

#### ADDENDUM NO. 3

**DATE:** *October 10, 2025* 

TO: All Bidders

FROM: David H. Melvin, P.E.

PROJECT NAME: Marianna Emergency Shelter & Multi-Purpose Facility

PROJECT NUMBER: FLORIDA COMMERCE: CDBG MT137 & CV #H2492

DHM PROJECT NUMBER: MAR22ME

BID DATE: Thursday, October 30, 2025, by 2:00 PM CT (CHANGE)

Please note the following clarifications, corrections, or supplemental information in regard to the above project:

- This Addendum is posted on the OneDrive link under Addendum & RFIs > Addendum #3. The
  OneDrive link is the original link containing the Plans & Specifications. If you do not have the
  link, please request the link from martivickery@melvineng.com.
- 2. RFI are listed on the OneDrive link and are constantly updated.
- 3. Request for approval of product substitution will also be posted on the site.
- 4. Note. All elements of natural gas have been deleted from the project.
- Builder's Risk Insurance is required for the project. Specifications Section C800
   Supplementary Conditions Section 6, Paragraph P has been revised. See Attachment 6.
- Attached are revised Sht. P-0.2 and P-1.1, Specification 15715-Ductless Split System Air Conditioning Units, and Specification 15930 – Directional Digital Controls. See Attachments 2, 3, and 4.
- 7. Attached is a Structural Detail S-7.1. See Attachment 5
- Attached are revised Architectural Specifications 8A-Glass and 11C-Gym Equipment. See
   Attachment 1.

# MARIANNA EMERGENCY SHELTER - MULTI-PURPOSE FACILITY AT THE M.E.R.E.

BID DATE: October 30, 2025 (Changed by this addendum).

BID TIME: 2:00 p.m. Central Time

Addendum #3 10.10.2025

The attention of all Bidders is directed at the following changes in the Drawings and Specifications, which amend and become part of them. It is requested that this Addendum be attached to the Specifications.

Item 1:	Specifications, Section 8A-Glass, Glazing, Aluminum Windows, Storefront, & Curtainwall, Subsection 8A-08 Aluminum Entrance Storefront Entrance Doors, Paragraph F Hardware:					
Addonadin	ADD the following as the first Paragraph:					
	At a minimum, all door hardware for exterior Aluminum Frame Entrance Doors shall meet all requirements of ICC 500 including mandatory debris impact testing, automatic tool free latching that cannot be disabled by impact and labeling by a third party agency indicating compliance.					
Item 2:	Specifications, Section 11C-Gymnasium Equipment, Subsection 11C-04 Basketball Scoreboards, Part 2 Products,					
	Paragraph 2.4 Accessories/Options					
	Eliminate: Subparagraphs A, B, C, D, and items 2, 3, 4, 5, 6, & 7 in E					
	Paragraph 2.5 Control Center					
	Eliminate: Subparagraphs A,C, & D					

#### **SECTION 15930 - DIRECT DIGITAL CONTROLS**

### 1 GENERAL

- 1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- 1.2 Division-15 Basic Mechanical Materials and Methods sections apply to work of this section.
- 1.3 <u>Extent of Energy Management Control And DDC Systems</u> (EMCS/DDC) work required by this section is indicated on drawings and input/output schedules, and by requirements of this section.
- 1.4 <u>Refer to other Division-15 sections</u> for installation of instrument wells, valve bodies and dampers in mechanical systems; not work of this section.
- 1.5 <u>Refer to Division-16 sections</u> for the following work; not work of this section. Power supply wiring for power source to power connection on controls and/or EMCS panels. Include starters, disconnects, and required electrical devices, except where specified as furnished, or factory-installed, by manufacturer.
- 1.6 <u>Provide the following electrical work</u> as work of this section, complying with requirements of Division-16 sections: Control wiring between field-installed controls, equipment, indicating devices, and EMCS/DDC panels.
- 1.7 Codes and Standards:
- 1.7.1 <u>Electrical Standards</u>: Provide electrical products which have been tested, listed and labeled by UL and comply with NEMA standards.
- 1.7.2 <u>NEMA Compliance</u>: Comply with NEMA standards pertaining to components and devices for electric control systems.
- 1.7.3 NFPA Compliance: Comply with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems" where applicable to controls and control sequences.
- 1.7.4 Federal Communication Commission (FCC) as required.
- 1.8 Approval Submittals:
- 1.8.1 <u>Product Data</u>: Submit manufacturer's technical product data for each EMCS/DDC panel and control device furnished, indicating dimensions, capacities, performance characteristics, electrical characteristics, finishes of materials. Include installation instructions and start-up instructions. Provide technical specification data for each component and software module.
- 1.8.2 <u>Shop Drawings</u>: Submit shop drawings for the EMCS/DDC containing the following information prior to install:
- 1.8.2.1 Schematic flow diagram of system showing heat pump units, outside air units, and control devices.
- 1.8.2.2 Label each control device with setting or adjustable range of control.
- 1.8.2.3 Indicate all required electrical wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed. The point-to-point wiring diagram shall show

all interconnections.

- 1.8.2.4 Provide details of faces of EMCS/DDC panels, including controls instruments and labeling.
- 1.8.2.5 Include written description of sequence of operation.
- 1.8.2.6 Provide a scaled floor plan drawing showing location of all conduit, control cabling, junction boxes, control devices, and surge suppression devices.
- 1.8.2.7 Provide a typical graphic for each piece of equipment as it will appear on the digital controls interface.
- 1.9 <u>Test Reports and Verification Submittals:</u>
- 1.9.1 Submit system verification letter from manufacturers representative stating that all HVAC controls have been checked, calibrated, started up and verified for proper operation. State that the Owner training has been completed and provide a roster of attendees.
- 1.10 O&M Data Submittals:
- 1.10.1 <u>Maintenance Data</u>: Submit maintenance instructions and spare parts lists for each type of control device. Include that type data, and a copy of all approval submittals in O&M Manual.
- 1.10.2 System Manual: In addition to the maintenance data requirements, provide an EMCS/DDC Owner's Manual in a separate binder specifically for this project. This manual shall provide a description of the information flow to and from panels and devices and shall describe the overall communications network. The manual shall also include operating instructions, block diagrams, schematics, schedules, and system descriptions. Instruct Owner's personnel with this manual during the required training periods.
- 1.10.3 <u>Software</u>: Submit a copy of all software.
- 1.10.4 <u>Service</u>: Submit name, address, and telephone number of company that will provide service and training for the system.
- 1.10.5 <u>As-Built Drawings:</u> Provide a scaled floor plan drawing showing location of all conduit, control cabling, junction boxes, control devices, and surge suppression devices.
- 2 PRODUCTS
- 2.1 <u>Acceptable Manufacturers</u>: Subject to compliance with requirements, provide EMCS/DDC control systems of one of the following:

Automated Logic Schneider Electric IA Series Trane

2.2 <u>General</u>: Provide EMCS/DDC control products in sizes and capacities indicated, consisting of valves, dampers, sensors, controllers and other components as required for complete installation. Except as otherwise indicated, provide manufacturer's standard control system components as indicated by published product information, designed and constructed as recommended by manufacturer. Provide an EMCS/DDC controls system with the following functional and construction features as indicated. Communications between System Controllers and sub-networks of Custom Application Controllers and/or Application Specific Controllers shall utilize BACnet MSTP (RS485) communications.

