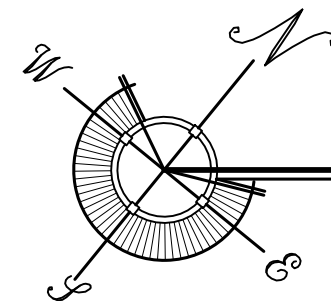
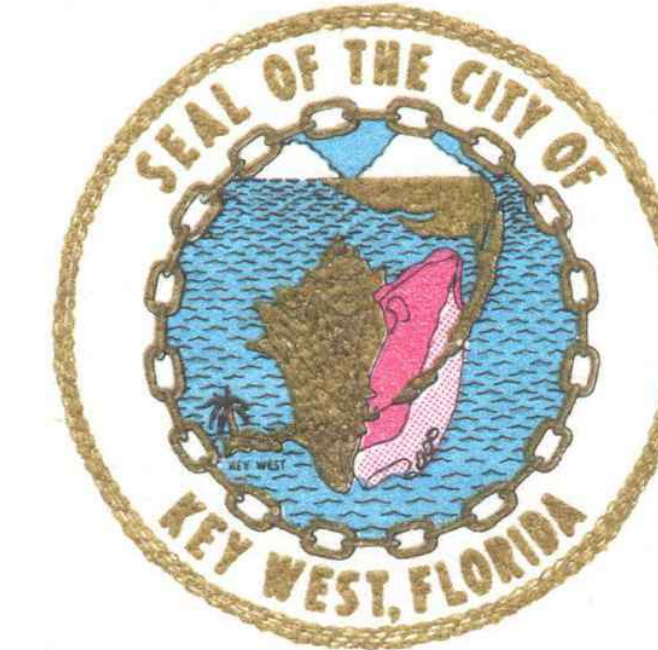


# KEY WEST HISTORIC SEAPORT MARGARET STREET - FIRE PUMP BUILDING



## PROPOSED HISTORIC SEAPORT HARBORWALK - SITE PLAN

SCALE: N.T.S



## KEY WEST CITY OFFICIALS

MAYOR TERI JOHNSTON

COMMISSIONER JIMMY WEEKLEY, DISTRICT I

COMMISSIONER SAMUEL KAUFMAN, DISTRICT II

COMMISSIONER BILLY WARDLOW, DISTRICT III

COMMISSIONER GREGORY DAVILA, DISTRICT IV

COMMISSIONER MARY LOU HOOVER, DISTRICT V

COMMISSIONER CLAYTON LOPEZ, DISTRICT VI

CITY MANAGER PATTI MCLAUCHLIN

### SCOPE OF WORK

THE PROJECT CONSISTS OF THE REMOVAL OF THE EXISTING NON-HISTORIC FIRE PUMP HOUSE IN THE MIDDLE OF MARGARET STREET PLAZA AND THE CONSTRUCTION OF A NEW FIRE PUMP HOUSE IN A MORE APPROPRIATE LOCATION NEAR THE CAROLINE STREET PARKING LOT. THE FIRE PUMP HOUSE SUPPLIES PRESSURE TO THE FIRE SUPPRESSION LINES ON THE DOCKS AT THE HISTORIC SEAPORT. IN ADDITION TO THE CONSTRUCTION OF THE NEW FIRE PUMP HOUSE, THE SCOPE ALSO INCLUDES ELECTRICAL SERVICE TO THE BUILDING BOTH 3 PHASE AND SINGLE PHASE FROM AN EXISTING TRANSFORMER. CONTRACTOR TO INCLUDE NEW UNDERGROUND FIRE LINES AND WATER CONNECTIONS. REVISED LANDSCAPING AROUND THE STRUCTURE AND PAVER REPLACEMENT PER PLAN WILL BE REQUIRED IN THE PLAZA AS WELL.

## INDEX OF SHEETS

PAGE	DESCRIPTION	PAGE	
A-0	COVER SHEET	M -1	MECHANICAL FLOOR PLAN
A-1	SITE PLAN	E-1	ELECTRICAL SITE PLAN
A-2	FLOOR PLAN AND ELEVATIONS	E-2	ELECTRIC FLOOR PLAN
A-3	SECTIONS	E-3	SCHEDULES AND NOTES
A-4	SCHEDULES	E-4	FIRE PUMP SYSTEM SCOPE
A-5	SPECIFICATIONS		
S-0	STRUCTURAL NOTES & PRESSURES	FP-1	FIRE PUMP PLAN
S-1	STRUCTURAL FLOOR PLANS	FP-2	FIRE PUMP DETAILS
S-2	STRUCTURAL SECTION	C-1	WATER/FIRE PLAN
S-3	ROOF FRAMING PLAN, SECTION & RAILING DETAIL	C-2	DETAILS
		L-1	LANDSCAPE PLAN

## DESIGN CRITERIA

- APPLICABLE BUILDING CODES:
- Florida Existing building Code, 2020 Edition
  - The Florida Building Code 2020
  - National Electric Code latest edition
  - Florida Plumbing Code, 2020 Edition
  - Florida Mechanical Code, 2020 Edition
  - Florida Building Code, Energy Conservation, 2020 Edition
  - ASCE/SEI 7 Latest Edition
  - ASCE/SEI 24 Latest Edition
  - Floor Live Load: 40 psf (Residential), 100 psf (Commercial)
  - Basic Wind Speed: 200 MPH
  - Exposure: D
  - Structural Category: IV

## CODE ANALYSIS

CHAPTER 3 USE AND OCCUPANCY  
U-UTILITY

CHAPTER 6 CONSTRUCTION TYPE  
TYPE VB UNPROTECTED

SEPERATION REQUIREMENTS  
50' REQUIRED SEPARATION FROM ANOTHER STRUCTURE. NO FIRE RATING REQUIRED.

## SITE DATA

LAND USE DESIGNATION: HPS (HISTORIC PUBLIC AND SEMI-PUBLIC SERVICES)  
FLOOD ZONES: 'AE' 9'-0"

## BUILDING DATA

EXISTING FIRE PUMP STRUCTURE: 218 S.F.  
PROPOSED FIRE PUMP STRUCTURE: 223 S.F.

## IMPERVIOUS NOTE

PERVIOUS SQUARE FOOTAGE REMOVED FROM THIS LANDSCAPE ISLAND WILL BE REPLACED DURING THE PLANNED PLAZA PHASE 2 IMPORVEMENTS. PHASE 2 LANDSCAPE PLAN WAS APPORVED ON MAY 2, 2018 UNDER PERMIT NUMBER T18-8977. A NEW LANDSCAPE PLAN FOR LANDSCAPE ISLAND IS PROVIDED FOR THIS PERMIT ONLY.

WILLIAM P. HORN  
ARCHITECT, P.A.

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33040

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LICENSE NO.  
AA 0003040

KEY WEST  
HISTORIC  
SEAPORT-  
MARGARET STREET  
FIRE PUMP BLDG.

201 WILLIAM STREET  
KEY WEST, FL. 33040

SEAL

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AUTHORIZATION BY  
WILLIAM P. HORN

DATE

09-22-2020 HARC SUBMITTAL  
11-01-2020 ARCH. SET  
12-14-2020 LANDSCAPE PLAN  
12-23-2020 100% CD SUBMISSION  
02-14-2022 BID SET

REVISIONS

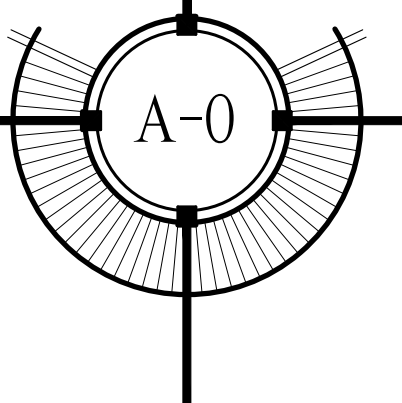
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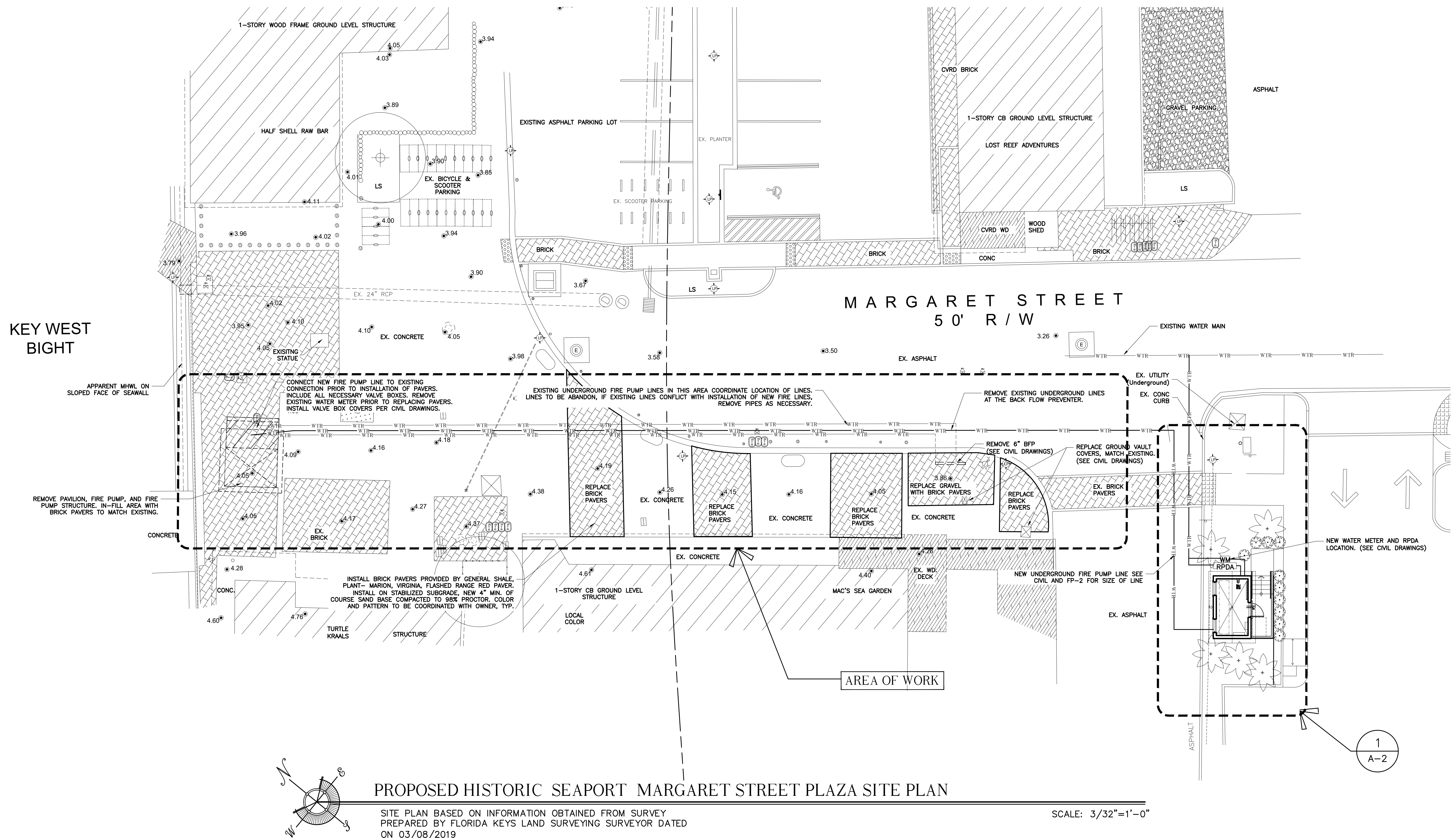
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EMA

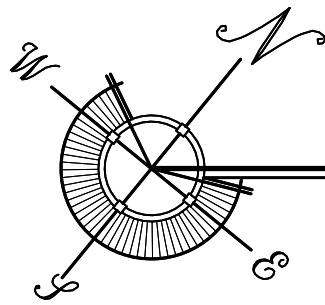
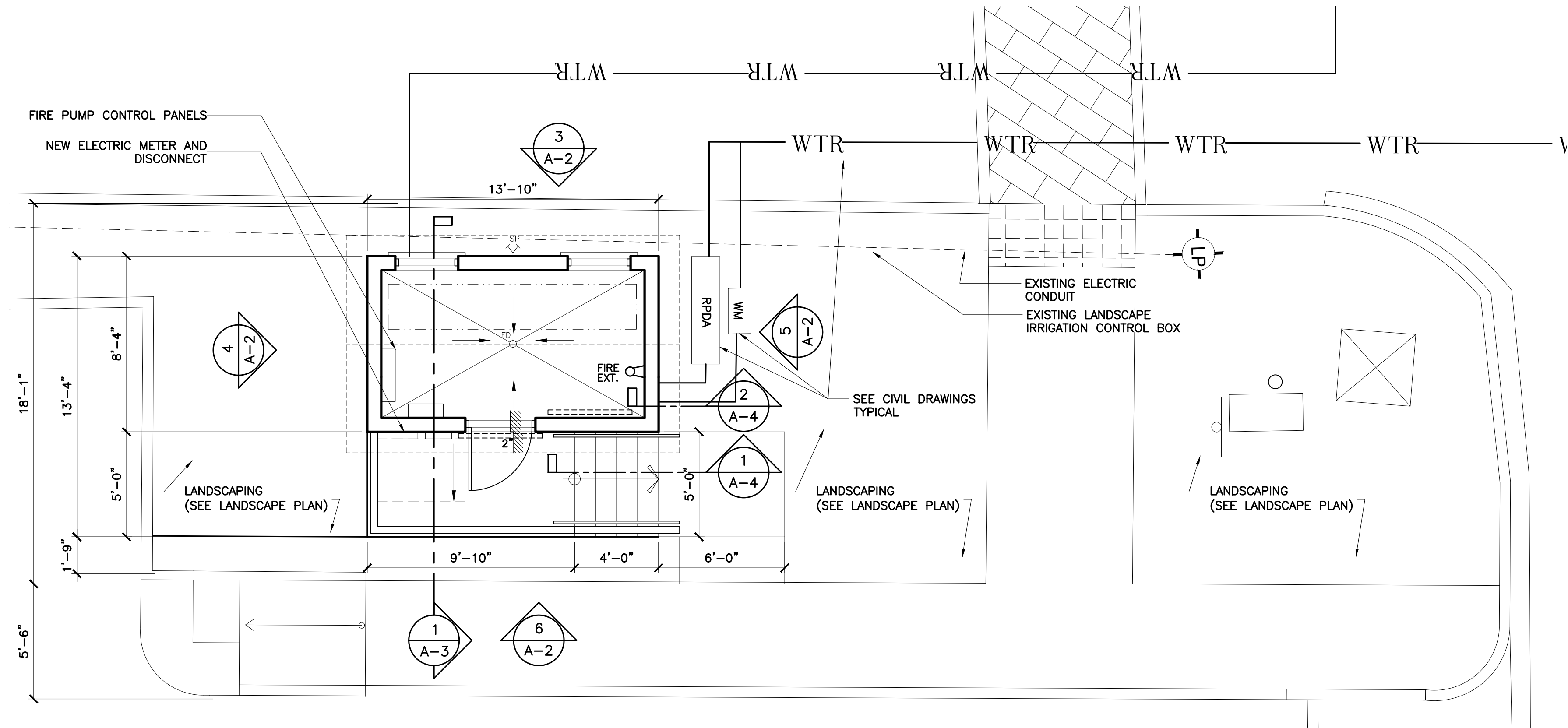
PROJECT  
NUMBER

2012

KEY WEST HISTORIC SEAPORT  
MARGARET STREET - FIRE PUMP BUILDING  
KEY WEST, FLORIDA





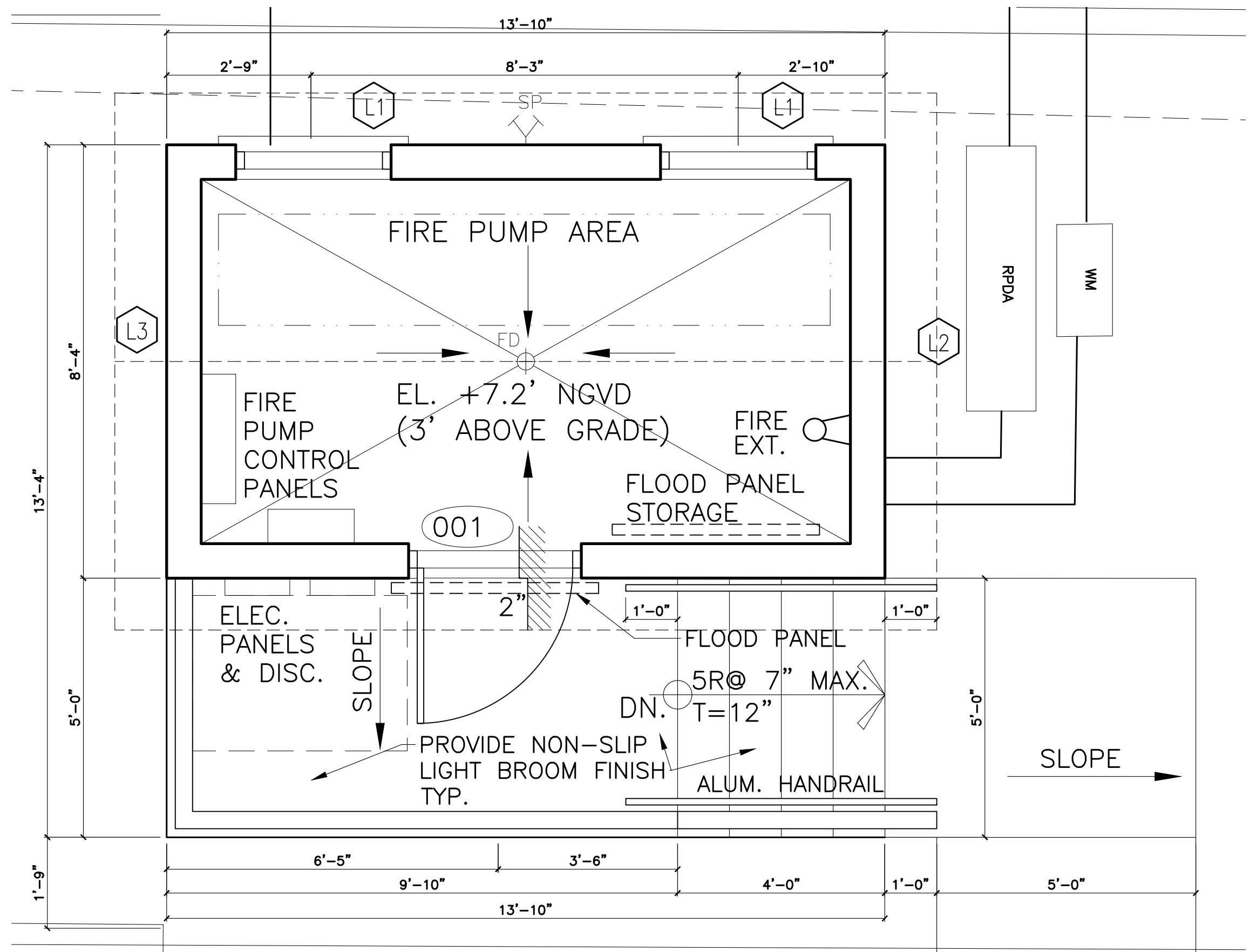


PARTIAL SITE PLAN - FLOOR PLAN

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY  
PREPARED BY FLORIDA KEYS LAND SURVEYING SURVEYOR DATED  
ON 03/08/2019

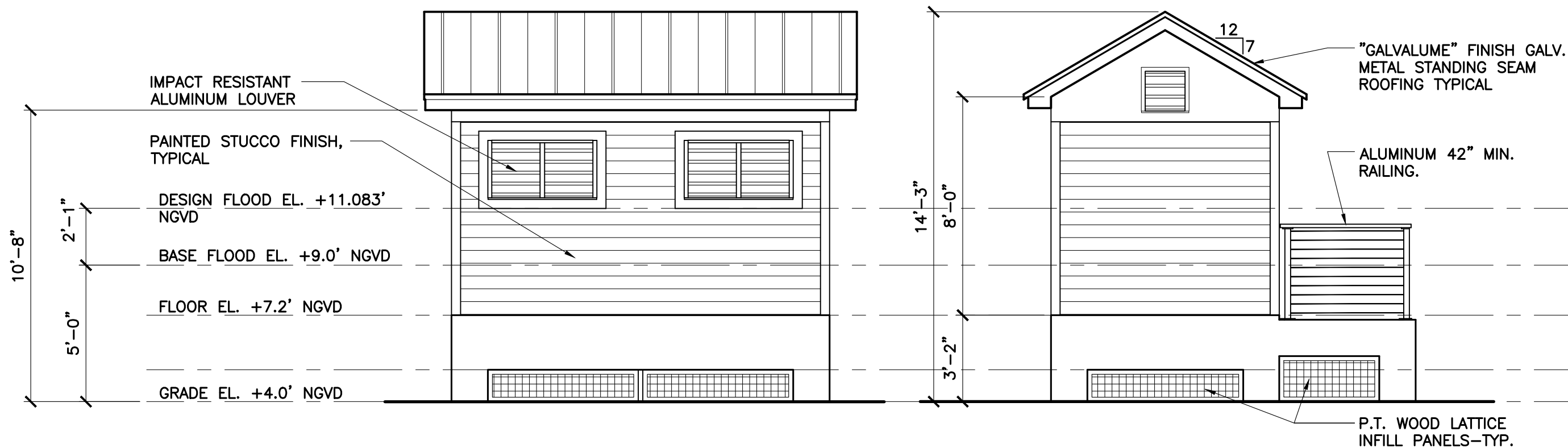
SCALE: 1/4"=1'-0"

FIRE PUMP SYSTEM AND UNDERGROUND WATER LINES  
CONTRACTOR SHALL COORDINATE WITH ALL EXISTING SYSTEMS AND SITE  
CONDITIONS AS REQUIRED FOR THE NEW WORK. IF CONFLICT OCCURS NOTIFY  
OWNER AND ARCHITECT IMMEDIATELY.



FLOOR PLAN

SCALE: 1/2"=1'-0"

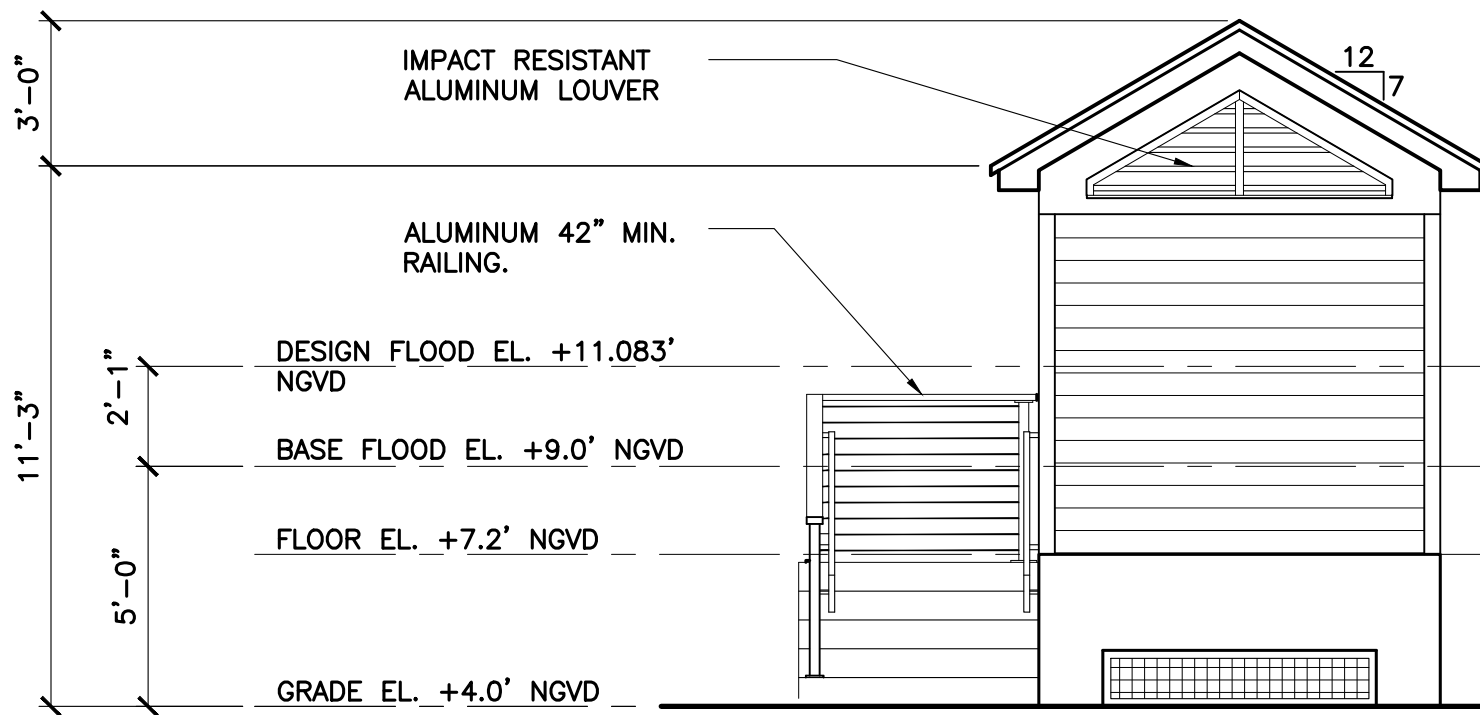


ELEVATION

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

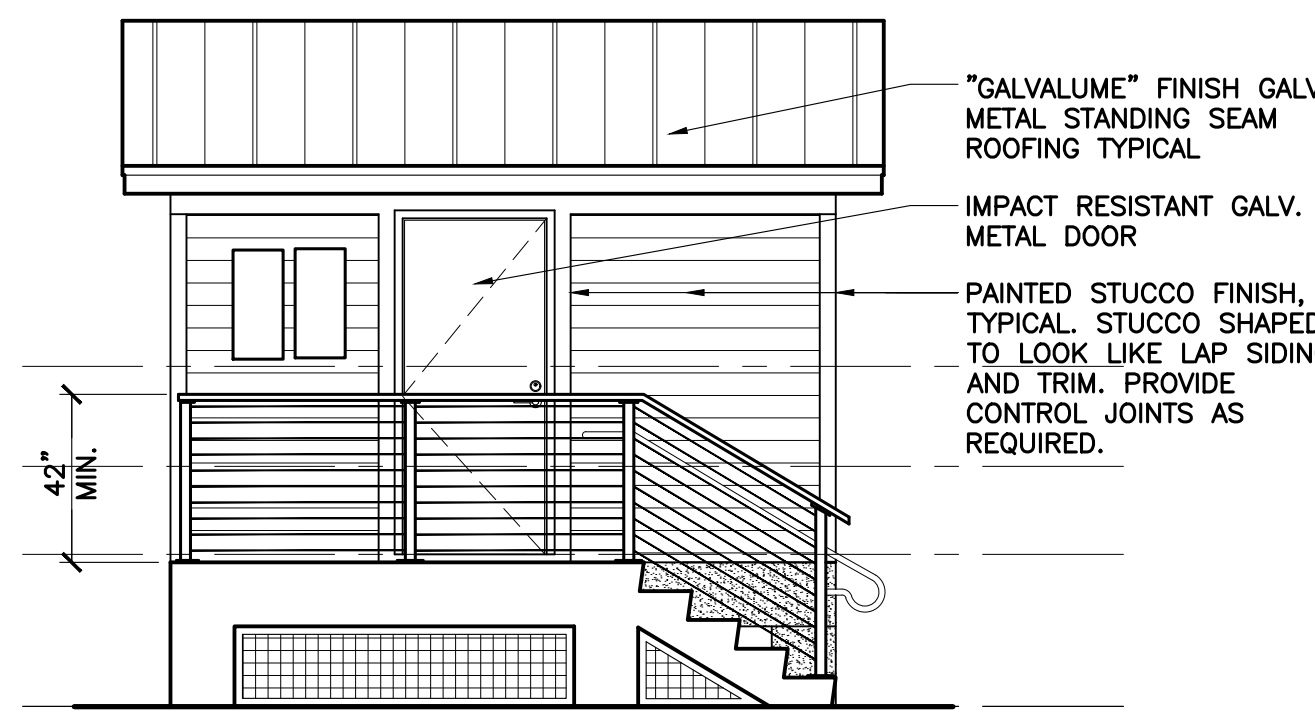
ELEVATION

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



ELEVATION

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



ELEVATION

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

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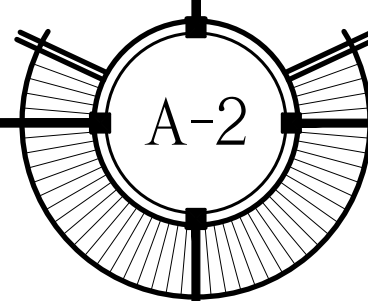
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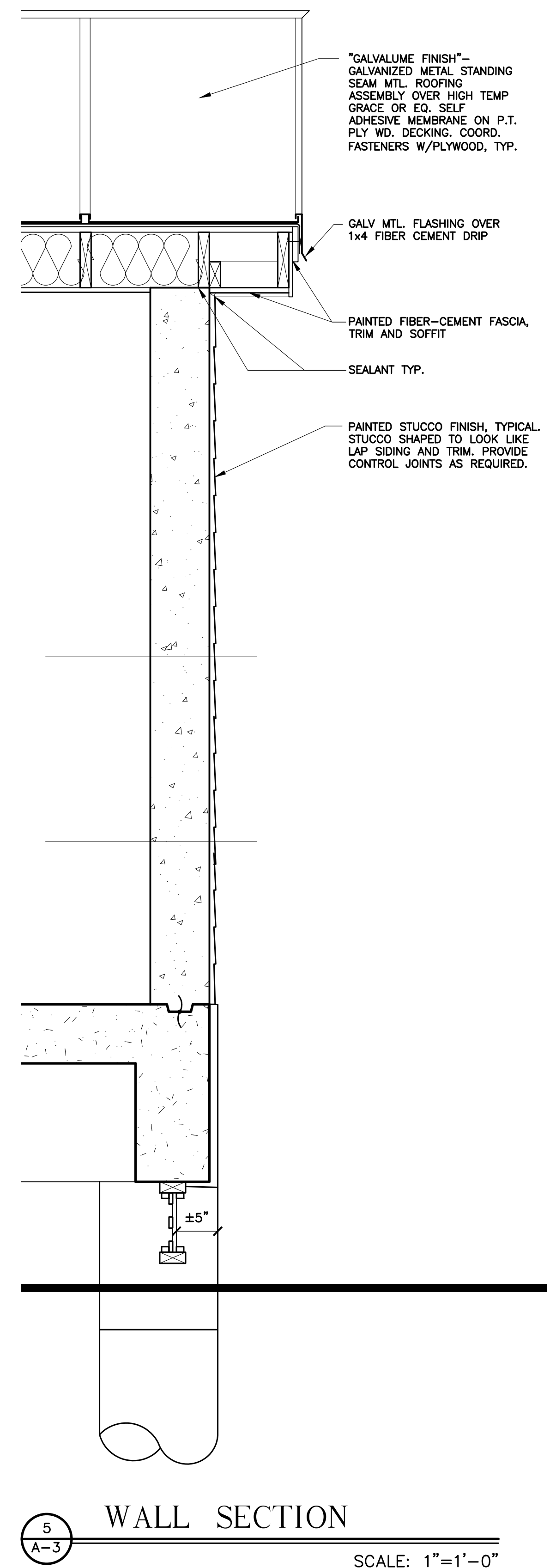
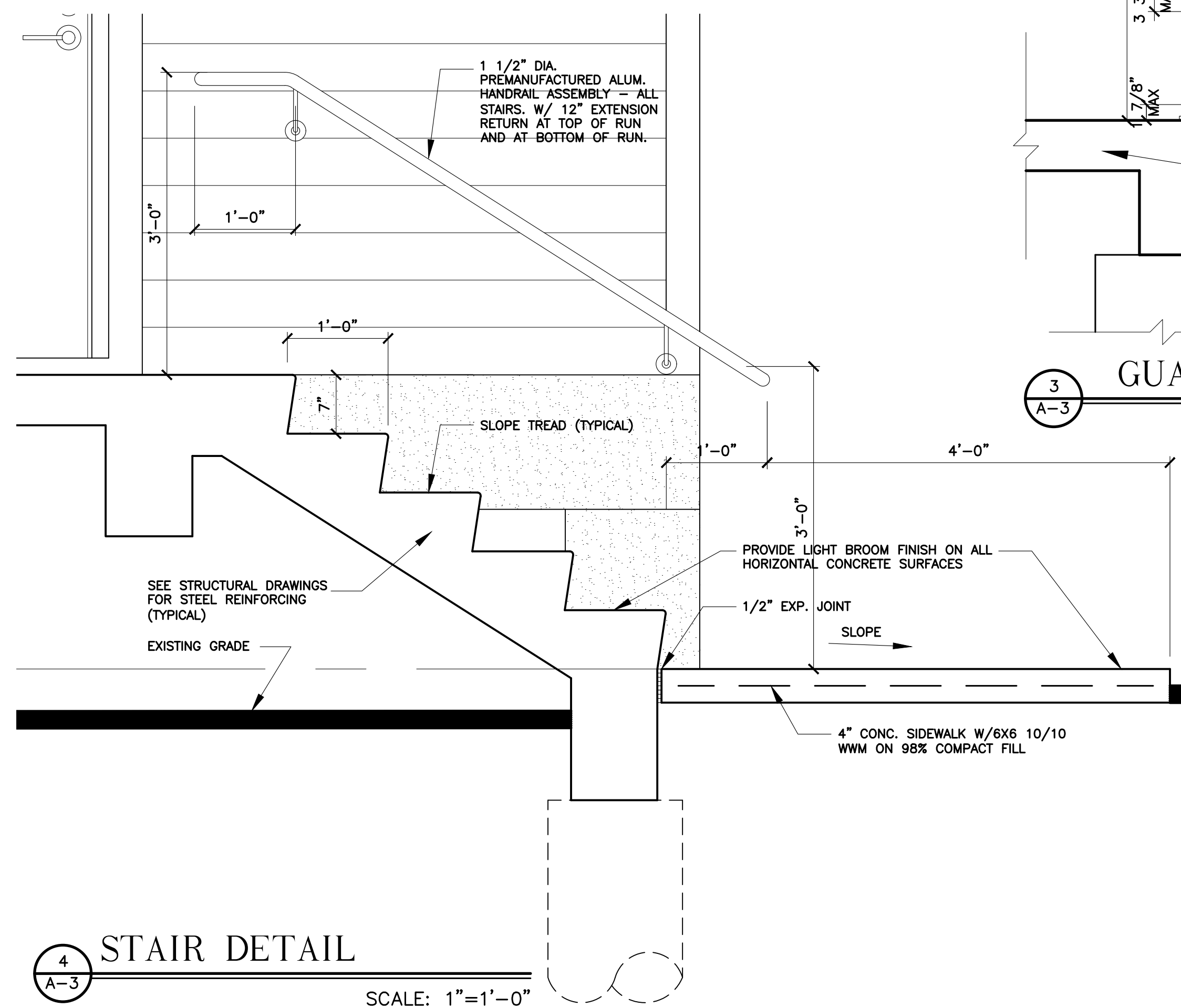
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EMA

PROJECT  
NUMBER

2012





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PROJECT NUMBER	2012

WINDOW / LOUVER SCHEDULE

	NO.	WIDTH	HEIGHT	THICK	MATERIAL	PRODUCT APPROVAL #	MANUF. WIND LOAD RATING	DESIGN PRESSURES		MANUFACTURER	DESCRIPTION
								(FIELD)	(CORNER)		
	1	3'-0"	2'-2"	2 1/2"x5"	PREFINISHED ALUM.	NOA#18-0918.02	(+110/-110)		49.2/-53.6	GREENHECK FAN CORPORATION, MODEL EACA-601D	DRAINABLE BLADE IMPACT LOUVER W/ MANUAL DAMPER, W/ GRAVITY DAMPER FLOOD VENT LOUVERS, IMPACT RESISTANT
	2	3'-0"	6'-4"	2 1/2"x5"	PREFINISHED ALUM.	NOA#18-0918.02	(+110/-110)		49.2/-53.6	GREENHECK FAN CORPORATION, MODEL EACA-601D	DRAINABLE BLADE IMPACT LOUVER W/ MANUAL DAMPER, W/ GRAVITY DAMPER FLOOD VENT LOUVERS, IMPACT RESISTANT
	3	1'-8"	1'-8"	2 1/2"x5"	PREFINISHED ALUM.	NOA#18-0918.02	(+110/-110)		49.2/-53.6	GREENHECK FAN CORPORATION, MODEL EACA-601D	DRAINABLE BLADE IMPACT LOUVER W/ MANUAL DAMPER, W/ GRAVITY DAMPER FLOOD VENT LOUVERS, IMPACT RESISTANT

\*CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS AND COORDINATE WITH MANUFACTURED PRODUCTS AVAILABLE. CONTRACTOR RESPONSIBLE FOR FINAL OPENING SIZES AND COORDINATION. CONTRACTOR TO INCORPORATE ANY REQUIRED MULLION STRUCTURAL SUPPORTS REQUIRED BY MANUFACTURER BETWEEN MULTIPLE OPENINGS.

