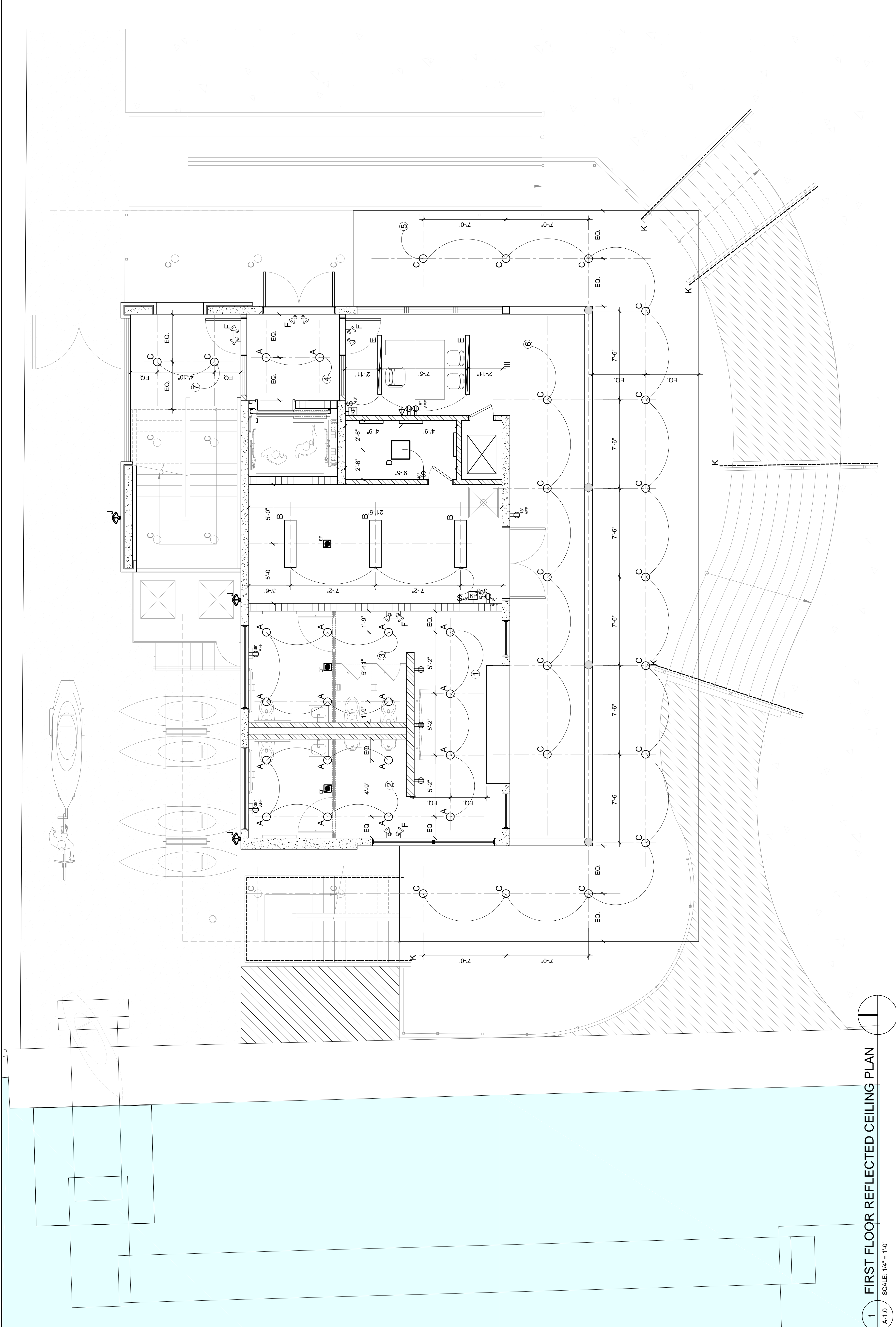
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SCALE: 1/4" = 1'-0"
SHEET TITLE: FIRST FLOOR REFLECTED CEILING PLAN
PERMIT SET

REVISIONS: PERMIT SET
REV. XXXXXXXX
A. BID ADDENDUM 1 2022/07/01

SUMMARY: YYY YMM/DD
SEAL:



SHEET: A-1.2



1 FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

| CIRCUIT NUMBER | DESCRIPTION |
|----------------|--|
| 1 | WOMEN'S AND MEN'S RESTROOMS ENTRY AREA |
| 2 | MEN'S RESTROOM |
| 3 | WOMEN'S RESTROOM |
| 4 | ELEVATOR FOYER |
| 5 | GROUND FLOOR OVERHANG EXTERIOR LIGHTING |
| 6 | GROUND FLOOR SOUTH OVERHANG EXTERIOR SOFFIT LIGHTING |
| 7 | NORTH STAIRWAY GROUND FLOOR LIGHTING |
| 8 | COMMUNITY ROOM |

| SYMBOL | TYPE | DESCRIPTION |
|--------|--------|-------------------------------------|
| | OUTLET | DUPLEX RECEPTACLE OUTLET 15A |
| | EF | ELECTRICAL FAN |
| | DATA | DATA OUTLET |
| | KP | KEYPAD |
| | A | LIGHTING CONTROL PANEL |
| | B | RECESSED DOWNLIGHT |
| | C | CEILING HUNG LED PANEL |
| | D | EXTERIOR CONCRETE EMBED DOWNLIGHT |
| | E | LED RECTANGULAR RECESSED |
| | F | INTERIOR LED RECTANGULAR RECESSED |
| | G | EMERGENCY LIGHTING UNIT W/EXIT SIGN |
| | H | LED UNDERCABINET STRIP LIGHT |
| | I | EXTERIOR RECESSED DOWNLIGHT |
| | J | EXTERIOR SPOTLIGHT |

| TYPE | DESCRIPTION | MANUFACTURER | MODEL NUMBER | MODEL LINE | LAMPS QTY | TYPE | VOLTS | WATTS | FINISH | MOUNTING | REMARKS |
|------|-----------------------------|----------------|----------------------------|------------------|-----------|--------------|-------|----------|--------------|---------------|-------------|
| A | 2.25" Ø LED DOWNLIGHT | ZUMTOBEL | PANOS W 68R 13W | | - | LED - 3500 K | 120 | 13W | WHITE | RECESSED | INTERIOR |
| B | 1'X4' RECTANGULAR LED PANEL | TECHOLED | TECHOLED-1X4-40-U-40-D-L-W | | - | LED - 3500 K | 120 | 29W | WHITE ENAMEL | RECESSED | EXTERIOR |
| C | 4" RECESSED LED DOWNLIGHT | DMF | DRDH-N-JC | ONEFRAME CONC. | - | LED - 3500 K | 120 | 29W | WHITE ENAMEL | RECESSED | EXTERIOR |
| D | 2'X2' SQUARE LED PANEL | TECHOLED | TECHOLED-2-2-25-U-40D-L-W | | - | LED - 3500K | 120 | 32W | WHITE ENAMEL | SURFACE MOUNT | |
| E | 5' LENGTH - LINEAR RECESSED | ZUMTOBEL | SL34FL4808P940UW | SLOTLIGHT LED II | - | LED - 3500K | 120 | 38.8W | WHITE | RECESSED | |
| F | LED COMBO EXIT/EMERGENCY | ASTRALITE INC. | EEU-2-16-LED-R-W | | - | LED - 3500K | 120 | 16W | WHITE | SURFACE MOUNT | UNDER MOUNT |
| G | LED STRIP LIGHT | LUMIRON | HIGH POWER WARM LED | | - | LED - 3500K | 120 | 5W LN/FT | WHITE | SURFACE MOUNT | UNDER MOUNT |
| H | 6' LENGTH - LINEAR RECESSED | ZUMTOBEL | SL34FL4808P940UW | SLOTLIGHT LED II | - | LED - 3500K | 120 | 38.8W | WHITE | RECESSED | |
| J | EXTERIOR SPOTLIGHT | WAC LIGHTING | WP-LED415 | | - | LED - 3500 K | 120 | 15W | WHITE ENAMEL | WALL MOUNT | EXTERIOR |
| K | EXTERIOR HANDRAIL LIGHTING | ALDABRA | VEGA | MONOCHROMATIC | - | LED - 3500 K | 120 | 13W | ALUMINUM | RAIL | EXTERIOR |

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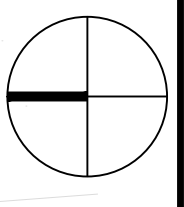
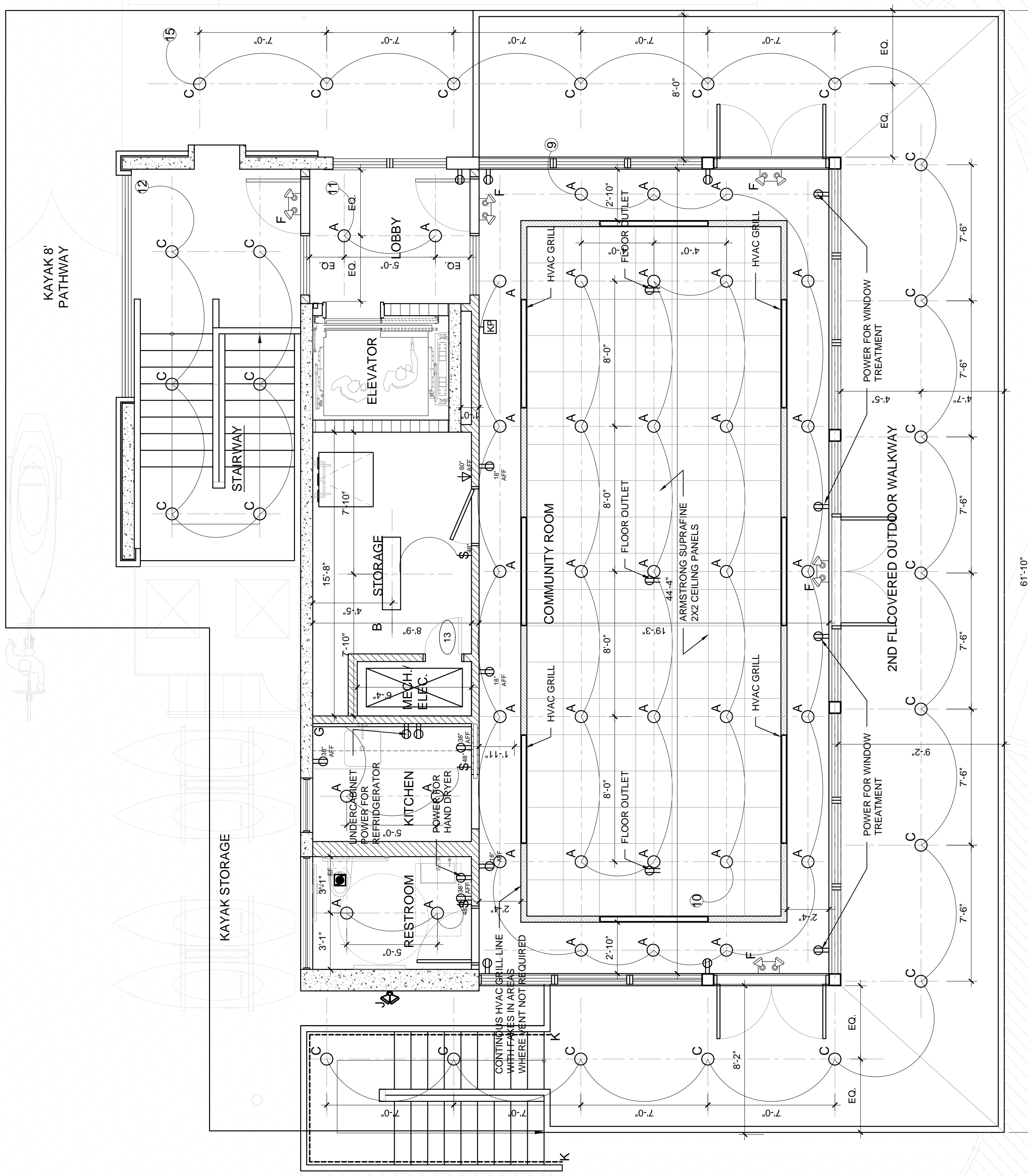
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SURFSIDE, FL 33154

DATE: 06.24.2022
SCALE: 1/4" = 1'-0"
SHEET TITLE: SECOND FLOOR REFLECTED CEILING PLAN
PERMIT SET

REVISIONS: PERMIT SET
REV. 3300.XXXX
A. BID ADDENDUM.1 2022/07/01



SEAL
SUMMARY
YTYV.AMLD.0



1 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

| CIRCUIT NUMBER | DESCRIPTION |
|----------------|--------------------------------|
| 9 | COMMUNITY ROOM SOFFIT LIGHTING |
| 10 | COMMUNITY ROOM |
| 11 | 2ND FLOOR ELEVATOR FOYER |
| 12 | 2ND FLOOR NORTH STAIR |
| 13 | 2ND FLOOR EXTERIOR OVERHANG |