- 2.2.1 Each System Controller shall perform communications to a network of Custom Application and Application Specific Controllers using BACnet/MSTP (RS485) as prescribed by the BACnet standard. Each System Controller shall function as a BACnet Router to each unit controller providing a unique BACnet Device ID for all controllers within the system.
- 2.2.2 The Controls Contractor shall provide all communication media, connectors, repeaters and network switches routers necessary for the high speed Ethernet communications network.
- 2.2.3 All values within the system (i.e. schedules, datalogs, points, software variables, custom program variables) shall be readable and controllable (where appropriate) by any System Controller or BACnet Workstation on the communications network via BACnet.

#### 2.3 Quality Assurance:

- 2.3.1 Provide equipment of firms regularly engaged in manufacture of EMCS/DDC equipment, of types required, whose products have been in satisfactory use in similar service for not less than three years. Provide evidence that software has been in use satisfactorily for at least one year.
- 2.3.2 Contractor shall have at least three years experience in the installation and servicing of EMCS/DDC equipment similar to that being installed. Contractor shall have an office within 100 miles of the project and shall maintain a remote terminal capable of communication with the EMCS/DDC during the year warranty period.
- 2.4 <u>Dampers</u>: Refer to Division-15 Section "Ductwork Accessories" for dampers. Actuators are work of this section.
- 2.5 <u>Actuator Motors</u>: Size each motor to operate dampers or valves with sufficient reserve power to provide smooth modulating action or two position action as specified.
- 2.5.1 <u>Provide permanent split-capacitor</u> or shaded pole type motors with gear trains completely oil-immersed and sealed. Equip spring-return motors, where indicated on drawings or in operational sequence, with integral spiral-spring mechanism. Furnish entire mechanism in housing designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.
- 2.5.2 <u>Equip motors for outdoor</u> locations and for outside air intakes with "O-ring" gaskets designed to make motors completely weatherproof, and equip with internal heaters to permit normal operation at 10°F.
- 2.5.3 <u>Furnish non-spring return motors</u> for dampers larger than 25 sq. ft. and for valves larger than 2½". Size for running torque rating of 150 inch-pounds and breakaway torque rating of 300 inch-pounds. Size spring-return motors for running torque rating of 150 inch-pounds and breakaway torque rating of 150 inch-pounds.

# 2.6 <u>EMCS/DDC Associated Components</u>:

- 2.6.1 Provide field-programmable microprocessor-based, stand-alone EMCS/DDC panels as specified herein. The EMCS/DDC panel manufacturer shall be responsible for the complete engineering of the panel. The panel shall be UL listed and housed in a key locked metal cabinet. Parts shall be plug in (modular) for easy repair or expansion. Power input shall be 24V or 120 V. Relays and contacts shall be rated at 24 VA at 24 VAC or 125 VA at 120 and 230 VAC, as required.
  - 1. The System Controller shall have sufficient memory to support its operating system, database, and programming requirements.

- 2. The controller shall provide a USB communications port for connection to a PC
- 3. The operating system of the Controller shall manage the input and output communications signals to allow distributed controllers to share real and virtual point information and allow central monitoring and alarms.
- 4. All System Controllers shall have a real time clock.
- 5. Data shall be shared between networked System Controllers.
- 6. The System Controller shall continually check the status of its processor and memory circuits. If an abnormal operation is detected, the controller shall:
  - a. Assume a predetermined failure mode.
  - b. Generate an alarm notification.
  - Create a retrievable file of the state of all applicable memory locations at the time of the failure.
  - d. Automatically reset the System Controller to return to a normal operating mode.
- 7. Environment. Controller hardware shall be suitable for the anticipated ambient conditions. Controller used in conditioned ambient shall be mounted in an enclosure, and shall be rated for operation at -40 F to 122 F.
- 8. Clock Synchronization.
  - a. All System Controllers shall be able to synchronize with a NTP server for automatic time synchronization.
  - b. All System Controllers shall be able to accept a BACnet time synchronization command for automatic time synchronization.
  - c. All System Controllers shall automatically adjust for daylight savings time if applicable.
- 9. Serviceability
  - a. Provide diagnostic LEDs for power, communications, and processor.
  - b. The System Controller shall have a display on the main board that indicates the current operating mode of the controller.
  - c. All wiring connections shall be made to field removable, modular terminal connectors.
  - d. The System controller shall utilize standard DIN mounting methods for installation and replacement.
- 10. Memory. The System Controller shall maintain all BIOS and programming information indefinitely without power to the System controller
- 11. Immunity to power and noise. Controller shall be able to operate at 90% to 110% of nominal voltage rating and shall perform an orderly shut-down below 80% nominal voltage
- 12. BACnet Test Labs (BTL) Listing. Each System Controller shall be listed as a Building Controller (B-BC) by the BACnet Test Labs.
- 2.7 <u>EMCS/DDC Functions</u>: Furnish the following applications software for building and energy management. All software applications shall reside and run in the system controllers. Editing of applications shall occur at the operator interface.
  - Scheduling. Provide the capability to schedule each object or group of objects in the system. Each of these schedules shall include the capability for start, stop, optimal start, optimal stop, and night economizer actions. Each schedule may consist of up to [10] events. When a group of objects are scheduled together, provide the capability to define advances and delays for each member. Each schedule shall consist of the following:
    - a. Weekly Schedule. Provide separate schedules for each day of the week.
    - b. Exception Schedules. Provide the ability for the operator to designate any day of the year as an exception schedule. This exception schedule shall override the standard schedule for that day. Exception schedules may be defined up to a year in advance. Once an exception schedule is executed it will be discarded and replaced by the standard schedule for that day of the week.
    - c. Holiday Schedules. Provide the capability for the operator to define up to 99 special or holiday schedules. These schedules may be placed on the scheduling calendar

- and will be repeated each year. The operator shall be able to define the length of each holiday period.
- d. Optimal Start. The scheduling application outlined above shall support an optimal start algorithm. This shall calculate the thermal characteristics of a zone and start the equipment prior to occupancy to achieve the desired space temperature at the specified occupancy time. The algorithm shall calculate separate sets of heating and cooling rates for zones that have been unoccupied for less then and greater than 24 hours. Provide the ability to modify the start algorithm based on outdoor air temperature. Provide an early start limit in minutes to prevent the system from starting before an operator determined time limit.