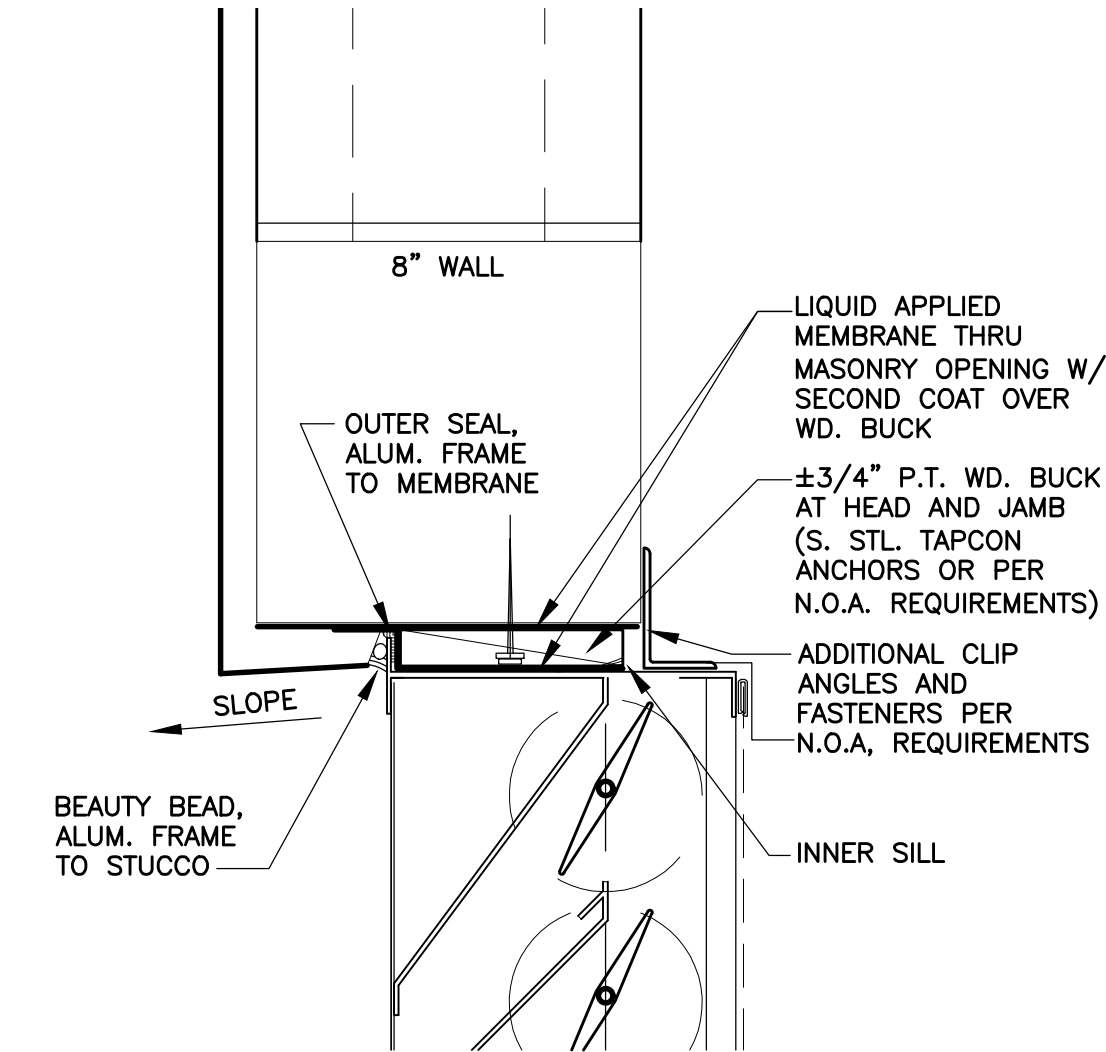
- NOTES:
- ALL EXTERIOR OPENINGS SHALL BE PROVIDED WITH DOORS, WINDOWS, OR LOUVERS WHICH MEET ASCE/SEI 7-16, FLORIDA BUILDING CODE, 2020 EDITION. WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)
  - ALL PRESSURES SHOWN ARE BASED UPON ASD DESIGN, WITH A LOAD FACTOR OF 0.6. 200 MPH, WIND LOAD AND IMPACT REQUIREMENTS, SEE SPECIFICATIONS.
  - ALUM. STOREFRONT FRAMES, WINDOWS AND LOUVERS SHALL BE PREFINISHED WITH COLOR TO BE SELECTED BY THE ARCHITECT FROM MANUFACTURERS FULL RANGE OF AVAILABLE COLOR SELECTIONS.
  - DESIGN PRESSURES PROVIDED BY STRUCTURAL ENGINEER.
  - ALL EXTERIOR FENESTRATIONS SHALL HAVE A MAXIMUM U-FACTOR AND SHGC AS PER FLORIDA COMMERCIAL (AND RESIDENTIAL IF APPLICABLE) ENERGY CONSERVATION BUILDING CODE 2020 UNLESS OTHERWISE NOTED IN PERFORMANCE METHOD CALCULATIONS PROVIDED BY ENGINEER. THE THERMAL ENVELOPE OF THE BUILDING SHALL COMPLY WITH FLORIDA COMMERCIAL ENERGY CONSERVATION BUILDING CODE 2020 AND SECTION C402.5. AND TABLE C402.5.2. FOR AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. FOR RESIDENTIAL PROJECTS USE THE RESIDENTIAL SECTION OF THE CODE AND SECTION R402.4 AND TABLE 402.4.1.1 FOR MANDATORY AIR LEAKAGE REQUIREMENTS. CONTRACTOR TO ENSURE ALL EXTERIOR DOORS AND WINDOWS ARE SEALED TO COMPLY WITH AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. ALL EXTERIOR FENESTRATIONS SHALL BE GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED.
  - CONTRACTOR TO PROVIDE FULL SET OF SHOP DRAWINGS SPECIFIC TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO WINDOW, LOUVER AND STOREFRONT ELEVATIONS, SILL/JAMB/HEAD DETAILS, GLASS TYPE, NOA OR FLORIDA PRODUCT APPROVALS, FINISH SAMPLES, ETC.
  - PROVIDE APPROPRIATE WATER INFILTRATION RESISTANCE FOR ALL DOORS IF POSSIBLE. COORDINATE WITH OWNER ON ALL OPTIONS.

DOOR SCHEDULE

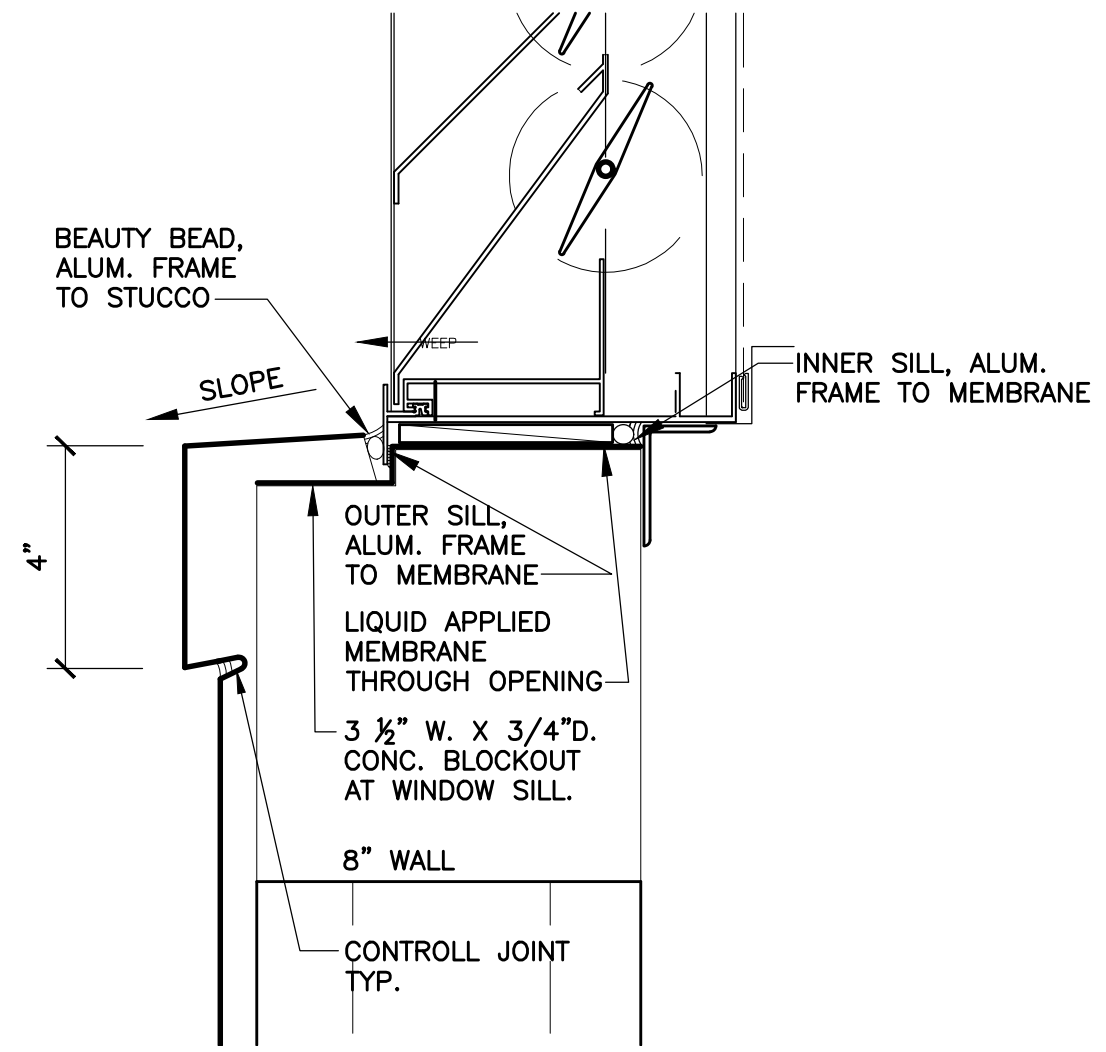
	NO.	LOCATION	SIZE (APPROX.)•			DOOR			FRAME		HARDWARE	LABEL	N.O.A. TEST LOAD	DESIGN PRESSURES		MANUFACTURER	REMARKS
			WIDTH	HEIGHT	THICK	MATERIAL	FINISH	TYPE	MATERIAL	FINISH				FIELD (ZONE 4)	CORNER (ZONE 5)		
	001	FIRE PUMP BLDG.	3'-0"	7'-0"	1 3/4"	GALV. METAL	PAINTED		GALV. METAL	PAINTED	ENTRY LOCK		#19-0327.05 +170/-170		49.2/-53.6	REPUBLIC DOORS & FRAMES, INC.	EXTERIOR IMPACT RESISTANT, SWINGING DOOR, WEATHER STRIPPING, WITH WATER INFILTRATION OPTIONS.

\*CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS AND COORDINATE WITH MANUFACTURED PRODUCTS AVAILABLE. CONTRACTOR RESPONSIBLE FOR FINAL MASONRY OPENING SIZES AND COORDINATION. CONTRACTOR TO INCORPORATE ANY REQUIRED MULLION STRUCTURAL SUPPORTS REQUIRED BY MANUFACTURER BETWEEN MULTIPLE OPENINGS.

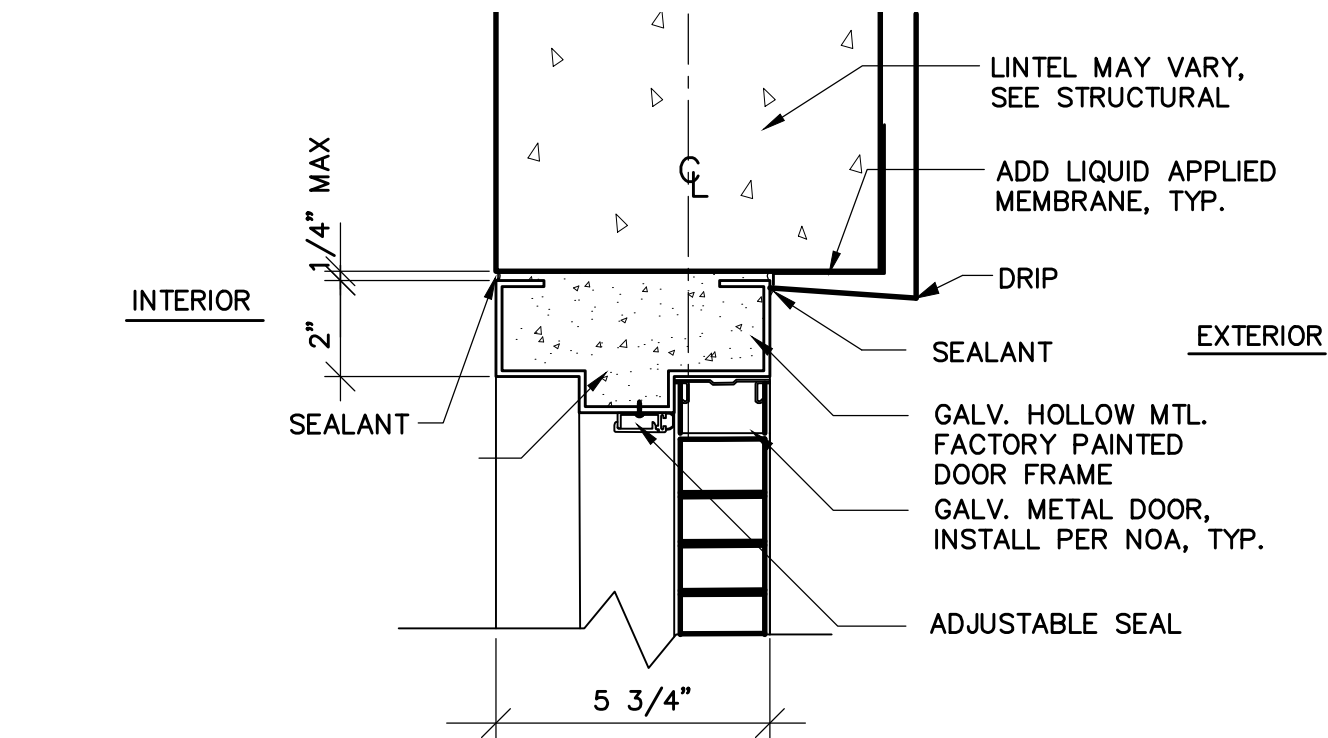
- ALL EXTERIOR OPENINGS OF THE BUILDING ENVELOPE SHALL BE PROVIDED WITH DOORS AND WINDOWS WHICH MEET ASCE/SEI 7-16, FLA. BUILDING CODE, 2020 EDITION.
- WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)
- ALL PRESSURES SHOWN ARE BASED UPON ASD DESIGN, WITH A LOAD FACTOR OF 0.6. 180 MPH, WIND LOAD AND IMPACT REQUIREMENTS, SEE SPECIFICATIONS.
- DOORS SHALL BE PREFINISHED TO BE SELECTED BY THE ARCHITECT AND OWNER FROM THE MANUFACTURERS FULL RANGE OF AVAILABLE COLOR SELECTIONS INCLUDING CLEAR ANODIZED ALUM. COLOR
- DESIGN PRESSURES PROVIDED BY STRUCTURAL ENGINEER.
- ALL FIRE RATED DOORS TO HAVE LABEL NOTING RATING.
- ALL EXTERIOR FENESTRATIONS SHALL HAVE A MAXIMUM U-FACTOR AND SHGC AS PER FLORIDA COMMERCIAL ENERGY CONSERVATION BUILDING CODE 2020 UNLESS OTHERWISE NOTATED IN PERFORMANCE METHOD CALCULATIONS PROVIDED BY ENGINEER.
- THE THERMAL ENVELOPE OF THE BUILDING SHALL COMPLY WITH FLORIDA COMMERCIAL ENERGY CONSERVATION BUILDING CODE 2020 AND SECTION C402.5. AND TABLE C402.5.2. FOR AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. CONTRACTOR TO ENSURE ALL EXTERIOR DOORS AND WINDOWS ARE SEALED TO COMPLY WITH AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. FOR RESIDENTIAL PROJECTS USE THE RESIDENTIAL SECTION OF THE CODE AND SECTION R402.4 AND TABLE 402.4.1.1 FOR MANDATORY AIR LEAKAGE REQUIREMENTS. ALL EXTERIOR FENESTRATIONS SHALL BE GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED.
- PROVIDE A FULL SET OF PROJECT SPECIFIC SHOP DRAWINGS MEETING DESIGN WIND LOADS FOR EACH OPENING AND INCLUDING ALL ELEVATIONS, JAMB/HEAD/THRESHOLD DETAILS AND ANY REQUIRED NOA'S OR FLORIDA PRODUCT APPROVALS.
- CONTRACTOR TO MEET ALL CODE AND N.O.A. (OR FL. PRODUCT APPROVAL) REQUIREMENTS.
- CONTRACTOR TO PROVIDE FULL SET OF SHOP DRAWINGS SPECIFIC TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO WINDOW, LOUVER AND STOREFRONT ELEVATIONS, SILL/JAMB/HEAD DETAILS, GLASS TYPE, NOA OR FLORIDA PRODUCT APPROVALS, FINISH SAMPLES, ETC.
- COORDINATE WITH OWNER ON DOOR HARDWARE AND LOCK.



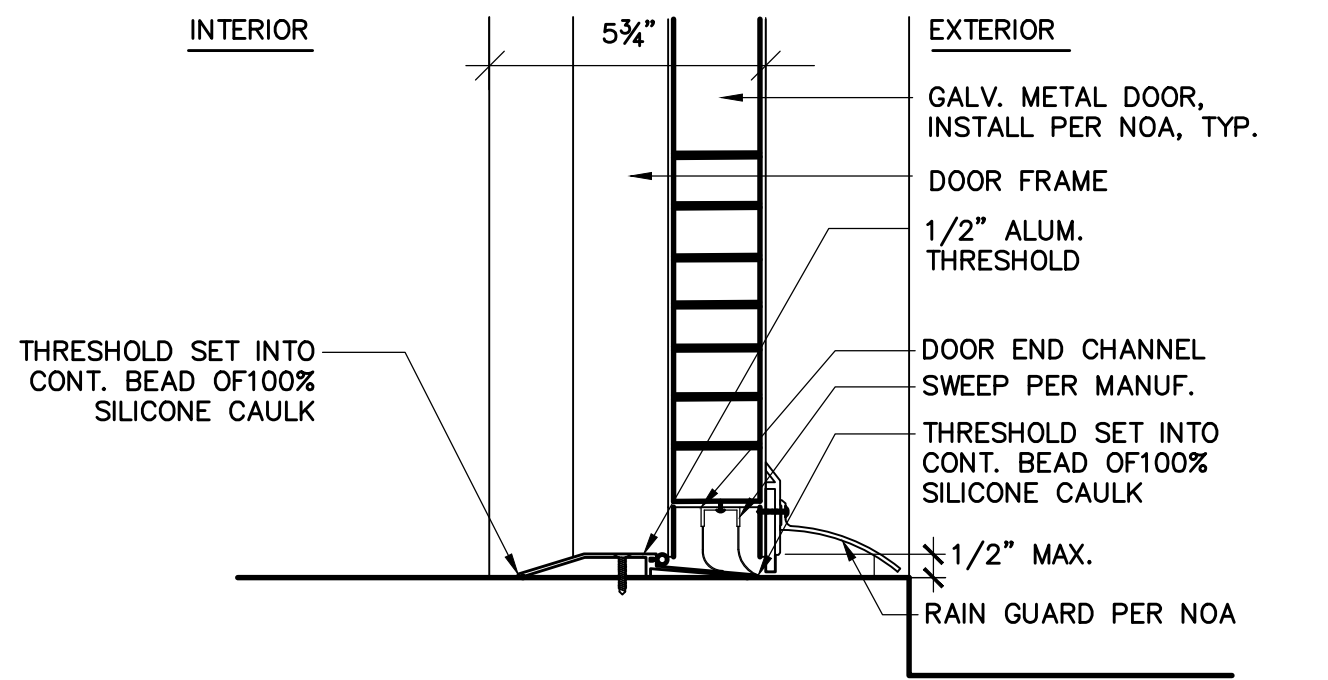
1 LOUVER HEAD  
A-4 JAMB SIMILAR 3"=1'-0"



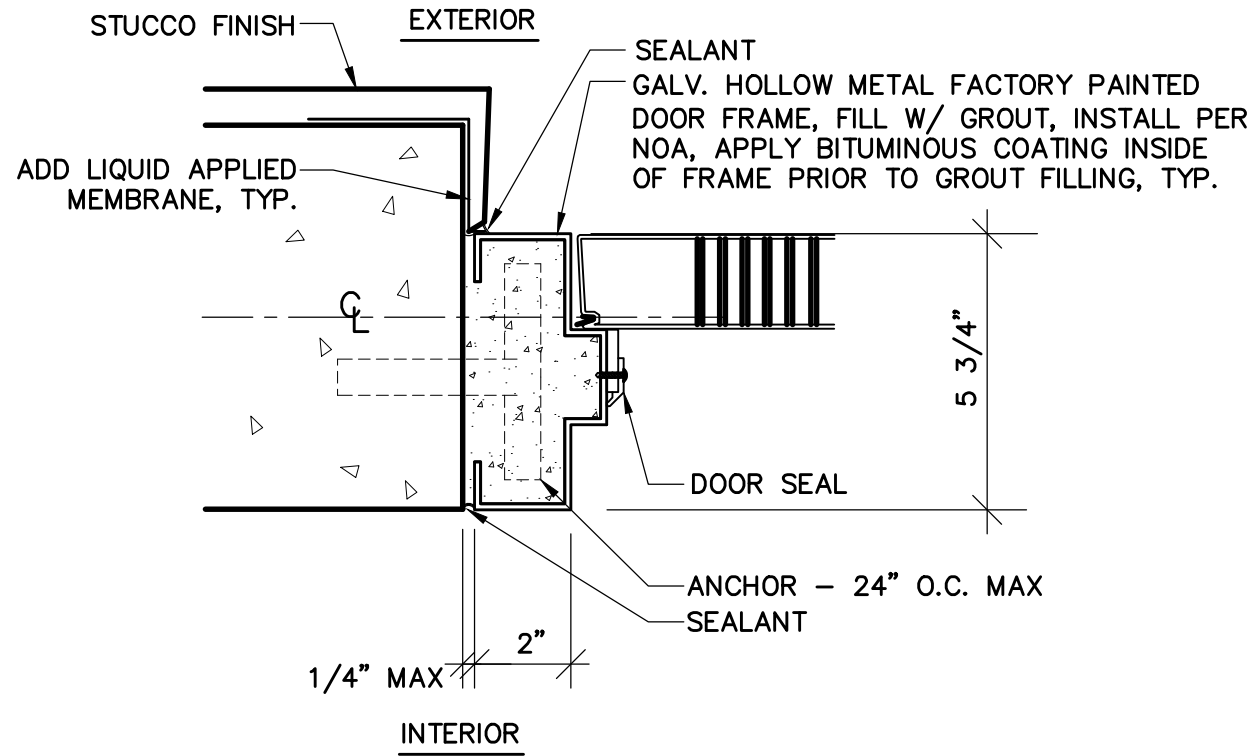
2 LOUVER SILL  
A-4 3"=1'-0"



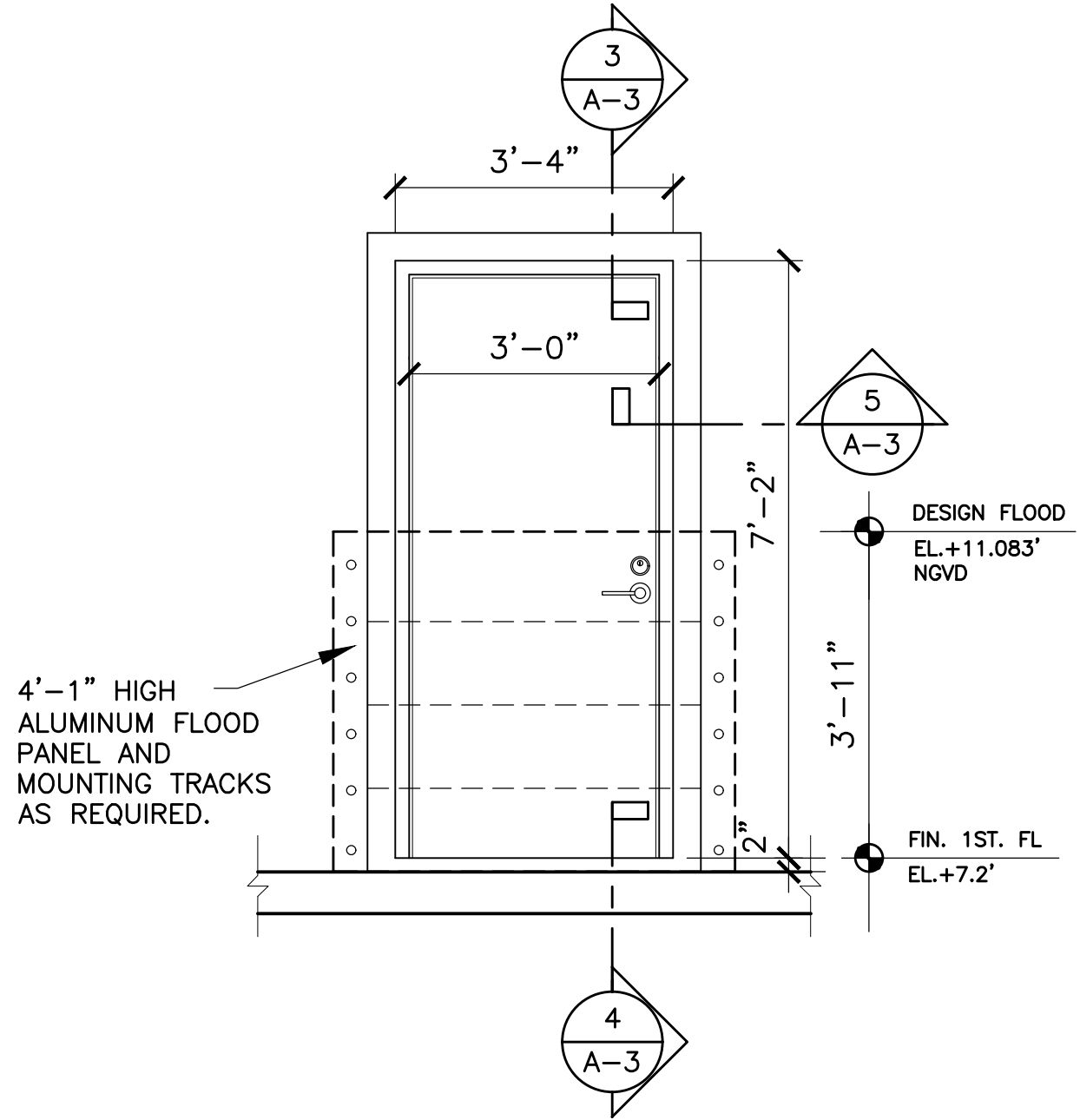
3 HEAD DETAIL  
A-4 EXT. DOOR FRAME-METAL 3"=1'-0"



4 THRESHOLD DETAIL  
A-4 OUT-SWING ENTRY 3'=1'-0"



5 JAMB DETAIL  
A-4 OUT-SWING ENTRY 3"=1'-0"



6 DOOR WITH FLOOD PANEL ELEVATION  
A-4 SCALE: 1/2"= 1'-0"

CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS OF FLOOD PANEL TO BE REVIEWED BY ARCHITECT AND APPROVED BY BUILDING DEPARTMENT. COORDINATE WITH EXISTING CONDITIONS AND DOOR HARDWARE AS REQUIRED. PROVIDE STORAGE RACK INSIDE BUILDING IN LOCATION SHOWN ON PLAN.

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201 WILLIAM STREET  
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SEAL

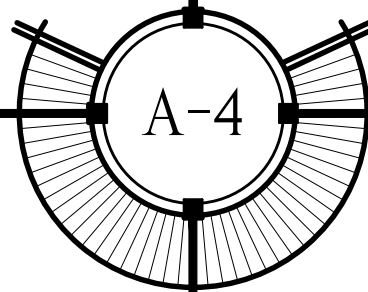
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REVISIONS

DRAWN BY  
JW  
EMA

PROJECT  
NUMBER  
2012



**GENERAL REQUIREMENTS**

**Project Description** The Contractor shall furnish all labor and materials required and necessary to provide a complete habitable, weatherproof, safe and secure finish building, suitable for human occupancy in accordance with Specifications, Drawing and Project Documents.