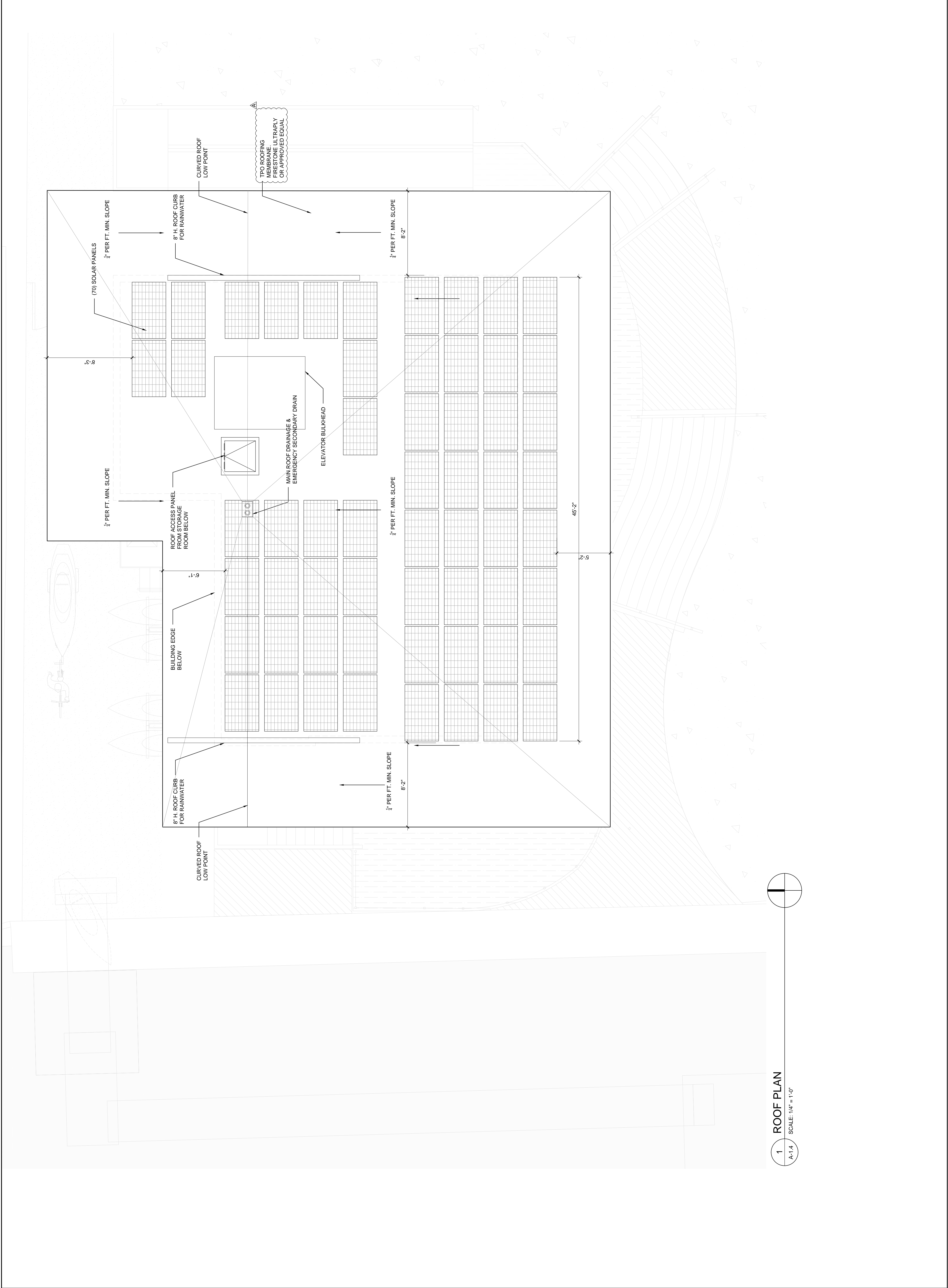
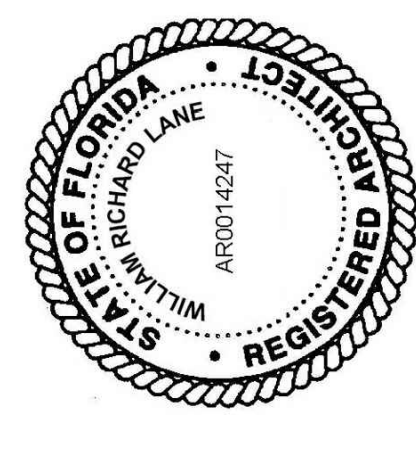
| SYMBOL | TYPE | DESCRIPTION |
|---------------------|--------|-------------------------------------|
| (Circle with dot) | OUTLET | DUPLEX RECEPTACLE OUTLET 15A |
| (Square with dot) | EF | ELECTRICAL FAN |
| (Triangle with dot) | DATA | DATA OUTLET |
| (Square with dot) | KP | KEYPAD |
| (Circle with dot) | A | LIGHTING CONTROL PANEL |
| (Circle with dot) | B | RECESSED DOWNLIGHT |
| (Circle with dot) | C | CEILING HUNG LED PANEL |
| (Circle with dot) | D | EXTERIOR CONCRETE EMBED DOWNLIGHT |
| (Circle with dot) | E | LED RECTANGULAR RECESSED |
| (Circle with dot) | F | INTERIOR LED RECTANGULAR RECESSED |
| (Circle with dot) | G | EMERGENCY LIGHTING UNIT W/EXIT SIGN |
| (Circle with dot) | H | LED UNDERCABINET STRIP LIGHT |
| (Circle with dot) | I | EXTERIOR RECESSED DOWNLIGHT |
| (Circle with dot) | J | EXTERIOR SPOTLIGHT |

| TYPE | DESCRIPTION | MANUFACTURER | MODEL NUMBER | MODEL LINE | LAMPS QTY | LAMP TYPE | VOLTS | WATTS | FINISH | MOUNTING | REMARKS |
|------|-----------------------------|----------------|---------------------------|------------------|-----------|--------------|-------|----------|--------------|---------------|-------------|
| A | 3" Ø LED DOWNLIGHT | LUMENTURE | DL75 35H 40 W R U 300 | | - | LED - 3500 K | 120 | 12.5W | WHITE | RECESSED | INTERIOR |
| B | 1'X4' RECTANGULAR LED PANEL | TRACE LITE | LPA 1 WH UD | | - | LED - 3500 K | 120 | 29W | WHITE ENAMEL | RECESSED | EXTERIOR |
| C | 4" RECESSED LED DOWNLIGHT | DMF | DRDH-N-JC | ONEFRAME CONC. | - | LED - 3500 K | 120 | 29W | WHITE ENAMEL | RECESSED | EXTERIOR |
| D | 2'X2' SQUARE LED PANEL | TECHOLED | TECHOLED-2-2-25-U-40D-L-W | | - | LED - 3500K | 120 | 32W | WHITE ENAMEL | SURFACE MOUNT | |
| E | 5' LENGTH - LINEAR RECESSED | ZUMTOBEL | SL34HF4808P940UW | SLOTLIGHT LED II | - | LED - 3500K | 120 | 38.8W | WHITE | RECESSED | |
| F | LED COMBO EXIT/EMERGENCY | ASTRALITE INC. | EEU-2-16-LED-R-W | | - | LED - 3500K | 120 | 16W | WHITE | SURFACE MOUNT | UNDER MOUNT |
| G | LED STRIP LIGHT | LUMIRON | HIGH POWER WARM LED | SLOTLIGHT LED II | - | LED - 3500K | 120 | 5W LN/FT | WHITE | SURFACE MOUNT | UNDER MOUNT |
| H | 6' LENGTH - LINEAR RECESSED | ZUMTOBEL | SL34HF4808P940UW | | - | LED - 3500K | 120 | 38.8W | WHITE | RECESSED | |
| J | EXTERIOR SPOTLIGHT | WAC LIGHTING | WP-LED415 | | - | LED - 3500 K | 120 | 15W | WHITE ENAMEL | WALL MOUNT | EXTERIOR |
| K | EXTERIOR HANDRAIL LIGHTING | ALDABRA | VEGA | MONOCHROMATIC | - | LED - 3500 K | 120 | 13W | ALUMINUM | RAIL | EXTERIOR |

SURFSIDE 96TH ST PARK
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DATE 06.24.2022
SCALE 1/4" = 1'-0"
SHEET TITLE ROOF PLAN

| REVISIONS | | PERMIT SET | |
|-----------|----------------|------------|----------|
| REV. | DESCRIPTION | DATE | BY |
| 1 | BID ADDENDUM 1 | 2022/07/01 | XXXXXXX |
| SUMMARY | | DATE | BY |
| | | | YYYYMMDD |



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

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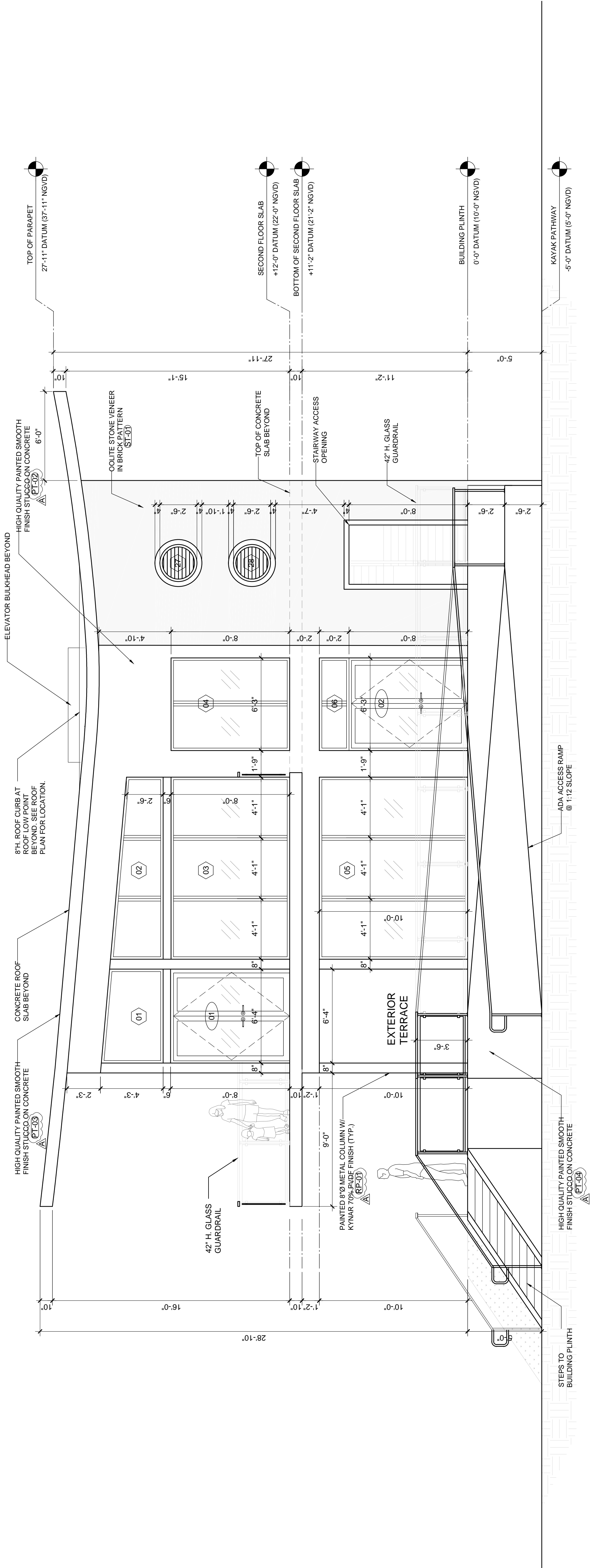
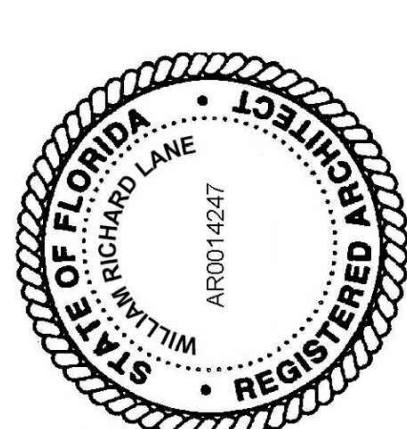
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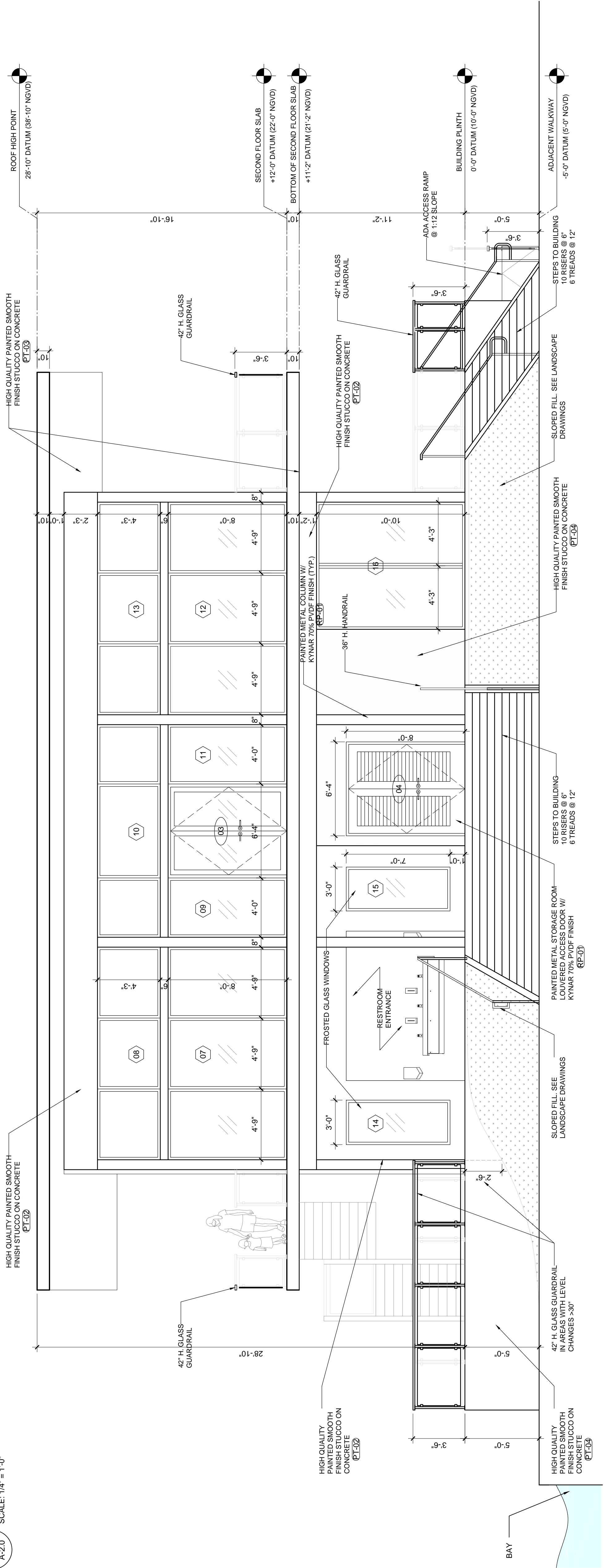
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SHEET TITLE: ELEVATIONS