#### 2. Trend Log Application

- a. Trend log data shall be sampled and stored on the System Controller panel and shall capable of being archived to a BACnet Workstation for longer term storage.
  - 1) Trend logs shall include interval, start-time, and stop-time.
  - 2) Trend log intervals shall be configurable as frequently as 1 minute and as infrequently as 1 year.
- b. Automated Trend Logs.
  - 1) The system controller shall automatically create trend logs for defined key measurements for each controlled HVAC device and HVAC application.
  - 2) The automatic trend logs shall monitor these parameters for a minimum of 7 days at 15 minute intervals. The automatic trend logs shall be user adjustable.

# 3. Alarm/Event Log

- a. Any object in the system shall be configurable to generate an alarm when transitioning in and out of a normal or fault state.
- b. Any object in the system shall allow the alarm limits, warning limits, states, and reactions to be configured for each object in the system.
- c. An alarm/event shall be capable of triggering any of the following actions:
  - 1) Route the alarm/event to one or more alarm log. The alarm message shall include the name of the alarm location, the device that generated the alarm, and the alarm message itself.
  - 2) Route an e-mail message to an operator(s)
  - 3) Log a data point(s) for a period of time
  - 4) Run a custom control program
- 4. Point Control. User shall have the option to set the update interval, minimum on/off time, event notification, custom programming on change of events.
- 5. Timed Override. A standard application shall be utilized to enable/disable temperature control when a user selects on/cancel at the zone sensor, operator interface, or the local operator display. The amount of time that the override takes precedence will be selectable from the operator interface.
- 6. Anti-Short Cycling. All binary output points shall be protected from short cycling

# 2.8 Operator Interface:

- 1. Operator Interface
  - a. The operator interface shall be accessible via a web browser.
  - b. The operator interface shall support the following Internet web browsers:
    - 1) Internet Explorer 8.0+
  - c. The operator interface shall support the following mobile web browsers:
    - 1) iOS (iPad/iPhone) V4.0+
    - 2) Android (Phone) V2.3+
- 2. Mobile App Operator Interface
  - a. Mobile App Operator Interface shall support the following Operating systems
    - 1) Apple iOS 5
    - 2) Apple iOS 6
    - 3) Android V2.3
    - 4) Android V4.0

- 5) Android V4.1
- The operator interface shall support system access on a mobile device via a mobile app to:
  - Alarm log
  - 2) System Status
  - 3) Equipment status
  - 4) Space Status
  - 5) Standard Equipment graphics
- c. The operator interface shall support actions on a mobile device via a mobile app to:
  - 1) Override set points
  - 2) Override occupancy
  - 3) Acknowledge Alarms
  - 4) Comment on Alarms
- d. System Security
  - 1) Each operator shall be required to login to the system with a user name and password in order to view, edit, add, or delete data.
  - 2) User Profiles shall restrict the user to only the objects, applications, and system functions as assigned by the system administrator.
  - 3) Each operator shall be allowed to change their user password
  - 4) The System Administrator shall be able to manage the security for all other users
  - 5) The system shall include pre-defined "roles" that allow a system administrator to quickly assign permissions to a user.
  - 6) User logon/logoff attempts shall be recorded.
  - 7) The system shall protect itself from unauthorized use by automatically logging off following the last keystroke. The delay time shall be user definable.
  - 8) All system security data shall be stored in an encrypted format.
- e. Database
  - 1) Database Save. A system operator with the proper password clearance shall be able to archive the database on the designated operator interface PC.
  - Database Restore. The system operator shall also be able to clear a panel database and manually initiate a download of a specified database to any panel in the system.
- f. On-Line Help and Training
  - 1) Provide a context sensitive, on line help system to assist the operator in operation and configuration of the system.
  - 2) On-line help shall be available for all system functions and shall provide the relevant data for each particular screen.
- g. System Diagnostics
  - 1) The system shall automatically monitor the operation of all network connections, building management panels, and controllers.
  - 2) The failure of any device shall be annunciated to the operators.
- h. Equipment & Application Pages
  - 1) The operator interface shall include standard pages for all equipment and applications. These pages shall allow an operator to obtain information relevant to the operation of the equipment and/or application, including:
    - a) Animated Equipment Graphics for each major piece of equipment and floor plan in the System. This includes:
      - (1) Each Outside Air Unit (OAU), VRF Heat Pump(MHP), and VRF indoor units (AHU). These graphics shall show all points dynamically as specified in the points list.
      - (2) Animation capabilities shall include the ability to show a sequence of images reflecting the position of analog outputs, such as valve or damper positions. Graphics shall be capable of launching other web pages.
    - b) Alarms relevant to the equipment or application without requiring a user to navigate to an alarm page and perform a filter.

- c) Historical Data (As defined in Automatic Trend Log section below) for the equipment or application without requiring a user to navigate to a data log page and perform a filter.
- i. System Graphics. Operator interface shall be graphically based and shall include at least one graphic per piece of equipment or occupied zone, and graphics that summarize conditions on each floor included in this contract. Indicate thermal comfort on floor plan summary graphics using colors to represent zone temperature relative to zone set point.
  - 1) Functionality. Graphics shall allow operator to monitor system status, to view a summary of the most important data for each controlled zone or piece of equipment, to use point and-click navigation between zones or equipment, and to edit set points and other specified parameters.
  - 2) Graphic imagery graphics shall use 3D images for all standard and custom graphics. The only allowable exceptions will be photo images, maps, schematic drawings, and selected floor plans.
  - 3) Animation. Graphics shall be able to animate by displaying different Image lies for changed object status.
  - 4) Alarm Indication. Indicate areas or equipment in an alarm condition using color or other visual indicator.
  - 5) Format. Graphics shall be saved in an industry-standard format such as BMP, JPEG, PNG, or GIF. Web-based system graphics shall be viewable on browsers compatible with World Wide Web Consortium browser standards. Web graphic format shall require no plug-in (such as HTML and JavaScript) or shall only require widely available no-cost plug-ins (such as Active-X and Macromedia Flash).

#### Custom Graphics

- 1) The operator interface shall be capable of displaying custom graphics in order to convey the status of the facility to its operators.
- 2) Graphical Navigation. The operator interface shall provide dynamic color graphics of building areas, systems and equipment.
- 3) Graphical Data Visualization. The operator interface shall support dynamic points including analog and binary values, dynamic text, static text, and animation files.
- 4) Custom background images. Custom background images shall be created with the use of commonly available graphics packages such as Adobe Photoshop. The graphics generation package shall create and modify graphics that are saved in industry standard formats such as GIF and JPEG.
- k. Graphics Library. Furnish a library of standard HVAC equipment such as chillers, air handlers, terminals, fan coils, unit ventilators, rooftop units, and VAV boxes, in 3-dimensional graphic depictions. The library shall be furnished in a file format compatible with the graphics generation package program.
- I. Manual Control and Override.
  - 1) Point Control. Provide a method for a user to view, override, and edit if applicable, the status of any object and property in the system. The point status shall be available by menu, on graphics or through custom programs.
  - 2) Temporary Overrides. The user shall be able to perform a temporary override wherever an override is allowed, automatically removing the override after a specified period of time.
  - 3) Override Owners. The system shall convey to the user the owner of each override for all priorities that an override exists.
  - 4) Provide a specific icon to show timed override or operator override, when a point, unit controller or application has been overridden manually.