**The General Condition** of the Contract, AIA Document A201, latest edition, are hereby made a part of these Construction Documents and shall apply to this Project.

**The Florida Building Code 2020 Edition**, as amended by Governing Local Ordinances and requirements of the State of Florida "Coastal Zone Protection Act", together with applicable requirements of governing public agencies and the following listed codes shall apply to this project.

**Florida Existing Building Code, 2020 Edition**

**Florida Building Code-Accessibility, 2020 Edition**

**Florida Building Code-Energy Conservation, 2020 Edition**

**National Electric Code 2017 Edition**

**Florida Plumbing Code, 2020 Edition**

**Florida Mechanical Code, 2020 Edition**

**Florida Fuel Gas Code, 2020 Edition**

**FEMA**: Coordinate all building items required to be above flood elevation for project and other FEMA regulations that apply to the project.

**Contractor** shall visit the site to become familiar with existing conditions and requirements of construction prior to bidding.

**Contractor** shall complete new work in conformance with these drawings. Notify Architect if conflicts appear or are uncovered during the progress of the work prior to any field modifications or construction. Deviations from permitted drawings without Architects prior written approval shall be at the Contractors responsibility. Contractor is to verify all dimensions of project prior to proceeding with construction. Notify architect of any conflicts or problems so solutions can be achieved prior to construction. In event of conflict between drawings and specifications the most stringent requirements shall apply. Verification shall include, but not limited to, coordination of site work, existing conditions, buildings and utilities. Verify that building's architectural plan and foundation plan dimensions and elevations work on the actual site prior to starting any construction. Notify architect of any conflicts so solution can be worked out prior to construction. Contractor shall provide all subcontractors complete set of drawings, including drawings from other disciplines. Change orders will not be allowed because a subcontractor only looked at drawings for his discipline and not other disciplines. Contractor must review all drawings and notify Architect of any conflicts. If a conflict arises assume worst case scenario for bidding and or Construction (or notify Architect for clarification prior to bidding). General Contractor is responsible for reviewing the complete set of drawings and specifications and assuring that his and his subcontractors bids include complete work and systems (free of conflict with other contractors and subcontractors).

**Contractor** and subcontractor shall follow industry standards for each discipline. Drawings do not show every condition, fastener, etc. . If something is not detailed, follow industry standards. Provide complete functioning systems.

**Contractor** shall get a Florida licensed Surveyor to measure the first habitable floor and provide an elevation certificate showing that the floor elevation meets required FEMA flood requirements, meets the Florida Building Code requirements and meets the construction document elevation requirements. The elevation certificate shall be provided prior to proceeding with any work above the floor being measured.

**Contractor** needs to coordinate final color selections with owner and architect prior to ordering items. Factory finished items such as roofing, windows and doors need color and finish selections verified in writing by owner and architect prior to ordering.

Allowance items, if any shall be listed in writing by the Owner/Architect prior to bidding.

**General Notes:**

- Engineer's approval must be secured for all structural substitutions.
- Verify all openings through floors, roof and walls with mechanical and electrical contractors. Verification of locations, sizes, lintel and required connections are contractor's complete responsibility.
- The MEP plans and drawings are diagrammatic of the work to be performed and may not show every item and/or detail. Some components may be shown outside the work area for clarity. The work shall be executed in a manner to avoid conflicts with other trades and other elements of construction. All deviations from the plans shall be approved by the owner and/or owner's representative before being installed. The contractor shall not willfully install any aspect of the mechanical, electrical, or plumbing systems as shown on the plans and drawings when it is obvious in the field that obstructions or discrepancies exist that might not have been known during the design of the systems, in the event that notification of the conflict is not approved by the owner's representative, the contractor will assume full responsibility for all revisions.
- Prior to installation of mechanical and electrical equipment or other items to be attached to the structure, engineer's approval of connections and supports shall be obtained. Unless specifically detailed on architectural and structural drawings, respective sub-contractor shall furnish all hangers, connections, etc., required for installation of his items.
- Provide all embedded items in structure as noted on architectural, mechanical, electrical as well as structural drawings. Miscellaneous embedded items and anchor bolts shall be furnished by steel supplier and installed by concrete contractor.
- Contractor to verify all dimensions before proceeding with any new work, including layout of the entire project on site for verification of setbacks, elevations and location of existing trees.
- Provide temporary bracing and precautions necessary to withstand all construction and/or wind loads until all field connections are completed and shear walls and decks are in place. All shoring is the responsibility of the contractor including use of a specialty engineer if required.
- Submit shop and erection drawings for all items required by the drawing or elsewhere in the specifications for written approval. The manufacture or fabrication of any items prior to written approval of shop drawings will be entirely at the risk of the contractor. All references to standards to be of the latest issue applicable.
- This project is in a coastal salt water environment. Contractor shall consider this in selections of materials used in the exterior and non-air conditioned areas. All materials shall be salt resistant.
- Manufactured assemblies; such as roofing, soffits, panels, storefront, doors, windows and other external assemblies incorporated into the project shall require detailed shop drawing submittals. Miami Dade N.O.A's or Florida product approvals providing tested assembly installation details and windload compliance are required. Manufacturers recommendations and requirements (including warranty requirements) shall be incorporated along with the latest industry standards and best practices. All final color selections or finishes shall be coordinated and verified with the owner and architect prior to ordering (typical).
- Waterproofing, vapor barriers, waterstop, air seals, etc., shall be as indicated in the Specifications and as per manufacturer and industry standards.
- Contractor to provide all required fire blocking as required by Code.
- Unless otherwise noted, provide framing @ 24" o.c. for roofing and 16" o.c. for walls and floors.
- Contractor to take all precautions to prevent mold from growing in or on the building. Do not use materials that have mold on them for construction, close up building each night to keep water out and take all other possible efforts to prevent mold from growing.
- All stairs to be a minimum of 44" wide (handrails are allowed to intrude), except single family stairs which can be 36" wide. Provide 42" high minimum guardrails (single family can be 36"), maintain 6'-8" clear height for stairs and all other areas.
- All penetrations of fire rated construction shall be treated with dampers, seals, collars, etc., see section 09260 and 15100.
- When working within occupied or partially occupied buildings it is the contractors responsibility to provide safe access and to maintain in operation all features of existing life safety systems including alarms, detectors, lighting and exit ways throughout the course of construction.
- If in the event of conflicting, or overlapping requirements in any area of the proposed documents, technical specifications, or drawings, the most stringent condition shall be proposed and constructed.

**DIVISION 2 - SITE AND CIVIL WORK (ALSO SEE CIVIL DRAWINGS)**  
**02110 and 02200 - Clearing/Grading/Compacting & Fill Placement**: Remove existing topsoil and organic material within building areas. Exposed near-surface soils shall be compacted to densities equivalent to 95% Proctor density (ASTM D1557). The upper one foot of soil beneath slabs shall be compacted to 98% Proctor density. Fill shall be a relatively clean sand or crushed limerock (max. particle size of 3 in.). Grade as required (as shown on plan or to drain away from buildings).

**02150 - Tree removal (if required)**  
A. Trees indicated on the drawings for removal shall be cut, stump and root system shall be removed.

- Resulting holes shall be filled and leveled with appropriate soil.
- All debris shall be removed from the site and disposed of in a proper manner.
- Care shall be taken to avoid any damage to adjacent trees and plant material.
- Provide construction barricades for protection of trees within 10'-0" of building lines.

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**02200 - Demolition** shall include the removal of all items as indicated on the drawings, as well as incidental items necessary for new work to progress. All work shall be done in a workman like manner with minimal disturbance to existing to remain; see structural specifications for temporary shoring and bracing. All unwanted material to be removed from the site and properly disposed of. Unless noted otherwise, patch all areas to remain to match existing in areas damaged by demolition.

- 02350 - Foundations**
  - Auger pile diameters and embedment into rock are shown on foundation plans. No such pile should be less than 16" in diameter and embed less than 3'-0" into rock, unless approved by the engineer in writing.
  - All footings are to be placed on compacted soil. Soil is to be compacted to 95% standard proctor density. Remove existing soil 12" below and for the width of the footing on each side and recompact.

- Center all footings under walls, columns or grid lines, unless otherwise noted on plans.

- Notify engineer when excavations are complete so that conditions may be inspected prior to placement of any fill or concrete.

**02361 - Termite Control**: Provide soil treatment for termite control at slabs on grade including foundations and slab penetrations, if any. Formulate and apply termiticides, and label with a federal registration number, to comply with EPA regulations and authorities having jurisdiction. Use only soil treatment solutions not harmful to plants. Apply at label volume and rate per EPA- registered label with application by a licensed pest control operator. Provide a soil treatment application report for owners record and use.

**02500 - Walks** - walkways shall be light brown finished concrete unless noted. Min. 4" thickness w/ 6x6 WWF 10/10. Prepared base ± 6" crushed limestone compacted to 95% proctor.

**02855 - Underground Utilities** - Contractor shall include in his work all underground (and above) utility work for all systems to make a complete system from buildings to street hook-ups as required to complete the job.

**02900 - Landscaping and Top Soil**:

- All plant material is to be Florida No. 1 or better. Florida Department of Agriculture grades and standards, Parts 1 & II 1973, 1975 respectively.
- All planting beds to be topped with 2" min. Eucalyptus mulch "Grade A", unless otherwise noted.
- All trees to be staked in a good workmanlike manner. No nail staking permitted. (Refer to planting details).
- Landscape plan shall be installed in compliance with all local codes.
- All tree holes to be back filled around and under root ball with planting soil. All shrub beds to be installed with planting soil. (See specs.)
- All trees, shrubs and groundcovers shall be guaranteed for one year.
- All planting beds shall be weed and grass free.
- All trees, palms, shrubs and groundcover plants shall be fertilized at installation, with long lasting fertilizer, according to manufacturer's recommendations. (Submit sample for approval). (See specs.)
- Planting Plan shall take precedence over plant list in case of discrepancies.
- Landscape contractor shall locate and verify all underground utilities prior to digging.
- No change shall be made without the prior consent of the Landscape Architect.
- All material is subject to availability at time of installation. Substitutions may be made after consultation with Landscape Architect.
- All newly planted areas to receive 100% coverage by automatic irrigation system.
- All planting beds to receive new planting soil (1/3 everglades peat, 1/3 sand, 1/3 cypress sawdust & chips) minimum 6" deep. (Refer to planting details).
- Contractor will visit site to familiarize himself with the scope of work prior to submitting a bid.
- Landscape contractor to coordinate his work with the general contractor, the irrigation contractor, and the electrical contractor.
- All existing plant material to remain shall be protected. (Refer to demolition plan).
- All trees to be relocated will get root pruned 30 days min. (or more if required by the species). Upon relocation, thin out (under landscape architect's direction) 30% of the, to be relocated canopy.
- After removal or relocation of existing trees and palms, backfill tree pit with planting soil and sod disturbed area, as required.
- All trees on sod areas shall receive a mulch ring 2' in diameter typical.
- All trees shall have a 2" caliper at D.B.H. minimum of 10' height tree.
- All 1 gallon material to have 12" spread minimum, all 3 gallon material to have 20-24" spread minimum.

**02901 - Irrigation**: design and install a fully automatic drip, micromist or subsurface irrigation system with 100% coverage of all landscape areas and with plants and trees on separate zones. The system will be installed and adjusted to uniform distribution and with minimal overspray. All necessary timers, backflow and rainswitch fixtures will be included to meet building and water management codes. All work will be performed by a licensed contractor and an ("as-built") drawing will be submitted prior to final payment.

**DIVISION 3 - CONCRETE (SEE STRUCTURAL DRAWINGS)**

**DIVISION 4 - MASONRY (NOT USED)**

**DIVISION 5 - METALS (SEE STRUCTURAL DRAWINGS)**

**DIVISION 6 - WOOD AND PLASTICS (SEE STRUCTURAL DRAWINGS)**

**DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

**07210 - Insulation** - Provide insulation as shown on drawings and as follows:

- Un-Faced mineral fiber blanket/batt insulation**: provide thermal insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for type III; class A (blankets with membrane facing flame spread of 25 or less ), and as follows:
  - Mineral fiber type: fibers manufactured from glass.
  - Surface burning characteristics: max. flame spread and smoke developed values of 25 and 50, respectively.

**07310 - Roofing General Requirements**: All roofing shall have a solar reflectance index (SRI) equal to or greater than the values listed below for a minimum of 75% of roof surface.

LOW SLOPED ROOF - equal to or less than 2:12 = 82

STEEP SLOPED ROOF - greater than 2:12 = 29

**07311 - Roofing Underlayment**: At all sloped roofing installations, provide a high temperature, self adhesive, membrane underlayment such as Grace Ultra' as manufactured by Grace Construction Products, or equal. The underlayment is intended to function as secondary roof membrane over the decking. As such the membrane shall be continuous over all portions of the roof, with seams lapped a minimum of 3" and all penetrations for plumbing vents or other, sealed to the membrane. The membrane shall be self sealing for small penetrations such as roofing assembly fasteners to the deck (nails or screws).

The underlayment membrane shall be provided for all sloped roofing assemblies including: V crimp, standing seam, shingles and ceramic tile, unless specifically noted, not to be installed. The contractor shall verify compatibility of roofing materials and anchorage devices with the membrane and coordinate with roofing manufacturers requirements. Note that standing seam aluminum roofing assemblies require an additional layer of 30# felt between the membrane and roof material.

**07315 - Roofing Shop Drawings**: All roofing assemblies require shop drawing submittals. The submittal shall include all components of the assembly including base sheets (if any), insulation if integral to the assembly, cover board, membranes and attachment, including edge conditions. The submittal shall include N.O.A. test data for the entire assembly, as a unit, or for each component used, including anchorage/ attachment to its supporting substrate on down to the structural deck. Documentation that the project specific roofing assembly meets design wind loading is required.

This can be accomplished by submittal of N.O.A. test data or by signed and sealed certification by a Florida Registered Engineer. Provide manufacturer's requirements and installation instructions for review.

**07460 Fiber Cementitious Siding** all exterior siding to be smooth finished 3/8" thick fiber cementitious lap siding with 5" exposed lap - "Hardiplank lap siding" as manufactured by James Hardie Building Products or equal. All siding shall be fastened according to the manufacturers recommendations in accordance with 180 MPH- Exposure C, ASCE-7. All siding and fasteners shall be for use in a coastal salt water environment and shall be installed over a membrane air and moisture barrier.

**07817 - Standing Seam Metal Roofing**: Contractor to provide a complete roofing system, including all metal roofing, accessories, concealed fasteners, flashing, preformed ridge and hip rolls, etc. Contractor to provide as long a length as possible to avoid seams. Provide shop drawings of system for approval. System to be similar or equal to RIFFE VERSALOC 1.5 steel panels, w/ 180 degree seam fold. Roofing material to be 24 ga. galvalume stock. "Galvalume" Kynar finish to carry a 20 year warranty. Use concealed fasteners meeting or exceeding code requirements with material to be compatible with galvalume roofing. Any rational analysis computations of fastener spacing for increased loading shall be prepared by a qualified licensed engineer registered in the State of Florida and in compliance with F.B.C. 2020. Installer to have a minimum of 2 years experience with system. All workmanship shall conform to standards set forth in the Architectural sheet metal manual as published by S.M.A.C.N.A. This roof system will meet project wind load requirements (180 MPH min.). Provide Florida registered Engineers seal on shop drawings providing proof of system and all components meeting this wind load requirements. Use Grace Ultra underlayment (high temperature) self-adhered underlayment (Grace Construction Products) or equal in lieu of felt. Coordinate that underlayment and metal roofing are compatible.

**07818 - Aluminum Standing Seam Roofing**: Contractor to provide a complete roofing assembly including all components, accessories, concealed fasteners, flashing, preform ridge and hip rolls, etc. required for a complete water tight installation. Assembly to be similar or equal to 0.40' alum, series 1300 as manufactured by Englist Inc. Provide roofing lengths as long as possible to avoid seams, full Kynar finish and manufacturers max. available warranties. Assembly shall include manufacturers recommended installation details including 30# felt and high temperature self adhesive underlayment (over deck). Provide shop drawings including product N.O.A.'s with details of installation and verification of compliance with project windloads. All workmanship shall conform to industry standards and practices including those set forth in the architectural Sheet Metal Manual as published by S.M.A.C.N.A. All fasteners shall be per manufacturers recommendations and shall be compatible with contact materials and substrates, including pressure treated wood. Protect dissimilar metals by use of tapes, membranes or gaskets approved for the use.

**07820 - Flashing and sheet metal**:

- This section to include; galv. metal flashing and base flashing, stops, built-in metal valleys, gutters, scuppers and miscellaneous sheet metal accessories.
- Material shall be zinc - coated steel, commercial quality ASTM A526 G90 hot-dip galvanized, 24 gage, except as noted otherwise. Coordinate finish with roofing finish (example: If roofing has galvalume finish use same finish on flashing).
- Shapes shall match existing profiles of flashing and stops. Scuppers shall be fabricated in accordance with the details provide.
- Shop-fabricate work to the extent possible. Comply with details shown and applicable requirements of SMACNA "Architectural sheet metal manual" and material manufacturer recommendations.

**07920 - Sealants**

- Siliconized Acrylic Caulk - 25 years, paintable, non-staining, mildew resistant. For interior and exterior use, wood and masonry, as a filler for cracks voids and holes in preparation for paint or other finish. - See existing wood preparation.
- Polyseamseal all purpose adhesive caulk, paintable, non-staining, mildew resistant. For interior and exterior use as a filler and joint seal at tile, tub and counters.
- Silicone Rubber Sealant - FSTT-S-001543, class A, one part non-sag low modulus silicone rubber sealant. For interior and exterior use in working joints where some movement is anticipated, wood, masonry, metal and glass. Provide backer rod depth control in all joints in excess of 1/4"
- All interior architectural caulks and sealants to have a VOC limit of 250 g/L.

**DIVISION 8 - DOOR AND WINDOWS**

Doors and windows shall be provided with storm protection and wind pressures required by code, either by design of ea individual unit to withstand rag, loading or by mechanical external device. Contractor to coord with owner/architect prior to bidding. Unless otherwise noted, place windows and doors flushed to the inside face of the wall and add required trim and sill to outside of wall.

**08101 - All doors** in fire rated walls to be fire rated (3/4 hour for a 1-hour rated wall, 1 ½ hour for a 2-hour wall) and have door closures.

**08110 - Standard steel doors and frames**:

- Doors: seamless composite construction standard steel doors for interior and exterior locations (galvanized G90). Doors to be provided in the types and styles indicated, and in accordance with ANSISDI-100, GRADE III, extra heavy duty, minimum 16 gauge galvanized steel faces. Comply with the applicable requirements of ANSI A115 Series specifications for door and frame, preparation for hardware.
- Frames to be minimum 16 gage at interior locations and 14 gage at exterior locations, galvanized steel with mitered; welded construction, and concealed anchors to suite wall construction.
- Doors and frames shall be factory primed for field painting.
- Shop drawing submittal showing fabrication, installation, anchorage and Label Construction Certification of fire-rated assemblies, is required for approval prior to any fabrication or delivery of material.

**08710 - Hardware**: Furnish and install complete hardware for each condition as manufactured by Schlage; Yale or approved equal. ANSI grade 1 or better for heavy commercial use. Finish and style to be selected. All exterior installations to be salt resistant and suitable for use in a coastal salt water environment.

**DIVISION 9 - FINISHES**

**09220 - Stucco** - Comply with ASTM C 926 for Portland cement base and finish coat mixes using Portland cement - ASTM C 150, masonry cement, lime - ASTM C 206, and sand ASTM C 897. Provide min. of three coat system w/scratch coat, brown coat, and finish coat. Finish coat shall consist of 1 part Portland cement, 1-1/2 to 2 parts lime, 3 parts sand. Additional base layers may be applied to achieve desired thickness over expanded metal galvanized lath. Provide control joints @ max. 12' to 16' vertically and horizontally, corners of wall penetrations (coordinate with architect), and at all substrate exp. joints or change of materials. Provide accessories of high impact poly vinyl chloride, to include stops casing beads, one and two piece control joints (two piece where movement is required) and corner bead. Expanded metal galvanized lath over a membrane air, moisture barrier shall be provided over all non masonry substrates. Stucco finish shall go on all concrete or masonry exterior surfaces unless otherwise noted to be skim coat stucco or just painted.

**09900 - Painting** - This section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

- Paint exposed surfaces whether or not colors are designated in "schedules", except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the architect will select from standard colors or finishes available.
- Painting includes field painting exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.
- Painting is not required on prefinished items, finished metal surfaces, concealed surfaces, operating parts, and labels.
- Labels: do not paint over Underwriter's Laboratories. Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

- Submit Data: Manufacturer's technical information, label analysis, and application instructions for each material proposed for use.
- List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.
- Samples for initial color selection in the form of manufacturer's color charts. The exterior will have four colors minimum, one being special order color. The interior will have three colors minimum, one being a special order color.
- Provide samples of each color and materials to be applied, with texture to simulate actual conditions, or representative samples of actual substrate. Define each separate coat, including block fillers and primers. Use representative colors when preparing samples for review. Resubmit until required sheen, color, and texture are achieved.
- Provide a list of material and application for each coat of each sample. Label each sample as to location and application.
- Paints and coating used on the interior of the building (i.e., inside of the weather proofing system and applied on - site ) shall comply with the following criteria:

- Architectural paints, coating and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in the Green Seal Standard GS-11, Paints, First Edition, May 20, 1993. Primers must meet the VOC limit for non-flat paint. Flats: 50 g/L. Non-Flats: 100 g/L
- Anti-corrosive and anti-rust paints applied to interior ferrous substrates: Do not exceed the VOC content limit of 250 g/L established in Green Seal Standard GS-03, Anti-corrosive Paints, Second Edition, January 7, 1997.
- Clear wood finishes, floor coatings, stains, primers, and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.

Provide paint as shown with all materials by Benjamin Moore or equal. Colors and finish shall be selected by owner.

**Exterior Fiber cementitious siding and trim**:  
Primer:.....Pre-primed  
Finish:.....Mooregard 100% Acrylic Low Lustre House Paint #N103 or Moortife 100% Acrylic Flat House Paint #N105 VOC = 50 g/L (2 coats )

**Exterior stucco or Masonry**: ( to be painted)

Primer:.....Super Spec Masonry Interior/Exterior 100% Acrylic Masonry Sealer #N068 VOC = 81 g/L. Use Moore's High Build Acrylic Masonry Primer #W068 VOC= 97 g/L, for very porous conditions.  
Finish:.....( 2 coats ) Regal select Flat Finish #N400 or Regal select Soft Gloss Finish #N402 VOC = 50 g/L.

**Galvanized metal and Aluminum (Non Ferrous Metal)**

Clean surfaces with Super Spec HP oil and grease emulsifier (P83) to remove contaminants  
Primer:.....One coat Super Spec HP D.T.M. Acrylic Semi-Gloss #WP29 VOC = 45 g/L  
Finish:.....One coat Super Spec HP D.T.M. Acrylic Semi-Gloss #WP29 VOC = 45 g/L

**Structural Steel and Iron**: ( Ferrous Metal)

Primer and Finish:..2 Coats Super Spec HP D.T.M. Acrylic Semi-Gloss #WP29, VOC = 45 g/L

**Powder Coat Paint Finish System**: ( Applied in Shop )

- Electrostatically applied colored polyester powder coating heat cured to chemically bond finish to metal substrate.
- Minimum hardness measured in accordance with ASTM D3363: 2H.
- Direct impact resistance tested in accordance with ASTM D2794. Withstand 160 inch-pounds.
- Salt spray resistance tested in accordance with ASTM B117: No undercutting, rusting, or blistering after 500 hours in 5 percent salt spray at 95 degrees F and 95 percent relative humidity and after 1000 hours less than [3/16 inch] [5 mm] undercutting.
- Weatherability tested in accordance with ASTM D822: No film failure and 88 percent gloss retention after 1 year exposure in South Florida with test panels tilted at 45 degrees.
- Firm with manufacturing and delivery capacity required for the project, shall have successfully completed at least ten projects within the past five years, utilizing finish systems, and techniques as herein specified.
- Supplier must own and operate its own Painting and Finishing facility to assure single source responsibility and quality control.
- All materials shall be protected during finishing, shipment, site storage and erection to prevent damage to the finished work from other trades. Store materials inside a well-ventilated area, away from uncured concrete and masonry, and protected from the weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
- Clean all surfaces following installation. If necessary use only a mild soap or detergent solution such as TSP-90 or Ivory with a soft cloth to remove dirt and hand prints. Black handling marks can be removed using a mixture of isopropyl alcohol and an abrasive cleanser like Comet. Replace units having scratches, abrasions, or other defects, with unblemished materials.

**DIVISION 10 - SPECIALTIES**

**10200 -Aluminum louvers**: provide aluminum stormproof and impact resistant louvers with powder coat factory finish as shown on elevation drawing. Louver to be horizontal drainable stormproof fixed blade louvers with extruded aluminum frames and stormproof blades. Extruded aluminum to conform to ASTM B 22, Alloy 6063-45 or t-52, fasten louver with non corrosive compatible materials. Provide N.O.A. of Systems.

**10522 - Fire extinguishers**:Provide fire extinguisher and cabinet or wall mounting bracket, as manufactured by Larsen's Manufacturing Co. or equal, for each location and mounting condition indicated on the drawings.

- Extinguisher to be multipurpose dry chemical type: UL rated 4-A: 60-BC, 10-LB. nominal capacity, in enameled steel container.

**DIVISION 11 - EQUIPMENT (NOT USED)**

**DIVISION 12, 13 & 14 - NOT USED**

**DIVISION 15 - MECHANICAL (SEE PLUMBING AND MECHANICAL DRAWINGS)**

**DIVISION 16 - ELECTRICAL (SEE ELECTRICAL DRAWINGS)**

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KEY WEST  
HISTORIC  
SEAPORT-  
MARGARET STREET  
FIRE PUMP BLDG.

201 WILLIAM STREET  
KEY WEST, FL 33040

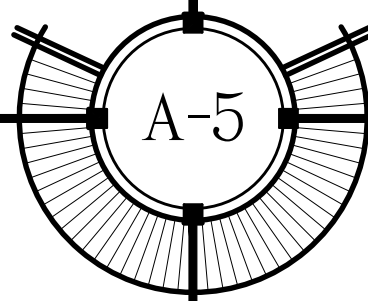
SEAL

THESE DRAWINGS MAY  
NOT BE REPRODUCED  
WITHOUT WRITTEN  
AUTHORIZATION BY  
WILLIAM P. HORN

DATE  
09-22-2020 HARC SUBMITTA  
11-01-2020 ARCH. SET  
12-14-2020 LANDSCAPE PLAN  
12-23-2020 100% CD SUBMISSI  
02-14-2022 BID SET

REVISIONS

DRAWN BY  
JW  
EMA  
PROJECT  
NUMBER  
2012



KEY WEST HISTORIC SEAPORT  
MARGARET STREET - FIRE PUMP BUILDING  
KEY WEST, FLORIDA

GENERAL REQUIREMENTS:

1. PRIOR TO STARTING ANY WORK THE CONTRACTOR SHALL REVIEW THESE PLANS AND SITE CONDITIONS AND NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
2. THE ENGINEER IS NOT RESPONSIBLE FOR THE SUPERVISION OF THE CONTRACTOR NOR HIS EMPLOYEES DURING THE CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MEANS AND ESTABLISH METHODS OF THE CONSTRUCTION TO MEET REQUIREMENTS OF ALL APPLICABLE CODES, INDUSTRY STANDARDS AND REQUIREMENTS OF THESE PLANS.
3. QUALITY OF THE WORK SHALL MEET OR EXCEED INDUSTRY STANDARD PRACTICES.
4. ANY DEVIATIONS FROM THESE PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.

DESIGN DATA:

1. APPLICABLE BUILDING CODE: FBC BUILDING 7TH EDITION (2020)
2. APPLICABLE DESIGN LOADS: PER ASCE/SEI 7-10
  - FLOOR LIVE LOAD: 200 PSF
  - ROOF LIVE LOAD: 20 PSF (300 LB CONC.)
  - BASIC WIND SPEED: 200 MPH
  - EXPOSURE: D
  - STRUCTURAL CATEGORY: IV
  - FLOOD ZONE: AE9

ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN, WITH A LOAD FACTOR OF 0.6

3. ASCE 24-14 FLOOD RESISTANT DESIGN AND CONSTRUCTION

SOILS AND FOUNDATIONS:

PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATION MATERIALS ARE USED IN LIEU OF A COMPLETE GEOTECHNICAL EXPLORATION. FOUNDATIONS SHALL BE PLACED ON A "SEDIMENTARY AND FOLIATED ROCK" WITH AN ALLOWABLE LOAD BEARING PRESSURE OF 3,000 PSF. NOTIFY THE ENGINEER IF SOIL CONDITIONS ARE DIFFERENT.

1. ALL FOUNDATIONS, SLABS AND FOOTERS SHALL BE PLACED ON STABILIZED UNDISTURBED SUBGRADE SOIL.
2. MINIMUM FOUNDATION DEPTH SHALL BE 24" UNLESS OTHERWISE IS SPECIFIED ON THE PLANS. IF OVER-EXCAVATED - FILL SHALL NOT BE PLACED BACK INTO THE TRENCH UNLESS APPROVED BY THE ENGINEER.
3. FILL UNDER THE FOUNDATIONS SHALL BE USED ONLY IF APPROVED BY THE ENGINEER. CLEAN FILL MATERIAL SHALL BE PLACED IN 6"-8" LAYERS AND COMPACTED TO 98% DENSITY USING THE MODIFIED PROCTOR TEST.
4. FILL MATERIAL SHALL BE CLEAN GRANULAR SAND OR LIMEROCK MIX WITHOUT ANY ORGANIC MATERIALS, CLAY, MUCK AND ROCKS LARGER THAN 4". BACKFILL SHALL NOT CONTAIN ANY WOOD OR CELLULOSE DEBRIS.

AUGERCAST PILES

1. AUGERCAST PILES SHALL BE 16" DIAMETER WITH MINIMUM EMBEDMENT OF 3FT INTO THE CAP ROCK UNLESS OTHERWISE SHOWN ON THE PLANS.
2. CONCRETE FOR PILES SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 5000 PSI. WATER/CEMENT RATIO SHALL NOT EXCEED W/C=0.40.
3. REINFORCEMENT SHALL BE FOUR (4) #6 REBAR VERTICALLY WITH #3 STIRRUPS AT 10" O.C. CONTRACTOR SHALL USE PLASTIC CHAIRS OR CENTRALIZERS TO PROVIDE A 3" COVER ON ALL SIDES OF THE REINFORCEMENT.

CONCRETE:

1. APPLICABLE CODE ACI 318 LATEST EDITION AND ACI 301.
2. ALL CONCRETE ELEMENTS SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 5000 PSI UNLESS OTHERWISE IS SHOWN ON THE PLANS. WATER/CEMENT RATIO SHALL NOT EXCEED W/C=0.40.
3. ALL CAST-IN-PLACE CONCRETE SHALL BE CURED AND PROTECTED FROM OVERDRYING PER ACI 305R-10 "HOT WEATHER CONCRETING".
4. ALL EXPOSED EDGES SHALL HAVE 1/2" CHAMFERS.
5. NO COLD JOINTS ARE ALLOWED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. TESTING: ALL FIELD AND LABORATORY TESTING SHALL BE PERFORMED BY AN INDEPENDENT SPECIALIZED COMPANY.

THE CONTRACTOR IS RESPONSIBLE FOR ALL SCHEDULING, COORDINATION AND COST OF THE TESTING COMPANY.

THREE (3) SAMPLES SHALL BE TAKEN AND TESTED EACH TIME.

MINIMUM SAMPLING FREQUENCY:

- A) EACH DAY OF CONCRETING FOR EVERY CONCRETE MIX;
- B) EVERY 50 CUBIC YARDS;
- C) EVERY 2000 SQ.FT. OF SLAB AREA.

ALL TESTING SHALL BE PER LATEST ACI AND ASTM REQUIREMENTS. LABORATORY SHALL SUPPLY THREE (3) ORIGINAL SIGNED&SEALED REPORT RESULTS TO THE ENGINEER.

7. CAST-IN-PLACE AND PRECAST MEMBER ERECTION TOLERANCES SHALL BE AS SPECIFIED IN THE TABLE 8.2.2 OR IN SECTION 8.3 OF "PCI DESIGN HANDBOOK/SIXTH EDITION".

REINFORCEMENT:

1. BASIS OF BID SHALL BE:
  - ASTM A1035 GRADE 100 (MMFX2) CORROSION RESISTANT FOR ALL REINFORCEMENT.

\* ADD ALTERNATE REINFORCEMENT DEDUCTIVE OPTION: REBAR SHALL BE DEFORMED CARBON-STEEL ASTM A615/A615M-13 GRADE 60.