PERMIT SET

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| REV. | BID ADDENDUM 1 |
| | 2022/07/01 |
| SUMMARY | YYYYMMDD |
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1 EAST ELEVATION
SCALE: 1/4" = 1'-0"



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

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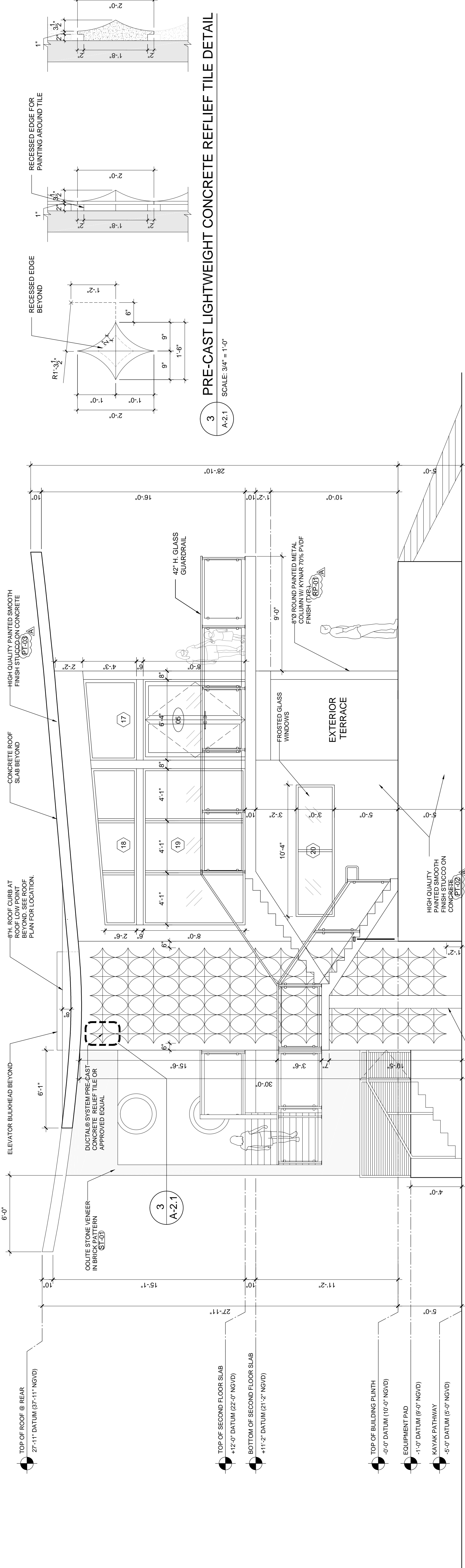
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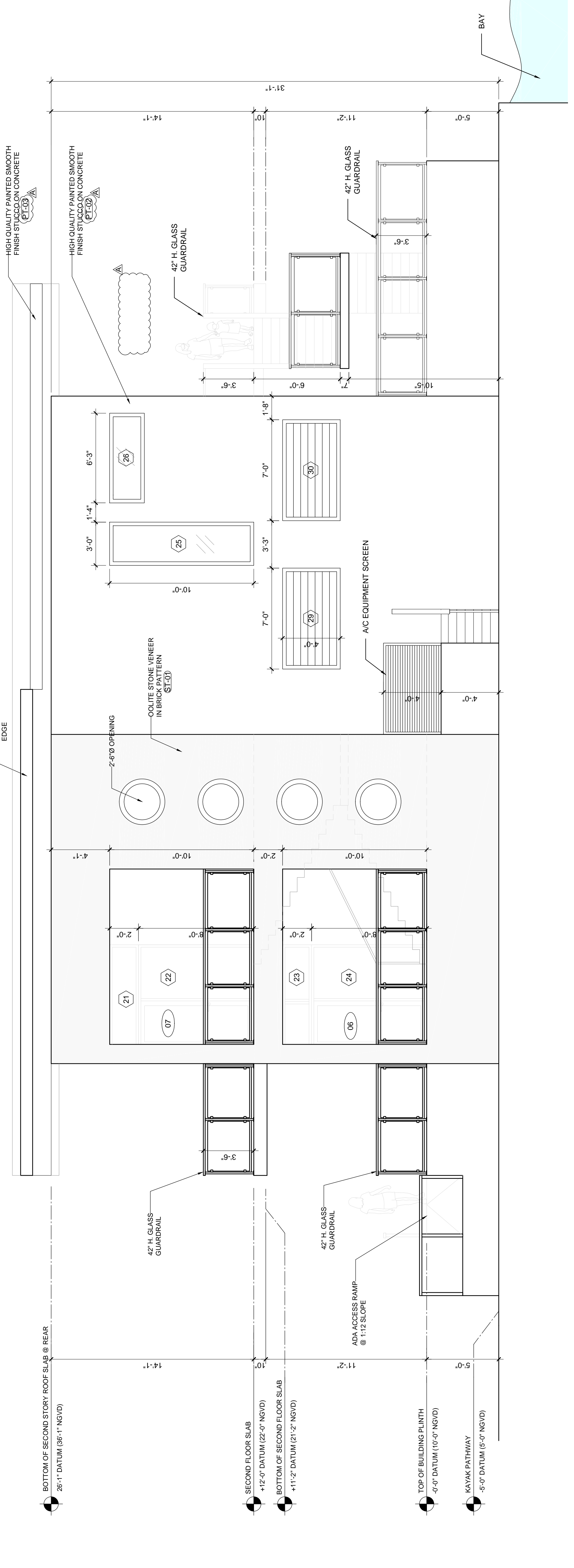
DATE 06.24.2022
SCALE 1/4" = 1'-0"
SHEET TITLE ELEVATIONS

PERMIT SET

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| REVISIONS | XXXXXXX |
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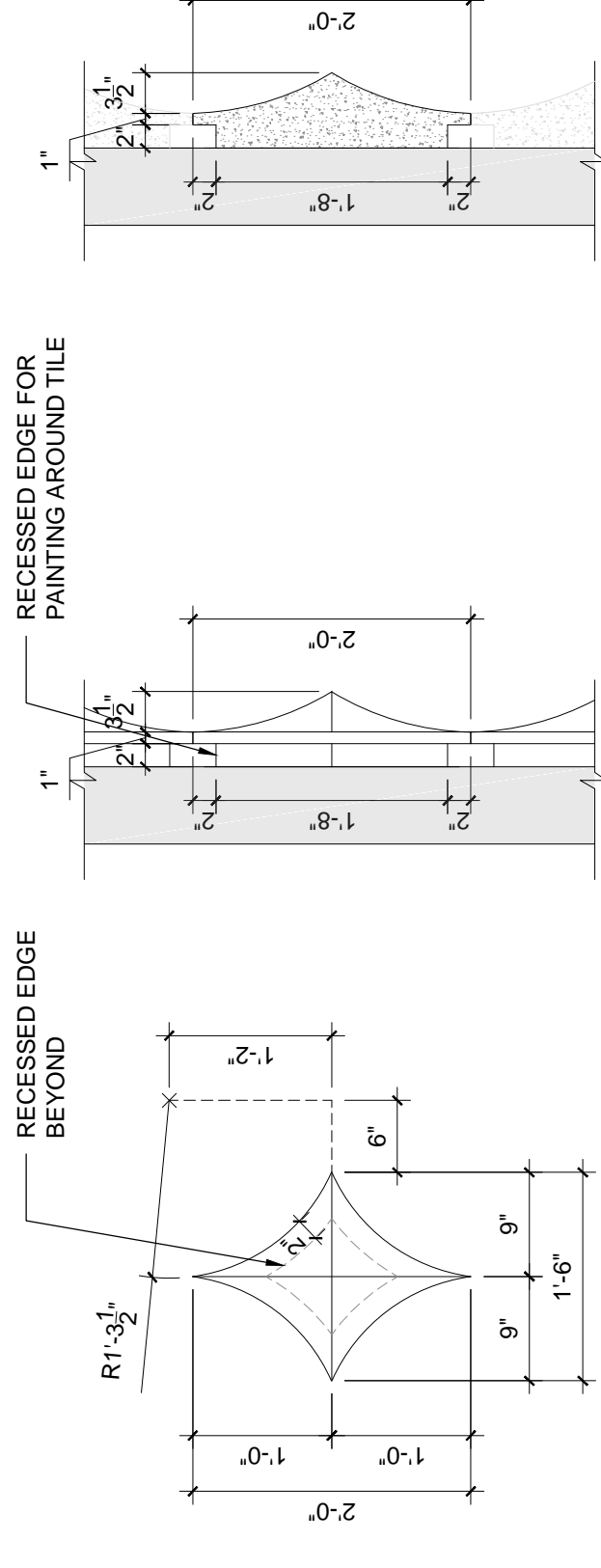


1 WEST ELEVATION
SCALE: 1/4" = 1'-0"



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

3 PRE-CAST LIGHTWEIGHT CONCRETE RELIEF TILE DETAIL
SCALE: 3/4" = 1'-0"



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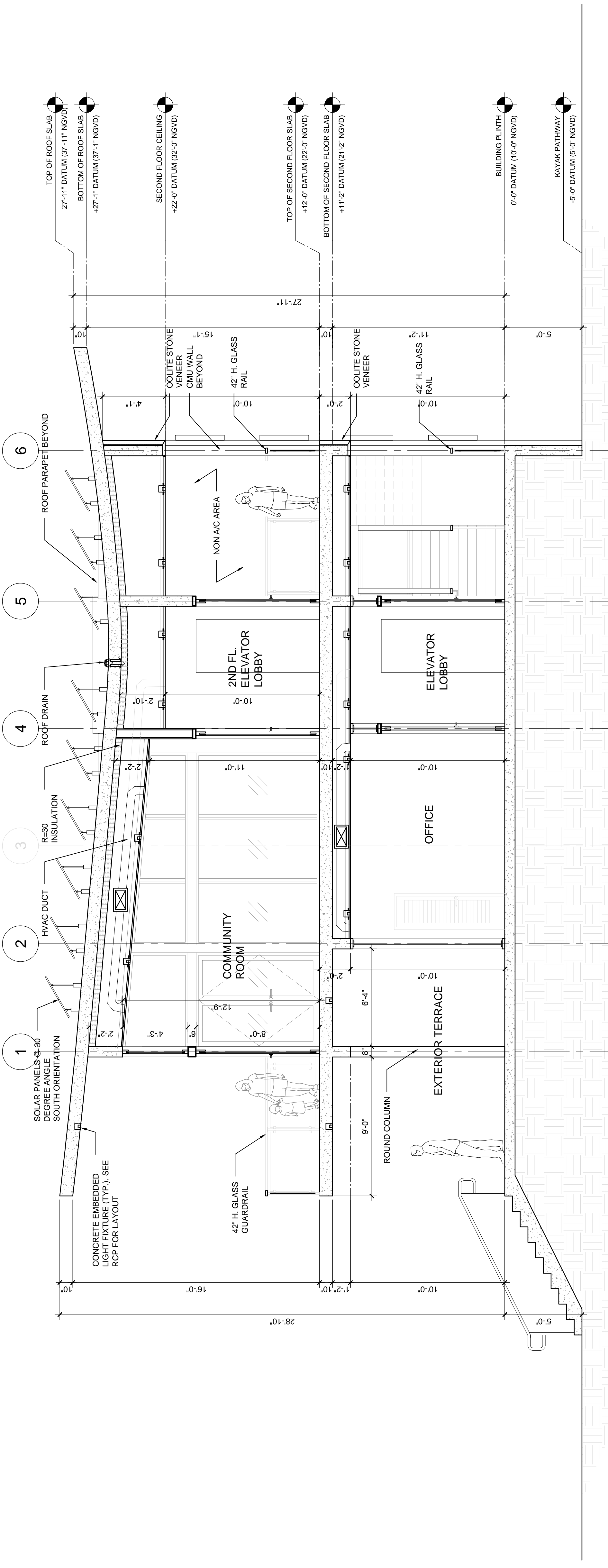
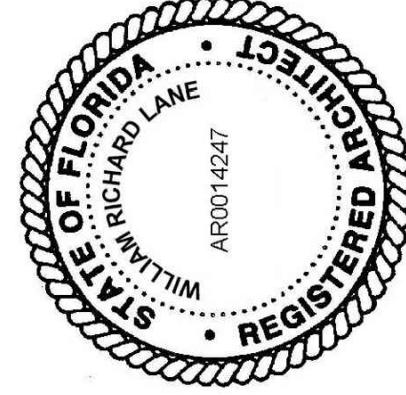
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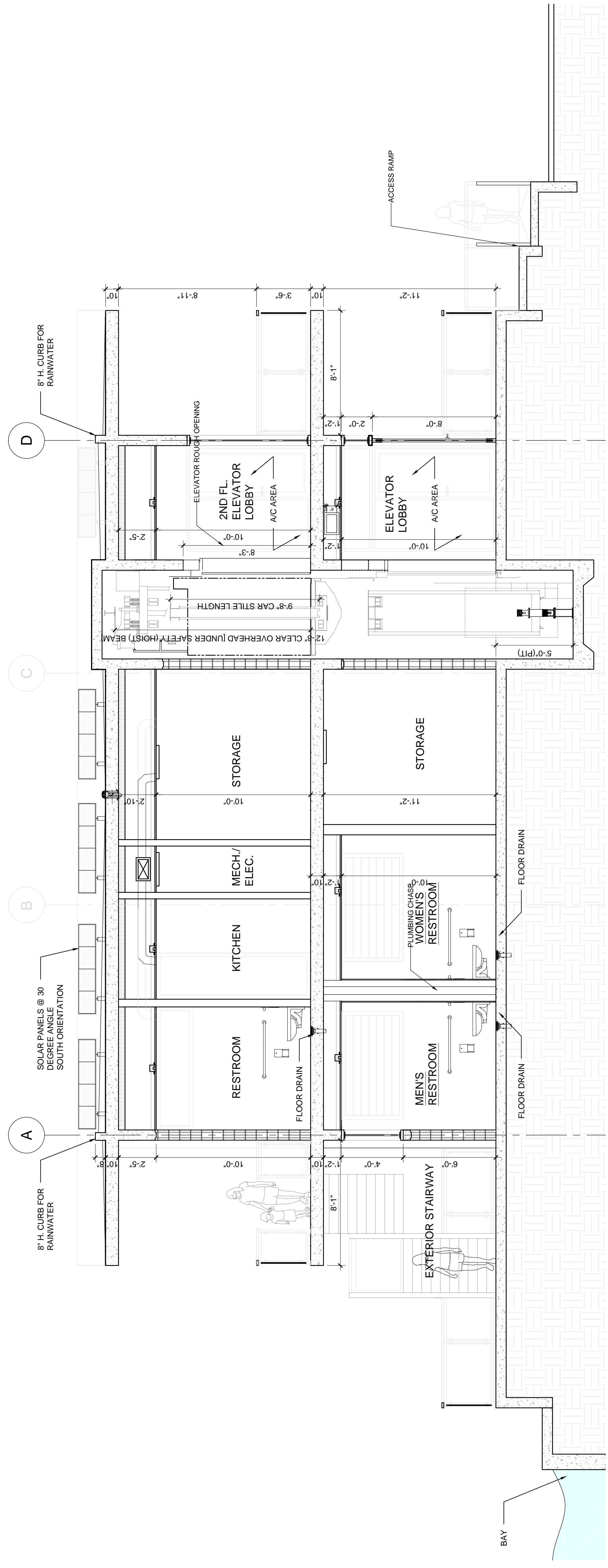
DATE: 06.24.2022
SCALE: 1/4" = 1'-0"
SHEET TITLE