# m. Engineering Units

1) Allow for selection of the desired engineering units (i.e. Inch pound or SI) in the system.

- 2) Unit selection shall be able to be customized by locality to select the desired units for each measurement.
- 3) Engineering units on this project shall be IP.
- Scheduling. A user shall be able to perform the following tasks utilizing the operator interface:
  - a. Create a new schedule, defining the default values, events and membership.
  - b. Create exceptions to a schedule for any given day.
  - c. Apply an exception that spans a single day or multiple days.
  - d. View a schedule by day, week and month.
  - e. Exception schedules and holidays shall be shown clearly on the calendar.
  - f. Modify the schedule events, members and exceptions.

#### 4. Trend Logs

- a. Trend Logs Definition.
  - 1) The operator interface shall allow a user with the appropriate security permissions to define a trend log for any data in the system.
  - 2) The operator interface shall allow a user to define any trend log options as described in the Application and Control Software section.
- b. Trend Log Viewer.
  - 1) The operator interface shall allow Trend Log data to be viewed and printed.
  - 2) The operator interface shall allow a user to view trend log data in text-based (time -stamp/value).
  - 3) The operator shall be able to view the data collected by a trend log in a graphical chart in the operator interface.
  - 4) Trend log viewing capabilities shall include the ability to show a minimum of 5 points on a chart.
  - 5) Each data point trend line shall be displayed as a unique color.
  - 6) The operator shall be able to specify the duration of historical data to view by scrolling and zooming.
  - 7) The system shall provide a graphical trace display of the associated time stamp and value for any selected point along the x-axis.
- c. Export Trend Logs.
  - The operator interface shall allow a user to export trend log data in CSV or PDF format for use by other industry standard word processing and spreadsheet packages.
- 5. Alarm/Event Notification
  - a. An operator shall be notified of new alarms/events as they occur while navigating through any part of the system via an alarm icon.
  - b. Alarm/Event Log. The operator shall be able to view all logged system alarms/events from any operator interface.
    - 1) The operator shall be able to sort and filter alarms from events. Alarms shall be sorted in a minimum of 4 categories based on severity.
    - 2) Alarm/event messages shall use full language, easily recognized descriptors.
    - 3) An operator with the proper security level may acknowledge and clear alarms/events.
    - 4) All alarms/events that have not been cleared by the operator shall be stored by the building controller.
    - 5) The alarm/event log shall include a comment field for each alarm/event that allows a user to add specific comments associated with any alarm.
  - c. Alarm Processing.
    - 1) The operator shall be able to configure any object in the system to generate an alarm when transitioning in and out of a normal state.
    - 2) The operator shall be able to configure the alarm limits, warning limits, states, and reactions for each object in the system.
- 6. Reports and Logs.
  - a. The operator interface shall provide a reporting package that allows the operator to select reports.

- b. The operator interface shall provide the ability to schedule reports to run at specified intervals of time.
- c. The operator interface shall allow a user to export reports and logs from the building controller in a format that is readily accessible by other standard software applications including spreadsheets and word processing. Acceptable formats include:
  - 1) CSV, HTML, XML, PDF
- d. Reports and logs shall be readily printed to the system printer.
- e. Provide a means to list and access the last 10 reports viewed by the user.
- f. The following standard reports shall be available without requiring a user to manually configure the report:
  - 1) All Points in Alarm Report: Provide an on demand report showing all current alarms.
  - 2) All Points in Override Report: Provide an on demand report showing all overrides in effect.
  - 3) Commissioning Report: Provide a one-time report that lists all equipment with the unit configuration and present operation.
  - 4) Points report: Provide a report that lists the current value of all points
- 7. Custom Application Programming. Provide the tools to create, modify, and debug custom application programming. The operator shall be able to create, edit, and download custom programs at the same time that all other system applications are operating. The system shall be fully operable while custom routines are edited, compiled, and downloaded.
- 8. Custom Graphic Editor. Provide the tools to create, modify, and debug custom graphics. The operator shall be able to create, edit, and download custom graphics at the same time that all other system applications are operating. The system shall be fully operable while custom graphics are edited, compiled, and downloaded.
- 2.9 <u>Associated Hardware</u>: Provide actuators, relays, and other interface devices as required to execute the indicated control functions.
- 2.10 <u>EMCS/DDC Input Devices</u>:
- 2.10.1 <u>Temperature Sensors</u>: Provide nickel resistance temperature detector (RTD) type sensors for duct, well or room mounting as required by duty indicated. Accuracy: plus or minus 0.5°F.
- 2.10.2 <u>Current Transformers</u>: Provide current transformers (and potential transformers if required) and all associated interface equipment for sensing kW demand.
- 2.10.3 Programmable Thermostats: Provide field programmable electronic thermostats with BACnet MS/TP communications protocol for commercial applications. Provide internal temperature and humidity sensors, test output menu or service mode for commissioning and manual output testing, configurable occupancy outputs (24v terminal, sensor based or scheduled) to enable external equipment, occupied override button with configurable duration.

Viconics VT Series Viconics VZ Series Honeywell TC500 Series Schneider Electric SD7600 Series Schneider Electric SD8600 Series Sieimens RDY2000 Series Distech ECLYPSE Series Trane BAYSENS924 Series

#### 2.11 Guarantee:

- 2.11.1 All components, parts, and assemblies shall be guaranteed against defects in material and workmanship for a period of one year after acceptance. Expressed warranties are conditionally based on the requirement that the items covered within the guarantee are used and maintained in accordance with the manufacturer's recommendations. Guarantee commences at time of acceptance and continues for one year. Acceptance shall not occur until the Owner's operators are able to use the EMCS/DDC and receive reliable information from inputs and outputs.
- 2.11.2 The first year guarantee shall, as part of the base bid for the EMCS/DDC, include full service and maintenance of the EMCS/DDC. This service and maintenance shall include all necessary repair, reprogramming, calibration, cleaning, minimum (4) quarterly inspections, call back service, etc. This first year service, maintenance and guarantee shall be included in the base bid of the EMCS/DDC.

#### 3 EXECUTION

3.1 <u>Examine areas and conditions</u> under which EMCS/DDC work is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to installer.