2. ALL REQUIREMENTS FOR PLACEMENT, COVER, TOLERANCES, ETC. SHALL BE PER ACI 318-11.
3. ALL HOOKS AND BENDS SHALL BE FACTORY MADE UNLESS FIELD BENDS ARE APPROVED BY THE ENGINEER.
4. ONLY PLASTIC CHAIRS AND CENTRALIZERS SHALL BE USED FOR REBAR SUPPORT.

ALUMINUM COMPONENTS:

1. TYPE 6061-T6 ALUMINUM.
2. MIG WELD ALL JOINTS W/ CONTINUOUS 1/8" WELD. USE 5356 FILLER WIRE ALLOY.
3. ALL ALUMINUM IN CONTACT WITH CONCRETE, PT WOOD, DISSIMILAR METALS AND OTHER CORROSIVE MATERIALS SHALL COATED WITH COAL-TAR EPOXY OR PROTECTED BY OTHER ENGINEER APPROVED METHOD.

HARDWARE:

1. HARDWARE SHALL BE 316 STAINLESS STEEL OR BETTER OR ZMAX GALVANIZED FOR NON EXPOSED SIMPSON PRODUCTS, UNLESS OTHERWISE SPECIFIED.

STRUCTURAL LUMBER:

1. ALL WOOD MEMBERS SHALL MEET OR EXCEED REQUIREMENTS SPECIFIED IN "ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION" AND ALL REFERENCED STANDARDS.
2. ALL WOOD MEMBERS SHALL BE PRESSURE TREATED SOUTHER PINE No2 OR GREATER KILN DRIED AS SPECIFIED IN THE STANDARDS, UNLESS OTHERWISE SPECIFIED.
3. ALL WOOD MEMBERS EXPOSED TO EXTERIOR, IN DIRECT CONTACT WITH CONCRETE OR STEEL SHALL BE PRESSURE-TREATED (PT) UC3B GRADE PER AWPFA STANDARDS.
4. ALL FIELD CUTS IN PT LUMBER SHALL BE TREATED ON SITE.
5. NAILING SHALL BE IN ACCORDANCE WITH FBC 7TH EDITION (2020). NAILS AND OTHER FASTENERS FOR PT WOOD SHALL BE STAINLESS STEEL OR ACD APPROVED TREATED.
6. SHEATHING SHALL BE 3/4" CDX PLYWOOD SHEATHING GRADE, UNLESS OTHERWISE IS SPECIFIED ON THE PLANS. USE 10D RING-SHANK NAILS WITH SPACING OF 4" O.C. ON ALL EDGES AND 6" O.C. IN THE FIELD.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL COMPONENTS SHALL BE AS DESCRIBED IN "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AISC 316 OR LATER EDITION.
2. HSS SHAPES (STRUCTURAL TUBING) SHALL BE ASTM A500 (FY=46 KSI).
3. STEEL PLATES, FLANGES AND MISCELLANEOUS ELEMENTS SHALL BE ASTM A36 (FY=36 KSI) UNLESS NOTED OTHERWISE ON THE PLANS.
4. W-SHAPES, C-SHAPES AND OTHER FORMED STEEL SHALL BE ASTM A992 (FY=50 KSI).
5. ALL WELDING SHALL BE IN CONFORMANCE WITH THE LATEST SPECIFICATIONS AWS D1.1/D1.1M:2010, STRUCTURAL WELDING CODE - STEEL.

STRUCTURAL STEEL COATING:

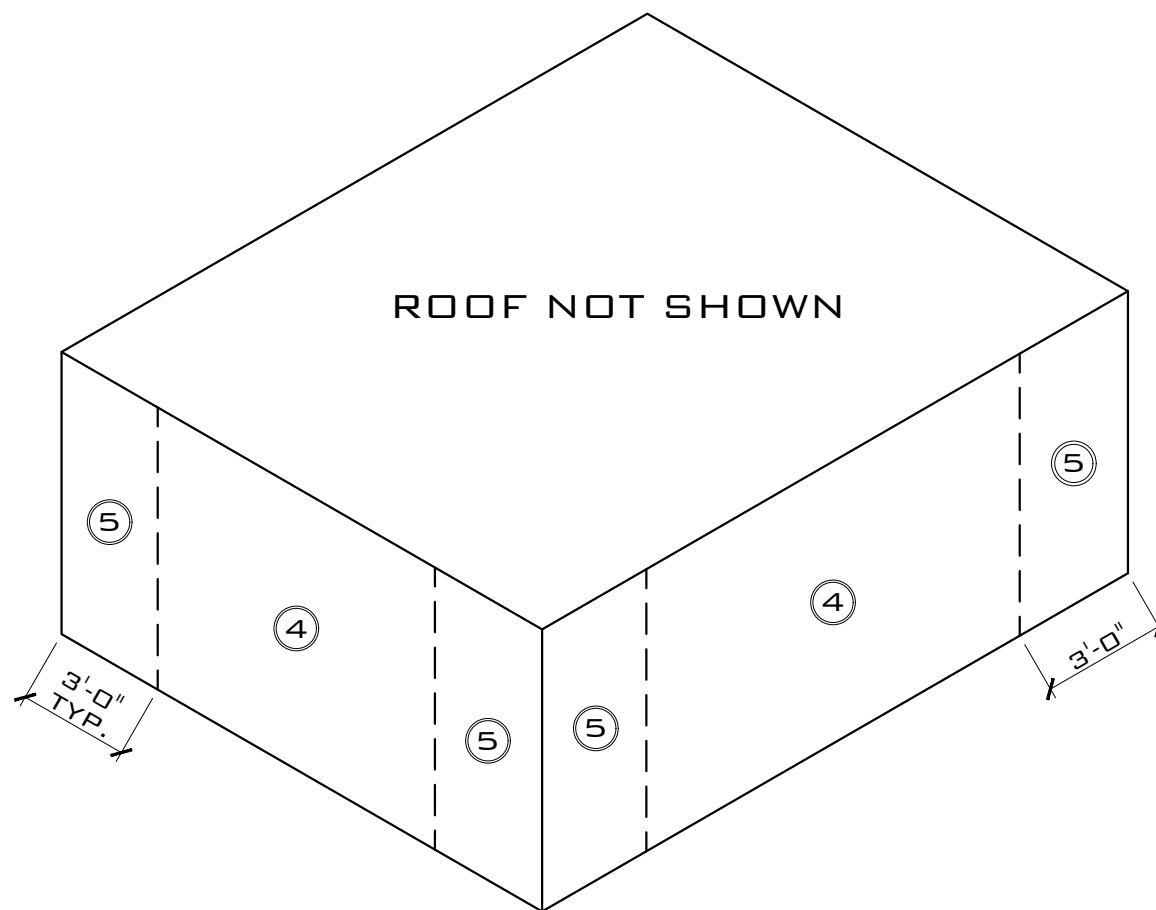
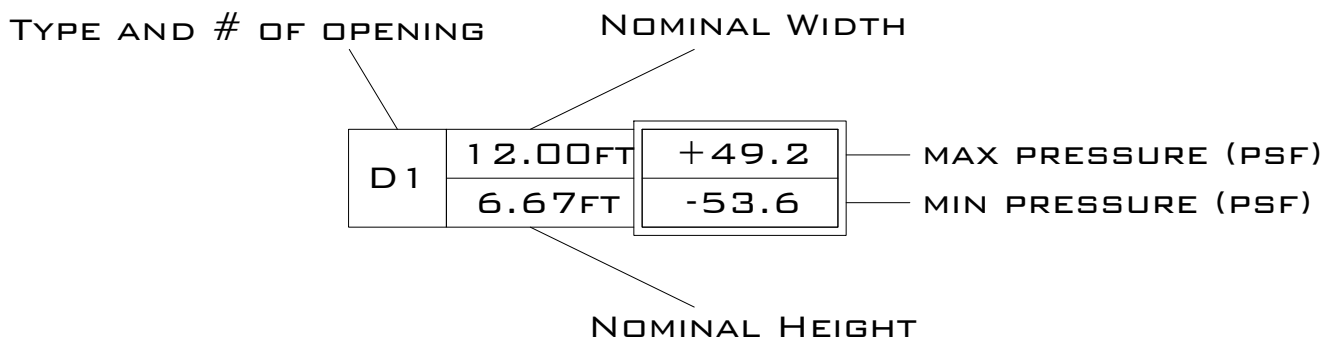
1. ALL SURFACES SHALL BE ABRASIVE BLAST CLEANED TO NEAR-WHITE METAL (PER SSPC-SP10) EXPOSED STEEL.
2. ALL SURFACES SHALL BE PRIMED WITH POLYAMIDE EPOXY - ONE COAT (8.0 MILS DFT).
3. APPLY SEALANT AT ALL LOCATIONS WHERE STEEL IS WELDED, LAPPED, ETC. SEALANT MATERIAL SHALL BE COMPATIBLE WITH THE PAINTING SYSTEM.
4. TOP LAYER SHALL BE TWO (2) COAT POLYURETHANE (3.0 MILS DFT EACH).
5. TOP PAINT SHALL BE UV RESISTANT OR HAVE A UV RESISTANT COATING.
6. COLORS SHALL MATCH EXISTING OR TO BE SELECTED BY THE OWNER.
7. 2 COATS OF "SUMTER COATINGS" UNIVERSAL PRIMER (6.0 MILS DFT) OR APPROVED EQUAL.

REINFORCED MASONRY (CMU):

1. ALL MASONRY SHALL BE REINFORCED CONCRETE MASONRY UNIT IN ACCORDANCE WITH THE LATEST EDITION OF ACI 530/ASCE 5/TMS 402.
2. INSTALL ALL BLOCKS IN RUNNING BOND.
3. MINIMUM MASONRY BLOCK (ASTM C90) STRENGTH SHALL (F'M) BE 2000 PSI.
4. TYPE "S" MORTAR (ASTM C270) SHALL BE USED USING 3/8" FULL BEDDING REINFORCED W/ 9 GAGE GALVANIZED LADDER WIRE EVERY 2ND ROW.
5. FILLED CELLS SHALL BE REINFORCED WITH #5 REBARS @ 24" O.C. (UNLESS OTHERWISE IS SPECIFIED ON THE PLANS).
6. GROUT SHALL BE PEA ROCK PUMP MIX (ASTM C476) WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI (28 DAY) (ASTM C1019). TARGETED SLUMP SHALL BE 8"-11".
6. EACH GROUTED CELL SHALL HAVE CLEANOUT OPENINGS AT THE BOTTOM. THERE SHALL BE NO LOOSE MORTAR OR OTHER DEBRIS IN THE BOTTOM OF THE CELL. USE BLAST PRESSURE WASHING FOR SURFACE PREPARATION.

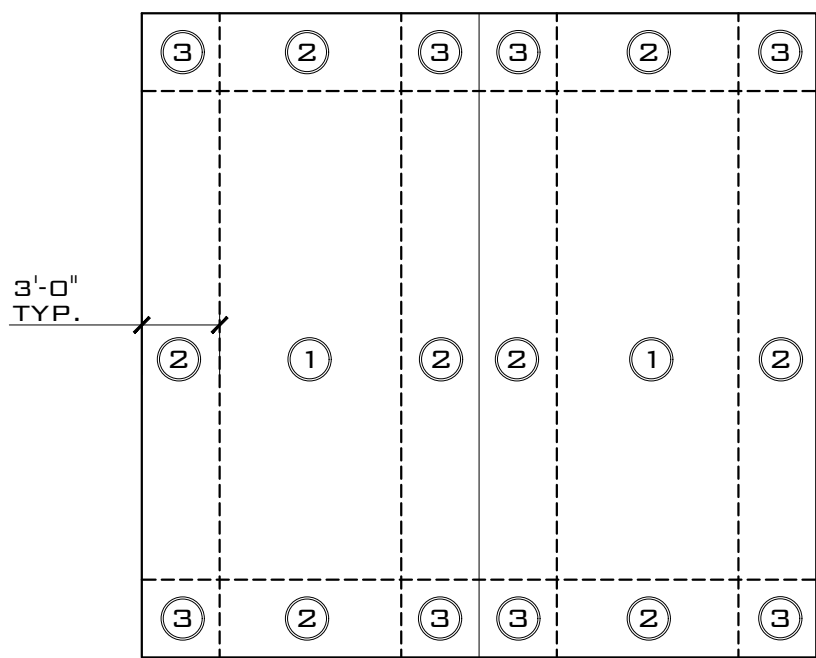
WINDOWS & DOORS:

1. ALL EXTERIOR WINDOWS SHALL BE LARGE AND SMALL MISSILE IMPACT RATED.
2. ALL EXTERIOR WINDOWS SHALL HAVE FLORIDA PRODUCT APPROVAL AND NOA. PRODUCT APPROVAL LABELS SHALL BE PERMANENTLY ATTACHED TO THE FRAME.
3. WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)



WALLS WIND PRESSURES DIAGRAM

SCALE: NTS



ROOF WIND PRESSURES DIAGRAM

SCALE: NTS

ENCLOSED - BUILDING					
WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)					
DESCRIPTION	WIDTH, FT	SPAN, FT	AREA, FT2	MAX P, PSF	MIN P, PSF
ZONE 1	1	1	1	+42.81	-79.61
ZONE 2E	1	1	1	+42.81	-79.61
ZONE 2N	1	1	1	+42.81	-85.79
ZONE 2R	1	1	1	+42.81	-79.61
ZONE 3E	1	1	1	+42.81	-106.62
ZONE 3E	1	1	1	+42.81	-85.79
ZONE 4	1	1	1	+47.66	-50.75
ZONE 5	1	1	1	+47.66	-63.64

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www.ArtibusDesign.com  
CA # 30835

KEY WEST  
HISTORIC  
SEAPORT-  
MARGARET STREET  
FIRE PUMP BLDG.

201 WILLIAM STREET

KEY WEST, FL 33040

SEAL

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WILLIAM P. HORN

DATE

09-22-2020 HARC SUBMITTAL  
11-01-2020 100% CD SUBMISSION  
02-16-2022 CODE UPDATES

REVISIONS

DRAWN BY

JW

EMA

PROJECT  
NUMBER

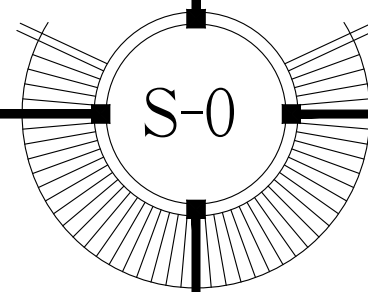
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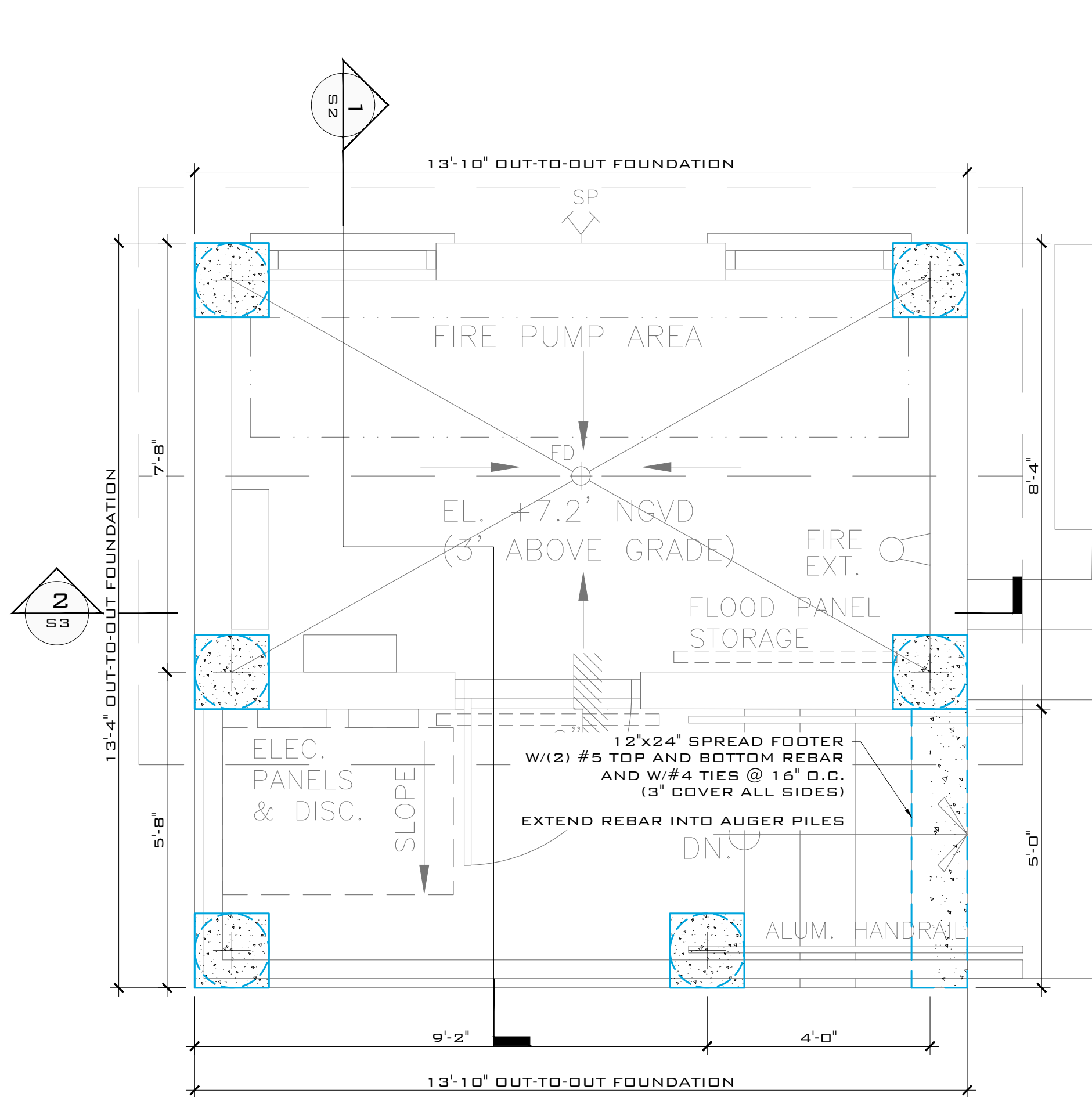
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STRUCTURAL NOTES

SCALE: NOT TO SCALE

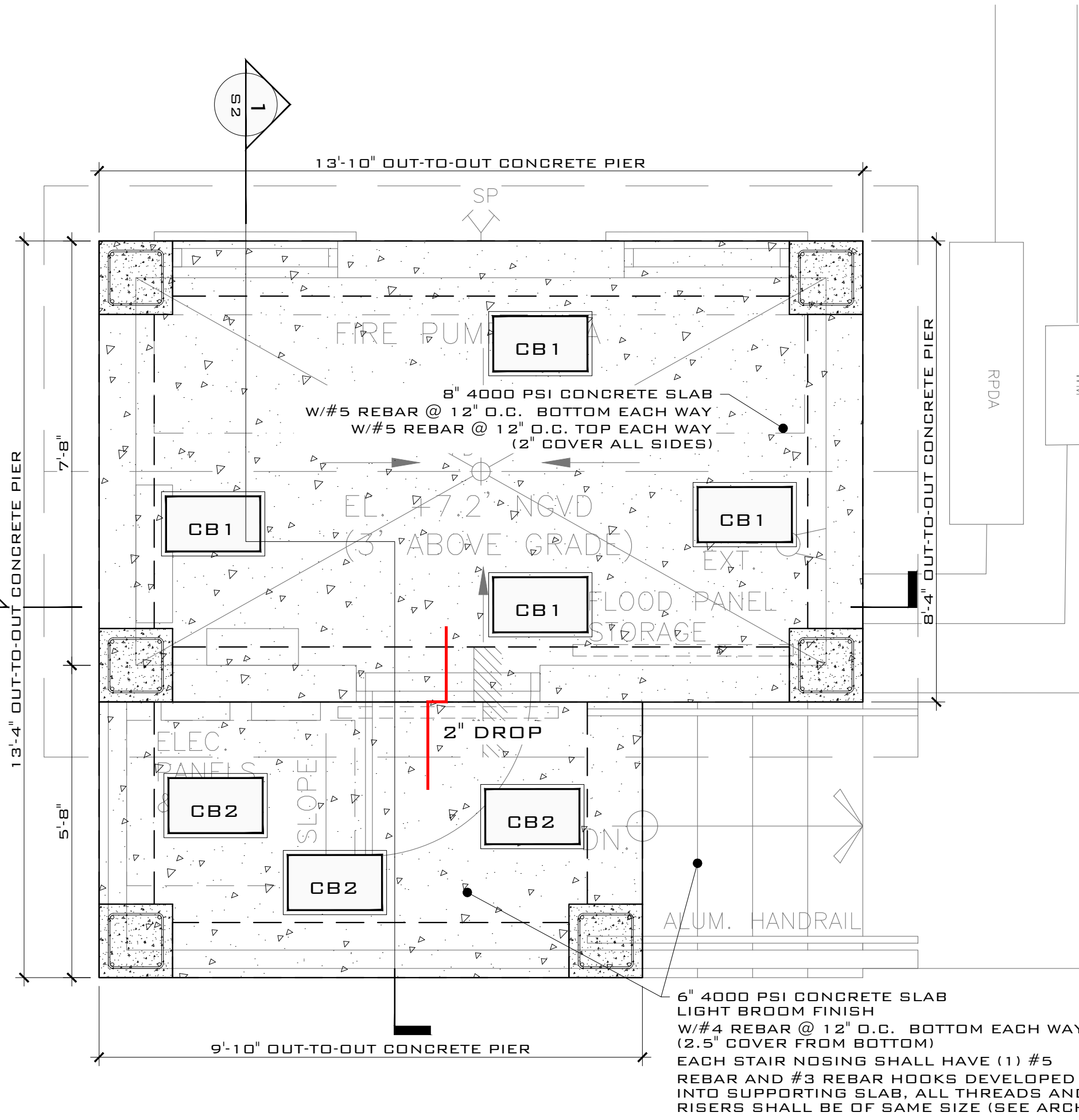
KEY WEST HISTORIC SEAPORT  
MARGARET STREET - FIRE PUMP BUILDING  
KEY WEST, FLORIDA





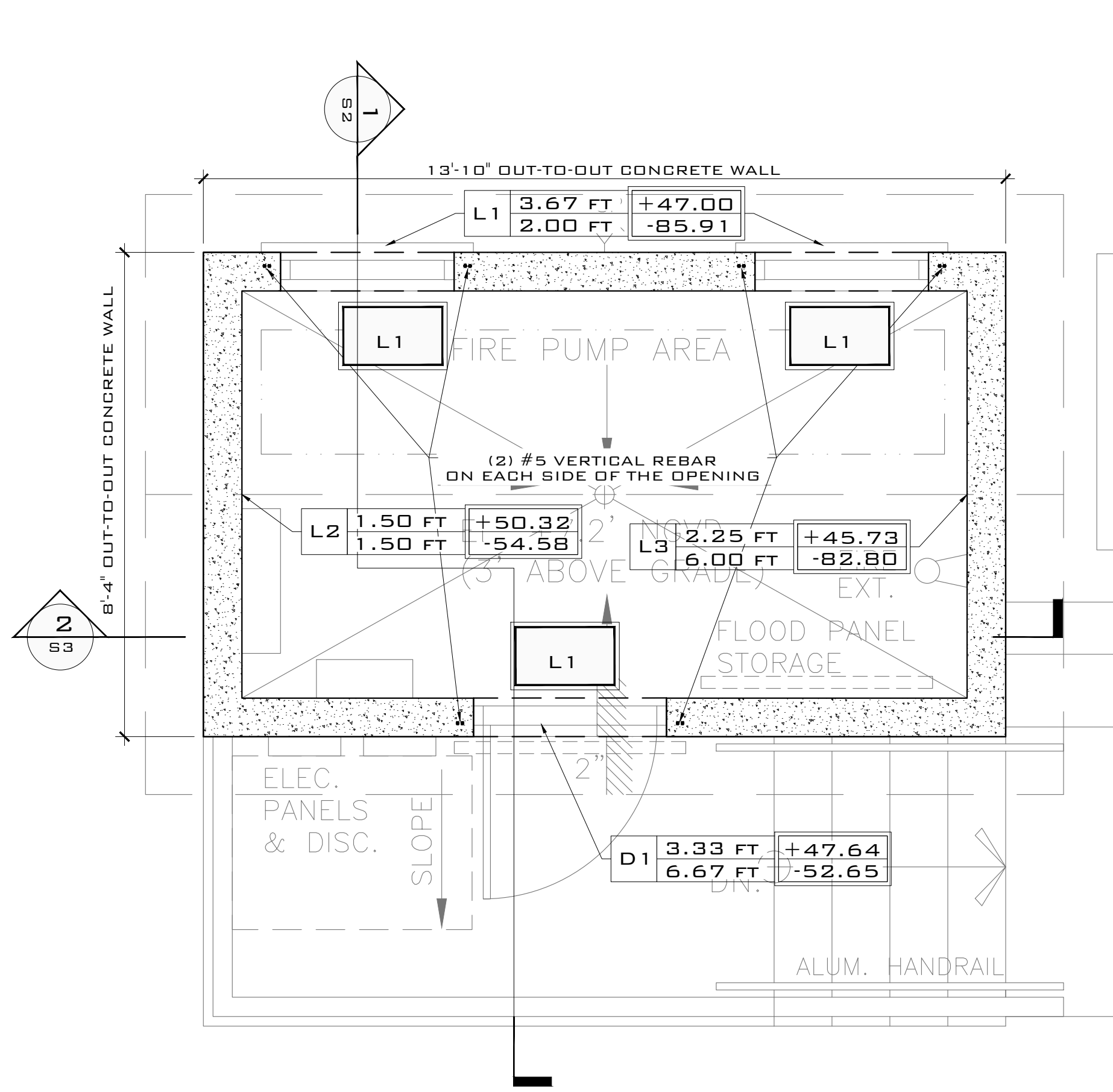
FOUNDATION PLAN

SCALE: 1/2"=1'-0"



FIRST FLOOR FRAMING PLAN

SCALE: 1/2"=1'-0"



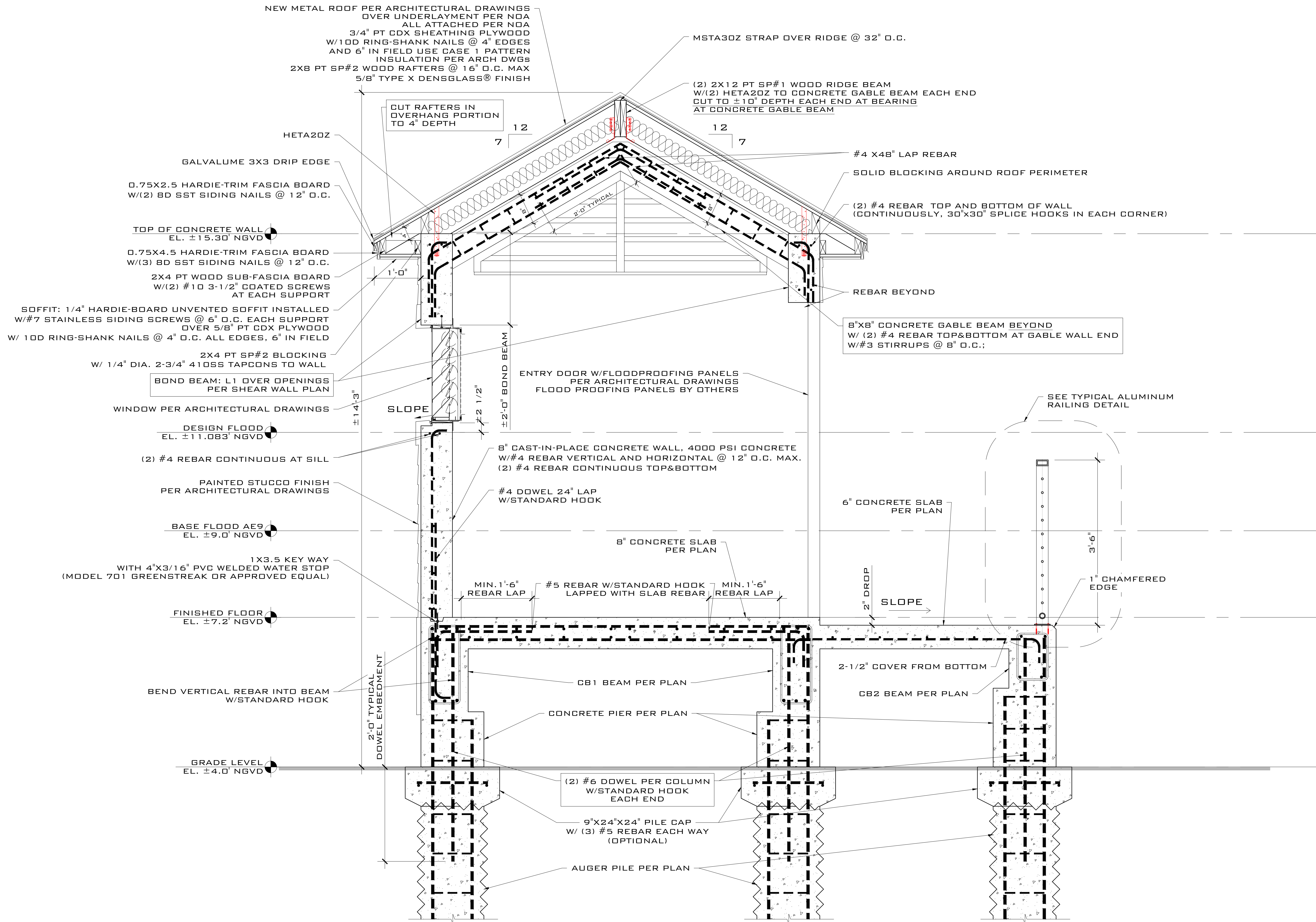
FIRST FLOOR SHEAR WALL PLAN

SCALE: 1/2"=1'-0"

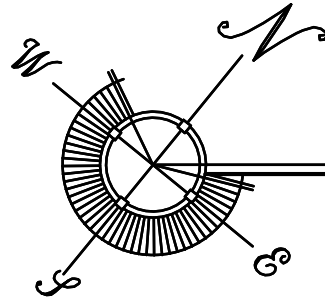
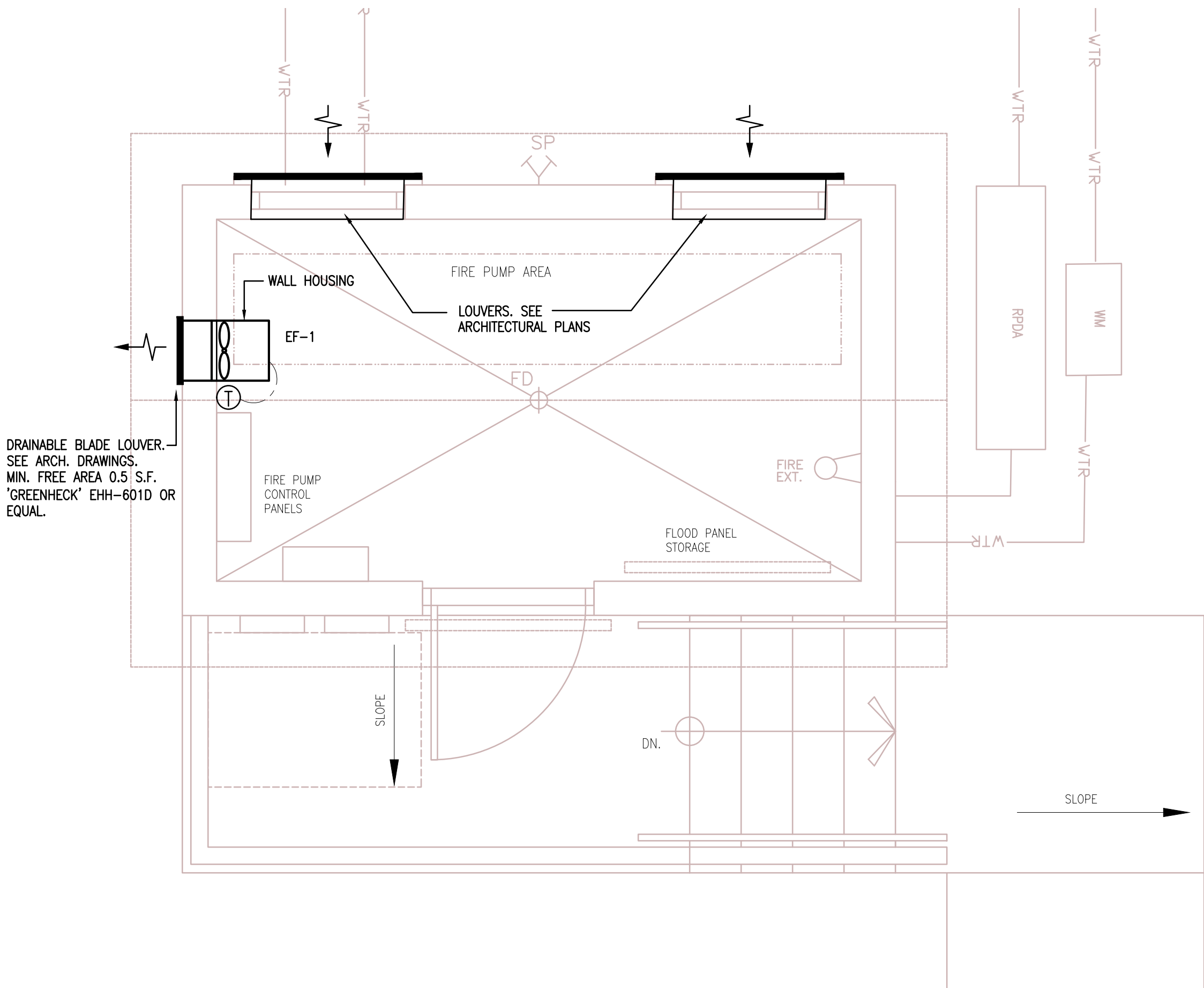
LEGEND	
SYMBOL	DESCRIPTION
	16" DIA. AUGER PILES 5000 PSI CONCRETE, W/ (4) #6 REBAR W/ #3 HOOPS @ 10" O.C. EMBEDMENT 3' INTO CAP ROCK; 12FT BELOW GRADE MINIMUM. (FIELD VERIFY CAP ROCK LOCATION). (3" SIDE COVER)
	16"X16" CAST-IN-PLACE PIER 5000 PSI CONCRETE, W/ (4) #6 REBAR W/ #3 TIES @ 12" O.C. (2" COVER ALL SIDES)
	16" DIA. AUGER PILES 5000 PSI CONCRETE, W/ (4) #6 REBAR W/ #3 HOOPS @ 10" O.C. EMBEDMENT 5' INTO CAP ROCK (FIELD VERIFY CAP ROCK LOCATION). (3" SIDE COVER)

LEGEND	
SYMBOL	DESCRIPTION
	12"X24" CONCRETE BEAM W/(3) #6 REBAR TOP&BOTTOM, W/#3 STIRRUPS @ 10" O.C.
	12"X16" CONCRETE BEAM W/(2) #5 REBAR TOP&BOTTOM, W/#3 STIRRUPS @ 16" O.C.