SECTIONS

| PERMIT SET | |
|------------|----------------|
| REVISIONS | XXXXXXX |
| REV. | BID ADDENDUM 1 |
| | 2022/07/01 |
| SUMMARY | YYYYMMDD |
| SEAL | |



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



2 TRANSVERSE SECTION
SCALE: 1/4" = 1'-0"

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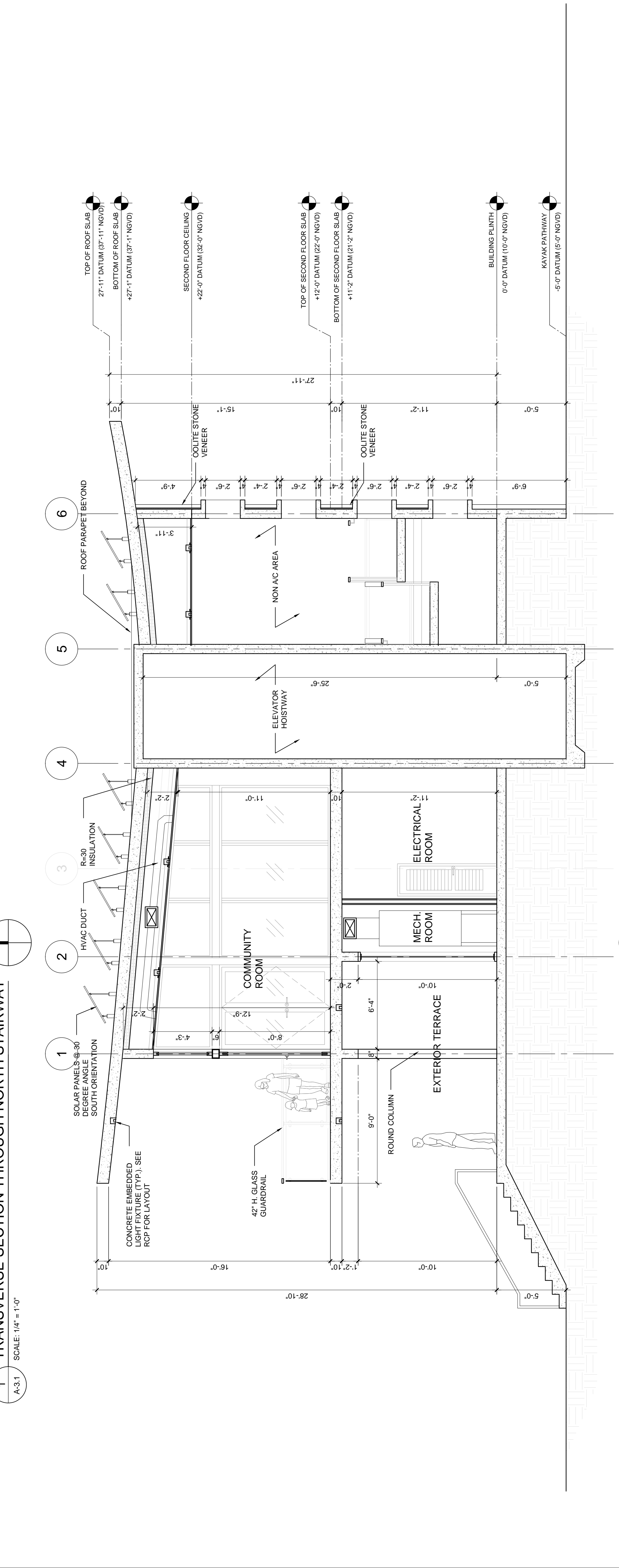
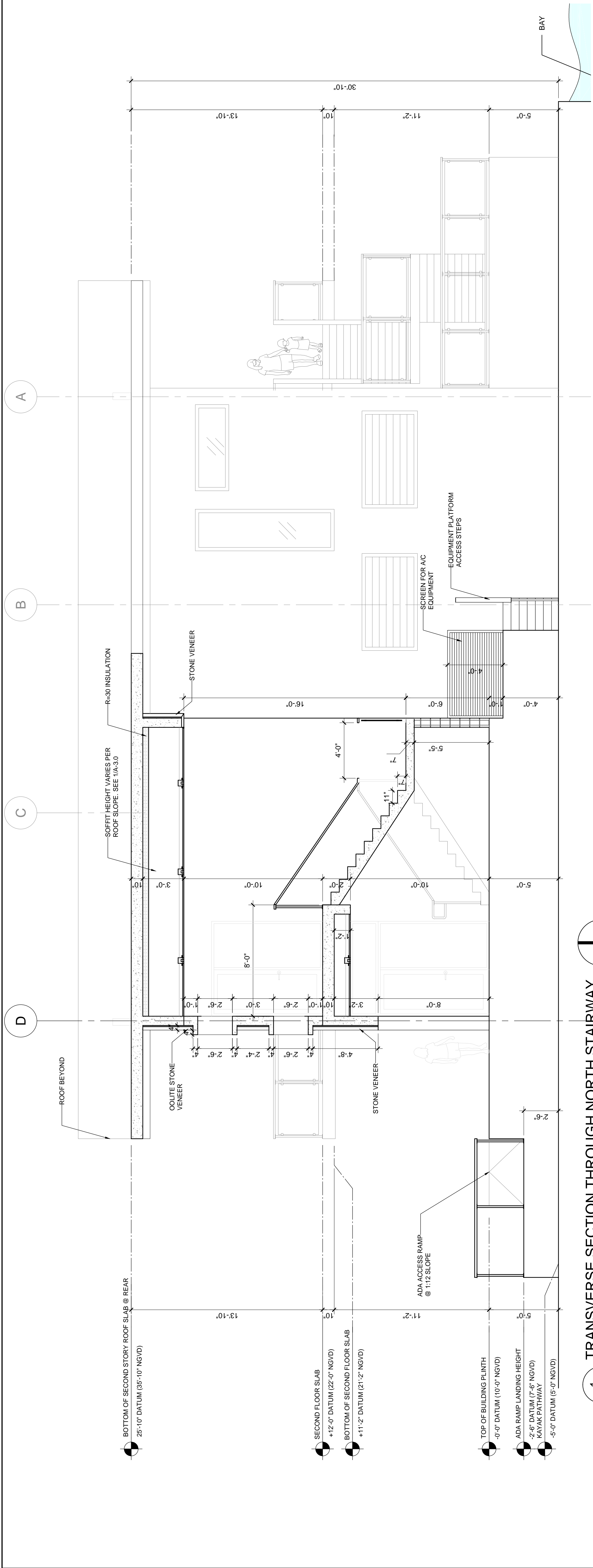
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1480 MARSEILLE DR.
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TELEPHONE: 305.865.7830