#### 3.2 Installation of EMCS/DDC:

- 3.2.1 <u>General</u>: Install systems and materials in accordance with manufacturer's instructions, shop drawings, and details on drawings. Install electrical components and use electrical products complying with requirements of applicable Division-16 sections of these specifications. Mount panels at convenient locations and heights.
- 3.2.2 <u>Control Wiring</u>: The term "control wiring" is defined to include wire, conduit and miscellaneous materials as required for mounting and connecting electric control devices. Install all control wiring in conduit. All low voltage control wiring shall be installed in conduit.
- 3.2.3 <u>Wiring System</u>: Install complete control wiring system for the EMCS/DDC. Conceal wiring, except in mechanical rooms and areas where other conduit and piping are exposed. Provide multi-conductor instrument harness (bundle) in place of single conductors where number of conductors can be run along common path. Fasten flexible conductors bridging cabinets and doors, neatly along hinge side, and protect against abrasion. Tie and support conductors neatly.
- 3.2.4 <u>Install</u> control wiring in accordance with the National Electric Code and Division 16 requirements.
- 3.2.5 <u>Number-code or color-code</u> conductors, excluding those used for local individual room controls, appropriately for future identification and servicing of control system. Tag all sensor wiring to identify zone number and room number where sensor is located.
- 3.2.6 <u>Label</u> all sensors, valves, dampers, safety devices and controllers with engraved tags matching the shop drawings.

# 3.3 <u>Programming of EMCS/DDC</u>:

3.3.1 The Contractor shall obtain operational schedules for the controlled equipment from the Engineer. Submittal data relevant to operational schedules shall be forwarded from the Contractor to the Engineer. Upon receipt of approval, the Contractor shall proceed with installation, setup, calibration and check out of the various control and monitoring systems.

Having completed component and system installation, the Contractor shall submit a written

- request to the Engineer to inspect and approve their satisfactory operation.
- 3.3.2 The EMCS/DDC shall perform all functions on the equipment as describes in as called for in the input/output schedule on the drawings. This, in conjunction with the drawings, defines the scope and extent of the project with regard to the required number of panels, control point relays, and devices. Field verify voltages at point-of-interface and provide relays as required.
- 3.3.3 Channel numbers may be reassigned by the Contractor during shop drawing submittal.
- 3.3.4 Model numbers, horsepowers, voltages, and other information equipment where listed on the drawings are for Contractor's convenience. Verify all information in the field as necessary for preparation of shop drawings.
- 3.4 Functional Requirements of EMCS/DDC:
- 3.4.1 Provide all necessary relays, sensors, wiring and contacts to achieve proper operation.
- 3.4.2 Connect EMCS/DDC panels to remote panels where shown.
- 3.5 Adjusting and Cleaning:
- 3.5.1 <u>Startup</u>: Startup, test, and adjust the EMCS/DDC in presence of manufacturer's authorized representative. Demonstrate compliance with requirements. Replace damaged or malfunctioning controls and equipment.
- 3.5.2 <u>Cleaning</u>: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.
- 3.5.3 <u>Final Adjustment</u>: After completion of installation, adjust the program, relays, interface devices, and similar equipment provided as work of this section for optimum operation.
- 3.6 Owner's Instructions:
- 3.6.1 During system startup and at such time acceptable performance of the EMCS/DDC hardware and software has been established, the Contractor shall provide on-site operator instruction. This instruction shall be performed during normal working hours and shall be conducted by a competent representative of the Contractor familiar with the system's software, hardware and accessories. The Contractor shall maintain a roster of all attendees at all training sessions.
- 3.6.2 At a time mutually agreed upon during system training as stated above, the Contractor shall give up to 40 hours (as needed) of instruction to the Owner's designated personnel on the operation of all equipment within the EMCS/DDC and describe its intended use with respect to the programmed functions specified.
- 3.6.3 Operator orientation of the EMCS/DDC shall include, but not be limited to, the overall operational program, equipment functions both individually and as part of the total integrated system, commands, advisories, and appropriate operator intervention required in responding to the EMCS/DDC operation.
- 3.6.4 Provide at least 14-day notice to Owner and Engineer of training dates.
- 3.7 <u>System Verification</u>: The manufacturer's authorized representative shall state in writing to the Engineer that the EMCS/DDC system is operating properly, final adjustments and calibrations are complete, and Owner training has been accomplished. END OF SECTION

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#### SECTION 15715 - DUCTLESS SPLIT SYSTEM AIR CONDITIONING UNITS

# 1 **GENERAL**

- 1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- 1.2 Division-15 Basic Mechanical Materials and Methods sections apply to work of this section.
- 1.3 <u>Refer to other Division-15 sections</u> for testing, adjusting, and balancing of units; not work of this section.

# 1.4 <u>Approval Submittals</u>:

- 1.4.1 <u>Product Data</u>: Submit manufacturer's technical product data, including dimensions, ratings, electrical characteristics, weight, capacities, materials of construction, and installation instructions. Submit assembly-type drawings showing all piping and electrical connections and all mounting requirements. Show methods of fastening and assembly of components. Provide wiring diagrams.
- 1.5 <u>O&M Data Submittals</u>: Submit manufacturer's maintenance data including parts lists. Include these data, product data, and a copy of approval submittals in O&M manual.

#### 2 PRODUCTS

# 2.1 Quality Assurance:

- 2.1.1 Test and rate split system air conditioning units in accordance with ARI Standard 210, 240 or 360 as applicable, and provide certified rating seal.
- 2.1.2 Construct refrigeration system of split system air conditioning units in accordance with ASHRAE 15 (ANSI B 9.1) "Safety Code for Mechanical Refrigeration".
- 2.1.3 Provide split system air conditioning units with an SEER that meets the Florida Energy Efficiency Code and the schedule on the drawings.
- 2.1.4 Provide split system air conditioning units that are designed, manufactured, and tested in accordance with UL or ETL requirements.
- 2.1.5 <u>Acceptable Manufacturers</u>: Submit to compliance with requirements, provide units by Sanyo, Toshiba, Mitsubishi, or approved equal.

# 2.2 <u>General</u>:

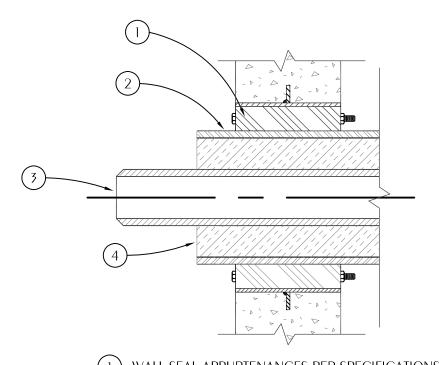
2.2.1 <u>Casings</u>: Construct of painted mill galvanized steel (or aluminum) formed panels rigidly reinforced and braced. Each unit shall be provided with removable panels to permit the unit (including fans and compressors) to be properly maintained and serviced.