LEGEND	
SYMBOL	DESCRIPTION
	8" CAST-IN-PLACE CONCRETE WALL, 4000 PSI CONCRETE W/#4 REBAR VERTICAL AND HORIZONTAL @ 12" O.C. MAX. (2) #4 REBAR CONTINUOUS TOP&BOTTOM
	BOND BEAM OVER DOOR AND WINDOW OPENINGS: 8"X18-24" BOND BEAM (±18" DEPTH OVER DOOR; ±24" DEPTH OVER WINDOWS) W/(2) #4 REBAR BOTTOM (2" COVER ALL SIDES)







FIRE PUMP BUILDING - MECHANICAL PLAN

SCALE: 1/2"=1'-0"

VENTILATION FAN SCHEDULE		
UNIT DESIGNATION		EF-1
AREA SERVED		PUMP ROOM
OPERATING WEIGHT LBS.		50
LOCATION		WALL
FAN TYPE		PROPELLER
FAN	TOTAL AIR CFM	160
	DRIVE TYPE	DIRECT
	FAN WHEEL TYPE	PROP.
	FAN TIP SPEED,RPM MAX	-
	FAN SPEED,RPM	1,550
	TOTAL STATIC PRESSURE,IN. OF H2O	.25
	FAN MOTOR HP(NON OVERLOAD)	1/25
	FAN MOTOR STARTER TYPE	MAGNETIC
	STARTER FURNISHED BY	CONTRACTOR
	ELECTRICAL SERVICE AVAILABLE	120-1-60
ACCESSORIES	MASONRY OPENING REQUIRED	13" x 13"
	DESIGN MANUFACTURER	GREENHECK
	MODEL NUMBER	SEI-8-440-D
	SERVICE SWITCH	YES
	SMOKE DETECTORS	-
	FIRE DAMPER	-
	CONSTRUCTION	GALVANIZED STEEL
	MULTIBLADE BACKDRAFT DAMPER	YES
	BIRDSCREEN	-
	SOLID STATE SPEED CONTROL	YES
	THERMOSTAT CONTROL	YES
	FACTORY FABRICATED CURB (12" HIGH MIN.)	-
	SONES, MAX.	4.9

- NOTES:
1. PROVIDE WALL HOUSING WITH GUARD.
  2. PROVIDE SEACOAST CORROSION RESISTANT COATING ON FAN AND ACCESSORIES PER MANUFACTURER RECOMMENDATION.
  3. THERMOSTAT SHALL BE SET AT 80 DEGREE F (ADJUSTABLE 75-95 DEG. F.)

HVAC GENERAL NOTES

1. THE WORK IS TO BE DONE UNDER THIS HEADING INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, PERMITS, FEES, INSPECTIONS, TESTS, INSURANCE, ETC. REQUIRED FOR THE COMPLETION OF THE HVAC SYSTEM SHOWN ON DRAWINGS AND/OR LISTED BELOW.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA BUILDING CODE AND ALL LOCAL ORDINANCES.
3. CONTRACTORS SHALL VERIFY SPACE CONDITIONS AND DIMENSIONS AND SHALL COORDINATE WORK WITH ALL OTHER TRADES AT THE JOB SITE PRIOR TO ORDERING, FABRICATION AND INSTALLATION OF EQUIPMENT.
4. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION AND IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES.
5. FIRE DAMPERS SHALL BE INSTALLED WHERE REQUIRED FOR ALL DUCTS PENETRATING FIRE BARRIERS. DAMPERS SHALL BE CONSTRUCTED AND INSTALLED TO CONFORM TO REQUIREMENTS OF N.F.P.A. 90-A AND U.L. 555. FIRE DAMPERS SHALL BE 100% FREE AREA WITH BLADE OUT OF AIR STREAM AND U.L. LISTED ACCESS PANELS SHALL BE PROVIDED FOR REPLACEMENT OF FUSIBLE LINKS.
6. SUBMIT SHOP DRAWINGS OF ALL MATERIALS AND EQUIPMENT FOR APPROVAL PRIOR TO ORDERING OR FABRICATION.
7. ALL EQUIPMENT AND MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR. FROM THE DATE OF ACCEPTANCE.
8. VIBRATION ISOLATION: ALL EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATION OR AS SCHEDULED ON DRAWINGS.
9. FANS SHALL BE AS SCHEDULED ON THE DRAWINGS OR APPROVED EQUAL.
10. ALL OUTSIDE EQUIPMENT SHALL BE SECURED TO WITHSTAND WINDS PER FLORIDA AND LOCAL CODES.

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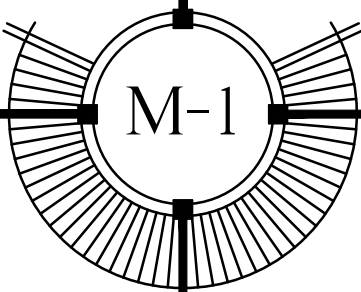
DATE  
09-22-2020 HARC SUBMITTAL  
11-01-2020 ARCH. SET  
12-14-2020 LANDSCAPE PLAN  
12-23-2020 100% CD SUBMISSION  
02-14-2022 BID SET

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EMA

PROJECT  
NUMBER  
2012

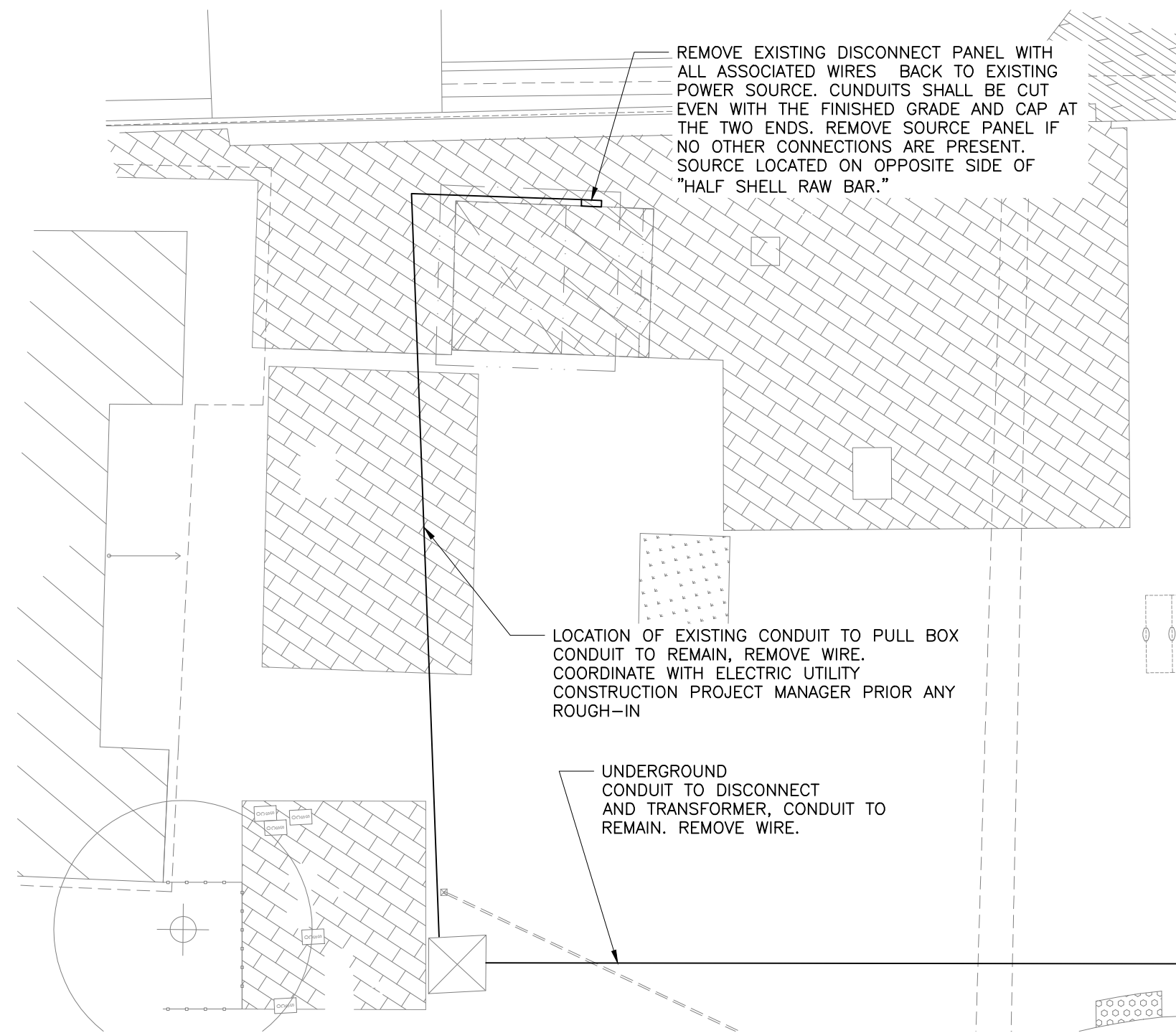
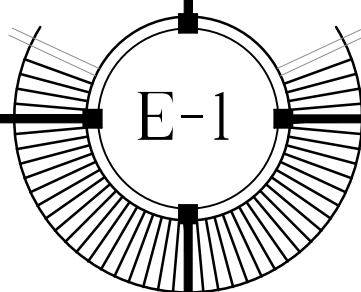
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305-302-5839  
Sudhir K. Gupta, P.E.  
Fla. Reg. No. 29189



KEY WEST HISTORIC SEAPORT  
MARGARET STREET - FIRE PUMP BUILDING  
KEY WEST, FLORIDA

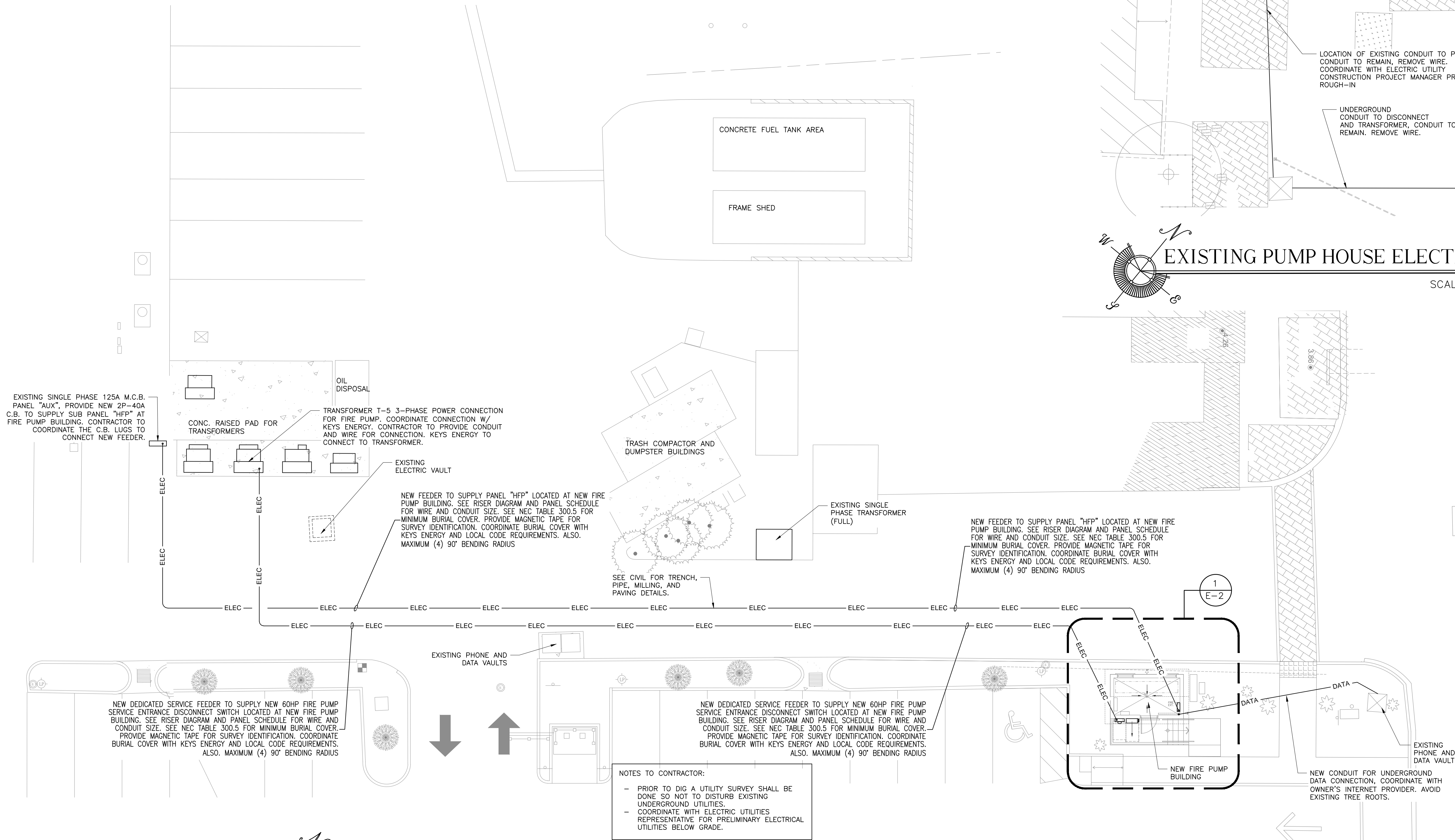


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Fla. Reg. No. 28189



EXISTING PUMP HOUSE ELECTRIC PLAN

SCALE: 3/32"=1'-0"

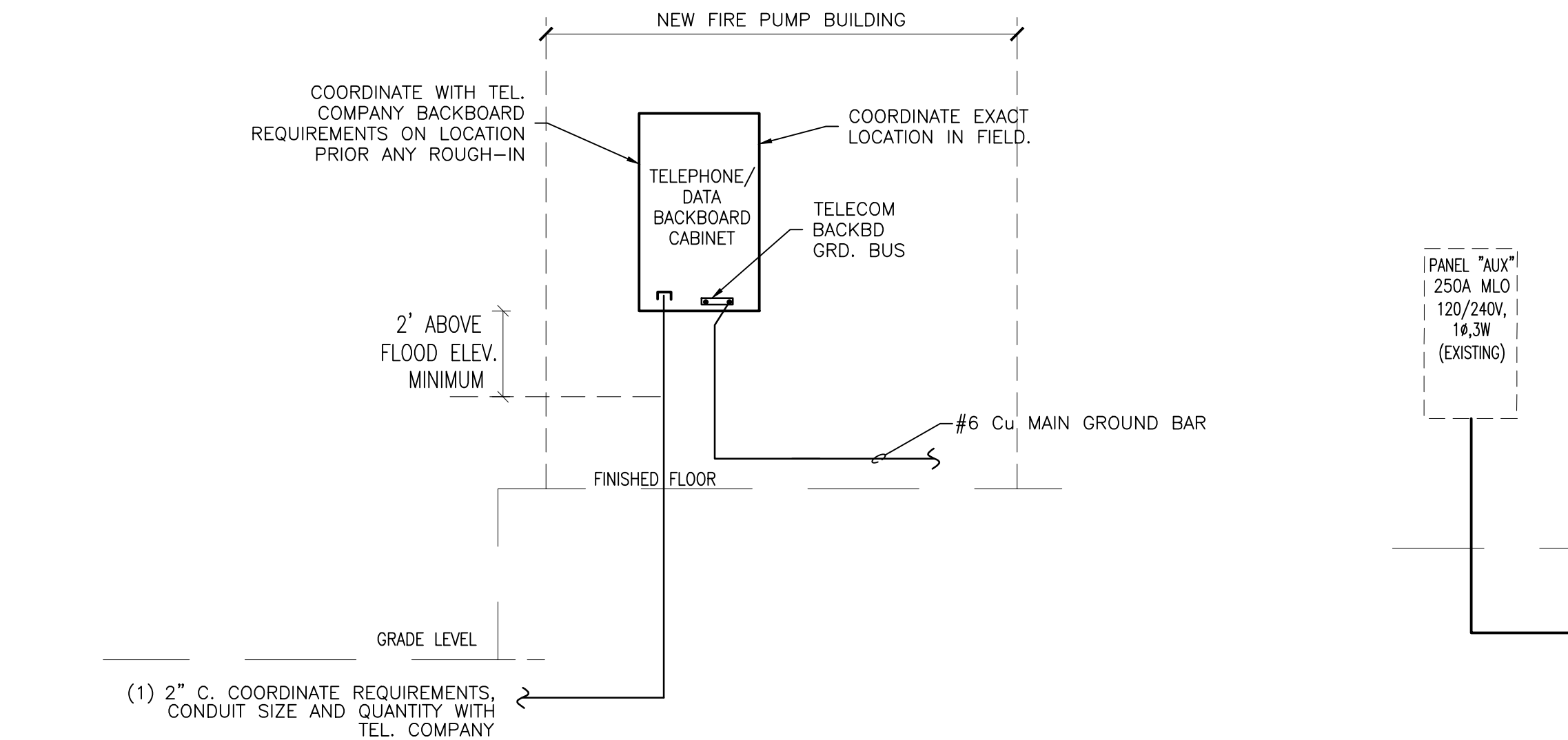


SITE ELECTRIC PLAN

SCALE: 3/32"=1'-0"

MNF: EXISTING SIEMENS TYPE: EXISTING MOUNTING: EXISTING				PANEL "AUX" (EXISTING-MODIFIED) EXISTING 22k AIC Rating										VOLTAGE: 120/240V, 1PH, 3W MAINS AMPS: 250AMPS TYPE MAINS: 125A M.C.B.				
NOTES	NO.	LOAD DESCRIPTION		PHASE (KVA)			CIRCUIT			CIRCUIT			PHASE (KVA)		LOAD DESCRIPTION		NO.	
				L1	L2	BKR	P	W	C	C	W	P	BKR	L1	L2			
	1	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	2	
	3	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	4	
	5	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	6	
	7	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	8	
	9	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	10	
	11	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	12	
	13	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	14	
	15	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	16	
	17	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	18	
	19	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	20	
	21	SPACE		-		-	-	-	-	-	-	-	-	-		SPACE	22	
	23	SPACE		-		-	-	-	-	SEE NOTES			2	40	1.87	PANEL "HFP"	24	
	25	SPACE		-		-	-	-	-	SEE NOTES			2	40	2.95		26	
	27	SPACE		-		-	-	-	-	SEE NOTES			1	20	1.00	SPRINKLERS	28	
1,2	29	MARKET LIGHTS		1.00		20	1	SEE NOTES		SEE NOTES			1	20	1.00	BREWERY SECURITY	30	
1,2	31	BACK LIGHTS			1.00	125	1	SEE NOTES		SEE NOTES			1	20	1.00	BREWERY SECURITY	32	
1,2	33	BACK LIGHTS		1.00		20	1	SEE NOTES		SEE NOTES			1	20	1.00	MAIN PARKING	34	
	35	NORTH PARKING LIGHTS (POLES)			1.00	20	2	SEE NOTES		SEE NOTES			1	20	1.00	MAIN PARKING	36	
	37				1.00											MAIN PARKING	38	
	39	MAIN CIRCUIT BREAKER		-	-	125	2	(NOTE 1)		SEE NOTES			2	20	1.00	POLE LIGHTS ELIZABETH	40	
	41			-	-												1.00	42
		SUBTOTAL		3.00	2.00	NOTES: (1) EXISTING WIRES AND CONDUITS (2) ESTIMATED LOAD (3) ADDED LOAD (4) SEE VOLTAGE DROP CALCULATIONS AND ELECTRICAL RISER DIAGRAM FOR SUB-PANEL "HFP" FEEDER WIRES AND CONDUIT SIZE (5) PROVIDE NEW CB. MATCH WITH EXISTING MECHANICAL AND ELECTRICAL CHARACTERISTICS										6.95	5.87	17.82
		CONTINUOUS LOAD @ 125%:		12.5 KVA														
		NON-CONTINUOUS LOAD @ 100%:		3.0 KVA														
		ADDED CONTINUOUS LOAD @ 125%:		2.8 KVA														
		ADDED NON-CONTINUOUS LOAD @ 100%:		2.6 KVA														
				20.9 KVA														
				87.0 AMPS														

EQUAL TO: COMMERCIAL PANELBOARD				PANEL "HFP" (NEW) (NOTE 4)										VOLTAGE: 120/240V, 1PH, 3W							
TYPE: BOLT-ON BRANCH CIRCUIT BREAKERS				22k AIC Rating										LOCATION: FIRE PUMP ROOM				MAINS AMPS: 100AMPS			
MOUNTING: SURFACE NEMA 4X STAINLESS STEEL				FED FROM: PANEL 'AUX'				FEEDER: 3 #4, 1#6 GND, 1-1/2" C (NOTE 2)										TYPE MAINS: 40A M.C.B.			
NOTES	NO.	LOAD DESCRIPTION		PHASE (KVA)		CIRCUIT				CIRCUIT				PHASE (KVA)		LOAD DESCRIPTION		NO.			
		L1	L2	BKR	P	W	C	C	W	P	BKR	L1	L2								
3	1	FIRE PUMP INDOOR LIGHTS		0.12		20	1	12	3/4"	3/4"	12	1	20	1.50	CONVENIENCE RECEPTACLES		2				
	3	FIRE PUMP OUTDOOR LIGHTS		0.12		20	1	12	3/4"	3/4"	12	1	20	0.60	FIRE ALARM CONTROL PANEL		4				
	5	SPARE		0.50		20	1	-	-	3/4"	12	1	15	0.18	EXHAUST FAN		6				
5	7	SPARE		0.50		20	1	-	-	-	1	20	0.50	SPARE		8					
	9	SUPERVISORY SIGNAL TO REMOTE		0.15		20	2	8	3/4"	-	1	20	0.50	SPARE		10					
	11	FIRE PUMP CONTROL PANEL		0.15										SPACE		12					
	13	SPACE		-		-	-	-	-	-	-	-	-	SPACE		14					
	15	SPACE		-		-	-	-	-	-	-	-	-	SPACE		16					
	17	SPACE		-		-	-	-	-	-	-	-	-	SPACE		18					
	19	SPACE		-		-	-	-	-	-	-	-	-	SPACE		20					
	21	SPACE		-		-	-	-	-	-	-	-	-	SPACE		22					
	23	SPD (SURGE PROTECTIVE DEVICE)		-		30	2	10	3/4"	-	-	-	-	-	SPACE		24				
			SUBTOTAL		0.77 0.77		NOTES:										2.18 1.10 4.82				
				(1) PROVIDE GFI CIRCUIT BREAKER																	
				(2) SEE VOLTAGE DROP CALCULATIONS FOR CONDUIT AND WIRES SIZE																	
				(3) PROVIDE NEW LIGHT FIXTURES WITH PHOTOCELL INTERRUPTER.																	
				(4) SEE RISER DIAGRAM FOR PANEL GROUND BAR TO BOND TO BUILDING BUSBAR																	
				(5) SEE FIRE PROTECTION DRAWINGS FOR REMOTE FIRE PUMP CONTROL PANELS AND FACP																	
				CONTINUOUS LOAD @ 125%:		0.30 KVA															
				NON-CONTINUOUS LOAD @ 100%:		2.58 KVA															
				FUTURE CONTINUOUS LOAD @ 125%:		2.50 KVA															
				FUTURE NON-CONTINUOUS LOAD @ 100%:		0.00 KVA															
						5.38 KVA															
						22.4 AMPS															



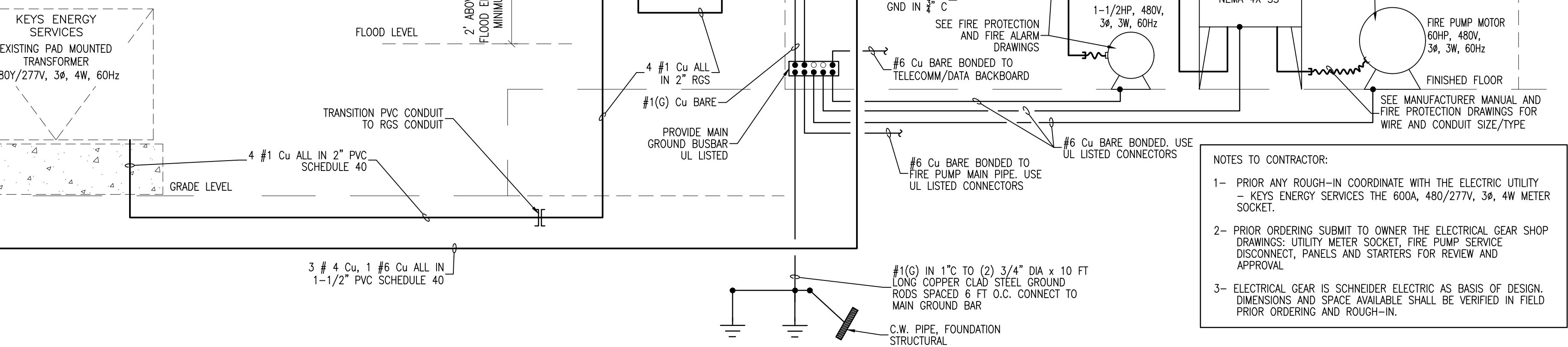
## COMMUNICATIONS RISER DIAGRAM - FIRE PUMP BUILDING

NOT SCALE

KEY WEST HISTORIC SEAPORT FIRE PUMP BUILDING	
FIRE PUMP SYSTEM LOAD CALCULATIONS	
ELECTRICAL SERVICE AVAILABLE: 480Y/277V, 3 PHASE, 4 WIRES, 60Hz	
NEW LOADS: 60HP ELECTRIC DRIVEN FIRE PUMP MOTOR FULL LOAD CURRENT (F.L.C.): 77.0 AMPS LOCKED ROTOR CURRENT (L.R.C.): 435.0 AMPS STARTER: ACROSS THE LINE - FULL VOLTAGE	
1-1/2HP JOCKEY PUMP MOTOR FULL LOAD CURRENT (F.L.C.): 3.0 AMPS LOCKED ROTOR CURRENT (L.R.C.): 20.0 AMPS STARTER: ACROSS THE LINE - FULL VOLTAGE	
SERVICE ENTRANCE FIRE PUMP OVERCURRENT PROTECTION	
FIRE PUMP L.R.C.	435.0 AMPS
JOCKEY PUMP L.R.C.	20.0 AMPS
TOTAL SERVICE ENTRANCE FIRE PUMP OVERCURRENT PROTECTION	455.0 AMPS
MINIMUM OVERCURRENT PROTECTION 500 AMPS	
SERVICE ENTRANCE FIRE PUMP FEEDER SIZE	
FIRE PUMP F.L.C. @ 125%	96.3 AMPS
JOCKEY PUMP F.L.C. @ 125%	3.8 AMPS
TOTAL SERVICE ENTRANCE FIRE PUMP OVERCURRENT PROTECTION	100.0 AMPS
MINIMUM SERVICE ENTRANCE FEEDER SIZE 4 #1 Cu ALL IN 2" PVC	

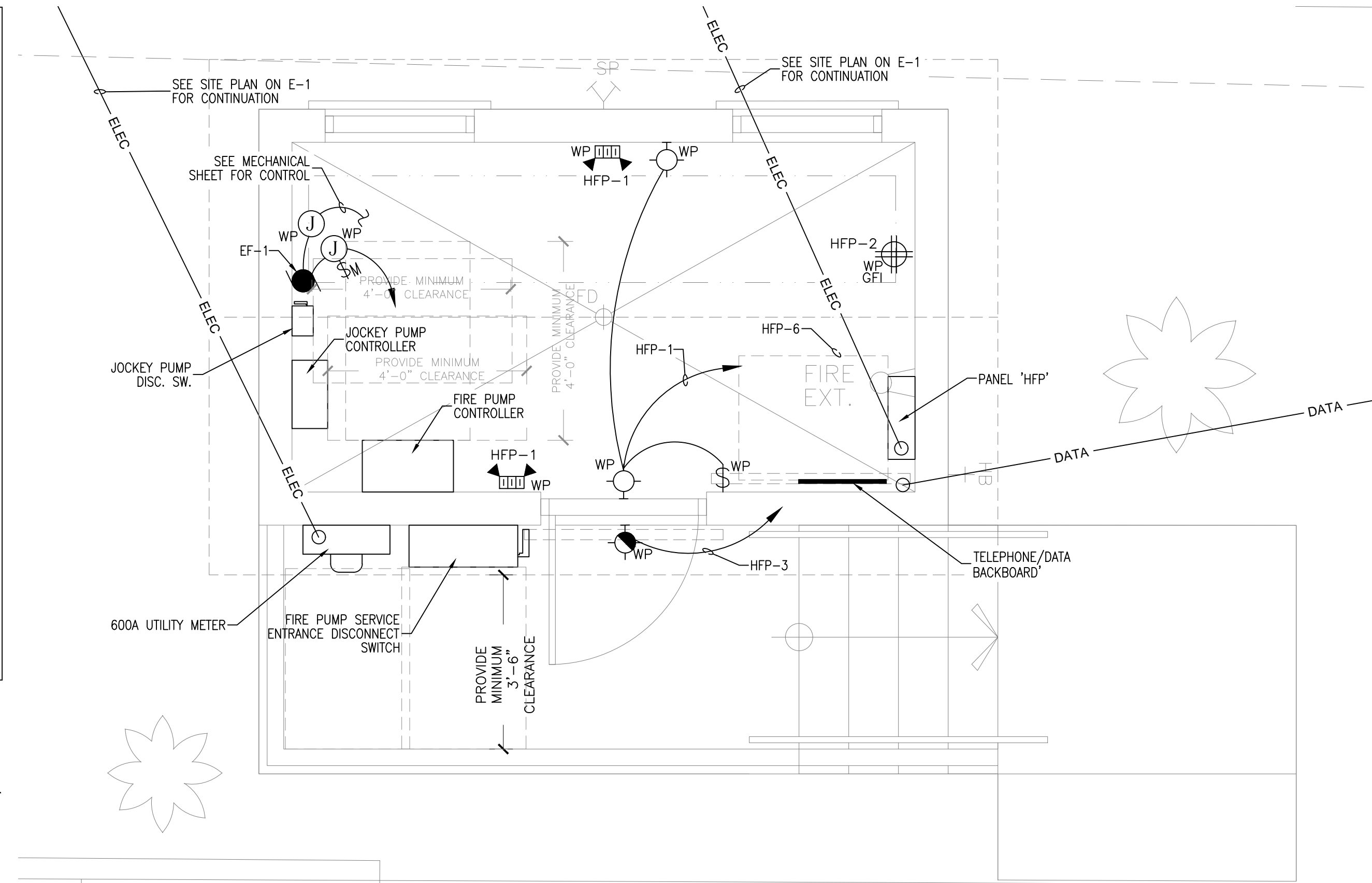
VOLTAGE DROP - DESIGN CALCULATIONS	
FEEDER: F.L.C. FIRE & JOCKEY PUMPS	
(2 or 1.73) x K x Q x I x D PHASE= 3	
VD = CM WIRE # = 1 CM= 83690 Wire Area I= 100 AMPS	
VD = 6.67 VOLTS 1.39 % VOLTAGE DROP	
FEEDER: L.R.C. FIRE & JOCKEY PUMPS	
(2 or 1.73) x K x Q x I x D PHASE= 3	
VD = CM WIRE # = 1 CM= 83690 Wire Area I= 455 AMPS	
VD = 30.33 VOLTS 6.32 % VOLTAGE DROP	
FEEDER: PANEL "AUX" TO PANEL "HFP"	
(2 or 1.73) x K x Q x I x D PHASE= 1	
VD = CM WIRE # = 4 CM= 41740 Wire Area I= 32 AMPS	
VD = 5.14 VOLTS 2.14 % VOLTAGE DROP	

LEGEND	
---	DENOTES EXISTING TO REMAIN
---	DENOTES NEW WORK



## ELECTRICAL RISER DIAGRAM - FIRE PUMP BUILDING

NOT SCALE



## FIRE PUMP BUILDING - ELECTRICAL PLAN

SCALE: 1/2"=1'-0"

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PROJECT  
NUMBER

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E-2

GENERAL ELECTRICAL NOTES

1.