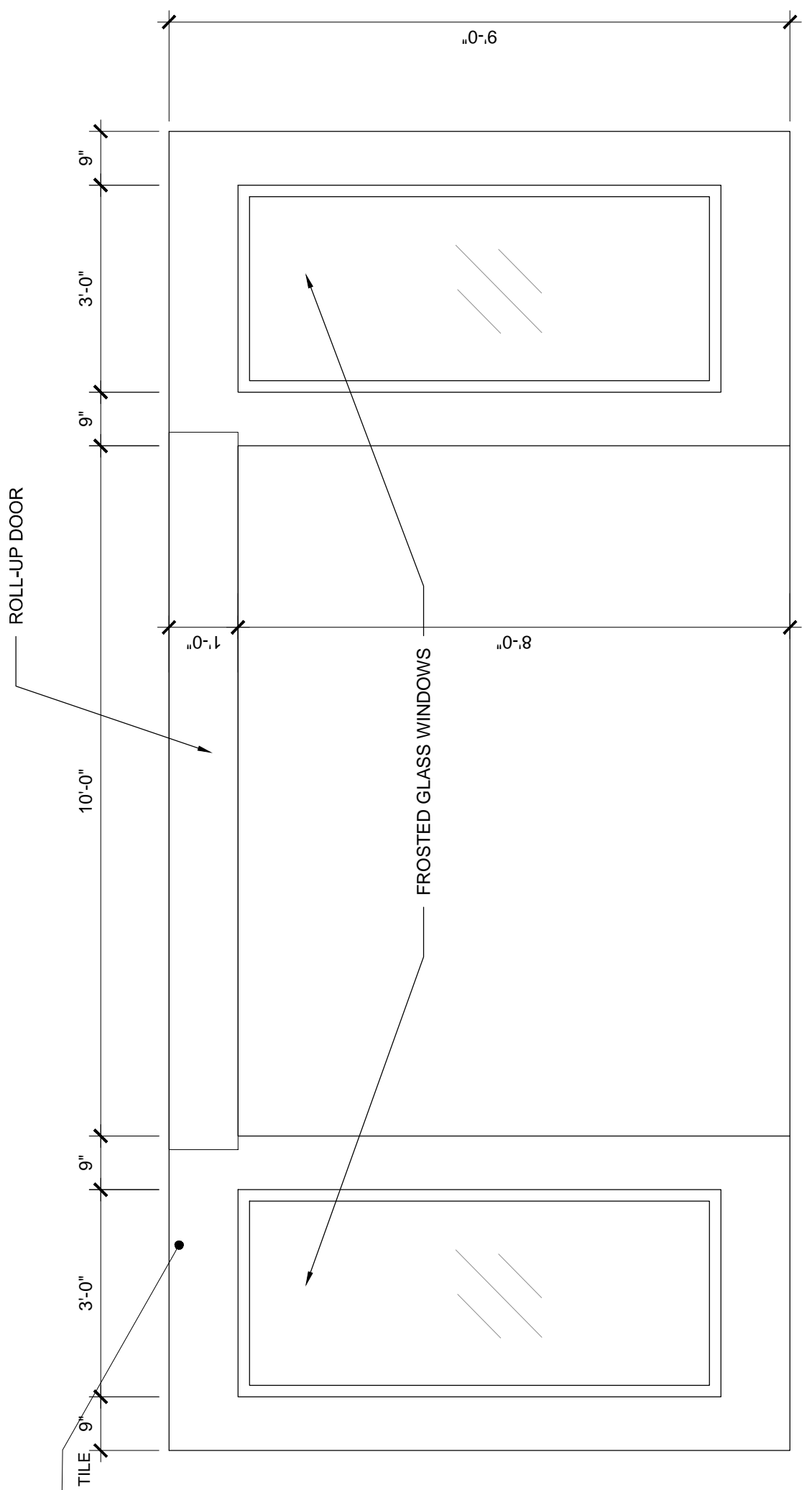
SURFSIDE 96TH ST PARK
TOWN OF SURFSIDE
9680 BAY DRIVE
SURFSIDE, FL 33154

DATE 06.24.2022
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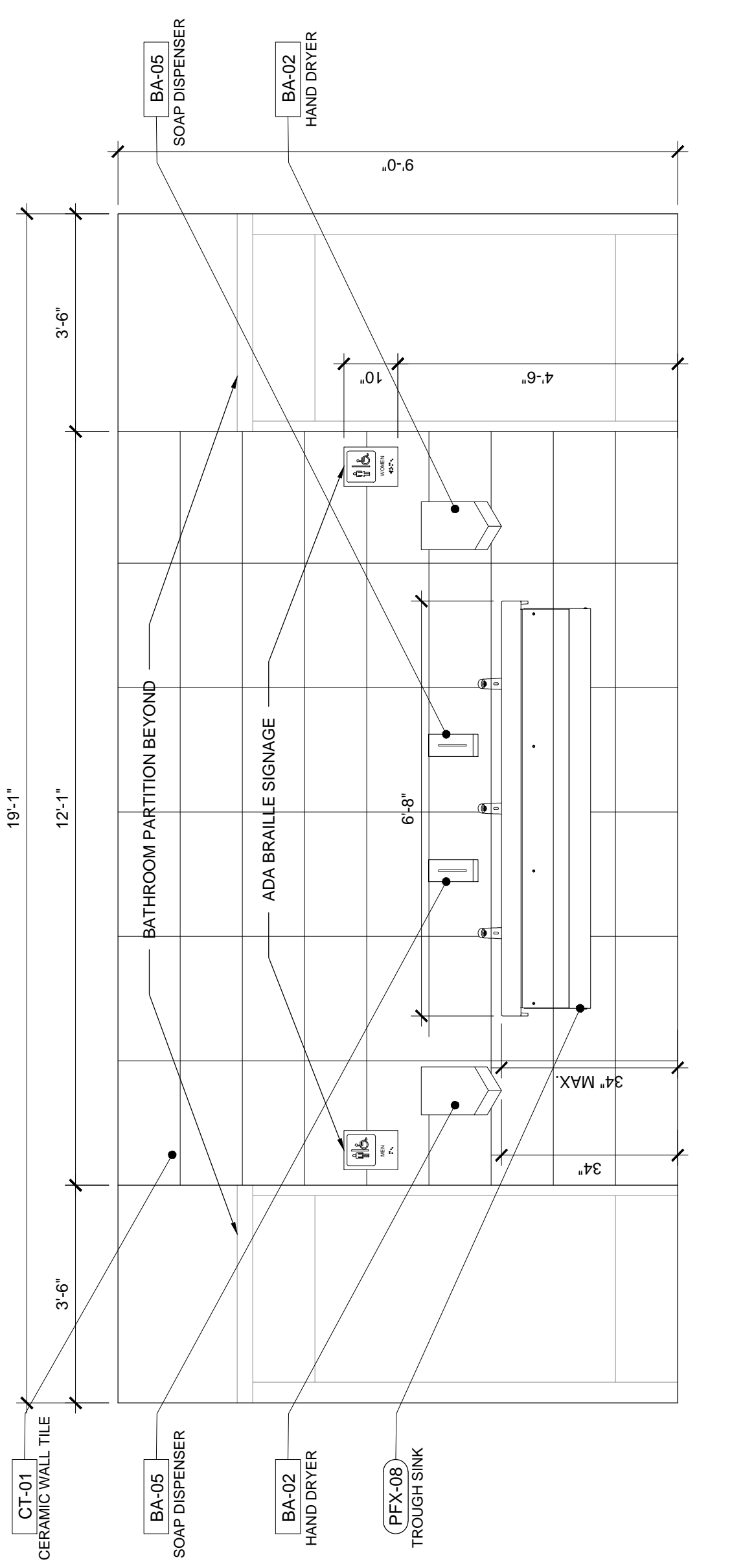
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| | 2022/07/01 |
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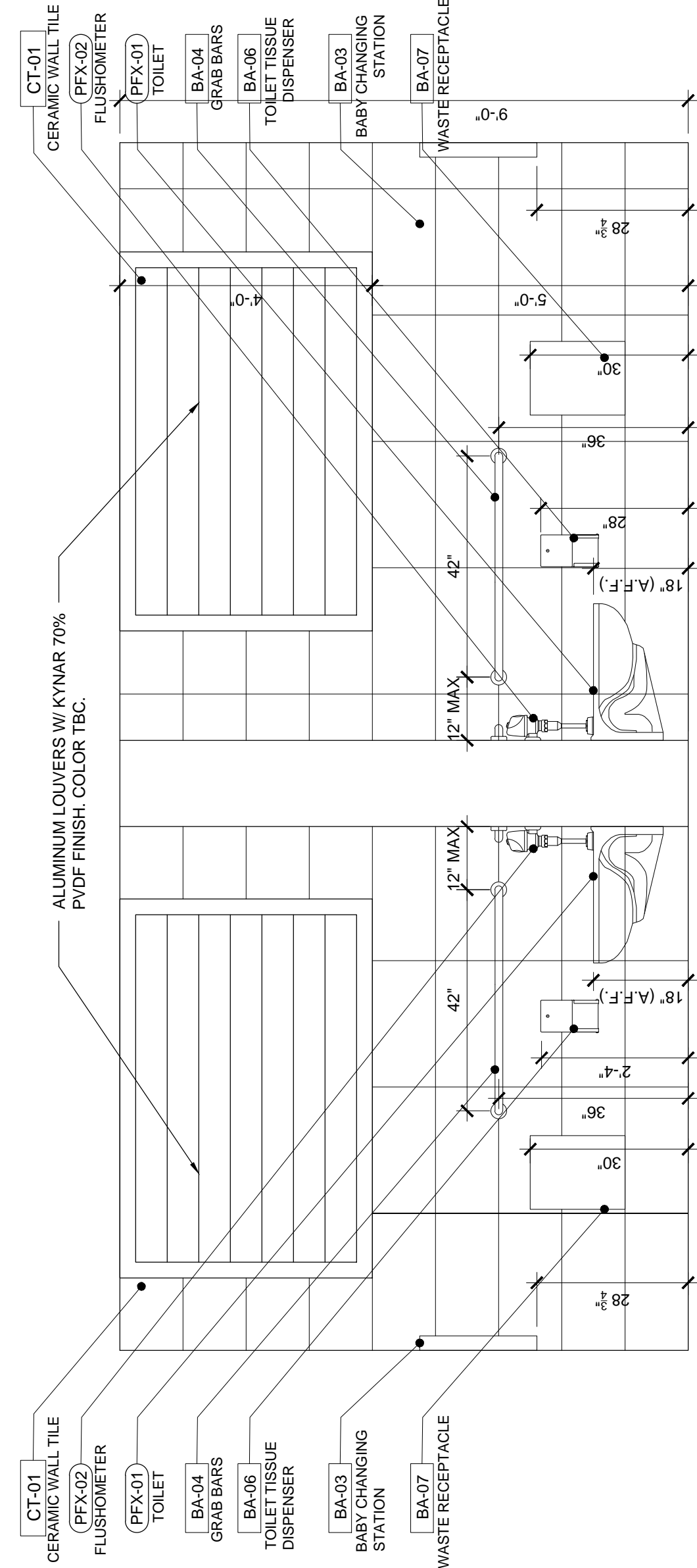