- 2.3 Condensing Unit:
- 2.3.1 <u>Condenser Fans and Drives</u>: Fan shall be of rustproof construction, hot dipped galvanized steel, stainless steel or aluminum. Unit shall have weather protected totally enclosed motor. Provide a close fretwork galvanized steel or non-ferrous fan guard. Motors shall be the permanently lubricated type, resiliently mounted.
- 2.3.2 <u>Condenser Coil</u>: Construct of non-ferrous tubes and aluminum fins. Provide inlet guard to protect condenser fins.
- 2.3.3 <u>Compressor</u>: Shall be scroll or hermetic design with vibration isolation. Compressor shall not produce objectionable noise or vibration inside the building. Compressors shall have five (5) year warranty.
- 2.3.4 <u>Service Valves</u>: Provide for high and low pressure readings.
- 2.4 <u>Evaporator Unit</u>:
- 2.4.1 Interior of unit shall be thermally and acoustically insulated with 1 inch fiberglass duct liner insulation. Provide removable panels to permit the unit to be properly serviced and maintained.
- 2.4.2 The evaporator section shall include centrifugal fan, two-speed fan motor, and direct drive. Provide cooling coil, snap out washable filters, refrigerant drier, controls and other necessary devices for a completely automatic unit. Coils shall have copper tubes and aluminum fins. Provide automatic oscillating louver action to facilitate air distribution.
- 2.5 Controls:
- 2.5.1 All safety and operational controls shall be factory wired.
- 2.5.2 Provide remote microprocessor-based controls with room thermostat, timer and fan speed switch.
- 2.6 Refrigerant Piping:
- 2.6.1 <u>Copper tubing 3/4" and smaller</u>: Type ACR, soft annealed temper; cast copper-alloy fittings for flared copper tubes; flared joints.
- 2.6.2 <u>Brazing material</u>: Silver solder bearing at least 15% silver; Sil Fos.
- 3 <u>EXECUTION</u>
- 3.1 Installation: Install in accordance with producer's printed instructions.
- 3.2 <u>Refrigerant Piping</u>: Comply with ANSI B31.5, "Refrigerant Piping," (extend lower pressure limits below 15 psig), and ASHRAE 15 (ANSI B9.1). Make all joints carefully and neatly. Clean pipe and fittings before fluxing. Remove burrs. Braze by the sweat method using Sil Fos.

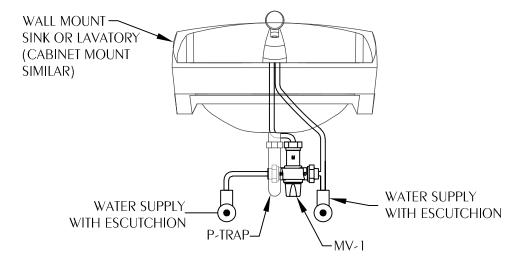
- 3.3 <u>Testing</u>: After job erection, pressure test for leaks at 150 psig using a nominal amount of a suitable tracer refrigerant and dry nitrogen or a suitable refrigerant. Perform leak tests with an electronic halide leak detector having a sensitivity of at least 1/2 ounce R-12 per year. Refrigeration piping will not be accepted unless it is gas tight.
- 3.4 <u>Evacuation</u>: After completing the successful pressure test, multiple-evacuate the system. Leave the compressor isolation valves shut and connect the vacuum pump to both the high and low sides. Evacuate the system to an absolute pressure of 1,500 microns. Then break vacuum to 2 psig with dry nitrogen. Repeat this process. Install the proper biflow drier in the liquid line and evacuate the system to 500 microns. Leave vacuum pump running for at least two hours without interruption. Break vacuum with the refrigerant to be used and raise pressure to 2 psig. Do not operate compressors during the evacuation procedure.
- 3.5 <u>Charging</u>: After completing the successful evacuation procedure, charge refrigerant directly to the system from the original containers through a filter drier. Charge to the manufacturer's stated conditions of pressure for required temperature. Weigh the refrigerant added and record on the startup report.
- 3.6 <u>Cleaning</u>: Clean tar and all other soil from housing exterior. Leave ready for Division 7, Caulking Work. Caulk around pipe sleeves.
- 3.7 <u>Condensate Drain</u>: Pipe trapped copper condensate drain to outside the building or to a point of disposal as shown on the drawings. Pipe shall be full size of unit outlet. Refer to Division-15 section "Insulation" for pipe insulation.
- 3.8 <u>Startup</u>: Check entire assembly for correctness of installation, alignment, and control sequencing. Start all component parts in proper sequence. Make all adjustments required to insure proper smooth quiet operation.

**END OF SECTION** 

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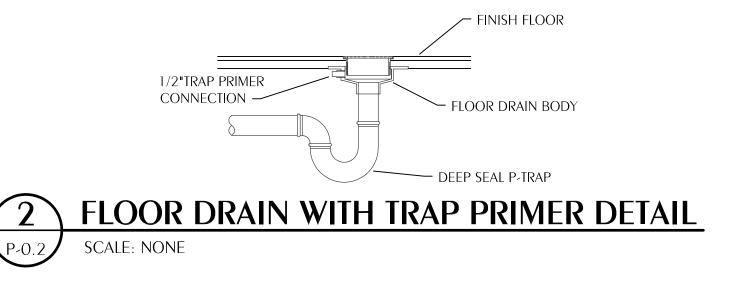