ALL WORK SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, FLORIDA BUILDING CODE AND OTHER APPLICABLE CODES AND STANDARDS.

2.

THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS AND BOXES REQUIRED TO MAKE A COMPLETE NEAT INSTALLATION IN ACCORDANCE WITH N.E.C.

3.

WHEN CONFLICTS ARISE IN LOCATIONS WIRING DEVICES, ELECTRICAL EQUIPMENT, DISCONNECTS, PANELBOARDS, ETC. DUE TO FIELD CONDITION OR IMPROPER FIELD COORDINATION CONTRACTOR SHALL BRING IT TO THE OWNER ATTENTION AND AT NO EXTRA COST RELOCATE, AND OR EXTEND WITHIN A REASONABLE DISTANCE SUCH ITEM WHICH IS IN CONFLICT. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATION OF ALL COMPONENTS PRIOR TO ROUGH IN WITH ALL TRADES NO EXTRAS WILL BE ALLOWED FOR FAILURE TO DO SO.

4.

THE CONTRACTOR IS RESPONSIBLE FOR EVALUATING FIELD CONDITIONS BY VISITING THE SITE PRIOR TO COMMENCING / BIDDING WORK.

5.

THE CONTRACTOR SHALL SATISFACTORILY REPAIR / REPLACE EQUIPMENT OR PART OF STRUCTURE DAMAGED AS A RESULT OF HIS WORK. SURFACES AND FINISHED AREAS SHALL BE RESTORED TO MATCH ADJACENT AREAS.

6.

INSTALL POWER AND CONTROL WIRING AS REQUIRED BY SYSTEMS MANUFACTURER.

7.

ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS DIRECTED BY OWNER.

8.

MINIMUM WIRE SIZE SHALL BE # 12 THWN UNLESS OTHERWISE NOTED ON PLANS.

9.

ALL CONDUCTORS SHALL BE COPPER.

10.

ALL CONDUCTORS SHALL BE RUN IN CONDUIT. IF PVC SCHEDULE 40 IS USED, AN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. 250-122 MUST BE INSTALLED AND CONDUIT SIZE INCREASED AS REQUIRED. PROVIDE A GREEN GROUNDING CONDUCTOR TO ALL BRANCH CIRCUITS. SIZE OF NEUTRAL CONDUCTOR SHALL BE THE SAME SIZE AS PHASE CONDUCTORS.

11.

IF PVC SCHEDULE 40 IS USED FOR UNDERGROUND AND SCHEDULE 80 IS USED FOR ABOVE GROUND CIRCUITS, AN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. 250-122 MUST BE INSTALLED AND CONDUIT SIZE INCREASED AS REQUIRED.

12.

ALL MATERIALS SHALL BE U.L. APPROVED.

13.

NEW TYPEWRITTEN PANEL TALLY SHALL BE FURNISHED AFTER JOB IS COMPLETED.

14.

ALL BRANCH CIRCUITS SHALL BE PROPERLY PHASE BALANCED.

15.

ALUMINUM CONDUITS ARE NOT ALLOWED.

16.

ALL EMPTY CONDUITS TO BE PROVIDED WITH NYLON PULL STRINGS.

17.

FUSES SHALL BE DUAL ELEMENT, TIME DELAY TYPE UNLESS OTHERWISE NOTED.

18.

ALL LUMINARIES SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.

19.

RISERS ARE DIAGRAMMATIC ONLY. THEY DO NOT SHOW EVERY BEND REQUIRED FOR THE INSTALLATION.

20.

NOT USED.

21.

EQUIPMENT WIRING AND BREAKER SHALL BE BASED ON EQUIPMENT MANUFACTURER RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL WIRING, BREAKER AND FUSES SIZES IN ACCORDANCE WITH MFR NAMEPLATE REQUIREMENTS IF DIFFERENT FROM THAT SPECIFIED ON DRAWINGS, AS WELL AS ANY FEEDER CHANGES BEING AFFECTED BY THIS CHANGE CONTRACTOR SHALL MAKE ABOVE MENTIONED CHANGES AT NO EXTRA COST.

22.

NOT USED.

23.

ALL RACEWAY ROUTED, INSULATED CONDUCTORS SYSTEM SHALL BE COLOR CODED AS FOLLOWS:

24.

ALL CABLES SHALL BE RUN WITH OUT SPLICES EXCEPT IF OTHERWISE INDICATED.

25.

ALL PULL AND JUNCTION BOXES SHALL BE ACCESSIBLE AT ALL TIMES.

26.

EXACT POINT AND METHODS OF CONNECTION SHALL BE DETERMINED IN FIELD.

27.

ALL WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.

28.

UTILITY POLE/METER AND OTHER OUTDOOR ELECTRICAL EQUIPMENT, INCLUDING TRANSFORMERS SHALL BE PROTECTED BY ACCIDENTAL CONTACT BY UNAUTHORIZED PERSONNEL OR VEHICLE AND SHALL COMPLY WITH ARTICLE 110.26 (F)(2).

29.

THIS DRAWING IS A GUIDE FOR THE ELECTRICAL INSTALLTION. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE A FUNCTIONING SYSTEM.

30.

ALL OUTSIDE LIGHT FIXTURES SHALL BE WEATHER PROOF. RECEPTACLES SHALL BE WEATHER PROOF GFI TYPE. OUTSIDE PANELS SHALL HAVE NEMA 4X STAINLESS STEEL ENCLOSURE WITH LOCKS.

31.

CONTRACTOR SHALL PAY ALL FEES & INSURANCES REQUIRED TO DO THE WORK.

32.

ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED ABOVE FLOOD ELEVATION. ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL HAVE NEMA 4X-SS ENCLOSURE WITH LOCK, UNLESS NOTED OTHERWISE.

33.

ALL RACEWAY ROUTED, INSULATED CONDUCTORS SYSTEM SHALL BE COLOR CODED AS FOLLOWS:

120/240 V AND 120/208 V SYSTEM

277/480 V SYSTEM

PHASE 'A' BLACK

PHASE 'A' BROWN

PHASE 'B' RED

PHASE 'B' PURPLE

PHASE 'C' BLUE

PHASE 'C' YELLOW

NEUTRAL WHITE

NEUTRAL GRAY

GROUND GREEN

GROUND GREEN

34.

COORDINATE LOCATION OF ALL EQUIPMENT IN THE FIELD.

ELECTRICAL LEGEND

	120V CEILING MOUNTED EXPOSED CAN LIGHTS		DISCONNECT SWITCH SIZED PER EQUIPMENT NAMEPLATE – "2" DENOTES # OF POLES, "60" DENOTES EQUIPMENT FRAME, "*" DENOTES FUSES BY MANUFACTURER RECOMMENDATIONS, "4X-SS" DENOTES NEMA ENCLOSURE TYPE (" " DENOTES NEMA 1)
	120V SEMI-RECESSED CAN LIGHT IN CEILING		NEMA 3R METER CENTER
	120V RECESSED CAN CEILING FIXTURE		TELEPHONE OUTLET
	120V WALL MOUNTED LED LIGHT WITH EMERGENCY BATTERY BACKUP DRIVER. CONNECT BACKUP DRIVER AHEAD OF ANY LIGHT SWITCH/LIGHTING CONTROL. WET LOCATION		CABLE T.V.
	120V WALL MOUNTED LED LIGHT, WET LOCATION		RECESSED ELECTRIC PANEL
	120V RECESSED CEILING LED DOWNLIGHT WITH EMERGENCY BATTERY BACKUP DRIVER. CONNECT BACKUP DRIVER AHEAD OF ANY LIGHT SWITCH/LIGHTING CONTROL. WET LOCATION		DISCONNECT SWITCH
	120V SURFACE CEILING MOUNTED LED LIGHT. WET LOCATION		SURFACE MOUNTED ELECTRIC PANEL
	120V EMERGENCY BATTERY LIGHT WITH LED BULBS. CONNECT AHEAD OF ANY LIGHT SWITCH/LIGHTING CONTROL.		FIRE EXTINGUISHER
	120V WALL MOUNTED INTERIOR LIGHT ABOVE MIRROR		EXHAUST FAN
	120V EXIT BATTERY BACK-UP LIGHT. CONNECTED AHEAD OF ANY LIGHT SWITCH/LIGHTING CONTROL.		JUNCTION BOX
	120V LINEAR LED LIGHT FIXTURE SUSPENDED OR SURFACE MOUNTED		DOOR BELL
	120V LINEAR LED LIGHT FIXTURE SUSPENDED OR SURFACE MOUNTED WITH EMERGENCY BATTERY BACKUP DRIVER. CONNECT BACKUP DRIVER AHEAD OF ANY LIGHT SWITCH/LIGHTING CONTROL. WET LOCATION		DIMMER
	SMOKE DETECTOR (HARDWIRE)		GFI GROUND FAULT INTERRUPTER
	WATER PROOF ITEM		CABLE T.V.
	EXISTING ELECTRIC		CABLE T.V.
	WALL SINGLE OUTLET		SMOKE DETECTOR – STAND ALONE SMOKE ALARM OR FIRE ALARM SMOKE DETECTOR
	WALL DUPLEX OUTLET		CARBO-MONOXIDE DETECTOR
	240V SINGLE OUTLET		DUCT SMOKE DETECTOR
	WALL FOURPLEX OUTLET		HEAT DETECTOR
	SPECIAL PURPOSE OUTLET – COORDINATE NEMA RECEPT. WITH EQUIPMENT MANUFACTURER		REMOTE RESET/TEST AUDIBLE-VISUAL STATION FOR DUCT SMOKE DETECTOR
	SPECIAL PURPOSE OUTLET MIRROR – COORDINATE NEMA RECEPT. WITH EQUIPMENT MANUFACTURER		MANUAL PULL STATION
	FLOOR OUTLET		ADA STROBE LIGHT
	WALL SWITCH		ADA STROBE LIGHT / HORN
	3-WAY WALL SWITCH		FIRE ALARM CONTROL PANEL
	MOTOR RATED SWITCH. POLES, AMPS & VOLTAGE AS REQUIRED BY CIRCUIT		FIRE ALARM ANNUNCIATOR
	CEILING OR WALL MOUNTED JUNCTION BOX		
	WALL MTD. OCCUPANCY SENSOR (LINE OR LOW VOLTAGE)		
	CEILING MTD. OCCUPANCY SENSOR (LINE OR LOW VOLTAGE)		
	CORRIDOR TYPE CEILING MTD. OCCUPANCY SENSOR (LINE OR LOW VOLTAGE)		
	ALL OCCUPANCY SENSORS SHALL FAIL IN "ON" POSITION		
	MOTORIZED DAMPER. PROVIDE POWER WIRING (120V) AND CONTROL WIRING, AS REQUIRED.		
	POWER PACK 120V-24V FOR INDOOR OCCUPANCY SENSOR SUPPLY AND CONTROL. SELECT AS RECOMMENDED BY OCCUPANCY SENSOR MANUFACTURER		
	POWER RELAY/ACCESSORIES UNIT TO SET LIGHTING CONTROL FOR 60 MIN. SEE MANUFACTURER RECOMMENDED RELAYS AND ACCESSORIES TO PROVIDE A COMPLETE WORKING SYSTEM		
	ELECTRIC MOTOR. NUMBER INDICATES SIZE IN HORSEPOWER. "*" = FRACTIONAL HORSEPOWER.		

ACTUAL LOCATION OF ALL WORK TO BE SITE VERIFIED AND COORDINATE WITH OWNER.  
COORDINATE SWITCHING REQUIREMENTS WITH OWNER.  
NOT ALL ITEMS IN LEGEND ARE APPLICABLE.

NOTES TO CONTRACTOR

1.

COORDINATE WITH FIRE PROTECTION SYSTEM FOR:
- a.

A COMPLETE OPERATING SYSTEM INCLUDING FLOW AND TAMPER SWITCHES, FIRE ALARMS AND EMERGENCY NOTIFICATIONS.
- b.

INSTALLATION SHALL MEET APPLICABLE REQUIREMENTS OF ANSI/AME, IEC, IEEE, NEMA, NEMA MG-1, NFPA AND LOCAL CODES AND ORDINANCES

ALL ELECTRICAL MATERIAL, LIGHTING, MACHINERY AND EQUIPMENT, ETC. MUST BE LISTED BY A NATIONALLY RECOGNIZED TESTING LAB (NRTL),

SITE PLAN NOTES

1.

CONTRACTOR SHALL EMPLOY AN APPROVED SERVICE LOCATOR TO ENSURE THAT EXISTING UNDERGROUND UTILITIES REMAIN UNDISTURBED AND UNDAMAGED
2.

CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO OPENING ANY TRENCHES AS TO PRECAUTION FOR PUBLIC SAFETY.
3.

CONTRACTOR TO FOLLOW OSHA 1926.650-651-652 (TRENCH-STANDARD) APPENDIX A-F.
4.

TRENCHES: FILL UP TO GRADE WITH SUITABLE MATERIAL AND COMPACT, RAKE & REMOVE ROCKS IN EXCESS OF 1/2 INCHES, LAST 2 INCHES MUST BE A 50/50 MIXTURE OF TOP SOIL & SAND TO PROMOTE GRASS GROWING
5.

CLEANUP ALL TRASH AND DEBRIS GENERATED BY THE WORK AND LEAVE COMPLETED WORK IN A CLEAN, UNDAMAGED AND RESTORED CONDITION.
6.

ANY EXISTING SOD, TREES, UTILITIES, IRRIGATION LINES, PUBLIC OR PRIVATE PROPERTY, ETC., DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED, REPLACED AND/OR RESTORED AT THE EXPENSE OF THE CONTRACTOR.
7.

BEFORE SUBMITTING A BID THE CONTRACTOR SHALL VISIT THE SITE AND DETERMINE CONDITIONS AT THE SITE AND ALL EXISTING STRUCTURES IN ORDER TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ELECTRICAL SYSTEMS WHICH WILL IN ANY WAY AFFECT THE WORK REQUIRED UNDER THE CONTRACT. THE CONTRACTOR SHALL INFORM THE OWNER IN WRITING OF ANY DISCREPANCIES FOUND DURING SAID SITE VISIT. NO SUBSEQUENT INCREASE IN CONTRACT COST WILL BE ALLOWED FOR ADDITIONAL WORK REQUIRED BECAUSE OF CONTRACTOR'S FAILURE TO FULFILL THIS REQUIREMENT.
8.

IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR THE COMPLETE ELECTRICAL AND LOW VOLTAGE SYSTEMS AND PROVIDE ALL HARDWARE NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. CONTRACTOR IS RESPONSIBLE TO PROVIDE COMPLETE OPERATING SYSTEM.
9.

ALL UNDERGROUND ELECTRICAL CONDUITS TO BE P.V.C. SCHEDULE 40, UNLESS NOTED OTHERWISE.
10.

PLANS DO NOT SHOW EXISTING UTILITIES. CONTRACTOR SHALL PERFORM A SUE INVESTIGATION REPORT AND SHALL STAKE AND IDENTIFY ALL UTILITIES.
11.

SITE PLAN ONLY SHOWS PROPOSED ROUTING. CONTRACTOR MAY USE ALTERNATE ROUTING DEPENDING ON EXISTING FIELD CONDITIONS.
12.

MAXIMUM OF (4) 90 DEGREES BENDS WILL BE ACCEPTED.
13.

ALL IN-GROUND PULL BOXES TO BE PROVIDED WITH A 3/4" DIA X 10 FT LONG GROUND ROD AND #6 AWG GROUNDING CONDUCTOR BONDED TO GROUND ROD AND METAL COVER.
14.

ALL ELECTRICAL EQUIPMENT SHALL BE MOUNTED ABOVE FLOOD ELEVATION.
15.

ALL UNDERGROUND CONDUITS SHALL BE 36" MINIMUM BELOW GRADE, UNLESS NOTED OTHERWISE.
16.

TRANSFORMER PRIMARY WIRING BY POWER COMPANY.
17.

ABOVE GROUND CONDUITS TO BE PVC SCHEDULE 80. AT THE POWER COMPANY SERVICES POLE, EXTEND 3FT ABOVE GRADE.
18.

WHEN CONDUITS CROSS UNDERGROUND SHALL BE MINIMUM 36" DEPTH BELOW GRADE.
19.

ELECTRICAL PRIMARY TRENCH TO BE 5FT AWAY FROM OTHER UTILITY TRENCH.
20.

SECONDARY TRENCH TO BE MIN. 1FT AWAY FROM OTHER UTILITY TRENCHES

ABBREVIATIONS

(E)	EXISTING TO REMAIN
E.C.	EMPTY CONDUIT
(N)	NEW
(Er)	EXISTING TO BE REMOVED
APPROX.	APPROXIMATE
A.B.G.	ABOVE GROUND
CB.	CIRCUIT BREAKER
Cu	COOPER
EM	EMERGENCY LIGHT HARDWARE W/BATT. BACK UP. CONNECT AHEAD OF ANY LIGHT SWITCH OR LIGHTING CONTROL SYSTEM.
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL (UL/FM LISTED)
FM	FACTORY MUTUAL ENGINEERING ASSOCIATION
G/GND	GROUND CONNECTION
GFI/GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
INT	INTERIOR
M.C.B.	MAIN CIRCUIT BREAKER
N.E.C.	NATIONAL ELECTRIC CODE – NFPA 70
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
PAV	PAVILION
REC	RECEPTACLE(S)
RGS	RIGID GALVANIZED STEEL CONDUIT
SS	STAINLESS STEEL MARINE GRADE ENCLOSURE
UL	UNDERWRITERS LABORATORIES LISTED
UL/FM	UNDERWRITERS LABORATORIES LISTED AND FACTORY MUTUAL APPROVALS
WP	WEATHERPROOF ITEM
WR	WEATHER RESISTANCE

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FIRE PUMP SYSTEM SCOPE AND GUIDE SPECIFICATIONS

The contractor shall design/ build the replacement Fire Pump and Jockey Pump system and associated piping, increaser, reducers, gauges, manifolds, hangers, supports, vibration isolation, equipment and pipe markers, flow arrows, flowmeter systems, sensors, wiring/conduits and all valves including relief valves as required and the pump controllers to be housed in the new building and connect to existing suction and Discharge piping outside the Fire Pump Building. Connect pumps and integrated control system to electrical distribution system. Contractor is responsible to provide the complete operating system including Flow and tamper switches, Fire Alarm and Emergency notifications. The system shall meet current NFPA and local code requirements. Coordinate with all existing systems and site conditions including existing sprinkler heads and the conditions at the dock served. The contractor shall inspect and warranty the operation of existing underground piping if in good condition. If the piping is in bad condition, it shall be replaced. The contractor shall prepare the permit plans signed and sealed by a Florida registered Professional Engineer and submit to the Fire Department and Building Department for review and approval. A set of signed and sealed plans shall be submitted to the owner as well.

Design/ Installation shall meet applicable requirements of ANSI/ASME, IEC, IEEE, NEMA, NEMA MG–1, NFPA, NEC and local codes and ordinances.

The existing inline Fire Pump and Jockey Pump are 40 HP and 1.5 HP motors respectively, 480 V, 3 phase, 60 Hz. The new design can deviate from these Horsepowers to meet the current NFPA requirements. The new electrical design is based on 60 HP Fire Pump motor and will be adjusted when the final Fire Pump and Jockey Pump selection is made by the Design/Build contractor and the owner is informed about the new electrical requirements.

The Inline Fire Pump and Jockey pump (multistage) listed by UL/FM shall have a cast bronze impeller statically and dynamically balanced and keyed to the shaft, steel shaft with bronze sleeve, packed gland with external flush line to the lantern ring suitable for 125 psig suction pressure. Standard: UL 448 for in–line pumps for fire service. Casing: Radially split case, cast iron or stainless steel with ASME B 16.1 pipe–flange connections. Wear Rings: Replaceable bronze Shaft Bearings: Grease lubricated ball bearings in cast–iron housing. Seals: Stuffing box with minimum of four rings of graphite–impregnated braided yarn and bronze packing gland Mounting: Vertical driver shaft with motor above pump and pump on base. Rigid couplings if required. Motor: Vertical, close coupled ODP motor with 1.15 service factor, 480V, 3phase, 60 Hz, UL listed

NFPA Compliance: Comply with NFPA 20 Installation of Stationary Pumps for Fire Protection. Electrical components, Devices and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application. Provide Operation and Maintenance manuals and Warranty documents for each piece of the equipment to the owner. Include contact information of manufacturer and the local representative.

Fire Pump shall be hydrostatically tested to twice the maximum pressure developed at shut off but not less than 275 psi working pressure. Tests shall meet or exceed NFPA 20 standards. The fire pump shall be subjected to a performance test at rated speed. Certified pump performance curves shall be supplied to the owner showing efficiency, brake horsepower at the design head and the total head developed at shut–off at rated capacity and at 150% of rated capacity.

Engage a factory– authorized service representative to inspect components, assemblies and equipment including controllers and to assist in testing, to adjust, operate fire pump system. Factory representative to train owner’s maintenance personnel to adjust, operate and maintain fire pumps.

Test for leaks. Repair leaks and retest until no leak exists. Test Fire pump and its controller as a unit. Start unit and confirm proper motor rotation and unit operation. Test and adjust controls and safeties.

Complete installation and start up checks according to manufacturer’s written instructions

Furnish fire hoses as required to reach storm drain or other acceptable location to dispose of Fire Pump test water.

Prepare Test and Inspection reports and hand over to the owner.

The Pumps manufacturer shall furnish UL/FM listed pump controllers in NEMA 4X SS enclosure, comply with NFPA 20 and NFPA 70, rated for pump driver horsepower and withstand short circuit current rating equal to or greater than short circuit current available at controller locations. Test and inspect fire pump controllers according to NFPA 20 and UL requirements. The controller manufacturer shall manufacture all components of the controller. Brand–labeled components are not acceptable.

The pump controllers shall have microprocessor control complete with a minimum 7” color touchscreen. The color touchscreen shall be 4X rated. Home tab shall be capable of displaying system pressures, three phase voltage and amperage readings, system frequency, date and time. Controllers to have buttons to manually test the pump motor. Controller statistics screen to include minimum of total motor run time, last motor run time, calls to start, maximum starting and run current, LR current, maximum, and minimum system pressure, supply voltage on all phases, Power On, Pump Run, Low suction pressure switch and alarm, Low suction shut down, Extra contacts for Pump Run, AC Power Failure and 2 sets of Form C Contacts each as required and for Phase reversal and common alarm. The touch screen display shall be door mount type that permits exterior programming with the controller door secured. The system shall allow technician to view historical data, statistics, diagnostics and start up information. Provide externally mounted USB port. A pressure sensor shall be provided with adjustable pressure start and stop points. Door mounted Operator interface shall monitor, display and control the devices, alarms, functions and operations listed in NFPA 20 as required for the drivers and the controller types used.

Provide a UL listed Remote alarm panel in NEMA 4X stainless steel enclosure. Coordinate location with the owner and install per NFPA 20 requirements so that annunciation of the alarm conditions is monitored at a point of constant attendance. The alarm panel to have LED visual indication, 12 N.O. inputs from Pump controllers, 12 N.O. or N.C. outputs, Alarm Bell, Test and Silence Push Buttons, Fire Pump start push button, supervisory power, visual indication LED and dry alarm contact. Alarm Panel to have minimum of visual and audible indication of Power/ Phase failure, Phase reversal, Pump Room Alarm, Motor running and motor trouble.

Pump controllers and Alarm Panel to have indication and provision for Emergency Power and Automatic transfer switch for possibility of future generator.

The complete electrical, mechanical, plumbing, fire alarm, fire pumps and piping design and installation shall meet NFPA 20 and UL requirements and owner guidelines

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REVISIONS

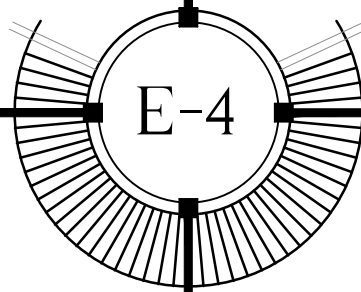
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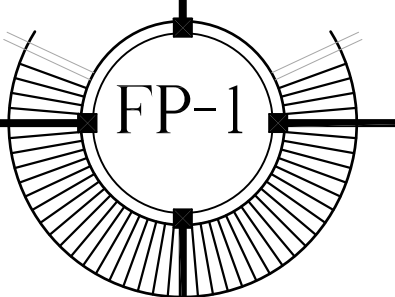
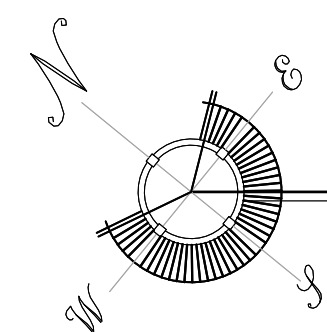
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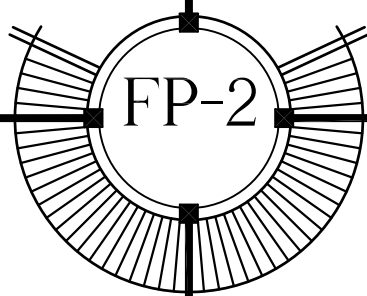
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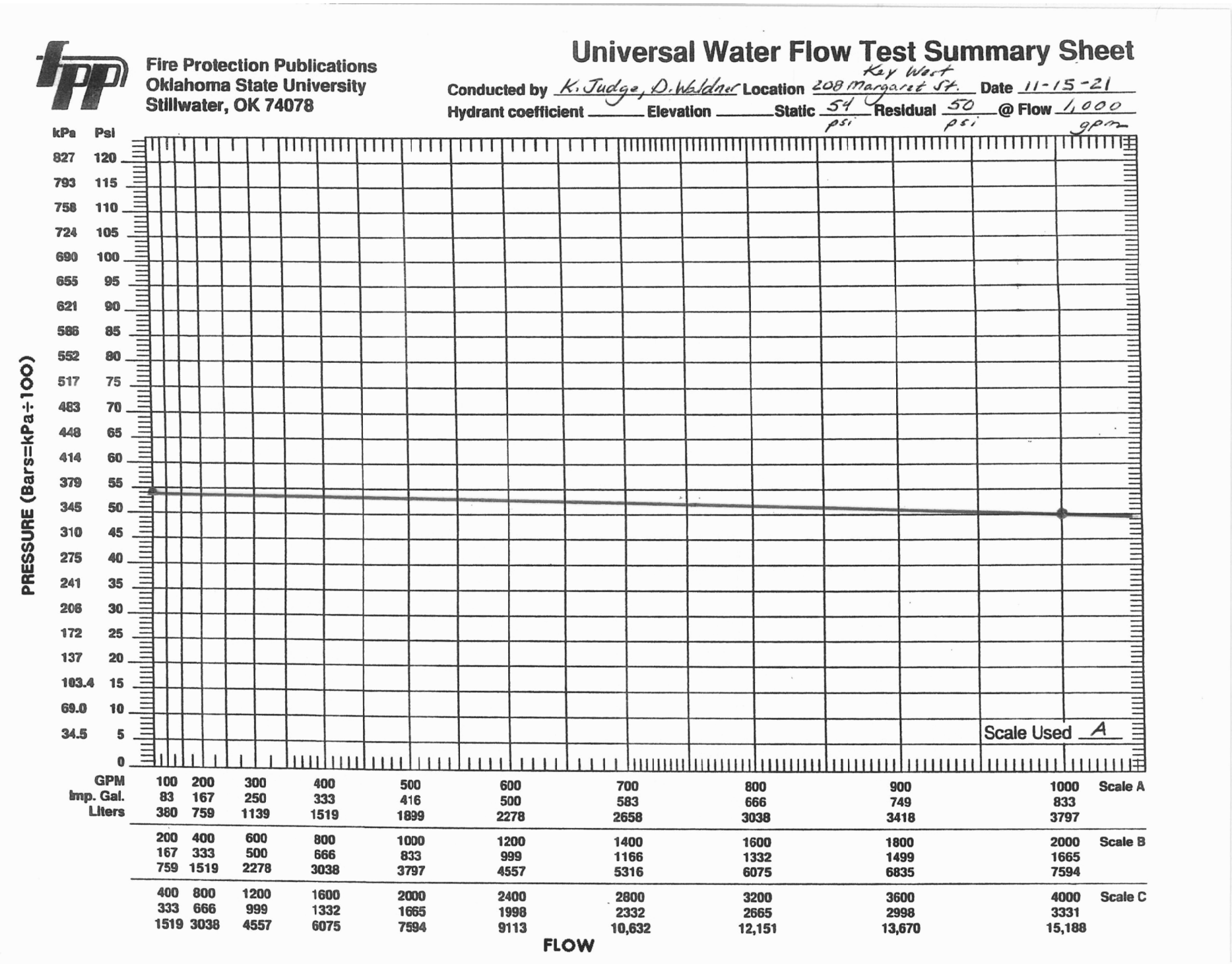
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KEY WEST HISTORIC SEAPORT  
MARGARET STREET - FIRE PUMP BUILDING  
KEY WEST, FLORIDA



**DESIGN OF WATER BASED FIRE PROTECTION SYSTEM**  
Provide a new fire pump replaces the existing fire pump. Refer to the AHJ to establish the final design acceptance.