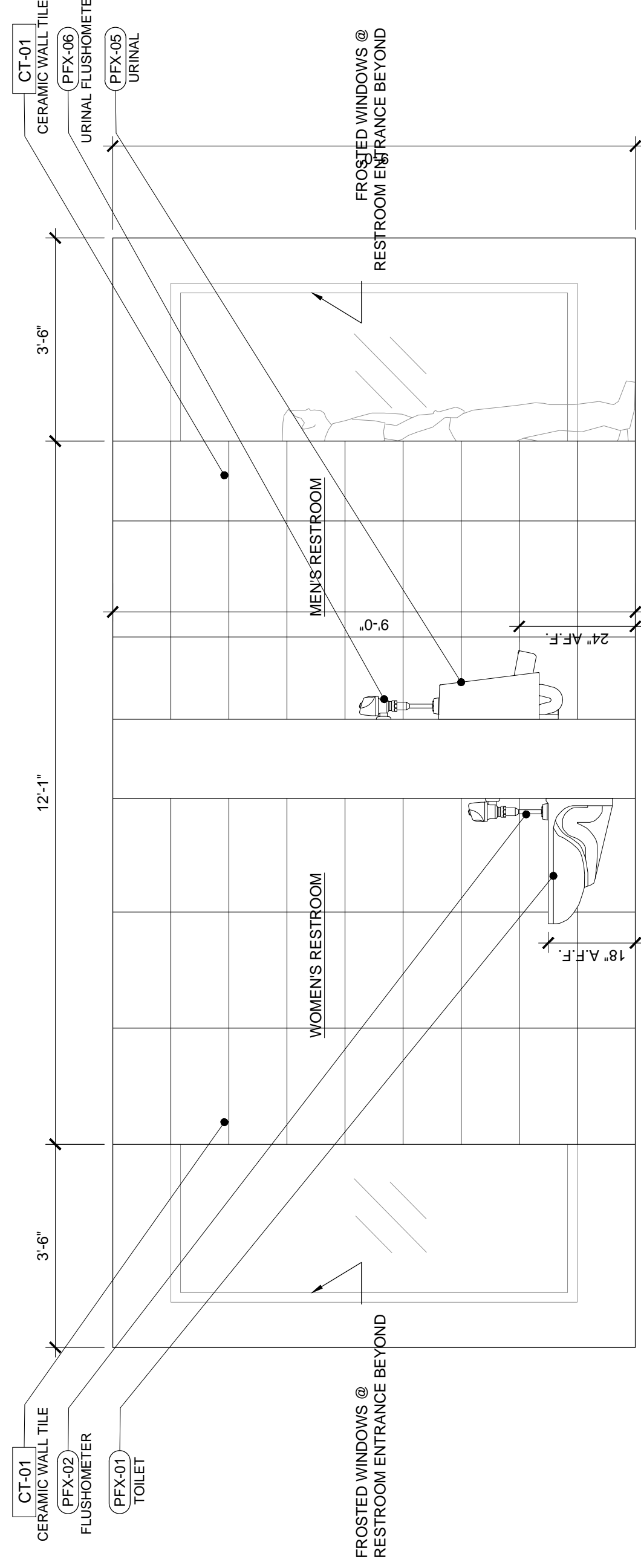
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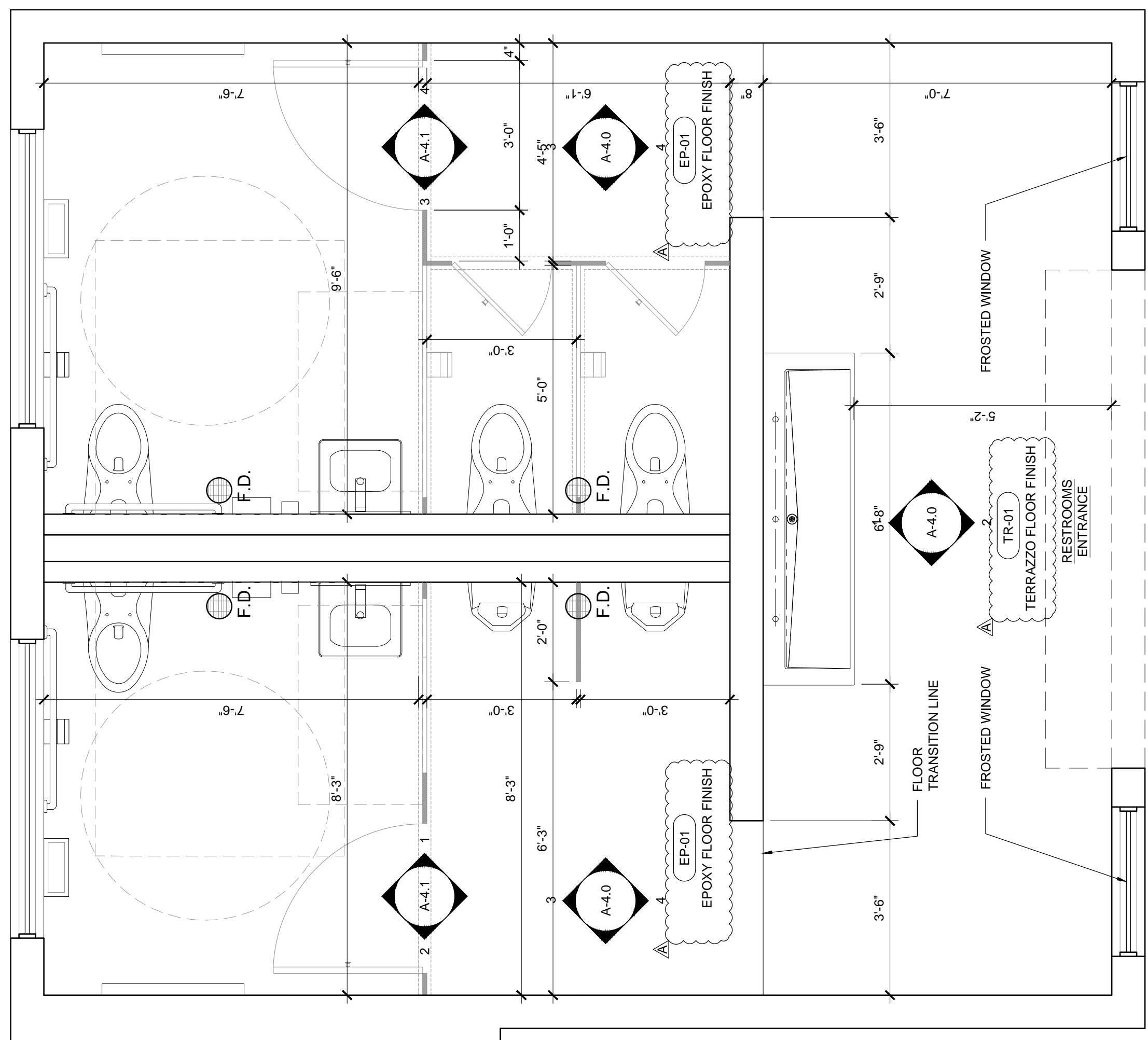
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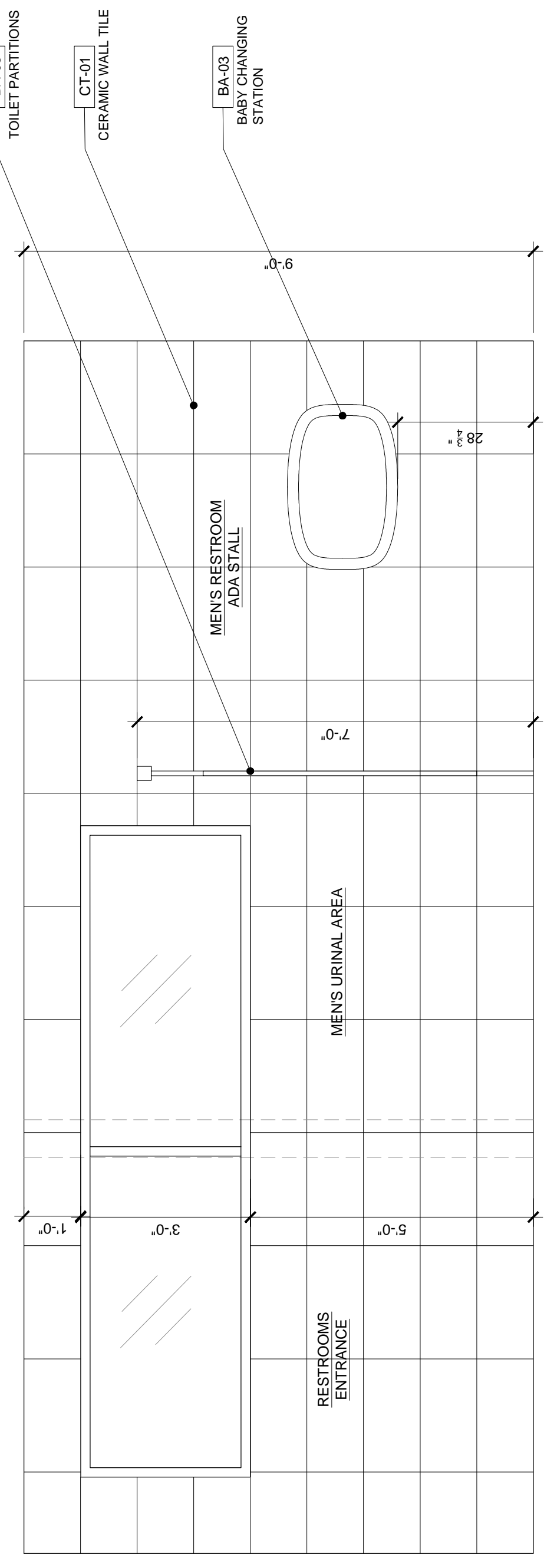
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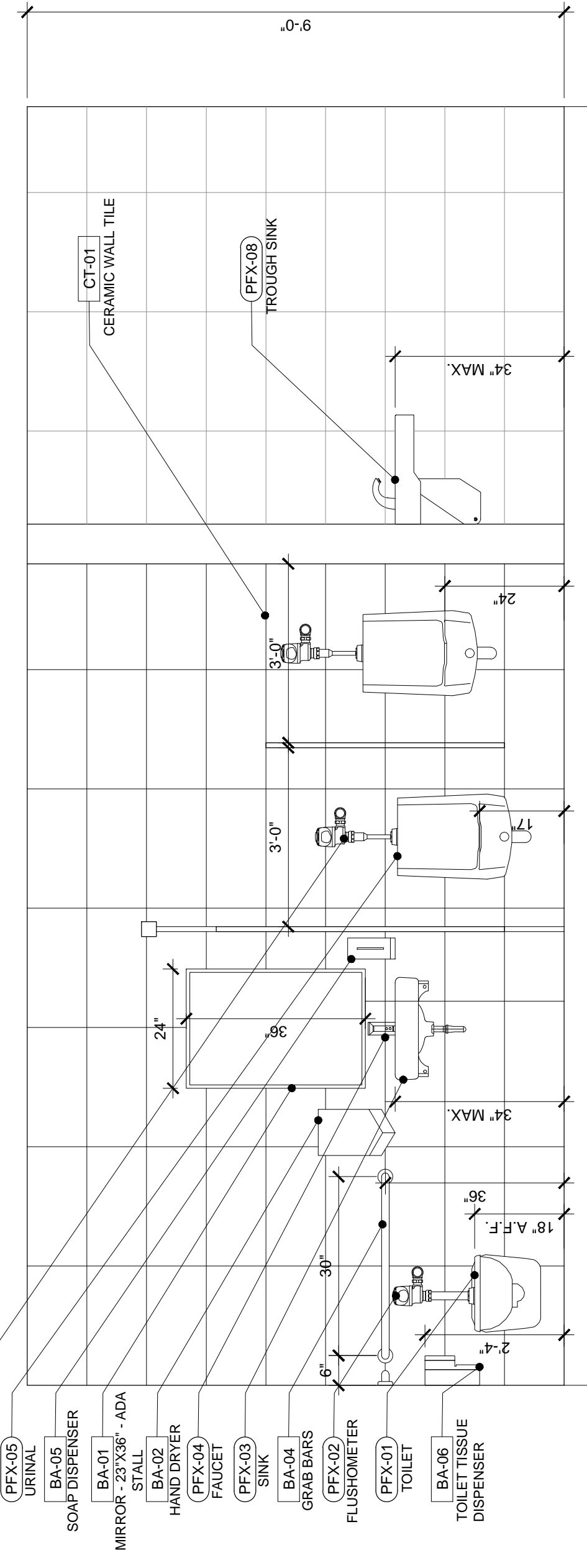
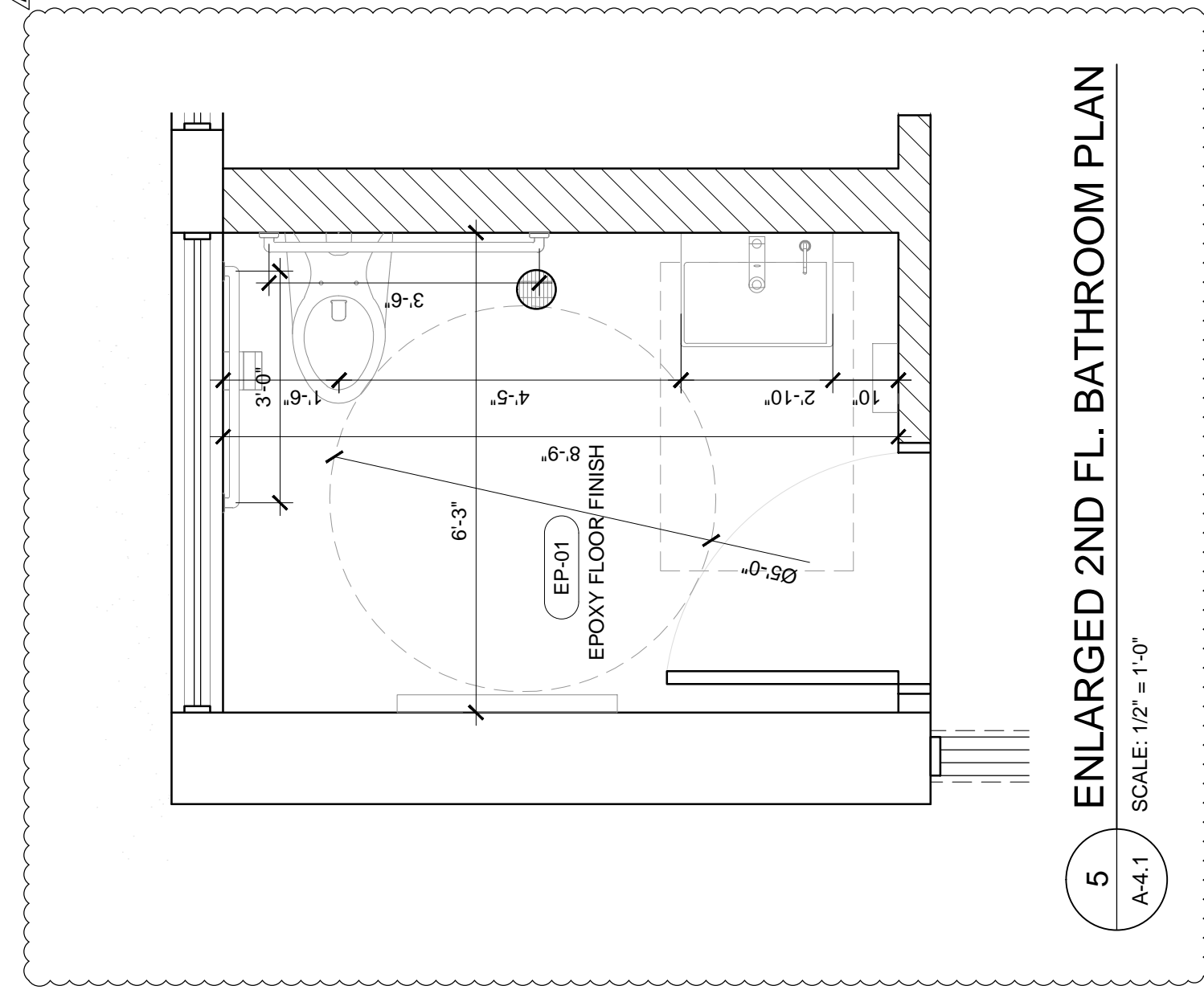
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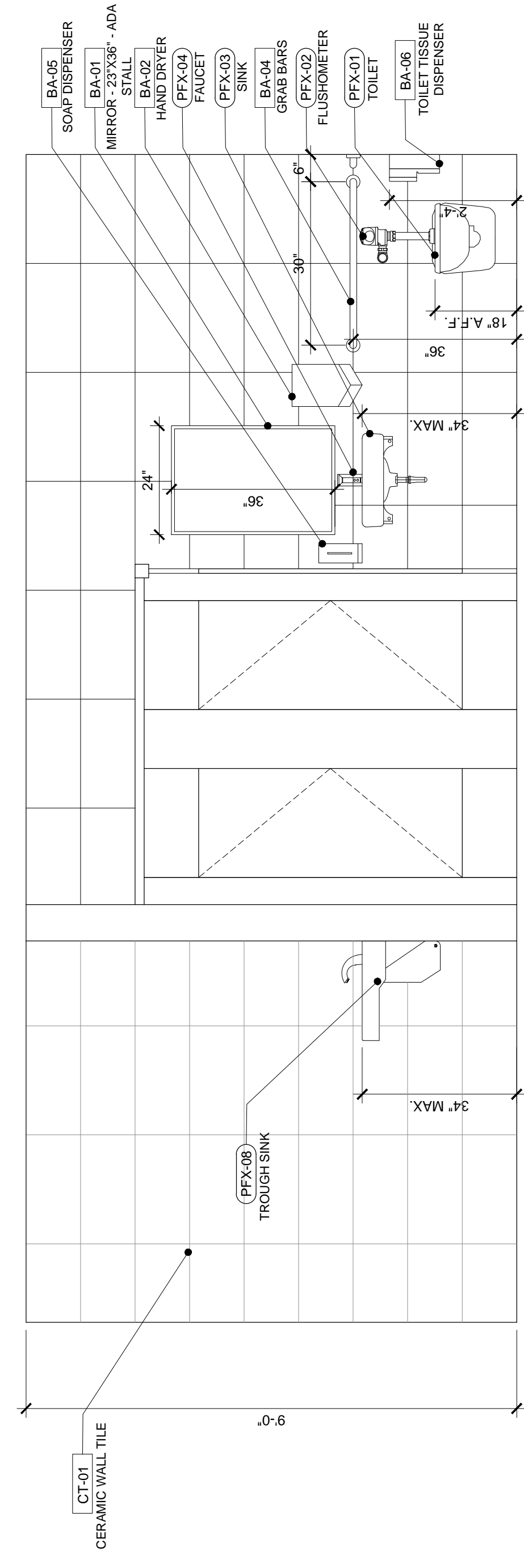
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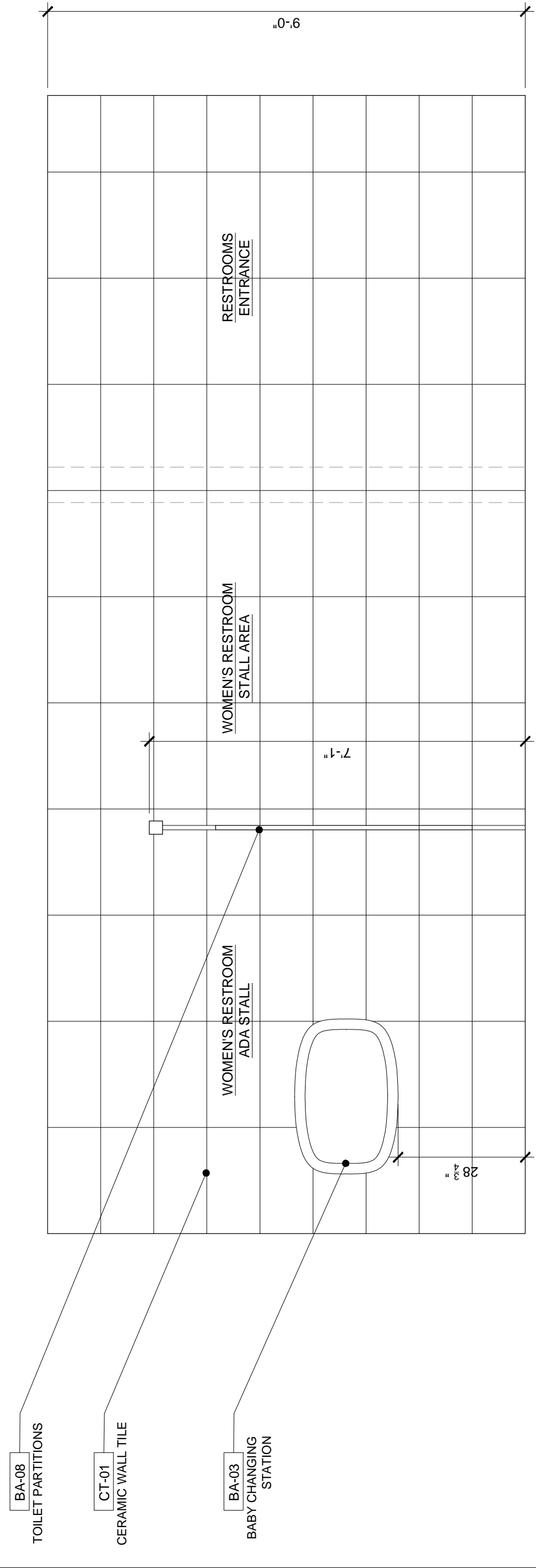
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1 MENS RESTROOM ELEVATION
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3 WOMEN'S RESTROOM ELEVATION
SCALE: 1/4" = 1'-0"