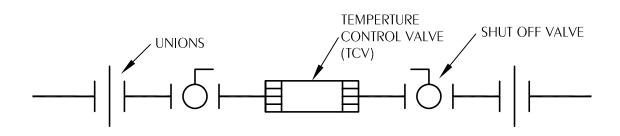


SET MV-1 TO 95°F

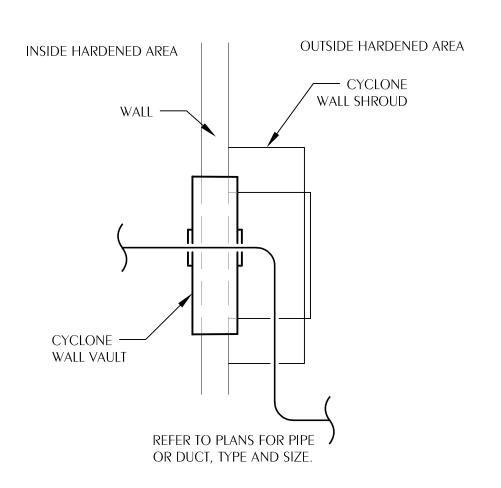
# LAV/SINK MIXING VALVE DETAIL

SCALE: NONE NOTE: MIXING VALVE WILL BE TYPICAL FOR L-1, L-2, L-3, SK-1, HS-1

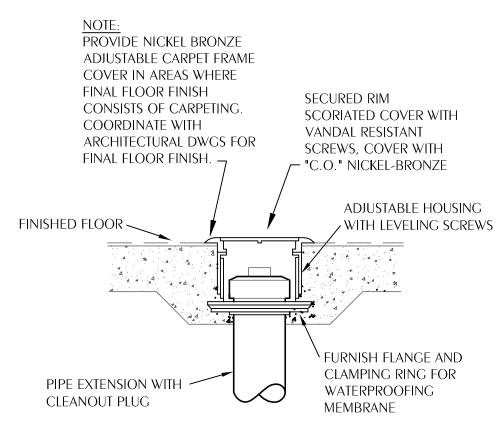




THERMOSTATIC TEMPERATURE CONTROL VALVE DETAIL SCALE: NONE



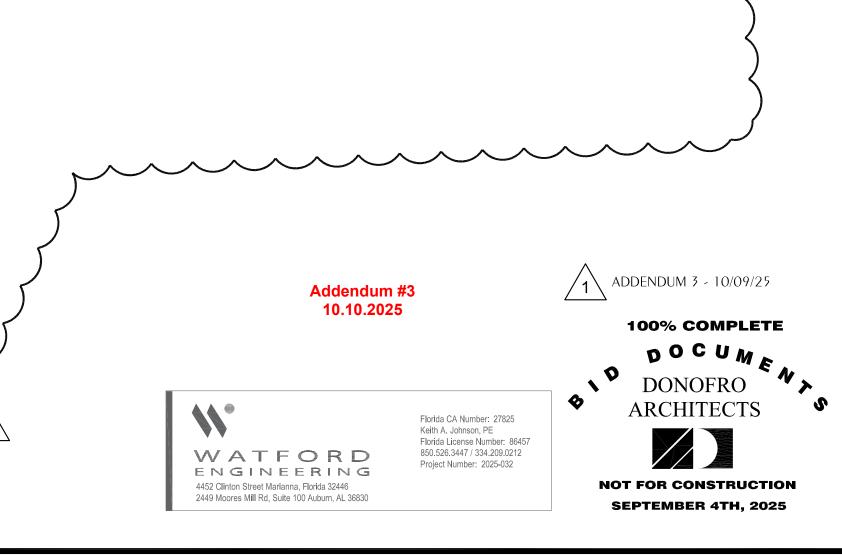
HARDENED WALL PENETRATION DETAIL

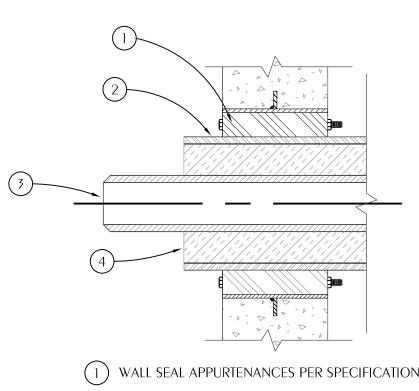


CLEANOUT TO FLOOR



SHEET No.