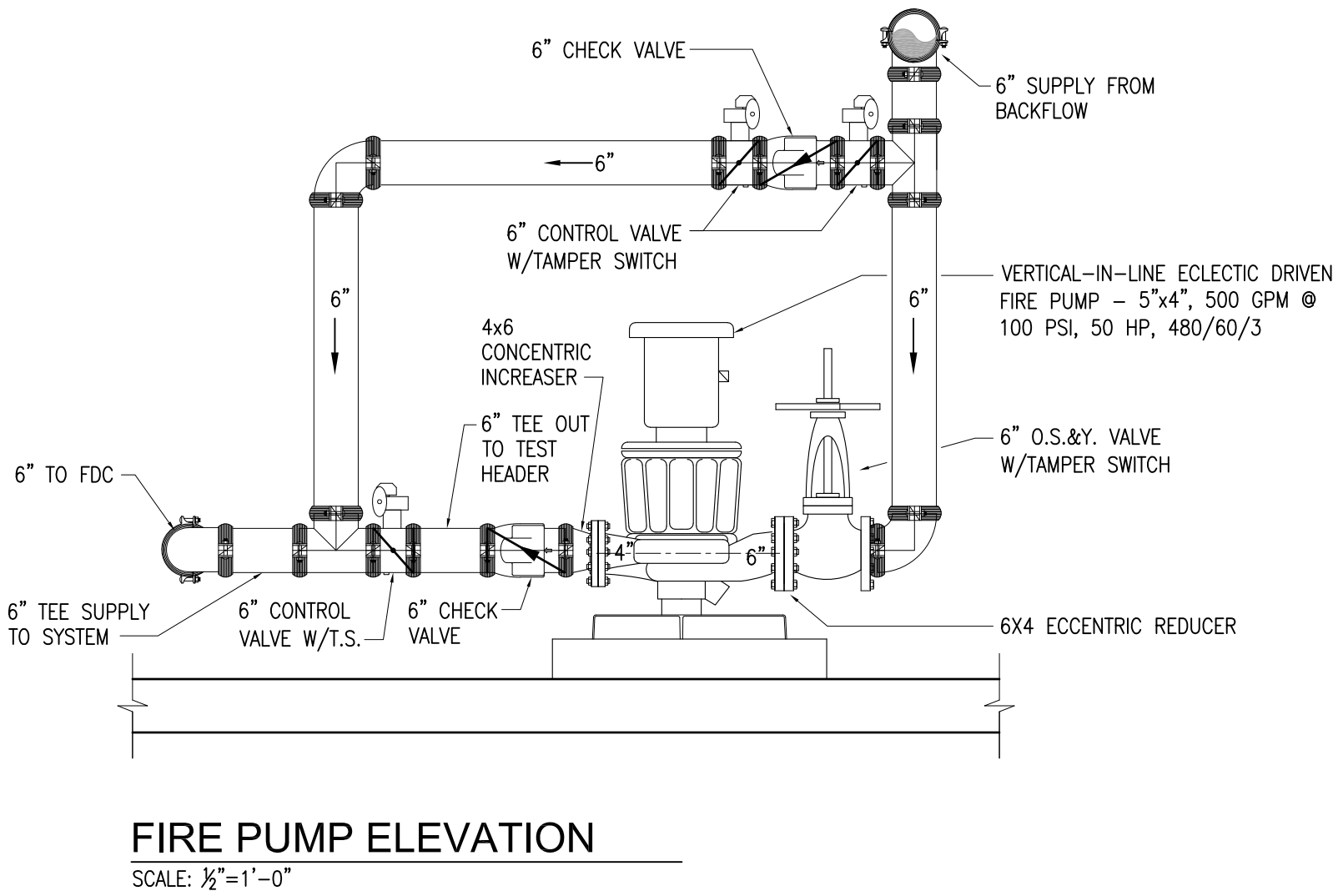
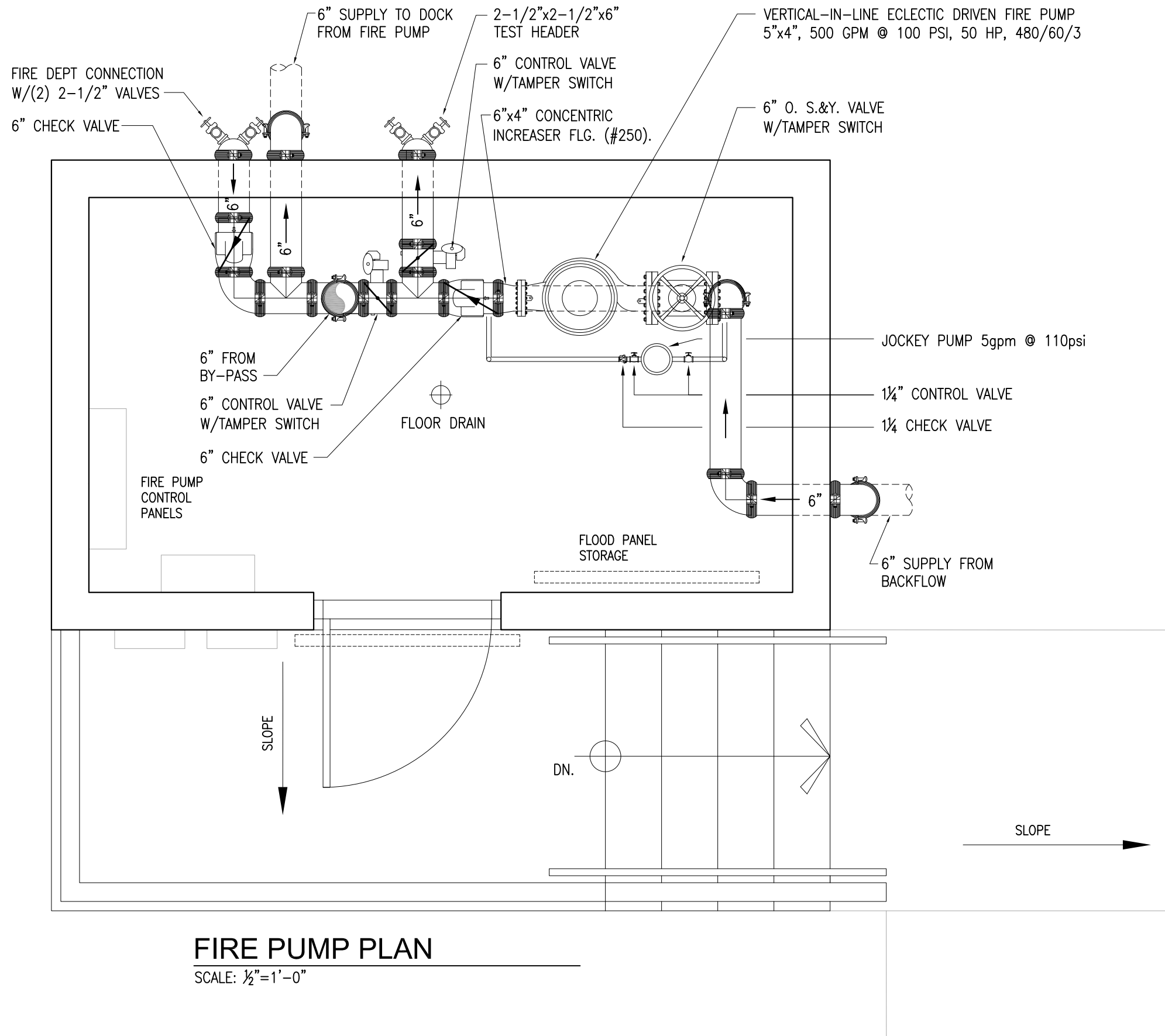
**Fire Pump:**  
Fairbanks Nijhuis Vertical-in-Line or Equal  
5" Intake  
4" Discharge  
500 GPM at 100psi  
231 FT TDH  
3500 RPM  
460/60/3, 50 hp  
Shut off Head = 118 psi

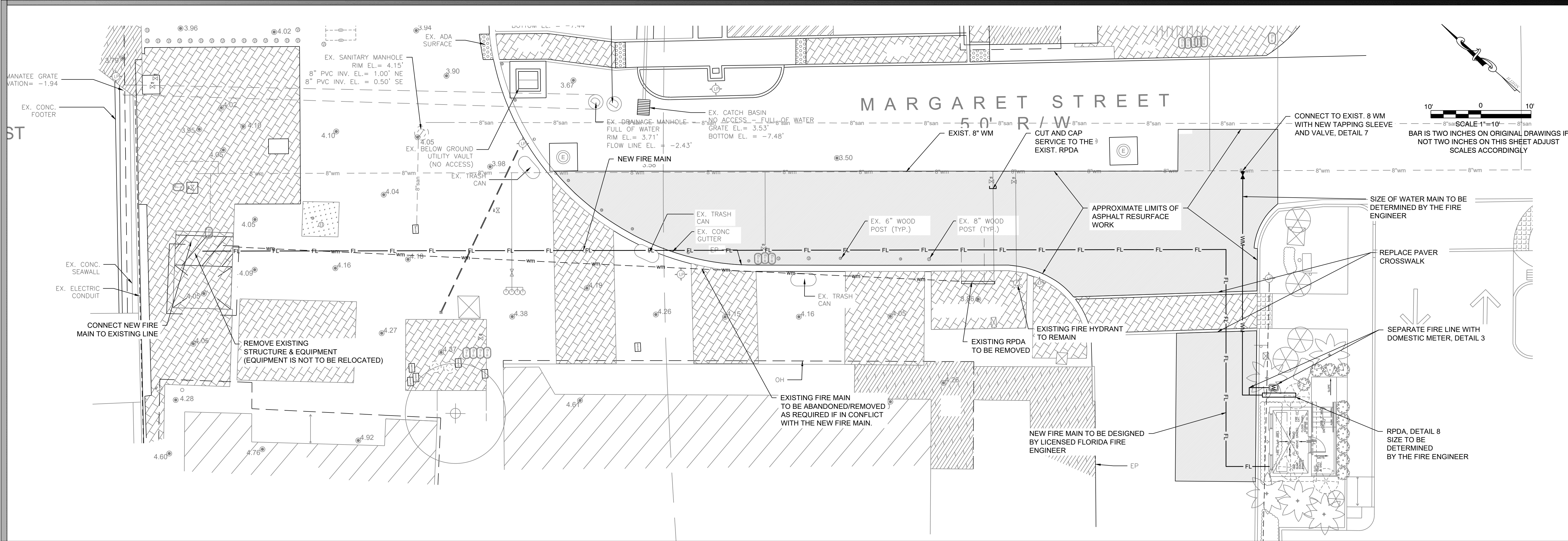
**Fire Pump Controller:**  
Tornatech Model GPA  
Full Voltage Controller for Across the Line Starting of a 50 HP Electric Motor  
100% Starting In-Rush Current, Withstand Rating is 100,000 RMS Symmetrical and Service Entrance Rated for 480/60/3 with in a NEMA 4X- 304 SS Enclosure

**Jockey Pump:**  
5 GPM at 110 psi - or Equal  
1.5 HP  
460/60/3

**Jockey Pump Controller:**  
Tornatech Model JP3  
NEMA 4X - 304 SS Enclosure

- All new underground piping shall be Blue Brute C-900 DR14 (PVC).
- All existing underground to remain and reused must be a minimum of 6"Ø and be tested and approved for use by the current NFPA 24 standard and meet all AHJ requirements. Field verify size. If less than 6", replace with new 6" piping.
- All above ground piping to be galvanized SCH 40.
- All above ground fittings to be galvanized.
- ALL MATERIALS TO BE UL OR FM APPROVED FOR FIRE PROTECTION
- All underground piping shall be run in separate trench. Minimum of 36" depth below grade.
- All piping shall be installed per manufacture recommendations. Water flow direction shall be identified and valves properly tagged.
- All piping shall be painted red (2 coats) per fire department requirements.
- For all additional site plan notes, refer to sheet E-3, notes 1 thru 7, 10 and 11.
- Contractor is responsible to provide complete operating system.





GENERAL NOTES

- THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS AND ADVISE THE ENGINEER OF ANY CONFLICTS OF REPRESENTATION BETWEEN DRAWINGS AND/OR SPECIFICATIONS PRIOR TO COMMENCING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING ANY WORK UNDER THIS CONTRACT AND NOTIFY THE ENGINEER IN WRITING OF ANY DIFFERENCES BEFORE COMMENCING WITH ANY CONSTRUCTION.
- HORIZONTAL COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM. VERTICAL ELEVATIONS ARE BASED ON NGVD 1929 DATUM.
- THE LOCATIONS, SIZES, AND ELEVATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO OBTAIN ANY AVAILABLE RECORD DRAWINGS AND SHALL DETERMINE THE EXACT LOCATION AND ELEVATION IN THE FIELD. THE CONTRACTOR SHALL ANTICIPATE THAT SCANNING AND EXCAVATION USING LIGHT EQUIPMENT AND HAND METHODS WILL BE NECESSARY IN AREAS NEAR EXISTING UTILITIES AND STRUCTURES TO AVOID DAMAGING THESE FACILITIES. THE CONTRACTOR SHALL CONTACT BELLSOUTH, THE LOCAL TELEPHONE COMPANY AND COMCAST, THE LOCAL CABLE TV PROVIDER TO VERIFY THE LOCATION OF BURIED TELEPHONE AND CABLE TV UTILITIES. NONE HAVE BEEN INDICATED ON THE DRAWINGS. CALL 1-800-432-4770 BEFORE DIGGING OR TRENCHING OPERATIONS BEGIN. CONTRACTOR SHALL ALSO CONTACT KEYS ENERGY TO LOCATE SECONDARY ELECTRIC LINES.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION IN THE FIELD PRIOR TO INSTALLING ANY NEW WORK THAT CROSSES OR CONNECTS TO EXISTING UTILITY SYSTEMS. LOCATIONS OF NEW UTILITIES SHALL BE ADJUSTED IN A MANNER APPROVED BY THE ENGINEER TO AVOID CONFLICTS. DAMAGES TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE CLIENT.
- ALL EXCAVATION, TRENCHING, SHEETING, SHORING AND BRACING SHALL BE INSTALLED AS REQUIRED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING OSHA (29 CFR 1926).
- ALL ITEMS INDICATED TO BE REMOVED OR DEMOLISHED SHALL BE REVIEWED WITH THE OWNER TO DETERMINE IF THE ITEM IS TO BE PROPERTY OF THE CONTRACTOR. ALL ITEMS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, UNLESS OTHERWISE NOTED. NO SALVAGE VALUE IS EXPRESSED OR IMPLIED BY THESE CONTRACT DOCUMENTS FOR ANY ITEMS TO BE REMOVED OR DEMOLISHED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THE CONTRACTOR'S EQUIPMENT, MATERIALS, AND PERSONNEL, AND SHALL PROVIDE ADEQUATE BARRIERS TO PREVENT RISK TO OTHERS FROM THE CONTRACTOR'S ACTIVITIES.
- WHERE ACTUAL DIMENSIONS AND SIZES ARE PROVIDED IN THE DRAWINGS, THEY SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS.
- THE CONTRACTOR SHALL SEQUENCE HIS OPERATIONS SUCH THAT ORANGE MESH SAFETY FENCING IS PROVIDED ALONG ALL AREAS BEING TRENCHED AND NO TRENCH IS LEFT OPEN AT THE END OF THE WORK DAY.

FIRE MAIN/SERVICE NOTE:

FIRE MAIN/SERVICE WORK DEPICTED ON THIS PLAN IS ONLY INTENDED TO PROVIDE GENERAL GUIDANCE. FINAL DESIGN AND CALCULATIONS ARE TO BE PROVIDED BY A LICENSED FLORIDA FIRE ENGINEER. DESIGN SHALL BE REVIEWED AND PERMITTED THROUGH FKA.

- NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITH OUT FIRST OBTAINING A CONSTRUCTION METER FROM THE FLORIDA KEYS AQUEDUCT AUTHORITY.
  - IF UNSATISFACTORY MATERIAL FOR ADEQUATE BEARING IS ENCOUNTERED AT THE NORMAL SUBGRADE, THE UNSATISFACTORY MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE FOUNDATION STABILIZATION MATERIAL AS SPECIFIED. REMOVE SOILS AND OTHER MATERIALS THAT ARE NOT SUITABLE MATERIALS FOR TRENCH BOTTOM TO SIX INCHES UNDER PIPE, MINIMUM.
- REMOVE WET, YIELDING, OR MUCKY SOILS. REMOVE THE FOLLOWING SOILS:
- TYPE CH AND TYPE MH CLASS IV SOILS.
  - ALL CLASS V SOILS.
- REMOVE ORGANIC MATERIAL INCLUDING ROOTS, MULCH, OR OTHER VEGETABLE MATTER, WHICH IN THE OPINION OF THE ENGINEER, WILL RESULT IN UNSATISFACTORY FOUNDATION CONDITIONS.
- REMOVE SOILS CONTAINING COBBLES, BOULDERS OR STONES LARGER THAN ONE AND ONE-HALF INCHES (1-1/2") IN DIAMETER.
- REMOVE LEDGE ROCK AND HARDPAN. REMOVE ROCK AND HARDPAN TO PROVIDE BEDDING WIDTH 24 INCHES WIDER THAN PIPE.
- REMOVE SOILS CONTAINING RUBBISH, TRASH, OR OTHER FOREIGN MATERIALS.
- IN GENERAL, EXISTING STRUCTURES AND UTILITIES ARE NOTED AS EXISTING AND/OR SHOWN IN LIGHT LINE WEIGHT. NEW CONSTRUCTION IS SHOWN IN HEAVY LINE WEIGHT.
  - ALL FIELD LAYOUT AND SURVEYING FOR CONSTRUCTION OF THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE, UNDER THE DIRECTION OF A FLORIDA LICENSED PROFESSIONAL LAND SURVEYOR.

- UTILITY PLAN NOTES:
- ALL WORK MUST CONFORM TO FKA MINIMUM DESIGN & CONSTRUCTION STANDARDS & SPECIFICATIONS.
  - NO WORK SHALL BE COMPLETED ON ANY PORTION OF THE FKA WATER MAIN SYSTEM WITHOUT A FKA REPRESENTATIVE ON-SITE.
  - EXACT LOCATION OF UTILITIES SHALL BE DETERMINED IN THE FIELD TO AVOID CONFLICTS.

CIVIL ENGINEERING • REGULATORY PERMITTING • CONSTRUCTION MANAGEMENT

PEREZ ENGINEERING  
& DEVELOPMENT, INC.

KEY WEST OFFICE  
1010 EAST KENNEDY DRIVE, SUITE 201  
KEY WEST, FLORIDA 33040  
TEL: (305) 293-9140 FAX: (305) 296-0243  
CERTIFICATE OF AUTHORIZATION NO. 6579

ALLEN E. PEREZ, P.E.  
Florida P.E. NO. 51468  
February 16, 2022

REVISIONS:  
1  
2  
3  
4  
5  
6

ORIGINAL:  
1  
2  
3  
4  
5  
6

KEY WEST BIGHT PUMP HOUSE  
MARGARET STREET  
KEY WEST, FL 33040  
WATER/FIRE PLAN

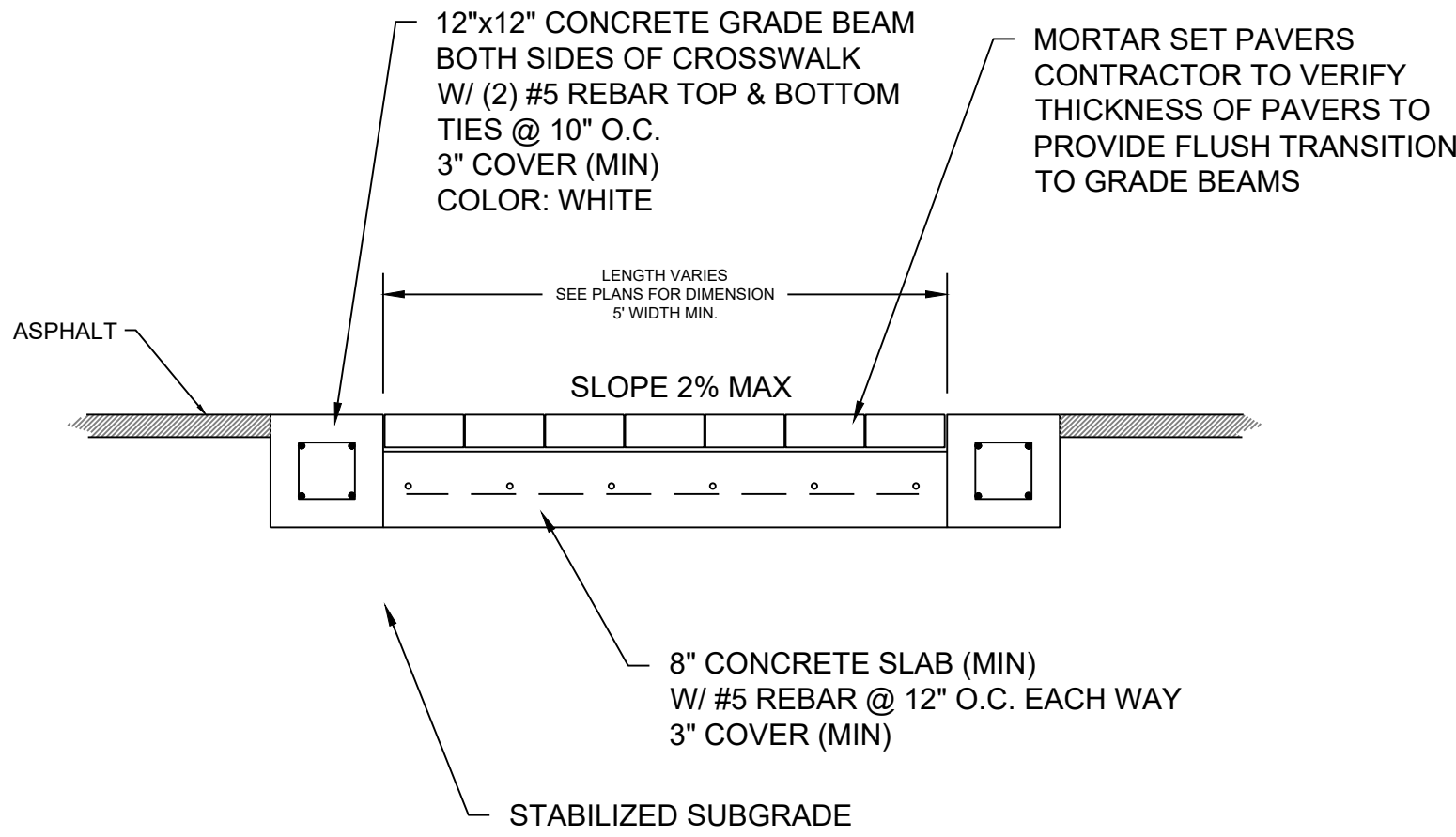
CITY OF KEY WEST  
3132 FLAGLER AVENUE  
KEY WEST, FL 33040

JOB NO. 151053  
DRAWN BGO  
DESIGNED AEP  
CHECKED AEP  
QC  
SHEET

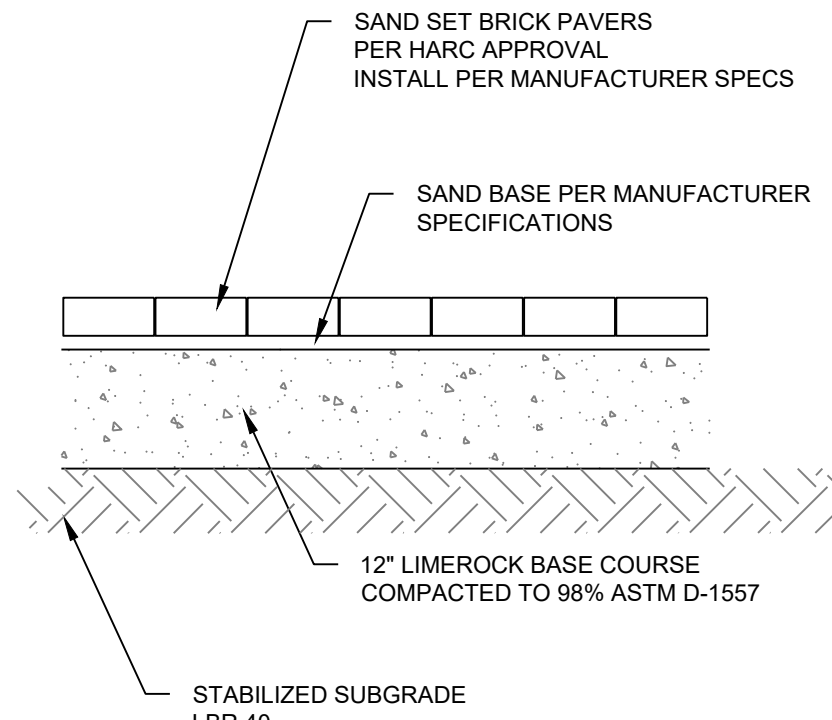
C-1

CONCRETE NOTES

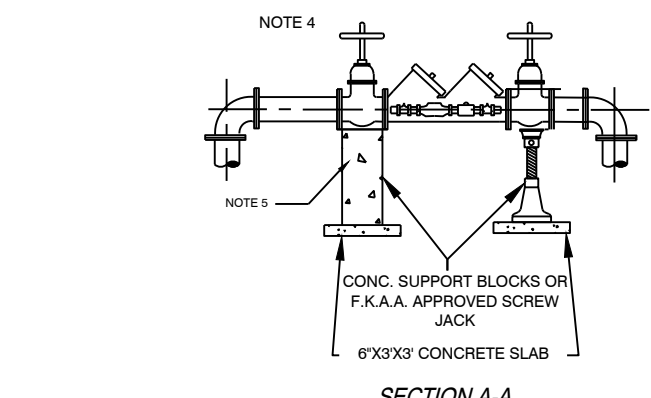
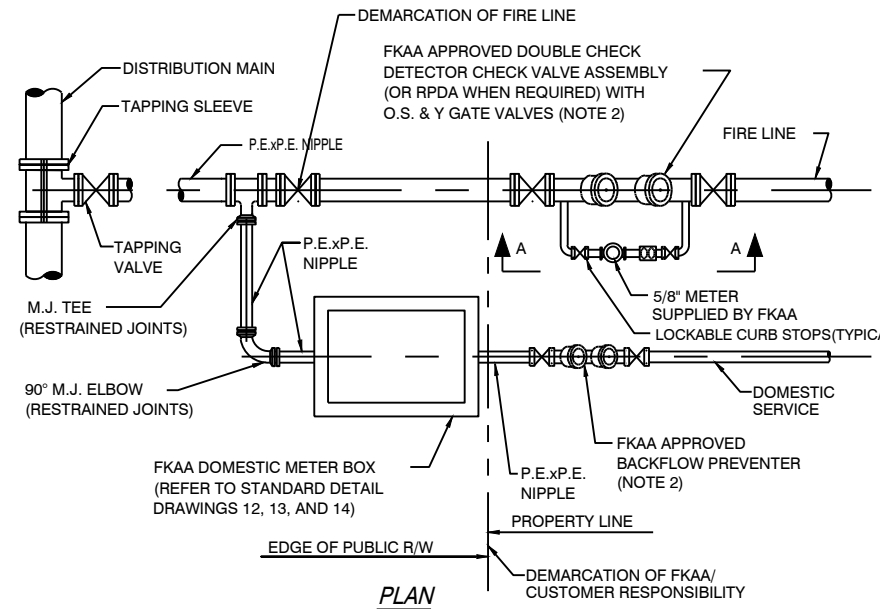
1. ALL CAST-IN-PLACE CONCRETE SHALL BE MADE WITH TYPE I PORTLAND CEMENT, STONE AGGREGATE AND SHALL DEVELOP AT LEAST 3000 PSI COMPRESSIVE STRENGTH IN 28 DAYS. (UNLESS OTHERWISE NOTED.)
2. ALL CONCRETE WORK AND REINFORCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 318. EXPOSED EDGES OF CONCRETE SHALL HAVE 1/2" CHAMFER. USE STANDARD HOOKS ON DOWELS UNLESS OTHERWISE NOTED.
3. CONCRETE FORMS SHALL BE WETTED IMMEDIATELY PRIOR TO PLACING CONCRETE.
4. MIXING, PLACING AND CURING OF ALL CONCRETE MUST BE IN ACCORDANCE WITH ACI 305R. HOT WEATHER CONCRETING. NEW CONCRETE EXPOSED TO DIRECT SUNLIGHT SHALL BE SPRAYED OR MOPPED WITH A CURING COMPOUND TO SEAL IN MOISTURE AFTER THE FINISH HAS SET, OR THE CONCRETE COVERED AND SPRAYED.
5. ALL REINFORCING SHALL BE HIGH STRENGTH DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60.
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND SHALL BE LAPPED ONE FULL MESH AND AT SIDE AND END SPLICES AND WIRED TOGETHER.
7. REINFORCEMENT COVERAGE SHALL BE 3" MINIMUM UNLESS OTHERWISE NOTED.
8. LAP SPLICES SHALL BE A MINIMUM OF 48 BAR DIAMETERS. MAKE ALL BARS CONTINUOUS AROUND CORNERS.
9. PROVIDE ALL ACCESSORIES NECESSARY TO SECURE REINFORCING IN PROPER POSITION AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH ACI 318. ALL ACCESSORIES TO BE GALVANIZED.



1 CONCRETE PAVER CROSSWALK DETAIL  
Not to Scale

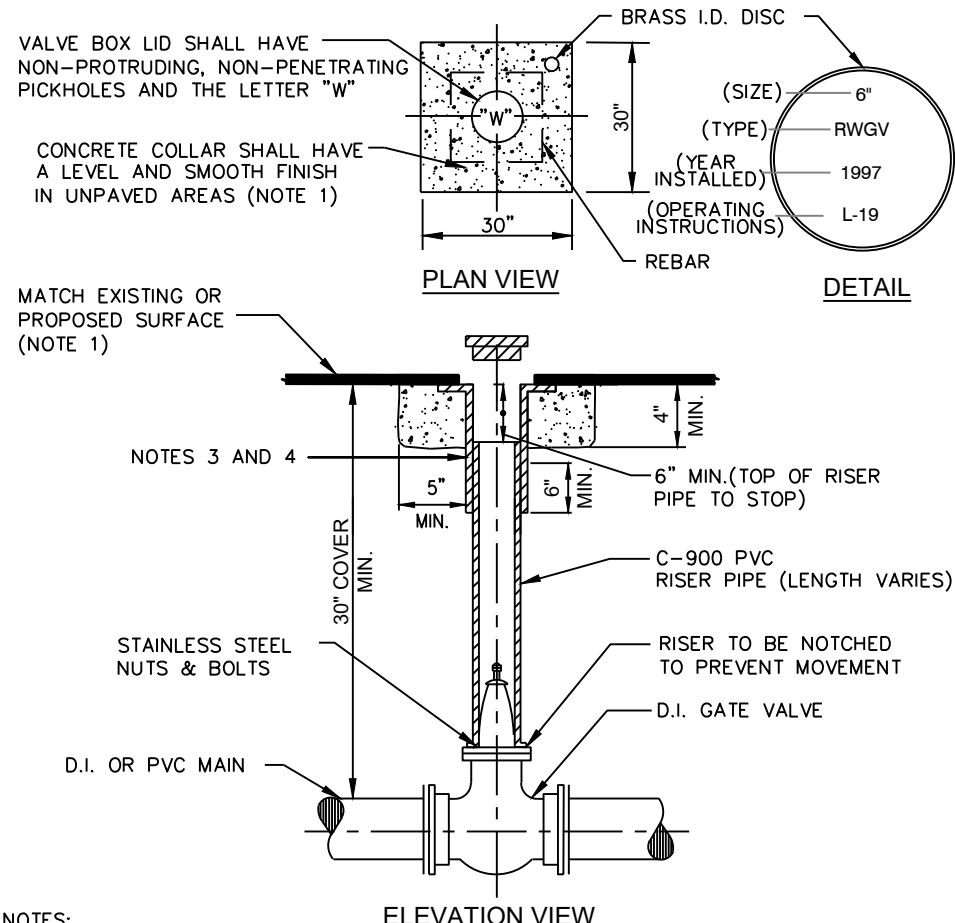


2 PAVER SECTION - NON TRAFFIC  
Not to Scale



- NOTES:
1. P.E. - PLAIN END, M.J. - MECHANICAL JOINT
  2. REFER TO FKA CROSS-CONNECTION CONTROL MANUAL AND FIRE PROTECTION SERVICE REQUIREMENTS IN FKA MINIMUM CONSTRUCTION STANDARDS AND SPECIFICATIONS.
  3. "Y" STRAINER NOT PERMITTED ON SEPARATE FIRE LINE
  4. REFER TO STANDARD DETAIL DRAWING NO. 20, 21 & 22 FOR INSTALLATION DETAILS.
  5. CONCRETE SUPPORT BLOCKS REQUIRED ON 2 1/2" AND LARGER DOUBLE CHECK VALVES.

3 SEPARATE FIRE LINE W/DOMESTIC METER  
Not to Scale



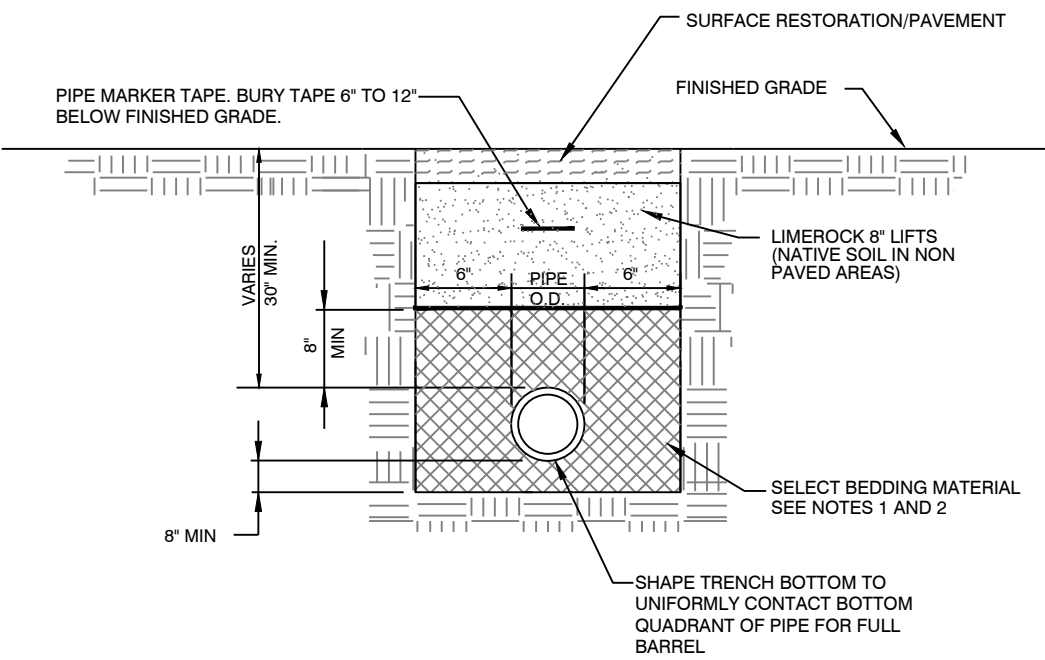
- NOTES:
1. CONCRETE COLLAR ALSO MAY BE FORMED AS A 30" DIA. CIRCLE UNDER PAVEMENT.
  2. IN UNPAVED AREA INSTALL VALVE BOX LID 1/2" ABOVE SURFACE. #5 REBAR SHALL BE REQUIRED.
  3. U.S.F. No. 7615 OR APPROVED EQUAL WITH 6" DIA. RISER FOR VALVES 6" DIA. OR SMALLER.
  4. U.S.F. No. 7630 OR APPROVED EQUAL WITH 10" DIA. RISER FOR VALVES 8" DIA. OR LARGER.
  5. RESTRAIN AS REQUIRED PER DETAIL NO. 3.