4 RESTROOM EAST ELEVATION
SCALE: 1/2" = 1'-0"

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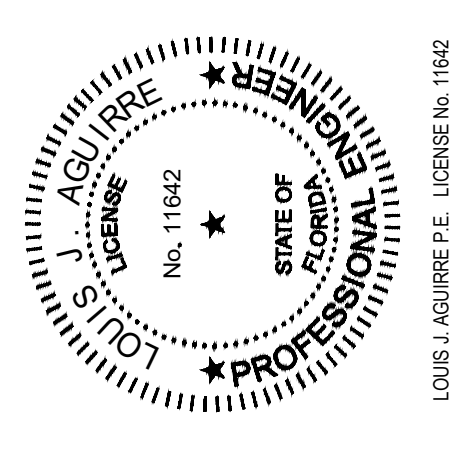
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SURFSIDE 96TH ST PARK
 TOWN OF SURFSIDE
 9580 BAY DRIVE
 SURFSIDE, FL 33154

DATE **06.24.2022**
 SCALE
 AS NOTED
 SHEET TITLE

**ROOF PLAN
 ELECTRICAL**

PERMIT SET
 REVISIONS
 REV. **BOJADEN04M1** 20220707
 SUMMARY 2022.01.2
 SEAL



LOUIS J. AGUIRRE, P.E. LICENSE No. 11642

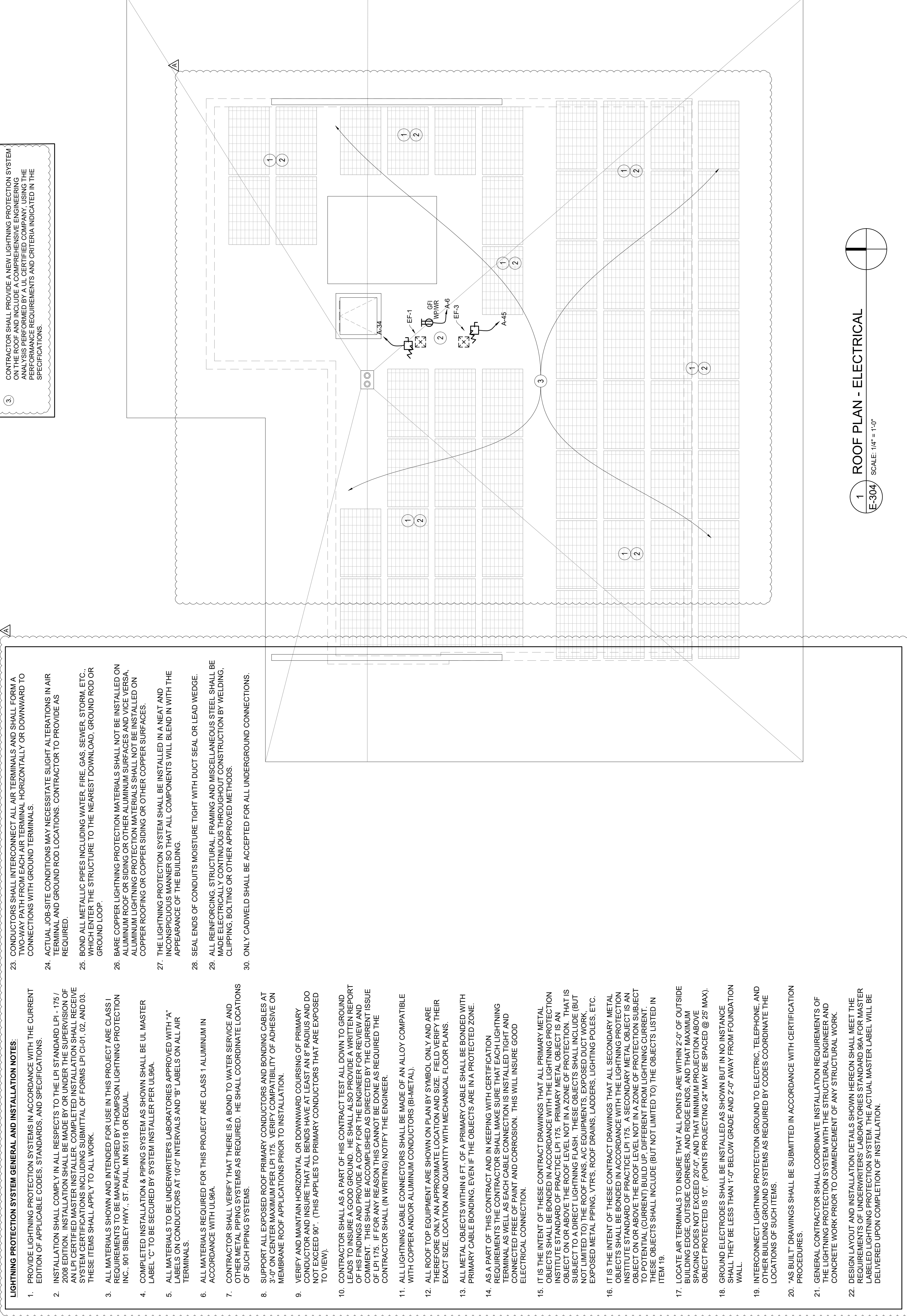
PROJ. No. 31038 CA 324
LOUIS J. AGUIRRE & ASSOCIATES, P.A.
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 www.ljaguirre.com

KEYED NOTES :

- PHOTOVOLTAC SYSTEM BY OTHERS.
- BOND ALL ROOF EQUIPMENT (MECHANICAL & PHOTOVOLTAC) TO THE NEW LIGHTNING PROTECTION SYSTEM.
- CONTRACTOR SHALL PROVIDE A NEW LIGHTNING PROTECTION SYSTEM ON THE ROOF AND INCLUDE A COMPREHENSIVE ENGINEERING ANALYSIS PERFORMED BY A UL CERTIFIED COMPANY, USING THE PERFORMANCE REQUIREMENTS AND CRITERIA INDICATED IN THE SPECIFICATIONS.

GENERAL NOTES :

- FURNISH AND INSTALL ALL WIRING AND RACEWAYS TO COMPLETE CIRCUITING AS INDICATED ON THESE DRAWINGS.



1 ROOF PLAN - ELECTRICAL
 SCALE: 1/4" = 1'-0"

LIGHTNING PROTECTION SYSTEM GENERAL AND INSTALLATION NOTES:

- PROVIDE LIGHTNING PROTECTION SYSTEMS IN ACCORDANCE WITH THE CURRENT EDITION OF APPLICABLE CODES, STANDARDS, AND SPECIFICATIONS.
- INSTALLATION SHALL COMPLY IN ALL RESPECTS TO THE LPI STANDARD LPI-175/2008 EDITION. INSTALLATION SHALL BE MADE BY OR UNDER THE SUPERVISION OF AN LPI CERTIFIED MASTER INSTALLER. COMPLETED INSTALLATION SHALL RECEIVE SYSTEM CERTIFICATIONS INCLUDING SUBMITTAL OF FORMS LPI CH-01, 02, AND 03. THESE ITEMS SHALL APPLY TO ALL WORK.
- ALL MATERIALS SHOWN AND INTENDED FOR USE IN THIS PROJECT ARE CLASS I REQUIREMENTS TO BE MANUFACTURED BY THOMPSON LIGHTNING PROTECTION INC., 301 SIBLEY HWY., ST. PAUL, MN 55118 OR EQUIVAL.
- COMPLETED INSTALLATION & PIPING SYSTEM AS SHOWN SHALL BE UL MASTER LABEL "C" TO BE SECURED BY SYSTEM INSTALLER PER UL96A.
- ALL MATERIALS TO BE UNDERWRITERS LABORATORIES APPROVED WITH "A" LABELS ON CONDUCTORS AT 10'-0" INTERVALS AND "B" LABELS ON ALL AIR TERMINALS.
- ALL MATERIALS REQUIRED FOR THIS PROJECT ARE CLASS 1 ALUMINUM IN ACCORDANCE WITH UL96A.
- CONTRACTOR SHALL VERIFY THAT THERE IS A BOND TO WATER SERVICE AND OTHER METAL PIPING SYSTEMS AS REQUIRED. HE SHALL COORDINATE LOCATIONS OF SUCH PIPING SYSTEMS.
- SUPPORT ALL EXPOSED ROOF PRIMARY CONDUCTORS AND BONDING CABLES AT 3'-0" ON CENTER MAXIMUM PER LPI 175. VERIFY COMPATIBILITY OF ADHESIVE ON MEMBRANE ROOF APPLICATIONS PRIOR TO INSTALLATION.
- VERIFY AND MAINTAIN HORIZONTAL OR DOWNWARD COURSE OF PRIMARY CONDUCTORS AND INSURE THAT ALL BENDS HAVE AT LEAST AN 8" RADIUS AND DO NOT EXCEED 90°. (THIS APPLIES TO PRIMARY CONDUCTORS THAT ARE EXPOSED TO VIEW).
- CONTRACTOR SHALL AS A PART OF HIS CONTRACT TEST ALL DOWN TO GROUND LEADS TO INSURE A GOOD GROUND. HE SHALL ALSO PROVIDE A WRITTEN REPORT OF HIS FINDINGS AND PROVIDE A COPY FOR THE ENGINEER FOR REVIEW AND COMMENT. THIS SHALL BE ACCOMPLISHED AS DIRECTED BY THE CURRENT ISSUE OF LPI 175. IF FOR ANY REASON THIS CANNOT BE DONE AS REQUIRED THE CONTRACTOR SHALL (IN WRITING) NOTIFY THE ENGINEER.
- ALL LIGHTNING CABLE CONNECTORS SHALL BE MADE OF AN ALLOY COMPATIBLE WITH COPPER AND/OR ALUMINUM CONDUCTORS (BI-METAL).
- ALL ROOF TOP EQUIPMENT ARE SHOWN ON PLAN BY SYMBOL ONLY AND ARE THEREFORE ONLY AN APPROXIMATE LOCATION AND SIZE. FIELD VERIFY THEIR EXACT SIZE, LOCATION AND QUANTITY WITH MECHANICAL FLOOR PLANS.
- ALL METAL OBJECTS WITHIN 6 FT. OF A PRIMARY CABLE SHALL BE BONDED WITH PRIMARY CABLE BONDING, EVEN IF THE OBJECTS ARE IN A PROTECTED ZONE.
- AS A PART OF THIS CONTRACT AND IN KEEPING WITH CERTIFICATION REQUIREMENTS THE CONTRACTOR SHALL MAKE SURE THAT EACH LIGHTNING TERMINAL AS WELL AS EACH CABLE CONNECTION IS INSTALLED TIGHT AND CONNECTED FREE OF PAINT AND CORROSION. THIS WILL INSURE GOOD ELECTRICAL CONNECTION.
- IT IS THE INTENT OF THESE CONTRACT DRAWINGS THAT ALL PRIMARY METAL OBJECTS SHALL BE BONDED IN ACCORDANCE WITH THE LIGHTNING PROTECTION INTERPRETATION OF PRACTICE LPI 175. THE OBJECT IS WHAT IS IDENTIFIED AS THE ROOF LEVEL METAL WORK OR OBJECT THAT IS SUBJECT TO A DIRECT LIGHTNING FLASH. THESE OBJECTS SHALL INCLUDE (BUT NOT LIMITED TO) THE ROOF FANS, A/C EQUIPMENTS, EXPOSED DUCT WORK, EXPOSED METAL PIPING, VTR'S, ROOF DRAINS, LADDERS, LIGHTING POLES, ETC.
- IT IS THE INTENT OF THESE CONTRACT DRAWINGS THAT ALL SECONDARY METAL OBJECTS SHALL BE BONDED IN ACCORDANCE WITH THE LIGHTNING PROTECTION INTERPRETATION OF PRACTICE LPI 175. A SECONDARY METAL OBJECT IS AN OBJECT ON OR ABOVE THE ROOF LEVEL NOT IN A ZONE OF PROTECTION SUBJECT TO POTENTIAL (CURRENT) BUILD UP, DIFFERENT FROM LIGHTNING CURRENT. THESE OBJECTS SHALL INCLUDE (BUT NOT LIMITED TO) THE OBJECTS LISTED IN ITEM 19.
- LOCATE AIR TERMINALS TO INSURE THAT ALL POINTS ARE WITHIN 2'-0" OF OUTSIDE BUILDING EDGES, OUTSIDE CORNERS, AND EDGE ENDS, AND THAT MAXIMUM SPACING BETWEEN TERMINALS SHALL BE 10'-0" (POINTS PROJECTING 24" MAY BE SPACED @ 25' MAX).
- GROUND ELECTRODES SHALL BE INSTALLED AS SHOWN BUT IN NO INSTANCE SHALL THEY BE LESS THAN 1'-0" BELOW GRADE AND 2'-0" AWAY FROM FOUNDATION WALL.
- INTERCONNECT LIGHTNING PROTECTION GROUND TO ELECTRIC, TELEPHONE, AND OTHER BUILDING GROUND SYSTEMS AS REQUIRED BY CODES COORDINATE THE LOCATIONS OF SUCH ITEMS.
- "AS BUILT" DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH CERTIFICATION PROCEDURES.
- GENERAL CONTRACTOR SHALL COORDINATE INSTALLATION REQUIREMENTS OF THE LIGHTNING PROTECTION SYSTEM WITH THE STRUCTURAL ENGINEER AND CONCRETE WORK PRIOR TO COMMENCEMENT OF ANY STRUCTURAL WORK.
- DESIGN LAYOUT AND INSTALLATION DETAILS SHOWN HEREON SHALL MEET THE REQUIREMENTS OF UNDERWRITERS' LABORATORIES STANDARD 96A FOR MASTER LABELED LIGHTNING PROTECTION SYSTEM. THE ACTUAL MASTER LABEL WILL BE DELIVERED UPON COMPLETION OF INSTALLATION.