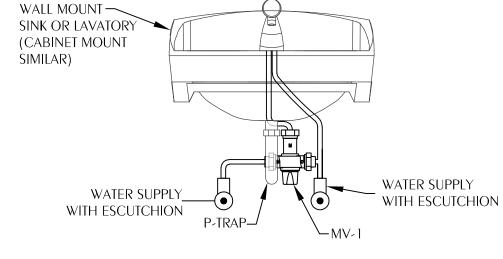


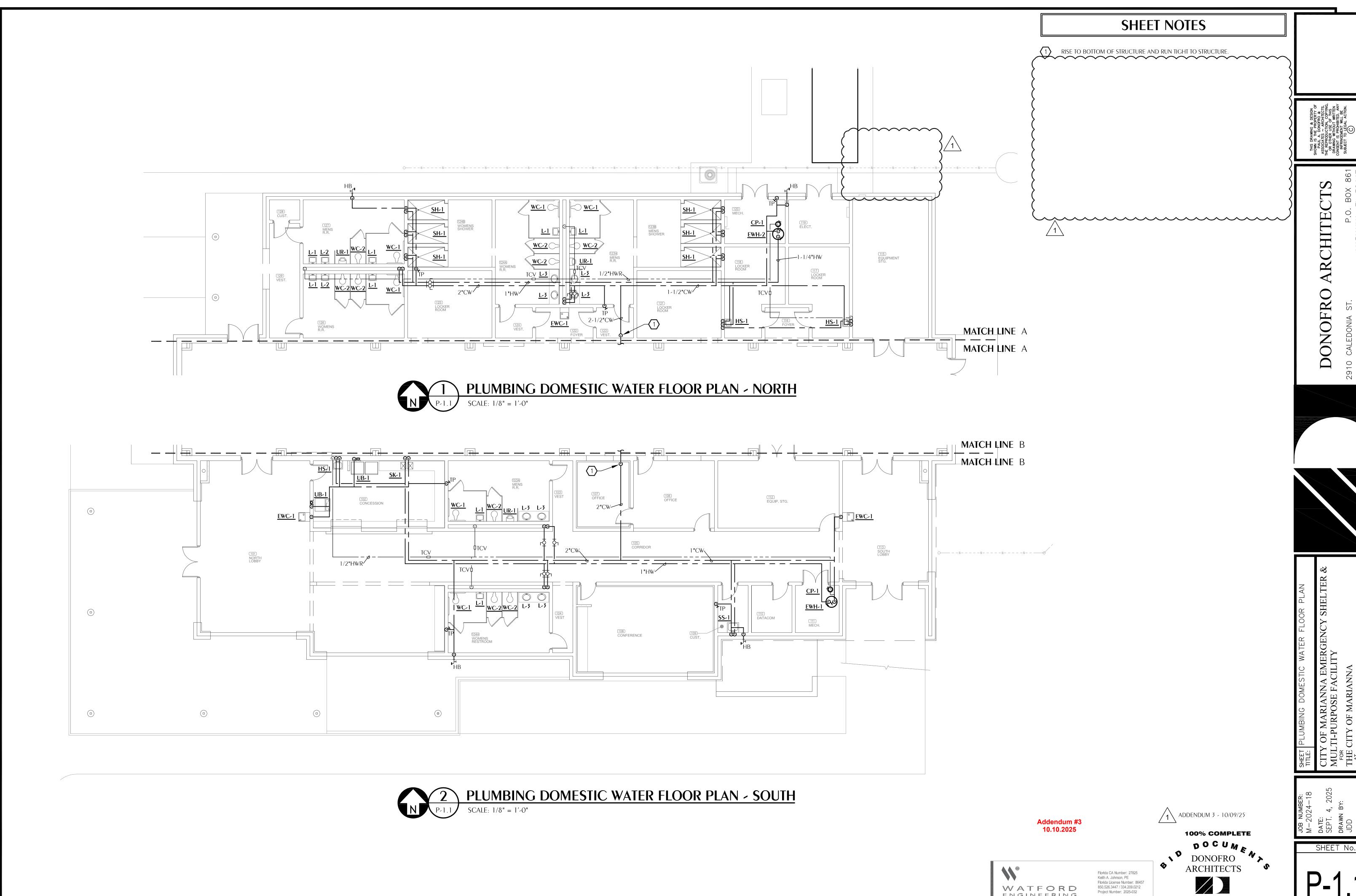




- 2) PIPE SLEEVE PER SPECIFICATIONS
- 3 PIPING
- 4 INSULATION



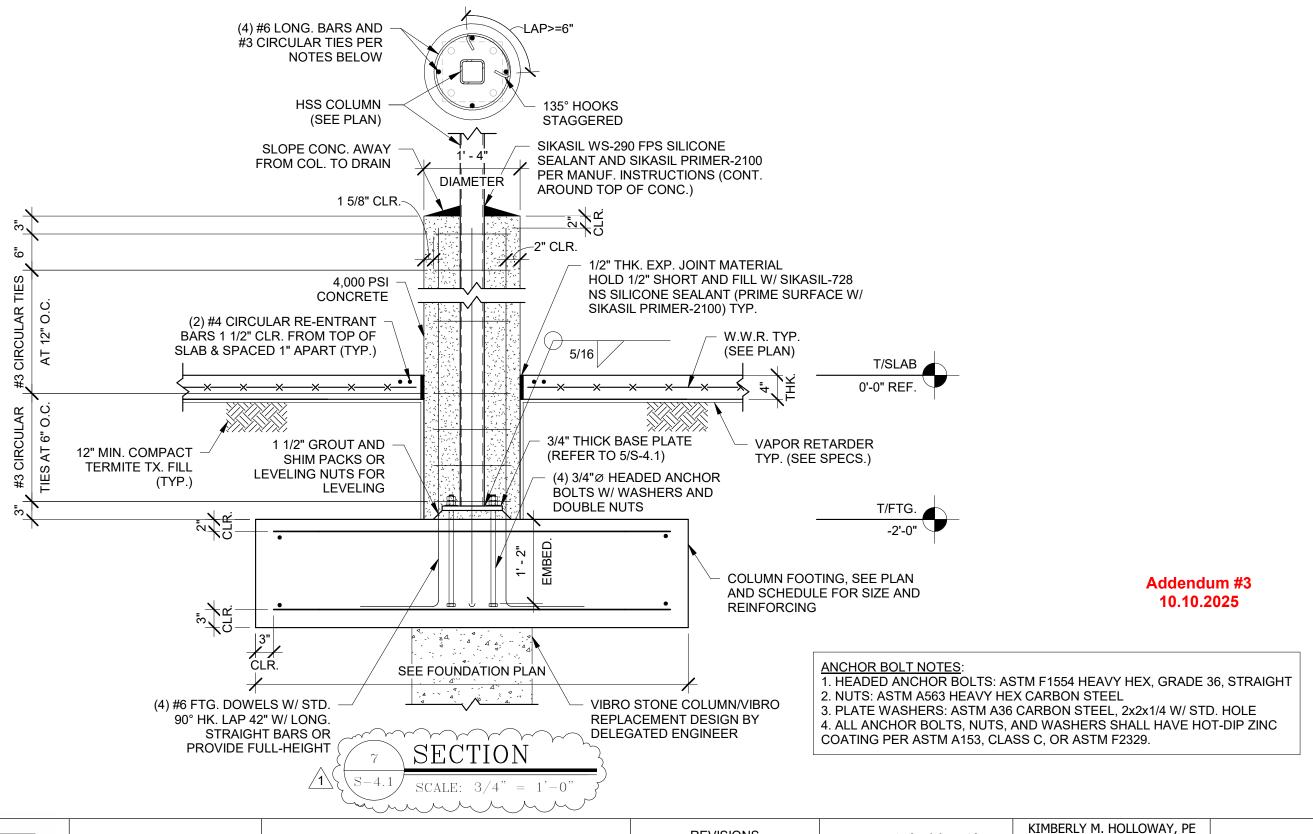




NOT FOR CONSTRUCTION SEPTEMBER 4TH, 2025

WATFORD ENGINEERING 4452 Clinton Street Marianna, Florida 32446

2449 Moores Mill Rd, Suite 100 Auburn, AL 36830





SCALE:	AS NOTED	
DRAWN:	AMM	
CHECKED:	KMH	
DHM #:	MAR22ME	

CITY OF MARIANNA EMERGENCY SHELTER & #MULTI-PURPOSE FACILITY FOR THE CITY OF MARIANNA AT MARIANNA EDUCATION. REC. EXPO. (M.E.R.E.) MARIANNA, FLORIDA

	REVISIONS			
&	#	DESCRIPTION	DATE	
	1	RFI #59 (Add. #3)	10/10/25	(
E.)				
L. <i>)</i>				

RFI #59 (Add. #3) -Sonotube Concrete Column Reinforcement (Section 7/S-4.1)

RIMBERET M. HOLLOWAT, TE

DATE: OCT. 10, 2025

DRAWING NO:

S-7.1

FLORIDA REG. NO. 69166



#### Attachment 6

Builder's Risk Insurance is required for the project. Specifications Section C800 Supplementary Conditions Paragraph P has been replace with the following:

- P. Builder's Risk and Other Property Insurance
  - The Contractor shall purchase and maintain Builder's Risk insurance covering the Work. Such
    insurance shall be written on a completed value basis in an amount equal to 100 percent of the
    Contract Price and shall remain in effect until Owner has fully and finally accepted the Work in
    writing and the Owner has bound insurance coverage with the Owner's insurance carrier.
  - 2. The policy shall be written on an "all-risk" or "special form" basis and shall insure against loss or damage to the Work, including fire, windstorm, theft, vandalism, malicious mischief, collapse, property in transit, and property stored off-site intended for use at the Project.
  - 3. The Owner, Contractor, and all Subcontractors shall be named as insureds.
  - 4. Contractor shall be responsible for any deductible amounts, which shall not exceed \$10,000 per loss without Owner's prior written approval.
  - 5. Builder's Risk Insurance Policy limits of not less than:
  - 1. Completed Value of the Work (100% of Contract Price)
  - 2. Deductible: Not to exceed \$10,000, Contractor responsible
  - 6. **Continuation of Coverage:** Coverage shall remain in effect until Substantial Completion of the entire Work and final acceptance by Owner, regardless of any partial occupancy or use by Owner.
  - 7. **Covered Perils:** The Builder's Risk insurance shall include coverage for windstorm, flood, and earthquake, unless expressly waived in writing by Owner. Coverage shall also extend to loss or damage caused by theft, vandalism, collapse, malicious mischief, property in transit, and property stored off-site intended for use at the Project.
  - 8. **Temporary Works and Testing:** The Builder's Risk insurance shall include coverage for temporary works, scaffolding, formwork, falsework, construction trailers, and similar items incidental to the Work. Coverage shall also apply to mechanical and electrical testing and startup of the building systems.
  - 9. **Coinsurance / Subrogation:** The Builder's Risk policy shall not contain a coinsurance clause. Insurers shall waive all rights of subrogation against Owner, Contractor, Subcontractors, and Engineer.
  - 10. **Change Orders:** The policy shall automatically adjust to reflect increases in the Contract Price by Change Order, without the need for additional endorsement.
  - 11. **Soft Costs (if required by Owner):** The Builder's Risk policy shall include coverage for soft costs and extra expense associated with delay in completion caused by an insured loss, including but not limited to design professional fees, financing costs, and administrative costs, if expressly required in the Contract Documents.