4 GATE VALVE AND BOX  
Not to Scale

PVC PIPE RESTRAINT JOINT SCHEDULE									
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS			VERTICAL OFFSETS			REDUCERS		
	90° BENDS (LIFT)	45° BENDS (LIFT)	22.5° BENDS (LIFT)	45° BENDS (LIFT)	90° BENDS (LIFT)	180° BENDS (LIFT)	REDUCERS (LIFT)	REDUCERS (LIFT)	REDUCERS (LIFT)
4	20	8	4	2	20	3	50	10 X 4	35
6	28	10	5	2	28	4	70	10 X 6	35
8	36	14	6	3	36	5	90	10 X 8	35
10	40	18	8	4	45	6	110	10 X 10	35
12	50	20	9	4	50	8	140	10 X 12	35
14	56	23	10	5	60	9	160	10 X 14	35
16	60	26	11	6	67	10	160	10 X 16	35
18	69	29	12	6	74	12	180	10 X 18	35
20	75	32	13	7	80	13	190	10 X 20	35
24	76	33	15	7	81	14	200	10 X 24	35
30	88	36	18	9	97	16	235	10 X 30	35
36	100	40	20	10	110	20	270	10 X 36	35
42	115	48	23	11	125	24	300	10 X 42	35
48	125	52	25	12	140	30	340	10 X 48	35

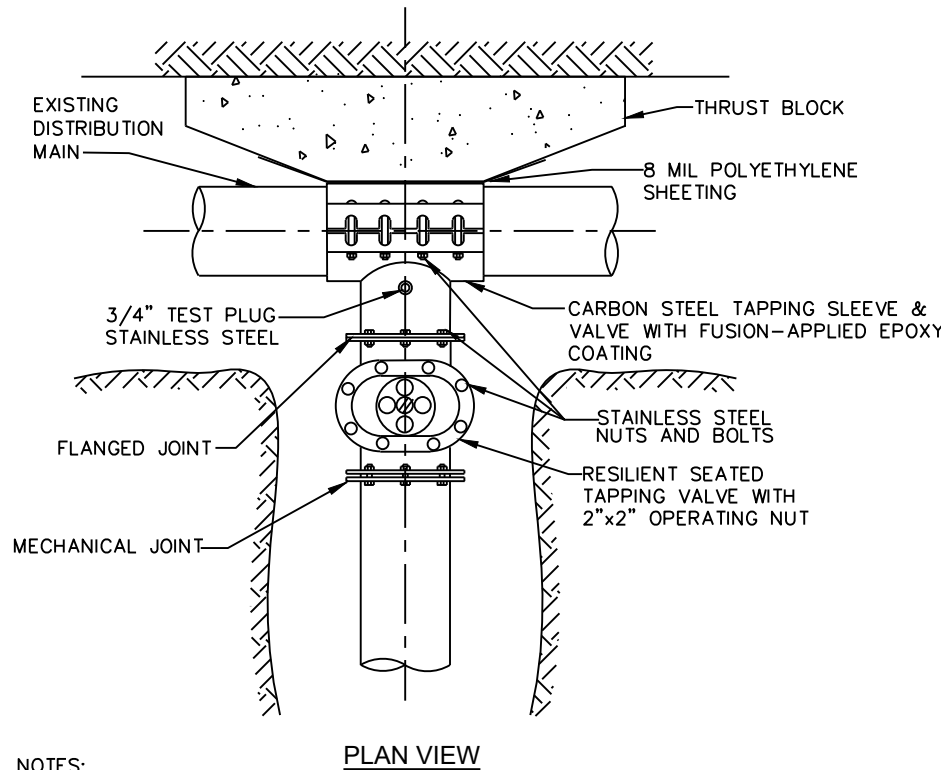
- PVC PIPE RESTRAINT NOTES
1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RELAYED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
  2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR = 1.5, TEST PRESSURE = 150 PSI, SOIL = GM OR SM, TRENCH TYPE 3, DEPTH OF COVER = 36".
  3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
  4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, LU IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. LU IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
  5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN) SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
  6. HOPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FEET (MIN.).

5 RESTRAINED JOINT DISTANCES  
Not to Scale



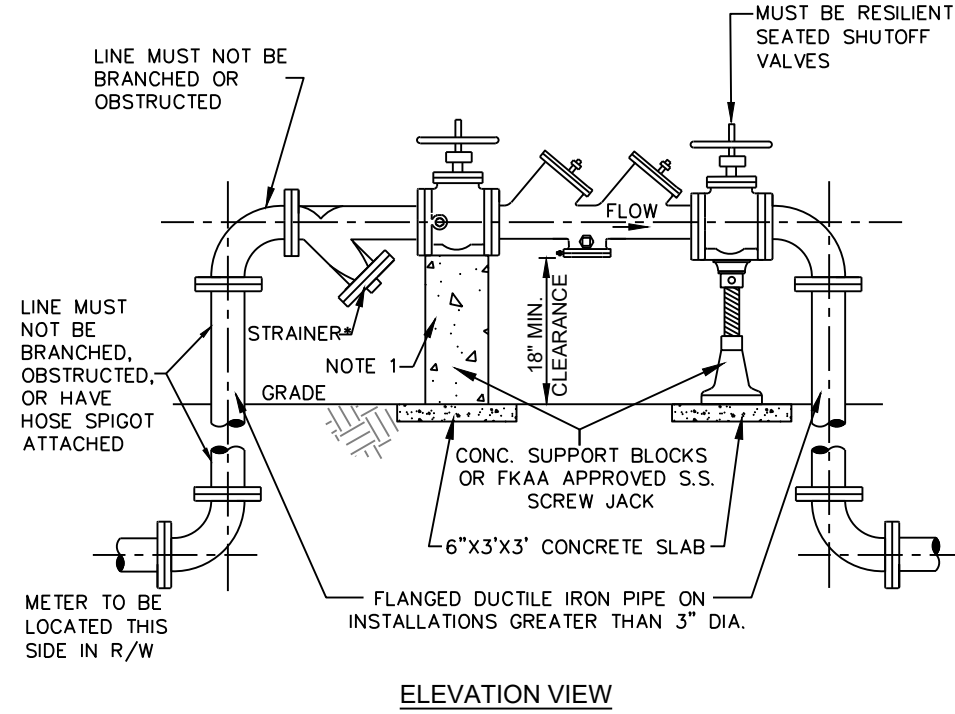
1. PIPE SHALL BE BEDDED IN COMPACTED GRANULAR SELECT MATERIAL FREE OF ROCKS, CLAY, AND ORGANIC MATERIAL. 100 % OF SELECT BEDDING SHALL PASS THROUGH A 3/8" SIEVE.
2. WHEN EXCESSIVE WATER IS ENCOUNTERED IN THE TRENCH AND PUMPING IS NOT PRACTICAL DUE TO FIELD CONDITIONS, THE FLORIDA KEYS AQUIFECT AUTHORITY FIELD REPRESENTATIVE MAY REQUIRE NO. 57 STONE BEDDING. THE MATERIAL SHALL BE WASHED AND FREE OF ALL FINES AND SILTS AND SHALL BE USED AS BEDDING AS DESCRIBED ABOVE OR TO A POINT ABOVE THE WATER TABLE AS DIRECTED BY THE FLORIDA KEYS AQUIFECT AUTHORITY FIELD REPRESENTATIVE. WHICHEVER IS GREATER. BEDDING ABOVE THAT POINT SHALL MEET THE REQUIREMENTS OF SELECT BEDDING AS DESCRIBED PREVIOUSLY.

6 WATER/FIRE MAIN TRENCH DETAIL  
Not to Scale



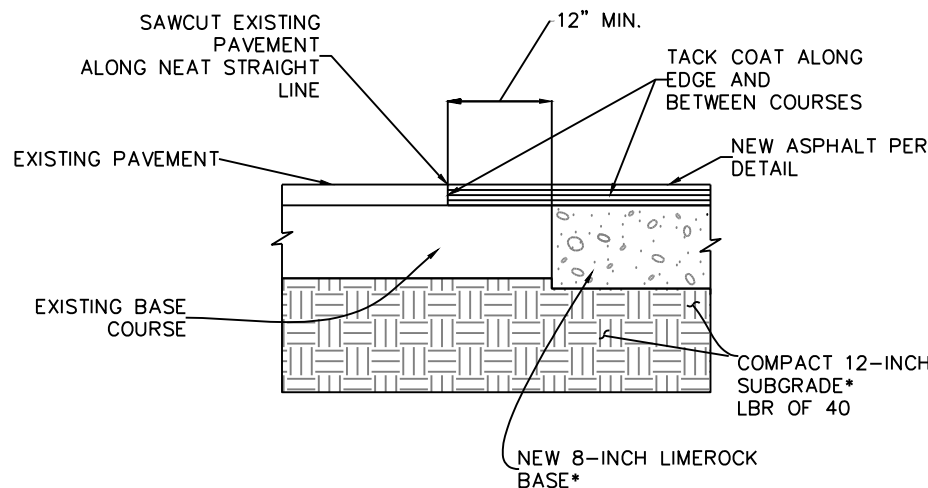
- NOTES:
1. PRESSURE TEST INSTALLED TAPPING SLEEVE AND VALVE ASSEMBLY BEFORE TAPPING EXISTING MAIN. SEE FKA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS.
  2. SEE FKA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS FOR LIST OF APPROVED TAPPING SLEEVES AND VALVES.
  3. ALL TAPS SHALL BE MADE WITH AN APPROVED TAPPING DEVICE.

7 TAPPING SLEEVE AND VALVE  
Not to Scale

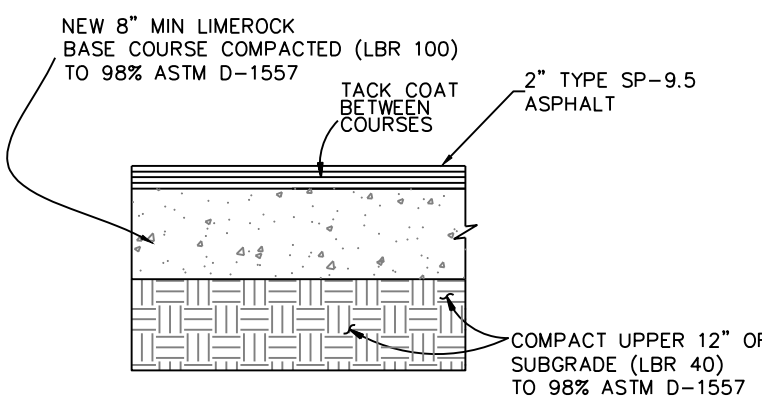


- NOTES:
1. CONCRETE SUPPORT BLOCKS AND "Y" TYPE STRAINER (WITH STANDARD PERFORATED SCREEN) ON 2 1/2" AND LARGER BACKFLOW PREVENTERS.
  2. THE ASSEMBLY MUST BE INSTALLED WITH MINIMUM HORIZONTAL CLEARANCES OF 30" FOR THE SIDE WITH TEST COCKS AND 8" FOR THE BACK SIDE.
  3. ACCEPTABLE ASSEMBLIES ARE THOSE THAT ARE APPROVED BY EITHER ASSE OR FCCCHR AND MEET THE MINIMUM DESIGN STANDARDS OF THE AWWA.
  4. NO STRAINER REQUIRED ON FIRE LINES.

8 2-1/2" TO 10" BACKFLOW PREVENTER  
Not to Scale



9 PAVEMENT CONNECTION TO EXIST. SURFACE  
NTS



10 ASPHALT PAVING  
NTS



SEAL

THESE DRAWINGS MAY  
NOT BE REPRODUCED  
WITHOUT WRITTEN  
AUTHORIZATION BY  
WILLIAM P. HORN

DATE

09-22-2020 HARC SUBMITTAL  
11-01-2020 100% CD SUBMISSION  
12-14-20 LANDSCAPE PLAN

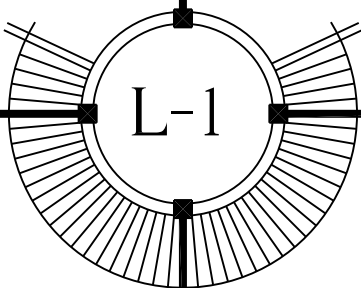
REVISIONS

DRAWN BY

JW  
EMA

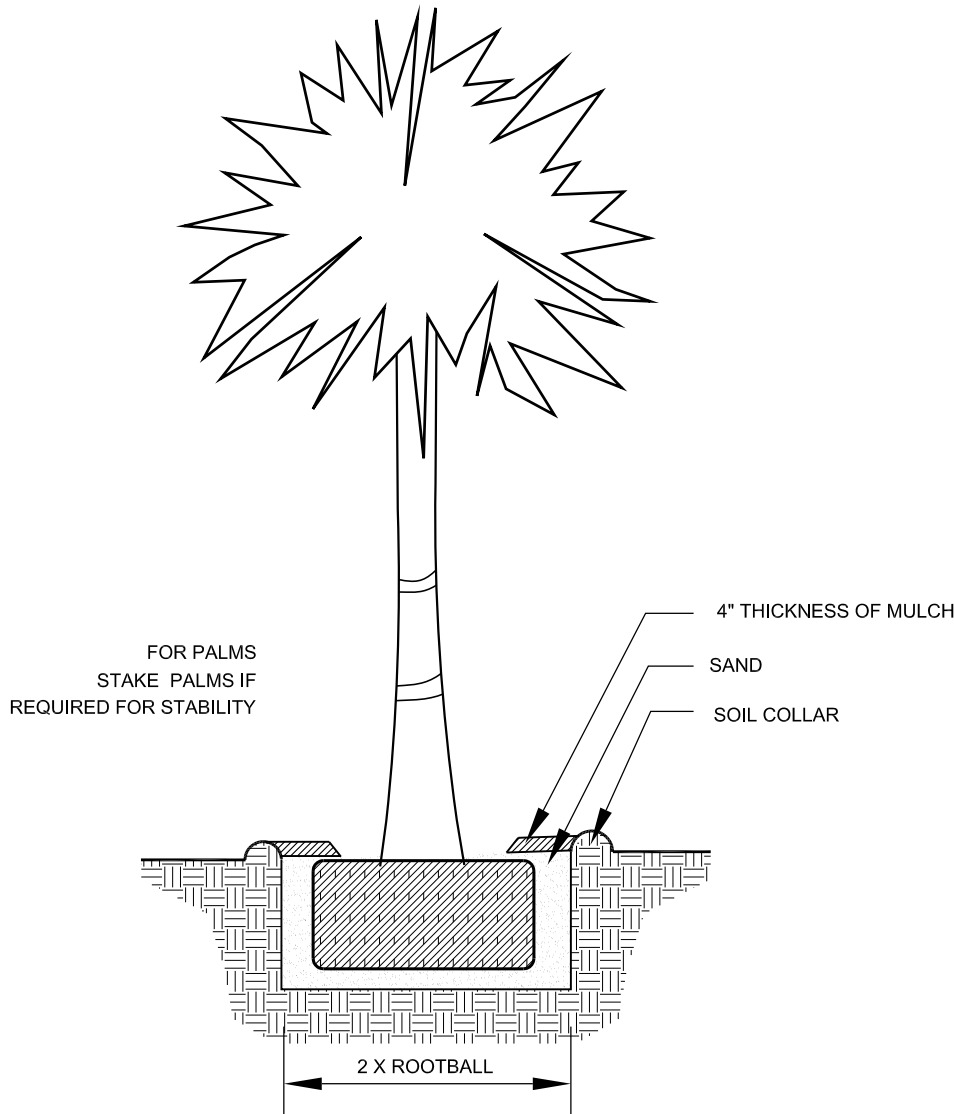
PROJECT  
NUMBER

2012

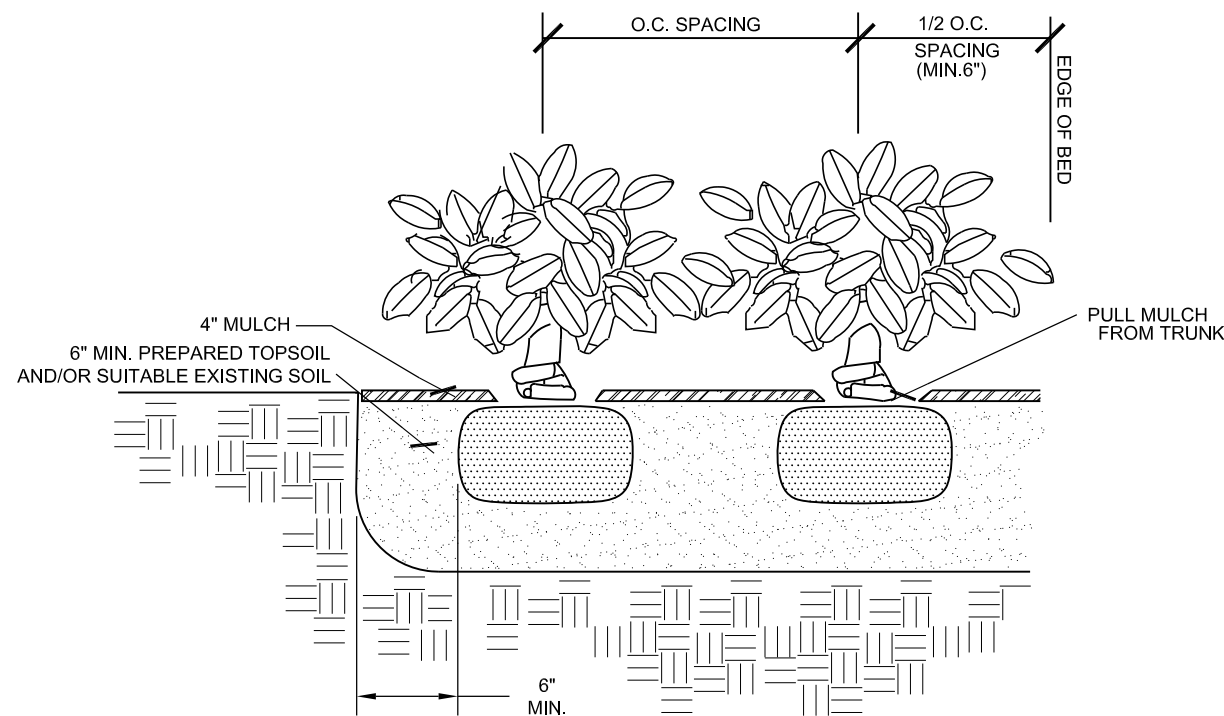


### TREE DISPOSITION LEGEND

- shrub
- tree
- palm
- X's DENOTE MATERIAL TO BE REMOVED  
(NP = Not Protected)
- X's w/Circle DENOTE MATERIAL TO BE RELOCATED



PALM PLANTING DETAIL



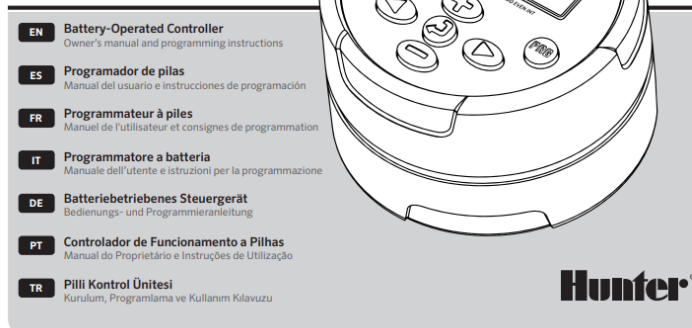
SHRUB PLANTING DETAIL

ALL SHRUBS ARE TO BE POSITIONED VERTICALLY REGARDLESS OF THE SLOPE OF THE GROUND IN WHICH THEY ARE PLANTED. WATER RINGS ARE TO BE CONSTRUCTED AT RIGHT ANGLES TO THE TREE OR SHRUB OR IN A MANNER IN WHICH THEY WILL MOST EFFECTIVELY SERVE THE PURPOSE OF RETAINING WATER AT THE BASE OF THE PLANT.

### PLANT SCHEDULE - PUMP HOUSE LANDSCAPE

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	NOTE	NATIVE	MIT. RATIO	MIT. CREDIT
TREES							
Canopy				or Better			
n/a						Total Canopy Inches	0
Understory						Total Understory Inches	0
n/a							
PALMS							
2	SABAL PALM	<i>Sabal palmetto</i>	relocated from on site	FL #1	NATIVE		
						Total Palms Provided	0
SHRUBS and GROUNDCOVERS							
5	HORIZONTAL COCOPLUM	<i>Chrysobalanus icaco 'Horizontal'</i>	7 gal., full	FL #1	NATIVE	Replaces Shrubs Removed	
SOD & SUNDRY ITEMS							
250 sf	GRAVEL TO MATCH EXISTING						

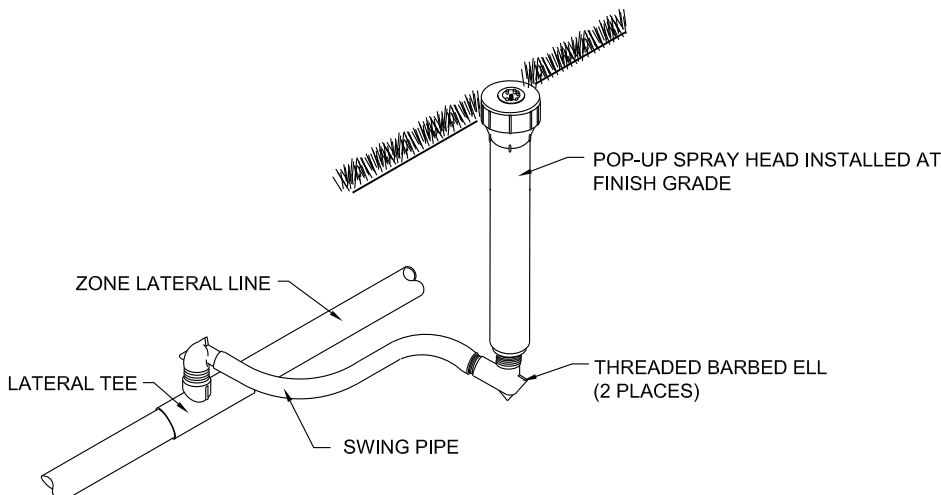
### NODE



HUNTER NODE CONTROLLER

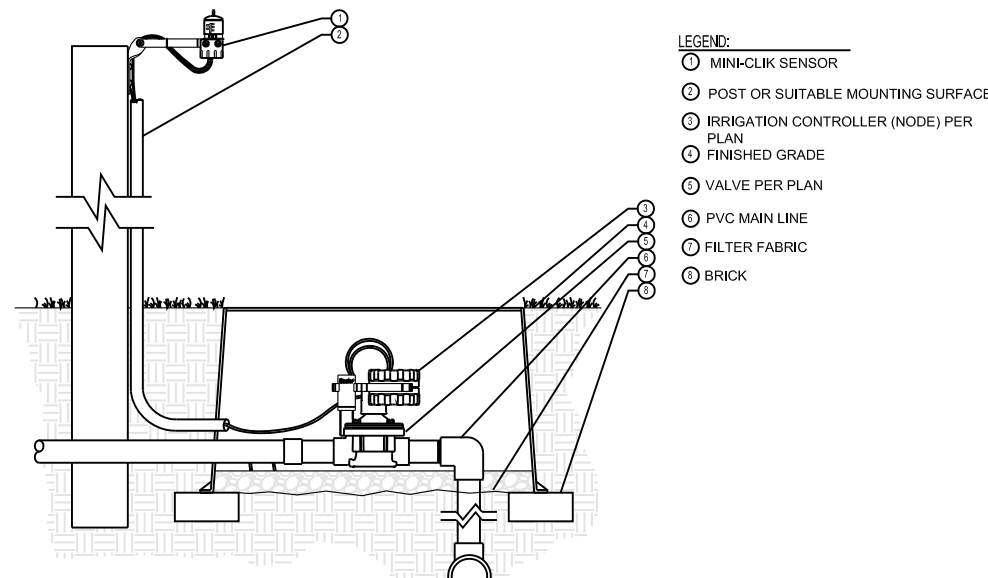
SCALE: NTS

100% IRRIGATION COVERAGE SHALL BE PROVIDED TO ALL NEWLY INSTALLED LANDSCAPE MATERIALS. SYSTEM SHALL BE CONNECTED TO HOSE BIB ON PUMP HOUSE, PROVIDE BATTERY OPERATED CONTROLLER, DELIVER WATER TO MATERIAL UNTIL ESTABLISHED. AS-BUILT IRRIGATION PLAN SHALL BE PROVIDED TO OWNER AT COMPLETION OF PROJECT.



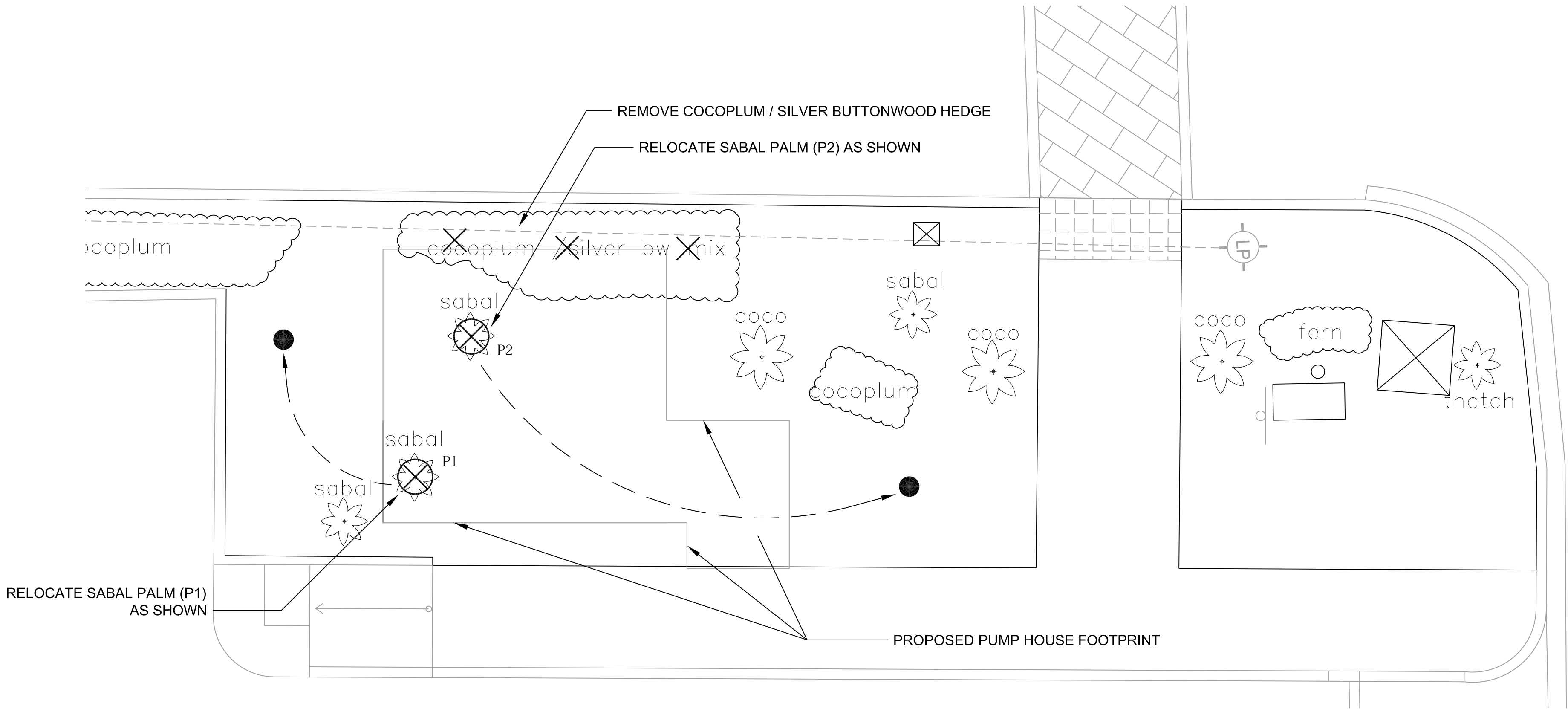
SPRAY HEAD INSTALLATION DETAIL

SCALE: NTS



MINI-CLIK WITH NODE CONTROLLER

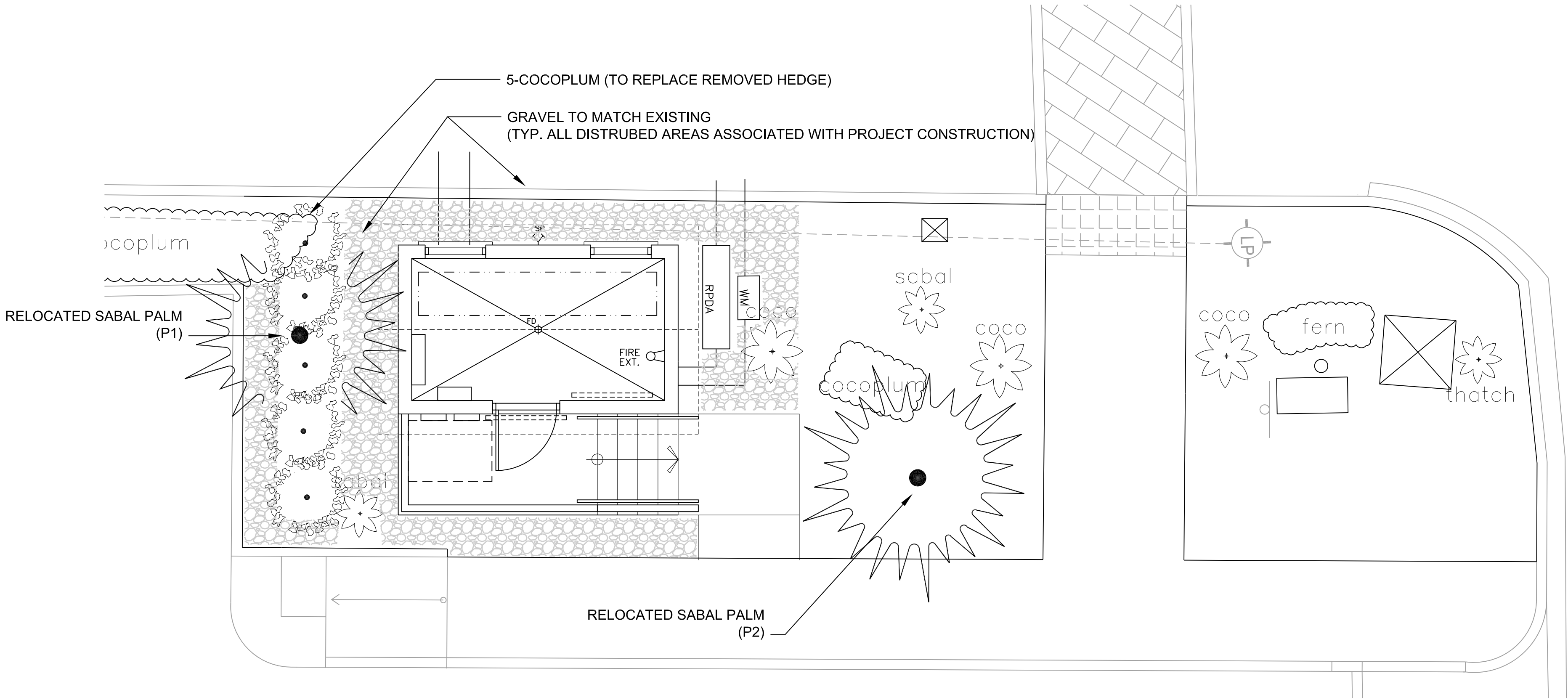
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### EXISTING LANDSCAPE IMPACT

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY  
PREPARED BY FLORIDA KEYS LAND SURVEYING SURVEYOR DATED  
ON 03/08/2019

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



### PROPOSED LANDSCAPE PLAN

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY  
PREPARED BY FLORIDA KEYS LAND SURVEYING SURVEYOR DATED  
ON 03/08/2019

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