GENERAL NOTES :

- CONDUCTORS SHALL INTERCONNECT ALL AIR TERMINALS AND SHALL FORM A TWO-WAY PATH FROM EACH AIR TERMINAL HORIZONTALLY OR DOWNWARD TO CONNECTIONS WITH GROUND TERMINALS.
- ACTUAL JOB-SITE CONDITIONS MAY NECESSITATE SLIGHT ALTERATIONS IN AIR TERMINAL AND GROUND ROD LOCATIONS. CONTRACTOR TO PROVIDE AS REQUIRED.
- BOND ALL METALLIC PIPES INCLUDING WATER, FIRE, GAS, SEWER, STORM, ETC., WHICH ENTER THE STRUCTURE TO THE NEAREST DOWNLOAD, GROUND ROD OR GROUND LOOP.
- BARE COPPER LIGHTNING PROTECTION MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM ROOF OR SIDING OR OTHER ALUMINUM SURFACES AND VICE VERSA. ALUMINUM LIGHTNING PROTECTION MATERIALS SHALL NOT BE INSTALLED ON COPPER ROOFING OR COPPER SIDING OR OTHER COPPER SURFACES.
- THE LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED IN A NEAT AND UNOBSCURIOUS MANNER SO THAT ALL COMPONENTS WILL BLEND IN WITH THE APPEARANCE OF THE BUILDING.
- SEAL ENDS OF CONDUITS MOISTURE TIGHT WITH DUCT SEAL OR LEAD WEDGE.
- ALL REINFORCING, STRUCTURAL FRAMING AND MISCELLANEOUS STEEL SHALL BE MADE ELECTRICALLY CONTINUOUS THROUGHOUT CONSTRUCTION BY WELDING, CLIPPING, BOLTING OR OTHER APPROVED METHODS.
- ONLY CADWELD SHALL BE ACCEPTED FOR ALL UNDERGROUND CONNECTIONS.

SECTION 264113 - LIGHTNING PROTECTION FOR STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes lightning protection system for the following:
 - 1. Ordinary structures.
- B. System Description:
 - 1. Lightning Protection System: System protecting the indicated structure, consisting of air terminals on roofs, **penthouse roofs**; bonding of **structure and** other metal objects; grounding electrodes; and interconnecting conductors. **Class I materials shall be used for systems on structures not exceeding 75 feet in height.**
 - 2. Performance Statement: This specification and the accompanying roof plan(s) describe the minimum material quality, required features, and operational requirements of the system. These documents do not convey every air terminal, conductor, and connection that must be made. Based on the equipment described and the performance required of the system, as presented in these documents, the Vendor and the Contractor are solely responsible for determining all equipment and wiring required for a complete and operational system.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include layouts of the lightning protection system, with details of the components to be used in the installation.
 - 2. Include raceway locations needed for the installation of conductors.
 - 3. Details of air terminals, ground rods, ground rings, conductor supports, splices, and terminations, including concealment requirements.
 - 4. Calculations required by NFPA 780 for bonding of metal bodies.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Lightning protection system Shop Drawings, drawn to scale, coordinated with each other, using input from installers of the items involved:
- B. Qualification Data: For Installer.
- C. Product certificates.

- D. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Completion Certificate:
 - 1. **UL Master Label Certificate.**

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: **UL-listed installer, category OWAY.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A.
 - 1. ERICO International Corporation.
 - 2. Heary Brothers Lightning Protection Co. Inc.
 - 3. Thompson Lightning Protection.
 - 4. Harger.
 - 5. Robbins Lightning Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. NFPA Lightning Protection Standard: Comply with NFPA 780 requirements for **Class I** buildings.
- B. UL Lightning Protection Standard: Comply with UL 96A requirements for **Class I** buildings.
- C. Lightning Protection Components, Devices, and Accessories: Listed and labeled by a qualified testing agency as complying with UL 96, and marked for intended location and application.

2.3 MATERIALS

- A. Air Terminals:
 - 1. **Copper or Aluminum** unless otherwise indicated.
 - 2. **1/2-inch (12.7-mm)** diameter by **15 inches (380 mm)** long.
 - 3. **Pointed** tip.
 - 4. **Threaded base support.**

- B. Class 1 Main Conductors:
 - 1. **Aluminum: 98,600 circular mils in diameter.**
- C. Secondary Conductors:
 - 1. **Aluminum: 41,400 circular mils in diameter.**
- D. Ground Loop Conductor: **Stranded copper.**
- E. Ground Rods:
 - 1. Material: **Copper-clad steel.**
 - 2. Diameter: **5/8 inch (16 mm).**
 - 3. Rods shall be not less than **120 inches (3050 mm)** long.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install lightning protection components and systems according to **UL 96A and NFPA 780.**
- B. Install conductors with direct paths from air terminals to ground connections. Avoid bends less than 90 degrees and **8 inches (203 mm)** in radius and narrow loops.
- C. Conceal conductors within normal view from exterior locations at grade within **200 feet (60 m)** of building. Comply with requirements for **concealed systems in NFPA 780.**
- D. Ground Ring Electrode: The conductor shall be not less than the main-size lightning conductor.

3.2 CONNECTIONS

- A. Aboveground concealed connections, and connections in earth or concrete, shall be done by exothermic welds or by high-compression fittings listed for the purpose.
- B. Aboveground exposed connections shall be done using the following types of connectors, listed and labeled for the purpose: **bolted connectors.**
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.

3.3 FIELD QUALITY CONTROL

- A. Special Inspections: **Engage** a qualified special inspector to perform the following special inspections:
 - 1. Perform inspections as required to obtain a UL Master Label for system.
 - 2. Perform inspections to obtain an LPI certification.

- B. Prepare test and inspection reports and certificates.

END OF SECTION 264113

SECTION 26 56 68 – EXTERIOR ATHLETIC LIGHTING

Lighting System with LED Light Source

PART 1 – GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the lighting system performance and design standards for 96th Street Park using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following venues:
 - 1. Basketball Court
 - 2. Multipurpose Area
- D. The primary goals of this sports lighting project are:
 - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed to not drop below specified target values for a period of 25 years.
 - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.
 - 3. **Cost of Ownership:** In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
 - 4. **Control and Monitoring:** To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.

1.2 LIGHTING PERFORMANCE

- A. **Illumination Levels and Design Factors:** Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period.

| Area of Lighting | Average Target Illumination Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|-------------------------|---|--|--------------------|---------------------|
| Basketball Court | 20 FC | 3.0:1.0 | 60 | 9' x 9' |
| Multipurpose Area | 20 FC | 3.0:1.0 | 128 | 10' x 10' |

- B. Color: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.
- C. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum of 10 degrees below horizontal.

| # of Poles | Pole Designation | Pole Height |
|------------|------------------|-------------|
| 2 | P1 – P2 | 40' |
| 4 | M1 – M4 | 50' |

1.3 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.

Lighting designs shall also meet the beam distributions standards set forth by the IES RP-6-15 in Section 5.4.1. Beam Types Figure 14: NEMA Sports Lighting Luminaire Classification.

- B. A technical document addressing the issue of lighting in the vertical plane above the playing surface for aerial sports while achieving desired glare control requirements will be required for approval.
- C. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

| 96 th Street Park | Maximum |
|---|---------|
| East Property Line – Vertical Footcandles | 0.7 |
| Property Line – Candela | 5,500 |

*Above Numbers measured on the East Side of Bay Drive

If a manufacturer's engineered lighting scan indicates that the above criteria cannot be met, then an increase in pole mounting heights would be acceptable provided that these specified values are achieved.

- D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights. Illumination level shall be measured in accordance with the IESNA LM-5-04 after 1 hour warm up.
- E. The efficacy for field aimed fixtures must meet DLC requirement of 105 lumens per watt.
- F. The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.
- G. Upper Beam Definition
Fixtures shall not exceed the candlepower at the specified degrees above the center of the beam in the vertical plane as specified in the following table.

| NEMA Classification of Vertical Beam | Candela | Degrees Above the Center of the Beam in the Vertical Plane |
|--------------------------------------|---------|--|
| 4 | 10,000 | 13.0 degrees |

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.

- C. System Description: Lighting system shall consist of the following:
 - 1. Galvanized steel poles and cross-arm assembly.
 - 2. Non-approved pole technology:
 - a. Square static cast concrete poles will not be accepted.
 - b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
 - 3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
 - a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
 - b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
 - 4. Manufacturer will supply all drivers and supporting electrical equipment
 - a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the

enclosure. Integral drivers are not allowed.

- b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.

If active cooling fans are utilized in the remote driver enclosure, then these are required to be wired for the control system to self-monitor and automatically report any failure or issue to the manufacturer and/or owner. Technical cutsheets (not illustrative) detailing this function would be a required inclusion in the mandatory pre-bid submittal detailed in Section 4.

Integral drivers are not acceptable.

- 5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
- 6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
- 7. Control cabinet to provide remote on-off control, monitoring, of the lighting system. See Section 2.3 for further details.
- 8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.
 - a. Integrated grounding via concrete encased electrode grounding system.
 - b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment.

Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

- D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

- A. Electric Power Requirements for the Sports Lighting Equipment:
 - 1. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.
- B. Energy Consumption: The kW consumption for the field lighting system shall be
 - Fields – 6 kw or less

2.3 CONTROL

- A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires. Under no circumstances shall the owner need to switch lights on / off using breakers.
- B. Lighting contactor cabinet(s) with electrically-held contactors, constructed of NEMA Type 4 aluminum and designed for easy installation with contactors labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.
- C. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, fax, email)

- D. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.
- The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute "early off" commands by phone. Scheduling tool shall be capable of setting curfew limits.
- Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.
- E. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).
- F. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.
- Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.
1. Cumulative hours: shall be tracked to show the total hours used by the facility
 2. Report hours saved by using early off and push buttons by users.
- G. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.
- H. Communication with luminaire drivers: Control system shall interface with drivers in pole-mounted enclosures by means of powerline communication through the underground conductors.
- Control systems utilizing a wireless line-of-sight communication pathway to the luminaire drivers where power is fed directly from circuit breaker to light pole, and in which power distribution to the pole is constant regardless of on/off luminaire status -- are not acceptable due to long-term performance reliability risks.

2.4 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2020 Florida Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 175, High Velocity Hurricane Zone, and exposure category C.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs

associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of FL for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

- A. Delivery Timing Equipment On-Site: The equipment must be on-site 12 - 14 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.
- B. Field Light Level Accountability
1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
 2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
 3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.
- C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.
- B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.0 PRE-BID SUBMITTAL REQUIREMENTS

- A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.0.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.
- B. Basis of Design Product: Musco’s Light-Structure System™ with TLC for LED™ is the approved product or equal. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.
- D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner’s representative. Bids received that do not utilize an approved system/design, will be rejected.

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

*All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. **Submit checklist below with submittal.***

| Yes/No | Tab | Item | Description |
|--------|----------|--------------------------|---|
| | A | Letter/ Checklist | Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer’s local representative and his/her phone number. Signed submittal checklist to be included. |
| | B | Equipment Layout | Drawing(s) showing field layouts with pole locations |
| | C | On Field Lighting Design | Lighting design drawing(s) showing: <ul style="list-style-type: none"> a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor. f. Technical document addressing the issue of lighting in the vertical plane above the playing surface for aerial sports while achieving the desired glare control requirements. |

Project:
Submittal:

Surfside 96th St Park, Surfside Beach, Florida
Issued for Proposals and Construction

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|--|----------|------------------------------------|---|
| | D | Off Field Lighting Design | Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights. |
| | E | Photometric Report | Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience. No partial wattage fixture reports or ISO Polar curve reports are acceptable. |
| | F | Performance Guarantee | Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period. |
| | G | Structural Calculations | Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of FL, if required by owner. (May be supplied upon award). |
| | H | Control & Monitoring System | Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of FL. |
| | I | Electrical Distribution Plans | Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of FL. |
| | J | Warranty | Provide written warranty information including all terms and conditions. Provide ten (10) references of customers currently under specified warranty in the state of FL. |
| | K | Project References | Manufacturer to provide a list of 10 projects where the technology and specific fixture proposed for this project has been installed in the state of FL. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number. |
| | L | Product Information | Complete bill of material and current brochures/cut sheets for all product being provided. Cut sheets shall be technical (and illustrative) and provide specific detail on fixtures, remote driver cabinets, drivers, surge protections, fusing, controls, poles and foundations. All certifications including UL and DLC shall be shown on the technical cut sheets. |
| | M | Delivery | Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information. |
| | N | Non-Compliance | Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted. |
| | O | Cost of Ownership | Document cost of ownership as defined in the specification. Identify energy costs for operating the luminaires. Maintenance cost for the system must be included. All costs should be based on 25 Years |
| | P | Environmental Light Control Design | Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area. |

Project:
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Surfside 96th St Park, Surfside Beach, Florida
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